

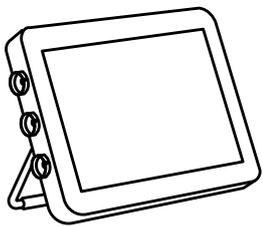
SPARE PART REPLACEMENT MANUAL



Ambu

Ambu® aView™ 2 Advance

For use by trained healthcare professionals only.
For use with Ambu® visualization devices.



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1. Important Information

This is a Spare Part Replacement Manual for Ambu® aView™ 2 Advance. It is applicable to aView 2 Advance with item number 405011000 only.

The following terms are used in this Spare Part Replacement Manual:

- “Displaying unit” refers to Ambu® aView™ 2 Advance.
- “Visualization device” refers to compatible Ambu endoscopes and other compatible visualization devices that can be connected to and used with the displaying unit.

This manual may be updated without further notice. Contact your local Ambu representative or download the most recent version from ambu.com found in the download section on the product page.

Please observe that the warranty will be void, if parts of the displaying unit has been changed within the warranty period without the written consent from Ambu.

1.1. Qualification Requirements for Personnel Performing Spare Part Replacement

Do not start replacing any spare part of the displaying unit, unless you have read through this document and are qualified in the following areas:

- Knowledge, experience and acquaintance with electronic repair and safety testing according to IEC 60601-1 (Medical electrical equipment, Part 1: General requirements for basic safety and essential performance) and IEC/EN 62353 (Medical electrical equipment – Recurrent test and test after repair of medical equipment).
- Knowledge of and experience with local regulations.
- Having read the *Instruction for Use* for the displaying unit (find the Instruction for Use in the sales package or download the current version from ambu.com).
- Knowledge of the environment where the displaying unit is installed and used.

1.2. Warnings And Cautions

WARNINGS

- To avoid risk of electric shock, always disconnect the power cable from the displaying unit before performing spare part replacement.
- To avoid contamination, always clean and disinfect the displaying unit before and after spare part replacement and wear gloves during handling.
- Risk of fire and burns. Do not open, crush, heat above manufacturers specified maximum temperature 45 °C or incinerate.

CAUTIONS

- To avoid harming the electrical components, always use ESD protection when disassembling, replacing a spare part, and reassembling the displaying unit.
- To ensure the displaying unit functions optimally and to avoid compromising electrical safety, always perform the tests specified in section 5 after it has been reassembled. If any part of the tests fails after spare part replacement, do not use the displaying unit.
- To avoid malfunction of the equipment only use spare parts supplied by Ambu. Do not modify the spare parts.
- Cleaning and disinfection wipes shall be moist, but not dripping to ensure no damage to internal electronics of the displaying unit.
- If using wipes containing hypochlorite or citric acid for cleaning, ensure that all residue is completely removed. Wipes containing hypochlorite or citric acid may affect the screen's antireflective coatings over time. You should limit the use of wipes containing hypochlorite or citric acid to required cases only.

1.3. Data Security

To avoid possible loss of data, it is recommended to export important files before performing any spare part replacement (please refer to the *Instruction for Use*).

1.4. Displaying Unit Description

The Ambu® aView™ 2 Advance is intended to display live imaging data from compatible Ambu visualization devices.

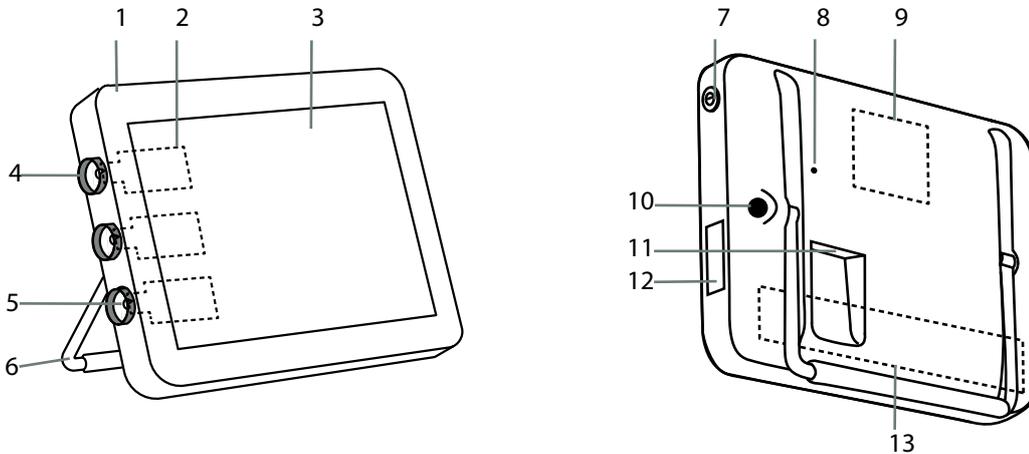


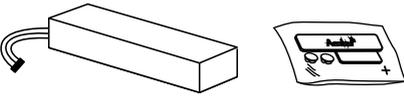
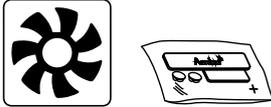
Figure 1 System illustration

No.	Part	Function
1	Displaying unit	Display live imaging data from Ambu visualization devices.
2	Visualization device interface (VDI) board	The interface board that connects to Ambu® visualization devices.
3	LCD Touch Screen	Displays the image from the Ambu visualization device and provides users with graphical interface.
4	Colour Ring	Indicates which type of visualization device it supports. The colour of the ring must match the colour on the connector of the visualization device.
5	Visualization device connector cover	Currently not in use.
6	Stand	Use the stand to place the displaying unit on a solid surface or to carry the displaying unit while turned OFF.
7	Power button	Push button for power ON and OFF.
8	Hardware reset button	Resets the displaying unit hardware without impacting stored data.
9	Fan	Cooling the system.
10	Power inlet	Power inlet for charging the displaying unit.
11	Input/output connections	HDMI, SDI, LAN.
12	2 x USB port with USB cover	Connects to a USB flash drive for file export or software update.
13	Battery	Powers the system.

