

Disassembly and repair

These procedures provide instructions for monitor disassembly and board removal. Except where otherwise noted, the assembly procedure is the reverse of the disassembly procedure.

An exploded view of the assembly precedes disassembly instructions with callouts referencing the parts. In the instructions, numbers in parenthesis refer to callouts in the exploded drawings.

Each part's disassembly instructions may include one or both of the following:

- **Reassembly notes:** This contains information specific to reassembly not addressed in the disassembly instructions.
- **When replacing the *component*:** This contains information specific to installing a new option or replacement part.

For information about screws or connectors used in the monitor, see "Screws" and "Connectors" in the appendices.

Note After performing any of these procedures and prior to returning the monitor to service, you must use the service tool, Gold edition, to complete the full suite of functional tests to ensure that all systems are operating within the design specifications. For more information about these tests and the service tool, see "Functional verification and calibration."
If you do not have the service tool, contact Welch Allyn Technical Support.



WARNING Electrical shock hazard. Disconnect AC power before opening the monitor. Disconnect and remove the battery before proceeding with disassembly. Failure to do this can cause serious personal injury and damage to the monitor.



WARNING Risk of fire, explosion and burns. Do not short-circuit, crush, incinerate, or disassemble the battery pack.



WARNING Safety risk. Do not attempt to service the monitor when the monitor is connected to a patient.



Caution Before disassembling the monitor, disconnect the AC power cord and any attached accessories (SpO2 sensors, blood pressure hoses and cuffs, temperature probes, and accessories) before disassembly.



Caution Remove the probe well in the temperature module prior to disassembly.



Caution Perform all repair procedures at a static-protected station.



Caution When the monitor case is opened, regard all parts as extremely fragile. Execute all procedure steps with care and precision.



Caution Observe screw torque specifications, especially with screws that secure directly into plastic standoffs.



Caution To avoid mismatching screws and holes, keep the screws for each piece with that piece as you remove modules and circuit assemblies.

Required tools and equipment

- #1 Phillips bit
- #2 Phillips bit
- #10 Torx bit
- Torque driver calibrated for 6.0 in-lb \pm 1.0 in-lb
- Torque driver calibrated for 7.5 in-lb \pm 0.5 in-lb
- Slotted screwdriver
- Tweezers
- Needle-nose pliers
- Spudger
- Tie-wrap tool calibrated for torque specification 5 INT
- Tie-wrap cutter
- Soft lens wipes
- Scissors or other cutting device
- Canned air
- A coin to open the battery door. Select a size that comfortably fits the slot.

Note For a list of the equipment required to perform functional verification and calibration, see “Required equipment” in “Functional verification tests.”

Power down the monitor

1. Touch the **Settings** tab.
2. Touch the **Device** tab.
3. Touch **Power down**.

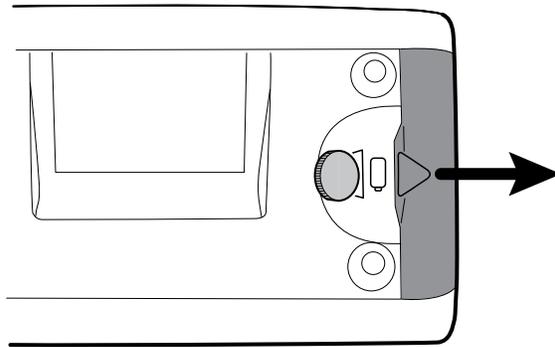
This power-down method, which places the monitor into Standby mode, ensures that patient measurements are retained in the monitor memory for a maximum of 24 hours. (These saved measurements are available for recall, printing, or to send electronically to the network.) This method also ensures that any configuration settings you have changed and saved will be maintained at the next startup.

Note Because power is still available to charge the battery and power the monitor, the monitor is in Standby mode.

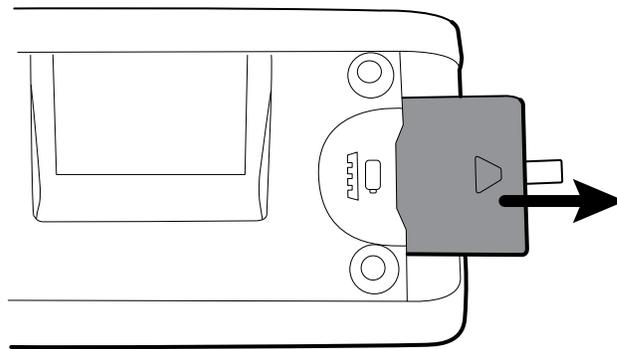
Remove the battery

Before removing the battery, power down the monitor as described in “Power down the monitor.”

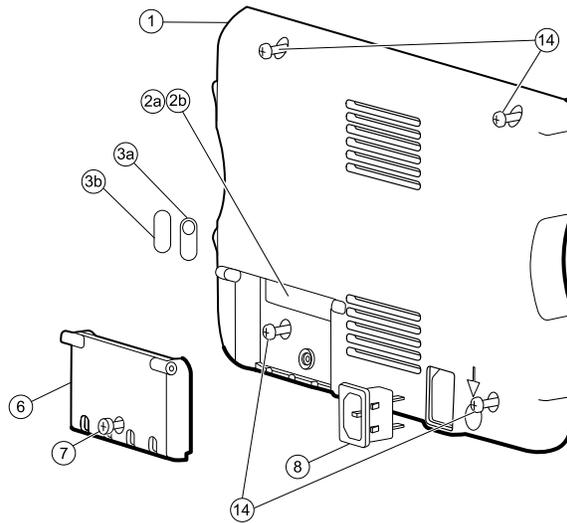
1. Turn the monitor upside down to access the battery cover.
2. Locate the battery cover, indicated by .
3. Insert a coin into the slot and push to open. Choose a coin that fits comfortably into the slot.



4. Pull the battery out by pulling the battery label, which is visible when you open the battery cover.



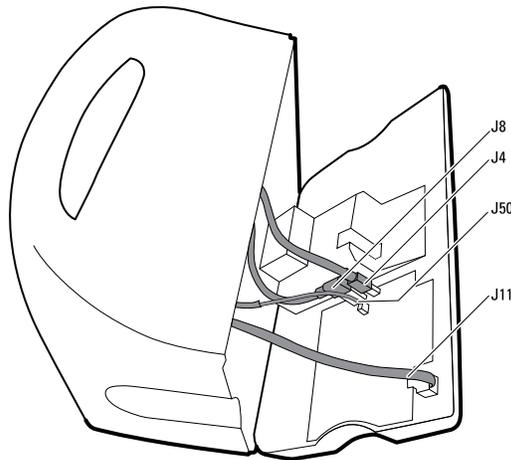
Remove the rear housing



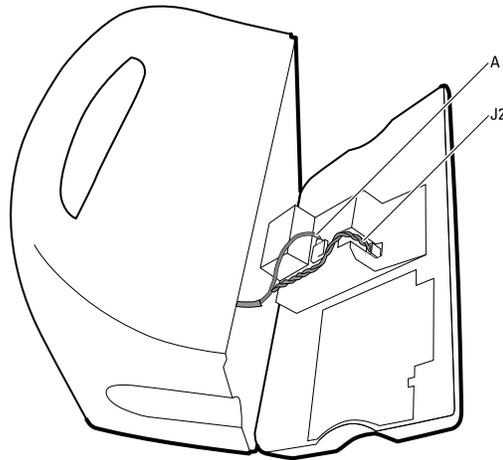
No.	Item	No.	Item
1	Rear housing	6	Rear housing communications door
2a	USB label 4 USB host	7	Communications door captive screw
2b	USB label 1 USB host	8	IEC connector

No.	Item	No.	Item
3a	Nurse call label	14	Screws, M4 X 10 pan head with NYLOC
3b	No nurse call label		

1. Remove the battery as described in "Remove the battery."
2. Lay the monitor face down on the antistatic mat.
3. Loosen the screw (7) to open the communications door (6).
4. Open the communications door (6) to access the rear housing screw.
5. Remove the four rear housing screws (14).
6. Stand the monitor on its feet with the display facing away from you.
7. Pull the top of the rear housing away from the monitor to access the rear housing cable connections.
8. While supporting the rear housing, disconnect the following from the communications module:
 - a. The Ethernet cable (J11).
 - b. The small USB connector from J4.
 - c. The large USB connector from J8.
 - d. The communications power cable from J50.



- a. The Ethernet cable (J11).
 - b. The small USB connector from J4.
 - c. The large USB connector from J8.
 - d. The communications power cable from J50.
9. Continuing to support the rear housing, do the following at the power-supply cover:
 - a. Free the power supply and fan cable from the wire guide on the side of the power-supply cover.
 - b. Disconnect the power supply cable from the power supply board at J2.



