

TeamWork® Connect 300 Kit • Installation Guide

TeamWork Connect 300 Kit

The TeamWork Connect 300 kit is a pre-configured collaboration system for one analog and two digital sources. The kit includes one VGA and two HDMI Show Me® cables, other system cables, and the HC 404 Meeting Space Collaboration System. The HC 404 system consists of the Extron HCT 103 switching transmitter and the HCR 102 scaling receiver.

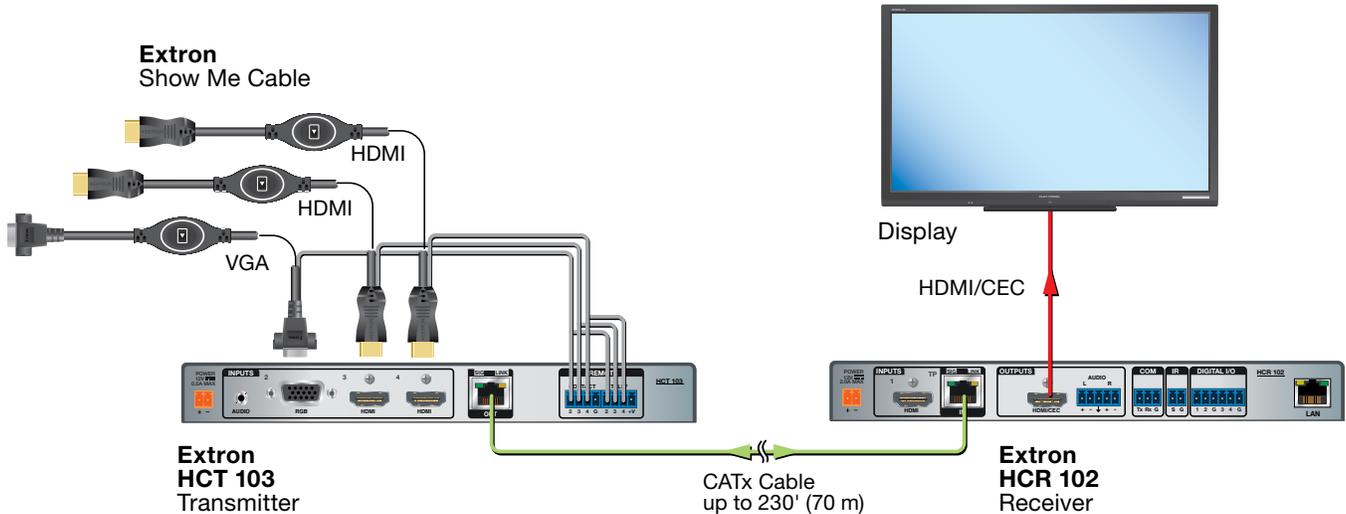


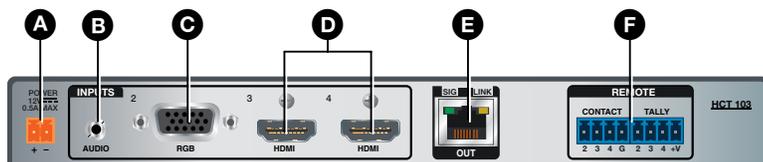
Figure 1. TeamWork Connect 300 Application Diagram

Figure 1 shows a typical TeamWork Connect 300 application. Digital or analog input devices (for example, laptops, or tablets) connect to the HCT 103 switching transmitter, using Show Me cables. The transmitter converts the analog and digital inputs into a proprietary digital signal. The proprietary signal passes along the CATx cable to the HCR 102 scaling receiver where it is converted to HDMI.

