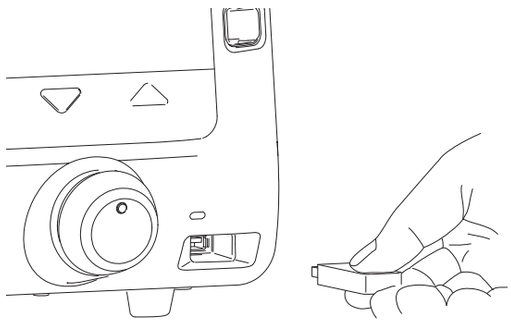
EP-6000_MDD_es.book Page 24 Wednesday, September 12, 2018 9:08 AM

(6) Cuando la copia de datos ha finalizado y el LED correspondiente al dispositivo de almacenamiento externo se ilumina en verde, puede desconectarse el dispositivo. Desconecte el dispositivo de almacenamiento externo y asegúrese de que los datos necesarios se hayan copiado utilizando un ordenador personal, etc.

Nota

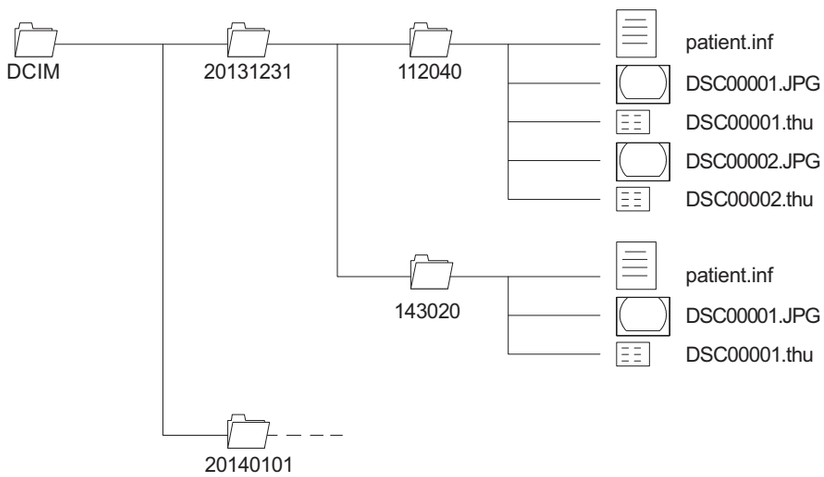
- No desconecte el dispositivo de almacenamiento externo si el indicador de acceso a la memoria parpadea en naranja. Si se desconecta el dispositivo de almacenamiento externo cuando el indicador de acceso a la memoria parpadea en naranja, podrían dañarse los datos que se están copiando o el propio dispositivo de almacenamiento externo.



8.8.3 Comprobación de imágenes en un ordenador personal

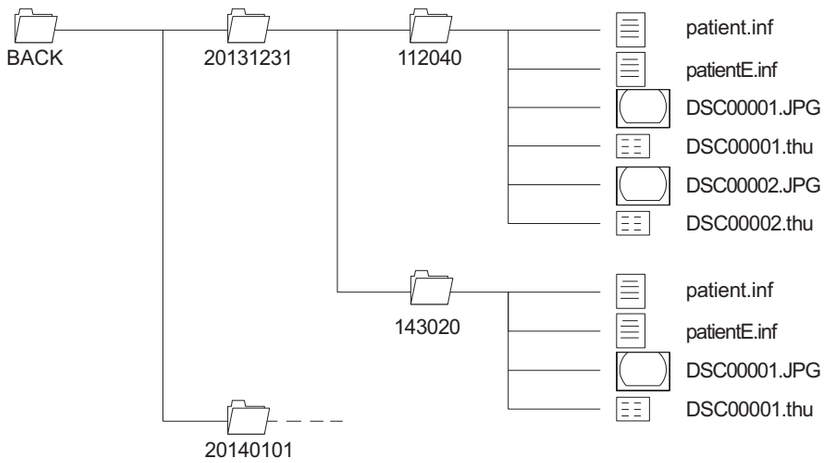
<Cuando las imágenes se almacenan en el dispositivo de almacenamiento interno>

Las imágenes grabadas en el dispositivo de almacenamiento externo pueden comprobarse en un ordenador personal capaz de leer el dispositivo de almacenamiento externo.
Al obtener la imagen, se crea una carpeta con el nombre de la fecha de la obtención y en dicha carpeta se crea una subcarpeta con el nombre de la hora de la obtención.
Las imágenes obtenidas se guardan en la carpeta con el nombre de la hora de la obtención.
(Ejemplo: si la obtención se inicia a las 11:20:40 a.m. del 31 de diciembre de 2013, las imágenes se guardan en la carpeta “\DCIM\20131231\112040”).



<Cuando las imágenes se transfieren al servidor FTP>

Cuando se selecciona “ON” en “Auto Copy Mode” (Modo de copia automática) en la pestaña “Memory” (Memoria) en la pantalla de página de configuración de imágenes, se crea la carpeta “BACK” y una carpeta cuyo nombre es la fecha de captura. Las imágenes capturadas se guardan en la carpeta llamada con la hora de captura. (Ejemplo: cuando una captura de imagen comienza a las 11:20:40 a. m. el 31 de diciembre del 2013, las imágenes se guardan en la carpeta “\BACK\20131231\112040”).



Nota

- La extensión de archivo “.thu” indica los archivos de imágenes mostradas como miniaturas. (Ejemplo: DSC00001.thu)
- La extensión de archivo “.inf” indica los archivos de información del paciente. No modifique ni sobrescriba directamente los archivos “.inf” porque estos se utilizan para buscar imágenes y configurar dispositivos.
- No modifique directamente imágenes grabadas en el dispositivo de almacenamiento externo. Para modificar una imagen, cópiela a un lugar distinto (como el disco duro de un ordenador personal) y modifique la imagen copiada. Si modifica o sobrescribe directamente una imagen grabada en el dispositivo de almacenamiento externo, la imagen no se puede mostrar en el procesador.

EP-6000_MDD_es.book Page 26 Wednesday, September 12, 2018 9:08 AM

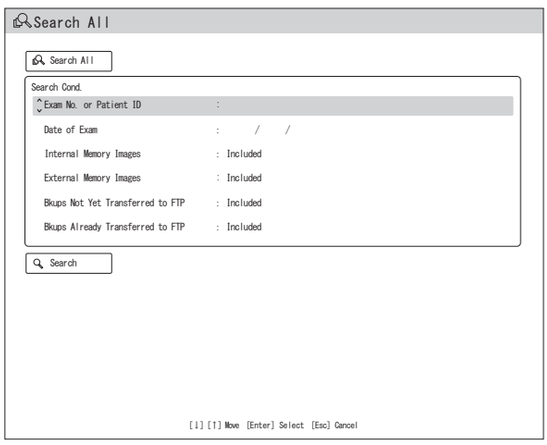
8.9 Cómo buscar e imprimir imágenes en dispositivos de almacenamiento interno y externo

8.9.1 Búsqueda de imágenes en dispositivos de almacenamiento interno y externo

Las imágenes grabadas en el dispositivo de almacenamiento interno o externo pueden limitarse en la pantalla de búsqueda basándose en el ID de paciente y la fecha de inspección, y pueden mostrarse como miniaturas. En la pantalla de vistas en miniatura, las imágenes pueden ampliarse e imprimirse.

Nota

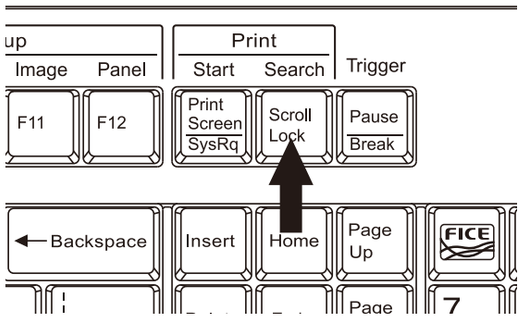
- La pantalla de búsqueda no aparece mientras el endoscopio está en funcionamiento.
- Cuando se muestran imágenes en miniatura utilizando la función de búsqueda y, a continuación, una de las imágenes se amplía, la imagen ampliada también se muestra en el monitor conectado a través de los conectores RGB TV, Video y S Video.
- Al seleccionar “Used” en “Usage” en la pantalla de configuración de red, se realizan copias de seguridad de las imágenes en el dispositivo de almacenamiento interno. Entre las imágenes de las que ya se han hecho copias de seguridad, si una imagen no se ha transferido aún al servidor FTP, aparece (⊗) junto al número de la imagen en la lista. Si la imagen ya se ha transferido al servidor FTP, aparece (⊗).
- Para los datos de imagen de un dispositivo de almacenamiento externo, aparece ⊗ junto al número de la imagen en la lista.
- Para las imágenes que ya se han copiado, se muestra ⊗ junto al número de la imagen en la lista.



(1) Cuando “ACTIVE” se ilumine en azul, mantenga pulsado el botón EXAM. unos dos segundos. Cuando “STANDBY” esté iluminado en naranja, presione la tecla [Search]. Aparecerá la pantalla de búsqueda.

Nota

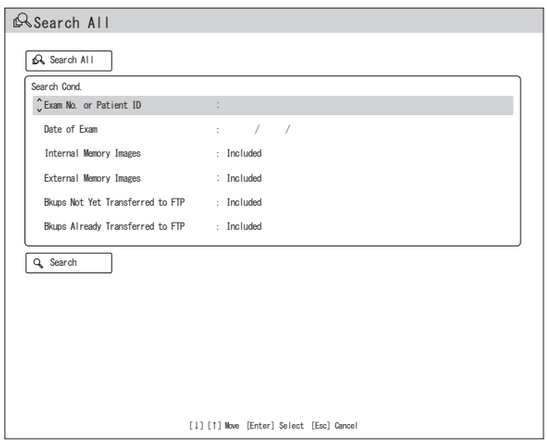
- Los contenidos del dispositivo de almacenamiento externo o interno pueden buscarse cuando esté presionado el botón EXAM. y “STANDBY” esté iluminado en naranja.



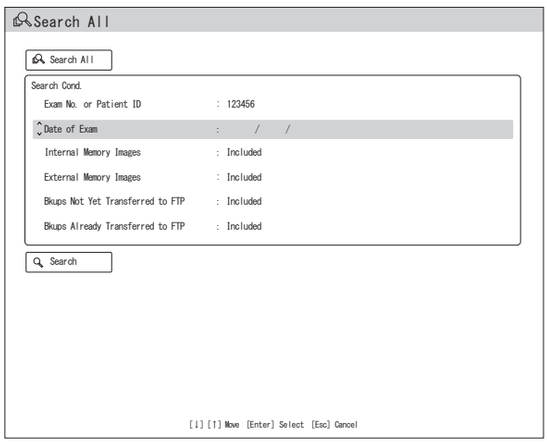
(2) Establezca las condiciones de búsqueda. Al buscar con el número de exploración o el ID de paciente, mueva el cursor hasta la posición “Exam No. or Patient ID” (Nº de examen o ID de paciente) y luego pulse la tecla [Enter]. Se activa la introducción de caracteres. Introduzca el número de exploración o el ID de paciente.

Nota

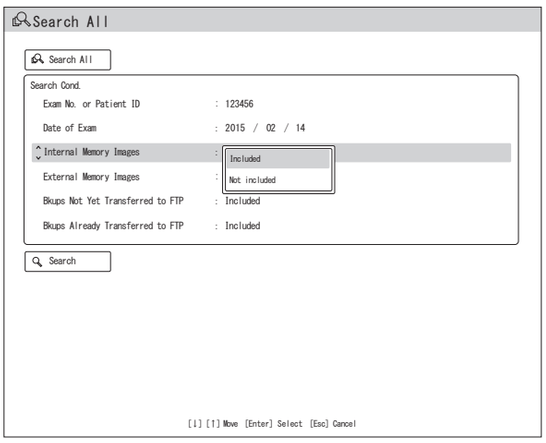
- Se busca el ID de paciente mediante la búsqueda de una coincidencia al principio de la fila.



(3) Cuando realice la búsqueda utilizando la fecha de exploración, mueva el cursor hasta la posición “Date of Exam” (Fecha de examen) y pulse la tecla [Enter]. Cada vez que se introduzca el año, el mes o la fecha y se pulse la tecla [Enter], podrá introducirse el siguiente elemento.



(4) Seleccione la imagen que desea buscar. Mueva el cursor hasta la posición “Internal Memory Images” (Imágenes de memoria interna) y pulse la tecla [Enter]. En el menú emergente que aparecerá, seleccione si las imágenes guardadas en el dispositivo de almacenamiento interno están incluidas y pulse la tecla [Enter]. Especifique también si se incluyen “Bkups Not Yet Transferred to FTP” (Copias de seguridad aún no transferidas a FTP) y “Bkups Already Transferred to FTP” (Copias de seguridad ya transferidas a FTP).



Internal Memory Image:

Datos de imagen guardados en el dispositivo de almacenamiento interno

➔ “5.4.2 Pestaña de memoria”

External Memory Image:

Datos de imagen copiados del dispositivo de almacenamiento interno al dispositivo de almacenamiento externo

➔ “8.8.2 Copia de imágenes a un dispositivo de almacenamiento externo”

Bkups Not Yet Transferred to FTP:

Los datos de imagen se guardan solo en el dispositivo de almacenamiento interno, no en el servidor FTP, mientras el dispositivo de almacenamiento interno se coloca en modo de copia de seguridad seleccionando “Used” para “Usage” en la pantalla de configuración de red

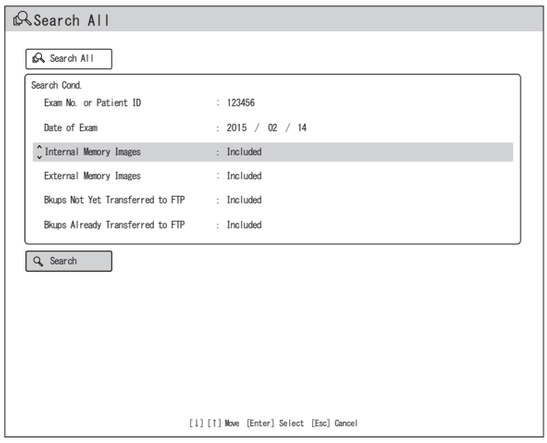
Bkups Already Transferred to FTP:

Los datos de imagen ya se han transferido al servidor FTP mientras el dispositivo de almacenamiento interno se coloca en modo de copia de seguridad seleccionando “Used” para “Usage” en la pantalla de configuración de red

➔ “5.4.4 Pestaña de detalles”

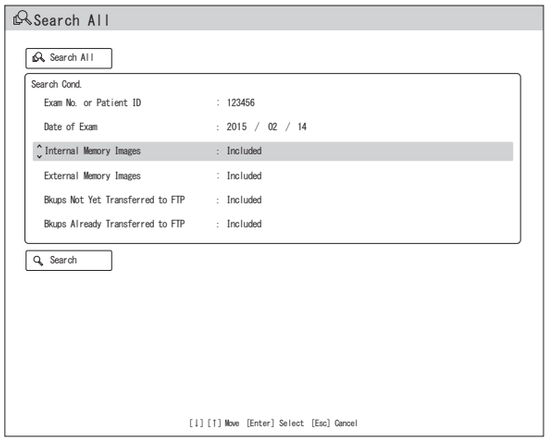
EP-6000_MDD_es.book Page 30 Wednesday, September 12, 2018 9:08 AM

(5) Mueva el cursor hasta la posición “Search” (Buscar) y pulse la tecla [Enter].
Se puede ejecutar la búsqueda por “Patient ID” o “Date of Exam”.



Nota

- Al enumerar todas las imágenes en los dispositivos de almacenamiento interno y externo, mueva el cursor hasta la posición “Search All” (Buscar todas) y pulse la tecla [Enter].

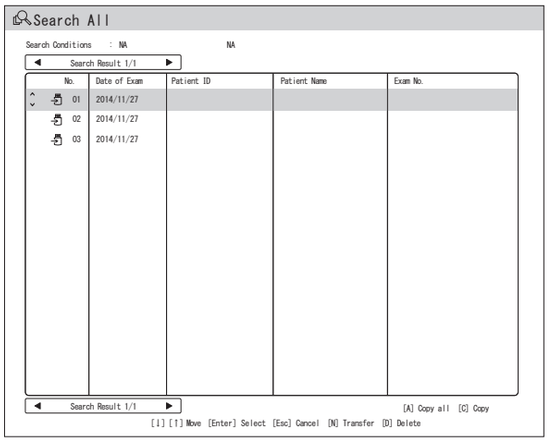


(6) Cuando finaliza la búsqueda, los resultados aparecen en una lista.
Para pasar las páginas de la lista, mueva el cursor hasta la posición “Search Result 1/4 (a 4/4)” y pulse la tecla [←] o [→].

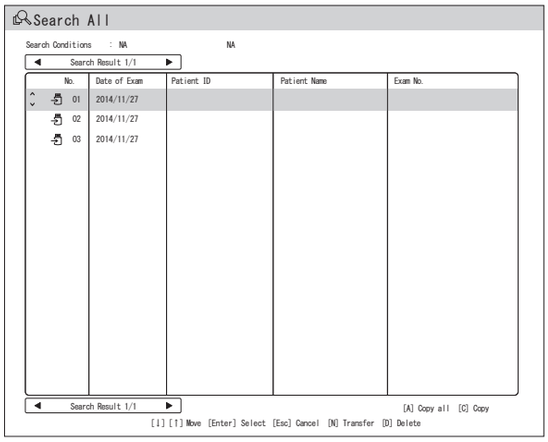
Nota

- En la lista de resultados de búsqueda, los datos nuevos aparecen en las primeras posiciones.
- Puede aparecer en la lista un máximo de 1000 imágenes.
- Al seleccionar “Used” en “Usage” en la pantalla de configuración de red, se realizan copias de seguridad de las imágenes en el dispositivo de almacenamiento interno. Entre las imágenes de las que ya se han hecho copias de seguridad, si una imagen no se ha transferido aún al servidor FTP, aparece () junto al número de la imagen en la lista. Si una imagen ya se ha transferido al servidor FTP, aparece ().
- Para las imágenes guardadas en el dispositivo de almacenamiento externo, aparece junto al número de la imagen en la lista.

- Para las imágenes que ya se han copiado, se muestra ✓ junto al número de la imagen en la lista.



(7) Mueva el cursor hasta el número de lista de las imágenes que desea visualizar y pulse la tecla [Enter].

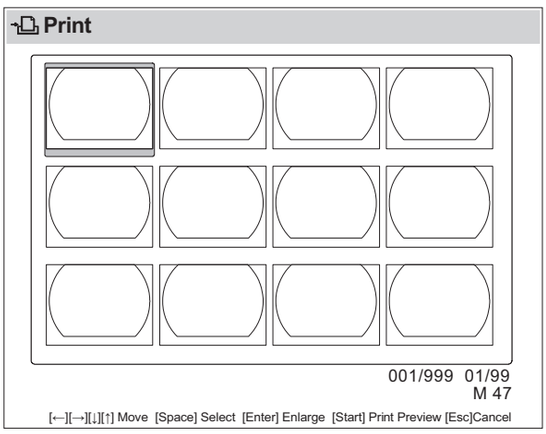


Las imágenes del número de lista seleccionado se visualizan como miniaturas.

EP-6000_MDD_es.book Page 32 Wednesday, September 12, 2018 9:08 AM

Nota

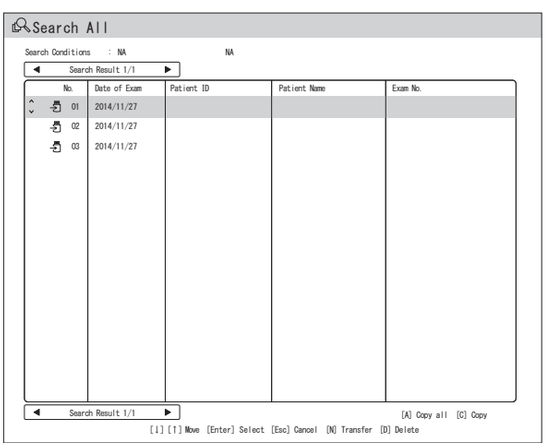
- Cuando se muestran imágenes en miniatura utilizando la función de búsqueda y, a continuación, una de las imágenes se amplía, la imagen ampliada también se muestra en el monitor conectado a través de los conectores RGB TV, Video y S Video.



8.9.2 Transferencia de imágenes buscadas

A continuación se explica cómo transferir imágenes buscadas desde los dispositivos de almacenamiento interno y externo.

(1) Al seguir el procedimiento descrito en “8.9.1 Búsqueda de imágenes en dispositivos de almacenamiento interno y externo”, se muestra la lista de resultados de búsqueda. Para cambiar el número de página, mueva el cursor hasta la posición “Search Result X/X” (X/X: número de página actual/número total de páginas) y pulse la tecla [←] o [→].

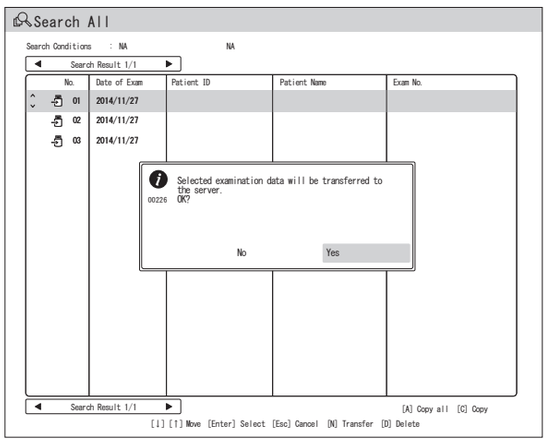


(2) Con la tecla [↑] o [↓], mueva el número de lista de la imagen que desea transferir y pulse la tecla [N]. Aparecerá el mensaje de confirmación “Selected examination data will be transferred to the server. OK?” (Los datos de exploración seleccionados se transferirán al servidor. ¿Está seguro?).

Al seleccionar “Yes”, se transfiere la imagen seleccionada.
Al seleccionar “No”, la operación vuelve a la lista de resultados de búsqueda.

Nota

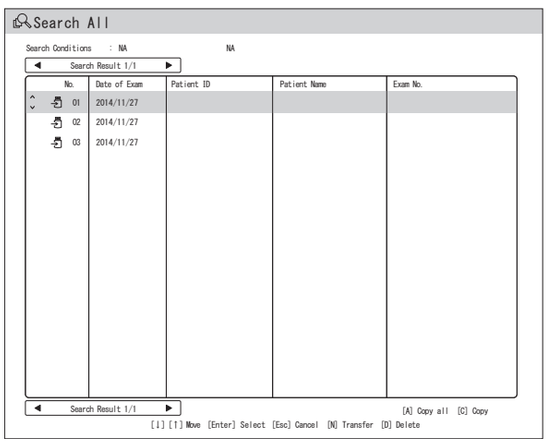
- Al seleccionar “Not used” en “Usage” en la pantalla de configuración de red, no se ejecuta la transferencia de imágenes aunque se pulse la tecla [N].



8.9.3 Borrado de imágenes buscadas

A continuación se explica cómo borrar imágenes buscadas desde los dispositivos de almacenamiento interno y externo.

(1) Al seguir el procedimiento descrito en “8.9.1 Búsqueda de imágenes en dispositivos de almacenamiento interno y externo”, se muestra la lista de resultados de búsqueda. Para cambiar el número de página, mueva el cursor hasta la posición “Search Result X/X” (X/X: número de página actual/número total de páginas) y pulse la tecla [←] o [→].

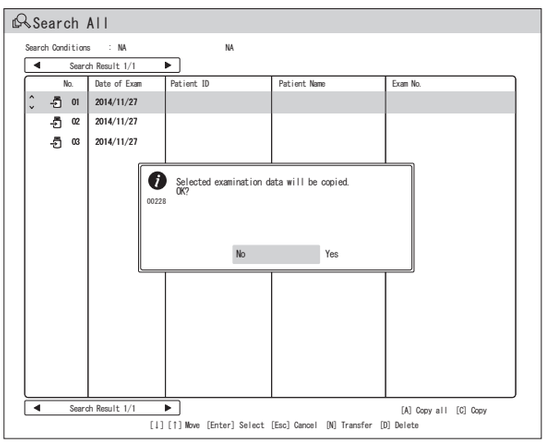


EP-6000_MDD_es.book Page 34 Wednesday, September 12, 2018 9:08 AM

(2) Con la tecla [↑] o [↓], mueva el número de lista de la imagen que desea borrar y pulse la tecla [D]. Aparecerá el mensaje de confirmación “Selected examination data will be deleted. OK?” (Los datos de exploración seleccionados se borrarán. ¿Está seguro?).
Al seleccionar “Yes”, se borra la imagen seleccionada.
Al seleccionar “No”, la operación vuelve a la lista de resultados de búsqueda.

Nota

- Los datos de exploración borrados aparecen atenuados. Al pulsar las teclas [↑] y [↓], los elementos atenuados se ignoran y no pueden seleccionarse.
- Con esta operación se borran los datos de exploración seleccionados. Sin embargo, su número de lista permanece en los resultados de búsqueda. Para borrarlo de la lista, pulse la tecla [Esc] para volver a la pantalla de observación y volver a realizar la búsqueda.



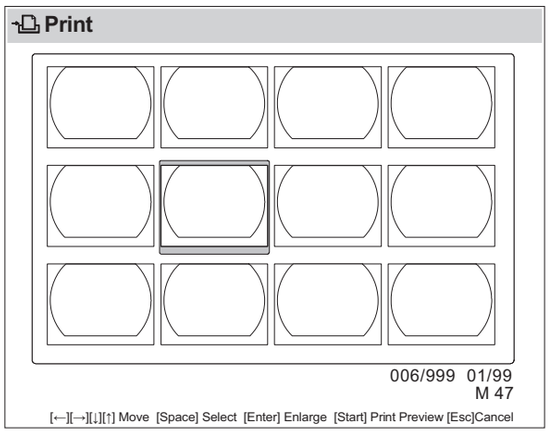
8.9.4 Impresión de imágenes buscadas (solo para impresora digital)

En esta sección se explica cómo imprimir la imagen que se ha buscado en los dispositivos de almacenamiento interno y externo mediante la función de búsqueda.

Las imágenes buscadas y recuperadas desde dispositivos de almacenamiento externo e interno pueden imprimirse con una impresora digital. Para obtener información detallada sobre los ajustes de la impresora, consulte “5.4.3 Pestaña de impresora”.

(1) Visualice imágenes en miniatura siguiendo el procedimiento descrito en “8.9.1 Búsqueda de imágenes en dispositivos de almacenamiento interno y externo”.

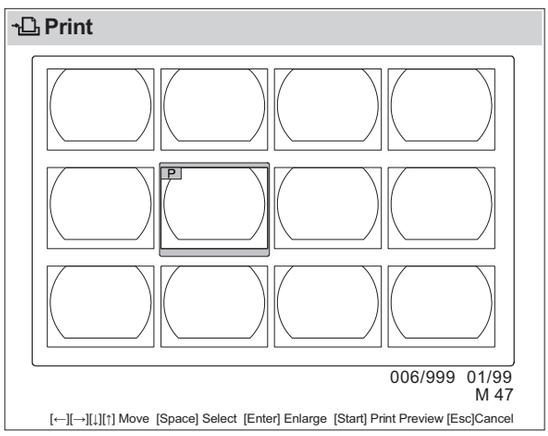
(2) Seleccione la imagen deseada pulsando la tecla [←], [→], [↑] o [↓]. El recuadro seleccionado se indica con el cursor situado sobre este.
Al pulsar la tecla [↓] con el cursor del recuadro situado en la línea inferior, la pantalla cambia y muestra la siguiente página.



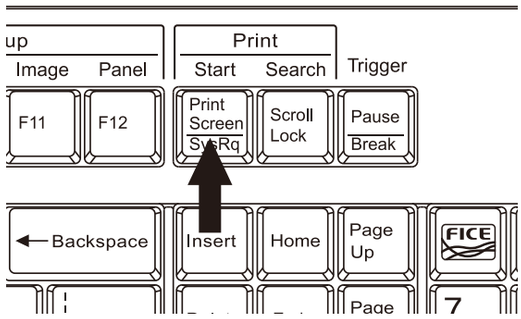
(3) Mueva el cursor del recuadro hasta la posición de la imagen que desea imprimir y, a continuación, pulse la tecla [Space].
La marca “P” se muestra en la pantalla seleccionada. Al pulsar de nuevo la tecla [Space], la marca “P” desaparece.
Al pulsar la tecla [Enter], se amplía la imagen seleccionada.

Nota

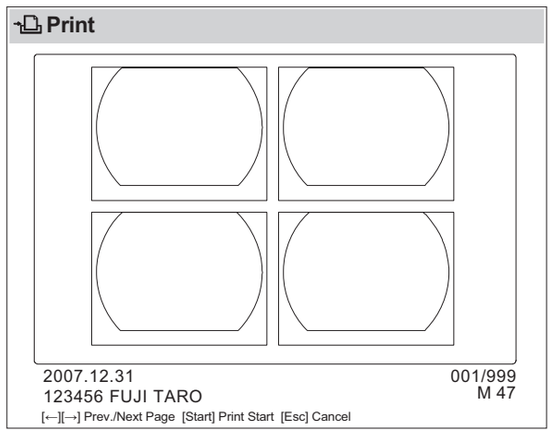
- Cuando se muestran imágenes en miniatura utilizando la función de búsqueda y, a continuación, una de las imágenes se amplía, la imagen ampliada también se muestra en el monitor conectado a través de los conectores RGB TV, Video y S Video.



(4) Repita los pasos (2) y (3) hasta que la marca “P” aparezca en todas las imágenes que desea imprimir.
Pulse la tecla [Start].
Aparece la pantalla de vista previa de impresión.

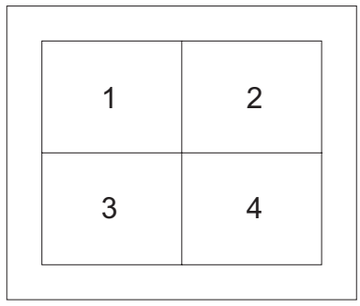


(5) Al pulsar las teclas [←] y [→], mire en todas las páginas para comprobar todas las vistas previas de las imágenes.
El tipo de pantalla de vista previa varía dependiendo de los ajustes de la impresora.

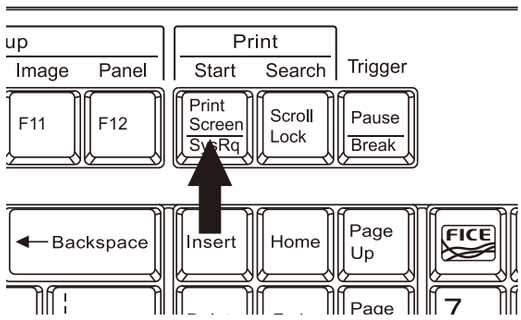


Nota

- Las marcas “P” están numeradas como “P1” y “P2” en el orden seleccionado. En la pantalla de vista previa, las imágenes seleccionadas se muestran en orden empezando por “P1”.



(6) Pulse la tecla [Start].
Se imprimen todas las imágenes en la pantalla de vista previa de impresión.



EP-6000_MDD_es.book Page 38 Wednesday, September 12, 2018 9:08 AM

EP-6000_MDD_es.book Page 1 Wednesday, September 12, 2018 9:08 AM

Capítulo 9

Almacenamiento y mantenimiento

9.1 Cuidados después del uso

PRECAUCIÓN

- No desarme ni modifique este producto, dado que la intensidad de radiación podría exceder las especificaciones para los equipos de la clase I.
- Limpie el equipo de la forma adecuada según se especifica en el manual. De lo contrario, podría dañarlo.
- No derrame agua o desinfectantes en el cuerpo del equipo. Para la desinfección y esterilización, no sumerja el equipo en líquidos químicos ni utilice gas. El equipo puede dañarse.
- No toque directamente con la mano los puntos de contacto eléctrico. Para limpiar los puntos de contacto, no utilice otro líquido que no sea alcohol. Si lo hace, podría causar corrosión.

Nota

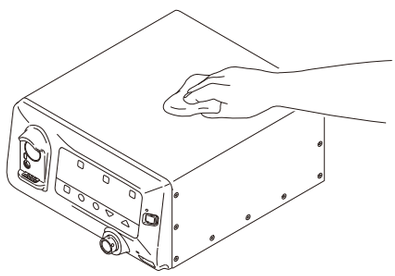
- Apague el procesador antes de la limpieza.

Si el equipo tiene polvo o está sucio, límpielo suavemente con un paño suave, como una gasa.

Para eliminar la suciedad incrustada, limpie suavemente el equipo con una gasa humedecida en una pequeña cantidad de solución de detergente neutro diluido al menos 10 veces. Posteriormente, limpie el equipo con una gasa empapada en etanol para desinfectarlo y séquelo.

Si hay algún fluido corporal o sangre adherido al panel frontal, límpielo con una gasa empapada en alcohol.

No limpie el interior de la toma del conector del endoscopio ni la ventana de recepción. Si se ensucia o tiene polvo, consulte con su distribuidor local de FUJIFILM. Para obtener información detallada sobre la limpieza, el mantenimiento y la desinfección del endoscopio, consulte el Manual de operación correspondiente.



EP-6000_MDD_es.book Page 2 Wednesday, September 12, 2018 9:08 AM

9.2 Limpieza del teclado

ADVERTENCIA

- Sustituya la cubierta del teclado si tiene adheridas gotas de fluidos corporales, etc. Existe el riesgo de infección.

Nota

- No limpie todo el teclado con agua corriente ni lo sumerja en desinfectante. Si hay alguna rotura o daño en la cubierta del teclado, no la limpie utilizando agentes químicos de esterilización, etc. Si lo hace, se puede producir un fallo o una avería.

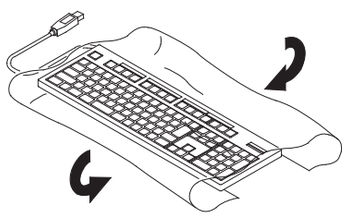
9.2.1 Limpieza del teclado

Si el teclado tiene polvo acumulado o suciedad adherida, limpie suavemente su superficie con un paño suave, por ejemplo, una gasa.

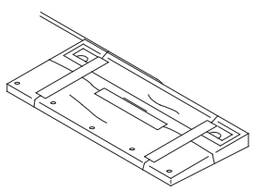
9.2.2 Cubierta del teclado y sustitución

Para evitar la adhesión de fluidos corporales o soluciones químicas, así como la entrada de agua, mantenga el teclado cubierto con una lámina impermeable. Sustituya la cubierta si se han adherido fluidos corporales o ha sufrido contaminación, daños o arañazos.

(1) Cubra la superficie del teclado con una lámina impermeable.

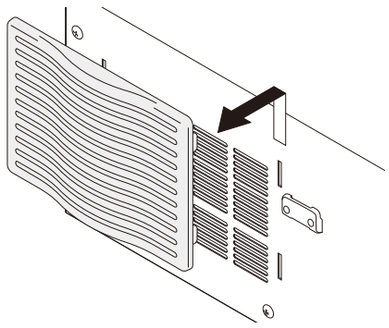


(2) Pegue la lámina impermeable a la parte inferior del teclado con cinta adhesiva.

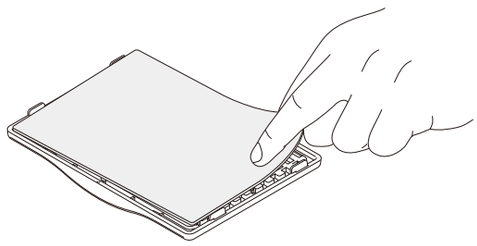


9.3 Limpieza de los filtros de polvo

(1) Retire la rejilla del producto.

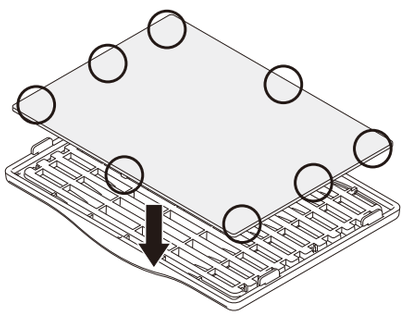


(2) Extraiga el filtro de polvo de la rejilla.

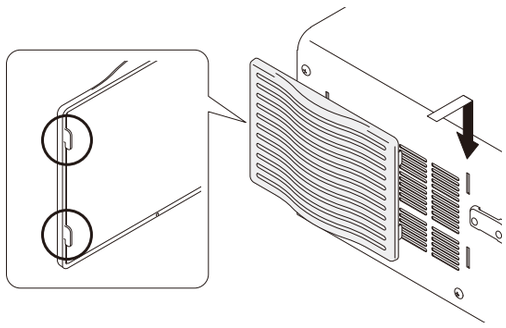


(3) Retire el polvo del filtro de polvo.

(4) Fije el filtro de polvo a la rejilla. Alinee el saliente central del filtro de polvo con la rejilla. Alinee el filtro de polvo con el saliente de la rejilla y después presione el saliente central del filtro de polvo sobre la rejilla para fijarlo.



(5) Fije la rejilla al producto.
Fije la rejilla presionando los ganchos de la misma.
Asegúrese de que se haya insertado la rejilla completamente en la fuente de luz.
De lo contrario, podría causar daños en el equipo.



9.4 Almacenamiento

9.4.1 Almacenamiento del procesador

Nota

- Almacene el equipo en un estado en el que no se ejerza fuerza sobre los cables.
  No almacene el equipo en un lugar que no cumpla las condiciones de almacenamiento.
  El equipo puede dañarse.

Almacene este producto en un lugar que cumpla las siguientes condiciones.

<Condiciones de almacenamiento>

Temperatura	-20 a +60 °C
Humedad	10 a 90 % HR (sin condensación de rocío)
Presión	70 a 106 kPa

Nota

- **<Condiciones de funcionamiento>**
  Condiciones no operativas

Temperatura	-10 a +45 °C
Humedad	30 a 95 % HR (sin condensación de rocío)
Presión	70 a 106 kPa

Si el equipo no se ha utilizado durante un periodo prolongado, vuelva a comprobar el funcionamiento tal como lo hizo durante la instalación.

➔ “Capítulo 6 Preparación e inspección del sistema”

Este producto utiliza una batería secundaria para el reloj y el registro de datos. Cuando este producto ha estado apagado durante un tiempo prolongado, es posible que la función de reloj no se mantenga (y que la fecha y hora sean incorrectas).

➔ “4.2 Ajustes iniciales en el momento de la instalación”

9.4.2 Almacenamiento del tanque de agua

Para obtener información detallada sobre cómo almacenar el tanque de agua, consulte el manual de operación correspondiente.

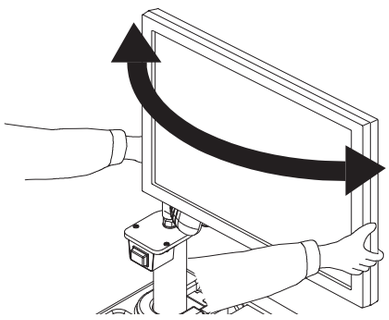
EP-6000_MDD_es.book Page 6 Wednesday, September 12, 2018 9:08 AM

9.5 Reubicación

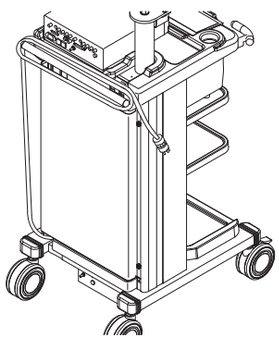
Nota

- Evite los choques y golpes contra el conector eléctrico del endoscopio conectado a la toma del conector eléctrico. Instale el procesador de manera que ningún objeto circundante golpee ni choque contra el conector del endoscopio o el conector LG del endoscopio conectado a la toma del conector del endoscopio. Cuando utilice una cama eléctrica o un dispositivo similar, evite golpearla contra el conector del endoscopio o el conector LG del endoscopio conectado a la toma del conector del endoscopio. Esto podría dañar el endoscopio o el procesador.

(1) Apague este producto y el carro de antemano.



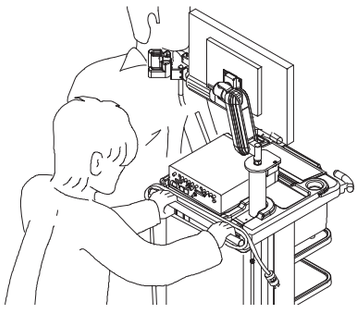
(2) Desenchufe el cable de alimentación del carro del receptáculo y enróllelo alrededor del asa del lado posterior. Desbloquee las ruedas del carro.



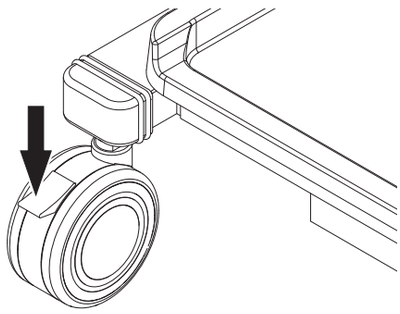
(3) Mueva el carro con cuidado para evitar vibraciones o impactos en el equipo; preste especial atención a las irregularidades y las pendientes.

Nota

- Mueva el carro entre dos personas.
- Tenga especial cuidado para evitar que el monitor y el colgador del endoscopio golpeen otros objetos.



(4) Bloquee las ruedas del carro en el lugar donde se vaya a reubicar.



9.6 Limpieza y desinfección (o esterilización) del tanque de agua

Para obtener información detallada sobre cómo limpiar y desinfectar (o esterilizar) el tanque de agua, consulte el manual de operación correspondiente.

EP-6000_MDD_es.book Page 8 Wednesday, September 12, 2018 9:08 AM

EP-6000_MDD_es.book Page 1 Wednesday, September 12, 2018 9:08 AM

Capítulo 10 Solución de problemas

10.1 Solución de problemas

Fenómeno	Posible causa	Contramedida
Al pulsar el botón de encendido, el equipo no funciona (la luz indicadora de encendido no se ilumina).	1) El interruptor principal del carro está apagado. 2) La conexión del cable de alimentación no está completa. 3) El cable de alimentación es defectuoso. 4) El receptáculo es defectuoso. 5) El fusible está fundido.	1) Active el interruptor principal del carro. 2) Conecte el cable de alimentación correctamente. 3) Compruebe el cable de alimentación. 4) Revise la tensión nominal suministrada. 5) Consulte con su distribuidor local de FUJIFILM.
La luz no se enciende aunque se pulse el botón de luz.	1) El endoscopio no está conectado. 2) El interruptor de seguridad de la toma del endoscopio presenta alguna anomalía. 3) La fuente de luz presenta alguna anomalía.	1) Conecte el endoscopio de forma segura. 2) Consulte con su distribuidor local de FUJIFILM. 3) Consulte con su distribuidor local de FUJIFILM.

Nota

- Espere, como mínimo, 5 segundos antes de volver a encender el equipo.
- Para obtener información detallada sobre el uso del endoscopio, consulte el manual de operación correspondiente.

Fenómeno	Posible causa	Contramedida
No aparecen imágenes.	1) La conexión del endoscopio no está completa.	1) Conecte el endoscopio correctamente. ➔ “7.2 Conexión del endoscopio y el equipo”
	2) El interruptor principal del monitor está apagado.	2) Encienda el monitor.
	3) La entrada del monitor no se ha seleccionado correctamente.	3) Seleccione la entrada de acuerdo con la línea conectada con INPUT.
	4) El monitor no está conectado.	4) Conecte el monitor mediante el cable.
	5) El monitor no admite la salida de alta definición.	5) Pulse las teclas [Ctrl], [Alt] y [S] al mismo tiempo para cambiar el ajuste de resolución de pantalla a SXGA. ➔ “4.2 Ajustes iniciales en el momento de la instalación”
Las imágenes son oscuras.	1) La sección de imágenes del endoscopio está dañada.	1) 5) 6) Si aparece un mensaje de error, siga las instrucciones que se muestran en pantalla. Si no aparece ningún mensaje de error, extraiga lentamente el endoscopio siguiendo las instrucciones descritas en el Manual de operación del endoscopio en uso. Deje de usar el equipo de inmediato y consulte con su distribuidor local.
	2) La conexión del endoscopio está incompleta.	2) Conecte el endoscopio correctamente. ➔ “7.2 Conexión del endoscopio y el equipo”
	3) El nivel de brillo es aproximadamente -4.	3) Ajuste el nivel de brillo cerca de 0. ➔ “7.8 Ajuste del brillo”
	4) El modo iris es “Peak”.	4) Ajuste el modo iris en “Ave”. ➔ “7.15 Cambio del modo iris”
	5) El sistema funciona de forma incorrecta debido a fenómenos como las descargas electrostáticas.	
	6) La unidad de fuente de luz presenta alguna anomalía.	

Nota

- Espere, como mínimo, 5 segundos antes de volver a encender el equipo.
- Para obtener información detallada sobre el uso del endoscopio, consulte el manual de operación correspondiente.

Fenómeno	Posible causa	Contramedida
Las zonas resaltadas de las imágenes son demasiado brillantes.	1) La sección de imágenes del endoscopio está dañada.	1) 4) 5) Si aparece un mensaje de error, siga las instrucciones que se muestran en pantalla. Si no aparece ningún mensaje de error, extraiga lentamente el endoscopio siguiendo las instrucciones descritas en el Manual de operación del endoscopio en uso. Deje de usar el equipo de inmediato y consulte con su distribuidor local.
	2) El modo iris es “Ave”.	2) Ajuste el modo iris en el valor máximo. ➔ “7.15 Cambio del modo iris”
	3) El nivel de brillo es aproximadamente +5.	3) Ajuste el nivel de brillo a aproximadamente 0. ➔ “7.8 Ajuste del brillo”
	4) El sistema funciona de forma incorrecta debido a fenómenos como las descargas electrostáticas.	
	5) La unidad de fuente de luz presenta alguna anomalía.	

Nota

- Espere, como mínimo, 5 segundos antes de volver a encender el equipo.
- Para obtener información detallada sobre el uso del endoscopio, consulte el manual de operación correspondiente.

Fenómeno	Posible causa	Contramedida
Una imagen desaparece durante el examen o el tratamiento.	1) La sección de imágenes del endoscopio está dañada.	1) 3) 4) 5) Si aparece un mensaje de error, siga las instrucciones que se muestran en pantalla. Si no aparece ningún mensaje de error, extraiga lentamente el endoscopio siguiendo las instrucciones descritas en el Manual de operación del endoscopio en uso. Deje de usar el equipo de inmediato y consulte con su distribuidor local.
	2) La conexión del endoscopio está incompleta. 3) El sistema funciona de forma incorrecta debido a fenómenos como las descargas electrostáticas. 4) La unidad de fuente de luz presenta alguna anomalía. 5) El sistema funciona de forma incorrecta debido a condiciones anómalas de la fuente de alimentación (como una caída del voltaje).	2) Conecte el endoscopio correctamente. ➔ “7.2 Conexión del endoscopio y el equipo”
No se visualiza una imagen en movimiento después de cancelar el modo de congelación durante el examen o el tratamiento.	El sistema funciona de forma incorrecta debido a fenómenos como cargas estáticas.	Si aparece un mensaje de error, siga las instrucciones que se muestran en pantalla. Si no aparece ningún mensaje de error, extraiga lentamente el endoscopio siguiendo las instrucciones descritas en el Manual de operación del endoscopio en uso. Deje de usar el equipo de inmediato y consulte con su distribuidor local.

Nota

- Espere, como mínimo, 5 segundos antes de volver a encender el equipo.
- Para obtener información detallada sobre el uso del endoscopio, consulte el manual de operación correspondiente.

Fenómeno	Posible causa	Contramedida
Una imagen se decolora repentinamente durante el examen o el tratamiento.	1) La sección de imágenes del endoscopio está dañada. 2) El sistema funciona de forma incorrecta debido a fenómenos como las descargas electrostáticas. 3) El cable de señal de vídeo está roto o ha sufrido un cortocircuito. 4) La conexión del endoscopio no está completa.	1) 2) 3) Si aparece un mensaje de error, siga las instrucciones que se muestran en pantalla. Si no aparece ningún mensaje de error, extraiga lentamente el endoscopio siguiendo las instrucciones descritas en el Manual de operación del endoscopio en uso. Deje de usar el equipo de inmediato y consulte con su distribuidor local. 4) Conecte el endoscopio correctamente. ➔ “7.2 Conexión del endoscopio y el equipo”
Las imágenes están distorsionadas.	1) Interferencias de alta frecuencia. 2) La conexión del endoscopio no está completa.	1) Desconecte el electrobisturí para restablecer la salida de imagen. El endoscopio funciona correctamente. 2) Conecte el endoscopio correctamente. ➔ “7.2 Conexión del endoscopio y el equipo”
No se puede utilizar el teclado.	El conector del teclado no está conectado.	Conecte el conector del teclado.
Los periféricos no funcionan.	1) Los periféricos están apagados. 2) Los periféricos no están conectados.	1) Encienda los periféricos. 2) Conecte los periféricos mediante el cable.
Se escucha un sonido anómalo en el interior del procesador.	El ventilador presenta alguna anomalía.	Consulte con su distribuidor local de FUJIFILM.

Nota

- Espere, como mínimo, 5 segundos antes de volver a encender el equipo.
- Para obtener información detallada sobre el uso del endoscopio, consulte el manual de operación correspondiente.

EP-6000_MDD_es.book Page 6 Wednesday, September 12, 2018 9:08 AM

Fenómeno	Posible causa	Contramedida
La luz desaparece durante el examen o el tratamiento.	1) El interruptor de seguridad de la toma del endoscopio presenta alguna anomalía. 2) La unidad de fuente de luz presenta alguna anomalía.	Si aparece un mensaje de error, siga las instrucciones que se muestran en pantalla. Si no aparece ningún mensaje de error, extraiga lentamente el endoscopio siguiendo las instrucciones descritas en el Manual de operación del endoscopio en uso. Deje de usar el equipo de inmediato y consulte con su distribuidor local.

Nota

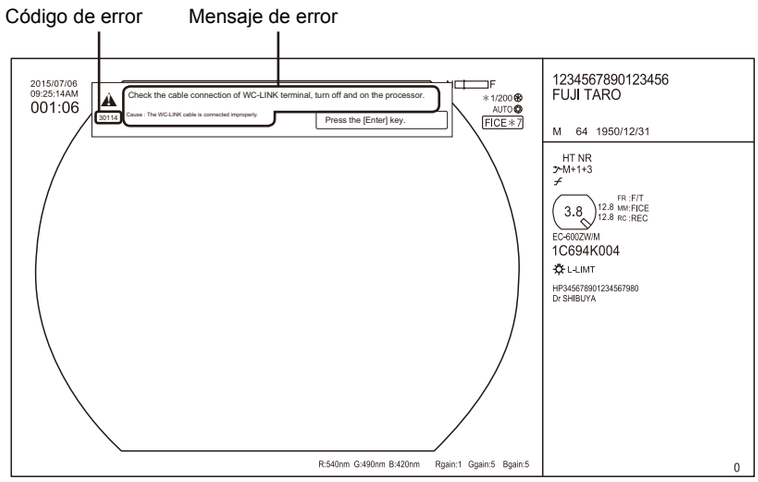
- Espere, como mínimo, 5 segundos antes de volver a encender el equipo.
- Para obtener información detallada sobre el uso del endoscopio, consulte el manual de operación correspondiente.

10.2 Mensajes de error

Si se produce un error, en el monitor aparece un mensaje de error.

Nota

- Para realizar preguntas a su distribuidor local de FUJIFILM, es necesario que proporcione el mensaje de error y el código de error que se muestra junto con este.



Mensaje de error	Posible causa	Contramedida
Check the cable connection of WC-LINK terminal, turn off and on the processor. Cause: The WC-LINK cable is connected improperly.	Hay un problema con la conexión WC-LINK.	Conecte el cable WC-LINK de forma segura.
Compruebe la conexión del cable del terminal WC-LINK, apague y encienda el procesador. Causa: El cable WC-LINK no está correctamente conectado.		
Unplug and plug back endoscope, reset the processor. If the problem persists, contact your local FUJIFILM dealer. Cause: The Light source unit is in abnormal state.	La unidad de fuente de luz presenta alguna anomalía.	Consulte con su distribuidor local de FUJIFILM. *
Desenchufe y vuelva a enchufar el endoscopio; reinicie el procesador. Si el problema persiste, póngase en contacto con su distribuidor local de FUJIFILM. Causa: La unidad de fuente de luz presenta un estado anómalo.		

* Para realizar preguntas a su distribuidor local de FUJIFILM, es necesario que proporcione el mensaje de error y el código de error que se muestra junto con este.

Mensaje de error	Posible causa	Contramedida
Unplug and plug back endoscope, reset the processor and the light source. If the problem persists, contact your local FUJIFILM dealer. Cause: The light source unit is in abnormal state.	El ventilador presenta alguna anomalía.	Consulte con su distribuidor local de FUJIFILM. *
Desenchufe y vuelva a enchufar el endoscopio; reinicie el procesador y la fuente de luz. Si el problema persiste, póngase en contacto con su distribuidor local de FUJIFILM. Causa: La unidad de fuente de luz presenta un estado anómalo.		
Unplug and plug back endoscope, reset the processor. If the problem persists, contact your local FUJIFILM dealer. Cause: The processor is in abnormal state.	El procesador presenta alguna anomalía.	Consulte con su distribuidor local de FUJIFILM. *
Desenchufe y vuelva a enchufar el endoscopio; reinicie el procesador. Si el problema persiste, póngase en contacto con su distribuidor local de FUJIFILM. Causa: el procesador presenta un estado anómalo.		
Unplug and plug back endoscope, reset the processor. If the problem persists, contact your local FUJIFILM dealer. Cause: The endoscope is in abnormal state.	Fallo en el endoscopio.	Consulte con su distribuidor local de FUJIFILM. *
Desenchufe y vuelva a enchufar el endoscopio; reinicie el procesador. Si el problema persiste, póngase en contacto con su distribuidor local de FUJIFILM. Causa: el endoscopio presenta un estado anómalo.		

* Para realizar preguntas a su distribuidor local de FUJIFILM, es necesario que proporcione el mensaje de error y el código de error que se muestra junto con este.

Mensaje de error	Posible causa	Contramedida
Clean the equipment in the proper way as specified. If the problem persists, contact your local FUJIFILM dealer. Cause: Light source unit or endoscope is connected improperly.	No puede suministrarse corriente al endoscopio del sistema 700, pues el equipo tiene polvo o suciedad.	Limpie el equipo tal y como se indica. Si el equipo tiene polvo o suciedad, frótelo ligeramente con un paño suave, como una gasa. Si el mensaje vuelve a aparecer después de haber realizado una limpieza, consulte a su distribuidor local de FUJIFILM. *
Limpie el equipo tal y como se indica. Si el problema persiste, póngase en contacto con su distribuidor local de FUJIFILM. Causa: La unidad de fuente de luz o el endoscopio no están conectados correctamente.		
Connect or disconnect the endoscope when the EXAM. button lights orange or when the power is OFF.	Se ha intentado extraer el endoscopio con el botón EXAM. iluminado en azul.	El endoscopio debe montarse o retirarse en las siguientes situaciones: Cuando se apaga la alimentación o el botón EXAM. se ilumina en naranja después de mantener pulsado el botón EXAM. durante unos dos segundos.
Conecte o desconecte el endoscopio cuando el botón EXAM. se ilumina en naranja o cuando la alimentación está apagada.		
To end examination, cancel freeze mode to display a live image.	Se intenta finalizar la exploración mientras la imagen se congela.	Finalice la exploración después de cancelar el modo de congelación.
Para finalizar la exploración, cancele el modo de congelación para mostrar una imagen en directo.		
Connected scope cannot be used.	El equipo se pone en marcha o la inspección comienza con un endoscopio no aplicable conectado.	Conecte el endoscopio aplicable a este producto. ➔ “Capítulo 11 Especificaciones principales”
No se puede usar el endoscopio conectado.		
Connection to FTP server cannot be established. Cause: FTP server is not connected to the network or network setting is incorrect.	1) El servidor FTP no está conectado a la red. 2) La configuración de la red es incorrecta.	1) Encienda el servidor FTP. 2) Compruebe las conexiones, como el cable, y seleccione “Try Reconnection”.
No se puede establecer la conexión con el servidor FTP. Causa: el servidor FTP no está conectado a la red o la configuración de red es incorrecta.	3) La configuración de red para el procesador presenta alguna anomalía.	3) Póngase en contacto con el administrador del sistema o consulte con su distribuidor local de FUJIFILM. *

* Para realizar preguntas a su distribuidor local de FUJIFILM, es necesario que proporcione el mensaje de error y el código de error que se muestra junto con este.

Mensaje de error	Posible causa	Contramedida
Login to FTP server denied. Check the network setting. Cause: Login name and password settings are incorrect.	La configuración de red para el procesador presenta alguna anomalía.	Póngase en contacto con el administrador del sistema o consulte con su distribuidor local de FUJIFILM. *
Se ha rechazado el inicio de sesión en el servidor FTP. Compruebe la configuración de la red. Causa: los ajustes de nombre y contraseña de inicio de sesión son incorrectos.		
Could not connect to the network. Cause: Network setting is incorrect or network is in abnormal state.	Se ha intentado la transferencia manual aunque la conexión de red está desactivada.	Compruebe si la conexión de red está activada.
No se ha podido conectar con la red. Causa: la configuración de la red es incorrecta o la red presenta un estado anómalo.		
Transferring examination data to the server failed. Check the network setting. Cause: Network connection to the server failed or network setting is incorrect.	El servidor FTP no está conectado a la red o la configuración de la red es incorrecta.	Compruebe las conexiones de cables y que se haya establecido la conexión de red entre el sistema y el servidor FTP.
Se ha producido un error durante la transferencia de datos de exploración al servidor. Compruebe la configuración de la red. Causa: la conexión de red al servidor ha fallado o la configuración de la red es incorrecta.		
Initialization of External Memory failed. Check External Memory.	Falla la inicialización del dispositivo de almacenamiento externo.	Extraiga o inserte el dispositivo de almacenamiento externo en la ranura para tarjetas de memoria y vuelva a inicializarlo.
Se ha producido un error durante la inicialización de la memoria externa. Compruebe la memoria externa.		
Set External Memory. If this message appears even when External Memory is set, contact your local FUJIFILM dealer.	1) No se ha insertado un dispositivo de almacenamiento externo. 2) La ranura para tarjetas de memoria está rota.	1) Inserte un dispositivo de almacenamiento externo. 2) Consulte con su distribuidor local de FUJIFILM. *
Configure la memoria externa. Si aparece este mensaje aunque se configure la memoria externa, póngase en contacto con su distribuidor local de FUJIFILM.		

* Para realizar preguntas a su distribuidor local de FUJIFILM, es necesario que proporcione el mensaje de error y el código de error que se muestra junto con este.

Mensaje de error	Posible causa	Contramedida
Internal Memory has a problem and cannot be used. Initialize Internal Memory. Cause: Internal Memory is not initialized or its file system is corrupted.	1) El dispositivo de almacenamiento interno no se inicializa. 2) El sistema de archivos del dispositivo de almacenamiento interno está dañado.	Inicialice el dispositivo de almacenamiento interno. ➔ “7.15 Cambio del modo iris”
Hay un problema con la memoria interna y no se puede usar. Inicialice la memoria interna. Causa: la memoria interna no se inicializa o su sistema de archivos está dañado.		
Internal Memory is full. Cause: Free space of Internal Memory is insufficient.	El dispositivo de almacenamiento interno no tiene espacio libre suficiente.	Copie los datos de imagen a un dispositivo de almacenamiento externo o transfiéralos al servidor de imágenes para asegurarse de dejar espacio disponible en el dispositivo de almacenamiento interno.
La memoria interna está llena. Causa: no hay suficiente espacio libre en la memoria interna.		
External Memory is full. Cause: Free space of External Memory is insufficient.	No hay espacio libre en el dispositivo de almacenamiento externo.	Prepare un dispositivo de almacenamiento externo nuevo.
La memoria externa está llena. Causa: no hay suficiente espacio libre en la memoria externa.		
Turn printing device off and back on. If the problem persists, contact your local FUJIFILM dealer. Cause: Error occurred in printing device.	La impresora presenta alguna anomalía.	Consulte con su distribuidor local de FUJIFILM. *
Desactive y vuelva a activar el dispositivo de impresión. Si el problema persiste, póngase en contacto con su distribuidor local de FUJIFILM. Causa: se ha producido un error en el dispositivo de impresión.		
Printer cannot be recognized. Check the printer power and cable connection. To print after examination, select the [Cancel] button.	1) La impresora no está encendida. 2) La impresora no está conectada correctamente.	1) Encienda la impresora. 2) Compruebe la conexión de la impresora.
No se reconoce la impresora. Compruebe la conexión del cable y la alimentación de la impresora. Para imprimir después de la exploración, seleccione el botón [Cancel].		

* Para realizar preguntas a su distribuidor local de FUJIFILM, es necesario que proporcione el mensaje de error y el código de error que se muestra junto con este.

Mensaje de error	Posible causa	Contramedida
Printing in progress. Load images after printing is finished.	Se envía un comando de activación mientras la impresora está imprimiendo.	Espere a que la impresión finalice.
Impresión en curso. Cargue imágenes una vez finalizada la impresión.		
Printer door is open. Check printer.	La impresión se está ejecutando con la puerta de la impresora abierta.	Cierre la puerta de la impresora.
La puerta de la impresora está abierta. Compruebe la impresora.		
Printer paper has run out. Set printer paper.	La impresión se está ejecutando sin papel en la impresora.	Coloque papel en la impresora.
Se ha agotado el papel de la impresora. Coloque papel para impresora.		
Ink sheet is not set in printer. Set ink sheet.	La impresión se está ejecutando sin rollo de tinta en la impresora.	Coloque rollo de tinta en la impresora.
No se ha colocado rollo de tinta en la impresora. Coloque rollo de tinta.		
Printer ink sheet has run out. Replace ink sheet.	El rollo de tinta de la impresora se ha terminado.	Coloque rollo de tinta en la impresora.
Se ha agotado el rollo de tinta de la impresora. Sustituya el rollo de tinta.		
Paper jamming occurred in printer. Remove paper.	El papel de la impresora se ha atascado.	Extraiga el papel atascado.
Se ha producido un atasco de papel en la impresora. Extraiga el papel.		
Printer paper and ink sheet sizes do not match. Match printer paper and ink sheet sizes.	Los tamaños de papel y rollo de tinta no coinciden.	Coloque papel y rollo de tinta del tamaño correcto en la impresora.
Los tamaños de papel de impresora y rollo de tinta no coinciden. Haga coincidir los tamaños de papel de impresora y rollo de tinta.		

* Para realizar preguntas a su distribuidor local de FUJIFILM, es necesario que proporcione el mensaje de error y el código de error que se muestra junto con este.

Mensaje de error	Posible causa	Contramedida
Connection to the video recorder cannot be confirmed. Check the video recorder. Cause: Video recorder is turned off or video recorder and processor are connected improperly.	La grabadora de vídeo no está encendida.	Compruebe la configuración de la fuente de alimentación, la conexión del cable y la velocidad de comunicación de la grabadora de vídeo.
No se puede confirmar la conexión con la grabadora de vídeo. Compruebe la grabadora de vídeo. Causa: la grabadora de vídeo está apagada o la grabadora de vídeo y el procesador se han conectado de forma incorrecta.		
Video recorder software error occurred.	1) La conexión y la configuración de la grabadora de vídeo no se han realizado correctamente.	1) Compruebe la configuración de la fuente de alimentación, la conexión del cable y la velocidad de comunicación de la grabadora de vídeo.
Se ha producido un error de software de la grabadora de vídeo.	2) La grabadora de vídeo presenta alguna anomalía.	2) Consulte con su distribuidor local de FUJIFILM. *
No disk is inserted in the video recorder. Insert a disk.	No hay ningún disco en la grabadora de vídeo.	Extraiga el disco e inserte uno nuevo en la grabadora de vídeo.
No se ha insertado un disco en la grabadora de vídeo. Inserte un disco.		
The disk in the video recorder is full. Replace it with a new disk.	El disco insertado en la grabadora de vídeo está lleno.	Extraiga el disco e inserte uno nuevo en la grabadora de vídeo.
El disco en la grabadora de vídeo está lleno. Sustitúyalo por un disco nuevo.		
The disk in the video recorder is not supported. Insert a "DVD-RAM" or "DVD-R" disk.	La grabadora de vídeo no admite el disco insertado.	Extraiga el disco e inserte un disco admitido en la grabadora de vídeo.
El disco en la grabadora de vídeo no se admite. Inserte un disco “DVD-RAM” o “DVD-R”.		

* Para realizar preguntas a su distribuidor local de FUJIFILM, es necesario que proporcione el mensaje de error y el código de error que se muestra junto con este.

Mensaje de error	Posible causa	Contramedida
Data cannot be written on the disk in the video recorder. Insert a recordable disk. Cause: Disk is full or maximum number of recordable files are already stored.	El disco está protegido contra escritura.	Extraiga el disco para cancelar la protección contra escritura.
No se pueden escribir datos en el disco en la grabadora de vídeo. Inserte un disco grabable. Causa: el disco está lleno o ya se ha almacenado el número máximo de archivos grabables.		
The disk in the video recorder is not recordable. Check the disk. At the time of disk status confirmation, the status "not recordable" is returned from the device.	1) El disco está dañado. 2) Ya hay datos en el disco.	Extraiga el disco e inserte uno nuevo en la grabadora de vídeo.
El disco en la grabadora de vídeo no se puede grabar. Compruebe el disco. En el momento de la confirmación de estado del disco, el dispositivo devuelve el estado “no se puede grabar”.		
The disk in the video recorder is not formatted. Insert a formatted disk. Cause: DVD-RAM disk is not formatted.	El disco no se ha inicializado.	Extraiga el disco para inicializarlo.
El disco en la grabadora de vídeo no se ha formateado. Inserte un disco formateado. Causa: el disco DVD-RAM no se ha formateado.		
The video recorder is busy.	Se envía un comando de activación cuando la grabadora de vídeo está ocupada.	Espere hasta que desaparezca el mensaje.
La grabadora de vídeo está ocupada.		
Disk tray is open. Check the disk tray.	La grabación de vídeo se ejecuta con la bandeja de disco abierta.	Corrija el error en el grabadora de vídeo.
La bandeja de disco está abierta. Compruebe la bandeja de disco.		

* Para realizar preguntas a su distribuidor local de FUJIFILM, es necesario que proporcione el mensaje de error y el código de error que se muestra junto con este.

Mensaje de error	Posible causa	Contramedida
Patient has been switched during examination. Recording will be continued.	El paciente cambia durante la grabación de vídeo.	Espere hasta que desaparezca el mensaje.
Se ha cambiado de paciente durante la exploración. La grabación continuará.		
Preparation for printing is in progress. Please wait for a while.	Se envía un comando de activación para una nueva imagen inmediatamente después de iniciar la impresión.	Espere hasta que desaparezca el mensaje.
La preparación de la impresión está en curso. Espere un momento.		
No input signal to the printer. Check the input cable or device settings.	La conexión y la configuración de la impresora son incorrectas.	Compruebe la conexión del cable y la configuración de la impresora.
No se envía una señal de entrada a la impresora. Compruebe el cable de entrada o los ajustes del dispositivo.		
No images are loaded to the printer.	Se está intentando imprimir sin tener una imagen cargada.	Cargue la imagen para volver a imprimirla.
No se cargan imágenes en la impresora.		
Adjusting head temperature.	La temperatura del cabezal de la impresora se eleva excesivamente.	Espere hasta que desaparezca el mensaje.
Ajuste de la temperatura del cabezal.		
Printer paper tray is full. Remove paper.	La bandeja de papel está llena.	Extraiga el papel de la bandeja de papel.
La bandeja de papel de la impresora está llena. Extraiga el papel.		
Printer cannot be recognized. Check the printer power and cable connection. To cancel printing, select the [Cancel] button.	1) La impresora digital no está encendida. 2) El cable USB no está conectado a la impresora digital. 3) La configuración de la impresora digital es errónea.	Compruebe la fuente de alimentación, la conexión del cable y la configuración de la impresora digital.
No se reconoce la impresora. Compruebe la conexión del cable y la alimentación de la impresora. Para cancelar la impresión, seleccione el botón [Cancel].		

* Para realizar preguntas a su distribuidor local de FUJIFILM, es necesario que proporcione el mensaje de error y el código de error que se muestra junto con este.

Mensaje de error	Posible causa	Contramedida
Paper jamming occurred in printer. Remove paper. To cancel printing, select the [Cancel] button.	El papel de la impresora digital se ha atascado.	Extraiga el papel atascado.
Se ha producido un atasco de papel en la impresora. Extraiga el papel. Para cancelar la impresión, seleccione el botón [Cancel].		
Printer ink sheet is incorrect. Replace it with a correct ink sheet. To cancel printing, select the [Cancel] button.	No se puede detectar la información del rollo de tinta.	Vuelva a colocar el rollo de tinta en la impresora.
El rollo de tinta de la impresora es incorrecto. Sustitúyalo por un rollo de tinta correcto. Para cancelar la impresión, seleccione el botón [Cancel].		
Printer paper and ink sheet sizes do not match. Match printer paper and ink sheet sizes. To cancel printing, select the [Cancel] button.	Los tamaños de papel y rollo de tinta no coinciden.	Coloque el papel y el rollo de tinta especificados en la impresora.
Los tamaños de papel de impresora y rollo de tinta no coinciden. Haga coincidir los tamaños de papel de impresora y rollo de tinta. Para cancelar la impresión, seleccione el botón [Cancel].		
Printer paper has run out. Set printer paper. To cancel printing, select the [Cancel] button.	La impresión se está ejecutando sin papel en la impresora digital.	Coloque papel en la impresora.
Se ha agotado el papel de la impresora. Coloque papel para impresora. Para cancelar la impresión, seleccione el botón [Cancel].		
Printer door is open. Check printer.	La impresión se está ejecutando con la puerta de la impresora digital abierta.	Corrija el error en la impresora.
La puerta de la impresora está abierta. Compruebe la impresora.		

* Para realizar preguntas a su distribuidor local de FUJIFILM, es necesario que proporcione el mensaje de error y el código de error que se muestra junto con este.

Mensaje de error	Posible causa	Contramedida
Turn printing device off and back on. If the problem persists, contact your local FUJIFILM dealer. Cause: Error occurred in printing device.	La impresora digital presenta alguna anomalía.	Consulte con su distribuidor local de FUJIFILM. *
Desactive y vuelva a activar el dispositivo de impresión. Si el problema persiste, póngase en contacto con su distribuidor local de FUJIFILM. Causa: se ha producido un error en el dispositivo de impresión.		
Preparation for printing is in progress. Please wait for a while. To cancel printing, select the [Cancel] button.	Se envía una imagen para imprimir durante la inicialización de la configuración de la impresora digital.	Espere hasta que desaparezca el mensaje.
La preparación de la impresión está en curso. Espere un momento. Para cancelar la impresión, seleccione el botón [Cancel].		
Adjusting the printer-head temperature. Please wait for a while. To cancel printing, select the [Cancel] button.	1) La temperatura de la impresora es anormalmente alta. 2) La impresora presenta alguna anomalía.	1) Espere hasta que desaparezca el mensaje. 2) Consulte con su distribuidor local de FUJIFILM. *
Ajuste de la temperatura del cabezal de la impresora. Espere un momento. Para cancelar la impresión, seleccione el botón [Cancel].		
Unplug and plug back endoscope, reset the processor and the light source. If the problem persists, contact your local FUJIFILM dealer. Cause: It failed in the initialization of the panel button and the foot switch.	Error en el reconocimiento del botón de panel y el interruptor de pedal.	Apague el procesador, espere al menos 5 segundos y enciéndalo de nuevo.
Desenchufe y vuelva a enchufar el endoscopio; reinicie el procesador y la fuente de luz. Si el problema persiste, póngase en contacto con su distribuidor local de FUJIFILM. Causa: ha fallado en la inicialización del botón de panel y el interruptor de pedal.		

* Para realizar preguntas a su distribuidor local de FUJIFILM, es necesario que proporcione el mensaje de error y el código de error que se muestra junto con este.

EP-6000_MDD_es.book Page 18 Wednesday, September 12, 2018 9:08 AM

Mensaje de error	Posible causa	Contramedida
Communication error with DICOM GW equipment. Check the connection.	Error en la comunicación en serie con el equipo DICOM GW.	Compruebe que el cable esté bien conectado. Si el error se produce con frecuencia, consulte a su distribuidor local de FUJIFILM. *
Error de comunicación con el equipo DICOM GW. Compruebe la conexión.		
A communication error is detected with SU equipment. Check the connection.	Error en la comunicación en serie con el endoscopio ultrasónico.	Compruebe que el cable esté bien conectado. Si el error se produce con frecuencia, consulte a su distribuidor local de FUJIFILM.
Se ha detectado un error de comunicación con el equipo SU. Compruebe la conexión.		

* Para realizar preguntas a su distribuidor local de FUJIFILM, es necesario que proporcione el mensaje de error y el código de error que se muestra junto con este.

EP-6000_MDD_es.book Page 1 Wednesday, September 12, 2018 9:08 AM

Capítulo 11 Especificaciones principales

11.1 Especificación

◆ Clasificación de los equipos electromédicos

1. Tipo de protección contra descargas eléctricas:

   Equipo de Clase I
   (Fuente de alimentación: enchufe de conexión a tierra)

2. Nivel de protección contra descargas eléctricas:

   Pieza aplicada tipo BF

3. Nivel de protección contra explosiones:

   Se prohíbe el uso en un entorno rico en oxígeno o en una atmósfera de gas inflamable.

4. Nivel de protección contra la entrada de agua:

   IPX0

5. Modo de funcionamiento:

   Funcionamiento continuo

◆ Pieza aplicada

Sección de inserción del endoscopio aplicable

◆ Especificación

Alimentación	100 - 240 V ~ 50/60 Hz
Consumo de corriente (nominal)	2.0-1.1 A
Fusible	T3.15 AH 250 V × 2 (potencia nominal: 3.15 A/250 V)
Tipo de color	NTSC/PAL
Salida de vídeo	DVI (resolución: 1280 × 1024 píxeles, 1920 × 1080 píxeles)
Control de luz	Control de luz automático mediante la señal de control
Método de enfriamiento de luz	Enfriamiento por aire forzado
Bomba de suministro de aire	HI/MID/LOW/OFF
Presión máxima del suministro de aire	65 kPa
Presión máxima del suministro de agua	65 kPa
Fuente de iluminación	LED
Salida máxima de luz	750 lm o menos (medida con nuestra plantilla)
Seguridad de radiación óptica (LED para comunicación infrarroja)	Producto LED de clase 1 [*1] (IEC 60825-1: 1993+A1: 1997+A2: 2001: 2007)
Frecuencia de transmisión de potencia	110 a 205 kHz
Potencia efectiva radiada	15 W o menos
Control en serie	UP-55MD
Método de captación de imágenes	Simultáneo [*2]
Modo iris	AUTO/PEAK/AVE
Zoom de imagen [*3]	Zoom electrónico × 1.00 a × 2.00 (pasos de 0.05)
Memoria	Datos de paciente: 45 pacientes Procedimiento clínico: 20 tipos Nombre de médico: 20 médicos Página de configuración de imágenes: 5 patrones
Reloj integrado	Fecha, hora (con apoyo de la batería secundaria: ML2430-HJ1)
Contador de disparos	Visualización de suma
Endoscopio aplicable	Endoscopios del sistema 700, endoscopios del sistema 600, endoscopios del sistema 500 [*4] [*5]
Dimensiones (An. × Al. × Pr.)	395 × 210 × 485 mm (incluida la proyección)
Masa	15.0 kg

*1 “Capítulo 3 Nombre y función de cada parte” > “3.1 Panel frontal” > “20. La ventana de comunicación (LED)” se incluye dentro de esta clase.

*2 Método de captación de imágenes que emplea el sensor de obtención de imágenes con filtros de colores (rojo, verde y azul) en el extremo distal del endoscopio. Se utiliza luz blanca como luz de iluminación.

*3 La tasa de zoom de algunos endoscopios de la serie 530 es × 1.00 a × 1.95.

*4 En función del modelo, la nitidez de las imágenes de vídeo puede variar debido a diferencias en la versión del software.

*5 A excepción de los endoscopios de la serie 590, EG-530UT2, EG-530UT, EG-530UR2 y EG-530UR.

◆ Condiciones de funcionamiento

Condiciones de funcionamiento

Temperatura	+10 a +40 °C
Humedad	30 a 85 % HR (sin condensación de rocío)
Presión	70 a 106 kPa

Condiciones no operativas

Temperatura	-10 a +45 °C
Humedad	30 a 95 % HR (sin condensación de rocío)
Presión	70 a 106 kPa

◆ Condiciones de transporte y almacenamiento

Temperatura	-20 a +60 °C
Humedad	10 a 90 % HR (sin condensación de rocío)
Presión	70 a 106 kPa

◆ Periodo de validez/periodo de uso (duración)

El período de validez (duración) es de 6 años desde el primer uso de este producto, siempre que se le realice el mantenimiento periódico. “Según criterios del centro”

◆ Conector de entrada/salida

(1) Conector de salida de imagen

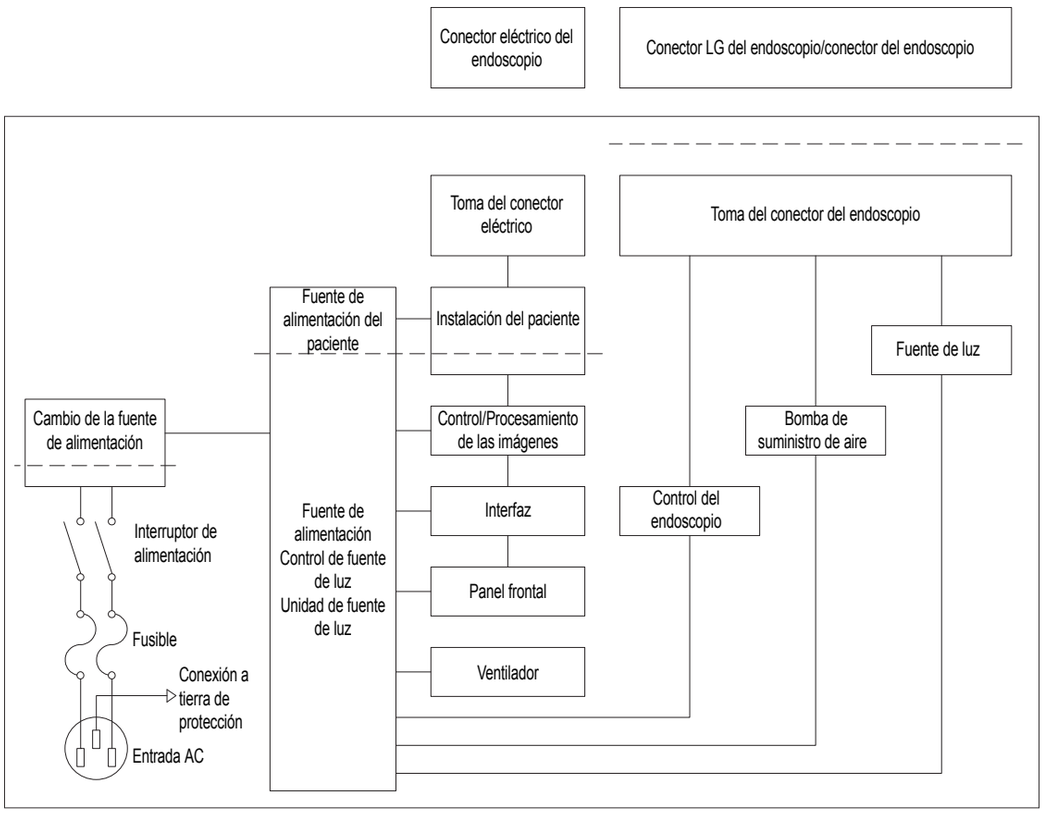
VIDEO	1.0 Vp-p/75 Ω (NTSC/PAL)	1 canal
S VIDEO	Y: 1.0 Vp-p/75 Ω (NTSC/PAL) C: 0.3 Vp-p/75 Ω	1 canal
RGB TV (D-sub 15 p)	RGB: 0.7 Vp-p/75 Ω (NTSC/PAL) SYNC: TTL, 2.0 Vp-p/75 Ω	1 canal
DVI-D (24 p)	Digital	2 canales

(2) Conector de control

WC-LINK (37 p)		1 canal
REMOTE (BNC)		2 canales
Periféricos (D-sub 9 p)	RS-232C*	2 canales
Teclado	USB 1.1 *	1 canal
Lector	USB 1.1 *	1 canal
Impresora digital	USB 2.0 *	1 canal
Interruptor de pedal (Din 5 p)		1 canal
Red (RJ-45)	10/100 BASE *	1 canal

◆ Esquema global

Este dispositivo se compone de las siguientes partes: fuente de alimentación, controlador, procesador de imágenes, panel frontal, interfaz, sección de instalación del paciente, controlador de fuente de luz, unidad de fuente de luz y controlador del endoscopio. La sección de instalación del paciente y el controlador del endoscopio son flotantes. La alimentación, las señales de control, la luz de iluminación y el aire se suministran al endoscopio que se va a conectar. Las señales de imagen que se reciben del endoscopio se procesan y convierten en información de imagen. El dispositivo está equipado con funciones para visualizar en pantalla, imprimir, registrar y enviar información de la imagen.



EP-6000_MDD_es.book Page 6 Wednesday, September 12, 2018 9:08 AM

11.2 Información de compatibilidad electromagnética (EMC)

El equipo médico electrónico requiere un cuidado especial en lo que respecta a la compatibilidad electromagnética (EMC). Debe instalarse y utilizarse de conformidad con la información de compatibilidad electromagnética (EMC) proporcionada en la Tabla 1 a través de la Tabla 4, si tanto este producto como un videoendoscopio *1 usados en combinación cumplen con los requisitos establecidos en IEC 60601-1-2:2014, o bien con la información de EMC proporcionada en la Tabla 5 a través de la Tabla 8, si un videoendoscopio *1 cumple con los requisitos establecidos en IEC 60601-1-2:2007 *2.

*1 Consulte el Manual de operación del videoendoscopio.

*2 La norma IEC 60601-1-2:2007 se aplica a Brasil independientemente del año de aplicación del endoscopio de combinación.

<Información y pautas sobre el cumplimiento de las emisiones electromagnéticas>

Tabla 1

Indicaciones y declaración del fabricante: emisión electromagnética		
El uso de este dispositivo está indicado para los siguientes entornos electromagnéticos prescritos. Recomendamos que tanto los clientes como los usuarios de este producto verifiquen su uso en dichos entornos.		
Norma de emisiones	Conformidad	Pautas
Emisiones de radiofrecuencia CISPR11	Grupo 1	Este producto utiliza energía de radiofrecuencia únicamente en funciones internas. Por tanto, la emisión de radiofrecuencia es muy baja y es difícil que interfiera en equipos electrónicos cercanos.
Emisiones de radiofrecuencia CISPR11	Clase B (Combinación con endoscopio del sistema 700, EB-580S o EB-580T) Clase A (Combinaciones distintas de las anteriores)	[Emisiones de radiofrecuencia] Con la combinación de la Clase B, este producto se puede utilizar en cualquier entorno, incluidos los hogares y los edificios para familias directamente conectados a la red de alimentación eléctrica de bajo voltaje. Con la combinación de la Clase A, este producto está destinado al uso en instituciones hospitalarias y comerciales. Por lo tanto, si se utiliza en entornos domésticos, pueden producirse interferencias electromagnéticas en cualquier dispositivo. Además, es posible que este producto no ofrezca una protección adecuada para los servicios de comunicación por radiofrecuencia. Es posible que el usuario deba adoptar medidas de mitigación como la reubicación o reorientación del equipo. En estos casos, se recomienda tomar medidas correctivas de acuerdo con las “Capítulo 1 Precauciones.”
Emisiones armónicas IEC 61000-3-2	Clase A	
Fluctuaciones de tensión/ parpadeos IEC 61000-3-3	Aplicable	

<Información y pautas sobre el cumplimiento de la inmunidad electromagnética>

Tabla 2

Indicaciones y declaración del fabricante: inmunidad electromagnética			
El uso de este dispositivo está indicado para los siguientes entornos electromagnéticos prescritos. Recomendamos que tanto los clientes como los usuarios de este producto verifiquen su uso en dichos entornos.			
Prueba de inmunidad	IEC 60601 Nivel de prueba	Nivel de conformidad	Pautas
Descarga electrostática (ESD) IEC 61000-4-2	±8 kV contacto ±2 kV aire ±4 kV aire ±8 kV aire ±15 kV aire	±8 kV contacto ±2 kV aire ±4 kV aire ±8 kV aire ±15 kV aire	Los materiales ideales para el suelo son la madera, el cemento o las baldosas cerámicas. Si están recubiertos con materiales sintéticos, la humedad relativa debe ser del 30 % como mínimo.
Corriente transitoria rápida/ en ráfagas IEC 61000-4-4	±2 kV para líneas de alimentación eléctrica ±1 kV para líneas de entrada/salida	±2 kV para líneas de alimentación eléctrica ±1 kV para líneas de entrada/salida	La calidad de energía eléctrica principal ha de ser como la que se usa normalmente en instalaciones comerciales o entornos hospitalarios.
Sobretensión transitoria IEC 61000-4-5	±0.5 kV, ±1.0 kV de línea a línea ±0.5 kV, ±1.0 kV, ±2.0 kV de línea a tierra	±0.5 kV, ±1.0 kV de línea a línea ±0.5 kV, ±1.0 kV, ±2.0 kV de línea a tierra	La calidad de energía eléctrica principal ha de ser como la que se usa normalmente en instalaciones comerciales o entornos hospitalarios.
Caídas de tensión, pequeñas interrupciones y variaciones de tensión en las líneas de entrada de alimentación IEC 61000-4-11	0 % U_T durante 0.5 ciclos y 1 ciclo 70 % U_T durante 0.5 segundos 0 % U_T durante 5 segundos	0 % U_T durante 0.5 ciclos y 1 ciclo 70 % U_T durante 0.5 segundos 0 % U_T durante 5 segundos	La calidad de energía eléctrica principal ha de ser como la que se usa normalmente en instalaciones comerciales o entornos hospitalarios. Si el usuario del producto necesita utilizarlo continuamente durante interrupciones eléctricas, se recomienda que este producto se conecte a una fuente de alimentación ininterrumpible o a una batería.
Campo magnético de la frecuencia de red (50/60 Hz) IEC 61000-4-8	30 A/m	30 A/m	El campo magnético de frecuencia de red debe registrar el mismo nivel de características de ubicación común, tanto en entornos hospitalarios como en entornos empresariales estándar.

Nota

- U_T es la tensión de la red principal de corriente alterna antes de aplicarse el nivel de prueba.

<Información y pautas sobre el cumplimiento de equipos móviles y portátiles de comunicación por radiofrecuencia>

Tabla 3

Indicaciones y declaración del fabricante: inmunidad electromagnética			
El uso de este dispositivo está indicado para los siguientes entornos electromagnéticos prescritos. Recomendamos que tanto los clientes como los usuarios de este producto verifiquen su uso en dichos entornos.			
Prueba de inmunidad	IEC 60601 Nivel de prueba	Nivel de conformidad	Pautas
Radiofrecuencia conducida IEC 61000-4-6	3 Vrms De 150 kHz a 80 MHz 6 Vrms Bandas de frecuencia ISM	3 Vrms 6 Vrms Bandas de frecuencia ISM	Un equipo móvil y portátil de comunicación por radiofrecuencia no debe utilizarse muy cerca de cualquier parte de este producto, incluidos sus cables. Debe respetarse una distancia de separación calculada a partir de la ecuación aplicable a la frecuencia del transmisor.
Radiofrecuencia radiada IEC 61000-4-3	3 V/m De 80 MHz a 2.7 GHz	3 V/m	Distancia de separación recomendada $d = 1.2 \sqrt{P}$ $d = 1.2 \sqrt{P}$ De 80 MHz a 800 MHz $d = 2.3 \sqrt{P}$ De 800 MHz a 2.7 GHz Según el fabricante del transmisor, “P” es la máxima potencia de salida en vatios (W) y “d” es la distancia de separación recomendada en metros (m). La intensidad del campo eléctrico de un transmisor de radiofrecuencia fijo determinada por un estudio del campo electromagnético[a] debe ser inferior al grado de conformidad en cada intervalo de frecuencia[b]. Es posible que se produzcan interferencias cerca de aquellos dispositivos que muestren el siguiente símbolo. 

Prueba de inmunidad	IEC 60601 Nivel de prueba	Nivel de conformidad	Pautas
Inmunidad a campos de proximidad de equipos de comunicación inalámbrica por radiofrecuencia IEC 61000-4-3	380-390 MHz, 27 V/m 430-470 MHz, 28 V/m 704-787 MHz, 9 V/m 800-960 MHz, 28 V/m 1422-1512 MHz, 10 V/m 1700-1990 MHz, 28 V/m 2400-2570 MHz, 28 V/m 3480-3600 MHz, 10 V/m 5100-5800 MHz, 9 V/m	380-390 MHz, 27 V/m 430-470 MHz, 28 V/m 704-787 MHz, 9 V/m 800-960 MHz, 28 V/m 1422-1512 MHz, 10 V/m 1700-1990 MHz, 28 V/m 2400-2570 MHz, 28 V/m 3480-3600 MHz, 10 V/m 5100-5800 MHz, 9 V/m	El rendimiento de este producto podría verse afectado si el equipo portátil de comunicación por radiofrecuencia se utiliza a una distancia inferior a 30 cm de cualquiera de sus partes.

Nota

- A 80 MHz y 800 MHz, se aplica el intervalo de frecuencias más elevado.
- Es posible que estas directrices no sean aplicables en todas las situaciones. La propagación electromagnética se ve afectada por la absorción y la reflexión de personas, objetos y estructuras.

a. No es posible predecir teóricamente con precisión la intensidad de campo de los transmisores fijos, como las estaciones base de radioteléfonos (móviles e inalámbricos) y radiocomunicaciones móviles terrestres, radioaficionados, radiodifusión de AM y FM, y emisiones de televisión. Para determinar el entorno electromagnético en caso de transmisores de radiofrecuencia fijos, deberá considerarse la realización de un examen electromagnético del emplazamiento. Si la intensidad de campo medida en la ubicación donde se encuentra este producto sobrepasa los valores dictados por las normas de RF en vigor, deberá comprobar que el producto funcione correctamente. Si observa un funcionamiento anómalo, es posible que sea necesario adoptar medidas complementarias, como cambiar la orientación o la ubicación de este producto.

b. Por encima del intervalo de frecuencias de 150 kHz a 80 MHz, las intensidades de campo deben ser inferiores a 3 V/m.

c. Bandas de frecuencia de 6.765 MHz a 6.795 MHz, 13.553 MHz a 13.567 MHz, 26.957 MHz a 27.283 MHz, o 40.66 MHz a 40.70 MHz

<Distancia de separación recomendada entre equipos móviles y portátiles de comunicación por radiofrecuencia y este producto>

Tabla 4

Distancia de separación recomendada entre equipos móviles y portátiles de comunicación por radiofrecuencia y este producto.			
Este producto debe utilizarse en un entorno electromagnético donde las perturbaciones de la radiación por radiofrecuencia estén controladas. El cliente o el usuario de este producto puede evitar las interferencias electromagnéticas si mantiene una distancia mínima entre los equipos móviles y portátiles de comunicación por radiofrecuencia (transmisores) y este producto, tal como se recomienda a continuación, según la potencia máxima de salida del equipo de comunicaciones.			
Índice de potencia de salida máxima del transmisor P (W)	Distancia de separación en relación con la frecuencia del transmisor (m)		
	150 kHz a 80 MHz $d = 1.2\sqrt{P}$	80 MHz a 800 MHz $d = 1.2\sqrt{P}$	800 MHz a 2.5 GHz $d = 2.3\sqrt{P}$
0.01	0.12	0.12	0.23
0.1	0.38	0.38	0.73
1	1.2	1.2	2.3
10	3.8	3.8	7.3
100	12	12	23
En el caso de transmisores con una potencia máxima de salida diferente a la detallada en la tabla anterior, la distancia de separación recomendada d, expresada en metros (m), se puede calcular con la ecuación aplicable a la frecuencia del transmisor, donde P es la potencia máxima de salida del transmisor en vatios (W), de acuerdo con el fabricante del transmisor.			

Nota

- A 80 MHz y 800 MHz, se aplica la distancia de separación para el intervalo de frecuencias más elevado.
- Es posible que estas directrices no sean aplicables en todas las situaciones. La propagación electromagnética se ve afectada por la absorción y la reflexión de personas, objetos y estructuras.

- Cables

Nombre	Longitud máxima	Especificación
Cable S Vídeo	3 m	Cable blindado con una impedancia característica de 75 Ω
Cable de vídeo	3 m	Cable blindado con una impedancia característica de 75 Ω
Cable RGB TV	3 m	Cable blindado con una impedancia característica de 75 Ω (R, G, B, Sync)
Cable DVI-D *1	5 m	Cable blindado con una impedancia característica de señal diferencial de 100 Ω Cable que cumple con la norma DVI
Cable LAN		Cat 5e o superior, cable recto del tipo UTP (par trenzado sin blindaje)
Cable WC-LINK		Suministrado con este producto

Utilice el cable suministrado con la impresora para conectar este producto a la impresora digital.

*1 Utilice el cable provisto con el monitor.

<Información y pautas sobre el cumplimiento de las emisiones electromagnéticas>

Tabla 5

Indicaciones y declaración del fabricante: emisión electromagnética		
El uso de este dispositivo está indicado para los siguientes entornos electromagnéticos prescritos. Recomendamos que tanto los clientes como los usuarios de este producto verifiquen su uso en dichos entornos.		
Norma de emisiones	Conformidad	Pautas
Emisiones de radiofrecuencia CISPR11	Grupo 1	Este producto utiliza energía de radiofrecuencia únicamente en funciones internas. Por tanto, la emisión de radiofrecuencia es muy baja y es difícil que interfiera en equipos electrónicos cercanos.
Emisiones de radiofrecuencia CISPR11	Clase B (Combinación con endoscopio del sistema 700, EB-580S o EB-580T) Clase A (Combinaciones distintas de las anteriores)	[Emisiones de radiofrecuencia] Con la combinación de la Clase B, este producto se puede utilizar en cualquier entorno, incluidos los hogares y los edificios para familias directamente conectados a la red de alimentación eléctrica de bajo voltaje. Con la combinación de la Clase A, este producto está destinado al uso en instituciones hospitalarias y comerciales. Por lo tanto, si se utiliza en entornos domésticos, pueden producirse interferencias electromagnéticas en cualquier dispositivo. Además, es posible que este producto no ofrezca una protección adecuada para los servicios de comunicación por radiofrecuencia. Es posible que el usuario deba adoptar medidas de mitigación como la reubicación o reorientación del equipo. En estos casos, se recomienda tomar medidas correctivas de acuerdo con las “Capítulo 1 Precauciones.”
Emisiones armónicas IEC 61000-3-2	Clase A	
Fluctuaciones de tensión/ parpadeos IEC 61000-3-3	Aplicable	

<Información y pautas sobre el cumplimiento de la inmunidad electromagnética>

Tabla 6

Indicaciones y declaración del fabricante: inmunidad electromagnética			
El uso de este dispositivo está indicado para los siguientes entornos electromagnéticos prescritos. Recomendamos que tanto los clientes como los usuarios de este producto verifiquen su uso en dichos entornos.			
Prueba de inmunidad	IEC 60601 Nivel de prueba	Nivel de conformidad	Pautas
Descarga electrostática (ESD) IEC 61000-4-2	±6 kV contacto ±8 kV aire	±2 kV contacto ±4 kV contacto ±6 kV contacto ±2 kV aire ±4 kV aire ±8 kV aire	Los materiales ideales para el suelo son la madera, el cemento o las baldosas cerámicas. Si están recubiertos con materiales sintéticos, la humedad relativa debe ser del 30 % como mínimo.
Corriente transitoria rápida/ en ráfagas IEC 61000-4-4	±2 kV para líneas de alimentación eléctrica ±1 kV para líneas de entrada/salida	±2 kV para líneas de alimentación eléctrica ±1 kV para líneas de entrada/salida	La calidad de energía eléctrica principal ha de ser como la que se usa normalmente en instalaciones comerciales o entornos hospitalarios.
Sobretensión transitoria IEC 61000-4-5	± 1 kV de línea a línea ± 2 kV de línea a tierra	± 1 kV de línea a línea ± 2 kV de línea a tierra	La calidad de energía eléctrica principal ha de ser como la que se usa normalmente en instalaciones comerciales o entornos hospitalarios.
Caídas de tensión, pequeñas interrupciones y variaciones de tensión en las líneas de entrada de alimentación IEC 61000-4-11	< 5 % U_T (>95 % de caída en U_T) durante 0.5 ciclos 40 % U_T (60 % de caída en U_T) durante 5 ciclos 70 % U_T (30 % de caída en U_T) durante 25 ciclos < 5 % U_T (>95 % de caída en U_T) durante 5 segundos	< 5 % U_T (>95 % de caída en U_T) durante 0.5 ciclos 40 % U_T (60 % de caída en U_T) durante 5 ciclos 70 % U_T (30 % de caída en U_T) durante 25 ciclos < 5 % U_T (>95 % de caída en U_T) durante 5 segundos	La calidad de energía eléctrica principal ha de ser como la que se usa normalmente en instalaciones comerciales o entornos hospitalarios. Si el usuario del producto necesita utilizarlo continuamente durante interrupciones eléctricas, se recomienda que este producto se conecte a una fuente de alimentación ininterrumpible o a una batería.

Prueba de inmunidad	IEC 60601 Nivel de prueba	Nivel de conformidad	Pautas
Campo magnético de la frecuencia de red (50/60 Hz) IEC 61000-4-8	3 A/m	3 A/m	El campo magnético de frecuencia de red debe registrar el mismo nivel de características de ubicación común, tanto en entornos hospitalarios como en entornos empresariales estándar.

Nota

- U_T es la tensión de la red principal de corriente alterna antes de aplicarse el nivel de prueba.

<Información y pautas sobre el cumplimiento de equipos móviles y portátiles de comunicación por radiofrecuencia>

Tabla 7

Indicaciones y declaración del fabricante: inmunidad electromagnética			
El uso de este dispositivo está indicado para los siguientes entornos electromagnéticos prescritos. Recomendamos que tanto los clientes como los usuarios de este producto verifiquen su uso en dichos entornos.			
Prueba de inmunidad	IEC 60601 Nivel de prueba	Nivel de conformidad	Pautas
Radiofrecuencia conducida IEC 61000-4-6	3 Vrms 150 kHz a 80 MHz	3 Vrms	Un equipo móvil y portátil de comunicación por radiofrecuencia no debe utilizarse muy cerca de cualquier parte de este producto, incluidos sus cables. Debe respetarse una distancia de separación calculada a partir de la ecuación aplicable a la frecuencia del transmisor. Distancia de separación recomendada $d = 1.2 \sqrt{P}$ $d = 1.2 \sqrt{P}$ De 80MHz a 800MHz $d = 2.3 \sqrt{P}$ De 800 MHz a 2.5 GHz Según el fabricante del transmisor, “P” es la máxima potencia de salida en vatios (W) y “d” es la distancia de separación recomendada en metros (m). La intensidad del campo eléctrico de un transmisor de radiofrecuencia fijo determinada por un estudio del campo electromagnético[a] debe ser inferior al grado de conformidad en cada intervalo de frecuencia[b]. Es posible que se produzcan interferencias cerca de aquellos dispositivos que muestren el siguiente símbolo. 
Radiofrecuencia radiada IEC 61000-4-3	3 V/m 80 MHz a 2.5 GHz	3 V/m	

Nota

- Para 80 y 800 MHz, aplique el intervalo de frecuencias más elevado.
- Estas directrices no tienen relevancia en todas las circunstancias. La propagación electromagnética se ve afectada por la absorción y la reflexión de personas, elementos y edificios.

a. No es posible predecir teóricamente con precisión la intensidad del campo eléctrico de transmisores fijos, como estaciones base de teléfono inalámbricas (móvil/teléfono inalámbrico), estaciones base de radiocomunicaciones móviles terrestres, radioaficionados, radiofusión de AM y FM, y emisiones de televisión.
   A fin de estimar el entorno electromagnético en caso de transmisores de radiofrecuencia fijos, deberá considerarse la realización de un examen del campo electromagnético. Cuando la intensidad del campo eléctrico, calculada en la ubicación en la que se esté utilizando este producto, supere el grado de compatibilidad de radiofrecuencia aplicado antes, deberá realizarse un seguimiento de dicho producto para verificar que esté funcionando correctamente. Si se confirma una operación anómala, es posible que sea necesario adoptar medidas adicionales, como la reubicación o reinstalación de dicho producto.
b. La intensidad del campo eléctrico debería ser inferior a 3 V/m, con un intervalo de frecuencia que oscile entre los 150 kHz y los 80 MHz.

EP-6000_MDD_es.book Page 16 Wednesday, September 12, 2018 9:08 AM

<Distancia de separación recomendada entre equipos móviles y portátiles de comunicación por radiofrecuencia y este producto>

Tabla 8

Distancia de separación recomendada para equipos móviles y portátiles de comunicación por radiofrecuencia y este producto.
El uso de este dispositivo está indicado para entornos electromagnéticos donde se controlen las interferencias de las emisiones de radiofrecuencia. A fin de controlar las interferencias electromagnéticas, el cliente y el usuario de este producto pueden mantener la distancia mínima entre los siguientes equipos móviles y portátiles de comunicación por radiofrecuencia recomendados (transmisores) y este producto, según sea la salida máxima del transmisor.

Índice de potencia de salida máxima del transmisor P (W)	Distancia de separación en relación con la frecuencia del transmisor (m)		
	150 kHz a 80 MHz $d = 1.2\sqrt{P}$	80 MHz a 800 MHz $d = 1.2\sqrt{P}$	800 MHz a 2.5 GHz $d = 2.3\sqrt{P}$
0.01	0.12	0.12	0.23
0.1	0.38	0.38	0.73
1	1.2	1.2	2.3
10	3.8	3.8	7.3
100	12	12	23

Para transmisores con un valor de potencia nominal máxima de salida diferente al detallado antes, la distancia de separación recomendada (d), expresada en metros (m), se puede calcular con la ecuación aplicable a la frecuencia del transmisor, donde, “P” es la potencia nominal máxima de salida del transmisor en vatios (W) según el fabricante del mismo.

Nota

- Para 80 y 800 MHz, aplique el intervalo de frecuencias más elevado para la distancia de separación.
- Estas directrices no tienen relevancia en todas las circunstancias. La propagación electromagnética se ve afectada por la absorción y la reflexión de personas, elementos y edificios.

- Cables

Nombre	Longitud máxima	Especificación
Cable S Vídeo	3 m	Cable blindado con una impedancia característica de 75 Ω
Cable de vídeo	3 m	Cable blindado con una impedancia característica de 75 Ω
Cable RGB TV	3 m	Cable blindado con una impedancia característica de 75 Ω (R, G, B, Sync)
Cable DVI-D *1	5 m	Cable blindado con una impedancia característica de señal diferencial de 100 Ω Cable que cumple con la norma DVI
Cable LAN		Cat 5e o superior, cable recto del tipo UTP (par trenzado sin blindaje)
Cable WC-LINK		Suministrado con este producto

Utilice el cable suministrado con la impresora para conectar este producto a la impresora digital.

*1 Utilice el cable provisto con el monitor.

11.3 Software utilizado en este producto

(1) GPL

Este producto utiliza el software basado en GNU General Public License (en adelante, GPL).

Nota

- GPL es una licencia de software gratuita recomendada por el proyecto GNU.
  El permiso para usar, copiar, modificar y redistribuir el software GPL se concede de forma gratuita. Para la distribución y copia de este software se proporcionará un programa fuente.

Si le gusta el programa fuente de este software, contacte con el agente de ventas del establecimiento en el que adquirió este producto o con nuestro representante comercial. Se le proporcionará a precio de coste. Tenga en cuenta que solo se le proporcionará gratuitamente el software basado en GPL del software del que consta este producto. Queda excluido el software desarrollado y creado independientemente para este producto.

<Definición de licencia de software utilizada en este producto>

Free-Type2

This software is based in part of the work of FreeType Team.

HarfBuzz

This software is based in part of the work of FreeType Team.

libjpeg

This software is based in part on the work of the Independent JPEG Group.

libtiff

Copyright (c) 1988-1997 Sam Leffler
Copyright (c) 1991-1997 Silicon Graphics, Inc.

Permission to use, copy, modify, distribute, and sell this software and its documentation for any purpose is hereby granted without fee, provided that (i) the above copyright notices and this permission notice appear in all copies of the software and related documentation, and (ii) the names of Sam Leffler and Silicon Graphics may not be used in any advertising or publicity relating to the software without the specific, prior written permission of Sam Leffler and Silicon Graphics.

THE SOFTWARE IS PROVIDED “AS-IS” AND WITHOUT WARRANTY OF ANY KIND, EXPRESS, IMPLIED OR OTHERWISE, INCLUDING WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.
IN NO EVENT SHALL SAM LEFFLER OR SILICON GRAPHICS BE LIABLE FOR ANY SPECIAL, INCIDENTAL, INDIRECT OR CONSEQUENTIAL DAMAGES OF ANY KIND, OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER OR NOT ADVISED OF THE POSSIBILITY OF DAMAGE, AND ON ANY THEORY OF LIABILITY, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

DCMTK
COPYRIGHT
Unless otherwise specified, the DCMTK software package has the following copyright:

```
/*
 * Copyright (C) 1994-2011, OFFIS e.V.
 * All rights reserved.
 *
 * This software and supporting documentation were developed by
 *
 *   OFFIS e.V.
 *   R&D Division Health
 *   Escherweg 2
 *   26121 Oldenburg, Germany
 *
 * Redistribution and use in source and binary forms, with or without
 * modification, are permitted provided that the following conditions
 * are met:
 *
 * - Redistributions of source code must retain the above copyright
 *   notice, this list of conditions and the following disclaimer.
 *
 * - Redistributions in binary form must reproduce the above copyright
 *   notice, this list of conditions and the following disclaimer in the
 *   documentation and/or other materials provided with the distribution.
 *
 * - Neither the name of OFFIS nor the names of its contributors may be
 *   used to endorse or promote products derived from this software
 *   without specific prior written permission.
 *
 * THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
 * "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
 * LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR
 * A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT
 * HOLDER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL,
 * SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT
 * LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE,
 * DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY
 * THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
 * (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE
 * OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.
 *
 */
```

Please note that some DCMTK modules, especially those that are not part of the free toolkit, are covered by a separate license which can be found in the COPYRIGHT file in the corresponding module directory.
Some portions of the DCMTK software package are derived from earlier versions of this software with the following copyright, and can be identified by the following copyright notice located in each source file:

```
/*
 * Copyright (C) 1993/1994, OFFIS, Oldenburg University and CERIUM
 *
 * This software and supporting documentation were
 * developed by
 *
 *   Institut OFFIS
 *   Bereich Kommunikationssysteme
 *   Westerstr. 10-12
 *   26121 Oldenburg, Germany
 *
 *   Fachbereich Informatik
 *   Abteilung Prozessinformatik
 *   Carl von Ossietzky Universitaet Oldenburg
 *   Ammerlaender Heerstr. 114-118
 *   26111 Oldenburg, Germany
 *
 *   CERIUM
 *   Laboratoire SIM
 *   Faculte de Medecine
 *   2 Avenue du Pr. Leon Bernard
 *   35043 Rennes Cedex, France
 *
 * for CEN/TC251/WG4 as a contribution to the Radiological
 * Society of North America (RSNA) 1993 Digital Imaging and
 * Communications in Medicine (DICOM) Demonstration.
 *
 * THIS SOFTWARE IS MADE AVAILABLE, AS IS, AND NEITHER OFFIS,
 * OLDENBURG UNIVERSITY NOR CERIUM MAKE ANY WARRANTY REGARDING
 * THE SOFTWARE, ITS PERFORMANCE, ITS MERCHANTABILITY OR
 * FITNESS FOR ANY PARTICULAR USE, FREEDOM FROM ANY COMPUTER
 * DISEASES OR ITS CONFORMITY TO ANY SPECIFICATION.  THE
 * ENTIRE RISK AS TO QUALITY AND PERFORMANCE OF THE SOFTWARE
 * IS WITH THE USER.
 *
 * Copyright of the software and supporting documentation
 * is, unless otherwise stated, jointly owned by OFFIS,
 * Oldenburg University and CERIUM and free access is hereby
 * granted as a license to use this software, copy this
 * software and prepare derivative works based upon this
 * software. However, any distribution of this software
 * source code or supporting documentation or derivative
 * works (source code and supporting documentation) must
 * include the three paragraphs of this copyright notice.
 *
 */
```

Some other parts of this software within the dcmtk/dcmnet sub-package related to the DICOM Upper Layer Protocol are derived from software developed for the RSNA'93 DICOM demonstration and kindly made available to us by the Mallinckrodt Institute of Radiology. Such software can be identified by the following copyright notice located in each affected source file:

```
/*
 * Copyright (C) 1993, RSNA and Washington University
 *
 * The software and supporting documentation for the Radiological
 * Society of North America (RSNA) 1993 Digital Imaging and
 * Communications in Medicine (DICOM) Demonstration were developed
 * at the
 *         Electronic Radiology Laboratory
 *         Mallinckrodt Institute of Radiology
 *         Washington University School of Medicine
 *         510 S. Kingshighway Blvd.
 *         St. Louis, MO 63110
 * as part of the 1993 DICOM Central Test Node project for, and
 * under contract with, the Radiological Society of North America.
 *
 * THIS SOFTWARE IS MADE AVAILABLE, AS IS, AND NEITHER RSNA NOR
 * WASHINGTON UNIVERSITY MAKE ANY WARRANTY ABOUT THE SOFTWARE, ITS
 * PERFORMANCE, ITS MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR
 * USE, FREEDOM FROM ANY COMPUTER DISEASES OR ITS CONFORMITY TO ANY
 * SPECIFICATION. THE ENTIRE RISK AS TO QUALITY AND PERFORMANCE OF
 * THE SOFTWARE IS WITH THE USER.
 *
 * Copyright of the software and supporting documentation is
 * jointly owned by RSNA and Washington University, and free access
 * is hereby granted as a license to use this software, copy this
 * software and prepare derivative works based upon this software.
 * However, any distribution of this software source code or
 * supporting documentation or derivative works (source code and
 * supporting documentation) must include the three paragraphs of
 * the copyright notice.
 */
```

The code for the OFStandard::strlcpy and OFStandard::strlcat helper functions in ofstd/libsrc/ofstd.cc has been derived from the BSD implementation of strlcpy() and strlcat() and which carries the following copyright notice:

```
/*
 * Copyright (c) 1998 Todd C. Miller <Todd.Miller(at)courtesan.com>
 * All rights reserved.
 *
 * Redistribution and use in source and binary forms, with or without
 * modification, are permitted provided that the following conditions
 * are met:
 * 1. Redistributions of source code must retain the above copyright
 *    notice, this list of conditions and the following disclaimer.
 * 2. Redistributions in binary form must reproduce the above copyright
 *    notice, this list of conditions and the following disclaimer in the
 *    documentation and/or other materials provided with the distribution.
 * 3. The name of the author may not be used to endorse or promote products
 *    derived from this software without specific prior written permission.
 *
```

* THIS SOFTWARE IS PROVIDED ``AS IS'' AND ANY EXPRESS OR IMPLIED WARRANTIES,
* INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY
* AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL
* THE AUTHOR BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL,
* EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO,
* PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS;
* OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY,
* WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
* OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF
* ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.
*/

The code for the OFStandard::atof helper function in ofstd/libsrc/ofstd.cc
has been derived from an implementation which carries the following
copyright notice:

/*
* Copyright 1988 Regents of the University of California
* Permission to use, copy, modify, and distribute this software and
* its documentation for any purpose and without fee is hereby granted,
* provided that the above copyright notice appear in all copies. The
* University of California makes no representations about the
* suitability of this software for any purpose. It is provided "as
* is" without express or implied warranty.
*
*
* The code for OFStandard::ftoa has been derived
* from an implementation which carries the following copyright notice:
*
* Copyright (c) 1988 Regents of the University of California.
* All rights reserved.
*
* Redistribution and use in source and binary forms are permitted
* provided that the above copyright notice and this paragraph are
* duplicated in all such forms and that any documentation,
* advertising materials, and other materials related to such
* distribution and use acknowledge that the software was developed
* by the University of California, Berkeley. The name of the
* University may not be used to endorse or promote products derived
* from this software without specific prior written permission.
* THIS SOFTWARE IS PROVIDED ``AS IS'' AND WITHOUT ANY EXPRESS OR
* IMPLIED WARRANTIES, INCLUDING, WITHOUT LIMITATION, THE IMPLIED
* WARRANTIES OF MERCHANTIBILITY AND FITNESS FOR A PARTICULAR PURPOSE.
*/

The "Base64" encoder/decoder in ofstd/libsrc/ofstd.cc has been derived
from an implementation which carries the following copyright notice:

/*
* Copyright (c) 1999, Bob Withers - bwit(at)pobox.com
*
* This code may be freely used for any purpose, either personal or commercial,
* provided the authors copyright notice remains intact.
*/

(2) Eclipse

Este producto hace uso del software basado en Eclipse Public License 1.0 y Eclipse Distribution License 1.0.

Si le gusta el programa fuente de este software, contacte con el agente de ventas del establecimiento en el que adquirió este producto o con nuestro representante comercial. Se le proporcionará a precio de coste.
Tenga en cuenta que solo se le proporcionará el software de código abierto en el software del que consta este producto. Queda excluido el software desarrollado y creado independientemente para este producto.

<Definición de licencia de software utilizada en este producto>

Eclipse Paho MQTT C client
Copyright IBM Corp. 2009, 2017

Eclipse Distribution License - v 1.0

Copyright (c) 2007, Eclipse Foundation, Inc. and its licensors.

All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
Neither the name of the Eclipse Foundation, Inc. nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

(3) msgpack-c

Boost Software License - Version 1.0 - August 17th, 2003

Permission is hereby granted, free of charge, to any person or organization obtaining a copy of the software and accompanying documentation covered by this license (the "Software") to use, reproduce, display, distribute, execute, and transmit the Software, and to prepare derivative works of the Software, and to permit third-parties to whom the Software is furnished to do so, all subject to the following:

The copyright notices in the Software and this entire statement, including the above license grant, this restriction and the following disclaimer, must be included in all copies of the Software, in whole or in part, and all derivative works of the Software, unless such copies or derivative works are solely in the form of machine-executable object code generated by a source language processor.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, TITLE AND NON-INFRINGEMENT. IN NO EVENT SHALL THE COPYRIGHT HOLDERS OR ANYONE DISTRIBUTING THE SOFTWARE BE LIABLE FOR ANY DAMAGES OR OTHER LIABILITY, WHETHER IN CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

EP-6000_MDD_es.book Page 22 Wednesday, September 12, 2018 9:08 AM

11.4 Servicio postventa

(1) Si el equipo no funciona correctamente, vuelva a leer este manual en primer lugar y siga todas las instrucciones.

(2) Si el equipo sigue sin funcionar como es debido, póngase en contacto con su distribuidor local de FUJIFILM.

(3) Reparaciones durante el periodo de garantía

Repararemos su equipo sin coste alguno con arreglo a lo dispuesto en la garantía.
El periodo de garantía es de un año a partir de la fecha de adquisición.
Debe tenerse en cuenta que la garantía no es válida en los siguientes casos:

a. Daños causados por incendios o desastres naturales, como tormentas o inundaciones.

b. Problemas causados por la manipulación imprudente o el uso incorrecto del producto por parte del usuario.

c. Problemas causados por reparaciones o modificaciones realizadas por personas no autorizadas.

(4) Reparaciones después del periodo de garantía
Repararemos y cobraremos cualquier reparación que nos solicite si es posible restablecer el funcionamiento normal del equipo mediante reparación.
Cuando se ponga en contacto con su distribuidor local de FUJIFILM, debe facilitar la siguiente información.

Nombre de modelo: EP-6000
Número de serie:
Descripción de la avería: lo más detallada posible
Fecha de adquisición:

Nota

- El número de serie figura en el lateral izquierdo del panel trasero.

<Mal funcionamiento del producto>

En caso de que el producto no funcione como es debido, consulte con su distribuidor local de FUJIFILM. El producto se reparará en fábrica o se reemplazará por un producto similar.

11.5 Índice analítico

A

Ajuste del interruptor 3-16
Almacenamiento 9-5
Ampliación del sistema 2-6

B

Boquilla de aire/agua 6-6
Botón bomba 3-1
Botón de ajuste del brillo 3-2
Botón de encendido 3-2
Botón de luz 3-2
Botón de modo iris 3-3
Botón del modo de luz 3-3
Botón EXAM. 3-2
Botón MULTI 3-3

C

Clasificación de los equipos electromédicos 11-1
Componentes R, G y B 3-17
Condiciones de funcionamiento 11-4
Condiciones de transporte y almacenamiento 11-4
Conector de alimentación 3-4
Conector de entrada/salida 11-4
Conector de impresora digital 3-5
Conector de interruptor de pedal 3-5
Conector de red 3-5
Conector de teclado 3-5
Conector de vídeo 3-4
Conector del lector 3-5
Conector DVI-D 3-5
Conector LG 7-6
Conector remoto 1 3-5
Conector remoto 2 3-5
Conector RGB TV 3-4
Conector RS-232C 1 3-5
Conector RS-232C 2 3-5
Conector S Video 3-4
Configuración del sistema estándar 2-4
Cuidados después del uso 9-1

D

Dispositivo de almacenamiento externo 8-20
Dispositivos de almacenamiento interno y externo 8-17, 8-26

E

Edad 3-16, 3-19
Electrobisturí 4-21
Endoscopio 2-2
Endoscopio del sistema 600 y endoscopio del sistema 500 7-6
Endoscopio del sistema 700 7-5
Énfasis de estructura 3-17, 3-19
Énfasis del contorno 3-19
EP-6000 4-22
Especificación 11-1
Esquema global 11-5
Estado de conexión del servidor DICOM 3-17
Estado de la impresora 3-17
Etiqueta de precaución 3-10

F

Fecha 3-15, 3-20
Fecha de nacimiento 3-16, 3-19
FICE 3-19
Filtro de polvo 3-6
Fuente de luz 7-9
Función de procesamiento de imágenes espectrales 3-16

G

Gancho para tanque de agua 3-6
Grabadora de vídeo 2-3, 8-14, 8-16

H

Hora 3-15, 3-20
Hyper-tone y reducción de ruido 3-17, 3-19

I

ID de paciente o nº de examen 3-16, 3-19
Imagen normal 3-13
Impresora 2-3

EP-6000_MDD_es.book Page 24 Wednesday, September 12, 2018 9:08 AM

Impresora de color 8-1, 8-6
Impresora digital 8-10
Indicador 3-2
Indicador de encendido 3-1
Indicador de enfoque 3-16, 3-19
Indicador del suministro de aire 3-1
Índice 5-59
Información de compatibilidad electromagnética (EMC) 11-6
Información del endoscopio 3-17
Información del paciente 6-7
Inicio de la exploración 7-25
Inicio de sesión 3-16

L

Lista de médicos 4-53
Lista de mensajes 4-62
Lista de procedimientos 4-58
Longitudes de onda R, G y B 3-22
Luz indicadora de acceso a la red 3-2
Luz indicadora de encendido 3-2
Luz testigo EXAM. 3-2

M

Mensajes de error 10-7
Modo de congelación 5-60
Modo de multizoom 5-62
Modo de observación de luz especial .. 3-16, 3-20
Modo Full HD 3-12
Modo iris 3-15, 3-19
Modo SXGA 3-12
Monitor LCD 2-2

N

Nivel de ganancia de RGB 3-22
Niveles de ganancia R, G y B 3-17
Nombre del hospital 3-16, 3-20
Nombre del médico 3-16, 3-19
Nombre del paciente 3-16, 3-19
Número de imágenes obtenidas 3-17
Número de imágenes que pueden grabarse en el dispositivo de almacenamiento interno 3-17

O

Orificios de ventilación 3-4, 3-6
Otras teclas 3-8

P

Página de configuración de imágenes 3-16, 5-51
Panel frontal 3-1
Panel lateral 3-6
Panel trasero 3-4
Pantalla de introducción de información del paciente 5-8
Pantalla de salida de vídeo 3-18
Patient Info. + Scope Info. 3-23
Periodo de validez/periodo de uso (duración) 11-4
Pieza aplicada 11-1
Placa de datos 3-10
Portafusible 3-4
Procedimiento o comentario 3-17, 3-20
Procesador 2-1, 2-2
Procesador ecográfico 2-3

R

Ranura para tarjetas de memoria 3-3
Reducción de ruido 3-17, 3-19
Registro y recuperación de valor de ajuste 6-7
Rejilla 3-6
Reubicación 9-6

S

Sección de la fuente de alimentación 3-3
Servicio posventa 11-22
Sexo 3-16, 3-19
Símbolos 3-11
Sistema FICE 3-21, 3-22
Software 11-17
Solución de problemas 10-1
Suministro de alimentación al equipo 7-8

T

Tanque de agua 2-2, 7-6
Tapa protectora de toma 3-10
Tasa del zoom electrónico 3-16
Tecla [Backspace] 3-8

Tecla [Caps Lock] 3-9
Tecla [Case] 3-7
Tecla [Data Off/Space] 3-9
Tecla [Delete] 3-8
Tecla [Doctor] 3-7
Tecla [Enter] 3-9
Tecla [Esc] 3-9
Tecla [FICE] 3-8
Tecla [Image] 3-7
Tecla [Insert] 3-8
Tecla [Message] 3-7
Tecla [Move PinP/Tab] 3-9
Tecla [Multi] 3-7
Tecla [Note] 3-7
Tecla [PageUp] 3-8
Tecla [Panel] 3-8
Tecla [Patient] 3-7
Tecla [Patient Entry] 3-7
Tecla [Peripherals] 3-7
Tecla [Search] 3-8
Tecla [Start] 3-8
Tecla [System] 3-7
Tecla [Timer Ctrl] 3-9
Tecla [Trigger] 3-8
Teclado 3-7, 9-2
Teclado para la introducción de datos 2-2
Teclas de control de datos 3-7
Teclas de control de dispositivos periféricos .. 3-7
Temporizador 3-15, 3-20, 7-22
Terminal de ecualización de potencial 3-4
Terminal del cable WC-LINK 3-4
Tiempo parcial 7-24
Toma del conector del endoscopio 3-1
Toma del conector eléctrico 3-3, 7-7
Toma del endoscopio 7-5
Tono 3-17, 3-19

U

Uso combinado del equipo 2-2

V

Válvula de aire/agua 6-6
Velocidad del obturador 3-16, 3-19
Ventana de comunicación (LED) 3-3
Ventana de recepción 3-3

EP-6000_MDD_es.book Page 26 Wednesday, September 12, 2018 9:08 AM

11.6 Centros de servicio técnico

Póngase en contacto con nuestro representante para su área geográfica que figura a continuación o con el distribuidor donde adquirió el producto.

<Europa>

FUJIFILM Europe GmbH

http://www.fujifilm.eu/eu/

Consulte nuestra página web o busque a nuestro representante en su país.

<EE. UU.>

Fujifilm Medical Systems U.S.A., Inc

http://www.fujifilmendoscopy.com/

(800) 385-4666

<Australia>

FUJIFILM Australia Pty Ltd

http://www.fujifilm.com.au/

1800 060 209

<Asia>

FUJIFILM Asia Pacific Pte. Ltd.

http://www.fujifilm.com.sg/

6380-5540

Si no reside en ninguna de las áreas geográficas anteriores, póngase en contacto con el distribuidor donde adquirió el producto.

EP-6000_MDD_es.book Page 1 Wednesday, September 12, 2018 9:08 AM

Manufacturer:
FUJIFILM Corporation
26-30, Nishiazabu 2-chome, Minato-ku, Tokyo 106-8620, Japan

FV694A

897N201785
180912-1.0-DT-S2(LA)

FUJIFILM

Processor

EP-6000 (FV696A)

Service Manual

SR1807-N003
Ver.1 Oct.2018

Target Model

Target model is below.

Model Name	Voltage Frequency	Product Code	Serial No.	Note
EP-6000	100-240V	FV696A	*V696K***	Destination : AP

Revised date	Details of revision	Ver
Oct.2018	First version	1.00

Handling of this manual

About this manual

■Scope

This service manual applies to the processor EP-6000 for endoscopes.

Precautions in handling this manual

1. The right to this manual belongs to FUJIFILM Corporation.
2. This manual shall not be used by any persons except those designated by FUJIFILM Corporation or FUJIFILM Medical Co., Ltd.
3. Adequate measures shall be taken against unauthorized disclosure to or use by third parties of this manual which includes confidential information of FUJIFILM Corporation.
4. Without prior written consent of FUJIFILM Corporation, be sure not to:
   - ・Copy or reprint all or a part of this manual.
   - ・Disclose, provide, loan or transfer all or a part of this manual to any other persons than above.
   - ・Use all or a part of this manual for any other purposes than technical service of the device.
5. There may be some changes in this manual for improvement of the device.
6. The English version is the official version of this manual (except in Japan).

Notation in the manual

■ Indication of warning and caution

Warning

To be used where non-compliance with this warning may result in death or serious injury.

Caution

To be used where non-compliance with this caution may result in minor or moderate injury and in serious damage (irreparable or unrecoverable) of the device.

◆Instruction◆

To be used where non-compliance with this instruction may result in damage or failure of the device.

◆Note◆

To be used where caution is required in performing the operational procedures.

◄ Reference ►

To be used for explanation of terms or supplementary explanation.

General Table of Contents

Service Manual 1
Handling of this manual 3
About this manual 3
Precautions in handling this manual 3
Notation in the manual 4
General Table of Contents 1
Caution in Safety 1
1. Safety Cautions 2
1.1 Infection Related Caution 2
1.2 General Caution 5
2. Label 6
2.1 EP-6000 Labeling Layout (FV696A) 6
2.1.1 Labeling chart 6
2.1.2 Labeling A 7
2.1.3 Labeling B 9
2.1.4 Labeling C 10
2.1.5 Labeling D 11
Product Specifications 1
1. EP-6000 Specifications 2
1.1 Basic Specifications 2
1.1.1 Catalog Specifications 2
1.2Detailed specifications 3
1.2.1 Mechanical specifications 3
1.2.2 Electrical specifications 3
1.2.3 Chemical specifications 4
1.2.4 Accessories 5
1.3 Functions 5
1.3.1 Button, switch, display 5
1.3.2 Peripherals 5
1.3.3 Functions realized when working with scope 6
1.3.4 Display functions 6
1.3.5 Internal interface 6
1.3.6 Counter 6
1.3.7 Internal clock 6
1.3.8 Memory 6
1.4 Auxiliary functions 7
1.5 Quality 7
1.6 Regurations 8
1.7 Block Diagram 9
2. Disposal 10
3. Change History 11
3.1 ECN Publication History 11
3.2 Software Version History 11

Instruction of System 1
1. Security 2
1.1 Category 2
1.2 Log in / Logoff 3
1.2.1 Login 3
1.2.2 Logoff 4
1.3 Password Change 5
1.3.1 Password change for “User” and “Administrator” 5
1.3.2 Password change for “Service” 6
2. System Configuration 7
2.1 Display 8
2.1.1 Screen Display Setup 9
2.1.1.1 Patient Information Screen 10
2.1.1.2 Data Display Type (PC) 11
2.1.1.3 Data Display Type (TV) 16
2.1.2 Error Message Display 19
2.1.3 P in P Setup 19
2.1.4 Data Display Switch 20
2.2 Basic Setup 21
2.2.1 Display Warning 22
2.2.1.1 Iris Timer 22
2.2.1.2 Warning Display at End of Exam 22
2.2.1.3 when Pat. ID is not entered 22
2.2.2 Freeze Setup 23
2.2.3 Foot Switch 24
2.2.3.1 Foot switch Setup 24
2.2.3.2 Functions to be Assigned to the Foot Switch 25
2.2.4 Remote Setup 27
2.2.5 Information Output 28
2.2.6 Patient Information 29
2.2.6.1 Entry Method Setup 29
2.2.6.2 Padding Setup 29
2.2.6.3 Automatic Age Calculation 30
2.2.6.4 Doctor List Auto Search 30
2.2.7 Security 31
2.2.7.1 Serviced 31
2.2.7.2 Factory 31
2.3 Light source 32
2.3.1 Light Source 33
2.3.1.1 Light emitting time 33
2.3.1.2 LGDET 33
2.4 Endoscope 34
2.4.1 Scope Color 35
2.4.1.1 Scope Color Auto Adjust 35
2.4.1.2 Scope Color Manual Adjust 38
2.4.2 Scope Function 40
2.4.2.1 S600 Correction 40
2.4.2.2 Zoom Setup 40
2.4.3 Optical Zoom Setup 41
2.4.4 Electronic Zoom Setup 42

2.4.4.1 Electronic Zoom 42
2.4.4.2 Full Mask....42
2.4.5 700 Scope Setup 43
2.5 Service 44
2.5.1 Color Bar....45
2.5.1.1 Color Bar List 45
2.5.2 Software Version Upgrade....46
2.5.2.1 Software Version Upgrade List....46
2.5.3 Service Personnel Memo....47
2.5.4 Config file....48
2.5.4.1 Store all configuration data in external memory 48
2.5.4.2 Restore all configuration data from external memory....49
2.5.4.3 Store common config data in external memory....50
2.5.4.4 Restore common config data from external memory....51
2.5.5 Log Setup 52
2.5.5.1 Aoutomatic Log Save 52
2.5.5.2 Export error log file....52
2.5.6 Light Source & Scope Logging 54
2.5.6.1 Export Light source log file....54
2.5.6.2 Export 700 Scope log file 55
2.5.7 Export error log file using the keyboard 56
3.Peripheral Setup 59
3.1 Image Memory....60
3.1.1 Internal Memory....61
3.2 Network Setup....62
3.2.1 Network Setup 63
3.2.2 FTP Setup....63
3.2.2.1 Ping（FTP）....64
3.2.3 NTP setup....65
3.2.3.1 Ping （NTP） 65
3.2.3.2 NTP check....65
3.3 Printer....66
3.3.1 Printer Setup....67
3.3.1.1 Printer Connection 67
3.3.1.2 Printer Setup 68
3.3.1.3 Digital Printer Setup 70
3.4 Recorder....71
3.4.1 Still Recorder 72
3.5 Others....73
3.5.1 Card Information Setup....74
3.5.2 Device Setting 1....74
3.5.3 Device Setting 2....74
4.Image Setup....75
4.1 Image Setting 76
4.1.1 Screen Display Setup 77
4.1.1.1 Zoom Ratio of Electronic Zoom....77
4.1.2 Screen Display Setup 77
4.1.2.1 Color Mode....77
4.2 Light Control 78
4.2.1 Screen Display Setup 79
4.2.1.1 Brightness Limit for Auto Metering Mode 79
4.2.1.2 Brightness Adjustment for Peak Metering 79

4.3 Basic setting 80
4.3.1 Items Reset at Power-on 81
4.3.1.1 Screen for Setting Items Reset at Power-on 81
5.System Information 83
6.Setting of the Network....84
6.1 Outline 84
6.2 Description....86
6.2.1 Communication System 86
6.2.2 Connection....86
6.3 Network Settings on the EP-6000....87
6.4 Settings on the FTP Server 88
6.4.1 Settings on the FTP Server....88
6.4.2 Setting the TCP/IP 88
6.5 Confirmation of Network Connection 89
6.5.1 Confirmation of Cable Connection (Confirmation of LED)....89
6.5.2 Confirmation of Ping 89
7. Software Version Upgrade....90
7.1 Preparation 90
7.2 Version upgrade procedure 90
7.3 Checking Version Up....92
8. EP-6000 Description of Configuration 93
8.1 Block Diagram 93
8.2 Schematic diagram....94
8.3 Connector pin layout....96
8.3.1 Scope connector (39 pins)....96
8.3.2 DVI (DVI-I 24 pins) 97
8.3.3 Video (BNC) 97
8.3.4 S-VIDEO(Y/C) Mini DIN 4 pins 97
8.3.5 Analog RGB Mini DIN 15 pins....98
8.3.6 RS-232C DSUB 9 pins....98
8.3.7 Keyboard USB-A type....98
8.3.8 Card Reader USB-A type....99
8.3.9 Remote1 / Remote2 BNC 99
8.3.10 Foot SW DIN 5 pins 99
8.3.11 Ethernet RJ-45....99
8.3.12 Printer USB-A type....99
8.3.13 WC-Link 37 pins 100
8.4 Outline of PCB roles 101
Failure Analysis....1
1. Troubleshooting 2
2. Error Message 3
Checkup, Replacement and Adjustment.1
1. Parts exchange procedure....3
1.1 Procedures for Parts Replacement of EP-6000....3
1.1.1 Top Cover 3
1.1.2 Filter....6

1.1.3 Front Cover 7
1.1.4 Power Switch 9
1.1.5 Key Top Assy 13
1.1.6 Small Cover Unit 14
1.1.7 One Connector plate Assy 18
1.1.8 Light Source Unit 22
1.1.9 Air Guide Pipe 27
1.1.10 Air Tube 29
1.1.11 Photo Interrupter 30
1.1.12 Harnes LG_PI-WOC 31
1.1.13 WOC PCB 34
1.1.14 ELC PCB 42
1.1.15 Pump 46
1.1.16 Fan (Light source unit side) 48
1.1.17 Fan (Power supply PCB side) 51
1.1.18 Power Supply PCB 53
1.1.19 Noise Filter 55
1.1.20 Inlet Assy 57
1.1.21 Fuse 60
1.1.22 EVE Connector 61
1.1.23 IO/LORES PCB 63
1.1.24 Main PCB 65
1.1.25 Patient PCB 77
1.1.26 USB PCB 79
1.1.27 Rear Panel 81
1.1.28 Harness IOL-OP 86
1.1.29 Harness ELC-OP 88
1.1.30 Front Frame 90
1.1.31 Foot 95
1.1.32 Keyboard cover 96
1.2 EEPROM Writing Procedure 100
1.2.1 PC Setup (performed only for the first time) 100
1.2.2 EEPROM Writing 102
1.3 Checking Procedures for Power Supply 105
1.3.1 Acquiring the scope log data 105
1.3.2 Checking the Power Supply 107
2. Operation confirmation after repair 108
2.1 Precautions 108
2.1.1 Qualification for performing the Electrical Safety Test 108
2.1.2 Dielectric Strength Test 108
2.1.3 Handling of tester 108
2.1.4 Connection with other equipments 108
2.2 Preparation for Test 108
2.2.1 Checking the testers prior to the Test 108
2.2.2 Checking the testers already checked prior to the Test 108
2.2.3 Saving of Customers' Config data 109
2.3 Electrical Safety Inspection 110
2.4 Operation check 114
2.4.1 Appearance 114
2.4.2 Function 114
2.5 Check Sheet 123
2.6 Setting after Operation Confirmation 124

3. JIG/Equipment list.....125
3.1 JIG list.....125
3.2 Equipment List.....131
3.3 Check procedures.....133
3.3.1 Torque driver.....133
3.3.1.1 Torque.....133
3.3.2 Manual binding tool.....134
3.3.2.1 Tightening Torque.....134
3.3.3 Electrical safety test/the plug and play force measurement jig.....135
3.3.3.1 Interterminal Resistance Value.....135
3.3.4 Protective earth power cable jig.....135
3.3.4.1 Resistance Value.....135
3.3.5 Leakage current test Jig 500 Series.....136
3.3.5.1 Resistance between terminals.....136
3.3.6 Dielectric strength test Jig 500 Series.....136
3.3.6.1 Resistance between terminals.....136
3.3.7 Scope.....137
3.3.7.1 Light Output.....137
3.3.7.2 Dimming.....137
3.3.7.3 Picture Quality.....137
Service Parts List.....1
Periodical Maintenance.....1
1. Periodical Maintenance.....2
2. Cleaning.....3
2.1 Filter.....3
2.2 LG Connector Unit.....5
2.3 One Connector Unit.....5
3. Periodical checkup.....6
3.1 Storing procedures of Config Data.....6
3.2 Inspection Items.....7
3.2.1 Appearance.....7
3.2.2 Functions.....7
3.3 Check Sheet.....14
3.4 Restoring procedures of Config Data.....15
Installation.....1
1. System Installation.....2
1.1 Installation Flowchart.....4
1.2 Installation onto the Cart (Standard System Installation Example).....5
1.3 Connecting the WC-LINK cable.....9
1.4 Attaching the Dustproof Filter (Louver).....10
1.5 Connecting the Monitor.....11
1.6 Connecting the Keyboard.....12
1.7 Installation for System Expansion.....13
1.8 Printer Connection (Remote System).....15
1.9 Printer Connection (RS-232C System).....17
1.10 Digital Printer Connection.....18
1.11 Video Recorder Connection (Remote System).....19

1.12 Connecting the Power Source 20
1.13 Power Source 22
1.14 Connecting the Power Source When Using the Cart 23
1.15 Basic Information on Power Cord 24
1.16 Attaching the LAN connector guard when using a network 24
2. Initial Settings at the Time of Installation 25
2.1 Flowchart of System Settings at the Time of Installation 25
2.2 Basic System Setup Operations 26
2.3 Function Tab 28
2.4 Display Tab 31
2.5 Basic Setting Tab 33
2.6 Light Source Tab 35
2.7 Endoscope Tab 36
2.8 Setting Foot Switch (FS1) 47
2.9 Setup for Switching the Shutter Speed During Optical Zoom 50
2.10 Setting the Doctor's Name 50
2.11 Setting the Procedure Name 56
2.12 Setting the Message 60
3. Security Function 64
3.1 Access Control with the Security Function 65
3.2 Logging in to the Security Function (Changing the Password) 66
3.3 Logging off the Security Function 68

Caution in Safety

1. Safety Cautions

In this chapter, general precautions to prevent hazard to human body and serious accident during maintenance, such as installation and periodic inspection, are described.

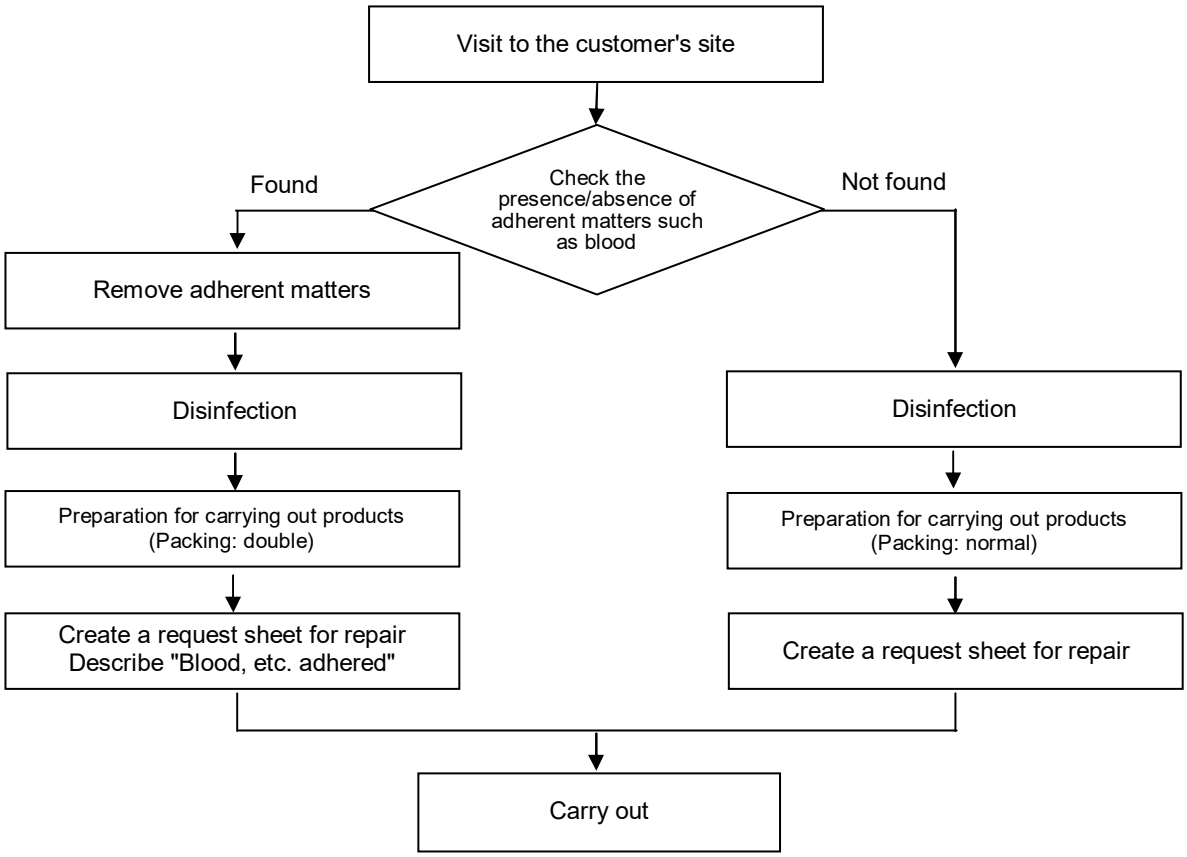
During actual maintenance, this manual as well as the procedures and precautious statements in the following documents should be observed:

- Precautious labels adhered to the equipment.
- The attached documents and operation manual for this equipment.

1.1 Infection Related Caution

■Precautions in taking products out of a customer's facilities

Any items or products to be carried back for repair must be handled as contaminated.
Accept a request for their repair after they have been disinfected or sterilized at the customer's facilities.
Separate infected repair items from disinfected or sterilized ones.
If items not disinfected are taken out, be sure to put and seal them in double plastic bags, and clearly indicate "Not disinfected" on the bag. If blood has been attached to them, put and seal them in double plastic bags to prevent secondary infection, and clearly indicate "Blood attached" on the bag. Pack such items only. If any other items or documents are carried back together with such items, pack them in a carton separately from the non-disinfected or blood-attached items.



■ Handling products with suspicion of contamination at outside medical facilities

Maintenance should be implemented with particular attention to the following points:

・If there is a local standard and/or regulation for pollution abatement, please comply with that standard and/or regulation.

・Wear protective clothing and gears during maintenance such as white gown, safety goggles, mask and gloves.

・Do not carelessly touch human body with gloved hand during maintenance. (Eyes need special attention)

・If there is special concern on health, change a field service engineer.

・Wash hands thoroughly after maintenance.

・Contaminated products such as protective equipments and tools after a maintenance should be pack in plastic bags and sealed, and taken way (brought back).

・If there is a suspicion of accident, contact a manager immediately.

■ Handling returned products from the market with suspicion of contamination.

Disinfect everything which has contact with products.

1) Preparation

・Disposable work cloth such as white gown (to be worn)

・Eye protector such as safety goggles (to be worn)

・Disposable gloves (to be worn)

・Disposable mask (to be worn)

・Hand antisepsis such as WELPAS (for hand disinfection)

・Ethanol (for disinfection)

◆Precaution◆

Fundamentally, use ethanol with 70% density.

