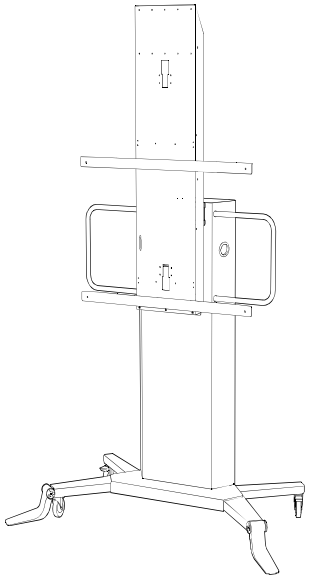

SMART Mobile Height-Adjustable Floor Stand

Integration and Cabling Guide

For SMART Board™ 600 and 800 interactive whiteboard projector systems

Extraordinary made simple™

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Keep the following information available in case you need to contact SMART Technical Support.

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Chapter 1

Best practices for cabling your FS-UX

Introduction 1

Best practices for cabling 2

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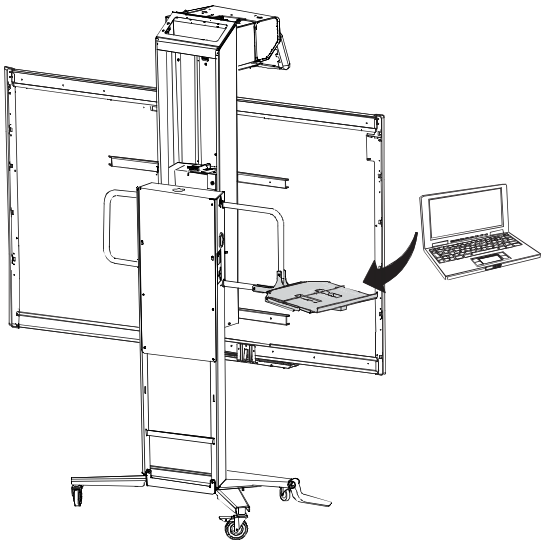
Introduction

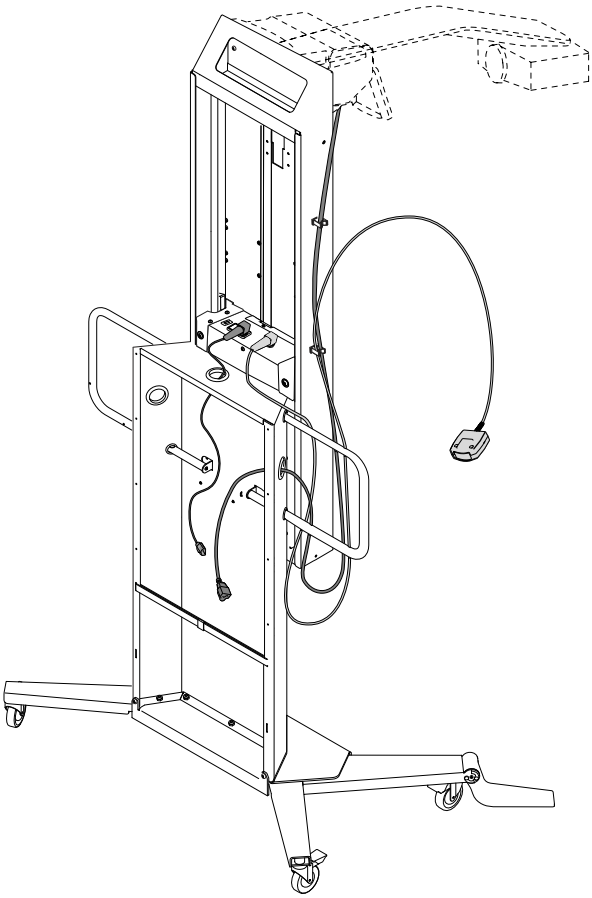
Your SMART Mobile Height-Adjustable Floor Stand (FS-UX) supports a SMART Board™ interactive whiteboard system mounted on a SMART Height-Adjustable Wall Mount (HAWM- UX/UF) as well as any system components. Mounting your HAWM-UX/UF on the FS-UX, rather than installing it permanently on a wall, enables you not only to operate your interactive whiteboard system at multiple levels but also to move it easily from location to location.



The FS-UX has space in its base and an optional laptop shelf to support a host computer and a guest computer.

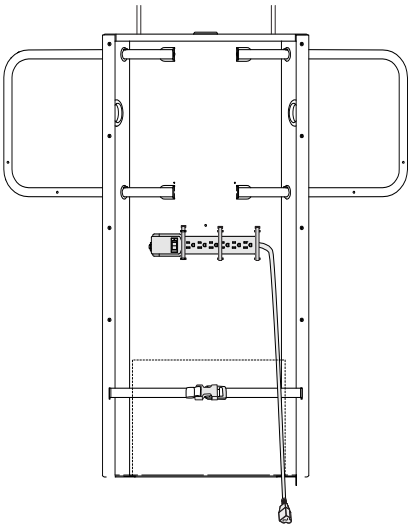
Cable connections from the HAWM-UX/UF are routed through the cable management pass-through holes, one at the top for management of the IEC power cable, and one on each side of the FS-UX for management of projector and peripheral cables. These holes allow access to the power bar and to route cables. This cabling requires special precautions and careful examination of the lengths of cable you need to install your system components.

If you're connecting your HAWM-UX/UF to a wall, see the *HAWM-UX/UF Height-Adjustable Wall Mount Integration and Cabling Guide* (smarttech.com/kb/147509) for additional instructions.



Best practices for cabling

Use the best practices in this section when placing cables for any type of interactive whiteboard system mounted on an FS-UX. Following these best practices makes it easier to install peripheral devices to your interactive whiteboard system, improves the safety and security of your system and prevents damage to your devices.



Connect all power connections to the power bar (not included) that you installed in the FS-UX. Use this power bar as the main power connection for all FS-UX mounted components.

If you need to connect a peripheral device, guest computer or laptop to the interactive whiteboard system, make sure the cable is long enough so the computer or peripheral isn't pulled by the HAWM-UX/UF at its lowest or highest height. Attaching the laptop to the laptop shelf will ensure that this doesn't occur.

Place your peripheral devices near the FS-UX on a solid platform. If the peripheral device moves or can move, it can cause cable strain if the device moves too far from the FS-UX.

Before placing cables, note the height and location of cable access points (such as cable tray access hatches, ethernet ports and power outlets) and restrictions in the room, and note closer locations for your FS-UX to these access points.

WARNING

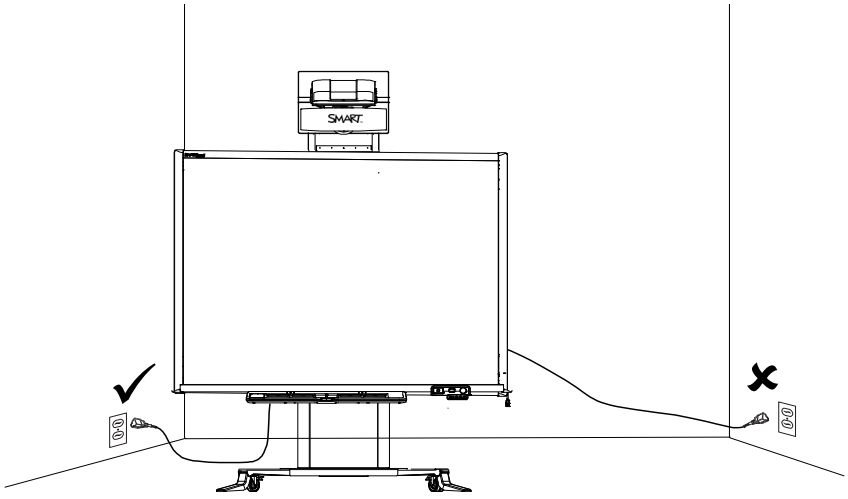
To prevent a tripping hazard, bundle excess cabling or use cable ties and cable management clips.

Customizing your cables

Cables supplied by SMART for connecting your projector to the extended control panel (ECP) or interactive whiteboard are long enough to accommodate the additional distances your HAWM-UX/UF and FS-UX require. You might need longer cables to connect your interactive whiteboard system to your FS-UX-mounted computer and to other peripherals.

Before customizing or buying cables, assess your FS-UX location and follow these best practices for customizing your cabling to your peripheral devices:

- Carefully measure the distance between your devices and their connection locations on the interactive whiteboard system. Measure the distances at the HAWM-UX/UF's lowest and highest height, and use the longest distance as your minimum cable length.
- Make sure there's enough slack in your cables to minimize cable strain.
- When measuring the minimum cable length, make sure there are no obstructions in the cable's path. A rising or descending cable can catch on an obstruction unless the cable is properly secured out of the way of the obstruction.



Chapter 2

Cabling an 885ix system to an FS-UX

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Mounting your HAWM-UX/UF mobility switch 5
Placing cables for HAWM-UX/UF-mounted components 7
Placing cables for other components 14

Introduction

SMART Board 885ix interactive whiteboard systems include an extended control panel (ECP) located on the interactive whiteboard and a SMART UX60 ultra-short-throw projector.

IMPORTANT

Before following these instructions, install your FS-UX and interactive whiteboard system according to the *SMART FS-UX Installation Guide* (smarttech.com/kb/145748). The instructions below are a supplement to, and not a substitute for, the installation guide.

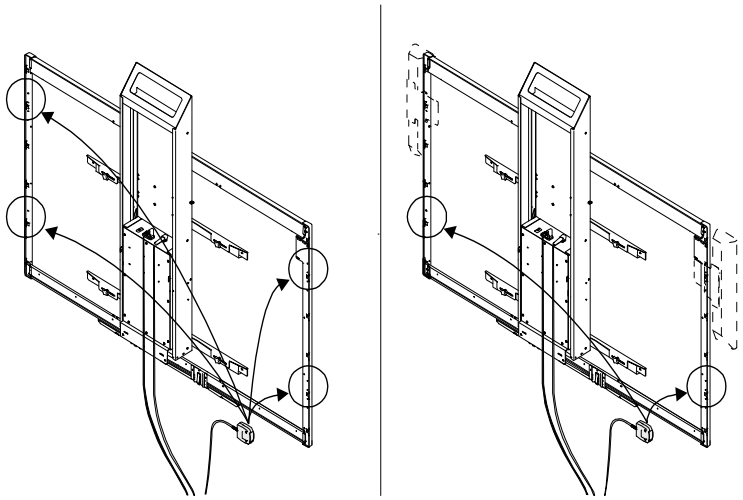
Mounting your HAWM-UX/UF mobility switch

The mobility switch controls the vertical movement of the HAWM-UX/UF and your interactive whiteboard system. The mobility switch is wired directly to the rear panel of the HAWM-UX/UF. Use the installation guide and the following procedure to place and mount the mobility switch.

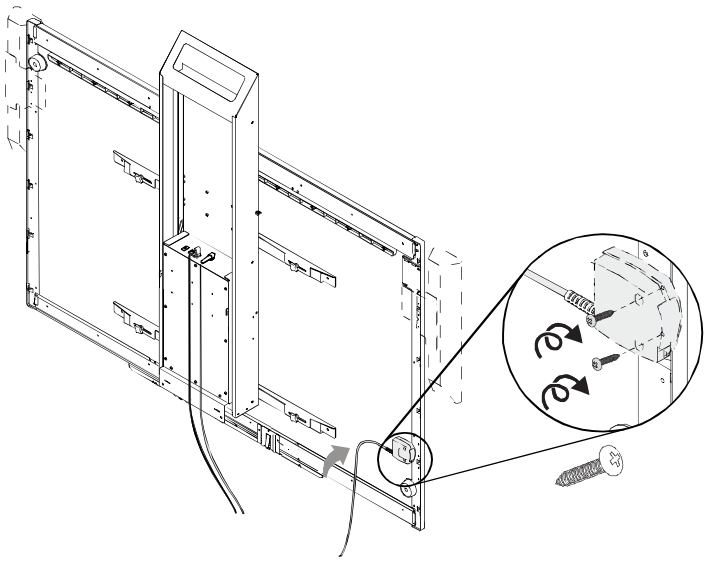
To mount the mobility switch

1. Locate the HAWM-UX/UF mobility switch. If you haven't done so already, remove and discard the plastic bag that holds the mobility switch.
2. Choose the mobility switch's mounting location. There are mounting holes on the left and the right sides and near the top and the bottom of the interactive whiteboard.

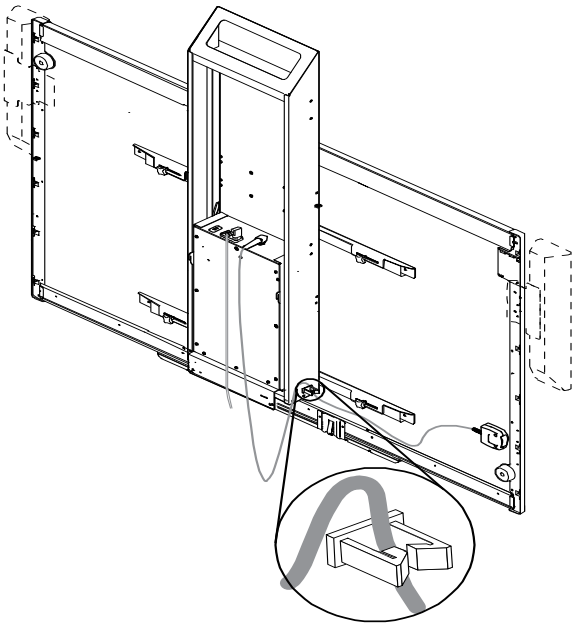
   IMPORTANT
   If you installed or plan to install the SBA-L Projection Audio System, mount the mobility switch on the bottom mounting holes.



3. Secure the mobility switch cable using a Phillips® No. 2 screwdriver and the two screws listed inside the HAWM-UX/UF installation guide. Secure the cable toward the side of the interactive whiteboard where you chose to mount the mobility switch and make sure that the cable is toward the bottom of the switch as you mount it.



4. Place the cable through the HAWM-UX/UF's lower cable clip, making sure that the cable is taut between the interactive whiteboard and the clip and loose between the clip and the base of the HAWM-UX/UF.
5. Bundle the excess cable, making sure that there is a minimum of 28" (71.1 cm) excess straight length or a 14" (35.6 cm) loose loop of cable.



Placing cables for HAWM-UX/UF-mounted components

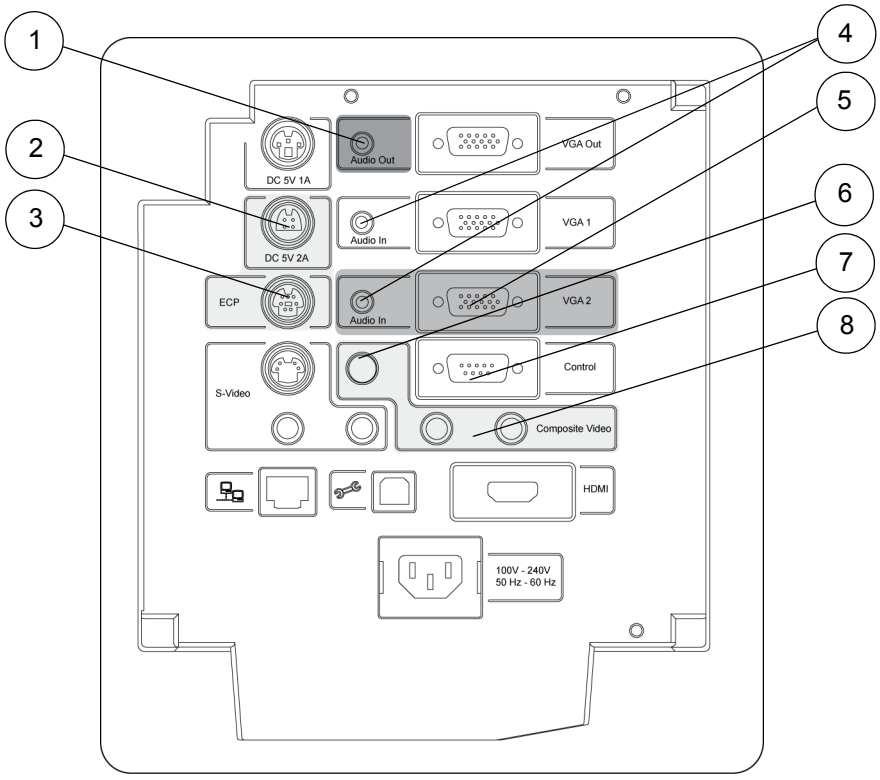
To prevent cable friction, SMART recommends that you first place the cables that don't shift after they're installed. Cables that connect components mounted to the HAWM-UX/UF don't shift after they're installed. The wire management bundle (WMB) shifts only if it's connected to the wall or to a guest computer.

Using the SMART UX60 projector connection panel for HAWM-UX/UF-mounted components

You can connect a variety of peripheral devices to your projector, including DVD/Blu-ray players, VCRs, document cameras, digital cameras and high-definition sources, as well as peripheral device outputs such as powered speakers. The following diagram and list identify the projector's connections to HAWM-UX/UF mounted components.

To access the projector connection panel and wire management clip, remove the input/output cover on the left side of the projector and remove the cable covers. For more information, see the *SMART Board X800ix Interactive Whiteboard System Configuration and User's Guide* (smarttech.com/kb/150502).

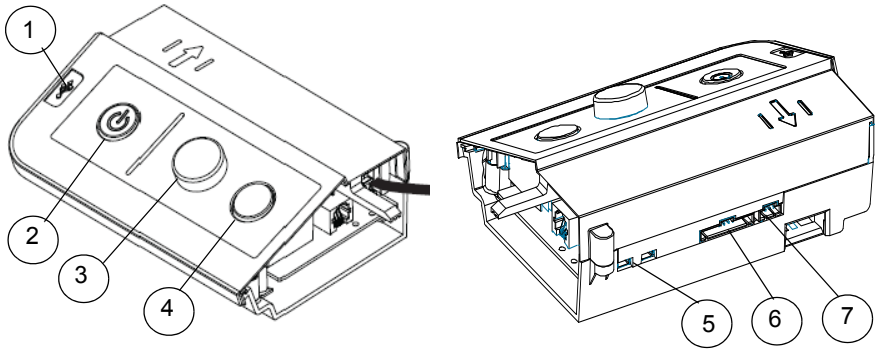
The following diagram and list identify the projector's connections to HAWM-UX/UF-mounted components.



Number	Function
1	3.5 mm audio output connector (recommended for SBA-L speakers)
2	4-pin power mini-DIN 5V/2A connector (reserved for ECP harness cable)
3	7-pin mini-DIN connector (reserved for ECP harness cable)
4	3.5 mm audio input connector (reserved for pen tray audio cable)
5	HD-DB15 (VGA 2) input connector (reserved for WMB)
6	RCA jack composite video input (reserved for RCA pod)
7	DB9 control (reserved for ECP harness cable)
8	RCA jack audio left/right input (reserved for RCA pod)

Using the SMART UX60 projector's ECP for HAWM-UX/UF-mounted components

The following diagram and list identify the ECP ports that connect to HAWM-UX/UF-mounted components.



Number	Function
1	USB A jack (for USB drives)
2	Power button and status LED
3	Volume control
4	Input selection
5	Two mini USB B jacks (connect to computers 1 and 2)
6	11-pin connector (connects to ECP harness cable)
7	4-pin connector (for room control)

NOTE

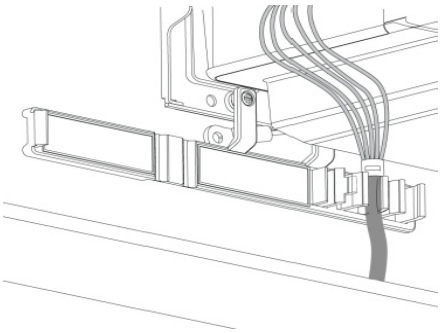
The 4-pin connector cable is an optional accessory that you can order from your authorized SMART reseller (smarttech.com/where)

Connecting the SMART UX60 projector's ECP harness cable

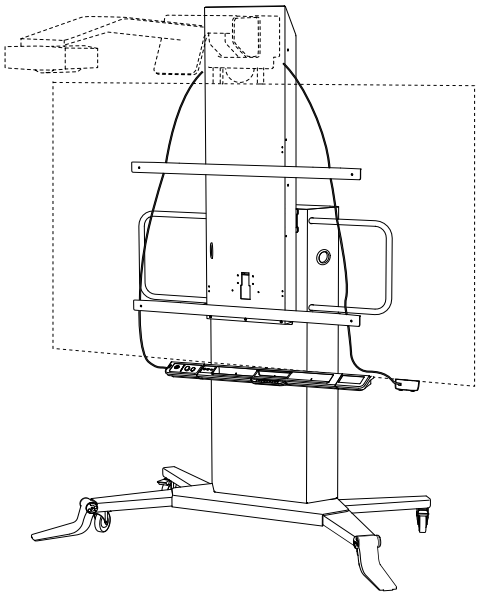
The ECP harness cable controls all signals and commands sent between the ECP and the projector. To install your ECP, follow the instructions in the *SMART Board X885ix Interactive Whiteboard System textless installation instructions* (smarttech.com/kb/149616).

To connect your projector's ECP harness cable

1. Attach the SMART UX60 projector's ECP harness cable to the projector. Attach the 4-pin power mini-DIN connector and the 7-pin mini-DIN connector to the projector's connection panel, and the DB9 to the control port, as listed in the projector connection panel (see page 8).
2. Place the harness cable through the cable management clip under the projector. Make sure the harness cable's strain relief sits above the clip point.



   IMPORTANT
   To add slack to the cable, move the cable to the clip's foam-padded section, increase the length of cable between the clip and the projector and close the clip.
3. Connect cables from the projector to the interactive whiteboard, placing the harness cable toward the left side of the interactive whiteboard for proximity to the left-mounted ECP.
4. Place the harness cable through the upper cable clips on the side of the HAWM-UX/UF.
5. Connect the harness cable's flat 11-pin connector to the ECP and right-angle power connector to the pen tray.