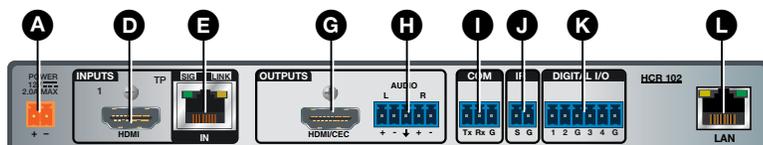
TeamWork Connect 300 Kit Included Parts

- One HCT 103 transmitter
- One HCR 102 receiver
- One 12 VDC, 4.2 A Extron power supply
- One Extron VGA Show Me cable
- Two Extron HDMI Show Me cables
- One HDMI display cable
- One CATx cable

Rear Panel Features



HCT 103 Transmitter



HCR 102 Receiver

Figure 2. Rear Panel Features

NOTE: Some of the features shown in figure 2 are not used by the TeamWork Connect 300 kit.

- A** Power input
- B** Audio input (transmitter only)
- C** VGA input (transmitter only)
- D** HDMI inputs
- E** CATx cable connector
- F** Contact and Tally ports (transmitter only)
- G** HDMI/CEC output (receiver only)
- H** Audio output (receiver only)
- I** COM port (receiver only)
- J** IR port (receiver only)
- K** Digital I/O (receiver only)
- L** LAN port (receiver only)

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Display Requirements

The TeamWork Connect 300 kit is designed to work with most brands and models of flat panel displays available worldwide by sending CEC driver commands to turn the display power on and off.

Some displays may not work with the specific CEC commands sent by the receiver. This may require modification to the Global Configurator Plus and Professional (GCP) project file. Other displays may not work with any CEC commands. This requires the system to be reconfigured to use an alternative signal, such as IR.

Test the display thoroughly prior to installation or mass deployment of TeamWork systems. For optimum performance, consider the following when selecting the displays for your TeamWork installation:

- **Sleep mode** — To use the TeamWork Connect 300 default features with a display that has a sleep mode option (sometimes called “auto sleep”), you should disable that option. This can usually be done with the menu settings for the display.
- **Resolution** — The HDMI signal sent from the HCR 102 scaling receiver to the display has a resolution of 1080p. If the display does not support 1080p, reconfigure the receiver to produce a signal with a suitable resolution, using the on-screen display menu and front panel controls or the Extron PCS software.
- **Audio** — Audio from source devices is supported in the TeamWork system by routing it as an embedded audio signal to the display for playback via integrated speakers. Most displays with HDMI inputs and integrated speakers work this way. Some professional or commercial grade displays do not have integrated speakers and will not support audio playback. Typically, source devices with HDMI output connectors embed audio onto the HDMI connector.

NOTES:

- Always check and test compatibility before installation. Some systems may require the display to be controlled by RS-232, Ethernet, or infrared signals (see the documentation for the display or the *Global Configurator Help File*).
- Some displays support a lockout of local buttons. Extron recommends that, after setup, user accessible controls are locked whenever possible. This ensures the display remains optimized for the TeamWork system.

Mounting and Placement of System Components

Decide where to install the TeamWork Connect 300 system and where the individual components will be placed. The HCR 102 should be placed close to the display. The HCT 103 should allow users easy access to the Show Me cables.