・Gauze etc. (for wiping the equipment)

・Plastic sheet etc. (for covering under the workspace for wiping the equipment)

2) Disinfecting procedure

・Wear protectors such as white gown, safety goggles and gloves.

・Lay plastic sheet under the work place where the equipment is to be disinfected.

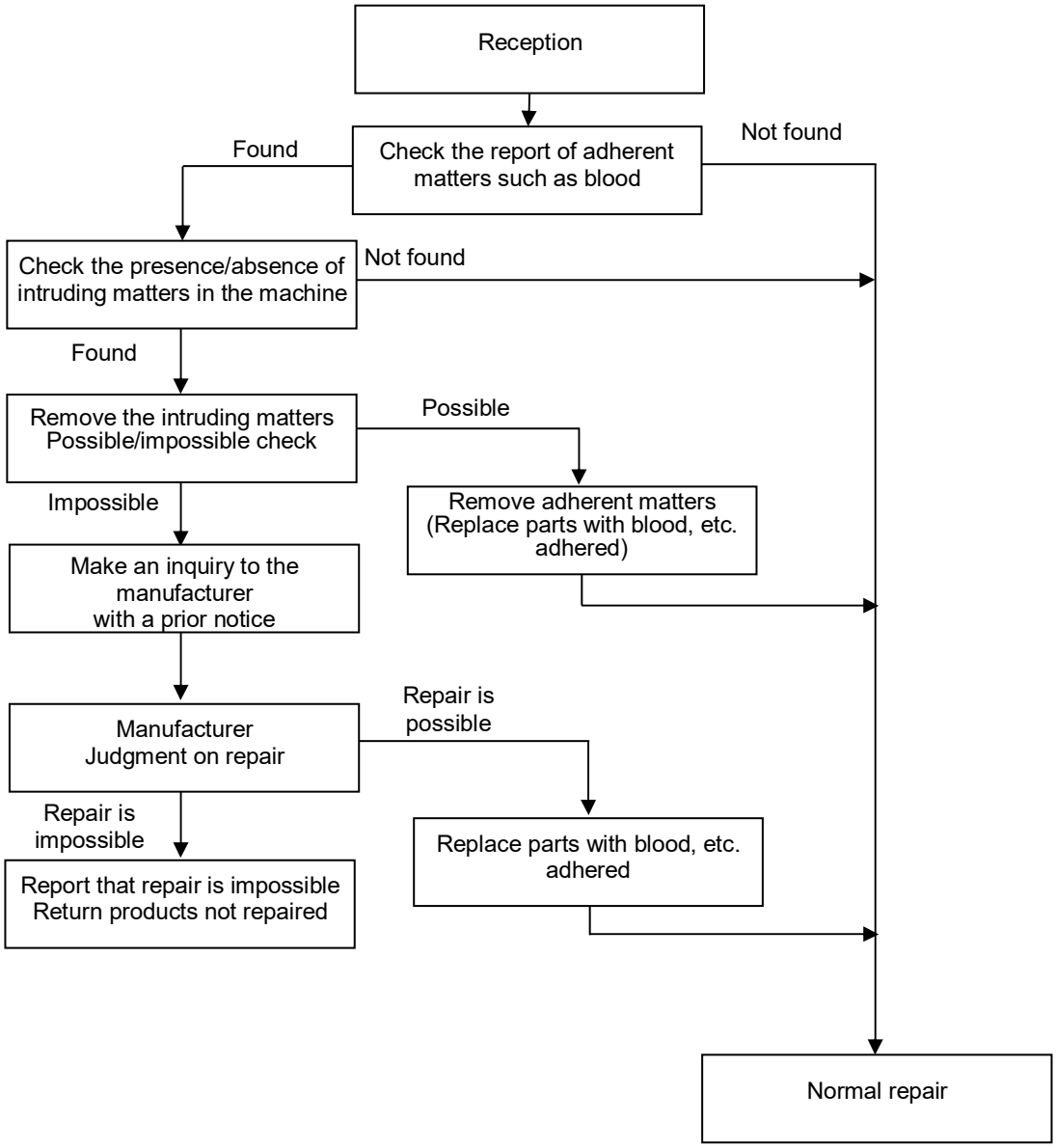
・Disinfect the target equipment with ethanol soaked gauze.

・Dispose used items such as gloves, mask, gauze and plastic sheet in separate plastic bags (Precaution).

・Disinfect hand with WELPAS etc. after washing.

◆Precaution◆

Dispose used items such as gloves, mask, gauze , plastic sheet as “infectious wastes”.


Reception
Check the report of adherent matters such as blood
Found
Not found
Check the presence/absence of intruding matters in the machine
Not found
Found
Remove the intruding matters Possible/impossible check
Possible
Remove adherent matters (Replace parts with blood, etc. adhered)
Impossible
Make an inquiry to the manufacturer with a prior notice
Manufacturer Judgment on repair
Repair is possible
Repair is impossible
Replace parts with blood, etc. adhered
Report that repair is impossible Return products not repaired
Normal repair

1.2 General Caution

■ Power supply

・Do not attach / remove parts while power is distributed.

If above procedure is implemented with power distribute, it may cause electric shock or short circuit.

・There are some parts with insufficient electric discharge after turning power off, such as power supply parts and parts in high temperature (lights), should not be touched.

・Extra attention should be paid for adjustment and inspection with power distributed to prevent from electric shock and short circuit.

・Do not saturate power cord and plug, and connect plug with wet hand.

It may cause electric shock and short circuit.

■ PCB

Static protection wristband should be worn and human body should be grounded for PCB maintenance.

Static electrocution in human body may cause damage of electric parts on PCB.

■ Always attach ungrounded parts and fixing screws, protective earth conductor, and power-supply cord as the way they were.

It may cause failure to form protective earth circuit and may result in electric shock.

■ Safety interlock

Safety interlocks such as fuse, interlock switch and cover should in active states at all time.

■ Rotating parts

Never touch rotating parts

Also pay extra attention to not to catch body part such as hand, leg, hair and cloth into a rotating equipment.

■ Parts exchange

・ If parts are damaged and/or worn, exchange them with the parts designated in this manual.

■ Labeling

・ Do not remove labels adhered on the equipment(rating plate, caution label and instruction label) unless designated in this manual.

■ Handling personal information when products are taken away

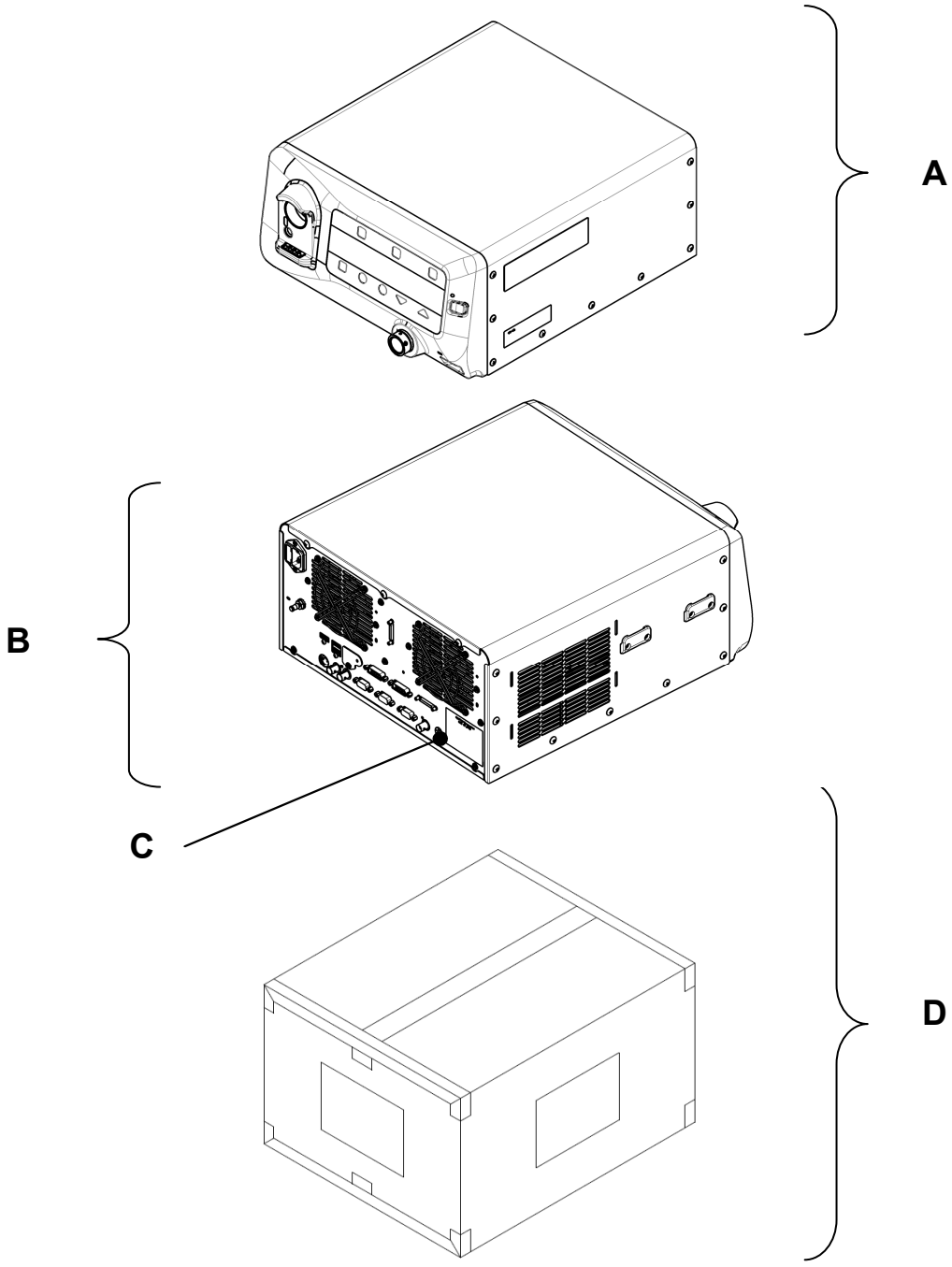
When taking a product away from customer, delete private information such as patient data saved in the equipment with customer’s approval.

Fundamentally, do not take media, such as MO disk and Compact Flush, with saved video print and image file that people can be identified from customer.

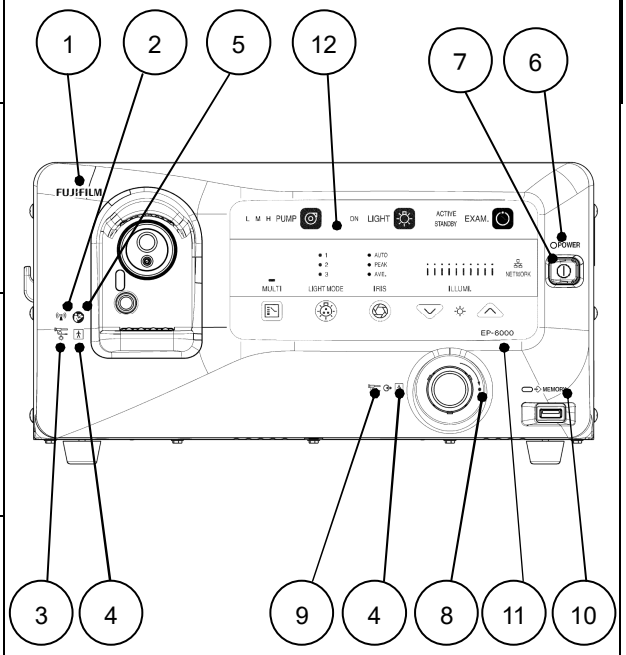
2. Label

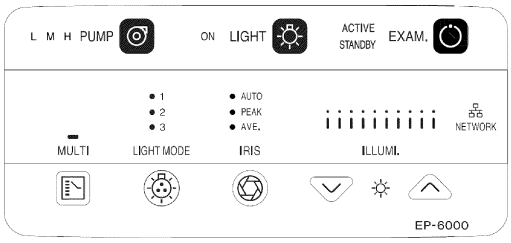
2.1 EP-6000 Labeling Layout (FV696A)

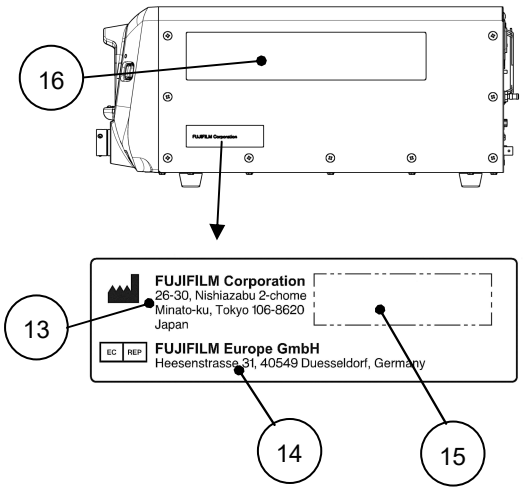
2.1.1 Labeling chart



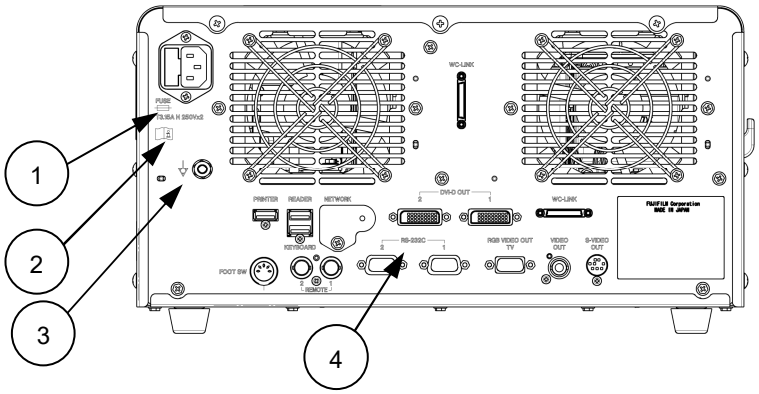
2.1.2 Labeling A

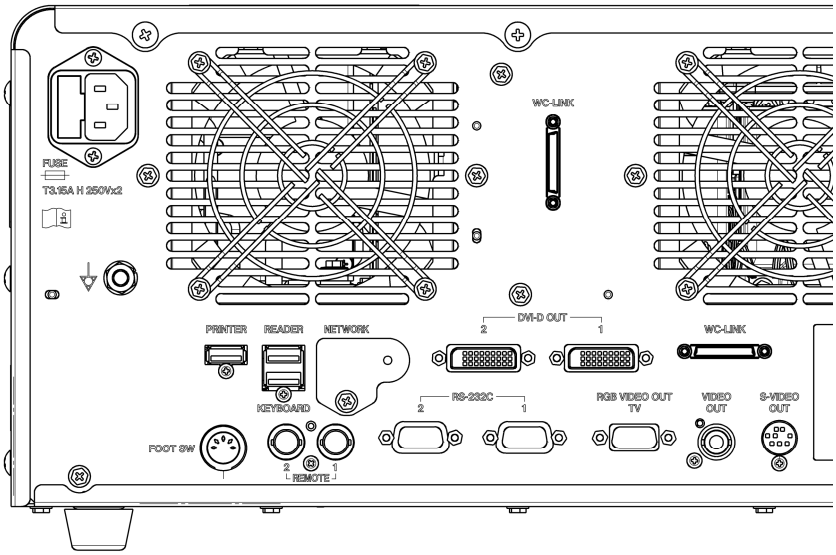
No.	Description	Layout
A1	Brand name FUJIFILM	A 
A2	RF electromagnetic energy	
A3	Scope Connector Socket Mark Light guide	
A4	BF Mark	
A5	Refer to instructions	
A6	Power supply mark POWER	
A7	Power switch mark	
A8	Arrow・Index Mark	

No.	Description
A9	Scope Connector Socket Mark Electrical signal
A10	External memory MEMORY
A11	Model name EP-6000
A12	Operation Panel Mark 

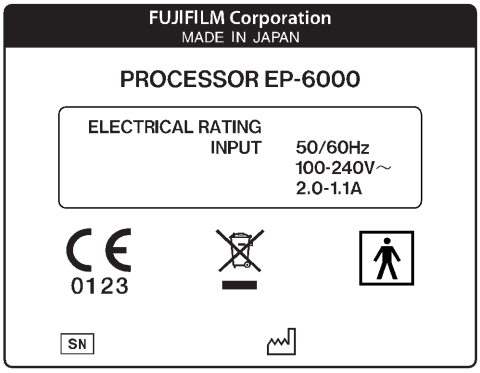
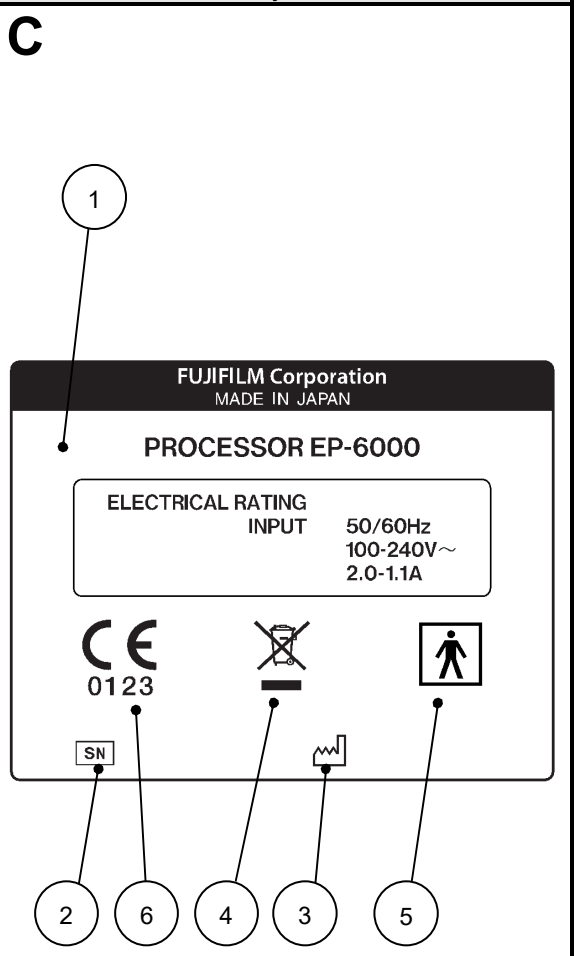
No.	Description	Layout
A13	Manufacturer and address **FUJIFILM Corporation** 26-30, Nishiazabu 2-chome Minato-ku, Tokyo 106-8620 Japan	A 
A14	Represented and address EC REP **FUJIFILM Europe GmbH** Heesenstrasse 31, 40549 Duesseldorf, Germany	
A15	GS1 Data Matrix (01)********** (11)YYMM01 (21)*V696**** Product serial No., date of manufacture, and GS1 Data Matrix are changed each time.	
A16	Caution Label en : ⚠ CAUTION It may damage your eyes. Do not look the illumination of Endoscope directly. fr : ⚠ ATTENTION Il y a un risque de dommages pour les yeux. Ne pas regarder directement l'éclairage de l'endoscope. es : ⚠ PRECAUCIÓN Puede dañar los ojos. No mirar directamente a la iluminación del endoscopio. nl : ⚠ LET OP Dit kan leiden tot beschadiging van uw ogen. Kijk niet rechtstreeks in de verlichting van de endoscoop. de : ⚠ ACHTUNG Direkter Blick in das Licht kann zu schweren Augenschäden fuhren. Nicht in das Distalende des Endoskops blicken, während das Licht eingeschaltet ist. it : ⚠ ATTENZIONE Pericolo di lesioni agli occhi. Non guardare direttamente l'illuminazione dell'endoscopio. pt : ⚠ ATENÇÃO Pode causar danos nos seus olhos. Não olhe diretamente para a iluminação do endoscópio. tr : ⚠ DİKKAT Gözlerinize zarar verebilir. Endoskopun aydınlatmasına doğrudan bakmayın.	

2.1.3 Labeling B

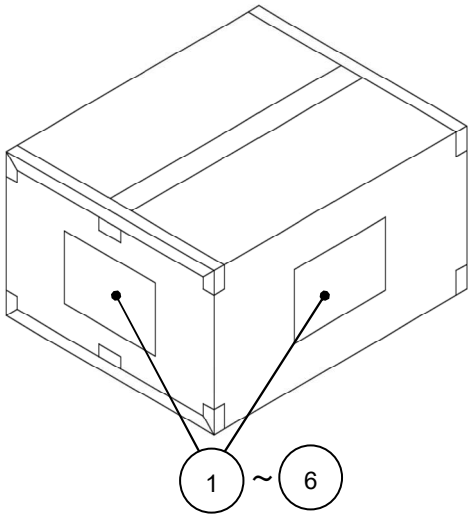
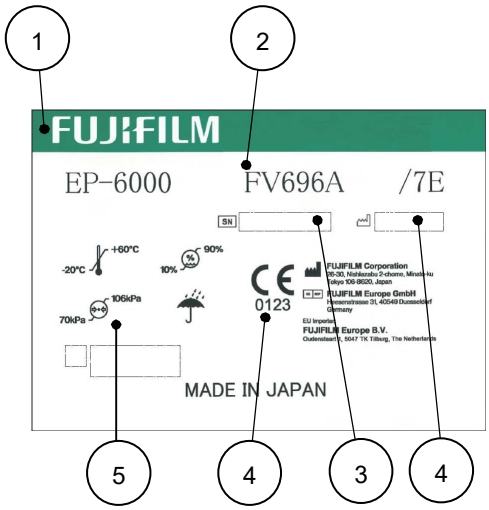
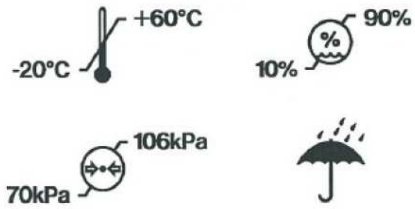
Layout
B 

No.	Description		
B1	Fuse mark FUSE T3.15A H 250Vx2	B2	Consult instructions for use
B3	Equipotential terminal mark		
B4	Connector display  		

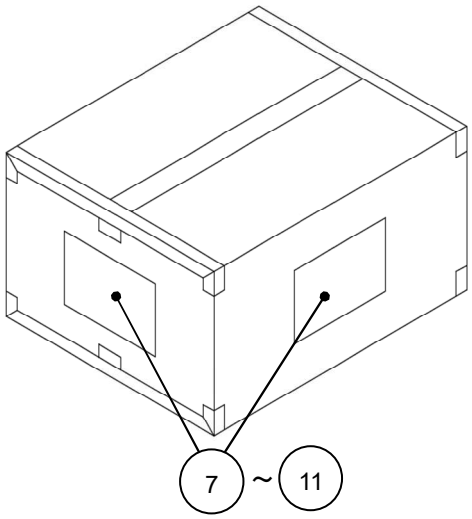
2.1.4 Labeling C

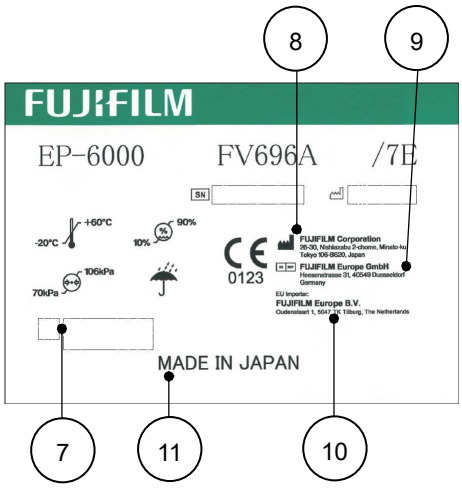
No.	Description	Layout
C1	Specification plate 	
C2	Serial number SN *V696****	
C3	Date of manufacture YYYY-MM-01	
C4	WEEE marking	
C5	BF Mark	
C6	CE0123 marking CE 0123	

2.1.5 Labeling D

No.	Description	Layout
D1	Logo FUJIFILM	D  
D2	Product abbreviation EP-6000 FV696A /7E	
D3	Serial number SN *V696****	
D4	Date of manufacture YYYY-MM-01	
D5	Storage and Transport condition  	
D6	CE marking CE 0123	

No.	Description	Layout
D7	GS1 DataMatrix (01)********** (11)YYMM01 (21) *V696**** Product serial No., date of manufacture, and GS1 DataMatrix are changed each time.	D
D8	Manufacturer and address **FUJIFILM Corporation** 26-30, Nishiazabu 2-chome, Minato-ku Tokyo 106-8620, Japan	
D9	Represented and address EC REP **FUJIFILM Europe GmbH** Heesenstrasse 31, 40549 Duesseldorf Germany	
D10	EU Importer EU Importer : **FUJIFILM Europe B.V.** Oudenstaart 1, 5047 TK Tilburg, The Netherlands	
D11	Country of origin indication MADE IN JAPAN	





Product Specifications

1. EP-6000 Specifications

1.1 Basic Specifications

1.1.1 Catalog Specifications

Item		Specification
Power supply	Voltage	AC100-240V
	Power frequency	50/60Hz
	Electric current (rated)	2.0-1.1A
Applicable endoscope		600 system scopes 700 system scopes 500 system scopes However, except for the following 590 series EG-530UT 2, EG-530UT, EG-530UR 2, EG-530UR
Type of color		PAL / NTSC
Video output		Selectable from 1920×1080_60p (Full HD) or 1280 x 1024_60p (SXGA)
Image pickup method		Simultaneous
Video output terminal	Video	1 Channel
	S video	1 Channel
	RGB TV	1 Channel
	DVI-D	2 Channels
Control terminal	Remote	2 Channels
	Peripheral device	2 Channels note:RS-232C
	Key board	1 Channel note:USB1.1
	Reader	1 Channel note:USB1.1
	Digital printer	1 Channel note:USB2.0
	Foot switch	1 Channel
	Network	1 Channel
	WC-LINK cable	1 Channel note: 37pin
External image storage	USB memory slot	1
Illumination source		LED
Maximum light output (light source)		750lm or less （Measured with our jig）
Light cooling method		Forced air cooling
Demining		Automatic light control by control signal
Maximum air supply pressure		65kPa
Maximum water supply pressure		65kPa
Water supply system		It supplies the water by pressurizing inside of the water tank.
Dimensions		395(W) x 210(H) x 485(D)mm (including projective parts)
Cable length	Power cable	3m
	WC-LINK cable	26cm
Mass		15.0kg

1.2Detailed specifications

1.2.1 Mechanical specifications

Item		Specification
Electric connector socket		Compatible with electric connector of 500 system scopes, 600 system scopes.
Scope connector socket (LG connector)		Compatible with LG connector of 500 system scopes, 600 system scopes, and scope connector of 700 system scopes.
Air supply pump	Discharge rate	Switch to H / M / L / off
		Pump “H” 1.8±0.3 l/min. (at 35kPa) Pump “M” 1.4±0.3 l/min. (at 35kPa) Pump “L” 1.1±0.3 l/min. (at 35kPa)
	Closure pressure	Pump “H” 40kPa or over, 65kPa or less
	Pump style	Diaphragm type
protection level of water proof		IPX0
Operation environment (In operation)	Temperature	+10 to +40℃
	Humidity	RH30~85% (no condensation)
	Atmospheric pressure	70~106kPa
Operation environment (No operation)	Temperature	-10~+45℃
	Humidity	RH30~95% (no condensation)
	Atmospheric pressure	70~106kPa
Environment for transportation and storage	Temperature	-20~+60℃
	Humidity	RH10~90% (no condensation)
	Atmospheric pressure	70~106kPa
Appearance		See Labeling layout

1.2.2 Electrical specifications

Item		Specification	
Power cable		3pins plug for medical	
Fuse		T3.15AH 250V x2	
Video output terminal	Video	1.0Vp-p (75Ω termination)	BNC
	S video	Y: 1.0Vp-p (75Ω termination)	MiniDIN4pin
		C: 0.3Vp-p (75Ω termination) burst signal	
	RGB TV	R, G, B: 0.7Vp-p (75Ω termination) Sync:TTL ,2.0Vp-p (75Ω termination) Negative polarity	MiniD-sub 15pin
	DVI-D	Revision1.0	DVI 24pin
Control terminal	Remote	Open collector 500msec Active low	BNC
	Peripheral device	RS-232C	D-sub 9pin
	Key board	USB1.1	USB Type A
	Reader	USB1.1	USB Type A
	Digital printer	USB2.0	USB Type A
	Foot switch	-	DIN 5pin
	Network	Ethernet(100Base-TX)	RJ-45
	WC-LINK cable	-	37pin
Image storage	USB memory slot	USB2.0	USB Type A
Power supply for scope	Power transmission frequency	110~205kHz	
	Effective radiated power	15 W or less	

1.2.3 Chemical specifications

Item		Specification
Exterior part	Chassis	Chrome-free electro-galvanized steel SECC
	Front panel	Chrome-free electro-galvanized steel SECC
	Back panel	Chrome-free electro-galvanized steel SECC
	Front cover	Glass fiber reinforced polycarbonate
	Top cover	Chrome-free electro-galvanized steel SECC
	Bottom cover	Chrome-free electro-galvanized steel SECC
Connector Terminal, etc	Electrical Connector socket	General electric component
	USB memory slot	General electric component
	Fuse holder	General electric component
	Power inlet	General electric component
	Video	General electric component
	S Video	General electric component
	RGB TV	General electric component
	DVI	General electric component
	Remote	General electric component
	Peripheral device	General electric component
	Key board	General electric component
	Reader	General electric component
	Digital printer	General electric component
	Foot switch	General electric component
	Network	General electric component
	WC-LINK	General electric component
	Potential equalization terminal	General electric component
	Scope socket	Brass, nickel-plated
	One connector holder assembly	Stainless steel
Button, switch, etc.	POWER	General electric component
	EXAM.	General electric component
	LIGHT	General electric component
	PUMP	General electric component
	△(Dimming level)	General electric component
	▽(Dimming level)	General electric component
	IRIS	General electric component
	LIGHT MODE	General electric component
	MULTI	General electric component
Internal component, etc	Switching power supply	General electric component
	Noise filter	General electric component
	Power/Light source Drive PCB	Epoxy-glass PCB, general electric component
	Patient PCB	Epoxy-glass PCB, general electric component
	Processor PCB	Epoxy-glass PCB, general electric component
	IO PCB	Epoxy-glass PCB, general electric component
	Scope control PCB	Epoxy-glass PCB, general electric component
	Pump	General electric component
	Valve	polypropylene
	LED	General electric component
Others	Power cable	General electric component
	WC-LINK cable	General electric component
	Rover	ABS
	Dust Filter	Polypropylene
	Water tank hook	Polyacetal

1.2.4 Accessories

No.	Name	Quantity
1	Data key board DK-6000E	1
2	Power Cable	1
3	Operation Manual	1
4	Socket protection cap	1
5	Rover, Dust filter	1
6	WC-LINK cable	1
7	LAN connector guard	1

1.3 Functions

1.3.1 Button, switch, display

Item		Description	
1	Power button	Push switch	Alternate action of ON and OFF
		power on	green light
		power off	light off
2	Operation panel	EXAM.	Switch on/off endoscope power Switching of ACTIVE / STANDBY and status display.
		LIGHT	Switch on/off the light and status display.
		PUMP	Switch H / M / L / OFF of air supply and status display.
		MULTI	Assign desired functions, such as L-LIMIT,FICE and so on. and status display.
		LIGHT MODE	Switch lighting mode to 1/2/3 / OFF and status display.
		IRIS	Switch Iris mode between AUTO, PEAK, and AVE and status display. Display the function setting screen by holding for 2 seconds
		△(Dimming level)	Change of dimming level and status display.
		▽(Dimming level)	Change of dimming level and status display.
		NETWORK	none connected=off, connected=green light, accessing=blinking orange
3	USB memory slot	none connected	off
		connected	green light
		accessing	blinking orange

1.3.2 Peripherals

Item		Description
1	Data key board	Connect to Key board terminal (USB1.1) for operation and settings
2	Printer	Connect to Remote terminal, peripheral device terminal (RS-232C), Digital printer terminal (USB2.0) for image capture and print-out of patient's data note: only capture is available with remote terminal
3	Still image recorder	Connect to remote terminal and store the captured still images into media
4	Video recorder	Connect to remote terminal and control video recording
5	Foot switch	Connect to Foot switch terminal, and detect whether Foot switch is on, and then control the functions assigned to Foot switch
6	Reader	Connect to reader terminal (USB1.1) and read data of patient
7	Medical image work station, DICOM gateway device	Connect to Network terminal for transmitting image and other patient's data
8	Serial control	UP-55MD

1.3.3 Functions realized when working with scope

Item		Description
1	scope	Detects scope ID, and read the data in the scope. And also sets up the appropriate parameter for the each endoscope.
		Sets up the PGA
		sets the shutter speed
2	Image adjustment	Basic data
		RED GAIN OFFSET
		GREEN GAIN OFFSET
		BLUE GAIN OFFSET
		HUE CONTROL
		CHROMA GAIN
3	scope switch setting	function for assigning the function to the scope switch
4	Shutter speed priority mode	function for switching the shutter speed appropriately according to observation situation

1.3.4 Display functions

Item	Description
Display	display the information on the observation screen (date, function, patient information, doctor information)
	Error messages and confirmation dialog
	Setting menu
	PinP (picture in picture) display, monitoring is available while the other display is in the freeze mode
	Image Mask
	Display image index of the last 4 frames, when it is set the wide monitor.

1.3.5 Internal interface

Item	Description
Buzzer	Sound if the panel button is operated
	Sound if the color printer or still image recorder is triggered
	Sound if the function key of the keyboard is operated
USB memory slot	High durable memory connector
	USB memory (Designated item)
	compression rate 1/1 : TIFF 1/5,1/10,1/20 : JPEG

1.3.6 Counter

Item	Description
Counter	Display in order formula display

1.3.7 Internal clock

Item	Description
Internal clock	Date, Time (Backup with secondary battery : ML2430-HJ1)

1.3.8 Memory

Item	Description	
Memory	Patient data	45 peoples
	Technique name	20
	Doctor name	20 peoples
	Image setting page	5 pages

1.4 Auxiliary functions

No.	Item	Description	
1	Data display	Display the selected patient data, and information about the connected scope	
2	switch Iris mode	Switch Iris mode (AUTO/PEAK/AVE 3 modes) control the amount of light from light source, depending on the levels of video signals	
3	Electronic Zoom	zoom magnification	Enlarge the central part of image × 1.00 ~ × 2.00 (0.05 step)
4	Peripheral device control	Control peripheral devices	
5	Network	Transfer data via the network	
6	Image enhancement function FICE/BLI/BLI-bright/LCI	Process image created with wavelength components, and emphasize the structure and area of the image that the operator likes to focus on. When combined with 500 system scope and 600 system scope, FICE function is possible. 700 system scope, EB-580S, FICE, BLI, BLI-bright and LCI functions are possible.	
7	Color adjustment	Adjust image color	
8	Color Tone	Emphasize parts of image through color emphasis	
9	Contour emphasis	Emphasize the contour of image	
10	PinP(picture in picture)	When the observation screen displays a frozen image, still or video image is displayed on the sub-screen.	
11	Image stabilization	When freezing an image for printing or saving, shoot an image with less blurring	
12	Dual recording- FICE image and regular image	With a single video recording operation, record both FICE image and regular image simultaneously	
13	Scope switch setting	Select and set functions to be assigned to the scope switch	
14	Image mask change	A function to change the mask type of the image	
15	LIGHT MODE	Switches the LIGHT MODE to “1”, “2”, “3” or “OFF”.	
16	Automatic brightness adjustment	Adjust the brightness of images to appropriate level by processor control.	
17	LIGHT switching	Switch the light source ON and OFF	
18	Air supply pressure switchover	Switches the air supply amount in the three levels of “H”, “M” and “L”, or OFF	

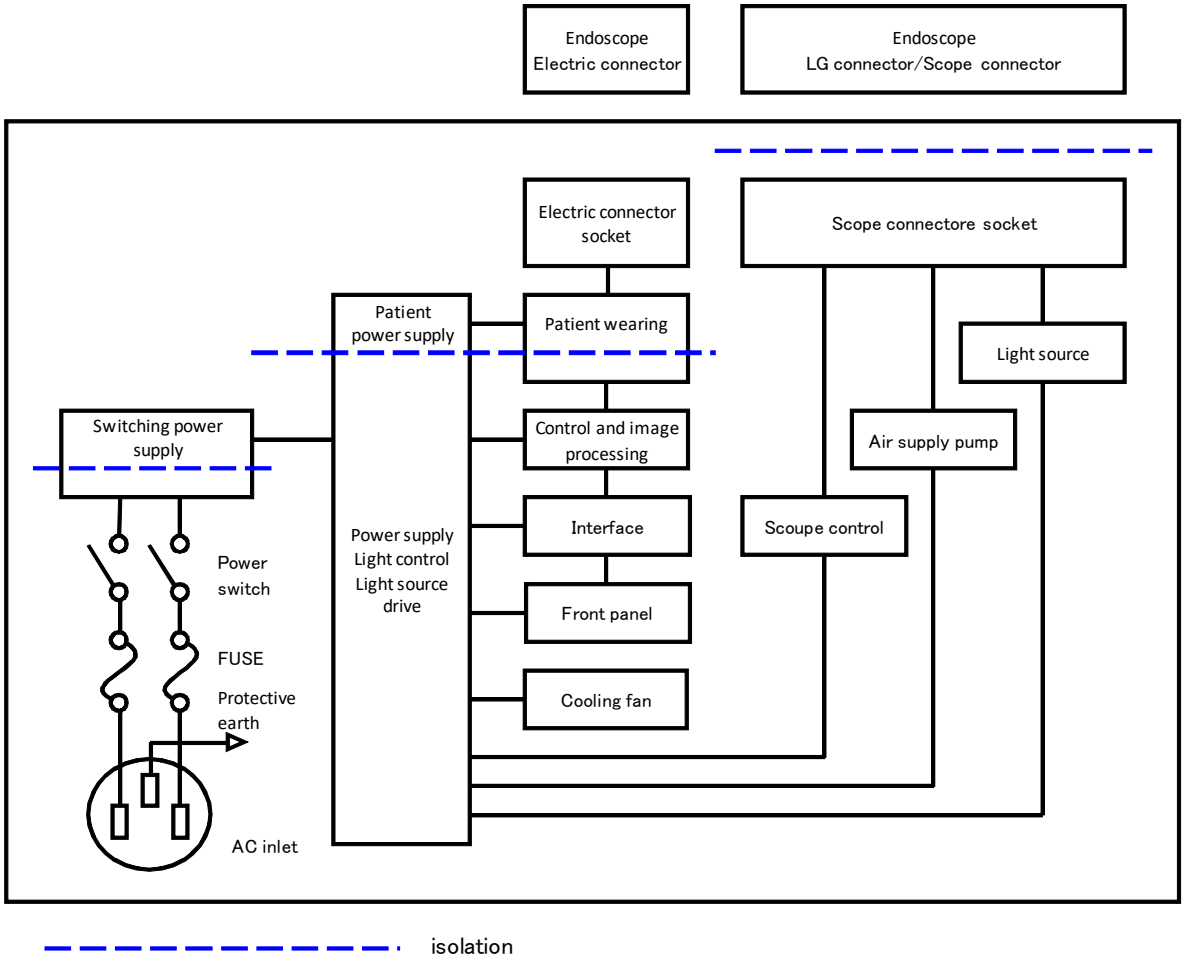
1.5 Quality

Item	Description
Period for Use	6 years
Period for Storage	6 years

1.6 Regurations

Item	Description
Symbols used for labeling medical equipment	EN 980:2008
Information provided by medical device manufacturers	EN 1041:2008
Design development process based on integrated quality manual	EN ISO 13485:2012/AC:2012
Risk management	EN ISO 14971:2012
Medical Equipment Electrical Equipment Directive	EN 60601-1:2006/A1:2013
Medical Electrical Equipment EMC	EN 60601-1-2:2015
Usability	IEC 60601-1-6:2010/A1:2013
Protection form against electric shock	IEC 60601-2-18:2009 class I
Protection level against electric shock	IEC 60601-2-18:2009 BF type mounting part
Software development process	EN 62304:2006
Usability	IEC 62366:2007/A1:2014
RoHSⅡ	EN 50581:2012
Clinical data evaluation	DIRECTIVE 93/42/EEC
Design development process based on integrated quality manual	ISO 13485:2003
Risk management	ISO 14971:2007
Software development process	IEC 62304:2006
Usability	IEC 60601-1-6:2010/A1:2013
Usability	IEC 62366:2007/A1:2014
LED/Risk of light light	IEC 62471
LED for communication	Class 1 LED product (IEC 60825-1: 1993+A1: 1997+A2: 2001：2007)
Wireless power supply（EU）EMF	EN62311：2008
Chemical substance regulation Environmental regulation	WEEE
	RoHS
	cadmium
	PFOS
	REACH
	CLP
	Batterey
	Packaging material

1.7 Block Diagram

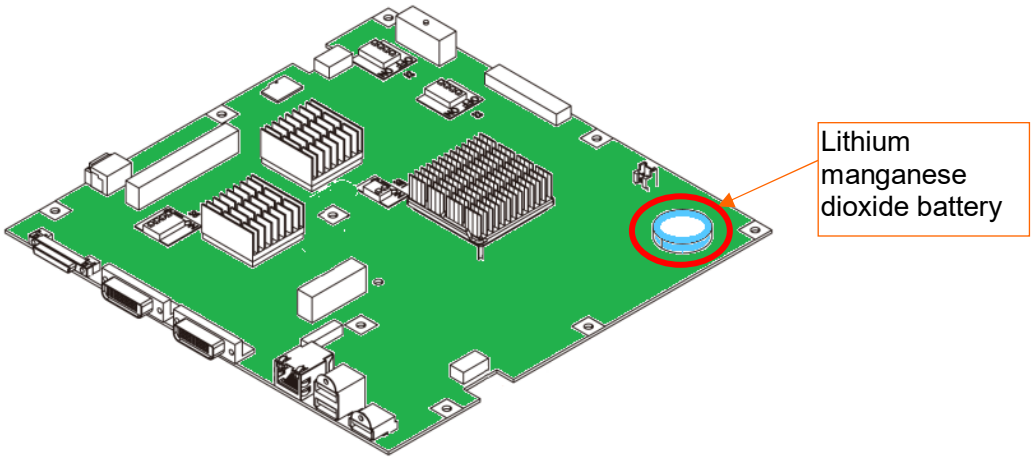


2. Disposal

This product has components that contain a lithium manganese dioxide battery and other materials that may cause environmental pollution.
Follow the legal procedures when entrusting the disposal the product.
Please contact your local authorities and ask for the correct way of disposal.

Caution

- **Lithium manganese dioxide battery is used in EP-6000.**
  Follow the procedures in laws and regulations when discarding the unit.



Main PCB

3. Change History

3.1 ECN Publication History

DATE	ECN No.	SEI No.	Description	Applicable serial number
Oct.2018	ECN-P1837	-	Publication of Service Manual for EP-6000 (FV693A,FV694A,FV696A)	-

3.2 Software Version History

System Ver	Description	ECN	SEI	Applicable serial number
1.001	First version applied to manufacturing	-	-	1V696K001~

Instruction of System

1. Security

This system provides a security function which prevents information leaks to any third party by displaying a login authentication screen prompting for password at the time of accessing personal information of patients and system configuration information.

1.1 Category

The following three types of passwords can be used: “User”; “Administrator”; and “Service”.
“Administrator” sets security functions for “User”.
“Service” is dedicated to service persons and must be undisclosed to “User” and “Administrator”.

Authorities and initial passwords are as follows:

Category	Expected user	Authority	Initial password
User	Doctors; health professionals who prepare for a study	Access to the user menu Setup of password for User	user
Administrator	System administrator in a hospital	Access to the user menu Setting of access to the user menu Setup of password for User Setup of password for Admin	user1
Service2	Sales persons; persons in charge of installation; local subsidiaries; distributors; local service centers; persons in charge of repair	Access to the user menu Setting of access to the user menu Access to the service menu Setup of password for User Setup of password for Admin Setup of password for Service2	2service
Service	Sales persons; persons in charge of installation; local subsidiaries; distributors; local service centers; persons in charge of repair	Access to the user menu Setting of access to the user menu Access to the service menu Setup of password for User Setup of password for Admin Setup of password for Service2 Setup of password for Service	serv1ce

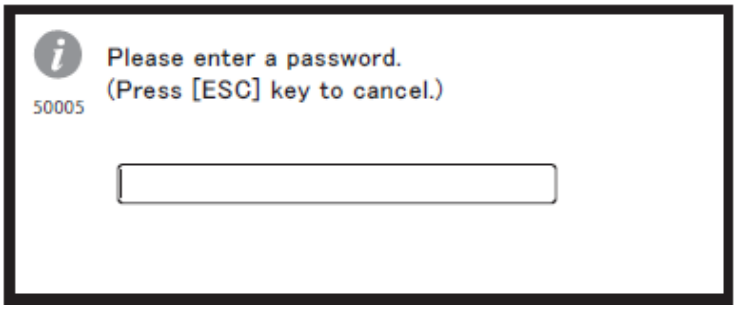
Caution

- Once you log in, all information is accessible until you log off or the power is off. Make sure to log off or turn off the power when you leave the system.
- Service password must not be disclosed to any users and administrators.

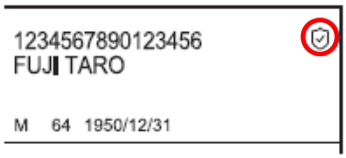
1.2 Log in / Logoff

1.2.1 Login

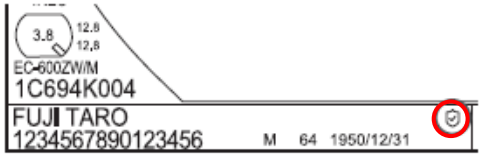
At the time of login, the user accesses secured information, or a message is displayed to prompt the user to enter a password by logging in through the menu.
Enter a password to log in.



Once the user or administrator logs in to the security function, the icon indicating the login state is displayed on the observation screen.



FullHD

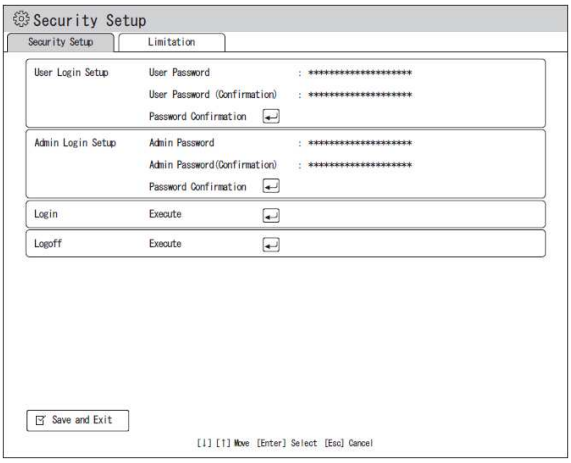


SXGA

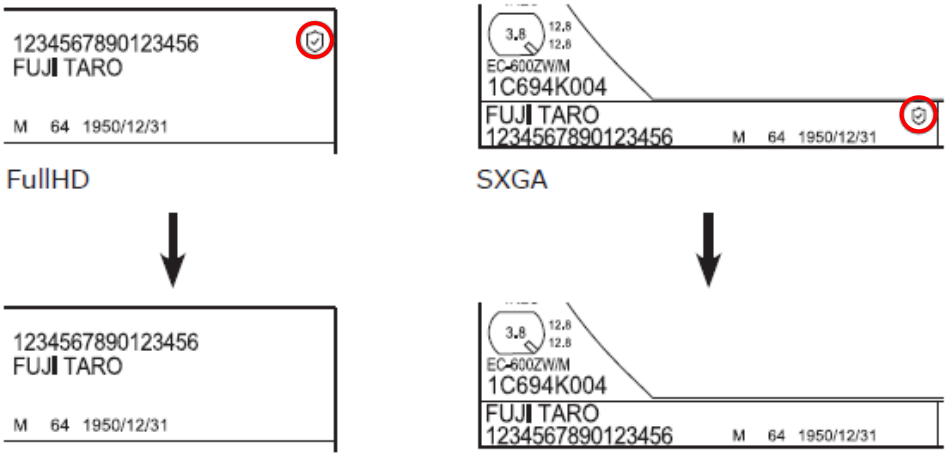
1.2.2 Logoff

To log off, execute logoff in the Security menu or turn off the power of EP-6000.
Follow the steps below to log off in the Security menu.

Press [System] on the keyboard to display [System Setup] and select the [Basic Setting] tab.
Select [Setup] in the [Security] field using the up and down arrow keys, and press the [Enter] key.
Then select Logoff using the up and down arrow keys on each menu and press the [Enter] key.



Ensure that the icon indicating the login state disappears from the observation screen.



1.3 Password Change

If you log in with the authority of “User”, you can change passwords of “User”.
If you log in with the authority of “Administrator”, you can change passwords of “User” and “Administrator”.
If you log in with the authority of “Service”, you can change passwords of “User”, “Administrator” and “Service”.

◆Note◆

・Check the state of the [Caps Lock] key before changing passwords.

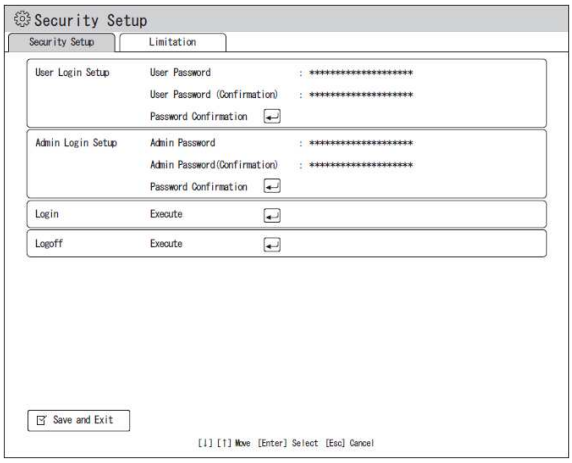
1.3.1 Password change for “User” and “Administrator”

◆Note◆

・EP-6000 Operating Instructions include the following “CAUTION”.
When any request is made, log in with the authority of Service to restore the password to the initial password.
(Make sure to inform the user of restoring his/her password to the default before restoration.)

CAUTION
If you forgot the login password and cannot log in to the security function, consult your local FUJIFILM dealer.

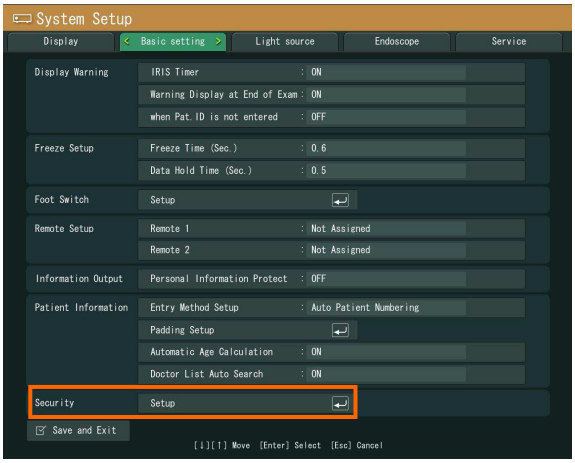
Press [System] on the keyboard to display [System Setup] and select the [Basic Setting] tab. Select [Setup] in the [Security] field using the up and down arrow keys and press the [Enter] key. Then select the [Security] tab to set up Login.

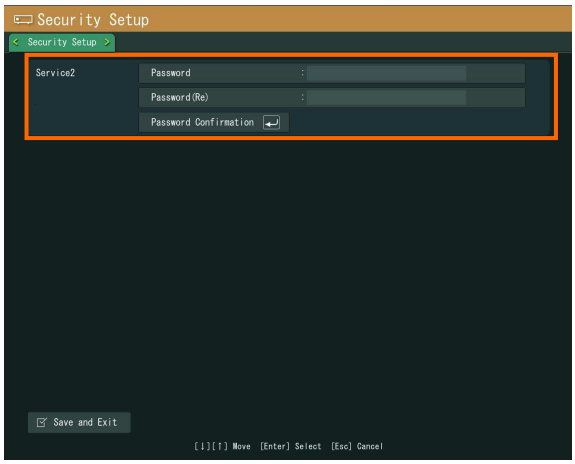


Category	Item	Description
User Login Setup	User Password	The password must be between 5 to 15 characters in length. Alphanumeric characters and symbols can be used.
	User Password (Confirmation)	Enter the new password again.
	Password Confirmation	After entering the new password in “User Password” and “User Password (Confirmation)”, press the [Enter] key to change the password.
Admin Login Setup	Admin Password	The password must be between 5 to 15 characters in length. Alphanumeric characters and symbols can be used.
	Admin Password (Confirmation)	Enter the new password again.
	Password Confirmation	After entering the new password in “Admin Password” and “Admin Password (Confirmation)”, press the [Enter] key to change the password.

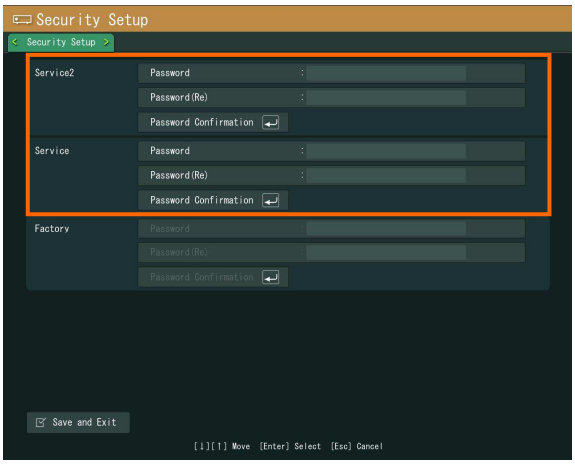
1.3.2 Password change for “Service”

Press [Shift]+[Alt]+[System] on the keyboard to display [System Setup] in the Service Person menu and select the [Basic Setting] tab.
Select [Setup] in the [Security] field using the up and down arrow keys and press the [Enter] key. Then enter a password in the [Service] field.





Log in as “Service2”



Log in as “Service”

Category	Item	Description
Service2	Password	The password must be between 5 to 15 characters in length. Alphanumeric characters and symbols can be used.
	Password (Re)	Enter the new password again.
	Password Confirmation	After entering the new password in “Password” and “Password (Re)”, press the [Enter] key to change the password.
Service	Password	The password must be between 5 to 15 characters in length. Alphanumeric characters and symbols can be used.
	Password (Re)	Enter the new password again.
	Password Confirmation	After entering the new password in “Password” and “Password (Re)”, press the [Enter] key to change the password.

2. System Configuration

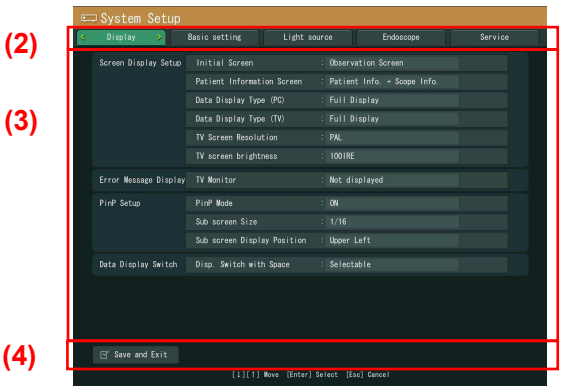
<How to select a menu in the system configuration screen>

(1) Press the System key while pressing the Alt and Shift keys.
The system configuration screen appears.

(2) Select the tab for the desired item using the [←] and [→] keys.

(3) Select the desired menu using the [↑] and [↓] keys and then press the [Enter] key.
When a pop-up menu appears, select the desired item using the [↑] and [↓] keys and then press the [Enter] key.
When a slider appears, select the desired value using the [←] and [→] keys and then press the [Enter] key.
For other items, perform the settings according to the screen display.
To cancel the current setting, press the [Esc] key.

(4) Select “Save and Exit”and then press the [Enter] key.
The current setting is finalized and operation returns to the observation screen.
When the [Esc] key is pressed, the current setting is canceled and operation returns to the observation screen.



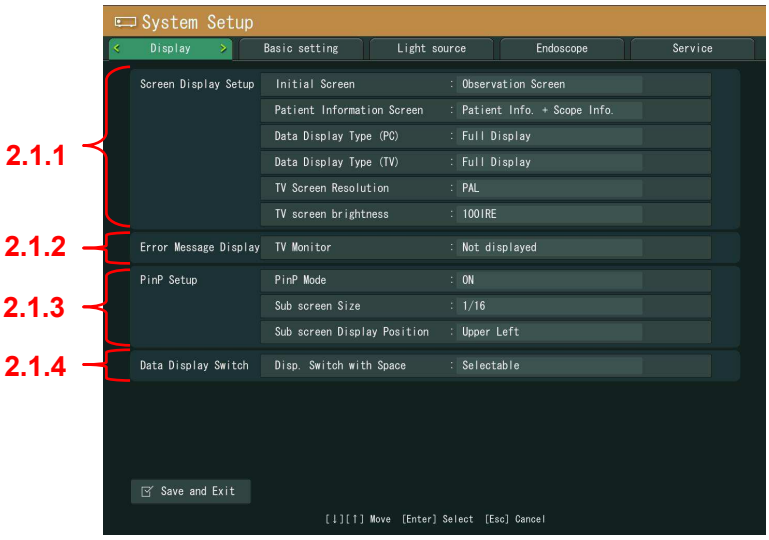
[Note]
Default value listed in the service manual is the factory default setting.
Please release documentation and technical information news, etc, may be changed due to version

2.1 Display

Performs the setup of the display.
For information on how to connect the monitor, refer to the “EP-6000 Operation Manual”.

In addition, for detailed information on the monitor settings, refer to the instruction manual for the monitor.

[Note] Do not use the monitor as the main observation screen when connected to the RGB TV/PC terminal, RGB TV terminal, video terminal, or S-video terminal set to NTSC/PAL.



As shown in the above figure, the menu items are classified into groups.
For details on the menu items in each group, refer to the following subsections.

2.1.1 “Screen Display Setup”
2.1.2 “Error Message Display”
2.1.3 “PinP Setup”
2.1.4 ”Data Display Switch”

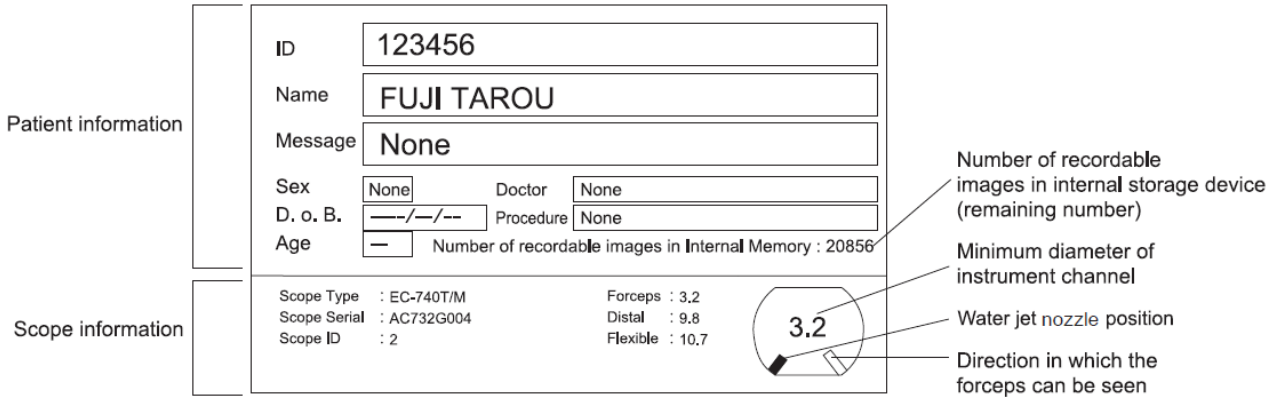
2.1.1 Screen Display Setup

Specifies the items to be displayed in the screen.
Move the cursor to the desired menu item using the ↑ and ↓ keys and then press the Enter key.
In the displayed pop-up menu, select the desired setting using the ↑ and ↓ keys and then press the Enter key to finalize the setting.
Also refer to the pages shown the “Remarks” column for details.

Menu item	Setting	Defalt	Descripthon	Remafks
Initial Screen	Observation Screen	○	When the power is turned on,the observation screen appears. (No item is displayed)	
	Patient List		When the power is turned on,the Patient List screen appears.	
Patient Information Screen	Patient Info.+Scope Info	○	When patient information is switched,patient information are displayed in the screen.	"2.1.1.1 Patient Information Screen"
	Scope Info Only		When patient information is switched only scope information is display in the screen.	
Data Display Type(PC)	Full Display	○	Specifies the items to be displayed in the monitor connected to the DVI terminal or HD-SDI terminal set as "PC Output"(progressive scan).	"2.1.1.2 Data Display Type(PC)"
	Hide Structure / Color Emphasis			
	Shooting Counter Only			
	Status Counter Only			
Data Display Type(TV)	Full Display	○	Specifes the items to be displayed in the monitor connected to the RGB TV/PC terminal set as "TV Output"(NTSC/PAL) or RGB TV/VIDEO/S-VIDEO terminal.	"2.1.1.3 Data Display Type(TV)"
	Patient Info.Only			
	Shooting Counter Only			
	Status Only			
	Status Only			
TV Screen Resolution	NTSC	*	Specifies the video output signal modification of the RGB TV terminal, video terminal, or S-video terminal.	* This items is specified to NTSC when destination setting is set to "Japan", "USA" or "LA", and is specified to PAL as default when destination setting is set to "EU", "China" or "AP".
	PAL	*		
TV screen brightness	100IRE	○	Specifies the brightness level of the RGB TV terminal, video terminal, or S-video terminal.	
	120IRE			

2.1.1.1 Patient Information Screen

When registering the new patient information or switching the patient information, the Patient Info. +Scope Info. dialog is displayed.



In the patient information area, the information registered in the Patient Information Entry screen is displayed.
→ EP-6000 Operation Manual “5.2 Registering and Editing Patient Information”

In the scope information area, the minimum diameter of instrument channel, outer diameter of distal end or outer diameter of insertion tube may not be displayed depending on the date of manufacture when the 600 system scope or 500 system scope is connected.
The water jet nozzle position is displayed only when some models of the 700 system scope are connected.

* When “Used” is selected for “Network” in the Peripheral Setup screen, pressing the FR switch on the scope enables a screenshot of the above screen to be saved in the FTP server of the network.
  After the screenshot is saved, the Patient Info. +Scope Info. dialog disappears and the observation screen appears automatically.

2.1.1.2 Data Display Type (PC)

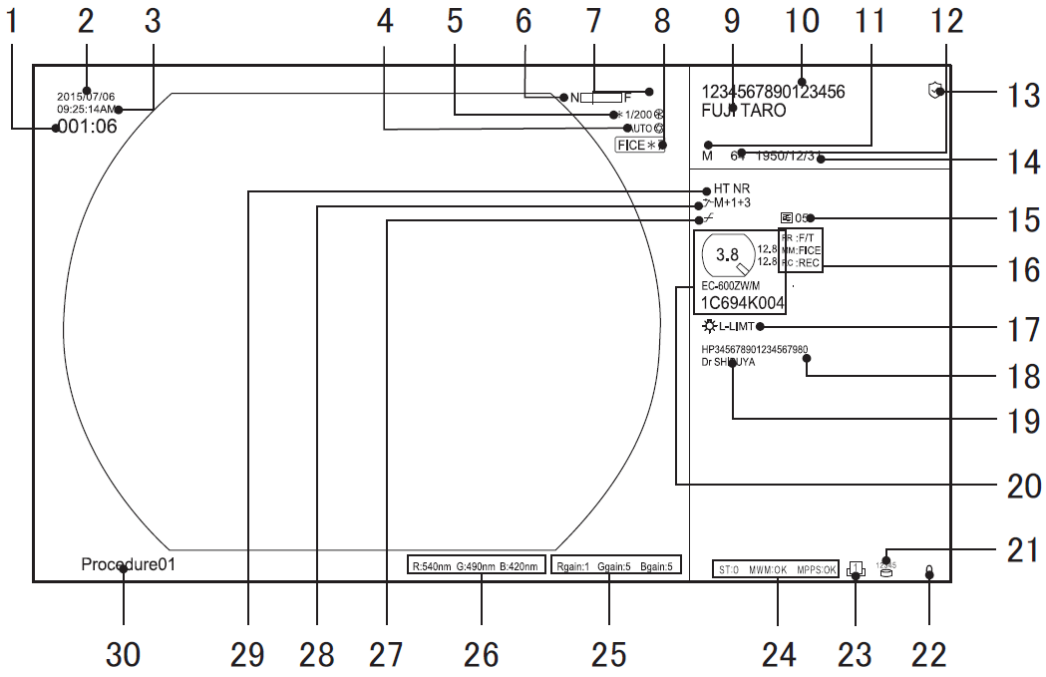
Signifies a method of displaying imaging output of the DVI and HD-SDI terminal connected (hereinafter referred to as the "PC monitor output terminal").
The PC monitor output terminals are used for connecting the monitor used as the normal observation screen.
The items to be displayed in the screen are as follows. For details on each item, refer to the EP-6000 Operation Manual.
→ EP-6000 Operation Manual “3.9 Data Display on the Observation Screen”

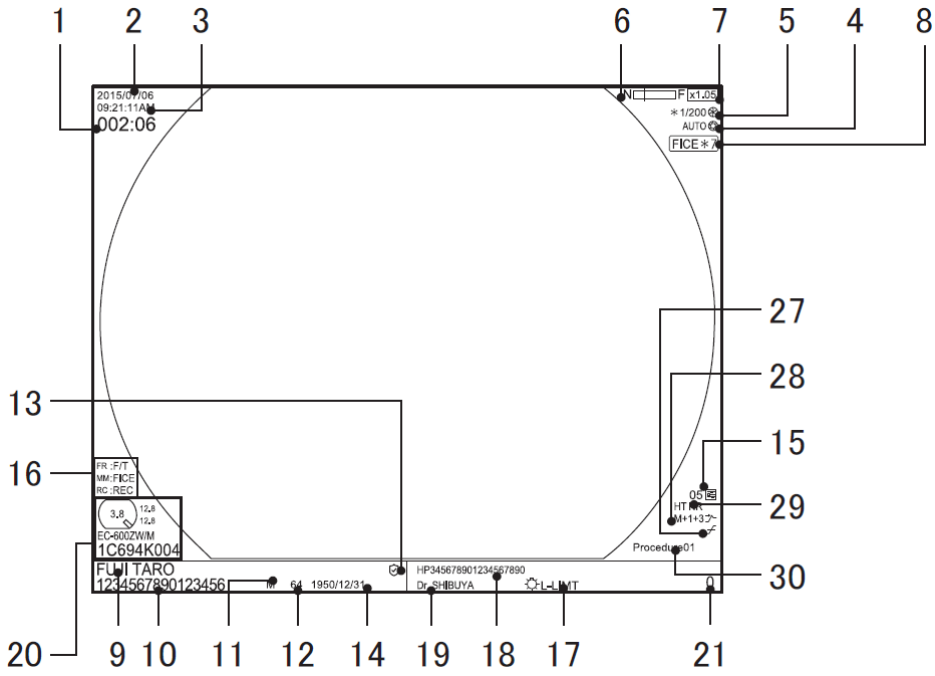
Menu Item	Description
Full Display	Displays Items 1 to 30 in the observation screen.
Hide Structure / Color Emphasis	Displays Items 1 to 26, and 29 to 30
Shooting Counter Only	Displays Item 16 and 21.
Status Only	Displays Items 4 to 8, and 16,21,29.

Note: When the PageUp key is pressed with the FICE turned “ON”, an FICE set appears at the right-hand side of the observation screen.

<Information displayed on the observation screen (Mask Type: Type 1)>

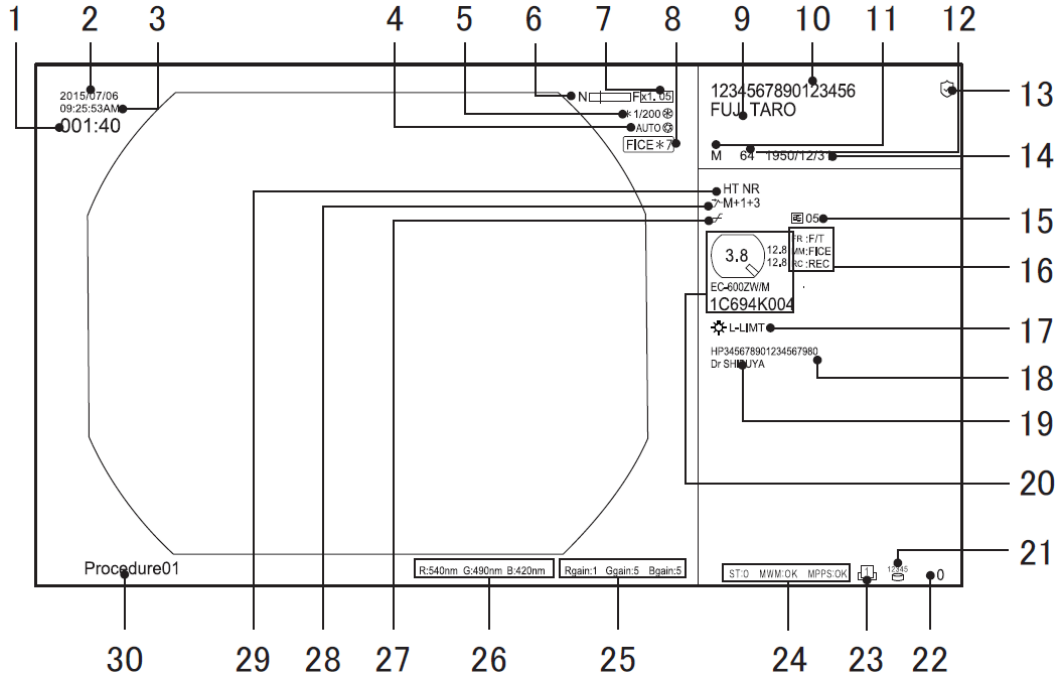
Data to be displayed is different depending on the settings. Setting the data to be displayed should be performed by service personnel.

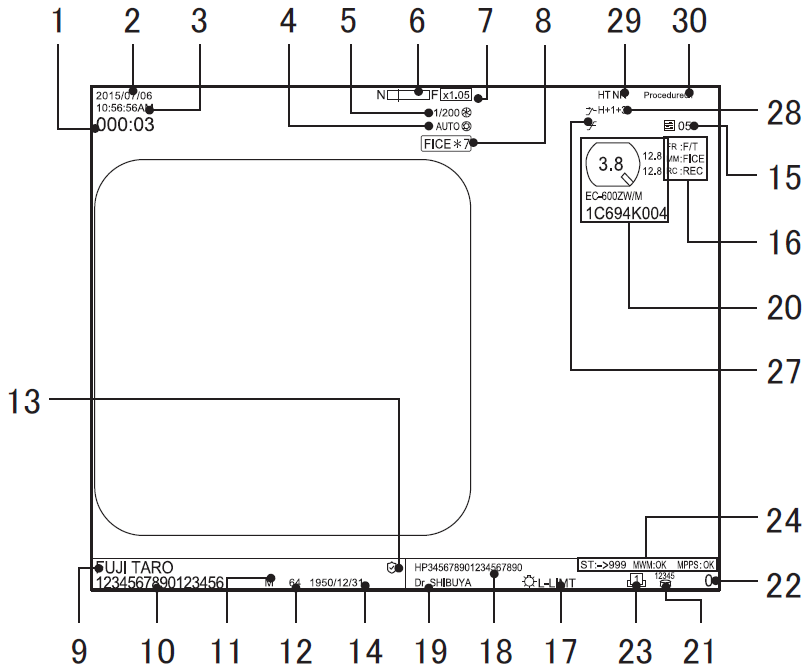


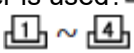


<Information displayed on the observation screen (Mask Type: Type 2)>

Data to be displayed is different depending on the settings. Setting the data to be displayed should be performed by service personnel.





(1) Timer
(2) Date
(3) Time
(4) Iris Mode
→ EP-6000 Operation Manual “7.15 Switching the Iris Mode”
(5) Shutter Speed
→ EP-6000 Operation Manual “7.14 Switching the Shutter Speed”
(6) Focus Indicator
Displayed when an optical zoom scope is connected.
(7) Electronic Zoom Ratio
x1.00 to 2.00 or x1.00 to 1.75 (0.05 step)
Note: The zoom ratio of some 530 series scopes is x1.00 to 1.95.
(8) Special Light Observation Mode or Spectral Image Processing function
In special light observation mode, "BLI", "BLI-bright" or "LCI" is displayed.
With the spectral image processing function, "FICE" is displayed.
(9) Patient Name
(10) Patient ID or Examination No.
Whether to display the patient ID or the examination No. should be specified by service personnel.
(11) Sex
(12) Age
(13) Login
Displayed when the user logs in to the system.
→ EP-6000 Operation Manual“4.3 Security Function”
(14) Date of Birth
(15) Image Setup Page
(16) Switch Setting
The function assigned to the scope switch is displayed.
→ EP-6000 Operation Manual“4.2.7 Endoscope Tab <Functions to be assigned to the scope switch>”
(17) Light Limit
Displays the status of Light Limit
→ EP-6000 Operation Manual “7.9 Light Limit”
(18) Hospital Name
(19) Doctor Name
(20) Scope Information
The scope type or scope serial, minimum diameter of instrument channel, outer diameter of distal end, and outer diameter of insertion tube are displayed.
Scope information may not be displayed depending on the connected scope.
→ EP-6000 Operation Manual “3.11 Patient Info. + Scope Info. Dialog”
(21) Number of Recordable Images in Internal Storage Device
The display flashes while the internal storage device is accessed. Do not turn off the power while the display flashes.
(22) Number of Captured Images
(23) Printer Status
The status is displayed as follows (only for digital printer)
When the printer is used: 
Memory status: 
When the printer is not used: Nothing is displayed.
(24) DICOM Server Connection Status
The connection status with the DICOM server is displayed as follows
S : Storage status of a (stored) image
M : Connection status of the worklist
P : MPPS (progress of an examination)

(25) R, G and B Gain Levels
(26) R, G and B Components
(27) Tone
→ EP-6000 Operation Manual “7.13 Turning On/Off the Tone”
(28) Structure Emphasis
→ EP-6000 Operation Manual “7.11 Turning On/Off Structure Emphasis”
(29) Hyper-Tone and Noise Reduction
Hyper-tone (HT) and noise reduction (NR) are displayed as follows. (The setting is indicated in parentheses.)
Not displayed (no setting), white (Low), green (Mid), and yellow (Hi)
Installation should be performed by service personnel.
(30) Procedure or Comment

2.1.1.3 Data Display Type (TV)

Specifies the items to be displayed in the monitor connected to “TV Output” (NTSC/PAL) or RGB TV / VIDEO / S-VIDEO terminal (hereafter described as “TV monitor output terminal”). Do not use the monitor connected to a TV monitor output terminal as the main observation screen.

The items to be displayed in the screen are as follows. For details on each item, refer to the EP-6000 Operation Manual.

→ EP-6000 Operation Manual “3.9 Data Display on the Observation Screen”

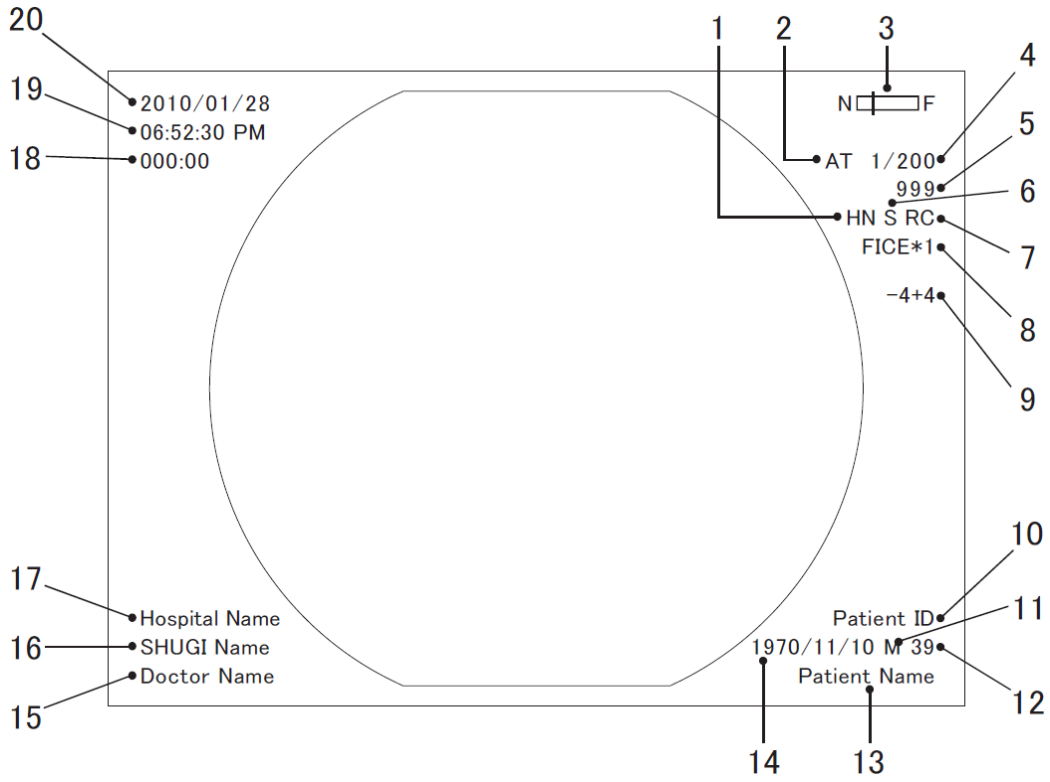
Menu Item	Description
Full Display	Displays Items 1 to 21 in the observation screen.
Hide Structure / Color Emphasis	Displays Items 10 to 14
Shooting Counter Only	Displays Item 5 only.
Status Only	Displays Items 1 , 2 , and 4 to 8 .
None	Displays the observation screen only. No item is displayed.

Note: When the PageUp key is pressed with the FICE turned “ON”, an FICE set appears at the right-hand side of the observation screen.

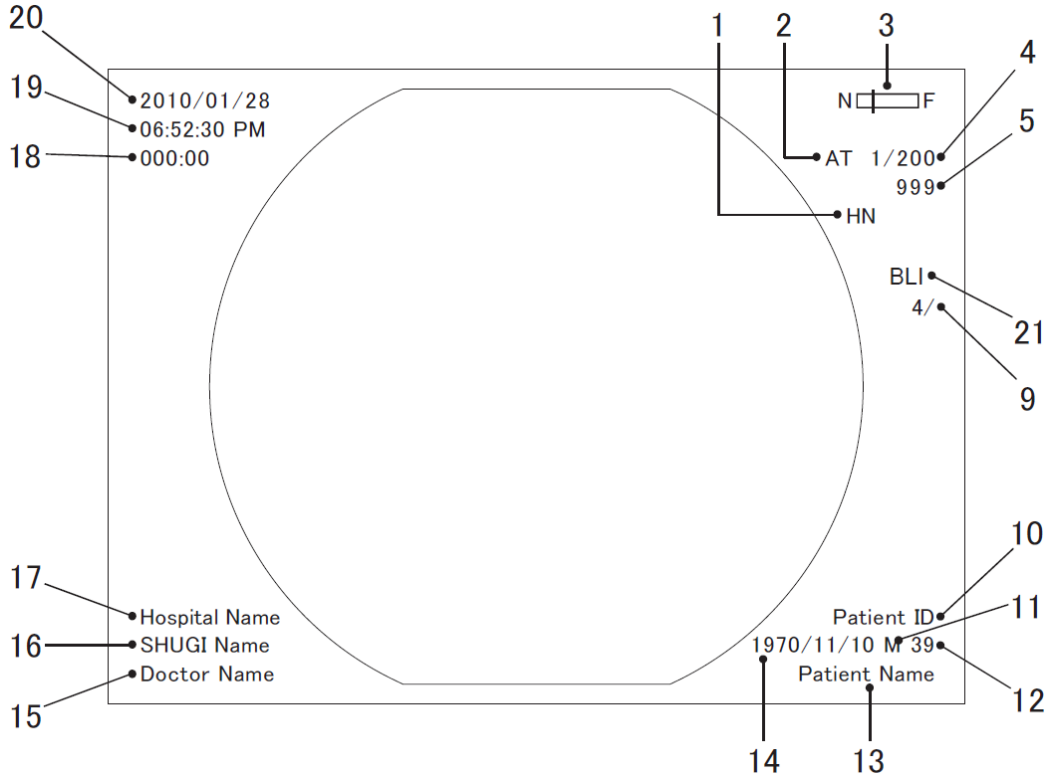
◄ Reference ►

- When the monitor is connected to the RGB TV, Video, or S Video connector, do not use such an image for the main observation.
- Depending on the monitor type, the entire image may not be displayed. In this case, set the monitor in the under-scan mode.

In the case of Normal mode:



In the case of BLI, BLI-bright or LCI:



(1) Hyper-Tone and Noise Reduction
Hyper-tone (HT) and noise reduction (NR) are displayed as follows. (The setting is indicated in parentheses.)
Not displayed (no setting), white (Low), green (Mid), and yellow (Hi)
Installation should be performed by service personnel.
(2) Iris Mode
→ EP-6000 Operation Manual “7.15 Switching the Iris Mode”
(3) Focus Indicator
Displayed when an optical zoom scope is connected.
(4) Shutter Speed
→ EP-6000 Operation Manual “7.14 Switching the Shutter Speed”
(5) Shooting Counter
(6) Structure Emphasis
→ EP-6000 Operation Manual “7.11 Turning On/Off Structure Emphasis”
(7) Tone
→ EP-6000 Operation Manual “7.13 Turning On/Off the Tone”
(8) FICE
Spectral image processing function (FICE)
Note: In the BLI, BLI-bright or LCI mode, FICE is not available.
→ EP-6000 Operation Manual “7.12 Turning On/Off FICE”
(9) Contour Emphasis
→ EP-6000 Operation Manual “7.11 Turning On/Off Structure Emphasis”
(10) Patient ID or Examination No.
(11) Sex
(12) Age
(13) Patient Name
(14) Date of Birth
(15) Doctor Name
(16) Procedure or Comment
(17) Hospital Name
(18) Timer
(19) Time
(20) Date
(21) Special Light Observation Mode
“BLI”, “BLI-bright” or “LCI” is displayed

2.1.2 Error Message Display

Specifies whether or not the error messages are displayed on the monitor connected to a TV monitor output terminal (RGB TV / VIDEO / S-VIDEO terminal) that is not to be used as the main observation screen.
Move the cursor to “TV Monitor” using the [↑] and [↓] keys and then press the [Enter] key.
In the displayed pop-up menu, select the desired setting using the [↑] and [↓] keys and then press the enter key to finalize the setting.

Menu item	Setting	Default	Description	Remarks
TV Monitor	Displayed		Error messages are also displayed in the TV monitor.	
	Not Displayed	○	Error messages are not displayed in the TV monitor.	

2.1.3 P in P Setup

Performs the settings of the P in P mode.
P in P is a function for displaying the sub-screen in addition to the observation screen,enabling the operator to display a different image.
For example, when capturing an image, video images can be displayed in the sub-screen while displaying a frozen image in the observation screen.

Each time the Tab key is pressed while the sub-screen is displayed, the position of the sub-screen is changed in the order of upper left [Note 1], upper right, lower right and lower left.

[Note 1] The start position of the sub-screen can be selected in “Sub-screen Display Position”.

Move the cursor to the desired menu item using the [↑] and [↓] keys and then press the [Enter] key.
In the displayed pop-up menu, select the desired setting using the [↑] and [↓] keys and then press the [Enter] key to finalize the setting.

Menu item	Setting	Default	Description	Remarks
PinP mode	ON	○	PinP mode is used.	
	OFF		PinP mode is not used.	
Sub-screen Size	1/9		Specifies the ratio be size of the sub-screen in the normal observation screen.	
	1/16	○		
Sub-screen Display Position	Lower Right		Specifies wheren to display the sub-screen in the normal observation screen.	
	Lower Left			
	Upper right			
	Upper left	○		

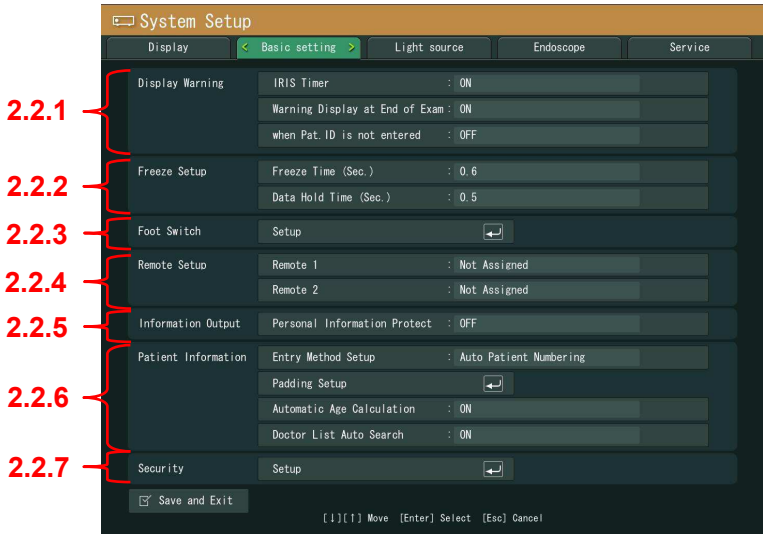
2.1.4 Data Display Switch

Select to either enable or disable the space key function for switching the mode to display/not to display data on the observation screen.
If the data display switching setting is “disabled” when data are not displayed on the observation screen, the data are automatically displayed on the observation screen.
(The setting to switch the mode to display/not to display is disabled and the data remain displayed on the screen.)
Move the cursor to the desired menu item using the [↑] and [↓] keys and then press the [Enter] key.
In the displayed pop-up menu, select the desired item using the [↑] and [↓] keys and then press the [Enter] key to finalize the setting.

Menu item	Setting	Default	Description	Remarks
Disp. Switch with Space	Selectable	○	The Space key function for switching the mode to display / not to display data on the observation screen is enabled	
	Not selectable		The Space key function for switching the mode to display / not to display data on the observation screen is disabled	

2.2 Basic Setup

Make the setup of the "Basic setting".



As shown in the above figure, the menu items are classified into groups.
For details on the menu items in each group, refer to the following subsections.

2.2.1 “Display Warning”
2.2.2 “Freeze Setup”
2.2.3 “Foot Switch”
2.2.4 “Remote Setup”
2.2.5 “Information Output”
2.2.6 “Patient Information”
2.2.7 “Security”

2.2.1 Display Warning

2.2.1.1 Iris Timer

When the iris timer function is turned on, if the maximum amount of light, which is specified for each Endoscope, is kept for more than one minute, the system decreases the amount of light by closing the mechanical iris at a maximum and waits for a signal from the Freeze switch of the Endoscope.
While the iris timer functions, the message “Iris timer is activated and the amount of light is being decreased.
To resume examination, press the FR (Freeze) switch on the scope” is displayed at the center of the screen.
When the Freeze switch of the Endoscope is pressed, the message disappears and operation returns to the normal observation screen.

Menu item	Setting	Default	Description	Remarks
Iris Timer	ON	○	If the maximum amount of light specified for the Endoscope is kept for more than one minute, the system decreases the amount of light by closing the mechanical iris at a maximum and waits for a signal from the Freeze switch of the Endoscope.	
	OFF		The iris timer function is turned off.	

2.2.1.2 Warning Display at End of Exam

This item determines whether or not the warning message is displayed if the operator does not press and hold the EXAM. button for about two seconds at the end of examination.

[Note] Irrespective of the setting of this item, examination cannot be ended.

Menu item	Setting	Default	Description	Remarks
Warning Display at End of Exam	ON	○	If the operator does not press and hold the EXAM. button for about two seconds at the end of examination, a warning beep sounds and the warning message appears.	
	OFF		If the operator does not press and hold the EXAM. button for about two seconds at the end of examination, only a warning beep sounds.	

2.2.1.3 when Pat. ID is not entered

This item specifies whether or not the warning message is displayed if an examination is conducted with no patient ID.

* When [Freeze Mode] in [Freeze Mode Setting] is set to "FRZ" and [Scope SW Setting] is set to "Record", respectively, even if ON is selected with no patient ID registered, the warning message does not appear.

Menu item	Setting	Default	Description	Remarks
when Pat. ID is not entered	ON		If an examination is conducted with no patient ID, the warning message appears upon capturing of the first image. (Press the Enter button to clear the message and continue the examination.)	
	OFF	○	Even if an examination is conducted with no patient ID, no waring message appears upon capturing of the first image.	

2.2.2 Freeze Setup

Move the cursor to the desired menu item using the [↑] and [↓] keys and then press the [Enter] key.
In the displayed pop-up menu, select the desired setting using the [↑] and [↓] keys and then press the [Enter] key to finalize the setting.
Also refer to the pages shown in the table for details.

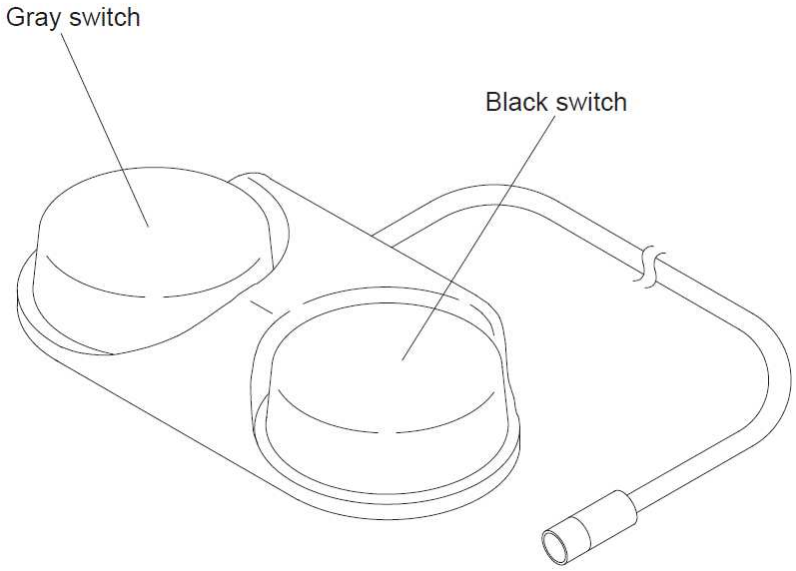
Menu item	Setting	Default	Description	Remarks
Freeze Time (sec.)	0.4		Specifies the period of time for freezing the image when the Freeze / Trigger or Freeze + Trigger button on the scope switch or Freeze / Trigger button on the foot switch. When the period of time set here has elapsed, image freezing is canceled automtically.	
	0.6	○		
	0.8			
	1.0			
	1.2			
	1.6			
	1.5			
	2.0			
	2.4			
	2.8			
Data Hold Time (sec.)	0.3		Specifies how long the image is frozen at the time of pressing the switch for capturing images in the observation screen. [Note] When the captured image is to be sent to the peripheral connected to a peripheral terminal, the Data Hld Time depends on the time required for communicating with the peripheral.	
	0.4			
	0.5	○		
	0.6			
	0.8			
	1.0			
	1.2			
	1.5			
	2.0			
	2.8			

2.2.3 Foot Switch

Specifies the functions assigned to the foot switch.

2.2.3.1 Foot switch Setup

Move the cursor to the desired foot switch (Gray or Black) and then press the [Enter] key.
In the displayed pop-up menu, select the desired function using the [↑] and [↓] keys and then press the [Enter] key to finalize the setting.
The names of the foot switches and available functions are shown in the tables below.
(Available functions are indicated with " Yes ", " * " indicates the default setting.)



Function	Gray	Black
F/T,F+T,FRZ	YES*	YES
Trigger	YES	YES*
Record	YES	YES
Iris Mode	YES	YES
Shutter Speed	YES	YES
Structur Emphasis	YES	YES
FICE	YES	YES
Color Emphasis	YES	YES
Display	YES	YES
Electronic Zoom: Zoom IN	YES	YES
Electronic Zoom: Zoom Out	YES	YES
Optical Zoom: Zoom IN	YES	YES
Optical Zoom: Zoom Out	YES	YES
PinP Sub-screen Position Swiching	YES	YES
Hide/Displary Sub-screen	YES	YES
Special Light	YES	YES
Not Assigned	YES	YES

2.2.3.2 Functions to be Assigned to the Foot Switch

Function	Description
FR	When this switch is pressed, the same function assigned to the Freeze switch of the scope switch will operate. → EP-6000 Operation Manual “4.2.7 Endoscope Tab”
Trigger	If this switch is pressed when the image on the observation screen is frozen, the image is captured, and then the freeze mode is canceled. [Note] If the image is not frozen, the image is not captured.
Record	If this switch is pressed when the image on the observation screen is frozen, the image is captured, and then the freeze mode is canceled. [Note] If this switch is pressed when a video image is displayed, the observation screen displays the frozen image while displaying the video image on the sub-screen, and then, the frozen image is captured. After the image is captured, the freeze mode is canceled.
Iris Mode	This switch changes the iris mode (Auto/Peak/Ave).
Shutter Speed	This switch changes the shutter speed (Standard/High) set on the Shutter Speed Setup screen. → EP-6000 Operation Manual “5.3.6 Setting the Shutter Speed”
Structure Emphasis	This switch turns the structure emphasis ON/OFF. → EP-6000 Operation Manual “5.3.2 Structure Emphasis Settings”
FICE	FWhen a FICE set number is assigned in the “Simple Setup of FICE Switch” and FICE is “OFF”, each press of this switch changes the function to be selected in order of FICE “ON” and call up of FICE setnumber of “Assignment 1” → call up of “Assignment 2” → call up of “Assignment 3” → FICE “OFF”. → EP-6000 Operation Manual “5.3.3 Setting FICE”
Color Emphasis	This switch turns the tone function ON/OFF. → EP-6000 Operation Manual “5.3.4 Tone Settings”
Display	This switch is used to display or not to display the information on the observation screen. [Note] When “Data Display Switching” is disabled, the function of this switch is also disabled.
Electronic Zoom : Zoom In	This switch changes the zoom ratio of the electronic zoom. The ratio changes each 0.05 steps from the range of x1.00 to x2.00. This switch performs zoom-in only.
Electronic Zoom : Zoom Out	This switch changes the zoom ratio of the electronic zoom. The ratio changes each 0.05 steps from the range of x1.00 to x2.00. This switch performs zoom-out only.
Optical Zoom : Zoom In	When an optical zoom scope is connected, this switch changes the zoom ratio of the optical zoom. This switch performs zoom-in only.
Optical Zoom : Zoom Out	When an optical zoom scope is connected, this switch changes the zoom ratio of the optical zoom. This switch performs zoom-out only.

Function	Description
P in P Sub-screen Position Switching	If this switch is pressed when the observation screen displays a frozen in 1age while displaying the video in 1age on the sub-screen, the sub-screen changes its display position in order of the upper left → upper right → lower right → lower left→ left
Hide / Display Sub-screen	When the observation screen displays a frozen in 1age while displaying the video in 1age on the sub-screen, the pressing of this switch hides the sub-screen. To re-display the sub-screen, press this switch again.
Special Light	This switch changes the observation mode in the order specified on the Special Light Observation Preset Setup screen. → EP-6000 Operation Manual “5.5.1 Registering, Calling Up and Editing and Deleting Image Setup Page - <Registering Image Setup Page> - Scope Common tab - Obs. Mode Preset Setup”
Not Assigned	Assigns no function.

[Note 1] The zoom ratio of some 530 series scopes is x1.00 to x1.95.

2.2.4 Remote Setup

This menu is used when the peripherals are connected to the remote terminals.
When an image is captured to the peripheral connected to a remote terminal, the remote signal is output according to the settings in this menu.

Move the cursor to the desired menu item using the [↑] and [↓] keys and then press the [Enter] key.
In the displayed pop-up menu, select the desired setting using the [↑] and [↓] keys and then press the [Enter] key to finalize the setting.

Menu item	Setting	Default	Description	Remarks
Remote 1	Not Assigned	○	The remote signal is not output.	
	Trigger		When the trigger function is assigned to the scope switch or foot switch, the remote signal is output from Remote terminal 1 at the time of capturing the in1age.	
	Record		When the record function is assigned to the scope switch or foot switch, the remote signal is output from Remote terminal 1 at the time of capturing the in1age.	
	Record•Trigger		When the trigger function or record function is assigned to the scope switch or foot switch, the remote signal is output from Remote terminal 1 at the time of capturing the image.	
Remote 2	Not Assigned	○	The remote signal is not output.	
	Trigger		When the trigger function is assigned to the scope switch or foot switch, the remote signal is output from Remote terminal 1 at the time of capturing the in1age.	
	Record		When the record function is assigned to the scope switch or foot switch, the remote signal is output from Remote terminal 1 at the time of capturing the in1age.	
	Record•Trigger		When the trigger function or record function is assigned to the scope switch or foot switch, the remote signal is output from Remote terminal 2 at the time of capturing the image.	

2.2.5 Information Output

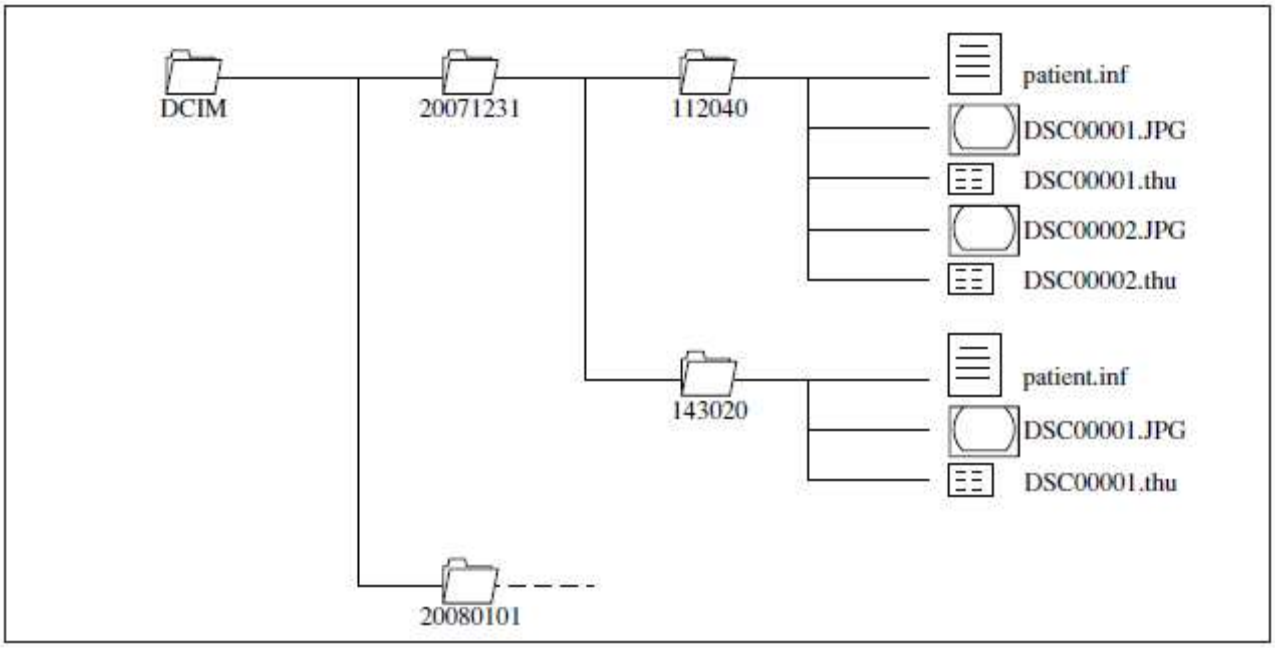
When “ON” is selected for “Personal Information Protection Mode”, “Patient Name”, “Date of Birth” and “Sex” in the patient information file (patient.inf) [Note 1] to be transferred to the external memory or FTP server in the network are left blank.

Move the cursor to “Personal Information Protection Mode” using the [↑] and [↓] keys and then press the [Enter] key.
In the displayed pop-up menu, select the desired setting using the [↑] and [↓] keys and then press the [Enter] key to finalize the setting.

Menu item	Setting	Default	Description	Remarks
Personal Information Protect	ON		Turns on the personal infomation protection mode.	
	OFF	○	Turns off the personal infomation protection mode.	

[Note 1] Patient information file “patient. inf” :
When capturing an image, the “patient.inf” file is created in the corresponding folder [Note 2] to store patient information and examination information.
The termination time of the examination is also written into the file at the end of examination.

[Note 2] Configuration of record information:
When an image is captured, a folder named with the date of shooting is created and a folder named with the time of shooting is also created in the folder.
The patient information file “patient.inf” and captured images are saved in the folder named with the time of shooting.
(Example : When shooting starts at 11:20:40 a.m. on December 31st 2007, images are saved in the “¥DCIM¥20071231¥112040” folder.)



2.2.6 Patient Information

2.2.6.1 Entry Method Setup

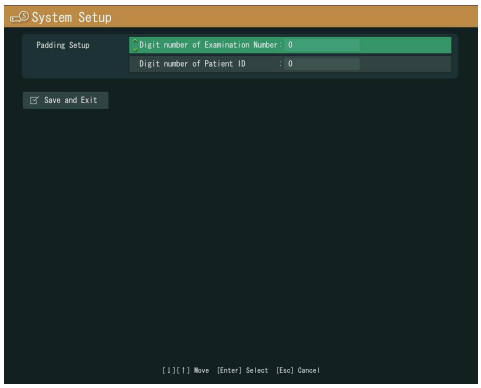
Specifies the Patient Information Entry Screen.
Select either the automatic numbering mode or the fixed “01” mode for new entry of patient information.
Alternatively, when directly entering the doctor name into the Patient Information Entry Screen, select the mode for retrieval/non-retrieval of the Doctor List and load the doctor name that corresponds to the entered name and the doctor page setup.
Move the cursor to the desired menu item using the [↑] and [↓] keys and then press the [Enter] key.
In the displayed pop-up menu, select the desired item using the [↑] and [↓] keys and then press the [Enter] key to finalize the setting.

Menu item	Setting	Default	Description	Remarks
Input mode setting	Auto Patient Numbering	○	When patient information is newly enterd patient number is automatically assigned.	
	Ficed Patient Number		When patient information is newly enterd patient number is fixed to "01."	

2.2.6.2 Padding Setup

For patient ID and examination No., the setting is made for digits that do not satisfy the specification to be automatically padded with "0".

Menu item	Description	Remarks
Padding Setting	When the cursor is moved to this item and then the Enter key is pressed, the "Padding setup screen" appears.	



Menu item	Setting	Default	Description	Remarks
Digit number of Examination Number	0-16	0	When an examination No. entered does not satisfy the specified number of digits, padding is implemented for an insufficient portion from the top with 0 to match the digits.	When 0 is set for the number of digits, padding is not implemented.
Digit number of Patient ID	0-16	0	When a patient ID entered does not satisfy the specified number of digits, padding is implemented for an insufficient portion from the top with 0 to match the digits.	
Save and Exit	When this item is selected and then the Enter key is pressed, the current settings are finalized and operation returns to the System Configuration screen. * When the Enter key is pressed without selecting “Save and Exit”, the current setting is canceled and operation returns to the System Configuration screen.			

2.2.6.3 Automatic Age Calculation

This item determines whether or not patient's age is calculated automatically when patient's date of birth is entered.
Move the cursor to the desired menu item using the [↑] and [↓] keys and then press the [Enter] key.
In the displayed pop-up menu, select the desired item using the [↑] and [↓] keys and then press the [Enter] key to finalize the setting.

Menu item	Setting	Default	Description	Remarks
Automatic Age Calculation	ON	○	When patient's date of birth is entered, patient's age is calculated automatically.	
	OFF		Patient's age is not calculated automatically.	

2.2.6.4 Doctor List Auto Search

When directly entering the doctor name into the Patient Information Entry Screen, select the mode for retrieval/non-retrieval of the Doctor List and load the doctor name that corresponds to the entered name and the doctor page setup.
Move the cursor to the desired menu item using the [↑] and [↓] keys and then press the [Enter] key.
In the displayed pop-up menu, select the desired item using the [↑] and [↓] keys and then press the [Enter] key to finalize the setting.

Menu item	Setting	Default	Description	Remarks
Doctor List Auto Search	ON	○	When the doctor name is directly entered, the Doctor List is retrieved.	
	OFF		When the doctor name is directly entered, the Doctor List is not retrieved.	

2.2.7 Security

Change the password for login authentication.

2.2.7.1 Serviced

Change the password for service menu login authentication.

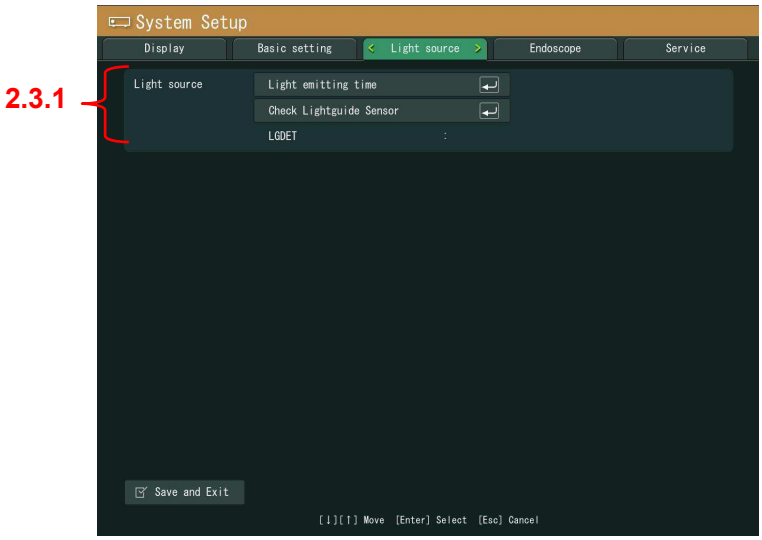
Menu item	Setting	Description	Remarks
Service	Password	The password must be between 5 to 15 characters in length. Alphanumeric characters and symbols can be used.	
	Password（Re）	Enter the new password again.	
	Password Confirmation	After entering the new password in “Password” and “Password (Re)”, press the [Enter] key to change the password.	

2.2.7.2 Factory

Settings can be changed only when logging in with the factory authentication password.

2.3 Light source

Make the setup of the "Light source".



As shown in the above figure, the menu items are classified into groups.
For details on the menu items in each group, refer to the following subsections.

2.3.1 "Light source"

2.3.1 Light Source

2.3.1.1 Light emitting time

Display the cumulative emitting time of light source.
Move the cursor to the desired menu item using the [↑] and [↓] keys and then press the [Enter] key.

Menu item	Description		Remarks
Light Emitting Time	B	Display the cumulative emitting time of Blue LED.	
	V	Display the cumulative emitting time of Violet LED.	
	G	Display the cumulative emitting time of Green LED.	

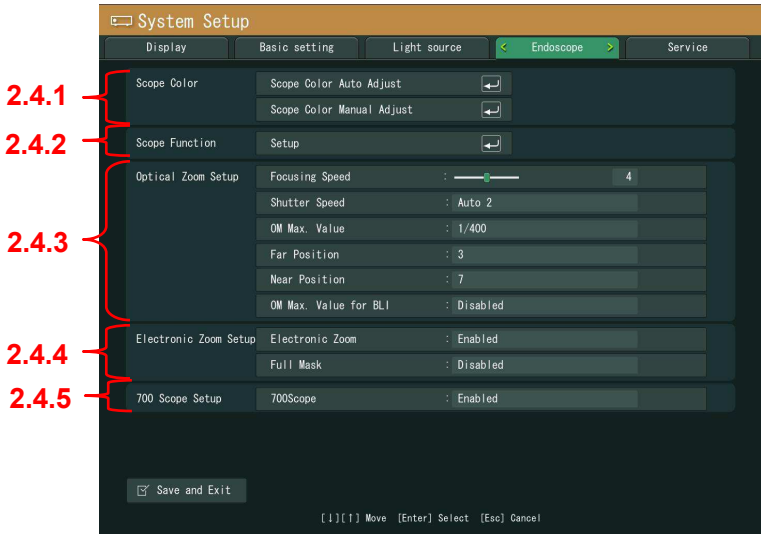
2.3.1.2 LGDET

Display the detection information of LG.
Move the cursor to the desired menu item using the [↑] and [↓] keys and then press the [Enter] key.

Menu item	Description		Remarks
LGDET	ON	LG connector is connected.	
	OFF	LG connector is not connected.	

2.4 Endoscope

Make the setup of the connected "Endoscope".



As shown in the above figure, the menu items are classified into groups.
For details on the menu items in each group, refer to the following subsections.

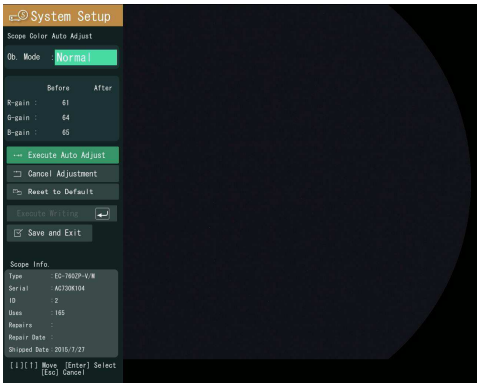
2.4.1 “Scope Color”
2.4.2 “Scope Function”
2.4.3 “Optical Zoom Setup”
2.4.4 “Electronic Zoom Setup”
2.4.5 “700 Scope Setup”

2.4.1 Scope Color

2.4.1.1 Scope Color Auto Adjust

Adjusts the color of the connected Endoscope automatically. Insert the distal end of the Endoscope into the specified integrating sphere and then perform “Scope Color Auto Adjust”.

Move the cursor to “Scope Color Auto Adjust” and then press the Enter key. The screen for “Scope Color Auto Adjust” appears.



Adjust the color data for each Endoscope.
When this screen is displayed at the first time, data written on the EEPROM of the Endoscope is displayed.

[Note] To write automatically adjusted values onto the EEPROM, select “Execute Writing”.
The relationship between each adjusting operation and the resulting image is shown in the table below.

<Adjusting operations and the resulting images>

Adjusting operation	Image displayed immediately after adjustment	Image displayed after the power is turned off and then on (to read deta from the EEPROM again)
(1) “Execute Auto Adjust” is selected. (2) “Execute Writing” is selected. (3) “Save and Exit” is selected.	Image after automatic adjustment	Image after automatic adjustment
(1) “Execute Auto Adjust” is selected. (2) “Execute Writing” is selected. (3) The Esc key is pressed.	Image before automatic adjustment	Image after automatic adjustment
(1) “Execute Auto Adjust” is selected. (2) “Save and Exit” is selected without selecting “Execute Writing”.	Image after automatic adjustment	Image before automatic adjustment

Menu item	Setting	Default	Description	Remarks
R-gain	0 to 960 (increments of 2 steps)		The displayed value cannot be changed. The current gain values of the connected Endoscope is displayed. To execute automatic adjustment, select "Execute Auto Adjust"	
G-gain	0 to 960 (increments of 2 steps)			
B-gain	0 to 960 (increments of 2 steps)			
Execute Auto Adjust			When this item is selected and the Enter key is pressed, automatic adjustment is executed and the values before adjustment and those after adjustment are displayed	
Cancel Adjustment			The values after automatic adjustment are returned to those before automatic adjustment.	
Reset to Factory Default			R-gain, G-gain, B-gain values are reset to the factory defaults.	
Execute writing			When this item is selected and then the Enter key is pressed, the scope color adjustment values are overwritten onto the EEPROM. [Note] When the adjustment values are written onto the EEPROM, those values are used for subsequent operations. [Note] When “Save and Exit” is selected without selecting "Execute Writing" , the color adjustment value is applied only to the current examination.	
Save and Exit	When this item is selected and then the Enter key is pressed, the current settings are finalized and operation returns to the System Configuration screen. [Note] When the ESC key is pressed without selecting “Save and Exit”, the current setting is canceled and operation returns to the System Configuration screen.			

< Scope Info >
Information on the connected Endoscope is displayed (Display only).
Displayed items vary depending on the version of the scope CPU on the connected Endoscope and scope series.

A: 530 series scope (with the scope CPU Ver.2.0 or later). 550 series scope.
B: 530 series scope (with the scope CPU earlier than Ver.2.0).

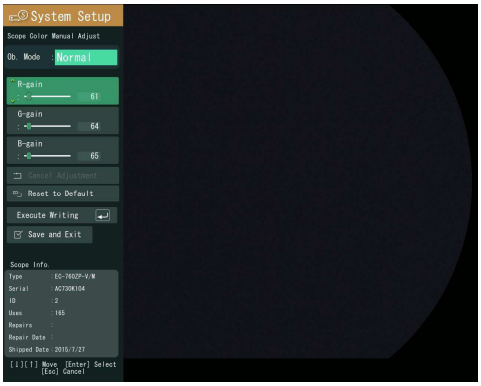
Information	Value	Description	A	B
Type	(16characters)	The type of the connected Endoscope	Displayed	Not displayed
Serial	(16characters)	The serial number of the connected Endoscope	Displayed [Note]	Not displayed
ID	(3characters)	The scope ID of the connected Endoscope	Displayed	Displayed
Number of Operation Times	(10characters)	The number of operation times of the connected Endoscope	Displayed	Not displayed
Repair History	(6characters)	The code of the repair history	Displayed	Not displayed
Repaired Date	(4, 2 and 4 characters)	Date of repair (year/month/day)	Displayed	Not displayed
Factory Shipment Date	(4, 2 and 4 characters)	Factory Shipment Date (year/month/day)of the Endoscope	Displayed [Note]	Not displayed

[Note] If the scope data supporting the EP-6000 is not written in the connected Endoscope, the scope data possessed by the processor is displayed in place of the scope data possessed by the Endoscope.
Accordingly, the displayed data does not match with the scope data of the connected Endoscope.

2.4.1.2 Scope Color Manual Adjust

Adjusts the color of the connected Endoscope manually.
Insert the distal end of the Endoscope into the specified integrating sphere and then perform “Scope Color Auto Adjust”.

Move the cursor to “Scope Color Manual Adjust” and then press the Enter key.
The screen for “Scope Color Manual Adjust” appears.



Adjust the color data for each Endoscope.
When this screen is displayed for the first time, data written on the EEPROM of the Endoscope is also displayed.

[Note] To write manually adjusted values onto the EEPROM, select “Execute Writing”.
The relationship between each adjusting operation and the resulting image is shown in the table below.

<Adjusting operations and resulting images>

Adjusting operation	Image displayed immediately after adjustment	Image displayed after the power is turned off and then on (to re-read data from the EEPROM)
(1)"Execute Manual Adjust" is selected. (2)"Execute Writing" is selected. (3)“Save and Exit” is selected.	Image after manual adjustment	mage after manual adjustment
(1)"Execute Manual Adjust" is selected. (2)"Execute Writing" is selected. (3)The Esc key is pressed.	Image before manual adjustment	mage after manual adjustment
(1)"Execute Manual Adjust" is selected. (2)“Save and Exit” is selected without selecting "Execute Writing".	Image after manual adjustment	mage before manual adjustment

Menu item	Setting	Default	Description	Remarks
R-gain	0 to 960		The current values of the connected Endoscope are displayed. Placing the cursor on the item and pressing the Enter key display the sider. Specify a value with the ← and → keys and set using the Enter key	
G-gain	0 to 960			
B-gain	0 to 960			
Cancel Adjustment			Values after manual adjustment are returned to those before automatic adjustment.	
Reset to Factory Default Setting			R-gain, G-gain, B-gain, values are reset to the factory defaults.	
Execute Writing			When this item is selected and the Enter key is pressed, the scope color adjustment values are overwritten onto the EEROM [Note] When the adjustment values are written onto the EEROM, these values are used for subsequent operations. [Note] When “Save and Exit” is selected without selecting "Execute Writing", the color adjustment value is only applied to the current examination.	
Save and Exit	When this item is selected and the Enter key is pressed, the current settings are finalized and operation returns to the System Configuration screen. [Note] Pressing the Esc key without selecting “Save and Exit” canceled the current setting and operation returns to the System Configuration screen.			

<Scope Info>

Information on the connected Endoscope is display (Display only).

Displayed items vary depending on the version of the scope CPU on the connected Endoscope and scope series.

A: 530 series scope (scope CPU of Ver. 2.0 or later). 550 series scope

B: 530 series scope (scope CPU earlier than Ver. 2.0).

Information	Value	Description	A	B
Type	(16 characters)	Type of connected Endoscope	Displayed	Not displayed
Serial	(16 characters)	Serial number of the connected Endoscope	Displayed[Note]	Not displayed
ID	(3 characters)	Scope ID of the connected Endoscope	Displayed	Displayed
Usage Count	(10 characters)	Number of operation times of the connected Endoscope	Displayed	Not displayed
Repair History	(6 characters)	Repair history code	Displayed	Not displayed
Repair Date	(4,2 and 4 characters)	Date of repair (year/month/day)	Displayed	Not displayed
Factory Shipment Date	(4,2 and 4 characters)	Factory Shipment Date (year/month/day) of the Endoscope	Displayed[Note]	Not displayed

[Note] If the scope data supporting the EP-6000 is not written in the connected Endoscope, the scope data possessed by the processor is displayed in place of the scope data possessed by the Endoscope.
Accordingly, the displayed data does not match with the scope data of the connected Endoscope.

2.4.2 Scope Function

2.4.2.1 S600 Correction

Image correction is implemented when using the S600 scope.
Move the cursor to the desired menu item using the [↑] and [↓] keys and then press the [Enter] key.
In the displayed pop-up menu, select the desired item using the [↑] and [↓] keys and then press the [Enter] key to finalize the setting.

Menu item	Setting	Default	Description	Remarks
S600 correction	OFF		Image correction is not implemented.	
	ON1		The balance between blurring on images and the smoothness of video is changed in the case that the shutter speed is set to High.	
	ON2	O		
	ON3			

2.4.2.2 Zoom Setup

The state of display of "Multi Zoom Operating Mode" setup menu on "System Setup" screen is switched.
Move the cursor to the desired menu item using the [↑] and [↓] keys and then press the [Enter] key.
In the displayed pop-up menu, select the desired item using the [↑] and [↓] keys and then press the [Enter] key to finalize the setting.

Menu item	Setting	Default	Description	Remarks
Zoom Setup	Used	O	"Multi Zoom Operating Mode" setup menu is displayed on "System Setup" screen.	Available when “Used” is selected for "S600" scope setting.
	Not used		"Multi Zoom Operating Mode" setup menu is not displayed on "System Setup" screen.	

2.4.3 Optical Zoom Setup

Performs the settings for optical zoom operations when the optical zoom scope is connected.
Move the cursor to the desired menu item using the [↑] and [↓] keys and then press the [Enter] key.
In the displayed pop-up menu, select the desired item using the [↑] and [↓] keys and then press the [Enter] key to finalize the setting.

Also refer to the pages shown in the table for details.

Menu item	Setting	Default	Description	Remarks
Focusing Speed	8		The focusing speed can be selected from among the nine steps ("8"to"0"). With "8", the operating speed of the zoom function becomes the fastest. Press the [Enter] key to display the sider, select the value by pressing the [←] and [→] keys and then press the [Enter] key to finalize the setting.	
	7			
	6			
	5			
	4	○		
	3			
	2			
	1			
	0			
Shutter Speed	Auto		When the optical zoom is in maximum, the shutter speed is changed to the speed set for the optical zoom.	When the switching method is Auto or Auto 2 and an optical zoom scope is connected, if the zoom switch is pressed while the optical zoom ratio is in maximum, the zoom changes to the electronic zoom automatically.
	Auto 2	○	In a general observation (when not using the optical zoom), the shutter speed is a standard speed. When the position of the optical zoom is placed in “Far Position” of “Optical Zoom Setup”, the shutter speed is the speed set for the optical zoom. When the position of the optical zoom is placed in “Near Position” of “Optical Zoom Setup”, the shutter speed is the speed according to the OM max. value.	
	Manual		When using the optical zoom, the shutter speed does not change automatically. The speed changes when the Shutter Speed button is pressed.	
OM Max. Value	1/200		Select the shutter speed applied when the optical zoom is maximized. This setting is effective when "Auto 2" is selected for "shutter Speed Switching for Zoomed Image".	
	1/400	○		
	1/600			
	1/800			
Far Position	1～3	1	The zoom position where the shutter speed changes can be specified when "Auto 2" is selected for "shutter Speed Switching for Zoomed Image".	
Near Position	5～7	7		
OM Max. Value for BLI	Enabled		This is a setting for BLI when "Auto2" is selected for "Switching the Shutter Speed". When the optical zoom position is at "NearPosition" of Optical Zoom Setup, the shutter speed is enabled to switch to "OM Max. Value".	
	Disabled	○		

2.4.4 Electronic Zoom Setup

2.4.4.1 Electronic Zoom

When pressing the magnification switch with the optical zoom at its maximum, the setting is possible to automatically switch to the electronic zoom. When the electronic zoom is in the operation, the color of the focus meter display is green.
This is enabled when the switch setting of shutter speed with the maximum zoom is “Auto” or “Auto 2”.
Move the cursor to the desired menu item using the [↑] and [↓] keys and then press the [Enter] key.
In the displayed pop-up menu, select the desired item using the [↑] and [↓] keys and then press the [Enter] key to finalize the setting.

Menu item	Setting	Default	Description	Remarks
EM Zoom	Enabled	○	Even when the power is turned off and then on, the settings for electronic zoom are retained.	
	Disabled		When the power is turned off and then on, the settings for electronic zoom are reset to the factory defaults.	

2.4.4.2 Full Mask

Perform the mask setting when the endoscope image is magnified to the size larger than the monitor size by the electronic zoom.
The setting is enabled when the mask type is set to type 1.
Make sure that the electronic zoom is not in use when changing the setting.
Move the cursor to the desired menu item using the [↑] and [↓] keys and then press the [Enter] key.
In the displayed pop-up menu, select the desired item using the [↑] and [↓] keys and then press the [Enter] key to finalize the setting.

Menu item	Setting	Default	Description	Remarks
Full Mask	Enabled		The mask is automatically removed to show images in the full screen display when the images are magnified to the preset ratio with the electronic zoom (Note 1).	
	Disabled	O	The mask is not removed as in the previous version.	

Note 1: The magnification of the electronic zoom by each mask type to switch to a full screen display.

Mask type	Magnification of the electronic zoom
130% mask	Higher than 1.30 times
110% mask	Higher than 1.55 times
90% mask	Higher than 1.90 times
80% mask	Not switching to a full screen display
70% mask	

2.4.5 700 Scope Setup

Switches display/hide of 700 scope setting items.

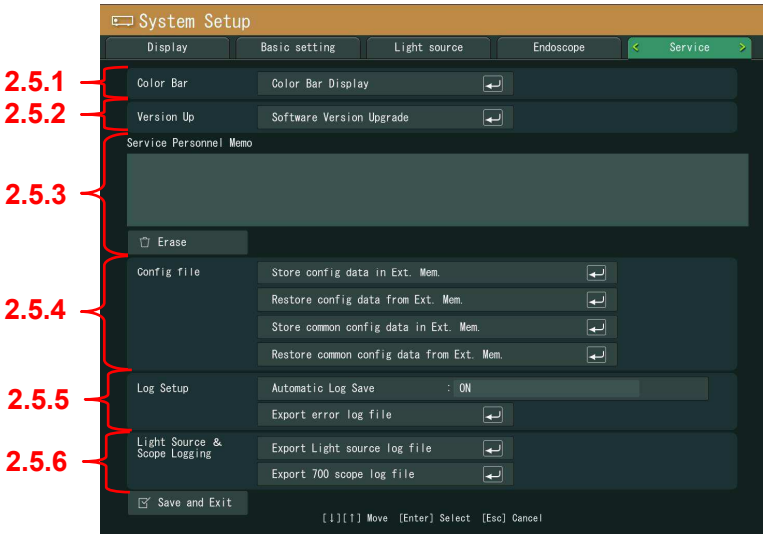
- [Scope switch setting] on the Scope tag in the [System Setup menu]
- [Image setting] that opens by using “Insert” key from the [Setting List] on the [Image Setting) page

Move the cursor to the desired item using the [↑] and [↓] keys, press the [Enter] key to display options in a pop-up menu, and then select an option by using the [↑] and [↓] keys and press the [Enter] to confirm.

Menu item	Setting	Default	Description	Remarks
700 Scope Setup	Enabled	O	Display 700 scope setting items.	
	Disabled		Hide 700 scope setting items.	

2.5 Service

Used for services of device.



As shown in the above figure, the menu items are classified into groups.
For details on the menu items in each group, refer to the following subsections.

2.5.1 “Color Bar”
2.5.2 “Version Up”
2.5.3 “Service Personnel Memo”
2.5.4 ”Config file”
2.5.5 “Log Setup”
2.5.6 ”Light Source & Scope Logging”
2.5.7 Export error log file using the keyboard

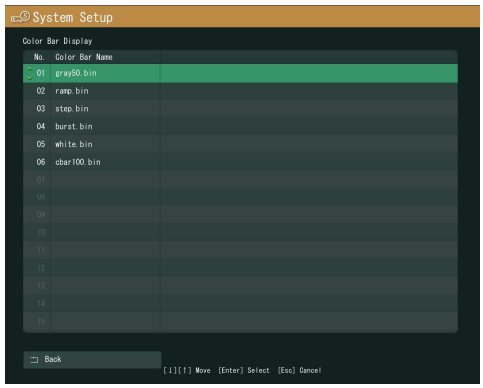
2.5.1 Color Bar

Displays the color bar data file (****.bin).
When a connect an external memory, the images in the external memory are added to the color bar list.
[Note] Before displaying the color bar list, connect the Endoscope to place the system in "STANDBY" state.
Once the system is in "STANDBY" state, the color bar can be displayed even if the "STANDBY" state is released.

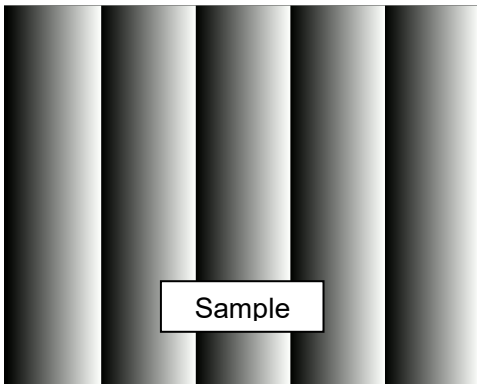
Menu item	Description	Remarks
Color Bar Display	When a color bar data file is the inserted external memory, if the cursor is moved to this item and then the [Enter] key is pressed,the color bar list is displayed in the screen.	2.5.1.1"Color Bar List"

2.5.1.1 Color Bar List

When the cursor is moved to "Color Bar Display" and then the Enter key is pressed, "Color Bar List" appears.



Select the desired image file from the list using the [↑] and [↓] keys and then press the [Enter] key.
The selected image is displayed in the screen.



2.5.2 Software Version Upgrade

Upgrades software version of the EP-6000.

Menu item	Description	Remarks
Software Version Upgrade	When the cursor is moved to this item and then the Enter key is pressed, the software version upgrade list is displayed in the screen.	2.5.2.1“Software Version Upgrade List”

2.5.2.1 Software Version Upgrade List

For details on software version upgrade, refer to Chapter 4.
→“Chapter 4 Software Version Upgrade”

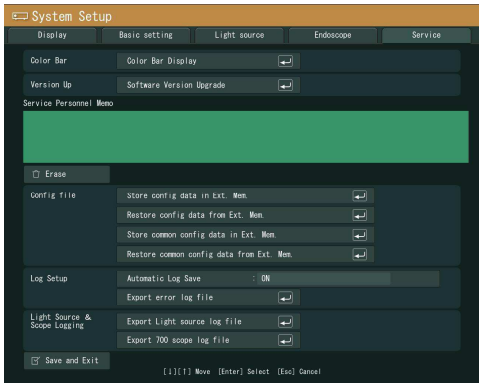
When the cursor is moved to “Software Version Upgrade” and then the Enter key is pressed, “Software Version Upgrade List” appears.



Upgradable software is listed.
Move the cursor to the desired execution file using the ↑ and ↓ keys and then press the Enter key.
A check ( ) is placed for the selected execution file. Move the cursor to “Execute Software Version Upgrade” and the press the Enter key.
Software version upgrade of the selected execution file is executed.

2.5.3 Service Personnel Memo

Stores notes entered by service personnel.
Stored notes can be confirmed in this screen whenever needed.



Menu item	Setting	Default	Description	Remarks
Service Personnel Memo	(Direct entry)		About 300 characters can be enterfd. To enter characters, select the entry area (default: blank) and then press the [Enter] key.	
Erase	When this item is selected and then the [Enter] Key is pressed, notes entered by service personnel are erased.			
Save and Exit	When this item is selected and then the [Enter] Key is pressed, notes entered by service personnel are saved and operation returns to the observation screen. [Note] When the [Esc] key is pressed without selecting “Save and Exit”, notes entered by service personnel is not saved and operation returns to the observation screen.			

2.5.4 Config file

2.5.4.1 Store all configuration data in external memory

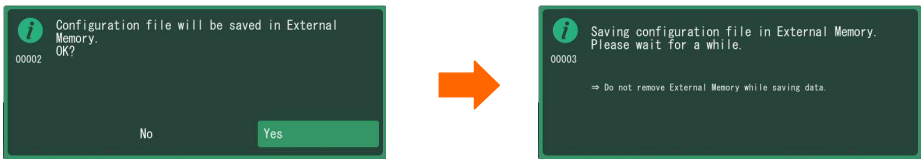
When saving a config Data, a “ep6000” folder is created in the external memory and the configuration file “feRamDat.dat” is saved in the “data” folder in the “ep6000” folder.

◆Note◆

・ Use an external memory for EP-6000.
If an external memory saved by another device other than EP-6000 is used, configuration data may not be normally saved.

(1) Move the cursor to “Store config data in Ext. Mem” using the [↑] and [↓] keys and then press the [Enter] key.

(2) The message "Configuration file will be saved in External Memory." appears.
Move the cursor to "Yes" and press the [Enter] key.
The message "Saving configuration file in External Memory." appears, and saving the configuration starts.



◆Note◆

Do not touch the processor until the message "Saving configuration file is completed" appears.
If you turn off the power while saving config data, configuration file may not properly be saved.

(3) When the message "Saving configuration file is completed" appears, press the [Enter] key to close the menu.



◆Note◆

If saving the configuration file has failed, the message at the right-hand side appears.
Confirm that the external memory is inserted correctly.
If this message appears again, replace the external memory.

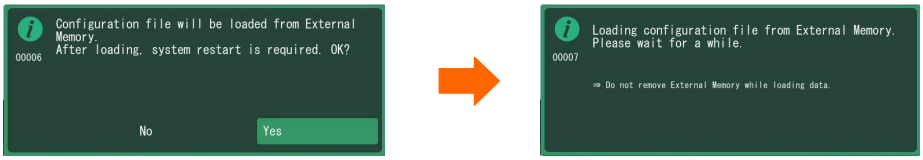


2.5.4.2 Restore all configuration data from external memory

Loads the configuration file “AdDatAll.dat” which has been saved by following the procedure described in “1.5.4.1 Store all configuration data in external memory”
Use this function to restore the settings if they are reset to factory defaults after replacing circuit boards, repairing parts, upgrading software, etc.

(1) Move the cursor to “Retore config data in Ext. Mem” using the [↑] and [↓] keys and then press the [Enter] key.

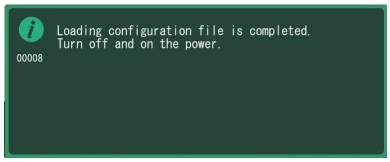
(2) The message "Configuration file will be loaded from External Memory." appears.
Move the cursor to "Yes" and press the [Enter] key.
"Loading configuration file from External Memory." appears, and saving the configuration starts.



Caution

It takes about 1 minute to restore config data.
Do not touch the processor until the message "Loading configuration file is completed" appears.
When power is turned off during restoration of config data, setting change fails and the device does not function normally.

(3) When the message "Loading configuration file is completed." appears, turn OFF/ON the power.



◆Note◆

- If loading fails, the following message appears.
  Confirm if the external memory card is correctly inserted and try again.
  If the same message appears again, the following states may exist,
  - ・another external memory which does not contain a configuration file is inserted
  - ・a configuration file in external memory has been transferred to another folder
  - ・external memory has been formatted to delete a folder which contains a configuration file
  - ・saving configuration file failed and therefore in the folder "ep6000" in the external memory, confirm that the "data" folder contains the configuration file "AdDatAll.dat".



2.5.4.3 Store common config data in external memory

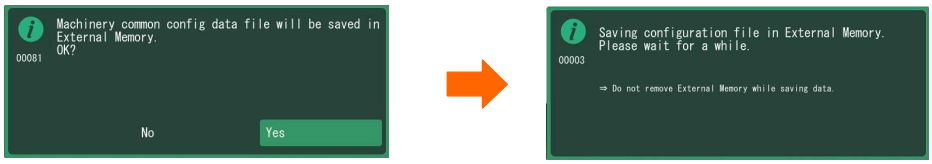
When saving the configuration file, a “ep6000” folder is created in the external memory and the configuration file “AdDatCom.dat” is saved in the “data” folder in the “ep6000” folder.

◆Note◆

・ Use an external memory for EP-6000.
If an external memory saved by another device other than EP-6000 is used, configuration data may not be normally saved.

(1) Move the cursor to “Store common config data in Ext. Mem” using the [↑] and [↓] keys and then press the [Enter] key.

(2) The message "Machinery common config data file will be saved in External Memory" is displayed.
By moving the cursor to "Yes" and pressing the [Enter] key, the message "Saving configuration file in External Memory" is displayed and saving the configuration starts.



◆Note◆

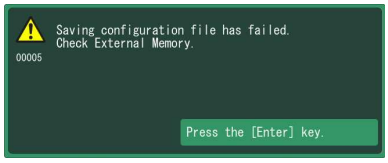
Do not touch the processor until the message "Saving configuration file is completed" appears.
If you turn off the power while saving config data, configuration file may not properly be saved.

(3) When the message "Saving configuration file is completed" appears, press the [Enter] key to close the menu.



◆Note◆

If saving the configuration file has failed, the message at the right-hand side appears.
Confirm that the external memory is inserted correctly.
If this message appears again, replace the external memory.

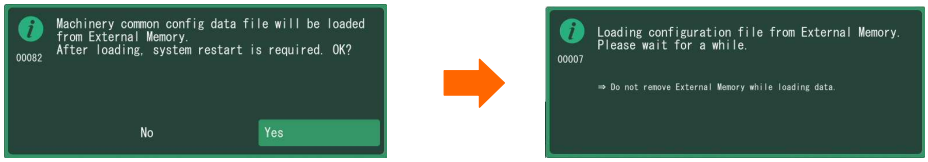


2.5.4.4 Restore common config data from external memory

Loads the configuration file “AdDatCom.dat” which has been saved by following the procedure described in “2.5.4.3 Store common config data in external memory”.
If your settings accidently return to the default values after PCB replacement, repairs, upgrade of software versions, or other trouble, you can retrieve your settings using this function.

(1) Move the cursor to “Retore common config data in Ext. Mem” using the [↑] and [↓] keys and then press the [Enter] key.

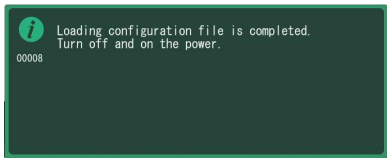
(2) The message "Configuration file will be loaded from External Memory." appears.
Move the cursor to "Yes" and press the [Enter] key.
"Loading configuration file from External Memory." appears, and saving the configuration starts.



Caution

It takes about 1 minute to restore config data.
Do not touch the processor until the message "Loading configuration file is completed" appears.
When power is turned off during restoration of config data, setting change fails and the device does not function normally.

(3) When the message "Loading configuration file is completed." appears, turn OFF/ON the power.



◆Note◆

- If loading fails, the following message appears.
  Confirm if the external memory card is correctly inserted and try again.
  If the same message appears again, the following states may exist,
  - ・another external memory which does not contain a configuration file is inserted
  - ・a configuration file in external memory has been transferred to another folder
  - ・external memory has been formatted to delete a folder which contains a configuration file
  - ・saving configuration file failed and therefore in the folder "ep6000" in the external memory, confirm that the "data" folder contains the configuration file "AdDatCom.dat".



2.5.5 Log Setup

2.5.5.1 Aoutomatic Log Save

This menu specifies whether or not the operation log of the system is saved automatically.
When the automatic log save function is turned on, the operation log is saved onto the flash memory in the system at the end of examination.

[Note] For details on how to export the log file saved in the memory, refer to “2.5.5.2 Export error log file”.

Move the cursor to the desired menu item using the [↑] and [↓] keys and then press the [Enter] key.
In the displayed pop-up menu, select the desired item using the [↑] and [↓] keys and then press the [Enter] key to finalize the setting.

Menu item	Setting	Default	Description	Remarks
Aoutomatic Log Save	ON	○	Log information is sabed automatically	
	OFF		Log information is not sabed automatically	

2.5.5.2 Export error log file

When connecting an external memory to EP-6000 and exporting error log files, the folder "ep6000" is created on the external memory and error log files are saved in the folder "log" under the folder "ep6000".
If an error occurs, export the log file immediately to find the causes of the error.
The error log file can be exported by using the menu or by using the keyboard.

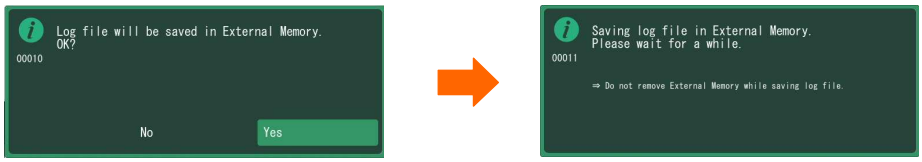
◆Note◆

- However, this error log file cannot be used for on-site maintenance because it is used by our engineer for analysis.
- Use an external memory for EP-6000.
  If an external memory saved with another device other than EP-6000 is used, log files may not be normally saved.

2.5.5.2.1 Export error log file using the menu

(1) Move the cursor to “Export error log file” using the [↑] and [↓] keys and then press the [Enter] key.

(2) The message "Log file will be exported in External Memory" is displayed.
By moving the cursor to "Yes" and pressing the [Enter] key, the message "Exporting log file in External Memory" is displayed and saving log files starts.



◆Note◆

- Do not touch the processor until the message "Exporting log file is completed" is displayed. If the power is turned off during saving log files, the log files cannot be normally saved.

(3) When the message "Exporting log file is completed" is displayed, press the Enter key to return to the backup screen.



◆Note◆

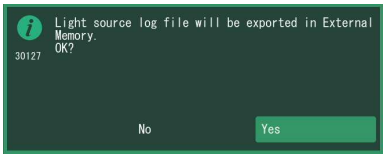
- If saving fails, the following message appears.
  Confirm if the external memory is correctly inserted and try again.
  If the same message appears again, replace the external memory.



2.5.6 Light Source & Scope Logging
2.5.6.1 Export Light source log file

(1) Move the cursor to “Export Light source log file” using the [↑] and [↓] keys and then press the [Enter] key.

(2) The message "Light source log file will be exported in External Memory" is displayed.
By moving the cursor to "Yes" and pressing the [Enter] key, the message "Exporting light source log file in External Memory" is displayed and saving log files starts.





◆Note◆

- Do not touch the processor until the message "Exporting light source log file is completed" is displayed.
  If the power is turned off during saving log files, the log files cannot be normally saved.

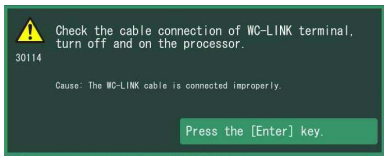
(3) When the message "Exporting light source log file is completed" is displayed, press the Enter key to return to the backup screen.



◆Note◆

- If saving fails, the following message appears.
  Confirm if the external memory is correctly inserted and try again.
  If the same message appears again, replace the external memory.





2.5.6.2 Export 700 Scope log file

◆Note◆

- Only 700 system scope can export scope logs, which exports logs in the examination state with EP-6000 connected.

(1) Move the cursor to “Export 700 Scope log file” using the [↑] and [↓] keys and then press the [Enter] key.

(2) The message “Scope log file will be exported in External Memory" is displayed.
By moving the cursor to "Yes" and pressing the [Enter] key, the message "Exporting scope log file in External Memory" is displayed and saving log files starts.



◆Note◆

- Do not touch the processor until the message “Exporting scope log file is completed" is displayed.
  If the power is turned off during saving log files, the log files cannot be normally saved.

(3) When the message "Exporting scope log file is completed" is displayed, press the Enter key to return to the backup screen.



◆Note◆

- If saving fails, the following message appears.
  Confirm if the external memory and scope are correctly inserted and try again.
  If the same message appears again, replace the external memory.



2.5.7 Export error log file using the keyboard

(1) Connect with the external memory and press the [Alt] + [Shift] + [PageUp] keys.

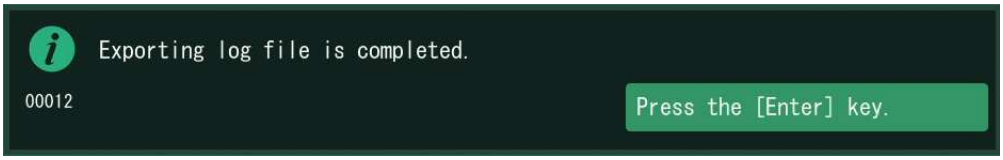
(2) The message “Exporting log file in External Memory” is displayed and error log files start exporting in the external memory.



◆Note◆

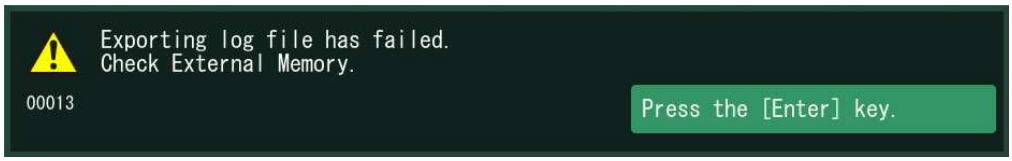
・ Do not touch the processor until the message “Exporting log file is completed" is displayed. If the power is turned off during saving log files, the log files cannot be normally saved.

(3) When the log file export is completed, the message "Exporting log file is completed" is displayed.



◆Note◆

・ If saving fails, the following message appears.
Confirm if the external memory is correctly inserted and try again.
If the same message appears again, replace the external memory.



(4) Press the Enter key, then the message "Exporting Scope log file in External Memory" is displayed and scope log files start exporting in the external memory.



◆Note◆

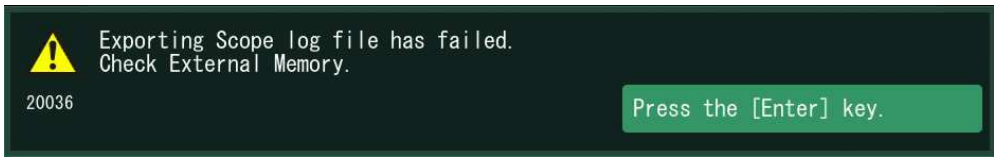
- Do not touch the processor until the message “Exporting Scope log file is completed" is displayed.
  If the power is turned off during saving scopelog files, the scope log files cannot be normally saved.

