

# Surface Hub 2S 85" Service Guide



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# **Device Identity Information**

## Surface Hub 2S 85" Models

1934 – Surface Hub 2S 85"

Surface Support Hub

Surface Hub Technical Specifications: Surface Hub 2S 85"

The model and serial numbers for Surface Hubs are on the bump cover and power port bracket. TAA compliant devices are marked "POTW" (Product of Taiwan) on the bump cover.



## **Glossary of Terms**

The following terms are used throughout this manual:

- **rSSD** Removable Solid-State Drive
- BMR Bare Metal Recovery refers to the clean imaging process.
- **ESD** Electro-Static Discharge
- IPA Isopropyl alcohol
- **PSA** Pressure Sensitive Adhesive
- **PSU** Power Supply Unit
- **RnR** Repair and Refurbish
- VB Video Board
- FRU Field Replaceable Units are sub-system components such as the rSSD, and PSU.

# **General Information, Precautions, Warnings**

 $\triangle$  This symbol identifies important safety and health information in this manual.

#### **Service Tools and Jigs**

#### **Microsoft Recommended Service Jigs**

• PE Foam Blocks 36in x 8in x 1.5in (914mm x 203mm x 38mm) Density 2.2 PCF

#### **Microsoft Provided Software Tools / References:**

- How To: Update Surface device firmware and OS
- How To: Surface Tools Video
- Download: Surface drivers and firmware
- Download: Surface Hub Hardware Diagnostic (SHHD)
- Download: Surface Data Eraser
- Download: Surface Imaging Tools

#### **Standard Service Tools:**

- Anti-static wrist strap (1 MOhm resistance)
- Soft ESD safe mat
- Phillips #1 driver
- Torx T10 driver
- Torx T6 driver
- Plastic spudger
- Plastic tweezers
- USB drive
- Microfiber cloth
- Gloves

The tools identified on this list can be purchased from many different commercial sources.

## **General Safety Precautions**

Always observe the following general safety precautions:

- Opening and/or repairing any device can present electric shock, device damage, fire, and/or personal injury
  risks and other hazards. Exercise caution when undertaking these activities as described in this manual. Only
  qualified IT technicians to whom Microsoft has provided this manual should attempt to remove the rSSD.
  Only Microsoft-authorized service providers should undertake repair activities.
- Always select and use the appropriate AC power cord for a device. We recommend you use genuine Microsoft AC power cords. A genuine Microsoft power cord is provided with every device.
- Use only AC power provided by a standard (mains) wall outlet. Do not use non-standard power sources, such as generators or inverters, even if the voltage and frequency appear acceptable.

For additional product safety information, including information about

- Hearing conservation
- Heat related concerns
- Choking hazard/small parts
- Interference with medical devices
- Broken glass
- Photosensitive seizures
- Musculoskeletal disorders

See aka.ms/surface-safety.

#### **Repair-Specific Precautions and Warnings**

- The processes outlined in this document apply to devices which have been determined to have a malfunctioning component. Replacement will be completed by qualified IT technicians, authorized repair technicians and in Microsoft-managed repair facilities.
  - MARNING: The device is heavy; follow proper team handling guidelines. This document does NOT include processes/required tools for removing the device from wall mounts or stands.
- Any fastener removed while completing a repair action must be replaced with a new fastener provided in the FRU kit.

MARNING: To reduce the risk of electrical shock or damage to the device, ensure that it is turned off and all cables attached to the device are disconnected.

- Prior to performing any maintenance work on device ensure that proper Electro-Static Discharge (ESD) wrist-straps are donned appropriately by the technician. The work area must be properly grounded to ensure electrostatic discharge (ESD) safe environment.
- Use caution when handling the device to prevent scratching or otherwise damaging the glass or material finish. Only a microfiber cloth shall be used to clean the device.
- As you remove each subassembly from the device, place the subassembly (and all accompanying screws) away from the work area to prevent damage to the device and to the subassembly.
- Technicians must wear gloves when handling device.
- We recommend wearing protective eyewear as a safety precaution when disassembling/re-assembling a device.

## Safety Policies/Procedures

Microsoft's field product safety program team is referred to as the Rapid Response Team (RRT). All device issues that may be safety related should be managed per the following instructions.

As a quick guide, any Microsoft Surface device that visually exhibits any of the following symptoms shall be immediately removed from the replacement process and delivered to your Variance Manager or IT Support Professional for notification to Microsoft RRT:

- Any burned or melted components, traces, or plastic parts on the **outside** of the device, or which otherwise exhibits heat damage, including charring seen in charging and other ports.
- Any burned or melted components, traces, or plastic parts on the **inside** of the device, or which otherwise exhibits heat damage.
- Any accessories exhibiting melting or heat damage that are included with the Microsoft device, such as power supplies, keyboards, mice, cables, charging connectors, etc.
- Any devices that exhibit a case that has separated apart or opened for reasons other than physical abuse (e.g., impact damage from dropping, evidence of tampering, separation caused by a malfunctioning battery).
- Any other finding that may constitute a safety hazard to the user, such as sharp edges on plastics.

The Variance Manager or IT Support Professional must send an email to RRT with pictures showing the damage within 24 hours of device receipt. Refer to the ASP Guidebook for the RRT email address. Your email should include:

- The model and serial number of the affected Microsoft Surface device and/or accessory(ies).
- The SR (Service Request) Number that the device was received under (Note as N/A if no SR exists).
- A brief description of the damage found.
- Clear photographs depicting the symptoms observed.