Connecting your SMART UX60 projector to the wire management bundle (WMB)

SMART recommends that when the WMB isn't in use, that you use the WMB's magnetic connection to attach the WMB to the HAWM-UX/UF's moving frame. By doing so, you prevent the WMB from shifting as the HAWM-UX/UF rises and descends.

CAUTION

When attaching a guest computer or laptop to the projector system, make sure that it is not pulled by the HAWM-UX/UF at its lowest or highest height.

NOTE

If you choose to connect the WMB to the wall-mounted magnetic clip, do so at a height and location that doesn't interfere with the HAWM-UX/UF's movement.

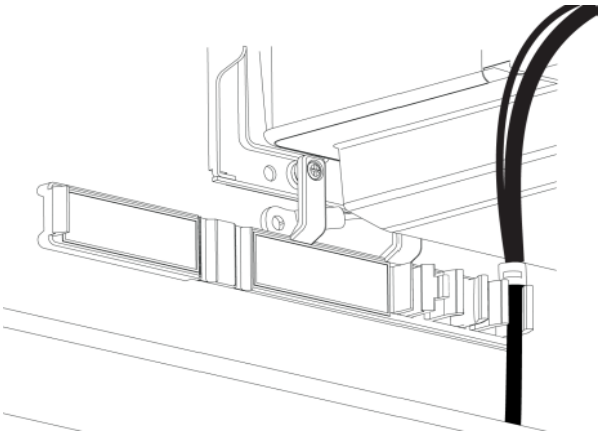
To connect your projector's WMB

1. Connect the WMB to the projector by attaching the HD-DB15 connector to the projector's connection panel.

   NOTE

   The USB A plug doesn't connect to the projector's connection panel.

2. Place the WMB through the cable management clip under the projector. Make sure the WMB's strain relief sits above the clip point.



3. Place the WMB around the back of the HAWM-UX/UF's interactive whiteboard brackets toward the left side of the interactive whiteboard for close proximity to the ECP.
4. Place the WMB through the top cable clip you installed on the side of the HAWM-UX/UF.

5. Connect the WMB's USB A plug to the ECP, and then loop the excess cable length into the cable clip.
6. Use the WMB's magnetic connection to attach the WMB to a metal surface until you need to attach a guest computer to it.

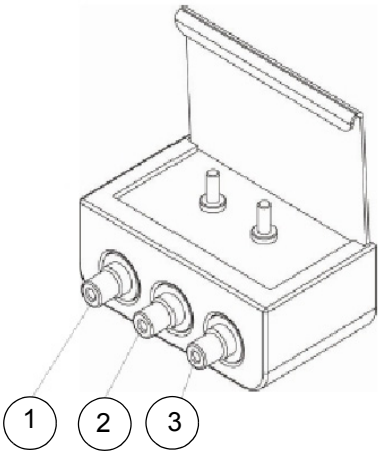
   IMPORTANT
   Make sure the WMB has a minimum of 28" (71.1 cm) excess straight length or a 14" (35.6 cm) loose loop of cable.

7. The RCA connector pod includes three RCA jacks for input only, two dual-channel for audio input and one for composite video input. You can use the RCA connector pod to connect DVD/Blu-ray™ players and similar devices. Don't connect SMART Board Audio (SBA-L) USB speakers to the RCA connector pod.

Connecting peripheral devices to the RCA connector pod

The RCA connector pod enables you to connect DVD/Blu-ray players and other devices to your interactive whiteboard system using the three RCA jacks. The composite video connector and associated dual channel audio inputs on the RCA connector pod are for input only.

SMART recommends that you use the RCA connector pod for temporary connections to peripheral devices, or that you use a permanent connection to the projector's connection panel.



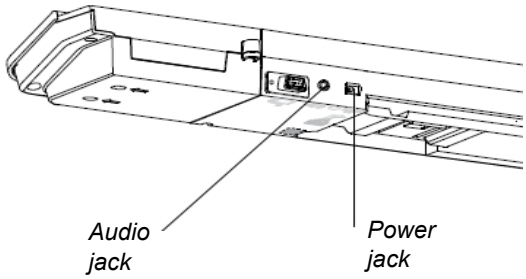
Number	Function
1	RCA composite video input jack (for peripheral devices such as a DVD/Blu-ray player)
2	RCA audio jack (right input)
3	RCA audio jack (left input)

To connect peripheral devices to your RCA connector pod

1. Place the device near the FS-UX on a stable support and allow enough excess cable length to accommodate the HAWM-UX/UF's rise and descent. Make sure that the FS-UX isn't moved while the device is attached.
2. Connect your peripheral device's input cables to the jacks on the RCA connector pod.
3. When you're finished with the device, disconnect the cable from the RCA connector pod.

Connecting the SMART UX60 projector to the pen tray audio jack

The audio and power jacks are beside each other on the back of the pen tray.



To connect the projector to the audio jack

1. Connect the ends of the stereo Y cable to the VGA 1 and the VGA 2 inputs on your UF65 or UF65w projector.
2. Connect the other end of the stereo Y cable to the audio jack on the back of your interactive whiteboard's pen tray.

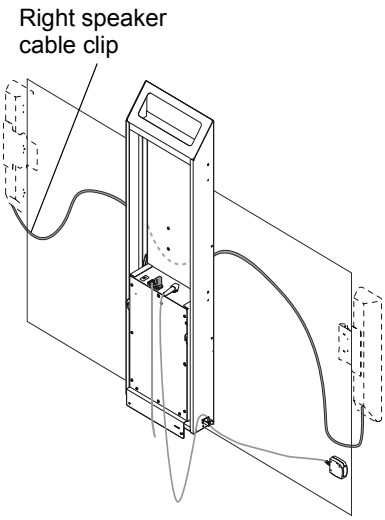
Connecting the SMART UX60 projector to the SBA-L Projection Audio System

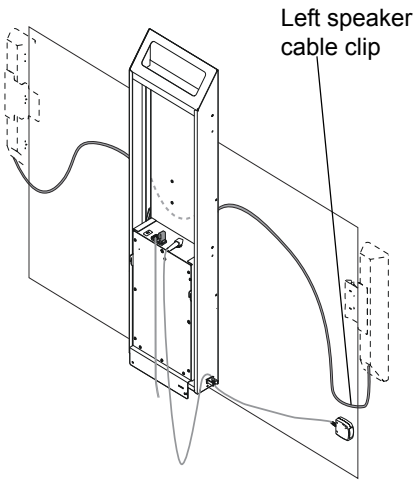
The HAWM-UX/UF is designed to accommodate mounting the SBA-L Projection Audio System directly to the interactive whiteboard. That way, when the speakers rise and descend with the HAWM-UX/UF's and interactive whiteboard's movement, there's less risk of damage to the audio connection and power cables.

Before connecting the audio system to the projector, you must install the speaker brackets, speakers and speaker cable clips according to the *SBA-L Projection Audio System Installation Instructions* (smarttech.com/kb/142552).

To connect the projector to the speakers

1. Retrieve the 3.5 mm jack to dual channel audio output (two RCA jacks) cable from the SBA-L packaging. Attach the 3.5 mm jack to the projector's connection panel.
2. Place the audio connection cable toward the right side of the HAWM-UX/UF, and then insert the cable into the HAWM-UX/UF cable clips.
3. Place the audio connection cable through the right speaker cable clip on the rear of the interactive whiteboard, toward the right speaker.
4. Connect the dual channel audio output to the speaker's connection panel, and bundle any excess cable in the right speaker cable clip.
5. Retrieve the speaker-to-speaker Molex® (double-barreled) cable from the SBA-L packaging.
6. Place the Molex cable through the left speaker cable clip, through the space between the HAWM-UX/UF and the interactive whiteboard.
7. Place the Molex cable through the right speaker cable clip.
8. Connect the Molex cable to both speakers and bundle any excess cable in the left speaker cable clip.





Placing cables for other components

Cables for peripheral devices connected to the projector but not mounted on the HAWM-UX/UF are at the greatest risk of damage, because they shift as the HAWM-UX/UF rises and descends. These peripheral devices and cables include the following:

- your computer or SMART Hub™ VE220 or SE240 collaboration platform

  NOTE
  Both the VE220 and SE240 models include 72" (183 cm) output cables to connect to your projector. You may require cable extensions (not included).

- a room control device (connects to the ECP with a 4-pin accessory cable)
- a network cable
- the projector's power cable

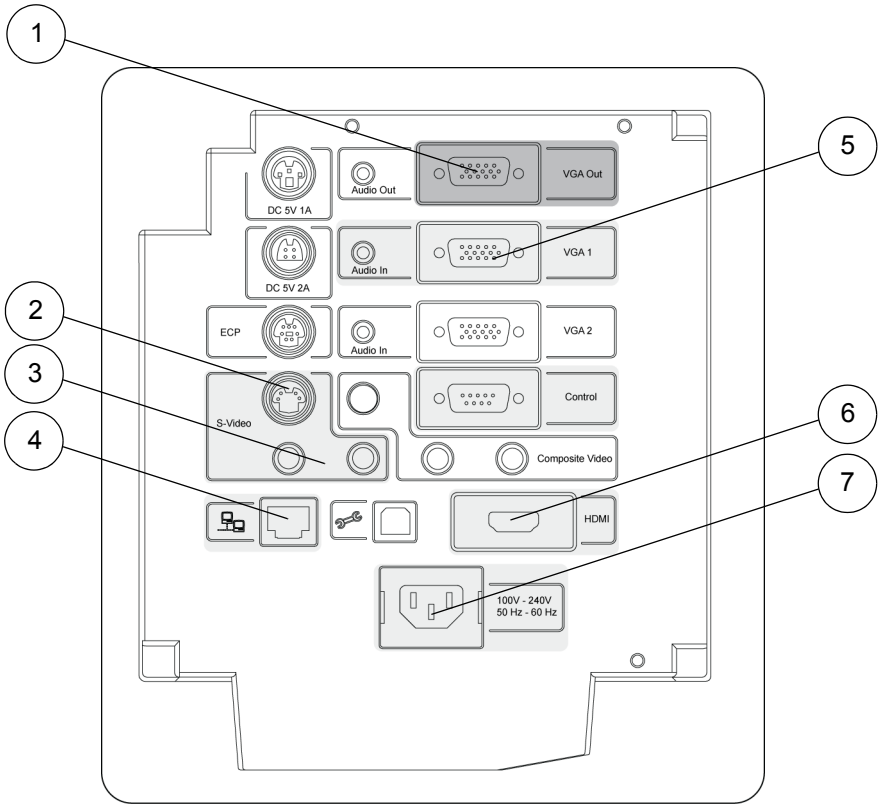
NOTES

For temporary connections, connect peripheral devices such as DVD/Blu-ray™ players to the SMART Board X800ix interactive whiteboard system's ECP.

Mount the peripheral device to a permanent location and check cabling to ensure there's enough slack and that there are no obstructions in the cable path. Cable friction, rubbing and strain can occur if you don't take the proper precautions.

Using the SMART UX60 projector connection panel for other components

The following diagram and list identify the projector connection panel connections to components that don't mount on the HAWM-UX/UF.



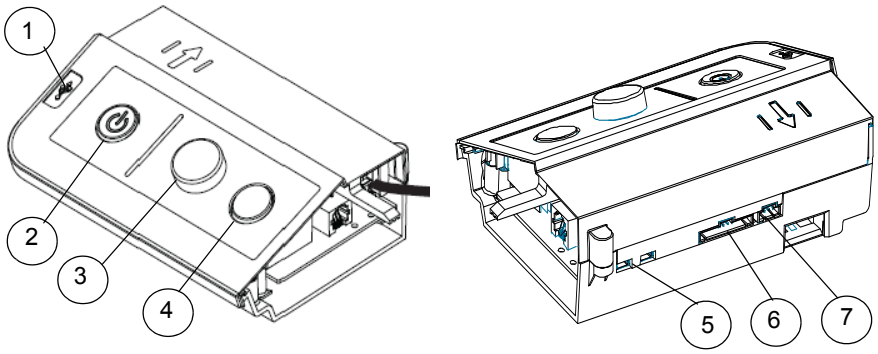
Number	Function
1	HD-DB15 (VGA Out) output connector
2	S-video input connector
3	RCA jack audio left/right input (reserved for S-video input connector)
4	RJ45 jack (for network connections)
5	HD-DB15 (VGA 1) input connector (computer analog signal/ component video input)
6	HDMI™ connector input
7	Power socket

NOTES

- SMART recommends that you use a VGA out connector on your source input to simplify the cable placement.
- The HDMI connector is intended for non-interactive audio-video content only, such as high-definition DVD/Blu-ray players. If you connect a cable from the HDMI port to a computer, your SMART Board interactive whiteboard doesn't recognize touch commands.

Using the SMART UX60 projector ECP for other components

The following diagram and list identify the ECP connections to components that aren't mounted to the HAWM-UX/UF.



Number	Function
1	USB A jack (for USB drives)
2	Power button and status light
3	Volume control
4	Input selection
5	Two mini USB B jacks (connect to computers 1 and 2)
6	11-pin connector (connects to ECP harness cable)
7	4-pin connector (for room control)

NOTE

The 4-pin connector cable is an optional accessory that you can order from your authorized SMART reseller (smarttech.com/where).

Connecting the power, network and other peripheral device cables to your projector

Connect all power connections to the power bar (not included) you installed in the FS-UX. Use this power bar as the main power connection for all HAWM-UX/UF-mounted components.

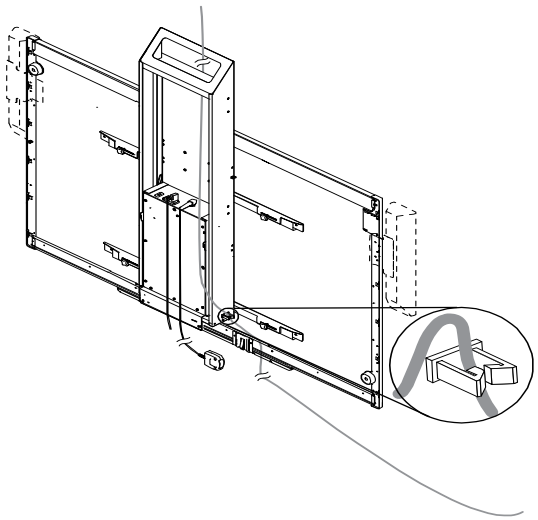
To connect your projector power cable

1. Connect the power cable to the projector's power socket.
2. Place the power cable through the foam-padded section of the cable clip under the projector, increase the length of cable between the projector and the clip by 1" (2.5 cm) and then close the clip.
3. Place the power cable around the left side of the HAWM-UX/UF, and then through the cable management pass-through hole on the left side of the FS-UX, leaving enough excess cable for the HAWM-UX/UF's range of movement.
4. Connect the other end of the power cable to the power bar in the FS-UX, leaving enough excess cable for the HAWM-UX/UF's range of movement.
5. Bundle all cables between the HAWM-UX/UF and the FS-UX using zip ties, convoluted tubing, spiral wrap or expandable loom (not included). This is for operating safety and to prevent cables from getting caught in the height adjustment mechanism. Carefully test the movement of the unit, using the HAWM-UX/UF's mobility switch. Make sure that the cable isn't taut at any range of the HAWM-UX/UF's movement.

To connect cables using the HAWM-UX/UF

1. If you don't want to connect a network cable, proceed to step 3. Otherwise, make sure you have a network cable with RJ45 plugs (not included) long enough to connect your projector to a LAN port.
2. Connect the RJ45 plug on the network cable to the RJ45 port on the projector. Make sure that the network cable is in the middle left position in the cable slot.
3. Connect your peripheral device cables to the appropriate locations on the projector's connection panel.
4. Place all cables through the foam-padded section of the cable clip under the projector. Increase the length of cable between the projector and the clip by 1" (2.5 cm) and then close the clip.

5. When connecting cables from the projector to the interactive whiteboard, make sure that all cables pass between the two interactive whiteboard wall-mounting brackets. Once the cables are through the brackets, place the harness cable toward the left side of the interactive whiteboard for proximity to the left-mounted ECP.



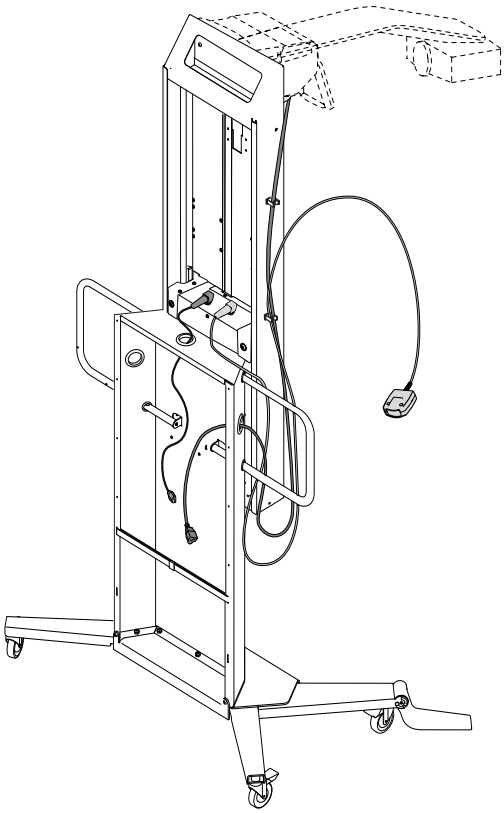
6. Place the harness cable through the lower cable clips on the left side of the HAWM-UX/UF.
7. If you have many cables attached, smoothly bundle your peripheral device cables together using a cable tie (not included).
8. Attach a cable management clip (not included) to the cables or cable bundles, making sure that there's a minimum of 28" (71.1 cm) excess straight length or a 14" (35.6 cm) loose loop of cable.
9. If you don't want to connect a network cable, proceed to the next step. Otherwise, connect the other end of the network cable to your LAN port.
10. Connect the other end of the cables to your peripheral devices.
11. Carefully test the movement of the unit, using the HAWM-UX/UF's mobility switch. Make sure the cables aren't taut at any range of the HAWM-UX/UF's movement. If they're still taut, repeat this procedure until you find a suitable mounting location or length for the cables.

Cable connections from the HAWM-UX/UF are routed through the cable management pass-through holes, one at the top for management of the IEC power cable, and one on each side of the FS-UX for management of projector and peripheral cables. These holes allow access to the power bar and to route cables. This cabling requires special precautions and careful examination of the lengths of cable you need to install your system components.

To connect your cables using the FS-UX

1. If you don't want to connect a network cable, proceed to step 3. Otherwise, make sure you have a network cable with RJ45 plugs (not included) long enough to connect your projector to a LAN connector.
2. Connect the RJ45 plug on the network cable to the RJ45 port on the projector. Make sure that the network cable is in the middle left position in the cable slot.
3. Connect your peripheral device cables to the appropriate locations on the projector's connection panel.
4. Place all cables through the foam-padded section of the cable clip under the projector. Increase the length of cable between the projector and the clip by 1" (2.5 cm) and then close the clip.
5. Place the cables around the left side of the HAWM-UX/UF, and then through the cable management pass-through hole on the left side of the FS-UX, leaving enough excess cable for the HAWM-UX/UF's range of movement.

   NOTE
   Cable management for the IEC power cable is through the pass-through hole at the top of the FS-UX.



6. If you don't want to connect a network cable, proceed to the next step. Otherwise, connect the other end of the network cable to your LAN connector.
7. Connect the other end of the cables to your peripheral devices.
8. Bundle all cables between the HAWM-UX/UF and the FS-UX using zip ties, convoluted tubing, spiral wrap or expandable loom (not included). This is for operating safety and to prevent cables from getting caught in the height adjustment mechanism. Carefully test the movement of the unit, using the HAWM-UX/UF's mobility switch. Make sure the cables are not taut at any range of the HAWM-UX/UF's movement. If they're still taut, repeat this procedure until you find a suitable mounting location or length for the cables.

Optional laptop shelf for the FS-UX

You can install a laptop shelf on either side of your FS-UX. If you have an 800i series interactive whiteboard system, the laptop shelf goes on the left side of the FS-UX to keep the laptop close to the interactive whiteboard's ECP.

For more information on the FS-UX laptop shelf, see the *FS-UX-LTS Laptop Shelf for SMART Mobile Height-Adjustable Floor Stand Installation Guide* (smarttech.com/kb/153054).

The laptop shelf is available from your authorized SMART reseller (smarttech.com/where).

Chapter 3

Cabling an 880i4 or 885i4 system to an FS-UX

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Introduction

The SMART Board 880i4 and 885i4 interactive whiteboard systems include a SMART UF65 high-offset projector or SMART UF65w high-offset widescreen projector, both with a 3D projection option and an extended control panel (ECP) that's located on the interactive whiteboard.

IMPORTANT

Before following these instructions, install your FS-UX and interactive whiteboard system according to the *SMART HAWM-UX/UF Installation Guide* (smarttech.com/kb/145748). The instructions below are a supplement to, and not a substitute for, the installation guide.

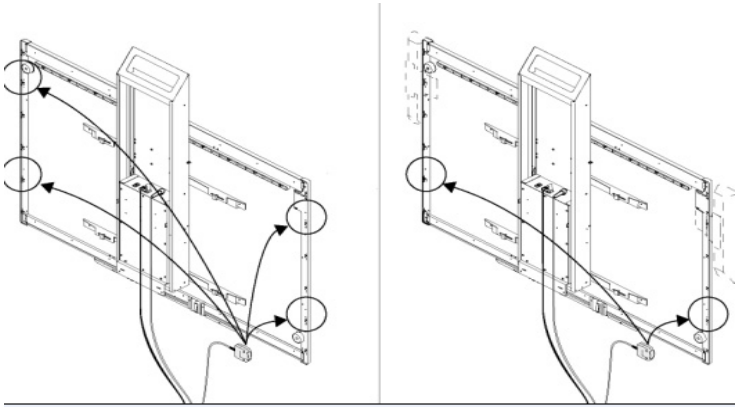
Mounting your HAWM-UX/UF mobility switch

The mobility switch controls the vertical movement of the HAWM-UX/UF and your interactive whiteboard system. The mobility switch is wired directly to the rear panel of the HAWM-UX/UF. Use the installation guide with the following procedure to place and mount the mobility switch.