(5) When the log file export is completed, the message "Exporting Scope log file is completed" is displayed.



◆Note◆

- If saving fails, the following message appears.
  Confirm if the external memory and scope are correctly inserted and try again.
  If the same message appears again, replace the external memory.





(6) Press the Enter key, then the message "Exporting light source log file in External Memory" is displayed and light scope log files start exporting in the external memory.



◆Note◆

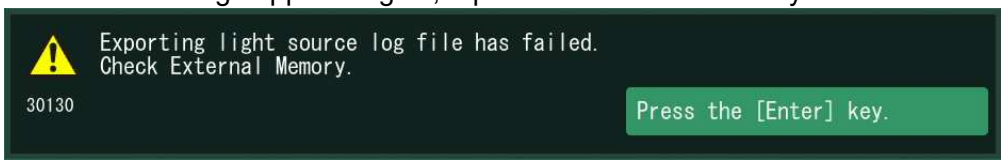
- Do not touch the processor until the message “Exporting light source log file is completed" is displayed.
  If the power is turned off during saving scope log files, the light source scope log files cannot be normally saved.

(7) When the scope log file export is completed, the message "Exporting light source log file is completed" is displayed.



◆Note◆

- If saving fails, the following message appears.
  Confirm if the external memory and light source are correctly inserted and try again.
  If the same message appears again, replace the external memory.





3.Peripheral Setup

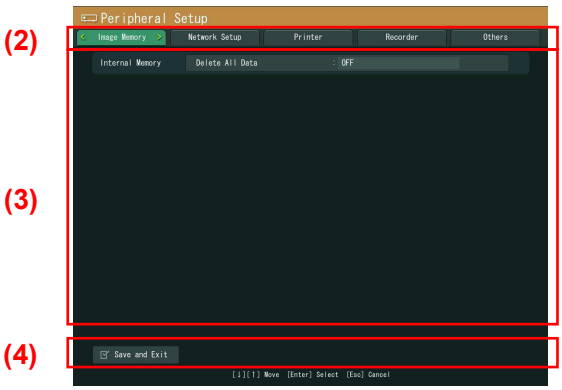
<How to select a menu in the Peripheral Setup screen>

(1) Press the System key while pressing the Alt and Shift keys.
The system configuration screen appears.

(2) Select the tab for the desired item using the [←] and [→] keys.

(3) Select the desired menu using the [↑] and [↓] keys and then press the [Enter] key.
When a pop-up menu appears, select the desired item using the [↑] and [↓] keys and then press the [Enter] key.
When a slider appears, select the desired value using the [←] and [→] keys and then press the [Enter] key.
For other items, perform the settings according to the screen display.
To cancel the current setting, press the [Esc] key.

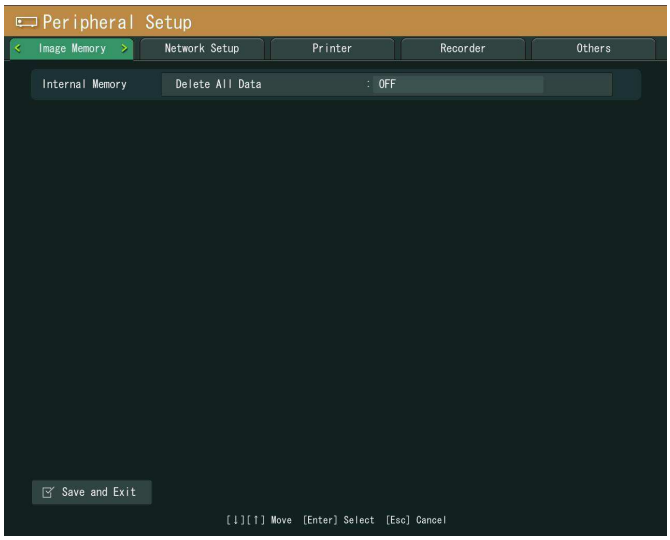
(4) Select “Save and Exit” and then press the [Enter] key.
The current setting is finalized and operation returns to the observation screen.
When the [Esc] key is pressed, the current setting is canceled and operation returns to the observation screen.



[Note]
Default value listed in the service manual is the factory default setting.
Please release documentation and technical information news, etc, may be changed due to version

3.1 Image Memory

Make the peripheral setup of the "Image Memory".



As shown in the above figure, the menu items are classified into groups.
For details on the menu items in each group, refer to the following subsections.

3.1.1 “Internal Memory”

3.1.1 Internal Memory

Specifies whether or not to delete the data which is not copied or not transferred in the internal memory of the main PCB.

Menu item	Setting	Default	Description	Remarks
Delete All Data	ON		Delete the data which is not copied or not transferred	
	OFF	O	Not delete the data which is not copied or not transferred	

3.2 Network Setup

Make the peripheral setup of the "Network Setup".

◆Note◆

- “Network function” of the EP-6000 means the function for transferring image data (files) to a computer (server) using a standard file transfer method called FTP.



As shown in the above figure, the menu items are classified into groups.
For details on the menu items in each group, refer to the following subsections.

3.2.1 “Network Setup”
3.2.2 “FTP Setup”
3.2.3 “NTP Setup”

3.2.1 Network Setup

Move the cursor to the desired item using the [↑] and [↓] keys and then press the [Enter] key.
In the displayed pop-up menu, select the desired setting using the [↑] and [↓] keys and then press the [Enter] key to finalize the setting.
When manual data entry is required for an item, move the cursor to the item, press the [Enter] key and then enter the desired value.
To cancel the entry, press the [Esc] key.

Menu item	Setting	Default	Description	Remarks
DHCP	ON		When the DHCP se!Ver is used, "IP Address", "Net Mask" a:nd "Gateway" are obtained automatically. Manually specified "IP Address", "Net Mask" and "Gateway" are disable.	
	OFF	○	When the DHCP server is not used, set " IP Address" and "Net Mask" manually.	
IP Address	192.168.1.1		Specify the IP address of the processor.	
Net Mask	255.255.255.0		This setting varies depending on the scale of the network. For a general small-scale network (less than 255 terminals), specify the net mask of "255.255.255.0".	
Gateway	192.168.1.254		Specify the gateway address when connecting to the server in another network via the gateway filter.	
MAC Address			MAC address is a hardware-specific physical address used for identifying each node in the network	

3.2.2 FTP Setup

Move the cursor to the desired menu item using the [↑] and [↓] keys and then press the [Enter] key.
In the displayed pop-up menu, select the desired item using the [↑] and [↓] keys and then press the [Enter] key to finalize the setting.
Alternatively, directly enter the setting value.
Move the cursor to the item to be entered and press the [Enter] key to enable direct entry.
To cancel the current settings press the [Esc] key.

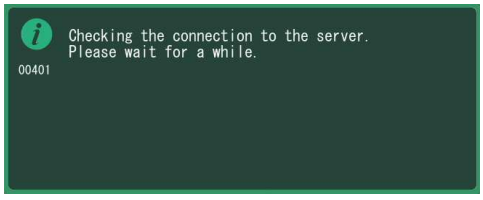
Menu item	Setting	Default	Description	Remarks
FTP IP	0.0.0.0		Specify the IP address of the FTP server.	
Ping			Confirm that IP communication to the access point setup is possible.	3.2.2.1 ”Ping（FTP）”
FTP Port	21		Specify the port to be used	
Login name			Specify the login name to the FTP setVer. The login name needs to be registered on the FTP server in advance and must be authorized to save files onto the FTP setVer. In the case of an anonymous FTP setVer, specify the login name as "ANONYMOUS."	
Password	****		Specify the password for the login name. The password needs to be registered on the FTP setVer in advance.	

Menu item	Setting	Default	Description	Remarks
Wait Tin1e for In1age Capture	0 to 120 sec	0	At the end of examination, if the in1age files to be transferred to the filing system are left in the processor, the examination infom1ation file may be transferred before those in1age files. if this happens, some filing systems judge that all files have been transferred and do not recognize the subsequent in1age-file transfers. To avoid this, specify the wait time for transferring all image files before transferring the examination information file. However, when the wait time is set, the t ime required f or ending t he examination is a lso extended. Accordingly, specify an appropriate wait time depending on the fi ling system and network environment. [Note] If Nexus LS-Lite is used as the filing system, it is recommended that "5 seconds" be specified. (However, specify the appropriate wait time depending on the data transfer capability of the network.)	
Backup to Internal Memory	Yes		Display only When “Used” is selected for Network Setup of Storage, images are saved onto the FTP server and also backup to internal memory occurs.	
	No	○		

3.2.2.1 Ping（FTP）

Move the cursor to the “Ping” and press the Enter key to confirm that IP communication to the access point setup in the “FTP IP” in the “FTP Setup” is possible.

When communication is confirmed, a message saying “Connection with the server is being confirmed. Please wait a moment.” is displayed.



When confirmation is completed, the result is displayed as a message.

[Note]
When confirmation of the communication has failed, confirm that the network is correctly set up and connected, and try again.

3.2.3 NTP setup

Use NTP (Network Time Protocol) to synchronize the clocks of processor and server at startup.
Move the cursor to the desired item using the [↑] and [↓] keys, and press the [Enter] key.

In the displayed pop-up menu, select the desired setting using the [↑] and [↓] keys and then press the [Enter] key to finalize the setting.
When manual data entry is required for an item, move the cursor to the item, press the [Enter] key and then enter the desired value.
To cancel the entry, press the [ESC] key.

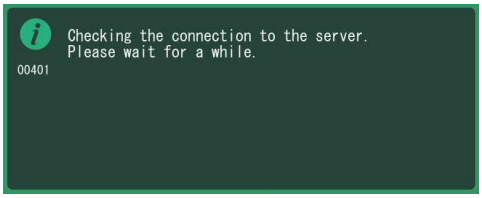
Menu item	Setting	Default	Description	Remarks
NTP s erver IP	0.0.0.0		Specify the IP address of the NTP server.	
Ping(NTP)	Confirm that IP communication to the access point setup is possible.			3.2.3.1 “Ping (NTP)”
NTP check	Confirm that the times can be synchronized.			3.2.3.2 “NTP check”

3.2.3.1 Ping（NTP）

Move the cursor to the “Ping” and press the [Enter] key to confirm that IP communication to the access point setup in the “NTP Server IP” in the “NTP Setup” is possible.

When communication is confirmed, a message saying “Connection with the server is being confirmed. Please wait a moment.” is displayed.

When confirmation is completed, the result is displayed as a message.

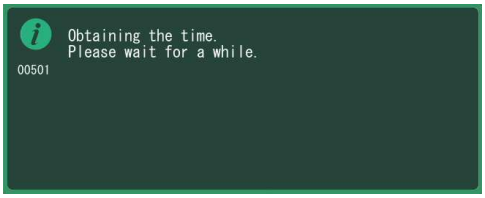


3.2.3.2 NTP check

Move the cursor to the “NTP check” and press the [Enter] key to confirm that the time can be synchronized.

The message “Wait until the time has been obtained” is displayed during confirmation.

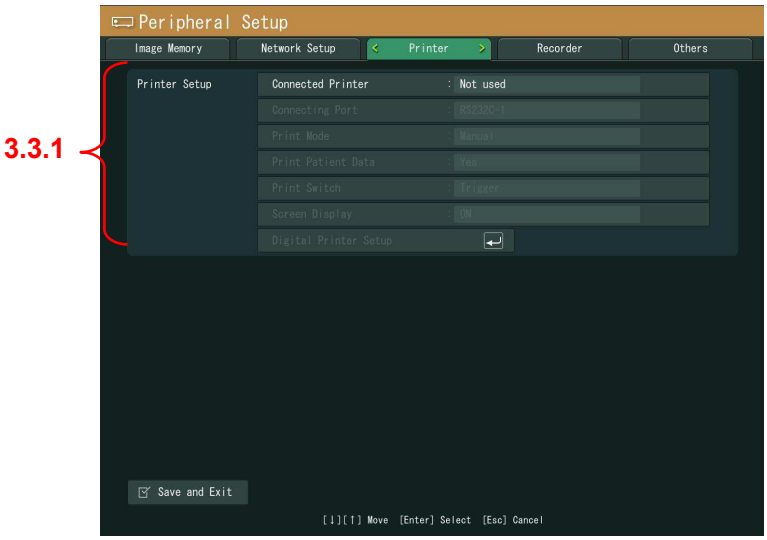
When confirmation is completed, the result is displayed as a message.



[Note]
When confirmation of the communication has failed, confirm that the network is correctly set up and connected, and try again.

3.3 Printer

Make the peripheral setup of the "Printer".



As shown in the above figure, the menu items are classified into groups.
For details on the menu items in each group, refer to the following subsections.

3.3.1 “Printer Setup”

3.3.1 Printer Setup

3.3.1.1 Printer Connection

For details on how to connect the printer, refer to the EP-6000 Operation Manual.

To print the image with the color printer (remote system)
→EP-6000 Operation Manual, “8.2 Printing the Image with the Color Printer (Remote System)”

To print the image with the color printer (RS-232C system)
→EP-6000 Operation Manual, “8.3 Printing the Image with the Color Printer (RS232C System)”

To print the image with the digital printer
→EP-6000 Operation Manual, “8.4 Printing the Image with the Digital Printer”

[Note] When the image output from EP-6000 is displayed on the monitor via the printer, the image may flicker or disappear.
Connect the monitor used as the main observation screen directly to EP-6000.

[Note] When a peripheral device connected with the RS-232C interface is controlled from the processor EP-6000, match the communication speed of the peripheral device with the baud rate of the processor.
If the baud rate does not match, the peripheral device does not function normally.
For details on how to set the baud rate, refer to the instruction manual for each peripheral device.

3.3.1.2 Printer Setup

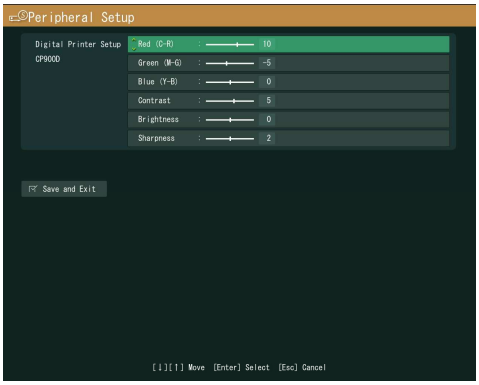
In the displayed pop-up menu, select the desired setting using the [↑] and [↓] keys and then press the [Enter] key to finalize the setting.
When manual data entry is required for an item, move the cursor to the item, press the [Enter] key and then enter the desired value.

Menu item	Setting	Default	Description	Remarks
Connected Printer	Not used	○	This setting is required when the color printer (RS-232C system) or digital printer is used. The model names of available printers are displayed. Select the printer used as the default printer from the pop-up menu. When "'Not used'" is selected, subsequent settings are disabled and the model names are not displayed in the user's menu.	
	UP-55MD CP900D UP-D25MD			
Connecting Port	RS232C-1	○	Select the port to which the printer is connected. [Note] When a pripheral device connected with the RS-232C interface is controlled from the processor EP-6000, match the communicaiton speed of the peripheral device with the baud rate of the processor. If the baud rate does not match, the peripheral device does not function normally. For details on how to set the baud rare. refer to the instruction manual for each peripheral device.	
	RS232C-2			
Print Mode	Auto		According to the setting of “Multi Print" in the Printer Setup screen displayed from the Peripheral Setup screen, when the specified number of images is captured, printing is performed automatically. The number of prints is specified by the user.	
	Manual	○	Printing is performed by selecting the desired images in the thumbnail display screen. [Note] In the case of the color printer (RS·232C system). Image data is overwritten each time an image is captured. Accordingly. to print the desired image, press the Start key on the keyboard immediatdy afrtr capturing the image.	

Menu item	Setting	Default	Description	Remarks
Print Patient Data	Yes	○	Prints p.Itient cLIt:I at tile margin of tIte print paper. [Note] When the color printer (RS-232C system) is used. The patient name, date and time can be printed at the margin of the print paper. When the digital printer is used, the patient name, patient ID, date and time can be printed at the margin of the print paper.	
	No		Patient data is printed at the margin of the print paper.	
Print Switch	Record		Printing starts when pressing the switch to which the "Record" function is assigned. →EP-6000 Operation Manual “4.2.7 Endoscope Tab <Functions to be assigned to the scope switch>” →EP-6000 Operation Manual “4.2.8 Setting Foot Switch (FS1)”	
	Trigger	○	Printing starts when pressing the switch to which the “ Trigger” function is assigned →EP-6000 Operation Manual “4.2.7 Endoscope Tab <Functions to be assigned to the scope switch>” →EP-6000 Operation Manual “4.2.8 Setting Foot Switch (FS1)”	
Screen Display	ON	○	The status of the printer is displayed in the observation screen.	
	OFF		The status of the printer is not displayed in the observation screen.	
Digital Printer Setup	Adjusts the image output from digital printer.			3.3.1.3 “Digital Printer Setup”

3.3.1.3 Digital Printer Setup

Adjusts the image output from Digital Printer.
Move the cursor to “Digital Printer Setup” and then press the Enter key.
The screen for “Digital Printer Setup” for the connected digital printer appears.



CP900D



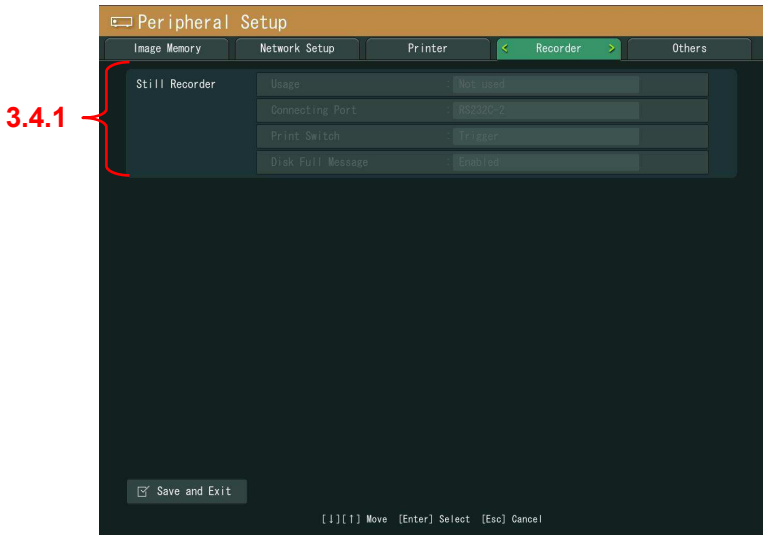
UP-D25MD

Press the Enter key.
In the displayed slider, select the value by pressing the [←] and [→] keys and then press the [Enter] key to finalize the setting.

Menu item	Setting	Default	Description	Remarks
Red (C-R)	CP900D -32～+32	10	When the value is increased, each color (Red: R / Green: G / Blue: B) becomes more intense. When the value is decreased, each complementary color (Red: R / Green: G / Blue: B) becomes more intense.	
	UP-D25MD -32～+32	25		
Green (M-G)	CP900D -32～+32	-5		
	UP-D25MD -32～+32	0		
Blue（Y-B）	CP900D -32～+32	0		
	UP-D25MD -32～+32	10		
Contrast	CP900D -30～+30	5	Adjusts the contrast of output images. When the value is increased, the contrast becomes higher. When the value is decreased, the contrast becomes lower and it may cause dull images.	Green (M-G) Blue（Y-B）
	UP-D25MD -16～+16	5		
Brightness	CP900D -60～+60	0	Adjusts the brightness of output images. When the value is increased, the image becomes brighter. When the values decreased, the image becomes darker.	Contrast Brightness
	UP-D25MD -16～+16	10		
Sharpness	CP900D 1～3	2	Adjust the sharpness of output images. Select the sharpness form among 1, 2 or 3. When the value is increased, the sharpness level becomes higher.	
	UP-D25MD 0～+14	3		
Save and Exit	When this item is selected and then the Enter key is pressed, the current settings are finalized and operation returns to the Device Setup screen. [Note] When the Esc key is pressed without selecting " Save and Exit", the current setting is canceled and operation returns to the Device Setup screen.			

3.4 Recorder

Make the peripheral setup of the "Recorder".



As shown in the above figure, the menu items are classified into groups.
For details on the menu items in each group, refer to the following subsections.

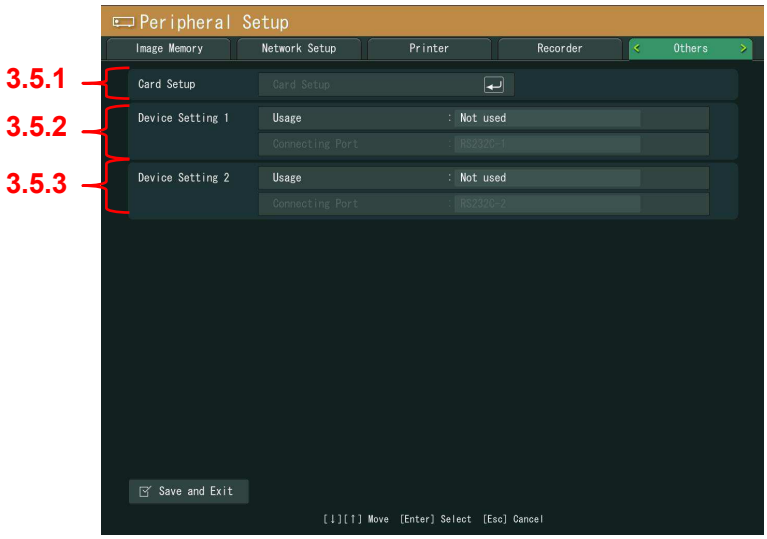
3.4.1 “Still Recorder”

3.4.1 Still Recorder

[NOTE] When the destination setting is other than Japan, this function is not supported.

3.5 Others

Make the peripheral setup of the connected devices.



As shown in the above figure, the menu items are classified into groups.
For details on the menu items in each group, refer to the following subsections.

3.5.1 “Card Information Setup”
3.5.2 “Device Setting 1”
3.5.3 “Device Setting 2”

3.5.1 Card Information Setup

The setting of reading the information on magnetic cards on EP-6000 is made.
[NOTE] When the destination setting is other than Japan, this function is not supported.

3.5.2 Device Setting 1

In the displayed pop-up menu, select the desired setting using the [↑] and [↓] keys and then press the [Enter] key to finalize the setting.

Item	Setting	Default	Description	Remarks
Used	Not used	○	Select whether device being connected is used or not. When "Not used" is selected, the following settings become unavailable.	
	DG-3000			
	DG-3000 (ID 16chars)			
	SU-1			
	SP-900			
Connecting port	RS232C-1	○	Set the connecting port of peripheral device.	
	RS232C-2			

[NOTE] When a peripheral device connected with the RS-232C interface is controlled from the processor EP-6000, match the communication speed of the peripheral device with the baud rate of the processor.
If the baud rate does not match, the peripheral device does not function normally.
For details on how to set the baud rate, refer to the instruction manual for each peripheral device.

3.5.3 Device Setting 2

In the displayed pop-up menu, select the desired setting using the [↑] and [↓] keys and then press the [Enter] key to finalize the setting.

Item	Setting	Default	Description	Remarks
Used	Not used	○	Select whether device being connected is used or not. When "Not used" is selected, the following settings become unavailable.	
	Bi-Direction			
	SU-1			
	SP-900			
Connecting port	RS232C-1		Set the connecting port of peripheral device.	
	RS232C-2	○		

[NOTE] When a peripheral device connected with the RS-232C interface is controlled from the processor EP-6000, match the communication speed of the peripheral device with the baud rate of the processor.
If the baud rate does not match, the peripheral device does not function normally.
For details on how to set the baud rate, refer to the instruction manual for each peripheral device.

◄ Reference ►

- When [SU freeze/store] functions are assigned to the scope SW and the scope SW is pressed while the ultrasonic device is turned off or not yet connected, a message is displayed as a communication error.
- DG and Bi-Direction are exclusively selected as a peripheral device.

4.Image Setup

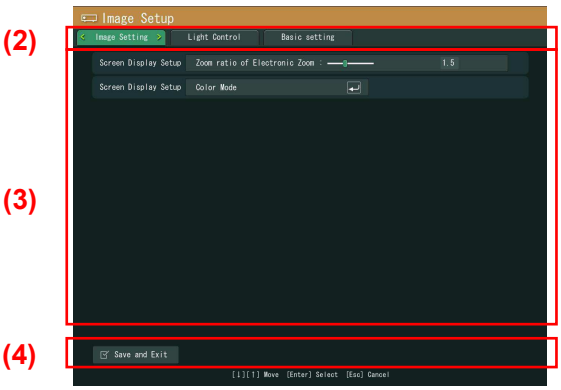
<How to select a menu in the Image screen>

(1) Press the System key while pressing the Alt and Shift keys.
The system configuration screen appears.

(2) Select the tab for the desired item using the [←] and [→] keys.

(3) Select the desired menu using the [↑] and [↓] keys and then press the [Enter] key.
When a pop-up menu appears, select the desired item using the [↑] and [↓] keys and then press the [Enter] key.
When a slider appears, select the desired value using the [←] and [→] keys and then press the [Enter] key.
For other items, perform the settings according to the screen display.
To cancel the current setting, press the [Esc] key.

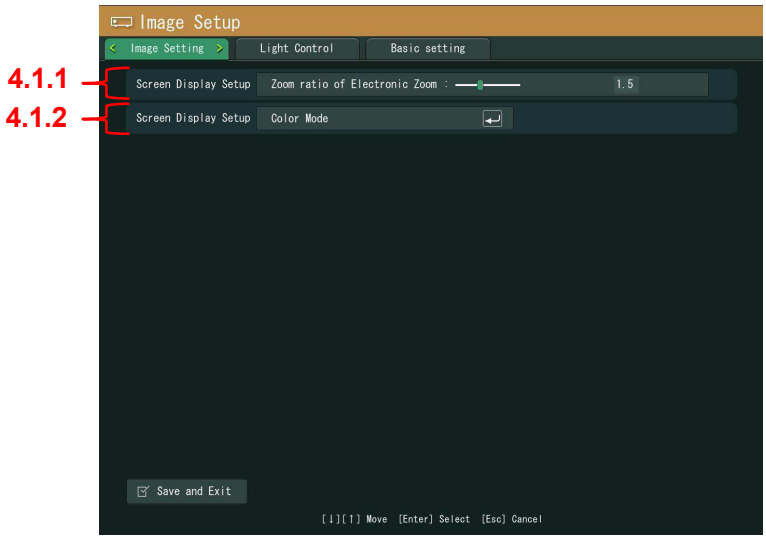
(4) Select “Save and Exit” and then press the [Enter] key.
The current setting is finalized and operation returns to the observation screen.
When the [Esc] key is pressed, the current setting is canceled and operation returns to the observation screen.



[Note]
Default value listed in the service manual is the factory default setting.
Please release documentation and technical information news, etc, may be changed due to version

4.1 Image Setting

Make the peripheral setup of the "Image Setup".



As shown in the above figure, the menu items are classified into groups.
For details on the menu items in each group, refer to the following subsections.

4.1.1 “Screen Display Setup”
4.1.2 “Screen Display Setup”

4.1.1 Screen Display Setup

4.1.1.1 Zoom Ratio of Electronic Zoom

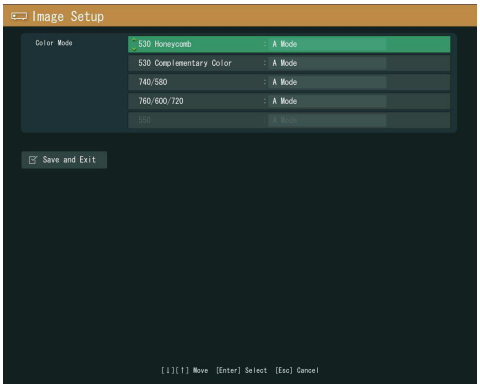
Selects the zoom ratio for the electronic zoom function. The zoom ratio can be selected from among x1.2 to x2.0 in 0.1 increments.
When the scope switch to which the “Electronic Zoom” function is assigned is pressed, the setting of this item is applied.

Menu item	Setting	Default	Description	Remarks
Zoom Ratio of Electronic Zoom	1.2～2.0	1.5	Move the cursor to this item and then press the [Enter] key. In the displayed slider, select the value by pressing the [←] and [→] keys and then press the [Enter] key to finalize the setting	

4.1.2 Screen Display Setup

4.1.2.1 Color Mode

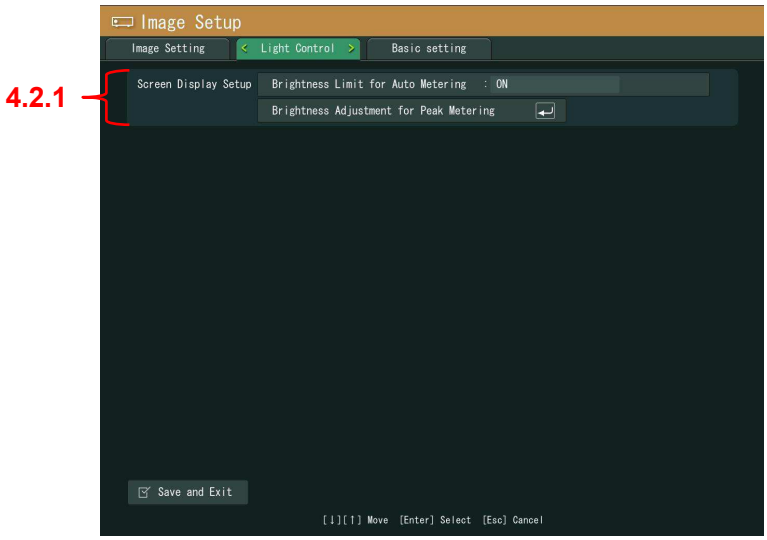
Switches the color reproduction mode for each endoscope.
A mode is our existing color reproduction mode.
B mode is the color reproduction mode like the one used in Company O products.



Menu item	Setting	Default	Description	Remarks
530 Honycomb	A mode	○	Our existing color reproduction mode	
	B mode		Coro reproduction mode like the one used in Company O products	
530 Complementary Color[Note]	A mode	○	Our existing color reproduction mode	(530 SONY 1/6)
	B mode		Coro reproduction mode like the one used in Company O products	
740/580	A mode	○	Our existing color reproduction mode	
	B mode		Coro reproduction mode like the one used in Company O products	
760/600/720	A mode	○	Our existing color reproduction mode	
	B mode		Coro reproduction mode like the one used in Company O products	

4.2 Light Control

Make the peripheral setup of the "Light Control".



As shown in the above figure, the menu items are classified into groups.
For details on the menu items in each group, refer to the following subsections.

4.2.1 “Screen Display Setup”

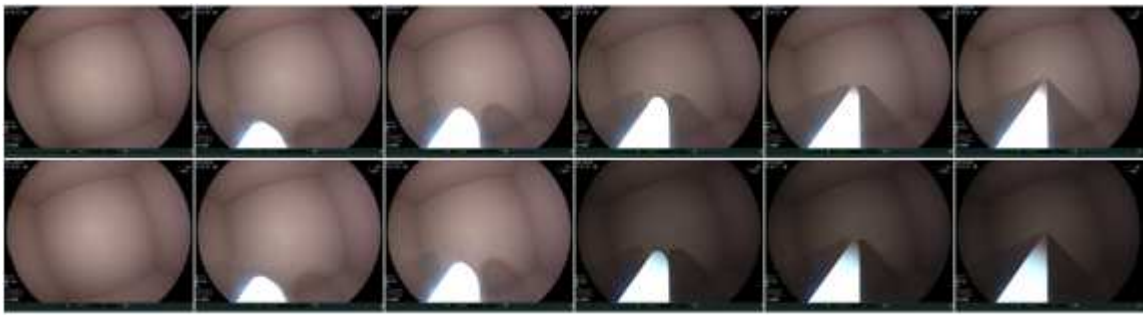
4.2.1 Screen Display Setup

4.2.1.1 Brightness Limit for Auto Metering Mode

When a treatment tool is caught near around the center of the screen, the control for the light amount focuses on the treatment tool and the back of image may be dark.
Brightness adjustment for auto metering reduces the influence of treatment tools to mitigate the darkness on the back of images.

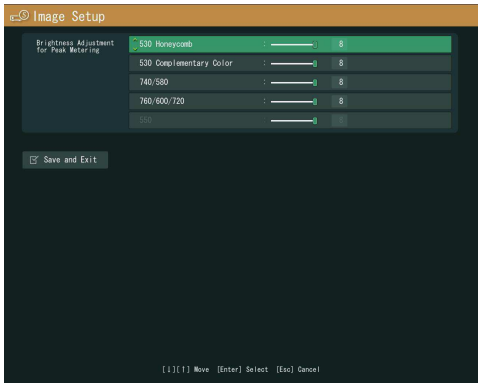
Brightness adjustment ON

Brightness adjustment OFF



Menu item	Setting	Default	Description	Remarks
Brightness Limit for Auto Meter	ON	O	The brightness for auto metering is adjusted.	
	OFF		The brightness for auto metering is not adjusted.	

4.2.1.2 Brightness Adjustment for Peak Metering

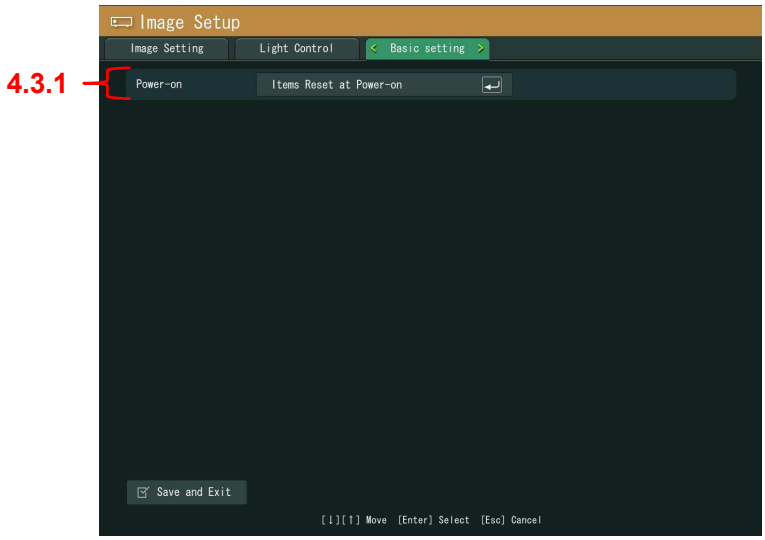


Adjusts the brightness for the Peak metering mode.
Move the cursor to the desired item and press the Enter key.
In the displayed slider, select the value by pressing the [←] and [→] keys and then press the [Enter] key to finalize the setting.
The brightness can be selected from among the nine steps (“-8” to “0”). “0” is the brightest setting.

Menu item	Setting	Default	Description	Remarks
530 Honeycomb	0～8	8		
530 Complementary Color	0～8	8		
740/580	0～8	8		
760/600/720	0～8	8		

4.3 Basic setting

Make the peripheral setup of the "Basic setting".



As shown in the above figure, the menu items are classified into groups.
For details on the menu items in each group, refer to the following subsections.

4.3.1 “Power-on”

4.3.1 Items Reset at Power-on

This item determines whether the settings changed by the user are retained by the backup battery or those are reset to the factory defaults when the power is turned off and then on.

Menu item	Description	Remarks
Items Reset at Power-on	When the cursor is moved to this item and then the Enter key is pressed, the screen for setting “Items Reset at Power-on” appears.	4.3.3.1 “Screen for Setting Items Reset at Power-on”

4.3.1.1 Screen for Setting Items Reset at Power-on

When the cursor is moved to “Items Reset at Power-on” and then the Enter key is pressed, the screen for setting “Items Reset at Power-on” appears.



In the displayed pop-up menu, select the desired setting using the [↑] and [↓] keys and then press the [Enter] key to finalize the setting.
To retain the changed settings even when the power is turned off and then on, select “Retained”.
To reset the changed settings at the time of turning off the power, select “Not retained”.

Menu item	Setting	Default	Description	Remarks
Data Display	Retained		Even when the power is turned off and then on, the settings for data display are retained.	
	Not retained	○	When the power is turned off and then on, the settings for data display are reset to the factory defaults.	
Structure Emphasis	Retained		Even when the power is turned off and then on, the settings for structure emphasis are retained.	
	Not retained	○	When the power is turned off and then on, the settings for structure emphasis are reset to the factory defaults.	
Color Emphasis	Retained		Even when the power is turned off and then on, the settings for color emphasis are retained.	
	Not retained	○	When the power is turned off and then on, the settings for color emphasis are reset to the factory defaults.	

Menu item	Setting	Default	Description	Remarks
Electronic Enlargement	Retained		Even when the power is turned off and then on, the settings for electronic zoom are retained.	
	Not retained	○	When the power is turned off and then on, the settings for electronic zoom are reset to the factory defaults.	
Timer Display	Retained		Even when the power is turned off and then on, the settings for timer display are retained.	
	Not retained	○	When the power is turned off and then on, the settings for timer display are reset to the factory defaults.	
Metering Mode	Retained		Even when the power is turned off and then on, the settings for metering mode are retained.	
	Not retained	○	When the power is turned off and then on, the settings for metering mode are reset to the factory defaults.	

5.System Information

Press the [Note] key while pressing the [Alt] and [Shift] key.
The System Information screen appears.



Item		Example of display	Description
Processor information	Model name	EP-6000	Information on processor
	Serial number	0V693K000	
	System	Ver.1.001	
	Software	V1.1	
	DICOM	Ver2.470	
Version Information	U-Boot	V0.12	
	Main DSP	0x000000002	
	LOB FPGA	208-0x8524	
	STAR FPGA	208-0x8126	
	OS	012	
	Driver	01.00.00	
	Image processing parameter	004.100	
	Front CPU	1.003	
	Rear CPU	1.006	
	AFE FPGA	Ver2.0E	
	Scope default	42J-111205-59	
PCB Version Information	MAIN PCB	0xFFFE	
	PATIENT PCB	0x01	
Scope	Scope CPU	-	Information on Scope
	FPGA	-	
Information on light source equipment	Unit No.	W000018	Information on light source
	Software	V1.0	
	FPGA	0x613E	
	LFCPU	Ver1.005	
	WOC FPGA	Ver8.1B	

6.Setting of the Network

6.1 Outline

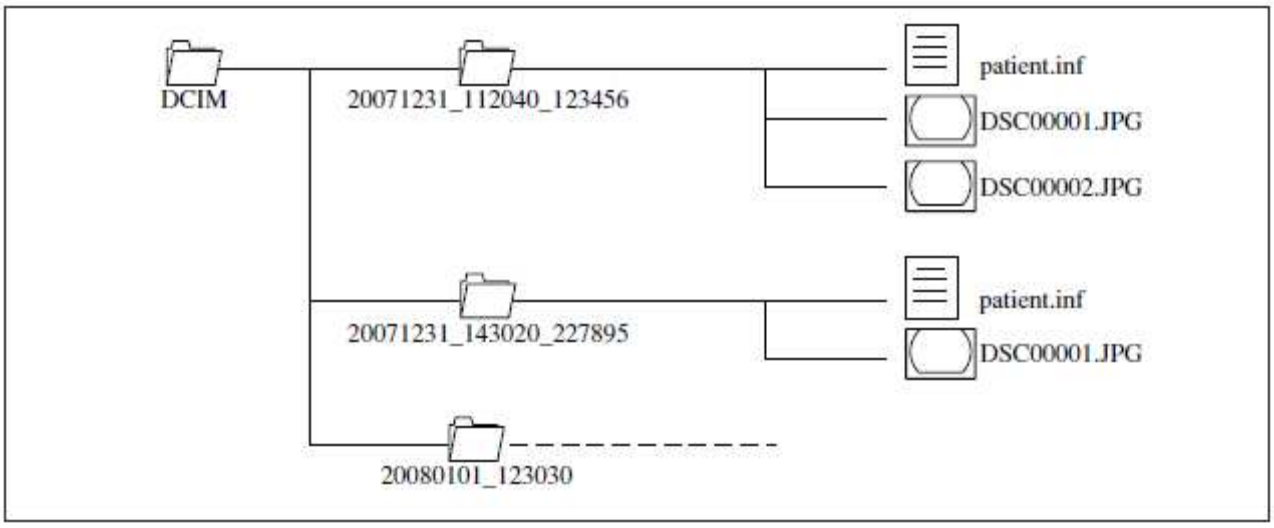
"Network function" of the EP-6000 means the function for transferring image data (files) to a computer (server) using a standard file transfer method called FTP.
This function is called "FTP server" hereafter.

◆Note◆

EP-6000 supports 10BASE-T/100BASE-T.
Gigabit Ethernet such as 1000BASE-T is not supported.
If your network environment is Gigabit Ethernet, make a connection with a switching HUB etc. supporting 10BASE-T/100BASE-T
• Only still images can be transferred and saved. Video images are not supported.
• Connecting to the existing network may affect the operation of other devices in the network. Accordingly, consult your network administrator before connecting to the network.]

Each time the trigger (shutter) function is activated, an image file is transferred to the FTP server.
When an image is captured, a DCIM folder is created in the FTP server and a folder named "Date_Time_Patient ID (or Examination Number)" is also created in the DCIM folder.
The patient information file "patient.inf" and image data are saved in the folder.
(Example: When the patient ID is "123456" and shooting starts at 11:20:40 a.m. on December 31st 2007, data is saved in the "¥DCIM¥20071231_112040_123456¥" folder.)

[Note] If patient information is not called up at the time of capturing the image, or if the patient ID is not registered in patient information, a folder named "Date_Time" is created.



A) The image file format is Exif-JPEG or TIFF.
Accordingly, saved images can be displayed by using image viewer software.
B) Dedicated software for viewing the transferred image is not prepared at this time.
C) The EP-6000 does not have the function for viewing the images transferred to the FTP server.
D) The rough estimation of the number of images to be recorded in the internal memory of EP-6000 and the number of inspections is as follows.

		Maximum number of recordable images (for all examinations)	Maximum number of recordable images (for each examination)	Standard number of recordable examinations (100 images / examination)	Minimum number or recordable examinations (Maximum / examination)
Compression rate	JPEG (1/20)	21,690	800	216	27
	JPEG (1/10)	16,270	750	165	21
	JPEG (1/5)	5,910	500	59	11
	TIFF	840	130	8	6

* The number of images which can be recorded varies according to the photo subject.
* When a Full HD supporting monitor is connected and the screen is displayed in Full HD, images are recorded in SXGA mode screen image.

◆Note◆

- If there are non-transferred images, one of the reasons is considered as network abnormality or image server abnormality.
  It falis again if the images are still transferred with the abnormality.
  Check that the network is connected correctly, the hub or router is working normally if it is connected and check the image server is started normally in advance.
  Be sure the network and server are normal and then transfer the image again. Check that image is recorded correctly on the server.
- If the images are not necessary though some images are not copied or the images that are not transferred in backup, search and delete the images, or delete all the images by initializing the built-in memory.
  Must confirm there is no necessary image before deleting them.

6.2 Description

The EP-6000 has a network terminal (RJ45 terminal).
By connecting a twisted pair cable to the network terminal, the EP-6000 is connected to the FTP server via the network.

6.2.1 Communication System

Protocol: TCP/IP
Application: File Transfer Protocol (FTP)
TheEP-6000 processor becomes an FTP client and sends data to the computer running an FTP server service.

6.2.2 Connection

Connect to a network switch (switching HUB) or PC.
Depending on the connection condition, use the network switch (switching HUB) or PC compliant with the safety standards listed below.

			Safety standard	Cable type	Remarks
○	Outside the patient environment	Network switch	IEC60950 UL60950	Straight	
×		PC	IEC60950 UL60950	Cross	
×	Inside the patient environment	Network switch	EN60601-1 UL2601-1	Straight	No applicable product
△		PC	EN60601-1 UL2601-1	Cross	Hard to get it

Configuration indicated with “○” is recommended.

[Note] Use a peer-to-peer connection.
[Note] Before connecting to the network, be sure to obtain authorization from the network administrator.
[Note] After setting the network, turn off and then on the processor.
[Note] Do not communicate beyond the router.

Before using the network, installation of the FTP server application, settings on the server PC (setting the network, creating a folder for image data, etc.) and settings on the EP-6000 are required.

6.3 Network Settings on the EP-6000

This section explains how to set the network on the EP-6000.

(1) Press the [System] key while pressing the [Alt] and [Shift] keys.
The system configuration screen appears.

(2) Select the “Network Setup” tab using the [←] and [→] keys

(3) Select the “Network Setup” menu using the [↑] and [↓] keys to display the Network Setup screen.

For details on each menu item, refer to Chapter 3.
→“3.2 Network Setup”

(4) When the setting is completed, move the cursor to “Save and Exit” and then press the Enter key.



6.4 Settings on the FTP Server

6.4.1 Settings on the FTP Server

In the network, the FTP server needs to be set in advance. The following settings are required for the FTP server.

- Server IP address
- User name and password for using the EP-6000
- Folder to which data is transferred and authorization regarding data writing

[Note] The FTP server service needs to be activated in advance.

6.4.2 Setting the TCP/IP

Performs the setting of TCP/IP on the FTP server.
Open the setting menu of network in control panel, display the property of Internet protocol (TCP/IP) of local area connection, enter the IP address and subnet mask of server, and then press the "OK" button.
For connection with EP-6000 via another network, set default gateway.

1	IP address (Example)	192.168.001.002
2	Subnet mask	255.255.255.0
3	Default gateway	xxx.xxx.xxx.x

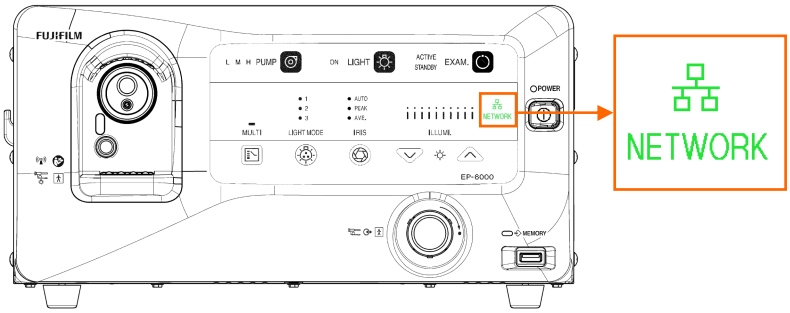
*** When an IP address is changed, be sure to restart PC.**
*** For use with network connection, start PC and then EP-6000.**
While the FTP software is in operation, turn the power of EP-6000 ON.

6.5 Confirmation of Network Connection

6.5.1 Confirmation of Cable Connection (Confirmation of LED)

Confirm that the network access lamp lights green on the EP-6000.
When the network access lamp lights green, network connection is normal.

[Note] Before performing confirmation, select “Used” for “Network” in the Peripheral Setup screen.



6.5.2 Confirmation of Ping

For details of confirmation of Ping, refer to Chapter 3.
→ “3.2.2 FTP Setup”

7. Software Version Upgrade

7.1 Preparation

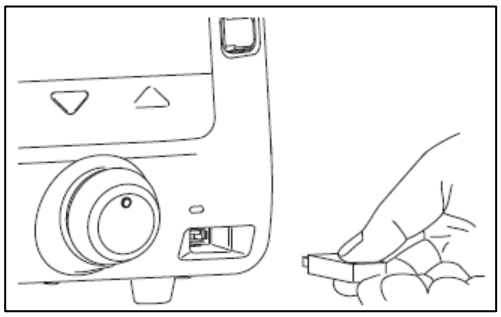
Connect the imaging output of processor (DVI output) to the monitor.
Connect keyboard to the processor.
Connect the power cords of processor and monitor to utility power receptacles.
Prepare an external memory for software version upgrade.

Caution

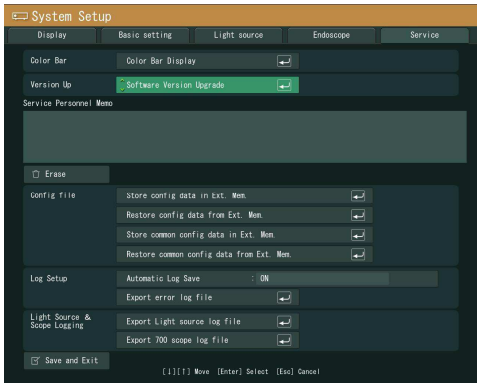
- **Not connect the scope to processor or light source.**
  The upgrade would fail.
- **Not connect the network or peripheral device to processor.**
  Also, not operate panel or keyboard during software installation.
  Because the system will be heavily loaded due to the communication with other devices during upgrade, it may fails in upgrade.
- **Prepare a EP-6000 exclusive external memory for software upgrade.**
  Upgrade fails if the file configuration or others changed.
- **The upgrade procedure may be divided into several processes according to the software version.**
  About the upgrade procedure, refer to technical document such as ECN and others.

7.2 Version upgrade procedure

(1) Insert the external memory of upgrade to processor , and turn on the power of processor.



(2) Open “System Setup”.
(Press [Alt] + [Shift] + [System])
Select “Service”.
Move down the arrow key to select “Software Version Upgrade”.
Press “Enter”



(4) Check if the files to be upgraded are selected automatically.

*** Multiple execution files are selected.**



(5) Move the cursor to “Execute Upgrade” and press [Enter].

(6) “Installation will be executed. OK?” will be asked. Select “Yes” and press [Enter].





Caution

It may take several tens of minutes for version upgrading.
Until the message "Installation is completed." is displayed, do not touch the processor.
If the power is turned off during version upgrading, the device does not function normally.

(7) Turn off the power of processor.



◆Note◆

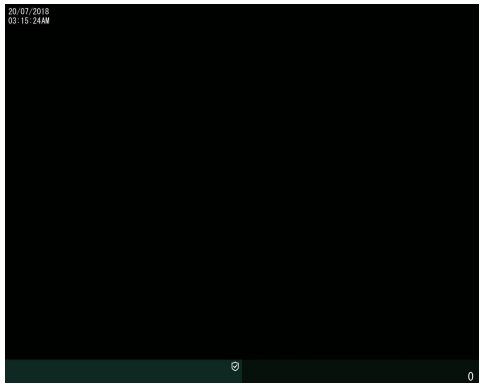
- Do not disconnect the external memory for software version upgrade.
  "Update RFS" is displayed at the right side of the progress bar (□□□□□) at re-startup, and program may be saved in memory.

(8) Wait for 5 seconds and turn on the power of processor

Caution

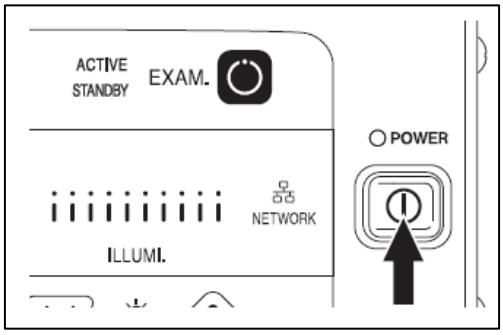
It may take several tens of minutes for "Update RFS".
Do not touch the processor until the initial screen is displayed.
If the power is turned off during version upgrading, the device does not function normally.

(9) Connect the endoscope and check if a normal image appears.



(10) Operations may be split into several parts according to the contents of version upgrade. If there is an item that was not upgraded in the step (5), repeat the steps (3)-(9).

(11) Turn off the power of processor.



- End of upgrade procedure -

7.3 Checking Version Up

When version upgrading is completed, turn on the power of processor again and confirm that the processor starts normally.

Press the [Shift] + [Alt] + [Comment] keys to display the system information screen.
Confirm the versions of the items having been upgraded.

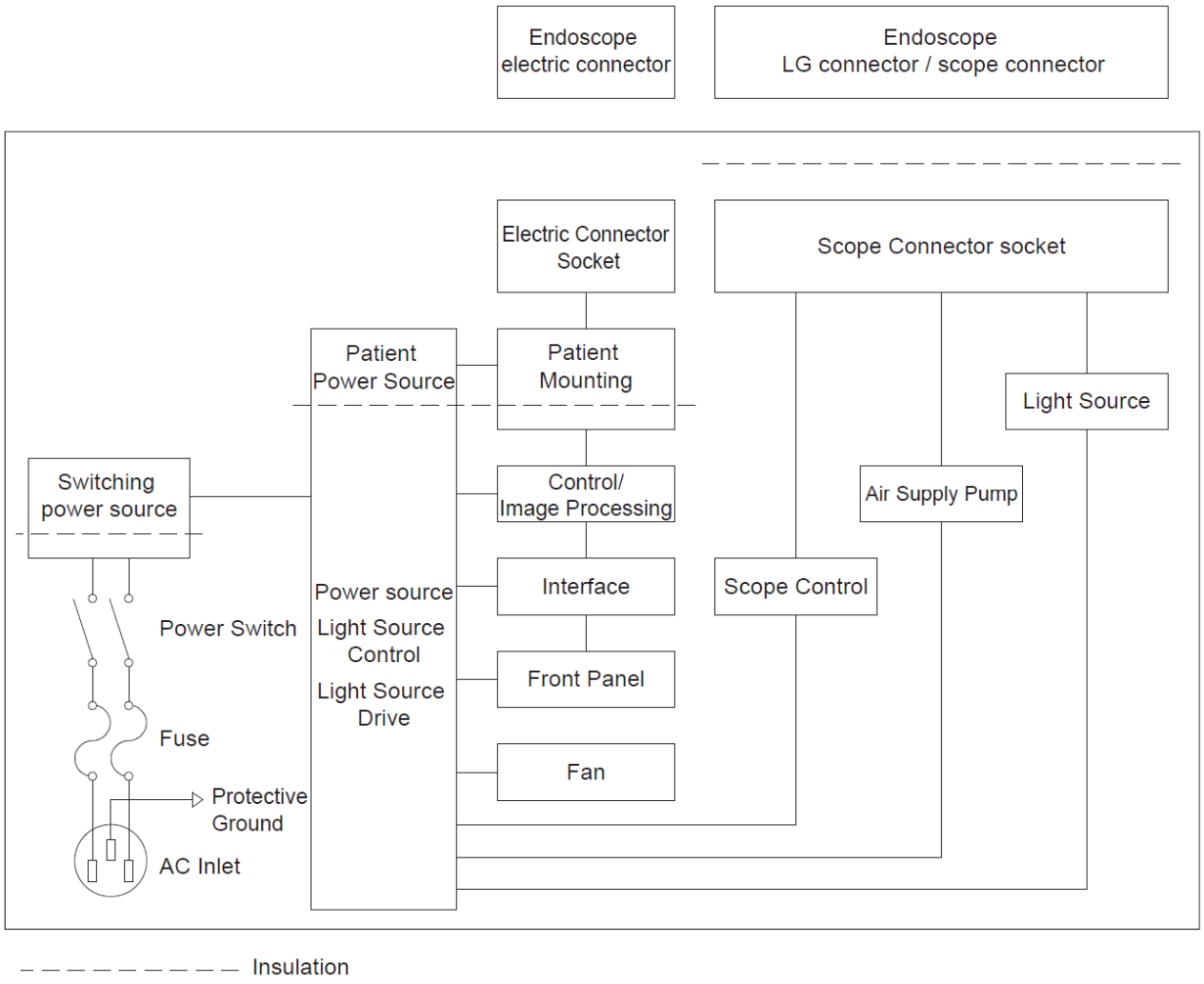


◆Note◆

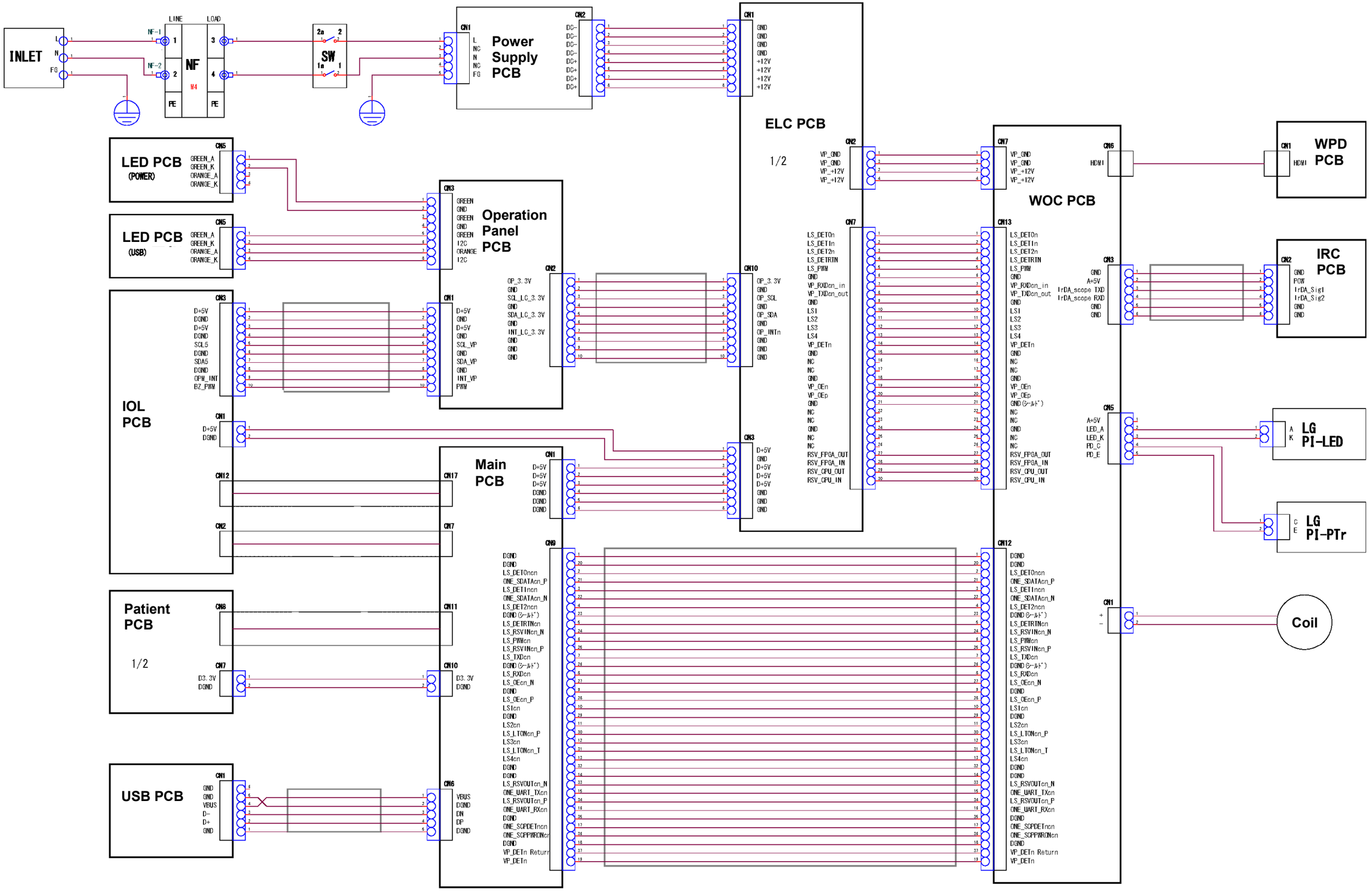
• The log obtained in the version upgrade process is saved in the connected external memory. If version upgrade fails, submit the data in the ep6000 folder of the external memory to FTYO.

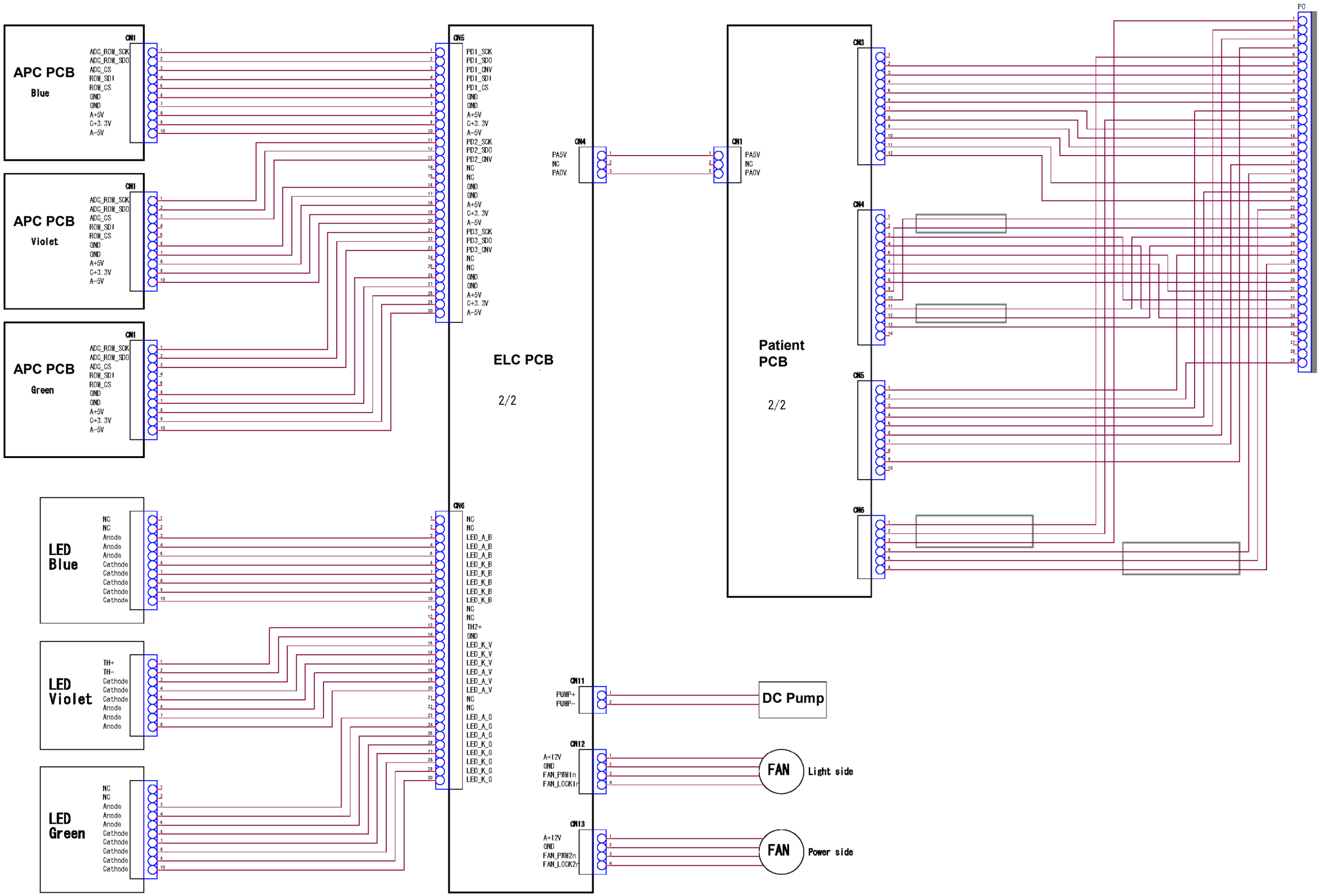
8. EP-6000 Description of Configuration

8.1 Block Diagram



8.2 Schematic diagram




APC PCB
Blue
CN1
ADC_ROM_SCK
ADC_ROM_SDO
ADC_CS
ROM_SDI
ROM_CS
GND
GND
A+5V
C+3. 3V
A-5V
APC PCB
Violet
APC PCB
Green
CN5
PD1_SCK
PD1_SDO
PD1_CNV
PD1_SDI
PD1_CS
PD2_SCK
PD2_SDO
PD2_CNV
NC
PD3_SCK
PD3_SDO
PD3_CNV
ELC PCB
2/2
CN4
PA5V
NC
PA0V
CN1
Patient
PCB
2/2
CN3
CN4
CN5
CN6
P0
LED
Blue
LED
Violet
LED
Green
CN6
LED_A_B
LED_K_B
TH2+
LED_K_V
LED_A_V
LED_A_G
LED_K_G
CN11
PUMP+
PUMP-
DC Pump
CN12
A+12V
GND
FAN_PWM1n
FAN_LOCK1r
FAN
Light side
CN13
FAN_PWM2n
FAN_LOCK2r
Power side

8.3 Connector pin layout

8.3.1 Scope connector (39 pins)

Pin No.	Name of signals	Remarks
1	GND（SD1）	GND
2	+9V	Power source unused
3	+18V	Power source for CCD / SUB
4	GND1	GND
5	NC	
6	ADOUT0	Image data bit 1
7	ADOUT1	Image data bit 2
8	ADOUT2	Image data bit 3
9	ADOUT3	Image data bit 4
10	ADOUT4	Image data bit 5
11	+5VD2	Power source for digital circuit
12	NC	
13	ADOUT5	Image data bit 6
14	ADOUT6	Image data bit 7
15	ADOUT7	Image data bit 8
16	ADOUT8	Image data bit 9
17	-7.5V	Power source for V_L signal
18	NC	
19	ADOUT9	Image data bit 10
20	+5VA	Power source for analog circuit
21	GND（SD2）	GND
22	NC	
23	GND（VCK）	GND
24	VCK	Pixel clock, digital data synchronizing signal
25	VCKM	H Reset, WM·WR scope only, others are unused
26	GND（VCKM）	GND
27	+5VD1	Power source for digital circuit
28	GND2	GND
29	VD	Vertical synchronizing signal
30	HD	Horizontal synchronizing signal
31	SCPDET	Scope identification signal
32	SRX	Incoming data input of SCI1
33	STX	Outgoing data output of SCI1SCI1
34	NEWDET	Identification of 500 Series scopes
35	NC	
36	NC	
37	NC	
38	NC	
39	NC	

8.3.2 DVI (DVI-I 24 pins)

Pin No.	Name of signals	Remarks
1	T.M.D.S. Data 2-	R signal (8 bit) pair, without control signal
2	T.M.D.S. Data 2+	
3	T.M.D.S. Data 2 Shield	R signal return GND
4	NC	
5	NC	
6	SCL	DDC Clock
7	SDA	DDC Data
8	NC	
9	T.M.D.S. Data 1-	G signal (8 bit) pair, without control signal
10	T.M.D.S. Data 1+	
11	T.M.D.S. Data 1 Shield	G signal return GND
12	NC	
13	NC	
14	+5V	POWER
15	GND	
16	Hot Plag Detect	Hot plug detection
17	T.M.D.S.Data 0-	B signal (8 bit) pair +H SYNC + V SYNC
18	T.M.D.S.Data 0+	
19	T.M.D.S.Data 0 Shield	B signal return GND
20	NC	
21	NC	
22	T.M.D.S.Clock Shield	Clock return GND
23	T.M.D.S.Clock+	Clock output pair
24	T.M.D.S.Clock-	

8.3.3 Video (BNC)

Pin No.	Name of signals	Remarks
Center contact	VBS	1Vp-p (signal 100% / 75Ω at the time of termination)
Outer case	AGND	GND

8.3.4 S-VIDEO(Y/C) Mini DIN 4 pins

Pin No.	Name of signals	Remarks
1	GND	GND
2	GND	GND
3	Y	Y signal
4	C	C signal

8.3.5 Analog RGB Mini DIN 15 pins

Pin No.	Name of signals	Remarks
1	R signal	0.7Vp-p 75Ω unbalanced
2	G signal	0.7Vp-p 75Ω unbalanced
3	B signal	0.7Vp-p 75Ω unbalanced
4	NC	No connection
5	Signal GND	GND
6	Signal GND	GND
7	Signal GND	GND
8	Signal GND	GND
9	NC	No connection
10	NC	No connection
11	NC	No connection
12	NC	No connection
13	Sync	4Vp-p 75Ω unbalanced
14	NC	No connection
15	NC	No connection

8.3.6 RS-232C DSUB 9 pins

Pin No.	Name of signals	Remarks
1	NC	Non connection
2	RXD	Receive data
3	TXD	Transmission data
4	DTR	Data terminal ready
5	GND	Signal grand
6	N.C	No connection
7	RTS	Transmission request
8	CTS	Transmission possible
9	NC	No connection

8.3.7 Keyboard USB-A type

Pin No.	Name of signals	Remarks
1	VCC	+5 VDC
2	D-	Data- transmitting and receiving pair of data
3	D+	Data+ transmitting and receiving pair of data
4	GND	GND

8.3.8 Card Reader USB-A type

Pin No.	Name of signals	Remarks
1	VCC	+5 VDC
2	D-	Data- transmitting and receiving pair of data
3	D+	Data+ transmitting and receiving pair of data
4	GND	GND

8.3.9 Remote1 / Remote2 BNC

Pin No.	Name of signals	Remarks
Center contact	Remote output: Open collector	Active low 500 msec
Outer case	GND	-

8.3.10 Foot SW DIN 5 pins

Pin No.	Name of signals	Remarks
1	NC	-
2	SW2	FOOT SW2
3	SW1	FOOT SW1
4	GND	GND
5	NC	-

8.3.11 Ethernet RJ-45

Pin No.	Name of signals	Remarks
1	TX+	
2	TX-	
3	RX+	
4	NC	
5	NC	
6	RX-	
7	NC	
8	NC	

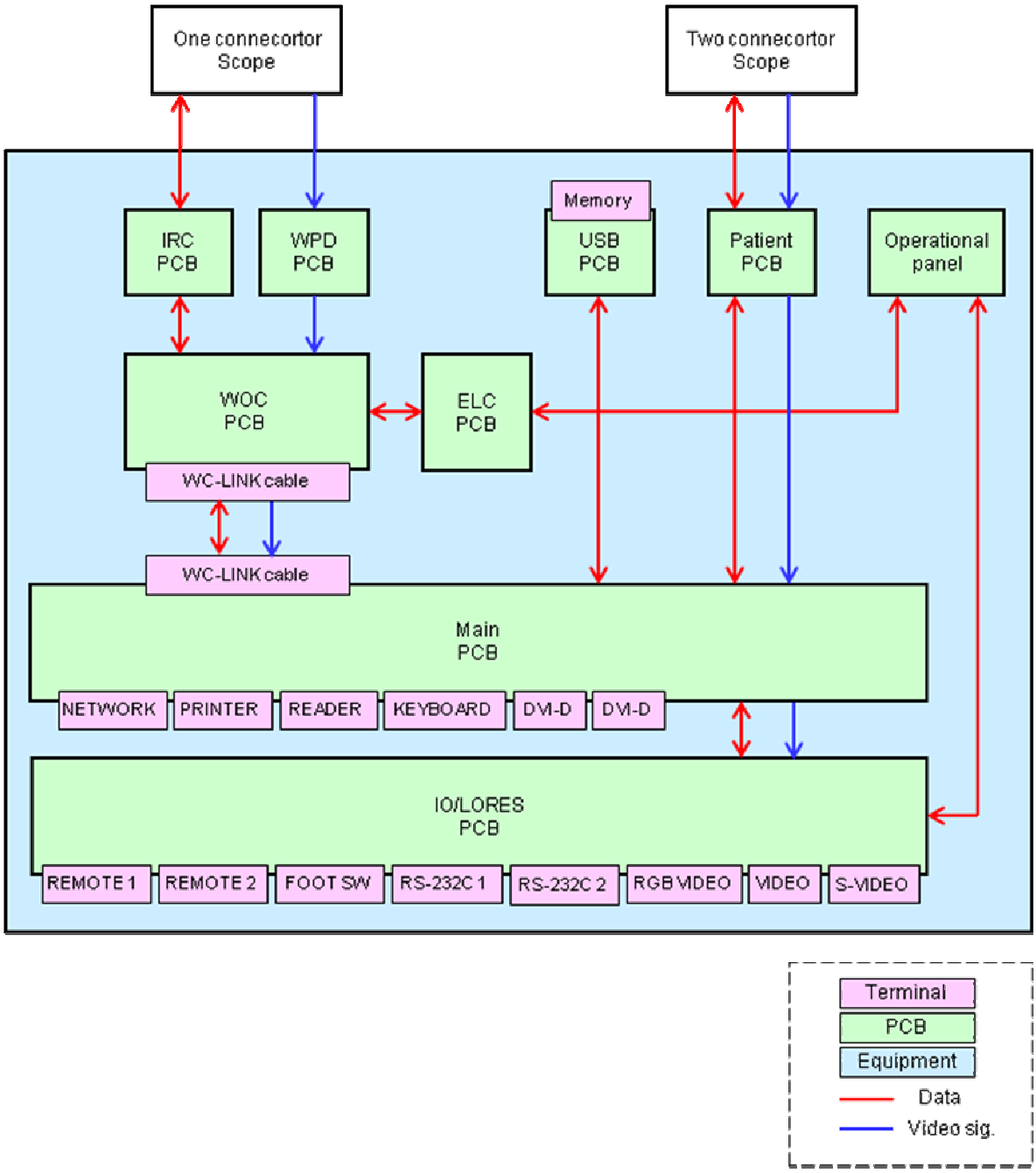
8.3.12 Printer USB-A type

Pin No.	Name of signals	Remarks
1	VCC	+5 VDC
2	D-	Data- transmitting and receiving pair of data
3	D+	Data+ transmitting and receiving pair of data
4	GND	GND

8.3.13 WC-Link 37 pins

Pin No.	Name of signals	Remarks
1	DGND	DGND
2	LS_DET0ncn	Light source identifying signal 1
3	LS_DET1ncn	Light source identifying signal 2
4	LS_DET2ncn	Light source identifying signal 3
5	LS_DETRTNcn	Light source identifying signal return (DGND fixed)
6	LS_PWMcn	Iris PWM
7	LS_TXDcn	Serial Inter-CPU communication TX
8	LS_RXDcn	Serial Inter-CPU communication RX
9	DGND	DGND
10	LS1cn	Two-wire serial TX (CLK)
11	LS2cn	Two-wire serial TX (DATA)
12	LS3cn	Two-wire serial RX (CLK)
13	LS4cn	Two-wire serial RX (DATA)
14	DGND	DGND
15	ONE_UART_TXcn	One-connector Inter-CPU communication TX
16	ONE_UART_RXcn	One-connector Inter-CPU communication RX
17	ONE_SCPDETncn	One-connector Detect signal
18	DGND	DGND
19	～37pin	VP detection loopback
20	DGND	DGND
21	ONE_SDATAcn_P	One-connector image serial data (+)
22	ONE_SDATAcn_N	One-connector image serial data (-)
23	DGND	DGND
24	LS_RSVINcn_N	Spare input (-)
25	LS_RSVINcn_P	Spare input (+)
26	DGND	DGND
27	LS_OEcn_N	Rotary shutter reference signal (-)
28	LS_OEcn_P	Rotary shutter reference signal (+)
29	DGND	DGND
30	LS_LTONcn_P	Spare input (+)
31	LS_LTONcn_N	Spare input (-)
32	DGND	DGND
33	LS_RSVOUTcn_N	Spare input (-)
34	LS_RSVOUTcn_P	Spare input (+)
35	DGND	DGND
36	ONE_SCPPWRONcn	One-connector scope power supply ON signal
37	～19pin	VP detection loopback

8.4 Outline of PCB roles



Device	PCB	Outline of roles
EP-6000	Main PCB	・Controls overall system ・Controls USB and LAN ・Captures still images (creating JPEG and TIFF files) ・Receives scope video signals from Patient/WOC PCB ・Processes video signals according to image sensors ・Performs electronic zoom in/out ・Composes scope video signals and GUI display ・Outputs monitor (DVI-D x 2) ・Performs serial communication with Patient PCB ・Performs serial communication with light source (light source control) ・Processes images in general (reductng noise and motion blur, enhancing structure and color, etc.) ・Processes BLI ・Processes FICE
	Patient PCB	・Controls scopes in general (identifying scope, supplying scope power, initializing, etc.) ・Performs serial communication between scope and Main PCB ・Sends scope video signals to Main PCB
	IOL PCB	・Converts signals and terminals to connect peripheral devices ・Controls front panel switch and LED ・Sounds buzzer ・Converts into LoRES image format (VIDEO/S/RGB)
	ELC PCB	・Communicates with Main PCB (controlling brightness of the light, switching observation mode, etc.) ・Switches pump air supply amount stepwise (HI/MID/LOW/OFF) ・Controls brightness (controlling DRV PCB) ・Stores logs of light source ・Drives light source ・Controls front panel switch and LED ・Fan Control ・Converts DC12V to DC5V and acts as the power source of patient circuit
	WOC PCB	・Sends video data from one connector scope to Main PCB ・Supplies power to one connector scope ・Communicates with one connector scope and Main PCB (state of scope switch, position of optical zoom, scope machine-specific data) ・Stores logs of one connector scope
	WPD PCB	・Photoelectrically converts video data of one connector scope
	IRC PCB	・Converts software communication signals (electric signals) of WOC PCB and one connector scope into light
	Operation Panel	・Switch input and status display

Device	PCB	Outline of roles
Two Connector Scope	Scope PCB	・Controls image sensor (changing gain/shutter speed) ・Controls scope switch ・Controls operation of optical zoom (zoom machine only) ・Performs software communication with processor (Patient PCB) (state of scope switch, position of optical zoom, scope machine-specific data)
One Connector Scope	MCU PCB	・Controls image sensor (applying power, changing gain/shutter speed) ・Controls scope switch ・Controls operation of optical zoom (zoom machine only) ・Performs software communication with processor (state of scope switch, position of optical zoom, scope machine-specific data) ・Stores logs of one connector scope
	FPGA PCB	・Sends video data from sensor to processor (WPD PCB)
	LD PCB	・Converts video data (electric signals) to be sent to processor into light ・Converts software communication signals (electric signals) of processor and scope into light
	POW PCB	・Receives wireless power from processor and supplies to other scope PCBs

Failure Analysis

1. Troubleshooting

Refer to the troubleshooting in operation manual.
→ EP-6000 Operation Manual, “10.1 Troubleshooting”

2. Error Message

Explanation of code displayed on the screen together with message
(Please write down the failure condition and the display code No. in case of request for repair)

Display error code	Classification level	Display message (occurrence, response)	Display message (guidance to error)	Estimated cause	Trigger of message display	Service response
0	Information	Definition of code without error. Not displayed.				
1	Warning	Could not connect to the network.	Cause: Network setting is incorrect or network is in abnormal state.	Although trying to use the network function, PING was not inserted up to the gateway (router)	At the time of connection checkup at the start-up, At the time of network connection checkup (when access to network is required)	(1) Check if the network setting of the system environmental setting is correct. (2) Check if there are any abnormalities in cable connection to the gateway.
2	Information	Configuration file will be saved in External Memory. OK?		"Configuration file saving" was selected at the backup of the service menu.	Same as on the left	Dialog selection→
3	Information	Saving configuration file in External Memory. Please wait for a while.	⇒ Do not remove External Memory while saving data.	"Yes" was selected at the above dialog.	Same as on the left	Wait till saving is finished. If the message does not disappear after waiting a while, In case of repetitive errors after that, replace External memory, USB PCB and the Harness (Main-USB).
4	Information	Saving configuration file is completed.		Saving configuration file was completed.	Same as on the left	Press any key to close the dialog.
5	Warning	Saving configuration file has failed. Check External Memory.		Saving configuration file failed.	Same as on the left	After the contents of the inserted External memory have been backed up in Windows PC, etc., insert External memory again and save the file after External memory has been physical-formatted instead of being quick-formatted. In case of repetitive errors after that, replace External memory, USB PCB and the Harness (Main-USB).
6	Information	Configuration file will be loaded from External Memory. After loading, system restart is required. OK?		"Configuration file loading" was selected at the backup of the service menu.	Same as on the left	Dialog selection→

Display error code	Classification level	Display message (occurrence, response)	Display message (guidance to error)	Estimated cause	Trigger of message display	Service response
7	Information	Loading configuration file from External Memory. Please wait for a while.	⇒ Do not remove External Memory while loading data.	“Yes” was selected at the above dialog.	Same as on the left	Wait till saving is finished. If the message does not disappear after waiting a while, In case of repetitive errors after that, replace External memory, USB PCB and the Harness (Main-USB).
8	Information	Loading configuration file is completed. Turn off and on the power.		Loading configuration file was completed.	Same as on the left	Restart the system.
9	Warning	Loading configuration file has failed. Check External Memory.		Loading configuration file failed.	Same as on the left	After the contents of the inserted external memory have been backed up in Windows PC, etc., insert external memory again and load the file after external memory has been physical-formatted instead of being quick-formatted. In case of repetitive errors after that, replace External memory, USB PCB and the Harness (Main-USB).
10	Information	Log file will be saved in External Memory. OK?		“Log file saving” was selected at the backup of the service menu.	Same as on the left	Dialog selection→
11	Information	Saving log file in External Memory. Please wait for a while.	⇒ Do not remove External Memory while saving log file.	“Yes” was selected at the above dialog.	Same as on the left	Wait till saving is finished. If the message does not disappear after waiting a while, In case of repetitive errors after that, replace External memory, USB PCB and the Harness (Main-USB).
12	Information	Saving log file is completed.		Saving log file was completed.	Same as on the left	Press any key to close the dialog.

Display error code	Classification level	Display message (occurrence, response)	Display message (guidance to error)	Estimated cause	Trigger of message display	Service response
13	Warning	Saving log file has failed. Check External Memory.		Saving log file failed. ・Abnormality in getting the current time and date ・ File copying to External memory.	Same as on the left	After backing up the contents of inserted external memory in Windows PC, external memory, etc., perform physical-formatting instead of quick-formatting of external memory, insert the external memory and try saving again. In case of repetitive errors after that, replace the external memory, USB PCB, main PCB
15	Warning	Preparing the next shooting. Please wait for a while and resume examination.	Cause: Previous images are being processed.	Ran out of free space on DRAM.	Same as on the left	Perform continuous shooting within the continuous shooting capacity described in the manual. In case of repetitive errors after that, replace the main PCB.
18	Information	This patient information will be deleted. OK?		“Delete” was selected on the patient list screen, and Delete key was pressed.	Same as on the left	
19	Information	All patient information will be deleted. OK?		“Delete all listed data” was selected on the patient list screen, and Enter key was pressed.	Same as on the left	
21	Information	This doctor information will be deleted. OK?		“Delete” was selected on the doctor list screen, and Delete key was pressed.	Same as on the left	
22	Information	All doctor information will be deleted. OK?		“Delete all listed data” was selected on the doctor list screen, and Enter key was pressed.	Same as on the left	
23	Information	This procedure information will be deleted. OK?		“Delete” was selected on the procedure list screen, and Delete key was pressed.	Same as on the left	
24	Information	All procedure information will be deleted. OK?		“Delete all listed data” was selected on the procedure list screen, and Enter key was pressed.	Same as on the left	
25	Information	This message will be deleted. OK?		“Delete” was selected on the message list screen, and Delete key was pressed.	Same as on the left	

Display error code	Classification level	Display message (occurrence, response)	Display message (guidance to error)	Estimated cause	Trigger of message display	Service response
26	Information	All messages will be deleted. OK?		"Delete all listed data" was selected on the message list screen, and Enter key was pressed.	Same as on the left	
27	Information	This FICE page will be deleted. OK?	⇒ After deletion, doctors who are selecting this page will be back to shared FICE page.	Select delete on the FICE page screen	Same as on the left	Dialog selection→
30	Information	FICE Setting will be reset. OK?		When the values are being reset on the FICE setting screen	Same as on the left	
31	Information	All FICE settings will be reset. OK?		When all sets of the values are being reset on the FICE setting screen	Same as on the left	
32	Information	Color adjustment values will be reset. OK?		When the values are being reset on the color adjustment screen	Same as on the left	
33	Information	Doctor page will be deleted. OK?	⇒ After deletion, doctors who are selecting this page will be back to shared doctor page.	When doctor page is being deleted	Same as on the left	
35	Information	Service menu settings will be reset to factory default. OK?		In the system menu setting on the service menu, when the button "Reset to factory defaults" was pressed.	Same as on the left	
36	Information	Too many search results. Enter appropriate search conditions.		When more than 1,000 search results appear	Same as on the left	
37	Information	Select the type of processing for doctor page.		When the doctor page is called or selected	Press Enter on the doctor page list.	
38	Information	Select the type of processing for doctor page.		When the doctor page is selected	Press Enter on the list of the unregistered doctor page.	
39	Information	Select the type of processing for FICE page.		When the FICE page is called or selected	Press Enter on the FICE page list	
40	Information	Select the type of processing for FICE page.		When the FICE page is selected	Press Enter on the list of the unregistered FICE page	

Display error code	Classification level	Display message (occurrence, response)	Display message (guidance to error)	Estimated cause	Trigger of message display	Service response
45	Information	Cannot be registered any more. Delete patient from patient list.		When information of 45 patients has been registered upon pressing F1 on the observation screen	Same as on the left	
46	Information	Trigger mode is set to "Freeze". PinP mode is fixed to "ON".		When the trigger mode was set at “Freeze.”	Same as on the left	
47	Information	Because the image to be printed is not selected, print preview screen cannot be opened.		The start-up button was pressed on the print preview screen without images selected.		
49	Information	Switching patient information.		Displayed while the current patient information was being switched	Same as on the left	
50	Information	Peripheral connecting port duplicated. Correct the settings.		When trying to set the peripheral connecting port redundantly		
51	Information	FICE settings saved.		At the time of FICE setting completion	Press the Save button on the FICE setting screen	
52	Information	Registered as a new patient. OK?		When patients with appropriate patient ID were not available at the time of reading the magnetic card on the observation screen	Same as on the left	In case of repetitive failures even if the patients with appropriate patient ID are available, replace the magnetic card and the magnetic card reader.
53	Information	Appropriate patient is not found.		When patients with appropriate patient ID were not available at the time of reading the magnetic card on the patient list screen	Same as on the left	In case of repetitive failures even if the patients with appropriate patient ID are available, replace the magnetic card and the magnetic card reader.
54	Critical error	Unplug and plug back endoscope, reset the processor. If the problem persists, contact your local FUJIFILM dealer.	Cause: The processor is in abnormal state.	At the time of system start-up, the image parameter files to be read are not available, broken or of obsolete version.	Same as on the left	Install a correct image parameter file. In case of repetitive failures after such installation, replace the main PCB.
55	Critical error	Unplug and plug back endoscope, reset the processor. If the problem persists, contact your local FUJIFILM dealer.	Cause: The processor is in abnormal state.	When ALPS error occurred	Same as on the left	In case of repetitive failures, replace the main PCB.

Display error code	Classification level	Display message (occurrence, response)	Display message (guidance to error)	Estimated cause	Trigger of message display	Service response
56	Critical error	Unplug and plug back endoscope, reset the processor. If the problem persists, contact your local FUJIFILM dealer.	Cause: The processor is in abnormal state.	When VPFE error occurred	Same as on the left	In case of repetitive failures, replace the main PCB.
57	Critical error	Unplug and plug back endoscope, reset the processor. If the problem persists, contact your local FUJIFILM dealer.	Cause: The processor is in abnormal state.	Start-up was not completed within the designated duration (within 30 seconds after application start-up)	30 seconds lapsed after application start-up.	Wait for 10 seconds after power was turned OFF, and then turn ON the power. In case of repetitive failures, replace the main PCB.
60	Information	Patient information will be cleared. OK?		Pressed the contents-clearing button on the patient information input screen.	Same as on the left	
61	Information	System data will be reset to factory default. OK?		“Factory Reset” was pressed on the factory menu	Same as on the left	
62	Information	Deleting information. Please wait for a while.		Displayed at the time of deleting all the patient and doctor information	Same as on the left	
63	Warning	Cannot be shot any more.	Cause: Number of shots exceeds upper limit. End examination.	The number of shots exceeds the upper limit, 999	Same as on the left	In case of repetitive failures even when the number of shots has not yet reached 999 (by counting the number of shots as +1 when shot with FICEOFF, +2 when shot with FICEON, and +1 when captured by switching the FICE number in freeze state), replace the main PCB.
64	Information	Remaining number of shots is 100.		Because the remaining number of shots has come to 100.	Same as on the left	
65	Information	Image list display can be used while the scope button lights orange.		The key “Image List” was pressed during examination.	Same as on the left	In case of repetitive failures even if the scope button is lighted orange, replace the main PCB.
66	Information	Search can be used while the scope button lights orange.		The key “Search” was pressed during examination.	Same as on the left	In case of repetitive failures even if the scope button is lighted orange, replace the main PCB.
67	Information	Move the cursor to the position where patient information is registered.		When the magnetic card was passed through, the patient list was not focused on.	Same as on the left	In case of repetitive failures even if the cursor is placed on the position, replace the main PCB. In case of repetitive failures even if the magnetic card was not passed through, replace the magnetic card reader.

Display error code	Classification level	Display message (occurrence, response)	Display message (guidance to error)	Estimated cause	Trigger of message display	Service response
68	Warning	Settings are reset to default because data abnormality has been detected. If necessary, load the backup data.	If the error appears each time the system is booted, hardware may be faulty. Contact the sales agent or our service representatives.	Checksum error of FeRAM	Same as on the left	In case of repetitive failures, replace the main PCB.
69	Critical error	Unplug and plug back endoscope, reset the processor. If the problem persists, contact your local FUJIFILM dealer.	Cause: The processor is in abnormal state.	Acquisition of frame memory for image saving failed.	At the time of trigger execution	In case of repetitive failures, replace the main PCB.
70	Information	To enable reset values, restart the system.		Brightness adjustment resetting was completed.	Same as on the left	In case of displaying even if factory resetting is not executed, replace the main PCB.
72	Information	Freeze release timing on PC monitor changed. Restart the system.		Pressed Shft+Alt+J.	Same as on the left	
73	Information	Select the type of processing for doctor page.		At the time of doctor page selection	Under condition of doctor page not being registered, enter on the list.	
74	Information	Select the type of processing for FICE page.		At the time of FICE page selection	Under condition of FICE page not being registered, enter on the list.	
75	Information	System data will be reset to defaults (recommended values). OK?		“Reset to default” was pressed on the factory default menu.	Same as on the left	
76	Information	Obtaining worklist. Please wait for a while.		Obtaining modality worklist.	Under condition of use of DICOM examination list, press F2 key.	
77	Information	Obtaining worklist. Please wait for a while.		Obtaining modality worklist.	On examination list screen, press the button ”Update List” and enter.	
78	Information	Specified doctor not registered.	Settings at start-up are used for doctor and FICE pages.			
79	Information	Specified procedure not registered.				
80	Information	Enter patient information.		Inspection started with patient information not entered.		

Display error code	Classification level	Display message (occurrence, response)	Display message (guidance to error)	Estimated cause	Trigger of message display	Service response
81	Information	Machinery common config data file will be saved in External Memory. OK?		Saving of machinery common conf. setting files was selected for backup of the service menu.	Same as on the left	Dialog selection→
82	Information	Machinery common config data file will be loaded from External Memory. After loading, system restart is required. OK?		Loading of machinery common conf. setting files was selected for backup of the service menu.	Same as on the left	Dialog selection→
83	Information	SC reserve 83				
84	Error	SC reserve 84				
85	Information	530 Complementary Color scope data will be created. OK?		530TV data creation button was pressed on the service screen.	Same as on the left	Dialog selection→
86	Information	Writing will be executed. OK?		Writing of gain was selected on manual color adjustment screen.	Same as on the left	Dialog selection→
87	Information	Destination will be changed. OK? After the change, system restart is required.			Same as on the left	Dialog selection→
88	Error	File not found in destination setting directory. Check the destination file.		File is not found in destination setting directory	Same as on the left	Install a correct image parameter file. In case of repetitive failures after such installation, replace the main PCB.
89	Information	Setting destination. Please wait for a while.			Same as on the left	
90	Information	Setting destination is completed. Turn off and on the power.		Writing destination files was completed.	Same as on the left	
91	Warning	Setting destination has failed.		Writing destination files failed.	Same as on the left	
92	Warning	Fan abnormality detection.→Fan function may be failing. The device is still usable, but please contact a Service Center.	Cause: Error occurred in Fan device.	Fan is stopped.	Same as on the left	Check fan power connector.

Display error code	Classification level	Display message (occurrence, response)	Display message (guidance to error)	Estimated cause	Trigger of message display	Service response
93	Error	Unplug and plug back endoscope, reset the processor. If the problem persists, contact your local FUJIFILM dealer.	Cause: It failed in the initialization of the panel button and the foot switch.	Registration of the observer for panel switch, footswitch failed when the power of processor was turned on.	Same as on the left	Restart the processor. Turn on the power at least 5 seconds after the restart.
94	Error	It failed in initialization. Restart the system.			Same as on the left	
95	Error	It failed in initialization. Restart the system.			Same as on the left	
96	Error	It failed in initialization. Restart the system.			Same as on the left	
97	Error	It failed in initialization. Restart the system.			Same as on the left	
98	Information	Please press Esc key to go back to the exam screen for starting and ending the exam.				
99	Information	Optical communication will be started. OK?				
100	Information	Optical communication is underway.				
101	Information	Optical communication results: OK				
102	Information	Optical communication results: NG, 01:FCPU port 2, port F register reference Error				
103	Information	Optical communication results: NG, 02:FCPU port 2, "VESEL EN" active Error				
104	Information	Optical communication results: NG, 03:FCPU port F, "AFE_RCLK_EN" active Error				
105	Information	Optical communication results: NG, 04:IPPR "LANE_UP status bit" active Error				
106	Information	Optical communication results: NG, 05:AFE "S600 significant bit" active Error				

Display error code	Classification level	Display message (occurrence, response)	Display message (guidance to error)	Estimated cause	Trigger of message display	Service response
107	Information	Optical communication results: NG, 06：AFE IPPR "CHANNEL_UP status"reference Error				
108	Information	Optical communication results: NG, 07：IPPR "exam significant bit" active Error				
109	Information	Optical communication results: NG, 08：AFE "exam significant bit" active Error				
110	Information	Optical communication results: NG, 09：data communication Error				
111	Information	Optical communication results: NG, 10：AFE "Exam significant bit" exam end Error				
112	Information	Optical communication results: NG, 11：IPPR "Exam significant bit" exam end Error				
113	Information	Optical communication results: NG, 12：AFE "S600 significant bit" channel disconnected Error				
114	Information	Optical communication results: NG, 13：FCPU port 2"VCSEL_EN" off Error				
115	Information	Optical communication results: NG, 14: IPPR Interface reset Error				
116	Information	＜TBD＞				
117	Information	In the process of setting a scope ID default. Please wait for a while.		Application start after RFS version upgrade		

Display error code	Classification level	Display message (occurrence, response)	Display message (guidance to error)	Estimated cause	Trigger of message display	Service response
118	Error	Scope ID default setting failed		Operation of scope default files failed, and update of scope default failed		Install a correct image parameter file. In case of repetitive failures after such installation, replace the main PCB.
119	Information	＜TBD＞				
120	Information	Select the type of operation for the selected preset.		Press "Enter" on the list of preset shown on the special light observation preset setting screen		
121	Information	The selected preset will be deleted. OK?		Press "Delete" on the list of preset shown on the special light observation preset setting screen		
122	Information	The selected preset will be reset to default. OK?		Press the "Reset" button on the special light observation preset setting screen		
123	Information	Specified doctor not registered.	Settings at start-up are used for doctor page.			
124	Information	Switching VF Adjust mode. Please wait for a while.		Displayed while the VF Adjust mode was being switched		Wait till mode switching is finished.
125	Information	Scope operating mode is to be set up. Is it all right?				
126	Information	The upgrading has completed. No items to be upgraded.		All modules had already been upgraded to the latest status	When the version upgrade screen was displayed	Upgrade the version as required.
127	Information	There are items which needs to be upgraded. Please perform upgrading again.		There is a module that was not upgraded to the latest status	At startup after version upgrade	Upgrade the version as required.
128	Error	Unable to acquire scope operating mode.	Cause: Trouble has occurred on a patient board.	Trouble has occurred on a patient PCB at notification from Rear. Or the versions of Rear, Front CPU were old.	At notification from Rear	Upgrade the front and rear CPU. In case of repetitive errors after version upgrade, replace the patient PCB.
129	Error	Unable to set up the scope operating mode.	Cause: Trouble has occurred on a patient board.	Trouble has occurred on a patient PCB at notification from Rear. Or the versions of Rear, Front CPU were old.	At notification from Rear	Upgrade the front and rear CPU. In case of repetitive errors after version upgrade, replace the patient PCB.

Display error code	Classification level	Display message (occurrence, response)	Display message (guidance to error)	Estimated cause	Trigger of message display	Service response
130	Information	In the process of acquiring scope operating mode. Please wait for a while.		The operating mode selection screen in the factory menu was opened.	Same as on the left. The message was displayed when trying to open the screen.	In case when acquisition of the operation mode frequently fails even after waiting for a while, check the version of the Rear CPU and Front CPU. If the version is later than 580 60P support, replace the patient PCB.
131	Information	In the process of setting scope operating mode. Please wait for a while.		The setup button was pressed on the operating mode selection screen in the factory menu.	Same as on the left. The message was displayed when trying to set the operating mode.	In case when acquisition of the operation mode frequently fails even after waiting for a while, check the version of the Rear CPU and Front CPU. If the version is later than 580 60P support, replace the patient PCB.
132	Information	Please enter password for forwarding correction function.				
133	Information	Please enter current password. (Press [ESC] key to cancel.)				
134	Information	Please enter a new password (four or more characters). (Press [ESC] key to cancel.)				
135	Information	Please enter a new password once again for confirmation. (Press [ESC] key to cancel.)				
136	Information	Please enter a password. (Press [ESC] key to cancel.)				
137	Information	Please enter a password. (Press [ESC] key to cancel.)				
138	Information	Different password. Please enter the correct password.				
139	Information	Different password. Please enter the correct password.				

Display error code	Classification level	Display message (occurrence, response)	Display message (guidance to error)	Estimated cause	Trigger of message display	Service response
140	Information	Different password or less than four characters. Please enter the correct password.				
141	Information	Different password. Please enter the correct password.				
142	Information	Different password. Please enter the correct password.				
143	Information	Different password. Please enter the correct password.				
144	Information	The password has been initialized.				
145	Information	The password has been changed.	A new password becomes effective after a click of "the end of setup".			
146	Information	Selected examination data will be forwarded to the server with the changed information. OK?	Please verify the changes you made.		When the "Transfer this patient information" button was pressed on the inspection information correction screen at re-forwarding.	
147	Information			The DICOMPREVIEW (list of thumbnail) screen was started		
148	Information			The DICOMPREVIEW (list of thumbnail) screen was started		
149	Information	There was no examination reservation in the designated search condition.			When the search result on the number of cases is 0 on the inspection list screen for connecting work lists again.	
150	Information	Fail to read-in the examination data.			Necessary data could not be obtained from inspection data when the inspection information correction transfer screen was opened.	
151	Information	Color adjustment is in progress. To switch the observation mode, terminate color adjustment and try again.		The observation mode was switched during color adjustment	When the observation mode was switched during color adjustment	

Display error code	Classification level	Display message (occurrence, response)	Display message (guidance to error)	Estimated cause	Trigger of message display	Service response
152	Information	Install Language display can be used while the scope button lights orange.				
153	Information			The INSTALLLANGAGE (install) screen was started	The installation screen was started	
154	Information			The INSTALLLANGAGE (install) screen was ended	The installation screen was ended	
155	Information	Installation will be executed. OK?		A software version was upgraded on the software version upgrade screen.	The button of software version upgrade was pressed	
156	Information	To enable setup values, restart the system.				
157	Information	Installation is in progress. Wait for a while.				
158	Error	Installation failed. Turn off and on the power.				
159	Information	Installation is completed. Turn off and on the power.				
160	Information			The external memory setting screen was started		
161	Information			The external memory setting screen was ended		
162	Information	Change of screen resolution will take effect at next startup.				
163	Information	The screen resolution setting has been set to SXGA. This will take effect after restart.		When the setting of output resolution was "FullHD", the shortcut key for forced switching of resolution was pressed		
164	Information	Remaining number of shots is 50.		The remaining number of shots became 50.	Same as on the left	
165	Information	Please review the freeze setting.		When setting the same function to more than one switch was attempted.		
166	Information	To end examination, cancel freeze mode to display a live image.				
167	Warning			Corruption of main memory (overall) was detected.	At the time of memory check at startup	Collect the log.
168	Warning			Corruption of main memory (software version/DICOM version) was detected.	At the time of memory check at startup	Collect the log.

Display error code	Classification level	Display message (occurrence, response)	Display message (guidance to error)	Estimated cause	Trigger of message display	Service response
169	Information	Patient's ID has not been entered yet.				
198	Critical error	A processor error is detected. (Please contact a Service Center)		At startup, an error in FPGA occurred.	At startup	
201	Information	Internal Memory will be initialized. All data in Internal Memory will be deleted. OK?		"Initialization of internal memory" was selected in the setting for internal memory	Same as on the left	Dialog selection→
202	Information	Initializing Internal Memory. Please wait for a while.		“Yes” was selected in the above dialog.	Same as on the left	Wait till initialization is finished * Do not cancel initialization If initialization is not completed, replace the main PCB
203	Information	Initialization of Internal Memory is completed.		Initialization of internal memory was normally completed	Same as on the left	
204	Warning	Initialization of Internal Memory failed.		Initialization of internal memory (mount) failed	Same as on the left	If initialization of internal memory is not completed, replace the main PCB.
205	Information	Free space of Internal Memory is insufficient.		The number of images that can be recorded in media became 20 or less when the warning message display was set to On in the setting of internal memory recording. Saving stops when the message is displayed.	Same as on the left	Dialog selection→

Display error code	Classification level	Display message (occurrence, response)	Display message (guidance to error)	Estimated cause	Trigger of message display	Service response
207	Information	Searching Please wait for a while.	⇒ To cancel, press the [Enter] key.	Searching images on memory	Memory searching	In the case that searching starts on the search screen with the setting of including images in external memory: If searching does not finish after waiting a while, back up the contents of the inserted external memory in Windows PC, etc., perform physical-formatting instead of quick-formatting of external memory. Copy the backup contents in the external memory, and insert the external memory to try searching again. In case of repetitive errors after that, replace the external memory, USB PCB. When searching starts on the search screen with the setting of including internal memory, FTP not-transferred backup images, and FTP-transferred backup images: Replace the main PCB
210	Warning	Cannot be saved in Internal Memory.			Saving in internal memory was tried.	After performing backup of the contents of internal memory in Windows PC, external memory, etc., initialize the internal memory and then try back up again. In case of repetitive errors after that, replace the main PCB.
211	Information	Saving data in Internal Memory. Please wait for a while.		Internal memory save processing after the inspection has finished	Same as on the left	Wait till saving data is finished If saving data is not completed, replace the main PCB.
212	Warning	Set External Memory.	⇒ If this message appears even when External Memory is set, contact the sales agent or our service representatives.	The states of external memory are as follows. (1) Not inserted	Same as on the left	In the case of repetitive errors even when an external memory is inserted, replace the external memory, USB PCB, harness (Main-IO)

Display error code	Classification level	Display message (occurrence, response)	Display message (guidance to error)	Estimated cause	Trigger of message display	Service response
213	Warning	Internal Memory has a problem and cannot be used. Initialize Internal Memory.	Cause: Internal Memory is not initialized or its file system is corrupted.	When access was tried with the setting of using an internal memory, the states of internal memory are as follows. (1) Unformatted (2) The file system was broken	Same as on the left	After performing backup of the contents of internal memory in Windows PC, external memory, etc., initialize the internal memory and then try back up again. In case of repetitive errors after that, replace the main PCB.
214	Warning	Internal Memory is full.	Cause: Free space of Internal Memory is insufficient.	When access was tried with the setting of using an internal memory, data cannot be saved due to insufficient internal memory capacity.	Saving in internal memory was tried.	After performing backup of the contents of internal memory in Windows PC, external memory, etc., initialize the internal memory and then try access again. In case of repetitive errors after that, replace the main PCB.
216	Warning	Some data is not yet saved. Save these data in Internal Memory?		Some data is not yet saved.	・Some data is not yet saved at the time when the inspection finished. ・Some data is not yet saved at the time when external memory was inserted. ・Some data is not yet saved at the time when external memory was initialized.	If displayed even if there is no unsaved data, replace the main PCB.
218	Warning	Saving print screen image failed. Check External Memory.		Saving in external memory has failed.	When executing print screen	After backing up the contents of inserted external memory in Windows PC, external memory, etc., perform physical-formatting instead of quick-formatting of external memory, insert the external memory and try saving again. In case of repetitive errors after that, replace the external memory, USB PCB, main PCB.
219	Information	Free space of Internal Memory is less than 100MB.		The free space of internal memory became less than 101MB.	Same as on the left	In the case of repetitive errors when the free space of internal memory is 100MB or more, back up the contents of internal memory in Windows PC, external memory, etc., initialize the internal memory, and then check again. In case of repetitive errors after that, replace the main PCB.

Display error code	Classification level	Display message (occurrence, response)	Display message (guidance to error)	Estimated cause	Trigger of message display	Service response
220	Warning	Data could not be saved in Internal Memory.Saving to Internal Memory stopped temporarily. (Data transfer to FTP server will continue.)		When access was tried with the setting of using an internal memory, the states of internal memory are as follows (1) The file system was broken (2) Fault in internal memory or PCB	Same as on the left	After performing backup of the contents of internal memory in Windows PC, external memory, etc., initialize the internal memory and then try access again. In case of repetitive errors after that, replace the main PCB
221	Information	Saving data to Internal Memory will be resumed.		He following operations were performed after the error code 283 had occurred. (1)Ending an inspection (2) Switching patients (3) Setting of canceling the backup mode	Same as on the left	
222	Critical error	Abnormality found in Internal Memory.	If the error appears each time the system is booted, hardware may be faulty.	Displayed when a fault in internal memory occurred. Error in internal memory.	A fault in the internal memory R/W occurred	In case of repetitive errors, replace the main PCB.
223	Warning	Cannot be saved in Internal Memory.			When creation of folder in internal memory has failed.	After performing backup of the contents of internal memory in Windows PC, external memory, etc., initialize the internal memory and then try back up again. In case of repetitive errors after that, replace the main PCB
224	Information	All transferred examination data will be deleted from Internal Memory. OK?		Deletion of all transferred backup images in internal memory was selected	Same as on the left	Dialog selection→
225	Information	Deleting all transferred examination data from Internal Memory. Please wait for a while.				
226	Information	Selected examination data will be transferred to the server. OK?		Selected the transfer the data of external memory or internal memory	Same as on the left	Dialog selection→
227	Information	Transferring selected examination data to the server. Please wait for a while.				

Display error code	Classification level	Display message (occurrence, response)	Display message (guidance to error)	Estimated cause	Trigger of message display	Service response
228	Information	Selected examination data will be deleted. OK?		A folder was selected on the search screen and the D key was pressed	Same as on the left	Dialog selection→
229	Information	Deleting selected examination data. Please wait for a while.				
230	Warning	DICOM setting can be used while the scope button lights orange.		Processing to control start-up of DICOM service setting screen during examination ＋ control dialog display	Same as on the left	Nothing special
231	Warning	The server information setting is available when the scope button lights orange.		Processing to control start-up of server information setting screen during examination ＋ control dialog display.	Same as on the left	
232	Warning	Patient information linkage cannot be used on this screen. The acquired data is canceled.	Only an observation screen, a patient information input screen, and a patient list screen can be used.	When patient information linkage is executed on non-permitted screen.	Same as on the left	
233	Warning	There is not enough memory for the examination. After exiting, delete data from Internal Memory.	If you continue, the image cannot be saved.	The capacity required for the set compression ratio could not be allocated in the capacity allocation processing. * Deletion could not be completed due to data that has been copied but not yet transferred. * Mounting has failed. * Deletion has failed.	Inspection start/switching patients	
234	Information	Selected examination data will be copied. OK?				
235	Information	All examination data will be copied. OK?				
236	Information	Today's examination data will be copied. OK?				
237	Information	Copying selected examination data. Please wait for a while.	⇒ Do not remove External Memory while copying data.			

Display error code	Classification level	Display message (occurrence, response)	Display message (guidance to error)	Estimated cause	Trigger of message display	Service response
238	Information	All data in External Memory will be deleted. OK?		Initialization button of the external memory was pressed.		
239	Information	All copied examination data will be deleted from Internal Memory. OK?		Deletion of all copied images in internal memory was selected	Same as on the left	Dialog selection→
240	Information	Deleting all copied examination data from Internal Memory. Please wait for a while.	⇒ Do not remove External Memory while deleting data.	“Yes” was selected in the deletion confirmation dialog for copied inspections in the internal memory.		
241	Information	Initializing External Memory. Please wait for a while.	⇒ Do not remove External Memory while initializing data.	“Yes” was selected in the initialization confirmation dialog for the external memory.		
242	Information	Initialization of External Memory is completed.		Initialization of external memory was completed.		
243	Warning	Initialization of External Memory failed. Check External Memory.		Error occurred during the initialization of the external memory.		
244	Warning	There is not enough memory for the examination. Delete data from Internal Memory.		When the space allocation fails at the time when the inspection finished.	Inspection was terminated	
245	Information	Specified examination data not found.		There are 0 applicable inspections when copy is selected.		
246	Warning	External Memory is full.	Cause: Free space of External Memory is insufficient.	When access to external memory was tried, data cannot be saved due to insufficient free space	At saving in external memory	After backing up the contents of inserted external memory in Windows PC, external memory, etc., perform physical-formatting instead of quick-formatting of external memory, insert the external memory and try saving again. In case of repetitive errors after that, replace the external memory, USB PCB, main PCB
247	Information	Please review the freeze setting.		When attempt was made to set the same function to some switches.		

Display error code	Classification level	Display message (occurrence, response)	Display message (guidance to error)	Estimated cause	Trigger of message display	Service response
248	Warning	External Memory is full. Change External Memory.		When [Auto copy mode] is ON, available of the external memory is less than one examination amount at the start of examination		
249	Information	Saving data in External Memory. Please wait for a while.		Data saving after completion of the examination or during change of patients		
250	Warning	Set External Memory.		No external memory is detected upon completion of the examination or during change of patients		
251	Warning	External Memory is full. Change External Memory.		Memory capacity shortage is detected upon completion of the examination or during change of patients		
252	Warning	External Memory Error. Change External Memory.		A media failure is detected upon completion of the examination or during change of patients		
270	Warning	Saving FICE parameter files failed. Check External Memory.		Saving FICE parameter file failed.	Same as on the left	After backing up the contents of inserted external memory in Windows PC, external memory, etc., perform physical-formatting instead of quick-formatting of external memory, insert the external memory and try saving again. In case of repetitive errors after that, replace the external memory, USB PCB, main PCB
302	Warning	Connection to FTP server cannot be established.	Cause: FTP server is not connected to the network or network setting is incorrect.	In setting the use of FTP server function, connection to FTP server was not established at the system start-up or at the start of examination.	Same as on the left	Dialog selection→ (1) If cable connection was forgot, confirm the connection, and select “Retry.” (2) If connection is not required, select “Cancel”
306	Warning	Cannot connect to FTP server. Check the network setting.	Cause: FTP server is not connected to the network or network setting is incorrect.	In trying to use FTP server function, connection to FTP server was not available.	Same as on the left	(1) Check if FTP server is connected to the network.

Display error code	Classification level	Display message (occurrence, response)	Display message (guidance to error)	Estimated cause	Trigger of message display	Service response
307	Warning	Login to FTP server denied. Check the network setting.	Cause: Login name and password settings are incorrect.	In trying to use FTP server function, log-in to FTP server was denied.	Same as on the left	Confirm the setting of the log-in name of processor and the password.
308	Error	Data transfer to FTP server failed. File could not be read.	Cause: Reading the file for network transfer has failed.	The image data to be transferred does not exist in the device (deleted). Creation of a forwarding destination file failed.	Same as on the left	In case of repetitive failures, replace the main PCB. Check the network connection device.
309	Warning	Some image files are not yet transferred. Transfer these files to FTP server again?		Under other mode than the backup mode, communication failure to FTP server occurred, resulting in generation of the condition where all the image files could not be transferred to the server. Under this condition, examination exit was executed.	Same as on the left	Dialog selection→ (1) Confirm connection with FTP server, and select “Transfer.” (2) If it is safe to delete the image files, select “Delete.” In case of repetitive failures, check the network cable and the network device
363	Warning	FTP server is full. Contact your system administrator.	Cause: Files cannot be transferred because FTP server is full.	Although tried to use FTP server function, FTP server is full.	Same as on the left	In case of repetitive failures even if FTP server is not full, check the network cable and the network device.
364	Warning	Data transfer to FTP server failed. Contact your system administrator.	Cause: Files cannot be transferred because FTP server or network is in abnormal state.	Although tried to use FTP server function, a file transfer error to FTP server occurred.	Same as on the left	In case of repetitive failures, check the network cable and the network device.
365	Warning	Cannot connect to FTP server. Check the network setting.	Cause: FTP server is not connected to the network or network setting is incorrect. (Images are backed up to Internal Memory.)	Although tried to use FTP server function, connection to FTP server cannot be established（backup）.	Same as on the left	(1) Check if FTP server is connected to the network. (2) Check the settings of FTP IP and FTP Port of processor In case of repetitive failures even if without any problems as above, replace the main PCB.
366	Warning	Login to FTP server denied. Check the network setting.	Cause: Login name and password settings are incorrect. (Images are backed up to Internal Memory.)	Although tried to use FTP server function, log-in to FTP server was denied（backup）.	Same as on the left	Check the log-in name of processor and the password setting

Display error code	Classification level	Display message (occurrence, response)	Display message (guidance to error)	Estimated cause	Trigger of message display	Service response
371	Warning	Patient information data could not be backed up to Internal Memory.		Patient information data cannot be saved in internal memory (Backup)	Same as on the left	After performing backup of the contents of internal memory in Windows PC, external memory, etc., initialize the internal memory and then try back up again. In case of repetitive errors after that, replace the main PCB
372	Error	Data transfer to FTP server failed. File could not be read from Internal Memory.		Broken images in internal memory, errors in main PCB.	Same as on the left	After performing backup of the contents of internal memory in Windows PC, external memory, etc., initialize the internal memory and then try back up again. In case of repetitive errors after that, replace the main PCB
373	Information	Data transfer to FTP server failed. File could not be read from Internal Memory.		Broken images in internal memory, errors in main PCB.	Same as on the left	After performing backup of the contents of internal memory in Windows PC, external memory, etc., initialize the internal memory and then try back up again. In case of repetitive errors after that, replace the main PCB
374	Warning	Saving patient information data failed.		Patient information data cannot be saved	Same as on the left	
375	Warning	Internal Memory file operations failed.		Initialization of internal memory (mount) failed	Same as on the left	After backing up the contents of inserted external memory in Windows PC, external memory, etc., perform physical-formatting instead of quick-formatting of external memory, insert the external memory and try saving again. In case of repetitive errors after that, replace the external memory, USB PCB, main PCB
376	Warning	Network functions cannot be used. Check the utilization and network settings.		Unset procedure was specified.	Same as on the left	Check if the network and DICOM (Storage) are set at “Use.”

Display error code	Classification level	Display message (occurrence, response)	Display message (guidance to error)	Estimated cause	Trigger of message display	Service response
377	Warning	Transferring examination data failed.	Cause: Calling examination data failed.	The image data to be transferred cannot be called.	Same as on the left	When using an external memory, back up the contents of external memory in Windows PC, external memory, etc., perform physical-formatting instead of quick-formatting of external memory. Insert the external memory and try transferring again. In case of repetitive errors after that, replace the external memory, USB PCB, main PCB
378	Warning	Transferring examination data to the server failed. Check the network setting.	Cause: Network connection to the server failed or network setting is incorrect.	Network connection is not available, or something wrong with network setting.	Same as on the left	Check network connection.
379	Warning	File not found. Search again.		A deleted folder was selected.	Same as on the left	Reconstruct the external memory.
380	Warning	FTP transfer is not available with the current setting. For a FTP transfer, select "Use" "the network setting"		Tried transfer other file than DICOM file from the search screen with DICOM being used.	Same as on the left	Select the transfer data again, and review DICOM setting for service.
381	Warning	Examination data cannot be transferred.	Cause: There is a possibility that the data was made with a different model.	An attempt was made to transfer the data that is stored in external memory in a different model from the search screen	Same as on the left	
401	Information	Checking the connection to the server. Please wait for a while.				
402	Information	Communication with specified server succeeded.				
403	Error	Communication with specified server failed.		* The cable is unplugged. * There is a cable or hub failure in the network connection to the server. * The network setting is incorrect.		*Check if there is a cable or hub failure in the network connection to the server is physically connected. * Check if the setting of the IP address, subnet mask/GW of endoscope is correct * Check if the IP address of destination server is correct.

Display error code	Classification level	Display message (occurrence, response)	Display message (guidance to error)	Estimated cause	Trigger of message display	Service response
404	Error	Specified server not found. Check the network setting.		* The cable is unplugged. * There is a cable or hub failure in the network connection to the server. * The network setting is incorrect.		* Check if there is a cable or hub failure in the network connection to the server is physically connected. * Check if the setting of the IP address, subnet mask/GW of endoscope is correct * Check if the IP address of destination server is correct.
501	Information	Obtaining the time. Please wait for a while.				
502	Information	Obtaining the time succeeded.				
503	Error	Obtaining the time failed. Check the network setting.		NTP server check was performed from the service setting screen but an error was returned.		* Perform a PING on the NTP server to check if the network is connected. * If PING is successful, check that the server's NTP process is running.
601	Information	Checking the connection to the server. Please wait for a while.				
602	Information	Communication with specified server succeeded.				
603	Error	Communication with specified server failed.		The cable is not connected, the remote I/F server has not started up, the IP address is incorrect, or the cable encounters connection failure.		Check the network setting.
604	Error	Specified server not found. Check the network setting.		The remote I/F server or the network is slow.		Check the network setting.
605	Error	Authentication failed. Check the network setting.		The device has not been registered in the remote I/F server.		Check the network setting.
903	Error	Installation failed and canceled. Execute installation again.	Cause: Installation of patient, light source or main has failed.	When installation of patient, light source or main has failed.	Same as on the left	Execute installation again. In case of repetitive failures, replace PCB for installation.
905	Information	Insert External Memory including the installation files.		External memory is not inserted	Same as on the left	Replace the external memory. In case of repetitive errors, replace the USB PCB

Display error code	Classification level	Display message (occurrence, response)	Display message (guidance to error)	Estimated cause	Trigger of message display	Service response
906	Information	Installation will be executed. OK?		When the button “Version Upgrade” is pressed in installing the service menu.	Same as on the left	
907	Information	Installation is in progress. Wait for a while.	Please do not turn off the Power Button.	When “Yes” was pressed on the version upgrade execution confirmation dialog	Same as on the left	
908	Information	Installation is completed. Turn off and on the power.	Do not remove External Memory.	When version upgrade has been completed	Same as on the left	
909	Error	Installation failed.		When version upgrade failed	Same as on the left	Execute re-installation. In case of repetitive failures, replace PCB for installation.
911	Error	Previous installation failed. Execute installation again.		Power turned OFF during installation.	Same as on the left	Try installation again. If version upgrade is not completed or in case of repetitive failures, replace the main PCB.
913	Warning	Downgrading from current version to this version cannot be executed.		Tried to version-downgrade to 1.102 or before from 1.103.		
914	Warning	Execute version upgrade of the processor while examination is not executed.		Tried to version-upgrade of the processor under the condition of “during examination.”		
917	Error	Installation failed. Execute installation again.	Cause: Installation of Scope FPGA has failed.			
918	Information	Please execute the installation of Scope FPGA after the installation of Scope CPU.				
919	Information	Please unplug the endoscope and press [Yes].		“Version Upgrade” was pressed on the [Software Version Upgrade] screen with the endoscope connected.		
1001	Information			FIGUREEMPH screen startup		
1002	Information			COLOREMPH screen startup		
1003	Information			FICE screen startup		
1004	Information			COLOR screen startup		
1005	Information			SHUTTER screen startup		
1006	Information			IRIS screen startup		
1007	Information			PATINPUT screen startup		
1008	Information			PATLIST screen startup		
1009	Information			DOCTORLIST screen startup		
1010	Information			PROCLIST screen startup		

Display error code	Classification level	Display message (occurrence, response)	Display message (guidance to error)	Estimated cause	Trigger of message display	Service response
1011	Information			MSGLIST screen startup		
1012	Information			DOCTORPAGE screen startup		
1013	Information			External memory card screen startup		
1014	Information			PERIPHERAL screen startup		
1015	Information			NETWORK screen startup		
1016	Information			PRINTER screen startup		
1017	Information			PANNELSW screen startup		
1018	Information			SYSTEM screen startup		
1019	Information			PRINT screen startup		
1020	Information			SYSTEMENV screen startup		
1021	Information			SYSTEMINFO screen startup		
1022	Information			SEARCH screen startup		
1023	Information			SERVICE screen startup		
1024	Information			SERVICE_SCOPE screen startup		
1025	Information			FACTORY screen startup		
1026	Information			FICEPAGE screen startup		
1027	Information			FIGUREEMPH screen end		
1028	Information			COLOREMPH screen end		
1029	Information			FICE screen end		
1030	Information			COLOR screen end		
1031	Information			SHUTTER screen end		
1032	Information			IRIS screen end		
1033	Information			PATINPUT screen end		
1034	Information			PATLIST screen end		
1035	Information			DOCTORLIST screen end		
1036	Information			PROCLIST screen end		
1037	Information			MSGLIST screen end		
1038	Information			DOCTORPAGE screen end		
1039	Information			External memory card screen end		
1040	Information			PERIPHERAL screen end		
1041	Information			NETWORK screen end		
1042	Information			PRINTER screen end		
1043	Information			PANNELSW screen end		
1044	Information			SYSTEM screen end		
1045	Information			PRINT screen end		
1046	Information			SYSTEMENV screen end		
1047	Information			SYSTEMINFO screen end		
1048	Information			SEARCH screen end		
1049	Information			SERVICE screen end		

Display error code	Classification level	Display message (occurrence, response)	Display message (guidance to error)	Estimated cause	Trigger of message display	Service response
1050	Information			SERVICE_SCOPE screen end		
1051	Information			FACTORY screen end		
1052	Information			FICEPAGE screen end		
1053	Information			Patient information input screen end log		
1054	Information			Timeout from light source		
1055	Information			Just after executing Create All Observers		
1056	Information			Change in inspection state (EXAM)		
1057	Information			Change in inspection state (START_STANDBY)		
1058	Information			Change in inspection state (END_STANDBY)		
1059	Information			Change in inspection state (IDLE)		
1060	Information			Just after entering jig mode		
1071	Information			Abnormality was found in FeRAM, however the operation continues with flash data		
1072	Information			Inspection list screen OPEN		
1073	Information			DICOM user setting screen OPEN		
1074	Information			DICOM service setting screen OPEN		
1075	Information			Inspection list screen CLOSE		
1076	Information			DICOM user setting screen CLOSE		
1077	Information			DICOM service setting screen CLOSE		
1078	Information			FHTP user setting screen OPEN		
1079	Information			FHTP service setting screen OPEN		
1080	Information			FHTP user setting screen CLOSE		
1081	Information			FHTP service setting screen CLOSE		
8001	Information	Patient information is being obtained from the server. Please wait for a while.			The patient information linkage function was used	

Display error code	Classification level	Display message (occurrence, response)	Display message (guidance to error)	Estimated cause	Trigger of message display	Service response
8002	Information	Patient information could not be obtained from the server. The patient information read from the magnetic card/barcode will be displayed.		Abnormality in network occurs, or the patient information corresponding to that in server is not registered.	Patient information could not be obtained from server by the patient information linkage function	
8003	Information	Cleaning of scope is being checked. Please wait for a while.			Scope information was read from barcode/RFID	
8004	Information	Scope information has not been registered in the server. Please check if the scope has been cleaned.		Scope information is not registered in server	The result of checking the state of cleanliness was not registered	
8005	Information	The scope has not been cleaned. Please use a cleaned scope because of the possible spread of infections.		The information for scope that was not cleaned was read	The result of checking the state of cleanliness was judged as not cleaned	
8006	Warning	A failure occurred while checking the cleaning of scope. Please check if the network is in normal state.		A communication error occurred	The result of checking the state of cleanliness was judged as error	
8007	Information	Cleaning hasn't been checked yet. Please check if the scope has been cleaned before starting the exam.			Inspection was started without checking the state of cleanliness	
8008	Information	An uncleaned scope may be attached. Please check if the scope has been cleaned before starting the exam.			Inspection was started with the result of checking the state of cleanliness not registered	
8009	Information	An uncleaned scope is attached. Please check if the scope has been cleaned before starting the exam.			Inspection was started without cleaning	

Display error code	Classification level	Display message (occurrence, response)	Display message (guidance to error)	Estimated cause	Trigger of message display	Service response
8010	Information	Please check if the scope, which was checked its cleaning state last, is the one currently attached before starting the exam.			Inspection was started after several times of checking the state of cleanliness	
8011	Information	Querying the server for patient information. Please wait for a while.				
8012	Warning	Querying for patient information will be cancelled because the ID has not been entered. Please enter the patient's ID before querying.	Patient's ID has not been entered yet.	Patient's ID has not been entered yet	The patient information linkage function utilization setting in the server information setting (for service) was "Use search of patient ID only", and a patient ID was not entered when requesting patient information	Request patient information after entering a patient ID.
8013	Warning	Querying for patient information will be cancelled because the patient's ID cannot be read. Please check the magnetic card/barcode settings.	The patient's ID cannot be read from the magnetic card/barcode.	Patient's ID has not been registered yet	The patient information linkage function utilization setting in the server information setting (for service) was "Use" or "Use search of patient ID only", and an patient ID was not registered when requesting patient information	Using barcode data with patient ID registered, RFID data, make a request of obtaining patient information.
8014	Warning	A timeout error occurred. Please check the timeout value in the server information setting.		When connection confirmation failed. Wrong setting of timeout, etc.	When connection confirmation is completed after the "Communication Test" button is pressed on the server information setting screen (for service). (failure route)	Re-check timeout setting, etc.
8015	Information	Checking the connection to the server. Please wait for a while.		Screen checking the connection	Press the "Communication Test" button on the server information setting screen (for service).	Nothing special
8016	Information	Connection to the server succeeded.		In case of success of connection confirmation.	When connection confirmation is completed after the "Communication Test" button is pressed on the server information setting screen (for service). (success route)	Nothing special
8017	Warning	Connection to the server failed. Check the setting.		When connection confirmation failed. Wrong setting of server, etc.	When connection confirmation is completed after the "Communication Test" button is pressed on the server information setting screen (for service). (failure route)	Check server setting again.

Display error code	Classification level	Display message (occurrence, response)	Display message (guidance to error)	Estimated cause	Trigger of message display	Service response
8018	Warning	Patient information could not be obtained from the server.				
8019	Warning	A failure occurred while integrating C@RNACORE. Please check if the network is in normal state.				
8020	Warning	-	-	-	-	-
8021	Error	Communication Error. Check Peripheral Status.		Response of inspection start time-out		
8022	Error	Communication Error. Check Peripheral Status.		Response of inspection start NAK		
8023	Error	Communication Error. Check Peripheral Status.		Response of capture time-out		
8024	Error	Communication Error. Check Peripheral Status.		Response of capture NAK		
8025	Error	Communication Error. Check Peripheral Status.		Response of scope information time-out		
8026	Error	Communication Error. Check Peripheral Status.		Response of scope information NAK		
9001	Warning	Storage authentication failed. Storage functions cannot be used.		When mismatch occurred between the results checked in advance on the setting screen and the results checked at the time of setting completion	On DICOM setting screen (for service), press the button ”Save and Exit” and enter.	Check again if there is any problem as the result of such mismatch.
9002	Information	Storage authentication succeeded. Storage functions can be used.		When mismatch occurred between the results checked in advance on the setting screen and the results checked at the time of setting completion	On DICOM setting screen (for service), press the button ”Save and Exit” and enter.	Check again if there is any problem as the result of such mismatch.
9003	Warning	MWM/MPPS authentication failed. MWM/MPPS functions cannot be used.		When mismatch occurred between the results checked in advance on the setting screen and the results checked at the time of setting completion	On DICOM setting screen (for service), press the button ”Save and Exit” and enter.	Check again if there is any problem as the result of such mismatch.
9004	Information	MWM/MPPS authentication succeeded. MWM/MPPS functions can be used.		When mismatch occurred between the results checked in advance on the setting screen and the results checked at the time of setting completion	On DICOM setting screen (for service), press the button ”Save and Exit” and enter.	Check again if there is any problem as the result of such mismatch.

Display error code	Classification level	Display message (occurrence, response)	Display message (guidance to error)	Estimated cause	Trigger of message display	Service response
9005	Warning	Since authentication of Storage and MWM/MPPS failed, DICOM cannot be used. DICOM utilization setting changed to "Not used".		When mismatch occurred between the results checked in advance on the setting screen and the results checked at the time of setting completion	On DICOM setting screen (for service), press the button ”Save and Exit” and enter.	Check again if there is any problem as the result of such mismatch.
9006	Warning	Authentication of Storage and MWM/MPPS succeeded. To use DICOM functions, change DICOM function utilization setting.		When mismatch occurred between the results checked in advance on the setting screen and the results checked at the time of setting completion	On DICOM setting screen (for service), press the button ”Save and Exit” and enter.	Check again if there is any problem as the result of such mismatch.
9007	Information	Checking the connection to the server. Please wait for a while.		Screen for checking the connection	On DICOM setting screen (for service), press the button ”Verify.”	Nothing special
9008	Information	Connection to the server succeeded.		In case of success of connection confirmation	When connection confirmation was finished after the button ”Verify” was pressed on DICOM setting screen (for service) (success route)	Nothing special
9009	Warning	Connection to the server failed. Check the setting.		In case of failure of connection confirmation. Wrong setting of server, etc.	When connection confirmation was finished after the button ”Verify” was pressed on DICOM setting screen (for service) (failure route)	Check server setting again.
9010	Warning	Authentication status changed as follows. Storage license authentication - Failed MWM/MPPS license authentication - Succeeded		When mismatch occurred between the results checked in advance on the setting screen and the results checked at the time of setting completion	On DICOM setting screen (for service), press the button ”Save and Exit” and enter.	Check again if there is any problem as the result of such mismatch.
9011	Warning	Authentication status changed as follows. Storage license authentication - Succeeded MWM/MPPS license authentication - Failed		When mismatch occurred between the results checked in advance on the setting screen and the results checked at the time of setting completion	On DICOM setting screen (for service), press the button ”Save and Exit” and enter.	Check again if there is any problem as the result of such mismatch.
9012	Information	Creating DICOMDIR file. Please wait for a while.		DICOMDIR index file creation screen	When a DICOM file using a trigger is created on the external memory?	Nothing special

Display error code	Classification level	Display message (occurrence, response)	Display message (guidance to error)	Estimated cause	Trigger of message display	Service response
9013	Information	Creating DICOMDIR file failed.		When writing of the DICOMDIR index file to the external memory has failed.	When a DICOM file using a trigger is created on the external memory?	Check whether the external memory is disconnected, has available free space, or is damaged.
9014	Warning	Connection to Storage server is not established.	Cause: Storage server is not connected to the network or network setting is incorrect.	The server is not connected to the network or something wrong with network setting.	When an event of examination start preparation was received	Check the network connection and setting.
9015	Warning	Connection to MPPS server is not established.	Cause: MPPS server is not connected to the network or network setting is incorrect.	The server is not connected to the network or something wrong with network setting.	When an event of examination start preparation was received	Check the network connection and setting.
9016	Information	License authentication succeeded.			On DICOM setting screen (for service), press button ”Password Confirmation” and enter.	
9017	Warning	License authentication failed. Check the setting.		Something wrong with the information required for license authentication and network connection.	On DICOM setting screen (for service), press button ”Password Confirmation” and enter.	Check the information required for license authentication and network connection.
9018	Warning	Some image files are not yet transferred. Transfer these files to Storage server again?		Under the setting for non-use of media storage at batch transfer, communication failure to the storage server occurred and transfer of all the image files was not completed. Under this condition, examination termination was executed.	Same as on the left	Dialog selection→ (1) Check connection to the storage server, and select “Transfer.” (2) If it is safe to delete the image files, select “Delete.” In case of repetitive failures, check the network cable and the network device
9019	Warning	Some image files are not yet transferred. Transfer these files again on search screen.		In the state that all image files were saved in internal memory under the setting for use of media storage, communication failure to the storage server occurred and transfer of all the image files was not completed. Under this condition, inspection termination was executed.	Same as on the left	Select this examination, and make a request for re-transfer.

Display error code	Classification level	Display message (occurrence, response)	Display message (guidance to error)	Estimated cause	Trigger of message display	Service response
9020	Warning	Some image files are not yet transferred. Transfer these files to Storage server again?		Under the setting for non-use of media storage at transfer during capture, communication failure to the storage server occurred, and transfer of all the image files was not completed. Under this condition, examination termination was executed.	Same as on the left	Dialog selection→ (1) Check connection to the storage server, and select “Transfer.” (2) If it is safe to delete the image files, select “Delete.” In case of repetitive failures, check the network cable and the network device
9021	Warning	Could not send termination notification of MPPS. Send it again?		Communication failure to MPPS server	Same as on the left	Check network connection and setting.
9022	Warning	Obtaining worklist failed.	Cause: MWM server is not connected to the network or network setting is incorrect.	The server is not connected to the network or something wrong with network setting	Same as on the left	Check network connection and setting.
9023	Warning	Communication with Storage server is not established. Create image file?	Cause: Storage server is not connected to the network, or network setting is incorrect.	The server is not connected to the network or something wrong with network setting	When an event of examination start preparation was received	Check network connection and setting.
9024	Information	Transferring image files to Storage server. Please wait for a while.		Image transfer when examination is finished.	When storage transfer was performed when examination was finished.	Nothing special
9025	Information	Creating DICOMDIR file succeeded.		When writing of the DICOMDIR index file to the external memory is successful.	Same as on the left	
9026	Information	Deleting DICOM files. Please wait for a while.		Automatic deletion when examination is finished.	When auto deletion is performed at the time of examination end	Nothing special
9027	Information	Number of shots during examination is limited. Note that shooting may be disabled during examination.	To release the limit, enable external memory backup function and insert external memory.	Inspection was started while not saving to the external memory during batch transfer.	Same as on the left	Review DICOM setting for users.
9028	Information	Exporting DICOMDIR is not executed because no DICOM images exist.	Cause: No DICOM files exist in Internal Memory.	A DICOM file was exported while no DICOM file was saved on the external memory.	Same as on the left	Nothing special

Display error code	Classification level	Display message (occurrence, response)	Display message (guidance to error)	Estimated cause	Trigger of message display	Service response
9029	Warning	Could not send beginning notification of MPPS. Send it again?		Communication failure to MPPS server	Same as on the left	Check the network connection and setting.
9030	Warning	Time-out error occurred. Check the Time-out value of DICOM Basic Settings.		When connection confirmation failed Wrong setting of timeout, etc.	When connection confirmation was finished after pressing ”Verify” on DICOM setting screen (for service) (failure route)	Re-check timeout setting, etc.
9031	Warning	DICOM transfer is not available with the current setting. For a DICOM transfer, select "Use" "the DICOM setting"		DICOM file transfer was tried from the search screen without DICOM being used.	Same as on the left	Re-select transfer data, and review DICOM setting for users and for service.
9032	Information	The modality worklist is not selected. Please check patient information.		The first photographs after inspection start was implemented with patient information not selected.	Same as on the left	Select inspection information again and conduct inspection on the inspection list screen or the patient information input screen.
9033	Information	DICOM reserve 5		DICOM reserve	Same as on the left	
9034	Information	DICOM reserve 6		DICOM reserve	Same as on the left	
9035	Information	DICOM reserve 7		DICOM reserve	Same as on the left	
9036	Information	DICOM reserve 8		DICOM reserve	Same as on the left	
9037	Information	DICOM reserve 9		DICOM reserve	Same as on the left	
9038	Information	DICOM reserve 10		DICOM reserve	Same as on the left	
9039	Information	DICOM reserve 11		DICOM reserve	Same as on the left	
9040	Information	DICOM reserve 12		DICOM reserve	Same as on the left	
9041	Information	DICOM reserve 13		DICOM reserve	Same as on the left	
9042	Information	DICOM reserve 14		DICOM reserve	Same as on the left	
20001	Error	Unplug and plug back endoscope, reset the processor. If the problem persists, contact your local FUJIFILM dealer.	Cause: Processor is in abnormal state.	(1) Failure of the patient PCB (2) Poor connection with the patient PCB	At the time of communication with the patient PCB	In case of repetitive failures, replace the main PCB and the patient PCB.
20002	Information	Iris timer is activated and the amount of light is being decreased. To resume examination, press the FR (Freeze) switch on the scope.		While the iris timer function was ON, the brightness variation did not exceed the threshold value for more than one minute.	Same as on the left	For re-starting the examination, press the FR (Freeze) switch on the scope.
20003	Warning	Connect or disconnect the scope when the scope button lights orange or when the power is OFF.		The scope was removed during examination.	Same as on the left	In case of repetitive failures in spite of the scope not being removed, replace the scope connector and the scope.

Display error code	Classification level	Display message (occurrence, response)	Display message (guidance to error)	Estimated cause	Trigger of message display	Service response
20004	Information	Executing scope color auto adjustment. Please wait for a while.		“Execute Auto Adjust” was selected on the scope color auto adjustment screen.	Same as on the left	If the message does not disappear after a while, restart the processor, and do it again. In case of repetitive failures, replace the scope and the patient PCB.
20007	Warning	Scope color auto adjustment ends abnormally.		(1) The scope color auto adjustment could not be set within the allowable range. (2) The provided jig (an integrating sphere) was not used.	At the time of making scope color auto adjustment	In case of repetitive failures in spite of having made the adjustment again, replace the scope. In case of more repetitive failures, replace the patient PCB.
20008	Information	Scope colors are reset to factory defaults. When writing data to EEPROM, perform "Execute Writing".		“Reset to factory defaults” was selected on the scope color auto / manual adjustment screen, and scope colors were reset normally to factory defaults.	Same as on the left	“Execute Writing” is additionally required in order to write data in EEPROM.
20009	Error	Unplug and plug back endoscope, reset the processor. If the problem persists, contact your local FUJIFILM dealer.	Cause: The processor is in abnormal state.	“Reset to factory defaults” was selected on the scope color auto / manual adjustment screen, and scope color resetting to factory defaults failed.	Same as on the left	In case of repetitive failures, replace the main PCB and the patient PCB.
20011	Information	Writing scope color settings is completed.		“Execute Writing” was selected on the scope color auto/manual adjustment screen, and the writing-in operation ended normally.	Same as on the left	
20012	Error	Unplug and plug back endoscope, reset the processor. If the problem persists, contact your local FUJIFILM dealer.	Cause: The processor is in abnormal state.	“Execute Writing” was selected on the scope color auto/manual adjustment screen, and the writing-in operation failed.	Same as on the left	In case of repetitive failures, replace the main PCB and the patient PCB.
20013	Warning	To end examination, press the scope button for more than 1 second.		During examination, pressed the examination button, and released it in less than 1 second.	Same as on the left	In case of display with the button being pressed for more than 1 second, replace the front panel and the main PCB.
20014	Information	Initializing optical zoom. Please wait for a while.		After start of examination, or after having changed the optical zoom speed, when the optical zoom button was pressed for the first time	Same as on the left	If the message does not disappear after a while, replace the scope.

Display error code	Classification level	Display message (occurrence, response)	Display message (guidance to error)	Estimated cause	Trigger of message display	Service response
20015	Warning	Connected scope cannot be used.		A non-compliant scope was connected and startup or inspection start was executed	Same as on the left	In case of repetitive failures applicable scopes, replace the scope (prototypes or scopes for overseas may have unexpected IDs）and the patient PCB.
20016	Warning	Scope is turned off. Execute scope installation during the standby state.		Performed scope CPU installation with the scope not turned ON.	Same as on the left	In case of repetitive failures in spite of inspectable condition, replace the patient PCB and the main PCB..
20017	Warning	The power is turned off while saving the result of scope color adjustment. Execute scope color adjustment again.		Power turned OFF during writing in for scope color adjustment.	After the same as on the left, whenever starting up till the scope color adjustment results have been properly saved	In case of repetitive failures even if scope color adjustment was tried again, replace the main PCB.
20018	Warning	Examination cannot be started because two scopes are inserted.		When the examination button was pressed, both of the 2 connectors were set.	Same as on the left	In case of repetitive failures even if the scope is not connected to both of the 2 connectors, replace the scope connector and the patient PCB.
20021	Error	Update of scope CPU failed. 400-series scopes cannot be updated.		A scope update was performed while a 400-series scope was connected.	Same as on the left	Updating of a 400-series scope is not possible and must therefore not be executed.
20022	Warning	Automatic color adjustment cannot be executed with this scope.		A 400-series scope with no AWB support was connected.	When auto color adjustment is executed while a 400-series scope with no AWB support is connected.	In case of repetitive failures in a scope that supports AWB execution, replace the patient PCB and main PCB and inspect the scope.
20023	Warning	Unplug and plug back endoscope, reset the processor. If the problem persists, contact your local FUJIFILM dealer.	Cause: Initialization of endoscope failed.	The scope could not be initialized due to communication noise.	When a system startup or inspection is started while a 400-series scope is connected.	In case of repetitive failures, replace the EVE connector, the scope, and the patient PCB.
20024	Warning	Two scopes are inserted. End examination and connect the cap to the connector not to be used.		A second scope was connected during inspection.	Same as on the left	In case of repetitive failures in spite of the second scope not being connected, replace the scope connector, the scope, and the patient PCB.