- c. Disconnect the fan cable (A) from the main harness.
- d. Separate the rear housing (1) from the monitor.

Once the rear housing is removed, choose which part of the monitor to work on:

- Rear housing components. For details, see “Disassemble the rear housing.”
- Main chassis. For details, see “Disassemble the main chassis.”

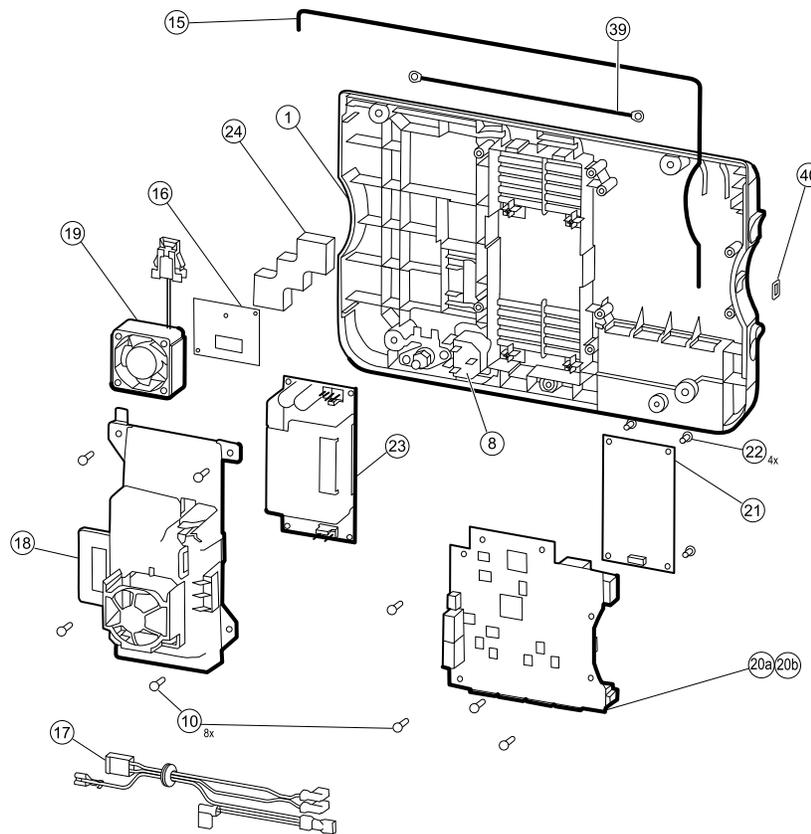
Reassembly notes

- Route the power cable and fan harness cables in the channel on the side of the power-supply cover.
- When closing the case, verify that no wires are crushed or pinched before securing with screws. After tightening the screws, examine the seam between the rear housing and the main chassis to verify that there is no bowing. Bowing indicates that something is preventing the mating surfaces from seating properly.

When replacing the rear housing

1. Follow the procedures to disassemble the rear housing and remove any components that you intend to transfer to the replacement housing.
2. Connect the AC power harness to the IEC AC power connector (8).
3. Install the rear housing gasket (15), included in the rear housing service kit, into the slot in the outer edge of the back housing. To ease installation, use a small flat-blade screwdriver to assist in pushing the seal into the channel.
4. Install any components removed from the old rear housing in the reverse order of the disassembly instructions.
5. After reassembling the rear housing install the USB Client Cover (40) as follows:
 - a. Place the USB Client cover on a USB mini B cable with the tape facing out.
 - b. Peel the tape off to expose the adhesive.
 - c. Insert the USB cable into the client USB connection, press and remove the cable, the cover should adhere to the rear housing.
6. Install these labels:
 - USB label (2a model 6400 and 6500; 2b model 6300) in the communications door opening.
 - Nurse call label (3a model 6400 and 6500; 3b model 6300) over the nurse call connection, located on the right side of the unit.

Disassemble the rear housing



No.	Item	No.	Item
1	Rear housing	20a	Communications board (Model 6300)
8	IEC connector	20b	Communications board (Models 6400 and 6500)
10	Screw, plastite #4-20 X 0.500 pan head	21	Radio board, 802.11a/b/g
15	Rear housing gasket (Norprene tubing)	22	Screw, M3 X 0.5, Phillips pan head
16	Antenna board	23	Power supply board
17	AC power harness	24	Antenna mounting foam block
18	Power supply cover	39	Antenna cable
19	VSM 6000 fan assembly	40	USB client cover

Remove the communications board

1. Remove the rear housing as described in "Remove the rear housing."
2. Lay the rear housing on its back on the antistatic mat.

3. Remove the four Torx-head screws (10) that secure the communications board (20a or 20b) to the rear housing.
4. Remove the communications board by doing the following:
 - a. Lift the inside edge of the board until the USB connector clears the wire channel on the power-supply cover.
 - b. Slide the board slightly towards the power supply and lift until the board contacts the wire channel on the power-supply cover.
 - c. Lift the outside edge of the board until the side connectors clear the rear housing.
 - d. For monitors with a radio: rotate the board (without pulling on the antenna cable) slightly counter clockwise, pivoting on the upper left-hand corner. Turn the board over and set it down outside the top of the case.
5. If replacing the communications board, remove the radio board (21) as described in "Remove the radio board and antenna."

Reassembly notes

- If the radio board was removed, reinstall it before reinstalling the communications board.
- To install the communications board, do the following:
 1. Position the board over the standoffs with the inside edge of the board under the wire channel on the power-supply cover until the outer edge drops into the rear housing.
 2. Align the mini-USB external connector with the opening in the side of the rear housing.
 3. Slide the mini-USB connector into the opening until the board rests on the standoffs.

When replacing the communications board

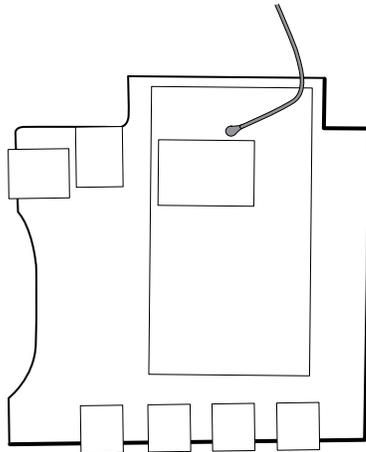
Install the radio board on the new communications board before installing the communications board on the rear housing.

Remove the radio board and antenna



Caution Do not remove the radio antenna from the rear housing unless replacing the radio and antenna or the rear housing.

1. Remove the following:
 - Rear housing. For details, see "Remove the rear housing."
 - Communications board. For details, see "Remove the communications board."
2. If the monitor has the radio option:
 - a. Turn the communications board over to access the radio board, taking care to avoid straining the antenna cable.

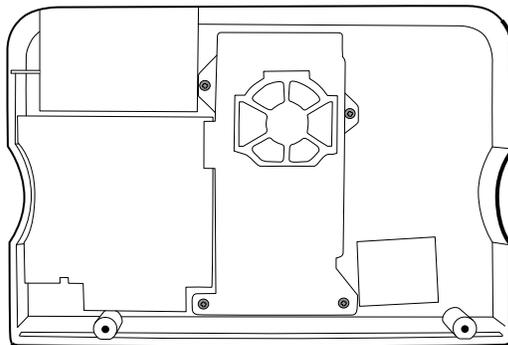


- b. Remove the four screws (22) securing the radio board to the communications board.



Caution Do not disconnect the antenna cable from the radio board unless replacing the antenna cable. The female connection on the antenna cable is easily damaged.

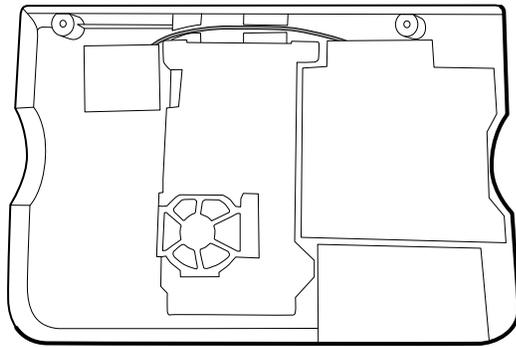
- c. Hold the communications board with one hand while grasping the radio board at the opposite end from the antenna connection and pull the radio board away from the communications board.
3. (Perform this step only if you are replacing the radio or antenna.) Disconnect the radio antenna cable from the radio board.
4. Remove the four Torx screws (10) securing the power-supply cover.



5. Remove the power-supply cover (18).
6. Use a soft tool such as a spudger to separate the adhesive foam block (24) from the inside of the rear housing.

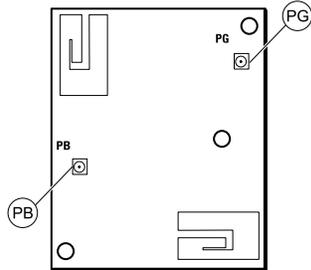
Reassembly notes

Route the antenna cable in the channel located at the top of the rear housing.