1.5. Spare Parts

The spare parts may not be available in all countries. Please contact your local Ambu representative.

Information on additional spare parts (power cables, bracket) is provided in *Instruction for Use* for the displaying unit (find the *Instruction for Use* in the sales package or download the current version from ambu.com).

Spare part	Description	Item numbers:
	Ambu® aView™ 2 Advance - Battery Kit This kit contains a battery and a replacement part kit. See section 4.1.	405012100
	Ambu® aView™ 2 Advance - Visualization Device Interface Kit - Blue 405014100 Ambu® aView™ 2 Advance - Visualization Device Interface Kit - Grey 405000503 Ambu® aView™ 2 Advance - Visualization Device Interface Kit - Green 405000502 This kit contains a visualization device interface board, a colour ring and a replacement part kit. See section 4.2.	
	Ambu® aView™ 2 Advance - Fan Kit. This kit contains a fan and a replacement part kit. See section 4.3.	405016100

1.6. Spare Part Replacement Process

This section specifies a spare part replacement process which is in compliance with IEC/EN 62353.

Read these *Instructions for Use* carefully before performing any replacements on the Ambu® aView™ 2 Advance.

The organisation and personnel responsible for the process should fulfil the requirements outlined in section 1.1. Follow the process in Figure 2. to replace spare parts in the displaying unit.

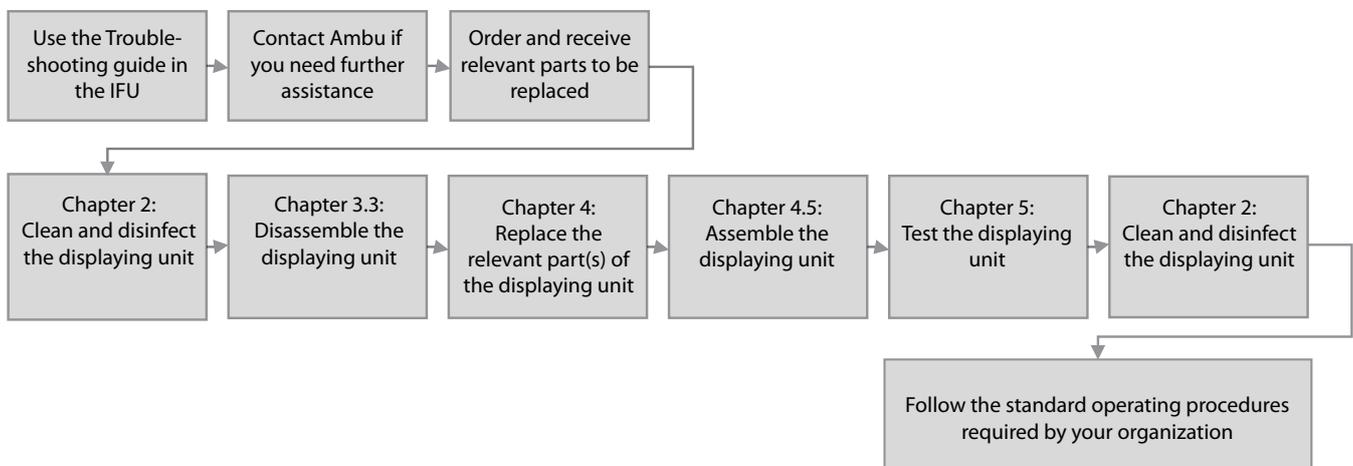


Figure 2 Spare part replacement flow

2. How To Clean And Disinfect The Displaying Unit

The displaying unit is a reusable medical device. According to the Spaulding classification, the displaying unit is a non-critical device.

The displaying unit shall be cleaned and disinfected before and after performing spare parts replacement according to good medical practice, described in the instructions below. Any deviation from the instructions should be properly evaluated for effectiveness and potential adverse consequences by the person responsible for cleaning and disinfection to ensure that the device continues to fulfill its intended purpose.

Cleaning procedures should begin as soon as possible following use. Excessive soil should be removed on accessible areas of the device, excluding electrical inlets.

Cautions: Cleaning and disinfection wipes should be moist but not dripping to ensure no damage is done to the internal electronics of the displaying unit. If using wipes containing hypochlorite or citric acid, ensure that all residue is completely removed. Wipes containing hypochlorite or citric acid may affect the screen's anti-reflective coatings over time. You should limit the use of wipes containing hypochlorite or citric acid to required cases only.

Limitations: The displaying unit is not compatible with ultrasonic or automatic cleaners and should not be immersed.

Procedure 1 – Cleaning and disinfection with hypochlorite

Hypochlorite-based wipes approved for disinfection of medical devices, e.g., Sani-Cloth® Bleach from PDI, should be used in accordance with the wipe manufacturer's instructions.

Cleaning: Use a wipe to remove heavy soil. All blood and other body fluids must be thoroughly cleaned from surfaces and objects. Inspect the displaying unit for cleanliness, function, and integrity before disinfection by germicidal wipe. If visible soil remains, reclean the displaying unit.