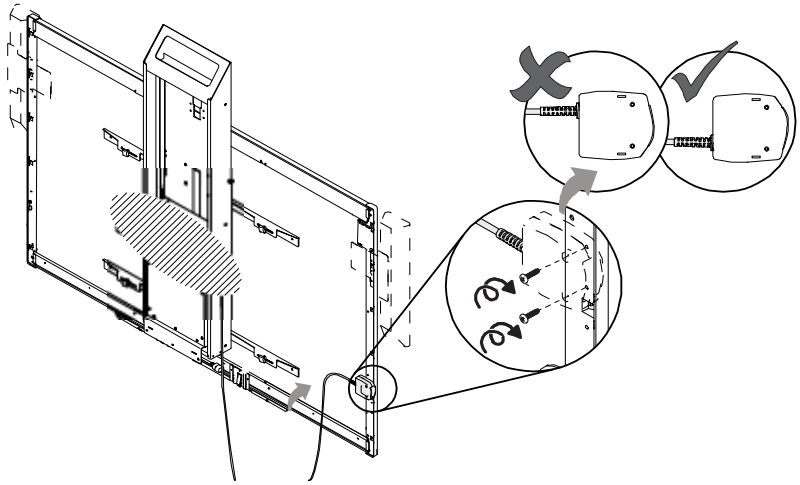
To mount the mobility switch

1. Locate the HAWM-UX/UF mobility switch, and then remove and discard the plastic bag that holds the mobility switch.
2. Choose the mobility switch's mounting location. There are mounting holes on the left and the right sides and near the top and the bottom of the interactive whiteboard.

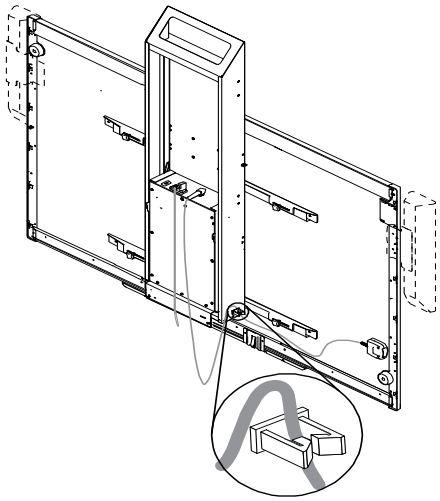
   IMPORTANT
   If you installed or plan to install the SBA-L Projection Audio System, mount the mobility switch on the bottom mounting holes.



3. Secure the mobility switch cable toward the side of the interactive whiteboard where you chose to mount the mobility switch, using a Phillips No. 2 screwdriver and the two screws listed in the HAWM-UX/UF installation guide. Make sure that the cable is toward the bottom of the switch as you mount it.



4. Place the cable through the HAWM-UX/UF's lower cable clip, making sure that the cable is taut between the interactive whiteboard and the clip, and loose between the clip and the base of the HAWM-UX/UF.



5. Bundle the excess cable, making sure that there's a minimum of 28" (71.1 cm) excess straight length or a 14" (35.6 cm) loose loop of cable.

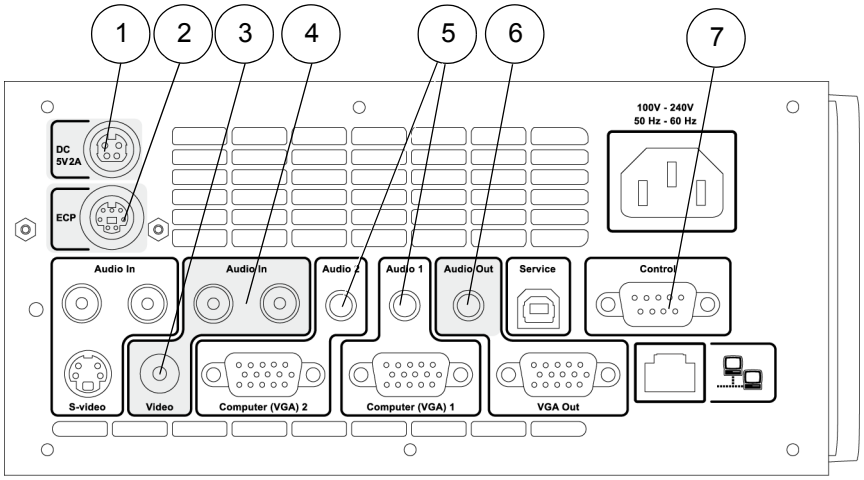
Placing cables for HAWM-UX/UF-mounted components

To prevent cable friction, SMART recommends that you first place the cables that connect components mounted to the HAWM-UX/UF, as they don't shift after they're installed.

Using the SMART UF65 and SMART UF65w projector connection panel for HAWM-UX/UF mounted components

To access the projector connection panel and wire management clip, remove the input/output cover on the left side of the projector and remove the cable covers. For more information, see the *SMART Board X800i4 Interactive Whiteboard System Configuration and User's Guide* (smarttech.com/kb/150699).

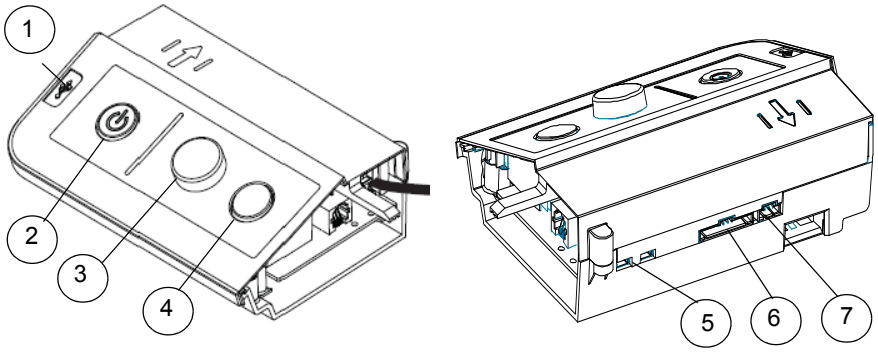
The following diagram and list identify the SMART UF65 and SMART UF65w connections to HAWM-UX/UF-mounted components.



Number	Function
1	4-pin power mini-DIN 5V/2A connector (reserved for ECP harness cable)
2	7-pin mini-DIN connector (reserved for ECP harness cable)
3	RCA jack composite video input (reserved for RCA pod)
4	RCA jack audio left/right input (reserved for RCA pod)
5	Audio 1 and Audio 2 (reserved for audio cable from pen tray)
6	3.5 mm audio output connector (recommended for SBA-L speakers)
7	DB9 control (reserved for ECP harness)

Using the SMART UF65 and SMART UF65w ECP diagram for HAWM-UX/UF-mounted components

The following diagram and list identify the ECP ports that connect to HAWM-UX/UF-mounted components.



Number	Function
1	USB A jack (for USB drives)
2	Power button and status new
3	Volume control
4	Input selection
5	Two mini USB B jacks (connect to computers 1 and 2)
6	11-pin connector (connects to ECP harness cable)
7	4-pin connector (for room control)

NOTE

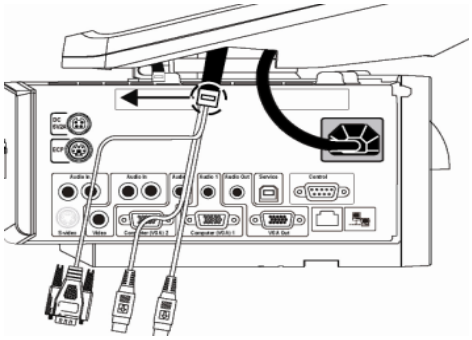
The 4-pin connector cable is an optional accessory that you can order from your authorized SMART reseller (smarttech.com/where).

Connecting your SMART UF65 or SMART UF65w projector's ECP harness cable

The ECP harness cable controls all signals and commands sent between the ECP and the projector. To install your ECP, follow the instructions in the*SMART Board X880i4 and X885i4 Interactive Whiteboard Installation Instructions* (smarttech.com/kb/149615).

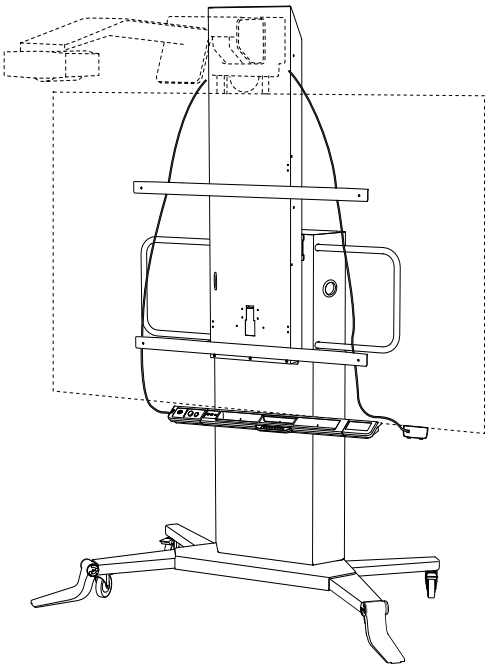
To connect your projector's ECP harness cables

1. Pass the ECP cable through the cable slot.



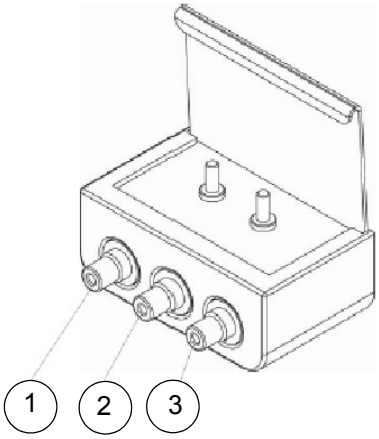
   NOTE
   The upper part of the ECP cable is too thick to fit inside the cable slot, so put the thinner part of the ECP cable in the cable slot.

2. From the ECP harness cable, attach the DB9 connector, the 4-pin power mini-DIN connector and the 7-pin mini-DIN connector to the projector's connection panel.
3. Attach the screw on the ECP strain relief to the projector housing using a Phillips No. 2 screwdriver.
4. Place the harness cable around the back of the HAWM-UX/UF, toward the left side of the interactive whiteboard for proximity to the left-mounted ECP.
5. Place the harness cable through the upper cable clips you installed on the side of the HAWM-UX/UF.
6. Connect the harness cable's DB15M plug to the ECP's DB15 connector.



Connecting peripheral devices to the RCA connector pod

The RCA connector pod enables you to connect DVD/Blu-ray players and other devices to our interactive whiteboard system using the three RCA jacks. The composite video connector and associated dual channel audio inputs on the RCA connector pod are for input only.



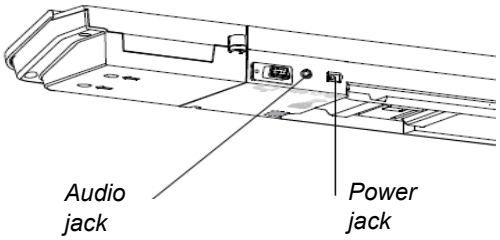
Number	Function
1	RCA composite video input jack (for peripheral devices, such as a DVD/Blu-ray player)
2	RCA audio jack (right input)
3	RCA audio jack (left input)

To connect peripheral devices to your RCA connector pod

1. If you have speakers installed, turn the volume dial on the ECP all the way down to prevent buzzing or sparking.
2. Place the device near the FS-UX on a stable support and allow enough excess cable length to accommodate the HAWM-UX/UF's rise and descent. Make sure that the FS-UX isn't moved while the device is attached.
3. Connect your peripheral device's input cables to the jacks on the RCA connector pod.

Connecting your SMART UF65 or SMART UF65w projector to the pen tray audio jack

The audio and power jacks are beside each other on the back of the pen tray.



To connect the projector to the audio jacks

1. Connect the ends of the stereo Y cable to the VGA 1 and the VGA 2 inputs on your UF65 or UF65w projector.
2. Connect the other end of the stereo Y cable to the audio jack on the back of your interactive whiteboard's pen tray.

Connecting your SMART UF65 or SMART UF65w projector to the SBA-L Projection Audio System

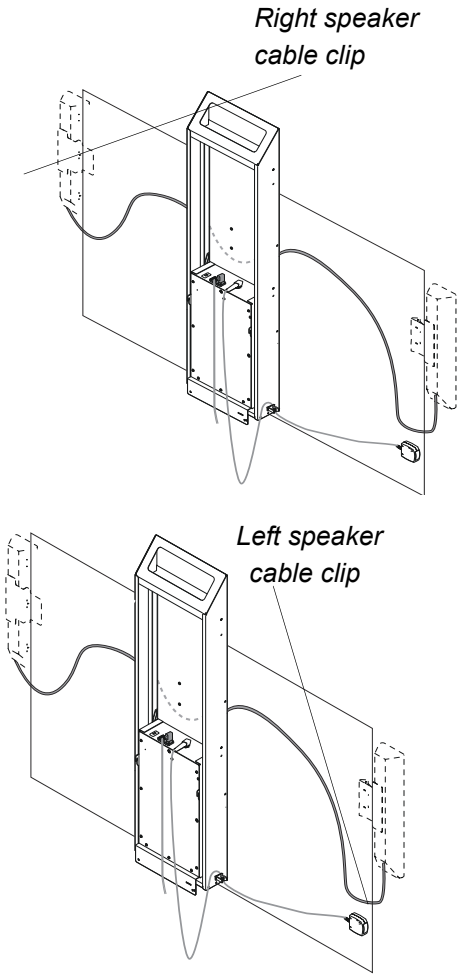
The HAWM-UX/UF is designed to accommodate mounting the SBA-L Projection Audio System directly to the interactive whiteboard. That way, when the speakers rise and descend with the HAWM-UX/UF's and interactive whiteboard's movement, there's less risk of damage to the audio connection and power cables.

Before connecting the audio system to the projector, you must install the speaker brackets, speakers and speaker cable clips according to the *SBA-L Projection Audio System Installation Instructions* (smarttech.com/kb/142552).

To connect your projector to your speakers

1. Retrieve the 3.5 mm jack to dual channel audio output (two RCA jacks) cable from the SBA-L packaging.
2. Pass the audio connection cable through the boom. Place the cables in the left side of the cable slot.
3. Connect the audio connection cable to the projector's connection panel.

4. Place the audio connection cable through the right speaker cable clip on the rear of the interactive whiteboard, toward the right speaker.
5. Connect the dual channel audio output to the speaker's connection panel, and bundle any excess cable in the right speaker cable clip.
6. Retrieve the speaker-to-speaker Molex (double-barreled) cable from the SBA-L packaging.
7. Place the Molex cable through the left speaker cable clip, through the space between the HAWM-UX/UF and the interactive whiteboard.
8. Place the cable through the right speaker cable clip.
9. Connect the Molex cable to both speakers, and bundle any excess cable in the left speaker cable clip.



Placing cables for other components

Cables for peripheral devices connected to the projector but not mounted on the HAWM-UX/UF are at the greatest risk of damage, because they shift as the HAWM-UX/UF rises and descends. These peripheral devices and cables include the following:

- your computer or SMART Hub VE220 or SE240 collaboration platform

  NOTE
  Both the VE220 and SE240 models include 6' (183 cm) output cables to connect to your projector. You might need cable extensions (not included).

- a room control device
- a network cable
- the projector's power cable
- other projector-to-input device connections (such as a DVD player) using S-video connections.

NOTES

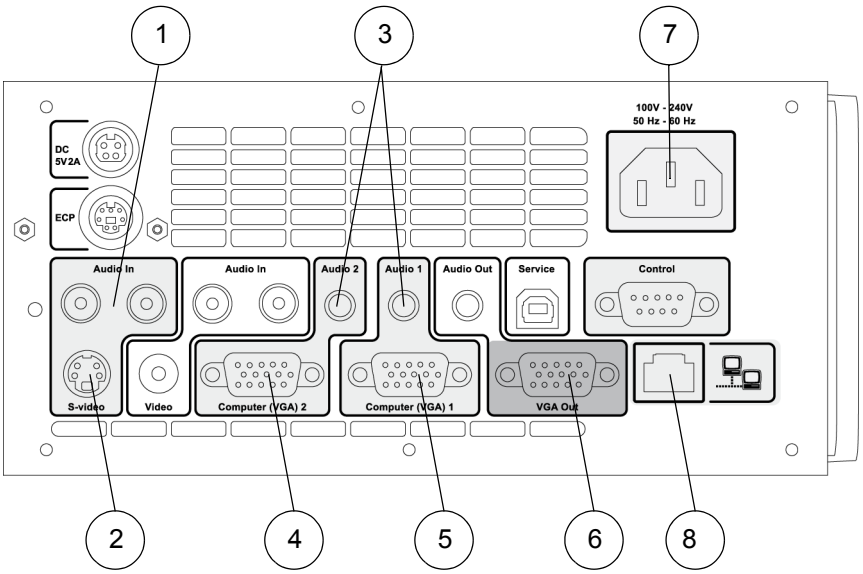
- For temporary connections, connect peripheral devices such as a DVD/Blu-ray player, to the SMART Board X800ix ineractive whiteboard system's ECP.
- Mount the peripheral device to a permanent location and check cabling to ensure there's enough slack and that there are no obstructions in the cable path. Cable friction, rubbing and strain can occur if you don't take the proper precautions.

When connecting these peripheral devices, make sure there's enough slack, mount the peripheral device to a permanent location and make sure there are no obstructions in the cable path. Cable friction, rubbing and strain can occur if you don't take the proper precautions.

Using the SMART UF65 and SMART UF65w projector connection panel for other components

The following diagram and list identify the SMART UF65 and SMART UF65w projector's connections to components that don't mount on the HAWM-UX/UF.

Remove the input/output cover on the left side of the projector and remove the cable covers to access the projector connection panel and wire management clip . For more information, see the *SMART Board X800i4 Interactive Whiteboard System Configuration and User's Guide* (smarttech.com/kb/150699).



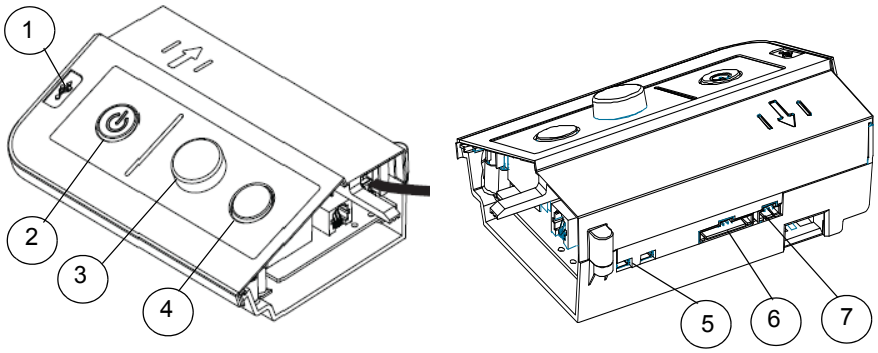
Number	Function
1	RCA jack audio left/right input (reserved for S-video input)
2	S-video input connector
3	3.5 mm audio output connector (reserved for VGA 2-In connector)
4	HD-DB15 (VGA 2) connector
5	3.5 mm audio output connector (reserved for VGA 1-In connector)
5	HD-DB15 (VGA 1) connector
6	VGA output
7	Power socket
8	RJ45 jack (for network connections)

NOTE

SMART recommends that you use a VGA out connector on your source input to simplify the cable placement.

Using the SMART UF65 and SMART UF65w ECP diagram for other components

The following diagram and list identify the ECP connections to components that aren't mounted to the HAWM-UX/UF.



Number	Function
1	USB A jack (for USB drives)
2	Power button and status light
3	Volume control
4	Input selection
5	Two mini USB B jacks (connect to computers 1 and 2)
6	11-pin connector (connects to ECP harness cable)
7	4-pin connector (for room control)

NOTE

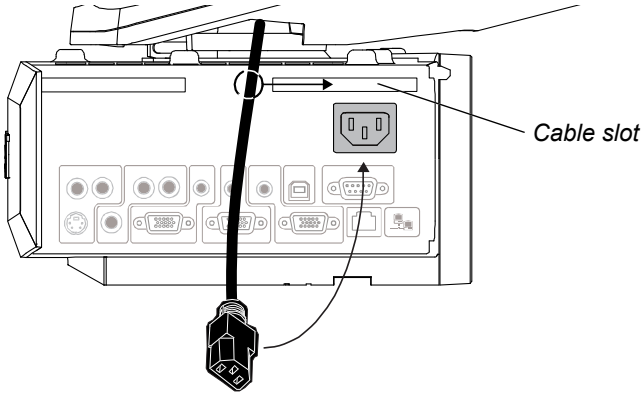
The 4-pin connector cable is an optional accessory that you can order from your authorized SMART reseller (smarttech.com/where).

Connecting the power, network and other peripheral device cables to your SMART UF65 or SMART UF65w projector

Connect all power connections to the power bar (not included) you installed in the FS-UX. Use this power bar as the main power connection for all HAWM-UX/UF-mounted components.

To connect your projector power cable on the HAWM-UX/UF

1. Pass the power cable through the boom and then connect it to the power socket. Make sure that the power cable is in the far right position in the cable slot.