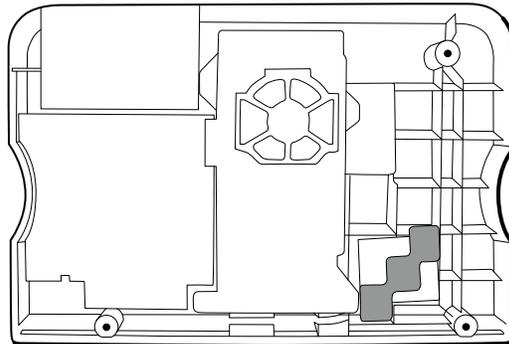


When replacing the radio board and antenna

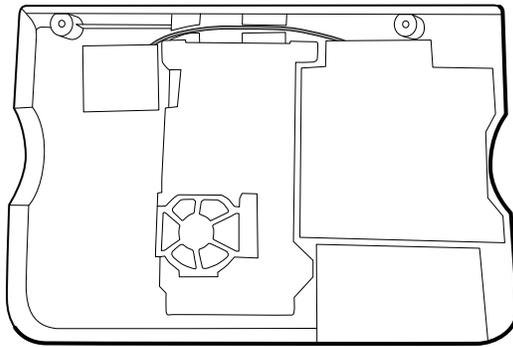
1. If the antenna is removed, clean the rear housing and mounting surface with isopropyl alcohol.
2. Attach the antenna cable to terminal G on the radio board. Attach the other end of the cable to the antenna on terminal PG.



3. Peel the backing off the foam block (24) and affix the foam block to the rear housing.

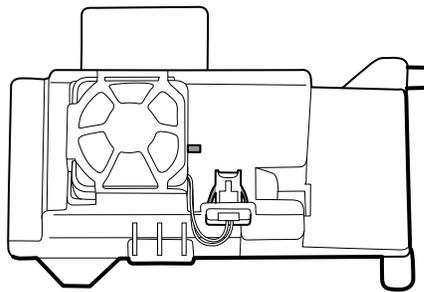


4. Expose the adhesive on the foam block. Mount the antenna (16) on the foam block with the antenna cable (39) oriented under the board and in the wire channel above the power supply.
5. Route the antenna cable in the channel located at the top of the rear housing.



Remove the fan

1. Remove the rear housing as described in “Remove the rear housing.”
2. Press the flanges on the sides of the fan harness connector and separate the fan connector from the power-supply cover (18).



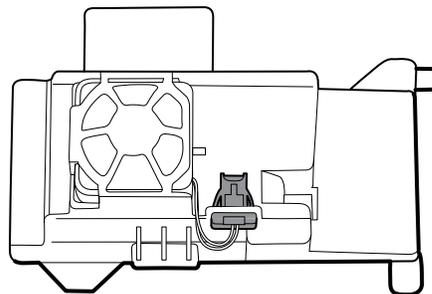
3. Depress the tab on the power-supply cover and slide the fan (19) over the tab and out of the housing.

Reassembly notes



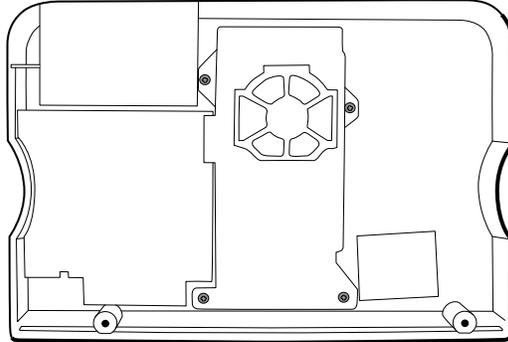
Caution Ensure that the fan is properly oriented. Air must flow toward the power supply.

- With the label facing down, slide the fan into the housing on top of the power-supply cover until the tab on the cover holds it in place.
- Clip the fan harness into the power-supply cover so that the connector is oriented toward the fan, as shown in the following figure.

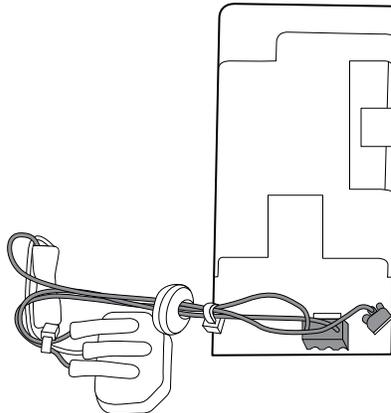


Remove the power supply

1. Remove the rear housing as described in "Remove the rear housing."
2. Remove the four Torx screws (10) securing the power-supply cover.



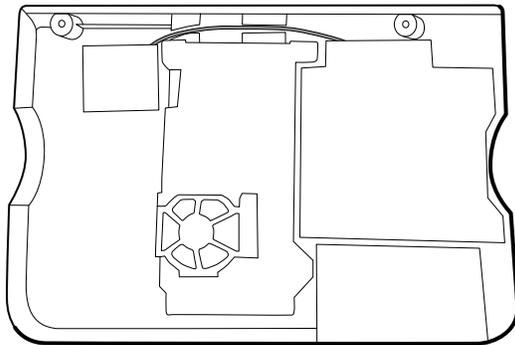
3. Remove the power supply cover (18).
4. Disconnect the following from the power supply:
 - The (green) ground cable
 - The AC power harness (17)



5. Remove the power supply.

Reassembly notes

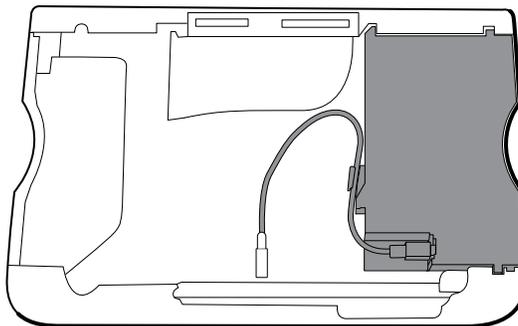
- Ensure that the grommet on the AC power harness is in the slot in the power-supply cover.
- When replacing the power-supply cover, ensure that the antenna cable is routed in the channel located at the top of the rear housing.



Disassemble the main chassis

Remove the SpO2 module

1. Remove the rear housing as described in "Remove the rear housing."
2. Do one of the following:
 - If no SpO2 module is present, remove the blanking panel by sliding it out of the housing.
 - If an SpO2 module is present:
 - a. Disconnect the USB cable from the SpO2 module.



- b. Remove the USB cable from wire clip on the SpO2 module.
- c. Slide the SpO2 module out of the case.

Reassembly notes

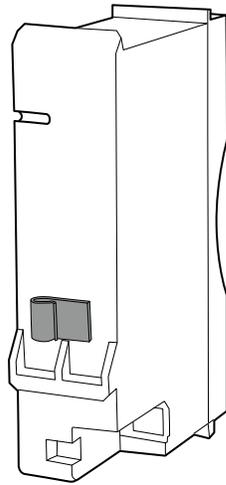
Insert the SpO2 module into the housing with the serial number label facing up.

When replacing the SpO2 module or adding a new option



Caution Ensure that your module has the correct option (Masimo or Nellcor).

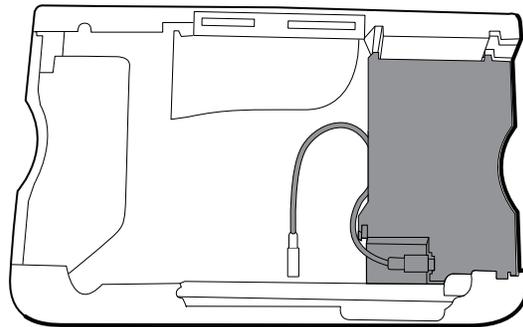
- Install the USB retaining clip onto the back of the SpO2 module.



- Insert the SpO2 module into the housing.

Remove the NIBP module

1. Remove the rear housing as described in “Remove the rear housing”
2. Remove the SpO2 module as described in “Remove the SpO2 module.”
3. Disconnect the USB cable from the NIBP module.