Cabling

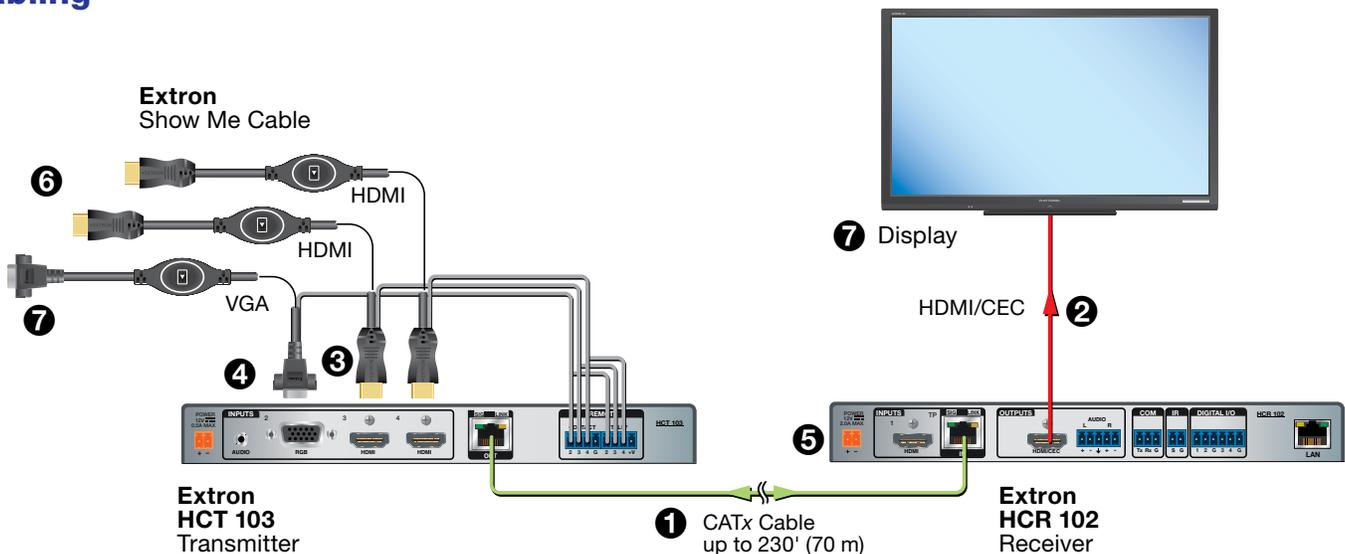


Figure 3. Cabling the TeamWork Connect 300 Kit

- 1 **Connect the Transmitter to the Receiver** (see page 3)
- 2 **Connect the Receiver to the Display Device** (see page 3)
- 3 **Connect the Show Me Cables to the Transmitter** (see page 3)
- 4 (Optional) **Connect Analog Audio Input** (see page 4)
- 5 **Connect Power to the Receiver** (see page 4)
- 6 **Connect the Show Me Cables to the Source Devices** (see page 4)
- 7 **Power on the System** (see page 4)

Connect the Transmitter to the Receiver

Use the provided CATx cable to connect the RJ-45 ports of the transmitter and receiver (see [figure 2, E](#)). The CATx cable carries AV signals from the transmitter to the receiver. It also carries power from the receiver to the transmitter, so that the transmitter does not need a separate power supply.

Connect the Receiver to the Display Device

Connect the HDMI/CEC output port on the receiver (see [figure 2, G](#)) to an AV device that supports CEC control. Use the provided LockIt cable lacing brackets to secure the HDMI connectors (see the *HC 404 System User Guide* for details).

The HC 404 system uses CEC driver commands sent to the display to automatically turn display power on or off based on whether or not an active signal is detected at any input. This feature is built-in and works “out of the box” without need for additional configuration.

Connect the Show Me Cables to the Transmitter

The Extron Show Me cables are for use with Extron TeamWork systems. They feature a **Share** button for remote input source selection and a control pigtail, which may be wired directly into the HCT 103 with contact closure inputs and tally outputs.