Disinfecting:

- a) For heavily soiled surfaces, use a wipe to pre-clean the displaying unit prior to disinfecting.
- b) Unfold a clean wipe and thoroughly wet the surface of the displaying unit.
- c) The treated surfaces must remain visibly wet for a full four (4) minutes (or the time recommended by the manufacturer of the disinfectant, at least 4 minutes). Use additional wipes if needed to ensure 4 minutes of continuous wet contact time.
- d) Let the displaying unit air dry.

Procedure 2 – Cleaning and disinfection with quaternary ammonium compounds

Wipes containing a mixture of quaternary ammonium compounds and isopropyl alcohol approved for disinfection of medical devices, e.g., Super Sani-Cloth® from PDI, should be used in accordance with the wipe manufacturer's instructions.

Cleaning: Use a wipe to remove heavy soil. All blood and other body fluids must be thoroughly cleaned from surfaces and objects. Inspect the displaying unit for cleanliness, function, and integrity before disinfection by germicidal wipe. If visible soil remains, reclean the displaying unit.

Disinfecting:

- a) For heavily soiled surfaces, use a wipe to pre-clean the displaying unit prior to disinfecting.
- b) Unfold a clean wipe and thoroughly wet the surface of the displaying unit.
- c) The treated surfaces must remain visibly wet for a full two (2) minutes (or the time recommended by the manufacturer of the disinfectant, at least 2 minutes). Use additional wipes if needed to ensure 2 minutes of continuous wet contact time.
- d) Let the displaying unit air dry.

Procedure 3 – Enzymatic detergent cleaning and alcohol disinfection

Cleaning:

- a) Prepare a cleaning solution using a standard enzymatic detergent prepared according to the manufacturer's recommendations. Recommended detergent: enzymatic, mild pH: 7-9, low foaming (Enzol or equivalent).
- b) Soak a sterile gauze in the enzymatic solution and ensure that the gauze is moist and not dripping.
- c) Thoroughly clean the button, external side of rubber covers, screen, and external casing of the monitor with the moist gauze. Avoid getting the displaying unit wet to prevent damaging internal electronic components.
- d) Wait for 10 minutes (or the time recommended by the manufacturer of the detergent) to allow the enzymes to activate.
- e) Wipe the displaying unit clean using sterile gauze that has been moistened with RO/DI water. Ensure all traces of the detergent are removed.
- f) Repeat steps 1-5.

Disinfecting: Wipe the surfaces of the displaying unit for approximately 15 minutes using a piece of sterile gauze moistened with the alcohol mixture indicated below (approximately once every 2 minutes). Follow safety procedures for the handling of isopropyl. The gauze should be moist and not dripping since liquid can affect the electronics inside the displaying unit. Pay close attention to the button, external side of rubber covers, screen, external casing and slots and gaps on the displaying unit. Use a sterile cotton swab for these areas. Solution: Isopropyl (alcohol) 95 %; Concentration: 70 – 80 %; Preparation: 80cc of 95 % Isopropyl (alcohol) added to 20cc of purified water (PURW). Alternatively, use EPA-registered hospital disinfection wipes containing at least 70 % isopropyl. Safety precautions and directions of use of the manufacturer must be followed.

Note: After cleaning and disinfection, the displaying unit must be submitted to the preparation and inspection procedure (see section 10 in the *Instructions for Use* manual).

The specified cleaning and disinfection procedures have been validated against the AAMI TIR12 and AAMI TIR30 standards.

3. Preparing For Spare Part Replacement

3.1. Tools Needed

- Name plate removal tool
- Plectrum tool
- Screwdriver (Phillips #0) – Not supplied
- Compatible (and functioning) Visualization Device – Not supplied

The name plate removal tool and the plectrum tool are provided with the spare parts kits (see section 1.5 Spare Parts).

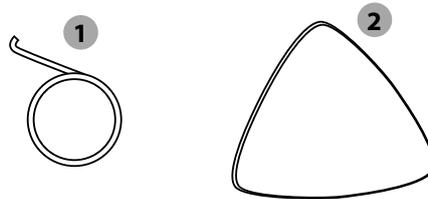


Figure 3 **1** Name plate removal tool, **2** Plectrum tool

3.2. Work Environment

It is recommended to work on a soft surface to avoid scratches on the screen and surface of the unit.

3.3. How to disassemble the displaying unit

Follow these steps to disassemble the displaying unit:

- Clean the displaying unit before disassembly**
- Remove all cables attached to the displaying unit**
E.g. power supply, visualization devices and external equipment
- Remove the name plates with the Ambu logo on the top and bottom of the displaying unit (Figure 4)**
Insert the name plate removal tool in the hole at the end of the name plate. Press the name plate removal tool down to flip the end of the name plate up. Use the tool as a lever. Gently lift the name plate upwards.

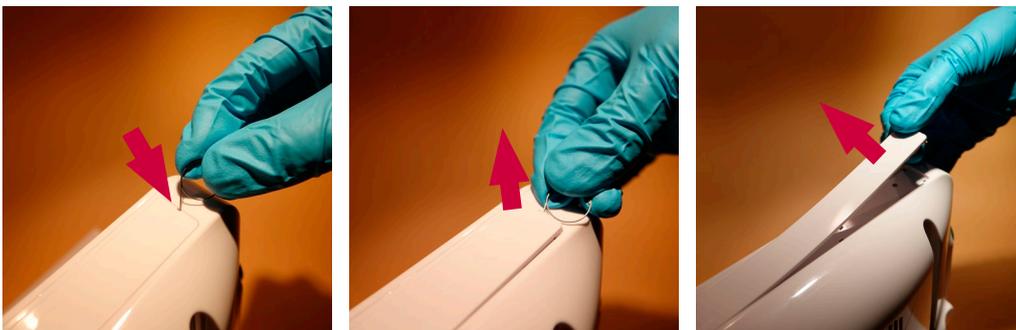


Figure 4 Removing the name plates

d) Remove the round screw covers on each side of the displaying unit (Figure 5)

Insert the name plate removal tool in the hole by the screw cover. Press the name plate removal tool down to lift the screw cover.