Display error code	Classification level	Display message (occurrence, response)	Display message (guidance to error)	Estimated cause	Trigger of message display	Service response
20025	Information	Obtaining scope color information. Please wait for a while.		The scope color adjustment screen was launched on a 400-series scope.	Same as on the left. The message only appears for the first time after the start of inspection.	In case when the scope color auto adjustment screen frequently fails to open even after waiting for a while, replace the scope, the main PCB, and the patient PCB.
20026	Information	Writing color settings of 530 Complementary Color scope. Please wait for a while.		Generation of 530 TV scope data was executed.	Same as on the left	In case when the generation of the 530TV scope data frequently fails to complete even after waiting for a while, replace the scope, the main PCB, and the patient PCB.
20027	Error	Unplug and plug back endoscope, reset the processor. If the problem persists, contact your local FUJIFILM dealer.	Cause: The endoscope is in abnormal state.	A sensor initial communication error occurred in the S600 scope.	At notification from the S600 scope	In case of repetitive failures, replace the S600 scope.
20028	Error	Unplug and plug back endoscope, reset the processor. If the problem persists, contact your local FUJIFILM dealer.	Cause: The endoscope is in abnormal state.	A sensor communication error occurred in the S600 scope.	At notification from the S600 scope	In case of repetitive failures, replace the S600 scope.
20029	Error	Unplug and plug back endoscope, reset the processor. If the problem persists, contact your local FUJIFILM dealer.	Cause: The endoscope is in abnormal state.	An EEPROM device error occurred in the S600 scope.	At notification from the S600 scope	In case of repetitive failures, replace the S600 scope.
20030	Error	Turn off processor, unplug and plug back scope, and then turn it back on. If the problem persists, contact our service representatives.	Cause: A power supply error (over-current) occurred.	A power supply error (over-current) occurred in the S600 scope.	At notification from the S600 scope	In case of repetitive failures, replace the S600 scope.
20032	Warning	Unplug and plug back endoscope, reset the processor. If the problem persists, contact your local FUJIFILM dealer.	Cause: The endoscope currently connected is disabled by the setting.	Elle scope was connected while the use of Elle was disabled.		
20033	Information	Scope log file will be exported in External Memory. OK?		Exporting Scope log file was selected at the backup of Service menu.	Same as on the left	Dialog selection

Display error code	Classification level	Display message (occurrence, response)	Display message (guidance to error)	Estimated cause	Trigger of message display	Service response
20034	Information	Exporting Scope log file in External Memory. Please wait for a while.	⇒If the 700 siries scope is not connected, the light source unit and the 700 sireis scope log file cannot be exported.	”Yes” was selected at the above dialog.	Same as on the left	Wait till processing is finished. If the message does not disappear after a while, replace External Memory, USB PCB, and the main PCB.
20035	Information	Exporting Scope log file is completed.		Exporting Scope log file was completed.	Same as on the left	Press any key to close the dialog.
20036	Warning	Exporting Scope log file has failed. Check External Memory.		Exporting Scope log file has failed. ・Abnormality in getting the current time and date. ・File copying to CF failed.	Same as on the left	After the contents of the inserted CF have been backed up in Windows PC, etc., insert CF again and export the file after CF has been physical-formatted instead of being quick-formatted. In case of repetitive errors after that, replace CF, CF PCB and the main PCB.
20037	Warning	Unplug and plug back endoscope, reset the processor. If the problem persists, contact your local FUJIFILM dealer.	Cause: Light source unit or endoscope is connected improperly.	Failure of the patient PCB or poor connection with faulty connection with patient PCB at the time of communication processing with the patient PCB. or Failure of the main PCB, flexible flat cable, or patient power supply	At the time of communication with the patient PCB	Consult your local FUJIFILM dealer, or the service center from which you purchased the product. In case of repetitive failures, replace the main PCB and the patient PCB.
20038	Warning	Connect or disconnect the endoscope when the EXAM. button lights orange or when the power is OFF.		The scope was removed during examination.	Same as on the left	In case of repetitive failures in spite of the scope not being removed, replace the scope connector and the scope.
20039	Error	Clean the equipment in the proper way as specified.If the problem persists, contact your local FUJIFILM dealer.	Cause: Light source unit or endoscope is connected improperly.	Detection of foreign matter (safety circuit drive) Error message: 0x0001		
20040	Error	Unplug and plug back endoscope, reset the processor. If the problem persists, contact your local FUJIFILM dealer.	Cause: The endoscope is in abnormal state.	(SCPU) Abnormality with LD driver Error message: 0x0010		

Display error code	Classification level	Display message (occurrence, response)	Display message (guidance to error)	Estimated cause	Trigger of message display	Service response
20041	Error	Unplug and plug back endoscope, reset the processor. If the problem persists, contact your local FUJIFILM dealer.	Cause: The endoscope is in abnormal state.	(SCPU) Abnormality with FPGA Error message: 0x0020		
20042	Error	Unplug and plug back endoscope, reset the processor. If the problem persists, contact your local FUJIFILM dealer.	Cause: The endoscope is in abnormal state.	(SCPU) Abnormal image Error message: 0x0040		
20043	Error	Clean the equipment in the proper way as specified.If the problem persists, contact your local FUJIFILM dealer.	Cause: Light source unit or endoscope is connected improperly.	(LFCPU) Detection of foreign matter Error message: 0x0080		
20044	Error	Clean the equipment in the proper way as specified.If the problem persists, contact your local FUJIFILM dealer.	Cause: Light source unit or endoscope is connected improperly.	(LFCPU) Detection of foreign matter (abnormal value) Error message: 0x0100		
20045	Error	Clean the equipment in the proper way as specified.If the problem persists, contact your local FUJIFILM dealer.	Cause: Light source unit or endoscope is connected improperly.	(LFCPU) Abnormality with IrDA communications (NG) Error message: 0x0200		
20046	Error	Clean the equipment in the proper way as specified.If the problem persists, contact your local FUJIFILM dealer.	Cause: Light source unit or endoscope is connected improperly.	(LFCPU) Abnormality with IrDA communications (non-NG) Error message: 0x0400		
20047	Error	Clean the equipment in the proper way as specified.If the problem persists, contact your local FUJIFILM dealer.	Cause: Light source unit or endoscope is connected improperly.	(LFCPU) Abnormal image Error message: 0x0800		
20048	Error	Clean the equipment in the proper way as specified.If the problem persists, contact your local FUJIFILM dealer.	Cause: Light source unit or endoscope is connected improperly.	(LFCPU) Abnormal image (self check) Error message: 0x1000		

Display error code	Classification level	Display message (occurrence, response)	Display message (guidance to error)	Estimated cause	Trigger of message display	Service response
20049	Error	Unplug and plug back endoscope, reset the processor. If the problem persists, contact your local FUJIFILM dealer.	Cause: Light source unit is in abnormal state.	(LFCPU) Abnormality with FPGA Error message: 0x2000		
20050	Information	Initializing endoscope. Please wait for a while.		(LFCPU) At the time of reinitialization of scope Error message: 0x4000		
20051	Error	Check the cable connection of WC-LINK terminal, turn off and on the processor.	Cause: The WC-LINK cable is connected improperly.	(RCPU) Abnormal image Error message: 0x8000		
20052	Information	"Special Light Ob. mode" is not available for this endoscope.				
20053	Error	Unplug and plug back endoscope, reset the processor. If the problem persists, contact your local FUJIFILM dealer.	Cause: The patient circuit is in abnormal state.	Patient PCB failure At the time of AFE_FPGA initialization, CONF_DONE/INIT_DONE is not changed to High in three seconds.		
20054	Error	Unplug and plug back endoscope, reset the processor. If the problem persists, contact your local FUJIFILM dealer.	Cause: The FPGA of patient circuit is in abnormal state.	Version upgrade failure The version of AFE_FPGA is not 2.XX.		
30035	Information			Preset setting screen startup		
30036	Information			Preset setting screen end		
30044	Information	Checking the connection with the light source. Please wait.		“Yes” was selected in the 916 dialog.		
30076	Information	The attempted operation cannot be performed in the current state.				
30077	Information	The "FICE" function isn't available for this endoscope. (Only for gastrointestinal endoscopes registered in this system.)		An attempt to switch between FICE ON and simple FICE was made in a scope with destination USA and other than for digestive organs.	FICE ON	

Display error code	Classification level	Display message (occurrence, response)	Display message (guidance to error)	Estimated cause	Trigger of message display	Service response
30078	Warning	Unplug and plug back endoscope, reset the processor. If the problem persists, contact your local FUJIFILM dealer.	Cause: The light source unit is in abnormal state. (CODE = 0x10101)			
30079	Warning	Unplug and plug back endoscope, reset the processor. If the problem persists, contact your local FUJIFILM dealer.	Cause: The Light source unit is in abnormal state. (CODE = 0x10102)			
30080	Warning	Unplug and plug back endoscope, reset the processor. If the problem persists, contact your local FUJIFILM dealer.	Cause: The Light source unit is in abnormal state. (CODE = 0x10201)			
30081	Warning	Unplug and plug back endoscope, reset the processor. If the problem persists, contact your local FUJIFILM dealer.	Cause: The Light source unit is in abnormal state. (CODE = 0x10202)			
30082	Warning	Unplug and plug back endoscope, reset the processor. If the problem persists, contact your local FUJIFILM dealer.	Cause: The Light source unit is in abnormal state. (CODE = 0x10203)			
30083	Warning	Unplug and plug back endoscope, reset the processor. If the problem persists, contact your local FUJIFILM dealer.	Cause: The Light source unit is in abnormal state. (CODE = 0x10204)			
30084	Warning	Unplug and plug back endoscope, reset the processor. If the problem persists, contact your local FUJIFILM dealer.	Cause: The Light source unit is in abnormal state. (CODE = 0x10301)			
30085	Warning	Unplug and plug back endoscope, reset the processor. If the problem persists, contact your local FUJIFILM dealer.	Cause: The Light source unit is in abnormal state. (CODE = 0x10302)			

Display error code	Classification level	Display message (occurrence, response)	Display message (guidance to error)	Estimated cause	Trigger of message display	Service response
30086	Warning	Unplug and plug back endoscope, reset the processor. If the problem persists, contact your local FUJIFILM dealer.	Cause: The Light source unit is in abnormal state. (CODE = 0x10303)			
30087	Warning	Unplug and plug back endoscope, reset the processor. If the problem persists, contact your local FUJIFILM dealer.	Cause: The Light source unit is in abnormal state. (CODE = 0x10304)			
30088	Warning	Unplug and plug back endoscope, reset the processor. If the problem persists, contact your local FUJIFILM dealer.	Cause: The Light source unit is in abnormal state. (CODE = 0x10305)			
30089	Warning	Unplug and plug back endoscope, reset the processor. If the problem persists, contact your local FUJIFILM dealer.	Cause: The Light source unit is in abnormal state. (CODE = 0x10306)			
30090	Warning	Unplug and plug back endoscope, reset the processor. If the problem persists, contact your local FUJIFILM dealer.	Cause: The Light source unit is in abnormal state. (CODE = 0x10307)			
30091	Warning	Unplug and plug back endoscope, reset the processor. If the problem persists, contact your local FUJIFILM dealer.	Cause: The Light source unit is in abnormal state. (CODE = 0x10308)			
30092	Warning	Unplug and plug back endoscope, reset the processor. If the problem persists, contact your local FUJIFILM dealer.	Cause: The Light source unit is in abnormal state. (CODE = 0x10800)			
30093	Warning	Unplug and plug back endoscope, reset the processor. If the problem persists, contact your local FUJIFILM dealer.	Cause: The Light source unit is in abnormal state. (CODE = 0x11301)			

Display error code	Classification level	Display message (occurrence, response)	Display message (guidance to error)	Estimated cause	Trigger of message display	Service response
30094	Warning	Unplug and plug back endoscope, reset the processor. If the problem persists, contact your local FUJIFILM dealer.	Cause: The Light source unit is in abnormal state. (CODE = 0x11302)			
30095	Warning	Unplug and plug back endoscope, reset the processor. If the problem persists, contact your local FUJIFILM dealer.	Cause: The Light source unit is in abnormal state. (CODE = 0x11201)			
30096	Warning	Unplug and plug back endoscope, reset the processor. If the problem persists, contact your local FUJIFILM dealer.	Cause: The Light source unit is in abnormal state. (CODE = 0x11202)			
30097	Warning	Unplug and plug back endoscope, reset the processor. If the problem persists, contact your local FUJIFILM dealer.	Cause: The Light source unit is in abnormal state. (CODE = 0x11101)			
30098	Warning	Unplug and plug back endoscope, reset the processor. If the problem persists, contact your local FUJIFILM dealer.	Cause: The Light source unit is in abnormal state. (CODE = 0x11102)			
30099	Warning	Unplug and plug back endoscope, reset the processor. If the problem persists, contact your local FUJIFILM dealer.	Cause: The light source is in abnormal state. (CODE = 0x11103)			
30100	Warning	Unplug and plug back endoscope, reset the processor. If the problem persists, contact your local FUJIFILM dealer.	Cause: The Light source unit is in abnormal state. (CODE = 0x11104)			
30101	Warning	Unplug and plug back endoscope, reset the processor. If the problem persists, contact your local FUJIFILM dealer.	Cause: The Light source unit is in abnormal state. (CODE = 0x11401)			

Display error code	Classification level	Display message (occurrence, response)	Display message (guidance to error)	Estimated cause	Trigger of message display	Service response
30102	Warning	Unplug and plug back endoscope, reset the processor. If the problem persists, contact your local FUJIFILM dealer.	Cause: The Light source unit is in abnormal state. (CODE = 0x11402)			
30103	Warning	Unplug and plug back endoscope, reset the processor. If the problem persists, contact your local FUJIFILM dealer.	Cause: The Light source unit is in abnormal state. (CODE = 0x11800)			
30104	Error	Unplug and plug back endoscope, reset the processor. If the problem persists, contact your local FUJIFILM dealer.	Cause: The Light source unit is in abnormal state. (CODE = 0x12101)			
30105	Warning	Unplug and plug back endoscope, reset the processor. If the problem persists, contact your local FUJIFILM dealer.	Cause: The Light source unit is in abnormal state. (CODE = 0x12102)			
30106	Warning	Unplug and plug back endoscope, reset the processor. If the problem persists, contact your local FUJIFILM dealer.	Cause: The Light source unit is in abnormal state. (CODE = 0x12103)			
30107	Warning	Unplug and plug back endoscope, reset the processor. If the problem persists, contact your local FUJIFILM dealer.	Cause: The Light source unit is in abnormal state. (CODE = 0x12104)			
30108	Warning	Unplug and plug back endoscope, reset the processor. If the problem persists, contact your local FUJIFILM dealer.	Cause: The Light source unit is in abnormal state. (CODE = 0x12201)			
30109	Warning	Unplug and plug back endoscope, reset the processor. If the problem persists, contact your local FUJIFILM dealer.	Cause: The Light source unit is in abnormal state. (CODE = 0x12202)			

Display error code	Classification level	Display message (occurrence, response)	Display message (guidance to error)	Estimated cause	Trigger of message display	Service response
30110	Warning	Unplug and plug back endoscope, reset the processor. If the problem persists, contact your local FUJIFILM dealer.	Cause: The Light source unit is in abnormal state. (CODE = 0x12203)			
30111	Warning	Unplug and plug back endoscope, reset the processor. If the problem persists, contact your local FUJIFILM dealer.	Cause: The Light source unit is in abnormal state. (CODE = 0x12800)			
30112	Warning	Check the cable connection of WC-LINK terminal, turn off and on the processor.	Cause: The WC-LINK cable is connected improperly.			
30113	Error	Unplug and plug back endoscope, reset the processor. If the problem persists, contact your local FUJIFILM dealer.	Cause: The Light source unit is in abnormal state. (CODE = 0x11104)			
30114	Warning	Unplug and plug back endoscope, reset the processor. If the problem persists, contact your local FUJIFILM dealer.	Cause: The Light source unit is in abnormal state. (CODE = 0x11401)	Light source unit cannot be recognized by the processor.		
30119	Error	Unplug and plug back endoscope, reset the processor and the light source.If the problem persists, contact your local FUJIFILM dealer.	Cause: The light source is in abnormal state. (CODE = 0x10401)			
30120	Error	Unplug and plug back endoscope, reset the processor and the light source.If the problem persists, contact your local FUJIFILM dealer.	Cause: The light source is in abnormal state. (CODE = 0x10402)			
30123	Warning	Unplug and plug back endoscope, reset the processor and the light source.If the problem persists, contact your local FUJIFILM dealer.	Cause: The light source is in abnormal state. (CODE = 0x11601)			

Display error code	Classification level	Display message (occurrence, response)	Display message (guidance to error)	Estimated cause	Trigger of message display	Service response
30127	Information	Light source log file will be exported in External Memory. OK?		Exporting Scope log file was selected at the backup of Service menu.	Same as on the left	Dialog selection→
30128	Information	Exporting light source log file in External Memory. Please wait for a while.	⇒ If the WC-LINK cable is not connected, the light source unit log file cannot be exported.	“Yes” was selected in the above dialog.	Same as on the left	Wait till processing is finished. If the message does not disappear after a while, replace External Memory and the main PCB.
30129	Information	Exporting light source log file is completed.		Exporting light source log file was completed.	Same as on the left	Press any key to close the dialog.
30130	Warning	Exporting light source log file has failed. Check External Memory.		Exporting light source log file has failed. ・Abnormality in getting the current time and date. ・File copying to External Memory failed.	Same as on the left	After the contents of the inserted External Memory have been backed up in Windows PC, etc., insert External Memory again and export the file after External Memory has been physical-formatted instead of being quick-formatted. In case of repetitive errors after that, replace External Memory and the main PCB.
30131	Warning	Check the cable connection between the light source LL-7000 and processor and turn off and on the light source LL-7000 and processor.	Cause: Light source is connected improperly or turned off.	LL-7000 was not recognized by the processor.	At detection of serial communication time out with LL-7000 light source (1 sec x 5 times = 5 sec)	Check the connection of serial communication cable with light source. Check the power of light source. Replace the interface cable. Replace the light source if not improved.
30134	Warning	Perform version upgrade of the LL-7000 application again.	Cause: The light source is started up with the backup program.	Data error was detected in flash memory with built-in CPU at startup. Program may not be updated successfully due to error occurred during version upgrade. Program runs in the backup area.	When version upgrade of LL-7000 light source is failed	Upgrade the version of the light source.
30135	Error	Unplug and plug back endoscope, reset the processor and the light source.If the problem persists, contact your local FUJIFILM dealer.	Cause: The light source LL-7000 is in abnormal state.	Cause: Software logic error was detected in light source. Normal operation is not ensured because of overloaded CPU.	At detection of software error in LL-7000 light	Execute a reset. Stop the device being a source of electromagnetic noise near the light source. Replace the interface cable. Replace the light source if not improved.

Display error code	Classification level	Display message (occurrence, response)	Display message (guidance to error)	Estimated cause	Trigger of message display	Service response
30137	Warning	Unplug and plug back endoscope, reset the processor and the light source.If the problem persists, contact your local FUJIFILM dealer.	Cause: The light source LL-7000 is in abnormal state.	Cause: LD low temperature error was detected in light source. Brightness control was activated and re-lighting was inhibited.	At detection of temperature error in LL-7000 light source	Wait until LD temperature is raised. Replace the light source if not improved.
30138	Warning	Unplug and plug back endoscope, reset the processor and the light source.If the problem persists, contact your local FUJIFILM dealer.	Cause: The light source LL-7000 is in abnormal state.	Cause: LD high temperature error was detected in light source. Brightness control was activated and re-lighting was inhibited.	At detection of temperature error in LL-7000 light source	Wait until LD temperature is lowered. Replace the light source if not improved.
30139	Warning	Unplug and plug back endoscope, reset the processor and the light source.If the problem persists, contact your local FUJIFILM dealer.	Cause: The light source LL-7000 is in abnormal state. (CODE = 0x11203)	Cause: Heat sink low temperature error was detected in light source.	At detection of temperature error in LL-7000 light source	Wait until LD temperature is raised. Replace the light source if not improved.
30140	Warning	Unplug and plug back endoscope, reset the processor and the light source.If the problem persists, contact your local FUJIFILM dealer.	Cause: The light source LL-7000 is in abnormal state. (CODE = 0x11204)	Cause: Heat sink high temperature error was detected in light source.	At detection of temperature error in LL-7000 light source	Wait until LD temperature is lowered. Replace the light source if not improved.
30141	Warning	Unplug and plug back endoscope, reset the processor and the light source.If the problem persists, contact your local FUJIFILM dealer.	Cause: The light source LL-7000 is in abnormal state.	Cause: Cooling fan stop error was detected in light source. This is only a warning and operation is not limited.	At detection of hardware error in LL-7000 light source	No emergency response is required. (It will eventually become LD temperature error.)
30143	Warning	Unplug and plug back endoscope, reset the processor and the light source.If the problem persists, contact your local FUJIFILM dealer.	Cause: The light source LL-7000 is in abnormal state.	Code error of LD PCB (excluding standard LD drive PCB) was detected at light source startup. This is only a warning and operation is not limited. However, normal operation is not ensured.	At detection of hardware error in LL-7000 light source	Replace the light source.
30144	Warning	Unplug and plug back endoscope, reset the processor and the light source.If the problem persists, contact your local FUJIFILM dealer.	Cause: The light source LL-7000 is in abnormal state.	Cause: EEPROM readout error was detected in light source. This is only a warning and operation is not limited. However, normal operation is not ensured.	At detection of hardware error in LL-7000 light source	Replace the light source.

Display error code	Classification level	Display message (occurrence, response)	Display message (guidance to error)	Estimated cause	Trigger of message display	Service response
30145	Warning	Unplug and plug back endoscope, reset the processor and the light source.If the problem persists, contact your local FUJIFILM dealer.	Cause: The light source LL-7000 is in abnormal state.	Cause: EEPROM writing error was detected in light source. This is only a warning and operation is not limited. However, normal operation is not ensured.	At detection of hardware error in LL-7000 light source	Replace the light source.
30146	Information	Checking the status of the built-in light source element.	Cause: The light source LL-7000 is in abnormal state.	A failure was detected in semiconductor laser device with built-in light source. The faulty channel is under investigation.	At detection of LD unit failure in LL-7000 light source	Replace the light source.
30147	Warning	Operating in emergency lamp mode. Take an appropriate measure referring to the operation manual and contact your local FUJIFILM dealer.	Cause: The light source LL-7000 is in abnormal state.	Cause: 405nmLD failure was detected in light source.	At detection of LD unit failure in LL-7000 light source	Replace the light source.
30148	Warning	Operating in emergency lamp mode. Take an appropriate measure referring to the operation manual and contact your local FUJIFILM dealer.	Cause: The light source LL-7000 is in abnormal state.	Cause: 445nmLD failure was detected in light source.	At detection of LD unit failure in LL-7000 light source	Replace the light source.
30150	Error	Unplug and plug back endoscope, reset the processor and the light source.If the problem persists, contact your local FUJIFILM dealer.	Cause: The light source LL-7000 is in abnormal state.	Cause: Overall LD failure was detected in light source	At detection of LD unit failure in LL-7000 light source	Replace the light source.
30151	Warning	Unplug and plug back endoscope, reset the processor and the light source.If the problem persists, contact your local FUJIFILM dealer.	Cause: The light source LL-7000 is in abnormal state.	Cause: Error of machine difference data was detected in light source. Operation is continued with outgoing inspection data.	At detection of data check error in LL-7000 light source	Execute a reset. If not improved, data is determined to be corrupted.
30152	Warning	Unplug and plug back endoscope, reset the processor and the light source.If the problem persists, contact your local FUJIFILM dealer.	Cause: The light source LL-7000 is in abnormal state.	Cause: Outgoing inspection data error was detected in light source. Operation is continued with default data.	At detection of data check error in LL-7000 light source	Execute a reset. If not improved, data is determined to be corrupted.

Display error code	Classification level	Display message (occurrence, response)	Display message (guidance to error)	Estimated cause	Trigger of message display	Service response
30153	Warning	Unplug and plug back endoscope, reset the processor and the light source.If the problem persists, contact your local FUJIFILM dealer.	Cause: The light source LL-7000 is in abnormal state.	Cause: PWM receiving error was detected in light source. The mode is shifted to manual mode. Automatically restored by receiving PWM signals	At detection of disconnection of PWM signals	Execute a reset. Replace the interface cable. Replace the light source if not improved.
30154	Error	Unplug and plug back endoscope, reset the processor and the light source.If the problem persists, contact your local FUJIFILM dealer.	Cause: The light source LL-7000 is in abnormal state.	Cause: FPGA version error was detected in light source. Normal operation cannot be guaranteed even though there is no operation limit.	At detection of FPGA data error in LL-7000 light source	Execute a reset. Upgrade the version of FPGA (rewriting). Replace the light source if not improved.
30155	Error	Unplug and plug back endoscope, reset the processor and the light source.If the problem persists, contact your local FUJIFILM dealer.	Cause: The light source LL-7000 is in abnormal state.	Cause: FPGA register readback error was detected in light source. Normal operation cannot be guaranteed even though there is no operation limit.	At detection of FPGA data error in LL-7000 light source	Execute a reset. Upgrade the version of FPGA (rewriting). Replace the light source if not improved.
30156	Error	Unplug and plug back endoscope, reset the processor and the light source.If the problem persists, contact your local FUJIFILM dealer.	Cause: The light source LL-7000 is in abnormal state.	Cause: FPGA SPI communication error was detected in light source. Normal operation cannot be guaranteed even though there is no operation limit.	At detection of FPGA communication error in LL-7000 light source	Upgrade the version of FPGA (rewriting). Replace the light source if not improved.
30157	Error	Unplug and plug back endoscope, reset the processor and the light source.If the problem persists, contact your local FUJIFILM dealer.	Cause: The light source LL-7000 is in abnormal state.	Cause: Writing error of EEPROM initial value was detected in light source. Normal operation cannot be guaranteed even though there is no operation limit.	At detection of data error in light source	Execute a reset. If not improved, data is determined to be corrupted.
30158	Error	Unplug and plug back endoscope, reset the processor and the light source.If the problem persists, contact your local FUJIFILM dealer.	Cause: The light source LL-7000 is in abnormal state.	A/D converter with built-in CPU was not responding. Normal operation cannot be guaranteed even though there is no operation limit.	At detection of hardware error in LL-7000 light source	Execute a reset. Replace the light source if not improved.
30159	Error	Unplug and plug back endoscope, reset the processor and the light source.If the problem persists, contact your local FUJIFILM dealer.	Cause: The light source LL-7000 is in abnormal state.	Logical error (zero division, overflow, etc.) occurred during the operation of the CPU with built-in light source. Normal operation cannot be guaranteed even though there is no operation limit.	At detection of software error in LL-7000 light source	Execute a reset. Replace the light source if not improved.

Display error code	Classification level	Display message (occurrence, response)	Display message (guidance to error)	Estimated cause	Trigger of message display	Service response
40001	Information	Printing in progress. Please wait for a while.		Manual printing in progress	Pressed the print start-up button	If the message does not disappear after a while, replace the digital printer.
40003	Warning	Printer cannot be recognized. Check the printer power and cable connection.	To cancel printing, select the [Cancel] button.	The printer is not USB-connected, or the printer power is turned OFF.	When starting to print after examination is finished	In case of repetitive failures, replace the digital printer as well as USB cable connected to the digital printer.
40004	Warning	Paper jamming occurred in printer. Remove paper.	To cancel printing, select the [Cancel] button.	Paper jamming occurred	When starting to print after examination is finished	In case of repetitive failures without paper jamming, replace the digital printer.
40005	Warning	Ink sheet is not set in printer. Set ink sheet.	To cancel printing, select the [Cancel] button.	Ink sheet cassette is not yet set.	When starting to print after examination is finished	In case of repetitive failures in spite of ink sheet being set, replace the digital printer.
40006	Warning	Printer ink sheet has run out. Replace ink sheet.	To cancel printing, select the [Cancel] button.	Ink sheet ran out.	When starting to print after examination is finished	In case of repetitive failures even if ink sheet has been replaced by a new one, replace the digital printer.
40007	Warning	Printer ink sheet is incorrect. Replace it with a correct ink sheet.	To cancel printing, select the [Cancel] button.	Cannot detect ink sheet information.	When starting to print after examination is finished	In case of repetitive failures even if a correct ink sheet is set, replace the digital printer.
40008	Warning	Printer paper and ink sheet sizes do not match. Match printer paper and ink sheet sizes.	To cancel printing, select the [Cancel] button.	Wrong combination of ink sheet and paper	When starting to print after examination is finished	In case of repetitive failures in spite of correct combination of ink sheet and paper, replace the digital printer.
40009	Warning	Printer ink sheet is incorrect. Replace it with a correct ink sheet.	To cancel printing, select the [Cancel] button.	Unusable ink sheet was set.	When starting to print after examination is finished	In case of repetitive failures in spite of correct ink sheet being set, replace the digital printer.
40010	Warning	Printer ink sheet has run out. Replace ink sheet.	To cancel printing, select the [Cancel] button.	No remaining amount on the media IC	When starting to print after examination is finished	In case of repetitive failures in spite of replacement by a new ink sheet, replace the digital printer.
40011	Warning	Printer paper has run out. Set printer paper.	To cancel printing, select the [Cancel] button.	Paper has not yet been set	When starting to print after examination is finished	In case of repetitive failures in spite of paper being set, replace the digital printer.
40012	Warning	Printer paper and ink sheet sizes do not match. Match printer paper and ink sheet sizes.	To cancel printing, select the [Cancel] button.	Detected non-designated paper.	When starting to print after examination is finished	In case of repetitive failures in spite of correct combination of ink sheet and paper, replace the digital printer.
40013	Warning	Printer paper has run out. Set printer paper.	To cancel printing, select the [Cancel] button.	Paper ran out (end hole detected)	When starting to print after examination is finished	In case of repetitive failures even if paper is additionally set, replace the digital printer.

Display error code	Classification level	Display message (occurrence, response)	Display message (guidance to error)	Estimated cause	Trigger of message display	Service response
40014	Warning	Printer door is open. Check printer.		Printer door is open.	At the time of access to the printer, common	In case of repetitive failures even if the printer door is closed, replace the digital printer.
40015	Error	Turn printing device off and back on. If the problem persists, contact our service representatives.	Cause: Error occurred in printing device.	Indicated that positioning could not be performed because the mechanical portion did not function normally.	At the time of access to the printer	In case of repetitive failures, replace the digital printer.
40016	Warning	Preparation for printing is in progress. Please wait for a while.	To cancel printing, select the [Cancel] button.	While the mechanical portion is being initialized	When starting to print after examination is finished	In case of repetitive failures, replace the digital printer.
40017	Warning	Adjusting the printer-head temperature. Please wait for a while.	To cancel printing, select the [Cancel] button.	Abnormally high heat is generated.	When starting to print after examination is finished	In case of repetitive failures, replace the digital printer.
40019	Warning	Printer cannot be recognized. Check the printer power and cable connection.	To print after examination, select the [Cancel] button.	The printer is not USB-connected, or the printer is turned OFF.	At the time of application start-up, at the time of auto print start upon examination start	In case of repetitive failures, replace the USB cable connected to the digital printer, and the digital printer.
40020	Warning	Paper jamming occurred in printer. Remove paper.	To print after examination, select the [Cancel] button.	Paper jamming occurred.	At the time of application start-up, at the time of auto print start upon examination start	In case of repetitive failures even if paper is not jammed, replace the digital printer.
40021	Warning	Ink sheet is not set in printer. Set ink sheet.	To print after examination, select the [Cancel] button.	Ink sheet cassette is not set.	At the time of application start-up, at the time of auto print start upon examination start	In case of repetitive failures even if ink sheet is set, replace the digital printer.
40022	Warning	Printer ink sheet has run out. Replace ink sheet.	To print after examination, select the [Cancel] button.	Ink sheet has run out.	At the time of application start-up, at the time of auto print start upon examination start	In case of repetitive failures even if the ink sheet has been replaced by a new one, replace the digital printer.
40023	Warning	Printer ink sheet is incorrect. Replace it with a correct ink sheet.	To print after examination, select the [Cancel] button.	Ink sheet information cannot be detected.	At the time of application start-up, at the time of auto print start upon examination start	In case of repetitive failures even if correct ink sheet is set, replace the digital printer.
40024	Warning	Printer paper and ink sheet sizes do not match. Match printer paper and ink sheet sizes.	To print after examination, select the [Cancel] button.	Incorrect combination of ink sheet and paper	At the time of application start-up, at the time of auto print start upon examination start	In case of repetitive failures in spite of correct combination of ink sheet and paper, replace the digital printer.
40025	Warning	Printer ink sheet is incorrect. Replace it with a correct ink sheet.	To print after examination, select the [Cancel] button.	Unusable ink sheet was set.	At the time of application start-up, at the time of auto print start upon examination start	In case of repetitive failures even if correct ink sheet is set, replace the digital printer.

Display error code	Classification level	Display message (occurrence, response)	Display message (guidance to error)	Estimated cause	Trigger of message display	Service response
40026	Warning	Printer ink sheet has run out. Replace ink sheet.	To print after examination, select the [Cancel] button.	No remaining amount on the media IC	At the time of application start-up, at the time of auto print start upon examination start	In case of repetitive failures even if the ink sheet has been replaced by a new one, replace the digital printer.
40027	Warning	Printer paper has run out. Set printer paper.	To print after examination, select the [Cancel] button.	Paper has not yet been set	At the time of application start-up, at the time of auto print start upon examination start	In case of repetitive failures in spite of paper being set, replace the digital printer.
40028	Warning	Printer paper and ink sheet sizes do not match. Match printer paper and ink sheet sizes.	To print after examination, select the [Cancel] button.	Detected non-designated paper.	At the time of application start-up, at the time of auto print start upon examination start	In case of repetitive failures in spite of correct combination of ink sheet and paper, replace the digital printer.
40029	Warning	Printer paper has run out. Set printer paper.	To print after examination, select the [Cancel] button.	Paper ran out (end hole detected)	At the time of application start-up, at the time of auto print start upon examination start	In case of repetitive failures in spite of paper being set, replace the digital printer.
40030	Warning	Preparation for printing is in progress. Please wait for a while.	To print after examination, select the [Cancel] button.	Mechanical portion is being initialized.	At the time of application start-up, at the time of auto print start upon examination start	In case of repetitive failures, replace the digital printer.
40031	Warning	Adjusting the temperature of the printer head. Please wait for a while.	To print after examination, select the [Cancel] button.	Abnormally high heat is generated.	At the time of application start-up, at the time of auto print start upon examination start	In case of repetitive failures, replace the digital printer.
40032	Warning	Paper jamming occurred in printer. Remove paper.	When paper is removed, printing resumes automatically.	Paper jamming occurred.	When error occurred during manual printing after examination	In case of repetitive failures even if paper is not jammed, replace the digital printer.
40033	Warning	Printer ink sheet has run out. Replace ink sheet.	When ink sheet is replaced, printing resumes automatically.	Ink sheet has run out.	When error occurred during manual printing after examination	In case of repetitive failures even if the ink sheet has been replaced by a new one, replace the digital printer.
40034	Warning	Printer paper and ink sheet sizes do not match. Match printer paper and ink sheet sizes.	When printer paper and ink sheet sizes match with each other, printing resumes automatically.	Incorrect combination of ink sheet and paper	When error occurred during manual printing after examination	In case of repetitive failures in spite of correct combination of ink sheet and paper, replace the digital printer.
40035	Warning	Printer ink sheet is incorrect. Replace it with a correct ink sheet.	When replaced with a correct ink sheet, printing resumes automatically.	Unusable ink sheet was set.	When error occurred during manual printing after examination	In case of repetitive failures even if correct ink sheet is set, replace the digital printer.

Display error code	Classification level	Display message (occurrence, response)	Display message (guidance to error)	Estimated cause	Trigger of message display	Service response
40036	Warning	Printer paper and ink sheet sizes do not match. Match printer paper and ink sheet sizes.	When printer paper and ink sheet sizes match with each other, printing resumes automatically.	Detected non-designated paper.	When error occurred during manual printing after examination	In case of repetitive failures in spite of correct combination of ink sheet and paper, replace the digital printer.
40037	Warning	Printer paper has run out. Set printer paper.	When paper is set, printing resumes automatically.	Paper ran out (end hole detected)	When error occurred during manual printing after examination	In case of repetitive failures in spite of paper being set, replace the digital printer.
40038	Warning	Preparation for printing is in progress. Please wait for a while.	After a while, printing resumes automatically.	Mechanical portion is being initialized.	When error occurred during manual printing after examination	In case of repetitive failures, replace the digital printer.
40039	Warning	Adjusting the printer-head temperature. Please wait for a while.	After a while, printing resumes automatically.	Abnormally high heat is generated.	When error occurred during manual printing after examination	In case of repetitive failures, replace the digital printer.
40040	Warning	Paper jamming occurred in printer. Remove paper.	When paper is removed, printing resumes automatically.	Paper jamming occurred.	When error occurred during automatic printing during examination	In case of repetitive failures even if paper is not jammed, replace the digital printer.
40041	Warning	Printer ink sheet has run out. Replace ink sheet.	When ink sheet is replaced, printing resumes automatically.	Ink sheet has run out.	When error occurred during automatic printing during examination	In case of repetitive failures even if the ink sheet has been replaced by a new one, replace the digital printer.
40042	Warning	Printer paper and ink sheet sizes do not match. Match printer paper and ink sheet sizes.	When printer paper and ink sheet sizes match with each other, printing resumes automatically.	Incorrect combination of ink sheet and paper	When error occurred during automatic printing during examination	In case of repetitive failures in spite of correct combination of ink sheet and paper, replace the digital printer.
40043	Warning	Printer ink sheet is incorrect. Replace it with a correct ink sheet.	When replaced with a correct ink sheet, printing resumes automatically.	Unusable ink sheet was set.	When error occurred during automatic printing during examination	In case of repetitive failures even if correct ink sheet is set, replace the digital printer.
40044	Warning	Printer paper and ink sheet sizes do not match. Match printer paper and ink sheet sizes.	When printer paper and ink sheet sizes match with each other, printing resumes automatically.	Detected non-designated paper.	When error automatic manual printing during examination	In case of repetitive failures in spite of correct combination of ink sheet and paper, replace the digital printer.
40045	Warning	Printer paper has run out. Set printer paper.	When paper is set, printing resumes automatically.	Paper ran out (end hole detected)	When error occurred during automatic printing during examination	In case of repetitive failures in spite of paper being set, replace the digital printer.

Display error code	Classification level	Display message (occurrence, response)	Display message (guidance to error)	Estimated cause	Trigger of message display	Service response
40046	Warning	Preparation for printing is in progress. Please wait for a while.	After a while, printing resumes automatically.	Mechanical portion is being initialized.	When error occurred during automatic printing during examination	In case of repetitive failures, replace the digital printer.
40047	Warning	Adjusting the temperature of the printer head. Please wait for a while.	After a while, printing resumes automatically.	Abnormally high heat is generated.	When error occurred during automatic printing during examination	In case of repetitive failures, replace the digital printer.
40048	Error	Image-file loading failed.		Exif information in the image file could not be read.	After pressing the button ”Start Print,” an error returned from the common library “CComInfoFile.”	In case of repetitive errors, replace the external memory, main PCB
40049	Error	After exiting, turn processor off and back on, and then retry printing. If the problem persists, contact our service representatives.	Cause: Error occurred in processor.	Error of access to the image file Pint any images without images specified.	After pressing the button ”Start Print,” an error returned from the common library “CComInfoFile.”	In case of repetitive errors, replace the external memory, main PCB
40050	Warning	Paper jamming occurred in printer. Remove paper.	To cancel printing, select the [Cancel] button.	Paper jamming occurred.	At the time of printer access	
40051	Warning	Printer is busy. Check the printer.	To cancel printing, select the [Cancel] button.	During cleaning, during the MENU operation, in transport mode.	At the time of printer access	
40052	Warning	Too many printouts are deposited at the paper exit area. Please remove them.	To cancel printing, select the [Cancel] button.	When too many printouts are deposited at the paper exit area.	At the time of printer access	
40053	Warning	Now regulating the head temperature of the printer.	To cancel printing, select the [Cancel] button.	HEATING: head temperature < 10 deg C COOLING: Head temperature with laminate > 55 deg C Head temperature without laminate > 60 deg C	At the time of printer access	
40054	Warning	Paper jamming occurred in printer. Remove paper.	To print after examination, select the [Cancel] button.	Paper jamming occurred.	At the time of printer access	
40055	Warning	Printer is busy. Check the printer.	To print after examination, select the [Cancel] button.	During cleaning, during the MENU operation, in transport mode.	At the time of printer access	
40056	Warning	Too many printouts are deposited at the paper exit area. Please remove them.	To print after examination, select the [Cancel] button.	When too many printouts are deposited at the paper exit area.	At the time of printer access	

Display error code	Classification level	Display message (occurrence, response)	Display message (guidance to error)	Estimated cause	Trigger of message display	Service response
40057	Warning	Now regulating the head temperature of the printer.	To print after examination, select the [Cancel] button.	HEATING: head temperature < 10 deg C COOLING: Head temperature with laminate > 55 deg C Head temperature without laminate > 60 deg C	At the time of printer access	
40058	Warning	Paper jamming occurred in printer. Remove paper.	When paper is removed, printing resumes automatically.	Paper jamming occurred.	At the time of printer access	
40059	Warning	Printer is busy. Check the printer.	After a while, printing resumes automatically.	During cleaning, during the MENU operation, in transport mode.	At the time of printer access	
40060	Warning	Too many printouts are deposited at the paper exit area. Please remove them.	When paper is removed, printing resumes automatically.	When too many printouts are deposited at the paper exit area.	At the time of printer access	
40061	Warning	Now regulating the head temperature of the printer.	After a while, printing resumes automatically.	HEATING: head temperature < 10 deg C COOLING: Head temperature with laminate > 55 deg C Head temperature without laminate > 60 deg C	At the time of printer access	
40062	Warning	Paper jamming occurred in printer. Remove paper.	When paper is removed, printing resumes automatically.	Paper jamming occurred.	At the time of printer access	
40063	Warning	Printer is busy. Check the printer.	After a while, printing resumes automatically.	During cleaning, during the MENU operation, in transport mode.	At the time of printer access	
40064	Warning	Too many printouts are deposited at the paper exit area. Please remove them.	When paper is removed, printing resumes automatically.	When too many printouts are deposited at the paper exit area.	At the time of printer access	
40065	Warning	Now regulating the head temperature of the printer.	After a while, printing resumes automatically.	HEATING: head temperature < 10 deg C COOLING: Head temperature with laminate > 55 deg C Head temperature without laminate > 60 deg C	At the time of printer access	

Display error code	Classification level	Display message (occurrence, response)	Display message (guidance to error)	Estimated cause	Trigger of message display	Service response
40066	Warning	Printer door is open. Check printer.	To cancel printing, select the [Cancel] button.	The door was open	At the time of printer access	
40067	Warning	Printer door is open. Check printer.	To print after examination, select the [Cancel] button.	The door was open	At the time of printer access	
40068	Warning	Printer door is open. Check printer.	After a while, printing resumes automatically.	The door was open	At the time of printer access	
40069	Warning	Printer door is open. Check printer.	After a while, printing resumes automatically.	The door was open	At the time of printer access	
40070	Error	Contact the sales agent or our service representatives.	Cause: Error occurred in printing device.	An error with unknown cause occurred in a printer when accessing to the printer. Or a fault in digital printer.	At the time of printer access	In case of repetitive errors, replace the digital printer
40071	Warning	Ink sheet is not set in printer. Set ink sheet.	When ink sheet is set, printing resumes automatically.	End of ink sheet	When error occurred during manual printing after inspection.	In case of repetitive errors after replacing with a new ink sheet, replace the digital printer
40072	Warning	Ink sheet is not set in printer. Set ink sheet.	When ink sheet is set, printing resumes automatically.	End of ink sheet	When error occurred during automatic printing in inspection.	In case of repetitive errors after replacing with a new ink sheet, replace the digital printer
40073	Warning	Printer paper and printer ink sheet has run out. Set printer paper and ink sheet.	To cancel printing, select the [Cancel] button.	Printer paper and ink sheet have run out simultaneously	When starting printing after inspection is terminated.	In case of repetitive errors after setting printer paper and ink sheet, replace the digital printer
40074	Warning	Printer paper and printer ink sheet has run out. Set printer paper and ink sheet.	To print after examination, select the [Cancel] button.	Printer paper and ink sheet have run out simultaneously	When an application is started to run, when automatic printing is started at inspection start.	In case of repetitive errors after setting printer paper and ink sheet, replace the digital printer
40075	Warning	Printer paper and printer ink sheet has run out. Set printer paper and ink sheet.	When paper and ink sheet is set, printing resumes automatically.	Printer paper and ink sheet have run out simultaneously	When error occurred during manual printing after inspection.	In case of repetitive errors after setting printer paper and ink sheet, replace the digital printer
40076	Warning	Printer paper and printer ink sheet has run out. Set printer paper and ink sheet.	When paper and ink sheet is set, printing resumes automatically.	Printer paper and ink sheet have run out simultaneously	When error occurred during automatic printing in inspection.	In case of repetitive errors after setting printer paper and ink sheet, replace the digital printer

Display error code	Classification level	Display message (occurrence, response)	Display message (guidance to error)	Estimated cause	Trigger of message display	Service response
41001	Information	Initializing printer. Please wait for a while.		Because the printer was being initialized, the command could not be performed.		If printing was tried again after a while and could not be performed, replace the video printer.
41004	Warning	Printer cannot be recognized. Check the printer power and cable connection.	Cause: Printer is turned off or printer and processor are connected improperly.	Communication command with the printer is time-out, because: (1) the printer is not turned ON, or (2) something wrong occurred with connection between the printer and processor	When confirming connection at start-up, At the time of print processing	(1) Turn ON the printer. (2) Check if the printer and processor are connected. In case of repetitive failures, replace the printer and the main PCB.
41005	Warning	Printing in progress. Load images after printing is finished.		When a trigger event was given under the condition that the unit main body is full of images to be memorized	In case of print instruction given during print processing	Wait till printing is finished. In case of repetitive failures even if not during printing, replace the printer and the main PCB.
41006	Warning	Printer door is open. Check printer.		The printer door is opened.	At the time of instruction to print	In case of repetitive failures even if the door is not opened, replace the printer.
41007	Warning	Printer paper has run out. Set printer paper.		Printer paper has run out.	Same as above	In case of repetitive failures even if the printer is not running short of paper, replace the printer.
41008	Warning	Ink sheet is not set in printer. Set ink sheet.		The ink sheet is not yet set.	Same as above	In case of repetitive failures even if the ink sheet is set, replace the printer.
41009	Warning	Printer ink sheet has run out. Replace ink sheet.		The printer ink sheet has run out.	Same as above	In case of repetitive failures even if the printer ink sheet has not run out, replace the printer.
41010	Warning	Paper jamming occurred in printer. Remove paper.		The printer caused a paper jam.	During printing	In case of repetitive failures even if the printer is not causing a paper jam, replace the printer.
41011	Warning	Printer paper and ink sheet sizes do not match. Match printer paper and ink sheet sizes.		Wrong combination of ink sheet and paper	Same as above	In case of repetitive failures in spite of correct combination, replace the printer.
41012	Warning	Preparation for printing is in progress. Please wait for a while.		Capture was prohibited just after printing start.		Cannot capture just after print start from the video printer. In case of repetitive failures while not printing, replace the video printer.
41014	Warning	No input signal to the printer. Check the input cable or device settings.		No input signal to the printer.		In case of repetitive failures, replace the input cable and the video printer.

Display error code	Classification level	Display message (occurrence, response)	Display message (guidance to error)	Estimated cause	Trigger of message display	Service response
41015	Warning	No images are loaded to the printer.		Requested for printing without images being loaded to the printer.		In case of repetitive failures after capture, replace the video printer.
41016	Warning	Adjusting head temperature.		When the head temperature increased too much.		In case of repetitive failures, replace the video printer.
41017	Warning	Printer paper tray is full. Remove paper.		When paper was clogged in the paper outlet and paper could not come out		In case of repetitive failures in spite of paper not clogged, replace the video printer.
41018	Error	Communication error with printer. Restart printer.		Abnormality in serial communication with the printer (data length and parameter do not conform to IF specifications)	When a different response than IF specifications was received from the printer	In case of repetitive failures, replace the printer and the main PCB as well as the serial cable connected to the printer.
41019	Error	Printer is in abnormal state. Check printer.		Abnormal state on the printer side	The command “Other error occurred” was received from the printer.	In case of repetitive failures, replace the printer.
42001	Warning	Connection to the still recorder cannot be confirmed. Check the still recorder.		Communication with the device cannot be established. (1) The device is not turned on. (2) Error occurred in the connection between the device and processor.	When confirming connection at start-up At the time of still save processing	In case of repetitive failures, replace the cable connected to the still recorder, the still recorder, and the main PCB.
42003	Warning	No disk is inserted in the still recorder. Insert a disk.		No disk is inserted in the device.	At the time of capture	In case of repetitive failures even when the disk is inserted, replace the still recorder.
42005	Warning	The disk in the still recorder is full. Replace the disk?		The disk inserted in the device is full.	At the time of capture	In case of repetitive failures even when there is free space available on the disk, replace the still recorder.
42006	Warning	The disk in the still recorder is not supported. Insert a DVD-RAM disk.		An attempt was made to write to an unsupported disk in a format other than DVD-RAM.	Same as above	In case of repetitive failures even when a DVD-RAM formatted disk is inserted, replace the disk and the still recorder.
42007	Warning	The disk in the still recorder is write-protected. Insert a recordable disk.		The disk is write-protected.	Same as above	Remove the write-protect or replace with a writable disk. In case of repetitive failures even if the write protection is removed, replace the still recorder.
42009	Warning	The disk in the still recorder is not formatted. Insert a formatted disk.		The disk has not been formatted.	Same as above	Replace the disk with a formatted disk. (or perform the format operation on the device?)

Display error code	Classification level	Display message (occurrence, response)	Display message (guidance to error)	Estimated cause	Trigger of message display	Service response
42010	Warning	Data cannot be written on the disk in the still recorder. Replace the disk.		Could not write to the disk.	Same as above	Replace the disk.
42011	Warning	Still images cannot be recorded in the still recorder.		(1) A busy signal was returned when a capture instruction was sent to the device.	Same as above	Still recording cannot exceed the continuous shooting capability described in the manual. In case of repetitive failures even when within the continuous shooting capability described in the manual, replace the still recorder and the main PCB.
42012	Warning	No input signal to the still recorder. Check the input cable or device settings.		No input signal to the printer.	Timing in which the device initialization was requested, such as at the start of inspection or during capture	In case of repetitive failures, replace the input cable and the still recorder.
42013	Warning	Recording failed		ERR_REC_ERROR was returned for a recording request from the still recorder.	Same as on the left	In case of repetitive failures, replace the still recorder.
42014	Error	Communication error with still recorder. Restart the device.		Serial communication error occurred with still recorder. Or a failure occurred in the cable or the still recorder.	Same as on the left	In case of repetitive failures, replace the still recorder and the main PCB.
43001	Warning	Connection to the video recorder cannot be confirmed. Check the video recorder.	Cause: Video recorder is turned off or video recorder and processor are connected improperly.	Communication with the device cannot be established. (1) The device is not turned on. (2) Error occurred in the connection between the device and processor.	When checking connection at start-up At the time of instruction to record video	(1) Turn on the device. (2) Verify that the device is connected with processor. In case of repetitive failures, replace the cable connected to the video recorder, the video recorder, and the main PCB.
43002	Warning	No disk is inserted in the video recorder. Insert a disk.		No disk is inserted in the device.	At the time of instruction to record video	In case of repetitive failures even when the disk is inserted, replace the video recorder.
43003	Warning	The disk in the video recorder is full. Replace it with a new disk.		The disk inserted in the device became full.	Same as above	In case of repetitive failures even when a disk with available free space is inserted, replace the disk and the video recorder.
43004	Warning	The disk in the video recorder is not supported. Insert a "DVD-RAM" or "DVD-R" disk.		An attempt was made to write to an unsupported disk in a format other than DVD-RAM/R (Check when the disk is inserted?). The supported disk format on LDQ-MD800 is DVD-RAM/R.	Same as above	In case of repetitive failures even when a supported disk is inserted, replace the disk and the video recorder.

Display error code	Classification level	Display message (occurrence, response)	Display message (guidance to error)	Estimated cause	Trigger of message display	Service response
43005	Warning	Data cannot be written on the disk in the video recorder. Insert a recordable disk.	Cause: Disk is full or maximum number of recordable files are already stored.	The disk is write-protected.	Same as above	In case of repetitive failures when the inserted disk is not write-protected and the maximum number of recordings has not been reached, replace the disk or the video recorder.
43006	Warning	The disk in the video recorder is not recordable. Check the disk.	At the time of disk status confirmation, the status "not recordable" is returned from the device.	The disk is supported but cannot be written to due to the following reason(s): (1) The disk has a failure. (2) The disk is in DVD-R format but has been finalized.	Same as above	Replace the disk. In case of repetitive failures, replace the video recorder.
43007	Warning	The disk in the video recorder is not formatted. Insert a formatted disk.	Cause: DVD-RAM disk is not formatted.	The DVD-RAM disk has not been formatted.	Same as above	Format the DVD-RAM disk on the device. In case of repetitive failures, replace the video recorder.
43008	Warning	The video recorder is busy.		Capture was performed while the device was in busy state such as “Finalizing DVD-R”.	Same as above	Wait until the processing on the video recorder is finished. If the processing does not finish, restart the video recorder. In case of repetitive failures even when the video recorder is not executing any operation, replace the video recorder.
43009	Warning	Patient has been switched during examination. Recording will be continued.		When the patient is switched during inspection		In case of repetitive failures even if no switching of patients is performed during recording, replace the digital printer and the main PCB.
43010	Warning	Disk tray is open. Check the disk tray.		Tried to connect while the tray was open.	Same as on the left	In case of repetitive failures even when the tray is closed, replace the video recorder.
43011	Warning	The video recorder is running. To start recording, stop running and try again.		An instruction was issued the recorder was running (recording, paused, or stopped).	Same as on the left	Issue the instruction again after stopping the operation using the STOP button, etc. In case of repetitive failures even when not playing, replace the video recorder.
43013	Error	Communication error with video recorder. Restart the device.		Serial communication error occurred with video recorder. Or a failure occurred in the cable or the video recorder.	Same as on the left	In case of repetitive failures, replace the printer, the main PCB and the serial cable connected to the video recorder.

Display error code	Classification level	Display message (occurrence, response)	Display message (guidance to error)	Estimated cause	Trigger of message display	Service response
43014	Error	Video recorder is in abnormal state. Check the device.		Error occurred in the video recorder. Or a failure occurred in the video recorder.	When response from the video recorder is received in error code.	In case of repetitive failures, replace the video recorder.
44001	Error	Communication error with DICOM GW equipment. Check the connection.		Serial communication with DG equipment is in abnormal state.	Same as on the left	In case of repetitive failures, replace DG equipment and the main PCB.
44002	Error	A communication error is detected with SU equipment. Check the connection.		Error occurred in the serial communication with ultrasonic endoscope. Or a failure occurred in the cable or the ultrasonic endoscope.	Switching patients	Check the connection cable and replace the main PCB in case of repetitive failures.
44003	Information			Communication with the ultrasonic processor was timed out.	When ultrasonic processor is not connected by serial communication cable *No message is displayed. Logging only.	Check the cable connection with ultrasonic processor. Check the power of ultrasonic processor. Replace the cable. Replace the light source if not improved.
50005	Information	Please enter a password. (Press [ESC] key to cancel.)		Login authentication password dialog	When the function needing login authentication is selected	
50006	Warning	New password and Confirm password mismatch.		Password was not matched.	When login password is input	
50007	Warning	This Password is not available.		Password was invalid.	When login password is input	
50008	Warning	Incorrect Password.		Password was incorrect.	When login password is input	
50009	Information	Changing password succeeded.		Password was successfully changed.	When login password is input	
50010	Information			Login was successful: User	At successful login	
50011	Information			Login was successful: Administrator	At successful login	
50012	Information			Login was successful: Service	At successful login	
50013	Information			Login was successful: Service center	At successful login	
50014	Information			Login was successful: Factory	At successful login	
50015	Information			Login was successful: Factory base	At successful login	
50016	Information			Log-off was executed.	At the time of logoff	

Checkup, Replacement and Adjustment

Precautions during Checkup, Replacement and Adjustment of Each Component

Warning

Start work after the device power has been turned OFF to prevent electric shock.

Caution

- **In maintaining PCB, be sure to wear wristbands to ground your body. Otherwise static electricity of the body may damage electronic components on PCB.**
- **In maintaining PCB, be sure not to apply force on the central part of PCB with both sides of PCB being held or to bend PCB. Such applied force or bending may cause a crack on a solder connection portion or a loose connection of a solder connection portion.**
- **In maintaining PCB, do not touch connector pins on PCB with your bare hands.**
- **Since immediately after the power OFF, the temperature of components has not fallen sufficiently, there may be residual charge inside electronic elements of the PCB. Be careful to prevent an electric shock or burn.**
- **Inside a machine body, there are components becoming high temperature and terminals where a large current is flown. Be careful to prevent an electric shock or burn while the power is turned ON with cover opened.**

◆Instruction◆

- Safety by grounding is maintained by proper connection of power cable and additional protective grounding and fixing screws of parts.
  In order to maintain safety, restore parts and fixing screws which were once removed during the maintenance operation to the original position of the installation. Confirm by following steps indicated in this service manual if fixing screws are not loosened and parts are securely fixed after the restoration.
- The connector removed during work is installed securely and no oblique insertion.
  The connector with lock mechanism is securely lock.
  Confirm after restoration.
- When reinstalling the tapping screw, a specified tightening torque is used.
  A screw is impossible in reuse if it rotates in vain.

1. Parts exchange procedure

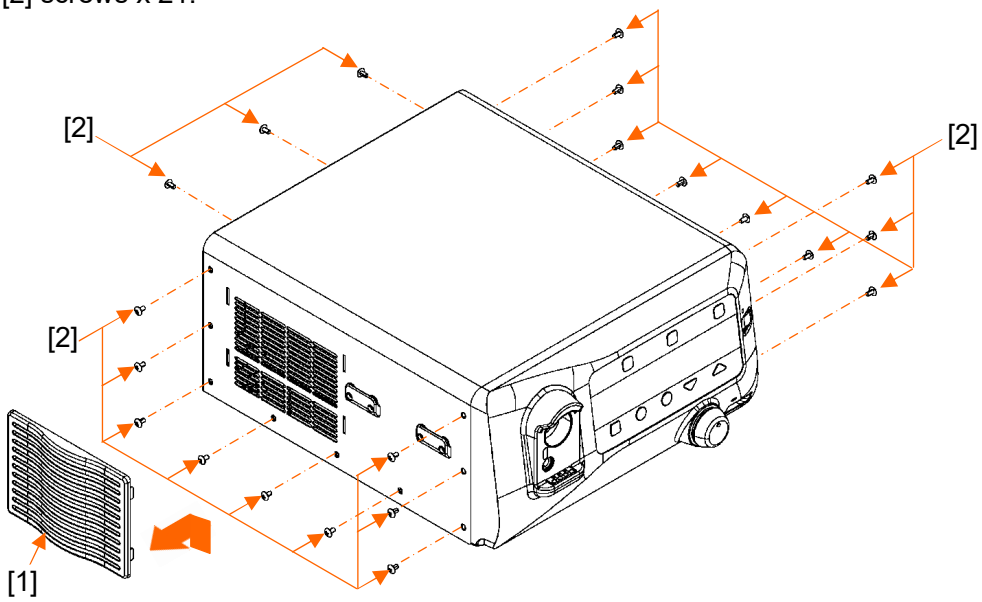
1.1 Procedures for Parts Replacement of EP-6000

1.1.1 Top Cover

■Removal Procedures

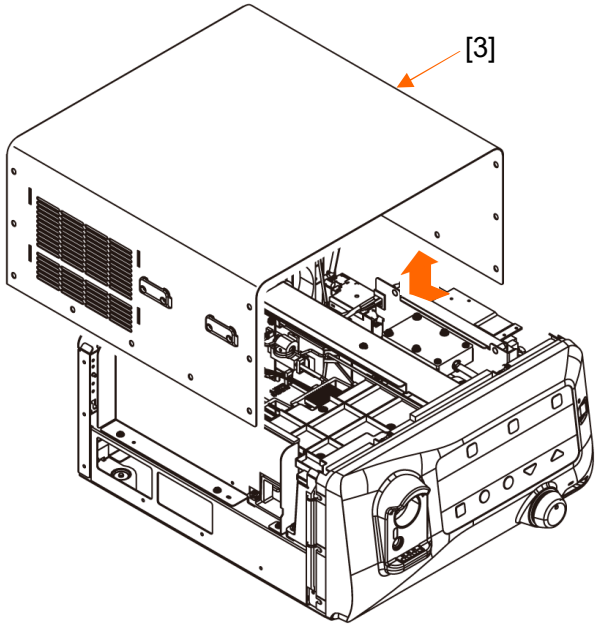
(1) Remove [1] filter assy.

(2) Remove [2] screws x 21.



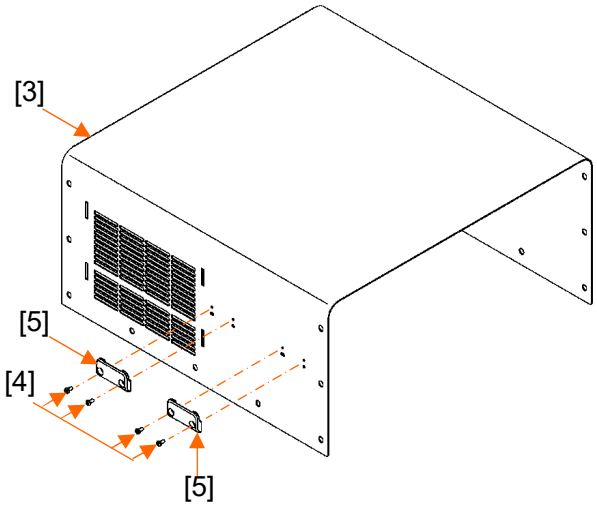
Key	Name	ID	Q'ty	Note
1	Filter Assy	Not Supply Parts		
2	Screw	301S3000408*	21	120Ncm

(3) Move the [3] top cover assy backward and remove it.



Key	Name	ID	Q'ty	Note
3	Top Cover Assy	Not Supply Parts	1	

(4) Remove [4] screws x 2 from top cover assy, then remove [5] tank holders x2.

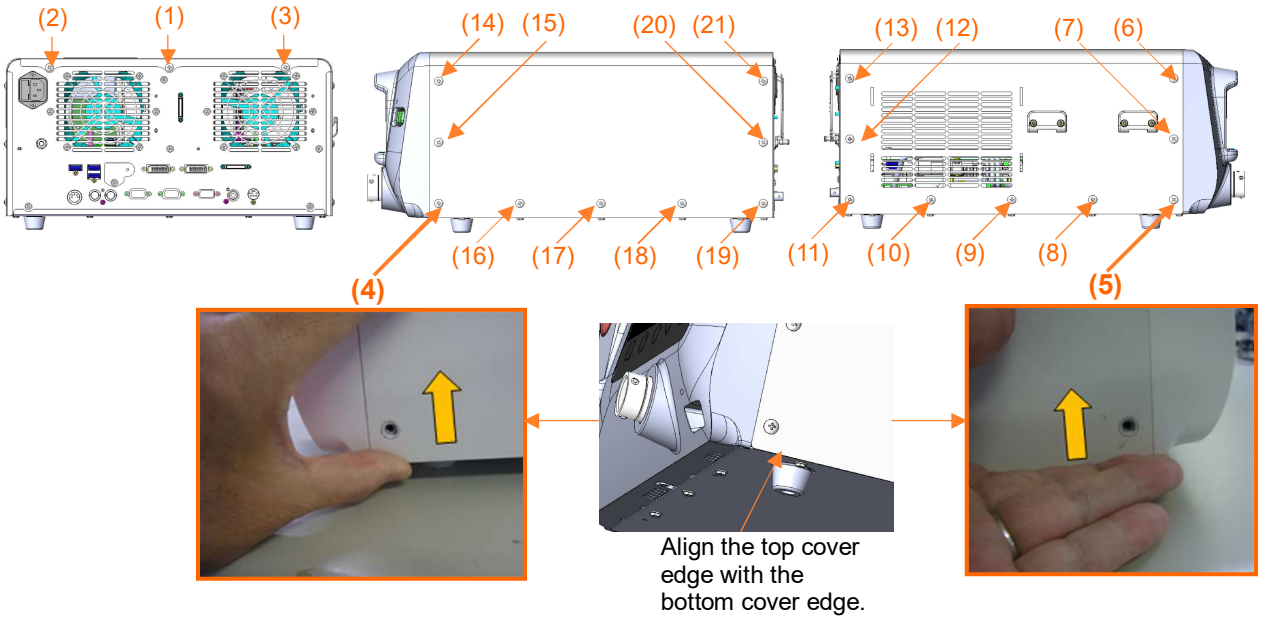


Key	Name	ID	Q'ty	Note
4	Screw	110M300600N*	4	60Ncm
5	Tank Holder	362N130032*	2	

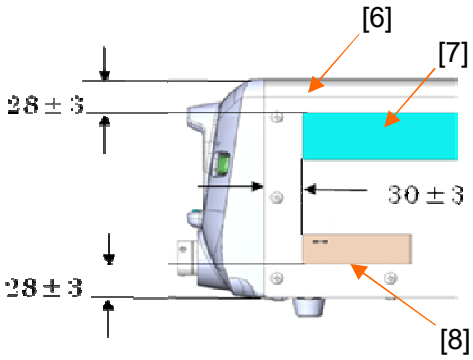
■ Reinstallation Procedures
Reverse the removal procedures for reinstallation.

◆Instruction◆

・ Fasten the screws for the top cover in the order shown as following.
Fasten (4), (5) screws by holding the edge of the top cover in the direction shown as below so that the edges of the top cover and the bottom cover are aligned.



・ Attach [7] caution label and [8] label to the location of [6] top cover as follows.
Degrease the surface of the pasting area before pasting the labels, then paste the labels firmly (without bubble in it) to the designated location (0.5mm or less shifting is acceptable).



Key	Name	ID	Q'ty	Note
6	Top Cover	350Y200248*	1	
7	Caution Sticker	405N120684*	1	
8	Label	-	1	Please contact FTYO

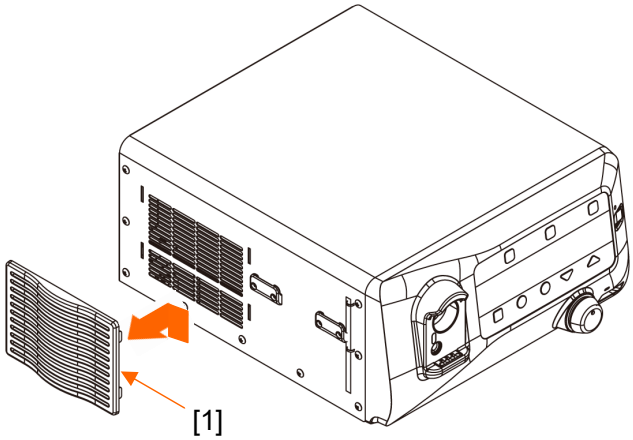
◆Note◆

・ Exercise care not to make flaking of gasket when attach and detach the top cover.

1.1.2 Filter

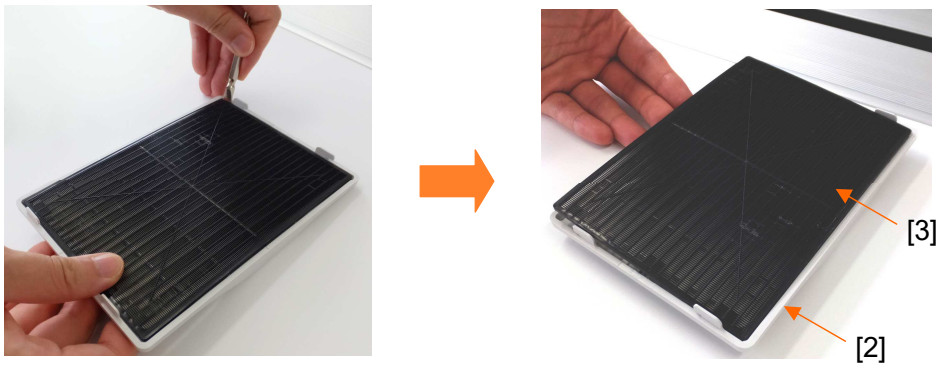
■ Removal Procedures

(1) Remove [1] filter assy.



Key	Name	ID	Q'ty	Note
1	Filter Assy	Not Supply Parts	1	

(2) Remove the [3] filters from the [2] louver.



Key	Name	ID	Q'ty	Note
2	Louver	345N120160*	1	
3	Filter	376N0238*	1	

■ Reinstallation Procedures

Reverse the removal procedures for reinstallation.

◆Instruction◆

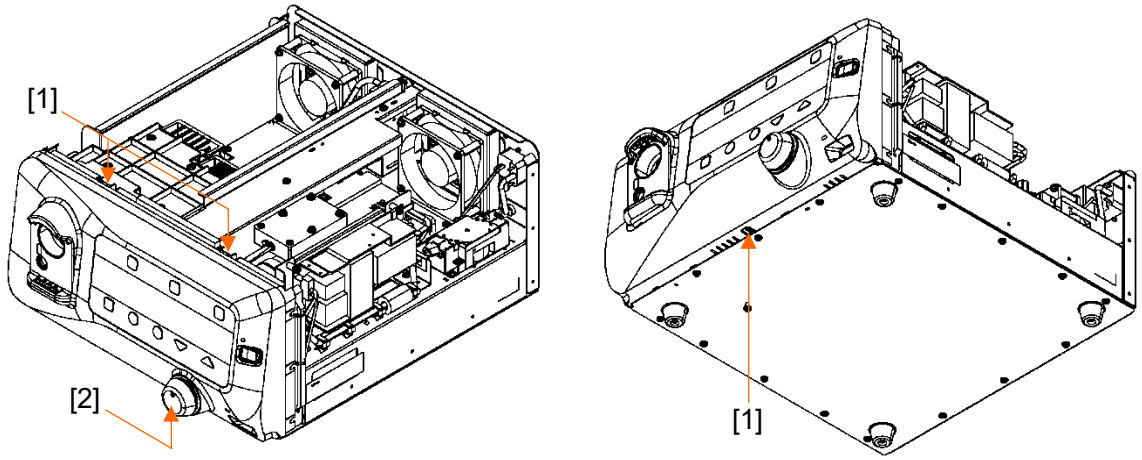
- Align the dustproof filter with the protrusion of the louver, and then push the center protrusion of the dustproof filter into the louver to attach it.
  Fix the filter securely on the louver.

1.1.3 Front Cover

■Removal Procedures

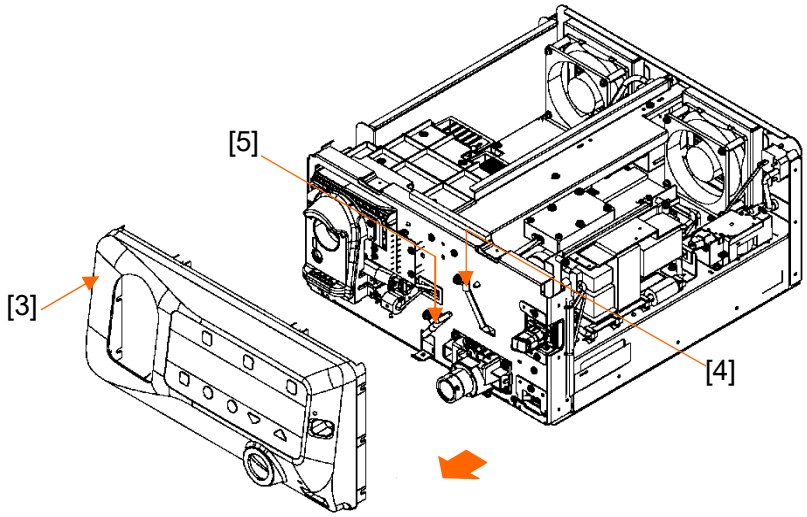
(1) Remove the top cover following the procedures (1) to (3) of “1.1.1 Top Cover”.

(2) Loosen [1] screws x 2] ([2] Remove the socket protection cap when using it.)



Key	Name	ID	Q’ty	Note
1	Screw	308S0414*	3	50Ncm
2	Socket Protection Cap	350N120335*	1	CC-203

(3) Move the [3]front cover assy forward, remove the [4] Harness ELC-OP and [5] Harness IOL-OP from the operation panel, then remove the [3]front cover assy.



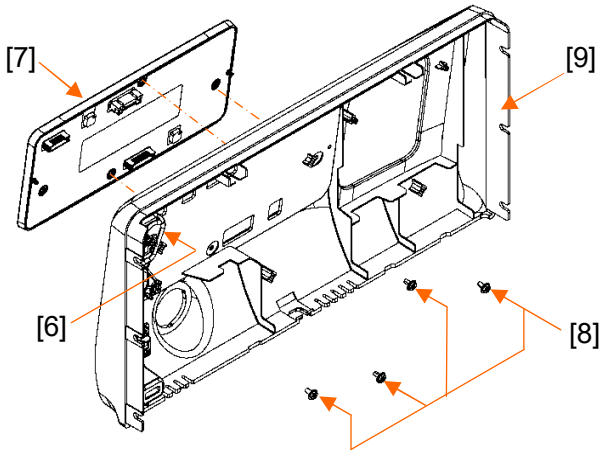
Key	Name	ID	Q’ty	Note
3	Front Cover Assy	Not Supply Parts	1	
4	Harness ELC-OP	136Y121006*	1	CN2
5	Harness IOL-OP	136Y121012*	1	CN1

◆Note◆

- Be careful not to get the [3] Front Cover Assy stuck with the humps on the EVE connector when removing the [3] Front Cover Assy.



(4) Remove [6] harness OP-LED1/LED2 from CN3 of operation panel.
(5) Remove [8] screws x 4, then remove [7] operation panel assy from [9] front cover sub assy.



Key	Name	ID	Q'ty	Note
6	Harness OP-LED1/LED2	136Y121095*	1	CN3
7	Operation Panel Assy	128Y200065*	1	
8	Screw	308S0414*	4	60Ncm
9	Front Cover Sub Assy	350Y200225*	1	

■ Reinstallation Procedures
Reverse the removal procedures for reinstallation.

◆Instruction◆

- When getting the front cover Assy fixed, push the front cover Assy toward the main unit.



◆Note◆

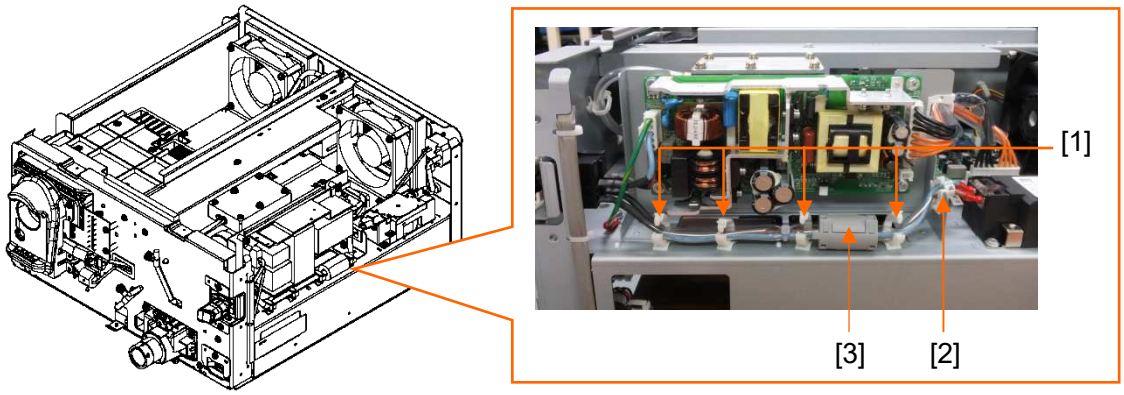
- Be careful not to get the [3] Front Cover Assy stuck with the humps on the EVE connector when installation the [3] Front Cover Assy.



1.1.4 Power Switch

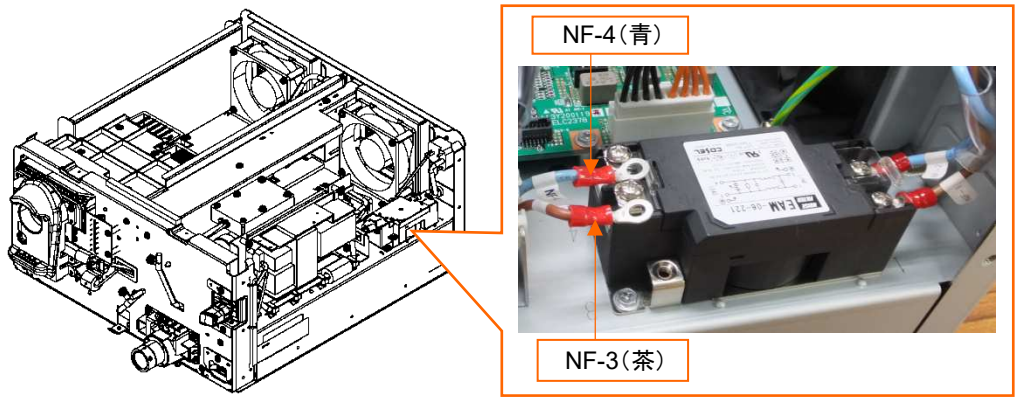
■ Removal Procedures

(1) Remove the front cover assy following the procedures (1) to (3) of “1.1.3 Front Cover”.
(2) Remove [1] clamps x 4 and [2] clamp x 1.
(3) Remove [3] ferrite core x 1.



Key	Name	ID	Q’ty	Note
1	Clamp	316S1297*	4	
2	Clamp	316S1325*	1	
3	Ferrite Core	138S0009*	1	

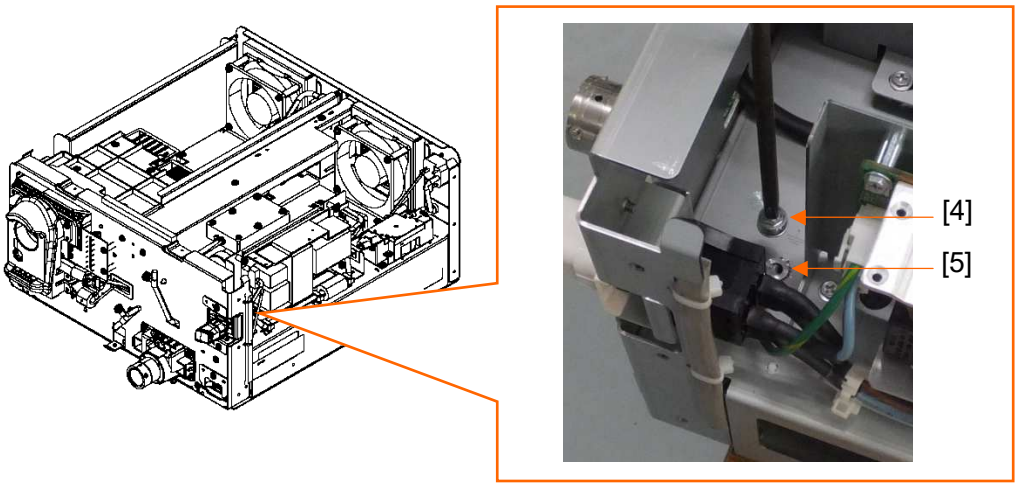
(4) Open the cover of linefilter, then remove terminals 3 (brown) and 4 (blue) from line filter.



(5) Remove [4] screw x 1 and [5] tooth washer, then remove FG cable.

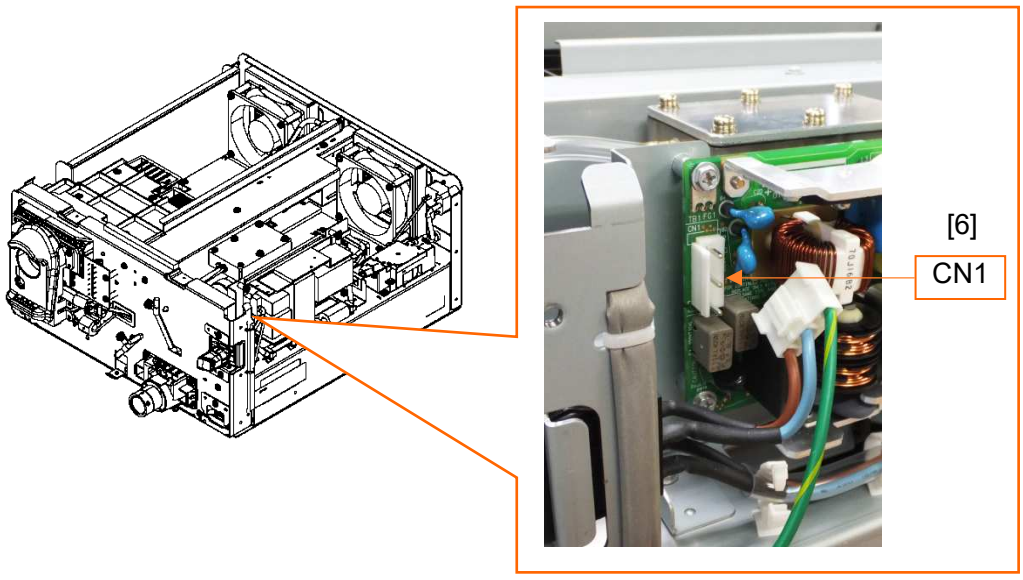
◆Note◆

・ Exercise care not to lose the [5] tooth washer between FG cable and chassis.



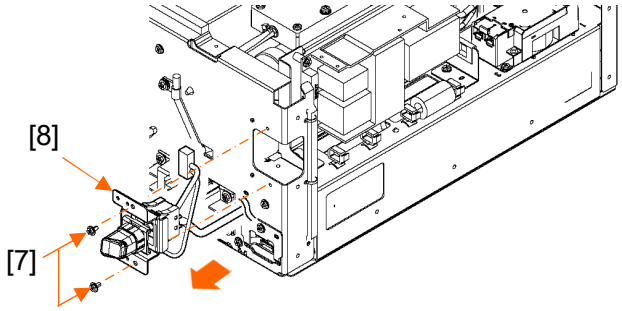
Key	Name	ID	Q'ty	Note
4	Screw	308S0406*	1	120Ncm
5	Tooth Washer	162M040N*	1	

(6) Remove the connector from CN1 of [6] power supply PCB.



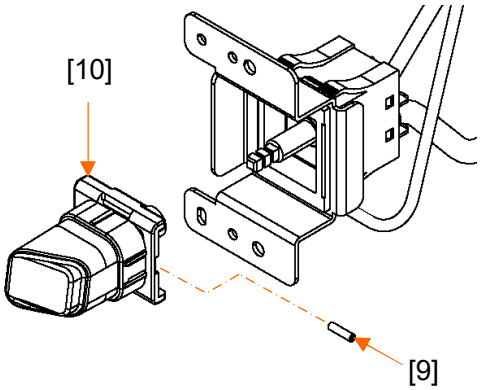
Key	Name	ID	Q'ty	Note
6	Power Supply PCB	125N120017*	1	CN1

(7) Remove [7] screws x 2, then remove [8] power switch bracket assy.



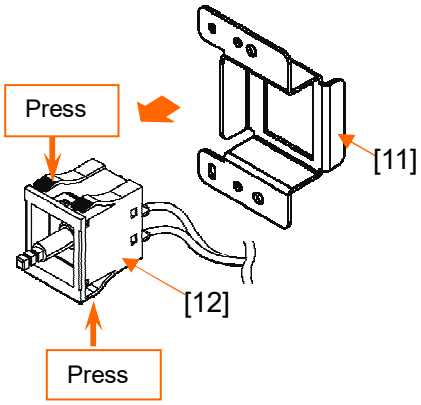
Key	Name	ID	Q'ty	Note
7	Screw	308S0414*	2	90Ncm
8	Power Switch Bracket Assy	Not Supply Parts	1	

(8) Loosen [9] set screw and remove [10] key top assy.



Key	Name	ID	Q'ty	Note
9	Set Screw	303S2000208*	1	4Ncm
10	Key Top Assy	Not Supply Parts	1	

(9) Take off the [12] power switch unit forward from [11] power switch bracket while pressing the nails.

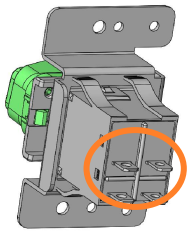


Key	Name	ID	Q'ty	Note
11	Power Switch Bracket	356N200866*	1	
12	Power Switch Assy	128Y200063*	1	

■ Reinstallation Procedures
Reverse the removal procedures for reinstallation.

◆Instruction◆

- See from the back of [12] Switch, and press [11] Power Switch Bracket so that the direction becomes as the following.



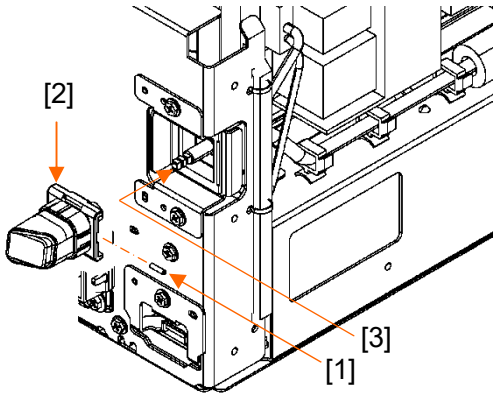
- Reinstall the [10] key top assy deeply into the power switch.
- When reinstalling the [9] set screw, coat with screw retaing agent (Y10N1026：ThreeBond 1401B).
- Reinstall the screw for noise filter by 120Ncm.

1.1.5 Key Top Assy

■ Removal Procedures

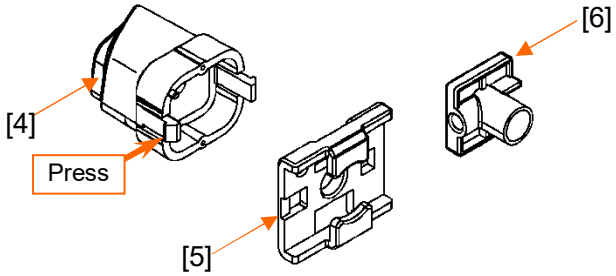
(1) Remove the front cover assy following the procedures (1) to (3) of “1.1.3 Front Cover”.

(2) Loosen [1] set screw and remove [2] key top assy from [3] power switch assy.



Key	Name	ID	Q’ty	Note
1	Set Screw	303S2000208*	1	4Ncm
2	Key Top Assy	Not Supply Parts	1	
3	Power Switch Assy	128Y200063*	1	

(3) Separate [5] ratchet and [6] stopper from [4] key top while pressing the nails.



Key	Name	ID	Q’ty	Note
4	Key Top	340Y120027*	1	
5	Ratchet	328N120010*	1	
6	Stopper	332N120025*	1	

■ Reinstallation Procedures

Reverse the removal procedures for reinstallation.

◆Instruction◆

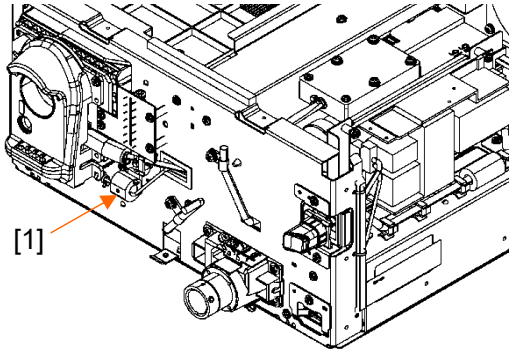
- Reinstall the [2] key top assy deeply into the power switch side.
- When reinstalling the [1] set screw, coat with screw retaing agent (Y10N1026：ThreeBond 1401B)

1.1.6 Small Cover Unit

■ Removal Procedures

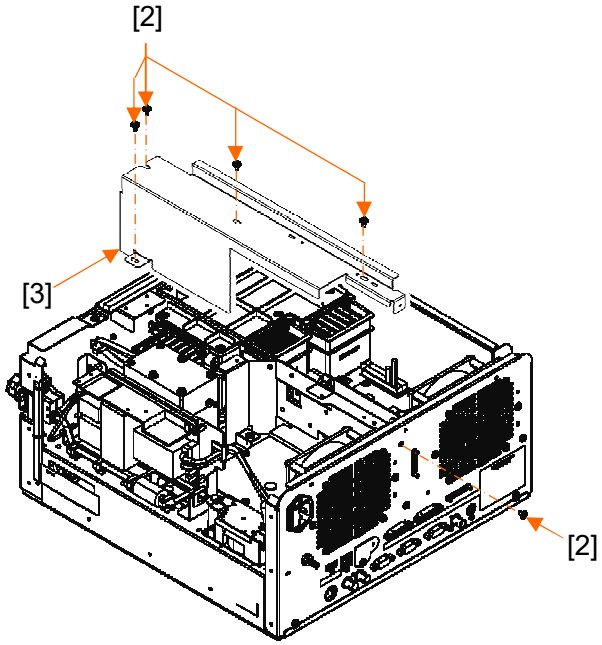
(1) Remove the front cover assy following the procedures (1) to (3) of “1.1.3 Front Cover”.

(2) Open the [1] ferrite core.



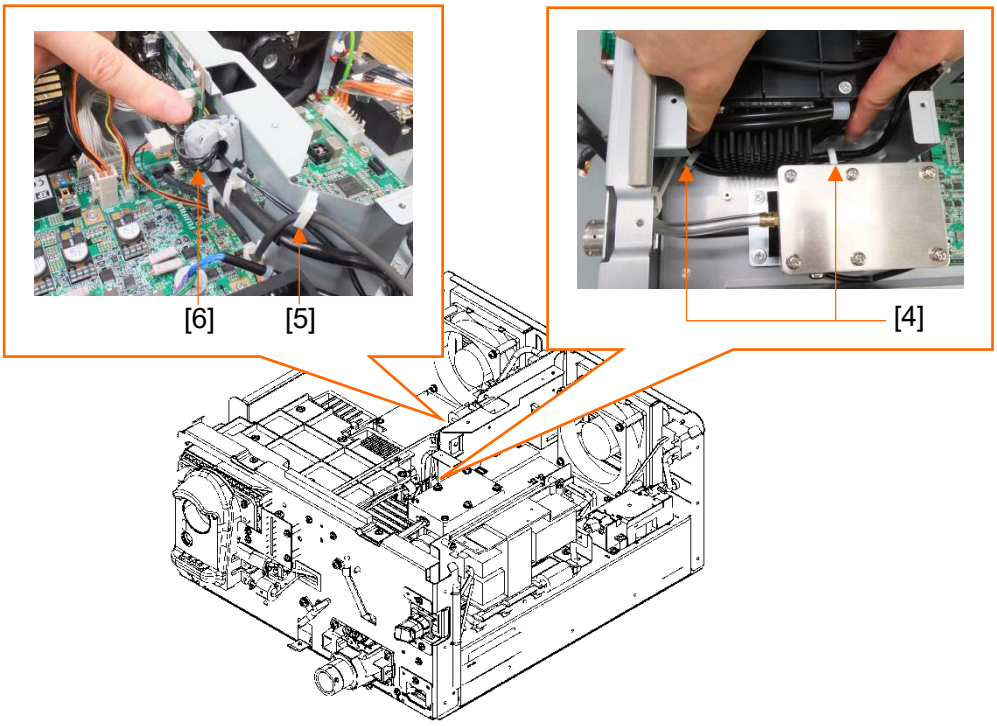
Key	Name	ID	Q’ty	Note
1	Ferrite core	138S0139*	1	

(3) Remove [2] screws x 5, then move [3] bracket.



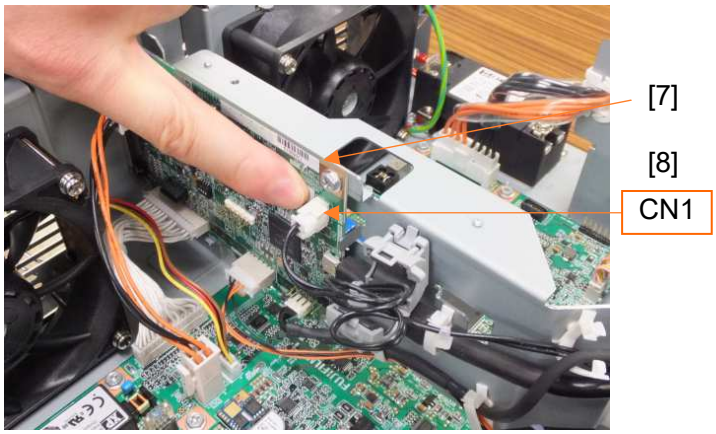
Key	Name	ID	Q’ty	Note
2	Screw	308S0414*	5	90Ncm
3	Bracket	356N200872*	1	

(4) Open [4] clamps x 4 and [5] clamp x 1, then open the [6] ferrite core.



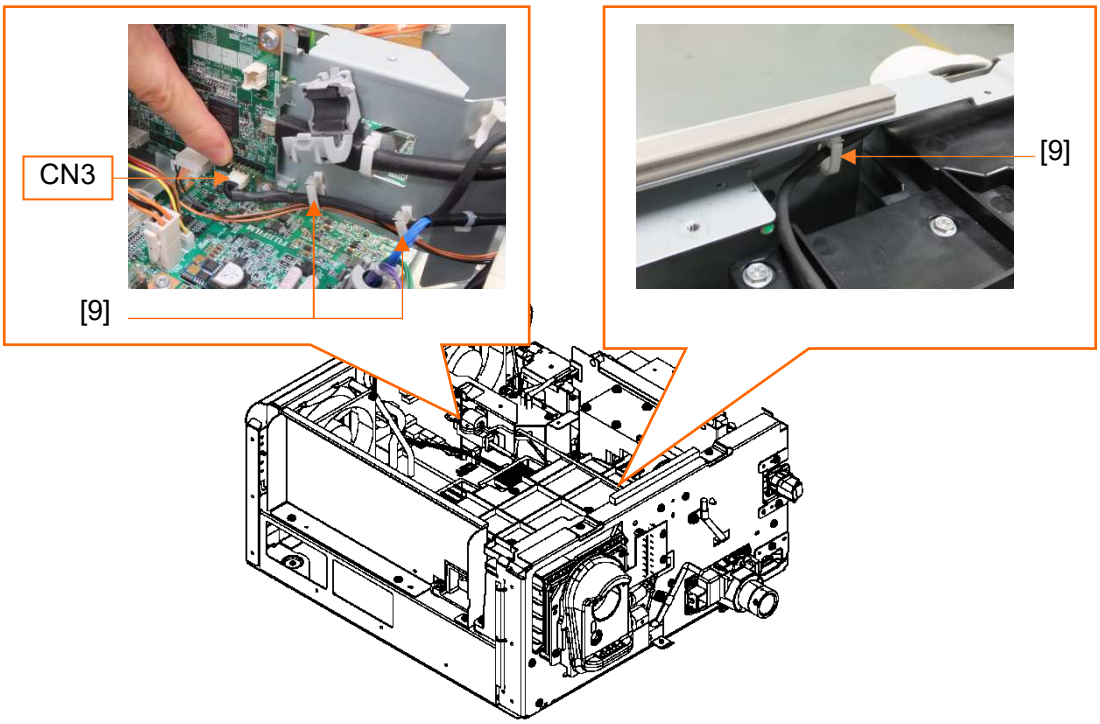
Key	Name	ID	Q'ty	Note
4	Clamp	316S1297*	2	
5	Clamp	316S0259*	1	
6	Ferrite Core	138S0139*	1	

(5) Remove the connector of [8] coil assy from CN1 of [7] WOC PCB.



Key	Name	ID	Q'ty	Note
7	WOC PCB	113Y200242*	1	
8	Coil Assy	Not Supply Parts	1	

(6) Open [9] clamps x 3, then remove CN3.

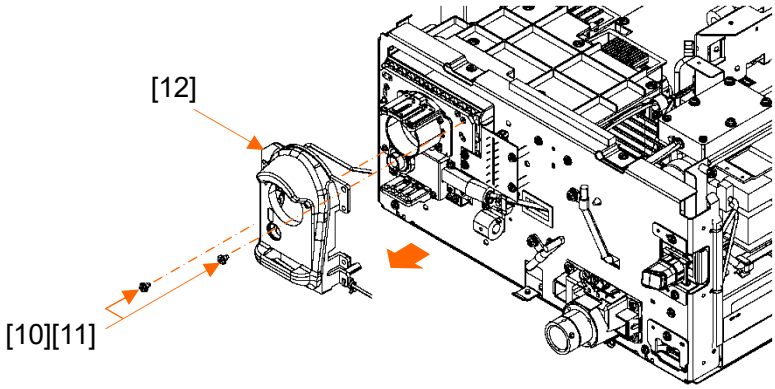


Key	Name	ID	Q'ty	Note
9	Clamp	316S0259*	3	

(7) Remove [10] screws x 2 and [11] spacer x 2, then remove [12] small cover unit.

◆Note◆

- Exercise care not to lose the [11] spacer x 2 when removing [10] screw x 2.

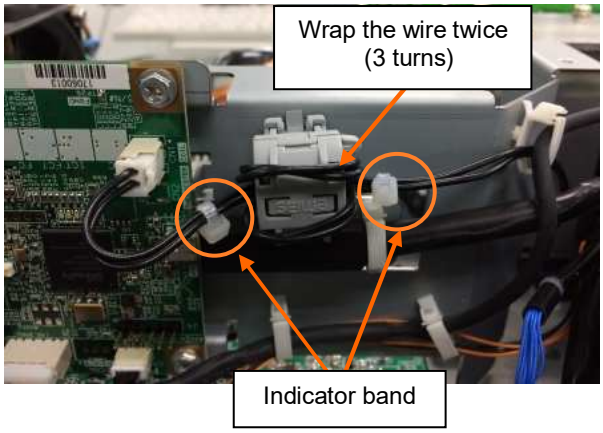


Key	Name	ID	Q'ty	Note
10	Screw	308S0414*	2	60Ncm
11	Spacer	347S1065*	2	
12	Small Cover Unit	863Y200009*	1	

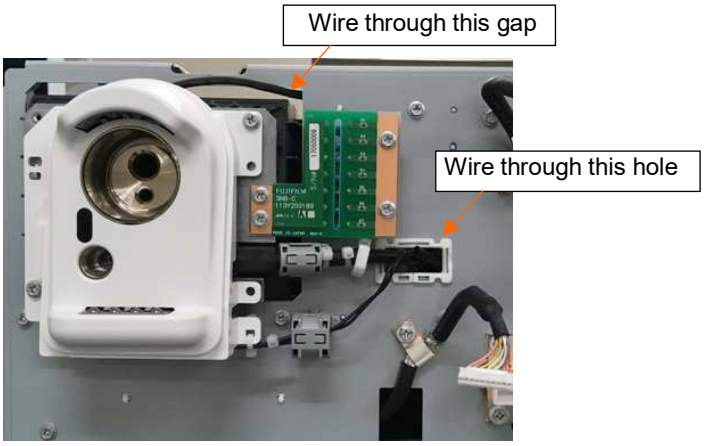
■ Reinstallation Procedures
Reverse the removal procedures for reinstallation.

◆Instruction◆

・ There are 2 indicators (bands) on the harness of [9] Small Cover Unit, wrap the wire twice on the [8] Ferrite Core between the 2 indicators.



・ The position to pass the wiring is as shown below.



◆Instruction◆

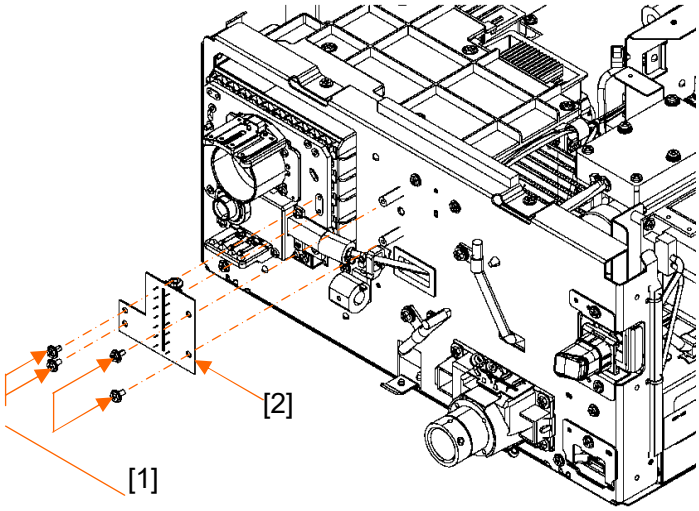
・ When replaced the [12] smole cover assy, check the supply/feed power following procedures in "1.3 Confirmation Procedures of Supply/Feed Power " after reassembly.

1.1.7 One Connector plate Assy

■ Removal Procedures

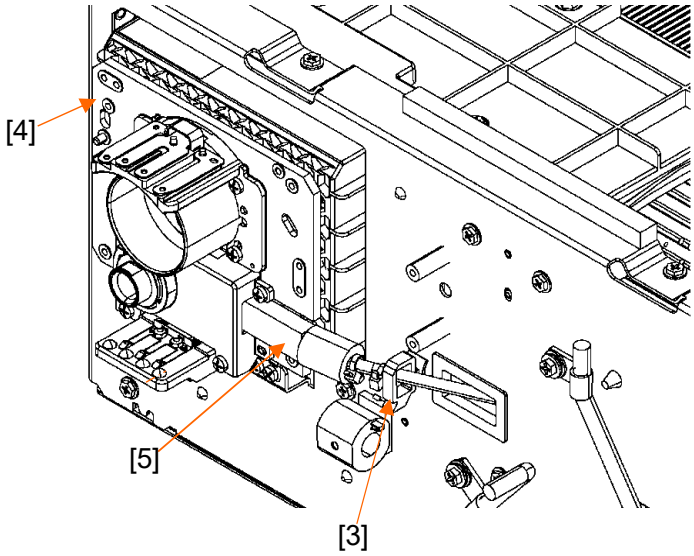
(1) Remove small cover unit following the procedures (1) to (7) of “1.1.6 Small Cover Unit”.

(2) Remove [1] screws x 4, then remove [2] capacitor assy.



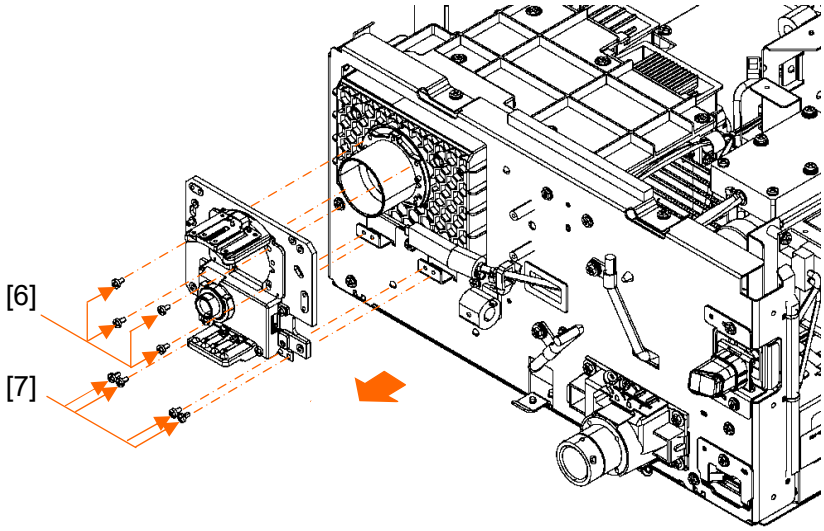
Key	Name	ID	Q’ty	Note
1	Screw	308S0414*	4	60Ncm
2	Capacitor Assy	113Y200189*	1	

(3) Open the [3] clamp, then remove [5] harness WOC-WPD from one connector plate assy



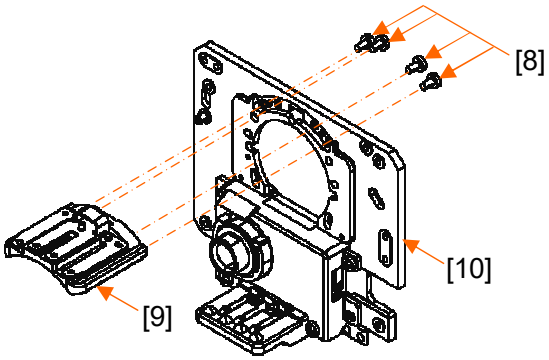
Key	Name	ID	Q’ty	Note
3	Clamp	316S1297*	1	
4	One Connector Plate Assy	842Y120003*	1	
5	Harness WOC-WPD	136Y200455*	1	

(4) Remove [6] screws x 4 and [7] screws x 4, then remove [4] one connector plate assy.



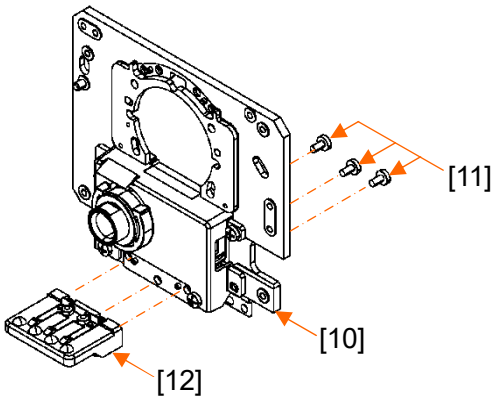
Key	Name	ID	Q'ty	Note
6	Screw	301S2780305*	4	90Ncm
7	Screw	301S2780305*	4	60Ncm

(5) Remove [8] screws x 4, then remove the [9] ball holder upper assy from [10] one connector sub assy.



Key	Name	ID	Q'ty	Note
8	Screw	301S2780305*	4	90Ncm
9	Ball Holder Upper Assy	356Y200264*	1	
10	One Connector Sub Assy	Not Supply Parts	1	

(6) Remove [11] screws x 3, then remove the [12] ball holder lower assy from [10] one connector sub assy.

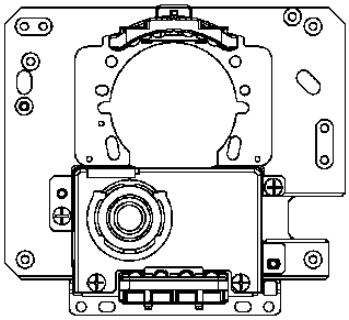


Key	Name	ID	Q'ty	Note
11	Screw	301S2780305*	3	90Ncm
12	Ball Holder Lower Assy	356Y200265*	1	

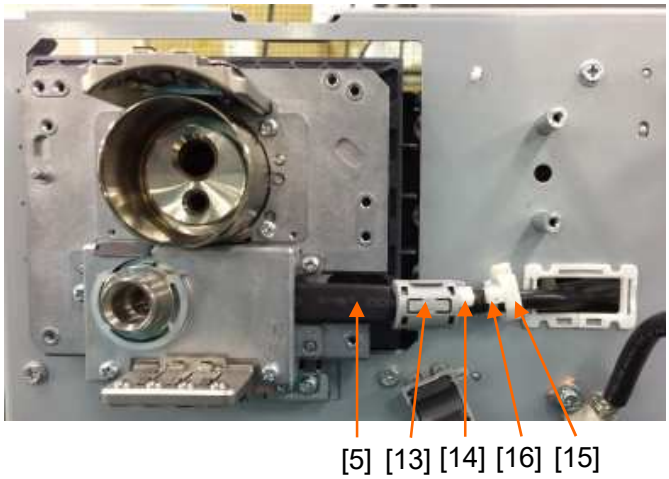
■ Reinstallation Procedures
Reverse the removal procedures for reinstallation.

◆Note◆

- Make sure the harness WOC-WPD is firmly connected deeply to CN1 of WPD PCB.
- For the leaf spring, fix the circular hole first, and then the slotted hole.



- On [5] harness WOC-WPD, secure [13] Ferrite Core with [14] Band, and fix a [16] Band on the near side of [15] Clamp.



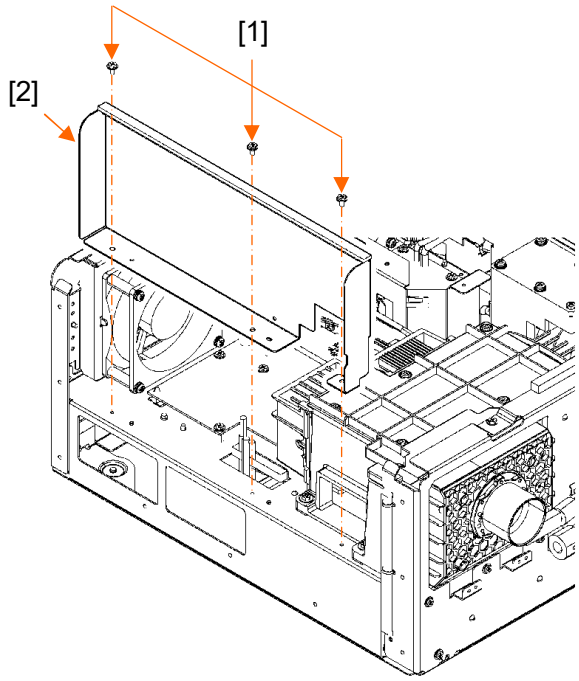
Key	Name	ID	Q'ty	Note
13	Ferrite Core	138S0135*	1	
14	Band	316S1076*	2	40±5N
15	Clamp	316S1297*	1	
16	Band	316S1076*	2	40±5N

1.1.8 Light Source Unit

■ Removal Procedures

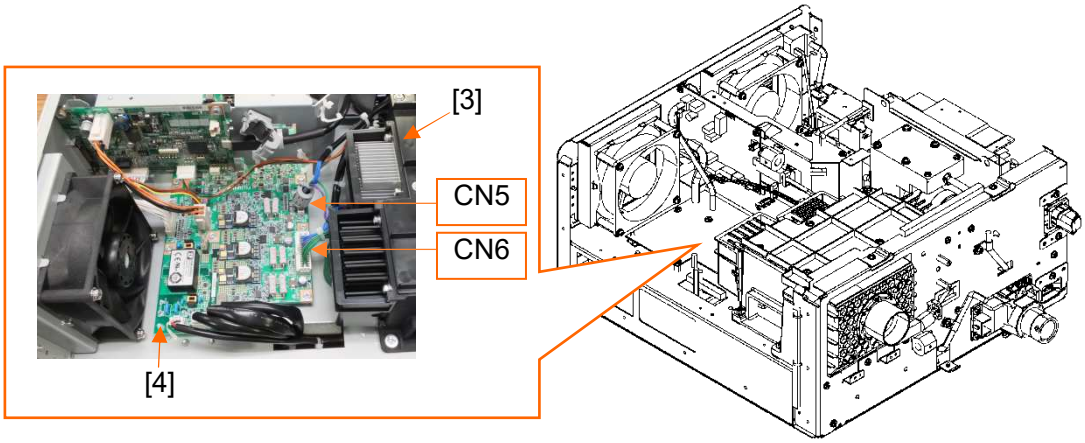
(1) Remove one connector plate assy following the procedures (1) to (4) of “1.1.7 One connector plate assy”.

(2) Remove [1] screws x 3, then remove [2] blacket left assy.



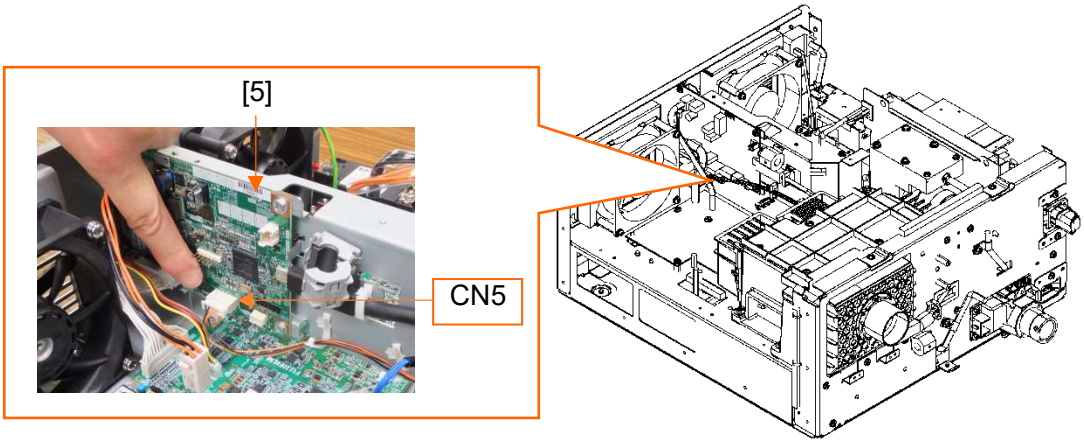
Key	Name	ID	Q’ty	Note
1	Screw	308S0414*	3	90Ncm
2	Bracket Left Assy	Not Supply Parts	1	

(3) Remove harness of [3] light source unit from CN3 and CN6 of ELC PCB.



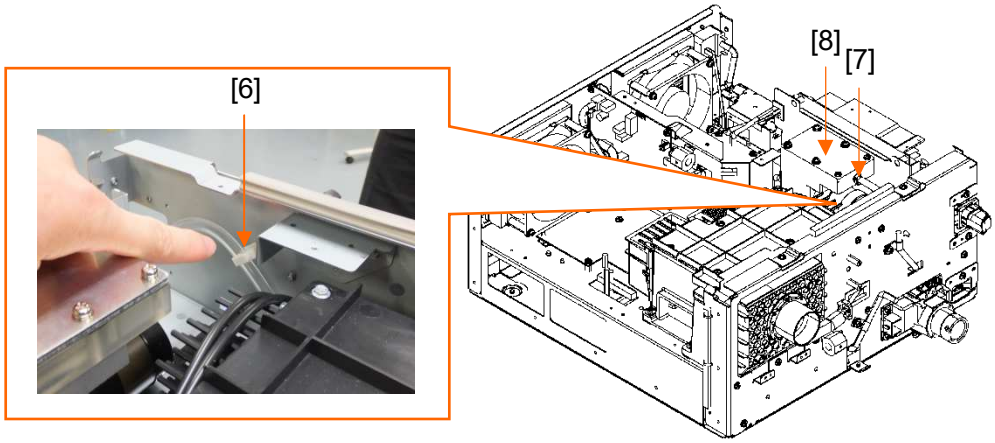
Key	Name	ID	Q’ty	Note
3	Light Source Unit	840Y200024*	1	
4	ELC PCB	113Y200119*	1	

(4) Remove harness of light source unit from CN5 of [5] WOC PCB.



Key	Name	ID	Q'ty	Note
5	WOC PCB	113Y200242*	1	

(5) Open the [5] clamp and cut the [7] band, then remove the air tube from [8] pump assy.

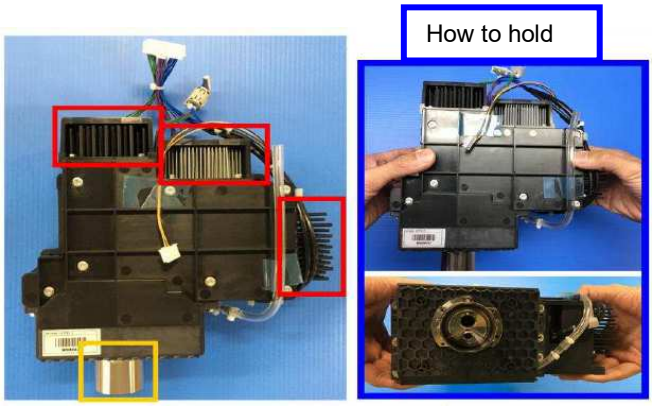


Key	Name	ID	Q'ty	Note
6	Clamp	316S1297*	1	
7	Band	316S1076*	1	40±5N
8	Pump Assy	133Y200006*	1	

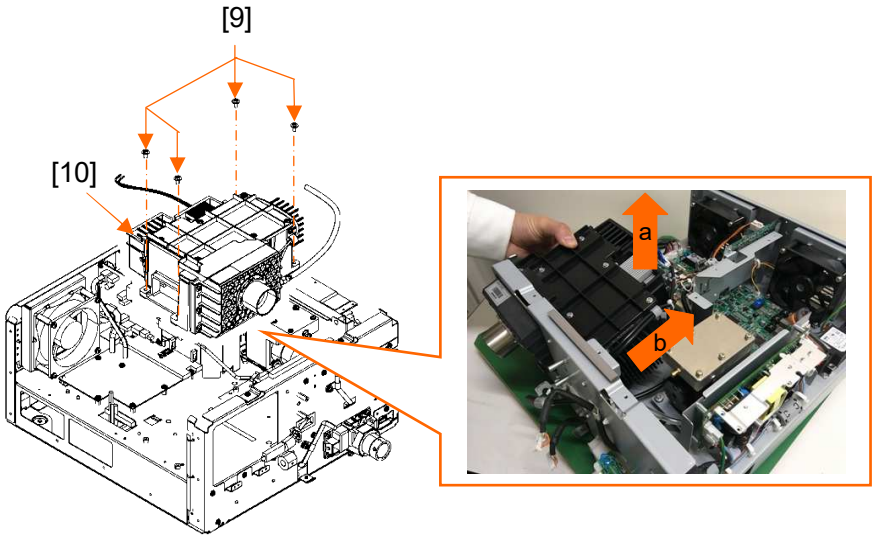
(6) Remove [9] screws x 4, then remove [10] light source unit.

◆Note◆

- When holding the light source unit, be sure to hold both top and bottom of the light source unit by hand as shown below.
  Since the optical adjustment position may be shifted, do not hold the heatsink (red frames) and the LG connector (yellow frame).



- Hold up (a) the back portion of the light source unit, and pull it out backward (b) without getting it stuck with the wires and tubes.

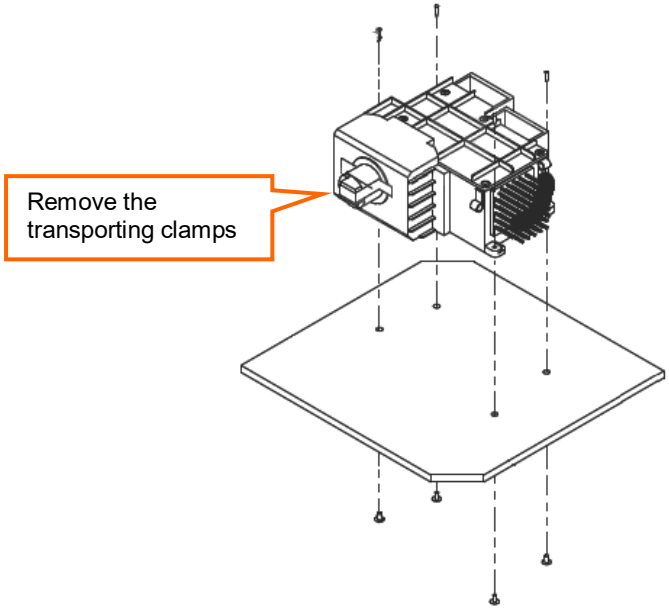


Key	Name	ID	Q'ty	Note
9	Screw	308S0424*	4	120Ncm
10	Light Source Assy	840Y200024*	1	

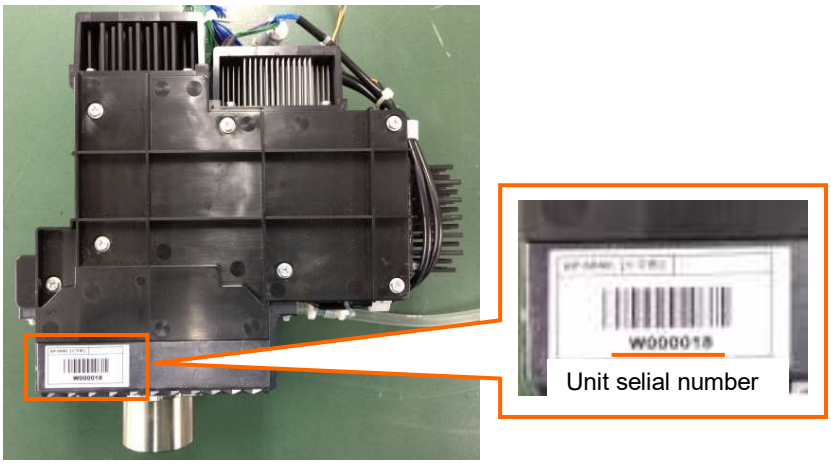
■ Reinstallation Procedures
Reverse the removal procedures for reinstallation.

◆Instruction◆

・ The light source unit is supplied by individual packaging.
Remove the transporting clamps when used.

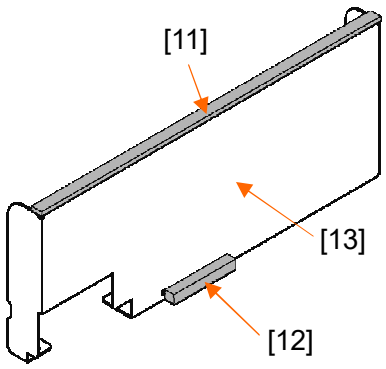


・ Hold up the back portion of the light source unit a little, and set it in the frame without getting stuck with the wires and tubes.
・ When replacing the light source unit, perform the EEPROM writing following procedures in "1.2 EEPROM Writing Procedure".
・ Note down and keep the unit serial number pasted on the light source unit.
This light source unit number will be used on the inspection after repair.



◆Note◆

・ The configuration of the [2] blacket left assy is shown in the figure below.
Degrease the surface of the pasting area on [2] Bracket, paste [11] Shock Absorber along the bracket's edge, and paste the [12] Shock Absorber along the half punch.



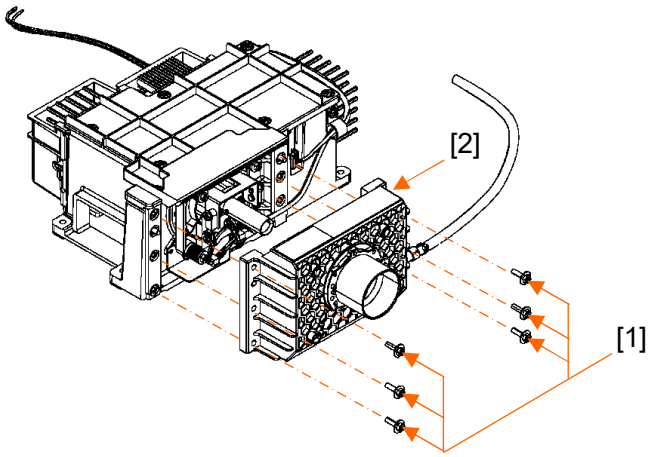
Key	Name	ID	Q'ty	Note
11	Shock Absorber	386N200064*	1	
12	Shock Absorber	386N200069*	1	
13	Bracket	356N200875*	1	

1.1.9 Air Guide Pipe

■ Removal Procedures

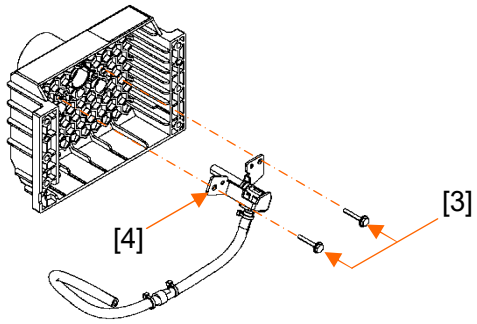
(1) Remove light source unit following the procedures (1) to (6) of “1.1.8 Light Source Unit”.

(2) Remove [1] screws x 6, then remove [2] LG cover assy.



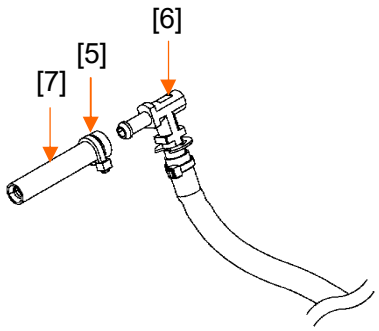
Key	Name	ID	Q’ty	Note
1	Screw	308S0426*	6	120Ncm
2	LG Cover Assy	Not Supply Parts	1	

(3) Remove [3] screws x 2, then remove [4] air tube assy.



Key	Name	ID	Q’ty	Note
3	Screw	308S0422*	2	90Ncm
4	Air Tube Assy	Not Supply Parts	1	

(4) Cut off [5] band and remove [6] air guide pipe from [7] pipe joint.

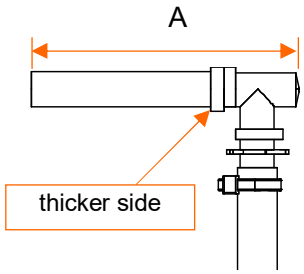


Key	Name	ID	Q'ty	Note
5	Band	316S1076*	1	40±5N
6	Pipe Joint	372N120042*	1	
7	Air Guide Pipe	369N120042*	1	

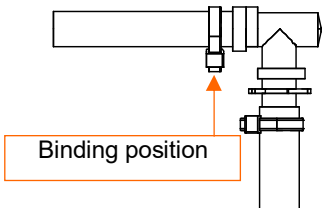
■ Reinstallation Procedures
Reverse the removal procedures for reinstallation.

◆指　示◆

- Insert the [7] air guide pipe into the thicker side of air tube. (The length of A as below is 47.6 - 49.1 mm)



- Make sure the binding position of the wire band is in the direction as below.



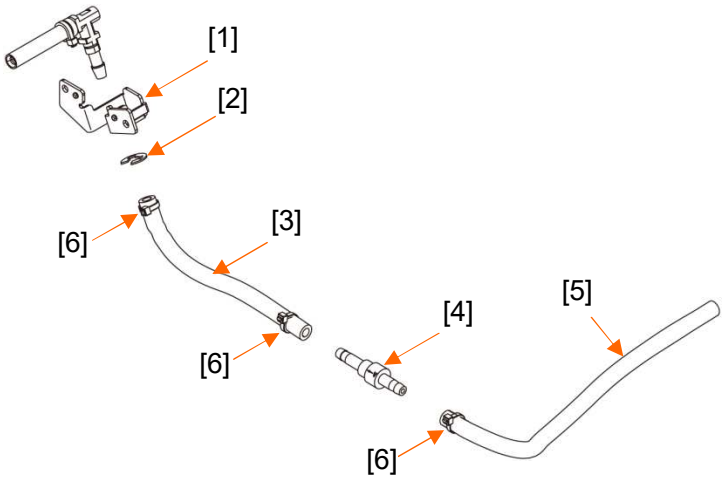
1.1.10 Air Tube

■ Removal Procedures

(1) Remove air tube assy following the procedures (1) to (3) of “1.1.9 Air Guide Pipe”.

(2) Remove the parts to replace from [1] bracket, [2] E ring, [3] tube 100, [4] one way valve and [5] tube 185.

Cut off the band when remove the tube.



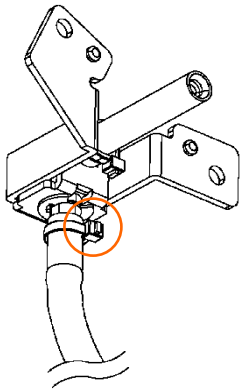
Key	Name	ID	Q’ty	Note
1	Joint Bracket	356N200750*	1	
2	E Ring	315S3360050*	1	
3	Tube 100	370N130086*	1	
4	One Way Valve	70K112536*	1	
5	Tube 185	370N130124*	1	
6	Band	316S1076*	3	40±5N

■ Reinstallation Procedures

Reverse the removal procedures for reinstallation.

◆Instruction◆

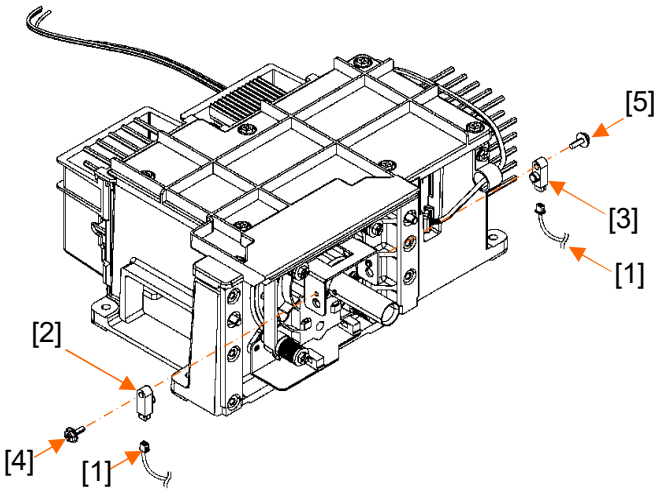
・ Attach the band on the thin part.
Do not attach it on the taper of joint.



1.1.11 Photo Interrupter

■ Removal Procedures

(1) Remove LG cover assy following the procedures (1) to (2) of “1.1.9 Air Guide Pipe”.
(2) Remove [1] harness LG_PI-WOC from [2] LED or [3] PTr.
(3) Remove [4] screw x 1 or [5] screw x 1, then remove [2] LED or [3] PTr.



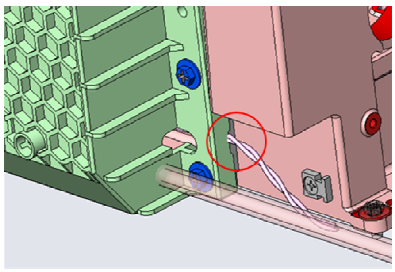
Key	Name	ID	Q’ty	Note
1	Harness LG_PI-WOC	136Y200457*	1	
2	LED	146S0114*	1	
3	PTr	146S0113*	1	
4	Screw	308S0417*	1	30Ncm
5	Screw	308S0417*	1	30Ncm

■ Reinstallation Procedures

Reverse the removal procedures for reinstallation.

◆Note◆

- Because of the same shape, be sure there are no mistake that orange harness is connected to [2] LED and black harness is connected to [3] PTr.
- Pass the [1] Harness LG_PI-WOC through the cutout shown as below.

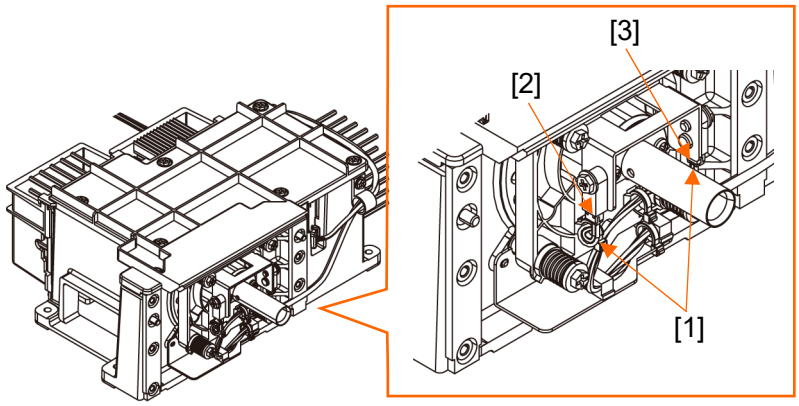


1.1.12 Harnes LG_PI-WOC

■ Removal Procedures

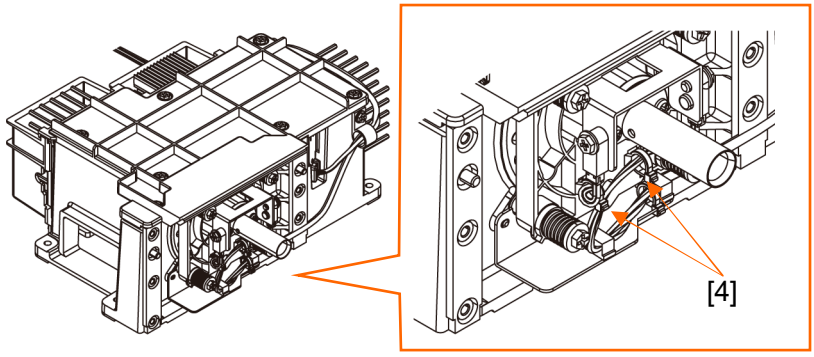
(1) Remove LG cover assy following the procedures (1) to (2) of “1.1.9 Air Guide Pipe”

(2) Remove [1] harness LG_PI-WOC from [2] LED and [3] PTr.



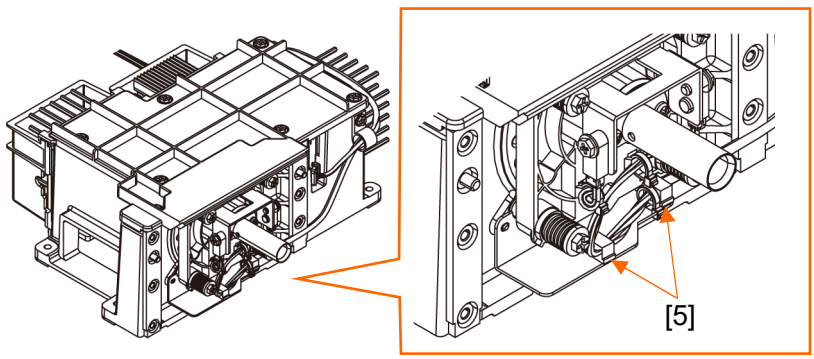
Key	Name	ID	Q’ty	Note
1	Harness LG_PI-WOC	136Y200457*	1	
2	LED	146S0114*	1	
3	PTr	146S0113*	1	

(3) Cut off the [4] band x 2.



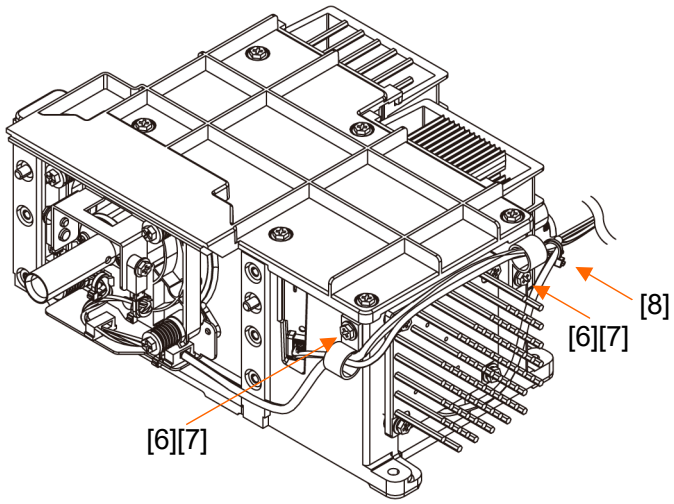
Key	Name	ID	Q’ty	Note
4	Band	316S1076*	2	40±5N

(4) Open the [5] clamp x 2.



Key	Name	ID	Q’ty	Note
5	Clamp	316S1273*	2	

(5) Remove [6] screw x 2, then remove [7] clamp x 2.
(6) Cut off the [8] band, then remove [1] harness LG_PI-WOC.

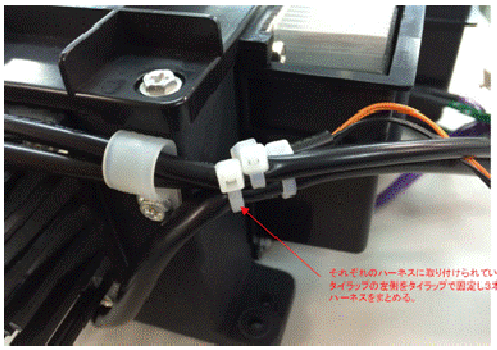


Key	Name	ID	Q'ty	Note
6	Screw	308S0417*	2	60Ncm
7	Clamp	316S1008*	2	
8	Band	316S1076*	1	40±5N

■ Reinstallation Procedures
Reverse the removal procedures for reinstallation.

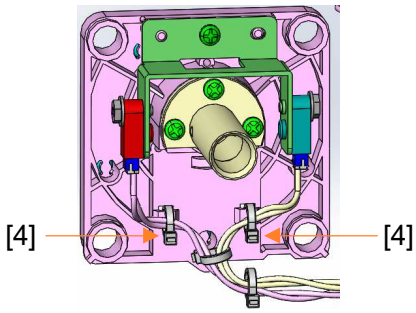
◆Note◆

・ Fix [7] Band on the left side of each band attached on the harness.

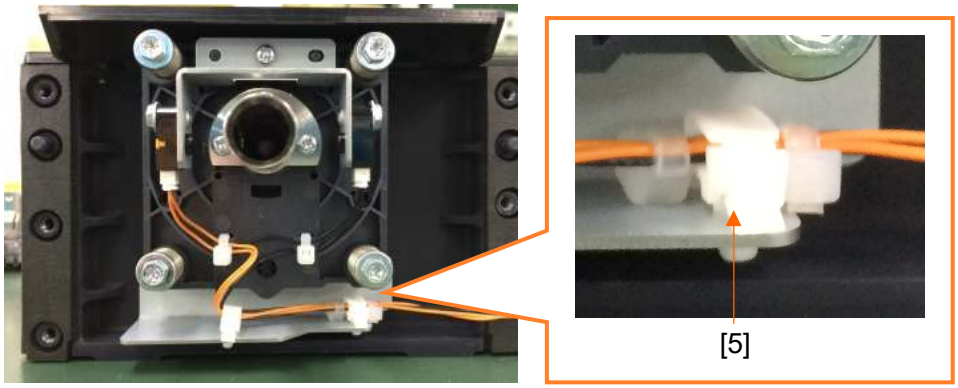


・ Attach [2] LED (orange) on the orange side of [1] harness LG_PI-WOC, and attach [3] PTr (black) on the black side of [1] Harness LG_PI-WOC.
Since the connectors have the same shape, be sure to insert the correct harness.

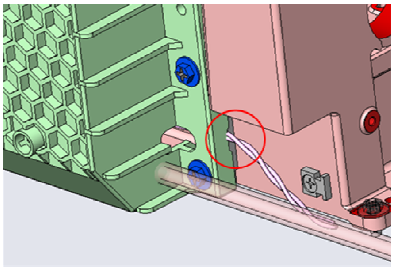
・Connect [1] Harness LG_PI-WOC connector to [2] LED and [3] PTr, and secure it with [4] Band (keep some looseness for the cables before securing).



・ To prevent from falling out, secure the harness with [5] Clamp at a point between the indicator bands of [1] Harness LG_PI-WOC.



・ Pass the [1] Harness LG_PI-WOC through the cutout shown as below.

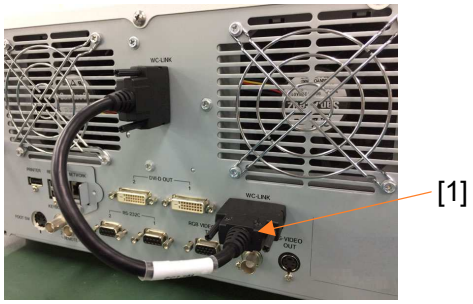


1.1.13 WOC PCB

■ Removal Procedures

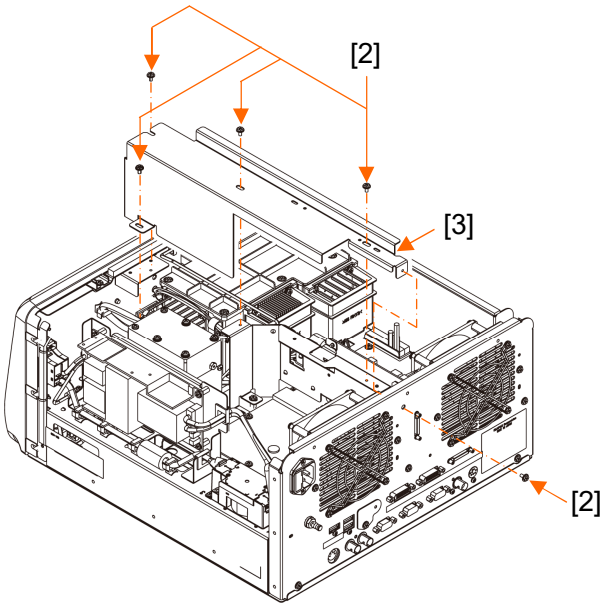
◆Instruction◆

・ If [1] WC-LINK Cable has been connected, remove it before performing the procedures.



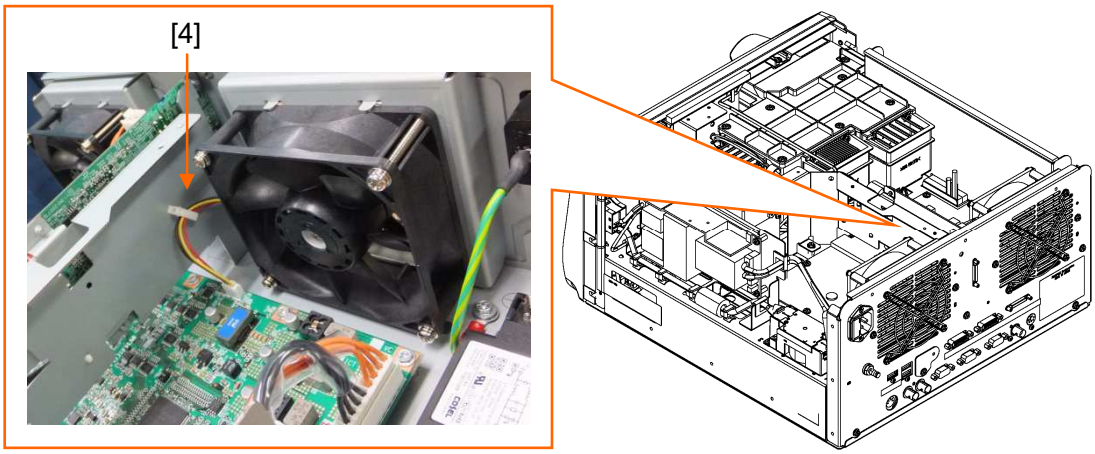
Key	Name	ID	Q'ty	Note
1	WC-LINK Cable	136Y121092*	1	

(1) Remove the top cover following the procedures (1) to (3) of "1.1.1 Top Cover".
(2) Remove [2] screws x 5, then [3] bracket.



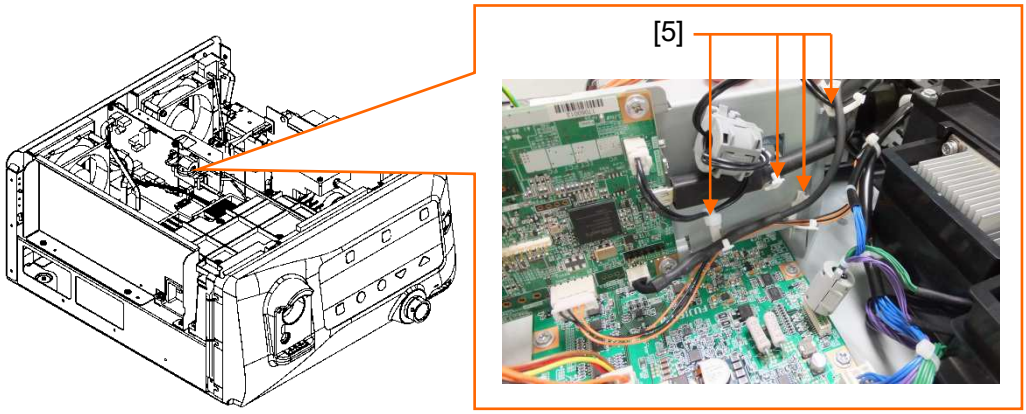
Key	Name	ID	Q'ty	Note
2	Screw	308S0414*	5	90Ncm
3	Bracket	356N200872*	1	

(3) Open the [4] clamp x 1.



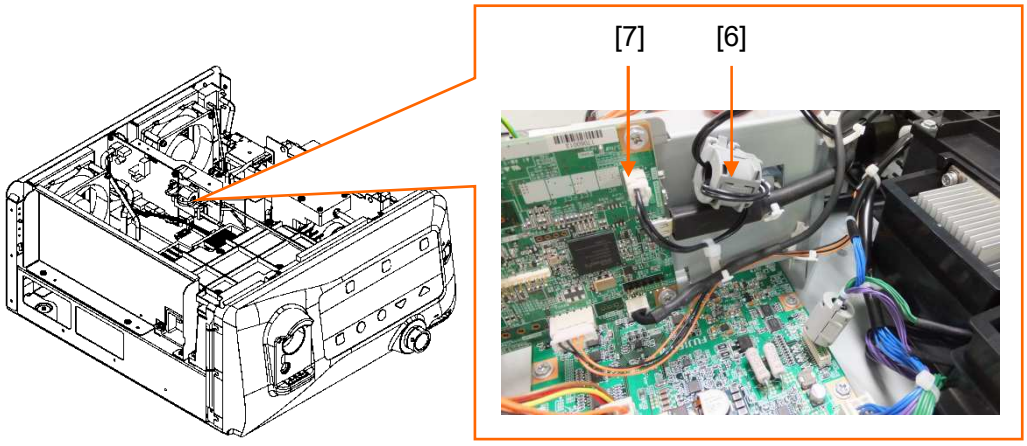
Key	Name	ID	Q'ty	Note
4	Clamp	316S0259*	1	

(4) Open the [5] clamp x 4.