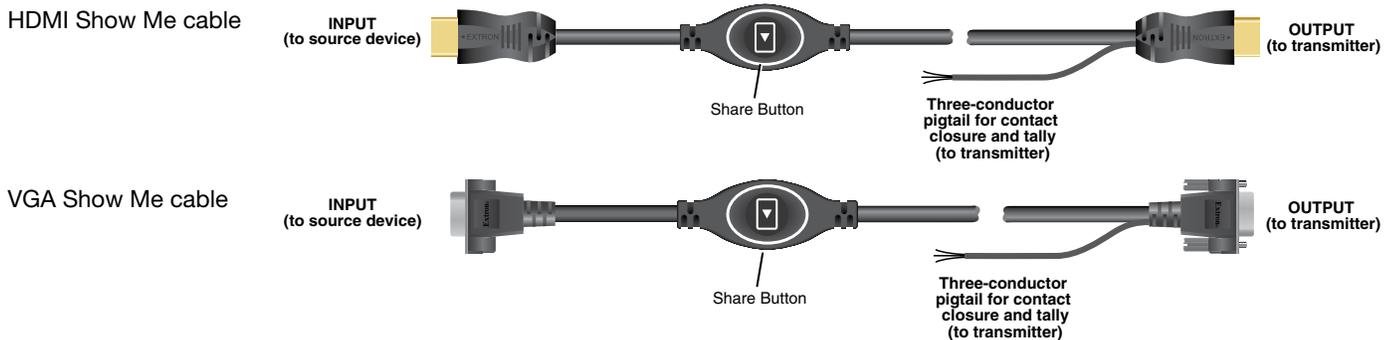


Figure 4. Show Me Cables

The output end of the cable has either a VGA or HDMI connector and a three-conductor pigtail.

1. Connect the VGA or HDMI connector to the appropriate input port on the transmitter (see [figure 2, C](#) and [D](#), on page 1). Use the provided LockIt® cable lacing brackets to secure the HDMI connectors (see the *HC 404 System User Guide* for details).
2. Connect the black (Tally Out) and red (Contact In) pigtail wires as shown in figure 5. The number adjacent to the Tally Out and Contact pins must correspond to the video input on the transmitter.
 - Input 2 is the VGA source.
 - Inputs 3 and 4 are the HDMI sources.
3. Press the **Share** button to switch the connected source to the presentation display. Pressing the **Share** button creates a momentary contact closure, which triggers the switcher to select the connected source device. If a tally output is connected, the button lights blue.

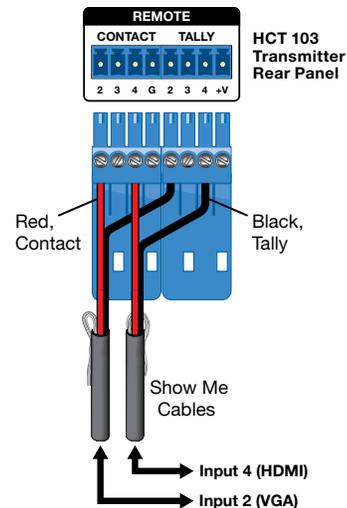


Figure 5. Contact and Tally Wiring to Transmitter

NOTES:

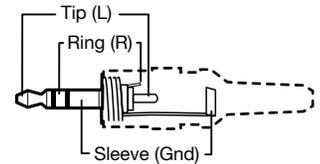
- For Show Me cables, the ground pin is optional. The Show Me cables are grounded via the video connectors.
- Do not connect Show Me cables to the +V pin of the tally port.
- The source device provides the +5 VDC supply voltage needed to illuminate the Share button. If the source device does not supply this +5 VDC, the **Share** button will not illuminate. Some mobile devices do not provide the required voltage to light up the button.
- Digital (HDMI) Show Me cables support embedded audio and CEC signals. Analog Show Me cables do not.

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Connect Analog Audio Input

(Optional) For analog audio sources, connect the source device to the audio input 3.5 mm tip-ring-sleeve (TRS) connector on the transmitter (see [figure 2](#), **B**). The cable is not provided.

Wire the connector as shown in figure 6.



3.5 mm Stereo Plug (unbalanced input)

Figure 6. Analog Audio Input

Connect Power to the Receiver

Connect the HCR 102 to the provided 12 VDC, 4.2 A power supply (Extron PS 1242). The receiver provides power to the transmitter over the CATx cable.

ATTENTION:

- Always use a power supply supplied or specified by Extron. Use of an unauthorized power supply voids all regulatory compliance certification and may cause damage to the supply and the unit.
- Utilisez toujours une source d'alimentation fournie ou recommandée par Extron. L'utilisation d'une source d'alimentation non autorisée annule toute certification de conformité réglementaire, et peut endommager la source d'alimentation et l'unité.