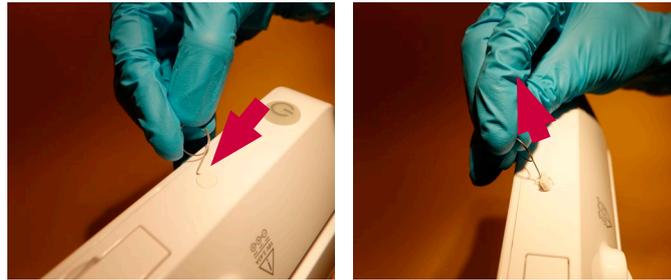


Figure 5 Removing the screw cover

e) Remove the screws on all four edges of the displaying unit (Figure 6)

Use the screwdriver to remove the screws. 10 screws in total must be removed: 4 screws on top, 4 on the bottom, and 1 screw on each side.

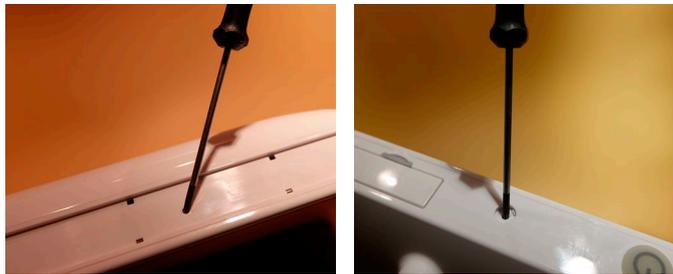


Figure 6 Removing the screws

f) Remove the back casing (Figure 7)

Use the plectrum tool. Press it into the dividing line between the displaying unit and the back casing. On all four edges, start in the middle and pull the plectrum tool towards the corners until the back casing is released. When the two sides of the casing is disassembles, you will here a "click" sound, indicating that the locks are released.



Figure 7 Releasing the back casing using the plectrum tool

g) Place the displaying unit facing down on a flat and soft surface (Figure 8)



Figure 8 Place the displaying unit facing down

h) Lift the back casing off (Figure 9)

At the opposite side of the colour rings, carefully pull the back casing 2 cm upwards. Do not move the back casing too far before the internal FPC cable is released. Slide the back casing sideways 1 cm. Do not move the back casing too far, as it may accidentally damage the internal FPC cable. Carefully open the back casing, while the internal FPC cable is still connected



Figure 9 Carefully pull the back casing upwards and slide it slightly to the right

i) Remove adhesive tape (Figure 10)

If adhesive tape is protecting the connectors on the boards, you can remove it. It is not necessary to replace the tape, as it is only for protection during transportation to the end user.



Figure 10 Open the back casing carefully and remove adhesive tape where necessary

j) Release the FPC cable (Figure 11)

Flip the white lock upwards with a fingernail.



Figure 11 Disconnect the FPC cable

With the FPC cable released, lift the back casing and put it on the table. Now the main board is exposed.

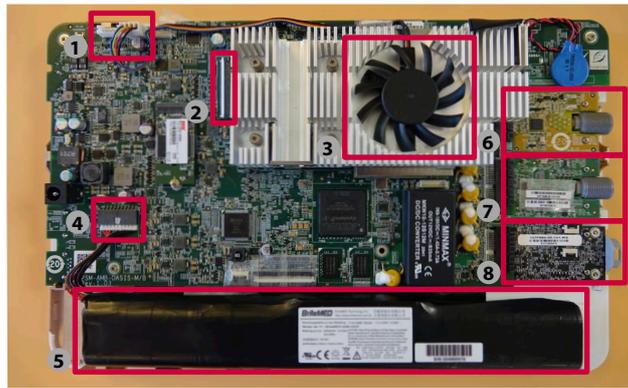


Figure 12 Overview of the main board. Part names: **1** Fan connector, **2** FPC connector to main board, **3** Fan, **4** Battery connector, **5** Battery, **6** Visualization device Interface (VDI) Board 1, **7** Visualization device Interface (VDI) Board 2, **8** Visualization device Interface (VDI) Board 3.

k) Disconnect the battery cable (Figure 13)

Release the battery cable (see location on Figure 12) by pulling the grey part carefully away from the black part in the direction shown on Figure 13.

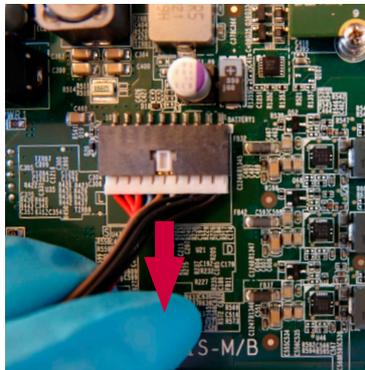


Figure 13 Disconnect the battery cable

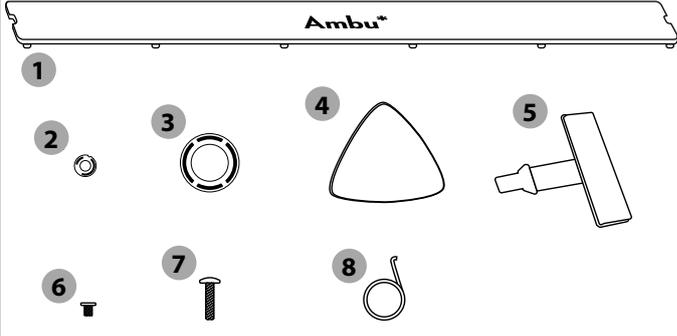
4. How To Replace The Spare Parts

This section covers the replacement of different parts. You may jump directly to the section covering the specific part to be replaced:

