TS-1542/TS-1542-C
15.6 in. HD Touch Screens

Supplemental Guide

Crestron Electronics, Inc.

Original Instructions
The U.S. English version of this document is the original instructions. All other languages are a translation of the original instructions.

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TS-1542/TS-1542-C: 15.6 in. HD Touch Screens

Introduction

The Crestron® TS-1542 and TS-1542-C are touch screens with a 15.6 in. HD display and a built-in high-performance digital graphics engine. The TS-1542 and TS-1542-C feature Smart Graphics® technology, dual-window HD streaming video display, annotation, voice recognition, web browsing, and a Rava® SIP intercom.

NOTE: The TS-1542 and the TS-1542-C are functionally similar. For simplicity within this guide, the term "touch screen" is used except where noted.

For more information on the TS-1542 and TS-1542-C, refer to the TS-1542/TS-1542-C Quick Start (Doc. 7822) at www.crestron.com/manuals.

Product Features

Refer to the following chart to determine the product features that are available on the TS-1542 and TS-1542-C touch screens.

TS-1542/TS-1542-C Feature Chart

FEATURE CLASS	FEATURE	TS-1542	TS-1542-C
General	Size	15 in.	15 in.
	Screen resolution	1920 x 1080	1920 x 1080
	HDMI® input	N/A	N/A
	DigitalMedia™ input	N/A	Up to 4K@30Hz 4:4:4
	HDMI output	N/A	N/A
	RS-232	N/A	N/A
	IR	N/A	N/A
	CEC	N/A	N/A
	Audio out	LPCM, 2 channel	LPCM, 2 channel
HDCP	HDMI input	N/A	N/A
	DigitalMedia Input	N/A	HDCP 2.2
	HDMI output	N/A	N/A
Security	AES-128/TLS security	**Yes/TLS 1.2**	**Yes/TLS 1.2**
	802.1x	**Yes**	**Yes**
	Active Directory® software authentication	**Yes**	**Yes**
Crestron AirBoard™ Whiteboard Capture System	Supported as a video source	**Yes as of 1/2019 FW release,** selectable as a source within Smart Graphics® video window object	**Yes as of 1/2019 FW release,** selectable as a source within Smart Graphics video window object
Supported User Interfaces	PinPoint UX™ software	No	No
	Custom Smart Graphics project	**Yes**	**Yes**
	Crestron Pyng® OS native project	No	No
	Crestron Pyng OS Smart Graphics project	**Yes**	**Yes**
Firmware Auto Update	Supported?	**Yes as of 1/2019 FW release**, disabled by default	**Yes as of 1/2019 FW release**, disabled by default
Crestron Virtual Control (VC-4)	Supported?	**Yes as of 1/2019 FW release**	**Yes as of 1/2019 FW release**
RSTP	Default State	Enabled (Disabled will become the default in a future release.)	Enabled (Disabled will become the default in a future release.)

(Continued on following page)

TS-1542/TS-1542-C Feature Chart (continued)

FEATURE CLASS	FEATURE	TS-1542	TS-1542-C
Crestron XiO Cloud™ Service	Crestron XiO Cloud support	Yes as of 1/2019 FW release	Yes as of 1/2019 FW release
	Firmware updates	Yes as of 1/2019 FW release	Yes as of 1/2019 FW release
	Network settings	Yes as of 1/2019 FW release	Yes as of 1/2019 FW release

Access the Setup Screens

The setup screens enable basic configuration prior to regular operation of the touch screen.

To access the setup screens during regular operation, place five fingers on the touch screen display and hold for 15 seconds.

NOTE: The touch screen also provides a web configuration interface that may be used to view and configure various touch screen settings. For more information, refer to "Configuration via Web Interface," starting on page 22.

The Setup screen is displayed (TS-1542-C shown).

TS-1542-C Setup Screen

The Setup screen provides buttons for Ethernet setup, IP table setup, audio setup, display setup, standby timeouts, and diagnostics. There is also a button to toggle system messages on or off and an **About** button that provides information about the touch screen. Additionally, the Setup screen shows the IP address, the hostname, and the MAC address of the touch screen.

Tap the **Save & Exit** button to save all settings, to exit the setup screens, and to return to the main project.

The functions of each button are detailed in the following pages of this guide.

