

RemoteTableKit AM1™

Frequently Asked Questions

Tech Support: 203-854-5701

Q: What does the RTK-AM1™ do?

A: The **RTK-AM1**[™] is designed to bring several signal types to/from a conference room table over a single category cable. It includes a 4x1 video switch, USB-A and USB-C ports with host capabilities at each end.

Q: I only see three HDMI inputs. Where is the fourth?

A: The fourth input on the **RTK-AM1-TX™** is actually the USB-C connector, which supports not only USB data, but also USB DisplayPort Alternate Mode (DP Alt Mode) video when connected to a Full Function USB-C device port.

Q: What is a Full Function USB-C port?

A: A full function USB-C port is one that supports traditional USB data, power delivery for charging, and DP Alt Mode video.

Q: How can I tell if my device has a Full Function USB-C port?

A: Not all USB-C ports are full function ports. If it's a Windows device it will typically have a lightning bolt symbol (*) at the connector signifying that is Thunderbolt capable and therefore a full function USB-C port. MacBooks don't normally have printed symbols at the connector, but typically MacBooks 2018 and newer include full function USB-C ports. Check the specifications to be certain.

Ethernet

Q: How do the Ethernet ports work on the RTK-AM1™?

A: There are three Ethernet ports on the RX and four ports on the TX. When in VLAN mode (DIP switch selectable) the "Mics Out" port on the RX is tied to the three Mic ports on the TX. The two "Ethernet Switch" ports on the RX are tied to the "Ethernet" port on the TX. This is designed for codecs that require Ethernet microphones to be on their Link Local Network and touch panels to be on the LAN side of the network.

When not in VLAN mode all four Ethernet ports on the TX are tied to all three Ethernet Switch ports on the RX.

Q: What kind of PoE is provided?

A: The RTK-AM1-TX™ includes 4 Ethernet ports that provide PoE/PoE+ power. 2 PoE+ ports support 48VDC PoE+ devices up to 30W per IEEE 802.3at. The remaining ports support 48VDC PoE devices up to 15.4W per IEEE 802.3af (Total 76.2W maximum).

The ports are intended to power IP microphones, touch panels, and table cameras.

USB

Q: What kind of device charging is available at the RTK-AM1-TX™ USB-C port?

A: The RTK-AM1-TX™ USB-C port can support Power Delivery (PD) up to 60W to the connected device.

Q: How does USB data work between the TX and RX?

A: Both the TX and RX include one USB-C and two USB-A ports.

- If the host is connected to the TX it will see all four USB-A ports and the USB-C port on the RX as device ports.
- If the host is connected to the RX it will see all four USB-A device ports only. The USB-C port on the TX cannot support devices (only hosts) so it is not used when the host is on the RX side.

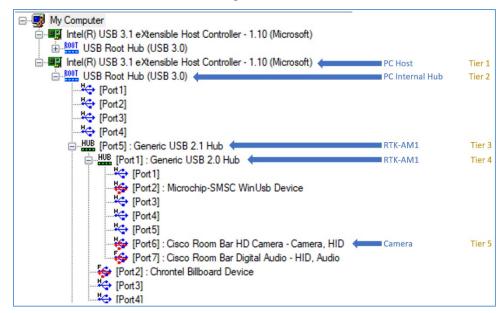
USB devices local to the host side support USB 3.0 speeds, while USB devices on the extended side support USB 2.0 speeds.

Q: Can there be more than one host connected to the RTK-AM1™ system?

A: No, only one host may be connected at a time. During installation choose which USB direction makes the most sense for your application. A host device can be connected to the USB-C on either the **RTK-AM1-TX** $^{\text{TM}}$ or **RTK-AM1 RX** $^{\text{TM}}$.

Q: How many USB tiers does the RTK-AM1™ use?

A: A linked RTK-AM1[™] kit will use up two tiers (hubs) in the USB hierarchy. Be aware that many computers will use up two tiers internally, and the attached 3rd party device will use another tier. Seven total tiers is the maximum allowed per the USB specification, so take care to design your systems appropriately. Software programs such as UsbTreeView (freeware by Uwe Sieber) can be a useful tool in verifying tier structure. Below is a typical example of a USB camera connected through the RTK-AM1[™] into a host PC:



HDMI

Q: What resolutions does the video section support?

A: The video section supports up to $4K60\ 4:4:4$ resolution on all four video inputs (3 x HDMI and 1 DP Alt Mode). HDMI audio and HDCP up to v2.2 (if present) are also supported.