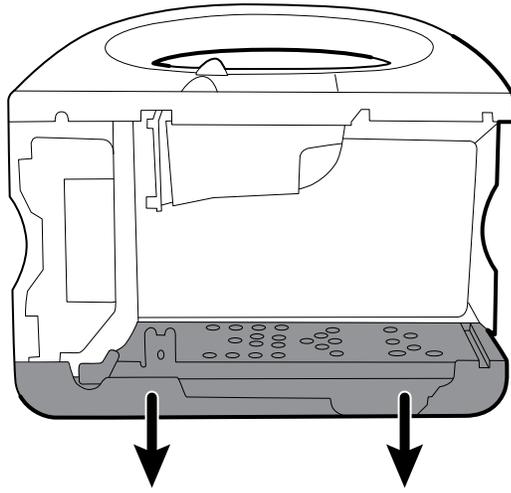


4. Slide the NIBP module out of the case.

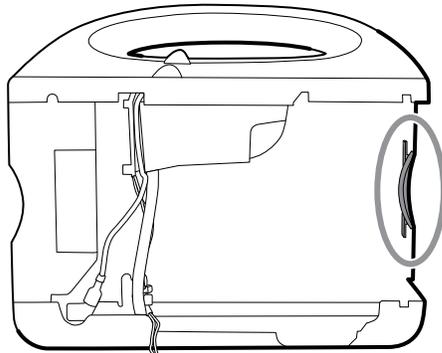
Reassembly notes

- Replace the NIBP module (the module closest to the front of the monitor) *before* replacing the SpO2 module.
- Insert the NIBP module into its housing with the serial number label facing up.

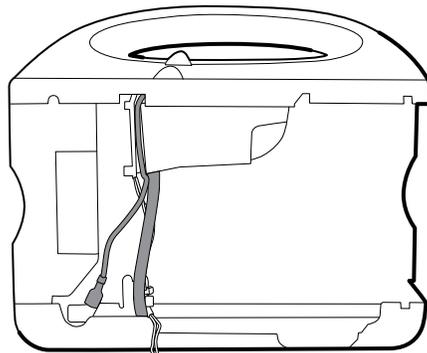
Remove the bottom housing



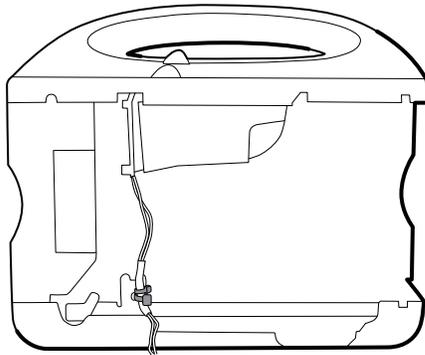
1. Remove the following:
 - Rear housing. For details, see "Remove the rear housing."
 - SpO2 module. For details, see "Remove the SpO2 module."
 - NIBP module. For details, see "Remove the NIBP module."
2. Remove the insert from the left housing.



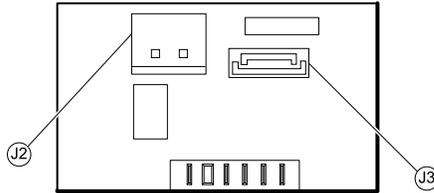
3. If your model has a printer, do the following:
 - a. Remove the drain tube located between the printer and the bottom plate.



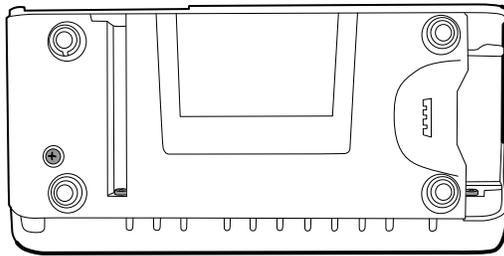
- b. Disconnect the printer ground wire from ground lug on the bottom plate.
4. Cut the tie wrap that secures the main harness to the bottom bracket.



5. Disconnect the speaker cable on the speaker (26) from the main harness.
6. Disconnect the following on the battery connector board:
 - a. J2, power from the main board to the battery harness.
 - b. J3, the battery harness.



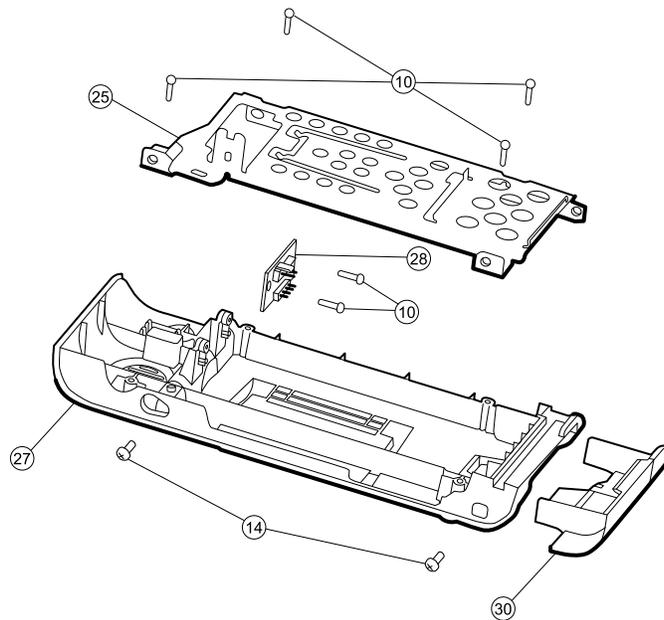
7. Remove the following screws:



- The bottom housing screw from underneath.
 - The two screws that secure the bottom housing assembly onto the front housing.
8. Remove the bottom housing.
 9. Disassemble the bottom housing:

Note Disassemble the bottom housing only if replacing the battery connector board or installing the battery connector board on a new bottom housing.

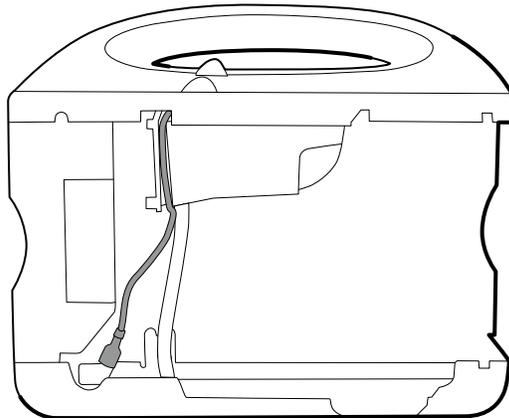
- a. Remove the bottom housing as described in "Remove the bottom housing."
- b. Remove the two screws that secure the battery connector board to the bottom housing using a no.10 Torx driver.
- c. Remove the four screws that secure the chassis bottom to the housing.



No.	Item	No.	Item
10	Screws, plastite #4-20 X 0.500 pan head	27	Bottom housing
14	Screws, M4 X 10 pan head with NYLOC	28	Battery connector board
25	Bottom housing metal chassis	30	Battery door

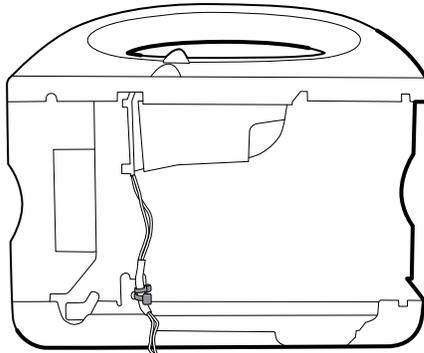
Reassembly notes

- Plug the speaker connection into the main harness in the lower left corner and tuck the cable behind the ground-wire stud. Ensure that the speaker cable is positioned in the channel.
- Route the printer ground wire through the channel on the printer housing.



- Connect the shortest cable (the cable closest to the wire tie) to the fan connector.
- Route the battery harness (J34 on the main board) under the power cable (J29 on the main board) on the main harness and plug into J3 on the battery connector board.
- Route the main board power to the battery harness under the power cable on the main harness and plug into J2 on the battery connector board.

- Secure the main harness to the bracket on the bottom housing using a tie wrap. Position the tie wrap just below the tie wrap on the main harness. Use the tie wrap tool to secure the tie wrap.

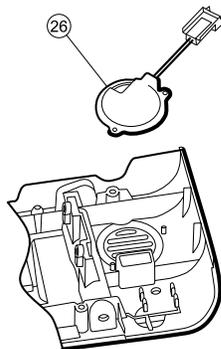


When replacing the bottom housing

- Note** The bottom housing must be replaced by a Welch Allyn service center to ensure proper labeling.

Remove the speaker

1. Remove the bottom housing as described in “Remove the bottom housing.”
2. Disassemble the bottom housing to more easily access the speaker.
3. Remove the speaker (26) from the bottom housing.