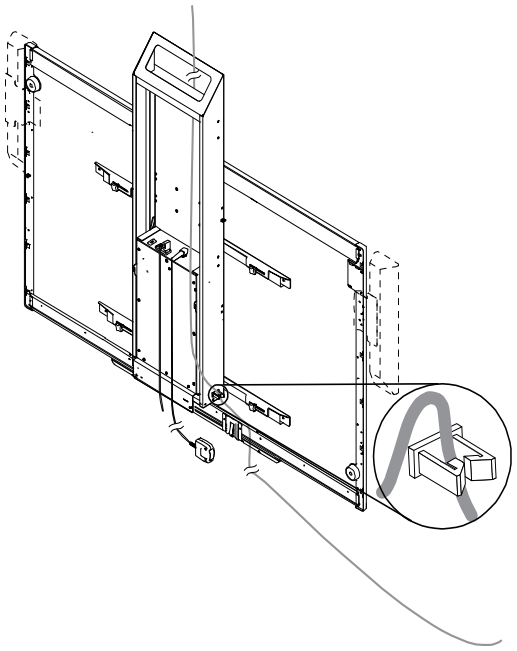


2. Place the power cable through the foam-padded section of the cable clip under the projector, increase the length of cable between the projector and the clip by 1" (2.5 cm) and then close the clip.
3. Place the cables around the left side of the HAWM-UX/UF, and then through the cable management pass-through hole on the left side of the FS-UX.
4. Connect the other end of the power cable to the power bar in the FS-UX, leaving enough excess cable for the HAWM-UX/UF's range of movement.
5. Bundle all cables between the HAWM-UX/UF and the FS-UX using zip ties, convoluted tubing, spiral wrap or expandable loom (not included). This is for operating safety and to prevent cables from getting caught in the height adjustment mechanism. Carefully test the movement of the unit, using the HAWM-UX/UF's mobility switch. Make sure that the cable isn't taut at any range of the HAWM-UX/UF's movement.

To connect your cables using the HAWM-UX/UF

1. If you don't want to connect a network cable, proceed to step 3. Otherwise, make sure you have a network cable with RJ45 plugs (not included) long enough to connect your projector to a LAN port.
2. Pass the network cable through the boom and connect the RJ45 plug on the network cable to the RJ45 port on the projector. Make sure that the network cable is in the middle left position in the cable slot.
3. Pass peripheral device cables through the boom. Make sure that the peripheral device cables are in the middle left position in the cable slot.
4. Connect your peripheral device cables to the appropriate locations on the projector's connection panel.
5. If you don't want to connect a network cable, proceed to the next step. Otherwise, connect the RJ45 plug on the network cable to the RJ45 port on the projector, making sure that the network cable is in the middle left position in the cable slot.

6. Place the cables around the back of the HAWM-UX/UF toward the left side of the interactive whiteboard if the peripheral device or LAN connector is on the left or toward the right side of the interactive whiteboard if the peripheral device or LAN connector is on the right.
7. Attach the cables to the lower cable clips on the HAWM.
8. Attach a cable management clip (not included) to the cables or cable bundles, making sure that there's a minimum of 28" (71.1 cm) excess straight length or a 14" (35.6 cm) loose loop of cable.



9. If you have many cables attached, smoothly bundle your peripheral device cables together using a cable tie (not included).
10. If you don't want to connect a network cable, proceed to the next step. Otherwise, connect the other end of the network cable to your LAN port.
11. Connect the other end of the cables to your peripheral devices.
12. Bundle all cables between the HAWM-UX/UF and the FS-UX using zip ties, convoluted tubing, spiral wrap or expandable loom (not included). This is for operating safety and to prevent cables from getting caught in the height adjustment mechanism. Carefully test the movement of the unit, using the HAWM-UX/UF's mobility switch. Make sure the cables aren't taut at any range of the HAWM-UX/UF's movement. If they're still taut, repeat this procedure until you find a suitable length for the cables.

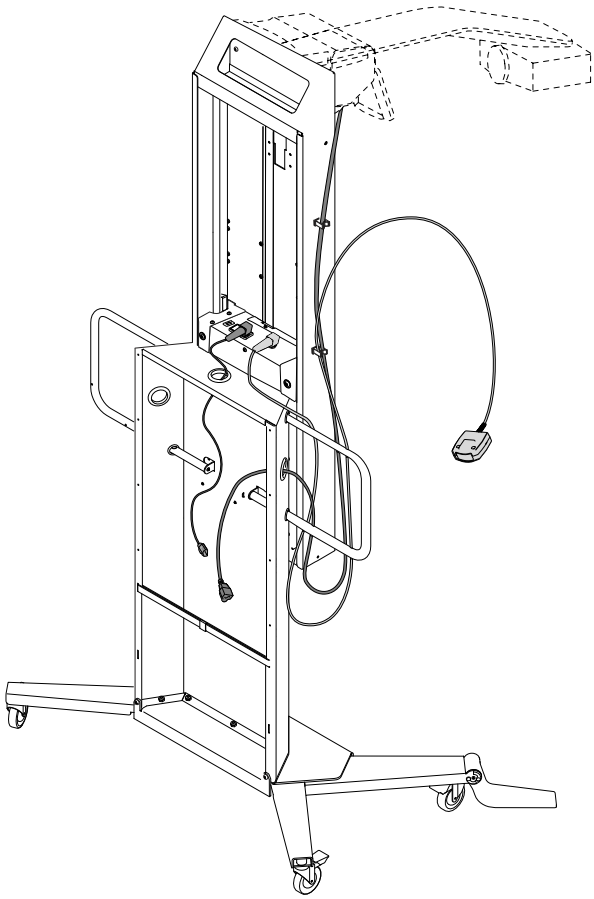
Cable connections from the HAWM-UX/UF are routed through the cable management pass-through holes, one at the top for management of the IEC power cable, and one on each side of the FS-UX for management of projector and peripheral cables. These holes allow access to the power bar and to route cables. This cabling requires special precautions and careful examination of the lengths of cable you need to install your system components.

To connect your cables using the FS-UX

1. If you don't want to connect a network cable, proceed to step 3. Otherwise, make sure you have a network cable with RJ45 plugs (not included) long enough to connect your projector to a LAN connector.
2. Connect the RJ45 plug on the network cable to the RJ45 port on the projector. Make sure that the network cable is in the middle left position in the cable slot.
3. Connect your peripheral device cables to the appropriate locations on the projector's connection panel.
4. Place all cables through the foam-padded section of the cable clip under the projector. Increase the length of cable between the projector and the clip by 1" (2.5 cm) and then close the clip.
5. Place the cables around the left side of the HAWM-UX/UF, and then through the cable management pass-through hole on the left side of the FS-UX, leaving enough excess cable for the HAWM-UX/UF's range of movement.

   NOTE
   Cable management for the IEC power cable is through the pass-through hole at the top of the FS-UX.

6. If you don't want to connect a network cable, proceed to the next step. Otherwise, connect the other end of the network cable to your LAN connector.
7. Connect the other end of the cables to your peripheral devices.



8. Bundle all cables between the HAWM-UX/UF and the FS-UX using zip ties, convoluted tubing, spiral wrap or expandable loom (not included). This is for operating safety and to prevent cables from getting caught in the height adjustment mechanism. Carefully test the movement of the unit, using the HAWM-UX/UF's mobility switch. Make sure the cables aren't taut at any range of the HAWM-UX/UF's movement. If they're still taut, repeat this procedure until you find a suitable length for the cables.

Optional laptop shelf for the FS-UX

You can install a laptop shelf on either side of your FS-UX. If you have an 800i series interactive whiteboard system, the laptop shelf goes on the left side of the FS-UX to keep the laptop close to the interactive whiteboard's ECP.

For more information on the FS-UX laptop shelf, see the *FS-UX-LTS Laptop Shelf for SMART Mobile Height-Adjustable Floor Stand Installation Guide* (smarttech.com/kb/153054).

The laptop shelf is available from your authorized SMART reseller (smarttech.com/where).

Chapter 4

Cabling a 685ix or D685ix system to an FS-UX

Introduction 5

Mounting your HAWM-UX/UF mobility switch 5

Placing cables for HAWM-UX/UF-mounted components 7

Placing cables for other components 14

Introduction

SMART Board 685ix and D685ix interactive whiteboard systems include a SMART UX60 ultra-short-throw projector and an extended control panel (ECP) located on the interactive whiteboard.

IMPORTANT

Before following these instructions, install your HAWM-UX/UF and interactive whiteboard system according to the *SMART HAWM-UX/UF Installation Guide* (smarttech.com/kb/145745). The instructions below are a supplement to, and not a substitute for, the installation guide.

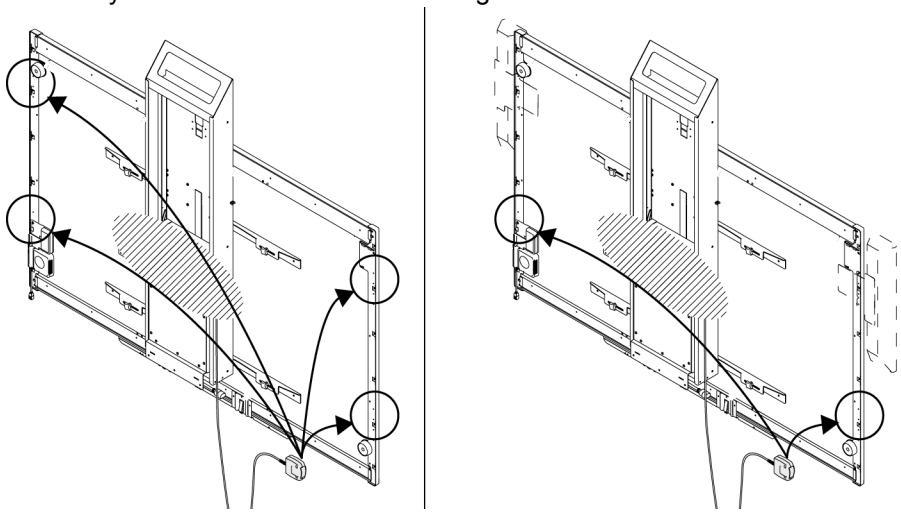
Mounting your HAWM-UX/UF mobility switch

The mobility switch controls the vertical movement of the HAWM-UX/UF and your interactive whiteboard system. The mobility switch is wired directly to the rear panel of the HAWM-UX/UF. Use the installation guide and the following procedure to place and mount the mobility switch.

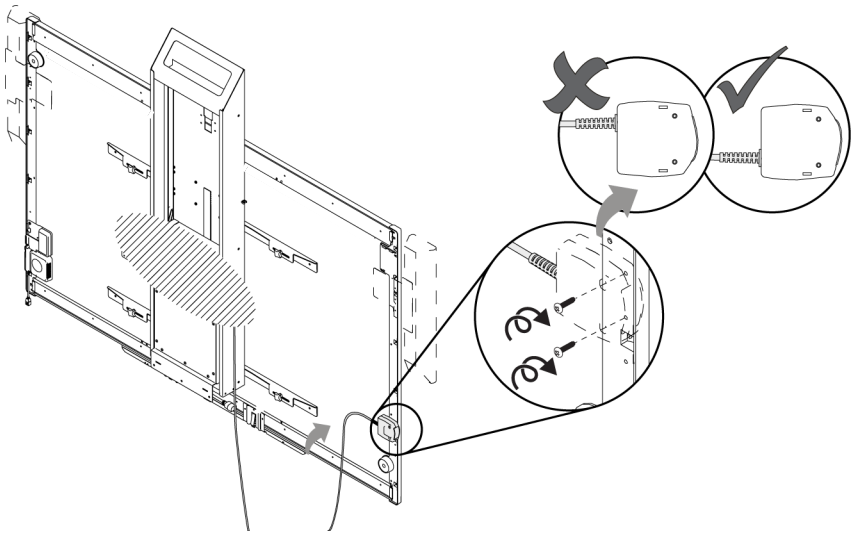
To mount the mobility switch

1. Locate the HAWM-UX/UF mobility switch, and then remove and discard the plastic bag that holds the mobility switch.
2. Choose the mobility switch's mounting location. There are mounting holes on the left and the right sides and near the top and the bottom of the interactive whiteboard.

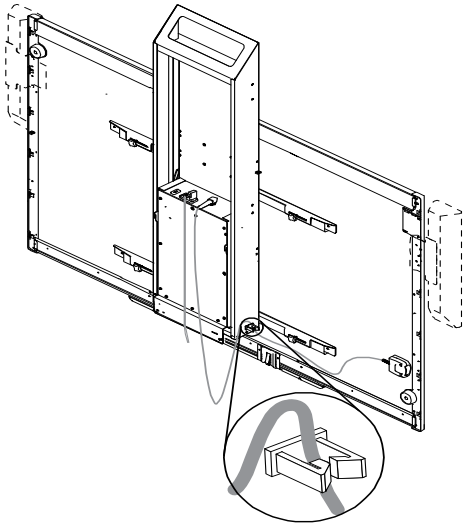
   IMPORTANT
   If you installed or plan to install the SBA-L Projection Audio System, mount the mobility switch on the bottom mounting holes.



3. Secure the mobility switch cable using a Phillips® No. 2 screwdriver and the two screws listed inside the HAWM-UX/UF installation guide. Secure the mobility switch cable toward the side of the interactive whiteboard where you chose to mount the mobility switch, and make sure that the cable is toward the bottom of the switch as you mount it.



4. Place the cable through the HAWM-UX/UF's lower cable clip, making sure that the cable is taut between the interactive whiteboard and the clip, and loose between the clip and the base of the HAWM-UX/UF.



5. Bundle the excess cable, making sure that there is a minimum of 28" (71.1 cm) excess straight length or a 14" (35.6 cm) loose loop of cable.

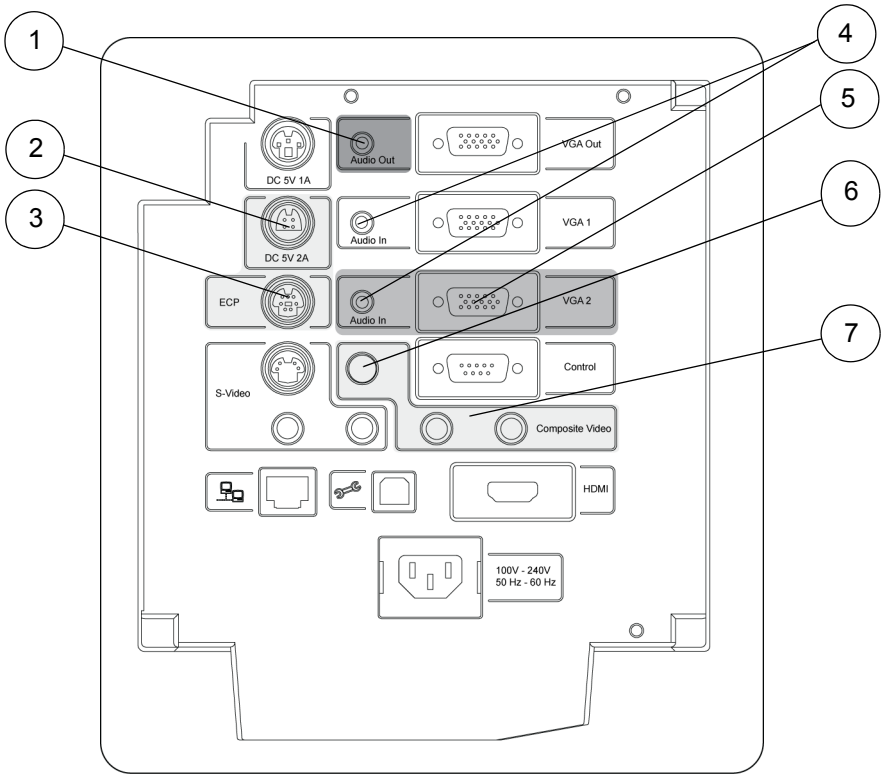
Placing cables for HAWM-UX/UF-mounted components

To prevent cable friction, SMART recommends that you first place the cables that don't shift after they're installed. Cables that connect components mounted to the HAWM-UX/UF don't shift after they're installed. The wire management bundle (WMB) shifts only if it's connected to a guest computer.

Using the SMART UX60 projector connection panel for HAWM-UX/UF-mounted components

To access the projector connection panel and wire management clip, remove the input/output cover on the left side of the projector and remove the cable covers. For more information, see the *SMART Board 685ix and D685ix Interactive Whiteboard System Configuration and User's Guide* (smarttech.com/kb/137396).

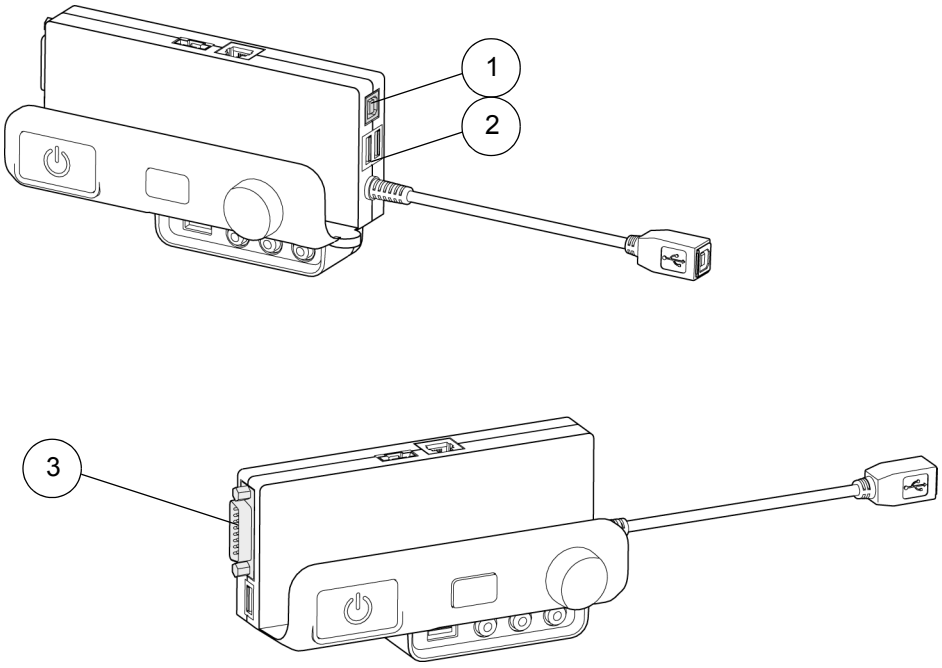
The following diagram and list identify the projector's connections to HAWM-UX/UF-mounted components.



Number	Function
1	3.5 mm audio output connector (recommended for SBA-L speakers)
2	4-pin power mini-DIN 5V/2A connector (reserved for ECP harness cable)
3	7-pin mini-DIN connector (reserved for ECP harness cable)
4	3.5 mm audio input connector (reserved for WMB)
5	HD-DB15 (VGA 2) input connector (reserved for WMB)
6	RCA jack composite video input (reserved for ECP harness cable)
7	RCA jack audio left/right input (reserved ECP harness cable)

Using the SMART UX60 ECP for HAWM-UX/UF-mounted components

The following diagram and list identify the ECP ports that connect to HAWM-UX/UF-mounted components.



Number	Function
1	USB B jack (reserved for WMB)
2	USB A jack (recommended location for interactive whiteboard USB cable)
3	DB15 ECP connector (reserved for ECP harness cable)

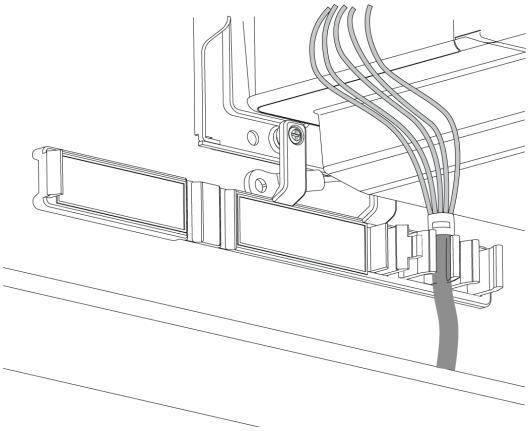
Connecting your SMART UX60 projector's ECP harness cable

The ECP harness cable controls all signals and commands sent between the ECP and the projector. Choose a side of the interactive whiteboard to install your ECP on, and then follow the instructions in the *SMART Board 685ix and D685ix Interactive Whiteboard System Installation Instructions* (smarttech.com/kb/137394).

To connect your projector's ECP harness cable

1. Attach the SMART UX60 projector's ECP harness cable to the projector. Attach the composite video RCA jack, its associated dual channel audio input (two RCA jacks), the 4-pin power mini-DIN connector and the 7-pin mini-DIN connector to the projector's connection panel, as listed in the projector connection panel (see page 42).
2. Place the harness cable through the cable management clip under the projector. Make sure the harness cable's strain relief sits above the clip point.

   IMPORTANT
   To add slack to the cable, move the cable to the clip's foam-padded section, increase the length of cable between the clip and the projector and close the clip.



3. Place the harness cable around the back of the HAWM-UX/UF's interactive whiteboard brackets toward the left side of the interactive whiteboard if the ECP is mounted on the left or toward the right side of the interactive whiteboard if the ECP is mounted on the right.
4. Place the harness cable through the upper cable clips on the side of the HAWM-UX/UF.
5. Connect the harness cable's DB15M plug to the ECP's DB15 connector (see page 44).

Connecting your SMART UX60 projector to the wire management bundle (WMB)

SMART recommends that when the WMB isn't in use, you use the WMB's magnetic connection to attach the WMB to the HAWM-UX/UF's moving frame. By doing so, you prevent the WMB from shifting as the HAWM-UX/UF rises and descends.

CAUTION

When attaching a guest computer or laptop to the projector system, make sure that it is not pulled by the HAWM-UX/UF at its lowest or highest height.

NOTE

If you choose to connect the WMB to the magnetic clip, do so at a height and location that doesn't interfere with the HAWM-UX/UF's movement.

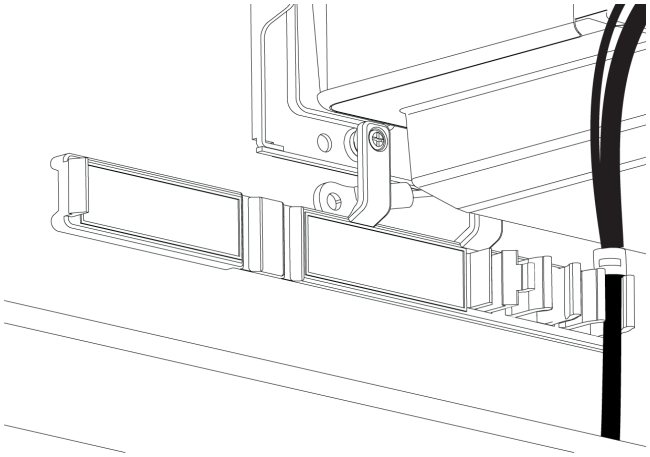
To connect your projector's WMB

1. Connect the WMB to the projector by attaching the HD-DB15 connector and the 3.5 mm audio jack to the projector's connection panel (see page 42).