Control

Q: How does the Input Select 6-pin connector work on the RTK-AM1-TX™?

A: These are inputs designed to be used with a third-party control system or contact closure switch. The inputs are active low and include an internal pull-up. The connector has two modes of operation depending on the state of DIP switch 5 on the RTK-AMX-TX.

With DIP switch 5 OFF, only pin 1 and one of the ground pins are used. A momentary short of pin 1 will select the next available connected source. It will automatically skip over inputs without a source connection.

With DIP switch 5 ON, this connector operates as a discreet input selection. A momentary short between one of the numbered pins and ground will select the indicated video input.

Q: Can the RTK-AM1™ be controlled from a 3rd party RS-232 control system?

A: Yes, there is a 3rd party RS-232 port on the Transmitter which can receive commands for switching inputs and resetting the PoE ports. Please refer to the SCT Programming Guide which can be downloaded from the Tech Tips Support page at www.soundcontrol.net.

Q: How does Auto-Switching work?

A: There are two auto-switching modes: Last Source Detect Mode and Priority Mode. In Last Source Detect Mode the video switches to the last active device attached to the Transmitter. In Priority Mode the video switches to the last active device attached, however when all other devices are removed the video falls back to the priority port (defined by TX DIP switch 4).

Operation

Q: What do the LEDs indicate?

A: The LEDs on both the **RTK-AM1-TX™** and **RTK-AM1-RX™** provide a good way to tell if the system is wired correctly and operating normally. Refer to the chart below for details.

| Module | LED LABEL | STATUS | INDICATES | |
|------------|-------------|---------------------|---------------------------------|---------------------------------------|
| | Power | Solid Green | Good Power | |
| | Status | Blinking Green | Good Link Firmware | |
| | | Blinking Green | Good MCU Firmware | |
| RTK-AM1-RX | FW* | Blinking Red (slow) | DIP switch 8 is on but no valid | |
| KIN-AMI-KA | FVV | | configuration file is loaded | configuration file is loaded |
| | Link | | Blinking Red (fast) | Fan error - Fan has stopped or failed |
| | | Solid Green | Linked to RTK-AM1-TX | |
| | In 1 – In 4 | Solid Green | Video source selected | |
| RTK-AM1-TX | Power | Solid Green | Good Power | |

| | Status | Blinking Green | Good Link Firmware |
|--|-------------|----------------|-----------------------|
| | FW* | Blinking Green | Good MCU Firmware |
| | | Blinking Red | Cooling Fan Failure |
| | Link | Solid Green | Linked to RTK-AM1-RX |
| | In 1 – In 4 | Solid Green | Video source selected |

^{*}FW blink pattern changes when performing firmware update or writing the log file. Refer to the "RTK-AM1 Firmware/Log Guide" under the Support page at www.soundcontrol.net for details.

Q: What do the DIP switches do?

A: The following chart shows the functions of the 8 position DIP switches:

RTK-AM1-RX DIP Switch

| Switch | Function | OFF | ON | |
|--------|------------------------------------------------|--------------------------------------------------------------------------------------------|----------------------------------------------------|--|
| 1 | Codec Communications on Diag RS-232 Port | Disabled | Enabled | |
| 2 | Codec Type | Cisco | Others - Also enables Auto Host Switching (AHS) | |
| 3 | Cisco Expert Mode | Disabled | Enabled (Overrides DIP switches 1 & 2) | |
| 4 | Reserved | - | - | |
| 5 | Reserved | - | - | |
| 6 | Codec Connector ID - (Applies when DIP 1 is on | DIP 6 Off and DIP 7 Off - Au DIP 6 On and DIP 7 Off - For | ce Connector ID=2 | |
| 7 | and DIP 2 is off) | DIP 6 Off and DIP 7 On – Force Connector ID=3 DIP 6 On and DIP 7 On – Force Connector ID=4 | | |
| 8 | Use microSD Configuration File | Disabled* | Enable | |

^{*}Default settings are used when Configuration File is disabled (See details below).