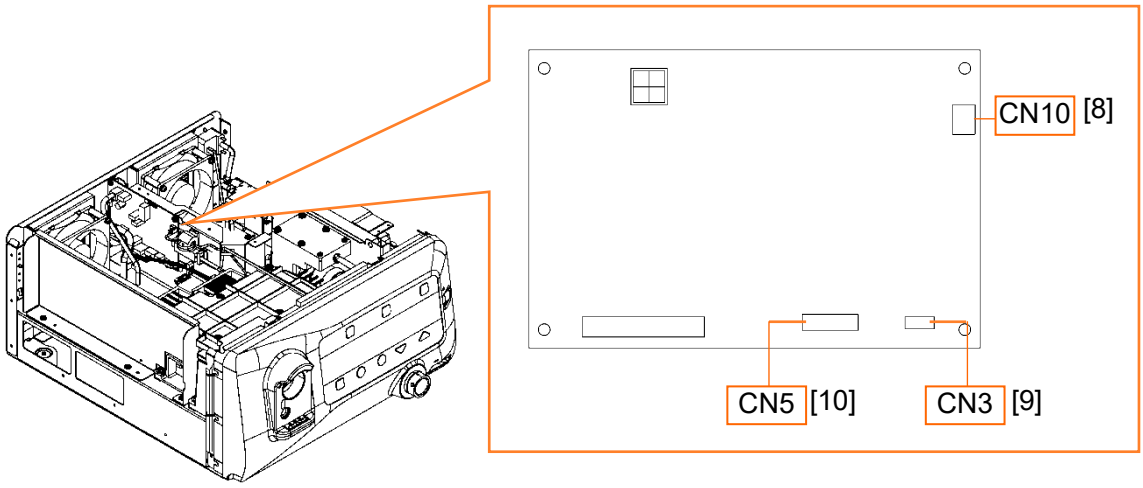
Key	Name	ID	Q'ty	Note
5	Clamp	316S0259*	4	

(5) Open the [6] ferrite core, then remove the harness of the [7] small cover unit from the CN1 of WOC PCB.



Key	Name	ID	Q'ty	Note
6	Ferrite Core	138S0139*	1	
7	Small Cover Unit	863Y200009*	1	CN1

(6) Remove the [8] harness WOC-WPD form the CN10 of WOC PCB.
(7) Remove the harness WOC-IRC of the [9] small cover unit from the CN3 of WOC PCB.
(8) Remove the harness of the [10] light source unit from the CN5 of WOC PCB.

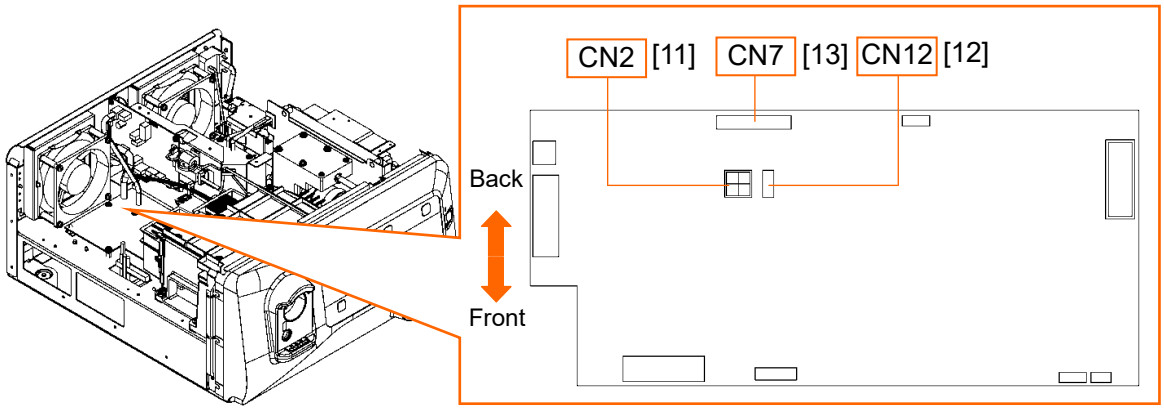


Key	Name	ID	Q'ty	Note
8	Harness WOC-WPD	136Y200455*	1	CN10
9	Small Cover Unit	863Y200009*	1	CN3
10	Light Source Unit	840Y200024*	1	CN5

◆Note◆

- Since CN10 is fragile, be careful when attaching / detaching the connector.

(9) Remove the [11] harness ELC-WOC(Pow) from the CN2 of ELC PCB.
(10) Remove the harness of the [12] fan from CN12 of ELC PCB.
(11) Remove the [13] harness ELC-WOC(Sig) from CN7 of ELC PCB.

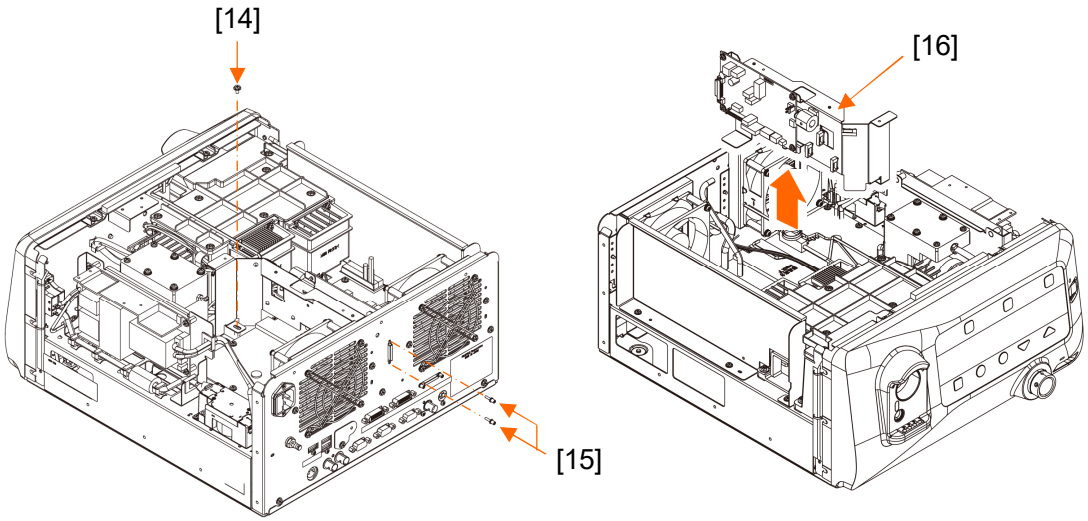


Key	Name	ID	Q'ty	Note
11	Harness ELC-WOC(Pow)	136Y121010*	1	CN2
12	Fan	119Y200013*	1	CN12
13	Harness ELC-WOC(Sig)	136Y200454*	1	CN7

◆Note◆

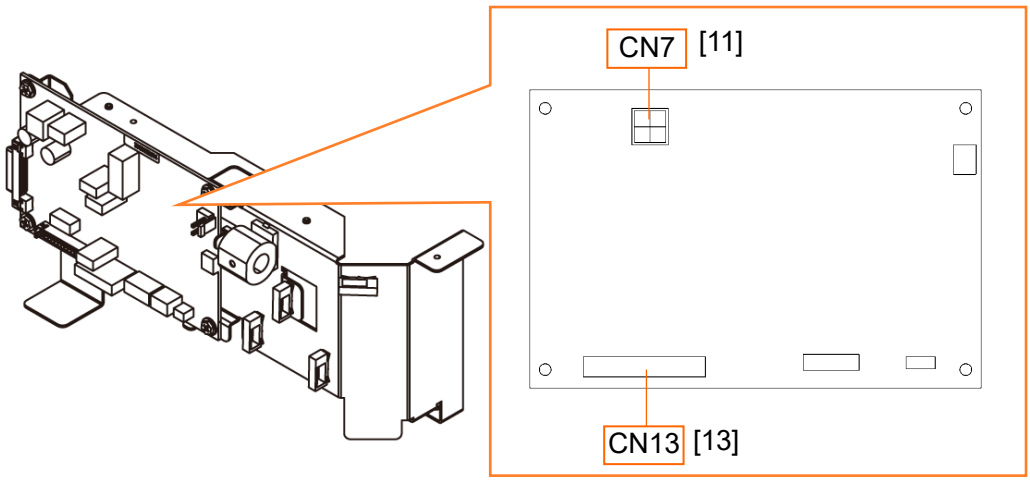
- Since CN7 is fragile, be careful when attaching / detaching the connector.

(12) Remove [14] screw x 1 and [15] screw x 2,then remove [16] WOC PCB assy



Key	Name	ID	Q'ty	Note
14	Screw	308S0414*	1	90Ncm
15	Screw	304S0082*	2	30Ncm
16	WOC PCB Assy	Not Supply Parts	1	

(13) Remove the connector of [11] harness ELC-WOC(Pow) from CN7.
(14) Remove the connector of [13] harness ELC-WOC(Sig) from CN13.

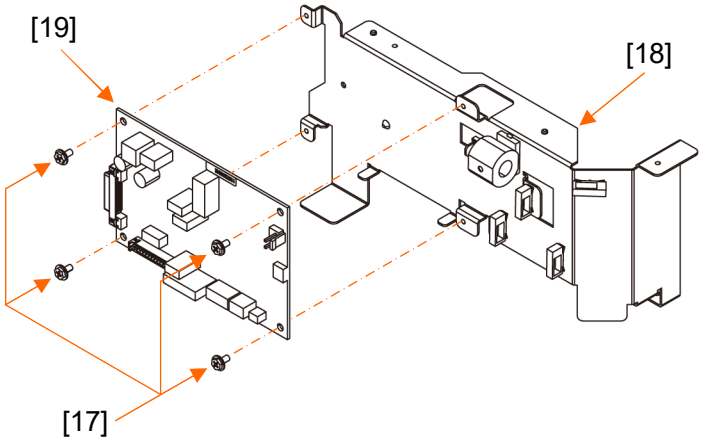


Key	Name	ID	Q'ty	Note
11	Harness ELC-WOC(Pow)	136Y121010*	1	CN7
13	Harness ELC-WOC(Sig)	136Y200454*	1	CN13

◆Note◆

・Since CN13 is fragile, be careful when attaching / detaching the connector.

(15) Remove the [17] screw x 4, then remove [19] WOC PCB form the [18] WOC bracket assy.

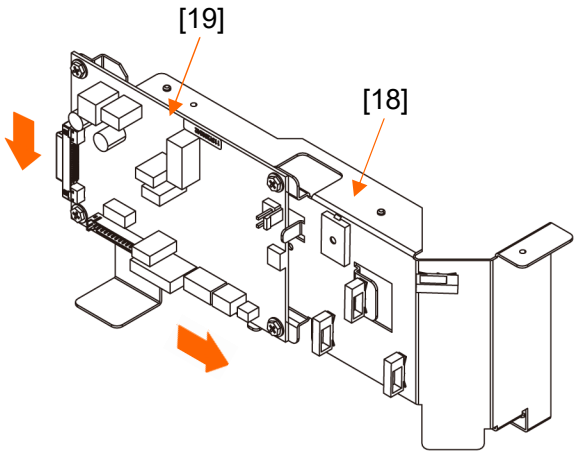


Key	Name	ID	Q'ty	Note
17	Screw	308S0414*	4	60Ncm
18	WOC Bracket Assy	Not Supply Parts	1	
19	WOC PCB	113Y200242*	1	

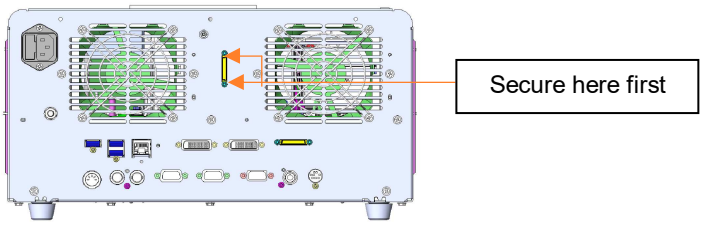
■ Reinstallation Procedures
Reverse the removal procedures for reinstallation.

◆Instruction◆

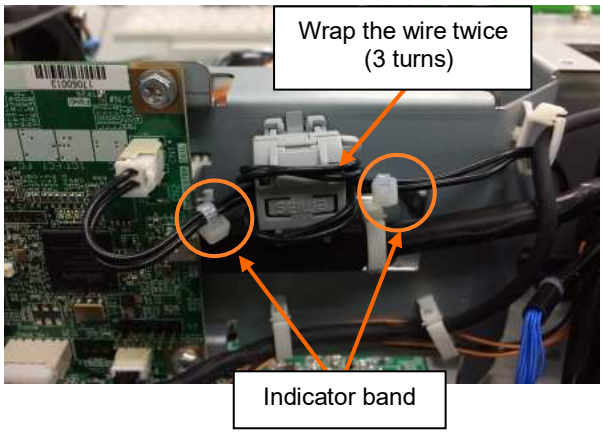
- Hold [19] WOC board downward and forward when secure it on [18] WOC bracket Assy.



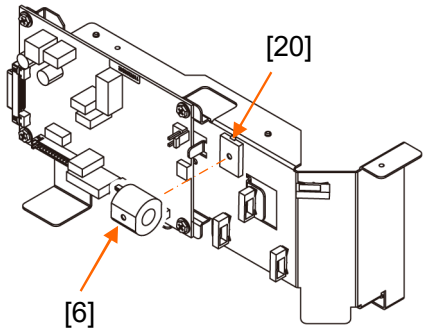
- Secure [18] WOC bracket Assy from the rear side first and then the frame side later.



- There are 2 indicators (bands) on the harness of [7] Small Cover unit, wrap the wire twice on the [6] ferrite core between the 2 indicators.



・ [6] Ferrite core is fixed to [20] core base.



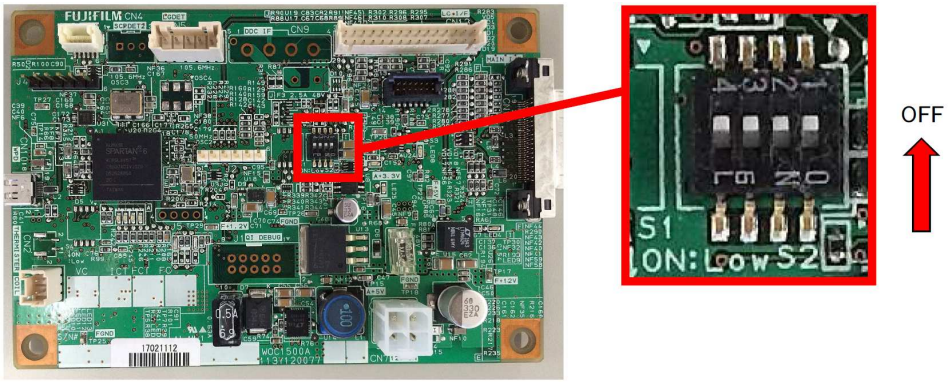
Key	Name	ID	Q'ty	Note
20	Core Base	316S0163*	1	

・ When WOC board was replaced, it is required to write the software on.
Write the board with the software in the same version as other boards.

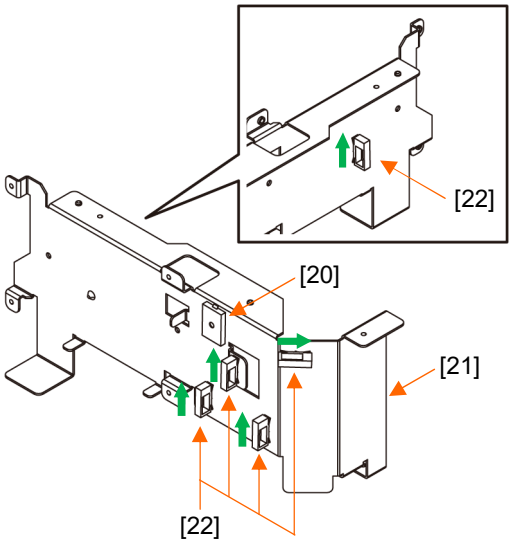
・ When replacing the [19] WOC PCB, perform the Supply/Feed Power Confirmation following procedures in "1.3 Confirmation Procedures of Supply/Feed Power ".

◆Note◆

・ DIP SW setting of WOC PCB is shown as below.



- The configuration of the [18] WOC blacket assy is shown in the figure below.
  Attach the clamp so that the direction of the arrow is the lock position.



Key	Name	ID	Q'ty	Note
20	Core Base	316S0163*	1	
21	Bracket	356N200870*	1	
22	Clamp	316S0259*	5	

1.1.14 ELC PCB

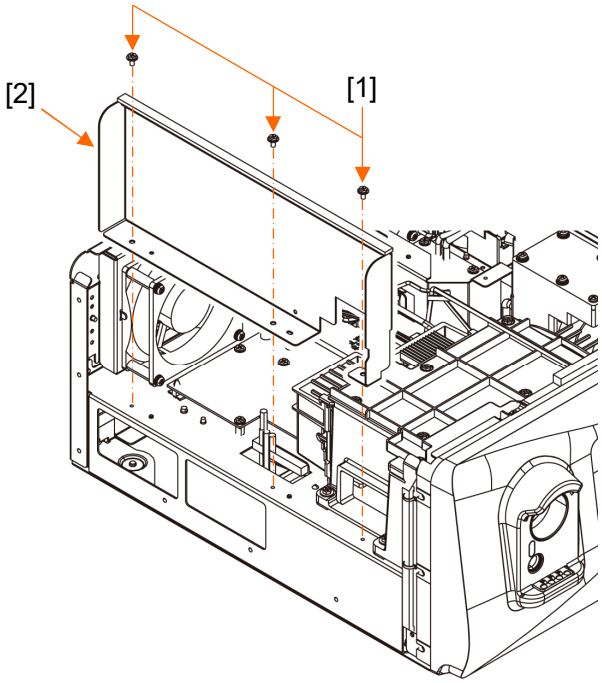
◆Instruction◆

- Since the basic information is saved in the ELC PCB, write the basic information into the board after the board is replaced.

■ Removal Procedures

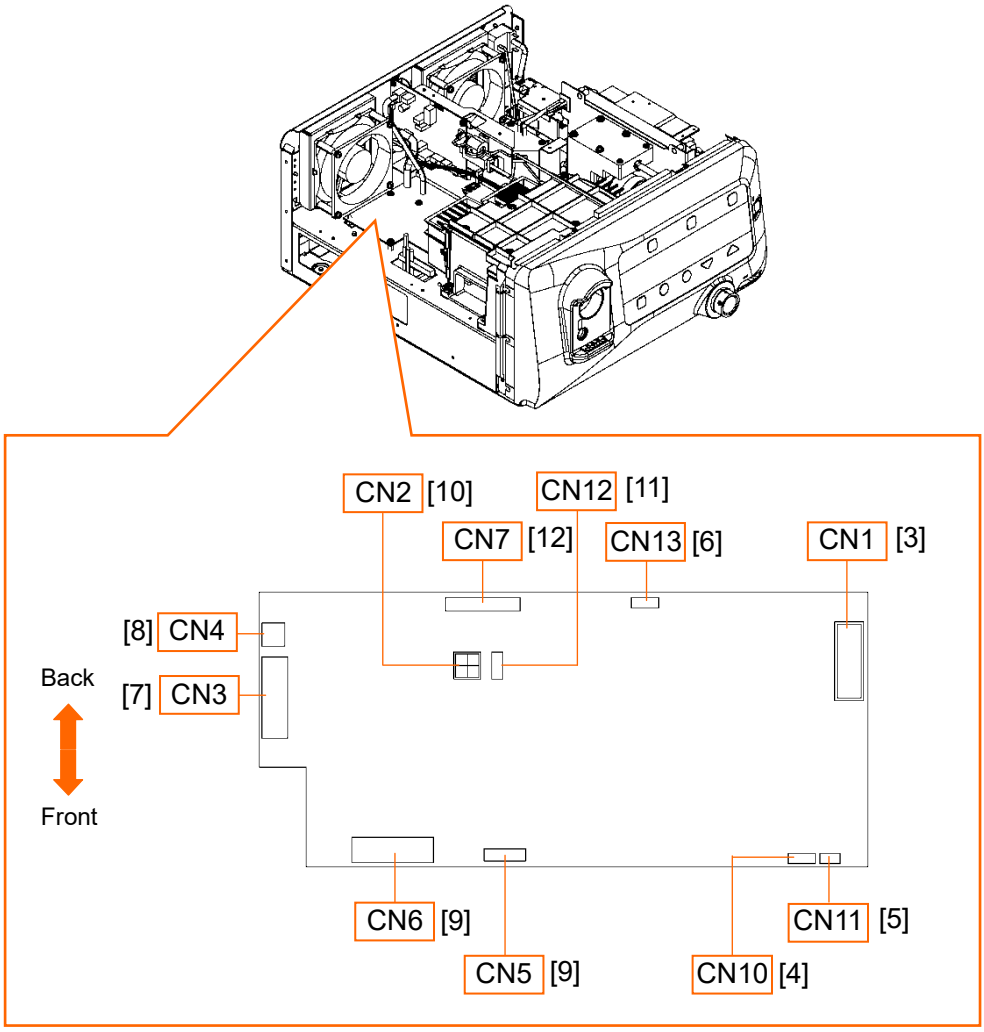
(1) Remove the WOC PCB assy following the procedures (1) to (12) of “1.1.3 WOC PCB”.

(2) Remove the [1] screw x 3, then remove the [2] bracket left assy.



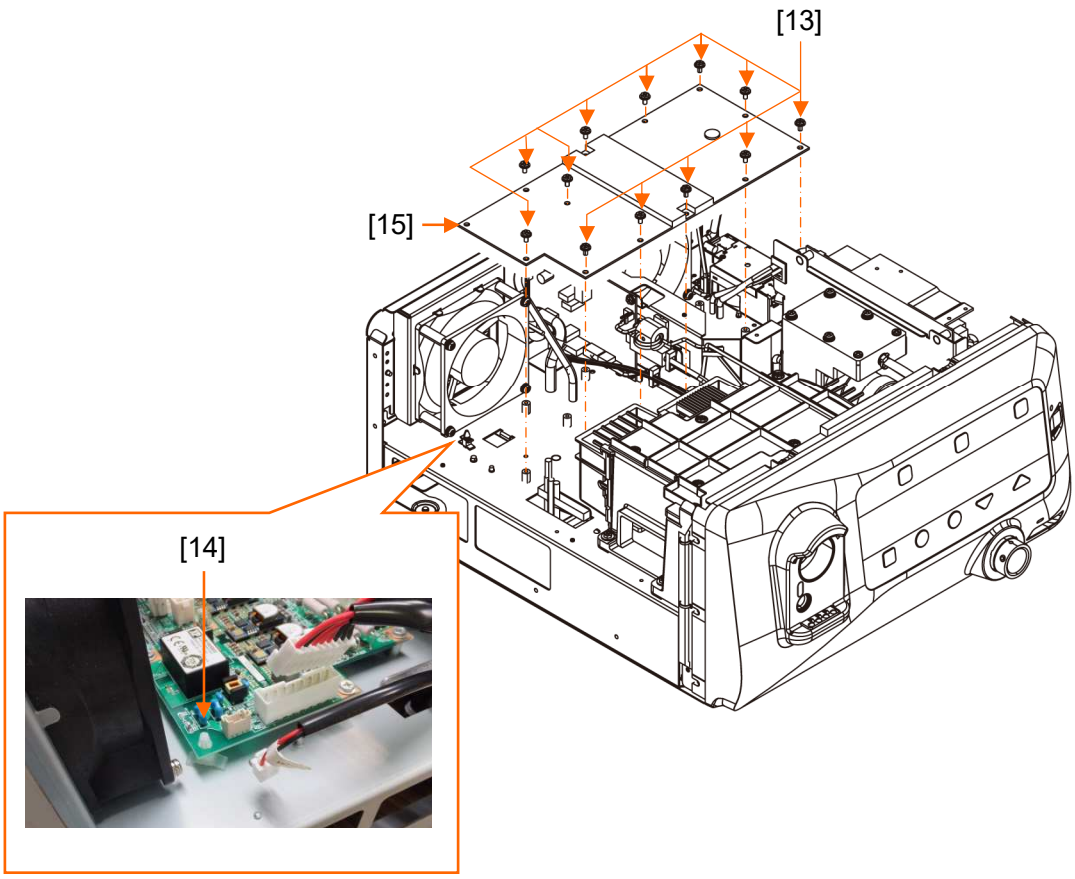
Key	Name	ID	Q’ty	Note
1	Screw	308S0414*	3	90Ncm
2	Bracket Left Assy	Not Supply Parts	1	

(3) Remove the connector of [3] harness PS-ELC from CN1 of ELC PCB.
(4) Remove the connector of [4] harness ELC-OP from CN10 of ELC PCB.
(5) Remove the connector of [5] pump assy from CN11 of ELC PCB.
(6) Remove the connector of [6] fan from CN13 of ELC PCB.
(7) Remove the connector of [7] harness ELC-Main/IOL from CN3 of ELC PCB.
(8) Remove the connector of [8] harness ELC-Patient from CN4 of ELC PCB.
(9) Remove the connector of [9] light source unit from CN5 and CN6 of ELC PCB.
(10) Remove the connector of [10] harness ELC-WOC(Pow) from CN2 of ELC PCB.
(11) Remove the connector of [11] fan from CN12 of ELC PCB.
(12) Remove the connector of [12] harness ELC-WOC(Sig) from CN7 of ELC PCB.



Key	Name	ID	Q'ty	Note
3	Harness PS-ELC	136Y200451*	1	CN1
4	Harness ELC-OP	136Y121006*	1	CN10
5	Pump Assy	133Y200006*	1	CN11
6	Fan	119Y200013*	1	CN13
7	Harness ELC-Main/IOL	136Y200452*	1	CN3
8	Harness ELC-Patient	136Y200453*	1	CN4
	Ferrite Core	109S0029*	1	
9	Light Source Unit	840Y200024*	1	CN5,CN6
10	Harness ELC-WOC(Pow)	136Y121010*	1	CN2
11	Fan	119Y200013*	1	CN12
12	Harness ELC-WOC(Sig)	136Y200454*	1	CN7

(13) Remove [13] Screw (x12), and remove [15] ELC PCB while holding [14] Spacer (x1).



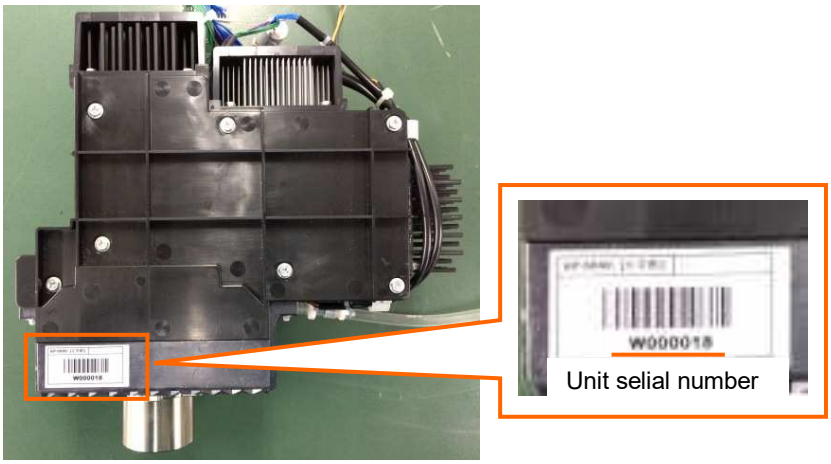
Key	Name	ID	Q'ty	Note
13	Screw	308S0414*	12	60Ncm
14	Spacer	316S0039*	1	
15	ELC PCB	113Y200119*	1	

■ Reinstallation Procedures

Reverse the removal procedures for reinstallation.

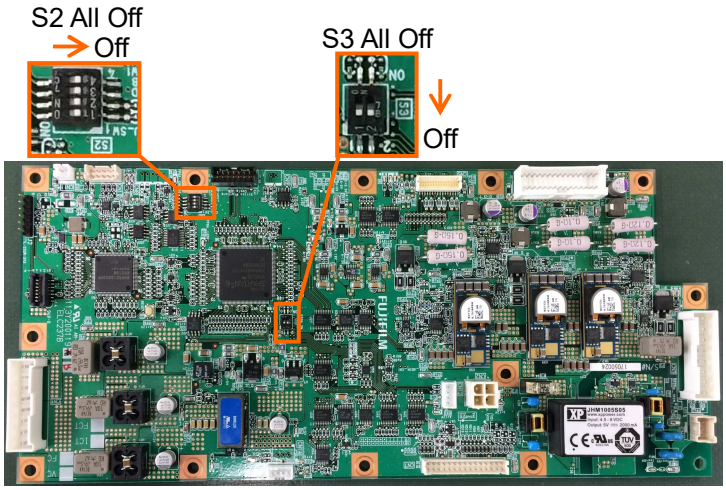
◆Instruction◆

- When ELC board was replaced, it is required to write the software on.
  Write the board with the software in the same version as other boards.
- When replacing the ELC PCB, perform the EEPROM writing following procedures in "1.2 EEPROM Writing Procedure".
- Note down and keep the unit serial number pasted on the light source unit.
  This light source unit number will be used on the inspection after repair.



◆Note◆

- DIP SW setting of ELC PCB is shown as below.

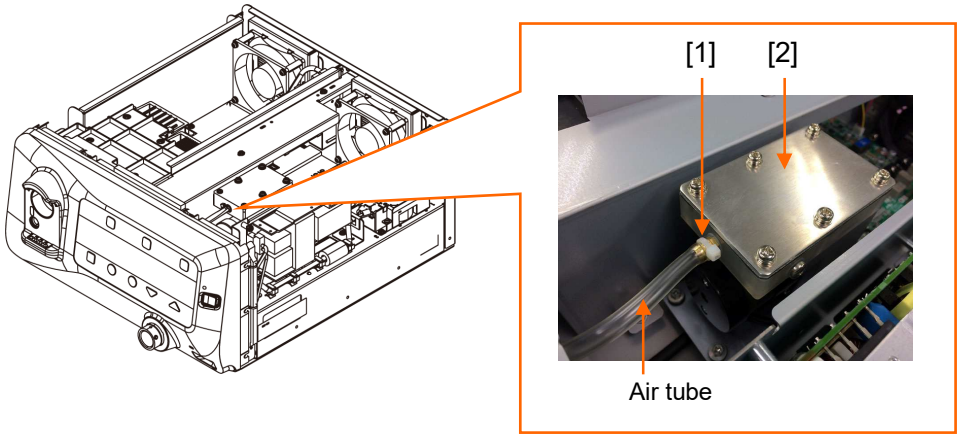


1.1.15 Pump

■ Removal Procedures

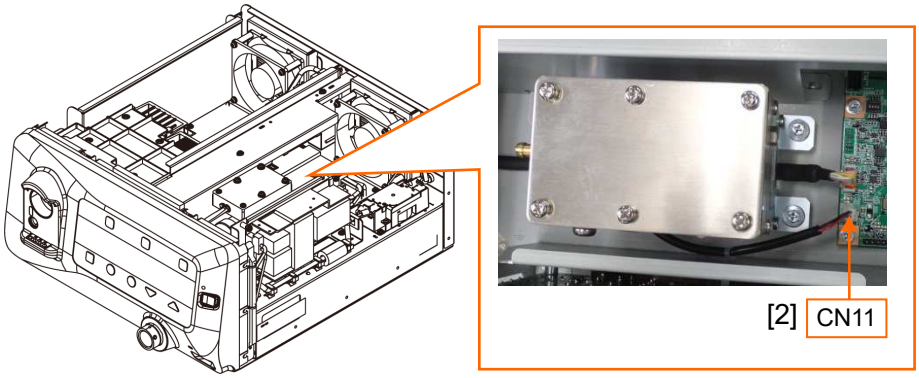
(1) Remove the top cover following the procedures (1) to (3) of “1.1.1 Top Cover”.

(2) Cut off [1] band, then remove the air tube from the pump.

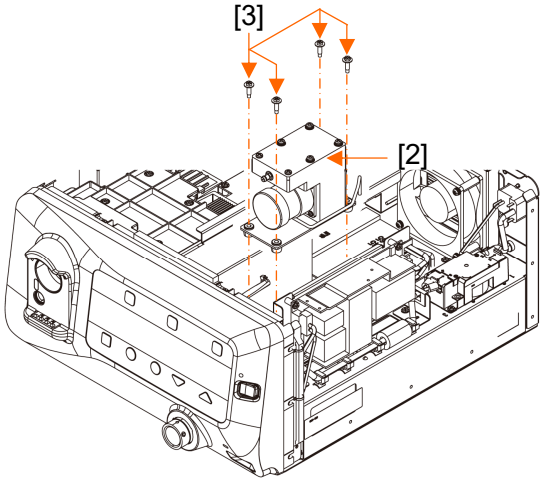


Key	Name	ID	Q’ty	Note
1	Band	316S1076*	1	40±5N
2	Pump Assy	133Y200006*	1	

(3) Remove the connector of [2] pump assy from CN11 of ELC PCB.



(4) Remove [3] special screw x 4, then remove [2] pump assy.



Key	Name	ID	Q’ty	Note
3	Special Screw	308N120037*	4	90Ncm

■ Reinstallation Procedures
Reverse the removal procedures for reinstallation.

◆Note◆

・ Apply ThreeBond 1401B (Y10N1026) on [3] Special Screw (x4), and secure [2] Pump Assy.

1.1.16 Fan (Light source unit side)

■ Removal Procedures

(1) Remove the top cover following the procedures (1) to (3) of “1.1.1 Top Cover”.

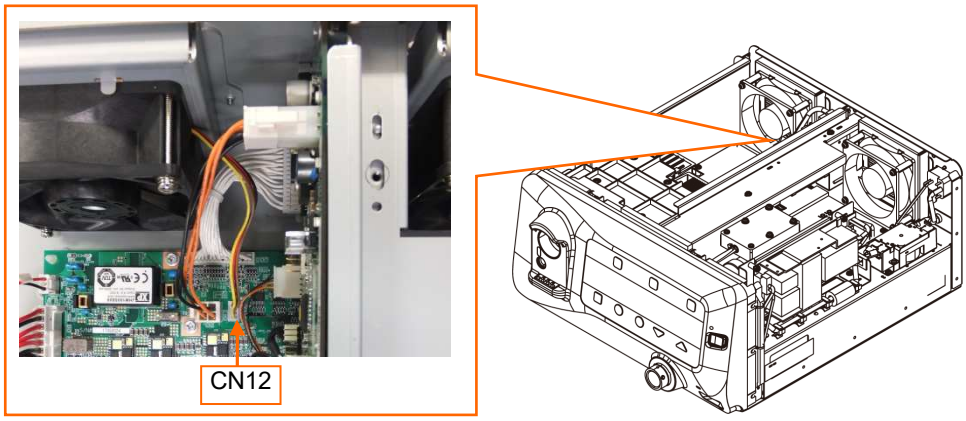
◆Instruction◆

- If the [1]WC - LINK cable is connected, remove it before proceeding.



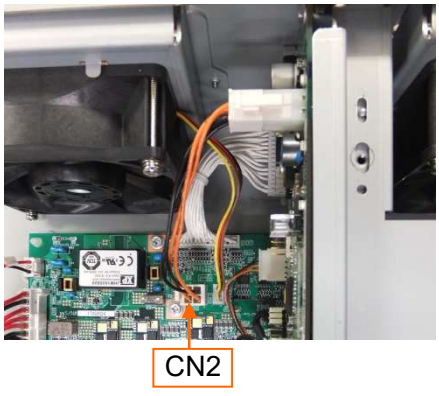
Key	Name	ID	Q’ty	Note
1	WC-LINK Cable	136Y121092*	1	

(2) Remove the connector of fan from CN12 of ELC PCB.

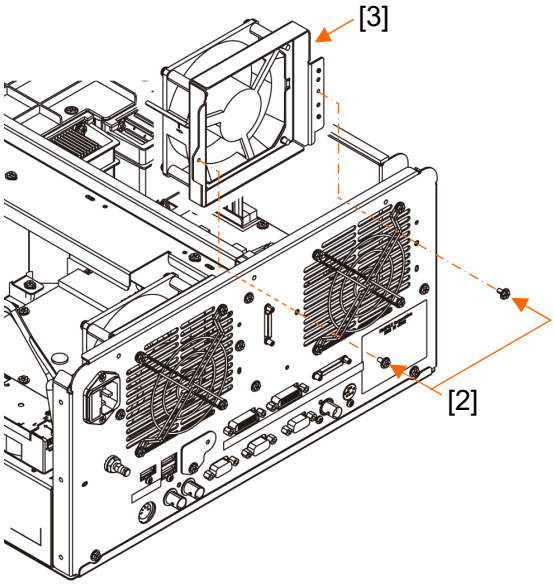


◆Note◆

- If CN12 is hard to remove, it is recommended to remove ELC-WOC (pow) from CN2 on ELC PCB first.

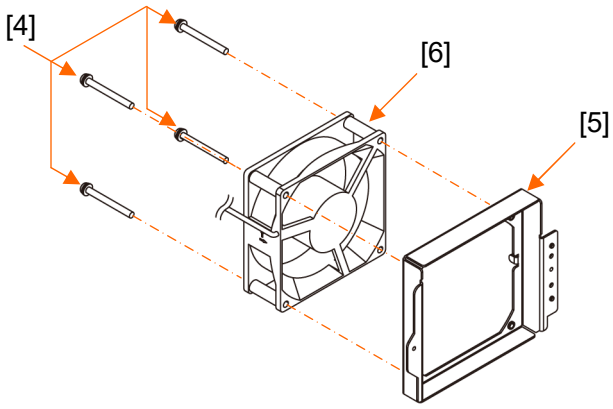


(3) Remove [2] screw x 2, then remove [3] fan assy.



Key	Name	ID	Q'ty	Note
2	Screw	308S0414*	2	90Ncm
3	Fan Assy	Not Supply Parts	1	

(4) Remove [4] screw x 4, then remove [6] fan from [5] bracket.

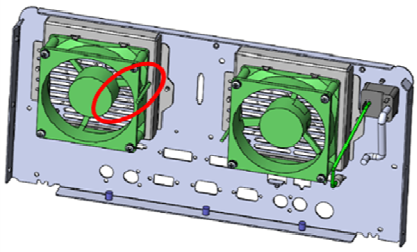


Key	Name	ID	Q'ty	Note
4	Screw	308S2760440*	4	60Ncm
5	Bracket	363N200118*	1	
6	Fan	119Y200013*	1	

■ Reinstallation Procedures
Reverse the removal procedures for reinstallation.

◆Instruction◆

・ Install the fan with the label facing the back of the frame and the harness being at the inner side.

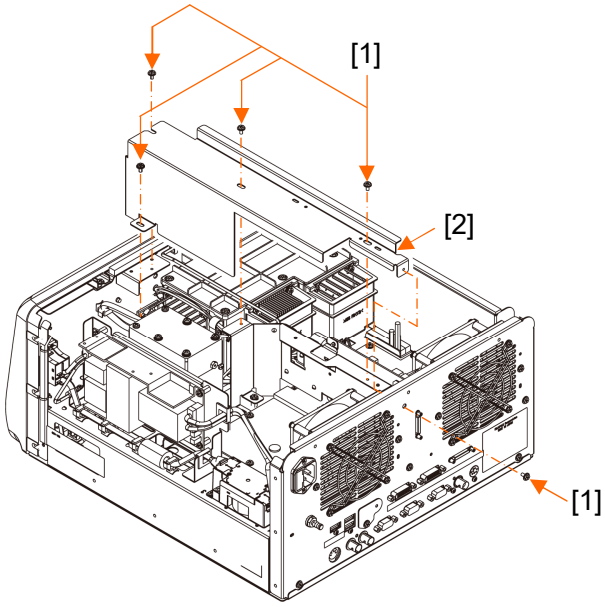


1.1.17 Fan (Power supply PCB side)

■ Removal Procedures

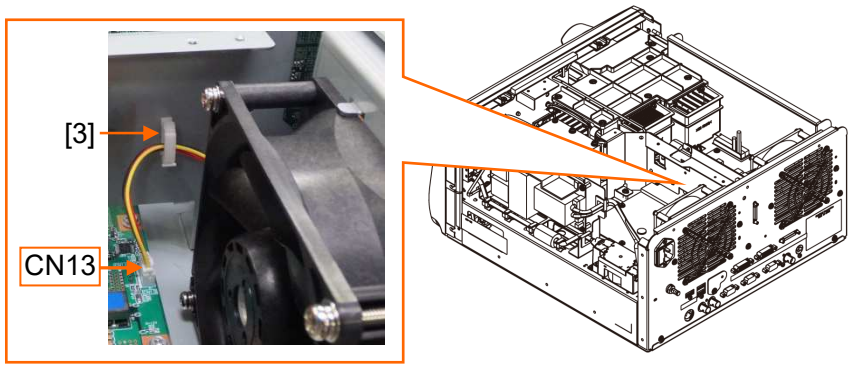
(1) Remove the top cover following the procedures (1) to (3) of “1.1.1 Top Cover”.

(2) Remove [1] screw x 5, then remove [2] bracket.

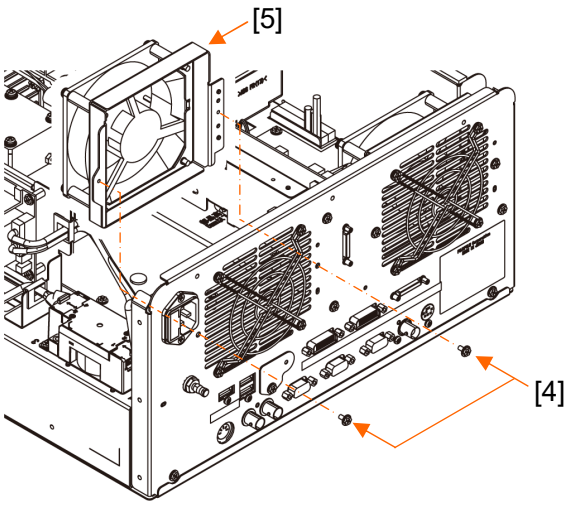


Key	Name	ID	Q’ty	Note
1	Screw	308S0414*	5	90Ncm
2	Bracket	356N200872*	1	

(3) Open the [3] clamp, then remove connector of the fan from CN13 of ELC PCB.

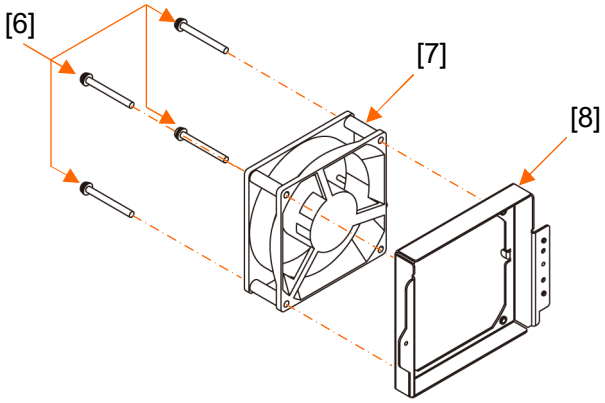


(4) Remove [4] x 2, then remove [5] fan assy.



Key	Name	ID	Q'ty	Note
3	Clamp	316S0259*	1	
4	Screw	308S0414*	2	90Ncm
5	Fan Assy	Not Supply Parts	1	

(5) Remove [6] x 4, then remove [8] fan from [7] bracket.



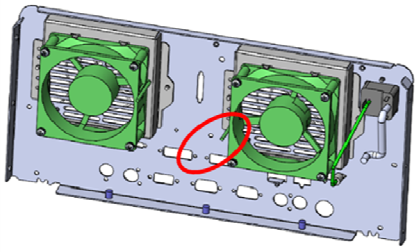
Key	Name	ID	Q'ty	Note
6	Screw	308S2760440*	4	60Ncm
7	Bracket	363N200118*	1	
8	Fan	119Y200013*	1	

■ Reinstallation Procedures

Reverse the removal procedures for reinstallation.

◆Instruction◆

- Install the fan with the label facing the back of the frame and the harness being at the inner side.



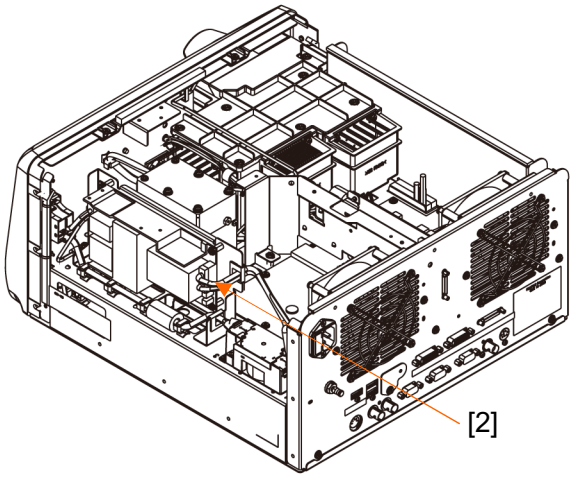
1.1.18 Power Supply PCB

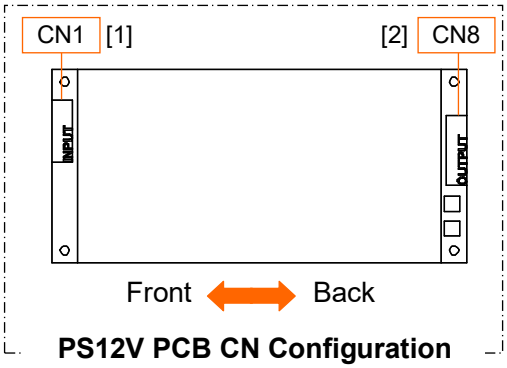
Caution

- **There is a risk of electrical shock since there might be electric charges in the power board right after turning OFF the power, do not touch the terminals and the metal portion of the power board.**

■ Removal Procedures

(1) Remove the top cover following the procedures (1) to (3) of “1.1.1 Top Cover”.
(2) Remove the connector of [1] power switch assy from the CN1 of power supply PCB.
(3) Remove the connector of [2] harness PS-ELC from the CN8 of power supply PCB.

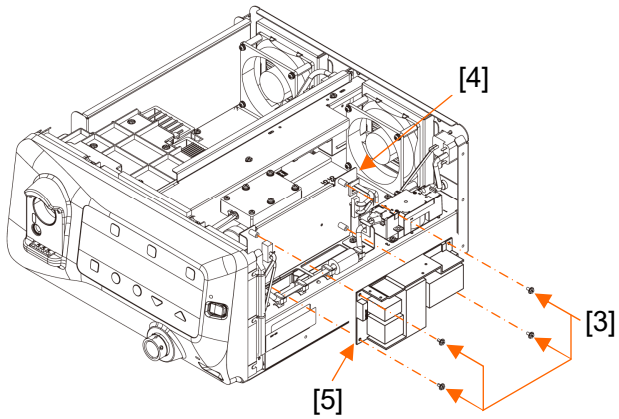




PS12V PCB CN Configuration

Key	Name	ID	Q’ty	Note
1	Power Switch Assy	128Y200063*	1	CN1
2	Harness PS-ELC	136Y200451*	1	CN8

(4) Remove [3] screw x 4, then remove [5] power supply PCB from [4] power supply bracket assy.

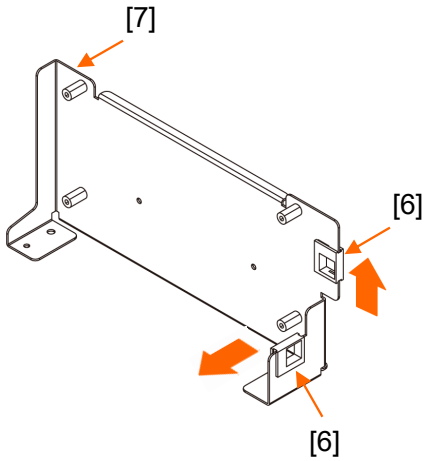


Key	Name	ID	Q’ty	Note
3	Screw	308S0414*	4	60Ncm
4	Power Supply Bracket Assy	Not Supply Parts	1	
5	Power Supply PCB	125N120017*	1	

■ Reinstallation Procedures
Reverse the removal procedures for reinstallation.

◆Note◆

・ The configuration of the [4] power supply bracket assy is shown in the figure below.
Attach the clamp so that the direction of the arrow is the lock position.

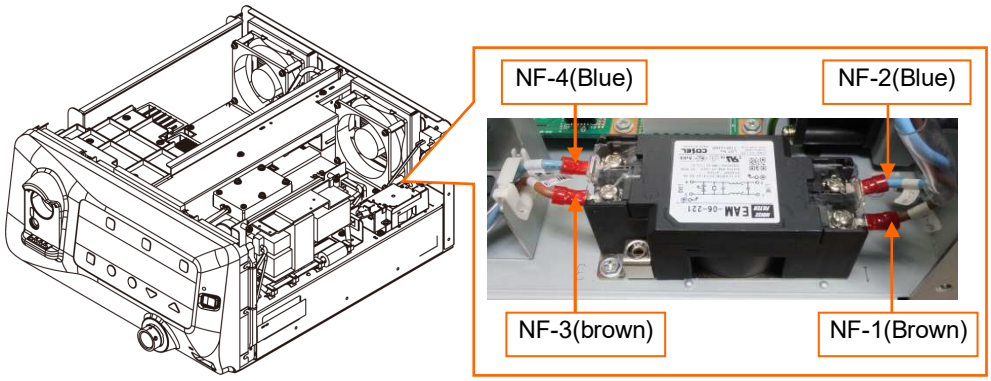


Key	Name	ID	Q'ty	Note
6	Clamp	316S1325*	2	
7	Bracket	356Y200184*	1	

1.1.19 Noise Filter

■ Removal Procedures

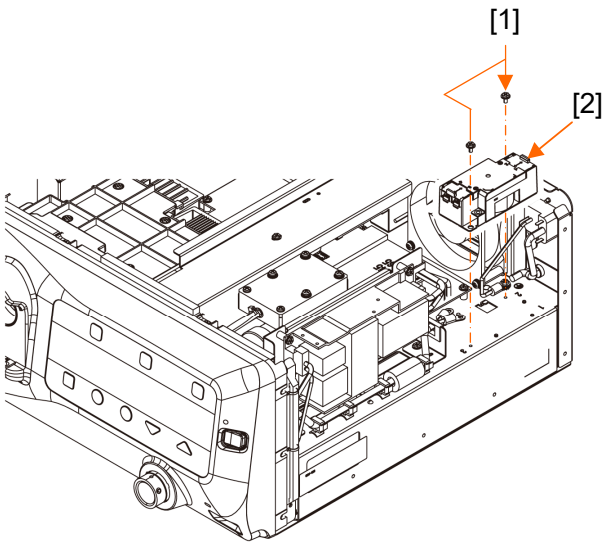
(1) Remove the top cover following the procedures (1) to (3) of “1.1.1 Top Cover”.
(2) Open the cover of noise filter.
(3) Loosen the screws of NF-1, NF-2, NF-3 and NF-4, and remove the terminals.



(4) Remove the [1] screw x 2 fixing the noise filter, then remove [2] noise filter.

◆Note◆

- To avoid the rewiring mistake after replacement, be sure to familiarize with the location of the wiring.



Key	Name	ID	Q’ty	Note
1	Screw	308S0414*	2	90Ncm
2	Noise Filter	138N120002*	1	

■ Reinstallation Procedures
Reverse the removal procedures for reinstallation.

◆Instruction◆

- Reinstall the screw for noise filter by 120Ncm.
- Be sure to close the slide covers of the noise filter terminals to the end to make them locked.
- Since the screws x 2 attached to noise filter are no use, remove to discard them.

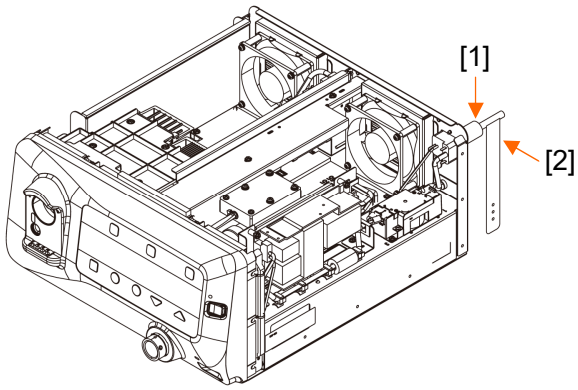


1.1.20 Inlet Assy

■ Removal Procedures

(1) Remove the top cover following the procedures (1) to (3) of “1.1.1 Top Cover”.

(2) Remove [1] power cable and [2] cord band.

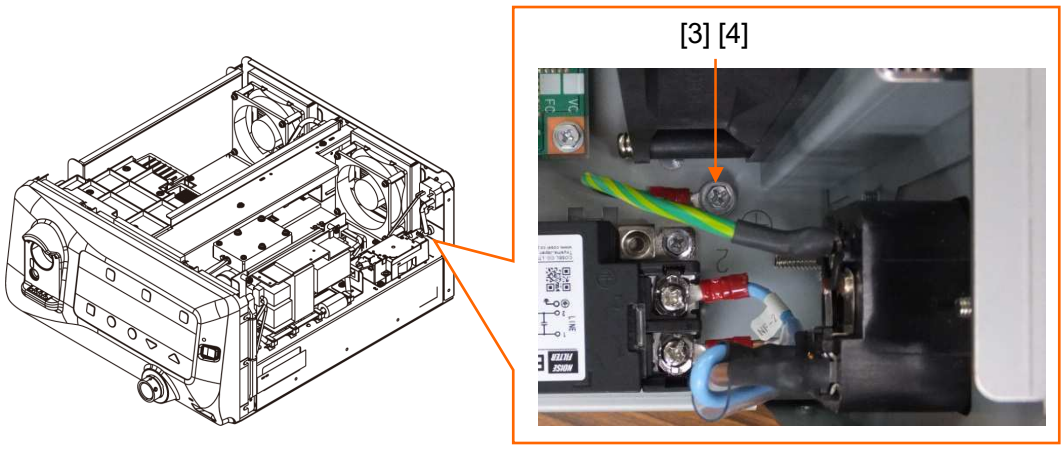


Key	Name	ID	Q’ty	Note
1	Power Cable	111K1107134*	1	
2	Cord Band	316S1412*	1	

(3) Remove [3] screw x 1, then remove FG cable.

◆Note◆

・ Exercise care not to lose the [4] tooth washer x 1 between FG cable and chassis.

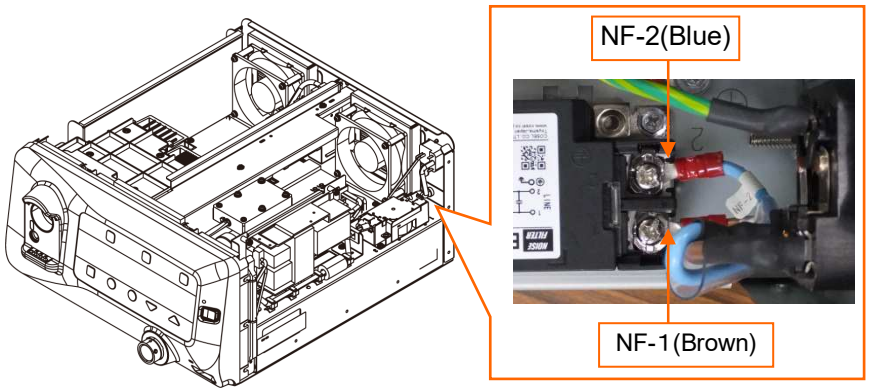


Key	Name	ID	Q’ty	Note
3	Screw	308S0406*	1	120Ncm
4	Tooth Washer	162M040N*	1	

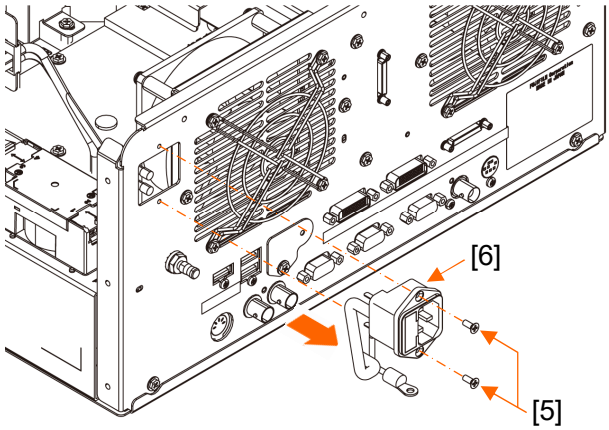
(4) Open the cover over the terminals of noise filter, then remove the NF-1 and NF-2 from terminals.

◆Note◆

- To avoid the rewiring mistake after replacement, be sure to familiarize with the location of the wiring.



(5) Remove [5] screws x 2, then remove [6] inlet assy.

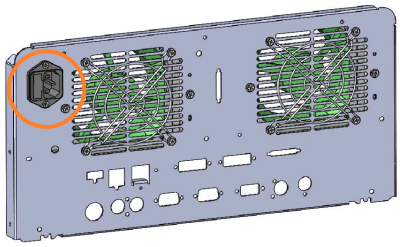


Key	Name	ID	Q'ty	Note
5	Screw	111M300800N*	2	40Ncm
6	Inlet Assy	120Y200019*	1	

■ Reinstallation Procedures
Reverse the removal procedures for reinstallation.

◆Instruction◆

- Reinstall the screw for noise filter by 120Ncm.
- Install the Inlet Assy with the fuse inlet facing outward.



- Be sure to close the slide covers of the noise filter terminals to the end to make them locked.

◆Note◆

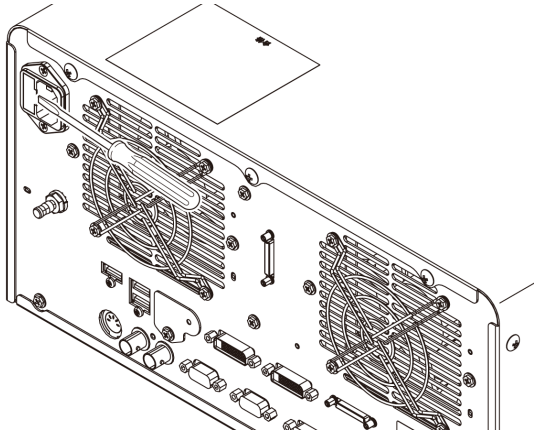
- [7] Fuse does not come with [6] Inlet Assy.
  If [7] Fuse is still usable (without abnormality), only replace [6] Inlet Assy and reuse [7] Fuse.

Key	Name	ID	Q'ty	Note
7	Fuse	119K129241*	2	

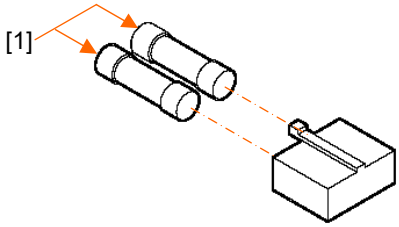
1.1.21 Fuse

■ Removal Procedures

(1) Open the fuse cover of the inlet with the flat-blade screwdriver.



(2) Remove the [1] fuses x 2.



Key	Name	ID	Q'ty	Note
1	Fuse	119K129241*	2	

■ Reinstallation Procedures

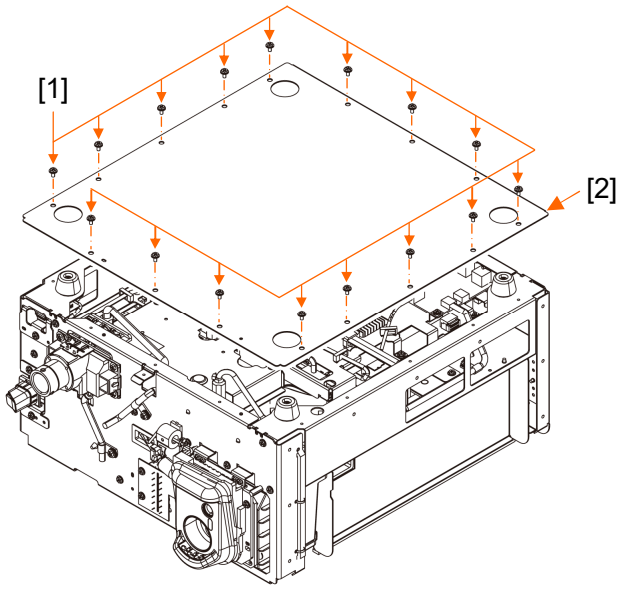
Reverse the removal procedures for reinstallation.

1.1.22 EVE Connector

■ Removal Procedures

(1) Remove the top cover following the procedures (1) to (3) of “1.1.1 Top Cover”.

(2) Turn the equipment upside down, remove [1] screw x 16 and remove [2] bottom cover.

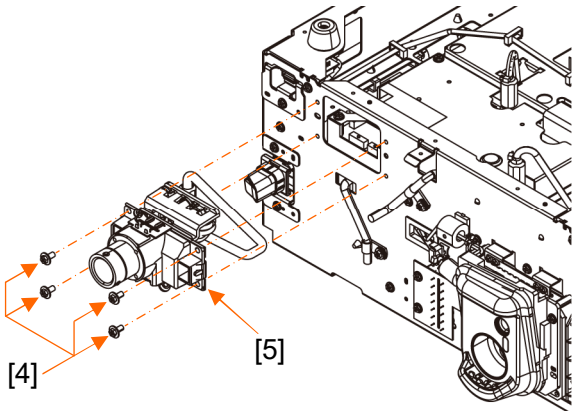


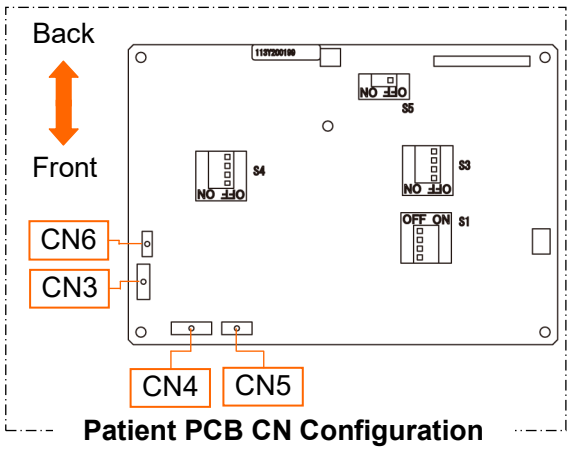
Key	Name	ID	Q’ty	Note
1	Screw	308S0414*	16	90Ncm
2	Bottom Cover	350N120205*	1	

(3) Remove connector from CN6 and CN3 of patient PCB.

(4) Open the [3] clamp x 1 and remove [4] screw x 4, then [5] EVE connector out forward.

(5) Remove connector from CN4 and CN5 of patient PCB, then removr [5] EVE connecror.





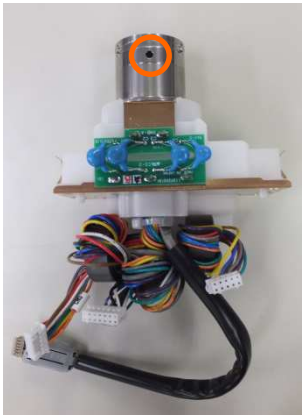
Patient PCB CN Configuration

Key	Name	ID	Q’ty	Note
3	Clamp	316S0259*	1	
4	Screw	308S0424*	4	120Ncm
5	EVE Connector Assy	120Y200015*	1	

■ Reinstallation Procedures
Reverse the removal procedures for reinstallation.

◆Instruction◆

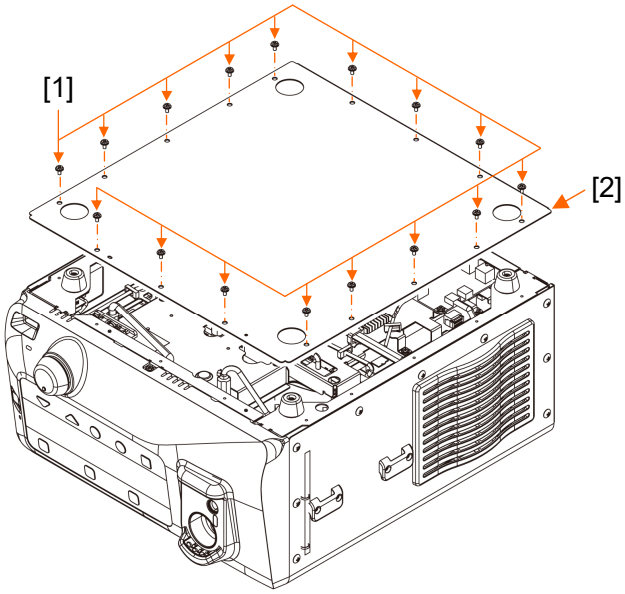
・ The EVE connector Assy must be assembled so that the mark is on the top when attaching to the equipment.



1.1.23 IO/LORES PCB

■ Removal Procedures

(1) Turn the equipment upside down, remove [1] screw x 16 and remove [2] bottom cover.

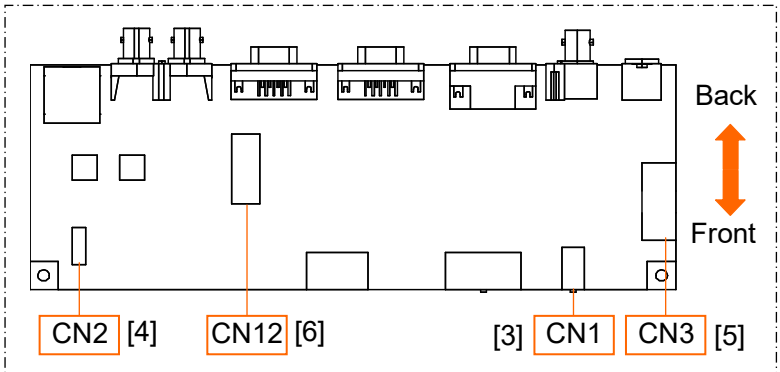


Key	Name	ID	Q'ty	Note
1	Screw	308S0414*	16	90Ncm
2	Bottom Cover	350N120205*	1	

◆Note◆

- Be careful not to damage the top cover when working with the main unit up side down. If there is a possibility of damaging the top cover, remove the top cover by performing the procedures from step(1) to (3) in "1.1.1 Top Cover" before performing other work procedures.

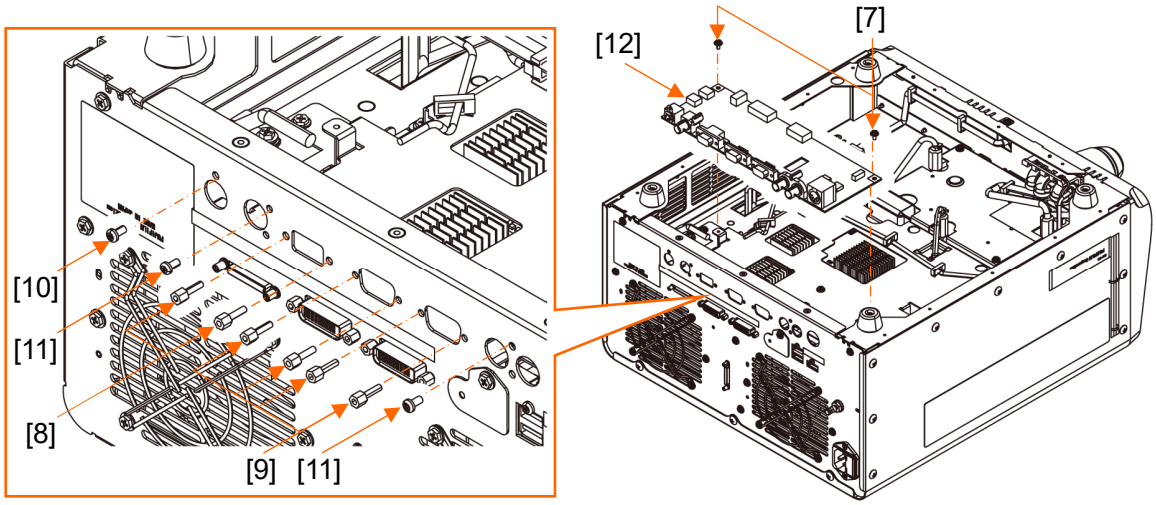
(2) Remove [3] ELC-Main/IOL from CN1 of IOL PCB.
(3) Remove [4] FFC Main-IOL(20) from CN2 of IOL PCB
(4) Remove [5] harness IOL-OP from CN3 of IOL PCB.
(5) Remove [6] FFC Main-IOL(31) from CN12 of IOL PCB



IOL PCB CN Configuration

Key	Name	ID	Q'ty	Note
3	Harness ELC-Main/IOL	136Y200452*	1	CN1
4	FFC Main-IOL(20)	136Y200664*	1	CN2
5	Harness IOL-OP	136Y121012*	1	CN3
6	FFC Main-IOL(31)	136Y200663*	1	CN12

(6) Remove [7] screw x 2, [8] screw x 2, [9] screw x 4, [10] screw x 1 and [11] screw x 2, then remove [12] IO/LORES PCB.



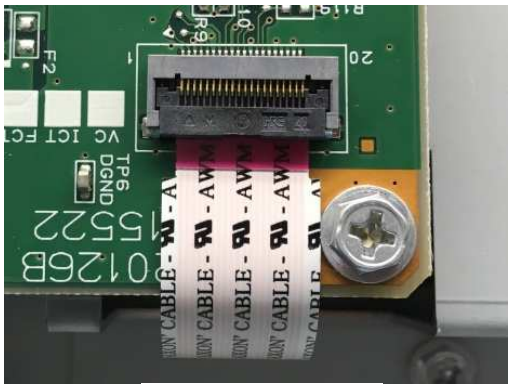
Key	Name	ID	Q'ty	Note
7	Screw	308S0414*	2	60Ncm
8	Screw	53K122802*	2	40Ncm
9	Screw	53K100072*	4	40Ncm
10	Screw	110M300600N*	1	40Ncm
11	Screw	53K112695*	2	40Ncm
12	IO/LORES PCB	113Y120126*	1	

■ Reinstallation Procedures

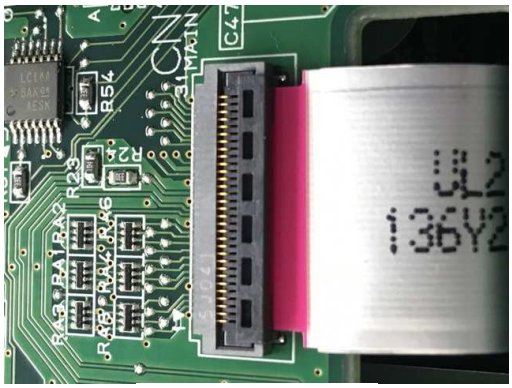
Reverse the removal procedures for reinstallation.

◆Note◆

- Fasten each screw on the rear side for [12] IO/LORES board and then fasten [11] Screw (x2).
- Set the FFC cable in the positioning tab with the red surface facing up and make sure the connector is locked properly.



Locked(CN2)



Locked(CN12)

1.1.24 Main PCB

◆Instruction◆

- As customer's config data is saved in the main PCB, save the config data in an external memory if backup is possible to execute before the replacement of PCB, and restore the config data after the replacement of PCB.
- As the main PCB of service parts is in the condition of delivery inspection, therefore execute a factory reset when installing in the processor.
  In this case, as destination setting will be reset, execute destination setting after factory reset.

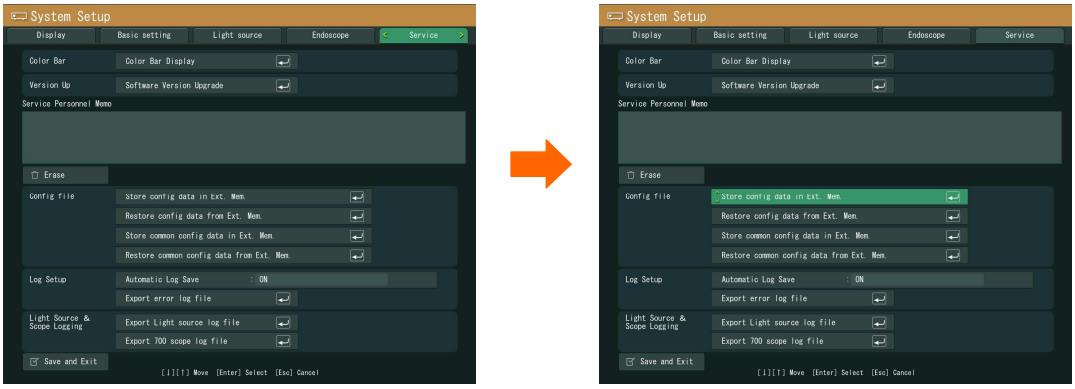
■ Storing procedures of Config Data

(1) Connect the USB memory on which the config data was stored to EP-6000.

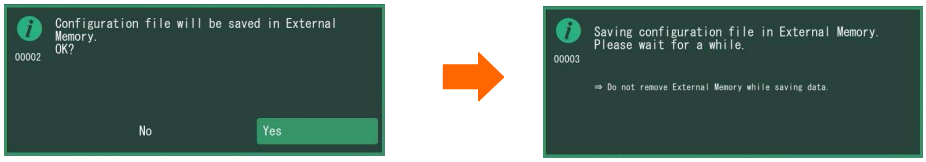
◆Note◆

- For the external memory, prepare and use EP-6000 dedicated one.
  If you use an external memory that performed saving other than in EP-6000, the configuration data may not be correctly saved.

(2) Connect keyboard and the monitor to EP-6000 and turn ON the power.
(3) Press the [Shift] + [Alt] + [System] keys of keyboard to display the system setup menu.
(4) Move the cursor to "Service".
(5) Move the cursor to “Store config data in Ext. Mem” and press the [Enter] key.



(6) The message "Configuration file will be saved in External Memory." appears. Move the cursor to "Yes" and press the [Enter] key.
The message "Saving configuration file in External Memory." appears, and saving the configuration starts.



◆Note◆

- Do not touch the processor until the message "Saving configuration file is completed" appears.
  If you turn off the power while saving config data, configuration file may not properly be saved.

(7) When the message "Saving configuration file is completed" appears, press the [Enter] key to close the menu.



■ Removal Procedures

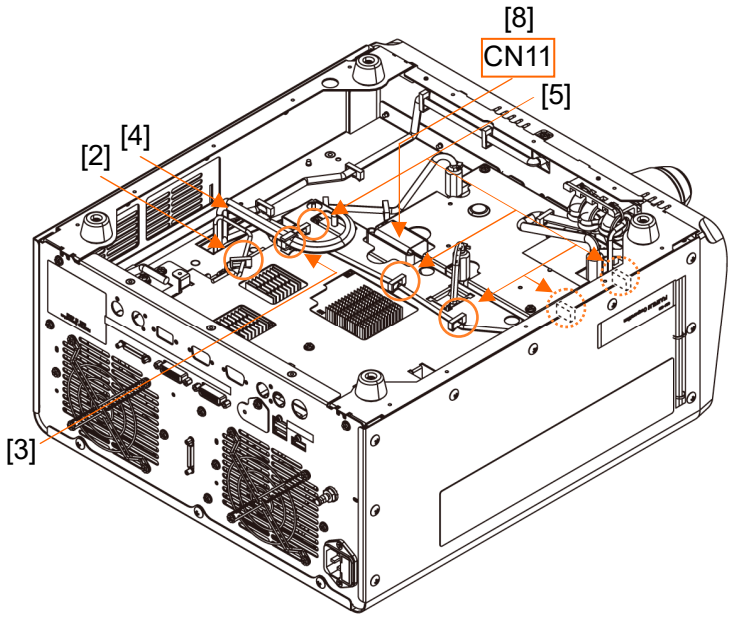
◆Instruction◆

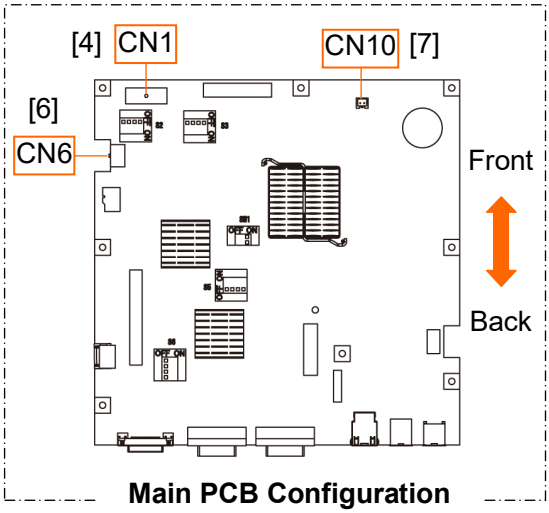
・ If [1] WC-LINK Cable has been connected, remove it before performing the procedures.



Key	Name	ID	Q'ty	Note
1	WC-LINK Cable	136Y121092*	1	

(1) Remove the Option PCB following the procedures (1) to (6) of "1.1. 23 IO/LORES PCB".
(2) Open the [2] clamp x 1 and [3] clamp x1, harness ELC-Main/IOL free.
(3) Remove [4] harness ELC-Main/IOL from CN1 of main PCB.
(4) Open the [5] clamp x 5, then remove [6] harness Main-USB from CN6 of main PCB.
(5) Remove [7] harness Main-Patient from CN10 of main PCB.
(6) Remove [8] FFC Main-Patient from CN11 of main PCB.

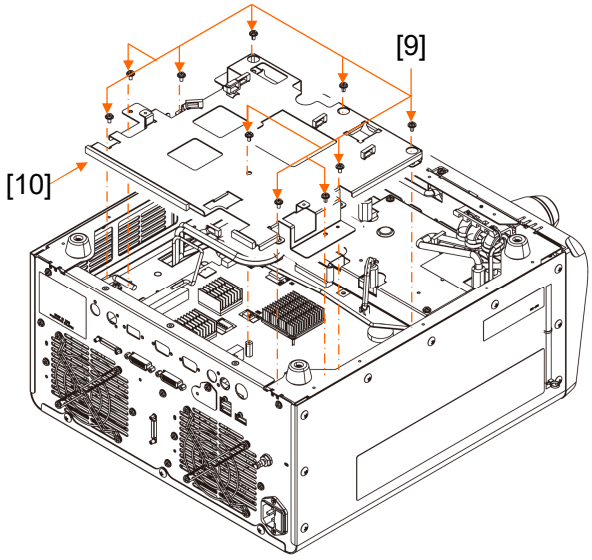




Main PCB Configuration

Key	Name	ID	Q'ty	Note
2	Clamp	316S0259*	1	
3	Clamp	316S1297*	1	
4	Harness ELC-Main/IOL	136Y200452*	1	CN1
5	Clamp	316S0259*	5	
6	Harness Main-USB	136Y121013*	1	CN6
7	Harness Main-Patient	136Y121192*	1	CN10
	Ferrite Core	109S0029*	1	
8	FFC Main-Patient	136Y200662*	1	CN11
	Ferrite Core	138S0578*	1	

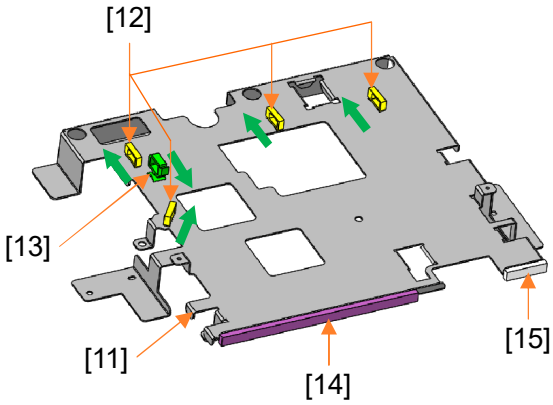
(7) Remove [9] screw x 10, then remove [10] bracket assy.



Key	Name	ID	Q'ty	Note
9	Screw	308S0414*	10	60Ncm
10	Bracket Assy	Not Supply Parts	1	

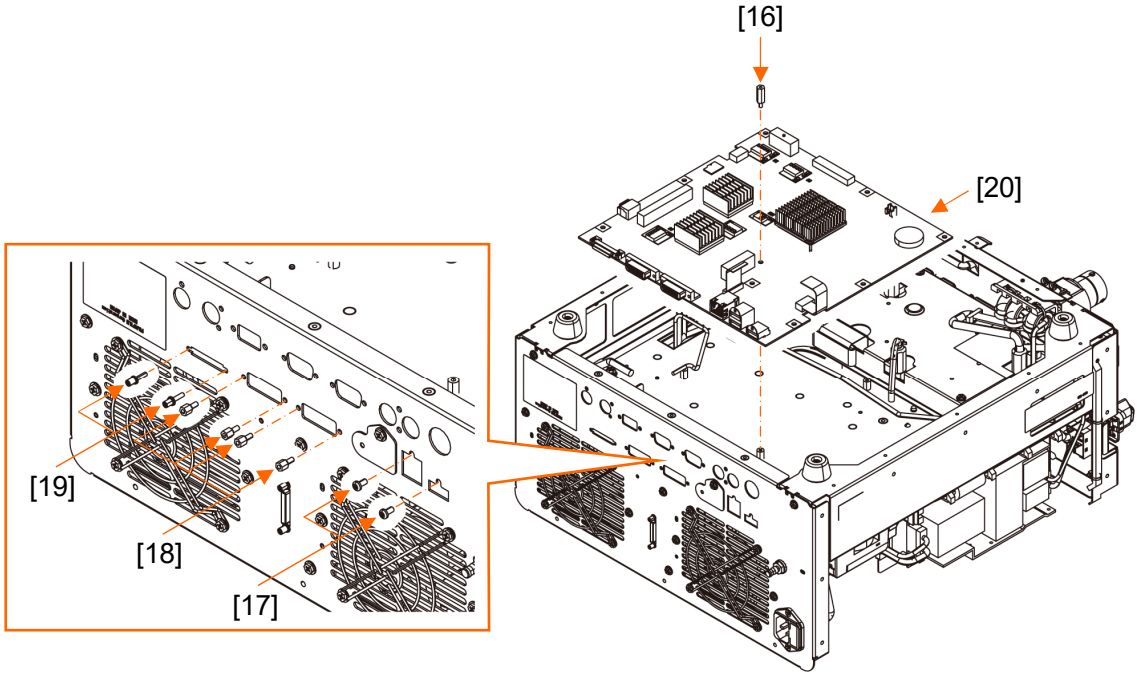
◆Note◆

- Make sure that no gasket is peeling away from the bracket Assy.
  The locations of clamps and gaskets on the bracket Assy are shown as below.
  Attach the clamp so that the direction of the arrow is the lock position.



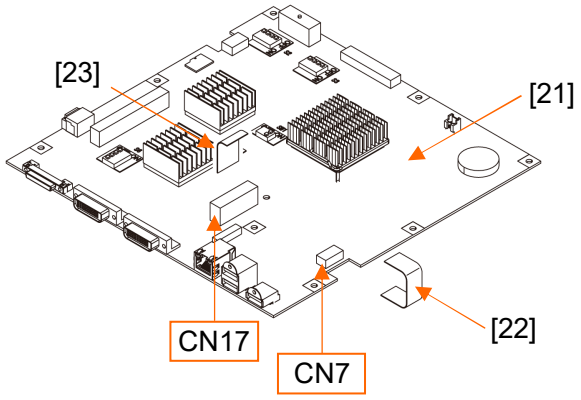
Key	Name	ID	Q'ty	Note
11	Bracket	356N200868*	1	
12	Clamp	316S0259*	4	
13	Clamp	316S1297*	1	
14	Gasket 7x4x140	387N120031*	1	
15	Gasket 7x4x29	387N120032*	1	

(8) Remove the [16] spacer × 1 fixing the PCB.
(9) Rmove [17] screw x 2, [18] screw x 4 and [19] screw x 2, then remove [20] main PCB assy.



Key	Name	ID	Q'ty	Note
16	Spacer	347S0866*	1	60Ncm
17	Screw	110M300600N*	2	40Ncm
18	Screw	53K129167*	4	40Ncm
19	Screw	304S0082*	2	30Ncm
20	Main PCB Assy	Not Supply Parts	1	

(10) Remove [22] FFC Main-IOL(20) from CN7 of [21] main PCB.
(11) Remove {23} FFC Main-IOL(31) from CN17 of [21] main PCB

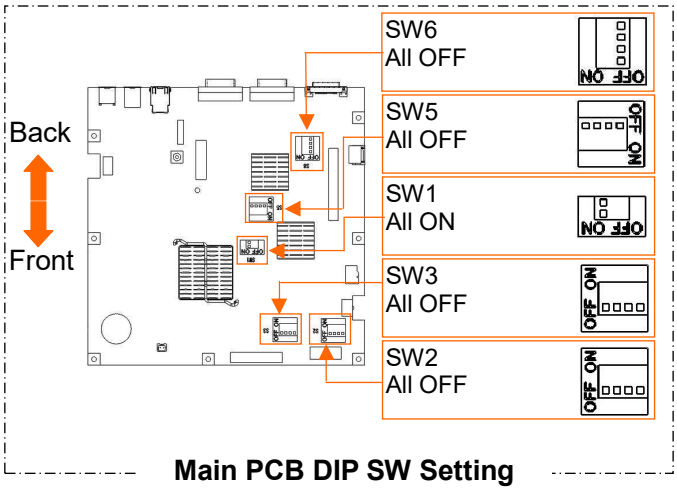


Key	Name	ID	Q'ty	Note
21	Main PCB	113Y200197*	1	
22	FFC Main-IOL(20)	136Y200664*	1	CN7
23	FFC Main-IOL(31)	136Y200663*	1	CN17

■ Reinstallation Procedures
Reverse the removal procedures for reinstallation.

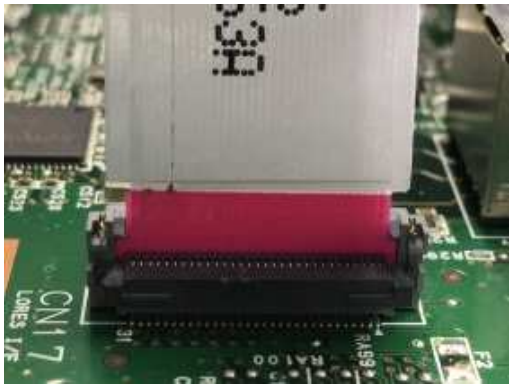
◆Note◆

・ DIP SW setting of Main PCB is shown as below.



Main PCB DIP SW Setting

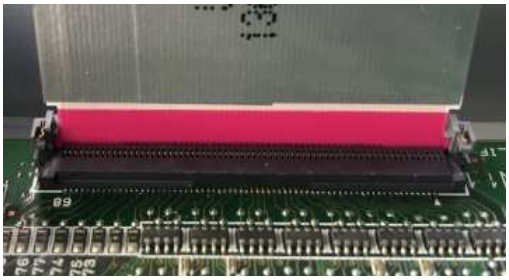
・ Set the FFC cable in the positioning tab with the red surface facing up and make sure the connector is locked properly.



Locked(CN17)



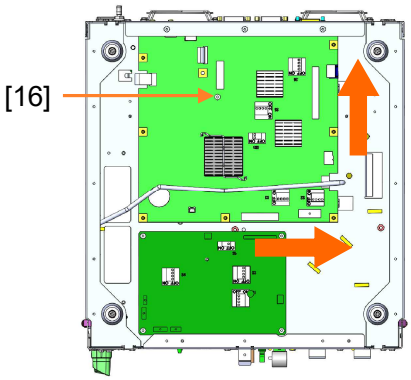
Locked(CN7)



LOcked(CN11)

◆Instruction◆

- To secure the main board, fasten each screw on the back side while holding the back side of the main unit, and then fasten [16] spacer x1.



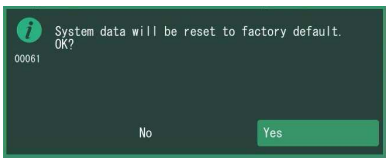
- Since the basic setting of the main board (service part) has not been set, be sure to do a factory reset, switch the location and set the serial number after replacing the main board.
- Because software is written in the Main PCB, when replacing the Main PCB, the version of the software must be matched with the ones of the other PCBs.

■ **Factory reset procedures**

(1) Connect keyboard and the monitor to EP-6000 and turn ON the power.
(2) Press the [Shift]＋[Alt]＋[Home] keys of keyboard to display the Maintenance menu.
(3) Move the cursor to "Factory Reset" and press [Enter].



(4) "System data will be reset to factory default. OK?" appears. Move the cursor to "Yes" to press [Enter].
The message disappears and factory resetting starts.



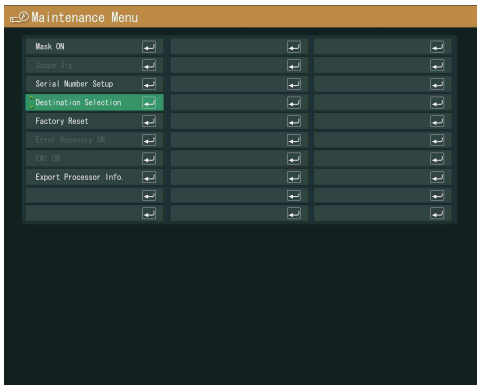
■ **Destination selection procedures**

(1) Connect keyboard and the monitor to EP-6000 and turn ON the power.
(2) Press the [Shift]＋[Alt]＋[Home] keys of keyboard to display the Maintenance menu.

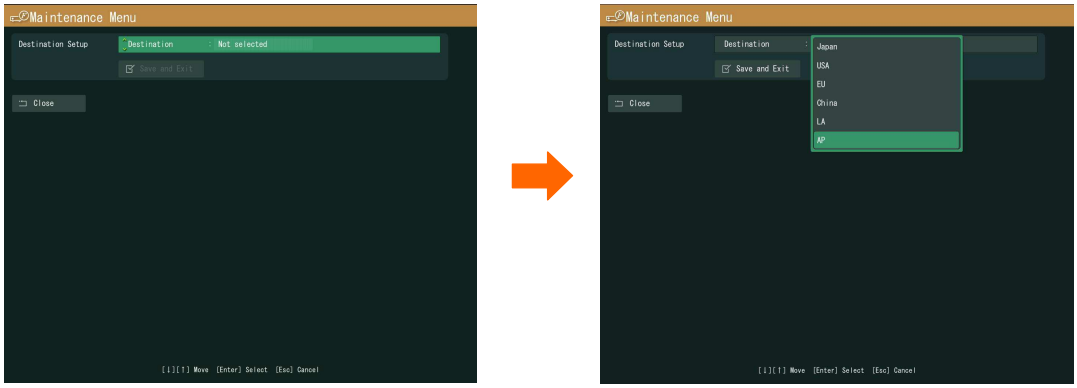
Caution

Do not perform operation other than the designated on Factory Menu.
Abnormality occurs on setting information and equipment does not operate normally.

(3) Move the cursor to "Destination Selection" and press [Enter].

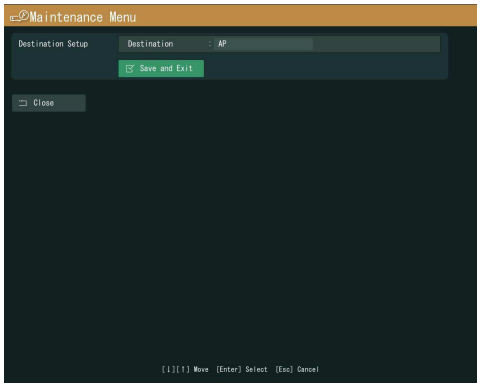


(4) Press [Enter] in Destination and select the destination by using [↑][↓] and press [Enter].

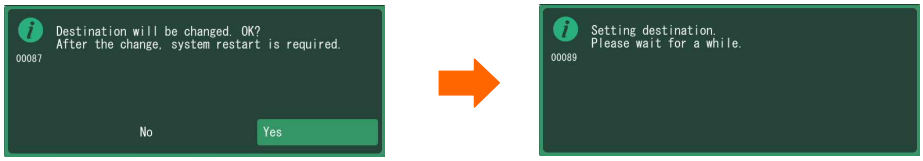


Model	Destination
FV696A	AP

(5) Move the cursor to "Save and Exit" and press [Enter].



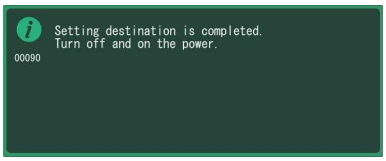
(6) "Destination will be changed. OK?" appears. Move the cursor to "Yes" to press [Enter].
"Setting destination" appears and the selection of destination starts.



Caution

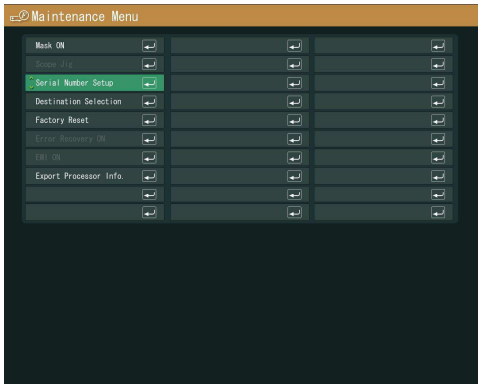
The selection of destination takes approximately 1 minute.
Do not touch the processor until "Setting destination is completed" appears.
When power is turned off during the selection of destination, setting change fails and the device does not function normally.

(7) When a message, "Setting destination is completed" appears, turn OFF／ON the power.

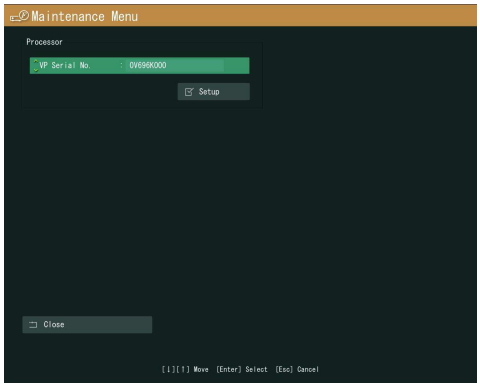


■ **Serial number setting procedures**

(1) Connect keyboard and the monitor to EP-6000 and turn ON the power.
(2) Press the [Shift] + [Alt] + [Home] keys of keyboard to display the Maintenance menu.
(3) Move the cursor to "Serial number setting" and press [Enter].



(4) Move the cursor to "VP Serial Number" and press [Enter].
(5) Input a serial number and press [Enter].



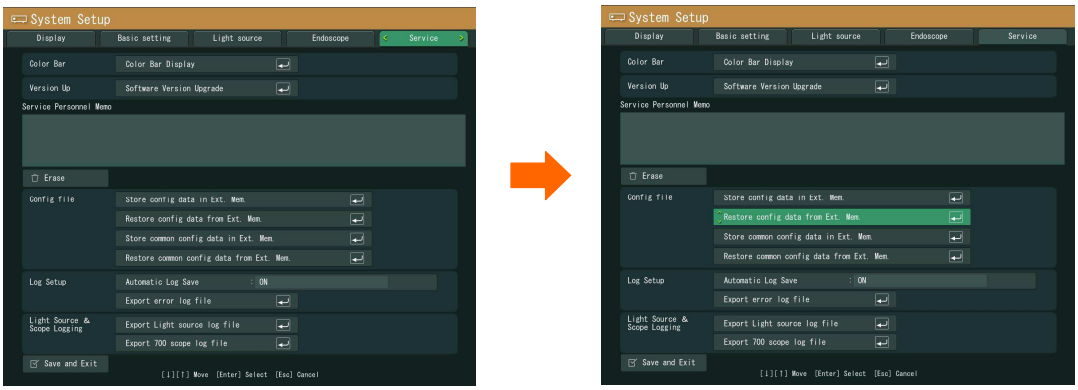
(6) Move the cursor to "Setting" and press [Enter].
(7) Move the cursor to "Close" and press [Enter].
(8) Escape the Maintenance menu by [Esc].
(9) By pressing the [Shift] + [Alt] + [F5] keys of keyboard to display the System Information, and confirm that the setting of serial number was performed.



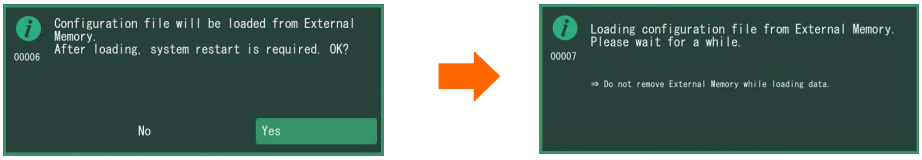
(10) Move the cursor to "Close" and press [Enter] to disappear the display.

■ **Restoring procedures of Config Data**

(1) Connect the USB memory on which config data was stored to EP-6000.
(2) Connect keyboard and the monitor to EP-6000 and turn ON the power.
(3) Press the [Shift] + [Alt] + [System] keys of keyboard and input pass word to display the system setup menu.
(4) Move the cursor to "Service " by using [←][→].
(5) Move the cursor to “Restore config Data from Ext. Mem.” by using [↑][↓] and press [Enter].



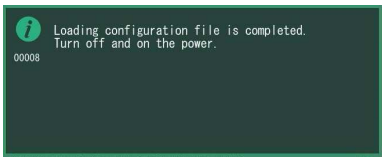
(6) The message "Configuration file will be loaded from External Memory." appears.
Move the cursor to "Yes" and press the [Enter] key.
"Loading configuration file from External Memory." appears, and saving the configuration starts.



Caution

It takes about 1 minute to restore config data.
Do not touch the processor until the message "Loading configuration file is completed" appears.
When power is turned off during restoration of config data, setting change fails and the device does not function normally.

(7) When the message "Loading configuration file is completed." appears, turn OFF/ON the power.

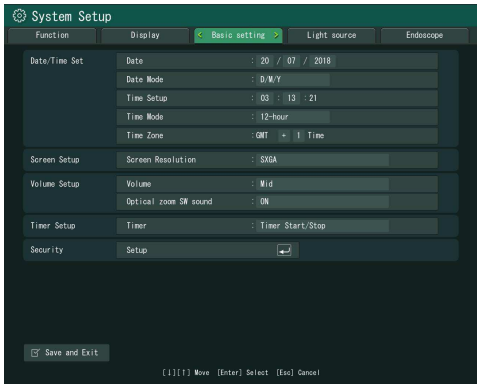


■ Date/Time Setting

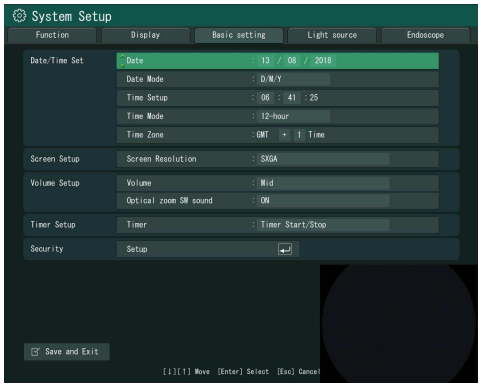
◆Instruction◆

- Confirm date and time after replacing the Main PCB, and reset them if they are improper.

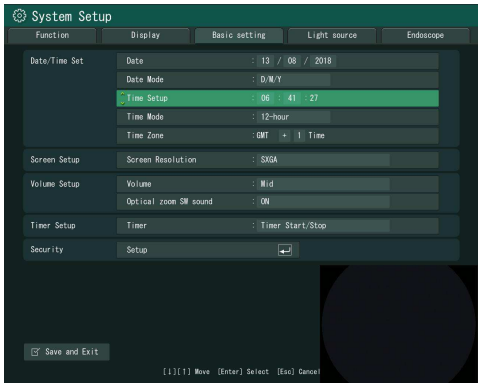
(1) Connect the keyboard and the monitor to EP-6000 and turn ON the power.
(2) Press [System] in keyboard to display the system Setup screen.
(3) Move the cursor to "Basic setting" tab by using [←][→].



(4) Move the cursor to “Date" of "Date/Time Set"by using [↑][↓] and press [Enter].
(5) Enter the year in numbers and press "Enter".
(6) Enter the month in numbers and press "Enter".
(7) Enter the day in numbers and press "Enter".



(8) Move the cursor to " Basic Setup " in "Time Setup" and press [Enter].
(9) Enter the hour in numbers and press "Enter".
(10) Enter the minute in numbers and press "Enter".

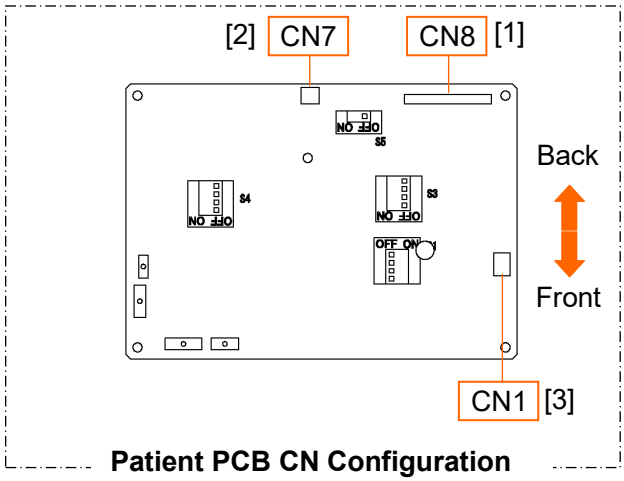


(11) Move the cursor to "Save and Exit" and press [Enter] to disappear the display.

1.1.25 Patient PCB

■ Removal Procedures

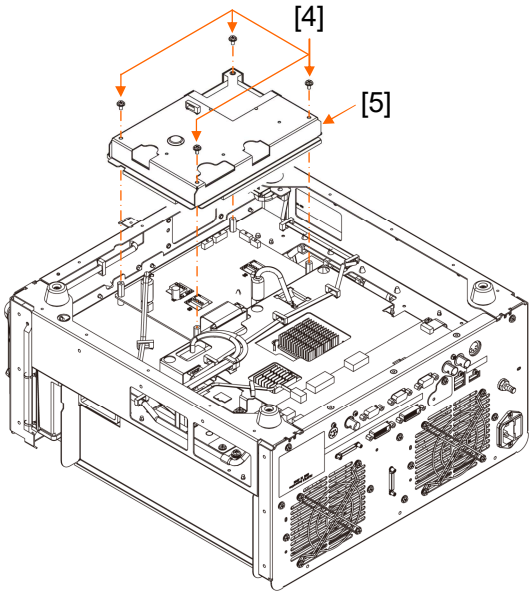
(1) Remove the EVE connector following the procedures (1) to (5) of “1.1.22 EVE Connector”.
(2) Remove [1] FFC Main-Patient from CN8 of Patient PCB.
(3) Remove [2] Harness Main-Patient from CN7 of Patirnt PCB.
(4) Remove [3] Harness ELC-Patient from CN1 of Patirnt PCB.



Patient PCB CN Configuration

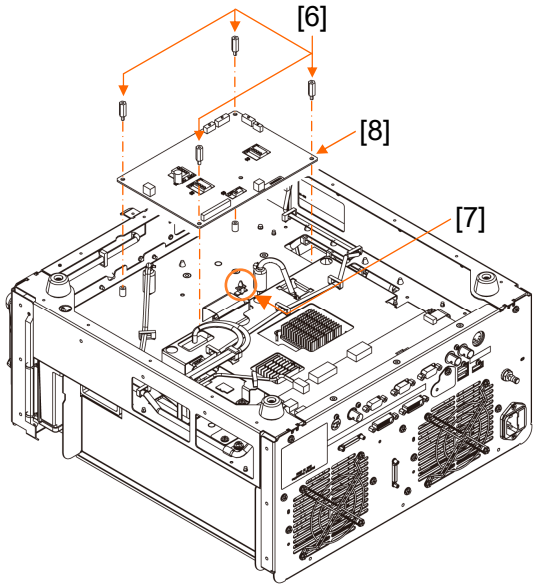
Key	Name	ID	Q’ty	Note
1	FFC Main-Patient	136Y200662*	1	CN8
	Ferrite Core	138S0578*	1	
2	Harness Main-Patient	136Y121192*	1	CN7
	Ferrite Core	109S0029*	1	
3	Harness ELC-Patient	136Y200453*	1	CN1
	Ferrite Core	109S0029*	1	

(5) Remove [4] screw x 4, then removed [5] Patient PCB cover assy.



Key	Name	ID	Q’ty	Note
4	Screw	308S0414*	4	60Ncm
5	Patient PCB Cover Assy	350Y200051*	1	

(6) Remove [6] spacer x 4, then remove [8] patient PCB while pressing the [7] spacer x 1



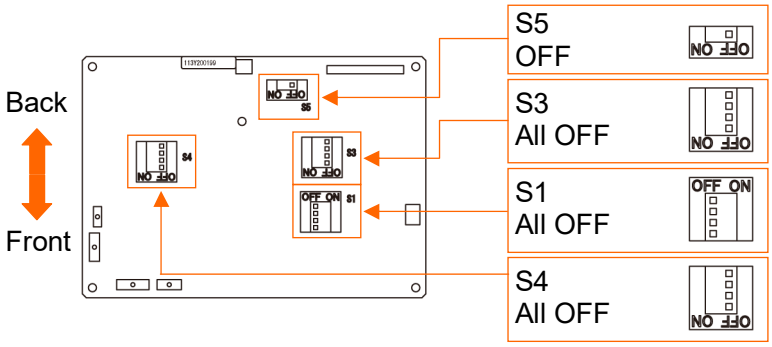
Key	Name	ID	Q'ty	Note
6	Spacer	347S0866*	4	60Ncm
7	Spacer	316S0039*	1	
8	Patient PCB	113Y200199*	1	

■ Reinstallation Procedures

Reverse the removal procedures for reinstallation.

◆Note◆

・ DIP SW setting of Patient PCB is shown as below.



・ Set the FFC cable in the positioning tab with the red surface facing up and make sure the connector is locked properly.



Locked(CN8)

◆Instruction◆

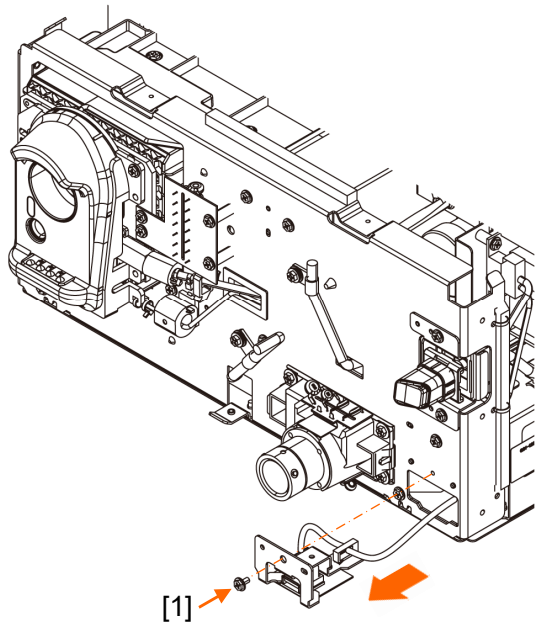
・ Because software is written in the Patient PCB, when replacing the Patient PCB, the version of the software must be matched with the ones of the other PCBs

1.1.26 USB PCB

■ Removal Procedures

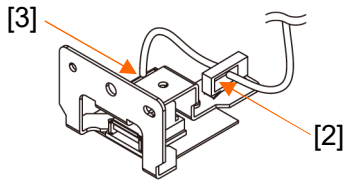
(1) Remove the front cover assy following the procedures (1) to (3) of “1.1.3 Front Cover”.

(2) Remove [1] screw x 1, then take USB PCB assy forward.



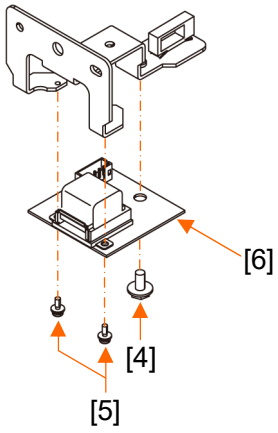
Key	Name	ID	Q’ty	Note
1	Screw	308S0414*	1	90Ncm

(3) Open the [2] clamp x 1, then remove [3] harness Main-USB from CN1 of USB PCB.



Key	Name	ID	Q’ty	Note
2	Clamp	316S0259*	1	
3	Harness Main-USB	136Y121013*	1	

(4) Remove [4] screw x 1 and [5] screw x 2, then remove [6] USB PCB.

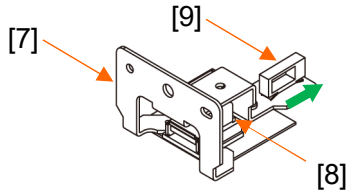


Key	Name	ID	Q’ty	Note
4	Screw	308S0414*	1	60Ncm
5	Screw	280M20057R*	2	20Ncm
6	USB PCB	113Y200212*	1	

■ Reinstallation Procedures
Reverse the removal procedures for reinstallation.

◆Note◆

- Manually perform the procedures since injury may be caused by the unstable, rotating parts when using electrical tools to removing or fastening [4] Screw.
- The configuration of the bracket is shown in the figure below.
  Attach the clamp so that the direction of the arrow is the lock position.

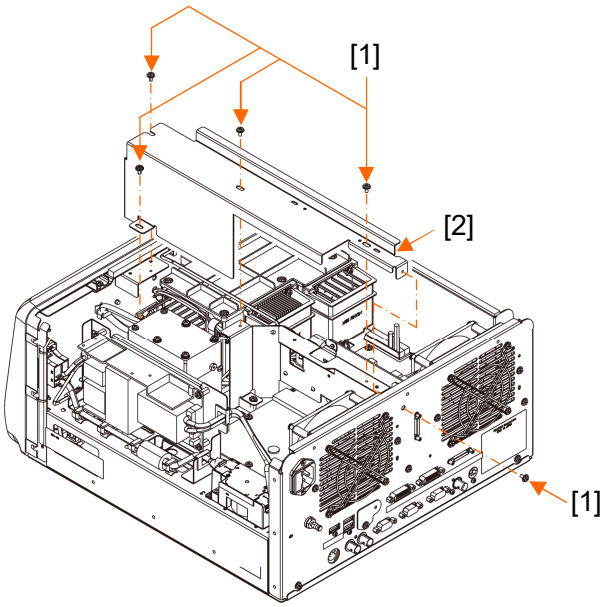


Key	Name	ID	Q'ty	Note
7	Bracket	356N201021*	1	
8	Gascket 13x10x14	387N200034*	1	
9	Clamp	316S0259*	1	

1.1.27 Rear Panel

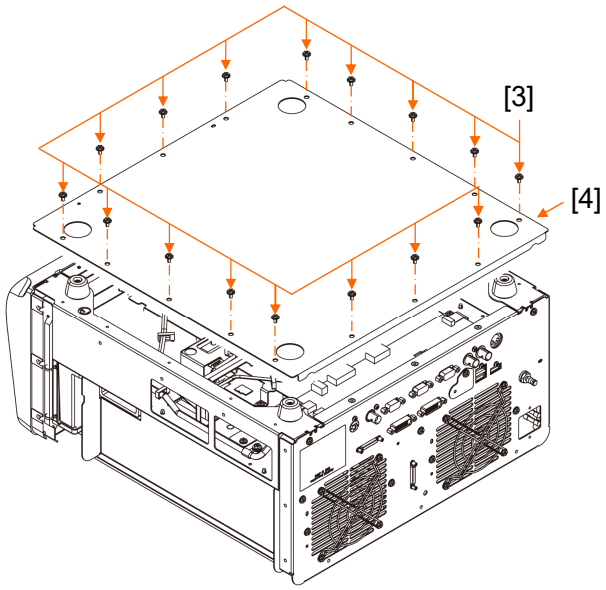
■ Removal Procedures

(1) Remove the top cover following the procedures (1) to (3) of “1.1.1 Top Cover”.
(2) Remove [1] screw x 5, then remove [2] bracket.



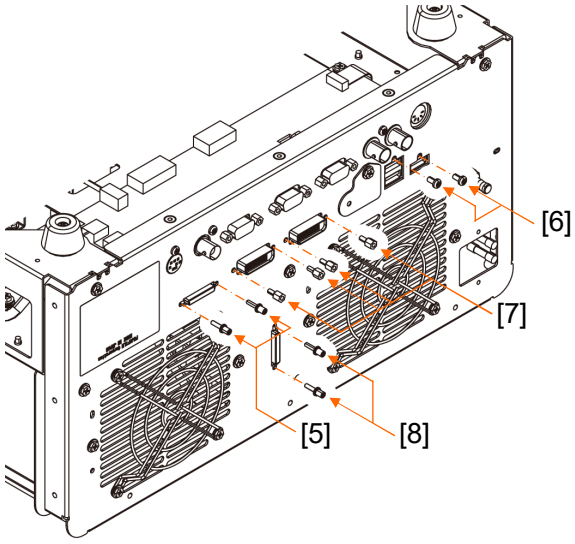
Key	Name	ID	Q’ty	Note
1	Screw	308S0414*	5	90Ncm
2	Bracket	356N200872*	1	

(3) Remove the fan assy following the procedures (2) to (3) of “1.1.16 Fan (Light source unit side)”.
(4) Remove the fan assy following the procedures (3) to (5) of “1.1.17 Fan (Power supply PCB side)”.
(5) Remove the terminal of inretto assy following the procedures (2) to (5) of “1.1.20 Inlet Assy”.
(6) Turn the equipment upside down, remove [3] screw x 16 and remove [4] bottom cover.



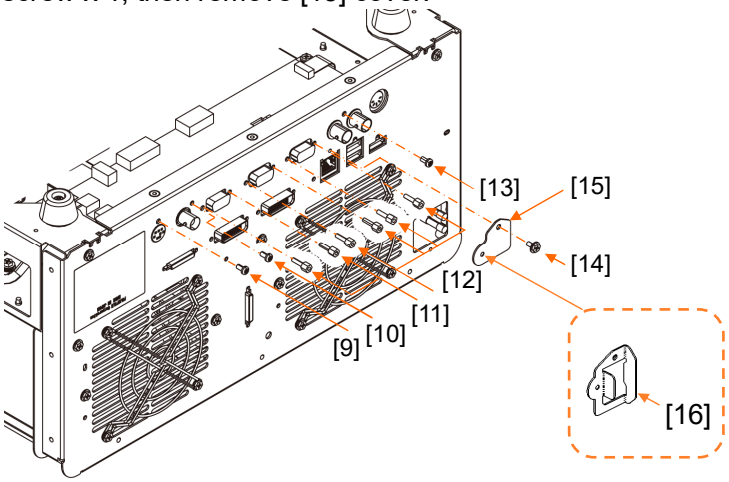
Key	Name	ID	Q’ty	Note
3	Screw	308S0414*	16	90Ncm
4	Bottom Cover	350N120205*	1	

(7) Remove [5] screw x 2 on the back of WOC PCB.
(8) Remove [6] screw x 2, [7] screw x 4 and [8] screw x 2 on the back of main PCB.



Key	Name	ID	Q'ty	Note
5	Screw	304S0082*	2	30Ncm
6	Screw	110M300600N*	2	40Ncm
7	Screw	53K129167*	4	40Ncm
8	Screw	304S0082*	2	30Ncm

(9) Remove [9] screw x 1, [10] screw x 1, [11] screw x 2, [12] screw x 4 and [13] screw x 1 on the back of IO PCB.
(10) Remove [14] screw x 1, then remove [15] cover.



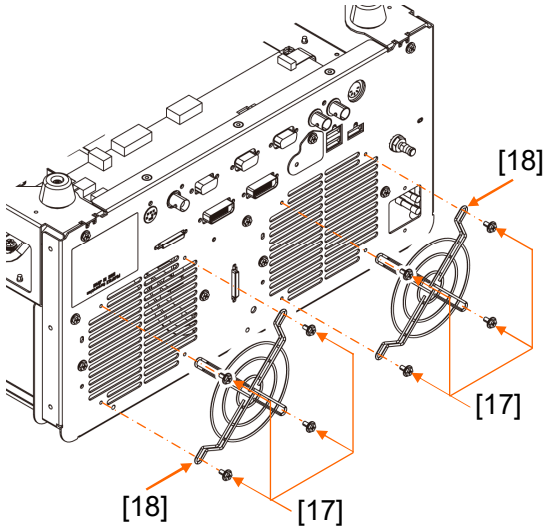
Key	Name	ID	Q'ty	Note
9	Screw	110M300600N*	1	40Ncm
10	Screw	53K112695*	1	40Ncm
11	Screw	53K122802*	2	40Ncm
12	Screw	53K100072*	4	40Ncm
13	Screw	53K112695*	1	40Ncm
14	Screw	308S0414*	1	90Ncm
15	Cover	350N200309*	1	

◆Note◆

- In case of using the network terminal, take [15] Cover as [16] LAN connector guard.

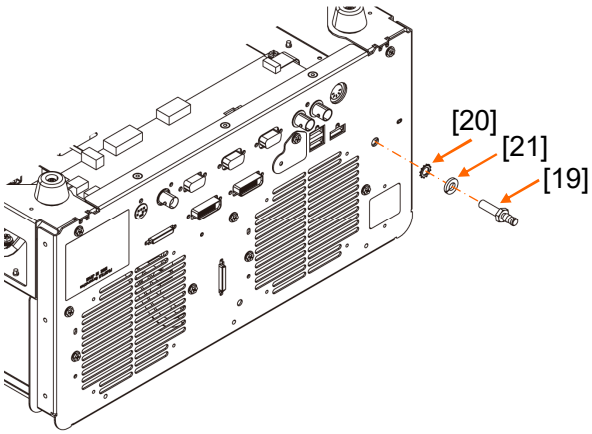
Key	Name	ID	Q'ty	Note
16	LAN Connector Guard	350N200360*	1	

(11) Remove [17] screw x 8, then remove [18] finger guard x 2.



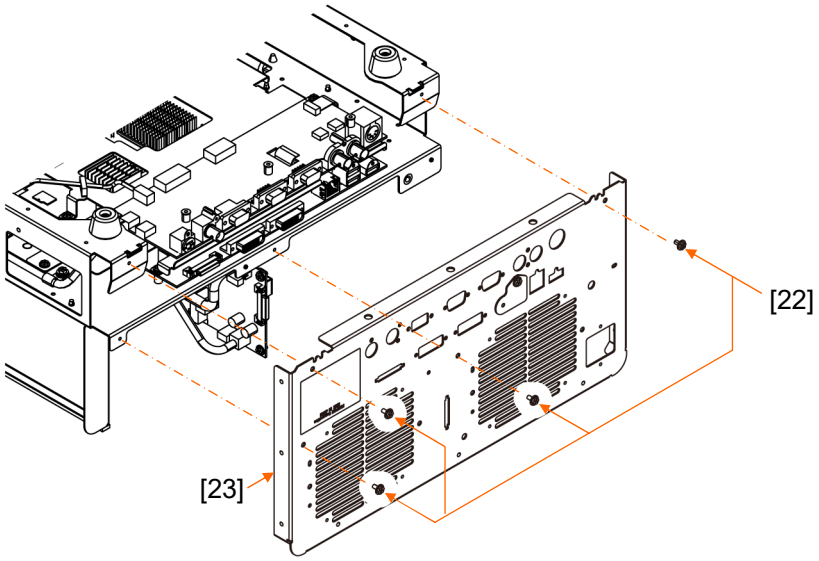
Key	Name	ID	Q'ty	Note
17	Screw	308S0414*	8	90Ncm
18	Finger Guard	364N200034*	2	

(12) Remove [19] terminal ([20] tooth washer x 1 and [21] spring washer x 1).



Key	Name	ID	Q'ty	Note
19	Terminal	108K104642*	1	450Ncm
20	Tooth Washer	162M060N*	1	
21	Spring Washer	165M0602T*	1	

(13) Remove [22] screw x 4, then remove [23] rear panel.

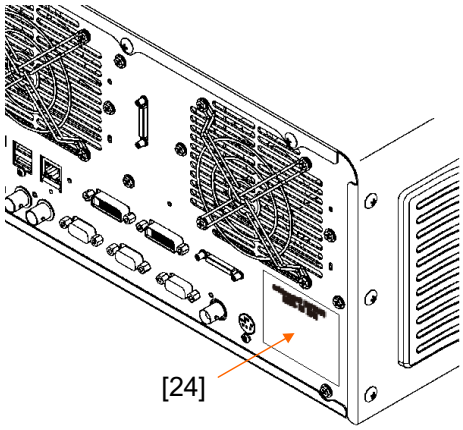


Key	Name	ID	Q'ty	Note
22	Screw	308S0414*	4	90Ncm
23	Rear Panel	355Y200066*	1	

■ Reinstallation Procedures
Reverse the removal procedures for reinstallation.

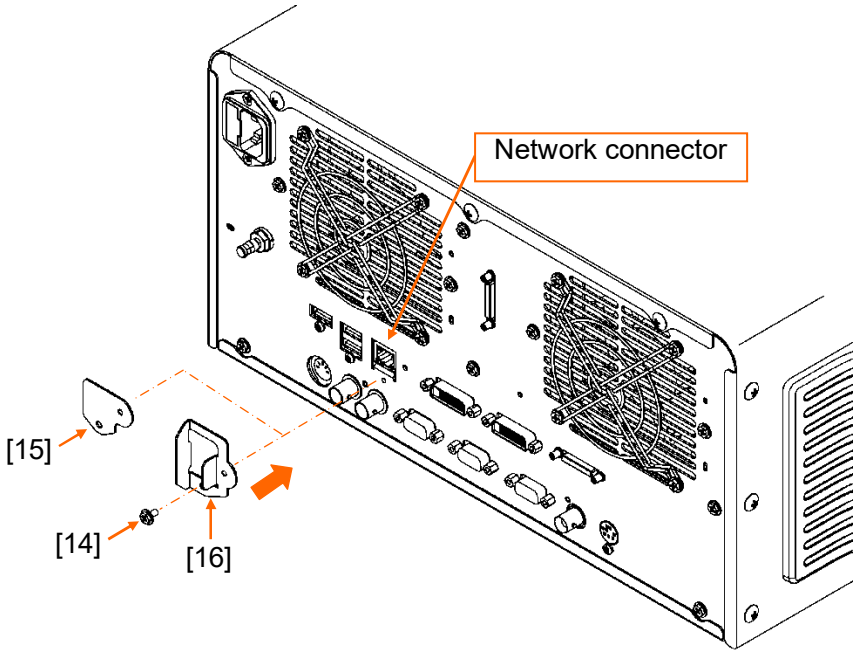
◆Note◆

・ About the [24] label, please conntact the person in charge of FTYO.



Key	Name	ID	Q'ty	Note
24	Label	-	1	Please conntact FTYO

・ To use the network connector, remove the [15] cover and install the [16] LAN connector guard.



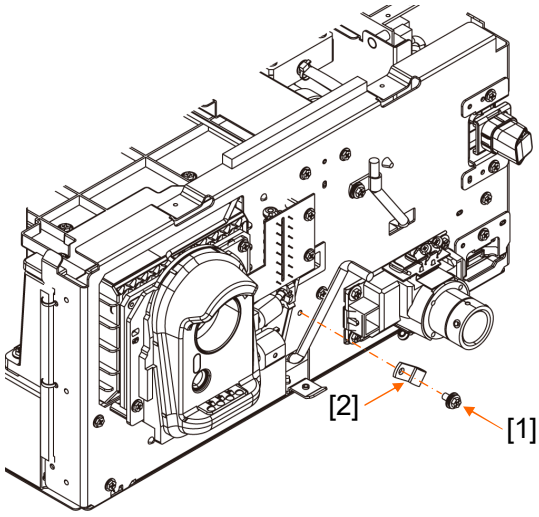
Key	Name	ID	Q'ty	Note
14	Screw	308S0414*	1	90Ncm
15	Cover	350N200309*	1	
16	LAN Connector Guard	350N200360*	1	

1.1.28 Harness IOL-OP

■ Removal Procedures

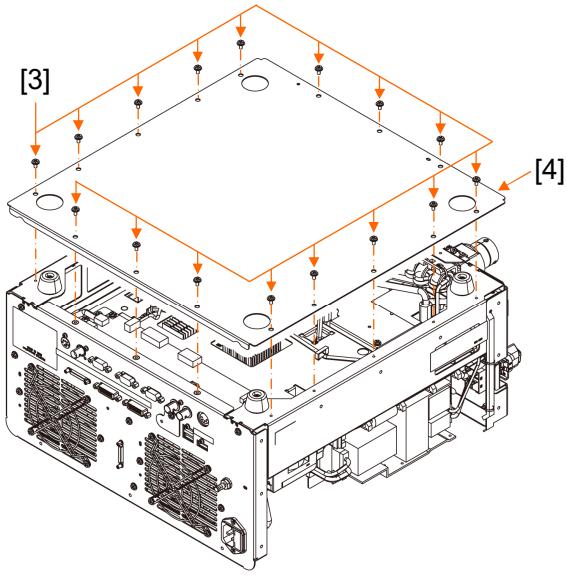
(1) Remove the front cover assy following the procedures (1) to (3) of “1.1.3 Front Cover”.

(2) Remove [1] screw x 1 and [2] clamp x 1.



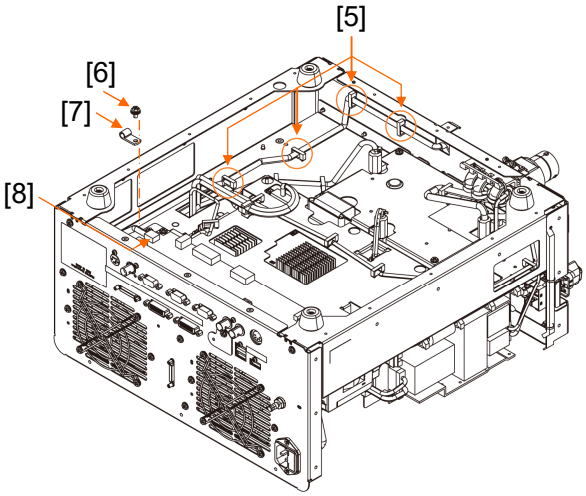
Key	Name	ID	Q’ty	Note
1	Screw	308S0406*	1	120Ncm
2	Clamp	316S1189*	1	

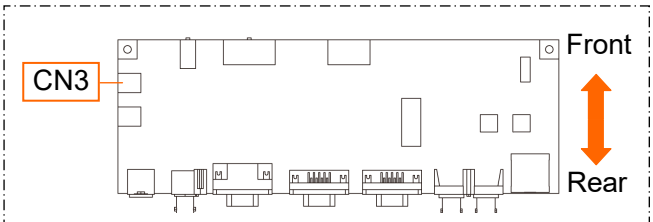
(3) Turn the equipment upside down, remove [3] screw x 16 and remove [4] bottom cover.



Key	Name	ID	Q’ty	Note
3	Screw	308S0414*	16	90Ncm
4	Bottom Cover	350N120205*	1	

(4) Open [5] clamp x 4.
(5) Remove [6] screw x 1 and [7] clamp x1.
(6) Remove [8] harness IOL-OP from CN3 of IO PCB





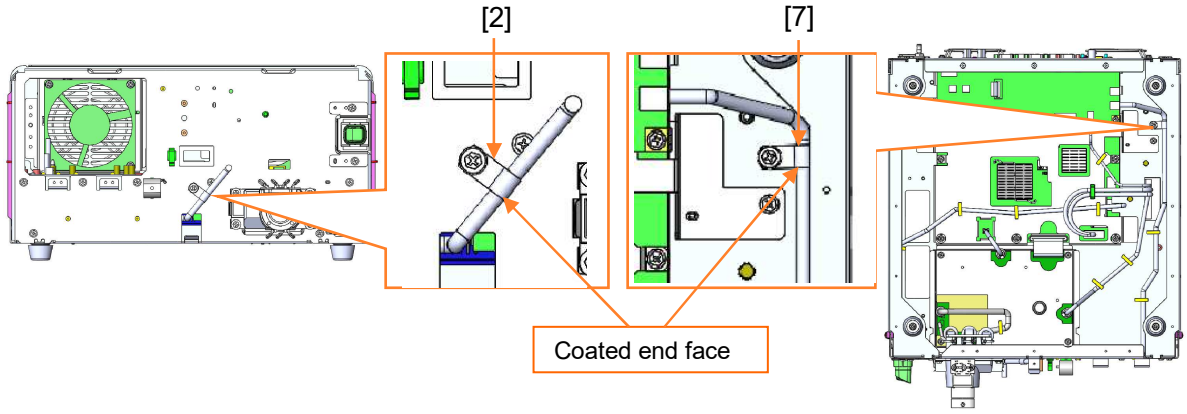
IO PCB CN Configuration

Key	Name	ID	Q'ty	Note
5	Clamp	316S0259*	4	
6	Screw	308S0406*	1	120Ncm
7	Clamp	316S1189*	1	
8	Harness IOL-OP	136Y121012*	1	CN3

■ Reinstallation Procedures
Reverse the removal procedures for reinstallation.

◆Note◆

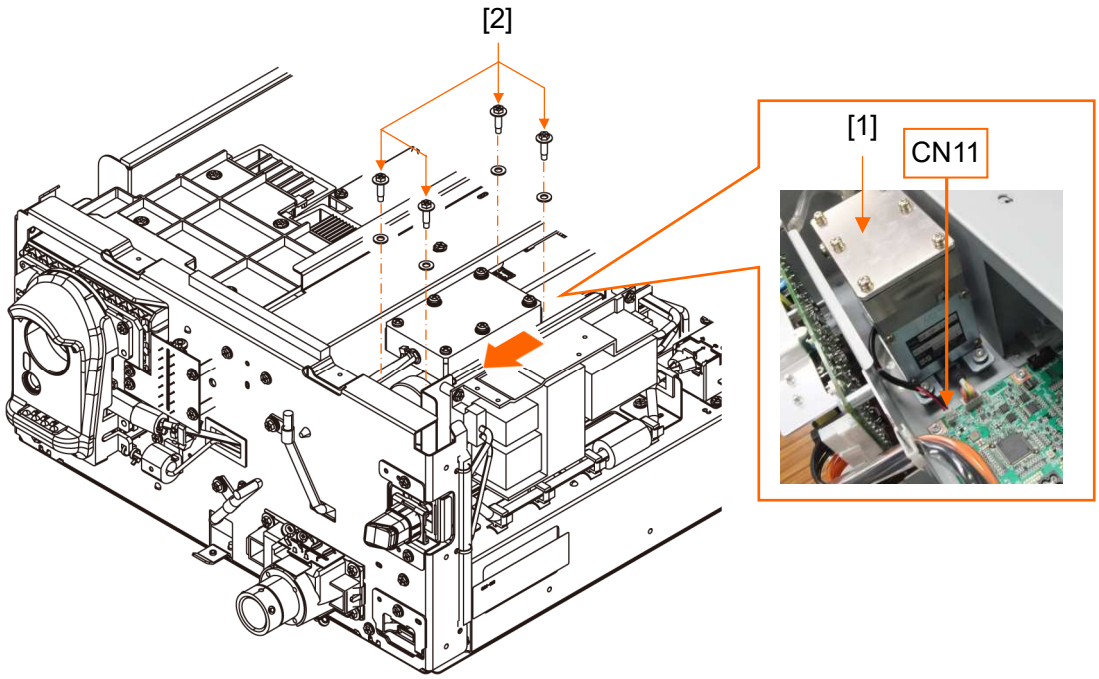
- Set in [8] harness IOL-OP based on the coated end face.
- Make sure that [2][7] clamps (fixing portion) are not biting in the coated end face.



1.1.29 Harness ELC-OP

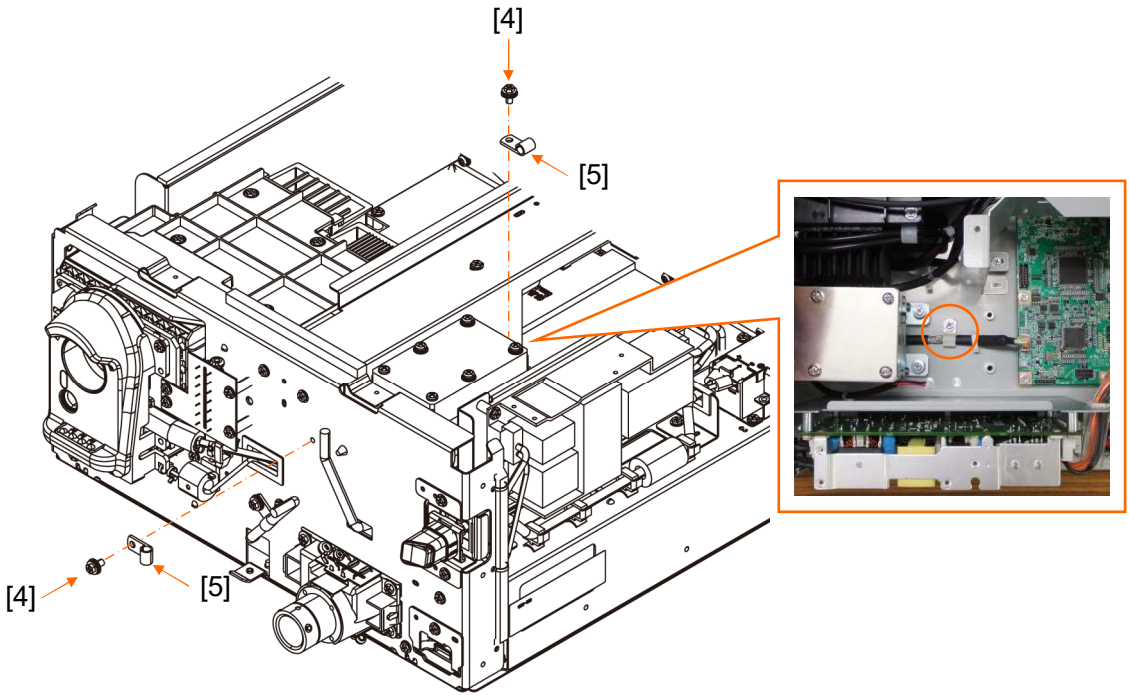
■ Removal Procedures

(1) Remove the front cover assy following the procedures (1) to (3) of “1.1.3 Front Cover”.
(2) Remove the connector of [1] pump assy from CN11 of ELC PCB.
(3) Remove [2] special screw x 4, then [1] pump assy shift forward.



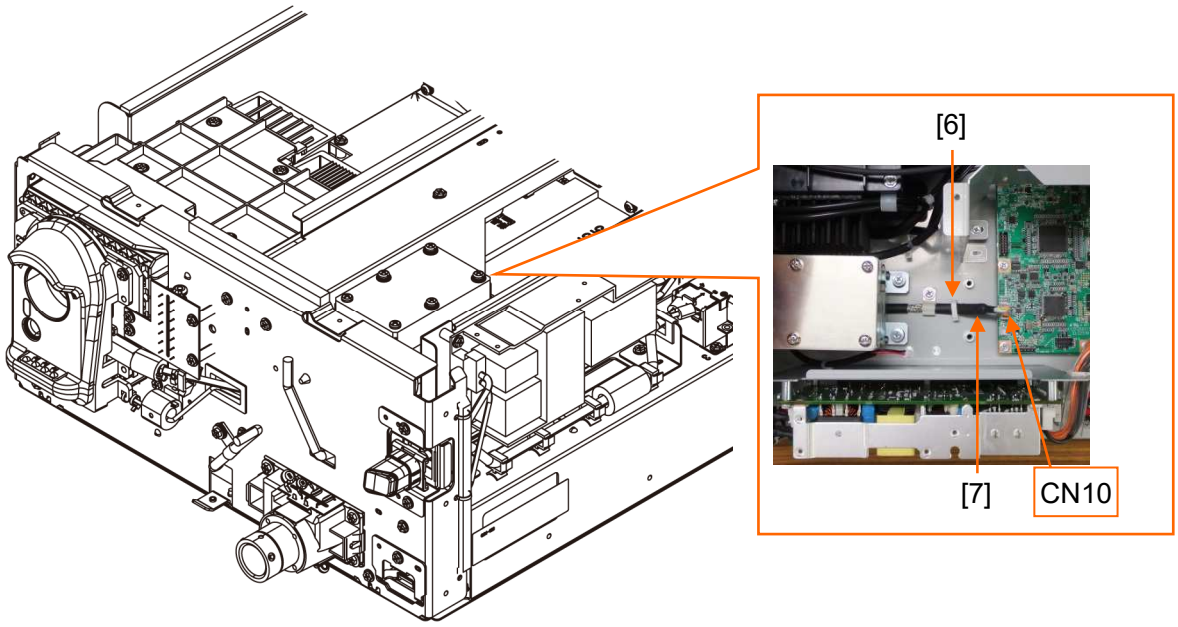
Key	Name	ID	Q’ty	Note
1	Pump Assy	133Y200006*	1	
2	Special Screw	308N120037*	4	90Ncm

(2) Remove [4] screw x 2 and [5] clamp x 2.



Key	Name	ID	Q’ty	Note
4	Screw	308S0406*	2	120Ncm
5	Clamp	316S1189*	2	

(3) Open [6] clamp x 1, then remove [7] harness ELC-OP from CN10 of ELC PCB.

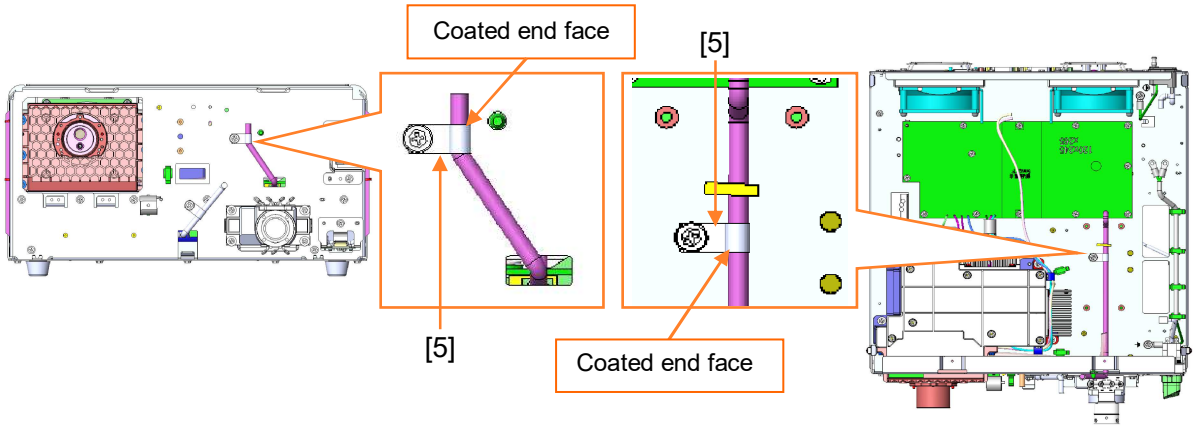


Key	Name	ID	Q'ty	Note
6	Clamp	316S0259*	1	
7	Harness ELC-OP	136Y121006*	1	CN10

■ Reinstallation Procedures
Reverse the removal procedures for reinstallation.

◆Note◆

- Set in [7] harness ELC-OP based on the coated end face.
- Make sure that [5] clamp (fixing portion) are not biting in the coated end face.

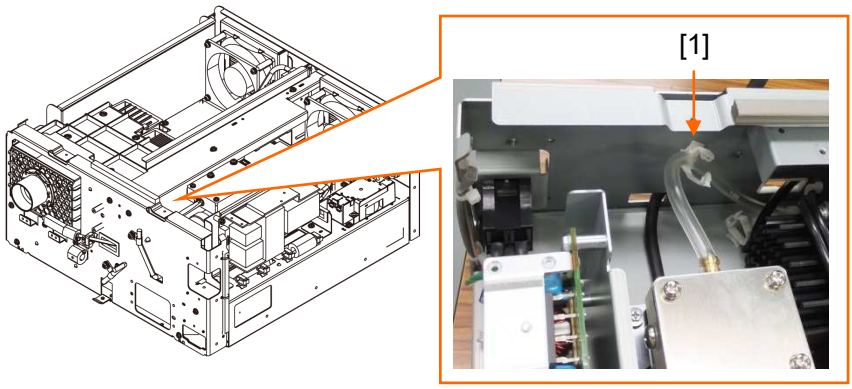


- Apply ThreeBond 1401B (Y10N1026) on [2] Special Screw (x4), and secure [1] Pump Assy.

1.1.30 Front Frame

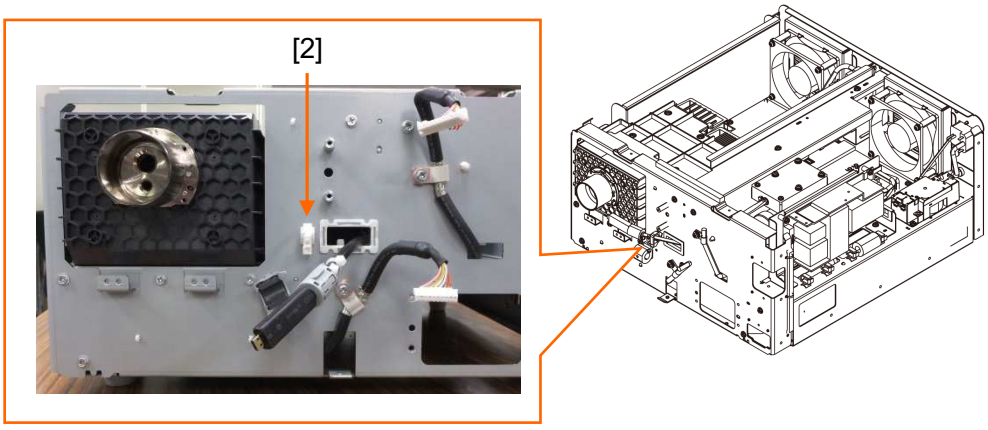
■ Removal Procedures

(1) Remove the power switch bracket assy following the procedures (1) to (7) of “1.1.4 Power Switch”.
(2) Remove the small cover assy following the procedures (2) to (7) of “1.1.6 Small Cover Unit”.
(3) Remove the One Connector plate assy following the procedures (2) to (4) of “1.1.7 One Connector plate Assy”.
(4) Remove the EVE Connector assy following the procedures (2) to (5) of “1.1.22 EVE Connector”.
(5) Remove the USB PCB assy following the procedures (2) to (4) of “1.1.26 USB PCB”.
(6) Open the [1] clamp × 1 and free the air tube.



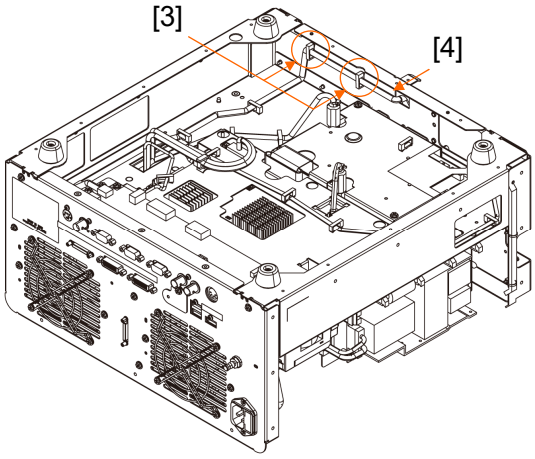
Key	Name	ID	Q’ty	Note
1	Clamp	316S1297*	1	

(7) Open the [2] clamp x 1 and free the harness WOC-IRC.



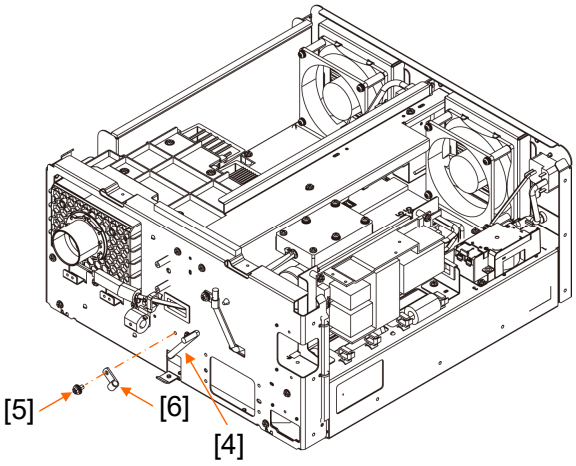
Key	Name	ID	Q’ty	Note
2	Clamp	316S1297*	1	

(8) Open the [3] clamp x 2 and free the [4] harness IOL-OP.