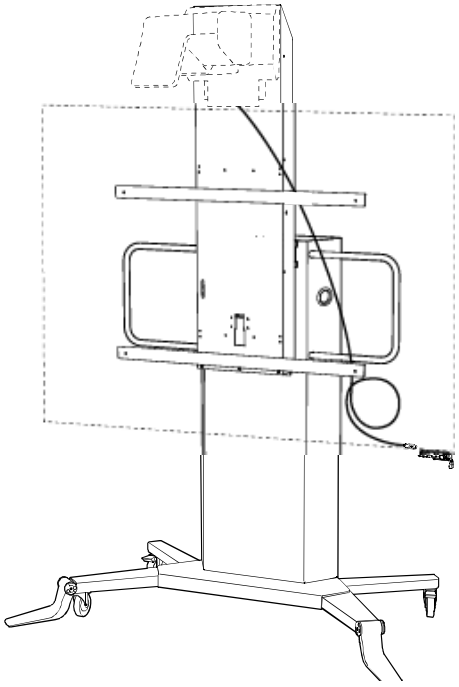
   NOTE

   The USB A plug doesn't connect to the projector's connection panel.

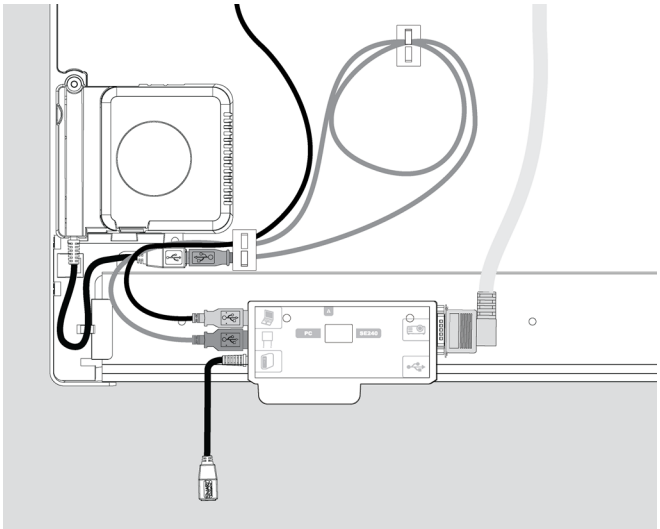
2. Place the WMB through the cable management clip under the projector. Make sure the WMB's strain relief sits above the clip point.



3. If the ECP is mounted on the left, place the WMB around the back of the HAWM-UX/UF, toward the left side of the interactive whiteboard. If the ECP is mounted on the right, place the WMB around the back of the HAWM-UX/UF toward the right side of the interactive whiteboard.



4. Place the WMB through the top cable clip you installed on the side of the HAWM-UX/UF.
5. Connect the WMB's USB A plug to the ECP (see page 44), and loop the excess cable length into the cable clip.



6. Use the WMB's magnetic connection to attach the WMB to a metal surface, until you need to attach a guest computer to it.

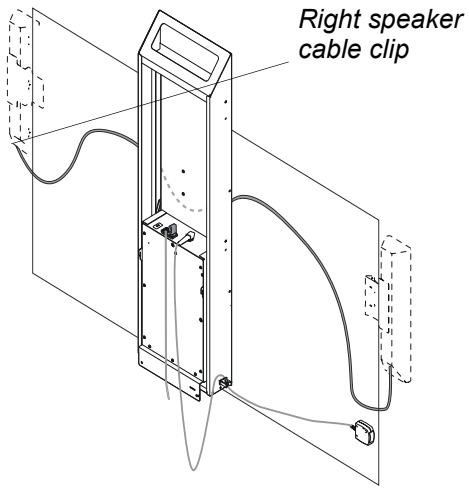
Connecting your SMART UX60 projector to the SBA-L Projection Audio System

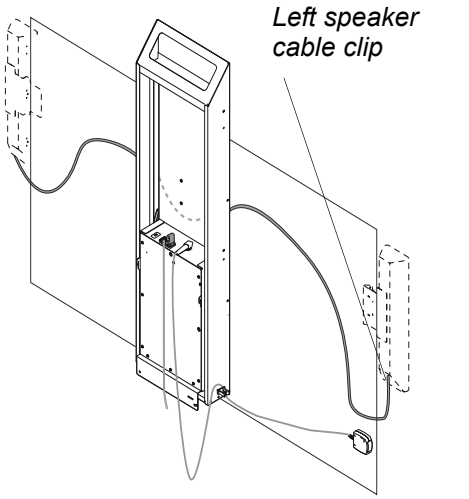
HAWM-UX/UF is designed to accommodate mounting the SBA-L Projection Audio System directly to the interactive whiteboard. That way, when the speakers rise and descend with the HAWM-UX/UF's and interactive whiteboard's movement, there's less risk of damage to the audio connection and power cables.

Before connecting the audio system to the projector, you must install the speaker brackets, speakers and speaker cable clips according to the *SBA-L Projection Audio System textless installation instructions* (smarttech.com/kb/142552).

To connect your projector to your speakers

1. Retrieve the 3.5 mm jack to dual channel audio output (two RCA jacks) cable from the SBA-L packaging. Attach the 3.5 mm jack to the projector's connection panel.
2. Place the audio connection cable toward the HAWM-UX/UF's right side, inserting the cable into the HAWM-UX/UF cable clips.
3. Place the audio connection cable through the right speaker cable clip on the rear of the interactive whiteboard toward the right speaker.
4. Connect the dual channel audio output to the speaker's connection panel, and bundle any excess cable in the right speaker cable clip.
5. Retrieve the speaker-to-speaker Molex (double-barreled) cable from the SBA-L packaging.
6. Place the Molex cable through the left speaker cable clip, through the space between the HAWM-UX/UF and the interactive whiteboard.





7. Place the Molex cable through the right speaker cable clip.
8. Connect the Molex cable to both speakers and bundle any excess cable in the left speaker cable clip.

Placing cables for other components

Cables for peripheral devices connected to the projector but not mounted on the HAWM-UX/UF are at the greatest risk of damage, because they shift as the HAWM-UX/UF rises and descends. These peripheral devices and cables include:

- your computer or SMART Hub VE220 or SE240 collaboration platform

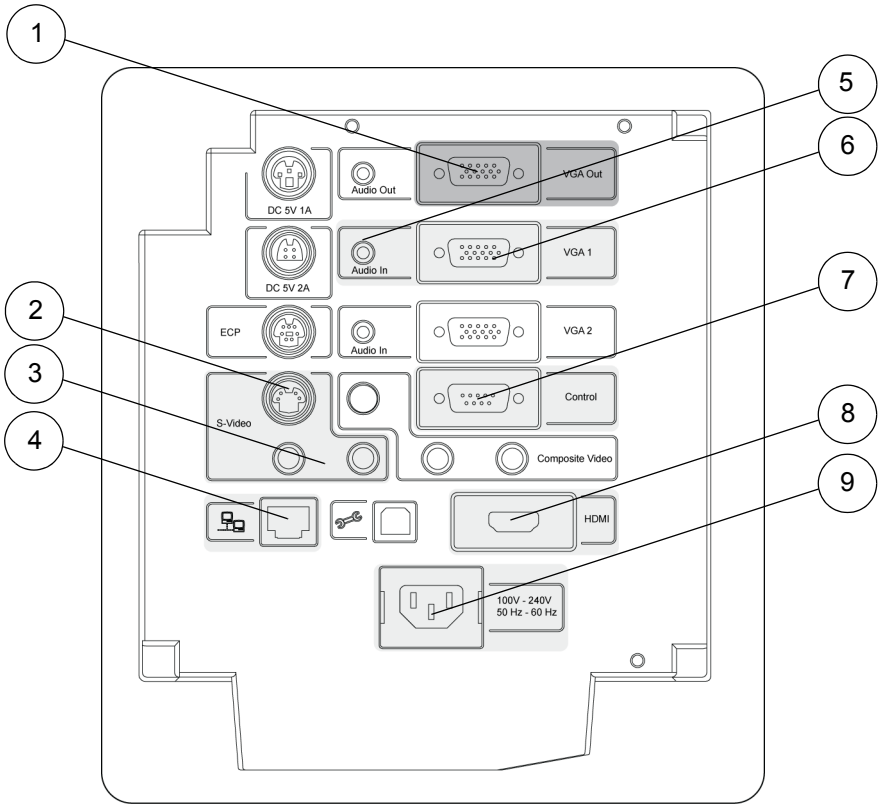
  NOTE
  Both the VE220 and SE240 models include 72" (182.8 cm) output cables for connecting to your projector. Cable extensions (not included) may be required.

- a room control device
- a network cable
- the projector’s power cable
- other projector-to-input device connections (such as DVD/Blu-ray plalyer) using HDMI or S-video connections

When connecting these peripheral devices, make sure there’s enough slack, mount the peripheral device to a permanent location and make sure there are no obstructions in the cable path. Cable friction, rubbing and strain can occur if you don’t take the proper precautions.

Using the SMART UX60 projector connection panel for other components

The following diagram and list identify the projector connection panel connections to components that don't mount on the HAWM-UX/UF.



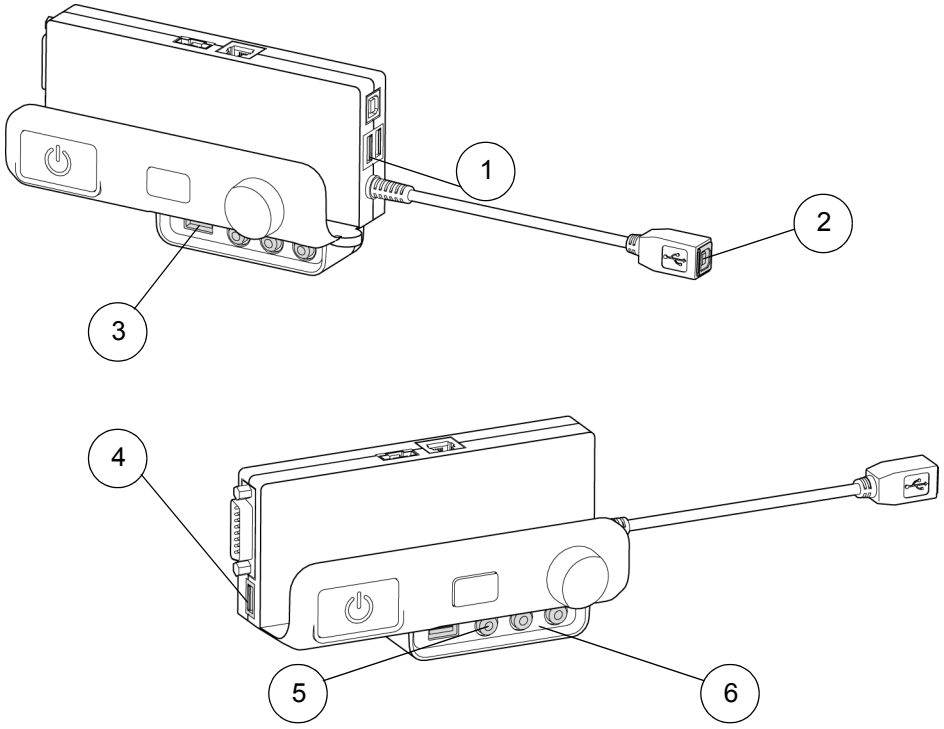
Number	Function
1	HD-DB15 (VGA Out) output connector
2	S-video input connector
3	RCA jack audio left/right input (reserved for S-video input connector)
4	RJ45 jack (for network connections)
5	3.5 mm audio input connector (reserved for VGA 1 connector)
6	HD-DB15 (VGA 1) input connector (for primary computer)
7	RS-232 connector
8	HDMI connector input
9	Power socket

NOTES

- SMART recommends that you use a VGA out connector on your source input, to simplify the cable placement.
- The HDMI connector is intended for non-interactive audio-video content only, such as high-definition DVD/Blu-ray players. If you connect a cable from the HDMI port to a computer, your SMART Board interactive whiteboard doesn't recognize touch commands.

Using the SMART UX60 projector ECP for other components

The following diagram and list identify the ECP connections to components that aren't mounted to the HAWM-UX/UF.



Number	Function
1	USB A jack (for peripheral device connection)
2	USB B tethered jack (for guest computer or laptop)
3	USB A jack (for peripheral device connection)
4	USB A jack (for peripheral device connection)
5	RCA jack composite video input (for peripheral device connection)
6	RCA jack audio left/right input (for peripheral device connection)

Connecting the power, network and other peripheral device cables to your projector

Connect all power connections to the power bar (not included) you installed in the FS-UX. Use this power bar as the main power connection for all HAWM-UX/UF-mounted components.

To connect your projector power cable

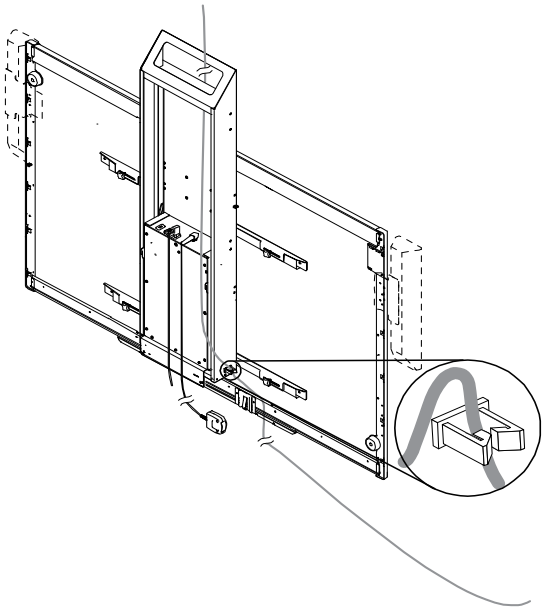
1. Connect the power cable to the projector's power socket.
2. Place the power cable through the foam-padded section of the cable clip under the projector, increase the length of cable between the projector and the clip by 1" (2.5 cm) and then close the clip.
3. Place the cables around the left side of the HAWM-UX/UF, and then through the cable management pass-through hole on the left side of the FS-UX.
4. Connect the other end of the power cable to the power bar in the FS-UX, leaving enough excess cable for the HAWM-UX/UF's range of movement.
5. Bundle all cables between the HAWM-UX/UF and the FS-UX using zip ties, convoluted tubing, spiral wrap or expandable loom (not included). This is for operating safety and to prevent cables from getting caught in the height adjustment mechanism. Carefully test the movement of the unit, using the HAWM-UX/UF's mobility switch. Make sure that the cable isn't taut at any range of the HAWM-UX/UF's movement.

Cables mounted to the HAWM-UX/UF require a certain amount of slack to accommodate the projector's rise and descent. When connecting your projector's power cable, don't bundle it with or place it parallel to other peripheral device cables you attach to your projector. Any cables that travel the same path must be placed perpendicular (at right angles) to other unpowered cables to reduce signal interference.

To connect cables using the HAWM-UX/UF

1. If you don't want to connect a network cable, proceed to step 3. Otherwise, make sure you have a network cable with RJ45 plugs (not included) long enough to connect your projector to a LAN port.
2. Connect the RJ45 plug on the network cable to the RJ45 port on the projector. Make sure that the network cable is in the middle left position in the cable slot.
3. Connect your peripheral device cables to the appropriate locations on the projector's connection panel (see page 50).
4. Place all cables through the foam-padded section of the cable clip under the projector. Increase the length of cable between the projector and the clip by 1" (2.5 cm) and then close the clip.

5. Place the cables around the back of the HAWM-UX/UF's interactive whiteboard brackets toward the left side of the interactive whiteboard if the peripheral device or LAN port is on the left or toward the right side of the interactive whiteboard if the peripheral device or LAN port is on the right.



6. Attach the cables to the lower cable clips on the HAWM-UX/UF.
7. If you have many cables attached, smoothly bundle your peripheral device cables together using a cable tie (not included).
8. Attach a cable management clip (not included) to the cables or cable bundles, with a minimum of 28" (71.1 cm) excess straight length or a 14" (35.6 cm) loose loop of cable.
9. If you don't want to connect a network cable, proceed to the next step. Otherwise, connect the other end of the network cable to your LAN port.
10. Connect the other end of the cables to your peripheral devices.
11. Carefully test the movement of the unit, using the HAWM-UX/UF's mobility switch. Make sure the cables aren't taut at any range of the HAWM-UX/UF's movement. If they're still taut, repeat this procedure until you find a suitable mounting location or length for the cables.

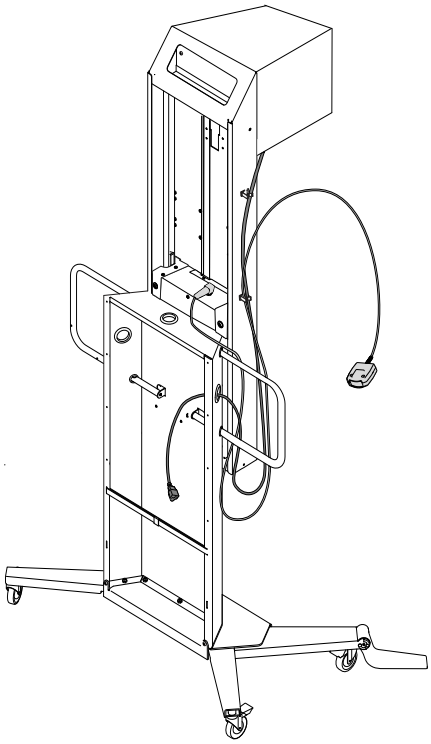
Cable connections from the HAWM-UX/UF are routed through the cable management pass-through holes, one at the top for management of the IEC power cable, and one on each side of the FS-UX for management of projector and peripheral cables. These holes allow access to the power bar and to route cables. This cabling requires special precautions and careful examination of the lengths of cable you need to install your system components.

To connect cables using the FS-UX

1. If you don't want to connect a network cable, proceed to step 3. Otherwise, make sure you have a network cable with RJ45 plugs (not included) long enough to connect your projector to a LAN port.
2. Connect the RJ45 plug on the network cable to the RJ45 port on the projector. Make sure that the network cable is in the middle left position in the cable slot.
3. Connect your peripheral device cables to the appropriate locations on the projector's connection panel.
4. Place the cables around the left side of the HAWM-UX/UF, and then through the cable management pass-through hole on the left side of the FS-UX, leaving enough excess cable for the HAWM-UX/UF's range of movement.

   NOTE
   Cable management for the IEC power cable is through the pass-through hole at the top of the FS-UX.

5. If you don't want to connect a network cable, proceed to the next step. Otherwise, connect the other end of the network cable to your LAN port.
6. Connect the other end of the cables to your peripheral devices.



7. Bundle all cables between the HAWM-UX/UF and the FS-UX using zip ties, convoluted tubing, spiral wrap or expandable loom (not included). This is for operating safety and to prevent cables from getting caught in the height adjustment mechanism. Carefully test the movement of the unit, using the HAWM-UX/UF's mobility switch. Make sure the cables aren't taut at any range of the HAWM-UX/UF's movement. If they're still taut, repeat this procedure until you find a suitable length for the cables.

Connecting composite video and USB devices to your projector's ECP

The ECP has three USB A jacks and one composite video RCA jack with associated dual-channel audio RCA jacks. SMART recommends that you install only small USB devices, such as a USB drive, or that you use a USB port on your computer for larger devices to eliminate the risk of cable damage. SMART also recommends that you use the composite video connector only for temporary connections to peripheral devices, or that you use a permanent connection to the projector's connection panel.

To connect a composite video device

1. Make sure that you place the device near the HAWM-UX/UF on a stable support.
2. Allow enough excess cable length to accommodate the HAWM-UX/UF's rise and descent, or make sure that the HAWM-UX/UF isn't moved while the device is attached.
3. When you're finished with the device, disconnect the cable from the ECP.

Optional laptop shelf for the FS-UX

You can install a laptop shelf on either side of your FS-UX. If you have an 800i series interactive whiteboard system, the laptop shelf goes on the left side of the FS-UX to keep the laptop close to the interactive whiteboard's ECP.

For more information on the FS-UX laptop shelf, see the *FS-UX-LTS Laptop Shelf for SMART Mobile Height-Adjustable Floor Stand Installation Guide* (smarttech.com/kb/153054).

The laptop shelf is available from your authorized SMART reseller (smarttech.com/where).

Chapter 5

Cabling a 600i4 or D600i4 system to an FS-UX

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Mounting your HAWM-UX/UF mobility switch 23

Placing cables for HAWM-UX/UF-mounted components 25

Placing cables for other components 30

Introduction

SMART Board 600i4 and D600i4 interactive whiteboard systems include a SMART UF65 high-offset projector or SMART UF65w high-offset widescreen projector, both with a 3D projection option and an extended control panel (ECP) that's located on the interactive whiteboard.

IMPORTANT

Before following these instructions, install your FS-UX and interactive whiteboard system according to the *SMART FS-UX Installation Guide* (smarttech.com/kb/145748). The instructions below are a supplement to, and not a substitute for, the installation guide.