- Battery (section 4.1)
- Visualization device interface (VDI) board (section 4.2)
- Fan (section 4.3)
- USB cover (section 4.4)

4.1. Battery Replacement

Ambu® aView™ 2 Advance - Battery Kit	405012100
Battery	

Ambu® aView™ 2 Advance - Battery Kit	405012100
Replacement part kit: 1 Name plates (x2) 2 Screw covers (x2) 3 Visualization device connector covers (x2) 4 Plectrum tool (x1) 5 USB cover (x1) 6 Screws for casing assembly (x10) 7 Screws for VESA mounting bracket (x4) 8 Name plate removal tool (x1)	

Replacing battery

Refer to Figure 12 to identify the location of the battery.

a) Pull the battery off the displaying unit main board (Figure 14)

The battery is fastened with double-sided adhesive tape.



Figure 14 Remove the battery

b) Dispose of the used battery according to local guidelines for disposal of Li-ion batteries

c) Remove the remaining tape from the displaying unit

Remove as much as possible of the old double-sided adhesive tape.

d) Place the new battery (Figure 15)

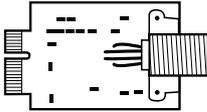
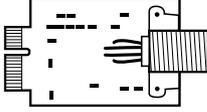
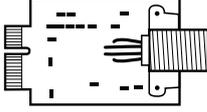
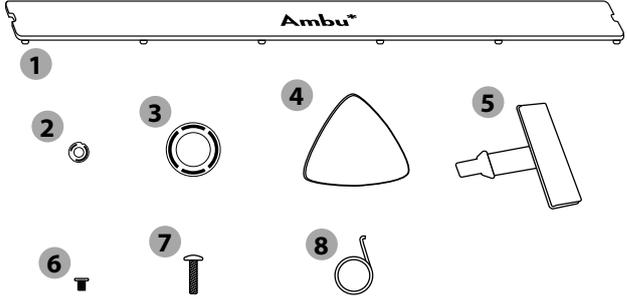
Remove the cover on the double-sided tape on the back of the new battery. The battery must be placed with the labels pointing to the right and on the upper side of the battery.

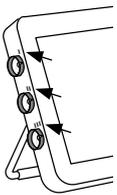


Figure 15 Place a new battery with the adhesive tape facing down

e) Follow the steps in chapter 4.5: Reassembly of the displaying unit

4.2. Visualization Device Interface Board Replacement

Ambu® aView™ 2 Visualization Device Interface Kits	
VDI board - Blue Item number: 405014100	
VDI board - Grey Item number: 405000503	
VDI board - Green Item number: 405000502	
Additional Components Included In VDI Board Kits	
Colour ring (x1 of Blue, Grey or Green)	
Screws for VDI board (x2)	
Additional Components Included In VDI Board Kits	
Replacement part kit: 1 Name plates (x2) 2 Screw covers (x2) 3 Visualization device connector covers (x2) 4 Plectrum tool (x1) 5 USB cover (x1) 6 Screws for casing assembly (x10) 7 Screws for VESA mounting bracket (x4) 8 Name plate removal tool (x1)	



IMPORTANT: It is mandatory to replace the Visualization Device Interface (VDI) boards in correct configuration order as it was originally provided with the sales order. aView 2 Advance configurations are shown in the table below. All connector ports are numbered I, II, III on the device next to each port.

aView 2 Advance Connector Configurations		
	Configuration 1 I. Blue II. Blue III. Grey	
	Configuration 3 I. Blue II. Blue III. None	

Additional tools (not supplied)

Screwdriver (Phillips #0)

Replacing the VDI board

Refer to Figure 12 to identify the location of the VDI board.

Use the screwdriver to loosen the two screws holding the VDI board (Figure 16)

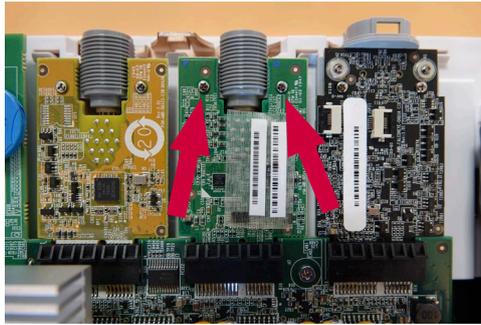


Figure 16 Remove the screws on the VDI board to be replaced

a) Pull the VDI board out of the main board connector (Figure 17)



Figure 17 Remove the VDI board

b) Dispose of the used VDI board following local guidelines for disposal of electronic waste

c) Insert the new VDI board into the main board connector (Figure 18)

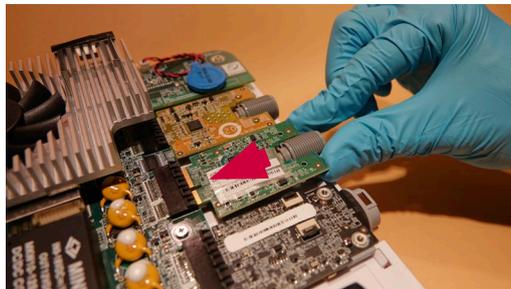


Figure 18 Insert a new VDI board

d) Insert and tighten the two screws (max. torque 0.2 Nm) holding the VDI board in place (Figure 16)

e) Ensure that the colour ring on the back casing is the same colour as the indication on the VDI board (Figure 19)
When remounting the back casing, ensure that the coloured spots on the VDI boards (Figure 19) are matching the colours of the colour rings at which they are placed.