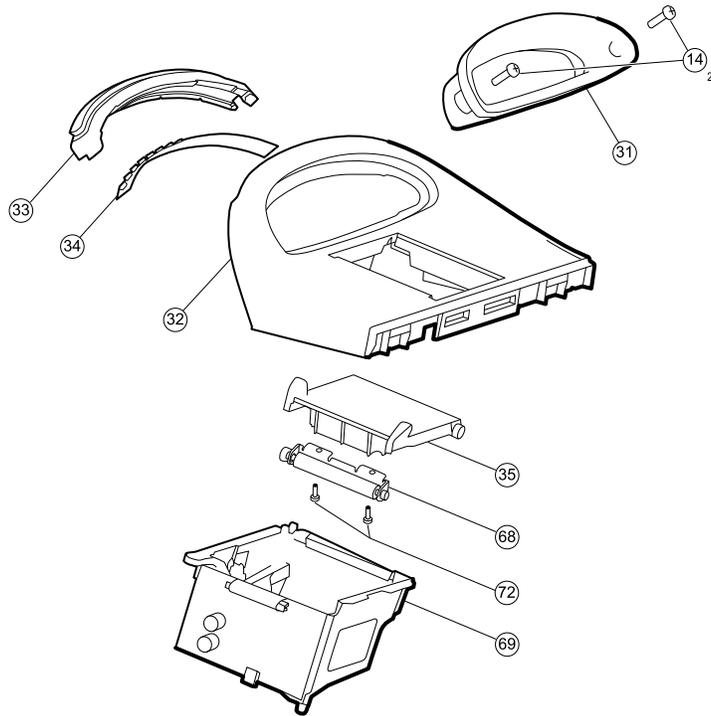


4. Remove any remaining gasket material and clean the surface with 70 percent isopropyl alcohol.

When replacing the speaker

1. Remove the paper to expose the adhesive on the gasket.
2. Align the holes in the speaker assembly with the pins on the bottom housing and press the speaker into place.
3. Apply pressure to the outer radius of the speaker assembly to assure good adhesion with the bottom housing.

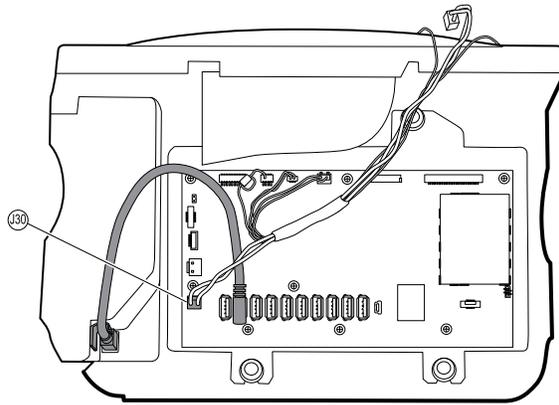
Remove the top housing



No.	Item	No.	Item
14	Screws, M4 X 10 pan head with NYLOC	35	VSM 6000 printer door blank
31	Handle insert	68	Paper feed roller
32	Top housing	69	Printer housing
33	Light bar	72	Screw, M2.2X8, Thrdform, PNH, TRX
34	Light bar LED board		

Note Do not remove the right side panel.

1. Remove the bottom housing as described in "Remove the bottom housing."
2. Disconnect the power connector on the main harness from J30 on the main board.

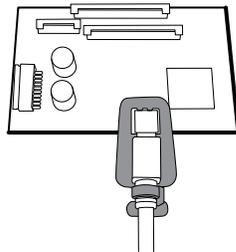


3. Lay the main harness over the top of the unit to clear the USB cables.
4. For models that include the temperature option, disconnect the USB cable connected to the temperature module from J1 on the main board and free the USB cable from the cable separator.

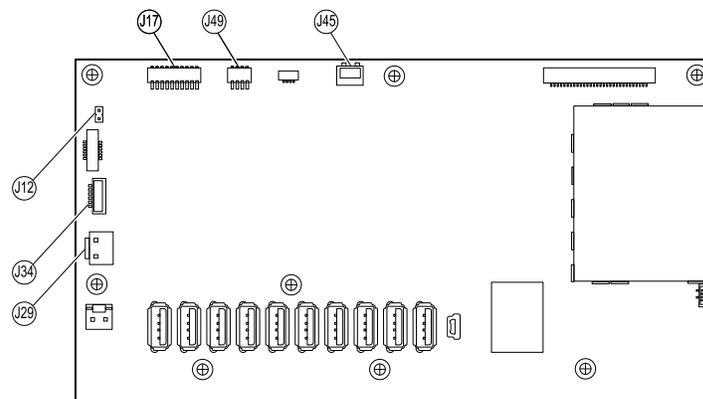
Note

Do not remove the USB cable from the temperature module unless you plan to replace the module. If you disconnect the USB cable, the wire clip must be replaced upon reassembly.

5. For models that include the printer option, unhook the plastic latch to disconnect the USB cable from the printer module.



6. Disconnect the USB cables from the main board.
7. Remove the USB cables and the cable separator.
8. Disconnect and then remove the following:

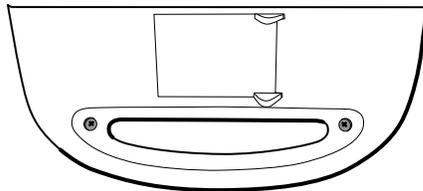


- a. The fan cable on the main harness from J45 on the main board.
- b. The communications power cable on the main harness from J49 on the main board.
- c. The main board's power to the battery harness from J29 on the main board.

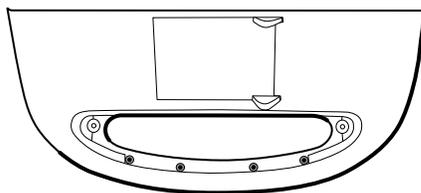
- d. The battery harness from J34 on the main board.
- e. The printer harness from J17 on the main board.
- f. The speaker cable on the main harness from J12 on the main board.

Note Use extra care when disconnecting J12 to avoid pulling the connector off the board.

9. Remove the two screws (14) that secure the handle insert and remove the insert.



10. Remove the four screws that secure the handle.



11. Remove the top housing.

Reassembly notes

- Ensure that the printer is installed in the top housing. For more information, see “Install the printer.”
- When reinstalling the USB cables, position them according to your monitor’s configuration: Install the USB cable with right angles at both ends into the rightmost or sixth position from the left. Ensure that the mini-USB connector is nearest the cable separator.

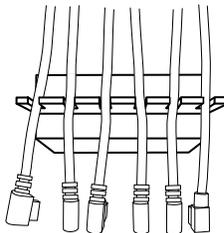
Note If the USB cable was not removed from the temperature module, leave the leftmost position vacant until the cable separator is placed back in the case and the other USB cables have been connected to the main board. When the cable separator is in the case, connect the USB cable from the temperature module to J1 on the main board and snap the cable into the leftmost position in the cable separator.

Model options

Cable positions

All options

Install five USB cables into the left five positions of the USB cable separator. Insert the printer cable with the retaining clip in the second position from the left.

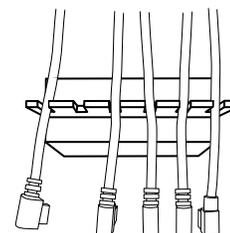


Model options

Cable positions

No printer module

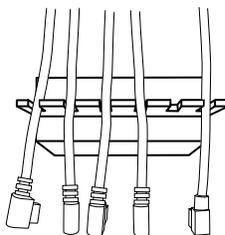
Install four USB cables into the left five positions of the USB cable separator, leaving the second position open.



Model options	Cable positions	Model options	Cable positions
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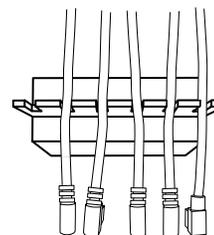
No SpO2 module

Install four USB cables into the left five positions of the USB cable separator, leaving the fifth position open. Insert the printer cable with the retaining clip in the second position from the left.



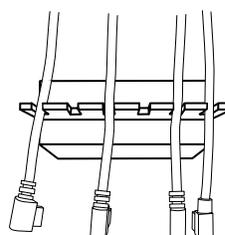
No temperature option

Install four USB cables into the left five positions of the USB cable separator, leaving the first position open. Insert the printer cable with the retaining clip in the second position from the left.



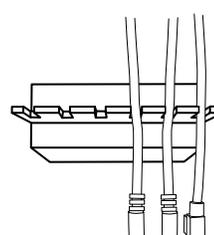
No printer or SpO2 modules

Install three USB cables into the left five positions of the USB cable separator, leaving the second and fourth positions open.



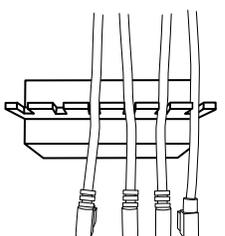
No printer, SpO2, or temperature option

Install two USB cables into the left five positions of the USB cable separator, leaving the first, second, and third positions open.

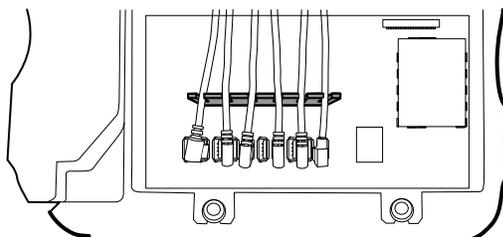


No printer, no temperature option

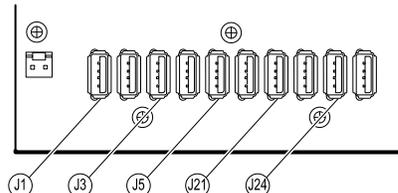
Install three USB cables into the left five positions of the USB cable separator, leaving the first and second positions open.