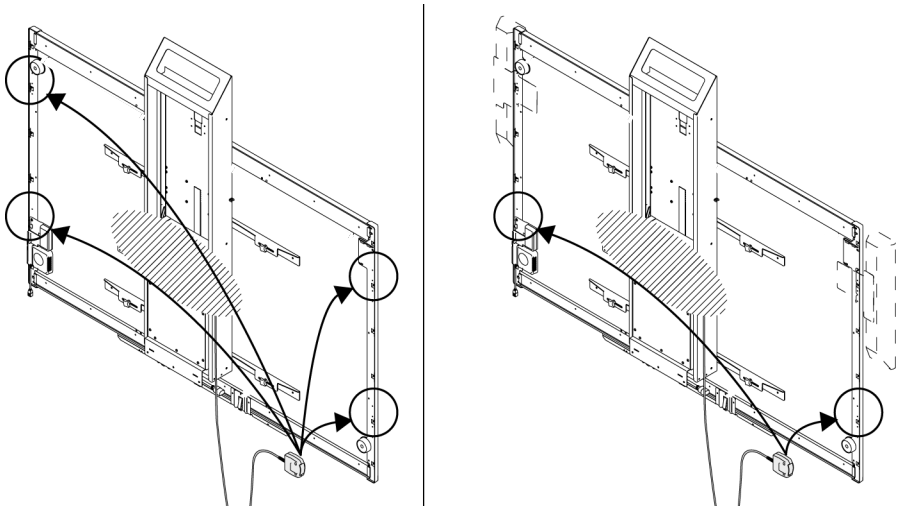
Mounting your HAWM-UX/UF mobility switch

The mobility switch controls the vertical movement of the HAWM-UX/UF and your interactive whiteboard system. The mobility switch is wired directly to the rear panel of the HAWM-UX/UF. Use the installation guide with the following procedure to place and mount the mobility switch.

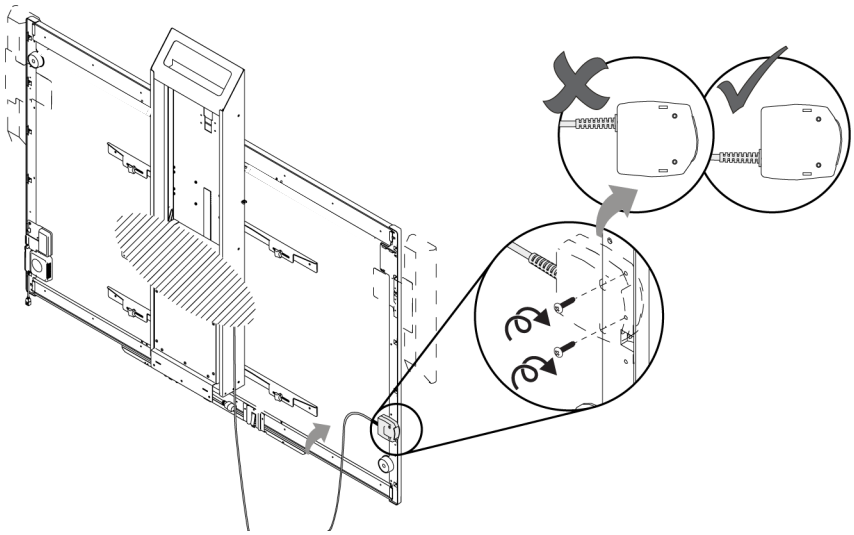
To mount the mobility switch

1. Locate the HAWM-UX/UF mobility switch, and then remove and discard the plastic bag that holds the mobility switch.
2. Choose the mobility switch's mounting location. There are mounting holes on the left and the right sides and near the top and the bottom of the interactive whiteboard.

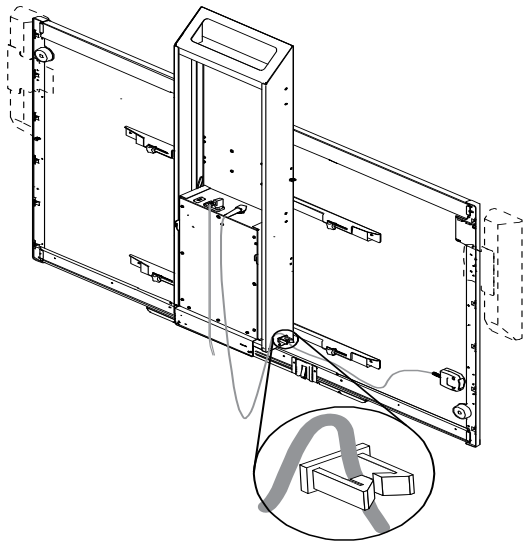
   IMPORTANT
   If you installed or plan to install the SBA-L Projection Audio System, mount the mobility switch on the bottom mounting holes.



3. Secure the mobility switch cable using a Phillips No. 2 screwdriver and the two screws listed in the HAWM-UX/UF installation guide. Secure the mobility switch cable toward the side of the interactive whiteboard where you chose to mount the mobility switch and make sure that the mobility switch cable is toward the bottom of the switch as you mount it.



4. Place the cable through the HAWM-UX/UF's lower cable clip, making sure that the cable is taut between the interactive whiteboard and the clip, and loose between the clip and the base of the HAWM-UX/UF.



5. Bundle the excess cable, making sure that there's a minimum of 28" (71.1 cm) excess straight length or a 14" (35.6 cm) loose loop of cable.

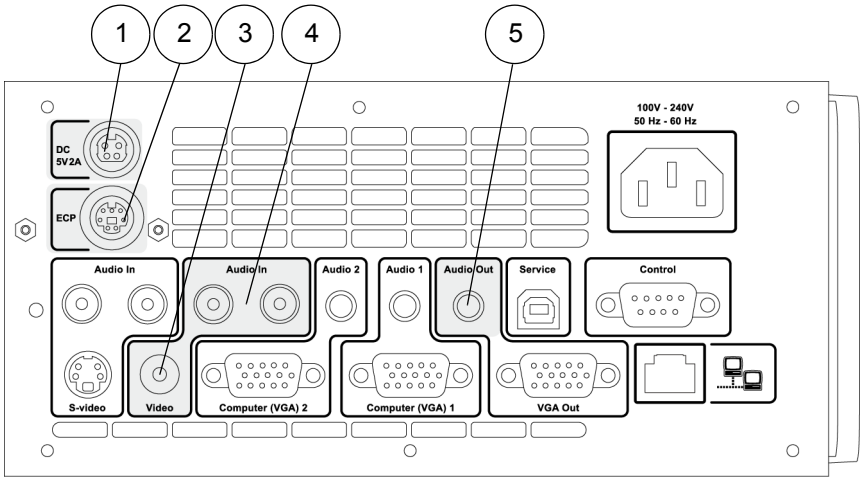
Placing cables for HAWM-UX/UF-mounted components

To prevent cable friction, SMART recommends that you first place the cables that don't shift after they're installed. Cables that connect components mounted to the HAWM-UX/UF don't shift after they're installed. To prevent cable friction, SMART recommends that you place these cables first.

Using the SMART UF65 and SMART UF65w projector connection panel for HAWM-UX/UF mounted components

To access the projector connection panel and wire management clip, remove the input/output cover on the left side of the projector and remove the cable covers. For more information, see the *SMART Board 600i4 and D600i4 Interactive Whiteboard System Configuration and User's Guide* (smarttech.com/kb/146184).

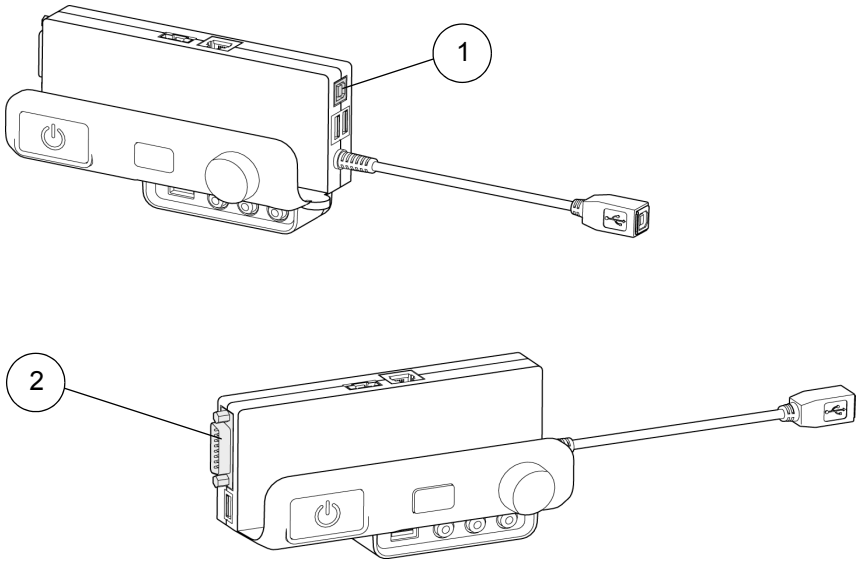
The following diagram and list identify the projector's connections to HAWM-UX/UF-mounted components.



Number	Function
1	4-pin power mini-DIN 5V/2A connector (reserved for ECP harness cable)
2	7-pin mini-DIN connector (reserved for ECP harness cable)
3	RCA jack composite video input (reserved for ECP harness cable)
4	RCA jack audio left/right input (reserved for ECP harness cable)
5	3.5 mm audio output connector (recommended for SBA-L speakers)

Using the SMART UF65 and SMART UF65w ECP for HAWM-UX/UF-mounted components

The following diagram and list identify the ECP ports that connect to HAWM-UX/UF-mounted components.



Number	Function
1	USB B jack (reserved for the primary computer)
2	DB15 ECP connector (reserved for ECP harness cable)

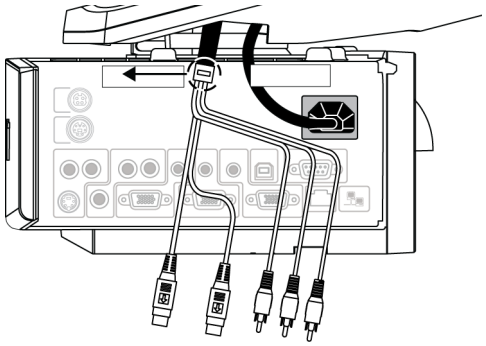
Connecting your SMART UF65 or SMART UF65w projector's ECP harness cable

The ECP harness cable controls all signals and commands sent between the ECP and the projector. Choose a side of the interactive whiteboard to install your ECP on, and then follow the instructions in *SMART Board 600i4 and D600i4 Interactive Whiteboard System Configuration and User's Guide* (smarttech.com/kb/146184).

To connect your projector's ECP harness cables

1. Pass the ECP cable through the cable slot.

   NOTE
   The upper part of the ECP cable is too thick to fit inside the cable slot, so put the thinner part of the ECP cable in the cable slot.



2. From the ECP harness cable, attach the composite video RCA jack, its associated dual channel audio input (two RCA jacks), the 4-pin power mini-DIN connector and the 7-pin mini-DIN connector to the projector's connection panel (see page 60).
3. Attach the screw on the ECP strain relief to the projector housing using a Phillips No. 2 screwdriver.
4. Place the harness cable around the back of the HAWM-UX/UF toward the left side of the interactive whiteboard if the ECP is mounted on the left or toward the right side of the interactive whiteboard if the ECP is mounted on the right.
5. Place the harness cable through the upper cable clips you installed on the side of the HAWM-UX/UF.
6. Connect the harness cable's DB15M plug to the ECP's DB15 connector.

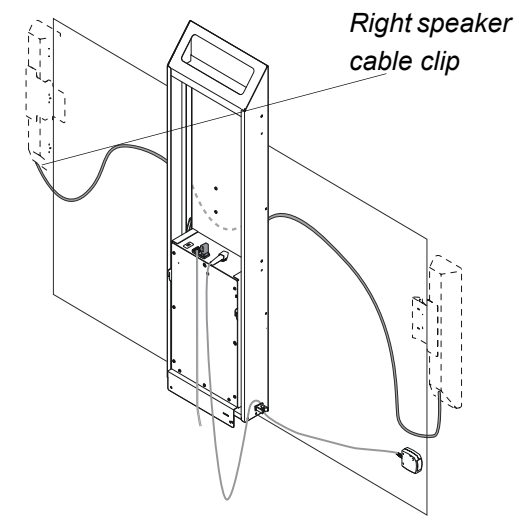
Connecting your SMART UF65 or SMART UF65w projector to the SBA-L Projection Audio System

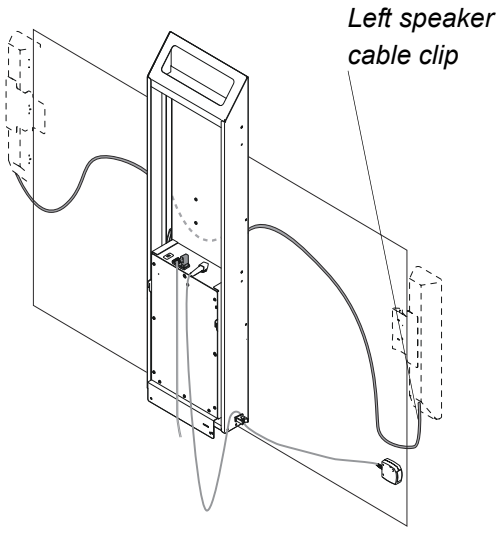
HAWM-UX/UF is designed to accommodate mounting the SBA-L Projection Audio System directly to the interactive whiteboard. That way, when the speakers rise and descend with the HAWM-UX/UF's and interactive whiteboard's movement, there's less risk of damage to the audio connection and power cables.

Before connecting the audio system to the projector, you must install the speaker brackets, speakers and speaker cable clips according to the *SBA-L Projection Audio System textless installation instructions* (smarttech.com/kb/142552).

To connect your projector to your speakers

1. Retrieve the 3.5 mm jack to dual channel audio output (two RCA jacks) cable from the SBA-L packaging. This is the audio connection cable. Attach the 3.5 mm jack to the projector's connection panel.
2. Pass the audio connection cable through the boom. Place the cables in the left side of the cable slot.
3. Connect the audio connection cable to the projector's connection panel (see page 60).
4. Place the audio connection cable through the right speaker cable clip on the rear of the interactive whiteboard, toward the right speaker.
5. Connect the dual channel audio output to the speaker's connection panel, and bundle any excess cable in the right speaker cable clip.
6. Retrieve the speaker-to-speaker Molex (double-barreled) cable from the SBA-L packaging.
7. Place the Molex cable through the left speaker cable clip, through the space between the HAWM-UX/UF and the interactive whiteboard.
8. Place the MOlex cable through the right speaker cable clip.
9. Connect the Molex cable to both speakers, and bundle any excess cable in the left speaker cable clip.





Placing cables for other components

Cables for peripheral devices connected to the projector but not mounted on the HAWM-UX/UF are at the greatest risk of damage, because they shift as the HAWM-UX/UF rises and descends. These peripheral devices and cables include the following:

- your computer or SMART Hub VE220 or SE240 collaboration platform

  NOTE
  Both the VE220 and SE240 models include 6' (1.83 m) output cables for connecting to your projector. You might need cable extensions (not included).

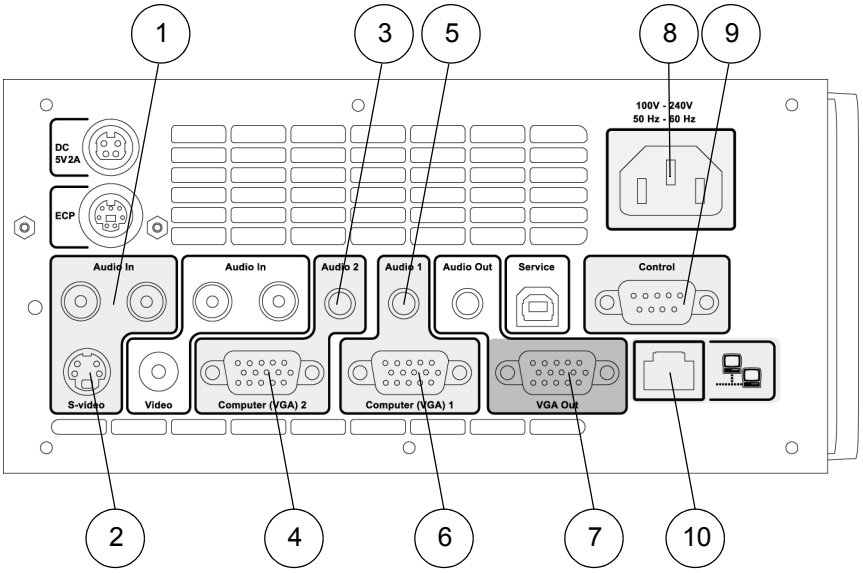
- a room control device
- a network cable
- the projector's power cable
- other projector-to-input device connections (such as a DVD/Blue-ray player) using S-video connections

When connecting these peripheral devices, make sure there's enough slack, mount the peripheral device to a permanent location and make sure there are no obstructions in the cable path. Cable friction, rubbing and strain can occur if you don't take the proper precautions.

Using the SMART UF65 and SMART UF65w projector connection panel for other components

To access the projector connection panel and wire management clip remove the input/output cover on the left side of the projector and remove the cable covers. For more information, see the *SMART Board 600i4 and D600i4 Interactive Whiteboard System Configuration and User's Guide* (smarttech.com/kb/146184).

The following diagram and list identify the SMART UF65 and SMART UF65w projector's connections to components that don't mount on the HAWM-UX/UF.



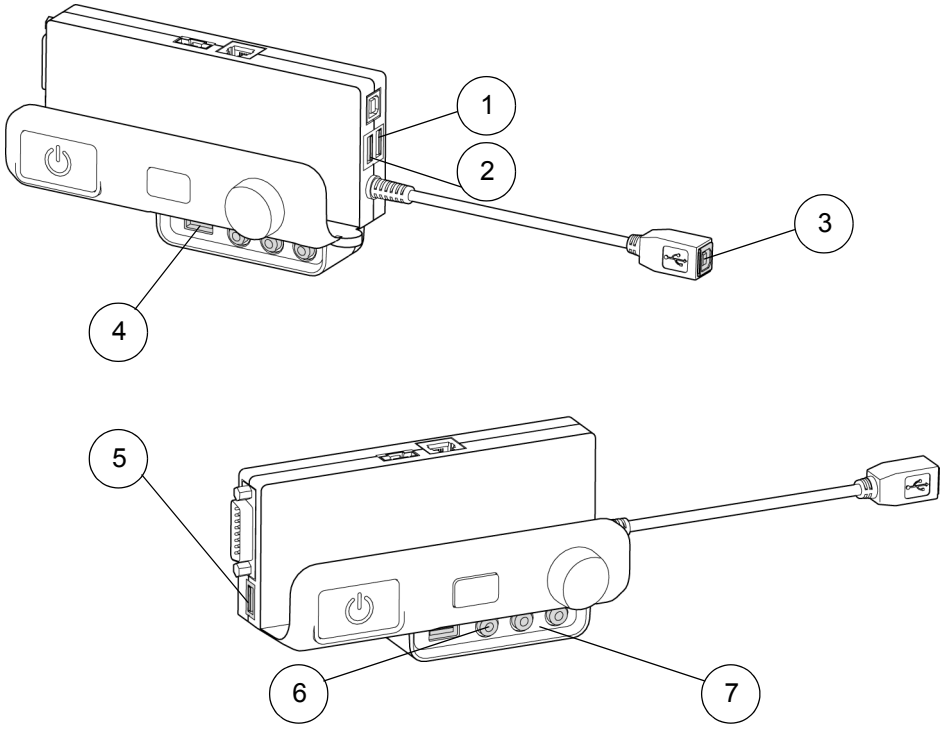
Number	Function
1	RCA jack audio left/right input (reserved for S-video input)
2	S-video input connector
3	3.5 mm audio output connector (reserved for VGA 2-In connector)
4	HD-DB15 (VGA 2) connector
5	3.5 mm audio output connector (reserved for VGA 1-In connector)
6	HD-DB15 (VGA 1) connector
7	VGA output
8	Power socket
9	RS-232 connector
10	RJ45 jack (for network connections)

NOTE

SMART recommends that you use a VGA out connector on your source input to simplify the cable placement.

Using the SMART UF65 and SMART UF65w ECP for other components

The following diagram and list identify the ECP connections to components that aren't mounted to the HAWM-UX/UF.



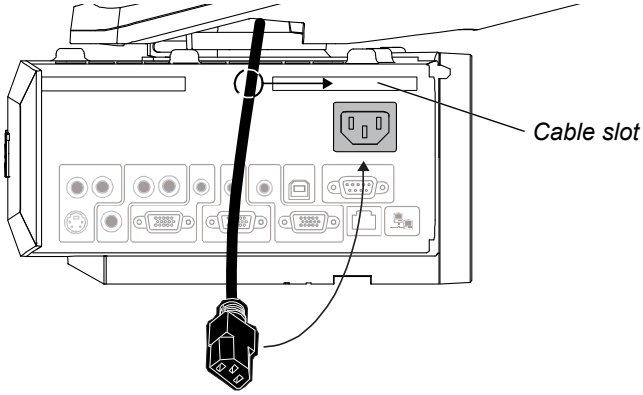
Number	Function
1	USB A jack (for peripheral device connection)
2	USB A jack (for peripheral device connection)
3	USB B tethered jack (for computer connection)
4	USB A jack (for peripheral device connection)
5	USB A jack (for peripheral device connection)
6	RCA jack composite video input (for peripheral device connection)
7	RCA jack audio left/right input (for peripheral device connection)

Connecting the power, network and other peripheral device cables to your SMART UF65 or SMART UF65w projector

Connect all power connections to the power bar (not included) you installed in the FS-UX. Use this power bar as the main power connection for all HAWM-UX/UF-mounted components.

To connect your projector power cable

1. Pass the power cable through the boom and then connect it to the power socket. Make sure that the power cable is in the far right position in the cable slot.