The Variance Manager or IT Support Specialist must await instructions from Microsoft Product Safety RRT for the affected unit before continuing with activities or returning the device to the end user.

# **Illustrated Service Parts List**



**IMPORTANT:** There are three POTW (Product of Taiwan) FRUs for TAA compliance.

Item	Component	FRU SKU	Description	Country
(1)	Compute Module (Multiple Options)	71Y-00001	Surface Hub 2S Cartridge US/CA/TW FRU	United States Canada Taiwan
		71Y-00002	Srfc Hub 2S Cartridge Hong Kong FRU	Hong Kong
		71Y-00003	Srfc Hub 2S Cartridge China FRU	China
		71Y-00004	Srfc Hub 2S Cartridge Europe FRU	United Kingdom Ireland, Germany, Austria, France, Belgium, Netherlands, Luxembourg
				Italy, Finland, Norway, Sweden, Denmark, Portugal, Spain, Poland, Bulgaria, Hungary, Croatia, Romania, Greece, Lithuania, Slovenia, Estonia, Latvia, Czech Republic, Slovakia, Switzerland
		71Y-00005	Srfc Hub 2S Cartridge Japan FRU	Japan
		71Y-00006	Srfc Hub 2S Cartridge ANZ/ IN/MY/SG/KR/TH FRU	Australia, New Zealand, Singapore, Malaysia, Thailand, India, South Korea
		71Y-00007	Srfc Hub 2S Cartridge BH/ KW/OM/QA/SA/UAE/ZA FRU	United Arab Emirates, Qatar, Saudi Arabia, Bahrain, Oman, Kuwait, South Africa
		71Y-00008	Surface Hub 2S Cartridge US/CA/MX POTW	United States (TAA Compliant) Canada (TAA Compliant) Mexico (TAA Compliant)

(2)	SSD (Inside Compute Module)	NXY-00023	SURFACE HUB 2S COMPUTE SSD FRU	Worldwide
(3)	Compute Fan	NXY-00027	SURFACE HUB 2S COMPUTE FAN FRU	Worldwide
(4)	Video Board Module (Multiple Options)	721-00001	Surface Hub 2S Video Board Module WW FRU	Worldwide
		721-00002	Surface Hub 2S Video Board Module US/CA/MX POTW FRU	United States (TAA Compliant) Canada (TAA Compliant) Mexico (TAA Compliant)
(5)	PSU Module	72B-00001	Surface Hub 2S PSU Module WW FRU	Worldwide
(6)	Bump Speaker	73I-00001	Surface Hub 2S Bump Speaker WW FRU	Worldwide
(7)	Bump Cover (Multiple Options)	71Z-00001	Surface Hub 2S Bump Cover WW FRU	Worldwide
		71Z-00002	Surface Hub 2S Bump Cover US/CA/MX POTW FRU	United States (TAA Compliant) Canada (TAA Compliant) Mexico (TAA Compliant)
(8)	PSU Fan	NXY-00026	SURFACE HUB 2S COMPUTE PSU FAN FRU	Worldwide
(9)	Audio Board Module	73B-00001	Surface Hub 2S Audio Board Module WW FRU	Worldwide

# Service Diagnostics/Troubleshooting Overview

- For general Surface support, visit support.microsoft.com
- To troubleshoot device feature/function problems or learn more about Surface Hub 2S 85, visit aka.ms/SurfaceHubHelp docs.microsoft.com/en-us/surface-hub/

#### Software Tools:

- How To: Update Surface Hub firmware and OS
- How To: Reimage Surface Hub v2S 85
- Download: Surface Imaging Tools
- Download: Surface Hub Hardware Diagnostic (SHHD)

#### Hardware Troubleshooting Approach

**IMPORTANT:** Be sure that devices meet all pre-repair qualifications related to safety and policy prior to repair. See ASP Guidebook for details.

The following approach should be taken when troubleshooting Surface devices:

1. Update device to latest OS/FW versions using the SHHD tool – Refer to Software Tools section above for details on SHHD.

**IMPORTANT:** Device updates are required as a prerequisite to all hardware repairs.

- 2. Verify any suspected hardware failures by setting the device in a known OS/FW version state and running SHHD to verify fault:
  - Replace the device's internal rSSD with a BMR imaged rSSD containing latest OS and FW updates (not supplied – must be created as a fault verification jig/tool) – Refer to Software Tools section above for details on imaging.
  - b. Run SHHD and verify if condition persists or if resolved with use of BMR imaged drive Refer to Software Tools section above for details on SHHD.
    - i. If problem is resolved, then re-image original rSSD or replace original rSSD and image.
    - ii. If problem persists then replace suspected hardware FRU related to the problem by following the detailed replacement procedures covered within this service guide.
- 3. SHHD must be run following all hardware repairs where a FRU was replaced to further verify that problem was resolved by the repair action taken.

# **Component Removal and Replacement Procedures**

## **Prior to Device Disassembly:**

- **WARNING:** Before opening the device, always ensure device is powered off and disconnected from a power supply.
- Check to make sure that general guidelines and ESD compliance steps are followed prior to opening device.
- FRUs removed from a device during the repair process should be stored in ESD-safe bags, and packaged for return in the same packaging that the new replacement part came in.