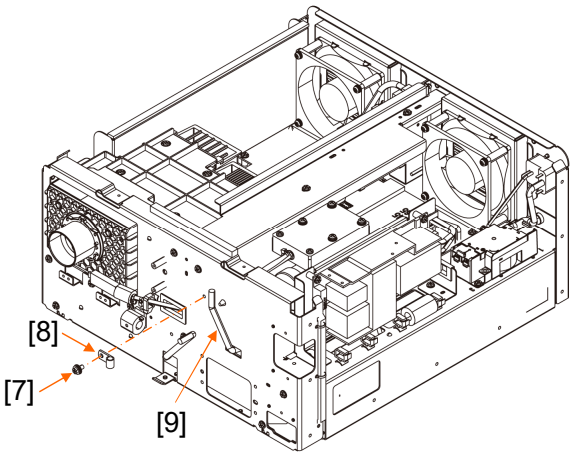
Key	Name	ID	Q'ty	Note
3	Clamp	316S0259*	2	
4	Harness IOL-OP	136Y121012*	1	

(9) Remove [5] screw x 1, [6] clamp x 1 and free the [4] harness IOL-OP.



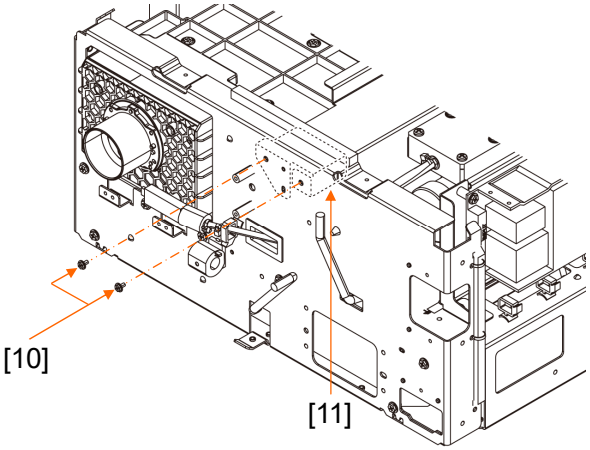
Key	Name	ID	Q'ty	Note
5	Screw	308S0406*	1	120Ncm
6	Clamp	316S1189*	1	

(10) Remove [7] screw x 1, [8] clamp x 1 and free the [9] harness ELC-OP.



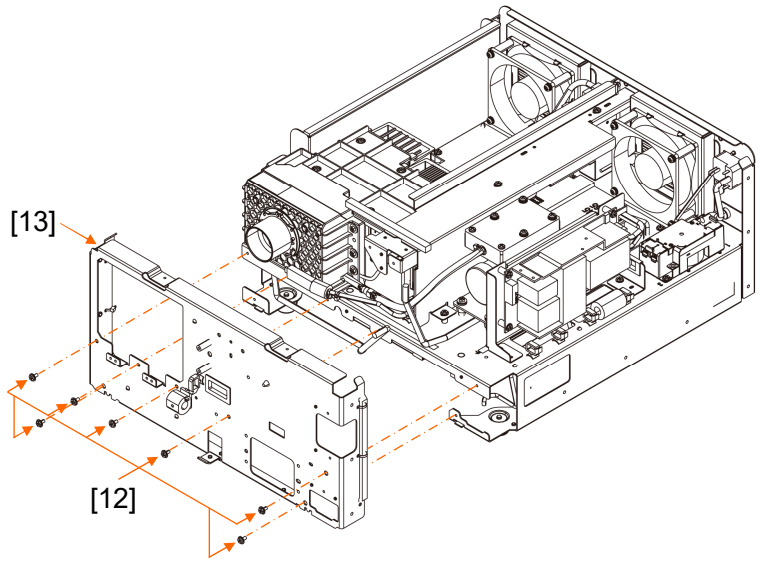
Key	Name	ID	Q'ty	Note
7	Screw	308S0406*	1	120Ncm
8	Clamp	316S1189*	1	
9	HarnessELC-OP	136Y121006*	1	

(11) Remove [10] screw x 2, then remove [11] bracket.



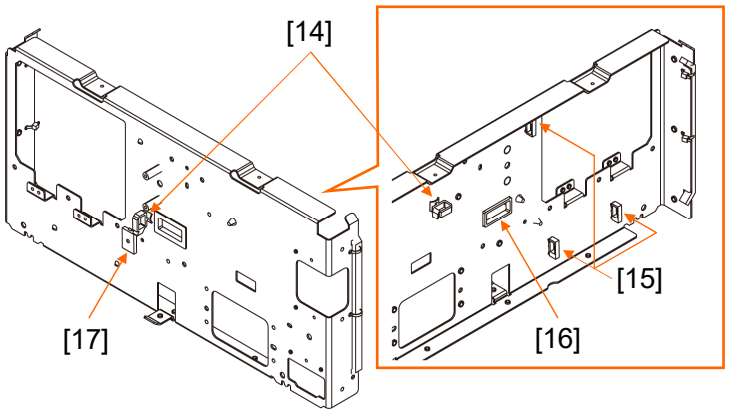
Key	Name	ID	Q'ty	Note
10	Screw	308S0414*	2	90Ncm
11	Bracket	356N200874*	1	

(12) Remove [12] screw x 7, then remove [13] front frame assy.



Key	Name	ID	Q'ty	Note
12	Screw	308S0414*	7	90Ncm
13	Front Frame Assy	Not Supply Parts	1	

(13) Remove [14] clamp x 2, [15] clamp x 3, [16] clamp x 1 and [17] core base x 1.

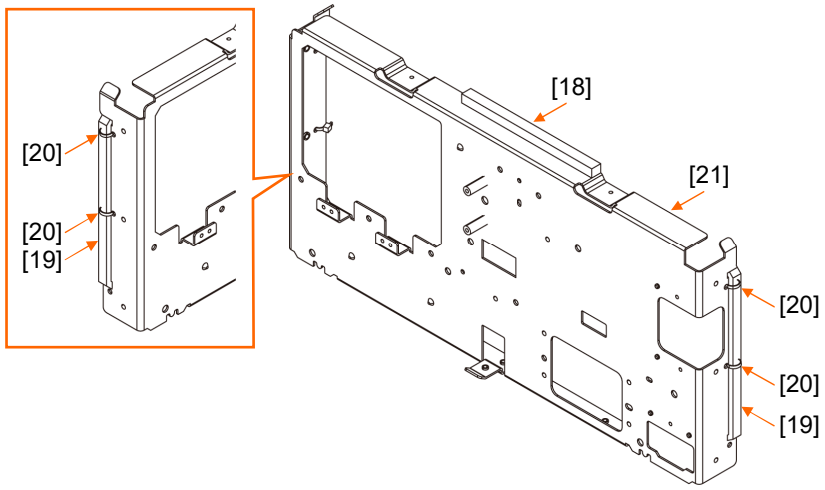


Key	Name	ID	Q'ty	Note
14	Clamp	316S1297*	2	
15	Clamp	316S0259*	3	
16	Clamp	316S0485*	1	
17	Core Base	316S0163*	1	

■ Reinstallation Procedures
Reverse the removal procedures for reinstallation.

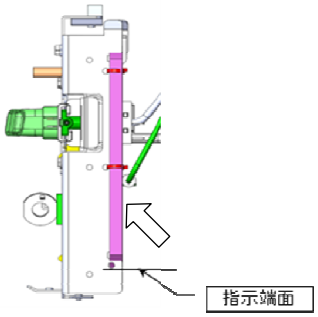
◆Instruction◆

・ The configuration of the [13] front frame assy is shown in the figure below.

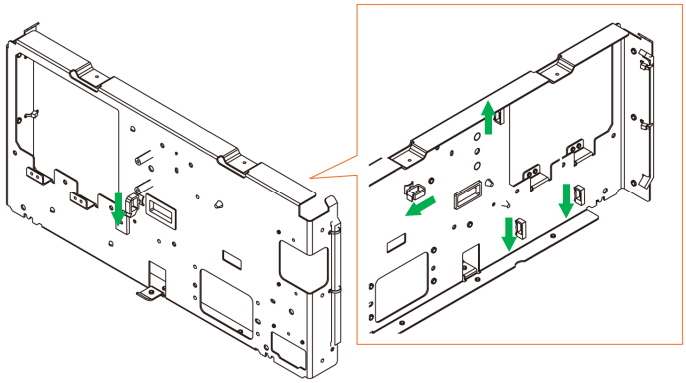


Key	Name	ID	Q'ty	Note
18	Gascket 8x7x115	387N120039*	1	
19	Gasket 7x4x140	387N120031*	2	
20	Band	316S1076*	4	
21	Front Frame	355Y200068*	1	

・ Degrease the pasting area on [21] Front Frame, and paste the gasket firmly on the end face by aligning it with the edge shown by the arrow below. Fold the two ends of [19] gasket 7x4x140 into the front frame and secure it with [20] Band.
Make sure that [20] Band is not protruding from the end face of [21] Front Frame.



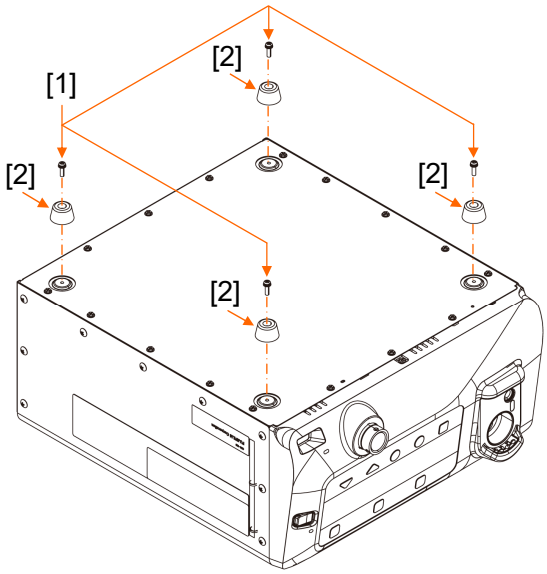
・ Attach the clamp so that the direction of the arrow is the lock position.



1.1.31 Foot

■ Removal Procedures

(1) Turn the equipment upside down, remove [1] screw x 4 and [2] foot x 4.



Key	Name	ID	Q'ty	Note
1	Screw	280M40147N*	4	120Ncm
2	Foot	367N120001*	4	

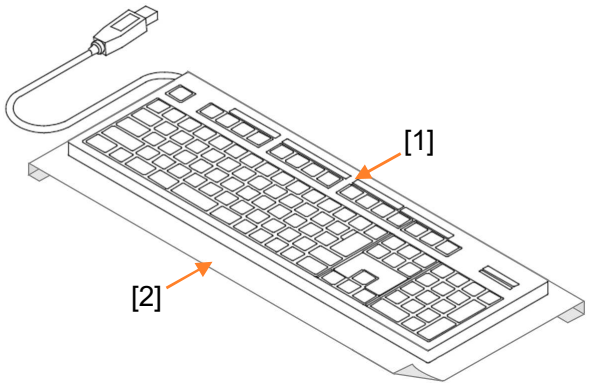
■ Reinstallation Procedures

Reverse the removal procedures for reinstallation.

1.1.32 Keyboard cover

■ Removal Procedures

(1) Remove the double-stick tape from [1] DK-6000 and remove [2] keyboard cover.



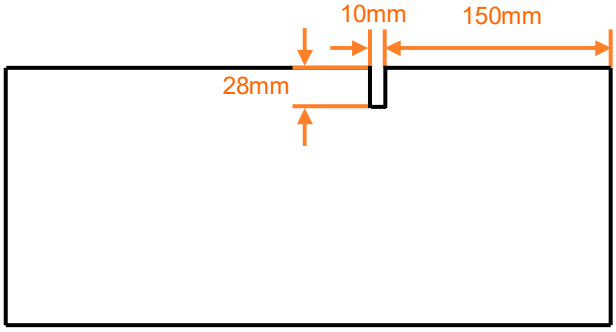
Key	Name	ID	Q'ty	Note
1	DK-6000	128Y200084*	1	English keyboard for FV696A
2	Keyboard Cover	59B1113742*	1	

■ Reinstallation Procedures

◆Note◆

- [2] keyboard cover: the gloss surface is on the pasted board side, and the embossed surface is on the opposite side. The embossed surface will face outward when the procedures completed.

(1) Make the pasted board side of [2] keyboard cover face up, and cut it as shown below.

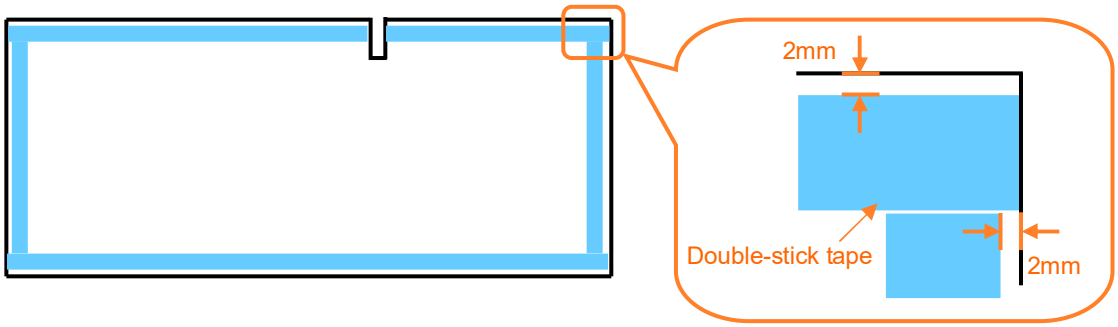


(2) Peel off the [2] keyboard cover from the pasted board and keep the pasted board side (gloss surface) facing up.

◆Note◆

- It is recommended to place [2] keyboard cover on the peeled pasted board so that the subsequent procedures will be easier to perform.

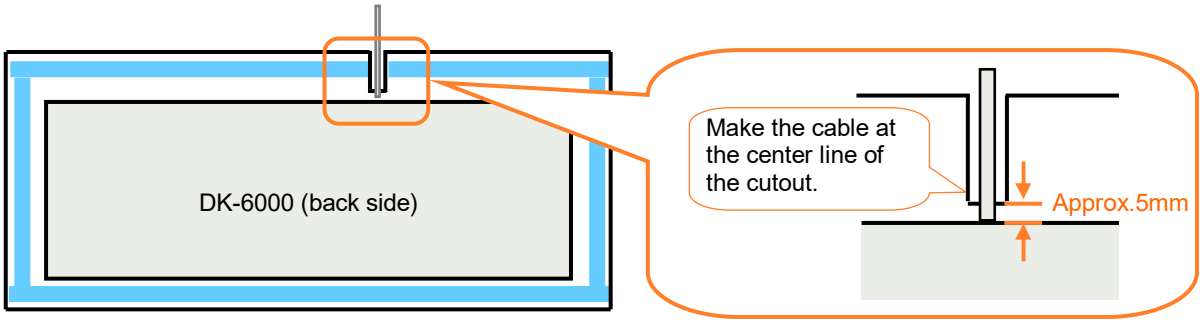
(3) Paste double-stick tape at positions that are 2mm from the outer frame of [2] keyboard cover shown as following.



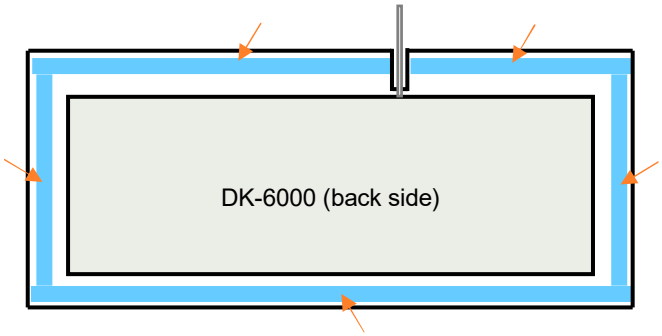
◆Instruction◆

- Use Nichiban double-stick tape (NW-15) or equivalent product.
  Nichiban NW-15, tape width: 15mm, adhesibility: normal

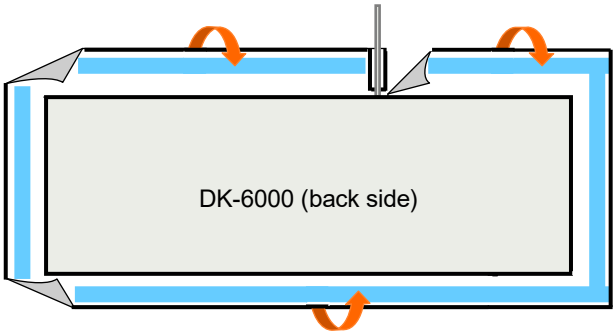
(4) Place DK-6000 on the pasted board side (gloss surface) of [2] keyboard cover with the DK-6000 back side facing up.



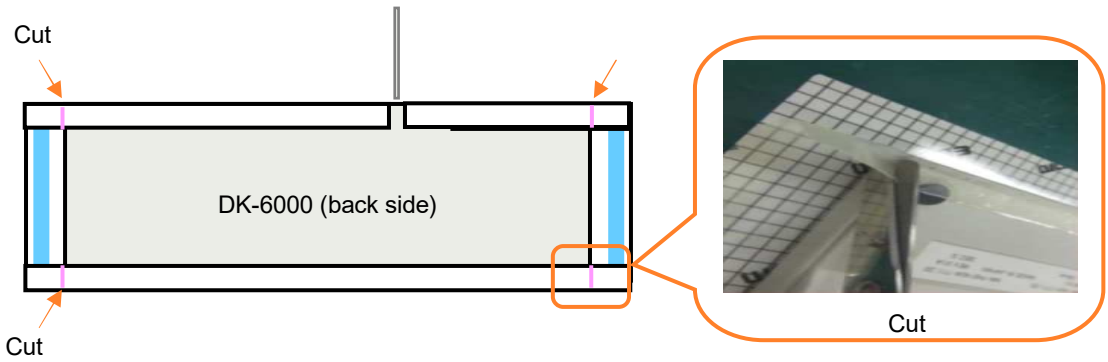
(5) Peel off the pasted paper of the double-stick tape.



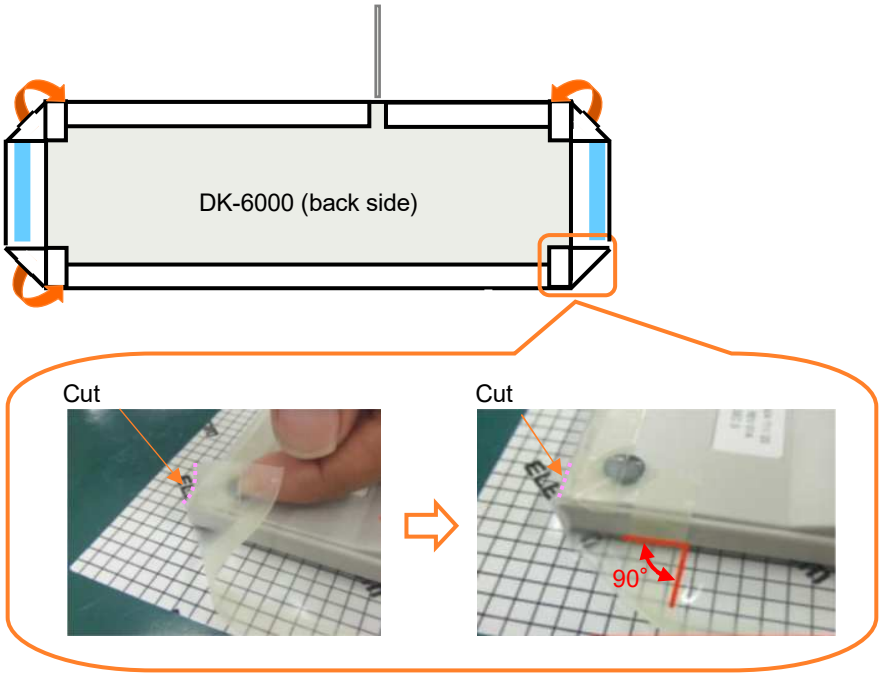
(6) Fold back [2] keyboard cover, and paste it on DK-6000.



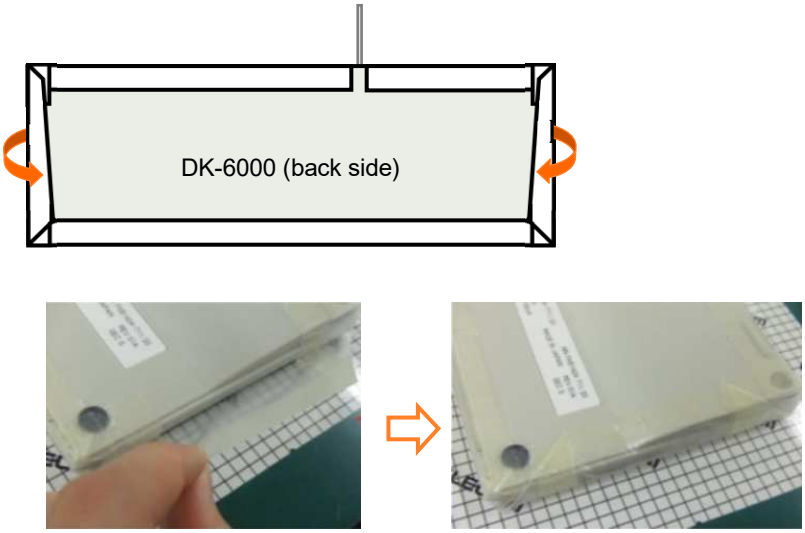
(7) Cut in [4] keyboard cover at the 4 positions shown as below.



(8) Fold it from the cut position (x4).



(9) Fold the left and right and paste it on DK-6000.



1.2 EEPROM Writing Procedure

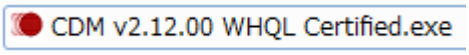
1.2.1 PC Setup (performed only for the first time)

◆Instruction◆

・ Download the EEEPROM writing software "EP6000INSPECTION" from service WEB before used.

(1) Decompress "EP6000INSPECTION.zip" directly under C drive.

(2) Open "CDM v2.12.00 WHQL Certified.exe" under "C:¥EP6000INSPECTION¥Driver ".



(3) By following the window, click [Execute], [Extract] and [Next], then place a checkmark to "I Agree". Click [Next] and then [Finish].

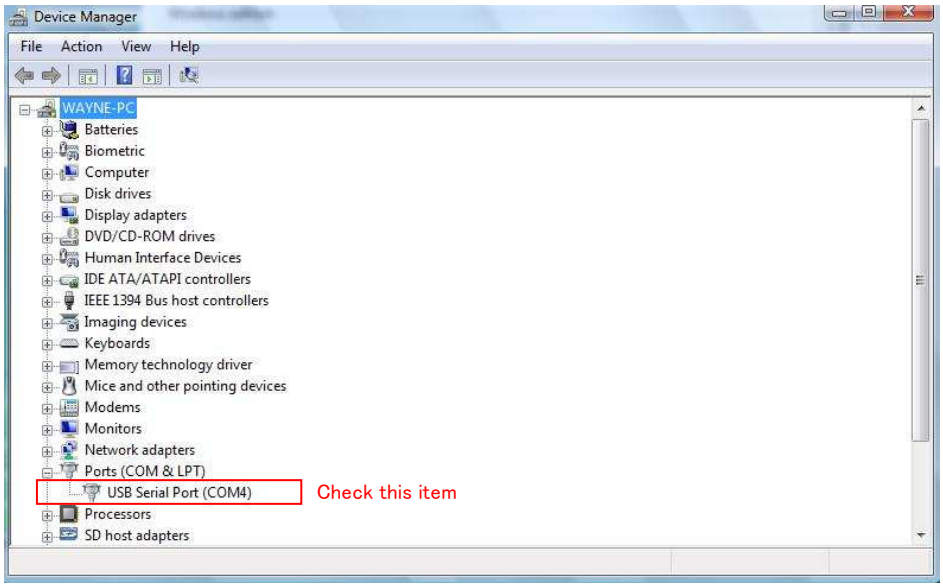
(4) Connect the EEPROM writing jig (Y10N100044) to USB terminal of PC.



(5) The message "Device driver software installed successfully." displayed after a while.



(6) Open "Device Manager" from "Start" ⇒ "Control Panel" and check the port number of COM and LPT (COM4 in the figure)



(7) Open "C:¥EP6000INSPECTION¥EP6000INSPECTION.ini" and write down the COM number checked in device manager.
* Example as COM4

```
================
[COM]
PortNo=COM4
================
```

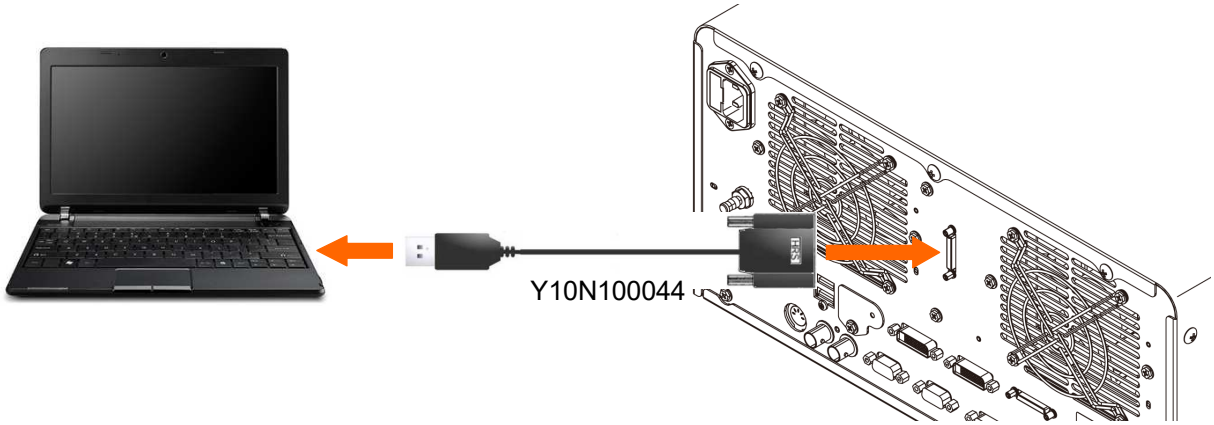
(8) Overwrite/copy the "EP6000INSPECTION.ini" file and close it.

1.2.2 EEPROM Writing

◆Instruction◆

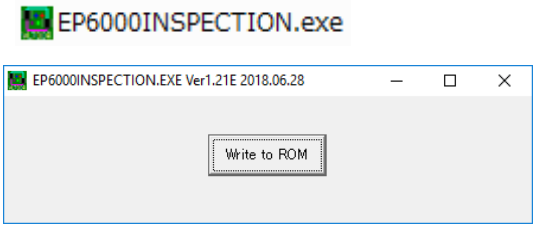
· Perform EEPROM writing when replacing the following parts.
ELCPCB (113Y200119*) * "Reset lighting time" is not execute.
Light source unit (840Y200024*)

(1) Remove the WC-LINK cable from the processor, and connect the WC-LINK terminal (light source side) to the USB terminal (PC side) with the EEPROM writing cable (Y10N100044).

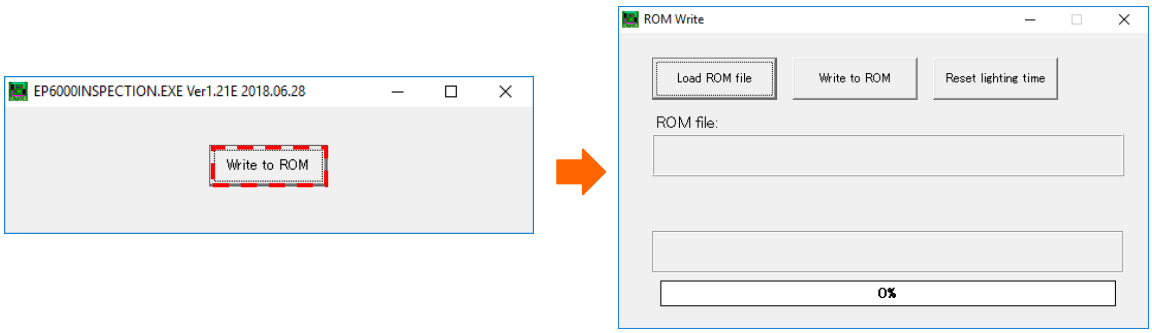


(2) Turn the light source power ON.

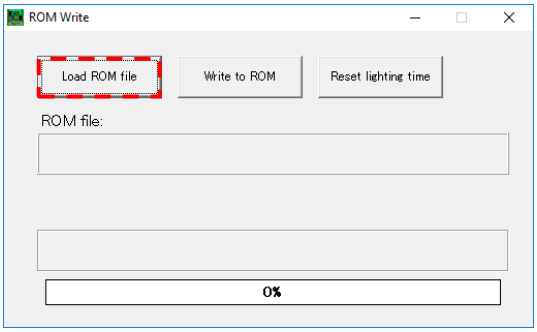
(3) Start "EP6000INSPECTION.exe".

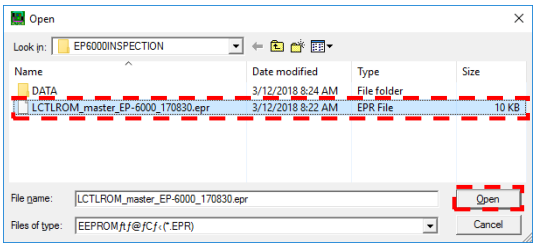


(4) Click “Write to ROM” button and the ROM Write window opens.

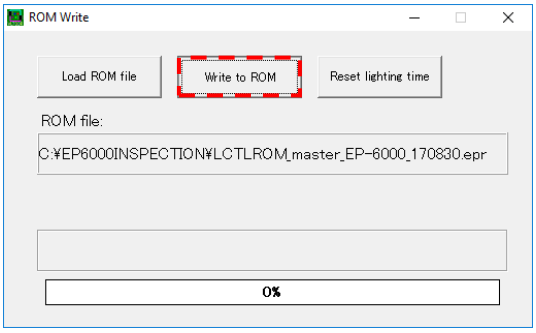


(5) Click “Selecting file” button and
open “C: ¥EP6000INSPECTION¥LCTLROM_master_EP-6000_170830.epr”.

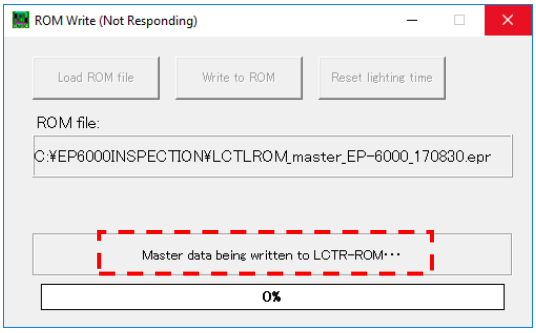




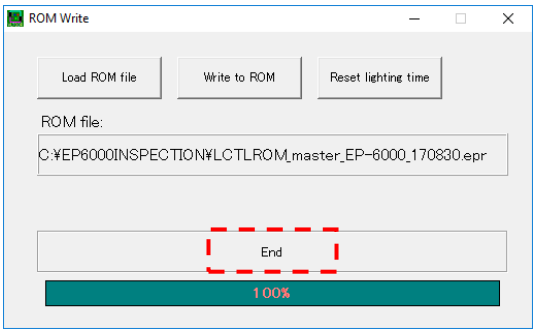
(6) Click “Write to ROM” button.



(7) When “Master data being written to LCTR-ROM･･･” is displayed, the processing has been started.
Wait until “End” is displayed. (About 15 minutes).



Writing



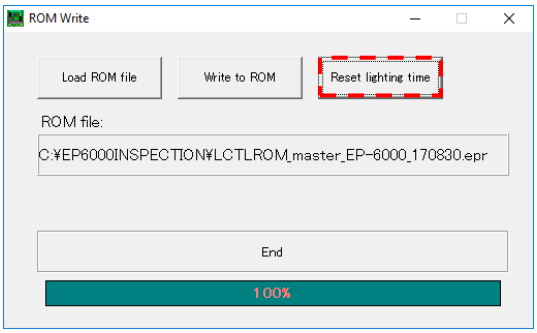
Write Completed

(8) When “End” is displayed, turn OFF/ON the processor.

(9) Click the “Reset lighting time” button as required.

◆Instruction◆

When replacing ELC board	:	Do not perform “Reset lighting time”.
When replacing optical unit	:	Perform “Reset lighting time”.



(9) Terminate the EEEPROM writing software.

(10) Turn OFF the processor.

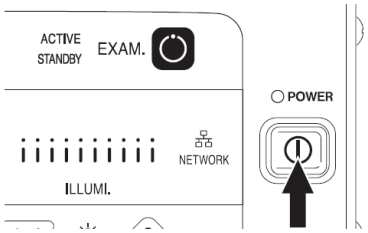
1.3 Checking Procedures for Power Supply

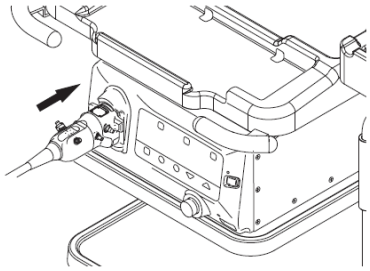
◆Instruction◆

- After replacing small cover or WOC POC, check the electrical power supply.

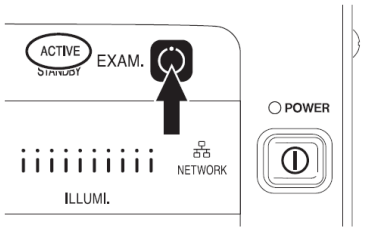
1.3.1 Acquiring the scope log data

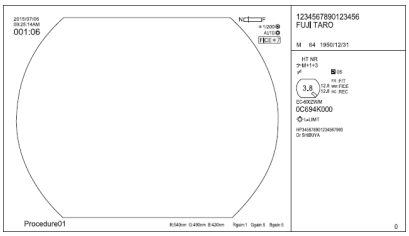
(1) Turn ON the processor and connect the 760 series scope to the processor.





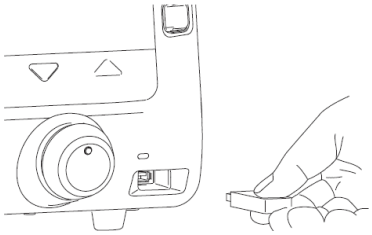
(2) Press the EXAM button to switch the connection status to “ACTIVE”, confirm that the observation screen is displayed on the monitor.



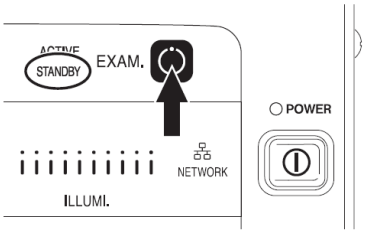


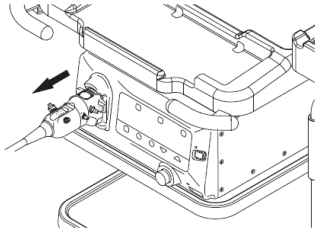
(3) Wait 2 minutes after the observation screen is displayed.

(4) Connect an external memory to acquire scope log data.
⇒“Instruction of System 2.5.6.2 700 System Scope Log Acquisition”

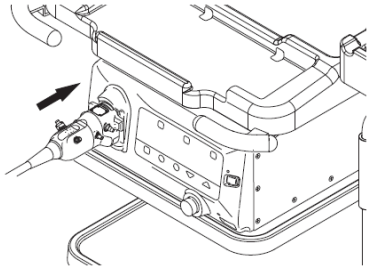


(5) Hold down the EXAM button to switch the connection status to “STANDBY” and remove the760 series scope from the processor.

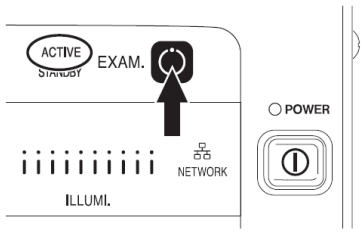


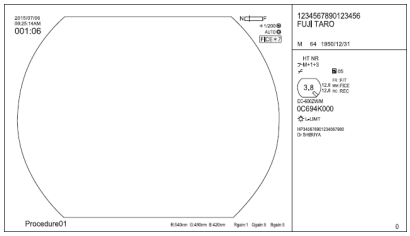


(6) Connect the 740 series scope to the processor.



(7) Press the EXAM button to switch the connection status to “ACTIVE”, confirm that the observation screen is displayed on the monitor.

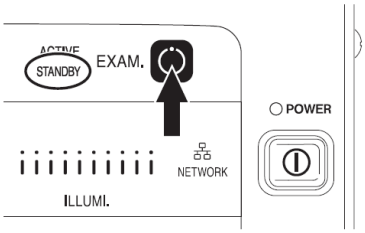


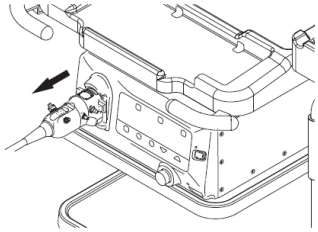


(8) Wait 2 minutes after the observation screen is displayed.

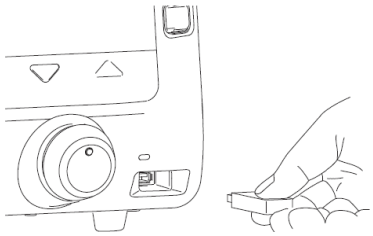
(9) Acquire scope log data.
⇒“Instruction of System 2.5.6.2 700 System Scope Log Acquisition”

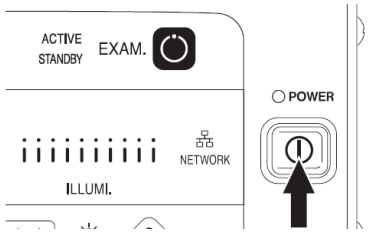
(10) Hold down the EXAM button to switch the connection status to “STANDBY” and remove the 740 series scope from the processor.





(11) Remove the external memory and turn OFF the processor.





1.3.2 Checking the Power Supply

(1) Connect the external memory (with log data recorded) to a PC, and open、the file "××××××_vp_○○○○○○○○○_woc.lo" in the "¥ep6000¥log¥vp__○○○○○○○○○_●●●●●●●●¥scope" folder.

○:Serial number of the processor
●:Acquisition date of log data
×:Acquisition time of log data

(2) Search for the following 3 lines in the file.

Qi_FOD	(electrical power on scope side	mW)
Qi_V_SENSE	(voltage on light source side	mW)
Qi_I_SENSE	(electrical current on light source side	mA)

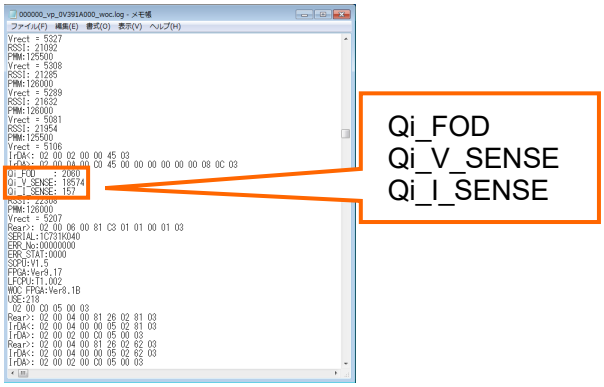
◆Note◆

Log data is acquired per minute so the 3 lines above are also recorded per minute.

(3) Calculate the difference of power received.

$$\text{Difference of power received} = \frac{(\text{Qi_V_SENSE}) \times (\text{Qi_I_SENSE})}{1000} - (\text{Qi_FOD})$$

Example: when using 760 series scope



$$\text{Determination value} = \frac{(\text{Qi_V_SENSE}) \times (\text{Qi_I_SENSE})}{1000} - (\text{Qi_FOD}) = \frac{18574 \times 157}{1000} - 2060 = 856.118$$

(4) Measure it 3 times, check if the average value is in the standard range.

Scope type	Standard range for difference between coil power supply and power received
760 series	800 to 1500mW
740 series	800 to 2000mW

◆Note◆

If the average value is not in the standard range, perform the following.

- Replace the small cover unit.
- Replace the WOC PCB.

2. Operation confirmation after repair

2.1 Precautions

2.1.1 Qualification for performing the Electrical Safety Test

A person performing the Electrical Safety Test needs to obtain the qualification for general repair techniques of the applicable light source and processor and has an understanding of “description of electrical safety”

2.1.2 Dielectric Strength Test

Caution

High load of voltage resulting in electrical shock or injury can be generated in the processor during withstand voltage test if wrong safety test procedure is taken.

1) Do not touch any test equipment, processor or cables during the test
2) Turn off the power of tester immediately when abnormal sound or smell is detected during the test.
3) Do not allow alligator connects of test equipment touch each other during the dielectric strength test.
4) Wear rubber globes for electrical work during the test.
5) Basically, use the right hand to operate equipments.

2.1.3 Handling of tester

Follow the operation manual of each tester.

2.1.4 Connection with other equipments

Do not connect EP-6000 and other equipments during the Electrical Safety Test.

2.2 Preparation for Test

2.2.1 Checking the testers prior to the Test

1) Check condition of each tester prior to the start of test.
   - Follow instruction in the operation manual of tester.
   - If the tester does not function correctly, follow an appropriate instruction and fix the problem prior to starting the test.
2) Keep the record of test result.

2.2.2 Checking the testers already checked prior to the Test

1. Screw connection on the top cover.
   - Check if all screws on the top cover are tightened firmly by touching with a hand.
2. Operation performance of power switch.
   - Check if the power switch is turned on smoothly.
   - Check 5 times if the power supply switch is locked once the switch is turned on.
     (Make sure that power supply cable is not connected to the power supply or tester.)
3. Connection of power plug.
   - Check if the power plug is firmly plugged into the power supply inlet.

2.2.3 Saving of Customers' Config data

◆Instruction◆

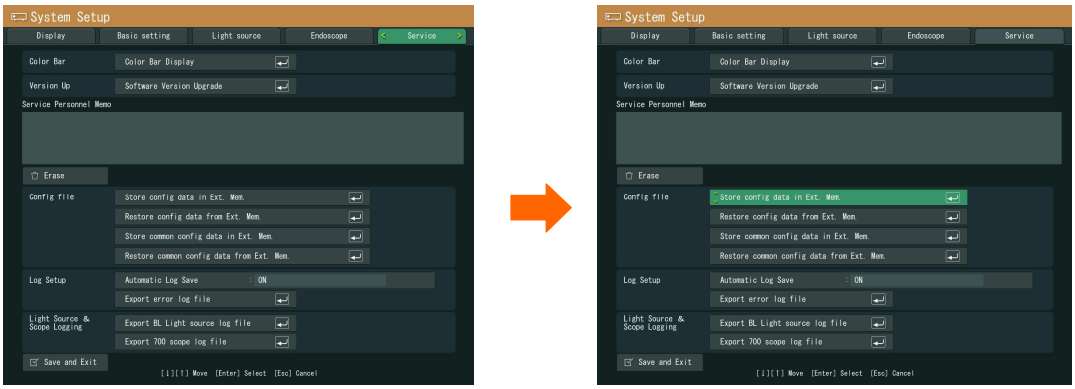
As the device setting may change during inspection work, save the config data into an external memory and restore that config data after the inspection work.

(1) Connect the external memory on which the config data was stored to EP-6000.

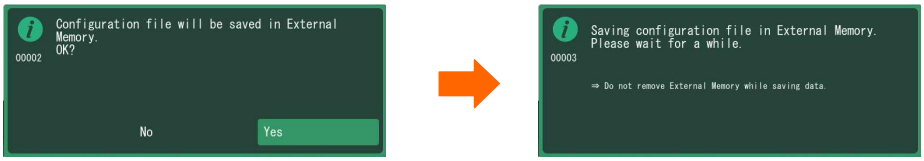
◆Note◆

For the external memory, prepare and use EP-6000 dedicated one.
If you use an external memory that performed saving other than in EP-6000, the configuration data may not be correctly saved.

(2) Connect keyboard and the monitor to EP-6000 and turn ON the power.
(3) Press [Shift] + [Alt] + [System] on the keyboard and enter the service password to display the system setting.
(4) Move the cursor to "Service".
(5) Move the cursor to “Store config data in Ext. Mem” and press the [Enter] key.



(6) The message "Configuration file will be saved in External Memory." appears.
Move the cursor to "Yes" and press the [Enter] key.
The message "Saving configuration file in External Memory." appears, and saving the configuration starts.



◆Note◆

Do not touch the processor until the message "Saving configuration file is completed" appears.
If you turn off the power while saving config data, configuration file may not properly be saved.

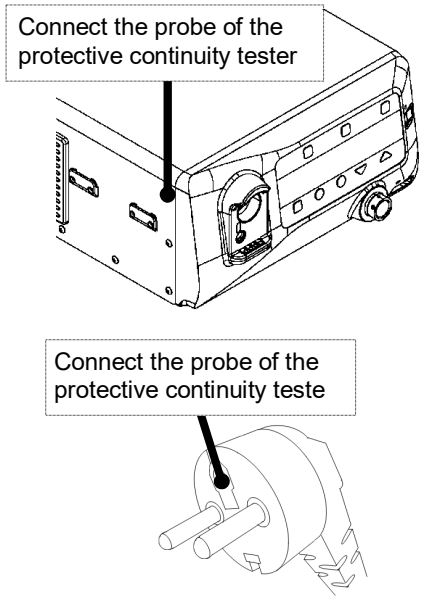
(7) When the message "Saving configuration file is completed" appears, press the [Enter] key to close the menu.

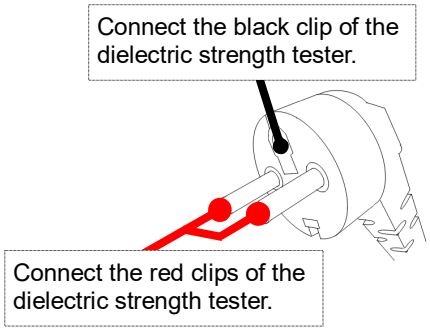
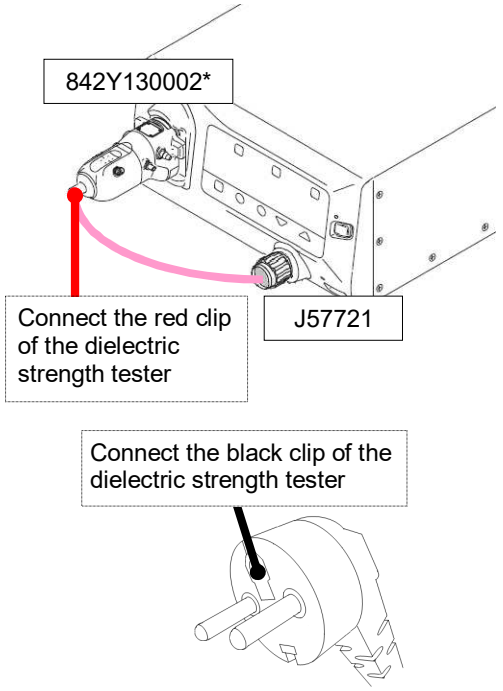


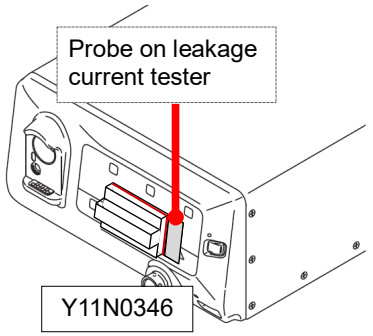
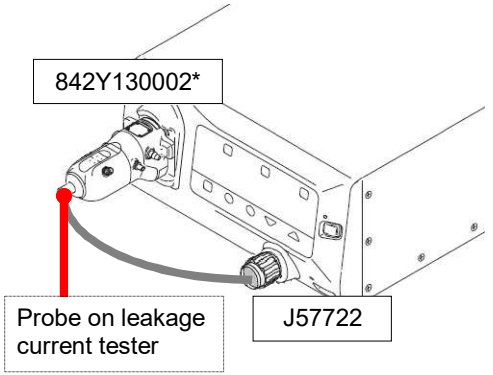
2.3 Electrical Safety Inspection

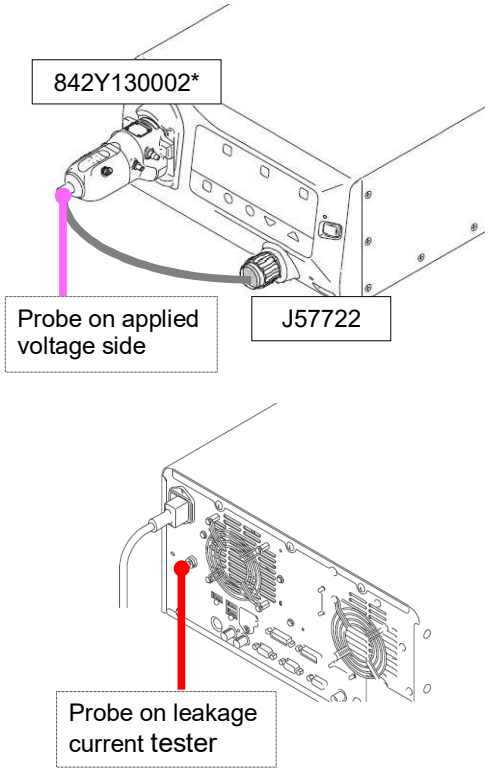
Caution

- **Electrical safety inspection should be carried out removing the WC-LINK cable.**

No.	Inspection items	Inspection specification	How to inspect		Remarks
1	Protective Earth Connection Test	0.1Ω or less	1) Set the test frequency in [Table 2]. 2) Connect the probes of the protective continuity tester to the GND terminal of the power plug and upper front screw on the left side of the processor. 3) Apply current of 25 A. 4) Wait in this state for 5 seconds and read the resistance value.		JIG/Equipment ・Protective continuity tester

No.	Inspection items	Inspection specification	How to inspect		Remarks
2	Dielectric Strength Test 1) Between power supply - unit	Must not have a discharge or an electrical breakdown when the voltage of the dielectric strength test in [Table 3] is applied for 1 second. The sensitive current is 5 mA or less.	1) Connect the red clips of the dielectric strength tester with the both Pins on the power plug. 2) Connect the black clip of the dielectric strength tester with the GND terminal on the power plug. 3) Turn on the power of the device to be measured. 4) Activate the dielectric strength tester and slowly bring up to the voltage in [Table 3] of the dielectric strength test. 5) Maintain the voltage of the dielectric strength test for 1 second and confirm that there is no electrical breakdown etc. 6) Return the dielectric strength tester knob to 0 and remove each clip.		JIG/Equipment ·Withstand voltage tester
2	2) Between applied part - the unit	Must not have a discharge or an electrical breakdown when the voltage of the dielectric strength test in [Table 3] is applied for 1 second.	1) Connect the “842Y130002*” jig and “J57721” jig to the processor 2) Connect the red clip on dielectric strength tester to the “842Y130002*” jig and the “J57722” jig. 3) Connect the black clip on dielectric strength tester to the GND terminal of the power plug. 4) Turn ON the power to the device to be measured. 5) Activate the dielectric strength tester and slowly bring up to the voltage in [Table 3] of the dielectric strength test. 6) Maintain the voltage of the dielectric strength test for 1 second and confirm that there is no electrical breakdown etc. 7) Return the dielectric strength tester knob to 0 and remove each clip.		JIG/Equipment ·Withstand voltage tester· 842Y130002* ·J57721

No.	Inspection items	Inspection specification	How to inspect		Remarks
3	1) Earth leakage current	The value should be below the value shown in [Table 5].	1) Set the test voltage to the power input and frequency in [Table 4]. 2) Disconnect all output cables. 3) Turn ON the power to the device to be measured, stop the pump, and leave in this state for more than 5 minutes. 4) Read the leakage current value in each state. *The measurement condition refers to [Table 5].		JIG/Equipment ・Leakage current tester
	2) Enclosure leakage current	The value should be below the value shown in [Table 5].	1) Set the test voltage to the power input and frequency in [Table 4]. 2) Disconnect all output cables. 3) Turn ON the power to the device to be measured, stop the pump, and leave in this state for more than 5 minutes. 4) Apply the enclosure leakage current test Jig “Y11N034” to the operation panel, connect the probe of the leakage current tester, and read the leakage current value in each state. *The measurement condition refers to [Table 5].		JIG/Equipment ・Leakage current tester
	3) Patient leakage current I	The value should be below the value shown in [Table 5].	1) Set the test voltage to the power input and frequency in [Table 4]. 2) Disconnect all output cables. 3) Connect the “842Y130002*” jig and “J57722” jig to the processor 4) Connect the probe on leakage current tester to the “842Y130002*” jig and the “J57722” jig. 5) Turn ON the power to the device to be measured, stop the pump, and leave in this state for more than 5 minutes. 6) Read the leakage current value in each state. *The measurement condition refers to [Table 5]		JIG/Equipment ・Leakage current tester ・842Y130002* ・J57722

No.	Inspection items	Inspection specification	How to inspect		Remarks
3	4)Patient leakage current III Single fault condition	The value should be below the value shown in [Table 5].	1) Set the test voltage to the power input and frequency in [Table 4]. 2) Connect the “842Y130002*” jig and “J57722” jig to the processor 3) Connect the probe on applied voltage side of the leakage current tester to the “842Y130002*” jig and the “J57722” jig. 4) Connect the probe on leakage current tester to the "potential equalization terminal" (Not necessary if the tester using the earth Pin of power plug is used for measurement.) 5) Turn ON the power to the device to be measured and leave as is for 5 minutes or more. 6) Apply the test voltage and read the leakage current value in each state. 7) Return the applied voltage to 0V, and disconnect all cables. * The measurement condition refers to [Table 5].		JIG/Equipment ・Leakage current tester ・842Y130002* ・J57722
4	Electric current	Must be +10% or less in relation to the center of the specification of [Table 4].	1) Set the test voltage to the power input and frequency in [Table 6]. 2) Connect the 760 scope and each signal output, and turn ON the power. 3) Set the light quantity to MAX and the pump to high, leave in this state for 1 minute, and read the electric current value.		JIG/Equipment ・760Scope

2.4 Operation check

2.4.1 Appearance

No.	Inspection Item	Acceptance Criterion	Inspection Method	NOTE
1	All sides of the equipment	・There is no crack, deformation or irregularity that negatively impacts the function/performance. ・There is no rust or taint that negatively impact the function/performance of electrical connector. ・There is no breakage, deformation on WC-LINK cable terminal. ・Each screw on the rear panel must be fully tightened.	・Check the appearance of front, rear, left/right sides and top of the main unit. ・Check the appearance of the electrical connector. ・Check the appearance of the WC-LINK cable terminal. ・Touch and check each screw on the rear panel by hand.	
2	Specification plate Caution label	・The plate is adhered in the correct position. ・The adhered label is correct.	・Visually check the position of the plate and label, and read the descriptions on them.	
3	FOE label	・The label are adhered in the correct position. ・The adhered label is correct.	・Visually check the position of FOE label, and read the description on it.	
4	Silk printing	・There is nothing lacking and skew on the printing.	・Visually check the printing on the front and rear panel. ・Visually check the information mark.	
5	Fuse	・The T3.15A H250V fuse is mounted.	・Remove the fuse to check the rated value.	

2.4.2 Function

No.	Inspection Item	Acceptance Criterion	Inspection Method	NOTE
1	Dustproof Filter	・There is not problem with attaching the dustproof filter. ・The filter is not clogged with dust or the like.	・Remove the dustproof filter to check it.	
2	Attach / detach the electrical connector	・The electrical connector can be smoothly attached and detached.	・Detach and attach the electrical connector to check it.	Jig / Equipment ・500 system scope or 600 system scope
3	Scope connection / disconnection	・The scope can be connected smoothly to the lock position of the scope connector socket. ・The pull-out force of one-step connector is in standard range.	・Check that the LG connector can be pushed to the lock position of the scope connector socket. ・Check that the scope can be connected smoothly and firmly. * Check this item for 500 system scope or 600 / 700 system scope. ・Use the measurement jig to measure the pull-out force of one-step connector, and check if the value is within the criterion in [Table7].	Jig / Equipment ・500 system scope or 600 system scope ・700 system scope ・842Y130002* ・Y20N100002

No.	Inspection Item	Acceptance Criterion	Inspection Method	NOTE
4	Power button	・The power is surely turned ON and the indicator lights in green when the power button is pressed. ・The power and the indicator lamp is turned OFF when the power button is switch off.	・Connect to the power supplies listed in [Table4] and press the power button to check if the indicator lights up and the power is turned ON. ・Switch off the power button and check if the power and indicator lamp are turned OFF. ・Check if the power button can be operated smoothly.	
5	EXAM button	・The EXAM button and the “STANDBY” lights in orange when the power is turned ON without a scope connected. ・The buzzer sounds when the EXAM button is pressed. ・After connecting a scope and pressing the EXAM button with the EXAM button and the “STANDBY” are lighting in orange: 1) The EXAM button and the “ACTIVE” lights in blue and the “STANDBY” light is turn off. 2) The image is displayed on the screen. ・After holding down the EXAM button for 2 seconds when the image is being displayed, the EXAM button and the “STANDBY” lights in orange, and the image vanishes.	・Press the EXAM button and then visually check the monitor, color of EXAM button, light (color) of the indicator and the image displayed on the screen. ・Press the EXAM button and check if the buzzer sounds.	Jig / Equipment ・Any scope that can be used in combination.
6	LIGHT button	・Press the LIGHT button, then the lamp lights up, the LIGHT button and the ON indicator lights in blue. ・Press the LIGHT button again, then the lamp is turned off, the LIGHT button lights in orange and the ON indicator is turned off. ・The rotation speed of the fan is linked to the lamp operation (lights up or not).	・With a scope connected, press the LIGHT button and check that the lamp lights up, the LIGHT button and the ON indicator light in blue. ・Press the LIGHT button again, check that the LIGHT button lights in orange, the ON indicator is turned off. ・Check the rotation speed of the fan works as following: - When the lamp lights up: high-speed rotation - When the lamp turned off: low-speed rotation ・Check that the fans (x2) discharge the air.	Jig / Equipment ・Any scope that can be used in combination.
7	Brightness Adjustment button	・The light quantity increases with ▲ button, and decreases with ▼ button. ・With the light quantity changing, the display of the indicator changes (increase or decrease).	・With a scope connected and the lamp lighting up, press the brightness adjustment button to check the operation.	Jig / Equipment ・Any scope that can be used in combination.

No.	Inspection Item	Acceptance Criterion	Inspection Method	NOTE
8	IRIS button	・The LED lamp of its characters lights up. ・The IRIS mode can be switched by pressing the IRIS button. AUTO/PEAK/AVE ・As the IRIS button is pressed, the display of IRIS mode on the monitor and on the front panel change.	・Turn ON the power and check the LED lights up on the front panel. ・Take a image of a high-reflection object by a scope and press the IRIS button, check that the brightness of the image decreases (become darker) when switching to PEAK mode.	Jig / Equipment ・Any scope that can be used in combination.
9	MULTI button	・The indicator lights up. ・The functions set to the MULT button operate.	・Turn ON the power, check the function set in the Multi Button in the system setup menu. ・Press the MULTI button, check the indicator lights up and the function which has been set operates. ・Press the MULTI button again, and check that the indicator returns.	Jig / Equipment ・Any scope that can be used in combination.
10	LIGHT MODE button	・The light mode can be switched by operating the LIGHT MODE button.	・Press the LIGHT MODE button one time, check that the [1] lights up and the display is switched to BLI mode. ・Press the LIGHT MODE button one more time, check that the [2] lights up and the display is switched to BLI-bright mode. ・Press the LIGHT MODE button one more time, check that the [3] lights up and the display is switched to LCI mode. ・Press the LIGHT MODE button one more time, check that the light of [1][2][3] is turned off and the display returns to normal observation mode.	Jig / Equipment ・700 system scope
11	S video connector output	・Signals must be correctly output to S video output and the image of endoscope and its data must be correctly displayed. 1) The image display is stable without blinking. 2) There is no significant noise, color deviation, blurring. 3) No hunting.	・Connect the S video output to the monitor, check the image of the color chart on the monitor.	Jig / Equipment ・Any scope that can be used in combination.
12	Video connector output	・Signals must be correctly output to video output and the image of endoscope and its data must be correctly displayed. 1) The image display is stable without blinking. 2) There is no significant noise, color deviation, blurring. 3) No hunting.	・Connect the video output to the monitor, check the image of the color chart on the monitor.	Jig / Equipment ・Any scope that can be used in combination.

No.	Inspection Item	Acceptance Criterion	Inspection Method	NOTE
13	RGB TV connector output	・Signals must be correctly output to RGB TV output and the image of endoscope and its data must be correctly displayed. 1) The image display is stable without blinking. 2) There is no significant noise, color deviation, blurring. 3) No hunting.	・Connect the RGB TV output to the monitor, check the image of the color chart on the monitor.	Jig / Equipment ・Any scope that can be used in combination.
14	DVI-D connector output	・Signals must be correctly output to DVI-D output and the image of endoscope and its data must be correctly displayed. 1) The image display is stable without blinking. 2) There is no significant noise, color deviation, blurring. 3) No hunting.	・Connect the DVI-D output to the monitor, display and check the image of the color chart with SXGA and full HD respectively on the monitor. SXGA：1280×1024 60p Full HD：1920×1080 60p ・Pull and twist the electrical connector (500/600 system scope), LG connector (700 system scope) and check if there is any abnormality on the image. * Check with each scope listed at the right side.	Jig / Equipment ・530 honeycomb scope ・580 series scope ・600 system scope ・760 series scope ・740 series scope ・720 series scope
15	FICE	・FICE is functioning.	・Press the FICE button on the keyboard to turn the function ON. ・See the image from the scope and select 0, 1, 8 in order with numeric keypad, check the image color change and return to 0. ・Turn FICE off.	Jig / Equipment ・Any scope that can be used in combination.
16	Digital printer connector	・Signals must be correctly output to the digital printer terminal.	・Connect the digital printer with a USB cable, and check if the error is detected when running out of paper.	Jig / Equipment ・UP-D25MD or CP-900D-F
17	Keyboard connector	・The connector can be connected/disconnected smoothly. ・The menu can be operated with keyboard.	・Connect the DK-6000, and retrieve the maintenance menu.	Jig / Equipment ・DK-6000
18	RS-232C connector 1, 2	・The signals are output correctly to the RS-232C connector 1, 2.	・Connect a peripheral device with RS-232C cable, and check if you can properly control it.	Jig / Equipment ・UP-55MD etc.
19	Network connector	・The signals are output correctly to the network connector.	・Connect a PC for communication checking with a LAN cable, and check the contents of communication.	Jig / Equipment ・PC for checking the network
20	Remote connector 1, 2	・The remote output is correctly output.	・Connect a peripheral device or a jig to the remote connector, and check the remote signals are output by operating them.	Jig / Equipment ・Remote connection device
21	Foot switch connector	・The signals from the foot switch are correctly input.	・Connect and press the foot switch, check if functions assigned to the foot switch works properly.	Jig / Equipment ・FS-1

No.	Inspection Item	Acceptance Criterion	Inspection Method	NOTE
22	Electronic magnification level (cursor)	・An image is magnified electronically by 0.05 times every time the up-arrow key is pressed. ・The magnified image returns to the original size by pressing the down-arrow key.	・With a scope connected, check electronic magnification by pressing the up-arrow & down-arrow keys.	Jig / Equipment ・Any scope that can be used in combination.
23	Attach / detach external memory	・External memory be attached & detached smoothly. ・When USB memory is attached, the indicator of the external memory turns green.	・Check it by attaching and detaching an external memory. ・Check that the indicator on the front cover lights in green when an external memory is attached.	Jig / Equipment ・External memory
24	Recording to memory	・While the writing is being processed, the indicator flashes in orange color. ・For external memory and embedded memory, Images can be correctly recorded and read out.	・Connect USB memory and a scope, and turn ON the power. Take in the images from the USB memory to the embedded memory. Hold down the EXAM button 2 seconds to turn the scope OFF. Press the “Search” key and input a search condition. Move the cursor to the image list number, and press “C” to copy it to an external memory. At this time, check the indicator on the front cover flashes in orange. ・Press the “Search” key and input the date on which the images taken in for searching. Move the cursor to the image list number and press the “Enter” key, check if the thumbnail displays the right image. Press “Esc” to exit the window after the inspection is completed.	When recording still images in freeze mode, check that the sub screen is displayed as a video image and the main screen is a still image. Jig / Equipment ・Any scope that can be used in combination. ・External memory
25	LG detection sensor	・When there is no scope connected, the lamp does not light up.	・When no scope is connected, press the LIGHT button to check that the lamp does not light up. ・Remove the scope connector socket when “ACTIVE” and the lamp are lighting-up, then check the following changes. 1) “ACTIVE” becomes “STANDBY”. 2) The lamp is turned off.	Jig / Equipment ・700 system scope

No.	Inspection Item	Acceptance Criterion	Inspection Method	NOTE
26	Brightness adjustment	・The brightness can be adjusted correctly. ・The light limit functions properly.	・Check that the indicator display changes from the minimum to the maximum according to object type and the distance to object. Also make sure the brightness of the displayed image can be controlled in a certain range and the response time is within 1 second. ・Assign a light limit to the MULTI button and press the MULTI button, then check the indicator lights up and “L-Limit” is displayed on the screen. ・Connect a scope to let the lamp light up, and check the scale marks of the indicator light up no more than 7. ・Press the MULTI button again, check that the display of “L-Limit” disappears, and the brightness and the indicator status revert to the first. ・Revert the function assignment of MULTI button.	Jig / Equipment ・700 system scope
27	Maximum output light quantity	・The output light quantity from the light source for the normal observation mode is within the standard range.	・Connect a 700 system scope to the scope socket and press the EXAM button to set the status to ACTIVE. ・Turn OFF the pump. ・Press the EXAM button to set the status to STANDBY, remove the scope and connect the light measurement jig. ・Measure the maximum light quantity for the normal observation mode and check if it is within the standard range written to [Table8].	Clean the window glass of the jig with alcohol before measuring the light quantity. Jig / Equipment ・620Y200004* ・Y10N100217
28	PUMP button	・By pressing the PUMP button, the air supply lamp is switched in order as: “H” → “M” → “L” → OFF	・Press the PUMP button and check if the air supply lamp is switched.	
29	Pump air supply pressure/ Pump air supply volume	・The air supply pressure and air supply volume are within the standard range written in the [Table9].	・Measure the air supply pressure and air supply volume with the measurement jig. * Perform the measurement after 10 minutes since the power has been turned ON.	Jig / Equipment ・JA5003 ・Y11N100039
30	Air guide connection	・No air leakage around the connection between the rubber seal of scope socket and the LG connector air guide.	・Set the air supply pressure/volume measurement jig on the scope socket, press the PUMP button to switch the pump to “H”, and turn the jig in both clockwise and anticlockwise direction to check that the pressure decreases within 5kPa. ・Turn OFF the pump and check the pressure does not go down to zero within 5 seconds.	Jig / Equipment ・JA5003 ・Y11N100039

No.	Inspection Item	Acceptance Criterion	Inspection Method	NOTE
31	Software version	Can be confirmed as reference information.	・Display the system information and check the system version.	
32	Light source Assy unit number	・The light source unit number is the same as the one written on the plate.	・Retrieve the system information, compare the light source unit number and the unit serial number kept when performing the parts replacement.	Perform this inspection item only when “Light source unit” or “ELC board” is replaced.
33	Keyboard	Correct input can be done with keyboard.	・Connect the keyboard to the processor, and check if the key input can be correctly done.	

[Table1] Inspection Condition

Applicable Class		A,B,C,D,E,Ⓕ
Environment	Temperature	10 to 40°C
	Humidity	30 to 85%RH (no dew condensation)
	Illuminance	500 lux or higher
Power supply voltage (Inspection item for which voltage is not designated)		AC100 to 240V, 50/60Hz

[Table 2] Protective Earth Connection Test

Applicable Class	Frequency	Resistance upper limit
A,B,C,D,E,Ⓕ	50Hz	0.1Ω

[Table 3] Voltage of Dielectric Strength Test

	Test voltage	Induced current upper limit
Applicable Class	A,B,C,D,E,Ⓕ	
Between Power supply – unit (A-a1)	1500V (60Hz)	5mA
Between Applied part – unit (B-d)	1500V (60Hz)	5mA

[Table 4] Leakage Current Test Condition

Applicable Class	A,B,C,E,Ⓕ	D
Operation Power Supply	AC100 to 240V, 50/60Hz	AC220V, 50Hz
Earth Leakage Current	264V/60Hz	242V/50Hz
Enclosure Leakage Current		
Patient leakage Current I		
Patient leakage Current III		

[Table 5] Leakage Current Specification

			Test specifications (μA) A,B,C,D,E,Ⓕ	Probe Connection points
Earth leakage current	Normal condition	N *	400	-
		R *		
	Single fault condition (Power disconnection)	N *	800	
		R *		
Enclosure leakage current	Normal condition	N *	80	Front panel
		R *		
	Single fault condition (Earth disconnection)	N *	400	
		R *		
	Single fault condition (Power disconnection)	N *		
		R *		
Patient leakage current I	Normal condition	N *	80	Jig GND
		R *		
	Single fault condition (Earth disconnection)	N *	400	
		R *		
	Single fault condition (Power disconnection)	N *		
		R *		
Patient leakage current III	Single fault condition (N110%)	N *	4000	
		R *		
	Single fault condition (R110%)	N *		
		R *		

* N : Normal phase R : Reverse phase

[Table 6] Power Supply (For the power supply cord with specification as 230V)

Applicable Class	A,B,C,E,Ⓕ		D	
Power input	264V/60Hz	90V/50Hz	198V/50Hz	242V/50Hz
Specification Center for Power Input	0.54A	1.12A	0.60A	0.60A
Must be within +10% of the Specification Maximum for Power Input	0.59A	1.23A	0.66A	0.66A

[Table7] Inspection criterion for the force to pull out a one-connector scope.

Applicable Class	A,B,C,D,E,Ⓕ
Force to pull out	-22N ~ -43N

- Inspect the force based on the average value of five measurements.
- A minus sign shows that the force is in the pulling direction.

[Table 8] Maximum Light Quantity Specification

Applicable Class	A,B,C,D,E,Ⓕ
Mode	Maximum light emission of light source
Normal light mode	1241mW ~ 1612mW

[Table 9] Pump Specification

Applicable Class		A,B,C,D,E,Ⓕ
Air supply pressure	H	50±10kPa
Air supply volume	H	1.8±0.3 l/min at 35kPa
	M	1.4±0.3 l/min at 35kPa
	L	1.1±0.3 l/min at 35kPa

[Table 10] Category

Sign	Product Code	Serial Number	Destination
A	FV691A	*V691G***	Japan
B	FV692A	*V692G***	USA
C	FV693A	*V693K***	EU
D	FV693A-8	*V693G***	China
E	FV694A	*V694G***	LA
Ⓕ	FV696A	*V696K***	AP

2.5 Check Sheet

Management No.	
Model Name	EP-6000
Serial No.	
Inspection Day	/ /

Inspector	Authorizer

Judgment
Passed ・ Reject.

Electrical Safety Inspection			
1. Protective Earth Connection Test 0.1Ωor less			OK ・ NG
2. Dielectric Strength Test			
1) Between power supply-unit 1500V 60Hz			OK ・ NG
2) Between applied part-unit 1500V 60Hz			OK ・ NG
3. Leakage Current Test			
1) Earth leakage current			
	Normal condition	Normal phase 400μA or less	μA
		Reverse phase 400μA or less	μA
	Single fault condition (Power disconnection)	Normal phase 800μA or less	μA
		Reverse phase 800μA or less	μA
2) Enclosure leakage current			
	Normal condition	Normal phase 80μA or less	μA
		Reverse phase 80μA or less	μA
	Single fault condition (Earth disconnection)	Normal phase 400μA or less	μA
		Reverse phase 400μA or less	μA
	Single fault condition (Power disconnection)	Normal phase 400μA or less	μA
		Reverse phase 400μA or less	μA
3) Patient leakage current I			
	Normal condition	Normal phase 80μA or less	μA
		Reverse phase 80μA or less	μA
	Single fault condition (Earth disconnection)	Normal phase 400μA or less	μA
		Reverse phase 400μA or less	μA
	Single fault condition (Power disconnection)	Normal phase 400μA or less	μA
		Reverse phase 400μA or less	μA
4) Patient leakage current III			
	Single fault condition (N110%)	Normal phase 4000μA or less	μA
		Reverse phase 4000μA or less	μA
	Single fault condition (R110%)	Normal phase 4000μA or less	μA
		Reverse phase 4000μA or less	μA
4. Electric current		264V/60Hz 0.59A or less	A
		90V/50Hz 1.23A or less	A

Appearance	
1. All sides of the equipment	OK ・ NG
2. Specification plate / Caution label	OK ・ NG
3. FOE label	OK ・ NG
4. Silk printing	OK ・ NG
5. Fuse T3.15A H250V	OK ・ NG
Function	
1. Dustproof Filter	OK ・ NG
2. To attach & detach electrical connector	OK ・ NG
3. Scope connection/disconnection -22N～-43N	OK ・ NG
4. Power button	OK ・ NG
5. EXAM. button	OK ・ NG
6. Light button	OK ・ NG
7. Brightness Adjustment Button	OK ・ NG
8. Iris button	OK ・ NG
9. Multi button	OK ・ NG
10.Light mode button	OK ・ NG
11. S video connector output	OK ・ NG
12. Video connector output	OK ・ NG
13. RGB TV connector output	OK ・ NG
14. DVI-D connector output	OK ・ NG
15.FICE	OK ・ NG
16. Digital printer connector	OK ・ NG
17. Keyboard connector	OK ・ NG
18.RS-232C connector 1 / 2	OK ・ NG
19. Network connector	OK ・ NG
20. Remote connector 1 / 2	OK ・ NG
21. Foot switch connector	OK ・ NG
22. Electronic magnification level (cursor)	OK ・ NG
23. To attach & detach external memory	OK ・ NG
24. Recording to memory	OK ・ NG
25. LG detection sensor	OK ・ NG
26. Brightness Adjustment	OK ・ NG
27. Maximum output light quantity 1241mW～1612Mw	mW
28.PUMP button	OK ・ NG
29. Pump air supply pressure / Pump air supply volume	

pressure	volume H	volume M	volume L
50±10kPa	1.8±0.3 l/min	1.4±0.3 l/min	1.1±0.3 l/min
kPa	l/min	l/min	l/min

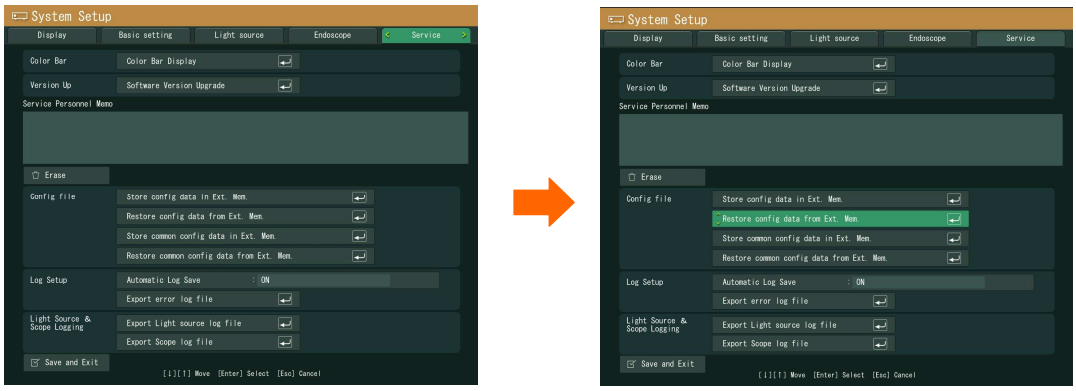
30. Air guide connection	OK ・ NG
31. Software Ver.	
32. Light Source Assy unit number	OK ・ NG
33. Keyboard	OK ・ NG

Special notes

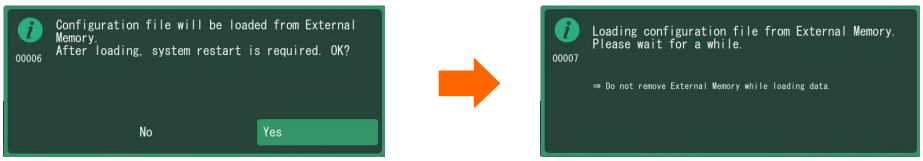
Write down prescribed particulars special notes for NG

2.6 Setting after Operation Confirmation

(1) Connect the USB memory on which config data was stored to EP-6000.
(2) Connect keyboard and the monitor to EP-6000 and turn ON the power.
(3) Press the [Shift] + [Alt] + [F9] keys of keyboard to display the system setup menu.
(4) Move the cursor to "Service ".
(5) Move the cursor to “Restore config Data from Ext. Mem.” and press [Enter].



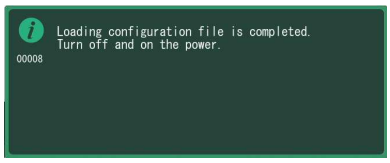
(6) The message "Configuration file will be loaded from External Memory." appears.
Move the cursor to "Yes" and press the [Enter] key.
"Loading configuration file from External Memory." appears, and saving the configuration starts.



Caution

It takes about 1 minute to restore config data.
Do not touch the processor until the message "Loading configuration file is completed" appears.
When power is turned off during restoration of config data, setting change fails and the device does not function normally.

(7) When the message "Loading configuration file is completed." appears, turn OFF/ON the power.



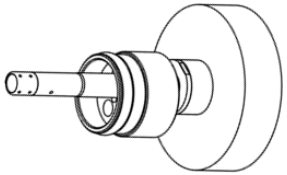
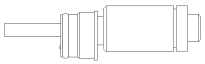
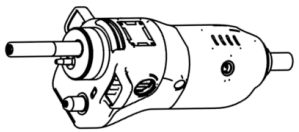
3. JIG/Equipment list

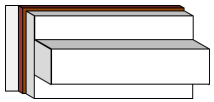
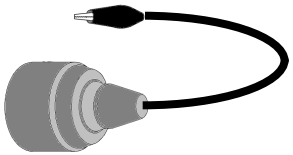
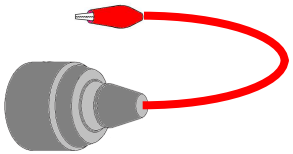
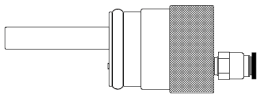
3.1 JIG list

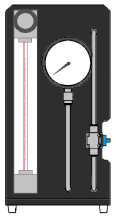
Tool Photo	Tool No.	Tool Name	Check categories	Period	Check Items	Description
	Y12N0751	Phillips Screwdriver Bit No.2 200mm	-	-	-	Maker : OHMISEIKI Code : V-17 No.2 200mm
	Y12N0787	Phillips Screwdriver Bit No.2 75mm (φ3.5)	-	-	-	Maker : OHMISEIKI Code : V-17 No.2 75mm (φ3.5)
	Y12N0754	Phillips Screwdriver Bit No.1 75mm (φ3.5)	-	-	-	Maker : OHMISEIKI Code : V-17 No.1 75mm (φ3.5)
	Y12N0772	Hexagon Bit H2.5 70mm	-	-	-	Maker : OHMISEIKI Code : V-32X H2.5 70mm
	Y22N0035	Hexagon Bit H0.89 65mm	-	-	-	Maker : OHMISEIKI Code : V-17X H0.89 65mm

Tool Photo	Tool No.	Tool Name	Check categories	Period	Check Items	Description
	Y12N0750	Box Bit H5 55mm	-	-	-	Maker : OHMISEIKI Code : V-32B H5 φ8 55mm
	Y22N0032	Box Bit H5.5 100mm （Magnetic Box Bit）	-	-	-	Maker : OHMISEIKI Code : V-17B MAG H5.5 φ9 A2.0 150mm
	Y22N100060	Torque driver 2～15cN·m	Check	1day	1) Check with torque meteasuring equipment * Refer to 3.3.1.	Maker : TOHNICHI Code : BMRD15CN2
	Y22N100061	Torque d river 10～60cN·m	Check	1day	1) Check with the torque meter. * See 3.3.1.	Maker :TOHNICHI Code : RTD60CN
	Y22N100062	Torque driver 60～260cN·m	Check	1day	1) Check with torque measuring equipment * Refer to 3.3.1.	Maker : TOHNICHI Code : RTD260CN

Tool Photo	Tool No.	Tool Name	Check categories	Period	Check Items	Description
	Y22N100065	Torque driver 100～500c N·m	Check	1day	1) Check with torque measuring equipment * Refer to 3.3.1.	Maker : TOHNICHI Code : RTD500CN
	JT5049	Long Nose Pliers	-	-	-	Maker :HOZAN Code : N-15-150
	JT5040	Snips	-	-	-	Maker :HOZAN Code : N-838
	Y22N100001	Manual binding tool	Check	1day	1) Check with the torque meter. * See 3.3.2.	Maker :Panduit Model :GTS
	Y10N1026	ThreeBond 1401B	-	-	-	Screw lock agent for all materials. 200g/1-ca Maker : ThreeBond Model : 1401B

Tool Photo	Tool No.	Tool Name	Check categories	Period	Check Items	Description
	620Y200004*	Optical power measurement jig	Calibration	1 year	Manufacturer calibration.	Used in combination with Y10N100217
	Y10N100217	VEGA Display (power meter)	Calibration	1 year	Manufacturer calibration.	Maker: Ophir Model: Vega Used in combination with 620Y200004*
	Y11N0362	Illuminance measuring tool probe	Calibration	1 year	Manufacturer calibration.	The following illuminometer is used: Maker:Konica Minolta Model:T-10MA
	Y20N100002	Digital force gauge	Calibration	1 year	Manufacturer calibration.	Maker:NIDEC-SIMPO Model:FGP-20
	842Y130002*	Electrical safety test/the plug and removal force measurement jig	Check	1 year	1) Check continuity. * See 3.3.3.	

Tool Photo	Tool No.	Tool Name	Check categories	Period	Check Items	Description
	Y11N0255	Protective earth power cable jig	Check	1 day	1) Check continuity. * See 3.3.4.	
	Y11N0346	Enclosure leakage current test Jig	-	-	-	
	J57722	Leakage current test Jig 500 Series	Check	1day	1) Short-circuit between terminals 2) Resistance load * Refer to 3.3.5.	
	J57721	Dielectric strength test Jig 500 Series	Check	1day	1) Short-circuit between terminals * Refer to 3.3.6.	
	Y11N100039	Air supply volume･ Air supply pressure connector	-	-	-	

Tool Photo	Tool No.	Tool Name	Check categories	Period	Check Items	Description
	JA5003	Air feed and pressure gauge	Calibration	1 year	Remove air feed and pressure gauge for manufacturer calibration	
	JA5015	Air supply pressure gage (Check at leak)	Calibration	1 year	The manometer is calibrated by its manufacturer or a certified calibration organization.	

3.2 Equipment List

Name	Model	Check categories	Period	Check Items	Purpose	Remarks
Stabilization power source	KIKUSUI made PCR1000LA, etc.	Check	1 year	Check voltage and frequency with a tester	General Electrical Safety Test	Recommended 1kVA or more
Protective continuity tester	HIOKI made 3157-01, etc.	Calibration	1 year	Manufacturer calibration.	Protective installation test	IEC60601-1 compliant
Withstand voltage tester	HIOKI made 3158, etc.	Calibration	1 year	Manufacturer calibration.	Withstand voltage test	IEC60601-1 compliant
Leakage current tester	HIOKI made ST5540, etc.	Calibration	1 year	Manufacturer calibration.	Leakage current	IEC60601-1 compliant
Keyboard	DK-6000	-	-	-	General operation confirmation	
USB memory	SwissBit made SFU22048E1BP2TO-I-MS-111-STD SFU22048E3BP2TO-I-MS-121-STD	-	-	-	Customer's config data back up	File System FAT32
500 System Scope 600 System Scope 700 System Scope	EG-590WR EG-600WR EG-760R, etc.	Check	1 year	* Refer to 3.3.5.	General operation confirmation	
Monitor	CCL220/AR CCL244/AR, etc.	-	-	-	S video, video, RGB, DVI (SXGA Mode,Full HD) , HD SDI confirmation	
Printer (Analog)	SONY made UP-55MD	-	-	-	Peripheral device terminal（RS232C） confirmation Remote confirmation	
Printer (Digital)	SONY made UP-D25MD	-	-	-	Digital printer operation confirmation	
PC	-	-	-	-	Network operation confirmation	Must be able to be used as FTP server.
Switching HUB	-	-	-	-	Network operation confirmation	10Base-T 100Base-TX

Name	Model	Check categories	Period	Check Items	Purpose	Remarks
WC-LINK cable	-	-	-	-	General operation confirmation	
Foot switch	FS1	-	-	-	Foot switch operation	
Card reader	KT-900U-1R-2004	-	-	-	Card reader operation	
S video cable	CC2-903, etc.	-	-	-	General operation confirmation	
BNC cable	BNC-03, etc.	-	-	-	General operation confirmation	
RGB cable	CC3-603, etc.	-	-	-	General operation confirmation	
DVI-D cable	CC5-301, etc.	-	-	-	General operation confirmation	
RS232C cable	CC6-101 CC5-001, etc.	-	-	-	Peripheral device terminal confirmation	
Remote cable	CR-05, etc.	-	-	-	Remote operation confirmation	
LAN cable (Straight)	-	-	-	-	Network operation confirmation	

3.3 Check procedures

3.3.1 Torque driver

3.3.1.1 Torque

1) Procedure

(1) Adjust the tightening torque of the torque driver to a service value.



(2) Attach a bit to the torque driver.



(3) Set the torque driver onto the torque gauge and turn it to measure a torque.



2) Evaluation

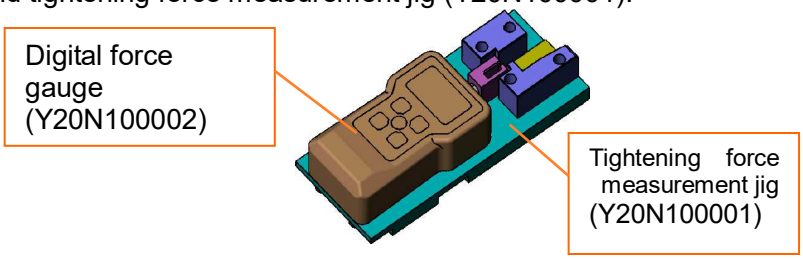
(1) Should be a set value ± 10%.

3.3.2 Manual binding tool

3.3.2.1 Tightening Torque

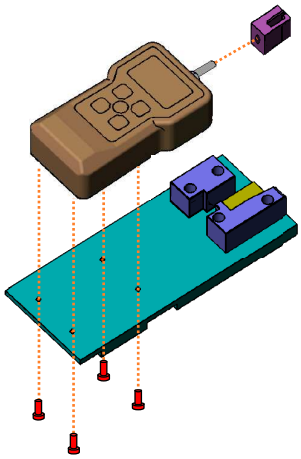
◆Note◆

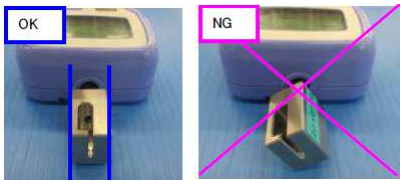
- To check the manual binding tool, you need the digital force gauge (Y20N100002) and the binding band tightening force measurement jig (Y20N100001).



1) Procedure

(1) Attach the accessory cable tie holder of the binding band tightening force measurement jig to the digital force gauge and fix it to the binding band tightening force measurement jig.

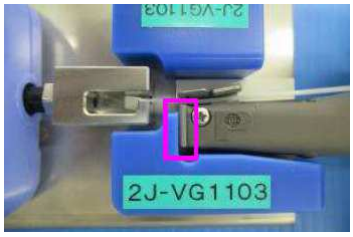




(2) Turn on the digital force gauge and set it to the “PEAK” mode.
(3) Press the Zero button to enable measurement.
(4) Set the cable tie (316S1076*) in the cable tie holder.



(5) Set the manual binding tool as if applying it to the jig block and pull the handle to cut the cable tie.



(6) Read the numerical value indicated by the digital force gauge.

◆Note◆

・ In case the numerical value is beyond the specified limits, turn the dial of the manual binding tool to adjust.



When pulling force is weaker than the specification limit



When pulling force is stronger than the specification limit

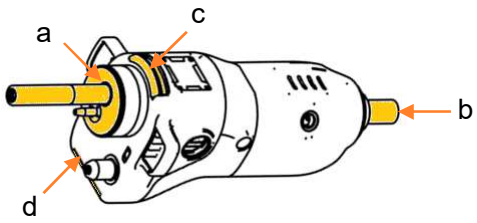
(6) Discard the cut cable tie.
(7) Repeat Steps (3) to (6) until the numerical value stays within the specified limits for 3 times running.

2) Evaluation
(1) Should be within a range of -35 N to -45 N for 3 times running.

3.3.3 Electrical safety test/the plug and play force measurement jig

3.3.3.1 Interterminal Resistance Value

1) Procedure
(1) Use the tester to measure a resistance value between the respective terminals a, b, c and d.



2) Evaluation
(1) Should be 1Ω or less.

3.3.4 Protective earth power cable jig

3.3.4.1 Resistance Value

1) Procedure
(1) Measure a resistance value between the probes of the tester.
⇒ Measured value: A
(2) Measure a resistance value between the AC cable socket (GND) and the terminal of the protective earth power cable jig.
⇒ Measured value: B

2) Evaluation
(1) Should be $B - A \leq 0.05\Omega$.

3.3.5 Leakage current test Jig 500 Series

3.3.5.1 Resistance between terminals

1) Procedures
   (1) Measure the resistance between terminals using the tester.
2) Criteria
   (1) Ensure that there is a short-circuit between the clips and pin 1, pins 4 to 10, pins 12 to 16, pins 18 and 19, pins 21 to 24, pin 26, pins 28 to 31 and pins 33 to 38.
   (2) Ensure that there is load resistance of 950kΩ or over between the clips and pins 2 and 3, pin 11, pin 17, pin 20, pin 25, pin 27 and pin 32.
   (3) Ensure there is a shot-circuit between coaxial cable and the clips.
   (4) Ensure there is a short-circuit between the frame and the clips.

3.3.6 Dielectric strength test Jig 500 Series

3.3.6.1 Resistance between terminals

1) Procedures
   (1) Measure the resistance between terminals using the tester.
2) Criteria
   (1) Ensure there is a short-circuit between pins 1 to 38 and the clips.
   (2) Ensure there is a shot-circuit between coaxial cable and the clips.
   (3) Ensure there is a short-circuit between the frame and the clips.

3.3.7 Scope

3.3.7.1 Light Output

1) Procedure
   (1) Connect the scope to the inspection equipment EP-6000.
   (2) Turn on the light.
   (3) Check the light to be output from the end of the scope.
2) Evaluation
   (1) The light to be output from the end of the scope should be as follows.

500 System Scope (except for the 590 series)	:	Continuous light
600 System Scope	:	Continuous light
700 System Scope	:	Continuous light

3.3.7.2 Dimming

1) Procedure
   (1) Connect the scope to the inspection equipment EP-6000.
   (2) Turn on the light.
   (3) Set the shutter speed to 1/60 s.
   (4) With no external light allowed in, keep a distance of 1 m or more between the end of the scope and an object to check the brightness level.
   (5) Put a hand, etc. close to and away from the end of the scope to check the response of an iris.
2) Evaluation
   (1) When the distance of 1 m or more is kept between the end of the scope and the object, the brightness level should be maximized.
   (2) When the object is put close to and away from the end of the scope, the auto iris should converge within 1 second.
   (3) When the object is put close to and away from the end of the scope, there should be no hunting.

3.3.7.3 Picture Quality

1) Procedure
   (1) Connect the scope to the inspection equipment EP-6000.
   (2) Turn on the light.
   (3) Set the shutter speed to 1/60 s.
   (4) Take a picture of a hand, etc. to check the picture quality.
2) Evaluation
   (1) There should be no considerable noise, color registration errors or blurred images.

Service Parts List

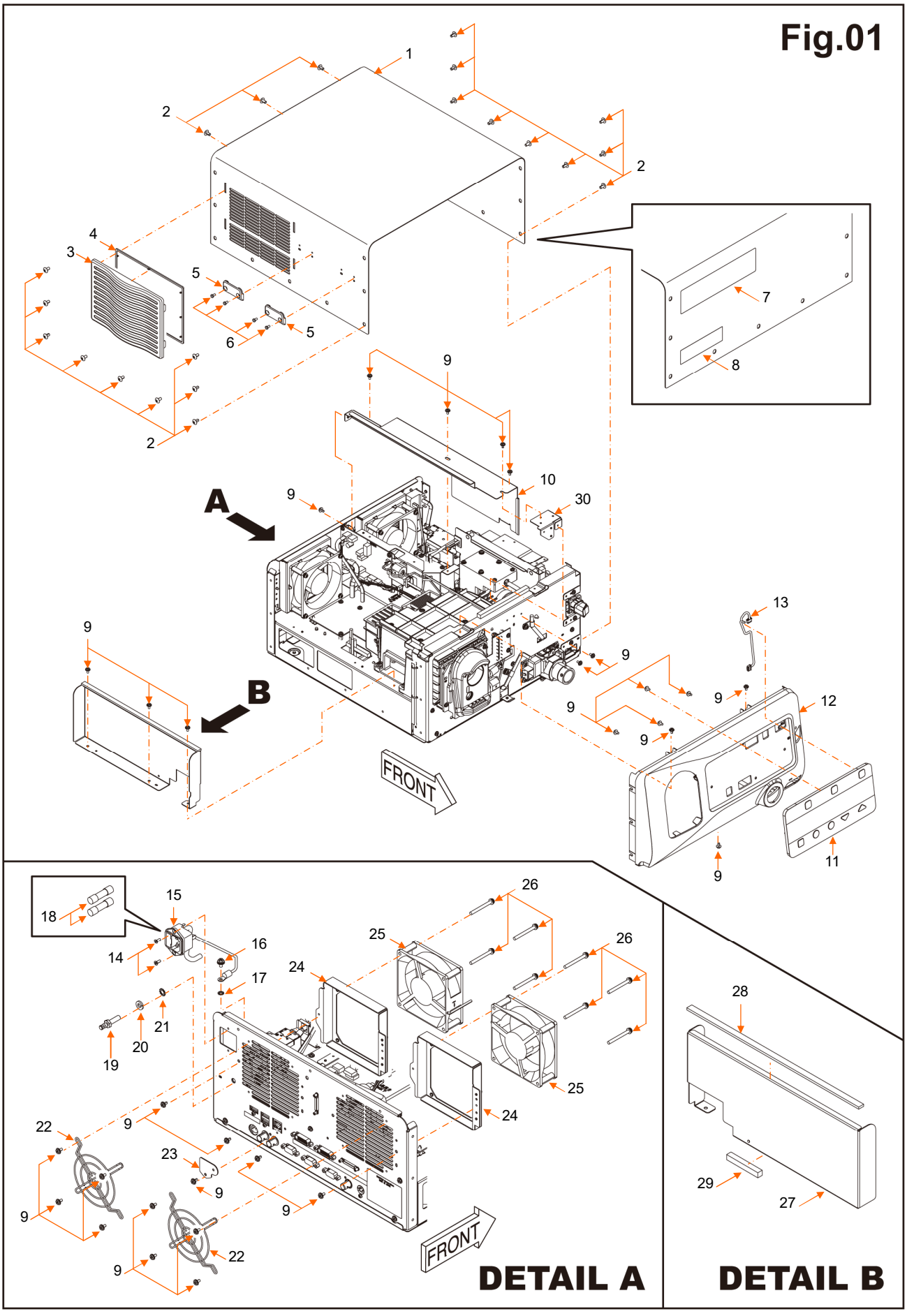

Fig.01
1
2
2
3
4
5
5
6
2
7
8
9
10
30
9
A
B
9
9
9
9
9
13
12
9
11
FRONT
18
15
14
16
17
24
25
26
26
25
24
21
20
19
22
9
23
9
9
9
22
9
FRONT
DETAIL A
28
29
27
DETAIL B

Fig.01	Parts			
No.	**Part No.**	**Part Name**	**Q'ty**	**Remarks**
1	350Y200248*	Top Cover	1	
2	301S3000408*	Screw	21	
3	345N120160*	Louver	1	
4	376N0238*	Filter	1	
5	362N130032*	Tank Holder	2	
6	110M300600N*	Screw	4	
7	405N120684*	Caution Sticker	1	
8	-	Label	1	Please conntact FTYO
9	308S0414*	Screw	30	
10	356N200872*	Bracket	1	
11	128Y200065*	Operation Panel Assy (J)	1	
12	350Y200225*	Front Cover Sub Assy	1	
13	136Y121095*	Harness OP-LED1/LED2	1	
14	111M300800N*	Screw	2	
15	120Y200019*	Inlet Assy	1	
16	308S0406*	Screw	1	
17	162M040N*	Tooth Washer	1	
18	119K129241*	Fuse	2	
19	108K104642*	Terminal	1	
20	165M0602T*	Spring Washer	1	
21	162M060N*	Tooth Washer	1	
22	364N200034*	Finger Guard	2	
23	350N200309*	Cover	1	
24	363N200118*	Bracket	2	
25	119Y200013*	Fan	2	
26	308S2760440*	Screw	8	
27	356N200875*	Bracket	1	
28	386N200064*	Shock absorber	1	
29	386N200069*	Shock absorber	1	
30	356N200874*	Bracket	1	

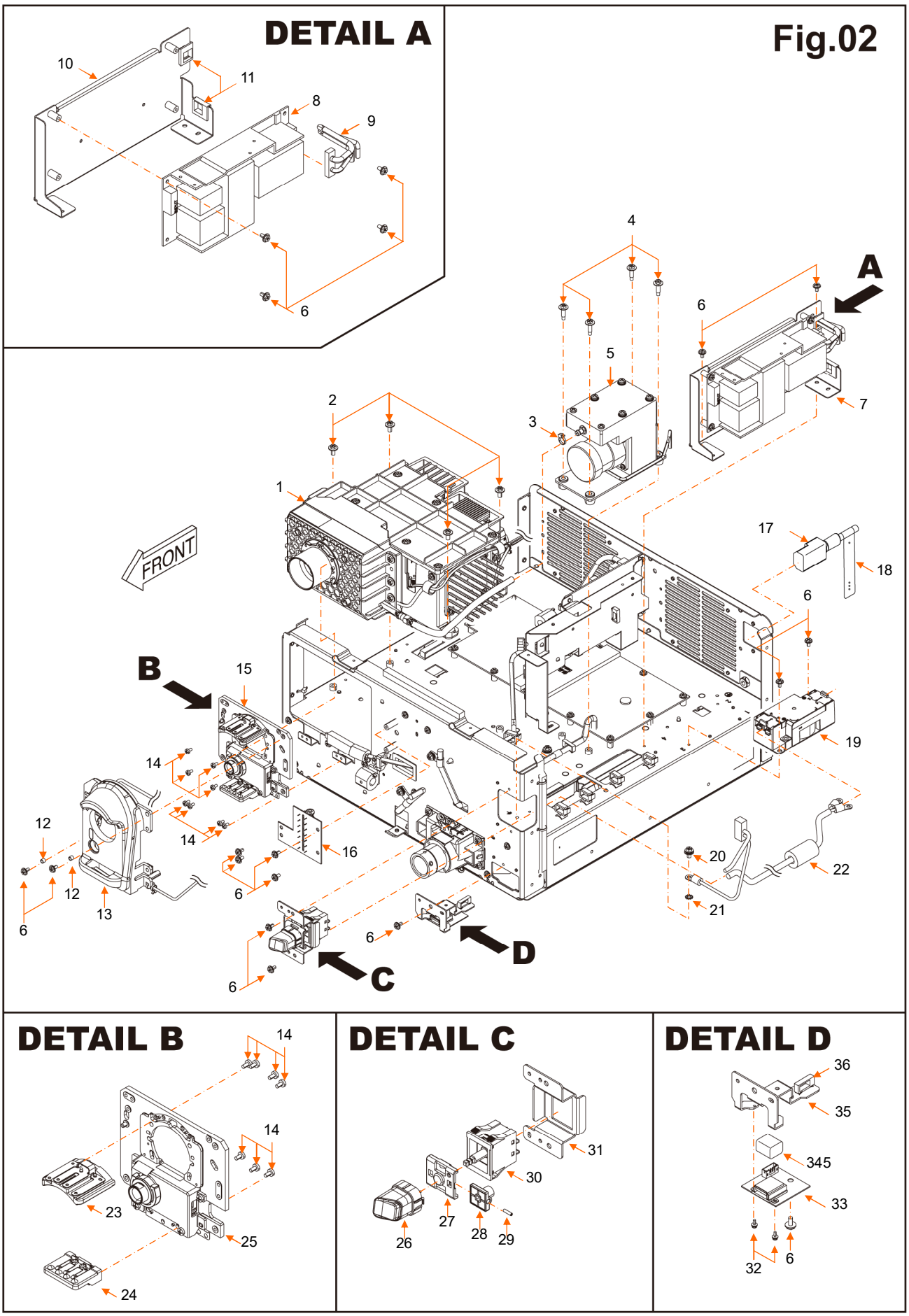

DETAIL A
Fig.02
10
11
8
9
6
4
A
6
5
7
2
3
1
FRONT
17
18
6
B
15
19
14
14
12
16
20
22
12
6
13
21
6
6
D
C
6
DETAIL B
14
14
23
25
24
DETAIL C
31
30
27
28
29
26
DETAIL D
36
35
345
33
32
6

Fig.02	Parts			
No.	**Part No.**	**Part Name**	**Q'ty**	**Remarks**
1	840Y200024*	Light Source Unit	1	
2	308S0424*	Screw	4	
3	316S1076*	Band	1	
4	308N120037*	Special Screw	4	
5	133Y200006*	Pump Assy	1	
6	308S0414*	Screw	18	
7	N/A	Power Supply Board Assy	1	DETAIL A
8	125N120017*	Power Supply PCB	1	
9	136Y200451*	Harness PS-ELC	1	
10	356Y200184*	Bracket	1	
11	316S1325*	Clamp	2	
12	347S1065*	Spacer	2	
13	863Y200009*	Small Cover Unit	1	
14	301S2780305*	Screw	15	
15	842Y120003*	One Connector Plate Assy	1	
16	113Y200189*	Capacitor Assy	1	
17	111K1107134*	Power Cable	1	
18	316S1412*	Cord Band	1	
19	138N120002*	Noise Filter	1	
20	308S0406*	Screw	1	
21	162M040N*	Tooth Washer	1	
22	138S0009*	Ferrite Core	1	
23	356Y200264*	Ball Holder Upper Assy	1	
24	356Y200265*	Ball Holder Lower Assy	1	
25	-	One Connector Sub Assy	1	Not Supply Parts
26	340Y120027*	Key Top	1	
27	328N120010*	Ratchet	1	
28	332N120025*	Stopper	1	
29	303S2000208*	Set Screw	1	
30	128Y200063*	Power Switch Assy	1	
31	356N200866*	Power Switch Bracket	1	
32	280M20057R*	Screw	2	
33	113Y200212*	USB PCB	1	
34	387N200034*	Gascket 13x10x14	1	
35	356N201021*	Bracket	1	
36	316S0259*	Clamp	1	

Fig.03

Light Source Assy (Fig.02_1)

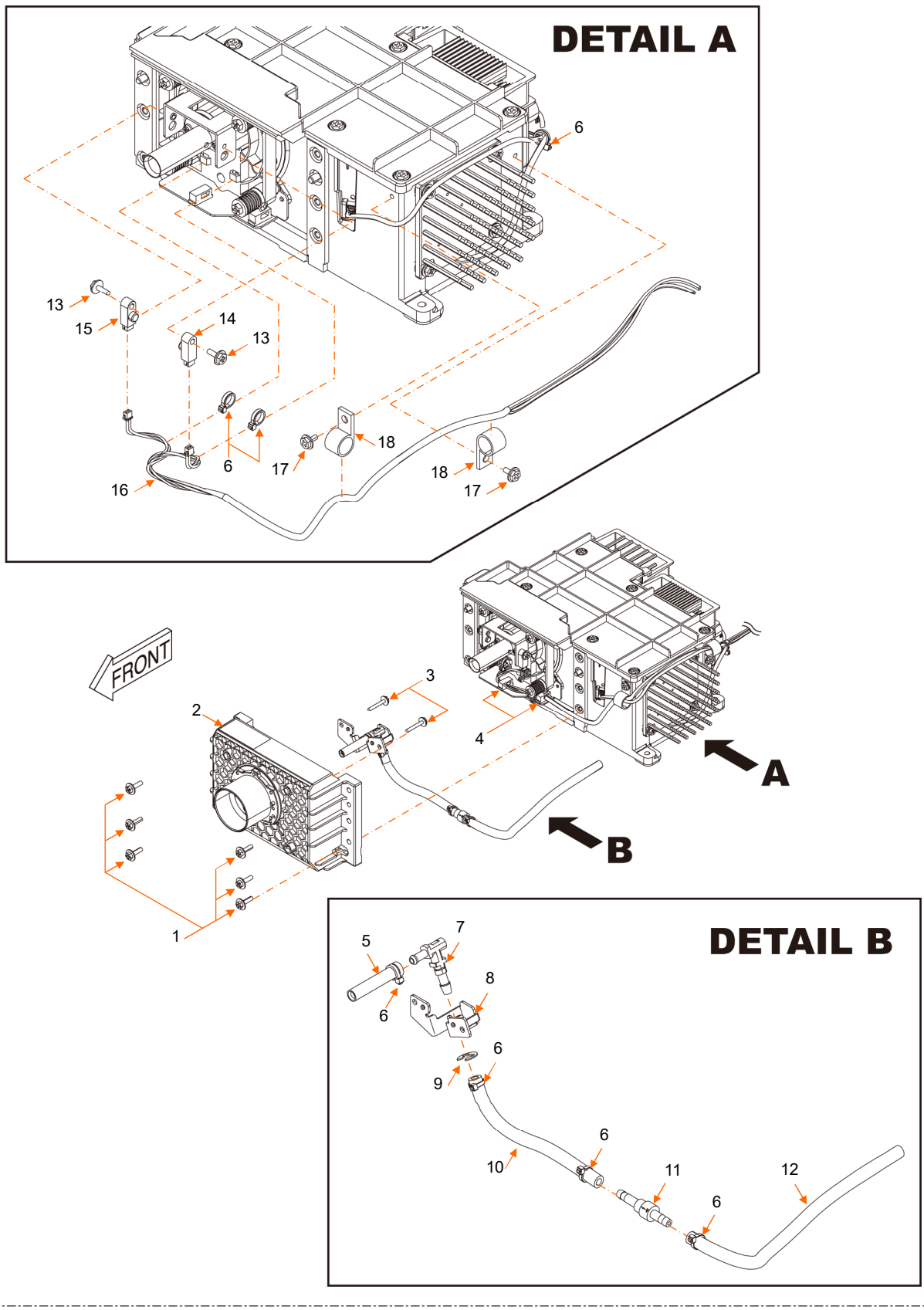


Fig.03	Parts			
No.	**Part No.**	**Part Name**	**Q'ty**	**Remarks**
1	308S0426*	Screw	6	
2	-	LG Cover Assy	1	Not Supply Parts
3	308S0422*	Screw	2	
4	316S1273*	Clamp	2	
5	369N120042*	Air Guide Pipe	1	
6	316S1076*	Band	7	
7	372N120042*	Pipe Joint	1	
8	356N200750*	Joint Bracket	1	
9	315S3360050*	E Ring	1	
10	370N130086*	Tube 100	1	
11	70K112536*	One Way Valve	1	
12	370N130124*	Tube 185	1	
13	308S0417*	Screw	2	
14	146S0113*	PTr	1	
15	146S0114*	LED	1	
16	136Y200457*	Harness LG_PI-WOC	1	
17	308S0414*	Screw	2	
18	316S1008*	Clamp	2	

Fig.04

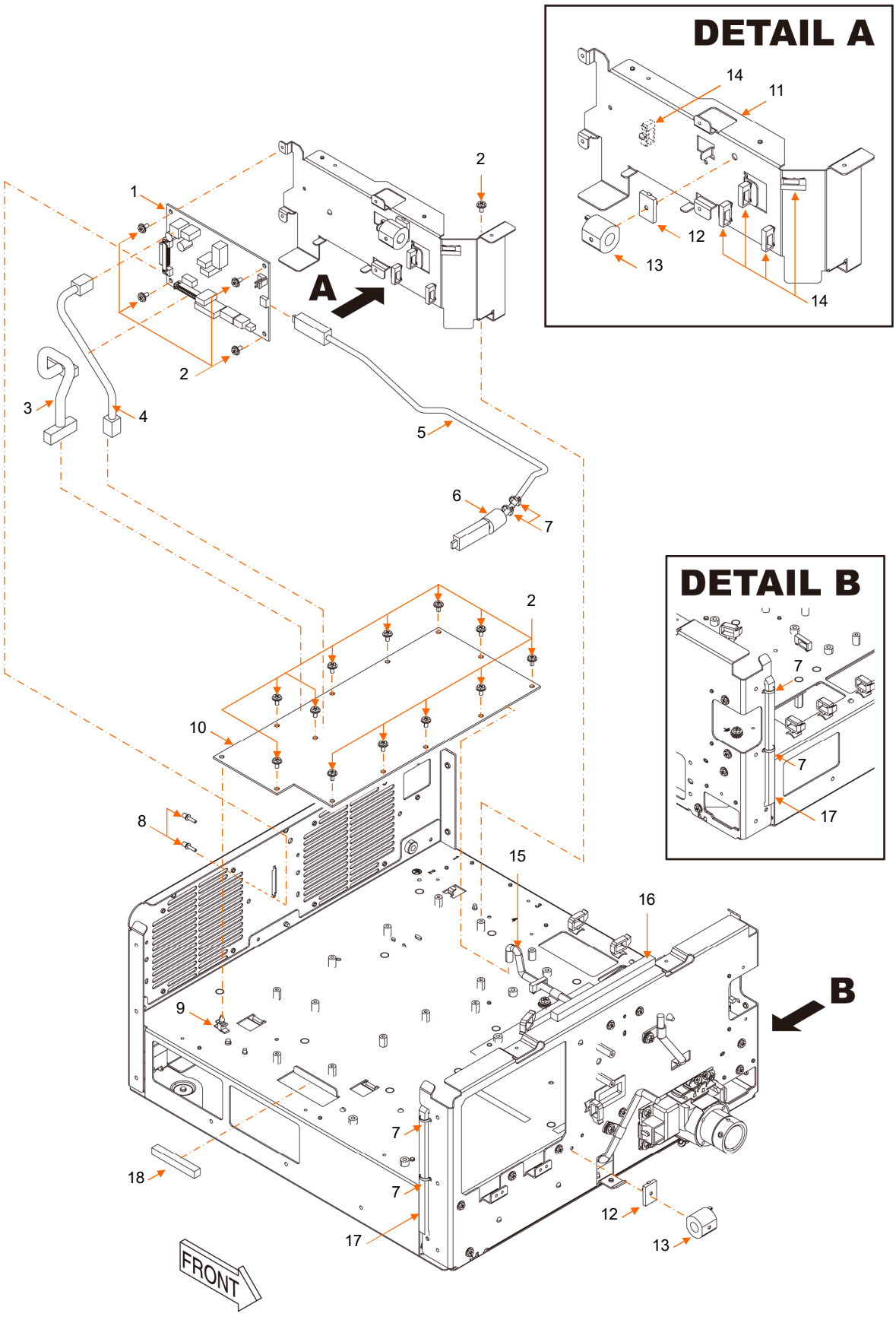

DETAIL A
14
11
12
13
14
1
2
A
2
3
4
5
6
7
DETAIL B
7
7
17
2
10
8
15
16
9
B
7
7
18
12
13
17
FRONT

Fig.04	Parts			
No.	**Part No.**	**Part Name**	**Q'ty**	**Remarks**
1	113Y200242*	WOC PCB	1	
2	308S0414*	Screw	17	
3	136Y200454*	Harness ELC-WOC(Sig)	1	
4	136Y121010*	Harness ELC-WOC(Pow)	1	
5	136Y200455*	Harness WOC-WPD	1	
6	138S0135*	Ferrite Core	1	
7	316S1076*	Band	6	
8	304S0082*	Screw	2	
9	316S0039*	Spacer	1	
10	113Y200119*	ELC PCB	1	
11	356N200870*	Bracket	1	
12	316S0163*	Core Base	2	
13	138S0139*	Ferrite core	2	
14	316S0259*	Clamp	5	
15	136Y121006*	Harness ELC-OP	1	
16	387N120039*	Gasket 8x7x115	1	
17	387N120031*	Gasket 7x4x140	2	
18	386N200069*	Shock absorber	1	

Fig.05

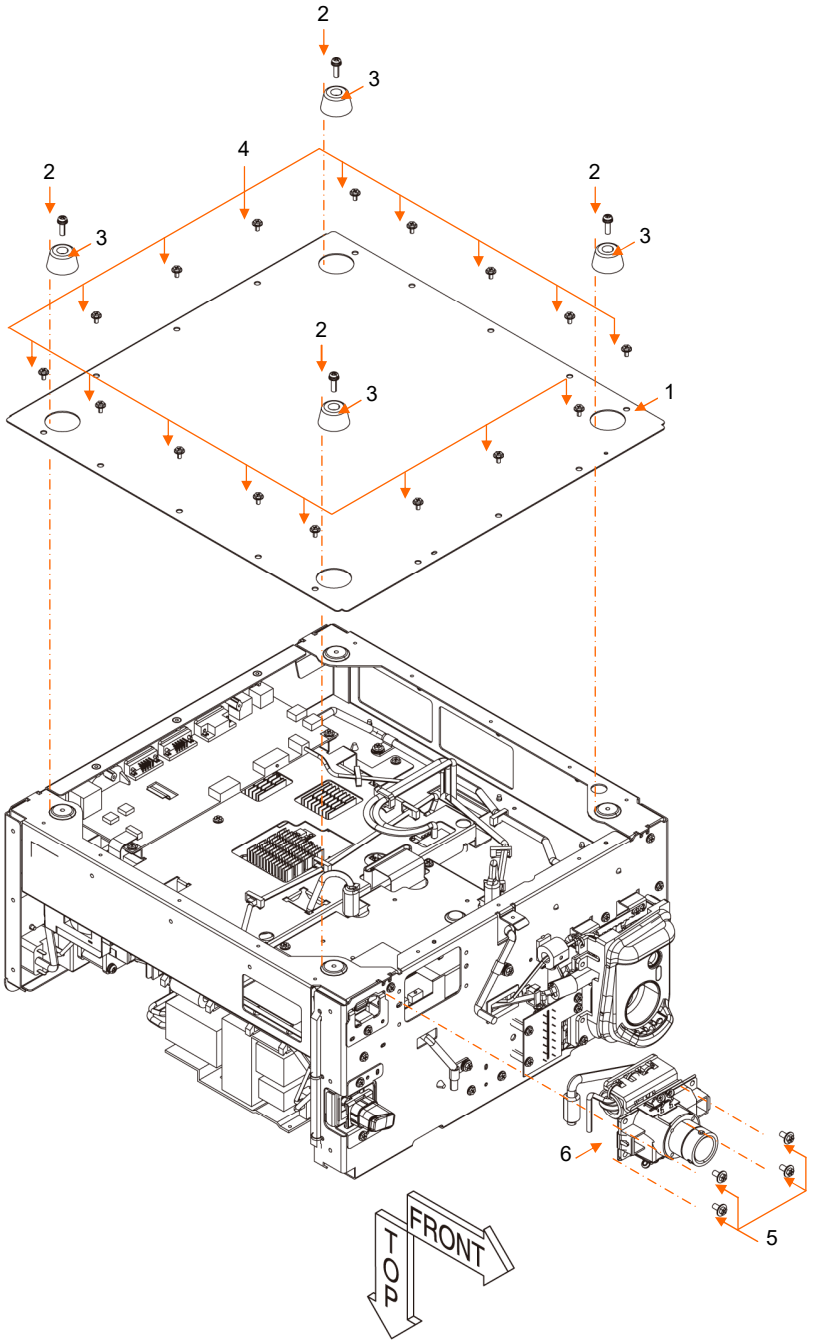


Fig.05	Parts			
No.	Part No.	Part Name	Q'ty	Remarks
1	350N120205*	Bottom Cover	1	
2	280M40147N*	Screw	4	
3	367N120001*	Foot	4	
4	308S0414*	Screw	16	
5	308S0424*	Screw	4	
6	120Y200015*	EVE Connector Assy	1	

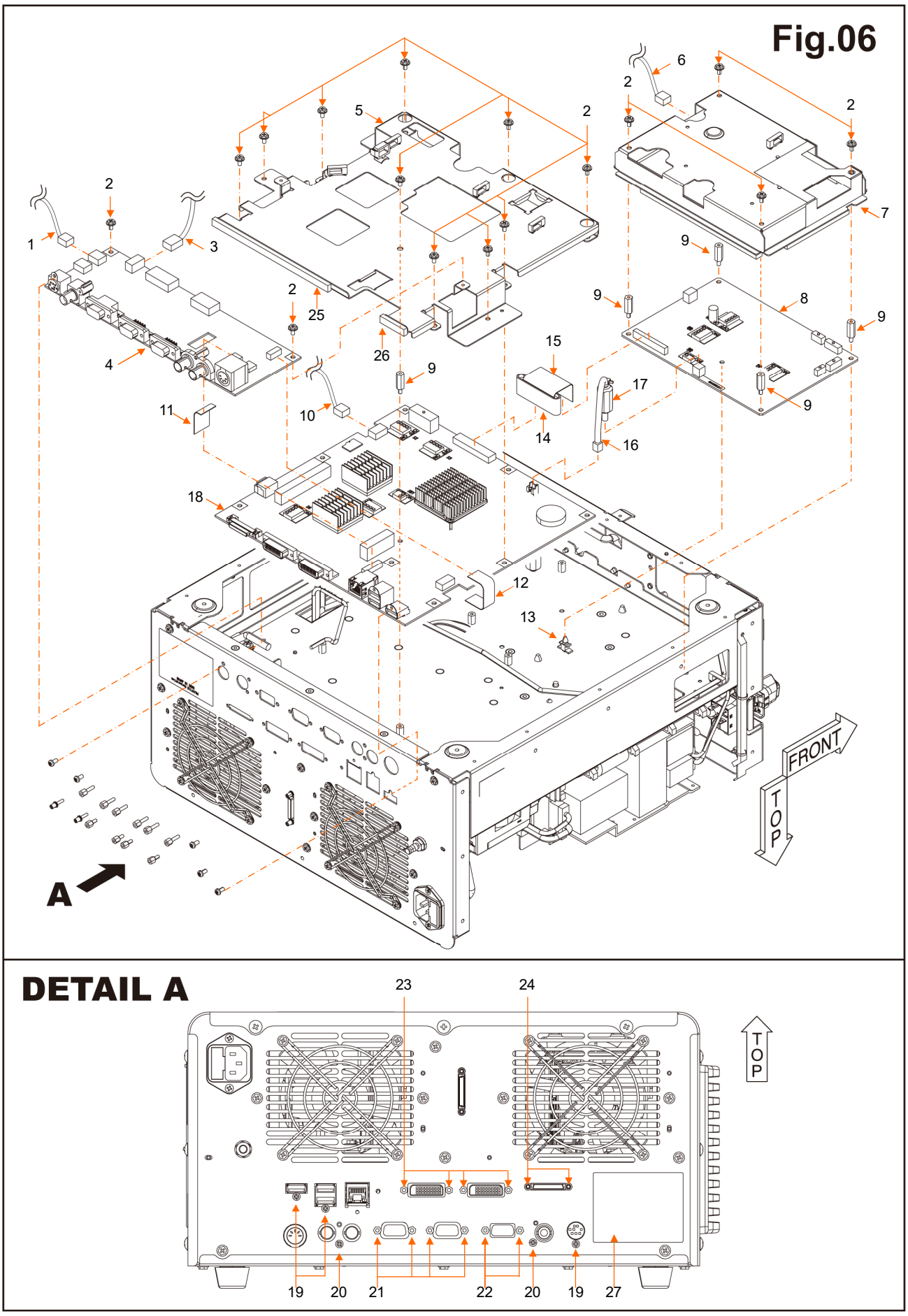
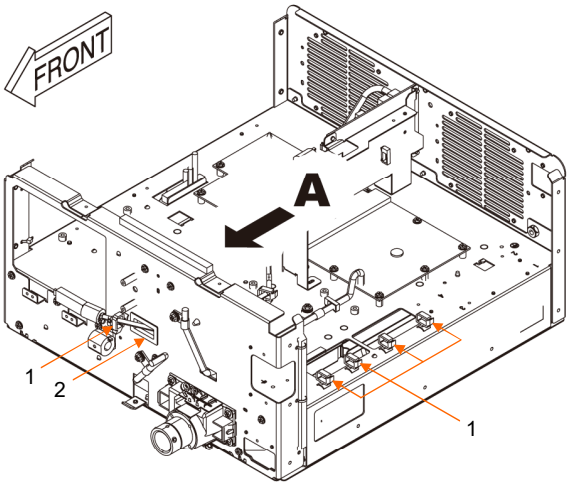
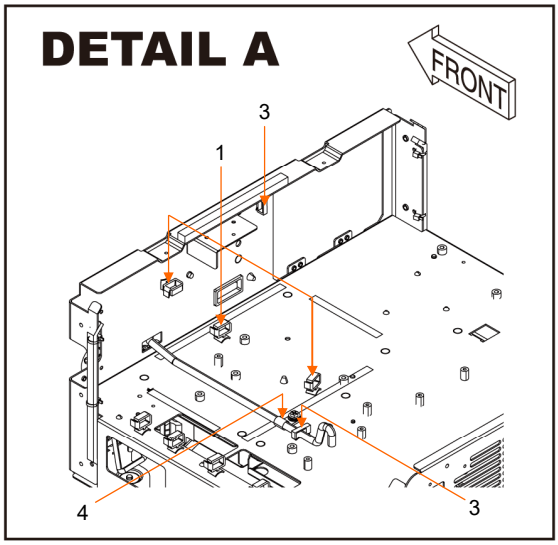
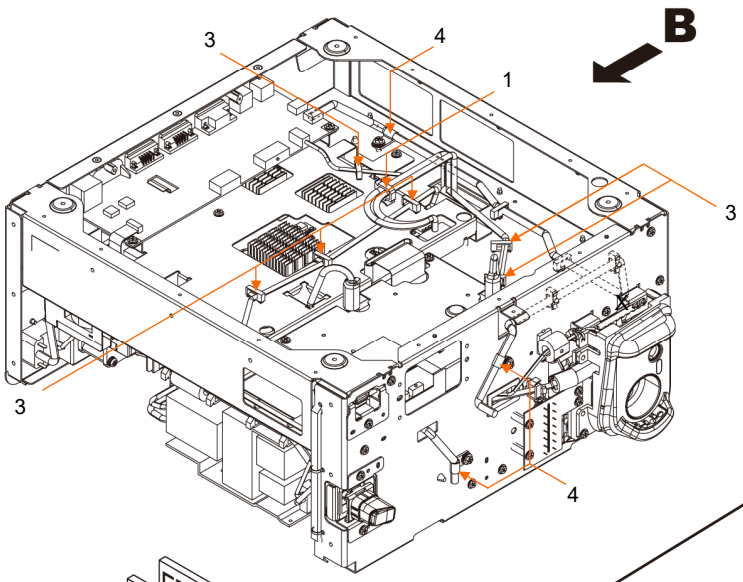

Fig.06
FRONT
TOP
A
DETAIL A
TOP

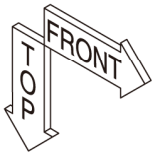
Fig.06	Parts			
No.	**Part No.**	**Part Name**	**Q'ty**	**Remarks**
1	136Y121012*	Harness IOL-OP	1	
2	308S0414*	Screw	16	
3	136Y200452*	Harness ELC-Main/IOL	1	
4	113Y120126*	IO/LORES PCB	1	
5	356N200868*	Bracket	1	
6	136Y200453*	Harness ELC-Patient	1	
7	350Y200051*	Patient PCB Cover Assy	1	
8	113Y200199*	Patient PCB	1	
9	347S0866*	Spacer	5	
10	136Y121013*	Harness Main-USB	1	
11	136Y200663*	FFC Main-IOL(31)	1	
12	136Y200664*	FFC Main-IOL(20)	1	
13	316S0039*	Spacer	1	
14	138S0578*	Ferrite Core	1	
15	136Y200662*	FFC Main-Patient	1	
16	136Y121192*	Harness Main-Patient	1	
17	109S0029*	Ferrite Core	1	
18	113Y200197*	Main PCB	1	
19	110M300600N*	Screw	3	
20	53K112695*	Screw	2	
21	53K100072*	Screw	4	
22	53K122802*	Screw	2	
23	53K129167*	Screw	4	
24	304S0082*	Screw	2	
25	387N120031*	Gasket 7x4x140	1	
26	387N120032*	Gasket 7x4x29	1	
27	-	Label	1	Please conntact FTYO

Fig.07


FRONT
A
1
2
1


DETAIL A
FRONT
3
1
4
3


B
3
4
1
3
3
4


FRONT
TOP

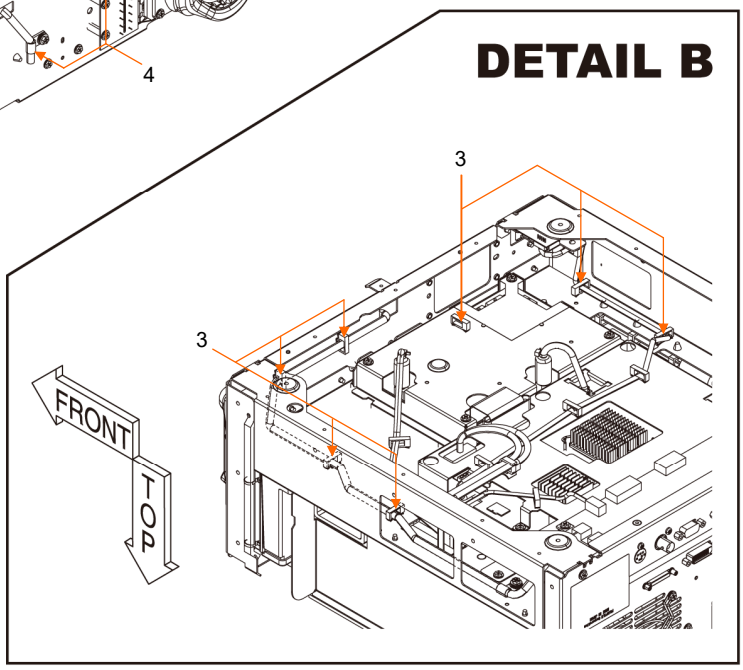

DETAIL B
3
3
FRONT
TOP

Fig.07	Parts			
No.	Part No.	Part Name	Q'ty	Remarks
1	316S1297*	Clamp	8	
2	316S0485*	Clamp	1	
3	316S0259*	Clamp	15	
4	316S1189*	Clamp	4	

Fig.08

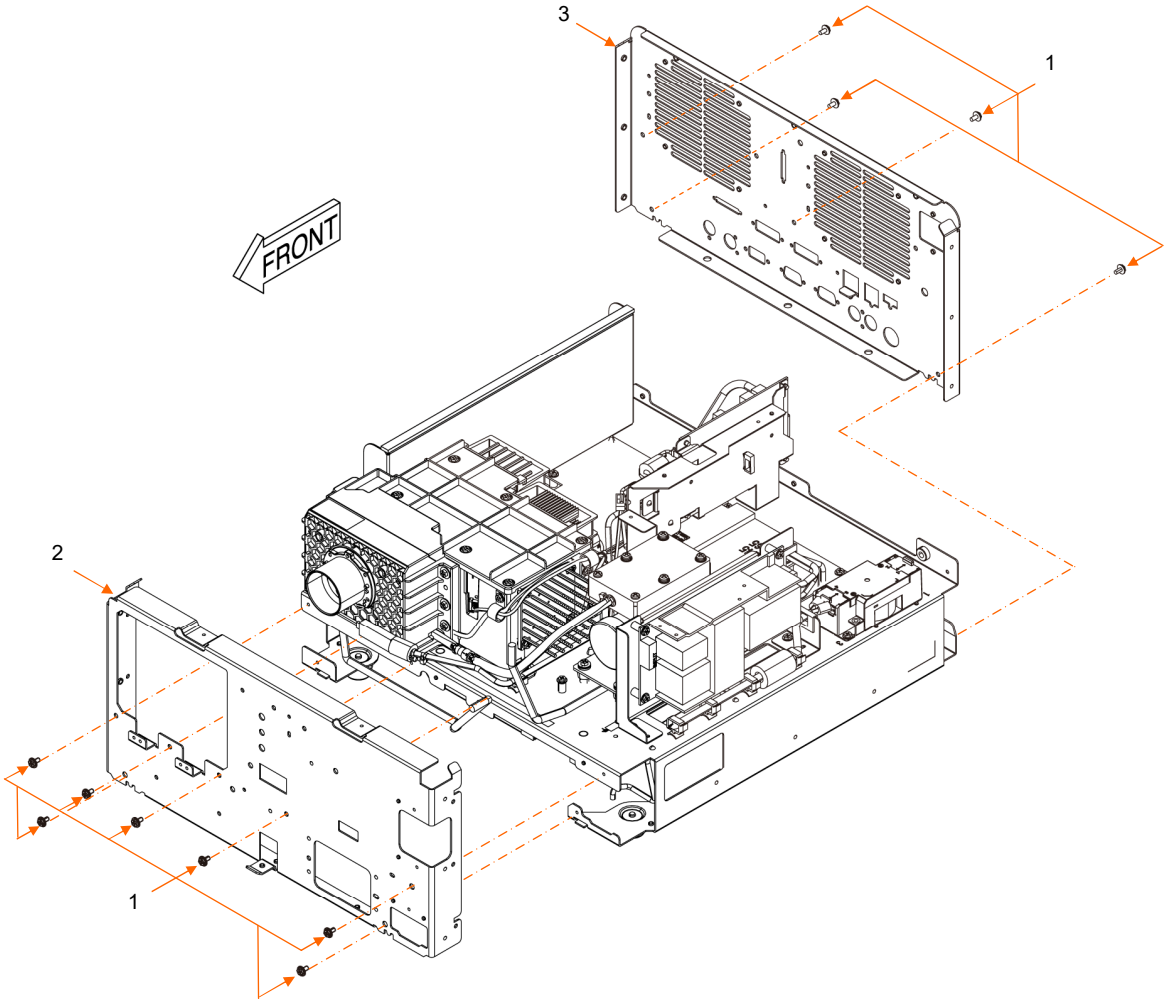
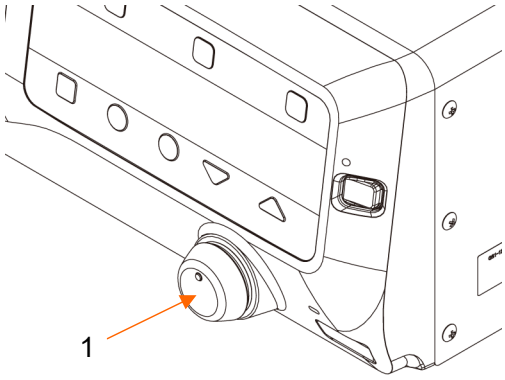
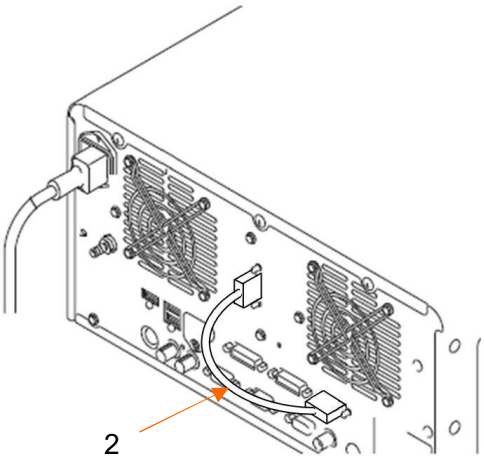
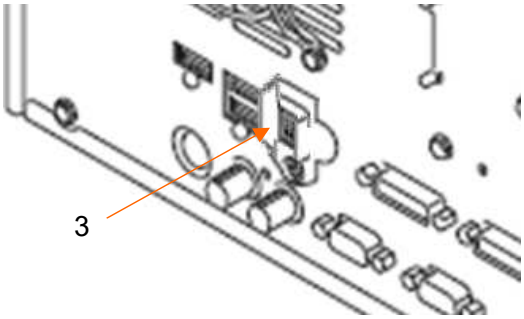


Fig.08	Parts			
No.	**Part No.**	**Part Name**	**Q'ty**	**Remarks**
1	308S0414*	Screw	11	
2	355Y200068*	Front Frame	1	
3	355Y200066*	Rear Panel	1	

Fig.09







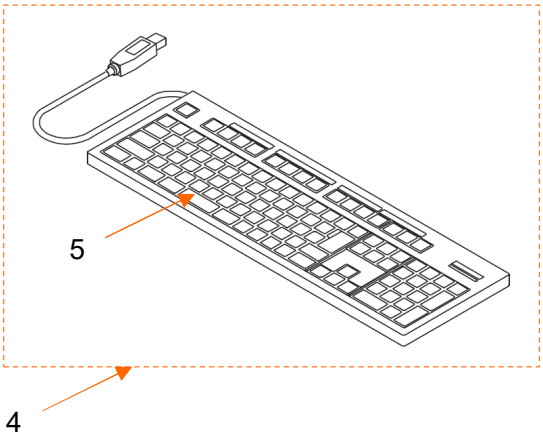


Fig.09	Parts			
No.	**Part No.**	**Part Name**	**Q'ty**	**Remarks**
1	350N120335*	Socket Protection Cap	1	CC-203
2	136Y121092*	WC-LINK Cable	1	
3	350N200360*	LAN Connector Guard	1	
4	128Y200084*	DK-6000	1	For FV696A (English keyboard)
5	59B1113742*	Keyboard Cover	1	

Periodical Maintenance

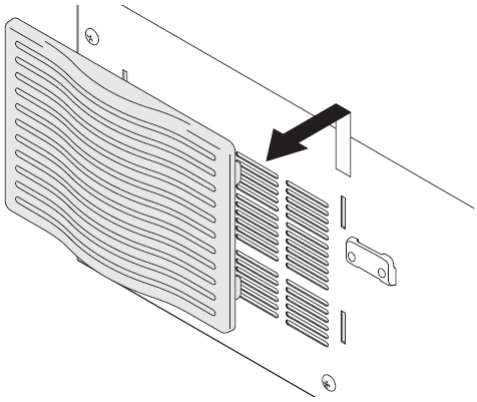
1. Periodical Maintenance

The equipment will wear out and deteriorate after repeated use over a long period.
The equipment is required to be inspected by specialists once every six months .
Also, the equipment is required to be inspected if any problem is found in the equipment.
Receive the request from a medical institution, carry out check.
When receive the request from a medical institution , carry out check .

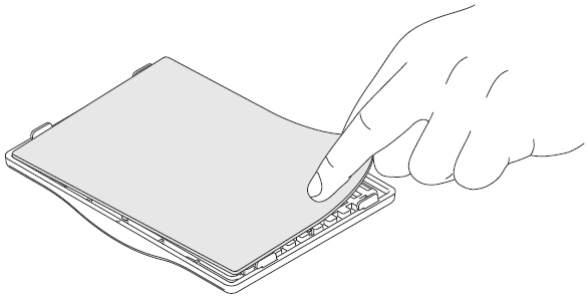
2. Cleaning

2.1 Filter

(1) Remove the louver from this product.

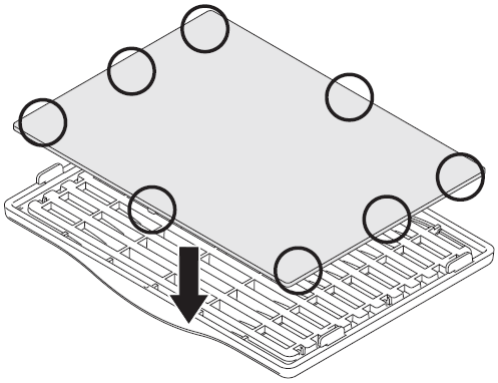


(2) Remove the dustproof filter from the louver.

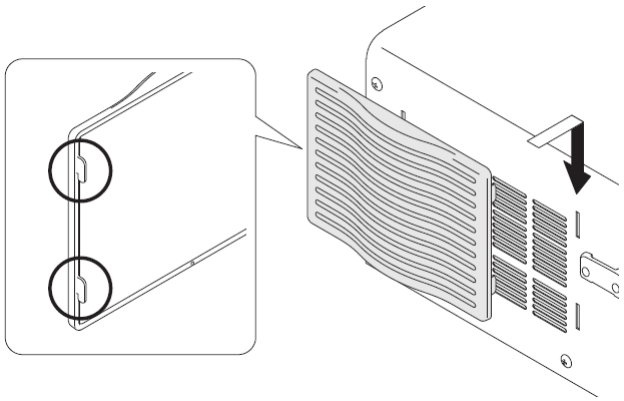


(3) Remove dust from the dustproof filter.

(4) Attach the dustproof filter to the louver. Align the center protrusion of the dustproof filter with the louver.
Align the dustproof filter with the protrusion of the louver, and then push the center protrusion of the dustproof filter into the louver to attach it.



(5) Attach the louver to this product.
Attach the louver by pressing down the hooks of the louver.

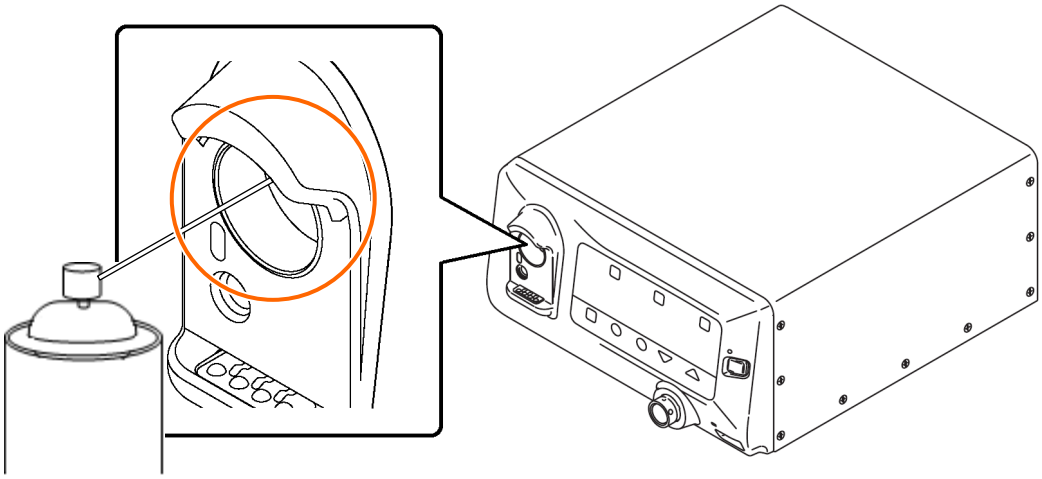


◆Note◆

・ Make sure that the louver is fully inserted into the light source.
Not doing so may cause equipment damage.

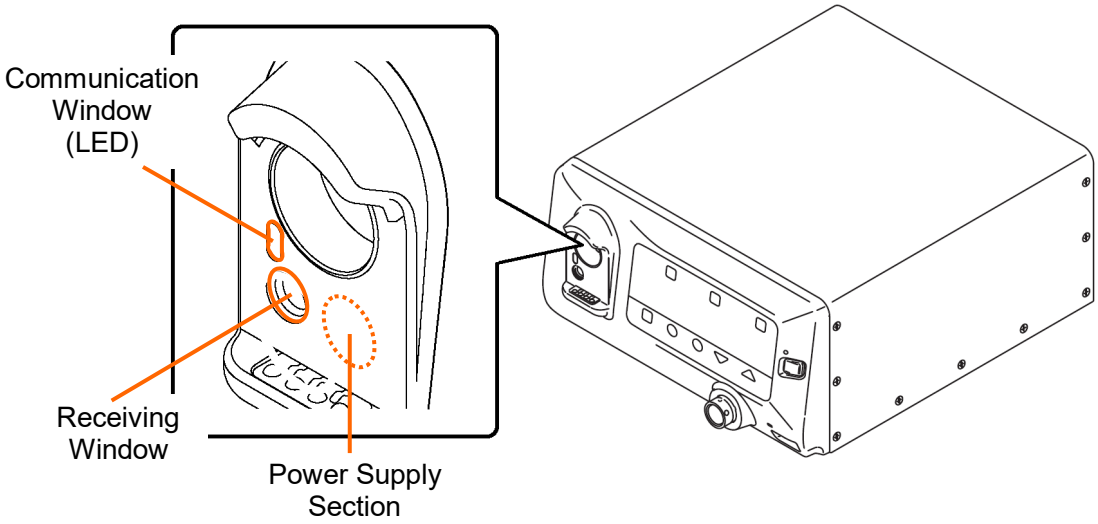
2.2 LG Connector Unit

As dust accumulation may cause insufficient light quantity, remove all dusts with an air duster.



2.3 One Connector Unit

As operational failures may result if the signal transmission area is dirty, wipe it clean with paper or a cotton swab moistened with alcohol.



3. Periodical checkup

3.1 Storing procedures of Config Data

◆Instruction◆

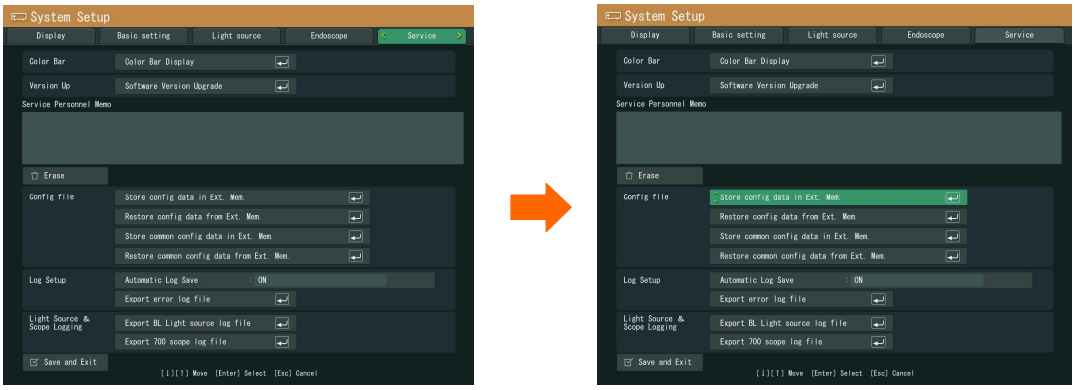
As the device setting may change during inspection work, save the config data into an external memory and restore that config data after the inspection work.

(1) Connect the USB memory on which the config data was stored to EP-6000.