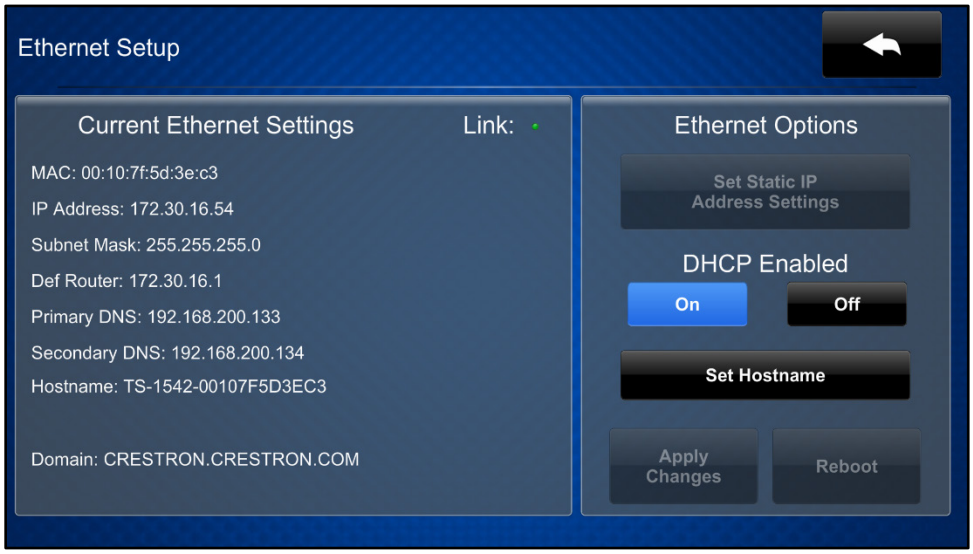
Configure the Device

Refer to the following sections for information about each device setup screen.

Ethernet Setup

Tap **Ethernet Setup** on the Setup screen to display the **Ethernet Setup** screen.

Ethernet Setup Screen



Use the **Ethernet Setup** screen to view the touch screen MAC and IP addresses, subnet mask address, default router address, primary and secondary DNS addresses, hostname, and domain. A **Link** indicator is provided to indicate the status of the Ethernet connection. (Green indicates that the Ethernet connection is active.)

The following buttons are provided for configuring Ethernet settings:

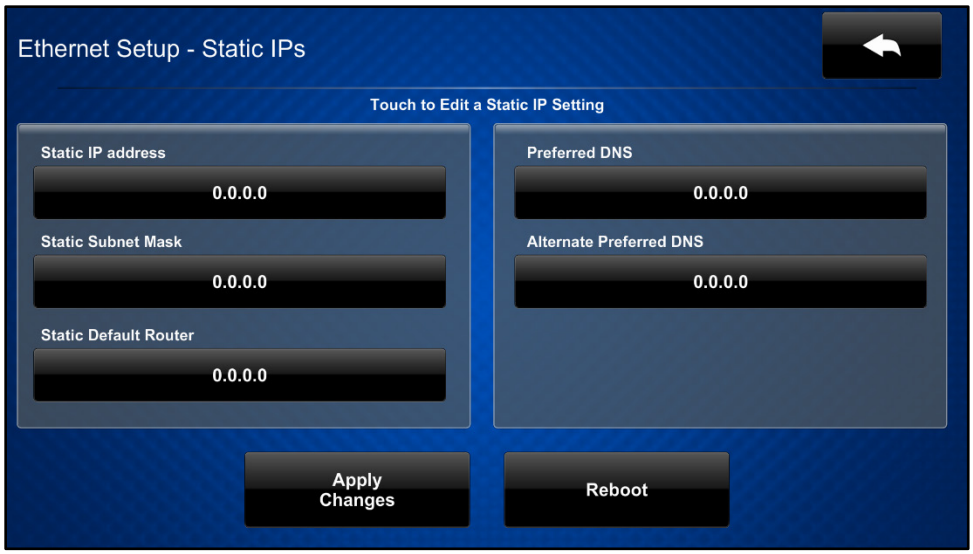
- Tap **On** or **Off** under **DHCP Enabled** to turn DHCP (dynamic host configuration protocol) on or off.

  NOTE: DHCP is enabled on the touch screen by default.

- If DHCP is turned off, tap **Set Static IP Address Settings** to enter static IP addresses manually.
- Tap **Set Hostname** to enter a new touch screen hostname using an on-screen keyboard.
- Tap **Apply Changes** to apply any new Ethernet settings to the touch screen and to stay in setup mode.
- Tap **Reboot** to exit setup mode and reboot the touch screen.

To change a static IP address, tap **Off** under **DHCP Enabled**. Then, tap **Set Static IP Address Settings** to display the **Ethernet Setup - Static IPs** screen.

Ethernet Setup - Static IPs Screen



To edit the static IP address, static subnet mask, static default router, preferred DNS, or alternate preferred DNS, tap the text field underneath the setting name.

The on-screen numeric keypad is displayed for the chosen setting.