# **Bump Cover Replacement Process**

#### **Preliminary Requirements**

**IMPORTANT:** Be sure to follow all special (bolded) notes of caution within each process section.

#### **Required Tools and Components**

- Tools:
  - Four PE Foam Blocks
  - 36in x 8in x 1.5in (914mm x 203mm x 38mm) Density 2.2 PCF
  - o Microfiber Cloth
  - o Gloves
- Components:
  - Bump Cover FRU (multiple options)
    - 71Z-00001 Surface Hub 2S Bump Cover WW FRU
    - 71Z-00002 Surface Hub 2S Bump Cover US/CA/MX POTW FRU
    - New plastic snaps supplied with (Bump Cover FRU)

#### Prerequisite Steps:

- **Power off device** Ensure device is powered off and disconnected from a power source.
- **General Safety** Check to make sure that general guidelines and ESD compliance steps are followed prior to opening the device. Refer to Prior to Device Disassembly section (page 13) for details.
- Remove device from stand/wall mount.

**WARNING:** The device is heavy. A minimum of two people are required, one on each side, when lifting the device to prevent possible personal injury, damage to property, or damage to the device.

• Lay device flat (display down) on a secure, stable surface. Lay device over four foam blocks such that the outer edge of the foam is approximately 50mm inside the outer edge of the device.



# Procedure – Removal (Bump Cover)

1. **Bump cover removal** – Carefully pull upward along the edges of the cover to disengage 22 snaps. The Bump Cover should release with minimal effort.



**IMPORTANT:** Inspect 22 snaps for signs of damage. Replace snaps as needed.



- 1. **Align Bump Cover** Align the Bump Cover snaps to the snap retention locations on the Bump Chassis. Lower the Bump Cover into the Bump Chassis.
- 2. Attach Bump Cover Apply hands flat on the Bump Cover and lightly press on the surface to engage the snaps. Apply pressure to all surface areas to ensure all snaps are engaged. Refer to the outlines in the below illustration for snap locations.



- 3. Mount device Replace device on stand/wall mount. Reconnect all cables.
  - MARNING: The device is heavy. A minimum of two people are required, one on each side, when lifting the device to prevent personal injury, damage to property, or damage to the device.
- 4. **Run SHHD** Power on device. Run SHHD to ensure all device features and functions operate as expected. Refer to (page 12) for details on SHHD.
- 5. Wipe down device with the microfiber cloth to remove fingerprints.

# **Compute Module Replacement Processes**

#### **Preliminary Requirements**

**IMPORTANT:** Be sure to follow all special (bolded) notes of caution within each process section.

#### **Required Tools and Components**

- Tools:
  - Phillips #1 driver
  - o Microfiber Cloth
  - Four PE Foam Blocks (To be used should the device have to be unmounted.)
     36in x 8in x 1.5in (914mm x 203mm x 38mm) Density 2.2 PCF

#### Components:

• Compute Module FRU (multiple options)

71Y-00001	Surface Hub 2S Cartridge US/CA/TW FRU
71Y-00002	Srfc Hub 2S Cartridge Hong Kong FRU
71Y-00003	Srfc Hub 2S Cartridge China FRU
71Y-00004	Srfc Hub 2S Cartridge Europe FRU
71Y-00005	Srfc Hub 2S Cartridge Japan FRU
71Y-00006	Srfc Hub 2S Cartridge ANZ/IN/MY/SG/KR/TH FRU
71Y-00007	Srfc Hub 2S Cartridge BH/KW/OM/QA/SA/UAE/ZA FRU
71Y-00008	Surface Hub 2S Cartridge US/CA/MX POTW

#### Prerequisite Steps:

- **Power off device** Ensure device is powered off and disconnected from a power source.
- **General Safety** Check to make sure that general guidelines and ESD compliance steps are followed prior to opening device. Refer to Prior to Device Disassembly section (page 13) for details.

**Note:** The Compute Module can be removed while the device is mounted to a stand/wall. Remove the device as needed from the stand/wall when access to the module is obstructed.

MARNING: The device is heavy. A minimum of two people are required, one on each side, when lifting the device to prevent possible personal injury, damage to property, or damage to the device.

#### **Procedure – Removal (Compute Module)**

 Disengage Compute Module Retention Screw – Slide the power bracket slide handle open to reveal compute module retention screw. Use Philips #1 driver to loosen the compute retention screw completely. The screw is spring loaded and captive in the compute module. If screw does not spring out, lightly pull with fingers to release the screw.



2. **Separate Compute Module from device** – Pull Compute Module from Bump Cover with equal force from the compute module retention screw and the opposite side of the compute module. Lightly push fingers underneath the compute module to access the lip of the compute module.



## **Procedure – Installation (Compute Module)**

1. **Install Compute Module** – Align the new Compute Module Assembly into the compute module slot with the plastic surface toward the back of the device--rails will help align. The compute module will only slide into bump in correct orientation. Do not use excessive force to push compute module into slot. The compute module should slide smoothly without significant resistance. Push the computer module into the slot until it audibly clicks into place.



2. **Engage Compute Module Retention Screw** – Use the Philips #1 driver to tighten the compute module retention screw until tight, then another 1/8<sup>th</sup> turn. Slide the power bracket slide handle closed to cover compute module retention screw.



- Run SHHD Reconnect all cables. Power on device. Run SHHD to ensure all device features and functions operate as expected. Refer to (page 12) for details on SHHD.
- 4. Wipe down device with the microfiber cloth to remove fingerprints.