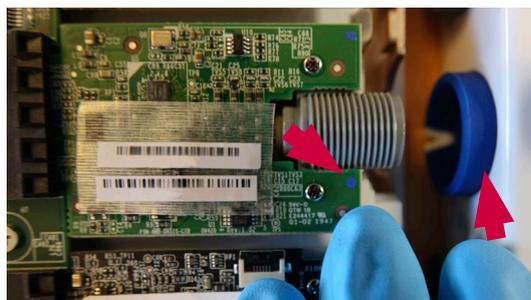


Figure 19 The colour indication on the VDI board must match the colour ring

Replace a damaged colour ring

If the colour ring is broken, replace it with the new colour ring that comes with the VDI kit.

- a) **Remove the damaged colour ring by pushing it out (Figure 20)**



Figure 20 Remove the damaged colour ring

- b) **Push the new colour ring into place from the outside of the back casing (Figure 21)**

Ensure that the square cut-out in the colour ring is fitted to the corresponding shape on the inside of the back casing.



Figure 21 Insert a new colour ring

Inserting a visualization device connector cover, if necessary

If a VDI board has been removed from its position without being replaced, it is necessary to cover the hole in the casing with a visualization device connector cover.

- a) **Insert a visualization device connector cover, if applicable**

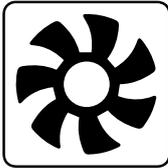
Push the visualization device connector cover in place from the outside of the back casing.



Figure 22 Install the cover if the VDI board has been removed

- b) **Follow the steps in chapter 4.5 to reassemble the displaying unit**

4.3. Fan Replacement

Ambu® aView™ 2 – Fan Kit		405016100
Fan		
Screws for fan Replacement part kit (x3)		

Ambu® aView™ 2 – Fan Kit	405016100
Replacement part kit: 1 Name plates (x2) 2 Screw covers (x2) 3 Visualization device connector covers (x2) 4 Plectrum tool (x1) 5 USB cover (x1) 6 Screws for casing assembly (x10) 7 Screws for VESA mounting bracket (x4) 8 Name plate removal tool (x1)	

Additional tools

Screwdriver (Phillips #0)

Replacing fan

Refer to Figure 12 to identify the location of the fan.

a) Disconnect the fan connector (Figure 23)

Identify the location of the fan connector on the main board, and disconnect the fan connector.

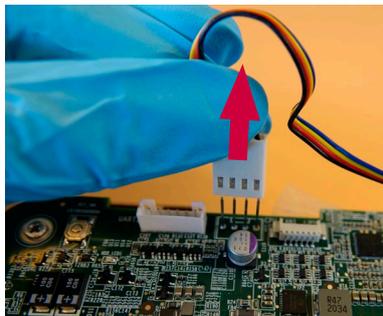


Figure 23 Disconnect the fan cable

b) Untighten the three screws holding the fan in place (Figure 24)

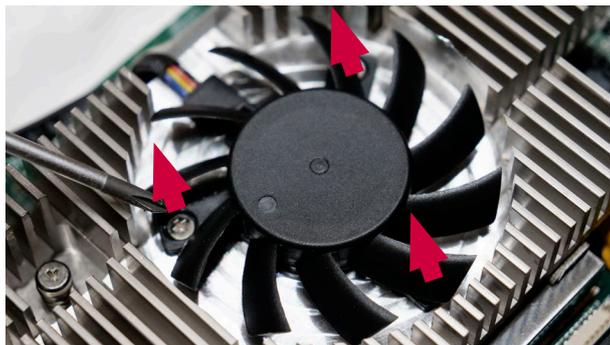


Figure 24 Remove the screws from the fan

c) Dispose of the used fan according to local guidelines for disposal of electronic waste

d) Insert the new fan

- e) Install the new fan with the cable pointing towards the upper edge of the displaying unit (Figure 25)



Figure 25 Install the fan

- f) Insert and tighten the three screws (max. torque 0.3 Nm) holding the fan in place (see Figure 24)
- g) Connect the fan cable (see Figure 12 and Figure 23)
- h) Follow the steps in chapter 4.5 to reassemble the displaying unit

4.4. Insert A New USB Cover

A replacement USB cover is included in any of the spare part kits.

- a) Find and remove all parts of the the damaged USB cover from the inside of the displaying unit.
- b) Insert the new USB cover from the outside of the casing. Gently push the flexible joint in place with a flat screwdriver, taking care not to damage the rubber (Figure 26)

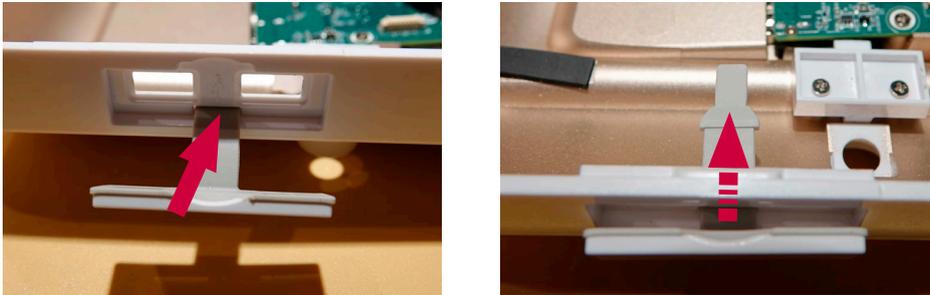


Figure 26 Install a new USB cover

- c) Follow the steps in chapter 4.5 to reassemble the displaying unit

4.5. How To Reassemble The Displaying Unit

- a) Reconnect the battery to the battery connector (see Figure 12 and Figure 27)
- Ensure that the connector is inserted properly by observing that the white centre guide is touching the black connector part.