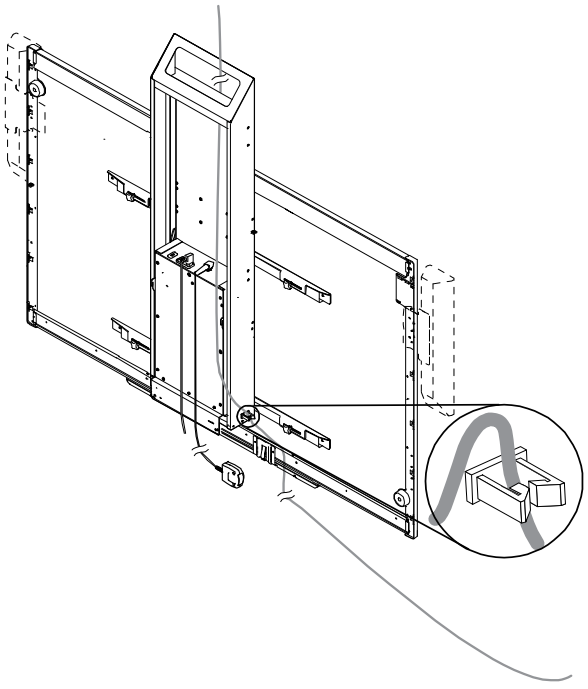


2. Place the cables around the left side of the HAWM-UX/UF, and then through the cable management pass-through hole on the left side of the FS-UX.
3. Connect the other end of the power cable to the power bar in the FS-UX, leaving enough excess cable for the HAWM-UX/UF's range of movement.
4. Bundle all cables between the HAWM-UX/UF and the FS-UX using zip ties, convoluted tubing, spiral wrap or expandable loom (not included). This is for operating safety and to prevent cables from getting caught in the height adjustment mechanism. Carefully test the movement of the unit, using the HAWM-UX/UF's mobility switch. Make sure that the cable isn't taut at any range of the HAWM-UX/UF's movement.

Peripheral devices and items not mounted on the HAWM-UX/UF, but that connect to your projector's connection panel on the HAWM-UX/UF, require a certain amount of slack in the cable for the projector's rise and descent. When connecting your projector's power cable, do not bundle it with or place it parallel to other peripheral device cables you attach to your projector. If the wires cross or travel the same path, make sure it is placed perpendicular (at right angles) to other unpowered cables

To connect cables using the HAWM-UX/UF

1. If you don't want to connect a network cable, proceed to step 3. Otherwise, make sure you have a network cable with RJ45 plugs (not included) long enough to connect your projector to a LAN port.
2. Pass the network cable through the boom and connect the RJ45 plug on the network cable to the RJ45 port on the projector. Make sure that the network cable is in the middle left position in the cable slot.
3. Pass peripheral device cables through the boom. Make sure that the peripheral device cables are in the middle left position in the cable slot.
4. Connect your peripheral device cables to the appropriate locations on the projector's connection panel (see page 66).
5. If you don't want to connect a network cable, proceed to the next step. Connect the RJ45 plug on the network cable to the RJ45 port on the projector, making sure that the network cable is in the middle left position in the cable slot.
6. Place the cables around the back of the HAWM-UX/UF toward the left side of the interactive whiteboard if the peripheral device or LAN port is on the left or toward the right side of the interactive whiteboard if the peripheral device or LAN port is on the right.
7. Attach the cables to the lower cable clips on the HAWM.
8. If you have many cables attached, smoothly bundle your peripheral device cables together using a cable tie (not included).



9. Attach a cable management clip (not included) to the cables or cable bundles, making sure that there's a minimum of 28" (71.1 cm) excess straight length or a 14" (35.6 cm) loose loop of cable.
10. If you don't want to connect a network cable, proceed to the next step. Otherwise, connect the other end of the network cable to your LAN port.
11. Connect the other end of the cables to your peripheral devices.
12. Carefuly test the movement of the unit, using the HAWM-UX/UF's mobility switch. Make sure the cables aren't taut at any range of the HAWM-UX/UF's movement. If they're still taut, repeat this procedure until you find a suitable mounting location or length for the cables.

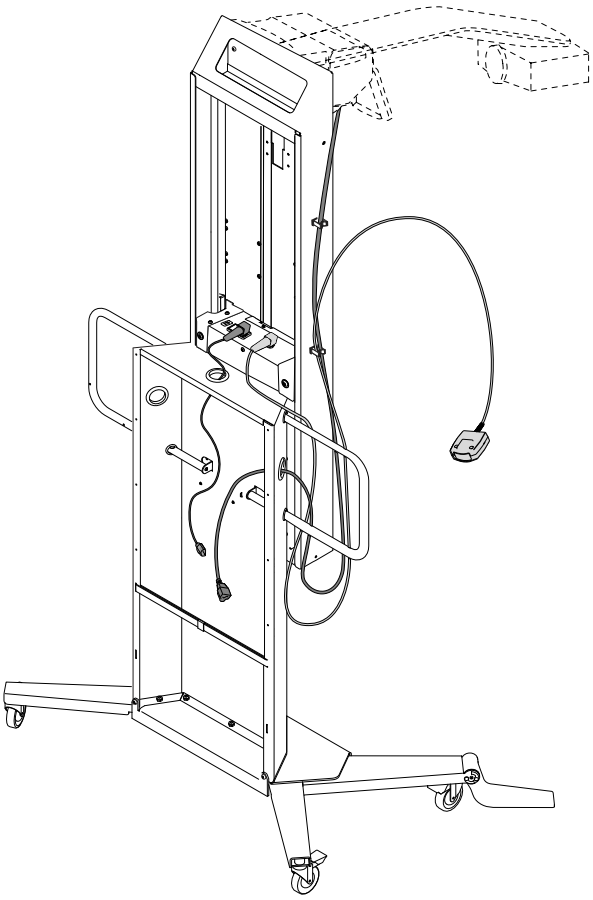
Cable connections from the HAWM-UX/UF are routed through the cable management pass-through holes, one at the top for management of the IEC power cable, and one on each side of the FS-UX for management of projector and peripheral cables. These holes allow access to the power bar and to route cables. This cabling requires special precautions and careful examination of the lengths of cable you need to install your system components.

To connect cables using the FS-UX.

1. If you don't want to connect a network cable, proceed to step 3. Otherwise, make sure you have a network cable with RJ45 plugs (not included) long enough to connect your projector to a LAN port.
2. Pass the network cable through the boom and connect the RJ45 plug on the network cable to the RJ45 port on the projector. Make sure that the network cable is in the middle left position in the cable slot.
3. Pass peripheral device cables through the boom. Make sure that the peripheral device cables are in the middle left position in the cable slot.
4. Connect your peripheral device cables to the appropriate locations on the projector's connection panel (see page 66).
5. If you don't want to connect a network cable, proceed to the next step. Connect the RJ45 plug on the network cable to the RJ45 port on the projector, making sure that the network cable is in the middle left position in the cable slot.

6. Place the cables around the left side of the HAWM-UX/UF, and then through the cable management pass-through hole on the left side of the FS-UX, leaving enough excess cable for the HAWM-UX/UF's range of movement.

   NOTE
   Cable management for the IEC power cable is through the pass-through hole at the top of the FS-UX.



7. If you don't want to connect a network cable, proceed to the next step. Otherwise, connect the other end of the network cable to your LAN port.
8. Connect the other end of the cables to your peripheral devices.
9. Bundle all cables between the HAWM-UX/UF and the FS-UX using zip ties, convoluted tubing, spiral wrap or expandable loom (not included). This is for operating safety and to prevent cables from getting caught in the height adjustment mechanism. Carefully test the movement of the unit, using the HAWM-UX/UF's mobility switch. Make sure the cables aren't taut at any range of the HAWM-UX/UF's movement. If they're still taut, repeat this procedure until you find a suitable length for the cables.

Connecting composite video and USB devices to your projector's ECP

The ECP has three USB A jacks and one composite video RCA jack with associated dual-channel audio RCA jacks. SMART recommends that you install only small USB devices, such as a USB drive, or that you use a USB port on your computer for larger devices to eliminate the risk of cable damage. SMART also recommends that you use the composite video connector only for temporary connections to peripheral devices, or that you use a permanent connection to the projector's connection panel.

To connect a composite video device to your projector's ECP

1. Make sure that you place the device near the HAWM-UX/UF on a stable support.
2. Allow enough excess cable length to accommodate the HAWM-UX/UF's rise and descent, or make sure that the HAWM-UX/UF isn't moved while the device is attached.
3. When you're finished with the device, disconnect the cable from the ECP.

Optional laptop shelf for the FS-UX

You can install a laptop shelf on either side of your FS-UX. If you have an 800i series interactive whiteboard system, the laptop shelf goes on the left side of the FS-UX to keep the laptop close to the interactive whiteboard's ECP.

For more information on the FS-UX laptop shelf, see the *FS-UX-LTS Laptop Shelf for SMART Mobile Height-Adjustable Floor Stand Installation Guide* (smarttech.com/kb/153054).

The laptop shelf is available from your authorized SMART reseller (smarttech.com/where).

Chapter 6

Cabling a 600i3 or D600i3 system to an FS-UX

Introduction 37

Mounting your HAWM-UX/UF mobility switch 37

Placing cables for remotely mounted components 39

Introduction

SMART Board 600i3 or D600i3 interactive whiteboard systems include a SMART UF55 high-offset projector or SMART UF55w high-offset widescreen projector a remotely located extended control panel (ECP).

IMPORTANT

Before following these instructions, install your FS-UX and interactive whiteboard system according to the *SMART FS-UX Installation Guide* (smarttech.com/kb/145748). The instructions below are a supplement to, and not a substitute for, the installation guide.

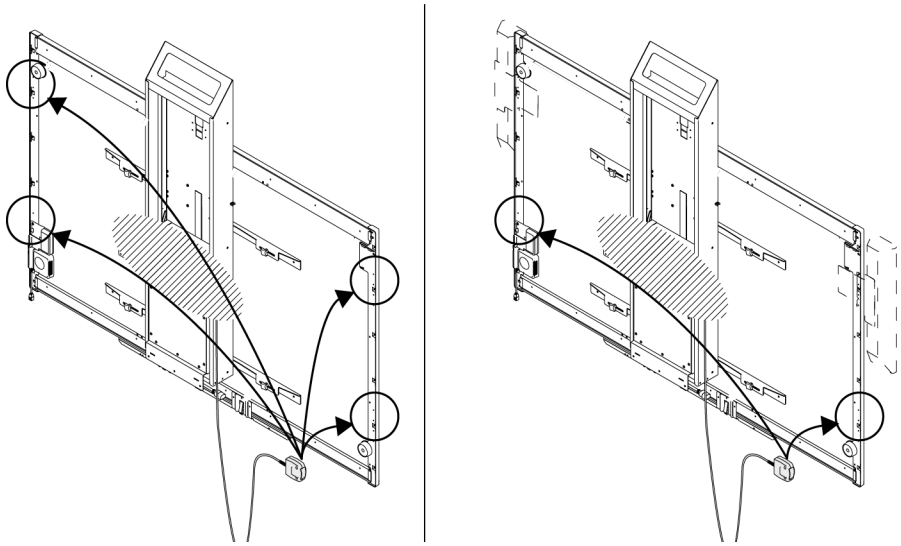
Mounting your HAWM-UX/UF mobility switch

The mobility switch controls the vertical movement of the HAWM-UX/UF and your interactive whiteboard system. The mobility switch is wired directly to the rear panel of the HAWM-UX/UF. Use the installation guide with the following procedure to place and mount the mobility switch.

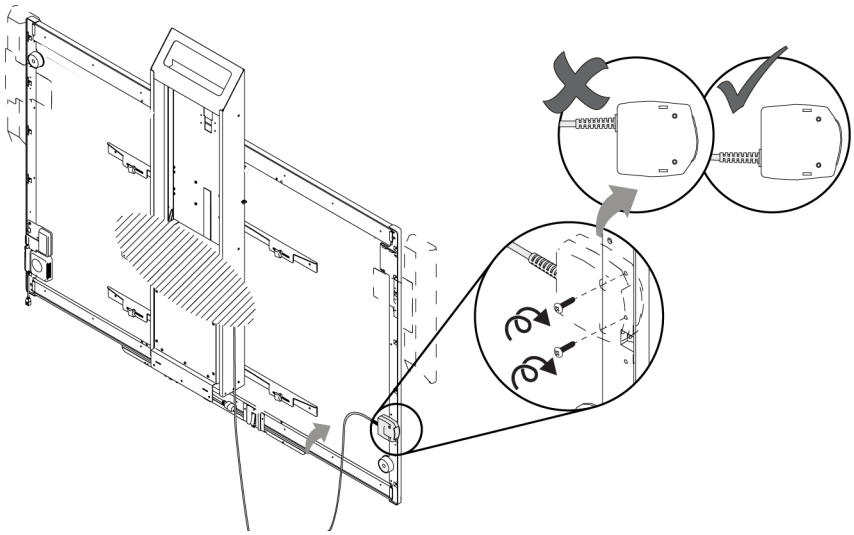
To mount the HAWM-UX/UF mobility switch to your interactive whiteboard

1. Locate the HAWM-UX/UF mobility switch, and then remove and discard the plastic bag that holds the mobility switch.
2. Choose the mobility switch's mounting location. There are mounting holes on the left and the right sides and near the top and the bottom of the interactive whiteboard.

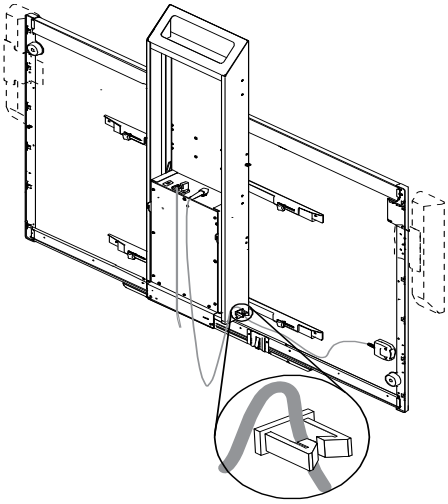
NOTE
If you have installed or plan to install the SBA or SBA-L Projection Audio System, mount the mobility switch on the bottom mounting holes.



3. Secure the mobility switch cable using a Phillips No. 2 screwdriver and the two screws listed in the HAWM-UX/UF installation guide. Secure the mobility switch cable toward the side of the interactive whiteboard where you chose to mount the mobility switch. Make sure that the mobility switch cable is toward the bottom of the switch as you mount it.



4. Place the cable through the HAWM-UX/UF's lower cable clip, making sure that the cable is taut between the interactive whiteboard and the clip, and loose between the clip and the base of the HAWM-UX/UF.



5. Bundle the excess cable, making sure that there's a minimum of 28" (71.1 cm) excess straight length or a 14" (35.6 cm) loose loop of cable.

Placing cables for remotely mounted components

Cables for peripheral devices connected to the projector but not mounted on the HAWM-UX/UF are at the greatest risk of damage, because they shift as the HAWM-UX/UF rises and descends. These peripheral devices and cables include:

- your ECP harness cable
- your computer or SMART Hub VE220 or SE240 collaboration platform

  NOTE
  Both the VE220 and SE240 models include 6' (1.83 m) output cables to connect to your projector. You might need cable extensions (not included).
- a room control device
- a network cable
- the projector's power cable

When connecting these peripheral devices, make sure there's enough slack, mount the peripheral device to a permanent location and make sure there are no obstructions in the cable path. Cable friction, rubbing and strain can occur if you don't take the proper precautions.

Mounting and connecting your SMART UF55 or SMART UF55w projector's ECP harness cable

Before you mount any cables to your projector, you must mount the SMART UF55 or SMART UF55w projector's ECP. You must carefully attach the SMART UF55 or SMART UF55w ECP to the FS-UX at the location specified in the *FS-UX Mobile Height-Adjustable Floor Stand Installation Guide* (smarttech.com/kb/145748).

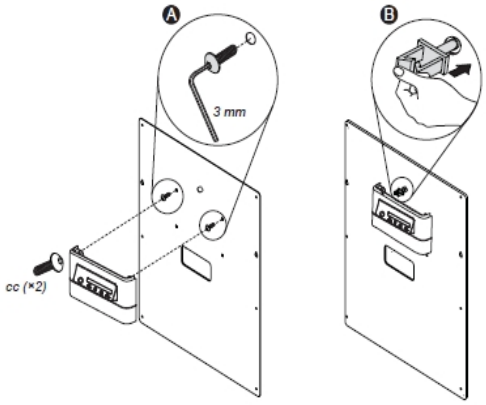
NOTE
You must haveplaced your interactive whiteboard placed on the HAWM-UX/UF before you begin this procedure. The HAWM-UX/UF at its highest position before you start measuring.

To mount the projector's ECP to the FS-UX

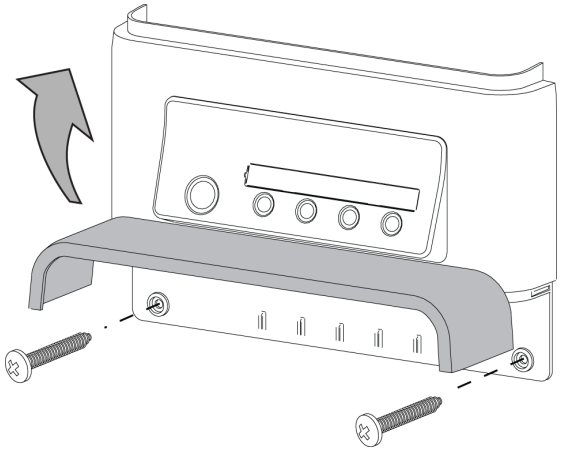
1. From the SMART UF55 or SMART UF55w projector packaging, retrieve your ECP template and textless installation instructions.
2. From the SMART UF55 or SMART UF55w projector packaging, retrieve the four plastic anchors and four screws supplied for mounting the ECP.
   a. If you choose the right side, locate the lower right hand side of the interactive whiteboard and draw a line 1" (2.5 cm) from the right of the interactive whiteboard. This mark is for the top left screw's drill hole on the ECP.

3. Attach but don't tighten, two screws in the two top holes in the back of the FS-UX, using a Phillips No. 2 screwdriver,

4. Attach the ECP to the screws, using the top two key holes on the ECP.



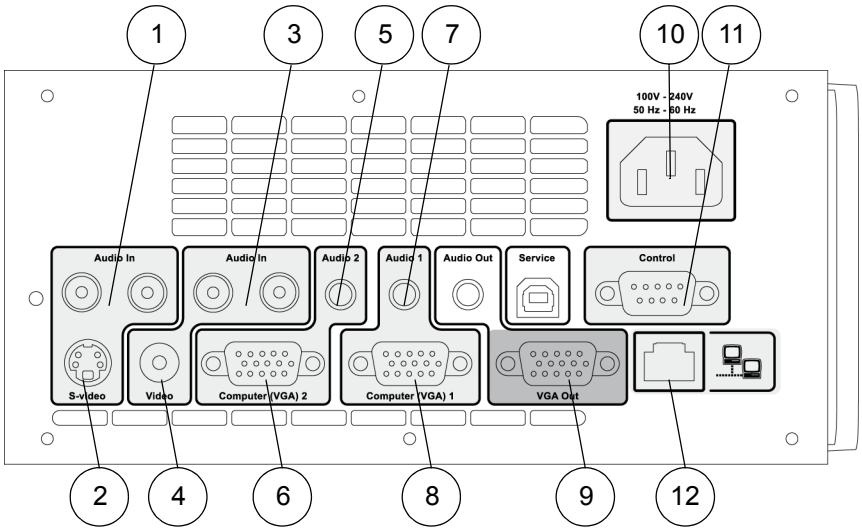
5. Flip up the bottom panel of the ECP. Attach two screws in the two bottom plastic anchors using a Phillips No. 2 screwdriver



Using the SMART UF55 and SMART UF55w projector's connection panel for remotely mounted components

To access the projector connection panel and wire management clip, first remove the input/output cover on the left side of the projector and remove the cable covers. For more information, see the *SMART Board 600i3 and D600i3 Interactive Whiteboard System Configuration and User's Guide* (smarttech.com/kb/131156).

The following diagram and list identify the SMART UF55 and SMART UF55w projector's connections to components that don't mount to the HAWM-UX/UF.



Number	Function
1	RCA jack audio left/right input (reserved for ECP harness cable)
2	S-video input connector (reserved for ECP harness cable)
3	RCA jack audio left/right input (reserved for ECP harness cable)
4	RCA jack composite video input connector (reserved for ECP harness cable)
5	3.5 mm audio output connector (for VGA 2-In connector)
6	HD-DB15 (VGA 2) connector (reserved for ECP harness cable)
7	3.5 mm audio output connector (for VGA 1-In connector)
8	HD-DB15 (VGA 1) connector (computer analog signal/component video input)
9	HD-DB15 VGA output connector
10	Power socket
11	RS-232 connector (reserved for ECP harness)
12	RJ45 jack (for network connections)

IMPORTANT

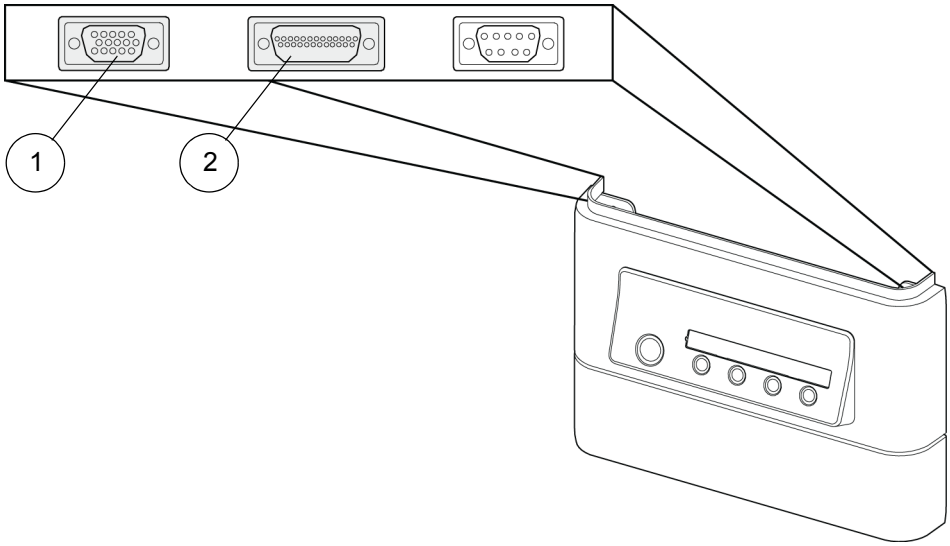
Use only the input **Computer 1** on your projector to connect the ECP harness cable.