- Space each cable about 1.5 inches from separator to the end.
- Place the separator in the unit in the approximate location shown here:

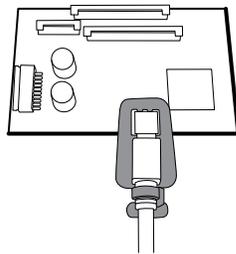


- Plug the USB cables into the main board connectors as follows:

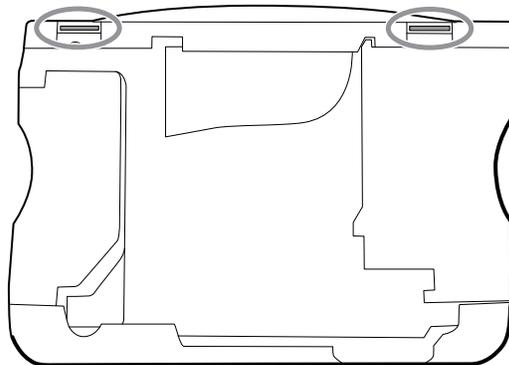


Connector	Connects with	Connector	Connects with
J1	Temperature module	J21	NIBP module
J3	Printer	J24	Communications board
J5	SpO2 module		

- For models with the temperature option, plug the leftmost USB cable into J1 on the main board. Plug the other end into the temperature module. Insert the USB cable into the retaining clip mounted on the temperature housing.
- For models with a printer, plug the second from the left USB connector into J3 on the main board. Plug the small end into the USB printer port while pulling the plastic latch away from the connector. Once the connector is seated, push the plastic clip over the connector to secure it.



- Verify that the Ethernet cable passes freely through the space between the temperature housing and the printer board, exiting the case in the space between the top of the temperature housing and beneath the top housing.
- Plug the communications board's power cable from the short end of the main harness into J49 on the main board, with the ferrite bead closest to the main board.
- When replacing the top housing on the chassis, line up the slots with the ends of the horizontal struts in the top housing to ensure proper seating.



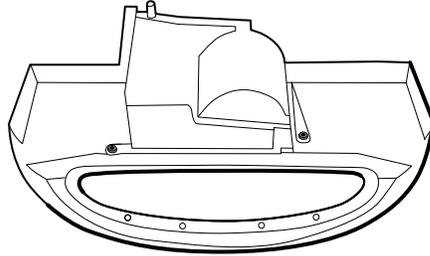
When replacing the top housing

For models without a printer, install a door blank as follows:

1. Remove the paper backing from the gasket on the blanking panel.
2. Install the door blank into the chassis, pressing to secure the blank to the chassis.

Remove the printer module

1. Remove the top housing as described in "Remove the top housing."
2. Remove the two screws that secure the printer housing to the top housing.



3. Remove the printer from the top housing:
 - a. Hold the printer housing while opening the printer door.
 - b. Separate the printer and printer door from the top housing.

Reassembly notes

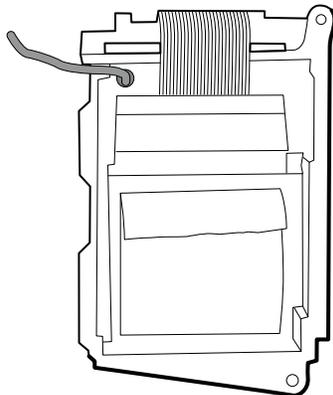
1. Place the printer door into the top housing assembly and hold it in place while performing the next step.
2. Verify that the ground wire exits from the side opposite the printer board in the notched area.
3. Snap the printer door shut to hold the printer in place while securing it into the housing with two screws.

When replacing the printer door

1. Remove the printer platen roller (68) from the existing door and secure it to the replacement door with the two screws (72).

When replacing the printer module or adding a new option

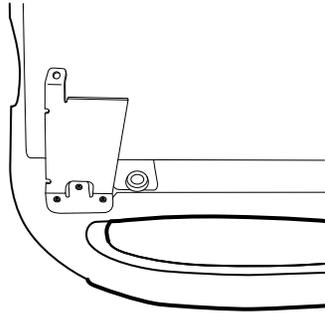
- If adding a printer option, remove the printer blanking door. Remove any remaining gasket material and clean the surface with 70 percent isopropyl alcohol.
1. Separate the door from the printer assembly.
 2. Attach the printer ground harness to the printer ground lug.



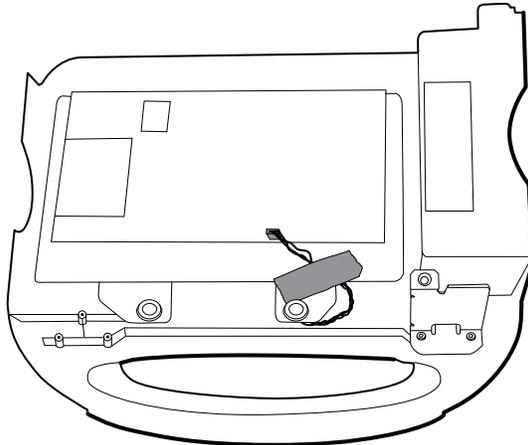
Remove the light bar

1. Remove the top housing as described in "Remove the top housing."

2. Remove the three screws (10) that secure the horizontal strut (located on the right side when facing from the back) to the front housing.



3. Remove the strut.
4. Remove the tape that secures the light-bar harness to the LCD frame.

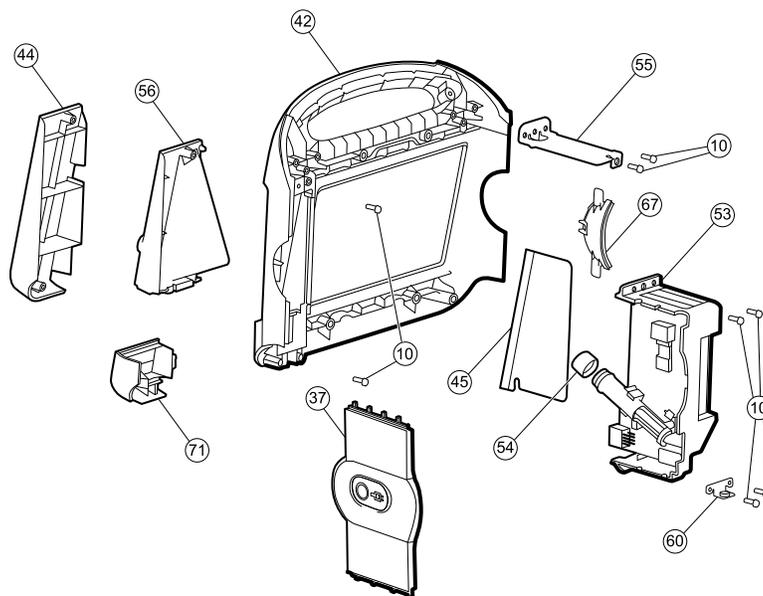


5. Disconnect the light-bar harness from J46 on the main board.
6. Remove the light-bar board (34) and housing (33) from the front housing.
7. Remove the light-bar board from the light bar.
8. Disconnect the light-bar harness from the light-bar board.

Reassembly notes

- Insert the light-bar board by placing the end without the connector into the closed end of the light bar. Ensure that you slide the non-connector end of the light-bar board to the end of the slot in the light-bar.
- Using the end furthest from the ferrite bead, plug the light-bar harness into the light-bar board.
- Route the light-bar harness as follows:
 - Underneath the horizontal strut.
 - In the channel and between the top of the housing and the LCD frame standoffs.

Remove the temperature module or housing



No.	Item	No.	Item
10	Screw, plastite #4-20 X 0.500 pan head	54	Probe well seal
37	Right side panel	55	Horizontal struts
42	Front housing	56	Temperature mounting cover
44	Temperature blanking panel	60	HSG mounting clamp, bottom housing
45	Thermal shield	67	Left insert
53	Temperature housing (templess)	71	Temperature connection access cover

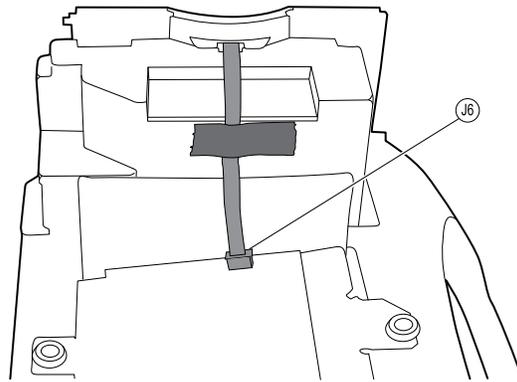
Note These instructions also apply to removing the empty temperature housing for models without the temperature option.