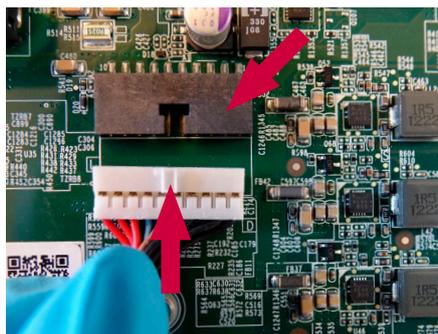


Figure 27 Reconnect the battery connector

b) Reconnect the FPC cable

Reconnect the FPC cable to the main board. Also ensure the cable is still connected to the I/O board on the back casing. Figure 28 shows the location of the FPC cable and FPC connectors.

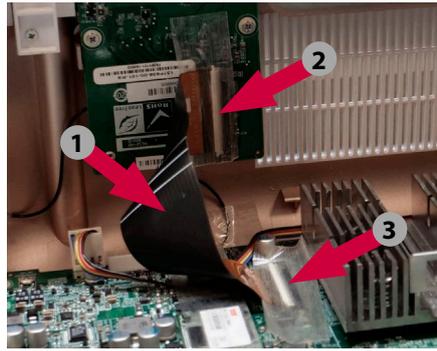


Figure 28 The locations for FPC cable and FPC connectors.

- 1 FPC (Flexible Printed Circuit) cable,
- 2 FPC connection to the main board
- 3 FPC connection to I/O board on the back casing.

Reconnect the FPC cable to the main board (see location 2 in Figure 28). Insert the FPC cable in the connector and close the white lock by flipping it down (see Figure 29). Ensure that the golden leads on the printed circuit are facing down and have good contact with the connector.

Ensure that the end of the FPC cable is pushed all the way and parallel to the connectors. Check that the FPC cable is still connected correctly to the I/O board (See location 3 in Figure 28).

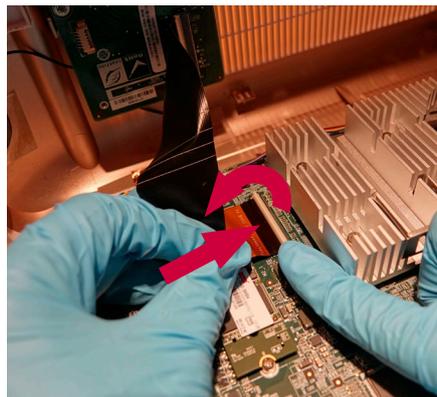


Figure 29 Connect the FPC cable back to the main board

c) Place the back casing on the displaying unit, starting with the side where the colour rings are placed (Figure 30)

Ensure that the edge of the back casing is aligned and pushed against the edge of the displaying unit front underneath the colour rings.

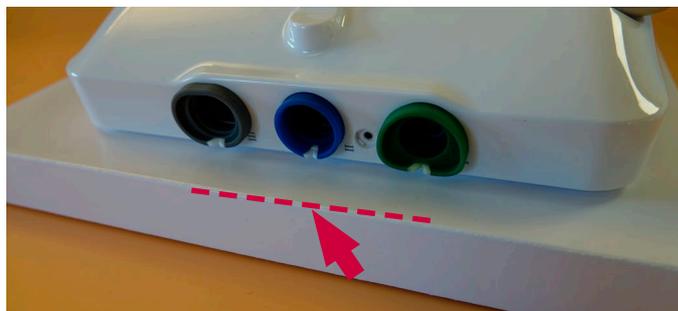


Figure 30 Place the back casing, starting from the side with the colour rings

- d) Pull the back casing towards and around the USB ports and push the back casing in place (see Figure 31 and Figure 32).**

Ensure that the edge of the back casing does not damage the USB ports. Ensure that all the locks around the edge of the displaying unit are clicked in place.



Figure 31 Place the back casing, continued



Figure 32 Press down on the back casing until it clicks in place

- e) Re-insert screws on all four edges of the displaying unit**

Insert 10 screws in total around the displaying unit edge. Four screws on top and bottom, and one screw on each side (max. torque 0.2 Nm). If any screws are missing, use the new ones supplied with the spare part kit.

- f) Click the name plates in place (Figure 33)**

Click down the two ends of the name plate first. Then click down the rest of the name plate towards the center. The Ambu logo on the name plate must be readable from the front side of the displaying unit. If the name plates are damaged, use the new ones supplied with the spare part kit.