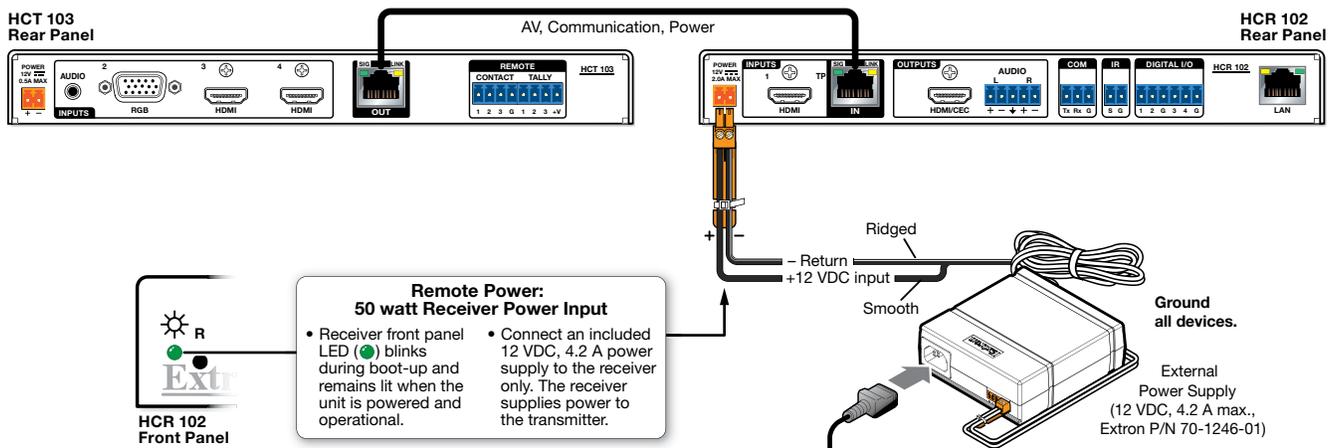


Figure 7. Connecting Power to the HCR 102 Receiver

NOTE: The receiver can provide power remotely to the transmitter using a 50 watt power supply. The transmitter can receive power from but cannot provide power to the receiver.

Connect the Show Me Cables to the Source Devices

The input end of the cable has a single VGA or HDMI connector. Connect this end to the appropriate input source. Use the provided LockIt cable lacing brackets to secure the HDMI connectors (see the *HC 404 System User Guide* for details).

Power on the System

If required, power on the input devices and connect power to the display.

Testing the System

The TeamWork system has been pre-configured so that once all the connections are made and the devices are all powered on there should be no need of further configuration for the system to work. To ensure that the system has been set up correctly, follow these steps:

1. Power on the source devices.
2. Press the **Share** button to select one of the source devices. If that source device is providing a video signal, the receiver sends CEC commands that automatically turn the display power on and the display shows the signal from the selected source device.
The LED button on the selected Show Me cable lights blue (if the source device provides sufficient power).
3. Press the **Share** button for another of the source devices. Confirm that the display is showing the signal from the second source device.
When the button on the second Show Me cable is pressed, the LED lights blue and the LED on the first cable is switched off.
4. Press the **Share** button for the final source device. Confirm that the display is showing the signal from the third source device.
When the button on the third Show Me cable is pressed, the LED lights blue and the LED on the second cable is switched off.
5. Disconnect all the Show Me cables from the source devices.
After about 30 seconds without an input signal, the display should turn off.
After about 3 hours of inactivity (without changing the input), the display also turns off.
6. Connect a Show Me cable to a source device and press the **Share** button on that cable.
As soon as an active video signal is detected, the display should automatically turn on.

Troubleshooting

The TeamWork Connect 300 system is pre-configured with a Global Configurator Plus and Professional (GCP) file to work, as shipped from the factory. The system uses CEC driver commands sent to the display to automatically turn display power on or off.

NOTE: If the GCP file becomes corrupted, you can reload the original file from www.extron.com or contact an Extron support representative at one of the phone numbers listed at www.extron.com/company/contactus.aspx.

This section lists some of the most common issues and provides suggestions for dealing with them:

- [No Image on the Display](#)
- [Show Me Button LEDs Stay Off When Pressed](#)
- [The Display Does Not Automatically Turn On](#)
- [The Display Stays On and Never Turns Off](#)

No Image on the Display

Cause 1 — There is a problem with the source device:

Solution — Verify that the source device is powered on and outputs an active signal.