Note Do not disconnect the USB cable from the temperature module unless replacing the module. Disconnect the USB cable at the main board when removing the module.

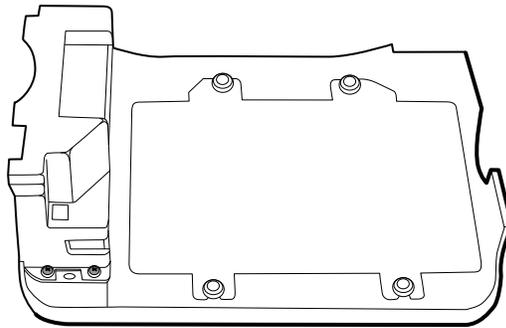
1. Remove the probe well from the temperature module.
2. Remove the top housing as described in "Remove the top housing."

Note The temperature module may be removed and replaced without disconnecting the main harness, battery harnesses, USB cables, or light-bar harness from the main board.

3. Disconnect the power button flex cable from J6 on the main board and remove the securing tape.



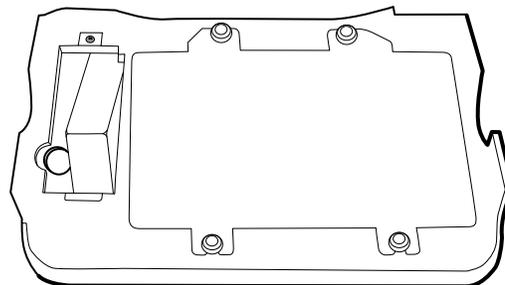
4. Remove the right side panel.
5. Remove the two screws (10) that secure the HSG clamp (60) and the bottom of the temperature module with the temperature mounting cover.



6. Remove the two screws (10) that secure the top of the temperature module.
7. Remove the temperature module.

Note If you are replacing only the temperature module without replacing the front mounting cover, stop here. Install the replacement module in the reverse order of the disassembly procedure.

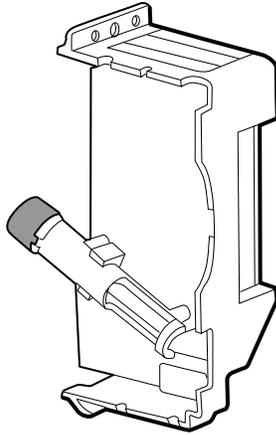
8. Do one of these:
 - If your monitor has a temperature module, remove the temperature mounting cover:
 - a. Remove the screw that secures the temperature mounting cover to the front housing.



- b. Remove the temperature mounting cover (56) from the front housing.
- If your monitor does not have a temperature module, remove the temperature blanking panel:
 - a. Remove the two screws that secure the blanking panel to the front housing.
 - b. Remove the blanking panel (44).

Reassembly notes

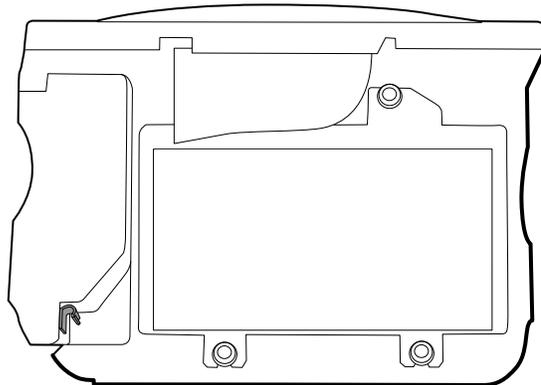
- Before installing the temperature module into the monitor housing, ensure that the probe-well seal is installed with the tab aligned with the slot or notch in the probe-well housing.



- Route the flex cable up and over the temperature module when plugging it into the J6 ZIF connector on the main board.

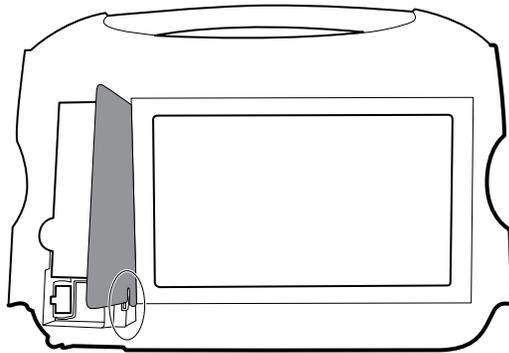
When replacing the temperature module or adding the option

1. When connecting the USB cable, do the following:
 - a. Connect the USB cable to the temperature module.
 - b. Position the retaining clip on the USB cable against the shoulder of the mini-B connector with the adhesive pad facing away from the temperature module and toward the bottom.
 - c. Remove the backing to expose the adhesive on the retaining clip.
 - d. Rotate the clip on the USB cable to stick to the temperature module housing.



When adding a new temperature module

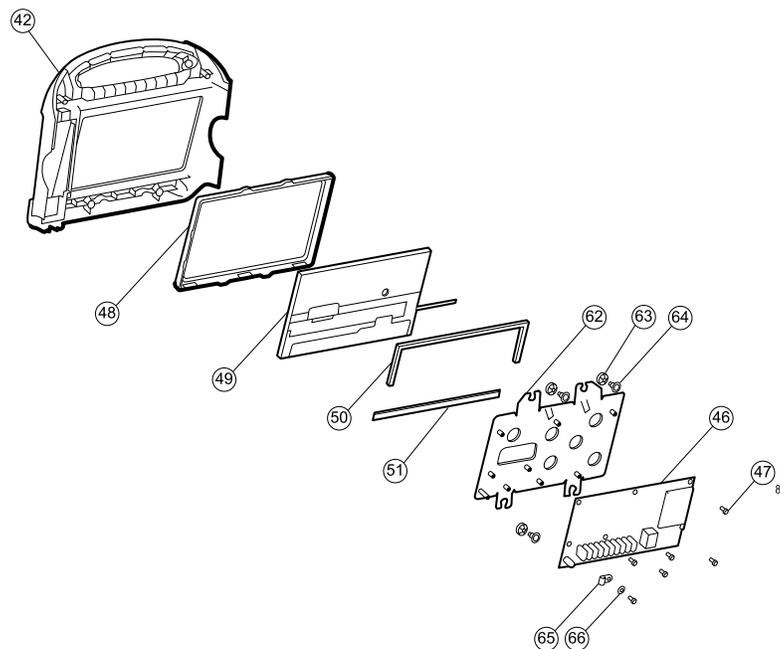
1. Follow the instructions to remove the empty temperature housing, main board, and LCD display.
2. Replace the front temperature blanking panel (44) with the temperature mounting cover (56).
3. Install the thermal shield on the front housing, aligning the notch on the shield with the housing.



4. Reinstall the LCD display in the reverse order of disassembly.
5. Reinstall the main board in the reverse order of disassembly.
6. Install the probe well seal onto the the probe well as described in the reassembly notes for the temperature module.
7. Insert the temperature module into the front housing aligning the probe well with the access hole in the front housing.
8. Secure the top of the temperature module housing to the front housing with two screws included with the kit.
9. Place the HSG clamp on the bottom of the temperature housing and secure with two screws.
10. Reassemble the monitor in the reverse order of disassembly.

Remove the main board

Note If you are replacing this board, you must have the service tool, Gold edition, to re-enter the serial number of the monitor and the main board.



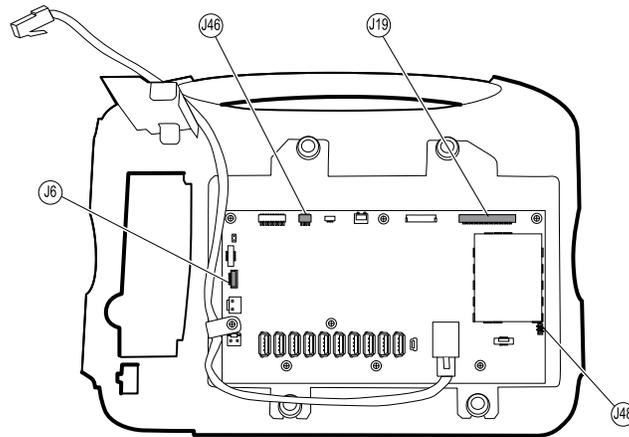
No.	Item	No.	Item
42	Front housing	51	Foam pad, bottom

No.	Item	No.	Item
46	Main board	62	LCD frame
47	Screw, M3 x 5 pan head	63	Grommet, ear - G411-1
48	LCD display bezel	64	Shoulder screw, ear G-411-1 metric
49	LCD display with touchscreen	65	Clamp, cable 3/16 X 3/8 wide X 3/4 long
50	Foam pad, top	66	Washer, M3

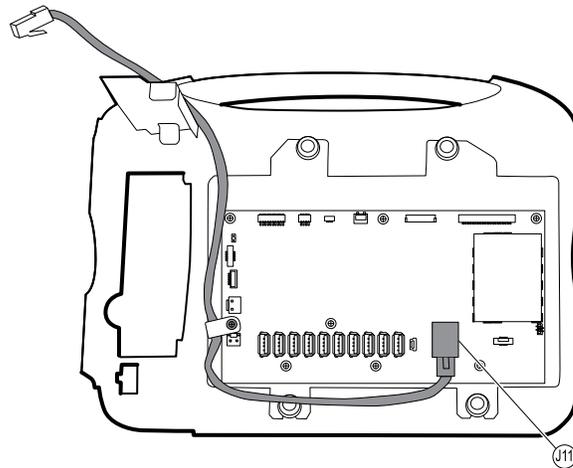
1. Remove the top housing as described in "Remove the top housing."