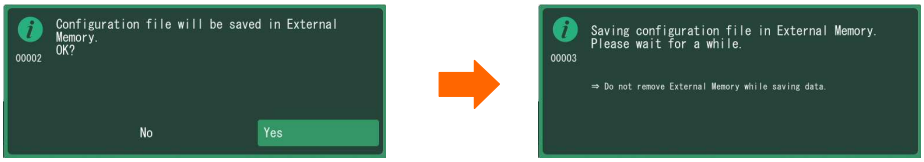
◆Note◆

・ For the external memory, prepare and use EP-6000 dedicated one.
If you use an external memory that performed saving other than in EP-6000, the configuration data may not be correctly saved.

(2) Connect keyboard and the monitor to EP-6000 and turn ON the power.
(3) Press the [Shift] + [Alt] + [System] keys of keyboard to display the system setup menu.
(4) Move the cursor to "Service".
(5) Move the cursor to “Store config data in Ext. Mem” and press the [Enter] key.



(6) The message "Configuration file will be saved in External Memory." appears. Move the cursor to "Yes" and press the [Enter] key.
The message "Saving configuration file in External Memory." appears, and saving the configuration starts.



◆Note◆

・ Do not touch the processor until the message "Saving configuration file is completed" appears.
If you turn off the power while saving config data, configuration file may not properly be saved.

(7) When the message "Saving configuration file is completed" appears, press the [Enter] key to close the menu.



3.2 Inspection Items

*1: Confirm only if used in medical institutions.
*2: As paper is consumed, confirm only if permission is obtained by the medical institution.
*3: Confirm with the scope used at the medical institution or the same model.

3.2.1 Appearance

No.	Inspection items	Inspection specification	How to inspect	Remarks
1	All sides of the equipment	・There is no crack, deformation or irregularity that negatively impacts the function/performance. ・There is no rust or taint that negatively impact the function/performance of electrical connector. ・There is no breakage, deformation on WC-LINK cable terminal. ・Each screw on the rear panel must be fully tightened.	・Check the appearance of front, rear, left/right sides and top of the main unit. ・Check the appearance of the electrical connector. ・Check the appearance of the WC-LINK cable terminal. ・Touch and check each screw on the rear panel by hand.	
2	Specification plate Caution label	・The plate is adhered in the correct position. ・The adhered label is correct.	・Visually check the position of the plate and label, and read the descriptions on them.	
3	FOE label	・The label are adhered in the correct position. ・The adhered label is correct.	・Visually check the position of FOE label, and read the description on it.	
4	Silk printing	・There is nothing lacking and skew on the printing.	・Visually check the printing on the front and rear panel. ・Visually check the information mark.	
5	Fuse	・The T3.15A H250V fuse is mounted.	・Remove the fuse to check the rated value.	

3.2.2 Functions

No.	Inspection items	Inspection specification	How to inspect	Remarks
1	Dustproof Filter	・There is not problem with attaching the dustproof filter. ・The filter is not clogged with dust or the like.	・Remove the dustproof filter to check it.	
2	Attach / detach the electrical connector	・The electrical connector can be smoothly attached and detached.	・Detach and attach the electrical connector to check it.	Jig / Equipment ・500 system scope or 600 system scope

No.	Inspection items	Inspection specification	How to inspect	Remarks
3	Scope connection / disconnection	・The scope can be connected smoothly to the lock position of the scope connector socket.	・Check that the LG connector can be pushed to the lock position of the scope connector socket. ・Check that the scope can be connected smoothly and firmly. * Check this item for 500 system scope or 600 / 700 system scope.・	Jig / Equipment ・500 system scope or 600 system scope ・700 system scope
4	Power button	・The power is surely turned ON and the indicator lights in green when the power button is pressed. ・The power and the indicator lamp is turned OFF when the power button is switch off.	・Connect to the power supplies listed in [Table4] and press the power button to check if the indicator lights up and the power is turned ON. ・Switch off the power button and check if the power and indicator lamp are turned OFF. ・Check if the power button can be operated smoothly.	
5	EXAM button	・The EXAM button and the “STANDBY” lights in orange when the power is turned ON without a scope connected. ・The buzzer sounds when the EXAM button is pressed. ・After connecting a scope and pressing the EXAM button with the EXAM button and the “STANDBY” are lighting in orange: 1) The EXAM button and the “ACTIVE” lights in blue and the “STANDBY” light is turn off. 2) The image is displayed on the screen. ・After holding down the EXAM button for 2 seconds when the image is being displayed, the EXAM button and the “STANDBY” lights in orange, and the image vanishes.	・Press the EXAM button and then visually check the monitor, color of EXAM button, light (color) of the indicator and the image displayed on the screen. ・Press the EXAM button and check if the buzzer sounds.	Jig / Equipment ・Any scope that can be used in combination. *3
6	LIGHT button	・Press the LIGHT button, then the lamp lights up, the LIGHT button and the ON indicator lights in blue. ・Press the LIGHT button again, then the lamp is turned off, the LIGHT button lights in orange and the ON indicator is turned off. ・The rotation speed of the fan is linked to the lamp operation (lights up or not).	・With a scope connected, press the LIGHT button and check that the lamp lights up, the LIGHT button and the ON indicator light in blue. ・Press the LIGHT button again, check that the LIGHT button lights in orange, the ON indicator is turned off. ・Check the rotation speed of the fan works as following: - When the lamp lights up: high-speed rotation - When the lamp turned off: low-speed rotation ・Check that the fans (x2) discharge the air.	Jig / Equipment ・Any scope that can be used in combination. *3

No.	Inspection items	Inspection specification	How to inspect	Remarks
7	Brightness Adjustment button	・The light quantity increases with ▲ button, and decreases with ▼ button. ・With the light quantity changing, the display of the indicator changes (increase or decrease).	・With a scope connected and the lamp lighting up, press the brightness adjustment button to check the operation.	Jig / Equipment ・Any scope that can be used in combination. *3
8	IRIS button	・The LED lamp of its characters lights up. ・The IRIS mode can be switched by pressing the IRIS button. AUTO/PEAK/AVE ・As the IRIS button is pressed, the display of IRIS mode on the monitor and on the front panel change.	・Turn ON the power and check the LED lights up on the front panel. ・Take a image of a high-reflection object by a scope and press the IRIS button, check that the brightness of the image decreases (become darker) when switching to PEAK mode.	Jig / Equipment ・Any scope that can be used in combination. *3
9	MULTI button	・The indicator lights up. ・The functions set to the MULT button operate.	・Turn ON the power, check the function set in the Multi Button in the system setup menu. ・Press the MULTI button, check the indicator lights up and the function which has been set operates. ・Press the MULTI button again, and check that the indicator returns.	Jig / Equipment ・Any scope that can be used in combination. *3
10	LIGHT MODE button	・The light mode can be switched by operating the LIGHT MODE button.	・Press the LIGHT MODE button one time, check that the [1] lights up and the display is switched to BLI mode. ・Press the LIGHT MODE button one more time, check that the [2] lights up and the display is switched to BLI-bright mode. ・Press the LIGHT MODE button one more time, check that the [3] lights up and the display is switched to LCI mode. ・Press the LIGHT MODE button one more time, check that the light of [1][2][3] is turned off and the display returns to normal observation mode.	Jig / Equipment ・700 system scope *3
11	S video connector output	・Signals must be correctly output to S video output and the image of endoscope and its data must be correctly displayed. 1) The image display is stable without blinking. 2) There is no significant noise, color deviation, blurring. 3) No hunting.	・Connect the S video output to the monitor, check the image of the color chart on the monitor.	*1 Jig / Equipment ・Any scope that can be used in combination. *3

No.	Inspection items	Inspection specification	How to inspect	Remarks
12	Video connector output	・Signals must be correctly output to video output and the image of endoscope and its data must be correctly displayed. 1) The image display is stable without blinking. 2) There is no significant noise, color deviation, blurring. 3) No hunting.	・Connect the video output to the monitor, check the image of the color chart on the monitor.	*1 Jig / Equipment ・Any scope that can be used in combination. *3
13	RGB TV connector output	・Signals must be correctly output to RGB TV output and the image of endoscope and its data must be correctly displayed. 1) The image display is stable without blinking. 2) There is no significant noise, color deviation, blurring. 3) No hunting.	・Connect the RGB TV output to the monitor, check the image of the color chart on the monitor.	*1 Jig / Equipment ・Any scope that can be used in combination. *3
14	DVI-D connector output	・Signals must be correctly output to DVI-D output and the image of endoscope and its data must be correctly displayed. 1) The image display is stable without blinking. 2) There is no significant noise, color deviation, blurring. 3) No hunting.	・Connect the DVI-D output to the monitor, display and check the image of the color chart with SXGA and full HD respectively on the monitor. SXGA : 1280×1024 60p Full HD : 1920×1080 60p ・Pull and twist the electrical connector (500/600 system scope), LG connector (700 system scope) and check if there is any abnormality on the image. * Check with each scope listed at the right side.	*1 Jig / Equipment ・530 honeycomb scope *3 ・580 series scope *3 ・600 system scope *3 ・760 series scope *3 ・740 series scope *3 ・720 series scope *3
15	FICE	・FICE is functioning.	・Press the FICE button on the keyboard to turn the function ON. ・See the image from the scope and select 0, 1, 8 in order with numeric keypad, check the image color change and return to 0. ・Turn FICE off.	Jig / Equipment ・Any scope that can be used in combination. *3
16	Digital printer connector	・Signals must be correctly output to the digital printer terminal.	・Connect the digital printer with a USB cable, and check if the error is detected when running out of paper.	*1,*2 Jig / Equipment ・UP-D25MD or CP-900D-F
17	Keyboard connector	・The connector can be connected/disconnected smoothly. ・The menu can be operated with keyboard.	・Connect the DK-6000, and retrieve the maintenance menu.	Jig / Equipment ・DK-6000
18	RS-232C connector 1, 2	・The signals are output correctly to the RS-232C connector 1, 2.	・Connect a peripheral device with RS-232C cable, and check if you can properly control it.	*1,*2 Jig / Equipment ・UP-55MD etc.

No.	Inspection items	Inspection specification	How to inspect	Remarks
19	Network connector	・The signals are output correctly to the network connector.	・Connect a PC for communication checking with a LAN cable, and check the contents of communication.	*1 Jig / Equipment ・PC for checking the network
20	Remote connector 1, 2	・The remote output is correctly output.	・Connect a peripheral device or a jig to the remote connector, and check the remote signals are output by operating them.	*1,*2 Jig / Equipment ・Remote connection device
21	Foot switch connector	・The signals from the foot switch are correctly input.	・Connect and press the foot switch, check if functions assigned to the foot switch works properly.	*1 Jig / Equipment ・FS-1
22	Electronic magnification level (cursor)	・An image is magnified electronically by 0.05 times every time the up-arrow key is pressed. ・The magnified image returns to the original size by pressing the down-arrow key.	・With a scope connected, check electronic magnification by pressing the up-arrow & down-arrow keys.	Jig / Equipment ・Any scope that can be used in combination. *3
23	Attach / detach external memory	・External memory be attached & detached smoothly. ・When USB memory is attached, the indicator of the external memory turns green.	・Check it by attaching and detaching an external memory. ・Check that the indicator on the front cover lights in green when an external memory is attached.	Jig / Equipment ・External memory
24	Recording to memory	・While the writing is being processed, the indicator flashes in orange color. ・For external memory and embedded memory, Images can be correctly recorded and read out.	・Connect USB memory and a scope, and turn ON the power. Take in the images from the USB memory to the embedded memory. Hold down the EXAM button 2 seconds to turn the scope OFF. Press the “Search” key and input a search condition. Move the cursor to the image list number, and press “C” to copy it to an external memory. At this time, check the indicator on the front cover flashes in orange. ・Press the “Search” key and input the date on which the images taken in for searching. Move the cursor to the image list number and press the “Enter” key, check if the thumbnail displays the right image. Press “Esc” to exit the window after the inspection is completed.	*1 When recording still images in freeze mode, check that the sub screen is displayed as a video image and the main screen is a still image. Jig / Equipment ・Any scope that can be used in combination. *3 ・External memory

No.	Inspection items	Inspection specification	How to inspect	Remarks
25	LG detection sensor	・When there is no scope connected, the lamp does not light up.	・When no scope is connected, press the LIGHT button to check that the lamp does not light up. ・Remove the scope connector socket when “ACTIVE” and the lamp are lighting-up, then check the following changes. 1) “ACTIVE” becomes “STANDBY”. 2) The lamp is turned off.	Jig / Equipment ・700 system scope 3
26	Brightness adjustment	・The brightness can be adjusted correctly. ・The light limit functions properly.	・Check that the indicator display changes from the minimum to the maximum according to object type and the distance to object. Also make sure the brightness of the displayed image can be controlled in a certain range and the response time is within 1 second. ・Assign a light limit to the MULTI button and press the MULTI button, then check the indicator lights up and “L-Limit” is displayed on the screen. ・Connect a scope to let the lamp light up, and check the scale marks of the indicator light up no more than 7. ・Press the MULTI button again, check that the display of “L-Limit” disappears, and the brightness and the indicator status revert to the first. ・Revert the function assignment of MULTI button.	Jig / Equipment ・700 system scope *3
27	Maximum output light quantity	・Confirm the output light quantity from the light source in the normal observation mode Reference：About 192unit4	・Connect a 700 system scope to the scope socket and press the EXAM button to set the status to ACTIVE. ・Turn OFF the pump. ・Press the EXAM button to set the status to STANDBY, remove the scope and connect the light measurement jig.	Jig / Equipment ・Y11N0362
28	PUMP button	・By pressing the PUMP button, the air supply lamp is switched in order as: “H” → “M” → “L” → OFF	・Press the PUMP button and check if the air supply lamp is switched.	
29	Pump air supply pressure	・Confirm that the pump air pressure are within the specifications. Standard： H：50±10kPa	・Measure the air supply pressure with the measurement jig. * Perform the measurement after 10 minutes since the power has been turned ON.	Jig / Equipment ・JA5015

No.	Inspection items	Inspection specification	How to inspect	Remarks
30	Air guide connection	・No air leakage around the connection between the rubber seal of scope socket and the LG connector air guide.	・Set the air supply pressure/volume measurement jig on the scope socket, press the PUMP button to switch the pump to “H”, and turn the jig in both clockwise and anticlockwise direction to check that the pressure decreases within 5kPa. ・Turn OFF the pump and check the pressure does not go down to zero within 5 seconds.	Jig / Equipment ・JA5015
31	Software version	Can be confirmed as reference information.	・Display the system information and check the system version.	
32	Keyboard	Correct input can be done with keyboard.	・Connect the keyboard to the processor, and check if the key input can be correctly done.	

3.3 Check Sheet

Management No.	
Model Name	EP-6000
Serial No.	
Inspection Day	/ /

Inspector	Authorizer

Judgment
Passed ・ Reject.

Appearance	
1. All sides of the equipment	OK ・ NG
2. Specification plate / Caution label	OK ・ NG
3. FOE label	OK ・ NG
4. Silk printing	OK ・ NG
5. Fuse T3.15A H250V	OK ・ NG

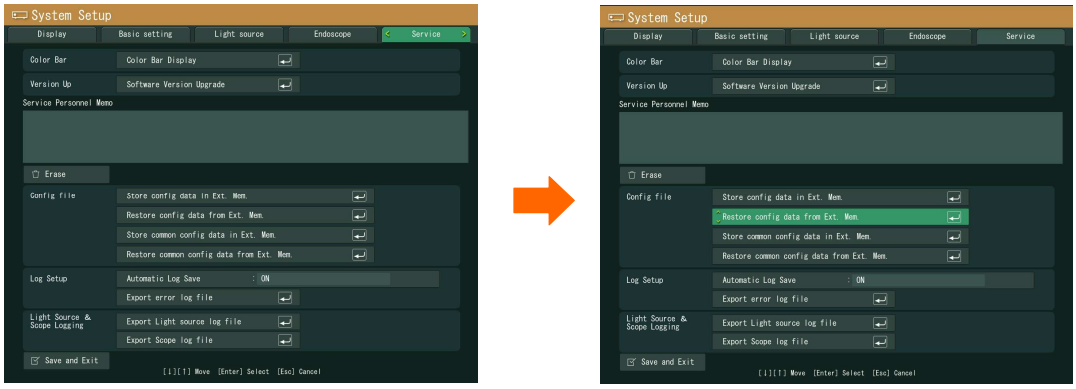
Functions	
1. Dustproof Filter	OK ・ NG
2. To attach & detach electrical connector	OK ・ NG
3. Scope connection/disconnection -22N～-43N	OK ・ NG
4. Power button	OK ・ NG
5. EXAM. button	OK ・ NG
6. Light button	OK ・ NG
7. Brightness Adjustment Button	OK ・ NG
8. Iris button	OK ・ NG
9. Multi button	OK ・ NG
10.Light mode button	OK ・ NG
11. S video connector output	OK ・ NG
12. Video connector output	OK ・ NG
13. RGB TV connector output	OK ・ NG
14. DVI-D connector output	OK ・ NG
15.FICE	OK ・ NG
16. Digital printer connector	OK ・ NG
17. Keyboard connector	OK ・ NG
18.RS-232C connector 1 / 2	OK ・ NG
19. Network connector	OK ・ NG
20. Remote connector 1 / 2	OK ・ NG
21. Foot switch connector	OK ・ NG
22. Electronic magnification level (cursor)	OK ・ NG
23. To attach & detach external memory	OK ・ NG
24. Recording to memory	OK ・ NG
25. LG detection sensor	OK ・ NG
26. Brightness Adjustment	OK ・ NG
27. Maximum output light quantity About 192unit4	unit4
28.PUMP button	
29. Pump air supply pressure Pressure 50±10kPa	kPa
30. Air guide connection	OK ・ NG
31. Software Ver.	
32. Keyboard	OK ・ NG

Special notes

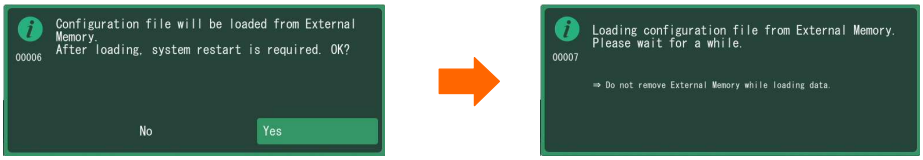
Write down prescribed particulars special notes for NG

3.4 Restoring procedures of Config Data

(1) Connect the USB memory on which config data was stored to EP-6000.
(2) Connect keyboard and the monitor to EP-6000 and turn ON the power.
(3) Press the [Shift] + [Alt] + [System] keys of keyboard and input pass word to display the system setup menu.
(4) Move the cursor to "Service " by using [←][→].
(5) Move the cursor to “Restore config Data from Ext. Mem.” by using [↑][↓] and press [Enter].



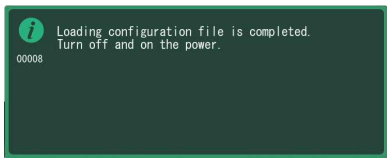
(6) The message "Configuration file will be loaded from External Memory." appears.
Move the cursor to "Yes" and press the [Enter] key.
"Loading configuration file from External Memory." appears, and saving the configuration starts.



Caution

It takes about 1 minute to restore config data.
Do not touch the processor until the message "Loading configuration file is completed" appears.
When power is turned off during restoration of config data, setting change fails and the device does not function normally.

(7) When the message "Loading configuration file is completed." appears, turn OFF/ON the power.



Installation

1. System Installation

WARNING

- If any peripherals not described in EP-6000 Operation Manual "2.2 Equipment Using in Combination" are used, this product may not function properly, and electric shock, equipment damage, or injury to patients or physicians may occur.
- If the power cords of the peripherals are connected without using the insulation transformer on the cart, the enclosure leakage current may increase, posing a risk of injury or electric shock to the patient and/or the physician when he/she comes into contact with those devices.
- When using a network, insert an EN 60601-1-compliant separator between the LAN cable, which connects the devices, and the network system. If such a separator is not used, the enclosure leakage current may increase due to the current being leaked from the connected network system or due to the electric potential difference between grounds.
  This may pose a risk of injury or electric shock to the patient and/or the physician when he/she comes into contact with the devices.
- This product conforms to the EMC standard (EN 60601-1-2: 2015). However, the radio waves radiated form this product may cause medical devices such as a pacemaker to malfunction. When this product is used for a patient with an active implantable medical device, consult a cardiovascular specialist and the manufacturer of the active implantable medical device.
- Use the rated voltage only. Not doing so may cause a fire or electric shock.
- Connect the power plug directly to the protective earth receptacle. Use peripherals that are compliant with the medical safety standards. Not doing so may cause an electric shock.
- Do not use the equipment in atmosphere of flammable gas and oxygen-rich environment. Doing so may cause explosion or fire.
- Do not simultaneously touch the patient and any of the system devices in the patient environment. Doing so may cause electric shock.
- If the power cords of the peripherals are connected without using the insulation transformer on the cart, the enclosure leakage current may increase, posing a risk of injury or electric shock to the patient and/or the physician when he/she comes into contact with those devices.

CAUTION

- Configure the ME system in accordance with the maximum allowable current of the power strip to be used.
- If a peripheral is used, connect it to a receptacle via an insulating transformer.
  Connect peripherals in accordance with the specification of the insulating transformer.
- Use the multi-tap installed in the cart only for the equipment used for this system. If it is used for other equipment, the current capacity may increase and the equipment may not operate properly.
- There are ventilation holes on the left and rear side of this product. Take care not to cover them with other objects.
- Use the rated voltage only. Not doing so may cause a fire, electric shock or malfunction.
- Install equipment in a location in which the power cord or connected endoscope will not become entangled. Equipment may fall over or down, the screen may go black, or the patient or operator may be injured.

◆NOTE◆

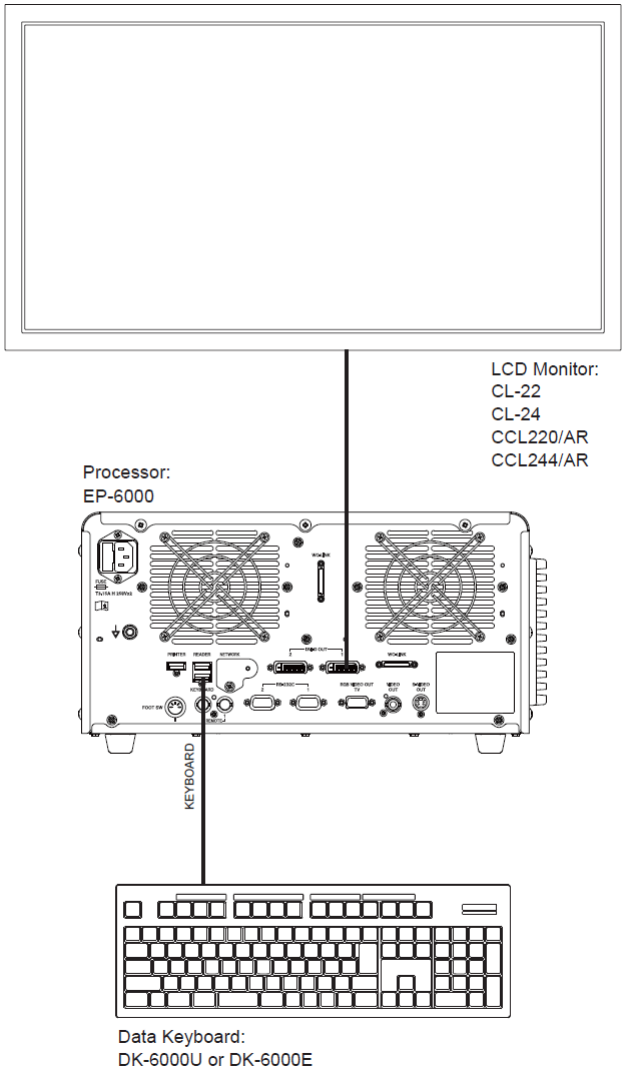
- Adjust the position of the movable shelf of the cart depending on your system.
- Install the equipment on a level location free from vibration and shock. The equipment may tip over and be damaged.
- Secure the LCD monitor to the cart. The LCD monitor may fall off.
- For the DVI cable connecting the LCD monitor to the processor, use either the cable that comes with the monitor or one of 5m or less based on the DVI standards. Otherwise, images may not be displayed properly.
- Do not block ventilation holes. Doing so may cause overheat on equipment.
- Connect the power plugs of the processor directly into the receptacles for the processor and light source on the cart.
- When a peripheral for system expansion is installed, restart the processor.
- Do not bump or strongly shock the power connector of the endoscope.
  Install the processor so that the scope connector or LG connector of the endoscope connected to the light source is not bumped or strongly shocked by surrounding objects. When operating an electric bed or similar device, avoid hitting it against the scope connector or LG connector of the endoscope connected to the light source.
  There is a risk of damaging the endoscope or processor.

1.1 Installation Flowchart

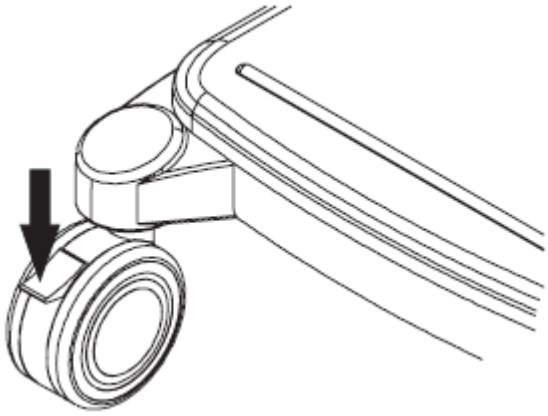
The installation flowchart of this product is shown below. Refer to each section by following this flowchart.

1	Installing this product onto the cart	“1.2 Installation onto the Cart (Standard System Installation Example)”
2	Connecting the WC-LINK cable	“.1.3 Connecting the WC-LINK cable”
3	Attaching the dustproof filter to this product	“1.4 Attaching the Dustproof Filter (Louver)”
4	Connecting this product and the LCD monitor	“1.5 Connecting the Monitor”
5	Connecting this product and the keyboard	“1.6 Connecting the Keyboard”
6	Connecting peripherals when necessary	“1.7 Installation for System Expansion” “1.8 Printer Connection (Remote System)” “1.9 Printer Connection (RS-232C System)” “1.10 Digital Printer Connection” “1.11 Video Recorder Connection (Remote System)”
7	Connecting the equipment to the power supply	“1.12 Connecting the Power Source”

1.2 Installation onto the Cart (Standard System Installation Example)



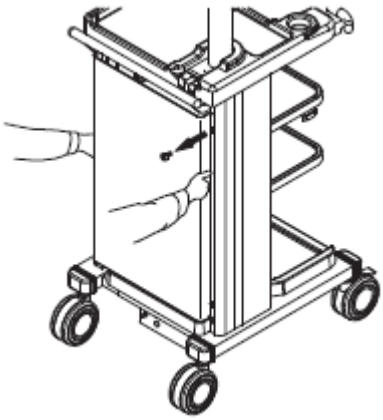
(1) Lock the casters of the cart.



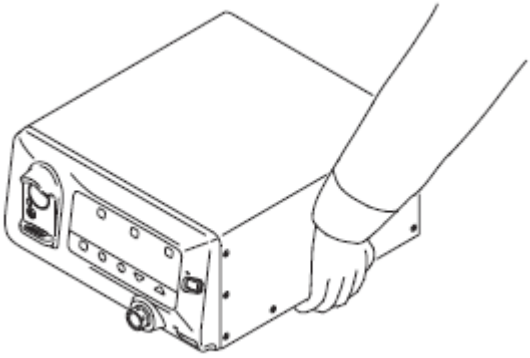
(2) Remove two screws on the rear panel of the cart to take off the rear cover.

◆Note◆

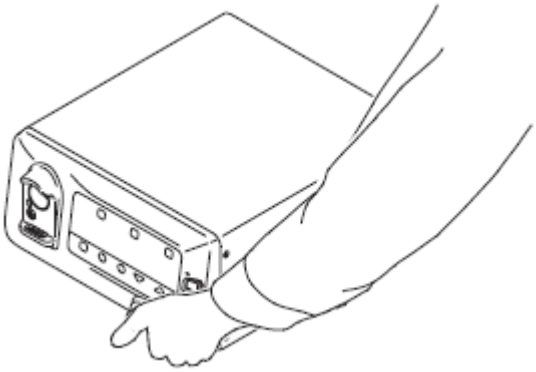
When all the installation work is completed, reinstall the rear cover of the cart.



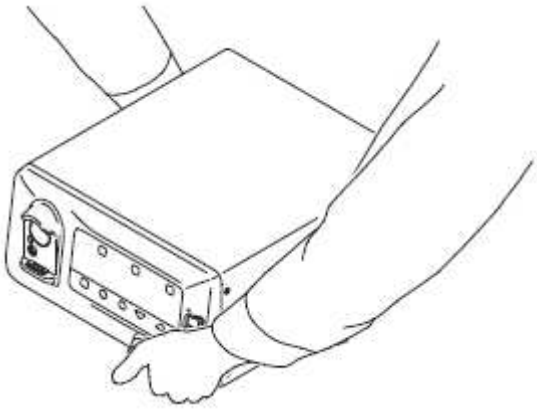
(3) Place your hand on the bottom surface of this product and lift one side up.



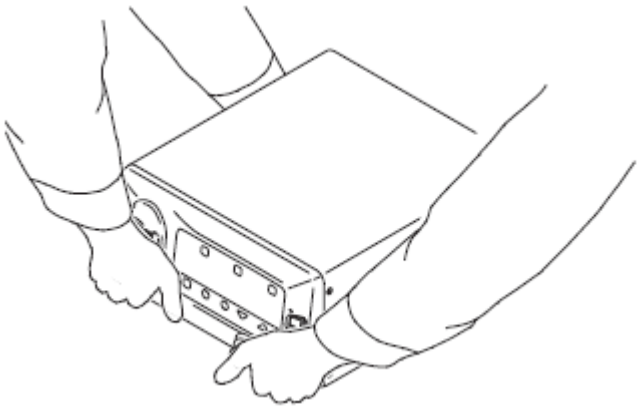
(4) While lifting the bottom up, place the other hand under the bottom of the front panel.



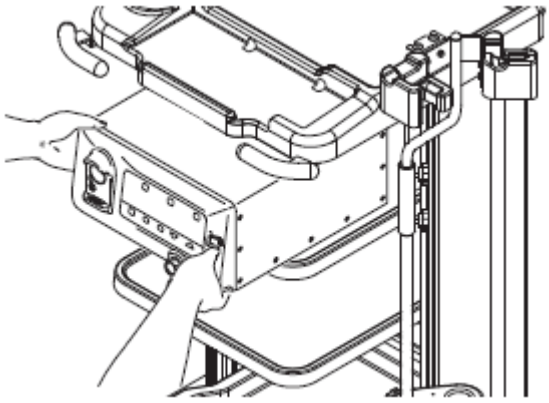
(5) While lifting the bottom up, place the other hand under the bottom of the front panel.



(6) Hold the unit steadily using two persons.

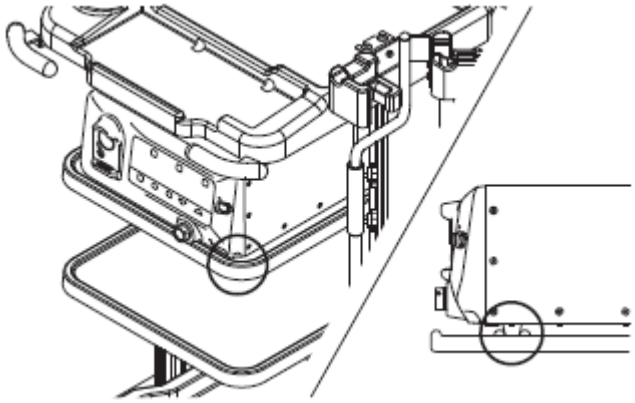


(7) Place this product onto the shelf of the cart.

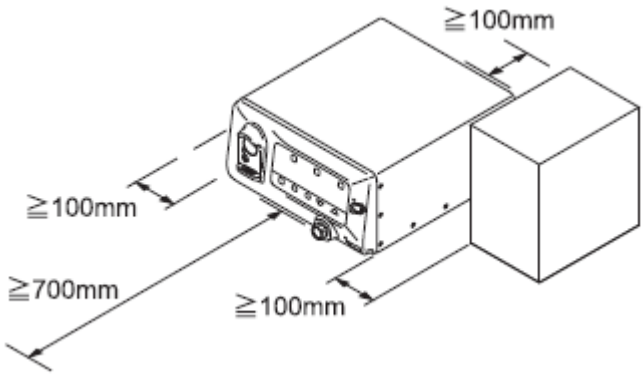


◆Note◆

・ To prevent falls, make sure that the feet of this product are placed inside the stoppers of the shelf.



(8) When installing, leave a gap of 100 mm or more between the side and rear surfaces of this product and the wall and 700 mm between the front surface and the wall.



※Use this product in combination with the devices necessary for endoscopic examinations.

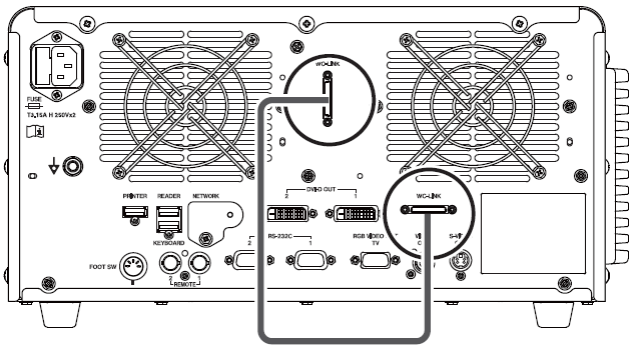
◆Note◆

・ After all devices are connected, connect the power cord.
→“1.12 Connecting the Power Source”

1.3 Connecting the WC-LINK cable

Connect the WC-LINK cable to the WC-LINK terminal.

Processor:
EP-6000



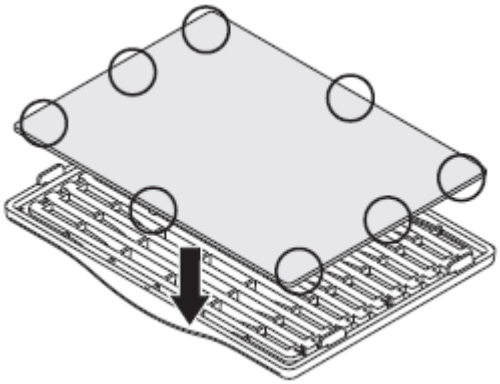
◆Note◆

- After all devices are connected, connect the power cord.
  →“1.12 Connecting the Power Source”

1.4 Attaching the Dustproof Filter (Louver)

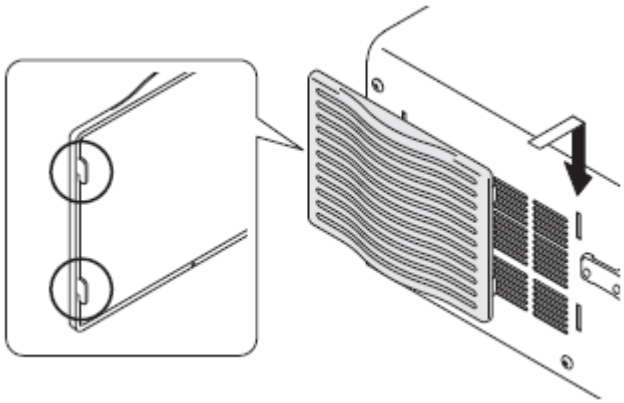
(1) Attach the dustproof filter to the louver. Align the center protrusion of the dustproof filter with the louver.

Align the dustproof filter with the protrusion of the louver, and then push the center protrusion of the dustproof filter into the louver to attach it.



(2) Attach the louver to this product.

Make sure that the louver is fully inserted into this product. Not doing so may cause equipment damage.



1.5 Connecting the Monitor

Use the cable belonging to the LCD monitor to connect the DVI-D terminal of this product and the input terminal of the LCD monitor.

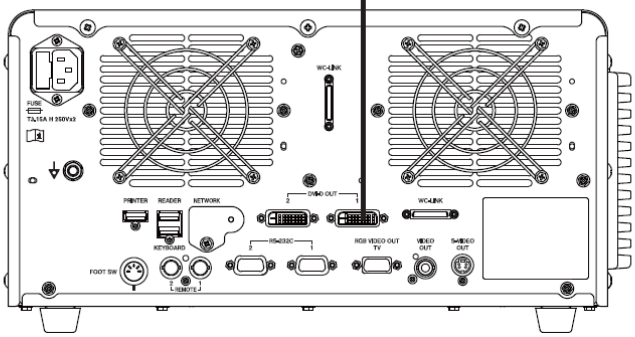
◆Note◆

- For details on how to install the LCD monitor onto the monitor arm of the cart, refer to the operation manual of the cart.

CL-22
CL-24
CCL220/AR
CCL244/AR



Processor:
EP-6000



◆Note◆

- After all devices are connected, connect the power cord.
  →“1.12 Connecting the Power Source”

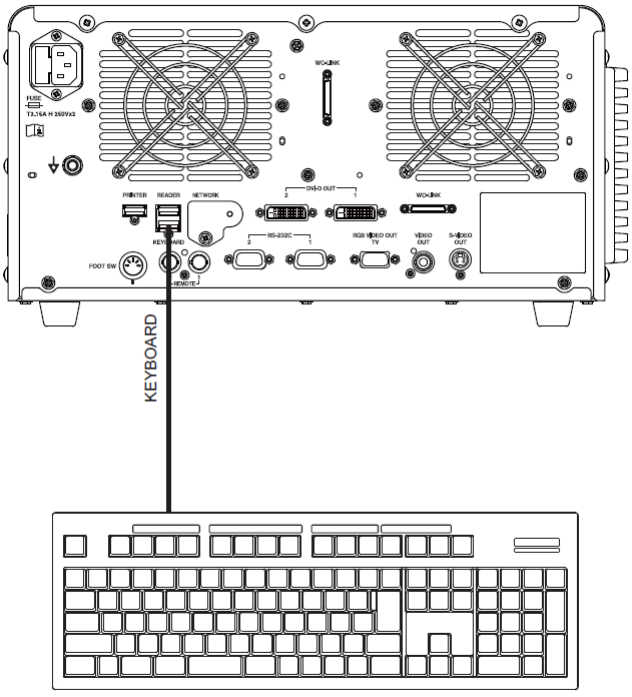
1.6 Connecting the Keyboard

Connect the cable of the data keyboard to the keyboard terminal of this product.

◆Note◆

- The type of the data keyboard varies depending on the country.
- For details on how to install the keyboard onto the keyboard tray of the cart, refer to the operation manual of the cart.

Processor:
EP-6000



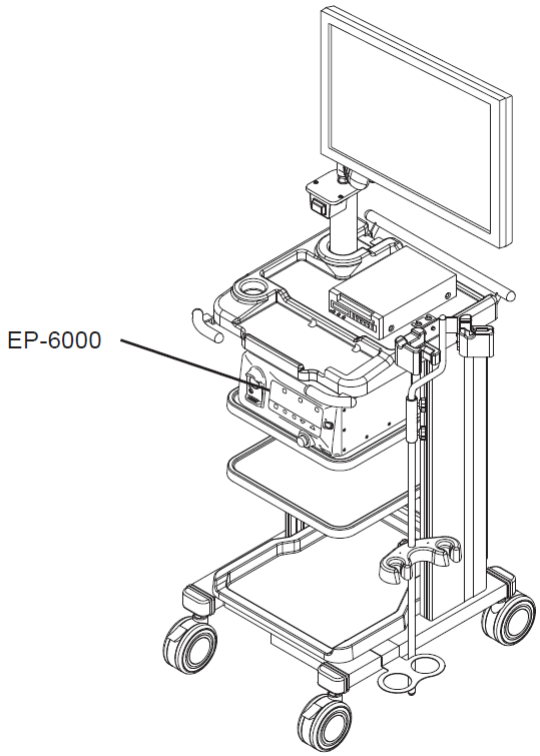
Data Keyboard:
DK-6000U or DK-6000E

◆Note◆

- After all devices are connected, connect the power cord.
  →“1.12 Connecting the Power Source”

1.7 Installation for System Expansion

This system can be expanded by adding other peripherals to the standard system.
The image below is an example of the expanded system in which a printer and video recorder are mounted.



Example of Installation

WARNING

- **When mounting peripherals on the cart, observe the following precautions.**

<To avoid electric shock>

- **Connect the power plugs of this product directly to the receptacles for the processor/light source on the cart.**
- **Never connect the power source of an electrosurgical unit to the cart.**
- **Never connect the power source of this product to a power cord that has been placed on the floor.**
- **Never connect the power source of a second cart to the first cart.**
- **Additional power strips or extension cords must not be connected to the medical system.**
- **Do not connect any unit other than the equipment composing this system to the power strip.**

<To avoid toppling over of equipment>

- **Do not stack the peripherals.**
- **Make sure that the feet of each unit are placed inside of the stoppers.**
- **Make sure that the feet of each unit are placed inside of the stoppers on the movable shelf of the cart.**

<To avoid malfunction due to lightning>

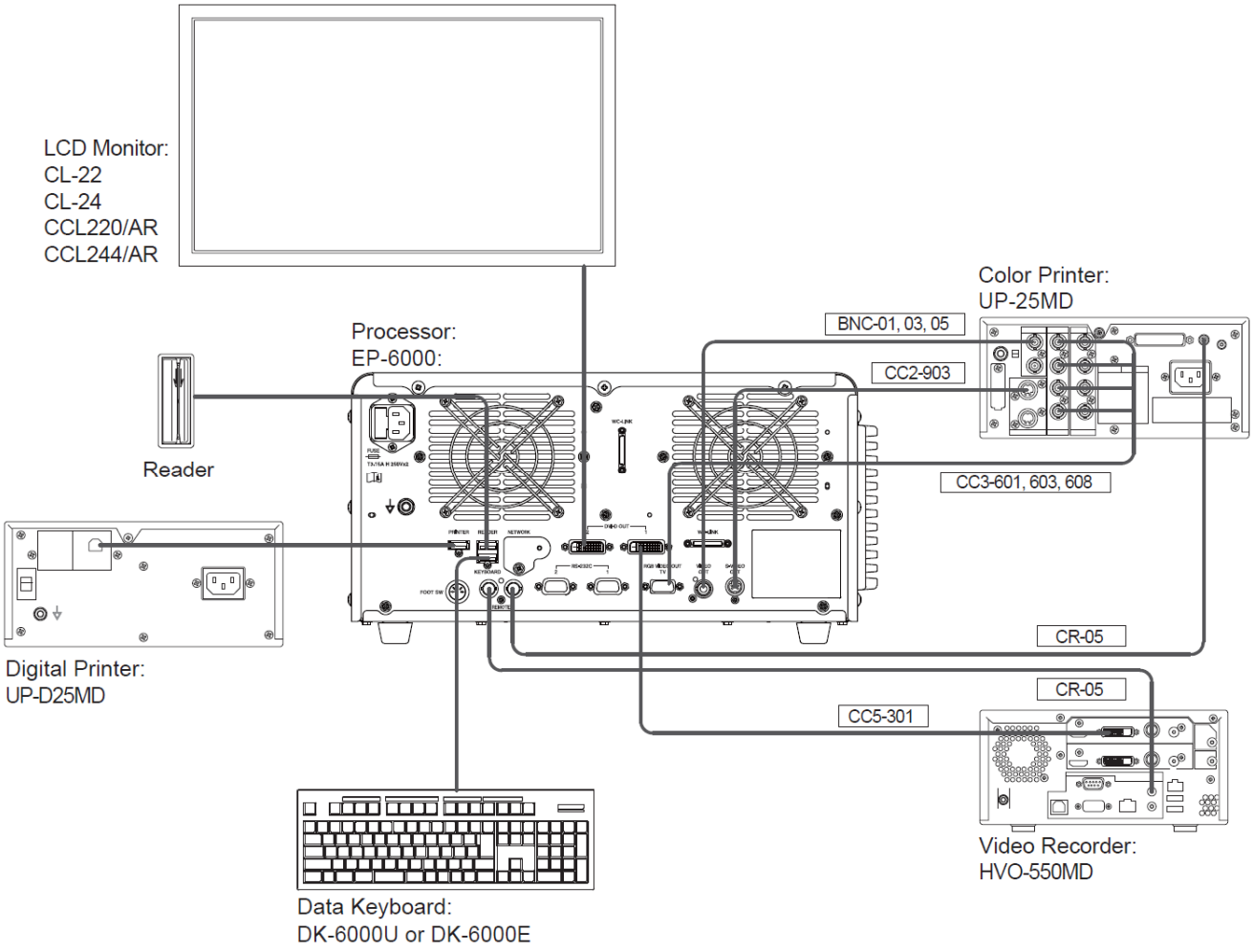
- **Connect the equipment to a power source suitable for the structure and facilities of the hospital or clinic.**

For the installation of the expanded system, follow the contents in the operation and installation manuals of each unit.

CAUTION

- **To connect this product to the peripheral device, connect the input terminal and the output terminal properly.**
  If you make an incorrect connection, it may cause equipment failure.

<Example of Expanded System Connections>

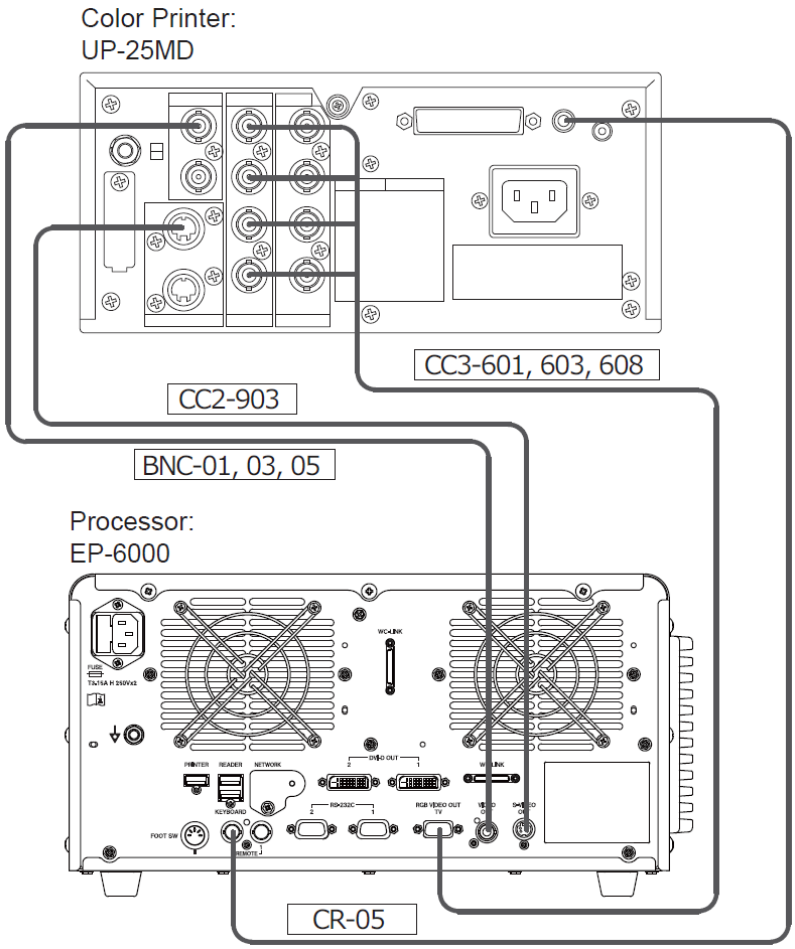


1.8 Printer Connection (Remote System)

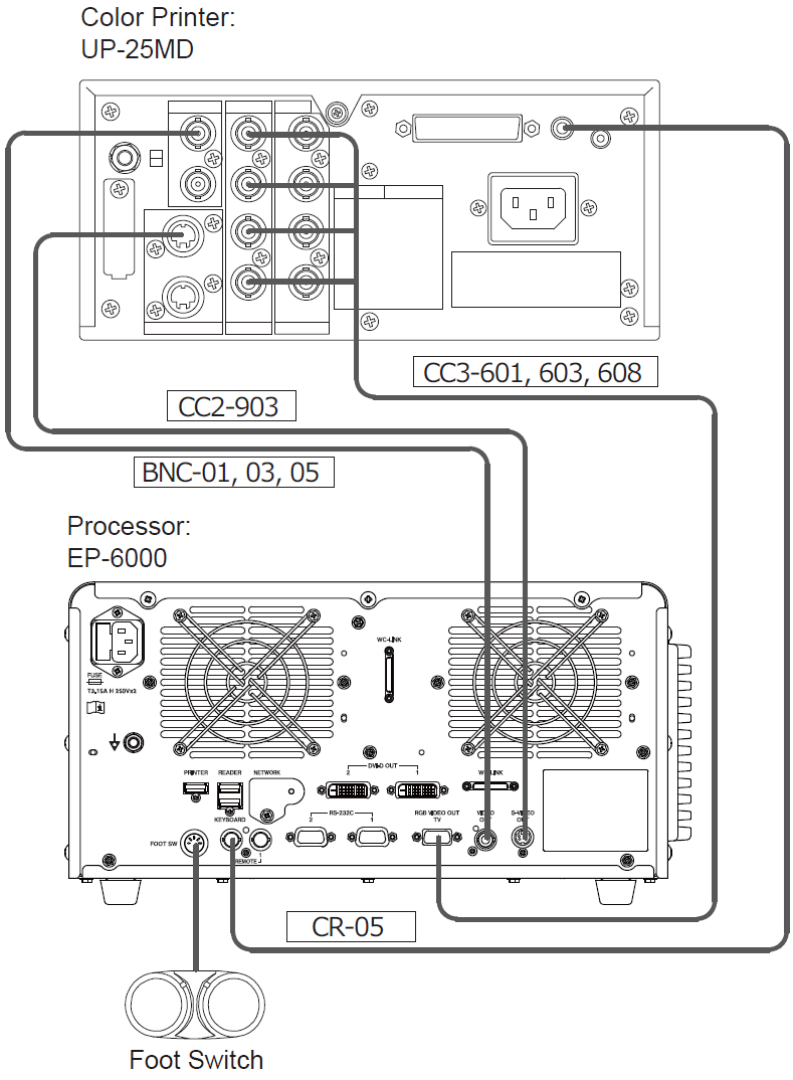
◆Note◆

- When the image output from the processor is displayed on the monitor via the printer, the image may flicker or disappear. Connect the monitor used as the main observation screen directly to the processor.

<Connection 1> When the image is captured by using the switch of Endoscope



<Connection 2> When the image is captured by the foot switch



◆Note◆

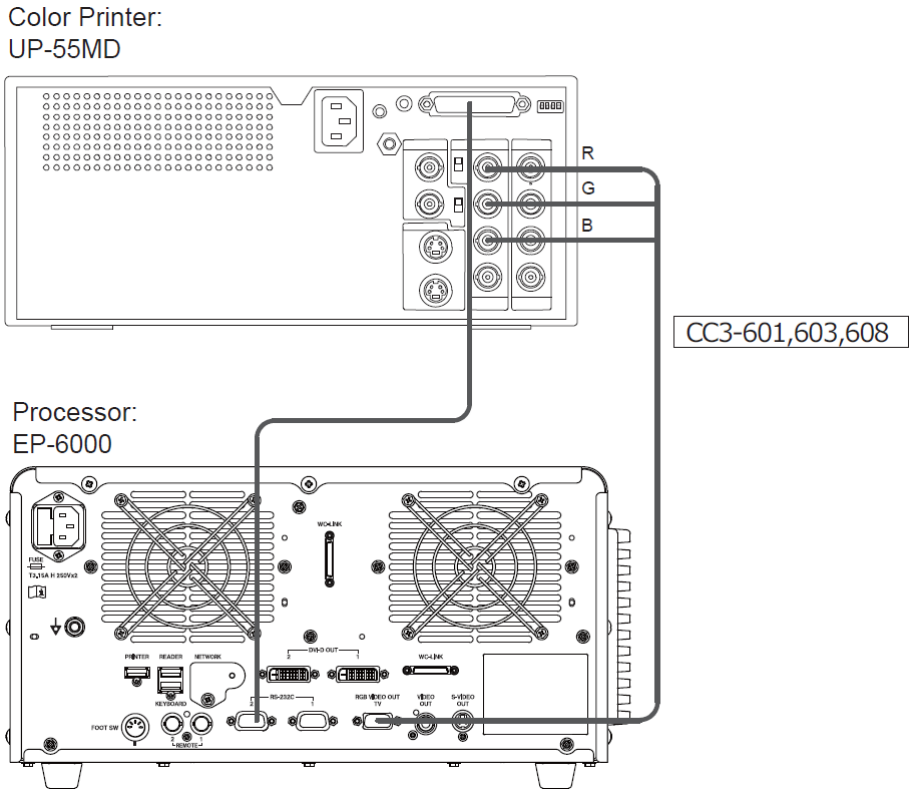
- Use this product in combination with the devices necessary for endoscopic examinations.
- After all devices are connected, connect the power cord.
  →“1.12 Connecting the Power Source”

1.9 Printer Connection (RS-232C System)

◆Note◆

- Check the peripheral device selected in the Peripheral Setup screen to confirm the baud rate of the processor. The baud rate of the processor is automatically selected depending on the selected peripheral device.
  When a peripheral device connected with the RS-232C interface is controlled from the processor, match the communication speed of the peripheral device with the baud rate of the processor. If the baud rate does not match, the peripheral device does not function normally.
  For details on how to set the baud rate, refer to the instruction manual for each peripheral device.
- When the image output from the processor is displayed on the monitor via the printer, the image may flicker or disappear momentarily. Connect the monitor used as the main observation screen directly to the processor.

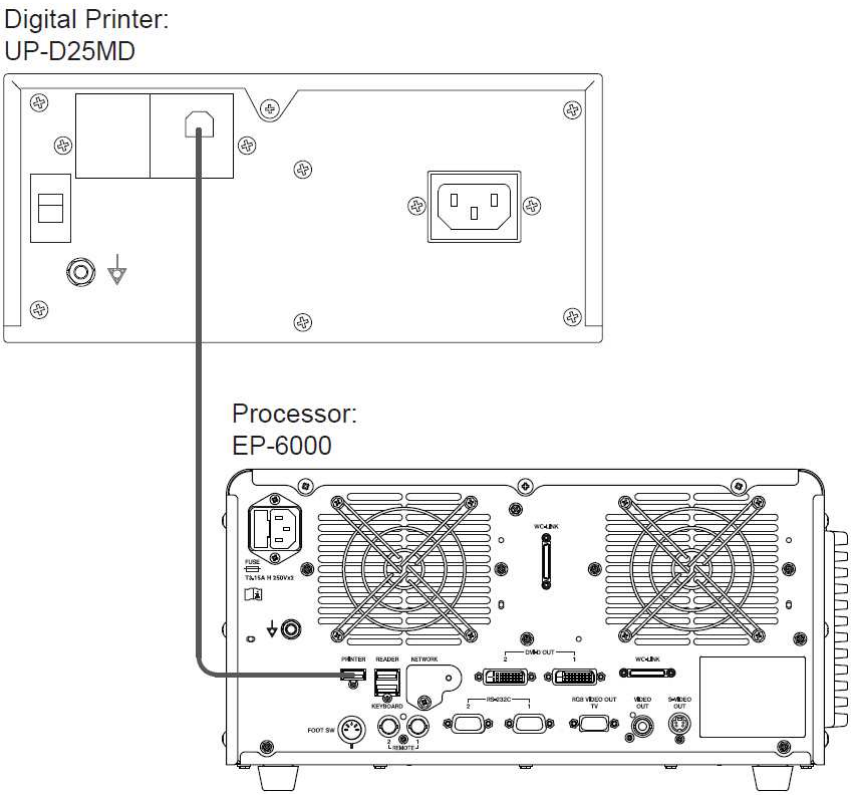
<Connection Example>



◆Note◆

- Use this product in combination with the devices necessary for endoscopic examinations.
- After all devices are connected, connect the power cord.
  →“1.12 Connecting the Power Source”

1.10 Digital Printer Connection

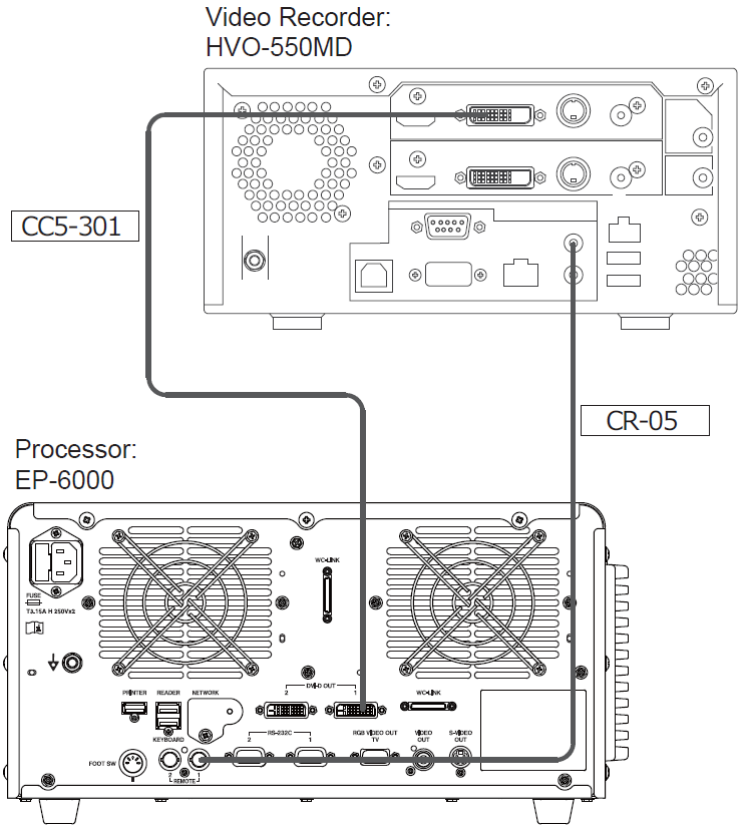


◆Note◆

- Use this product in combination with the devices necessary for endoscopic examinations.
- After all devices are connected, connect the power cord.
  →“1.12 Connecting the Power Source”

1.11 Video Recorder Connection (Remote System)

<Connection Example>



◆Note◆

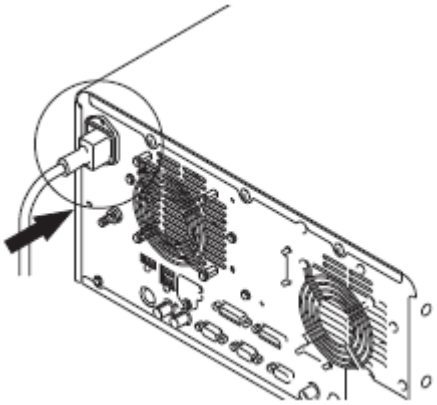
- Use this product in combination with the devices necessary for endoscopic examinations.
- After all devices are connected, connect the power cord.
  →“1.12 Connecting the Power Source”

1.12 Connecting the Power Source

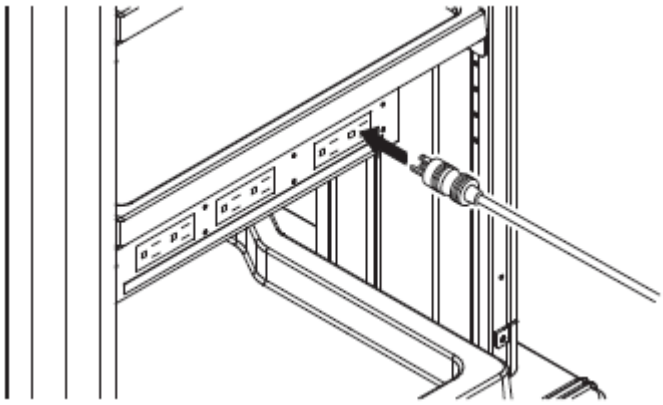
(1) Connect the prescribed power cord by pushing it securely into the power source connection section of this product.

◆Note◆

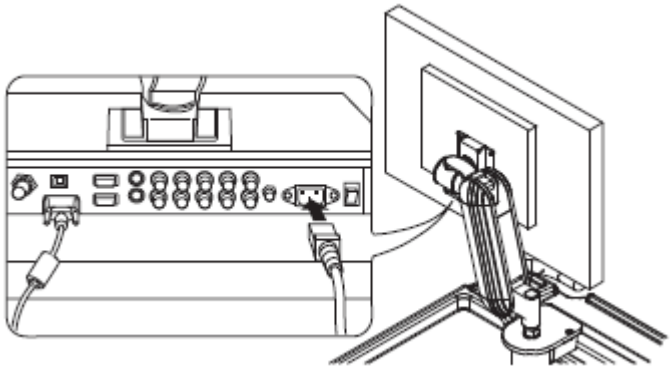
- Use only the power cord prescribed for the processor.
  →"1.15 Basic Information on Power Cord"
- Even when the power cord is already connected, make sure that the power cord is connected securely.



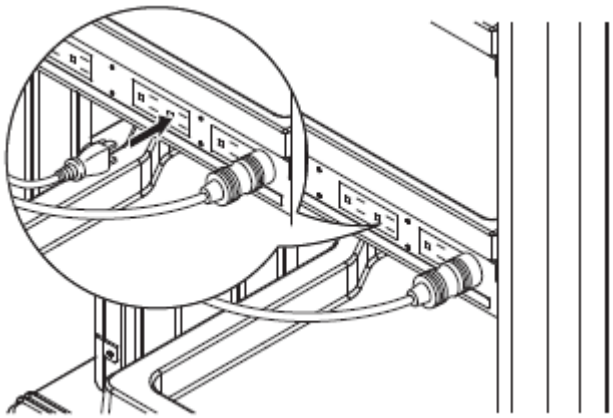
(2) Connect the power plugs of this product directly to the receptacles for the processor and light source on the cart.



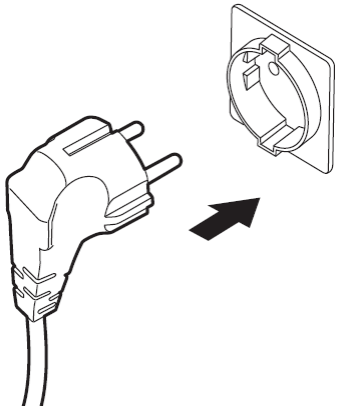
(3) Connect the power cord provided with the LCD monitor to the power supply connector on the LCD monitor.



(4) Connect the power plug of the LCD monitor to the receptacle for peripherals on the cart.



(5) Plug the power cord of the cart into a protective earth receptacle.



1.13 Power Source

Installation of this system must be performed according to EN 60601-1.
When installing this system, follow the descriptions below.

<Power connection for using equipment in combination>

The equipment which can be used in combination with this system is divided into the following three types according to its power connection.

(1) Equipment which is directly combined with this system (Applicable to EN 60601-1)
The equipment that makes up this product and system.
Examples of such equipment are shown in Table 1.1.

(2) Equipment which can be used when its power is supplied from a power source other than the cart in which this system is installed. (Applicable to EN 60601-1)
Examples of such equipment are shown in Table 1.2.

(3) Peripherals which are used when required power is supplied from an insulated transformer applicable to EN 60601-1 (Applicable or conforming to EN 60601-1 or EN60950)
Examples of such equipment are shown in Table 1.3.

The equipment other than these three types may not be safe. Do not use such equipment.

In combination with any of the equipment above, all configurations shall comply with the requirement for ME systems of EN 60601-1.

In any combination of the equipment above, all configurations must comply with the requirements of ME systems of EN60601-1.

◆Note◆

- These combinations are determined based on electrical safety. The performance of the equipment depends on the specifications of each manufacturer.

Table 1.1 Equipment configuring the system

Type	Model
Processor	EP-6000
Data Keyboard	DK-6000U or DK-6000E *1
Endoscope	700 system scopes 600 system scopes 500 system scopes

*1 : The type of the data keyboard varies depending on the country.

Table 1.2 Medical equipment used when its power is supplied from other power source

Type	Model
Electrosurgical Unit *2	-

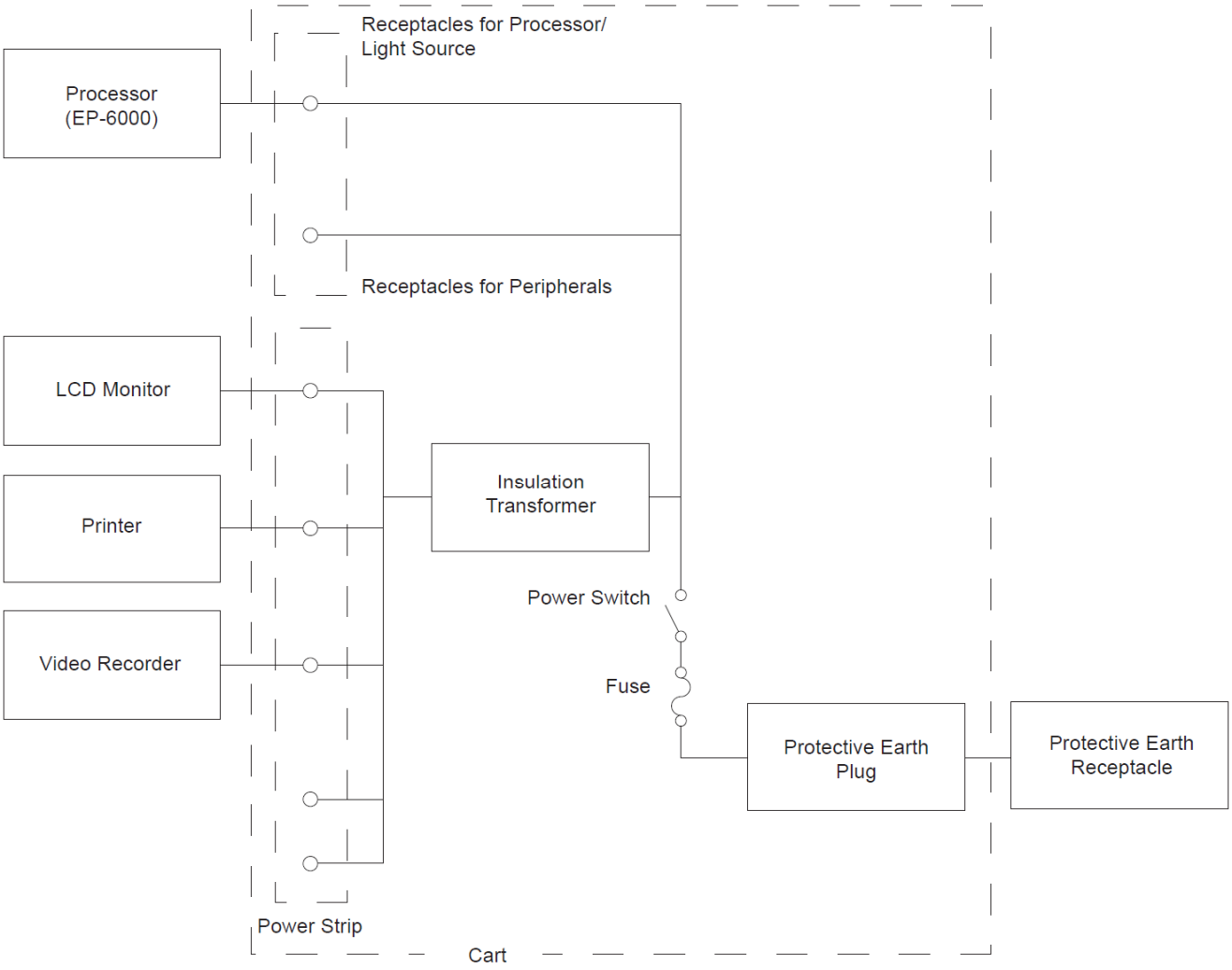
*2 : For electrosurgical units that can be combined, see the instruction manual of the endoscope.

Table 1.3 Peripherals used when its power is supplied from an insulated transformer

Type	Model
Ultrasonic Processor	SU-1,SP-900
LCD Monitor	CL-22(FUJIFILM), CL-24(FUJIFILM), CCL220/AR(JVC KENWOOD) CCL244/AR(JVC KENWOOD)
Printer	UP-25MD(SONY), UP-55MD(SONY), UP-D25MD(SONY)
Video Recorder	HVO-3300MT(SONY), HVO-1000MD(SONY), HVO-550MD(SONY)

1.14 Connecting the Power Source When Using the Cart

The cart is equipped with two types of receptacles; one is “receptacles for processor/light source” used for connecting the processor, light source and the other is “receptacles for peripherals” used for connecting peripherals.
Before connecting them, turn the main switch of the cart off or unplug the power cord.
Connect the power plug of the cart into a protective earth receptacle. For the electrosurgical unit, use the power source other than the one for the cart.
Do not connect equipment not listed in EP-6000 Operation Manual “2.2 Equipment Using in Combination”
Make sure that the total of the rated currents of the devices connected to the receptacles for processor/light source and receptacles for peripherals do not exceed the rated currents of the receptacles.

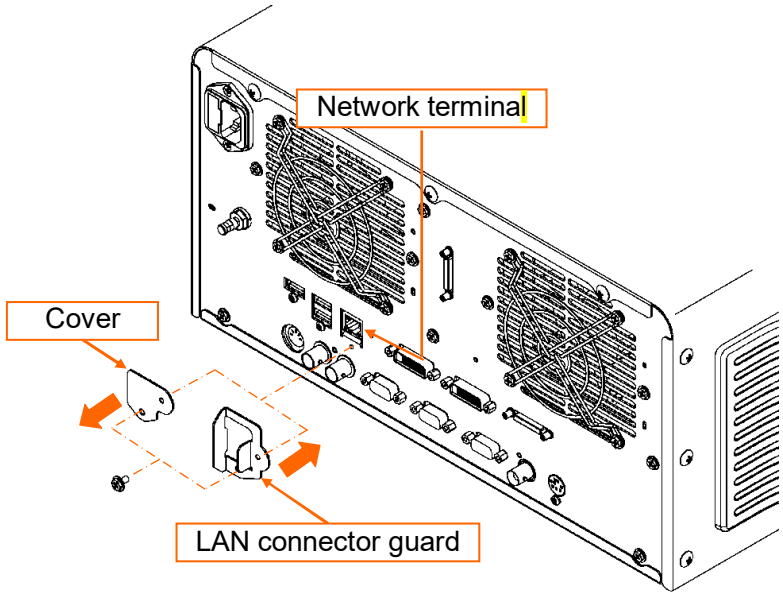


1.15 Basic Information on Power Cord

Device connector	IEC 60320-1 C13
Cross-section area of cable	1.0mm2 or more, 3 wires (200V input) 16AWG or more, 3 wires (USA)
Input voltage	100V to 120V: 125VAC or more More than 120V to 240V: 250VAC or more
Rated current	USA: 13A or more Other areas: 6A or more
Cable length	3m or less
Power plug	3-pin plug that complies with the laws and regulations of each country

1.16 Attaching the LAN connector guard when using a network

To save images in the FTP server when using a network, connect the LAN cable to the network terminal. At this time, remove the cover and attach the LAN connector guard that comes with the device.



2. Initial Settings at the Time of Installation

This section explains the initial settings of the system.

◆Note◆

- During the observation, the observation screen is displayed in the sub-screen at the lower right side of the setup screen.

2.1 Flowchart of System Settings at the Time of Installation

The flowchart of system settings at the time of installation is described below. Refer to each section by following this flowchart.

◆Note◆

- Perform the settings by following the basic operation procedure of system settings.
  →“2.2 Basic System Setup Operations”
- The date and time were set in default at the shipment from the factory. Change them if necessary.
- For the items in the System Setup menu other than those described in this flowchart, perform the settings if necessary.

1	Set the items on the “Function” tab. ・Selecting the mask type of the observation screen ・Assigning a function to the Multi button ・Assigning a function to the Multi key	“2.3 Function Tab“
2	Set the items on the “Display” tab. ・Selecting the exam data to be displayed on the observation screen ・Assigning a function to the Space key	“2.4 Display Tab“
3	Set the items on the “Basic setting” tab. ・Date and time ・Screen resolution ・Speaker volume	“2.5 Basic Setting Tab”
4	Set the items on the “Endoscope” tab. ・Assigning a function to the scope switch	2.7 Endoscope Tab”
5	et other functions if necessary. ・Assigning a function to the foot switch *1 ・Switching the shutter speed *1 ・Registering doctor names in the doctor list ・Registering procedure names in the procedure list ・Registering messages in the message list	“2.8 Setting Foot Switch (FS1)” “2.9 Setup for Switching the Shutter Speed During Optical Zoom” “2.10 Setting the Doctor's Name” “2.11 Setting the Procedure Name” “2.12 Setting the Message”

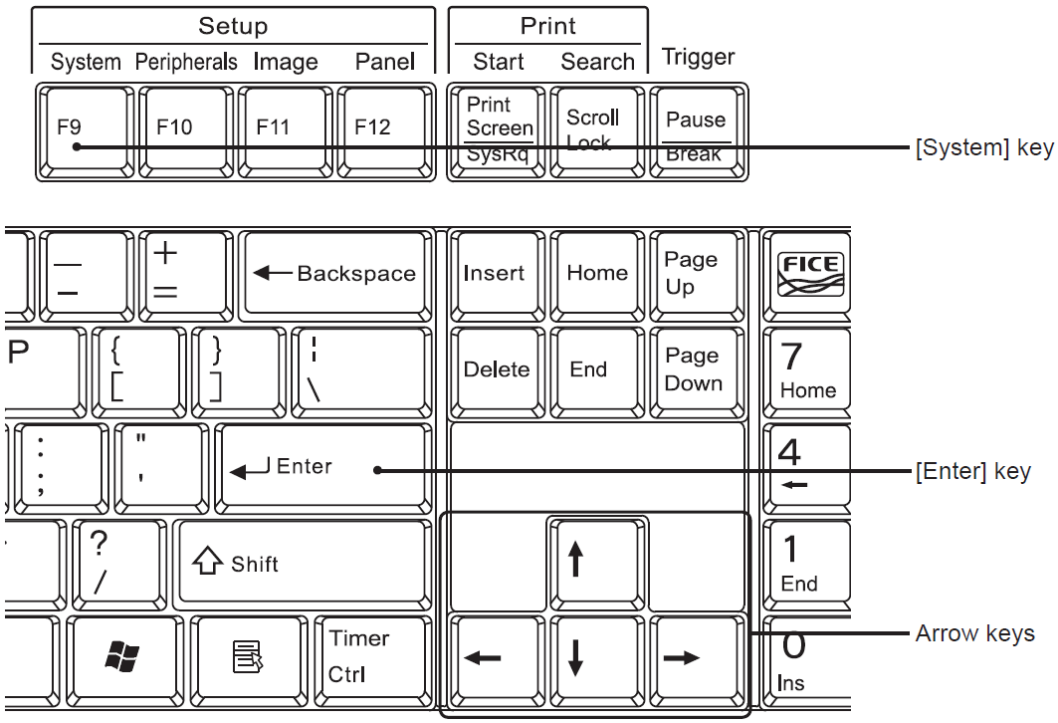
*1：This setting is performed only by service personnel.

2.2 Basic System Setup Operations

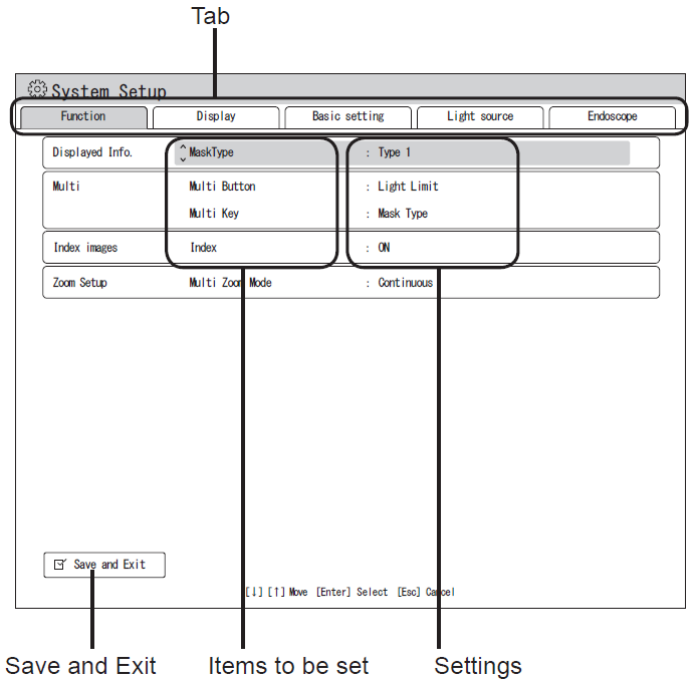
(1) Press the [System] key on the keyboard. The System Setup screen appears.

◆Note◆

- Essentially the same operation applies to other setup keys.
- During the observation, the observation screen is displayed in the sub-screen at the lower right side of the setup screen.



(2) On the setup screen, use the [↑] and [↓] keys to select an item.



(3) Use the [←] and [→] keys to select a category.

◆Note◆

- When a list has multiple pages, use the [←] and [→] keys to toggle between pages.

(4) To change the value of an item, select the item and press the [Enter] key. This enables you to select a different value or directly enter the desired value.

◆Note◆

- Use the [↑] and [↓] keys to select a value.
- For the items with a " ↲ " mark at the right end, a submenu is displayed.
- When "[Insert] Edit" is displayed at the bottom of the menu screen, if the [Insert] key is pressed, the desired value can be entered directly by using the keyboard.

(5) After a value is changed, press the [Enter] key to move the cursor to the next item.

◆Note◆

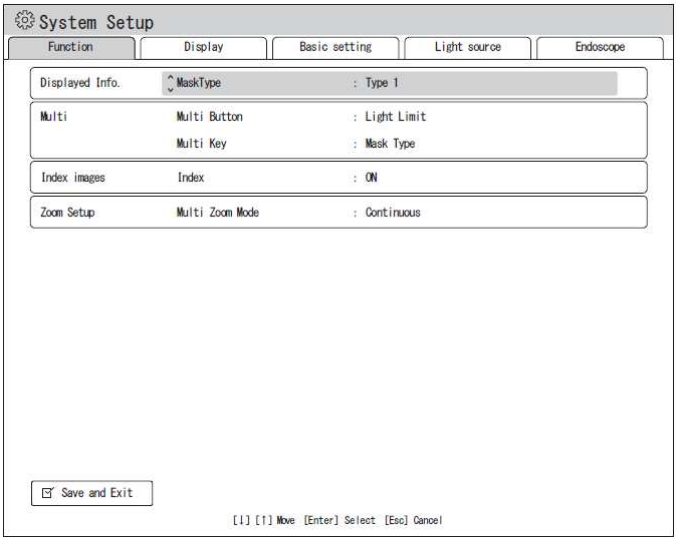
- When a value is entered directly by using the keyboard, the cursor may automatically move to the next item after the input is completed.

(6) To save the settings, move the cursor to "Save and Exit" and press the [Enter] key.

◆Note◆

- Be sure to select "Save and Exit" when a setting is changed. Otherwise, the changed value is not saved.

2.3 Function Tab



Category	Item	Value	Description
Displayed Info.	Mask Type	Type 1	Set the mask type on the observation screen.
		Type 2	
Remarks When the observation mode is BLI, BLI-bright or LCI, no image is displayed in the sub-screen even if “Type 2” is selected. →EP-6000 Operation Manual ”3.9 Data Display on the Observation Screen”			

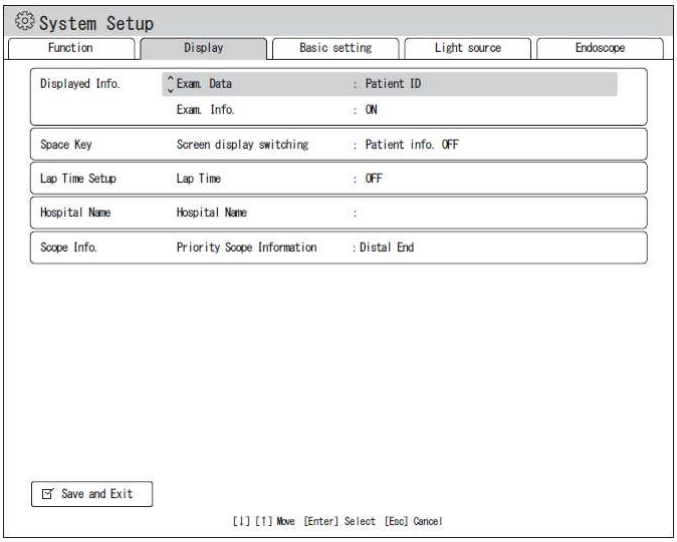
<table>
<tr><th>Category</th><th>Item</th><th>Value</th><th>Description</th></tr>
<tr><td rowspan="10">Multi</td><td rowspan="9">Multi Button</td><td>Light Limit</td><td rowspan="9">Configure the function to be assigned to the MULTI button located on the front panel of this product.
After configuration, press the MULTI button to ensure that the selected function works.</td></tr>
<tr><td>Structure Emphasis</td></tr>
<tr><td>Color Emphasis</td></tr>
<tr><td>Shutter Speed</td></tr>
<tr><td>FICE</td></tr>
<tr><td>Reset</td></tr>
<tr><td>Timer</td></tr>
<tr><td>Lap Time</td></tr>
<tr><td>Mask Type</td></tr>
<tr><td>Multi Zoom Mode</td></tr>
<tr><td rowspan="4">Multi key</td><td>Reset</td><td rowspan="4">Configure the function to be assigned to the [Multi] key on the keyboard.
After configuration, press the [Multi] key to ensure that the selected function works.</td></tr>
<tr><td>Lap Time</td></tr>
<tr><td>Mask Type</td></tr>
<tr><td>Multi zoom mode</td></tr>
<tr><td colspan="4">Remarks
・ Light Limit
→ EP-6000 Operation Manual “7.9 Light Limit”
・ Structure Emphasis
→ EP-6000 Operation Manual “5.3.2 Structure Emphasis Settings”
→ “7.11 Turning On/Off Structure Emphasis”
・ Color Emphasis
→ EP-6000 Operation Manual “5.3.4 Tone Settings” → “7.13 Turning On/Off the Tone”
・ Shutter Speed
→ EP-6000 Operation Manual → “5.3.6 Setting the Shutter Speed”
→ “7.14 Switching the Shutter Speed”
・ FICE
→EP-6000 Operation Manual “5.3.3 Setting FICE” → “7.12 Turning On/Off FICE”
・ Reset
Reset the counter indicating the number of captured images to 0. In addition, when the observation screen is displayed, if this button is held pressed for 2 seconds, the color adjustment vales are reset to the factory defaults.
・ Timer
→EP-6000 Operation Manual “7.17.2 Starting/Stopping the Timer”
・ Lap Time
→EP-6000 Operation Manual “5.5.5 Lap Time Display”
・ Mask Type
The mask type is changed as follows each time the button is pressed.
Type 1 → Type 2 → Back to Type 1
→EP-6000 Operation Manual “3.9 Data Display on the Observation Screen”
・ Multi Zoom Mode
The multi zoom mode is changed as follows each time the button is pressed.
Continuous → 2 Step → 3 Step → 5 Step
→EP-6000 Operation Manual “5.5.4 Setting Multi Zoom Mode”</td></tr>
<tr><td rowspan="2">Index images</td><td rowspan="2">Index</td><td>ON</td><td rowspan="2">When set to ON, the newest four index images stored in the internal storage device are displayed.</td></tr>
<tr><td>OFF</td></tr>
<tr><td colspan="4">Remarks
Index images can be displayed only when the screen resolution is set to Full HD.
→EP-6000 Operation Manual “5.5.2 Index Image Display”</td></tr>
</table>

Category	Item	Value	Description
Zoom Setup	Multi Zoom Mode	Continuous	Set the type of zoom operation that is applied when an endoscope with the optical zoom function is used in combination with this product.
		5 Step	
		3 Step	
		2 Step	
Remarks This item needs to be set by service personnel. Endoscopes that do not support the multi zoom operating mode operate in the continuous mode, regardless of this setting. →EP-6000 Operation Manual “5.5.4 Setting Multi Zoom Mode”			

◆Note◆

- For the operations on the menu screen, refer to the description of basic system setup operations.
  →“2.2 Basic System Setup Operations”

2.4 Display Tab



Category	Item	Value	Description
Displayed Info.	Exam Data	Patient ID	Select exam data to be displayed on the observation screen.
		Exam No.	
	Exam Info.	ON	The Patient Info. + Scope Info. dialog is displayed at the beginning of an examination. →EP-6000 Operation Manual "3.11 Patient Info. + Scope Info. Dialog"
		OFF	
Remarks The Patient Info. + Scope Info. dialog may be displayed at times other than the beginning of an examination. When this item is set to OFF, the Patient Info. + Scope Info. dialog is not displayed at all times.			
Space Key	Screen display switching	Patient info. OFF	Select the type of data that is displayed or hidden on the observation screen each time the [Space] key is pressed.
		Observation mode only	
		All OFF	
Remarks When "Patient info. OFF" is selected, the patient information, date and time are hidden. When "Observation mode only" is selected, the focus meter, electronic zoom ratio, special light observation mode and spectral image processing function are displayed. Even if "All OFF" is selected, the lap time is displayed.			

Category	Item	Value	Description
Lap Time Setup	Lap Time	ON	The lap time can be displayed on the OFF observation screen.
		OFF	
Remarks The lap time can be displayed only when the screen resolution setting is Full HD. ・ Lap Time →EP-6000 Operation Manual “5.5.5 Lap Time Display”			
Hospital Name	Hospital Name	To be entered by using the keyboard	Enter the hospital name.
Scope Info.	Priority Scope Information	Scope Switch	When the output resolution is set to “SXGA” and the mask type is set to “Type 1”, scope information to be displayed preferentially (information on scope switches or information on the scope distal end) can be selected.
		Distal End	
Remarks When “Distal End” is selected, information on scope switches 4 and 5 is not displayed. →EP-6000 Operation Manual “3.9 Data Display on the Observation Screen”			

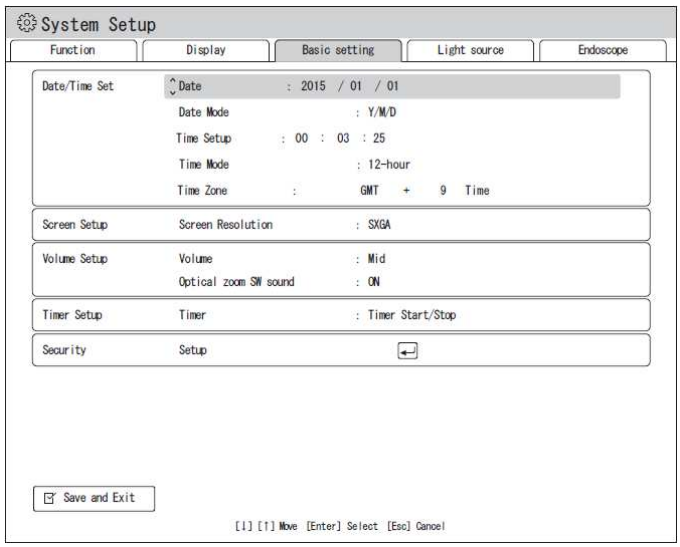
◆Note◆

・ For the operations on the menu screen, refer to the description of basic system setup operations.
→“2.2 Basic System Setup Operations”

2.5 Basic Setting Tab

CAUTION

- **If "Full HD" is selected for "Screen Resolution" when a non-Full HD monitor is used, the image is not displayed properly on the monitor. If this happens, press the [Ctrl], [Alt] and [S] keys at the same time. The screen resolution setting changes to "SXGA" and a buzzer sounds. When a buzzer sound is heard, restart the processor.**
  If a buzzer sound is not heard, check whether or not the correct keys are pressed and then try again.



Category	Item	Value	Description
Date/Time Set	Date *1	To be entered by using the keyboard	Enter the year, month and day. Enter the Christian year.
	Date Mode	Y/M/D	Year/Month/Day
		D/M/Y	Day/Month/Year
		M.D.Y	Month.abbr.Day.Year
	Time Setup *1	To be entered by using the keyboard	Enter the time. When the [Enter] key is pressed, the time set for the equipment starts elapsing.
	Time Mode	24-hour	Set the hour-display format.
		12-hour	
	Time Zone *2	+9 hours	The time difference between the local time and Greenwich Mean Time is
		-9 hours	

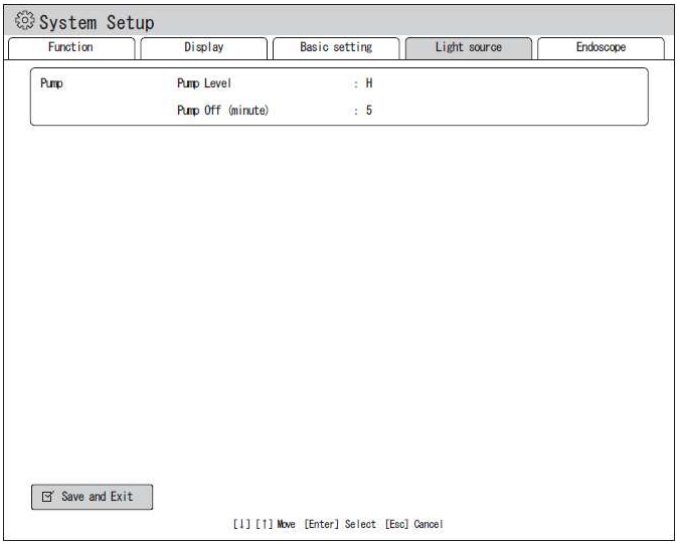
Remarks
*1: The date and time were set in default at the shipment from the factory. Change them if necessary.
*2: The time difference between the local time and Greenwich Mean Time is set. Change the time zone in accordance with the local time.

<table>
<tr><th>Category</th><th>Item</th><th>Value</th><th>Description</th></tr>
<tr><td>Screen Setup</td><td>Screen Resolution</td><td>SXGA</td><td rowspan="2">Set the screen resolution of the monitor.</td></tr>
<tr><td></td><td></td><td>Full HD</td></tr>
<tr><td colspan="4">Remarks
・ After configuration, restart this product.
・ Do not change this setting during or immediately before an examination. Change this setting when there is sufficient time before the next examination.
・ When a Full HD wide monitor compatible with this product is used, the screen can be displayed in Full HD. For details on the monitor in use and how to change the setting, consult your local FUJIFILM dealer.
・ If “Full HD” is selected for “Screen Resolution” when a non-Full HD monitor is used, the image is not displayed properly on the monitor. If this happens, press the [Ctrl], [Alt] and [S] keys at the same time.
The screen resolution setting changes to “SXGA” and a buzzer sounds. When a buzzer sound is heard, restart the product.
If a buzzer sound is not heard, check whether the correct keys were pressed, and then try again.</td></tr>
<tr><td rowspan="5">Volume Setup</td><td rowspan="4">Volume</td><td>Hi</td><td rowspan="4">Set the volume of the speaker.</td></tr>
<tr><td>Mid</td></tr>
<tr><td>Low</td></tr>
<tr><td>OFF</td></tr>
<tr><td rowspan="2">Optical zoom SW sound</td><td>ON</td><td rowspan="2">When the optical zoom function is assigned to a scope switch, if the scope switch is pressed, a beep sound is generated.</td></tr>
<tr><td>OFF</td></tr>
<tr><td colspan="4">Remarks
A confirmation sound beeps when the speaker volume is set. When OFF is selected, the speaker is mute.</td></tr>
<tr><td rowspan="2">Timer Setup</td><td rowspan="2">Timer</td><td>Timer Start/Stop</td><td>Start/stop the timer by pressing the [Timer] key.</td></tr>
<tr><td>Auto start at Exam.</td><td>The timer starts simultaneously with starting the examination.</td></tr>
<tr><td colspan="4">Remarks
• Timer
→EP-6000 Operation Manual “7.17.2 Starting/Stopping the Timer”</td></tr>
<tr><td>Security</td><td>Setup</td><td></td><td>Perform security settings.
→EP-6000 Operation Manual “4.3 Security Function”</td></tr>
</table>

◆Note◆

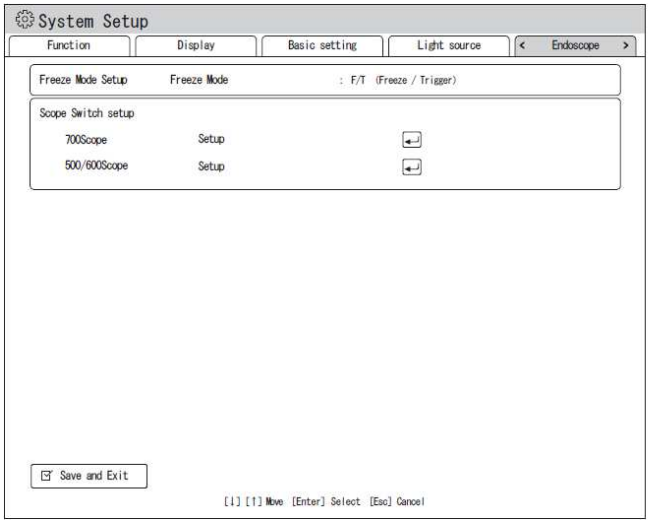
・ For the operations on the menu screen, refer to the description of basic system setup operations.
→“2.2 Basic System Setup Operations”

2.6 Light Source Tab



Category	Item	Value	Description
Pump	Pump Level	H	Set the pump setting at the beginning of an examination.
		M	
		L	
		OFF	
	Pump Off (minute)	0 to 60 (minutes)	When the period of time specified here has elapsed after an examination is finished, the air supply pump is automatically turned off.

2.7 Endoscope Tab



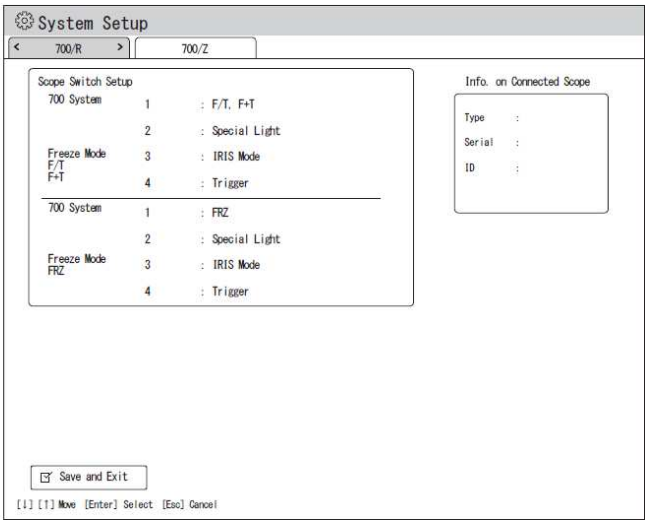


Table 1

Category	Item	Value	Description
Freeze Mode Setup	Freeze Mode	F/T(Freeze / Trigger)	Set the freeze mode to be assigned to the scope switch.
		F+T(Freeze+Trigger)	
		FRZ(Freeze)	
Remarks This setting is effective only when no freeze mode is registered in the doctor list. When the setting is changed, the scope switch settings are changed according to the settings in the Scope Switch Setup.			
Scope Switch Setup	700 Scope	Setup	The submenu shown in Table 2 is displayed.
	500/600 Scope	Setup	
Remarks ・ When the endoscope is connected, press each scope switch to ensure that the desired functions are assigned properly. ・ When scope switch settings are performed again for the same type of endoscope, the previous settings are overwritten even if a different endoscope is connected.			

Table 2

Category	Item	Value	Description
700 System Freeze Mode F/T F+T	1 2 3 4	→“<Functions to be assigned to the scope switch>”	The freeze mode “F/T” or “F+T” can be set. →“• Assignments of 700 System (4-Switch) Scope”
700 System Freeze Mode FRZ	1 2 3 4	→“<Functions to be assigned to the scope switch>”	Only the freeze mode “FRZ” can be set. Assignment of “Trigger” is essential. →“• Assignments of 700 System (4-Switch) Scope”
700/Z System Opt. Zoom Freeze Mode F/T F+T	1 2 3 4 5 FR+OM（RC）	→“<Functions to be assigned to the scope switch>” Not Assigned Trigger Record	The freeze mode “F/T” or “F+T” can be set. →“• Assignments of 700 System (5-Switch) Scope”
700/Z System Opt. Zoom Freeze Mode FRZ	1 2 3 4 5 FR+OM（RC）	→“<Functions to be assigned to the scope switch>” Not Assigned Trigger Record	Only the freeze mode “FRZ” can be set. Assignment of “Trigger” is essential. →“• Assignments of 700 System (5-Switch) Scope”
500 System 600 System	FR MM RC	→“<Functions to be assigned to the scope switch>”	→“• Assignments of Normal Scope”
500 System 600 System	1 2 3 4	→“<Functions to be assigned to the scope switch>”	→“• Assignments of Normal Scope”
600 System Opt. Zoom with SP SW	FR MM SP FR+OM（RC）	→“<Functions to be assigned to the scope switch>”	→“• Assignments of Optical Zoom Scope”
500 System Ultrasonic	FR MM RC	→“<Functions to be assigned to the scope switch>”	→“• Assignments of Ultrasonic Endoscope”
500 System Ultrasonic	1 2 3 4 5	→“<Functions to be assigned to the scope switch>”	→“• Assignments of Ultrasonic Endoscope”

◆Note◆

・ For the operations on the menu screen, refer to the description of basic system setup operations.
→“2.2 Basic System Setup Operations”

<Functions to be assigned to the scope switch>
The functions in the following chart can be assigned to the scope switches of the endoscope used with this product. The setting is performed by service personnel.

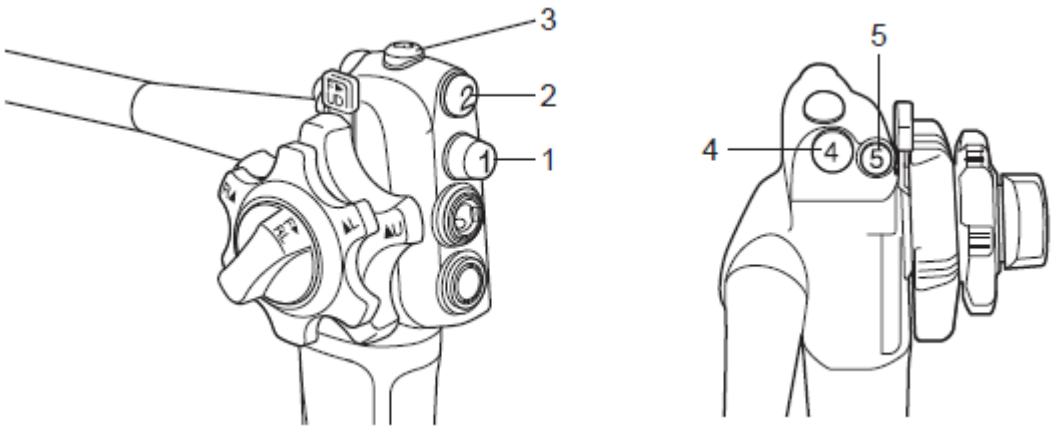
Function	Description
F/T (Freeze / Trigger)	When this switch is pressed, the observation screen displays a frozen image while displaying a video image on the sub-screen only during the period of the time set in the “Freeze Time”. When this switch is pressed again while the image is frozen, the image is captured and then, the freeze mode is canceled. * If the image is not frozen when this switch is pressed, the freeze mode is canceled without capturing the image. * The “Freeze Time” is set by service personnel.
F+T (Freeze + Trigger)	When this switch is pressed, the observation screen displays a frozen image while displaying a video image on the sub-screen only during the period of the time set in the “Freeze Time”. The image is captured automatically, and then the freeze mode is canceled. When this switch is pressed again while the image is frozen, the freeze mode is canceled without capturing the image. * The “Freeze Time” is set by service personnel.
FRZ (Freeze)	When this switch is pressed, the observation screen displays a frozen image while displaying a video image on the sub-screen. When this switch is pressed again while the image is frozen, the freeze mode is canceled without capturing the image. To capture it, press the switch assigned to “Trigger”. * Even if the switch to which “Record” is assigned is pressed after pressing the switch to which “Freeze” is assigned, the freeze mode is not canceled.
Trigger	If this switch is pressed when the image on the observation screen is frozen, the image is captured, and then the freeze mode is canceled. * If the image is not frozen, the image is not captured.
Record	・ If this switch is pressed when a video image is displayed, the observation screen displays the frozen image while displaying the video image on the sub-screen, and then, the frozen image is captured. After it is captured, the freeze mode is canceled. ・ When the image is frozen by pressing the switch to which “F/T” or “F+T” is assigned, if this switch is pressed, the image is captured and the freeze mode is canceled. When the image is frozen by pressing the switch to which “FRZ” is assigned, if this switch is pressed, the image is captured but the freeze mode is not canceled.。
Iris Mode	This switch changes the iris mode “AUTO/PEAK/AVE”.
Shutter Speed	This switch changes the shutter speed set on the Shutter Speed Setup screen. →EP-6000 Operation Manual “5.3.6 Setting the Shutter Speed”
Obs. Mode Preset	This switch changes the observation mode in the order specified on the Obs. Mode Preset Setup. →EP-6000 Operation Manual “5.5.1 Registering, Calling Up and Editing and Deleting Image Setup Page - <Registering Image Setup Page> - Scope Common tab - Obs. Mode Preset Setup”
Structure Emphasis	This switch changes the ON/OFF of structure emphasis. →EP-6000 Operation Manual “5.3.2 Structure Emphasis Settings”

Function	Description
FICE	This switch changes the ON/OFF of FICE. When a FICE set number is assigned in the “Simple FICE Setup” and FICE is “OFF”, each pressing of this switch changes the function to be selected in order of FICE “ON” and call up of FICE set number of “Assignment 1” → call up of “Assignment 2” → call up of “Assignment 3” → FICE “OFF”. The “Simple FICE Setup” is set by service personnel. →EP-6000 Operation Manual “5.3.3 Setting FICE”
Color Emphasis	This switch turns the tone function ON/OFF. →EP-6000 Operation Manual “5.3.4 Tone Settings”
Display	This switch is used to display or not to display the information on the observation screen. * When “Data Display Switching” is disabled, the function of this switch is also disabled.
Electronic Zoom	When this switch is pressed, the display size changes to the size specified in “Zoom Ratio of Electronic Zoom”. When it is pressed again, the display size returns to the original size (zoom ratio: x1.0). * The “Zoom Ratio of Electric Zoom” is set by service personnel.
Optical Zoom: Zoom In	When an optical zoom scope is connected, this switch changes the zoom ratio of the optical zoom. This switch performs zoom-in only.
Optical Zoom: Zoom Out	When an optical zoom scope is connected, this switch changes the zoom ratio of the optical zoom. This switch performs zoom-out only.
SU Freeze	When this switch is pressed, a freeze request is sent to the ultrasonic processor. This function is available only when “SU-1” is selected in the peripheral device setup. * This function cannot be assigned to the scope switches on endoscopes other than ultrasonic endoscopes.
SU Store	When this switch is pressed, a store request is sent to the ultrasonic processor. This function is available only when “SU-1” is selected in the peripheral device setup. * This function cannot be assigned to the scope switches on endoscopes other than ultrasonic endoscopes.
Timer	This switch starts or stops the timer. →EP-6000 Operation Manual “7.17.2 Starting/Stopping the Timer”
Lap Time	When this switch is pressed, the lap time displayed on the observation screen is started/stopped/reset. →EP-6000 Operation Manual “7.17.3 Lap Time Function”
Not Assigned	Assigns no function.

<Scope Switch Setting>

The functions available for each scope switch are described in the following chart.
The setting is performed by service personnel.

・ Assignments of 700 System (5-Switch) Scope



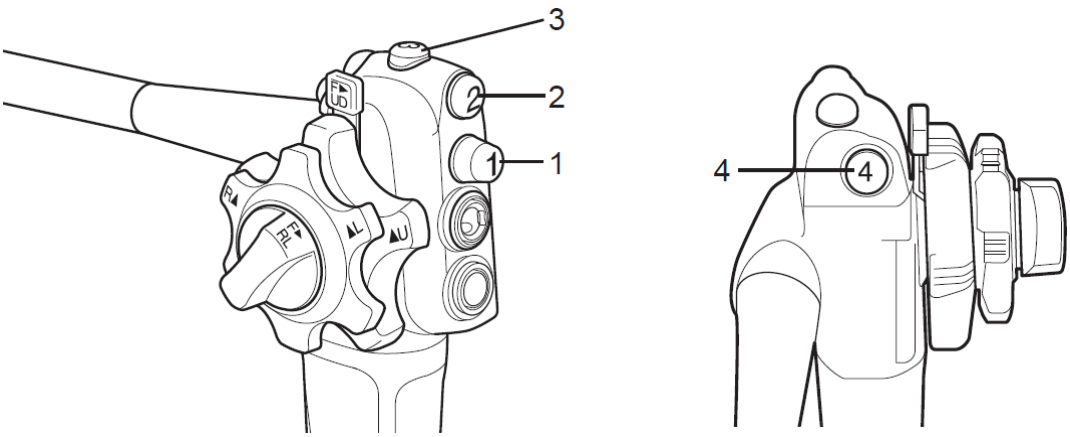
Function	1	2	3	4	5	FR+OM (RC)
F/T (Freeze / Trigger)	○	○	○	○	○	-
F+T (Freeze + Trigger)	○	○	○	○	○	-
FRZ (Freeze)	○	○	○	○	○	-
Trigger *1	○	○	○	○	○	○
Record *1	○	○	○	○	○	○
Iris Mode	○	○	○	○	○	-
Shutter Speed	○	○	○	○	○	-
Obs. Mode Preset	○	○	○	○	○	-
Structure Emphasis	○	○	○	○	○	-
FICE	○	○	○	○	○	-
Color Emphasis	○	○	○	○	○	-
Display	○	○	○	○	○	-
Electronic Zoom	○	○	○	○	○	-
Optical Zoom: Zoom In *1	○	○	○	○	○	-
Optical Zoom: Zoom Out *1	○	○	○	○	○	-
Timer	○	○	○	○	○	-
Lap Time	○	○	○	○	○	-
Not Assigned	○	○	○	○	○	-

○ : Available to assign

*1 : The “Trigger” / “Record” and “Optical Zoom” functions can be assigned at the same time.

* If “Freeze / Trigger”, “Freeze + Trigger” or “Freeze” and “Trigger” / “Record” are not assigned, images cannot be captured.

・ Assignments of 700 System (4-Switch) Scope

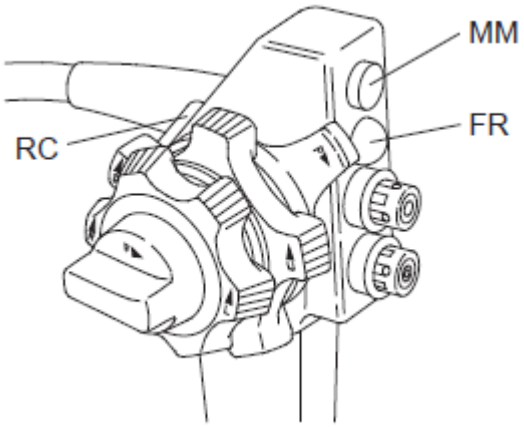


Function	1	2	3	4
F/T (Freeze / Trigger)	○	○	○	○
F+T (Freeze + Trigger)	○	○	○	○
FRZ (Freeze)	○	○	○	○
Trigger	○	○	○	○
Record	○	○	○	○
Iris Mode	○	○	○	○
Shutter Speed	○	○	○	○
Obs. Mode Preset	○	○	○	○
Structure Emphasis	○	○	○	○
FICE	○	○	○	○
Color Emphasis	○	○	○	○
Display	○	○	○	○
Electronic Zoom	○	○	○	○
Timer	○	○	○	○
Lap Time	○	○	○	○
Not Assigned	○	○	○	○

○ : Available to assign

* If “Freeze / Trigger”, “Freeze + Trigger” or “Freeze” and “Trigger” / “Record” are not assigned, images cannot be captured.

・ Assignments of Normal Scope

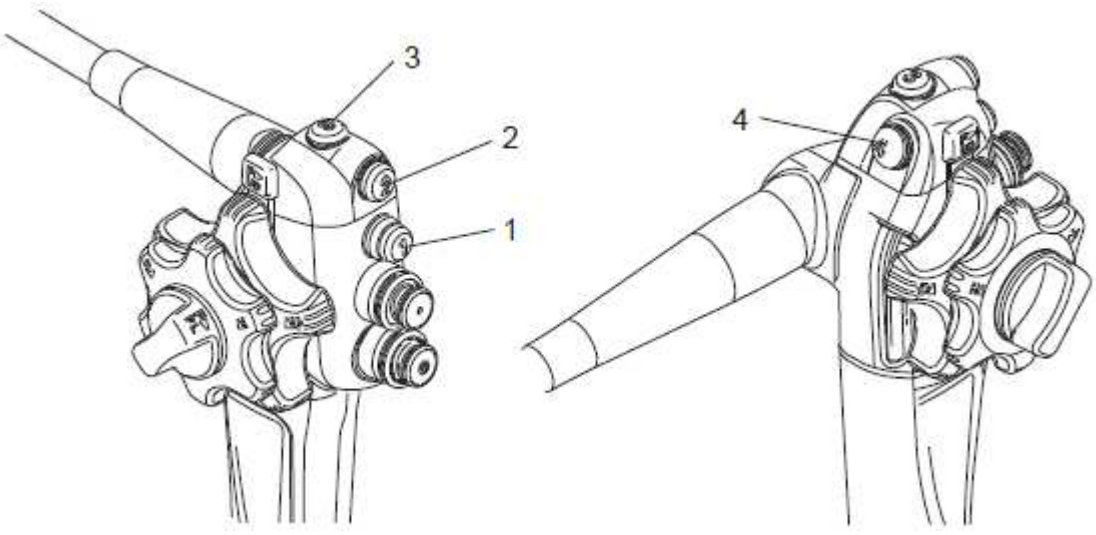


Function	FR	MM	RC
F/T (Freeze / Trigger)	○	-	○
F+T (Freeze + Trigger)	○	-	○
FRZ (Freeze)	○	-	○
Trigger	○	○	○
Record	-	○	○
Iris Mode	-	○	○
Shutter Speed	-	○	○
Obs. Mode Preset	-	○	○
Structure Emphasis	-	○	○
FICE	-	○	○
Color Emphasis	-	○	○
Display	-	○	○
Electronic Zoom	-	○	○
Timer	-	○	○
Lap Time	-	○	○
Not Assigned	-	○	○

○ : Available to assign

* For endoscopes without the MM scope switch, the assigned function does not operate, although it is displayed in the switch setting on the observation screen.
* When “Freeze” is set for “Freeze Mode” in the doctor list, if the trigger or record function is not assigned to the RC switch, the trigger function is automatically assigned to the RC switch.

・ Assignments of Normal Scope (4-Switch Scope)

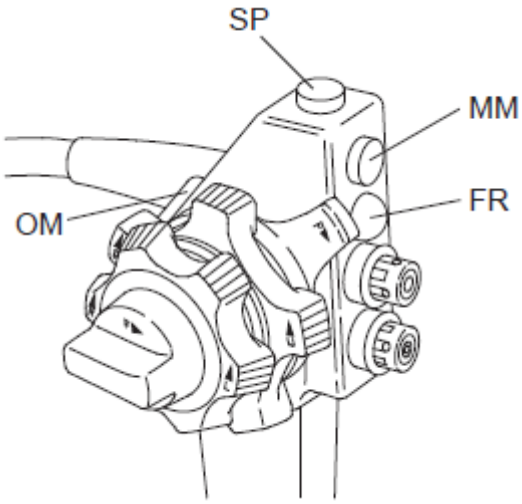


Function	1	2	3	4
F/T (Freeze / Trigger)	○	-	-	○
F+T (Freeze + Trigger)	○	-	-	○
FRZ (Freeze)	○	-	-	○
Trigger	○	○	○	○
Record	-	○	○	○
Iris Mode	-	○	○	○
Shutter Speed	-	○	○	○
Obs. Mode Preset	-	○	○	○
Structure Emphasis	-	○	○	○
FICE	-	○	○	○
Color Emphasis	-	○	○	○
Display	-	○	○	○
Electronic Zoom	-	○	○	○
Timer	-	○	○	○
Lap Time	-	○	○	○
Not Assigned	-	○	○	○

○ : Available to assign

* When “Freeze” is set for “Freeze Mode” in the doctor list, if the trigger or record function is not assigned to Switch 4, the trigger function is automatically assigned to Switch 4.

・ Assignments of Optical Zoom Scope



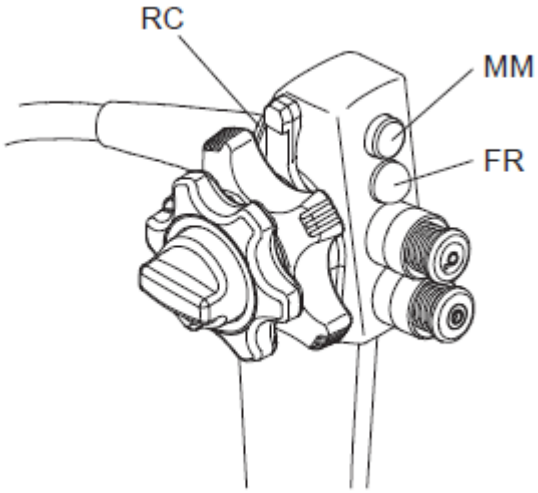
* For the endoscopes without the SP switch, the functions for SP switch cannot be selected.

Function	FR	MM	SP	OM	FR+OM
F/T (Freeze / Trigger)	○	-	-	-	-
F+T (Freeze + Trigger)	○	-	-	-	-
FRZ (Freeze)	○	-	-	-	-
Trigger *1	-	○	○	-	○
Record *1	-	○	○	-	○
Iris Mode	-	○	○	-	-
Shutter Speed	-	○	○	-	-
Obs. Mode Preset	-	○	○	-	-
Structure Emphasis	-	○	○	-	-
FICE	-	○	○	-	-
Color Emphasis	-	○	○	-	-
Display	-	○	○	-	-
Electronic Zoom	-	○	○	-	-
Optical Zoom	-	-	-	○ (exclusive use)	-
Timer	-	○	○	-	-
Lap Time	-	○	○	-	○
Not Assigned	-	○	○	-	-

○ : Available to assign

* When “Freeze” is set for “Freeze Mode” in the doctor list, if the trigger or record function is not assigned to FR+OM, the trigger function is automatically assigned to FR+OM.

・ Assignments of Ultrasonic Endoscope

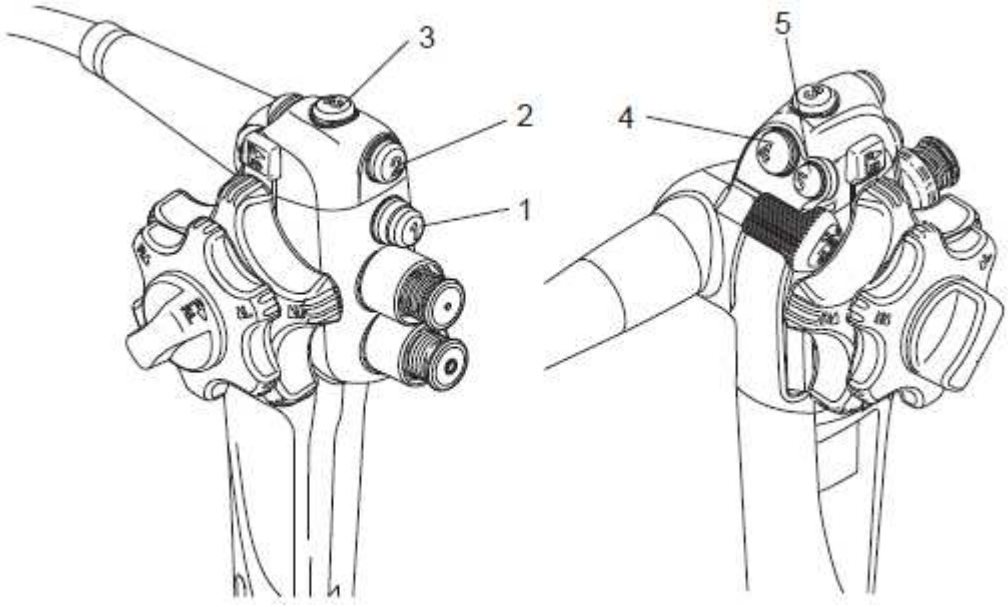


Function	FR	MM	RC
F/T (Freeze / Trigger)	○	-	○
F+T (Freeze + Trigger)	○	-	○
FRZ (Freeze)	○	-	○
Trigger	○	○	○
Record	-	○	○
Iris Mode	-	○	○
Shutter Speed	-	○	○
Structure Emphasis	-	○	○
FICE	-	○	○
Color Emphasis	-	○	○
Display	-	○	○
Electronic Zoom	-	○	○
SU Freeze	-	○	○
SU Store	-	○	○
Timer	-	○	○
Lap Time	-	○	○
Not Assigned	-	○	○

○ : Available to assign

* No ultrasonic endoscope supports the Obs. Mode Preset function.

・ Assignments of Ultrasonic Endoscope (5-Switch Scope)



Function	1	2	3	4	5
F/T (Freeze / Trigger)	○	-	-	○	-
F+T (Freeze + Trigger)	○	-	-	○	-
FRZ (Freeze)	○	-	-	○	-
Trigger	○	○	○	○	○
Record	-	○	○	○	○
Iris Mode	-	○	○	○	○
Shutter Speed	-	○	○	○	○
Structure Emphasis	-	○	○	○	○
FICE	-	○	○	○	○
Color Emphasis	-	○	○	○	○
Display	-	○	○	○	○
Electronic Zoom	-	○	○	○	○
SU Freeze	-	○	○	○	○
SU Store	-	○	○	○	○
Timer	-	○	○	○	○
Lap Time	-	○	○	○	○
Not Assigned	-	○	○	○	○

○ : Available to assign

* No ultrasonic endoscope supports the Obs. Mode Preset function.

2.8 Setting Foot Switch (FS1)

<Functions to be assigned to the foot switch (FS1)>

The functions in the following chart can be assigned to the foot switch of the endoscope connected to this product.

When the function needs to be changed, consult your local FUJIFILM dealer.

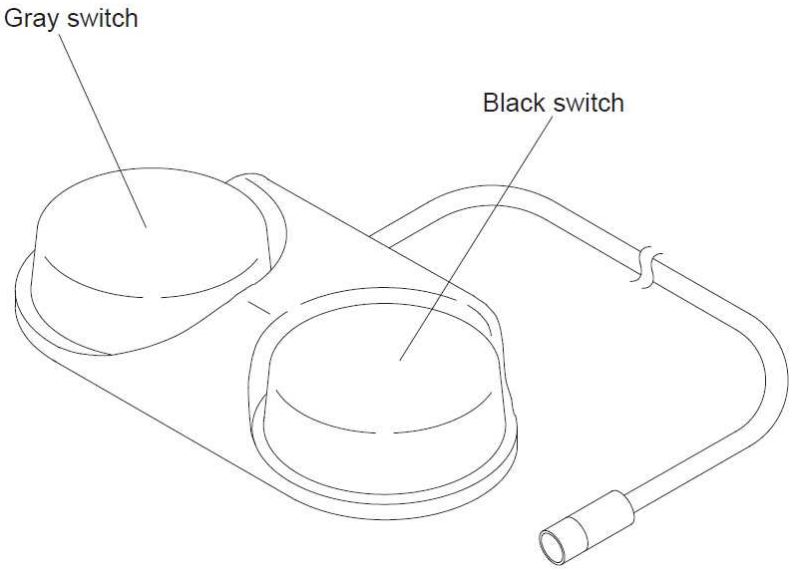
Function	Description
F/T, F+T, FRZ	When this switch is pressed, the same function assigned to the Freeze switch of the scope switch will operate. → “2.7 Endoscope Tab”
Trigger	If this switch is pressed when the image on the observation screen is frozen, the image is captured, and then the freeze mode is canceled. * If the image is not frozen, the image is not captured.
Record	If this switch is pressed when the image on the observation screen is frozen, the image is captured, and then the freeze mode is canceled. * If this switch is pressed when a video image is displayed, the observation screen displays the frozen image while displaying the video image on the sub-screen, and then, the frozen image is captured. After the image is captured, the freeze mode is canceled.
Iris Mode	This switch changes the iris mode (AUTO/PEAK/AVE).
Shutter Speed	This switch changes the shutter speed (Standard/High) set on the Shutter Speed Setup screen. →EP-6000 Operation Manual “5.3.6 Setting the Shutter Speed”
Structure Emphasis	This switch turns the structure emphasis ON/OFF. →EP-6000 Operation Manual “5.3.2 Structure Emphasis Settings”
FICE	When a FICE set number is assigned in the “Simple FICE Setup” and FICE is “OFF”, each press of this switch changes the function to be selected in order of FICE “ON” and call up of FICE set number of “Assignment 1” → call up of “Assignment 2” → call up of “Assignment 3” → FICE “OFF”. →EP-6000 Operation Manual “5.3.3 Setting FICE”
Color Emphasis	This switch turns the tone function ON/OFF. →EP-6000 Operation Manual “5.3.4 Tone Settings”
Display	This switch is used to display or not to display the information on the observation screen. * When “Data Display Switching” is disabled, the function of this switch is also disabled.

Function	Description
Electronic Zoom: Zoom In [*1]	This switch changes the zoom ratio of the electronic zoom. The ratio changes each 0.05 steps from the range of x1.00 to x2.00. This switch performs zoom-in only.
Electronic Zoom: Zoom Out [*1]	This switch changes the zoom ratio of the electronic zoom. The ratio changes each 0.05 steps from the range of x1.00 to x2.00. This switch performs zoom-out only.
Optical Zoom: Zoom In	When an optical zoom scope is connected, this switch changes the zoom ratio of the optical zoom. This switch performs zoom-in only.
Optical Zoom: Zoom Out	When an optical zoom scope is connected, this switch changes the zoom ratio of the optical zoom. This switch performs zoom-out only.
PinP Sub-screen Position Switching	If this switch is pressed when the observation screen displays a frozen image while displaying the video image on the sub-screen, the sub-screen changes its display position in order of the upper left → upper right → lower right → lower left.
Hide / Display Subscreen	When the observation screen displays a frozen image while displaying the video image on the sub-screen, pressing of this switch hides the sub-screen. To re-display the sub-screen, press this switch again.
Obs. Mode Preset	This switch changes the observation mode in the order specified on the Obs. Mode Preset Setup. →EP-6000 Operation Manual “5.5.1 Registering, Calling Up and Editing and Deleting Image Setup Page - <Registering Image Setup Page> - Scope Common tab - Obs. Mode Preset Setup”
Not Assigned	Assigns no function.

*1: The zoom ratio of some 530 series scopes is x1.00 to x1.95.

<Setting Foot Switch (FS1)>

The functions available for each part of the foot switch are described in the following chart.



* For the endoscopes without the SP switch, the functions for SP switch cannot be selected.

Function	Gray	Black
F/T, F+T, FRZ	○	○
Trigger	○	○
Record	○	○
Iris Mode	○	○
Shutter Speed	○	○
Structure Emphasis	○	○
FICE	○	○
Color Emphasis	○	○
Display	○	○
Electronic Zoom:Zoom In	○	○
Electronic Zoom:Zoom Out	○	○
Optical Zoom:Zoom In	○	○
Optical Zoom:Zoom Out	○	○
PinP Sub-screen Position Switching	○	○
Hide / Display Subscreen	○	○
Obs. Mode Preset	○	○
Not Assigned	○	○

○ : Available to assign

2.9 Setup for Switching the Shutter Speed During Optical Zoom

When an optical zoom scope is connected, the shutter speed at the optical zoom can be switched automatically.
The switching methods are described below. The switching method (Auto/Auto 2/Manual) and the OM max. value are set by service personnel at the time of installation.

Auto	When the optical zoom is in maximum, the shutter speed is changed to the speed set for the optical zoom.
Auto 2	In a general observation (when not using the optical zoom), the shutter speed is a standard speed. When the position of the optical zoom is placed in “Far Position” of “Optical Zoom Setup”, the shutter speed is the speed set for the optical zoom. When the position of the optical zoom is placed in “Near Position” of “Optical Zoom Setup”, the shutter speed is the speed according to the OM max. value.
Manual	When using the optical zoom, the shutter speed does not change automatically. Switching is performed by pressing the button to which “Shutter speed” has been assigned.

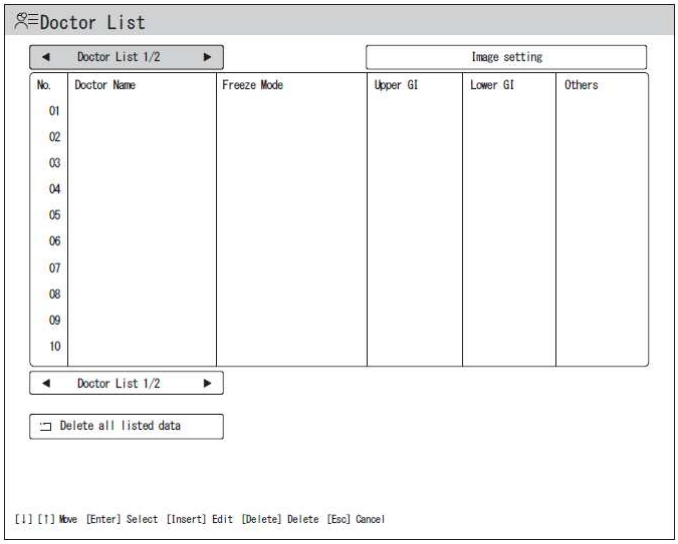
* When the switching method is Auto or Auto 2 and an optical zoom scope is connected, if the zoom switch is pressed while the optical zoom ratio is in maximum, the zoom changes to the electronic zoom automatically.

2.10 Setting the Doctor's Name

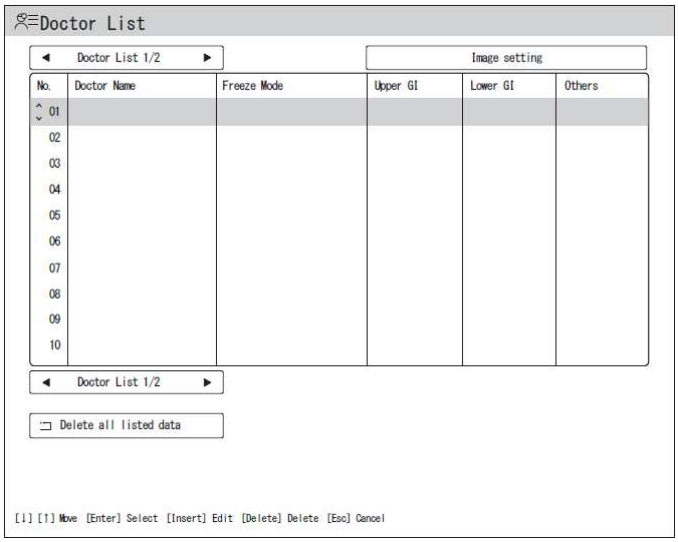
This section describes the method of registering a doctor’s name in the doctor list, and also the method of deleting a registered doctor’s name. The registered doctor’s name can be selected when registering patient information. For registering patient information, refer to “5.2.1 Registering Patient Information”.

<Registering a Doctor's Name>
Up to 20 doctors’ names can be registered

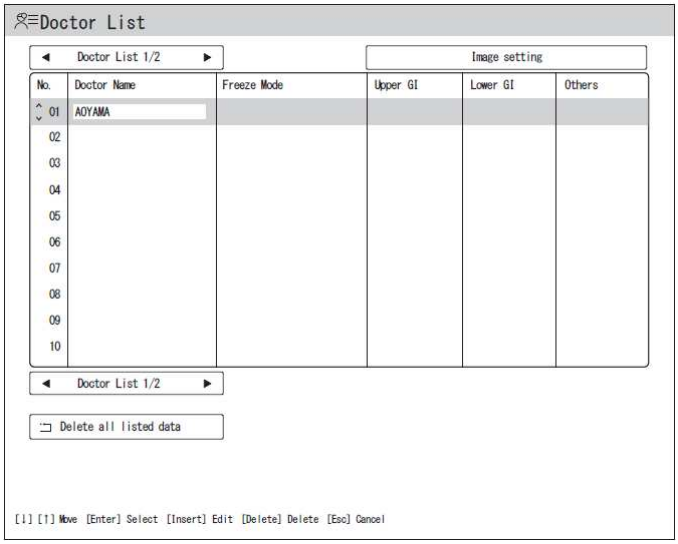
(1) Press the [Doctor] key.
The Doctor List screen appears.
To turn the pages, move the cursor to “Doctor List 1/2 (or 2/2)” and then press the [←] or [→] key.



(2) Move the cursor to the number of the doctor's name to be registered and press the [Insert] key.
Now the system is ready for the doctor's name to be entered.



(3) Enter the doctor's name, using up to 20 characters.

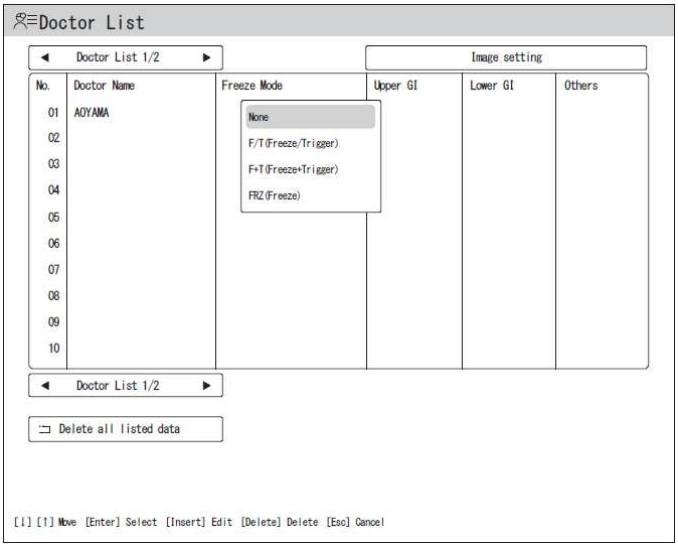


(4) When entry of the doctor name is completed, press the [Enter] key.
When a pop-up menu is displayed, select “None” or the function to be assigned to the freeze mode.

◆Note◆

- The function selected in “Freeze Mode” is regarded as a doctor-specific function giving it a priority over the setting performed by service personnel.
- When “Freeze” is selected in “Freeze Mode”
  If the 600 system scope or 500 system scope, except the ultrasonic endoscope, is connected but the trigger or record function is not assigned to the RC switch or Switch 4 on the endoscope, the trigger function is automatically assigned to the RC switch or Switch 4.
- For 700 system scopes, if “Freeze / Trigger”, “Freeze + Trigger” or “Freeze” and “Trigger” / “Record” are not assigned, images cannot be captured.

→“2.7 Endoscope Tab”



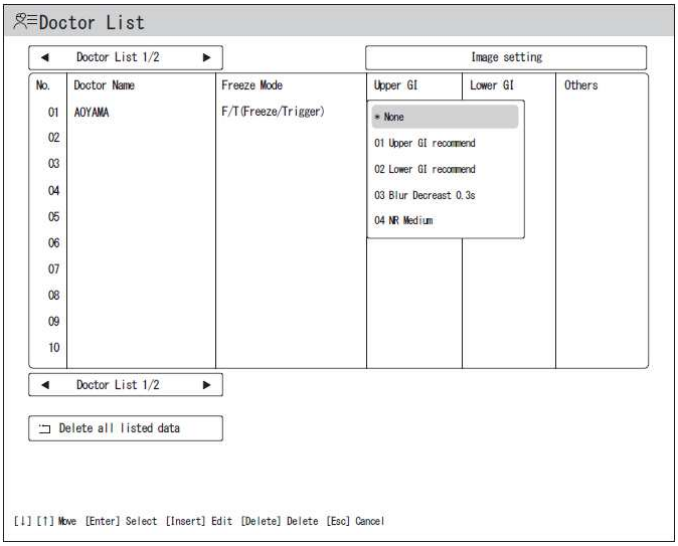
(5) Select the image setting. By selecting the image setting according to the target region of endoscopic observation, the appropriate image setting is loaded at the time of starting the examination. When a pop-up menu is displayed, select "* None" or an already registered image setup page name.

Upper GI: Endoscope whose name begins with "EG"
Lower GI: Endoscope whose name begins with "EC"
Others: Other than above

→EP-6000 Operation Manual "5.5.1 Registering, Calling Up and Editing and Deleting Image Setup Page"

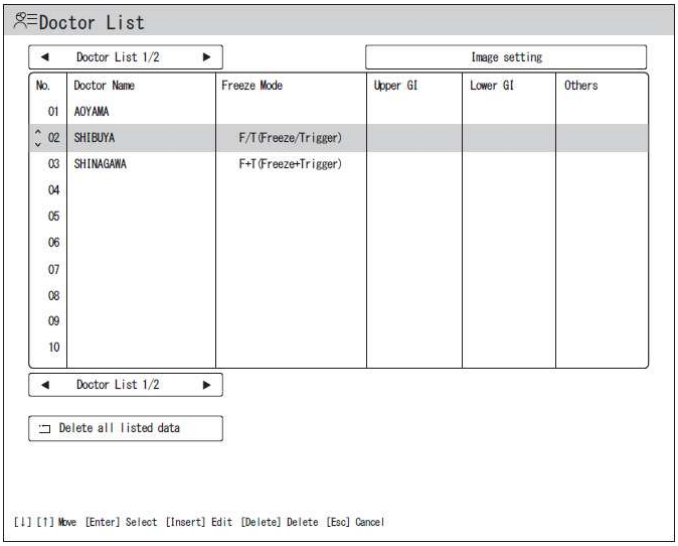
◆Note◆

- Items that can be selected in "Image setting" are image setting page names registered on the Image Setup Page screen.



(6) When registering two or more doctor's names, repeat steps (2) to (5).

(7) Once you have entered all of the doctor's names, select a doctor name and press the [Enter] key. The settings for the selected doctor are called up and operation returns to the observation screen. To return to the observation screen without the settings called up, press the [Esc] key.

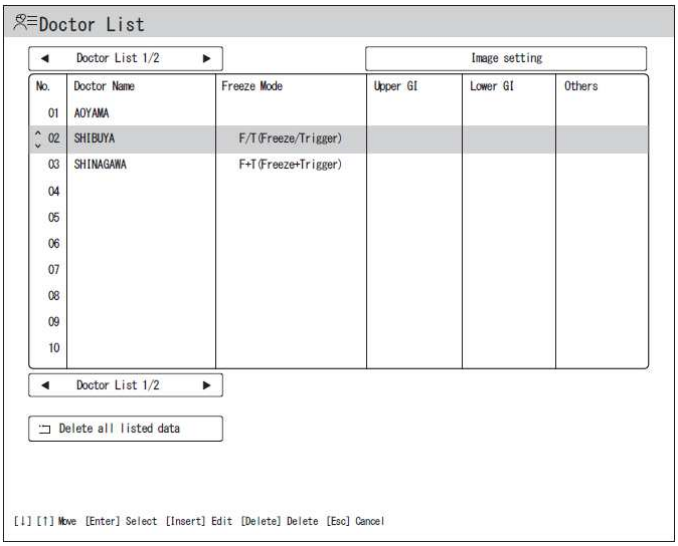


< Deleting a Doctor's Name>

(1) Press the [Doctor] key.

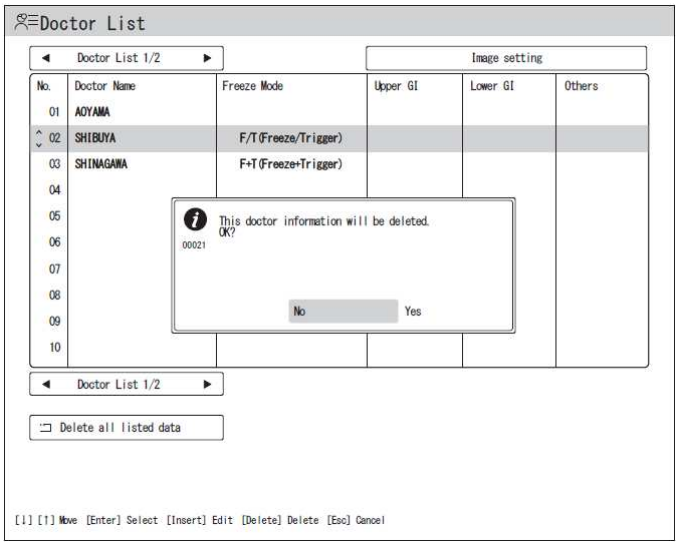
The Doctor List screen appears.

To turn the pages, move the cursor to "Doctor List 1/2 (or 2/2)" and then press the [←] or [→] key.

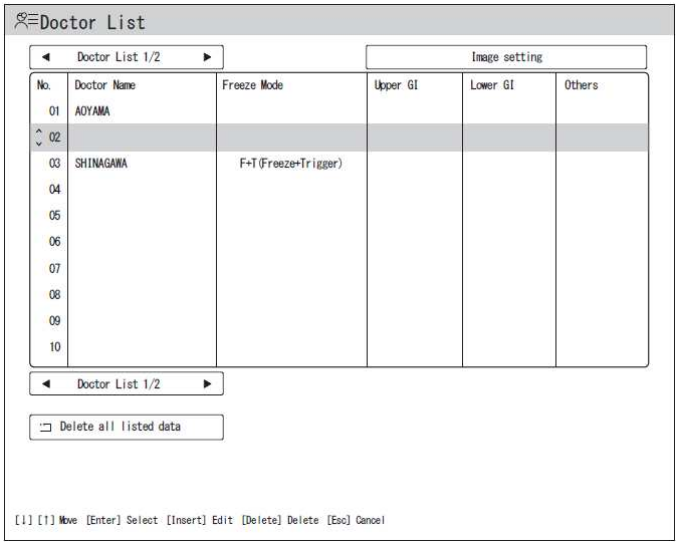


(2) Move the cursor to the number of the doctor's name to be deleted and press the [Delete] key.

The confirmation message "This doctor information will be deleted. OK?" appears.

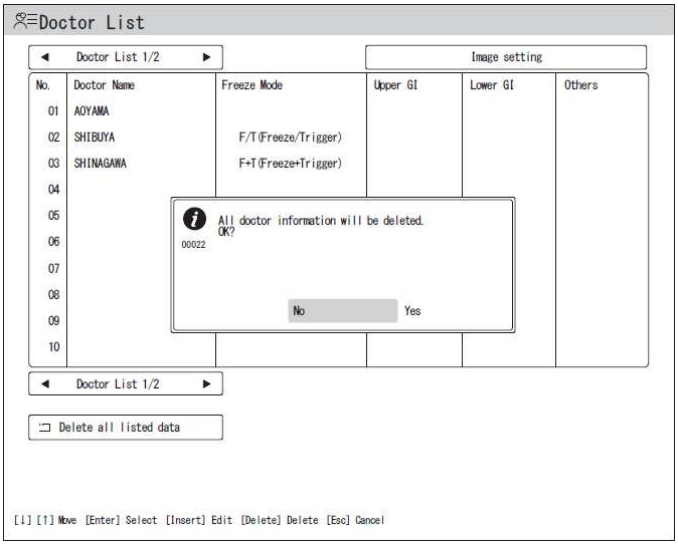


(3) When “Yes” is selected, the selected doctor’s name is deleted.
The deleted list is left blank.



◆Note◆

- When deleting all doctors’ names, move the cursor to “Delete all listed data” and press the [Enter] key. The confirmation message “All doctor information will be deleted. OK?” appears.



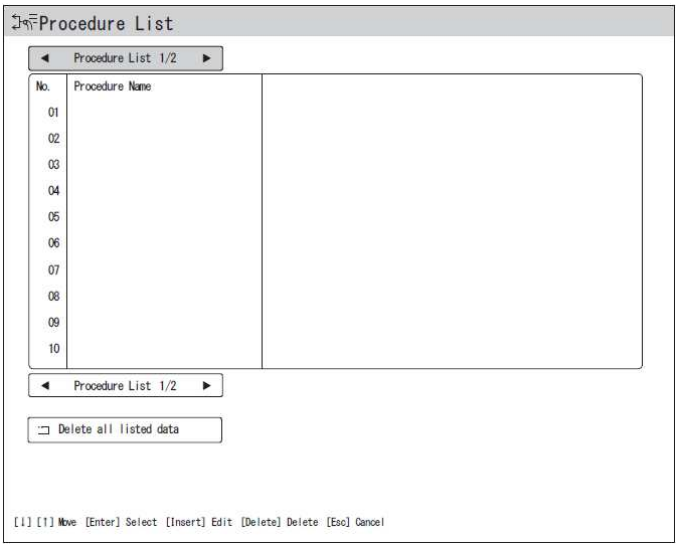
(4) Press the [Enter] key.
The selected doctor’s name is called up and operation returns to the observation screen.
To return to the observation screen without the doctor’s name called up, press the [Esc] key.

2.11 Setting the Procedure Name

This section describes the method of registering a procedure name in the procedure list, and also the method of deleting a registered procedure.
The registered procedure name can be selected when registering patient information.
For registering patient information, refer to EP-6000 Operation Manual “5.2.1 Registering Patient Information”.

<Registering a Procedure Name>
Up to 20 types of procedure names can be registered.

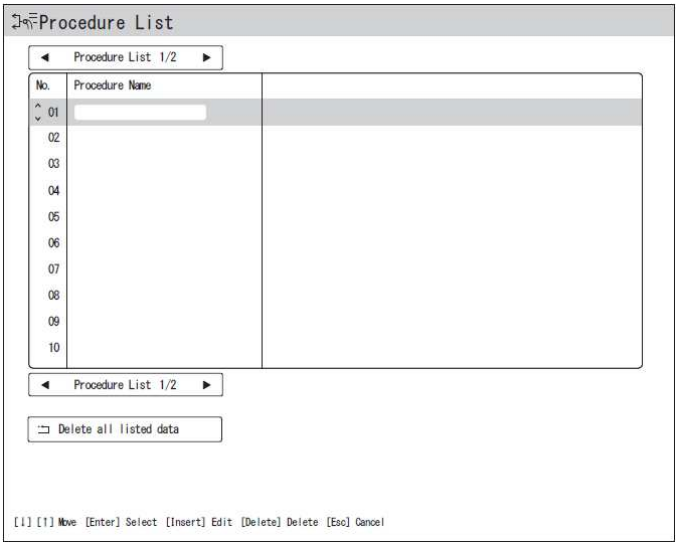
(1) Press the [Case] key.
The Procedure List screen appears.
To turn the pages, move the cursor to “Procedure List 1/2 (or 2/2)” and then press the [←] or [→] key.



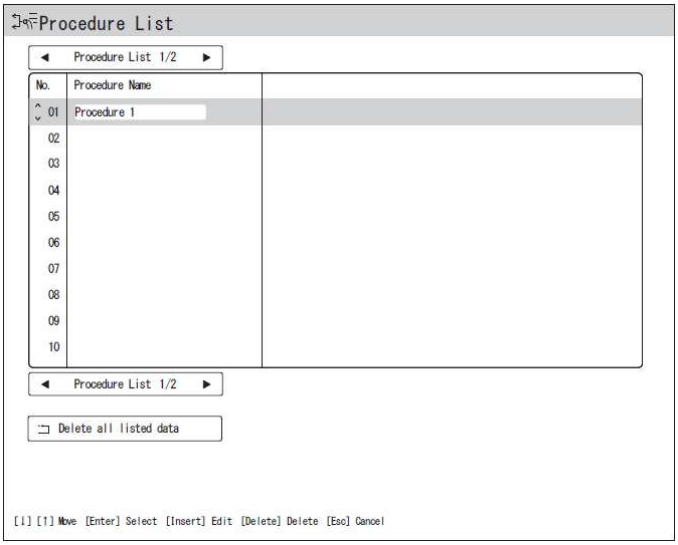
(2) Move the cursor to the list number of the procedure name to be registered and press the [Insert] key.
Now the system is ready for the procedure name to be entered.