Cause 2 — Cable connections are incorrect:

Solution — Verify that the cable from the transmitter is connected to the current HDMI input.

Cause 3 — Display is off:

Solution 1 — Verify that the display is in the on state.

Solution 2 — The TeamWork system turns the display on and off by CEC. If the display has a sleep mode feature, disable this feature to prevent the display from accidentally powering off.

Cause 4 — The display has a problem:

Solution — Verify that the display functions correctly.

Cause 5 — The display cannot show video at the incoming resolution:

Solution — By default, the receiver puts out a signal with a resolution of 1080p. If that is not compatible with the display, the user can change the receiver output resolution using Extron PCS software or the on-screen display menu. Contact an Extron support representative (see the phone numbers at www.extron.com/company/contactus.aspx).

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Show Me Button LEDs Stay Off When Pressed

Cause 1 — The cable is not plugged into a source device that is producing an active video output signal:

Solution — Verify that the source device is on and producing an active signal.

Cause 2 — Contact or tally wiring is incorrect:

Solution — Ensure the contact and tally pins are correctly wired (see [Connect the Show Me Cables to the Transmitter](#) on page 3)

Cause 3 — The transmitter is not powered on:

Solution — Verify that the transmitter is powered **on**. The HCT 103 front panel power LED lights if the device is receiving power. If it is being powered remotely by the receiver, ensure the CATx cable between the transmitter and receiver is connected correctly.

NOTE: The remote power feature is enabled by default but can be configured, using PCS.

Cause 4 — There is a problem with Show Me cable:

Solution — Try connecting the video source to a different cable. If the second cable works correctly, there may be a problem with the Show Me cable. Contact an Extron support representative (see the phone numbers at www.extron.com/company/contactus.aspx).

Cause 5 — There is a problem with transmitter:

Solution — If none of the cables work correctly, there may be a problem with the transmitter. Contact an Extron support representative (see the phone numbers at www.extron.com/company/contactus.aspx).

Cause 6 — The source device does not output +5 V:

Solution — This is a problem with the source device. HDMI specifications require pin 18 to carry a +5 V output and VGA specifications require pin 9 to carry a +5 V output. If the source does not provide power, the LED on the Show Me cable does not light but switching between sources should occur correctly.

The Display Does Not Automatically Turn On

The HC 404 system sends CEC driver commands to the display to turn display power on or off. The system is configured to power on the display if an active signal is detected on any input. If no active signal is detected, the display is powered off.

Cause 1 — Incorrect wiring:

Solution — Check that the HDMI cable between the receiver HDMI/CEC output to the display is correctly connected.

Cause 2 — There is no video signal present at Show Me cables:

Solution — Verify that an active signal is present at the input of any of the Show Me cables.

Cause 3 — Display power is out of sync:

Solution — The display is in standby mode. Turn on the display using the remote control or the physical power button.

Cause 4 — Display has sleep mode enabled:

Solution — Go to the menu for the display and disable the sleep mode feature. Turn on the display using the remote or physical power button.

Cause 5 — Display is not compatible with the specific CEC commands sent by the receiver:

Solution — Reconfigure the GCP project file to add a user defined control string (see the *Universal Display Driver Communication Sheet* at www.extron.com).

Cause 6 — Display does not support any CEC commands:

Solution — Reconfigure the GCP project file to use an alternative method, such as IR, to turn display power on and off (see the *Global Configurator Plus and Professional Help File*).

Cause 7 — Display supports CEC commands but this feature needs to be enabled:

Solution — See the user guide for the display.

The Display Stays On and Never Turns Off

Cause 1 — Video signal is present at Show Me cables:

Solution — Verify that no active signals are present at the inputs of any of the Show Me cables. The TeamWork system is designed to turn off the Display only when no video signals are present on any input.

For information on safety guidelines, regulatory compliances, EMI/EMF compatibility, accessibility, and related topics, see the [Extron Safety and Regulatory Compliance Guide](#) on the Extron website.