# rSSD Replacement Process

### **Preliminary Requirements**

**IMPORTANT:** Be sure to follow all special (bolded) notes of caution within each process section.

#### **Required Tools and Components**

- Tools:
  - Phillips #1 driver
  - o USB drive with recovery image
  - o Microfiber Cloth
  - Four PE Foam Blocks (To be used should the device have to be unmounted.)
     36in x 8in x 1.5in (914mm x 203mm x 38mm) Density 2.2 PCF
- Components:
  - NXY-00023 SURFACE HUB 2S COMPUTE SSD FRU (FRU includes a new SSD screw and door)

#### **Prerequisite Steps:**

- **Power off device** Ensure device is powered off and disconnected from a power source.
- **General Safety** Check to make sure that general guidelines and ESD compliance steps are followed prior to opening device. Refer to Prior to Device Disassembly section (page 13) for details.
- Remove Compute Module Follow steps for Procedure Removal (Compute Module) on (page 19).
   Note: The Compute Module can be removed while the device is mounted to a stand/wall. Remove the device as needed from the stand/wall when access to the module is obstructed.
  - MARNING: The device is heavy. A minimum of two people are required, one on each side, when lifting the device to prevent personal injury, damage to property, or damage to the device.

#### Procedure – Removal (rSSD)

1. **Remove rSSD door** – Lay the compute module with the front (metal) facing up to access the rSSD door. Use a Philips #1 driver to loosen SSD door screw completely. The screw is captive in the SSD door. Using fingers, carefully lift the SSD door up and set aside.





2. **Remove rSSD retention screw** – Using Phillips #1 driver, remove the SSD retention screw. The SSD will rest at approximately 30 degrees in its M.2 slot.



3. **Remove rSSD** – Use fingers to remove the SSD from the M.2 slot. Touch only the sides of the printed circuit board as much as possible.



## **Procedure – Installation (rSSD)**

1. **Install rSSD** – Holding the new rSSD from the sides of the printed circuit board when possible, insert the SSD into the M.2 slot at approximately 30 degrees.



2. **Install rSSD retention screw** – Using Phillips #1 driver, install a new SSD retention screw. Thread the SSD retentions screw until there is resistance—be careful not to overtighten.



3. **Install rSSD door** – Carefully place the rSSD Door Assembly over the rSSD bay. Use the Phillips #1 driver to thread the rSSD door screw. Thread until tight, then another 1/8<sup>th</sup> turn.



- 4. Install Compute Module Follow steps for Procedure Installation (Compute Module) on (page 20).
- 5. **Imaging new rSSD** Reconnect all cables. Power on device. Apply a new image to the rSSD using a BMR Imaging key specific to the device model. Refer to Surface imaging process.
- 6. **Run SHHD** Run SHHD to ensure all device features and functions operate as expected. Refer to (page 12) for details on SHHD.
- 7. Wipe down device with the microfiber cloth to remove fingerprints.

# **Compute Fan Replacement Process**

#### **Preliminary Requirements**

**IMPORTANT:** Be sure to follow all special (bolded) notes of caution within each process section.

#### **Required Tools and Components**

- Tools
  - Four PE Foam Blocks
  - 36in x 8in x 1.5in (914mm x 203mm x 38mm) Density 2.2 PCF
  - o Phillips #1 driver
  - o Torx T6 driver
  - o Microfiber Cloth
- Components:
  - NXY-00027 SURFACE HUB 2S COMPUTE FAN FRU (FRU includes new screws)

#### **Prerequisite Steps:**

- **Power off device** Ensure device is powered off and disconnected from a power source.
- **General Safety** Check to make sure that general guidelines and ESD compliance steps are followed prior to opening the device. Refer to Prior to Device Disassembly section (page 13) for details.
- Remove device from stand/wall mount.

MARNING: The device is heavy. A minimum of two people are required, one on each side, when lifting the device to prevent personal injury, damage to property, or damage to the device.

- Lay device flat (display down) on a secure, stable surface. Lay device over four foam blocks such that the outer edge of the foam is approximately 50mm inside the outer edge of the device.
- Remove Compute Module Follow steps for Procedure Removal (Compute Module) on (page 19).
- **Remove Bump Cover** Follow steps for Procedure Removal (Bump Cover) on (page 15).

## Procedure – Removal (Compute Fan)

1. **Disconnect Compute Fan** – Disconnect the Compute Fan from the white connector on the left side of the video board module.



2. **Remove Compute Fan screws** – Using a Torx T6 driver, remove the three Compute Fan screws.



3. **Remove Compute Fan** – Remove the Compute Fan from the bump chassis.



# **Procedure – Installation (Compute Fan)**

1. Install Compute Fan – Place new Compute Fan into the bump chassis.



2. Install Compute Fan screws – Using Torx T6 driver, install new Compute Fan screws. Fasten until tight, then another 1/8<sup>th</sup> turn.



3. **Connect Compute Fan** – Connect the compute fan to the white connector on the left side of the video board module.



- 4. Install Compute Module Follow steps for Procedure Installation (Compute Module) on (page 20).
- 5. **Install Bump Cover** Follow steps for Procedure Installation (Bump Cover) on (page 16).
- 6. **Mount device** Replace device on stand/wall mount. Reconnect all cables.
  - MARNING: The device is heavy. A minimum of two people are required, one on each side, when lifting the device to prevent personal injury, damage to property, or damage to the device.
- 7. **Run SHHD** Power on device. Run SHHD to ensure all device features and functions operate as expected. Refer to (page 12) for details on SHHD.
- 8. Wipe down device with the microfiber cloth to remove fingerprints.