◆Note◆

- When the [Enter] key is pressed, the selected procedure name is called up and operation returns to the observation screen.
If no procedure name is registered, thescreen display remains unchanged even when the [Enter] key is pressed.



(3) Enter a procedure name using up to 16 characters and press the [Enter] key.

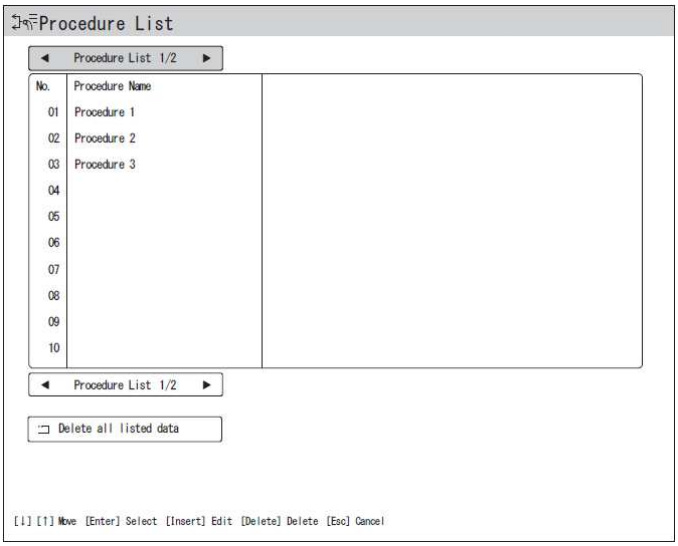


(4) When registering two or more procedure names, repeat steps (2) to (3).

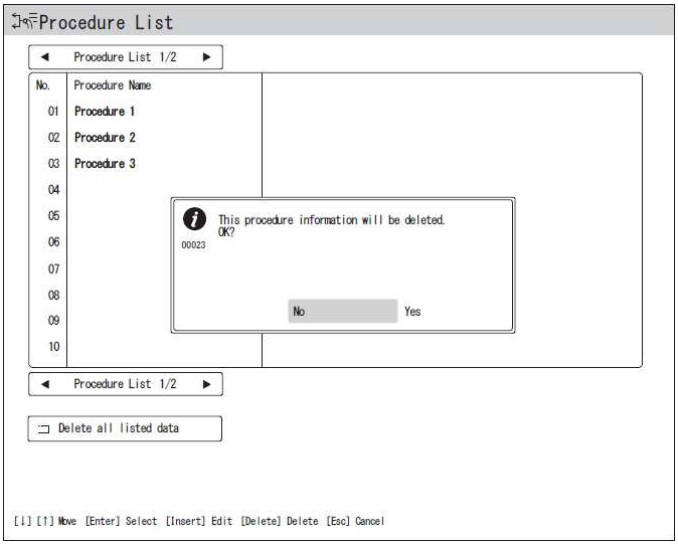
(5) Once you have entered all of the procedure names, select a procedure name and press the [Enter] key.
The selected procedure name is called up and operation returns to the observation screen.
To return to the observation screen without the procedure name called up, press the [Esc] key.

<Deleting a Procedure Name>

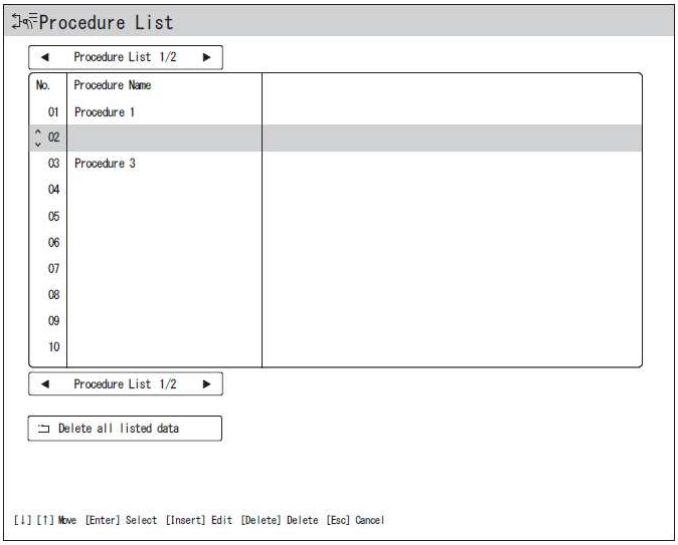
(1) Press the [Case] key.
The Procedure List screen appears. To turn the pages, move the cursor to “Procedure List 1/2 (or 2/2)” and then press the [←] or [→] key.



(2) Move the cursor to the list number of the procedure name to be deleted and press the [Delete] key.
The confirmation message “This procedure information will be deleted. OK?” appears.

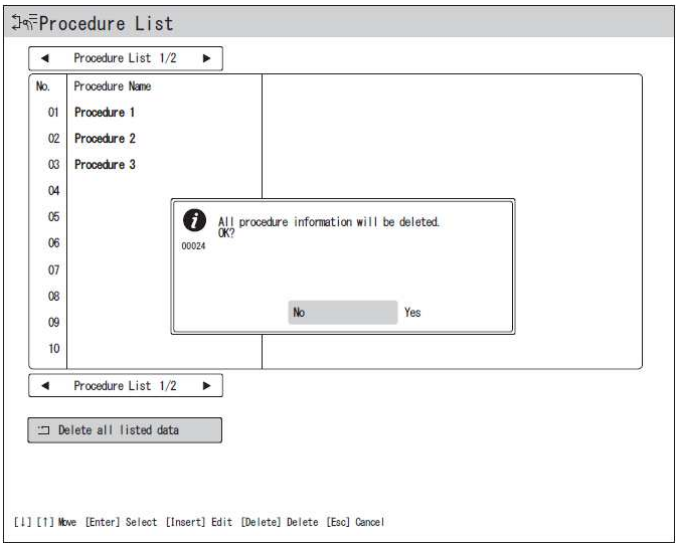


(3) When “Yes” is selected, the selected procedure name is deleted.
“Procedure Name” for the deleted list is left blank.



◆Note◆

- When deleting all procedure names, move the cursor to “Delete all listed data” and press the [Enter] key.



(4) Press the [Esc] key.
Operation returns to the observation screen.

2.12 Setting the Message

Messages to be added to patient information can be registered.

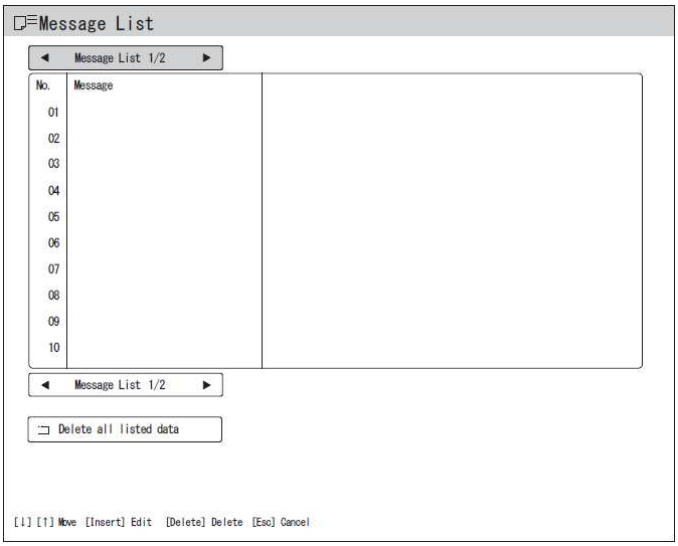
<Registering a Message>

Up to 20 types of messages can be registered.

(1) Press the [Message] key.

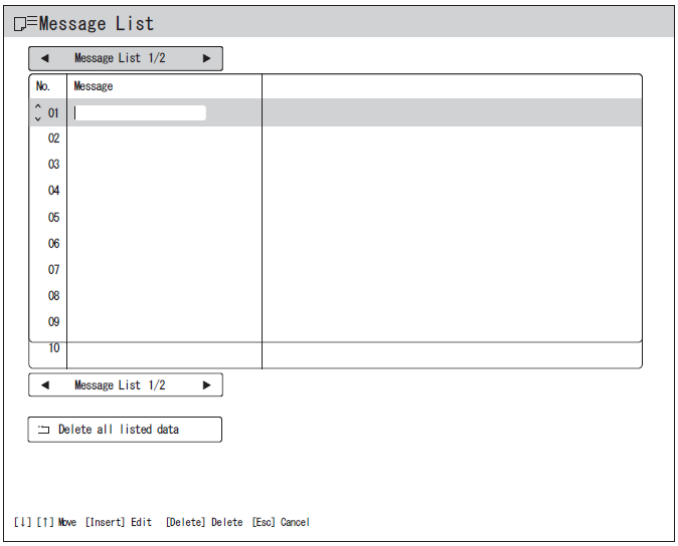
The Message List screen appears.

To turn the pages, move the cursor to “Message List 1/2 (or 2/2)” and then press the [←] or [→] key.

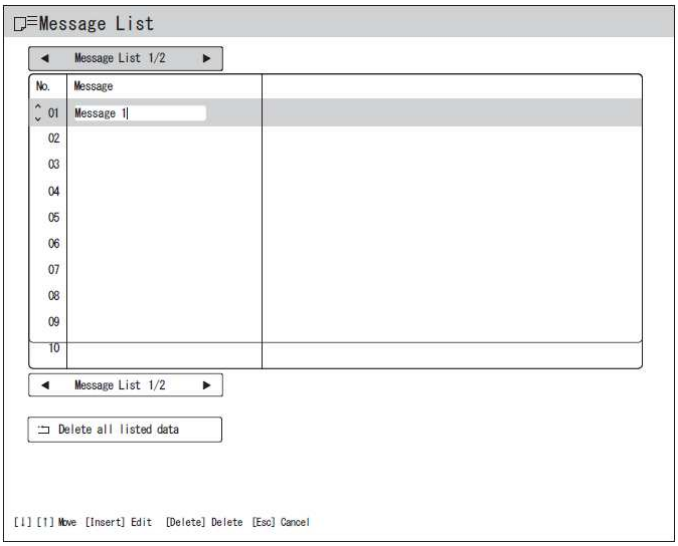


(2) Move the cursor to the list number of the message to be registered and press the [Insert] key.

Now the system is ready for the message to be entered.



(3) Enter a message using up to 20 characters and press the [Enter] key.

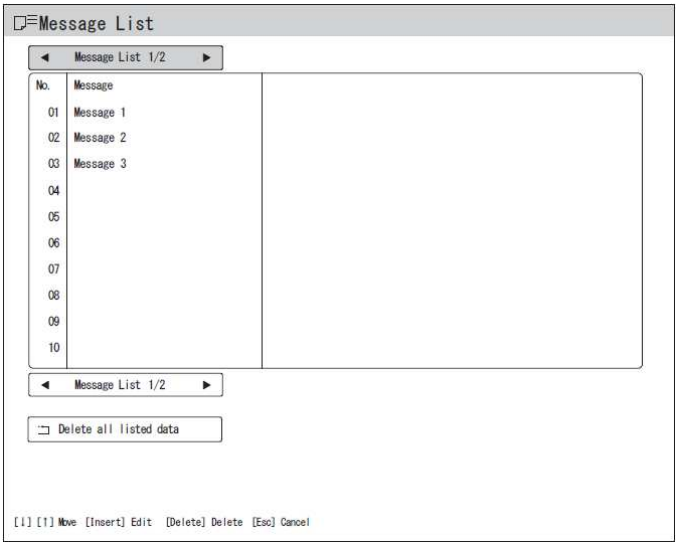


(4) When registering two or more messages, repeat steps (2) to (3).

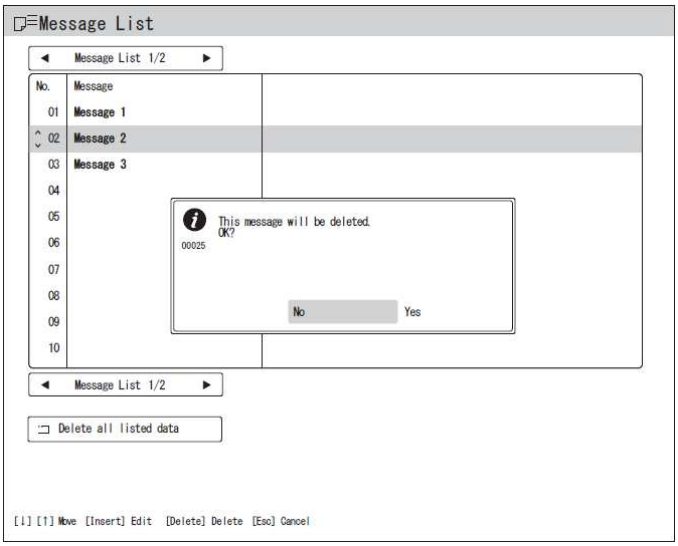
(5) Press the [Esc] key.
Operation returns to the observation screen.

<Deleting a Message>

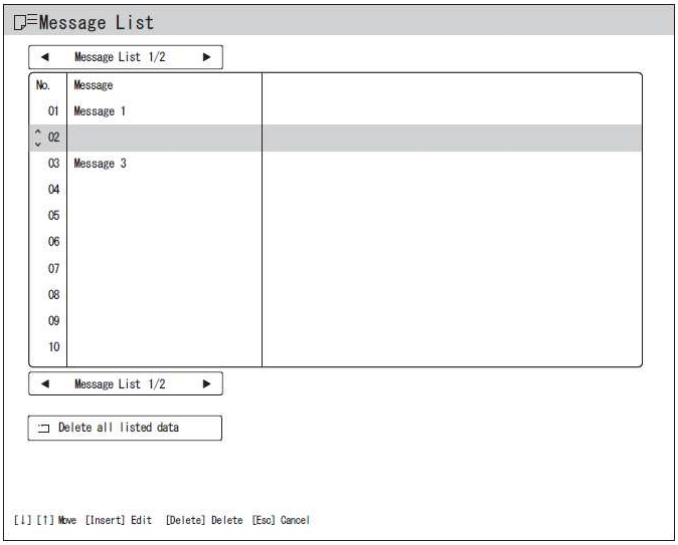
(1) Press the [Message] key.
The Message List screen appears. To turn the pages, move the cursor to “Message List 1/2 (or 2/2)” and then press the [←] or [→] key.



(2) Move the cursor to the list number of the message to be deleted and press the [Delete] key.
The confirmation message “This message will be deleted. OK?” appears.

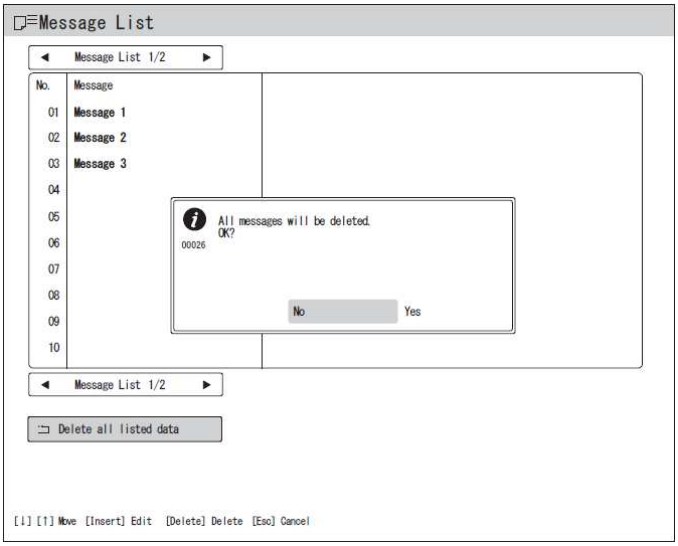


(3) When “Yes” is selected, the selected message is deleted.
“Message” for the deleted list is left blank.



◆Note◆

・ When deleting all messages, move the cursor to “Delete all listed data” and press the [Enter] key.



(4) Press the [Esc] key.
Operation returns to the observation screen.

3. Security Function

Caution

- **Once the user logs in to the security function, all the information can be accessed until the user logs off the security function or turns off the system.**
  When stepping away from the system, be sure to log off the security function or turn off the system.
- **If you forgot the login password and cannot log in to the security function, consult your local FUJIFILM dealer.**

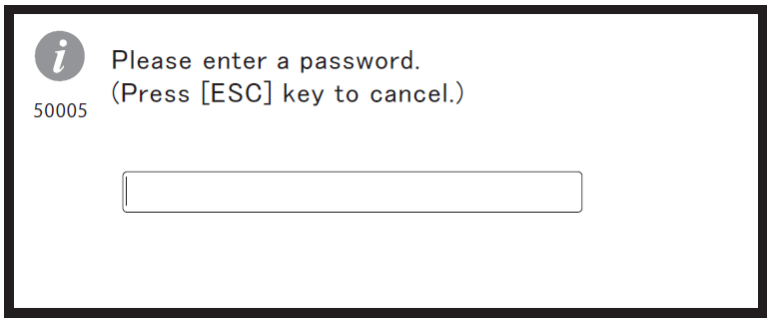
To prevent information leakage to third parties, the login authentication screen requesting the login password can be displayed when accessing personal information of the patient or information on system settings.

Two kinds of login passwords, the login password for the user, and the one for the administrator can be set. Only the administrator can perform security settings.
→“3.1 Access Control with the Security Function”

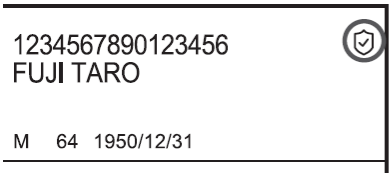
The default login password for the user is “user”, and the default login password for the administrator is “user1”. Change each login password when logging in to this product for the first time.
→“3.2 Logging in to the Security Function (Changing the Password)”

◆Note◆

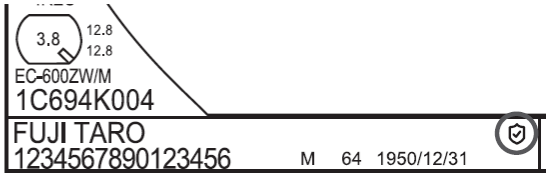
- Take care not to forget the changed password.
  To protect personal information of the patient, change the password regularly.



Once the user or administrator logs in to the security function, the icon indicating the login state is displayed on the observation screen.
→EP-6000 Operation Manual “3.9 Data Display on the Observation Screen”



FullHD mode

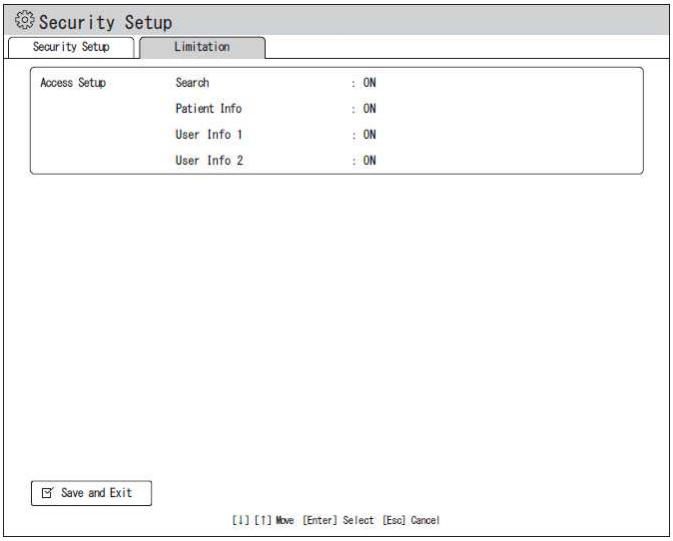


SXGA mode

3.1 Access Control with the Security Function

Only the administrator can change the security settings.
When the login authentication screen appears, log in to the security function by entering the login password for the administrator.

Press the [System] key on the keyboard.
The System Setup screen appears.
Select “Security” on the “Basic Setting” tab and press the [Enter] key.
Switch to the “Limitation” tab.



Category	Item	Value	Description
Access Setup	Search	ON	Select ON/OFF of the security function for the items set by using the [Start] or [Search] key, and for the operation described in <How to copy daily exam data>.
		OFF	
	Patient Info	ON	Select ON/OFF of the security function for the items set by using the [Patient] key.
		OFF	
	User Info 1	ON	Select ON/OFF of the security function for the items set by using the [Doctor], [System], [Peripherals] or [Image] key.
		OFF	
	User Info 2	ON	Select ON/OFF of the security function for the items set by using the [Case] or [Message] key.
		OFF	

◆Note◆

- For the operations on the menu screen, refer to the description of basic system setup operations.
  →“2.2 Basic System Setup Operations”

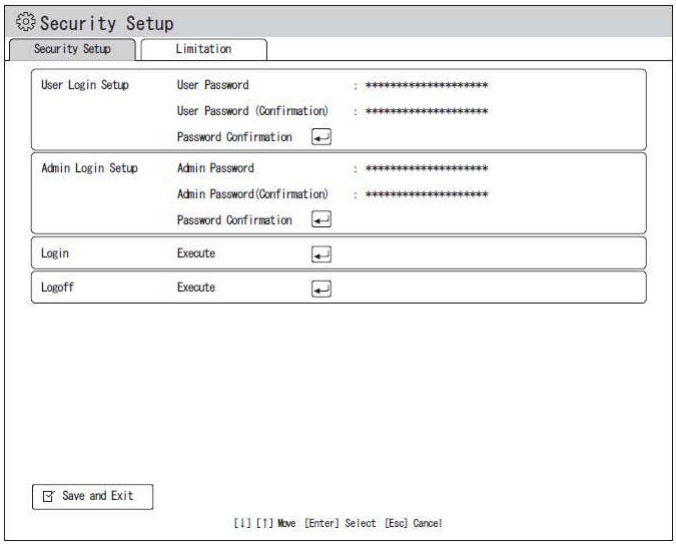
3.2 Logging in to the Security Function (Changing the Password)

Caution

- **If you forgot the login password and cannot log in to the security function, consult your local FUJIFILM dealer.**

Press the [System] key on the keyboard.
The System Setup screen appears. Select “Security” on the “Basic Setting” tab and press the [Enter] key. Switch to the “Security Setup” tab.

When the password for the user is entered at the time of logging in to the security function, only “User Password” can be changed.
When the password for the administrator is entered, “User Password” and “Admin Password” can be changed.
The default login password for the user is “user”, and the default login password for the administrator is “user1”.



Category	Item	Description
User Login Setup	User Password	The password must be between 5 to 15 characters in length. Alphanumeric characters and symbols can be used.
	User Password (Confirmation)	Enter the new password again.
	Password Confirmation	After entering the new password in “User Password” and “User Password (Confirmation)”, press the [Enter] key to change the password.
Admin Login Setup	Admin Password	The password must be between 5 to 15 characters in length. Alphanumeric characters and symbols can be used.
	User Password (Confirmation)	Enter the new password again.
	Password Confirmation	After entering the new password in “Admin Password” and “Admin Password (Confirmation)”, press the [Enter] key to change the password.
Login	Execute	Select “Login” and press the [Enter] key to log in to the security function. Login enables the security function and allows the change of the login password for the user or the administrator.

Logoff	Execute	→“3.3 Logging off the Security Function”

◆Note◆

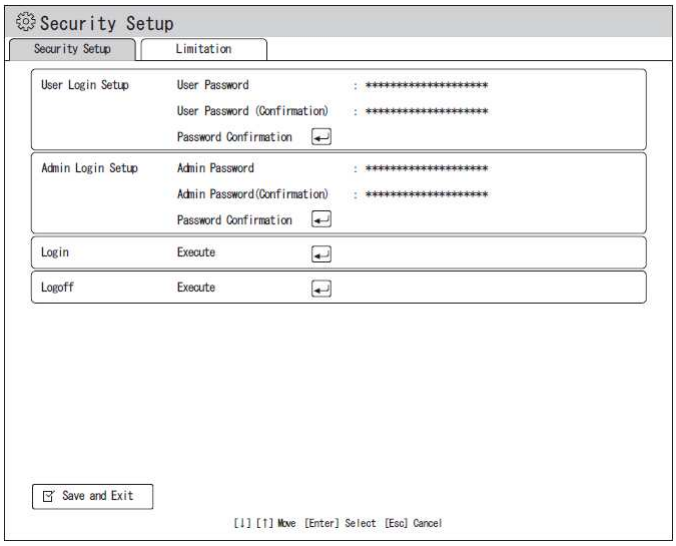
- For the operations on the menu screen, refer to the description of basic system setup operations.
  →“2.2 Basic System Setup Operations”

3.3 Logging off the Security Function

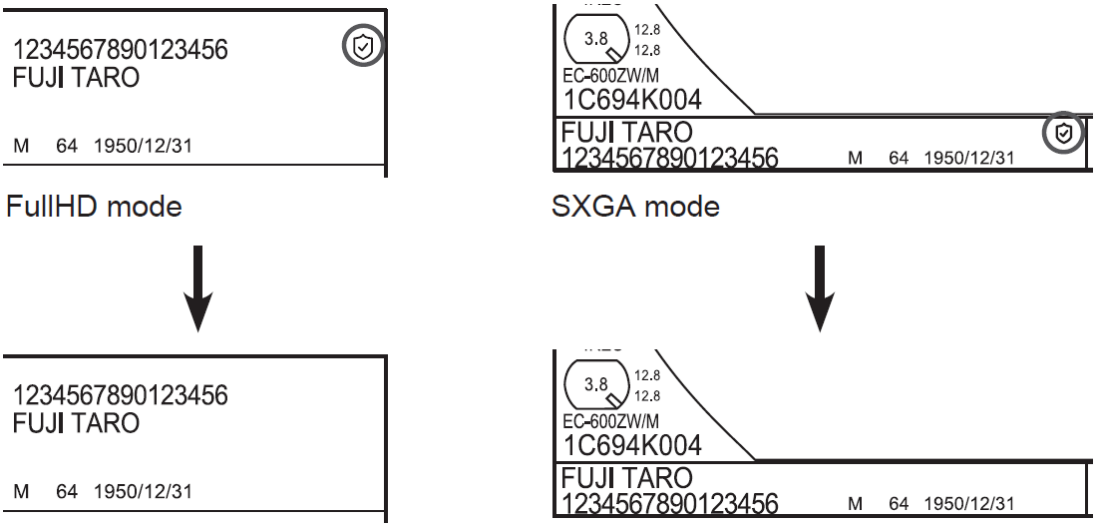
Caution

- **Once the user logs in to the security function, all the information can be accessed until the user logs off the security function or turns off the system.**
  When stepping away from the system, be sure to log off the security function or turn off the system.

Press the [System] key on the keyboard.
The System Setup screen appears.
Select “Security” on the “Basic Setting” tab and press the [Enter] key.
Switch to the “Security Setup” tab.



Select “Logoff” and press the [Enter] key.
When the logoff sequence is completed, select “Save and Exit” and press the [Enter] key.
Ensure that the icon indicating the login state disappears from the observation screen.



◆Note◆

- For the operations on the menu screen, refer to the description of basic system setup operations.
  →“2.2 Basic System Setup Operations”

FUJIFILM Corporation
26-30, Nishiazabu 2-chome, Minato-ku, Tokyo 106-8620, Japan

SS1807-N003

FUJIFILM

FUJIFILM Corporation
26-30, NISHIAZABU 2-CHOME, MINATO-KU,
TOKYO 106-8620 JAPAN

CARTA DE AUTORIZACION DE DISTRIBUCION

A quien corresponda,

Estimados Señores:

El suscrito Fujifilm Corporation, Fabricante de productos de Endoscopios tales como Equipos, Consumibles e Instrumental, con residencia en la dirección 26-30 NISHIAZABU 2 CHOME, MANTU-KU TOKIO 106-8320, JAPON manifiesta que:

La sociedad **Jorge Machado Equipos Medicos S.A.S. - JOMEDICAL S.A.S.**, ubicada en la Avenida Carrera 7 No. 124-25, Bogotá D.C.,es nuestro unico representante exclusivo en Colombia, y está autorizado para importar, vender, distribuir, presentar licitaciones, instalar y proveer servicio de mantenimiento preventivo y correctivo a los productos, suministrar accesorios, ser el titular de los registros sanitarios de toda nuestra línea de productos en forma Exclusiva.

Esta autorización será válida desde Agosto 1 de 2022 hasta Diciembre 31 de 2024.

Atentamente,

FUJIFILM Corporation

Mr. Takakazu Sakashita

Senior Manager

Endoscopy Systems Div.

Medical Systems Business Div.

FUJIFILM

FUJIFILM Corporation
26-30, NISHIAZABU 2-CHOME, MINATO-KU,
TOKYO 106-8620 JAPAN

DISTRIBUTION AUTHORIZATION LETTER

To whom it May concern,

Dear Sirs:

Fujifilm Corporation, Manufacturer of Endoscopy products such as Equipment, Consumables and Instruments, placed at 26-30 NISHIAZABU 2 CHOME, MANTU-KU TOKYO 106-8320, JAPAN states that:

The company Jorge Machado Equipos Medicos S.A.S. - JOMEDICAL SAS, located at Avenida Carrera 7 No. 124-25, Bogotá DC, is our only exclusive representative in Colombia, and is authorized to import, sell, distribute, bid, install and provide preventive and corrective maintenance services to products, supply accessories, be the owner of the health records of our entire line of products exclusively.

This authorization will be valid from August 1st, 2022 to December 31st, 2024.

FUJIFILM Corporation



Mr. Takakazu Sakashita

Senior Manager

Endoscopy Systems Div.

Medical Systems Business Div.

JOMEDICAL
equipos médicos

www.jomedical.com

: servicioalcliente@jomedical.com
: jomedical@jomedical.com

PBX: 637-5177
Fax: 629-5958

:Carrera 7 # 124 - 25
BOGOTÁ, Colombia

:Calle 7 # 39 -107
MEDELLÍN, Colombia

Bogotá D.C., Junio de 2024

Señores
GASTROCENTER
HOSPITAL SUSANA LOPEZ VALENCIA E.S.E.
Dr. Edwin Muñoz
Popayán - Cauca.

REF: SEGÚN COTIZACION COJ-EM-0591-2024

CERTIFICADO DE NO CALIBRACION

Respetados Señores:

El fabricante **FUJIFILM**, expresa que estos equipos **NO REQUIEREN CALIBRACIÓN,** ya que no están destinados a hacer mediciones.

Cordialmente,

Nelly C. Vega Cuello

NELLY CECILIA VEGA CUELLO.
Representante legal

JOMEDICAL
equipos médicos

www.jomedical.com

: servicioalcliente@jomedical.com
: jomedical@jomedical.com

PBX: 637-5177
Fax: 629-5958

:Carrera 7 # 124 - 25
BOGOTÁ, Colombia

:Calle 7 # 39 -107
MEDELLÍN, Colombia

Bogotá D.C., Junio de 2024

Señores
GASTROCENTER
HOSPITAL SUSANA LOPEZ VALENCIA E.S.E.
Dr. Edwin Muñoz
Popayán - Cauca.

REF: SEGÚN COTIZACION COJ-EM-0591-2024

GARANTIA PARA EL SUMINISTRO DE STOCK DE INSUMOS, PARTES, ACCESORIOS Y REPUESTOS DE 5 AÑOS

Yo, **NELLY CECILIA VEGA CUELLO** identificada con cédula de ciudadanía número 51.682.866 expedida en Bogotá, en calidad de representante legal de la empresa **JOMEDICAL S.A.S.,** con Nit. 800.088.519-0, domiciliada en Bogotá, garantizo la existencia de stock de repuestos y accesorios originales mínimo por **CINCO (05) años,** a través del amparo de la garantía de suministros y repuestos.

Cordialmente,

NELLY CECILIA VEGA CUELLO
Representante Legal

JOMEDICAL
equipos médicos

CONDICIONES PARA LA LIMPIEZA DE LOS EQUIPOS DE ENDOSCOPIA MARCA **FUJIFILM**.

Los endoscopios flexibles son dispositivos médicos reusables que requieren especial manejo después de cada uso clínico con el fin de lograr la seguridad de los pacientes en los subsecuentes procedimientos. Los instrumentos de endoscopia deben estar sujetos a los pasos apropiados de reprocesamiento descritos en detalle en cada uno de los manuales de operación proporcionados a los usuarios de estos en su compra.

Esta guía rápida está basada en las recomendaciones descritas en los manuales de reprocesamiento FUJIFILM.

Para la limpieza, recomendamos usar los elementos de limpieza listados en el Apéndice contenido en el manual de Operación (Limpieza, desinfección y almacenamiento), los cuales han sido satisfactoriamente probados en los materiales utilizados en equipos de los endoscopía, pinzas de biopsia y demás elementos contemplados en el manual.

Si usted quiere usar elementos de limpieza diferentes a los listados en el Apéndice contenido en el manual de Operación (Limpieza, desinfección y almacenamiento), pregúntenos acerca de la resistencia de los equipos frente a estos, dado que una limpieza y/o desinfección inadecuada puede causar daños a los equipos.

[Notas] para evitar incompatibilidades en el material o resultados insuficientes en la desinfección, por favor no mezcle otros químicos que no estén recomendados en la combinación de la solución.

[El uso de productos con bases aldehídicas deben ser restringidos; siga las recomendaciones de los entes regulatorios nacionales para su uso].

JOMEDICAL
equipos médicos

ELEMENTOS RECOMENDADOS PARA LLEVAR A CABO LA LIMPIEZA DE LOS EQUIPOS

- Adaptador de limpieza - CA-503/A, compuesto por:
  - Tubo para el canal de suministro Aire/Agua
  - Tubo para el canal de succión
  - Jeringa
  - Adaptador de Válvula - CA-503S/A
  - Adaptador para limpieza de la entrada del Pinzas - CA-503B/C (con tapa de tanque)
- Adaptador para limpieza de canal J – CJ-500 (Accesorio estándar para endoscopios que tengan solamente ese mecanismo)
- Cepillos de limpieza
- Probador de fugas de aire - LT-7
- Adaptador de limpieza – CA-500N o adaptador de limpieza del canal de suministro de aire/agua –CA-511N
- Químicos para la limpieza y desinfección
- Contenedor o tina para los químicos de limpieza y desinfección
- Gaza estéril
- Cepillo de dientes de cerdas suaves
- Elementos de protección personal
  - Guantes de Caucho
  - Gafas
  - Tapabocas
  - Ropa de Protección

JOMEDICAL
equipos médicos

QUÍMICOS PARA LIMPIEZA Y DESINFECCIÓN MANUAL

Fabricante	Función	Solución	Radio de Dilución [ml, L ó g/l]	Temperatura [°C]	Tiempo de Permanencia [Minutos]
Ruhof Corporation	Liquido de limpieza	Endozime AW (Enzimático)	8ml con 1L (0.8%)	20-30	2
Laboratorios Inibsa	Liquido de limpieza	Instrumet EZ (Enzimático)	1L con 120L con agua tibia	30	5
Maruishi Pharmaceutic al	Desinfectan te	Steriscope 3 w/v% (Glutaraldeido)	Solución original	20-25	15-25
Johnson & Johnson	Desinfectan te	Cidex 2.25 w/v% (Glutaraldeido)	Solución original	20-25	30-40
Johnson & Johnson	Desinfectan te	Cidex Plus 28 3.5 w/w% (Glutaraldeido)	Solución original	20-25	20-30
Bode Chemie	Liquido de limpieza	Bodedex Forte (Tenside)	5ml con 1L (0.5%)	20	5
	Desinfectan te	Korsolex extra (Glutaraldeido)	40ml con 1L (4.0%)	20	15
Schuelke & Mayr	Liquido de limpieza	Gigazyme (Enzimático)	5ml con 1L (0.5%)	20	5-10
	Desinfectan te	Gigasept FF (Glutaraldeido)	60ml con 1L (6.0%)	20	15-
Ecolab	Liquido de limpieza	Sekusept-Cleaner (Tenside)	5ml con 1L (0.5%)	20-25	5
	Desinfectan te	Sekusid Konz (Glutaraldeido)	40ml con 1L (4.0%)	20-25	30

Fabricante	Función	Solución	Radio de Dilución [ml, L ó g/l]	Temperatura [°C]	Tiempo de Permanencia [Minutos]
Ecolab	Liquido de limpieza	Sekusept-Cleaner (Tenside)	5ml con 1L (0.5%)	20-25	5
	Desinfectante	Sekusid N (Glutaraldeido)	Solución original	20-25	20
Ecolab	Liquido de limpieza	Sekusept Aktiv (Ácido peracético)	10ml con 1L(1%)	20-25	5-10
	Desinfectante	Sekusept Aktiv (Ácido peracético)	20ml con 1L (2.0%)	20-25	15
Ecolab	Liquido de limpieza	Seku Zyme (Enzimático)	10ml con 1L(1%)	20-25	5
	Desinfectante	Sekusept Easy (Ácido peracético)	45ml con 1L (4.5%)	20-25	10
Dr. Deppe	Liquido de limpieza	Instru Zym (Enzimático)	10ml con 1L(1%)	20-30	5
	Desinfectante	Instru Plus (Glutaraldeido)	30ml con 1L (3.0%)	20	15
Dr. Weigert	Liquido de limpieza	Neodisher (Tenside Alcalino)	5ml con 1L (0.5%)	20	10-15
	Desinfectante	Neodisher Septo 3000 (Glutaraldeido)	40ml con 1L (4.0%)	20	30

INSTRUCCIONES DE MANEJO DE IMPLEMENTOS DE LIMPIEZA

El reprocesamiento de los equipos puede dividirse en los siguientes pasos:

Pre Limpieza

Realizar el primer lavado al costado de la cama inmediatamente después de extraer el endoscopio y terminar un procedimiento

Este lavado se debe hacer mediante la limpieza con una toalla de papel o gasa (desechable)

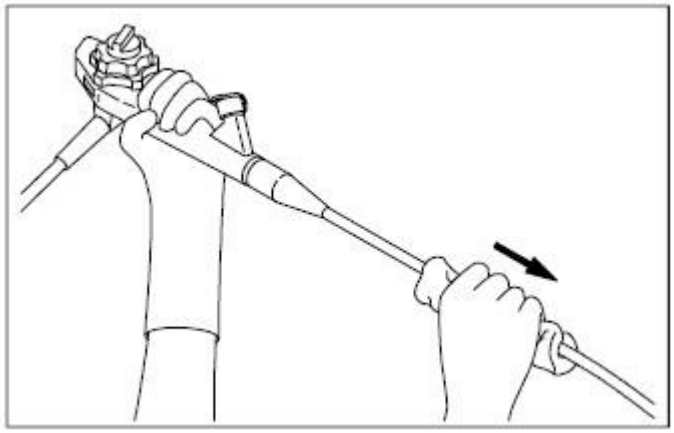


Ilustración 1 Lavado Primario

Luego se realiza cuidadosamente un segundo lavado en el fregadero o lugar de reprocesamiento adecuado en la institución. Para este lavado se usa agua del grifo (a temperatura ambiente) o con líquidos de limpieza (listados anteriormente y han sido comprobados como efectivos en endoscopios, fórceps para biopsia, cepillo de citodiagnóstico y similares).

En cuanto a los efectos, realice la dilución y preparación de productos químicos bajo las condiciones de trabajo indicadas en la tabla "Químicos para limpieza y desinfección manual" anteriormente citadas, teniendo en cuenta que alguno de esos productos exigen la observación de las "precauciones de uso y/o manipulación", por lo cual recomendamos fuertemente leer atentamente el manual de uso de cada uno de los agentes químicos utilizados.

Dentro de una tina o recipiente realice insuflación de aire durante 10 segundos, después de esto inyecte aguan durante 10 segundos. Repita esto por lo menos tres veces con el fin de quitar membranas mucosas y sangre adherida al canal de aire/agua.

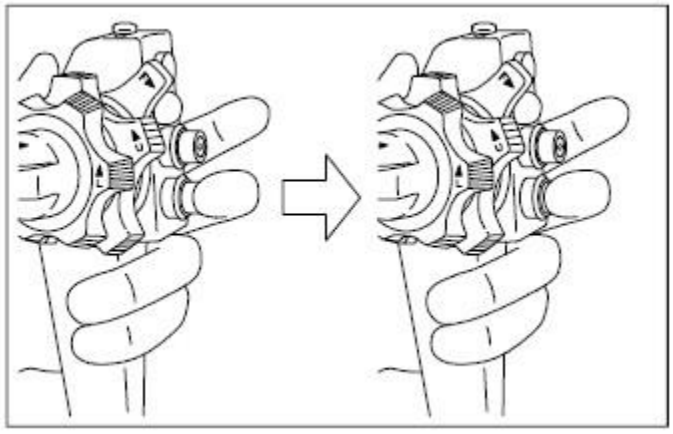


Ilustración 2 Insuflación Aire/Agua

A continuación se debe realizar el lavado del canal de aspiración, para lo cual se debe colocar el extremo distal del endoscopio en una tina o recipiente con líquido de limpieza, y succionar el líquido durante 10 segundos, seguido saque el extremo distal del endoscopio del recipiente y siga succionando aire por otros 10 segundos. Lo anterior se debe repetir por lo menos 3 veces.

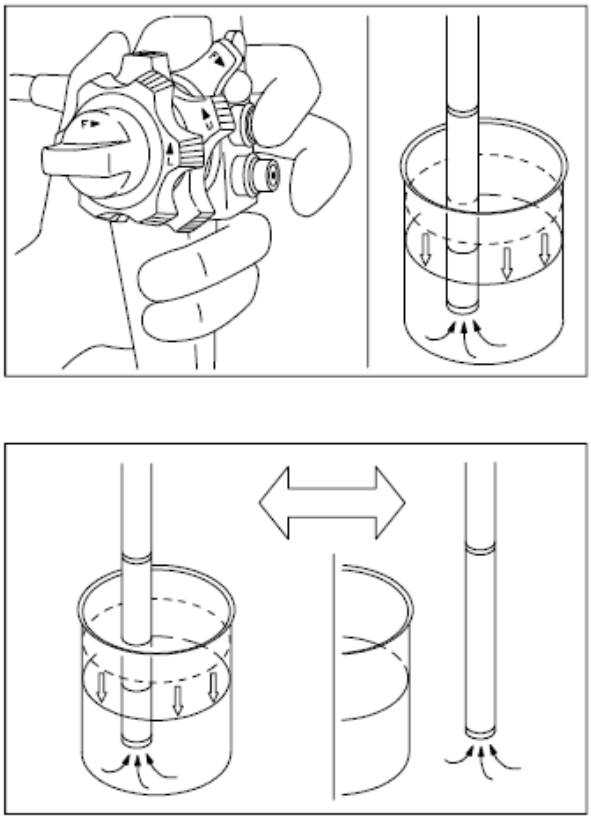


Ilustración 3 Insuflación Aire/Agua

Segundo lavado

Después del primer lavado al costado del procedimiento, realice la prueba de fugas siguiendo las recomendaciones y las instrucciones detalladas en el capítulo 7 "*lavado*" del manual de limpieza y desinfección.

Siga con el cepillado de los canales siguiendo los siguientes pasos:

Cepillado delCanalde Aspiración

Utilizando el cepillo grueso provisto, cepillar las siguientes tres boquillas. Realizar el cepillado 3 veces o más.

- Desde la entrada del fórceps (Canal de trabajo) hasta el extremo distal del endoscopio.
- Retírelo suavemente por el extremo distal del endoscopio.
- Realice la limpieza del cepillo.
- Desde la válvula de aspiración hasta la entrada del fórceps.
- Retírelo suavemente por la entrada del fórceps.
- Realice la limpieza del cepillo.
- Desde la válvula de aspiración hasta el conector de aspiración.
- Retírelo suavemente por el conector de aspiración
- Realice la limpieza del cepillo.

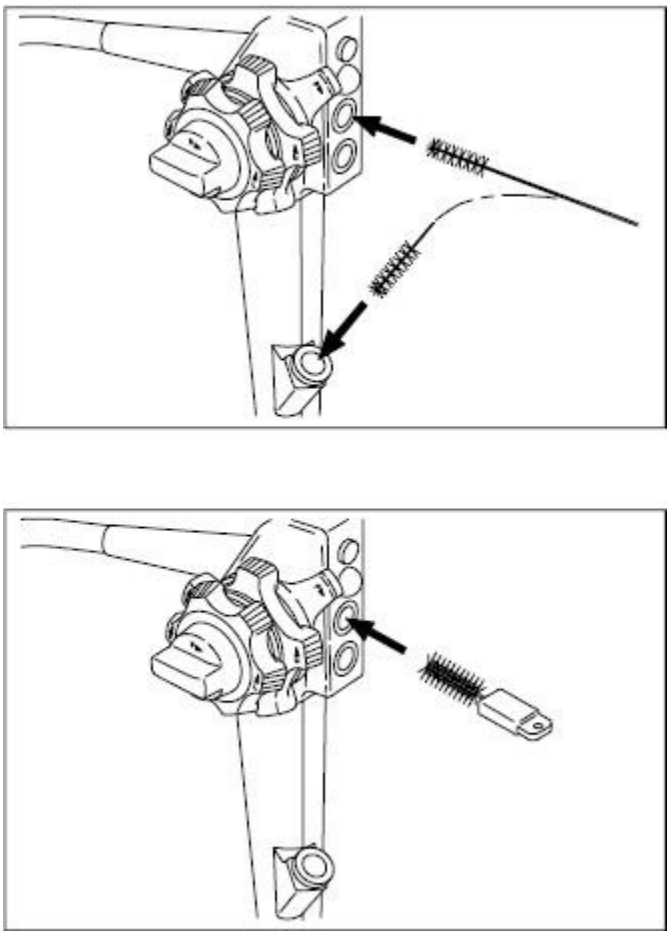


Ilustración 4 Cepillado de canales

Cepille el interior de la válvula

Cepillar con el cepillo de válvula el interior de la válvula de succión y válvula de suministro de aire/agua.

Utilizando el cepillo de limpieza delgado, limpiar las 5 bocas siguientes.

- Desde el canal de suministro de aire de la porción de la válvula de suministro de aire/agua hasta el extremo del Endoscopio.
- Desde el canal de suministro de agua de la porción de la válvula de suministro de aire/agua hasta el extremo del Endoscopio.
- Desde el canal de suministro de aire del conector de suministro de aire/agua hasta la válvula desuministrodeaire/agua.
- Desde el canal de suministro de agua del conector de suministro de aire/agua hasta la válvula de suministro de aire/agua.
- Desde el conector de suministro de aire/agua hasta la guía de aire

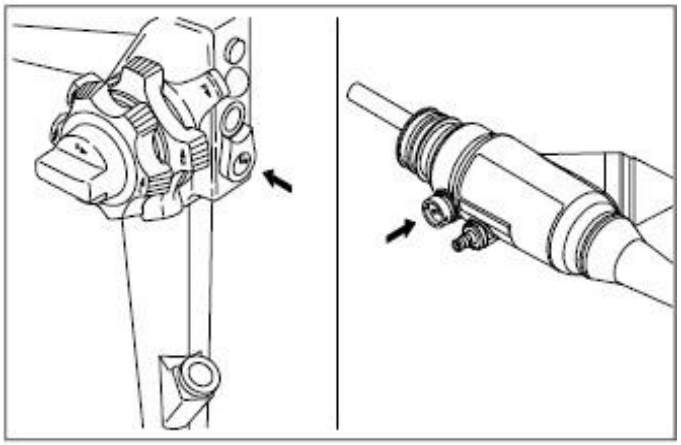


Ilustración 5 Cepillado de válvulas

Cepillar la porción del extremo distal utilizando un cepillo para válvula WB11001FW2 o un cepillo suave.

- Tobera
- Canal del fórceps

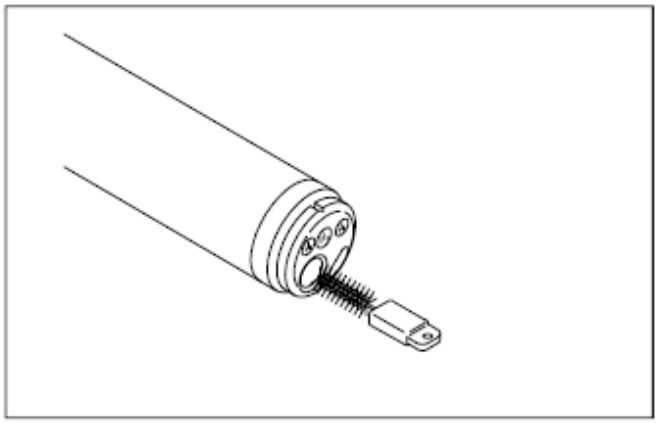


Ilustración 6 Cepillado Punta distal

Recuerde que el número de repeticiones de cada uno de los recorridos descritos anteriormente depende de los protocolos de LIMPIEZA Y DESINFECCIÓN establecidos en cada una de las unidades de endoscopia, teniendo en cuenta que cada recorrido equivale a doble cepillado del canal

¡Atención!

Recuerde verificar el estado de los implementos de limpieza, dándole especial atención a los cepillos. Estos deben cambiarse de preferencia cuando note un desgaste en sus cerdas. El no cambio de estos elementos a tiempo puede acarrear una limpieza inadecuada lo que conlleva a riesgos para el paciente y equipo.

¡Atención!

Si se llega a presentar una obstrucción en el canal de aire/agua recuerde:

(1) Colocar el adaptador de limpieza CA-500N en la porción de la válvula deaire/agua.

(2) Inyectar agua **tibia** (recuerde no calentar el agua a una temperatura superior a 50° C) con la jeringa para eliminar la obstrucción.

(3) Después de eliminar la obstrucción, inyectar aire hasta que salga toda el agua del canal.

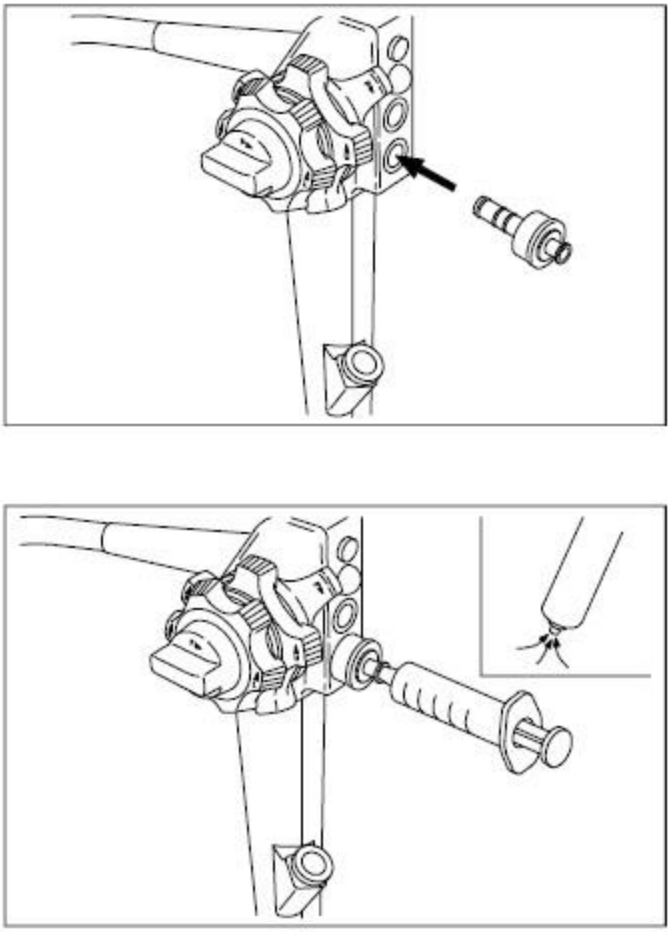


Ilustración 7 Inyección de Agua Tibia

NOTA:

- El endoscopio puede dañarse por altas temperaturas.
- No someter el endoscopio al hervor ni a autoclave.

Luego de realizado el cepillado de los canales de trabajo y de insuflación de Aire/agua, conecteel adaptador de limpieza e insufle liquido de limpieza, teniendo en cuenta cada uno de los pasos descritos en el manual de limpieza y desinfección para el lavadoefectivo de cada uno de los canales.

Recuerde que el líquido de limpieza puede fluir dentro del cuerpo del paciente, por lo que se recomienda fuertemente después del lavado, eliminar cualquier sustancia química con agua (a temperatura ambiente) y luego limpie con una gasa seca.

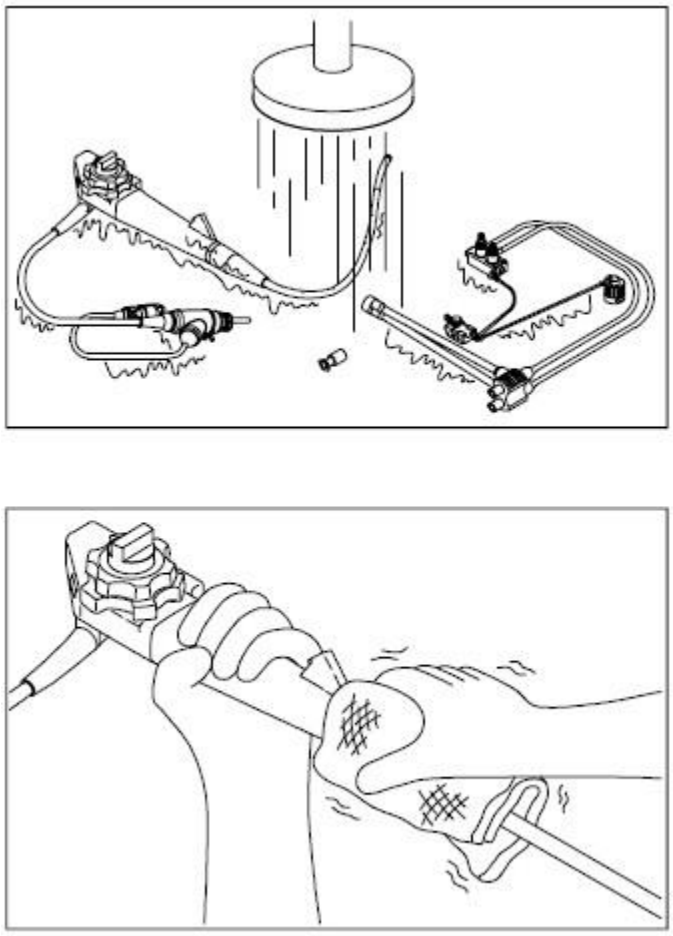


Ilustración 8 Enjuague del endoscopio

¡Atención!

Recuerde lavar los implementos de limpieza teniendo en cuanta las instrucciones detalladas en el manual de limpieza y desinfección.

Después de realizado el primer y segundo lavado se recomienda fuertemente seguir con la desinfección química teniendo en cuanta las instrucciones detalladas en el capítulo 8 "desinfección química" en el manual de limpieza y desinfección.

Prueba de Fugas:

Siempre realizar pruebas de fugas colocando la Tapa del Set –Up y Probador de Fugas LT-7 Insuflar hasta la franja negra o 20Kpa antes de sumergir el endoscopio a líquidos, ya que esto puede ayudar a evitar reparaciones caras más adelante. Si la prueba es Positiva suspenda y llame por Servicio Técnico;
Si la prueba es Negativa, Sacar el Endoscopio del recipiente, des-insuflar, retirar el Probador de Fugas y continuar con el Reprocesamiento.

Enjuague

Siempre enjuague con abundante Agua antes de la desinfección. Retirar el Exceso de Agua, preferiblemente secar con aire comprimido Presión suave. (Max. 20PSI).

Desinfección

Siempre sumerja el endoscopio y las válvulas en una solución desinfectante de eficacia Probada y con certificado para Endoscopia Flexible.
Siempre irrigue todos los canales con una jeringa hasta eliminar el aire, para evitar Espacios muertos
Siempre respete las recomendaciones del fabricante relativas a los tiempos de contacto Mínimos y la temperatura correcta para la solución de desinfección.
Siempre retire la solución de desinfección barriendo profusamente con chorro de aire Antes de enjuagar
Siempre determine si la solución desinfectante sigue siendo efectiva analizándola con una tira de test suministrada por el fabricante.

Enjuague final
Todos los Canales con Abundante Agua. Siempre descartar el agua de enjuague después de cada uso para evitar la concentración del desinfectante
Nunca utilizar el mismo recipiente para el primer enjuague y el enjuague final

Secado
Siempre seque el endoscopio correctamente antes de guardarlo para evitar la Multiplicación microbiana en los canales del endoscopio. Preferiblemente con Aire comprimido Presión suave (Max 20 PSI – 1 Bar – 900 mmHg – 120 Kpa)

Almacenamiento
Lubricar Válvulas y Limpiar Lentes con los Líquidos recomendados, Nunca guarde el endoscopio en el Maletín de transporte.

JOMEDICAL
equipos médicos

www.jomedical.com

: servicioalcliente@jomedical.com
: jomedical@jomedical.com

PBX: 637-5177
Fax: 629-5958

:Carrera 7 # 124 - 25
BOGOTÁ, Colombia

:Calle 7 # 39 -107
MEDELLÍN, Colombia

PROTOCOLO DE MANTENIMIENTO PREVENTIVO EQUIPOS FUJIFILM

REGISTROS RELACIONADOS:

1. VERIFICAR FUENTE DE ALIMENTACIÓN

- Verifique que la torre de video esté conectada mediante un estabilizador de voltaje electrónico de 1000w a 1500w

2. INSPECCIÓN VISUAL

- Haga una inspección visual de la torre: Monitor, procesador endoscopios, unidad quirúrgica, impresora y accesorios; tome nota.
- Observando posibles manchas, rayones, peladuras, partes rotas o deterioradas.
- Observe si hay acumulación de proteínas.

3. PRUEBA DE FUGAS

- Quite el endoscopio del procesador
- Coloque la tapa del Set –Up ADP – EV, en el conector de video
- Coloque el probador de fugas LT – 7 en el conector del endoscopio
- Eleve la presión sin sobrepasar la raya negra
- Observe que la presión se mantenga, e introduzca la sección de inserción en agua, observe que no haya burbujas.
- Si hay escape suspenda todo proceso de verificación, coloque el endoscopio con la punta distal elevada. (No puede ser usado hasta no ser reparado)
- Verifique y haga la prueba de fugas en todos los endoscopios de la torre.

4. PRUEBA DE VIDEO (CON EL ENDOSCOPIO CONECTADO)

- Energice la torre
- Encienda la torre en la siguiente secuencia: Monitor, Procesador.
- Observe que el monitor aparezca el mensaje de inicialización.
- Observe que en el monitor aparezca el campo de visión del endoscopio completo 360º
- Encienda la luz con el botón del procesador

JOMEDICAL
equipos médicos

www.jomedical.com

: servicioalcliente@jomedical.com
: jomedical@jomedical.com

PBX: 637-5177
Fax: 629-5958

:Carrera 7 # 124 - 25
BOGOTÁ, Colombia

:Calle 7 # 39 -107
MEDELLÍN, Colombia

- Coloque la mano sobre la punta distal y observe que la imagen se detallan las huellas dactilares de los dedos
- Con la mano puesta sobre la punta distal, oprima en el procesador de video el botón “iris” y observe que cambia la intensidad de la luz, al mismo tiempo
- que en el monitor de video aparecen las palabras “AVE” y “PICK” en el perímetro de la imagen.
- Deje el procesador en modo “AVE”
- Apague la luz del procesador
- Con la mano puesta en el endoscopio (Sobre la punta distal) apague la luz.
- Observe el número de píxeles del campo de visión que hay en el monitor. (Aparecen como puntos blancos)
- Encienda nuevamente de luz.
- Oprima el botón “color” del procesador
- Observe que en el monitor de video que todos los parámetros de color están en el centro.
- Si no están en el centro desplace en el “MENU” mediante el cursor del teclado y llévelo a “RESET” oprima enter ↵
- Verifique que todos los parámetros quedan en el centro.
- Coloque todos los controles del monitor en el centro
- Coloque el control de apertura del monitor en el mínimo
- Ajuste el color de “brillo” en el monitor de video hasta el punto donde se diferencia notablemente notablemente en el “Campo de Visión” o “Mascara” dentro del monitor.
- Oprima el botón “Menú” del procesador
- Desplace dentro del menú del monitor mediante las teclas del mismo “+” o “-“independientes o con el control de volumen si es digital.
- Ajuste el monitor de manera que el modo predeterminado de ajuste quede desactivado.

www.jomedical.com
: servicioalcliente@jomedical.com
: jomedical@jomedical.com
PBX: 637-5177
Fax: 629-5958
:Carrera 7 # 124 - 25
BOGOTÁ, Colombia
:Calle 7 # 39 -107
MEDELLÍN, Colombia

- Ajuste los parámetros del monitor para que todos los parámetros queden por “Default”
- Si hay VHS verifique el funcionamiento del mismo haciendo una prueba de 5 segundos e modo “REC”.
- Si hay impresora verifique con una toma fotográfica.
- Si hay sistema de captura de Imagen verifique que haya Frezze mediante el botón del endoscopio e impresión y video dependiendo el tiempo programado.

5. PRUEBA DE GUÍA DE LUZ.

- No mire la luz directamente, puede causar daño.
- Encienda la luz en el botón del procesador
- Apuntando el endoscopio sobre una hoja de papel blanco verifique que los dos haces emiten luz.
- Verifique los “pilotos” de las lámparas
- Si están en “Verde” quiere decir que ambas se encuentran buenas.
- Si un piloto indica “Naranja” o “Rojo” quiere decir que hay que reemplazar una lámpara.
- NOTA: Nunca deje el procesador sin una lámpara. La lámpara dañada solo se debe retirar en el momento de reemplazarla por una nueva.
- Apague nuevamente la luz, con el botón del procesador.

6. PRUEBA DE IRRIGACIÓN

- Verifique que el tanque de agua WT – 2 tenga agua.
- Conecte la manguera del tanque de agua WT – 2 al conector del endoscopio.
- Encienda el botón de irrigación del procesador.
- Oprima y mantenga oprimido el botón o válvula de irrigación
- Verifique la salida de agua por el nozzle del endoscopio

www.jomedical.com
: servicioalcliente@jomedical.com
: jomedical@jomedical.com
PBX: 637-5177
Fax: 629-5958
:Carrera 7 # 124 - 25
BOGOTÁ, Colombia
:Calle 7 # 39 -107
MEDELLÍN, Colombia

- Suelte el botón y solo tape el orificio de la válvula de irrigación e introduzca la punta distal entre agua y verifique la salida de aire por el nozzle de irrigación
- Libere el conector del tanque de agua del endoscopio, con un dedo tape el conector del endoscopio y oprima la válvula de irrigación hasta sacar toda el agua contenida dentro del canal de agua aire (AWT). Apague el procesador.
- Si el equipo tiene canales auxiliares se deben irrigar con una jeringa de 10 cm.

7. PRUEBA DE ANGULACIONES Y FRENO (MANDOS)

- Gire las perillas de freno hacia donde indica la flecha, para liberar los frenos de los mandos
- Accione la perilla UP Arriba y verifique una angulación de:
- 190º Para gastroscopio de la serie 200
- 210º para gastroscopios G5 y la serie 250
- 180º para colonoscopio todas las series
- 130º para duodenoscopio todas las series.
- Accione la perilla (Down) abajo y verifique una angulación de:
- 90º para todos los gastroscopios
- 90º para todos los duodenoscopios
- 180º para todos los colonoscopios
- Gire nuevamente la perilla UP/DOWN (arriba/abajo) y déjala en posición central
- Accione la perilla (left/rigth) Izquierda/derecha y verifique una angulación de:
- 100º para todos los gastros
- 160º para todos los colonoscopios
- 110º derecha para todos los duodenos

www.jomedical.com
: servicioalcliente@jomedical.com
: jomedical@jomedical.com
PBX: 637-5177
Fax: 629-5958
:Carrera 7 # 124 - 25
BOGOTÁ, Colombia
:Calle 7 # 39 -107
MEDELLÍN, Colombia

- 90º izquierda para todos los duodenos
- Verifique la acción del freno: angulando el equipo, frenando y observando que se mantenga la angulación. Libere nuevamente los frenos.

8. CANAL DE BIOPSIA Y SUCCIÓN

- El endoscopio debe estar recto (sin angular)
- Introduzca una pinza de biopsia por el canal de trabajo (FCT) con precaución que este cerrada, verifique que desliza suavemente por el canal de sin ninguna obstrucción ni rozamiento. Retire la pinza.
- Si se trata de un duodenoscopio se debe introducir un papilotomo con precaución que esté cerrado, igualmente debe deslizar suavemente y el elevador abierto.
- Verifique la acción del elevador, es decir que el papilotomo gira al accionar el elevador.
- Abra el elevador y retire el papilotomo
- Conecte el succionador y oprimiendo la válvula de succión, verifique que succiona

9. LIMPIEZA (ENDOSCOPIO) DESCONECTADO

- Con la espuma limpiadora y un cepillo limpie los mandos de los endoscopios.
- Séquelas y aplique silicona liquida.

10. PROCESADOR

- Verifique que la torre este des energizada
- Desconecte los cables de video y energiza (Alimentación) si hay pin suelte primero.
- Con un destornillador de estrella
- Retire todos los tornillos de la cubierta superior

JOMEDICAL
equipos médicos

www.jomedical.com

: servicioalcliente@jomedical.com
: jomedical@jomedical.com

PBX: 637-5177
Fax: 629-5958

:Carrera 7 # 124 - 25
BOGOTÁ, Colombia

:Calle 7 # 39 -107
MEDELLÍN, Colombia

- Retire o afloje el tornillo de puerta de las lámparas
- Retire la cubierta
- Retire todos los tornillos del frente y desconecte los cables del panel frontal, menos Power Switch.
- Retire el panel
- Retire todos los tornillos de la cubierta superior de la cámara de las lámparas
- Colóquese el brazalete antiestático; aterrizado con el chasis del equipo
- Con una brocha No 2, limpie en un solo sentido la tarjeta principal “Main Board” del Procesador
- Cerciórese que la “Main Board” está bien limpia.
- Limpie las otras partes del procesador: Fuente de Luz, fuente de alimentación, fuente de irrigación, panel frontal.
- Con limpiador de contactos (REF. 24379), no húmedo y un aplicador, aplique sobre la main Board en un solo sentido.
- Observe con una lupa de (2 X Aumentos) verifique que en las patillas de los microchips no haya residuos de humedad u otros, si es necesario aplique de nuevo limpiador de contactos y remueva con un cepillo suave.
- Con precaución retire los cables conectores de las lámparas. (retire el PIN de las lámparas y girando suavemente el disco) (Primero una).
- Suelte con precaución los pines de las lámparas para retirar las lámparas primero una después de la otra girando el disco en el sentido de las manecillas del reloj.
- Con limpiador de contactos (REF. 24379), aplique y limpie el sensor óptico con una plumilla (en un solo sentido)
- Con el papel óptico limpie el sistema de lentes (en un solo sentido)
- Coloque nuevamente las lámparas, con precaución de conservar cada lámpara en su lugar original, asegure que cada uno de sus respectivos pines. Además conecte los cables de acuerdo a la marca A o B, 1 o 2, que corresponda al mismo nombre del disco.
- Coloque nuevamente la cubierta superior de la cámara de luz.
- Limpie el panel frontal.

www.jomedical.com

: servicioalcliente@jomedical.com
: jomedical@jomedical.com

PBX: 637-5177
Fax: 629-5958

:Carrera 7 # 124 - 25
BOGOTÁ, Colombia

:Calle 7 # 39 -107
MEDELLÍN, Colombia

- Coloque el panel frontal
- Verifique que no haya ningún cable suelto, ni elementos en el interior del equipo
- Coloque la cubierta superior y asegure nuevamente con los respectivos tornillos.
- Limpie con espuma todo exterior del equipo con un paño suave.
- Conecte nuevamente todos los cables de video y el cable de alimentación asegurando el PIN de guía.

11. INSPECCIÓN FINAL.

- Revise y verifique todas las conexiones de la torre.
- Conecte un endoscopio, verificando que el procesador está apagado.
- Encienda la torre, prendiendo primero el monitor de video.
- Verifique el punto 4 prueba de video.
- Verifique todos los controles del panel frontal con precaución de dejar todos los parámetros por defecto de fábrica.
- Verifique el funcionamiento del teclado, oprimiendo F1.

JOMEDICAL
equipos médicos

www.jomedical.com

: servicioalcliente@jomedical.com
: jomedical@jomedical.com

PBX: 637-5177
Fax: 629-5958

:Carrera 7 # 124 - 25
BOGOTÁ, Colombia

:Calle 7 # 39 -107
MEDELLÍN, Colombia

JM-SC-0041-2024

Bogotá D.C., Junio de 2024

Señores
GASTROCENTER
HOSPITAL SUSANA LOPEZ VALENCIA E.S.E.
Dr. Edwin Muñoz
Popayán - Cauca.

REF: SEGÚN COTIZACION COJ-EM-0591-2024

Respetados Señores:

Reciban un cordial saludo, adjuntamos los siguientes documentos objeto de la referencia:

DOCUMENTOS GENERALES:

1. Acta de entrega e Instalación.
2. Acta de Capacitación
3. Registro de Invima.
4. Declaración de Importación
5. Cronograma de mantenimiento preventivo Consolidado
6. Cronograma de capacitación Consolidado
7. Oficio Garantía Consolidado
8. Formato de instalación del equipo FUJIFILM.
9. Certificado de garantía consolidado
10. (4)Guía Rápida Plastificada
11. (5)Ficha técnica

JOMEDICAL
equipos médicos

www.jomedical.com

: servicioalcliente@jomedical.com
: jomedical@jomedical.com

PBX: 637-5177
Fax: 629-5958

:Carrera 7 # 124 - 25
BOGOTÁ, Colombia

:Calle 7 # 39 -107
MEDELLÍN, Colombia

12. (4)Manual de operación
13. (5)Manual de servicio
14. Hoja de vida del personal técnico con INVIMA
15. Carta de autorización del fabricante
16. Oficio de no calibración
17. Carta de responsabilidad en cuanto a repuestos, insumos etc
18. Protocolo de limpieza y desinfección
19. Protocolo de mantenimiento.

DOCUMENTOS ADICIONALES:

- Acta de capacitación
- Oficio de información de contacto
- Oficio de vida útil
- Formato de instalación FUJIFILM

Por favor devolver firmado los siguientes documentos:

1. Acta de entrega e Instalación
2. Condiciones de garantía
3. Formato de instalación FUJIFILM
4. Carta de entrega de la totalidad de los documentos firmada de recibido.
5. Oficio de vida útil

Cualquier información adicional con gusto será suministrada.

Cordialmente,

SIDU RUBIANO
SIDU RUBIANO
Coordinadora
Jomedical S.A.S
Celular 310-245-45-06

CLAUSULADO COMPLEMENTARIO AL CONTRATO ELECTRÓNICO No. 231 DEL 2024

N°. DE PROCESO	HSLV-CD- 230-2024
CONTRATANTE	EMPRESA SOCIAL DEL ESTADO HOSPITAL SUSANA LOPEZ DE VALENCIA E.S.E.
CONTRATISTA	NOVAMEDICAL S.A.S.
DOCUMENTO DE IDENTIDAD	NIT: 901111523-5
OBJETO	CALIBRACIÓN DE EQUIPOS BIOMÉDICOS DEL HOSPITAL SUSANA LÓPEZ DE VALENCIA E.S.E.
VALOR	CIENTO CUARENTA MILLONES DE PESOS M/CTE ($140.000.000.00), IVA INCLUIDO.
PLAZO	LA DURACIÓN DEL CONTRATO SERÁ A PARTIR DE LA SUSCRIPCIÓN DEL ACTA DE INICIO HASTA EL 01 DE SEPTIEMBRE DE 2024.

Entre los suscritos a saber: Doctora **LUCY XIMENA IBARRA HERNANDEZ**, vecina de Popayán, identificada con la cédula de ciudadanía número 66.858.564 de Cali, quien obra en su calidad de Gerente del Hospital Susana López de Valencia, E.S.E., según Decreto N° 0254 el 01 de abril de 2024 y acta de posesión No. 040 de la misma fecha, en uso de su facultad para celebrar contratos, en representación del Hospital Susana López de Valencia, Empresa Social del Estado, creado por Ordenanza 001 de 1995, quien en el presente contrato se denominará **HOSPITAL**, por una parte y por otra **LUIS EDUARDO MUÑOZ ÑAÑEZ**, identificado con la cédula de ciudadanía No. 10.532.547 de Popayán, representante legal de **NOVAMEDICAL S.A.S.** entidad constituida mediante documento privado No. 1 del 10 de agosto de 2017 de la asamblea constitutiva, e inscrita en la cámara de comercio del Cauca el 1 de septiembre de 2017 con el No. 42033 del libro IX, en adelante en el presente contrato se denominará el **CONTRATISTA**, hemos acordado celebrar el presente contrato que se regirá por las siguientes clausulas: **CLÁUSULA PRIMERA. OBJETO:** CALIBRACIÓN DE EQUIPOS BIOMÉDICOS DEL HOSPITAL SUSANA LÓPEZ DE VALENCIA E.S.E. **CLÁUSULA SEGUNDA. - ESPECIFICACIONES TECNICAS:**

ITEM	CONCEPTO	CANTIDAD	PRECIO	TOTAL
1	CALIBRACION BALANZAS ADULTOS	56	$ 100.000	$ 5.600.000
2	CALIBRACION TENSIOMETROS	68	$ 40.000	$ 2.720.000
3	CALIBRACION TERMOHIGROMETROS	90	$ 80.000	$ 7.200.000
4	CALIBRACION ASPIRADORES	27	$ 90.000	$ 2.430.000
5	CALIBRACION TERMOMETROS	40	$ 40.000	$ 1.600.000
6	CALIBRACION PIPETAS	8	$ 120.000	$ 960.000
7	CALIBRACION GRAMERAS	5	$ 70.000	$ 350.000
8	CALIBRACION ESTIMULADOR ELECTRICO PORTATIL	15	$ 90.000	$ 1.350.000
9	CALIBRACION AGITADOR DE MAZZINI	1	$ 90.000	$ 90.000
10	CALIBRACION BAÑO SEROLOGICO	4	$ 90.000	$ 360.000
11	CALIBRACION BLOQUE SECO	1	$ 150.000	$ 150.000
12	CALIBRACION CALENTADOR DE FLUIDOS	1	$ 90.000	$ 90.000
13	CALIBRACION CENTRIFUGAS	7	$ 90.000	$ 630.000
14	CALIBRACION DOPPLER FETAL	15	$ 90.000	$ 1.350.000

15	CALIBRACION ELECTROBISTURI	10	$ 160.000	$ 1.600.000
16	CALIBRACION ELECTROESTIMULADOR CON ULTRASONIDO	2	$ 70.000	$ 140.000
17	CALIBRACION LAMPARA DE CALOR RADIANTE	13	$ 210.000	$ 2.730.000
18	CALIBRACION LAMPARA DE FOTOTERAPIA	15	$ 210.000	$ 3.150.000
19	CALIBARCION MASAJEADOR TERAPEUTICO	6	$ 90.000	$ 540.000
20	CALIBRACION HIDROCOLECTOR	2	$ 90.000	$ 180.000
21	CALIBRACION INCUBADORA BASICA	3	$ 90.000	$ 270.000
22	CALIBRACION INCUBADORA DE TRANSPORTE	3	$ 90.000	$ 270.000
23	CALIBRACION INCUBADORA SERVO CONTROLADA	15	$ 90.000	$ 1.350.000
24	CALIBRACION MONITOR FETAL	13	$ 110.000	$ 1.430.000
25	CALIBRACION NEBULIZADORES	3	$ 90.000	$ 270.000
26	CALIBRACION REGULADOR DE VACIO	72	$ 90.000	$ 6.480.000
27	CALIBRACION SEROFUGA	1	$ 90.000	$ 90.000
28	CALIBRACION TANQUE DE PARAFINA	2	$ 90.000	$ 180.000
29	CALIBRACION ULTRASONIDOS	3	$ 90.000	$ 270.000
30	CALIBRACION UNIDAD DE CALENTAMIENTO	21	$ 90.000	$ 1.890.000
31	CALIBRACION REANIMADOR NEONATAL (NEUMOPUFF)	7	$ 120.000	$ 840.000
32	CALIBRACION AGITADOR HEMATOLOGICO BASCULANTE	1	$ 90.059	$ 90.059
33	CALIBRACION AGITADOR VORTEX	1	$ 90.000	$ 90.000
34	CALIBRACION ARCO C	3	$ 400.000	$ 1.200.000
35	CALIBRACION DESFIBRILADORES	19	$ 250.000	$ 4.750.000
36	CALIBRACION ECOCARDIOGRAFO	10	$ 130.000	$ 1.300.000
37	CALIBRACION ECOGRAFO	8	$ 400.000	$ 3.200.000
38	CALIBRACION ECG	10	$ 130.000	$ 1.300.000
39	CALIBRACION RAYOS X	6	$ 400.000	$ 2.400.000
40	CALIBRACION TORNIQUETE NEUMATICO	1	$ 40.000	$ 40.000
41	CALIBRACION MAQUINA DE ANESTESIA	7	$ 400.000	$ 2.800.000
42	CALIBRACION MONITOR DE SIGNOS	173	$ 140.000	$ 24.220.000
43	CALIBRACION MONITOR DE TRANSPORTE	1	$ 130.000	$ 130.000
44	CALIBRACION PULSOXIMETEROS	36	$ 90.000	$ 3.240.000
45	CALIBRACION TALLIMETROS	5	$ 90.000	$ 450.000
46	CALIBRACION TOMOGRAFO	1	$ 400.000	$ 400.000
47	CALIBRACION VENTILADORES (MECANICO, TRANSPORTE, FRECUENCIA)	90	$ 250.000	$ 22.500.000
48	CALIBRACION BLENDER	14	$ 115.500	$ 1.617.000
49	CALIBRACION MODULO DE CAPNOGRAFIA	8	$ 170.000	$ 1.360.000
	Valor Neto			$ 117.647.059
	Total IVA (19%)			$ 22.352.941
	Monto total			$ 140.000.000

PARÁGRAFO: EQUIPOS DE REFERENCIA CERTIFICADOS: Antes de realizar la calibración de los equipos descritos en la anterior tabla, el supervisor del contrato con el apoyo que designe, deberá verificar lo siguiente: • **Trazabilidad:** Los equipos de referencia utilizados para la calibración deben estar calibrados y trazables a patrones nacionales o internacionales. • **Certificación:** Los equipos deben contar con certificados vigentes que demuestren su precisión y validez. **Personal calificado:** • **Capacitación:** El personal encargado de la calibración debe estar debidamente capacitado y

certificado en metrología biomédica. **Procedimientos Estándar de Calibración: • Documentación:** Seguir procedimientos documentados y estandarizados en certificados según ISO/EIC 17025. **CLÁUSULA TERCERA. - IMPUTACIÓN PRESUPUESTAL:** El presente contrato afecta la disponibilidad presupuestal No. **370 del 11 de julio de 2024**, **Rubro:** 2.4.5.02.08.8715620, **Concepto:** SERVICIO DE MANTENIMIENTO Y REPARACIÓN DE INSTRUMENTOS, EQUIPOS Y APARATOS MÉDICOS Y ODONTOLÓGICOS (INCLUIDO MOBILIARIO), EXCEPTO EQUIPO DE IRRADIACIÓN Y ELECTRÓNICO. AMNTENIMIENTO SERV. (MANTENIMIENTO OTROS DE DIAGNÓSTICO), por valor de **CIENTO CUARENTA MILLONES DE PESOS M/CTE ($140.000.000.00),** del presupuesto del Hospital Susana López Valencia E.S.E., vigencia 2024. **CLÁUSULA CUARTA. - FORMA DE PAGO:** El Hospital pagará al contratista el valor de la visita de calibración en una cuota, de acuerdo a la ejecución de las actividades descritas en la definición técnica, previa presentación de la respectiva factura con cumplimiento de las normas tributarias y luego de la certificación por parte del supervisor asignado y todos aquellos que exijan conforman al trámite de cuentas de la institución. **PARÁGRAFO PRIMERO:** EL HOSPITAL se reserva el derecho de descontar del valor facturado por EL CONTRATISTA, El valor correspondiente a los servicios de los cuales no exista el debido soporte de prestación efectiva del servicio. A la orden de pago se le harán los descuentos correspondientes y el valor neto obtenido se pagará previo los trámites administrativos establecidos por el hospital. **PARÁGRAFO SEGUNDO:** Al finalizar la ejecución del presente contrato, cuando el interventor o supervisor designado por la entidad, autorice el pago deberá elaborar el acta de liquidación final con el fin de ser suscrita por las partes y una vez cancelada, las partes se declararán a paz y salvo. **CLÁUSULA QUINTA.- OBLIGACIONES DEL CONTRATISTA:** El contratista se compromete con el Hospital Susana López de Valencia E.S.E. a **(1).** Informar al supervisor del contrato cualquier novedad relacionada con el cumplimiento del objeto contractual. **(2).** Emitir los certificados de calibración bajo la norma ISO/EIC 17025. **(3).** Proporcionar informes de calibración completos y precisos, incluyendo certificaciones y trazabilidad a estándares de referencia. **(4).** Usar patrones de referencia calibrados y certificados con trazabilidad a estándares nacionales o internacionales. **(5).** Contar con el personal capacitado y herramienta necesaria para el cumplimiento del contrato. **(6).** Cubrir los gastos ocasionados en el cumplimiento del contrato. **(7).** Cumplir con lo descrito en la definición técnica y realizar las recomendaciones respectivas para lograr la ejecución del contrato de acuerdo a lo concertado. **(8).** Entregar el cronograma de metrología de ejecución por servicios. **(9).** Dar garantía del trabajo realizado por un periodo de 2 meses como mínimo. **(10)** El personal que se designe para realizar la calibración de los equipos biomédicos del Hospital Susana López de Valencia E.S.E. debe estar debidamente capacitado y certificado en metrología biomédica; en caso de prestar el servicio con nuevo personal, este deberá tener las mismas calidades que el evaluado inicialmente, situación que será verificada por el supervisor del contrato previo al inicio de las actividades. **CLÁUSULA SEXTA.- OBLIGACIONES DE LA ENTIDAD CONTRATANTE.-** EL HOSPITAL SUSANA LOPEZ DE VALENCIA E.S.E. se compromete a: **(1).** Realizar la supervisión del contrato. **(2).** Pagar el valor de los servicios efectivamente prestados, según disponibilidad de la Institución. **CLÁUSULA SEPTIMA: OBLIGACIONES FRENTE AL SISTEMA DE SEGURIDAD SOCIAL INTEGRAL Y PARAFISCALES:** En cumplimiento a lo dispuesto en la Ley 828 del 10 de Julio de 2003, por la cual se expiden normas para el control a la Evasión del Sistema de Seguridad Social y en especial el Artículo Primero por el cual se modifica el Parágrafo segundo del artículo 50 de la Ley 789 de 2002 se establece como obligación del contratista el cumplimiento de sus obligaciones frente al sistema de Seguridad Social Integral (Salud, Pensiones y Riesgos Profesionales), Parafiscales (Cajas de Compensación familiar, SENA e ICBF) por lo cual, el incumplimiento de esta obligación será causal para la imposición de multas sucesivas hasta tanto se dé el cumplimiento, previa verificación de la mora mediante liquidación efectuada por la entidad administradora. **CLAUSULA OCTAVA.- IMPUESTOS Y GASTOS:** El contratista se obliga a pagar todos los gastos, seguros, impuestos, derechos, comisiones y cualquier otro costo relacionado con el perfeccionamiento y ejecución del presente contrato. **CLÁUSULA NOVENA.-**

AUTONOMIA DEL CONTRATISTA. El contratista cumplirá con el objeto del contrato bajo su exclusiva responsabilidad, por lo tanto no existirá ninguna relación laboral ni prestaciones sociales con el Hospital Susana López de Valencia E.S.E. **CLÁUSULA DECIMA.- CESION:** EL CONTRATISTA no podrá ceder en todo o en parte el presente contrato sin previo consentimiento escrito de la ENTIDAD CONTRATANTE. **CLÁUSULA DECIMA PRIMERA.- SUPERVISOR:** Esta actividad estará a cargo del Subdirector Administrativo o quien haga sus veces. **CLÁUSULA DÉCIMA SEGUNDA.- FUNCIONES DEL SUPERVISOR:** Las contempladas en la Ley 80 de 1993, artículo 83 de la Ley 1474 de 2011, el Acuerdo 013 de 2021, Resolución 0550 del 6 de diciembre del 2019 a través de la cual se adoptó el manual de supervisión e interventoría del hospital y en especial las siguientes: 1) Atender el desarrollo de la ejecución del contrato. 2) Comunicar en forma oportuna a la Oficina Jurídica las circunstancias que afecten el normal desarrollo del contrato. 3) Elaborar técnica y oportunamente las actas y/o constancias requeridas para el cumplimiento y eficacia del contrato. 4) Comunicar en forma oportuna a la Oficina Jurídica la ocurrencia de hechos constitutivos de mora o incumplimiento por parte del contratista. 5) Velar porque el contratista y sus trabajadores estén afiliados a A.R.P y seguridad social. **CLAUSULA DECIMA TERCERA.- CLAUSULA PENAL PECUNIARIA.** En caso de declaratoria de caducidad o de incumplimiento del contrato (total o parcial), el CONTRATISTA pagará una suma equivalente al diez por ciento (10%) del valor total del contrato. EL CONTRATISTA autoriza con la firma del presente contrato al HOSPITAL para que dicho valor sea descontado directamente del saldo a su favor de acuerdo a lo establecido en el titulo XVII del Código Civil, articulo 1714 y siguientes y si ello no fuere posible se tomará de la garantía de cumplimiento o se cobrará por vía judicial. **CLAUSULA DECIMA CUARTA.- INHABILIDADES E INCOMPATIBILIDADES:** EL CONTRATISTA, declara bajo la gravedad del juramento que no le asiste ninguna inhabilidad ni incompatibilidad de la previstas en la Ley para suscribir este contrato, así mismo que no se encuentra incurso en causal de impedimento ni conflicto de intereses y si así lo fuere se hará responsable por los daños y los perjuicios que se ocasionen ante LA ENTIDAD CONTRATANTE y frente a terceros. **CLAUSULA DECIMA QUINTA.- SUSPENSIÓN VOLUNTARIA:** Por circunstancias de fuerza mayor o caso fortuito se podrá de común acuerdo entre las partes, suspender temporalmente la ejecución del presente contrato mediante un acta donde conste tal evento, sin que para el plazo extintivo se compute el tiempo de la suspensión. **CLÁUSULA DECIMA SEXTA.- CLAUSULAS EXCEPCIONALES:** La ENTIDAD CONTRATANTE – HOSPITAL SUSANA LÓPEZ DE VALENCIA E.S.E, queda facultada para aplicar las cláusulas excepcionales al derecho común de TERMINACIÓN, INTERPRETACIÓN Y MODIFICACIÓN UNILATERAL previstas en los artículos 15, 16 y 17 de la Ley 80/93 y de CADUCIDAD (art.18) en caso de incumplimiento de la CONTRATISTA **CLÁUSULA DECIMA SEPTIMA.- LIQUIDACIÓN:** El presente contrato se liquidará por parte de la ENTIDAD CONTRATANTE – dentro de los seis (6) meses siguientes a su terminación mediante acta firmada de común acuerdo por las partes contratantes, la cual contendrá un balance sobre la ejecución del contrato, los pagos realizados, los acuerdos a que lleguen las partes sobre la ejecución del mismo. **CLÁUSULA DECIMA OCTAVA.- DOCUMENTOS:** Se tendrá como documentos que hacen parte integral del presente contrato: el estudio previo, la propuesta, las actas adicionales si hay lugar a ellas, resoluciones y en general todos los documentos que hace referencia al contrato. Todos estos obligan jurídicamente y son parte esencial del mismo. **CLÁUSULA DECIMA NOVENA.- INDEMNIDAD:** EL CONTRATISTA se obliga por este documento a mantener al HOSPITAL SUSANA LÓPEZ DE VALENCIA E.S.E, a sus representantes y asesores, indemnes y libres de todo reclamo, demanda, litigio, acción judicial, reivindicación de cualquier especie y naturaleza que se entable o pretenda entablar o instaurar en su contra por causa u omisiones suyas en razón de la ejecución del presente Contrato. Esta situación y forma de contratación es clara para LA CONTRATISTA quien asume y entiende que no es inducida ni mantenida en error por parte de LA EMPRESA. **CLÁUSULA VIGESIMA.- GARANTIAS:** El CONTRATISTA constituirá a favor del HOSPITAL con una Compañía de Seguros o Entidad Bancaria, autorizada para funcionar en Colombia, una garantía única que garantizará el

cumplimiento de las obligaciones surgidas en el presente contrato, la cual cubrirá los siguientes amparos: **a) CUMPLIMIENTO:** De todas las obligaciones surgidas con motivo del presente contrato por un valor equivalente al treinta por ciento (30%) del valor del mismo y deberá estar vigente durante el plazo de ejecución del contrato y seis (6) meses más, para efectos de posteriores reclamaciones. Esta póliza se hará efectiva en favor del HOSPITAL en caso de que el CONTRATISTA incumpla alguna o algunas de las obligaciones que adquiera por razón del contrato. La póliza de cumplimiento será irrevocable y deberá prorrogarse en caso de prórroga del contrato, y en todo caso estará vigente hasta la liquidación del contrato garantizado y la prolongación de sus efectos. **b) CALIDAD:** Amparando al hospital contra los perjuicios imputables al contratista derivados de la mala calidad de los servicios por un valor equivalente al treinta por ciento (30%) y deberá estar vigente durante el plazo de ejecución del contrato y seis (6) meses más. **CLAUSULA VIGESIMA PRIMERA.- PERFECCIONAMIENTO Y EJECUCION:** El presente contrato se entenderá perfeccionado con la firma electrónica de las partes a través de la plataforma SECOP II, y para su ejecución se requiere el correspondiente registro presupuestal.

Proyectó: Jose Miguel Londoño Reyes / afiliado participe ASIES.
Revisó: María Camila Pantoja Idrobo / Abogada Afiliada Participe ASIES
Aprobó: Claudia Tatiana Rodríguez Bravo / Jefe Oficina Asesora Jurídica



JOMEDICAL SAS

IDIOMAS

Español: Natal
Inglés: BÁSICO ENGLISH DISCOVERIES- BASICO I
ENGLISH DISCOVERIES BASICO II

Nombre: DIANA MILENA GOMEZ MORENO

Fecha de nacimiento: 30 DE OCTUBRE DEL 2000
Edad 22 AÑOS
Ciudad: BOGOTA C.C.
Dirección, Cuidad-País: BOGOTA-COLOMBIA CARRERA 140 No. 132-05
Tel. Móvil. 315-5413642
E-mail: diana3010milena@gmail.com
Cedula de Ciudadanía No. 1001.198.911 BOGOTA D.C.
Profesión: Tecologa en Electromedicina
Cargo: Ingeniero de Soporte Externo
Tarjeta Profesional No. N/A
Fecha de Expedición: N/A
Registro Invima No. N/A
Fecha de Expedición: N/A

ESTUDIOS

ESTUDIOS SUPERIORES

Titulo obtenido y año de graduación: Ano: 2021 Tecnóloga En Electromedicina

Ciudad-País y Universidad: Escuela Colombiana de Carreras Industriales

Titulo obtenido y año de graduación: 2022 Ingeniera Biomédica

Ciudad-País y Universidad: Bogotá Colombia Escuela Colombiana de Carreras Industriales

EXPERIENCIA Y LOGROS LABORALES

EXPERIENCIA Y LOGORS LABORALES

Empresa Actual:

NOMBRE DE LA EMPRESA: JOMEDICAL SAS

Cargo Ocupado: Ingeniero de Soporte Externo

Funciones Realizadas: Diagnosticar, mantener, reparar equipos Biomédicos vendidos y entregados en arriendo diagnosticar los Correctivos de los mismos, reparar, reparar los equipos que entran al Servicio técnico o que en el Diagnostico se identifiquen fallas que Soluciones, reemplazar piezas defectuosas, verificando su función *O f*uncionamiento y posterior entrega al cliente.

EXPERIENCIA Y LOGOS LABORALES

EMPRESAS ANTERIORES

NOMBRE DE LA EMPRESA: GRUPO EMI
Cargo Ocupado: Aprendiz Biomédico

Tareas o logros realizados: Realización de mantenimientos preventivos y correctivos, clasificación Ia, IIA y IIb, de equipos biomédicos, uso de la documentación y formatos de soporte para mantenimiento de equipos biomédicos, Capacitación al personal nuevo sobre la tecnología médica disponible para consultas y unidades básicas sobre el uso, cuidado y funcionamiento de los equipos, Implementación de hojas de vida de los equipos médicos usados en unidades básicas y medicalizadas.
Periodo: 2021-2022

REFERENCIAS PERSONALES

REFERENCIAS PERSONALES

NOMBRE: MARIA LAURA TRIANA DE LA TORRE
Profesión: Estudiante
Tel. Móvil: 319 2836920

NOMBRE: JUAN ESTEBAN ROJAS POVEDA
Profesión: Agente Bilingüe CallCenter
Tel. Móvil: 300 2797662

REFERENCIAS FAMILIARES

REFERENCIAS FAMILIARES

NOMBRE: JEIMMY CAROLINA MALAVER GOMEZ
Parentesco: Prima
Tel. Móvil 314 4377083

NOMBRE: JHON FRANCISCO GOMEZ CARDENAS
Parentesco: Hermano
Tel. Móvil 320 4969600

REFERENCIAS LABORALES

REFERENCIAS LABORALES

EMPRESA GRUPO EMI
Nombre Guillermo Medina
Cargo: Jefe de Área
Teléfono: 319 4446552

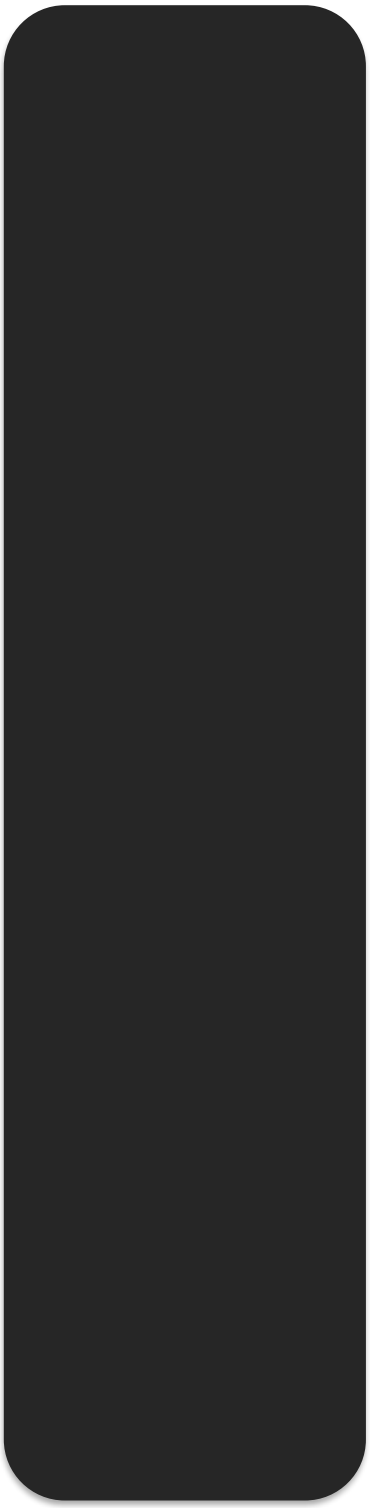
FORMACIONES ADICIONALES

FORMACIONES ADICIONALES

- Centro de Idiomas ULA (2018)
- Servicio Nal de Aprendizaje SENA 2019)

DIANA MILENA GOMEZ MORENO
C.C. 1.001.198.911 BOGOTA D.C.
Ingeniero de Soporte Externo

FIRMA _____



La salud es de todos | Minsalud

República de Colombia
Ministerio de Salud y Protección Social
Instituto Nacional de Vigilancia de Medicamentos y Alimentos – INVIMA

OFICIO No. 2022010578 DE 25 de Mayo de 2022
Por la cual se OTORGA una Inscripción de Recurso Humano.

EXPEDIENTE: 20225904
RADICACION: 20221070984
FECHA: 27/04/2022

El suscrito (a) Director (a) de Dispositivos Médicos y Otras Tecnologías del INVIMA INVIMA **OTORGA** la Inscripción Recurso Humano para Mantenimiento y Verificación de la calibración para Equipos Biomédicos de Tecnología Controlada de clases IIb y III, de acuerdo con la legislación vigente para la señora mencionada a continuación:

NOMBRE: **DIANA MILENA GÓMEZ MORENO**
IDENTIFICACION: 1.001.198.911
TELEFONO: 3155413642
EMAIL: diana3010milena@gmail.com
PAIS: COLOMBIA
DEPARTAMENTO: D.C.
CIUDAD: BOGOTA

No. DE INSCRIPCION	TITULO OBTENIDO	MANTENIMIENTO PARA
RH-202205-01106	TECNÓLOGA EN ELECTROMEDICINA	IIB Y III

Esta inscripción se otorga en cumplimiento con lo establecido en el Artículo 39, del Decreto 4725 del 26 de diciembre de 2005, "*Toda persona jurídica o natural que preste servicios de mantenimiento y verificación de la calibración para equipos biomédicos de Clases IIB y III, deberá contar con un responsable técnico, el cual deberá ser profesional en ingeniería biomédica o ingenierías afines o personal técnico debidamente acreditado, los cuales deberán registrarse ante el Instituto Nacional de Vigilancia de Medicamentos y Alimentos, Invima, o la entidad sanitaria competente*".

*Nota: Esta inscripción es válida en todo el territorio nacional, es personal e intransferible y se expide por **ÚNICA VEZ**, por tanto, cualquier modificación de la información consignada en la presente inscripción se surtirá a través de una solicitud escrita de actualización.*

La inscripción expedida no certifica o acredita la práctica del mantenimiento y verificación de la calibración de los equipos biomédicos que es realizado por este personal.

Se expide en Bogotá D.C., el 25 de mayo de 2022

Firma válida

Firmado digitalmente por LUCIA AYALA RODRIGUEZ
Fecha: 2022.05.25 09:11:38 COT
Razón: Invima
Locación: BOGOTA D.C., Colombia

LUCIA AYALA RODRÍGUEZ
Directora Técnica de Dispositivos Médicos y Otras Tecnologías
Proyectó: MEOP Revisó: MEOP Aprobó: PAGG

Instituto Nacional de Vigilancia de Medicamentos y Alimentos - Invima
Oficina Principal: Cra 10 N° 64 - 28 - Bogotá
Administrativo: Cra 10 N° 64 - 60
(60)(1) 742 2121
www.invima.gov.co

Nombre Apellidos: LUIS EDUARDO IBAÑEZ
Edad: 43 AÑOS
Dirección, Cuidad-País: CRA 18K #69B-09
BOGOTÁ D.C
Teléfono: 3142437229
E-mail: jbo.luis@yahoo.es
Cédula: 79.640.723 de Bogotá
Profesión: Tecnólogo en electrónica



ESTUDIOS

IDIOMAS
Español: Natal
Inglés:
ENGLISH DISCOVERIES-BASICO I
ENGLISH DISCOVERIES BASICO II

Año, Título: Tecnólogo en electrónica- 2009
Ciudad-País: Bogotá Colombia- Universidad minuto de Dios
Año, Título: Técnico laboral en electrónica-2007
Ciudad-País: Bogotá Colombia SENA
Tarjeta profesional n°: CPNTEL 8060-79640723
Fecha de expedición de la tarjeta profesional: *05-04-2014*
Registro invima N°: *RH-200810-165*
Fecha de expedición del registro: *01-04-2015*

EXPERIENCIA LABORAL

Fecha inicio-Final
Ciudad-País

NOMBRE DE LA EMPRESA: JOMEDICAL S.A.S-COLOMBIA
Cargo ocupado: Ingeniero de soporte técnico endoscopia
Tareas o logros realizados:
Diagnosticar, el estado de los equipos médicos: inspeccionando y observando el estado de funcionamiento para dar el concepto técnico de requerimientos, hacer mantenimiento a equipos que ingresan al laboratorio: Limpiando y haciendo mantenimiento preventivo y/o correctivo de los equipos que ingresan para mantenimiento. Reparar los equipos que ingresan para servicio técnico que requieran solución: Reemplazar piezas defectuosas, verificar su funcionamiento, entregar al jefe inmediato para verificación y aprobación. Conocer, respetar y cumplir normas y procesos tanto internos como de tipo legal.
Periodo laboral: 11-05-2015 a la fecha

Fecha inicio-Final
Ciudad-País

NOMBRE DE LA EMPRESA: MEDICAL DEALER S.A.S-COLOMBIA
Cargo ocupado: Coordinador del departamento de neumática
Tareas o logros realizados: Mantenimiento preventivo y correctivo en equipos biomédicos, ventiladores, monitores, electrocardiógrafos, electro-bisturís, máquina de anestesia, (analógicas y electrónicas).
Periodo laboral: De 11-12-2011 a 10-05-2015

NOMBRE DE LA EMPRESA: SOPORTE VITAL S.A- COLOMBIA

Cargo ocupado: Técnico electrónico

Tareas o logros realizados: Mantenimiento preventivo y correctivo en equipos biomédicos, ventiladores, monitores, electrocardiógrafos, electro- bisturíes, máquina de anestesia. Entre otros

Periodo laboral: 04-07-2008 a 30-11-2011

NOMBRE DE LA EMPRESA: GRUPO EULEN- COLOMBIA

Cargo ocupado: Técnico electrónico

Tareas o logros realizados: Mantenimiento preventivo y correctivo en equipos tales como contadoras de billetes, sumadoras, relojes de correspondencia, hornos microondas, trituradoras de papel, entre otras.

Periodo laboral: junio de 2007 a mayo 2008

REFERENCIAS PERSONALES

Nombre APELLIDO: GUILLERMO PAEZ
Cargo Ingeniero biomédico
Teléfono 3213386236

REFERENCIAS LABORALES

Nombre APELLIDO: GUSTAVO ANDRÉS TORRES

Ocupación: Técnico en electrónica

Teléfono: 3214738012

FORMACIONES ADICIONALES

Registro Invima: RH-200810-165

Firma:

LUIS EDUARDO IBAÑEZ
C.C. 79.640.723

	INSPECCIÓN, VIGILANCIA Y CONTROL - IVC		VIGILANCIA
invima	**INSCRIPCIÓN DE RECURSO HUMANO PARA EL MANTENIMIENTO Y VERIFICACIÓN DE LA CALIBRACIÓN PARA EQUIPOS BIOMÉDICOS DE CLASES IIB Y III**		
	Código: IVC-VIG-FM007	Versión: 00	Fecha de Emisión: 01/04/2015	Página 1 de 1

RADICACIÓN No 2016030434 FECHA 09/03/2016

El SUSCRITO (A) DIRECTOR (A) DE DISPOSITIVOS MÉDICOS Y OTRAS TECNOLOGÍAS DEL INVIMA REALIZA LA INSCRIPCION PARA MANTENIMIENTO Y VERIFICACIÓN DE LA CALIBRACIÓN PARA EQUIPOS BIOMÉDICOS DE TECNOLOGÍA CONTROLADA DE CLASES IIB Y III, DE ACUERDO CON LA LEGISLACIÓN VIGENTE.

DATOS PERSONALES		
NOMBRE: LUIS EDUARDO IBÁÑEZ MUÑOZ		
DOCUMENTO DE IDENTIFICACIÒN: 79.640.723 DE BOGOTÁ D.C		
TELÉFONO: 3142437229	**CORREO ELECTRÒNICO:** jbo.luis@yahoo.es	
CIUDAD / MUNICIPIO: BOGOTÁ D.C	**DEPARTAMENTO:**CUNDINAMARCA	**PAÍS:** COLOMBIA

No. DE INSCRIPCIÓN	TÍTULO OBTENIDO	MANTENIMIENTO DE EQUIPOS POR CLASE
RH-200810-165	TECNÓLOGO EN ELECTRÓNICA	**IIB Y III**

Esta inscripción se otorga en cumplimiento con lo establecido en el Artículo 39, del Decreto 4725 del 26 de diciembre de 2005, "*Toda persona jurídica o natural que preste servicios de mantenimiento y verificación de la calibración para equipos biomédicos de Clases IIB y III, deberá contar con un responsable técnico, el cual deberá ser profesional en ingeniería biomédica o ingenierías afines o personal técnico debidamente acreditado, los cuales deberán registrarse ante el Instituto Nacional de Vigilancia de Medicamentos y Alimentos, Invima, o la entidad sanitaria competente*".

Nota: Esta inscripción es válida en todo el territorio nacional, es personal e intransferible y se expide por ***ÚNICA VEZ****, por tanto cualquier modificación de la información consignada en la presente inscripción se surtirá a través de una solicitud escrita de actualización.*

La inscripción expedida no certifica o acredita la práctica del mantenimiento y verificación de la calibración de los equipos biomédicos que es realizado por este personal.

Todos los folios de éste documento llevan sello del INVIMA. Documento válido únicamente en su original.

ELKIN HERNÁN OTÁLVARO CIFUENTES
Director de Dispositivos Médicos
y Otras Tecnologías

Proyectó: 500-01-04 MEOP Profesión: Técnico Administrativo C.C. Exp.: RH-200810-165	Revisó: 500-01-11 OCM Profesión: Ingeniero Biomédico	Aprobó: 500-01-01 SIPRC Profesión: Ingeniera Química

Consejo Profesional Nacional de Tecnólogos en Electricidad, Electromecanica Electrónica y Afines.

Matricula Profesional de Tecnólogo en Electrónica

CPNTEL 8060-79640723



LUIS EDUARDO

IBÁÑEZ MUÑOZ

C.C 79640723

Acuerdo No 007 de 2014 Fecha de Expedicion: 05/04/2014

REPUBLICA DE COLOMBIA
IDENTIFICACION PERSONAL
CEDULA DE CIUDADANIA

NUMERO 80198716

QUIROGA RAMIREZ
APELLIDOS

YILMER ANDRES
NOMBRES

Yilmer Andres Quiroga Ramirez
FIRMA





INDICE DERECHO

FECHA DE NACIMIENTO 28-ABR-1984
BOGOTA D.C.
(CUNDINAMARCA)
LUGAR DE NACIMIENTO

1.70 ESTATURA | A+ G.S. RH | M SEXO

07-MAY-2002 BOGOTA D.C.
FECHA Y LUGAR DE EXPEDICION

REGISTRADOR NACIONAL
IVAN DUQUE ESCOBAR

P-1500101-42104642-M-0080198716-20020628 0641802177A 01 130438560

Libertad y Orden

República de Colombia

Ministerio de Educación Nacional y en su Nombre

La Escuela Colombiana de Carreras Industriales

ECCI

Fundada en 1977. Aprobada por Res. N° 03367 de 1980. P.J. N° 2683 de 1985 M.E.N.

Escuela Tecnológica

Res. N°1899 de 2002 M.E.N.

Confiere el Título de

Ingeniero Electrónico

a

Yilmer Andrés Quiroga Ramírez

C.C. 80.198.716 de Bogotá D.C.

En testimonio de ello se expide, firma y sella el presente diploma en la ciudad de Bogotá D.C. a los 29 días del mes de Abril de 2011

ESCUELA COLOMBIANA DE CARRERAS INDUSTRIALES
RECTORIA

RECTOR

ESCUELA COLOMBIANA DE CARRERAS INDUSTRIALES
SECRETARÍA GENERAL

SECRETARIO GENERAL

E C

ESCUELA COLOMBIANA DE CARRERAS INDUSTRIALES
DECANO DE FACULTAD

DECANO DE FACULTAD

Consejo Profesional Nacional de Ingenierías Eléctrica, Mecánica y Profesiones Afines



Titular YILMER ANDRÉS QUIROGA RAMÍREZ

D.I. 80.198.716

Ingeniero ELECTRÓNICO

Matricula CN206-76817 Resol. C.P.N. 31/2011

Consejo Profesional
Nacional de Ingenierías
Eléctrica, Mecánica
y Profesiones Afines

CERTIFICADO DE MATRICULA PROFESIONAL

Original

EL PRESIDENTE DEL CONSEJO PROFESIONAL DE INGENIERÍAS ELÉCTRICA, MECÁNICA Y PROFESIONES AFINES SECCIONAL DE CUNDINAMARCA

CERTIFICA:



1. Que en cumplimiento de la Ley 51 de 1986 y del Decreto 1873 de 1996, YILMER ANDRÉS QUIROGA RAMÍREZ, identificado con Cédula de Ciudadanía 80.198.716 de Bogotá (D.C.), presentó solicitud de matrícula profesional de Ingeniero Electrónico ante el Consejo Profesional de Ingenierías Eléctrica, Mecánica y Profesiones Afines, Seccional de Cundinamarca, acreditando para el efecto su grado profesional, otorgado por la Escuela Colombiana de Carreras Industriales el día 29 de Abril de 2011.

2. Que, estudiada la solicitud, el Consejo Profesional de Ingenierías Eléctrica, Mecánica y Profesiones Afines, Seccional de Cundinamarca, mediante la Resolución 21 del 13 de Mayo de 2011 expidió la matrícula profesional a YILMER ANDRÉS QUIROGA RAMÍREZ para ejercer la profesión de INGENIERO ELECTRÓNICO de acuerdo con lo señalado en la ley y el decreto antes citados.

3. Que, mediante la Resolución 31 del 26 de Mayo de 2011, el Consejo Profesional Nacional de Ingenierías Eléctrica, Mecánica y Profesiones Afines confirmó la matrícula anterior y le asignó el número de registro:

CN206-76817

Este certificado se expide en Bogotá el día 26 de Mayo de 2011.

ÁLVARO DÍAZ GARAVITO
Presidente

REPUBLICA DE COLOMBIA

MINISTERIO DE EDUCACIÓN NACIONAL Y EN SU NOMBRE
LA ESCUELA COLOMBIANA DE CARRERAS INDUSTRIALES

Fundada en 1977. Aprobada por Res. No. 03367 de 1980 P.J. No. 2683 de 1985 M.E.N.

ESCUELA TECNOLÓGICA

RES. NO. 1899 DE 2002 M.E.N

EL SEÑOR RECTOR DE ACUERDO A LO DISPUESTO EN EL ARTÍCULO 24 DE LA LEY 30 DEL 29 DE DICIEMBRE DE 1992 Y CONFORME A SUS FACULTADES ESTATUTARIAS, CONFIERE A:

QUIROGA RAMÍREZ YILMER ANDRÉS

C.C. No. *80,198,716 de BOGOTA D.C*

EL TÍTULO DE

TÉCNICO PROFESIONAL EN

ELECTRÓNICA INDUSTRIAL

POR HABER CUMPLIDO CON TODOS LOS REQUISITOS ACADÉMICOS Y LEGALES QUE LE ACREDITAN PARA EJERCER LA PROFESIÓN.

EN TESTIMONIO DE ELLO SE EXPIDE, FIRMA Y SELLA EL PRESENTE DIPLOMA EN LA CIUDAD DE BOGOTÁ, D.C.

A LOS *2* DIAS DEL MES *Febrero* DE *2007*

ESCUELA COLOMBIANA DE CARRERAS INDUSTRIALES
RECTORIA
RECTOR

ESCUELA COLOMBIANA DE CARRERAS INDUSTRIALES
SECRETARIA GENERAL
Santafe de Bogotá,D.C
SECRETARIO GENERAL

COLOMBIANA DE INDUSTRIALES
DECANO DE FACULTAD
DECANO

Fundada en 1977. Aprobada por Res. No. 03367 de 1980.
P.J. No. 2683 de 1985 M.E.N.
Escuela Tecnológica, Res. No. 1899 de 2002 M.E.N.
NIT. 860. 401. 496 - 0

Escuela Colombiana de Carreras Industriales
ECCI
Escuela Tecnológica
Su institución universitaria.

ACTA DE GRADO No.040

REPUBLICA DE COLOMBIA

ESCUELA COLOMBIANA DE CARRERAS INDUSTRIALES
APROBADA POR RESOLUCION No. 03367 DEL 11 DE MARZO DE 1980
DEL MINISTERIO DE EDUCACION NACIONAL
ESCUELA TECNOLÓGICA
APROBADA POR RESOLUCIÓN No. 1899 DE 2002 M.E.N.

En Bogotá D.C., a los dos (2) días del mes de febrero de 2007, en el Auditorio AGUSTINIANO, siendo las 6:00 p.m., se celebró la ceremonia de graduación del alumno QUIROGA RAMIREZ YILMER ANDRES, identificado con la cédula de ciudadanía No. 80,198,716 expedida en BOGOTA D.C y Libreta Militar 84042806721 D.M.0,4, quien cumplió con los requisitos académicos correspondientes y cubrió los programas ofrecidos por la Corporación. Como opción de grado realizó SEMINARIOtitulado(a) MANTENIMIENTO PREVENTIVO DE EQUIPOS ELECTRONICOS, obteniendo una nota de 4.40 (Cuatro Cuatro Cero), aprobatoria, en virtud de lo anterior y en representación de la Corporación el Señor Rector previa toma de juramento le confirió el título de **TÉCNICO PROFESIONAL EN ELECTRÓNICA INDUSTRIAL.**

Para constancia se firma la presente.

ESCUELA COLOMBIANA DE CARRERAS INDUSTRIALES
SECRETARIA GENERAL
Santafé de Bogotá D.C.

ING. FERNANDO SOLER LÓPEZ
RECTOR

ING. JOSE FERNANDO LÓPEZ Q.
SECRETARIO GENERAL

ING. FERNANDO SOLER LÓPEZ (JR.)
DECANO

Instituto Nacional de Vigilancia de Medicamentos y Alimentos – INVIMA
Ministerio de la Protección Social
República de Colombia

Libertad y Orden

ACIENTE CORRESPONDENCIA SALIENTE
Pra Rad: 08057607 Radicado: 08057607
Folios: 1 Clave 023005
De: SUBDIRECCION INSUMOS PARA LA SALU
Para: JOMEDICAL LTDA
Fecha 2008/09/29 08:56 Impresion

Bogotá

S.I.500–2844–2008

Señores:
JOMEDICAL LTDA.
ATN. NELLY CECILIA VEGA C.
REPRESENTANTE LEGAL
CARRERA 49A No. 43 – 28 LA CASTELLANA
PBX.: 6226727/28 FAX.: 6226741
BOGOTÁ D.C.

ASUNTO: Inscripción Recurso Humano para Mantenimiento de Dispositivos Médicos Considerados Equipos Biomédicos según radicado No.08053008 de fecha 8-09-2008.

Cordial saludo.

Por medio de la presente le informo que los documentos mencionados en el asunto, fueron recibidos en esta subdirección e ingresada en nuestra base de datos con los siguientes números de inscripción.

No INSCRIPCIÓN	NOMBRES Y APELLIDOS
RH-200809-150	JOHN NETHZL OLMOS MENDEZ
RH-200809-151	YILMER ANDRES QUIROGA RAMIREZ
RH-200809-152	JOSE LEONARDO RIAÑO TIQUE

Gracias por su información.

Atentamente,

MIGUEL OSCAR MEDINA ÁLVAREZ
Subdirector de Insumos para la Salud y Productos Varios.

Proyectó: IVETTE XIOMARA VELAZCO ALDANA.
Ingeniera Biomédica – Contratista
26 de Septiembre de 2008

JOMEDICAL SAS

IDIOMAS
Español: Natal
Ingles:
ENGLISH DISCOVERIES-BASICO I ENGLISH

Nombre Apellidos: YILMER ANDRÉS QUIROGA RAMIREZ



Fecha de Nacimiento: Abril 28 de 1.984
Ciudad: Bogota D.C.
Edad: 37 AÑOS
Dirección: CALLE 164 BIS #12 A-65 BOGOTÁ
Cedula de C. 80.198.716 Bogotá D.C.
Profesión: **Ingeniero Electrónico**
E-mail: yilmer@hotmail.com
Teléfono: 3005585733
Cargo: **Ingeniero de Soporte Técnico ELECTROMEDICINA**
Tarjeta Profesional No. CN206-76817
Fecha de Expedición: 26-05-2011
Registro Invima No. RH-200809-151
Fecha de Expedición: 26-09-2008

ESTUDIOS

ESTUDIOS SUPERIORES

Año, Título: Ingeniero electrónica- 2011
Ciudad-País: Bogotá Colombia- Universidad ECCI.

Año, Título: Técnico profesional en electrónica industrial
Ciudad-País: Bogotá Colombia- ECCI

EXPERIENCIA Y LOGROS LABORALES

EXPERIENCIA Y LOGORS LABORALES

NOMBRE DE LA EMPRESA: JOMEDICAL S.A.S-COLOMBIA

Cargo ocupado: Ingeniero de soporte técnico de electro medicina

Tareas o logros realizados:

Encargado del desarrollo del programa de visitas y planes de mantenimiento preventivo y/o correctivo, reparación mantenimiento, capacitación y/o metrología y calibración de los equipos distribuidos por JOMEDICAL S.A.S, brindar soporte técnico en los diferentes procesos de la empresa, instalación puesta en funcionamiento y capacitación de los equipos médicos adquiridos por los clientes, compra de repuestos electrónicos de acuerdo a los requerimientos, cuando sea necesario.

Periodo laboral: 13-07-2007 a la fecha

EXPERIENCIAS LABORALES

NOMBRE DE LA EMPRESA: CAPITAL DOCUMENT-COLOMBIA

Cargo ocupado: Auxiliar de copiado

Tareas o logros realizados: Administrador de puntos de copiado, manejo de caja, operario de fotocopiadoras lanier, Ricoh y duplicadores, atención al cliente.

Periodo laboral: septiembre de 2004 hasta julio de 2007

NOMBRE DE LA EMPRESA: PAPELERIA CAPRICHOS-COLOMBIA

Cargo ocupado: vendedor

Tareas o logros realizados: Atención al público, realizar trabajos en computador, investigaciones en internet y ventas en general de productos de papelería.

Periodo laboral: junio de 2002 a mayo de 2003

FORMACIONES ADICIONALES

FORMACIONES ADICIONALES

Capacitación: Seminario Mantenimiento Preventivo de Equipos Electrónicos
Institución: Escuela Colombiana de Carreras Industriales
Año: 2007

REFERENCIAS LABORALES

REFERENCIAS LABORALES

NOMBRE: CAPITAL DOCUMENT
Cargo Jefe Inmediato: Nelson Millán Paredes
Teléfono: 75819871

NOMBRE: PAPELERIA CAPRICHOS
Cargo Jefe Inmediato: Leonardo Amorocho
Teléfono: 300-6923467

REFERENCIAS PERSONALES

REFERENCIAS PERSONALES

Nombre: IDANYELA POVEDA
Ocupación: Trabajadora Social
Teléfono: 6037045

Nombre: DIEGO ALEXANDER ESPITIA V.
Ocupación: Ingeniero Industrial
Teléfono: 4426527-300-5676934

REFERENCIAS FAMILIARES

REFERENCIAS FAMILIARES

Nombre : SEGUNDO QUIROGA CABRERA
Profesión: Economista
Teléfono: 4108813-4280400

Nombre: JHOANA GUZMAN MOLINA
Profesión: Ingeniera Electrónica
Teléfono: 301-2215301

Firma:

YILMER ANDRÉS QUIROGA
C.C. 80.198.716 DE BOGOTÁ D.C



JOMEDICAL SAS

IDIOMAS

Español: Natal
Inglés: BÁSICO ENGLISH DISCOVERIES- BASICO I ENGLISH DISCOVERIES BASICO II

Nombre: DENIS GUEVARA PINILLA

Fecha de nacimiento: 18-03-1984
Edad 38 AÑOS
Ciudad: CAREPA.
Dirección, Cuidad-País CRA 2E No. 47-81 CALI- COLOMBIA
Tel. Móvil. 312-2061326
E-mail: Guevaradennis@hotmail.com
Cedula de Ciudadanía No. 26.421.550 NEIVA
Profesión: Ingeniera Biomédica
Cargo: Ingeniero de Soporte Externo
Tarjeta Profesional No. 76615-066777VLL
Fecha de Expedición: 25/10/2018
Registro Invima No. RH-201812-614
Fecha de Expedición: 01/04/2015

ESTUDIOS

ESTUDIOS SUPERIORES

Titulo obtenido y año de graduación: Ano: 2011 Ingeniera Biomédica

Ciudad-País y Universidad: Instituto Tecnológico Metropolitano

Titulo obtenido y año de graduación: 2007 Auxiliar de Enfermería

Ciudad-País y Universidad: Escuela de Vida y Salud

EXPERIENCIA Y LOGROS LABORALES

EXPERIENCIA Y LOGORS LABORALES

Empresa Actual:

NOMBRE DE LA EMPRESA: JOMEDICAL SAS

Cargo Ocupado: Ingeniero de Soporte Externo

Funciones Realizadas: Diagnosticar, mantener, reparar equipos Biomédicos, vendidos o entregados en arriendo, diagnosticar los equipos verificando su estado y funcionamiento para emitir un Concepto técnico de requerimientos para realizar el mantenimiento

EXPERIENCIA Y LOGOS LABORALES

Correctivo de los mismos, reparar, reparar los equipos que entran al Servicio técnico o que en el Diagnostico se identifiquen fallas que Soluciones, reemplazar piezas defectuosas, verificando su función *O f*uncionamiento y posterior entrega al cliente.

EMPRESAS ANTERIORES

NOMBRE DE LA EMPRESA: UNIVERSIDAD SANTIAGO DE CALI
Cargo Ocupado: Ingeniera Biomédica

Tareas o logros realizados: Instalaciones de diferentes equipos, mantenimiento preventivo y correctivo de equipos biomédicos, Capacitación al personal (cliente) sobre el uso, cuidado y funcionamiento de los equipos, Acompañamiento y asesoramiento en el levantamiento de la documentación de tecnovigilancia, procesos de aseguramiento y mantenimiento metrológico
Periodo: 2018-2022

NOMBRE DE LA EMPRESA: DISTRIMEDICS SERVICIOS SAS
Cargo Ocupado: AUXILIAR DE CONSULTA EXTERNA
Tareas o logros realizados: Auxiliar de consulta externa en oftalmología y otorrinolaringología, exámenes para diagnóstico clínico. Auxiliar en el área de cirugía en la valoración para anestesia para procedimientos locales.
Periodo: 2016-2017

NOMBRE DE LA EMPRESA: CLINICA VISUAL Y AUDITIVA
Cargo Ocupado: Auxiliar de Enfermería

Tareas o logros realizados: Atención de niños ciegos y sordos del Valle del Cauca.
Periodo: 2020

REFERENCIAS PERSONALES

REFERENCIAS PERSONALES

NOMBRE: RUBEN DARIO GALEANO
Profesión: Técnico en Refrigeración
Tel. Móvil: 304 3728974

NOMBRE: MANUEL PAREDES
Profesión: Técnico Eléctrico
Tel. Móvil: 313 7021901

NOMBRE: PAOLA ANDREA CANDELO O.
Profesión: Bioingeniería
Tel. Móvil: 300 3441905

REFERENCIAS FAMILIARES

REFERENCIAS FAMILIARES

NOMBRE: HELLEN GONZALES
Parentesco: Familiar
Tel. Móvil 315 4528508

NOMBRE: JORGE ESCOBAR
Parentesco: Familiar
Tel. Móvil 315 4747421

REFERENCIAS LABORALES

REFERNCIAS LABORALES

EMPRESA UNIVERSIDAD SANTIAGO DE CALI
Nombre Hernán Romero
Cargo: Jefe Inmediato
Teléfono: 5183000 Ext. 314

REFERNCIAS LABORALES

EMPRESA DISTRIMEDICS SERVICIOS SAS
Nombre Sandra Lorena Mancilla
Cargo: Jefe Inmediato
Teléfono: 6670134

EMPRESA CLINICA VISUAL Y AUDITIVA
Nombre Carolina Idarraga
Cargo: Jefe Inmediato
Teléfono: 5140233 Ext.238

FORMACIONES ADICIONALES

FORMACIONES ADICIONALES

- Entrenamiento para el uso de equipos de laboratorios Dental (2020)
- Actualización en sistema Anti-retracción NSK, consideración Para los procesos de esterilización de piezas de mano (2020)
- Formación de Auditores Internos en la NTC ISO/IEC 17025 (2019)
- IV Congreso de Bioingeniería (2011)
- Curso de reanimación cardiopulmonar básica y avanzada en Salamandra (2008)
- Programa de entrenamiento y capacitación en las Brigadas de Emergencia (2008)
- Capacitación en soporte Vital Básico (2013)
- Estrategias pedagógicas para el desarrollo del pensamiento (2015)
- Curso de soporte básico de vida (Reanimación Cardiopulmonar (2016)
- Curso de ISO 9001-2008 AUDITORIA INTERNA DE CALIDAD (2016)
- Seminario Nacional de Hospitales Verdes y Saludables (2017)
- Curso Internacional de Introducción a la Eficiencia y Sostenible **(**2018)

DENIS GUEVARA PINILLA
C.C. 26.421.550 NEIVA
Ingeniero de Soporte Externo

FIRMA

Invima	INSPECCIÓN, VIGILANCIA Y CONTROL - IVC		VIGILANCIA	
	INSCRIPCIÓN DE RECURSO HUMANO PARA EL MANTENIMIENTO Y VERIFICACIÓN DE LA CALIBRACIÓN PARA EQUIPOS BIOMÉDICOS DE CLASES IIB Y III			
	Código: IVC-VIG-FM007	Versión: 00	Fecha de Emisión: 01/04/2015	Página 1 de 1

RADICACIÓN No 20181254863 FECHA 12/12/2018

El SUSCRITO (A) DIRECTOR (A) TECNICO (A) DE DISPOSITIVOS MÉDICOS Y OTRAS TECNOLOGÍAS DEL INVIMA REALIZA LA INSCRIPCION PARA MANTENIMIENTO Y VERIFICACIÓN DE LA CALIBRACIÓN PARA EQUIPOS BIOMÉDICOS DE TECNOLOGÍA CONTROLADA DE CLASES IIB Y III, DE ACUERDO CON LA LEGISLACIÓN VIGENTE.

DATOS PERSONALES		
NOMBRE: DENIS GUEVARA PINILLA		
DOCUMENTO DE IDENTIFICACIÒN: 26.421.150 DE NEIVA		
TELÉFONO: 3122061326-4476827	**CORREO ELECTRÒNICO:** guevaradennis@hotmail.com	
CIUDAD / MUNICIPIO: CALI	**DEPARTAMENTO:** VALLE DEL CAUCA	**PAÍS:** COLOMBIA

No. DE INSCRIPCIÓN	TÍTULO OBTENIDO	MANTENIMIENTO DE EQUIPOS POR CLASE
RH-201812-614	BIOINGENIERO	**IIB Y III**

Esta inscripción se otorga en cumplimiento con lo establecido en el Artículo 39, del Decreto 4725 del 26 de diciembre de 2005, "*Toda persona jurídica o natural que preste servicios de mantenimiento y verificación de la calibración para equipos biomédicos de Clases IIB y III, deberá contar con un responsable técnico, el cual deberá ser profesional en ingeniería biomédica o ingenierías afines o personal técnico debidamente acreditado, los cuales deberán registrarse ante el Instituto Nacional de Vigilancia de Medicamentos y Alimentos, Invima, o la entidad sanitaria competente*".

Nota: Esta inscripción es válida en todo el territorio nacional, es personal e intransferible y se expide por ***ÚNICA VEZ****, por tanto cualquier modificación de la información consignada en la presente inscripción se surtirá a través de una solicitud escrita de actualización.*

La inscripción expedida no certifica o acredita la práctica del mantenimiento y verificación de la calibración de los equipos biomédicos que es realizado por este personal.

Todos los folios de éste documento llevan sello del INVIMA. Documento válido únicamente en su original.

LUCIA AYALA RODRIGUEZ
Directora Técnica de Dispositivos Médicos
y Otras Tecnologías

Proyectó: 5200-04 MEOP Profesión: Técnico Administrativo C.C. Exp.: RH-201812-614	Revisó: 5200-03 JAZO Profesión: Ingeniero Biomédico	Aprobó: 5200-01 SIPRC Profesión: Ingeniera Química

EL FORMATO IMPRESO, SIN DILIGENCIAR, ES UNA COPIA NO CONTROLADA
www.invima.gov.co

		INSTRUCTIVO
COLUMNA	**NOMBRE COLUMNA**	**DESCRIPCIÓN**
A	**ITEM**	Enumeracion de los equipos
B	**NOMBRE DEL EQUIPO**	Nombre del equipo generico
C	**MARCA**	Marca del equipo
D	**MODELO REF.**	Especificar el modelo del equipo con el cual se conoce comúnmente, por lo general es el que esta escrito en la parte delantera visible del equipo **MODEL**
E	**SERIAL**	Es la serie que se encuentra en la placa de fabrica del equipo **SN**
F	**NUMERO DE ACTIVO FIJO**	Especificar la placa de inventario que aparece
G	**REGISTRO SANITARIO**	Registro verificado en la plataforma del Invima http://consultaregistro.invima.gov.co:8082/consultas/consultas/consreg_encabcum.jsp
H	**CENTRO DE COSTO**	Número del centro de costo asignado (consultarlo el número de activo fijo)
I	**UBICACIÓN FISICA**	Servicio donde se encuentra el equipo
J	**AREA**	Lugar exacto dentro del servicio donde se encuentra el equipo
K	**TIPO DE EQUIPO**	Se debe describir si el equipo es fijo
L	**FORMA DE ADQUISICION**	Describir si la adquisición es compra, alquiler o comodato
M	**FECHA DE INSTALACION**	Fecha de ingreso al servicio
N	**FECHA DE RETIRO**	Fecha de salida del equipo del servicio
O	**CLASIFICACION BIOMEDICA**	De acuerdo con su utilización la tecnología biomédica se clasifica así:1. Tecnología biomédica para diagnóstico; 2. Tecnología biomédica para tratamiento y mantenimiento de la vida; 3. Tecnología biomédica para rehabilitación; 4. Tecnología biomédica para prevención, y 5. Tecnología biomédica para análisis de laboratorio.
P	**CLASIFICACION POR RIESGO**	La clasificación de los dispositivos médicos realizada por el fabricante, se fundamenta en los riesgos potenciales relacionados con el uso y el posible fracaso de los dispositivos con base en la combinación de varios criterios tales como, duración del contacto con el cuerpo, grado de invasión y efecto local contra efecto sistémico. Clase I. Son aquellos dispositivos médicos de bajo riesgo, sujetos a controles generales, no destinados para proteger o mantener la vida o para un uso de importancia especial en la prevención del deterioro de la salud humana y que no representan un riesgo potencial no razonable de enfermedad o lesión. Clase IIA. Son los dispositivos médicos de riesgo moderado, sujetos a controles especiales en la fase de fabricación para demostrar su seguridad y efectividad. Clase IIB. Son los dispositivos médicos de riesgo alto, sujetos a controles especiales en el diseño y fabricación para demostrar su seguridad y efectividad. Clase III. Son los dispositivos médicos de muy alto riesgo sujetos a controles especiales, destinados a proteger o mantener la vida o para un uso de importancia sustancial en la prevención del deterioro de la salud humana, o si su uso presenta un riesgo potencial de enfermedad o lesión

HOSPITAL	**INVENTARIO DE EQUIPOS BIOMÉDICOS HOSPITAL SUSANA LÓPEZ DE VALENCIA E.S.E.**	**Código:**
	ENDOSCOPIA Y GASTROENTEROLOGÍA	**Versión: 1 - 2024**

ITEM	NOMBRE DEL EQUIPO	MARCA	MODELO REF.	SERIAL	NUMERO DE ACTIVO FIJO	REGISTRO SANITARIO	UBICACIÓN FISICA	TIPO DE EQUIPO	FORMA DE ADQUISICION	FECHA DE INSTALACION	FECHA DE RETIRO	CLASIFICACION BIOMEDICA	CLASIFICACION POR RIESGO
1	ARCO EN C	SIEMENS	CIOS SELECT	11069	166007687	2019EBC-0002441-R1	ENDOSCOPIA	MOVIL	COMPRA	7/16/2024	N.A	DIAGNÓSTICO	IIB
2	ASPIRADOR DE SECRECIONES	SMAF	SXT-5A	L1.24.284	166005733	2017DM-0001310-R1	SALA DE PROCEDIMIENTOS	MOVIL	COMPRA	7/16/2024	N.A	REHABILITACIÓN	IIA
3	CAMILLA	STRYKER	ST1-X	011210100022690001	166007666	2013DM-0009676	SALA DE PROCEDIMIENTOS	MOVIL	COMPRA	7/16/2024	N.A	NO APLICA	I
4	DESFIBRILADOR	MINDRAY	BENEHEART D3	EZ-36112398	166003363	2020EBC-0005463-R1	SALA DE PROCEDIMIENTOS	MOVIL	COMPRA	7/16/2024	N.A	TRATAMIENTO Y MTTO DE LA VIDA	IIB
5	ELECTROBISTURI	ERBE	VIO3	11561598	166006431	2019EBC-0004341-R1	SALA DE PROCEDIMIENTOS	MOVIL	COMPRA	7/16/2024	N.A	TRATAMIENTO	IIB
6	FONENDOSCOPIO	GMD	OIS 500	N.R.	N.R	2020DM-0022263	CARRO DE PARO	MOVIL	COMPRA	7/16/2024	N.A	DIAGNÓSTICO	I
7	LARINGOSCOPIO ADULTO	WELCH ALLYN	60813	N.R		2018DM-0018133	CARRO DE PARO	MOVIL	COMPRA	7/16/2024	N.A	DIAGNÓSTICO	I
8	LARINGOSCOPIO ADULTO	WELCH ALLYN	60813	N.R		2018DM-0018133	SALA DE PROCEDIMIENTOS	MOVIL	COMPRA	7/16/2024	N.A	DIAGNÓSTICO	I
9	LARINGOSCOPIO PEDIÁTRICO	WELCH ALLYN	60814	N.R		2018DM-0018133	CARRO DE PARO	MOVIL	COMPRA	7/16/2024	N.A	DIAGNÓSTICO	I
10	LARINGOSCOPIO PEDIÁTRICO	WELCH ALLYN	60814	N.R		2018DM-0018133	SALA DE PROCEDIMIENTOS	MOVIL	COMPRA	7/16/2024	N.A	DIAGNÓSTICO	I
11	MODULO APC 3	ERBE	10135-000	11562475	166006431	2020EBC-0021202	SALA DE PROCEDIMIENTOS	MOVIL	COMODATO	7/16/2024	N.A	TRATAMIENTO	IIB
12	MONITOR DE SIGNOS VITALES	MINDRAY	UMEC12	KQ-2C096293	166007683	2016EBC-0014448	SALA DE PROCEDIMIENTOS	FIJO	COMPRA	7/16/2024	N.A	DIAGNÓSTICO	IIB
13	MONITOR DE SIGNOS VITALES	MINDRAY	UMEC12	KQ-2C096297	166007684	2016EBC-0014448	RECUPERACIÓN 1	FIJO	COMPRA	7/16/2024	N.A	DIAGNÓSTICO	IIB
14	MONITOR DE SIGNOS VITALES	MINDRAY	UMEC12	KQ-2C096301	166007685	2016EBC-0014448	RECUPERACIÓN 2	FIJO	COMPRA	7/16/2024	N.A	DIAGNÓSTICO	IIB
15	MONITOR DE SIGNOS VITALES	MINDRAY	UMEC12	KQ-2C096296	166007686	2016EBC-0014448	RECUPERACIÓN 3	FIJO	COMPRA	7/16/2024	N.A	DIAGNÓSTICO	IIB
16	MONITOR GRADO MEDICO	EIZO	CURATOR EX2721	33630033	N.R	2023DM-0027455	SALA DE PROCEDIMIENTOS	MOVIL	COMODATO	7/16/2024	N.A	DIAGNÓSTICO	IIA
17	TERMOHIGROMETRO MAX Y MIN	THERMO-HYGROMETER	N.R	N.R	N.R	NO APLICA	CARRO DE PARO	FIJO	COMPRA	7/16/2024	N.A.	NO APLICA	N.A.
18	TERMOHIGROMETRO MAX Y MIN	THERMO-HYGROMETER	N.R	N.R	N.R	NO APLICA	CUARTO DE INSUMOS	FIJO	COMPRA	7/16/2024	N.A.	NO APLICA	N.A.
19	REGULADOR DE VACÍO	AMVEX	CHA	CHAC002048	166005736	2018DM-0019003	SALA DE PROCEDIMIENTOS	FIJO	COMPRA	7/16/2024	N.A.	NO APLICA	IIA
20	REGULADOR DE VACÍO	AMVEX	CHA	CHAC002051	166005738	2018DM-0019003	RECUPERACION	FIJO	COMPRA	7/16/2024	N.A.	NO APLICA	IIA
21	REGULADOR DE VACÍO	AMVEX	CHA	CHAC002047	166005737	2018DM-0019003	RECUPERACION	FIJO	COMPRA	7/16/2024	N.A.	NO APLICA	IIA
22	REGULADOR DE VACÍO	AMVEX	CHA	CHAC001960	166005735	2018DM-0019003	RECUPERACION	FIJO	COMPRA	7/16/2024	N.A	NO APLICA	IIA
23	VIDEOCOLONOSCOPIO	FUJIFILM	EC-720R/L	6C742K242	N.R	2018DM-0018326	SALA DE PROCEDIMIENTOS	FIJO	COMODATO	7/16/2024	N.A	DIAGNÓSTICO	IIA
24	VIDEODUODENOSCOPIO	FUJIFILM	ED-580XT	9D127K577	N.R	2018DM-0018326	SALA DE PROCEDIMIENTOS	FIJO	COMODATO	7/16/2024	N.A	DIAGNÓSTICO	IIA
25	VIDEOGASTROSCOPIO	FUJIFILM	EG-720R	7G412K718	N.R	2018DM-0018326	SALA DE PROCEDIMIENTOS	FIJO	COMODATO	7/16/2024		DIAGNÓSTICO	IIA
26	VIDEOPROCESADOR	FUJIFILM	EP-6000	1V694G979	N.R	2018DM-0018326	SALA DE PROCEDIMIENTOS	FIJO	COMODATO	7/16/2024	N.A	DIAGNÓSTICO	IIA
27													

"Esta información es confidencial y para uso exclusivo de Hospital Susana López de Valencia E.S.E."

28													
29													
30													
31													
32													
33													
34													
35													
36													
37													
38													
39													
40													
41													
42													
43													
44													
45													
46													
47													
48													
49													
50													
51													
52													
53													

"Esta información es confidencial y para uso exclusivo de Hospital Susana López de Valencia E.S.E."

HOSPITAL Susana Lopez de Valencia E.S.E.	**CRONOGRAMA DE MANTENIMIENTO PREVENTIVO , VERIFICACIONES Y CALIBRACION DE EQUIPOS BIOMEDICOS**	**Código:**
	INGENIERÍA HOSPITALARIA HOSPITAL SUSANA LOPEZ DE VALENCIA	**Versión: 1- 2024**

						2024						2025												
ITEM	**SERVICIO**	**NOMBRE DEL EQUIPO**	**NUMERO DE EQUIPOS**	**MARCA**	**MODELO**	**JULIO**	**AGOSTO**	**SEPTIEMBRE**	**OCTUBRE**	**NOVIEMBRE**	**DICIEMBRE**	**ENERO**	**FEBRERO**	**MARZO**	**ABRIL**	**MAYO**	**JUNIO**	**JULIO**	**AGOSTO**	**SEPTIEMBRE**	**OCTUBRE**	**NOVIEMBRE**	**DICIEMBRE**	**PROVEEDOR**
1	ENDOSCOPIA Y GASTROENTEROLOGIA	ARCO EN C	1	SIEMENS	CIOS SELECT	ING						G						G						SERVIMOS CAUCA
2	ENDOSCOPIA Y GASTROENTEROLOGIA	ASPIRADOR DE SECRECIONES	1	SMAF	SXT-5A	ING												G C						SERVIMOS CAUCA
3	ENDOSCOPIA Y GASTROENTEROLOGIA	CAMILLA	1	STRYKER	ST1-X	ING												M						INGENIERÍA HOSPITALARIA HSLV
4	ENDOSCOPIA Y GASTROENTEROLOGIA	CAMILLA	4	MUBI	4111	ING												M						INGENIERÍA HOSPITALARIA HSLV
5	ENDOSCOPIA Y GASTROENTEROLOGIA	DESFIBRILADOR	1	MINDRAY	BENEHEART D3	ING												G C						SERVIMOS CAUCA
6	ENDOSCOPIA Y GASTROENTEROLOGIA	ELECTROBISTURI	1	ERBE	VIO3	ING					G						G						G	SERVIMOS CAUCA
7	ENDOSCOPIA Y GASTROENTEROLOGIA	LARINGOSCOPIO ADULTO / PEDIATRICO	4	WELCH ALLYN	60813 / 60814	ING												M						INGENIERÍA HOSPITALARIA HSLV
8	ENDOSCOPIA Y GASTROENTEROLOGIA	MODULO APC 3	1	ERBE	10135-000	ING					G						G						G	JOMEDICAL
9	ENDOSCOPIA Y GASTROENTEROLOGIA	MONITOR DE SIGNOS VITALES	4	MINDRAY	UMEC12	ING												G C						SERVIMOS CAUCA
10	ENDOSCOPIA Y GASTROENTEROLOGIA	MONITOR GRADO MEDICO	1	EIZO	CURATOR EX2721	ING					G						G						G	JOMEDICAL
11	ENDOSCOPIA Y GASTROENTEROLOGIA	TERMOHIGROMETRO MAX Y MIN	2	THERMO-HYGROMETER	N.R	ING												M C						INGENIERÍA HOSPITALARIA HSLV
12	ENDOSCOPIA Y GASTROENTEROLOGIA	REGULADOR DE VACÍO	4	AMVEX	CHA	ING												M C						INGENIERÍA HOSPITALARIA HSLV
13	ENDOSCOPIA Y GASTROENTEROLOGIA	VIDEOCOLONOSCOPIO	1	FUJIFILM	EC-720R/L	ING					G						G						G	JOMEDICAL
14	ENDOSCOPIA Y GASTROENTEROLOGIA	VIDEODUODENOSCOPIO	1	FUJIFILM	ED-580XT	ING					G						G						G	JOMEDICAL
15	ENDOSCOPIA Y GASTROENTEROLOGIA	VIDEOGASTROSCOPIO	1	FUJIFILM	EG-720R	ING					G						G						G	JOMEDICAL
16	ENDOSCOPIA Y GASTROENTEROLOGIA	VIDEOPROCESADOR	1	FUJIFILM	EP-6000	ING					G						G						G	JOMEDICAL

NOMENCLATURA
M: MANTENIMIENTO
VE: VERIFICACION
EGR: SALIDA DEL EQUIPO
ING: INGRESO DEL EQUIPO AL SERVICIO
FS. FUERA DE SERVICIO
C:CALIBRACION
G: GARANTIA