RTK-AM1-TX DIP Switch

| Switch | Function | Off | On |
|--------|------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|--------------------------------------------------------------------|
| 1 | Ethernet VLAN Mode | Disable | Enable |
| 2 | Video Auto Switching | Disable | Enable |
| 3 | Video Auto Switch Mode (Applies when DIP 2 is on) | Last Source Detect Mode | Priority Mode |
| 4 | Auto Switch Priority Input (Applies when DIP 2 and DIP 3 are on) | USB-C Input | HDMI Input 1 |
| 5 | Input Select Mode (6-pin terminal block) | Cycle Mode (Each time pin 1 is pulled low, move to next available connected video port) | Discreet Mode (switch to video input of last pin pulled low) |

| | | HDMI inputs report HDCP | HDCP capability is passed |
|---|-----------------------------|---------------------------|---------------------------|
| 6 | HDCP Follow | capability based on DIP | through from RX output |
| | 1.2 6. 1 6.16 1 | switch 7 setting. | device to HDMI inputs |
| | | | |
| | HDCP self-declaration | All HDMI inputs report no | All HDMI inputs report |
| 7 | | · · · | support for HDCP1.4 and |
| | (Applies when DIP 6 is off) | HDCP support | HDCP2.2 |
| 8 | Reserved | - | - |

Q: What are the default settings when the Configuration File is disabled? (RX DIP switch 8 Off)

A: The following settings are used when the **RTK-AM1-RX™** DIP switch 8 is off:

These settings are only applicable when Cisco Codec Communications are Enabled:

| Parameter | Default Value |
|----------------------------------------|---------------|
| Heartbeat timeout interval | 30 seconds |
| SCT device name reported to codec | SCT RTK-AM1 |
| HDMI 1 input name on Cisco touch panel | SCT-HDMI1 |
| HDMI 2 input name on Cisco touch panel | SCT-HDMI2 |
| HDMI 2 input name on Cisco touch panel | SCT-HDMI3 |
| USB-C input name on Cisco touch panel | SCT-USBC |

Q: Are there any special settings when integrating with a Cisco codec?

A: After logging into the Cisco web interface, navigate to Settings, Video. Then scroll to the input that is connected to the **RTK-AM1-RX™**. Under the settings of that connector verify the following parameters:

PresentationSelection = Manual Visibility = IfSignal

Next, navigate to Settings, SerialPort and verify the following parameters:

BaudRate = 115200 LoginRequired = Off Mode = On

Be sure to click Save if you make any changes on these pages.

Q: What is Cisco Expert Mode? (Firmware 4.0 or higher)

A: With Expert Mode off, the RTK-AM1[™] communicates natively with Cisco codecs providing heartbeat, firmware versions, and creating buttons on the Cisco touch panel for selecting sources. These buttons have onscreen labels defined by the Configuration file or the default values. With Expert Mode on it is the responsibility of the installer to create these buttons within the codec via Cisco xCommands. The RTK-AM1[™] will still show/hide the buttons based on active video inputs and still provide heartbeat messages and firmware versions for monitoring.

xCommands are documented in the Cisco API Reference Guide on Cisco's website. The xCommands used to create the buttons in Expert Mode must be formatted correctly to be in compliance with the **RTK-AM1™**.

First, the ConnectorId parameter must match the connector ID of the USB-C port of the Cisco codec. This is where the **RTK-AM1™** will attach to. Here are the connector IDs of common devices:

| Cisco Device | USB-C Connector ID | HDMI Connector ID |
|--------------|--------------------|-------------------|
| Codec EQ | 4 | 1, 2, or 3 |
| Room Bar Pro | 3 | 2 |
| Room Bar | 2 | 3 |
| Codec Pro | n/a | 1, 2, 3, 4, or 5 |
| Codec Plus | n/a | 1, 2, or 3 |

Next, the Sourceldentifier parameter must be set as defined in the following table:

| RTK-AM1 Input Connector | Source Identifier |
|-------------------------|-------------------|
| Input 1 (HDMI) | sct1 |
| Input 2 (HDMI) | sct2 |
| Input 3 (HDMI) | sct3 |
| Input 4 (USB-C) | sct4 |

The following is an example for a Codec EQ:

xCommand UserInterface Presentation ExternalSource Add ConnectorId: 4 Name: "Custom Button Name" SourceIdentifier: sct1 Type: PC

Text between the quotes will be the button text on the Cisco touch panel.

Q: I'm installing in a secure environment. Are there any options to be in compliance?

A: Some secure environments don't allow memory card slots on devices. In the Tech Support Downloads section of www.soundcontrol.net there is a special version of Secure firmware that will completely and permanently disable the microSD slot. Note: This is not reversible.