# **Bump Speaker Replacement Process**

#### **Preliminary Requirements**

**IMPORTANT:** Be sure to follow all special (bolded) notes of caution within each process section.

#### **Required Tools and Components**

- Tools
  - Four PE Foam Blocks
    - 36in x 8in x 1.5in (914mm x 203mm x 38mm) Density 2.2 PCF
  - Phillips #1 driver
  - o Torx T6 driver
  - o Torx T10 driver
  - o Microfiber Cloth
- Components:
  - 73I-00001 Surface Hub 2S Bump Speaker WW FRU (FRU includes new screws)

#### **Prerequisite Steps:**

- **Power off device** Ensure device is powered off and disconnected from a power source.
- **General Safety** Check to make sure that general guidelines and ESD compliance steps are followed prior to opening the device. Refer to Prior to Device Disassembly section (page 13) for details.
- Remove device from stand/wall mount.

MARNING: The device is heavy. A minimum of two people are required, one on each side, when lifting the device to prevent personal injury, damage to property, or damage to the device.

- Lay device flat (display down) on a secure, stable surface. Lay device over four foam blocks such that the outer edge of the foam is approximately 50mm inside the outer edge of the device.
- Remove Compute Module Follow steps for Procedure Removal (Compute Module) on (page 19).
- Remove Bump Cover Follow steps for Procedure Removal (Bump Cover) on (page 15).
- Remove Compute Fan Follow steps for Procedure Removal (Compute Fan) on (page 26).

## Procedure – Removal (Bump Speaker)

1. **Disconnect Bump Speaker cable** – Disconnect the bump speaker cable from the connector located near the top right side of the video board module.



2. Remove Bump Speaker Cable – Remove the two strips of tape securing Bump Speaker cable. Carefully route the Bump Speaker Cable out from under the Video Board.



3. **Remove Bump Speaker screws** – Using a Torx T10 driver remove the three bump speaker screws from the bump chassis.



4. Remove Bump Speaker – Remove bump speaker from the bump chassis.



## **Procedure – Installation (Bump Speaker)**

1. Install Bump Speaker – Place new bump speaker into the bump chassis.



2. Install Bump Speaker screws – Using Torx T10 driver, install new bump speaker screws. Fasten until tight, then another 1/8<sup>th</sup> turn.



3. **Route Bump Speaker cable** – Carefully route the Bump Speaker Cable under the Video Board, and along the channel in the bump chassis. Connect the cable and apply tape to secure it to the bump chassis.



- 4. Install Compute Fan Follow steps for Procedure Installation (Compute Fan) on (page 27).
- 5. Install Compute Module Follow steps for Procedure Installation (Compute Module) on (page 20).
- 6. Install Bump Cover Follow steps for Procedure Installation (Bump Cover) on (page 16).
- 7. **Mount device** Replace device on stand/wall mount. Reconnect all cables.

MARNING: The device is heavy. A minimum of two people are required, one on each side, when lifting the device to prevent personal injury, damage to property, or damage to the device.

- 8. **Run SHHD** Power on device. Run SHHD to ensure all device features and functions operate as expected. Refer to (page 12) for details on SHHD.
- 9. Wipe down device with the microfiber cloth to remove fingerprints.

# **Video Board Replacement Process**

#### **Preliminary Requirements**

**IMPORTANT:** Be sure to follow all special (bolded) notes of caution within each process section.

#### **Required Tools and Components**

- Tools
  - Four PE Foam Blocks
    - 36in x 8in x 1.5in (914mm x 203mm x 38mm) Density 2.2 PCF
  - Phillips #1 driver
  - o Torx T6 driver
  - $\circ$  Torx T10 driver
  - o Microfiber Cloth
- Components:
  - Video Board FRU (multiple options)
    - 72I-00001 Surface Hub 2S Video Board Module WW FRU
    - 72I-00002 Surface Hub 2S Video Board Module US/CA/MX POTW FRU
    - (FRU includes new screws and tape)

#### **Prerequisite Steps:**

- **Power off device** Ensure device is powered off and disconnected from a power source.
- **General Safety** Check to make sure that general guidelines and ESD compliance steps are followed prior to opening the device. Refer to Prior to Device Disassembly section (page 13) for details.
- Remove device from stand/wall mount.

MARNING: The device is heavy. A minimum of two people are required, one on each side, when lifting the device to prevent personal injury, damage to property, or damage to the device.

- Lay device flat (display down) on a secure, stable surface. Lay device over four foam blocks such that the outer edge of the foam is approximately 50mm inside the outer edge of the device.
- Remove Compute Module Follow steps for Procedure Removal (Compute Module) on (page 19).
- **Remove Bump Cover** Follow steps for Procedure Removal (Bump Cover) on (page 15).

## Procedure – Removal (Video Board)

1. **Disconnect Video Board Cables** – Remove Kapton tape and copper tape from the nano patch cables on the audio board connector. Disconnect nano patch cables from the audio board connector. Disconnect audio power cable from the audio board.



2. **Disconnect Bump Speaker Cable** – Disconnect the bump speaker cable from the connector located near the top right-side of the video board module.



3. **Remove Cable Bracket** – Using a Torx T10 driver, remove the three screws from the cable bracket. Remove the cable bracket from the bump chassis.



4. **Disconnect Compute Fan and PSU Fan** – Disconnect the compute fan and PSU fan from the video board module.