NOTE

SMART recommends that you use a VGA out from your source input to simplify the cable placement

Connecting the SMART UF55 and SMART UF55w projector's ECP harness cable

The following diagram and list shows the ECP's DB25 and VGA connections to the ECP harness cable.



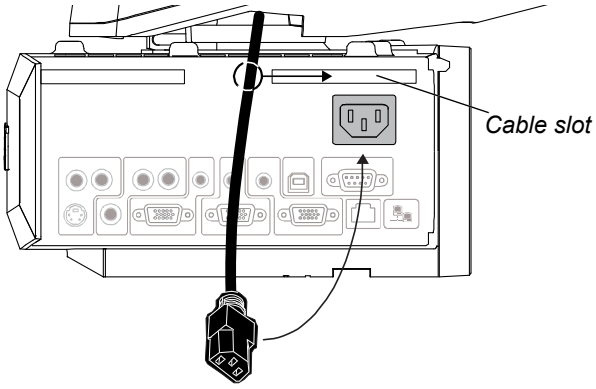
Number	Function
1	HD-DB15 (VGA 2) connector (reserved for ECP harness cable)
2	DB25 connector (reserved for ECP harness cable)

Connecting the power, network, ECP and peripheral device cables to your SMART UF55 or SMART UF55w projector

Connect all power connections to the power bar (not included) you installed in the FS-UX. Use this power bar as the main power connection for all HAWM-UX/UF-mounted components.

To connect your projector power cable

1. Pass the power cable through the boom and then connect it to the power socket. Make sure that the power cable is in the far right position in the cable slot.



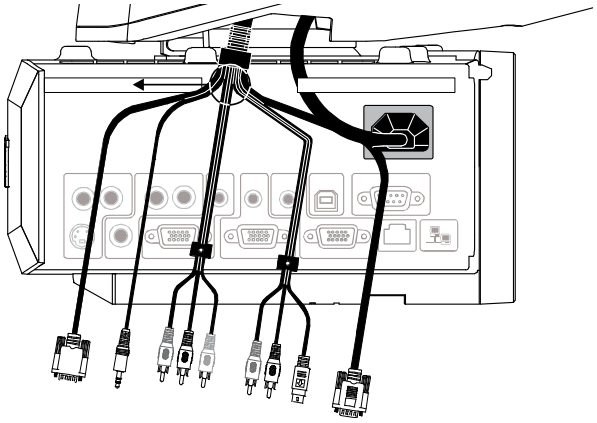
2. Place the cables around the left side of the HAWM-UX/UF, and then through the cable management pass-through hole on the left side of the FS-UX.
3. Connect the other end of the power cable to the power bar in the FS-UX, leaving enough excess cable for the HAWM-UX/UF's range of movement.
4. Bundle all cables between the HAWM-UX/UF and the FS-UX using zip ties, convoluted tubing, spiral wrap or expandable loom (not included). This is for operating safety and to prevent cables from getting caught in the height adjustment mechanism. Carefully test the movement of the unit, using the HAWM-UX/UF's mobility switch. Make sure that the cable isn't taut at any range of the HAWM-UX/UF's movement.

Peripheral devices and items not mounted on the HAWM-UX/UF, but that connect to your projector's connection panel on the HAWM-UX/UF, require a certain amount of slack in the cable for the projector's rise and descent. When connecting your projector's power cable, do not bundle it with or place it parallel to other peripheral device cables you attach to your projector. If the wires cross or travel the same path, make sure it is placed perpendicular (at right angles) to other unpowered cables

To connect cables using the HAWM-UX/UF

1. If you don't want to connect a network cable, proceed to the next step. Otherwise, make sure you have a network cable with RJ45 plugs (not included) long enough to connect your projector to a LAN port.

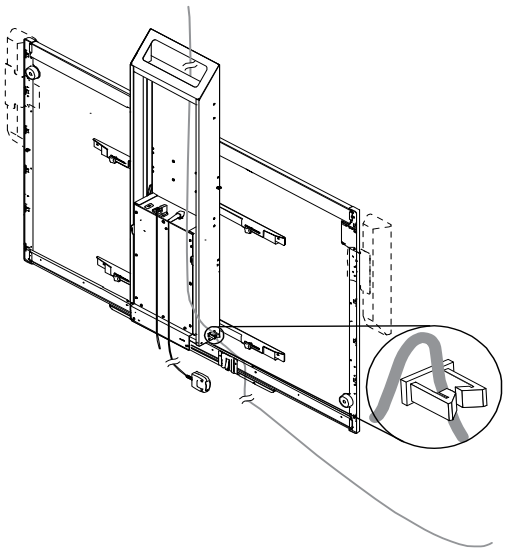
2. Pass the ECP cable through the cable slot.



NOTE

The upper part of the ECP cable is too thick to fit inside the cable slot, so put the thinner part of the ECP cable in the cable slot.

3. Connect the S-Video connector and two audio-left/right RCA jacks, the DB9 control cable and the composite video and two audio-left/right RCA jacks, from the ECP harness cable to their receptacles on the projector's connection panel (see page 79).
4. Attach the screw on the ECP strain relief to the projector housing using a Phillips No. 2 screwdriver,
5. If you don't want to connect a network cable, proceed to the next step. Otherwise, pass the network cable through the boom and connect the RJ45 plug on the network cable to the RJ45 port on the projector. Make sure that the network cable is in the middle left position in the cable slot.
6. Place the harness cable around the back of the HAWM-UX/UF toward the left side of the interactive whiteboard if the ECP is mounted on the left or toward the right side of the interactive whiteboard if the ECP is mounted on the right.



7. If you have many cables attached, smoothly bundle your peripheral device cables together using a cable tie (not included).
8. If you don't want to connect a network cable, proceed to the next step. Otherwise, connect the other end of the network cable to your LAN port.
9. Connect the HD-DB15 (VGA) connector and the DB25 connector from the harness cable to the ECP (see page 81).
10. Carefully test the movement of the unit, using the HAWM-UX/UF's mobility switch. Make sure the cables aren't taut at any range of the HAWM-UX/UF's movement.

11. Attach a cable management clip (not included) to the cables or cable bundles, with a minimum of 28" (71.1 cm) excess straight length or a 14" (35.6 cm) loose loop of cable.
12. Make sure the cables aren't taut at any range of the HAWM-UX/UF's movement. If they're still taut, repeat this procedure until you find a suitable mounting location or length for the cables.

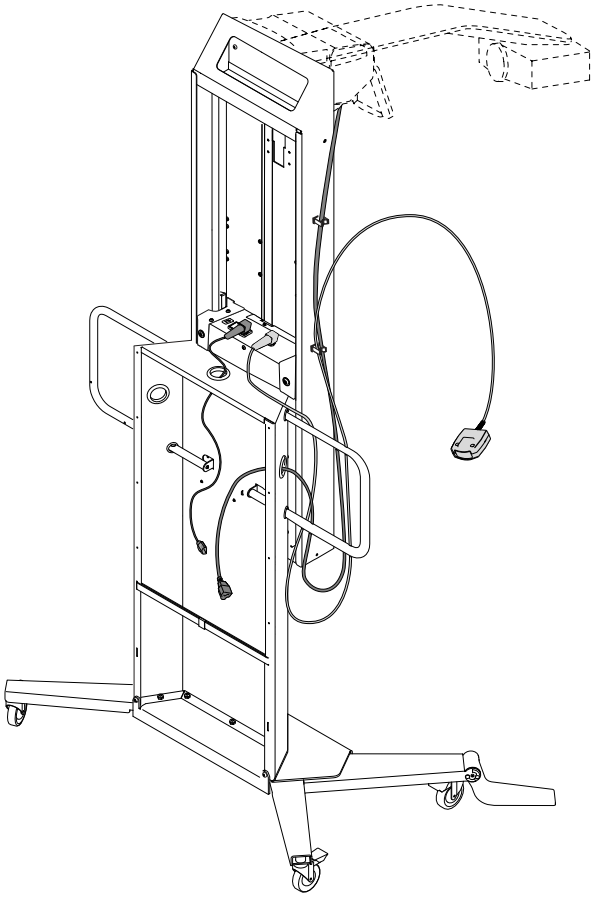
Cable connections from the HAWM-UX/UF are routed through the cable management pass-through holes at the top and sides of the FS-UX. These holes allow access to the power bar and to route cables. This cabling requires special precautions and careful examination of the lengths of cable you need to install your system components.

To connect cables using the FS-UX

1. If you don't want to connect a network cable, proceed to step 3. Otherwise, make sure you have a network cable with RJ45 plugs (not included) long enough to connect your projector to a LAN port.
2. Pass the network cable through the boom and connect the RJ45 plug on the network cable to the RJ45 port on the projector. Make sure that the network cable is in the middle left position in the cable slot.
3. Pass peripheral device cables through the boom. Make sure that the peripheral device cables are in the middle left position in the cable slot.
4. Connect your peripheral device cables to the appropriate locations on the projector's connection panel (see page 79).
5. If you don't want to connect a network cable, proceed to the next step. Connect the RJ45 plug on the network cable to the RJ45 port on the projector, making sure that the network cable is in the middle left position in the cable slot.

6. Place the cables around the left side of the HAWM-UX/UF, and then through the cable management pass-through hole on the left side of the FS-UX, leaving enough excess cable for the HAWM-UX/UF's range of movement.

   NOTE
   Cable management for the IEC power cable is through the pass-through hole at the top of the FS-UX.



7. If you don't want to connect a network cable, proceed to the next step. Otherwise, connect the other end of the network cable to your LAN port.
8. Connect the other end of the cables to your peripheral devices.
9. Bundle all cables between the HAWM-UX/UF and the FS-UX using zip ties, convoluted tubing, spiral wrap or expandable loom (not included). This is for operating safety and to prevent cables from getting caught in the height adjustment mechanism. Carefully test the movement of the unit, using the HAWM-UX/UF's mobility switch. Make sure the cables aren't taut at any range of the HAWM-UX/UF's movement. If they're still taut, repeat this procedure until you find a suitable length for the cables.

Connecting your host computer to the projector or ECP

You must connect your host computer's video and audio outputs to your SMART UF55 projector, or SMART UF55w projector, or ECP.

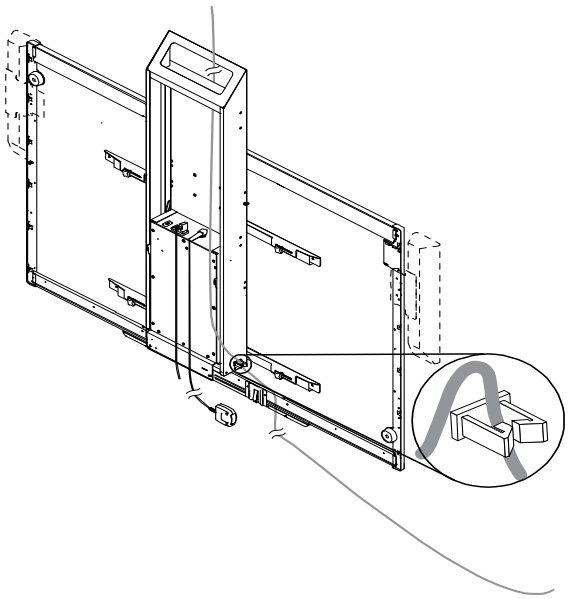
If you use guest computers, SMART recommends that you install your host computer's video output to your projector and reserve the VGA connector on the ECP for a guest computer connection, such as a laptop.

If you don't use guest computers, SMART recommends that you install your host computer's video output to the VGA connector on the ECP. This makes the cable installation of SMART UF55 and SMART UF55w projectors much simpler.

Use only one set of the following instructions for your specific installation.

To connect your host computer's audio and video output to your projector input on the HAWM-UX/UF

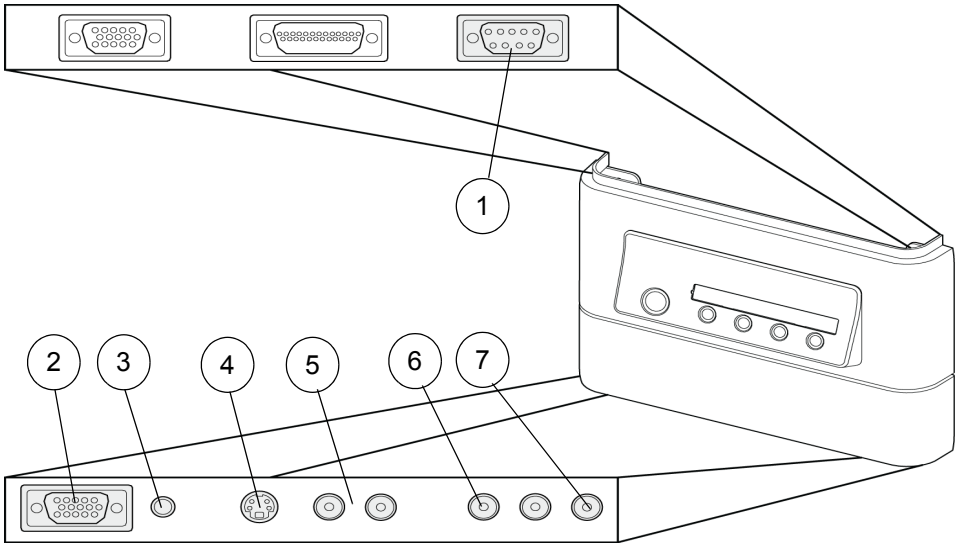
1. Make sure you have VGA and 3.5 mm audio cables (not included) long enough to connect your computer to your SMART UF55 or SMART UF55w projector.
2. Pass the VGA and audio cables through the boom and connect your VGA cable to the **Computer (VGA) 2** input on your projector.
3. Connect your 3.5 mm audio cable to the **Audio 2** input on your projector.
4. Place the cables around the back of the HAWM-UX/UF toward the left side of the interactive whiteboard if your computer is on the left or toward the right side of the interactive whiteboard if your computer is on the right.



5. If you have many cables attached, smoothly bundle your peripheral device cables together using a cable tie (not included).
6. Connect the other ends of your VGA and audio cables to your computer's video output connector.
7. Attach a cable management clip (not included) to the cables or cable bundles, making sure that there's a minimum of 28" (71.1 cm) excess straight length or a 14" (35.6 cm) loose loop of cable.
8. Carefully test the movement of the unit, using the HAWM-UX/UF's mobility switch. Make sure the cables aren't taut at any range of the HAWM-UX/UF's movement. If the cables are still taut, repeat this procedure until you find a suitable mounting location or length for the cables.

Using the SMART UF55 and SMART UF55w projectors' ECP diagram for remotely mounted components

The following diagram and list identify the SMART UF55 and SMART UF55w projectors' connections to components that don't mount to the HAWM-UX/UF



Number	Function
1	RS-232 connector
2	HD-DB15 (VGA 2) connector (reserved for ECP harness cable)
3	3.5 mm audio output connector (reserved for VGA connector)
4	S-video input connector
5	RCA jack audio left/right input (reserved for S-video connector)
6	RCA jack composite video input connector
7	RCA jack audio left/right input (reserved for composite video connector

Connecting peripheral devices to your SMART UF55 and SMART UF55w projectors' ECP temporarily

To connect a DVD/Blu-ray player, VCR, document camera, digital camera or other visual or audio-visual peripheral device, you must connect the device's video and audio outputs to the ECP. You can have up to three peripheral devices and a host computer connected at one time.

The SMART UF55 and SMART UF55w projectors' ECP has three video inputs and one communications port: an HD-DB15 with associated 3.5 mm audio jack, an S-Video jack with associated dual-channel audio RCA jacks, a composite video RCA jack with associated dual-channel audio RCA jacks and one RS-232 connector designed for use with room control systems. SMART recommends that you use the video connectors for temporary connections to peripheral devices, or that you permanently attach and secure the cables to the wall for installation.

To connect a composite video device

1. Make sure that you place the device near the HAWM-UX/UF on a stable support.
2. Allow enough excess cable length to accommodate the HAWM-UX/UF's rise and descent, or make sure that the HAWM-UX/UF isn't moved.
3. Connect the device's video cables to the ECP using the appropriate inputs. Input 2 is the VGA connector, input 3 is the S-video 4-pin mini-DIN connector and input 4 is the composite video input connector.
4. For each peripheral device, connect the device's audio cables to the associated red and white RCA jacks next to the appropriate video input connector.
5. When you're finished with the device, remove the cable from the ECP.

Connecting your SMART UF55 or SMART UF55w projector to the SBA or SBA-L Projection Audio System

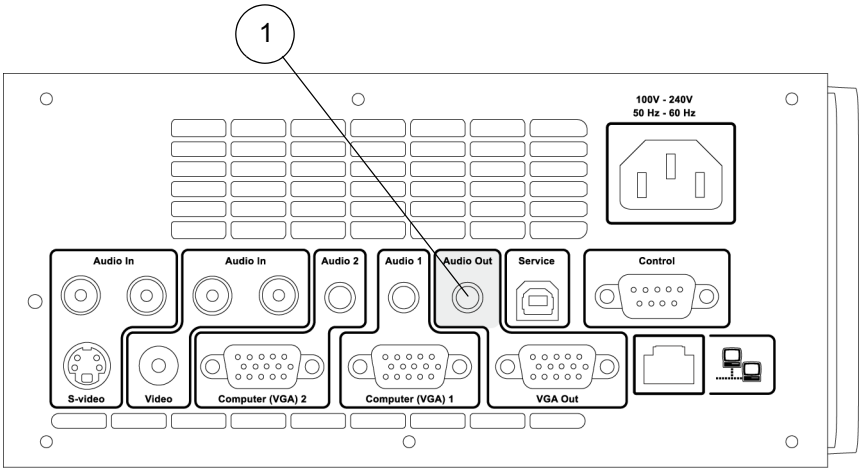
The HAWM-UX/UF is designed to accommodate mounting the SBA or SBA-L Projection Audio System directly to the interactive whiteboard. That way, when the speakers rise and descend with the HAWM-UX/UF's and interactive whiteboard's movement, there's less risk of damage to the audio connection and power cables.

Before connecting the audio system to the projector, you must install the speaker brackets, speakers and speaker cable clips according to the *SBA-L Projection Audio System Installation Instructions* (smarttech.com/kb/142552).

Using the SMART UF55 and SMART UF55w projector connection panel for SBA and SBA-L Projection Audio System

To access the cable channel, remove the input/output cover on the left side of the projector and remove the cable covers. For more information, see the *SMART Board 600i3 and D600i3 Interactive Whiteboard System Configuration and User's Guide* (smarttech.com/kb/131156).

The following diagram and list identify the SMART UF55 and SMART UF55w projectors' connections to SBA and SBA-L speakers.



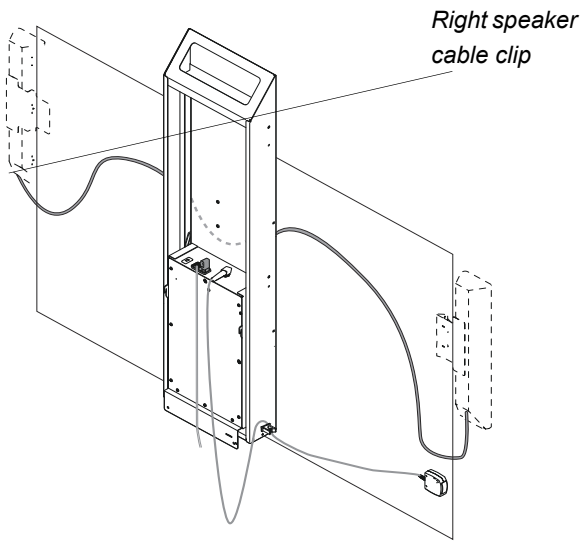
1. 3.5 mm audio-output connector (recommended for SBA/SBA-L speakers)

To connect your projector to your speakers

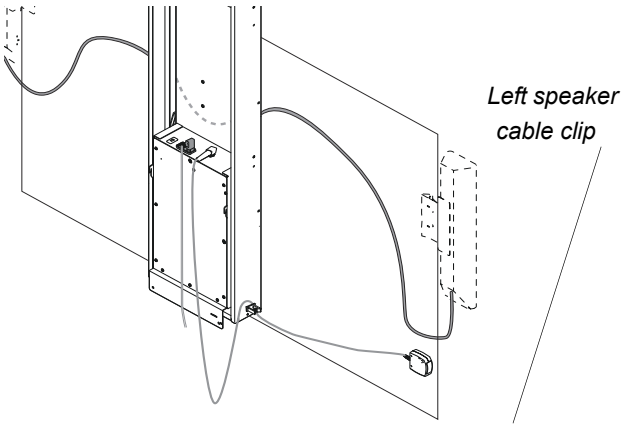
1. Retrieve the 3.5 mm jack to dual channel audio output (two RCA jacks) cable from the SBA-L packaging. This is the audio connection cable.

   NOTE
   The SBA packaging doesn't contain a cable of this type. You must supply your own cable of a suitable length.

2. Pass the audio connection cable through the boom. Place the cables in the left side of the cable slot.
3. Connect the audio connection cable to the projector's connection panel (see above).
4. Place the audio connection cable through the right speaker cable clip on the rear of the interactive whiteboard, toward the right speaker.
5. Connect the dual channel audio output to the speaker's connection panel, and bundle any excess cable in the right speaker cable clip.



6. From the SBA packaging, retrieve the speaker-to-speaker Molex (double-barreled) cable.
7. Place the Molex cable through the left speaker cable clip, through the space between the HAWM-UX/UF and the interactive whiteboard.
8. Place the Molex cable through the right speaker cable clip.
9. Connect the Molex cable to both speakers. Bundle any excess cable in the left speaker cable clip.



Optional laptop shelf for the FS-UX

You can install a laptop shelf on either side of your FS-UX. If you have an 800i series interactive whiteboard system, the laptop shelf goes on the left side of the FS-UX to keep the laptop close to the interactive whiteboard's ECP.

For more information on the FS-UX laptop shelf, see the *FS-UX-LTS Laptop Shelf for SMART Mobile Height-Adjustable Floor Stand Installation Guide* (smarttech.com/kb/153054).

The laptop shelf is available from your authorized SMART reseller (smarttech.com/where).

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