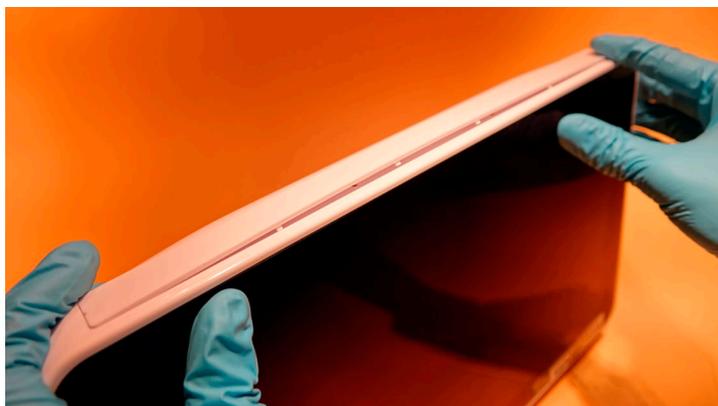


Figure 33 Click the name plates in place

g) Click the screw covers in place (Figure 34)

When clicking the screw covers in place, be aware that they must be oriented correctly in order to fit. If the screw covers are damaged, use the new ones supplied with the spare part kit.



Figure 34 Click the screw covers in place

h) Perform safety test

Follow the instructions provided in chapter 5: Testing.

i) Clean the displaying unit after reassembly and testing

Follow the instructions provided in section 2: How To Clean and Disinfect the Displaying Unit.

5. Testing

The testing instructions in this chapter comply with the requirements of IEC/EN 62353.

When the displaying unit has been disassembled, it is mandatory to perform all the tests specified in the following sections.

5.1. Visual Inspection

During the process of replacing the spare parts, inspect the inner parts for any damage, contamination or spilling.

When the displaying unit has been re-assembled, ensure that the ID marking on the back of the unit is complete and clearly visible, and that all warnings and marking icons by the ports are complete and clearly visible.

Check if any damage, contamination or spilling may have compromised the safety of the displaying unit.

Check if all mechanical parts are unbroken and in good shape.

Check if the power supply and its cords are unbroken and in good shape.

5.2. Protective Earth Resistance Test

Not applicable

As the displaying unit is not directly connected to the supply mains (110/230 V AC), the Protective Earth Resistance test is only relevant for the power supply unit.

Since the Power Supply unit is not a repairable part, this test is not applicable to the displaying unit.

5.3. Insulation Resistance Test

Insulation resistance test according to IEC/EN 62353 is required after replacing the spare parts of the displaying unit.

5.4. Leakage Current Tests

Leakage current test is required after replacing the spare parts. When testing Applied Part Leakage Current, an Ambu visualization device must be connected, since the visualization device is the applied part.

In order to be able to measure applied part leakage current, use metal foil wrapped around the distal tip of the visualization device (See Figure 35).

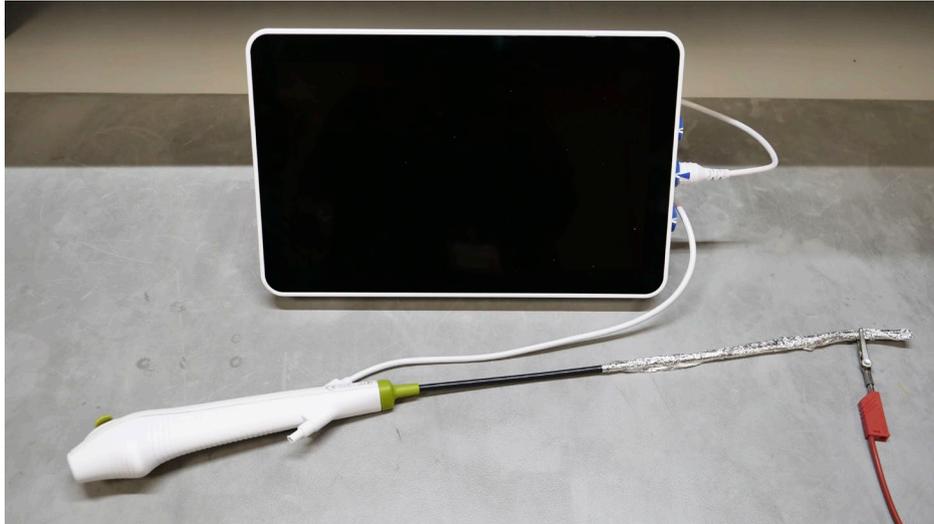


Figure 35 Setup for the leakage current test

5.5. Functional Tests

Run any of the following functional tests relevant for the spare part replaced.

Image display and visualization device connector test

After the displaying unit has been re-assembled, always perform a test of the image to check if the replaced parts and the whole system works as expected.

- Turn the displaying unit ON by pressing the power button twice.
- Connect a visualization device and point the distal end of the visualization device towards an object, e.g. the palm of your hand.
- Verify that a live video image appears on the screen.
- Ensure that the live image has the correct orientation.
- Check that there are no lines or other unexpected disruptions in the image.
- Check that the light in the visualization device LED is on.
- Repeat steps 2-6 for each of the visualization device connectors.
- Verify the touch function by touching some of the options on the screen.

Battery check

Check that the battery discharges as expected.

- Connect the power supply and charge the displaying unit until the battery is fully charged.
- Disconnect the power supply.
- Wait for the screen saver to be activated (as this will change the expected remaining battery time).
- After 10 minutes, check the time in the battery icon.

If the battery remaining time decreases as expected $\pm 20\%$, the test is passed (e.g. battery remaining time goes from 4:10 to anywhere between 3:58 to 4:02 in 10 min.).

Fan check

- Turn off the displaying unit.
- When turning on the unit, check if the fan starts rotating silently by looking through the ventilation ribs and listening for any noise.

External monitor connector check

This test checks if the FPC cable (see Figure 12) has been connected correctly, so the external monitors can be used.

- Plug in an external monitor in the HDMI or the SDI plug.
- Check if the image is shown on the external monitor in good quality.

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