5. **Remove Video Board Screws** – Using a Using Torx T6 driver, remove the 7 screws from the video board. Using Torx T10 driver, remove the screw from the Heat Sink.



6. Loosen Video Board cables – Carefully route video board cables out from under bump chassis tabs.



7. **Disconnect PSU cables** – Carefully rotate video board up and to the right. Disconnect the two PSU cables from the right-side of the video board and remove it from the bump chassis.



## **Procedure – Installation (Video Board)**

1. **Connect PSU cables** – While supporting video board bottom side up over the PSU module connect the two PSU cables. Carefully rotate video board down into the bump chassis.



2. Algin Video Board spring offsets – Manually align the video board using the 12 alignment pins (2 per spring offset). Use fingers to align two pins on each of the six spring offsets alignment slots. The top surface of the spring offset will sit flush against the bottom of video board enclosure once properly seated.



3. **Install Video Board screws** – Using a Using Torx T6 driver, install 7 new screws into the video board. Using Torx T10 driver, install a new screw into the Heat Sink. Fasten until tight, then another 1/8<sup>th</sup> turn.



4. Compute Fan and PSU Fan – Connect the compute fan and PSU fan onto the video board module



5. Route Video Board cables – Carefully route video board cables under the bump chassis tabs.



 Install Cable Bracket – Ensure video board cables are routed as pictured. Place the cable bracket over the video board cables. Using a Torx T10 driver, install three new screws into the cable bracket. Fasten until tight, then another 1/8<sup>th</sup> turn.



7. **Connect Bump Speaker Cable** – Connect the bump speaker cable located near the top right-side of the video board module. Secure cable with black tape.



8. **Connect Video Board Cables** – Connect the 02 and 03 nano patch cables onto the audio board. Ensure the 02 and 03 connectors are connected to the correct locations as pictured below. Apply copper tape on the nano patch cable connectors. Apply Kapton tape to copper tape as pictured below. Connect the 24 labeled audio power cable onto the audio board.



- 9. Install Compute Module Follow steps for Procedure Installation (Compute Module) on (page 20).
- 10. Install Bump Cover Follow steps for Procedure Installation (Bump Cover) on (page 16).
- 11. Mount device Replace device on stand/wall mount. Reconnect all cables.

**WARNING:** The device is heavy. A minimum of two people are required, one on each side, when lifting the device to prevent personal injury, damage to property, or damage to the device.

- 12. **Run SHHD** Power on device. Run SHHD to ensure all device features and functions operate as expected. Refer to (page 12) for details on SHHD.
- 13. Wipe down device with the microfiber cloth to remove fingerprints.

# **PSU Fan Replacement Process**

#### **Preliminary Requirements**

**IMPORTANT:** Be sure to follow all special (bolded) notes of caution within each process section.

#### **Required Tools and Components**

- Tools
  - Four PE Foam Blocks
    - 36in x 8in x 1.5in (914mm x 203mm x 38mm) Density 2.2 PCF
  - o Torx T6 driver
  - o Microfiber Cloth
- Components:
  - NXY-00026 SURFACE HUB 2S COMPUTE PSU FAN FRU (FRU includes new screws)

#### **Prerequisite Steps:**

- **Power off device** Ensure device is powered off and disconnected from a power source.
- **General Safety** Check to make sure that general guidelines and ESD compliance steps are followed prior to opening the device. Refer to Prior to Device Disassembly section (page 13) for details.
- Remove device from stand/wall mount.

MARNING: The device is heavy. A minimum of two people are required, one on each side, when lifting the device to prevent personal injury, damage to property, or damage to the device.

- Lay device flat (display down) on a secure, stable surface. Lay device over four foam blocks such that the outer edge of the foam is approximately 50mm inside the outer edge of the device.
- Remove Bump Cover Follow steps for Procedure Removal (Bump Cover) on (page 15).

## Procedure – Removal (PSU Fan)

1. **Disconnect PSU Fan** – Disconnect the PSU fan from the white connector on the right-side of the video board module.



2. **Loosen PSU cables** – Beginning from the bottom of the fan and working around to the right, use fingers to gently remove the AC power cable from the integrated cable routing hooks.



3. **Remove PSU Fan screws** – Using a Torx T6 driver, remove the three PSU fan screws.



4. **Remove PSU Fan** – Remove the PSU fan from the bump chassis.



## **Procedure – Installation (PSU Fan)**

1. **Install PSU Fan** – Place new PSU Fan into the bump chassis. Ensure AC power cable is not pinched under the fan shroud. Ensure the foam on the PSU fan is setting flush to the edge of the PSU and not rolled over or deformed.



2. Install PSU Fan screws – Using Torx T6 driver, install three new PSU fan screws. Fasten until tight, then another 1/8<sup>th</sup> turn.



3. **Route PSU cables** – Beginning from the upper right side of the fan and working around to the bottom, use fingers to route the AC power cable through the integrated cable routing hooks.



4. **Connect PSU Fan** – Connect the PSU fan onto the white connector on the right-side of the video board module.



- 5. Install Bump Cover Follow steps for Procedure Installation (Bump Cover) on (page 16).
- 6. **Mount device** Replace device on stand/wall mount. Reconnect all cables.
  - MARNING: The device is heavy. A minimum of two people are required, one on each side, when lifting the device to prevent personal injury, damage to property, or damage to the device.
- 7. **Run SHHD** Power on device. Run SHHD to ensure all device features and functions operate as expected. Refer to (page 12) for details on SHHD.
- 8. Wipe down device with the microfiber cloth to remove fingerprints.