Note It is not necessary to remove the temperature module or light bar to remove the main board or LCD display.

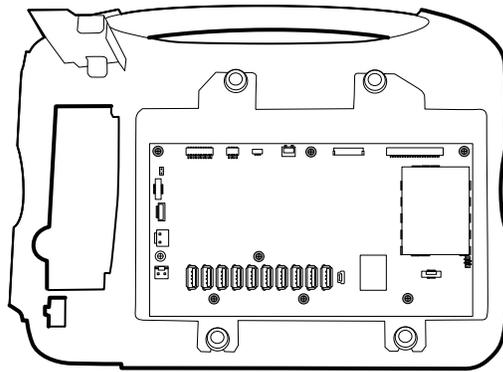
2. Disconnect the following on the main board:
 - a. The power button flex cable from J6.
 - b. The light-bar harness from J46.
 - c. The LCD harness from J19 .
 - d. The LCD flex cable from J48.



3. Remove the Ethernet cable:
 - a. Disconnect the Ethernet cable from the Ethernet connector (J11) on the main board.
 - b. Remove the screw that secures the Ethernet cable P-clamp to the main board.
 - c. Remove the Ethernet cable.



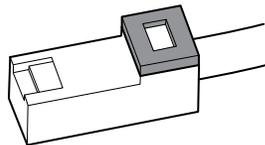
4. Remove the seven screws that secure the main board to the LCD frame.



5. Remove the main board.

Reassembly notes

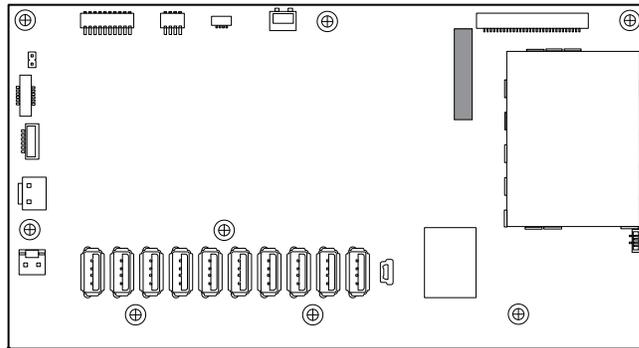
- Ensure that the LCD flex cable is not under the main board.
-  **Caution** The LCD flex cable is extremely fragile and easily damaged. Do not cause creases that may break the connections.
- Route the Ethernet cable outside the PEM stud and not underneath the main board.
- Connect the end of the Ethernet cable with the shim to the main board.



- When securing the main board, do not install a screw near J30 on the lower left side of the board until installing the Ethernet cable.
- If the light bar is not installed, install the light-bar harness into the housing, positioning the ferrite bead near the main board.

When replacing the main board

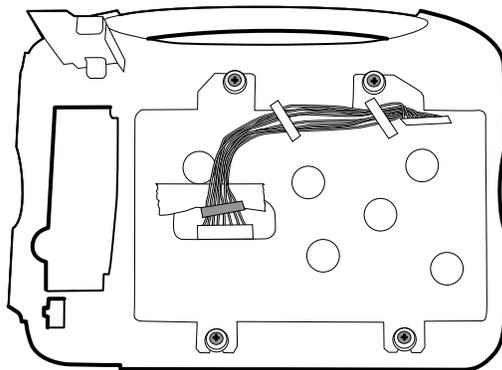
- When ordering the replacement main board, order the standard license for the model being serviced. You will receive an authorization code to enter in the service tool to reactivate the licenses included with the original configuration.
- Record the serial number of the new main board *before* installing it. When you run the service tool after installation, enter the serial number. The serial number can be found on the main board. It is comprised of eight digits followed by two letters.



- After reassembling the monitor, use the service tool to provision the monitor as follows:
 - Enter the monitor's serial number. This can be found on the bottom of the monitor.
 - Enter the main board serial number (Host Controller), recorded before installing the main board.
 - Restore any previously licensed features by entering the authorization code in the service tool. Use the authorization codes that accompanied the replacement board, along with any additional license authorization codes previously installed.

Remove the LCD

1. Remove the main board as described in "Remove the main board."
2. Disconnect the LCD harness from the LCD. For easier access to the connector, you can slide the ferrite bead closest to the connector up the harness.



3. Remove the four shoulder screws that secure the LCD frame.
4. Remove the LCD frame.

Note: Be sure to support the LCD display if you are removing it with the frame. The foam strips on the display may cause the display to stick to the LCD frame.

5. Remove the LCD display.

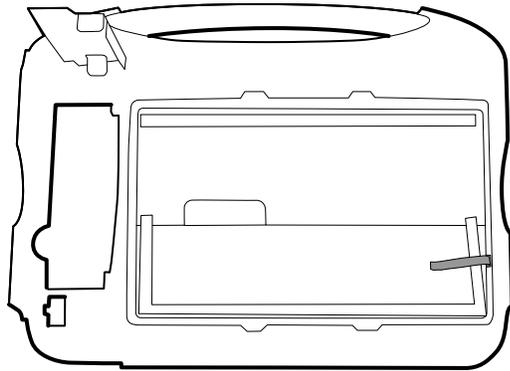
Reassembly notes

Ensure that the LCD flex cable is not under the LCD frame.

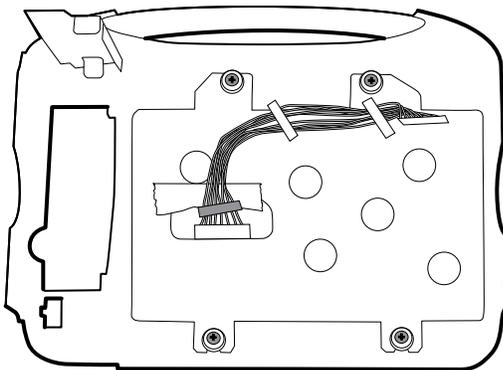


Caution The LCD flex cable is extremely fragile and easily damaged. Do not cause creases that may break the connections.

Insert the display into the bezel in the front housing with the exposed board on the bottom. Verify that the LCD flex cable feeds through the bezel's clearance feature.

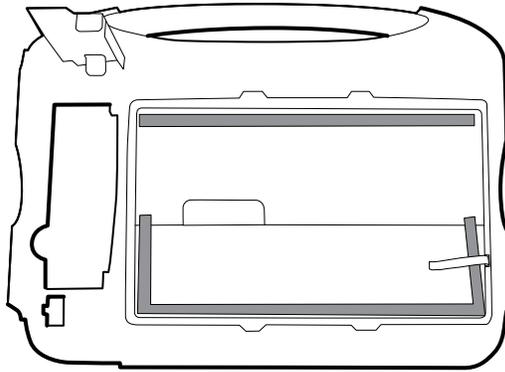


Place the LCD frame over the display. Verify that the LCD frame does not cover the LCD flex cable.



When replacing the LCD

- Peel the protective sheet from the LCD display.
- Add tape to the edge of the LCD frame, where the harness passes through to connect to the LCD display, to prevent abrasion to the LCD harness.
- When adding the ferrite beads, align the beads with the marks on the LCD frame.
- Verify that the foam strips are installed on the back of the display near the top and bottom edges, and extend half way up from the bottom on both sides of the LCD display.



Remove the front housing

Remove the following:

1. Rear housing. For details, see "Remove the rear housing."
2. Bottom housing. For details, see "Remove the bottom housing."
3. Top housing. For details, see "Remove the top housing."
4. Light bar. For details, see "Remove the light bar."
5. Temperature module and mounting cover. For details, see "Remove the temperature module or housing."
6. Main board. For details, see "Remove the main board."
7. LCD display. For details, see "Remove the LCD display."
8. Remove the remaining strut.

When replacing the front housing

For models with the temperature option, replace the thermal shield (45).