# **PSU Replacement Process**

#### **Preliminary Requirements**

**IMPORTANT:** Be sure to follow all special (bolded) notes of caution within each process section.

#### **Required Tools and Components**

- Tools
  - Four PE Foam Blocks
    - 36in x 8in x 1.5in (914mm x 203mm x 38mm) Density 2.2 PCF
  - o Torx T10 driver
  - o Microfiber Cloth
- Components:
  - 72B-00001 Surface Hub 2S PSU Module WW FRU (FRU includes new screws)

#### Prerequisite Steps:

- **Power off device** Ensure device is powered off and disconnected from a power supply.
- **General Safety** Check to make sure that general guidelines and ESD compliance steps are followed prior to opening the device. Refer to Prior to Device Disassembly section (page 13) for details.
- Remove device from stand/wall mount.

MARNING: The device is heavy. A minimum of two people are required, one on each side, when lifting the device to prevent personal injury, damage to property, or damage to the device.

- Lay device flat (display down) on a secure, stable surface. Lay device over four foam blocks such that the outer edge of the foam is approximately 50mm inside the outer edge of the device.
- Remove Bump Cover Follow steps for Procedure Removal (Bump Cover) on (page 15).

## Procedure – Removal (PSU)

 Disconnect Audio Board cables – Disconnect two cables from the left side near the audio board marked 32 and 31.

**Note**: the release tabs are on the bottom side of the connector obscured from view.



2. **Loosen PSU cables** – Beginning from the bottom of the fan and working around to the right, use fingers to gently remove the AC power cable from the integrated cable routing hooks.



3. **Remove AC Power Bracket screws** – Using a Torx T10 driver, remove the three AC power bracket screws, and two AC connector screws.



4. **Remove AC Connector** – Remove AC power bracket from the bump chassis. Pull the power bracket slide handle away from the serial number (exposing the AC power port) until the slide handle hits its stop. Using your thumb, apply moderate force on the inside of the power bracket slide handle while continuing to pull away from the serial number. The slide handle will deflect slightly away from the power bracket and overcome the retaining



5. **Remove PSU screws** – Using a Torx T10 driver remove the seven PSU screws.



6. **Disconnect Video Board cables** – Carefully lift PSU and rotate it to access the underside. While holding the PSU with one hand disconnect the two cables from the video board. Remove PSU from bump chassis.





## **Procedure – Installation (PSU)**

1. **Connect Video Board cables** – While holding PSU with one hand over the right side of the video board, connect the two video board cables. Carefully rotate PSU into the bump chassis. Ensure the foam on the PSU fan is setting flush to the edge of the PSU and not rolled over or deformed.



2. **Install PSU screws** – Using a Torx T10 driver install seven new PSU screws. Fasten until tight, then another 1/8<sup>th</sup> turn.



3. **Install AC Connector** – Slide the new PSU AC power connector into the old power bracket. Once in place, slide the power bracket slide handle back into place to secure the AC power connector.



4. **Install AC Power Bracket screws** – Place the power bracket into the bump chassis. Using a Torx T10 driver install three new AC power bracket screws, and two new AC connector screws.



5. **Route PSU cables** – Beginning from the upper right side of the fan and working around to the bottom, use fingers to route the AC power cable through the integrated cable routing hooks.



6. **Connect Audio Board cables** – Connect the two cables on the left side near the audio board marked 32 and 31.



- 7. Install Bump Cover Follow steps for Procedure Installation (Bump Cover) on (page 16).
- 8. **Mount device** Replace device on stand/wall mount. Reconnect all cables.
  - MARNING: The device is heavy. A minimum of two people are required, one on each side, when lifting the device to prevent personal injury, damage to property, or damage to the device.
- 9. **Run SHHD** Power on device. Run SHHD to ensure all device features and functions operate as expected. Refer to (page 12) for details on SHHD.
- 10. Wipe down device with the microfiber cloth to remove fingerprints.

# Audio Board Replacement Process

#### **Preliminary Requirements**

**IMPORTANT:** Be sure to follow all special (bolded) notes of caution within each process section.

#### **Required Tools and Components**

- Tools
  - Four PE Foam Blocks
    - 36in x 8in x 1.5in (914mm x 203mm x 38mm) Density 2.2 PCF
  - o Plastic Spudger
  - Plastic tweezers
  - $\circ$  Torx T10 driver
  - o Microfiber Cloth
- Components:
  - 73B-00001 Surface Hub 2S Audio Board Module WW FRU (FRU includes new screws and tape)

#### **Prerequisite Steps:**

- **Power off device** Ensure device is powered off and disconnected from a power supply.
- **General Safety** Check to make sure that general guidelines and ESD compliance steps are followed prior to opening the device. Refer to Prior to Device Disassembly section (page 13) for details.
- Remove device from stand/wall mount.

MARNING: The device is heavy. A minimum of two people are required, one on each side, when lifting the device to prevent personal injury, damage to property, or damage to the device.

- Lay device flat (display down) on a secure, stable surface. Lay device over four foam blocks such that the outer edge of the foam is approximately 50mm inside the outer edge of the device.
- Remove Bump Cover Follow steps for Procedure Removal (Bump Cover) on (page 15).

#### Procedure – Removal (Audio Board)

1. **Disconnect Video Board Cables** – Remove Kapton tape and copper tape from the nano patch cables on the audio board connector. Disconnect nano patch cables from the audio board connector. Disconnect audio power cable from the audio board.



2. **Disconnect Wi-Fi cable** – Disconnect the Wi-Fi cable marked 18 by lifting the locking buckle and sliding the cable from the connector.



3. **Disconnect Touch Pad and USB-C cables** – Disconnect the touch pad cable marked 08 and the USB-C cable marked 10 from the Audio PCBA.



4. **Disconnect Occupancy Sensor (right) cable** – Disconnect the occupancy sensor (right) cable marked 06 from the Audio PCBA. Using a plastic spudger carefully pry up on the edge of the connector to release it.



5. **Disconnect Left Speaker cable** – Disconnect the 4-wire left speaker cable next to the cable marked 06. Using plastic tweezers carefully release the locking tabs and slide the cable from the connector.



6. **Disconnect Occupancy Sensor (left) cable** – Disconnect the occupancy sensor (left) cable marked 07 from the Audio PCBA. Using a plastic spudger carefully pry up on the edge of the connector to release it.



7. Disconnect USB-C cable – Disconnect the USB-C cable marked 21 from the Audio PCBA.



8. Disconnect USB-C cable – Disconnect the USB cable marked 04. Carefully pull the cable from the connector.



9. **Disconnect USB-C cable** – Disconnect the 4-wire cable next to the cable marked 19. Using plastic tweezers carefully release the locking tabs and slide the cable from the connector.



10. **Disconnect USB-C cable** – Disconnect the 4-wire cable next to the cable marked 19. Using plastic tweezers carefully release the locking tabs and slide the cable from the connector.



11. Disconnect USB-C cable – Disconnect the USB-C cable marked 09 from the Audio PCBA.



12. **Disconnect Keypad cable** – Disconnect the keypad cable marked 11 from the Audio PCBA. Using a plastic spudger carefully pry up on the edge of the connector to release it.



13. **Disconnect Vx1 cable** – Disconnect the Vx1 cable marked 01 from the Audio PCBA. Remove the copper tape from the connector. Press the cable connector locking tabs and remove it from the Audio PCBA.



14. **Disconnect Audio cable** – Disconnect the audio cable marked 05. Using plastic tweezers carefully release the locking tabs and slide the cable from the connector.



15. **Remove Audio Board screws** – Using a Torx T10 driver remove the six audio board screws. Remove audio board form bump chassis.



## **Procedure – Installation (Audio Board)**

1. **Install Audio Board screws** – Place new audio board into the bump chassis. Ensure none of the 17 cables are captured under the audio board. Install six new screws. Fasten until tight, then another 1/8<sup>th</sup> turn.



2. Connect Audio cable – Connect the audio cable marked 05.



3. **Connect Vx1 cable** – Connect the Vx1 cable marked 01 onto the Audio PCBA. Install copper tape as pictured below.



4. Connect Keypad cable – Connect the keypad cable marked 11 onto the Audio PCBA.



5. **Connect USB-C cable** – Connect the USB-C cable marked 09 onto the Audio PCBA.



6. **Connect Bluetooth cable** – Connect the Bluetooth cable marked 19.



7. **Connect USB-C cable** – Connect the 4-wire cable next to the cable marked 19.



8. Connect USB-C cable – Connect the USB cable marked 04.



9. Connect USB-C cable – Connect the USB-C cable marked 21 onto the Audio PCBA.



10. **Connect Occupancy Sensor (left) cable** – Connect the occupancy sensor (left) cable marked 07 onto the Audio PCBA.



11. **Connect Left Speaker cable** – Connect the 4-wire left speaker cable next to the cable marked 06.



12. **Connect Occupancy Sensor (right) cable** – Connect the occupancy sensor (right) cable marked 06 onto the Audio PCBA.



13. **Connect Touch Pad and USB-C cables** – Connect the touch pad cable marked 08 and the USB-C cable marked 10 onto the Audio PCBA.



14. **Connect Wi-Fi cable** – Connect the Wi-Fi cable marked 18 by sliding the cable into the connector and securing the locking buckle.



15. **Connect Video Board Cables** – Connect the 02 and 03 nano patch cables onto the audio board. Ensure the 02 and 03 connectors are connected to the correct locations as pictured below. Apply copper tape on the nano patch cable connectors. Apply Kapton tape to copper tape as pictured below. Connect the 24 labeled audio power cable onto the audio board.



- 16. Install Bump Cover Follow steps for Procedure Installation (Bump Cover) on (page 16).
- 17. **Mount device** Replace device on stand/wall mount. Reconnect all cables.
  - **WARNING:** The device is heavy. A minimum of two people are required, one on each side, when lifting the device to prevent personal injury, damage to property, or damage to the device.
- Run SHHD Power on device. Run SHHD to ensure all device features and functions operate as expected. Refer to (page 12) for details on SHHD.
- 19. Wipe down device with the microfiber cloth to remove fingerprints.

# **Environmental Compliance Requirements**

All waste electrical and electronic equipment (WEEE), waste electronic components, waste batteries, and electronic waste residuals must be managed according to applicable laws and regulations and H09117, "Conformance Standards for Environmentally Sound Management of Waste Electrical and Electronic Equipment (WEEE)," which is available at this link: https://www.microsoft.com/en-pk/download/details.aspx?id=11691 In case of questions, please contact AskECT@microsoft.com/en-pk/download/details.aspx?id=11691 In case contact A

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