Edit IP Address On-Screen Keypad

- Use the keypad to make a new entry.
- Tap the **x** button in the text field to clear any previous entry.
- Tap the delete button to delete the last digit.
- Tap **Save** to save a new entry or tap the back arrow button to discard any changes. The display returns to the **Ethernet Setup - Static IPs** screen.

After new settings have been saved, tap **Apply Changes** on the **Ethernet Setup - Static IPs** screen to apply the new settings and stay in setup mode. Tap **Reboot** to exit setup mode and reboot the touch screen.

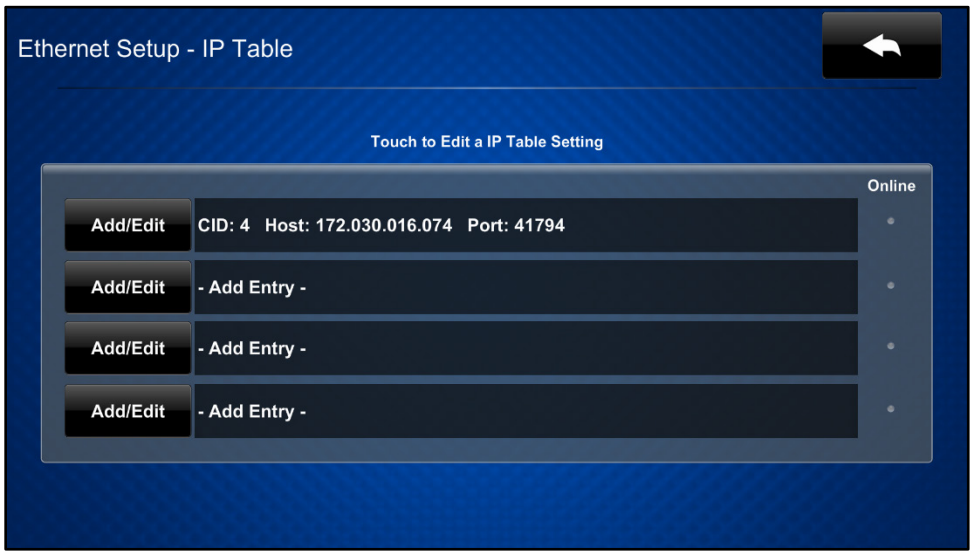
Tap the back arrow button to return to the **Ethernet Setup** screen.

Tap the back arrow button on the **Ethernet Setup** screen to return to the Setup screen.

IP Table Setup

Tap **IP Table Setup** on the Setup screen to display the **Ethernet Setup - IP Table** screen.

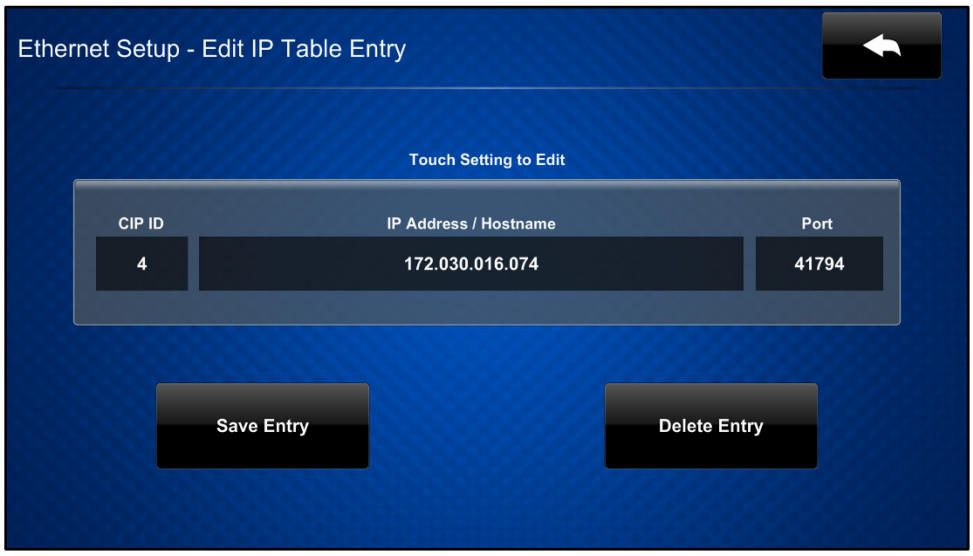
Ethernet Setup - IP Table Screen



Use the **Ethernet Setup - IP Table** screen to view and edit the IP table settings for connecting the touch screen to a control system. The **Ethernet Setup - IP Table** screen also provides an **Online** indicator for each IP table entry. (Green indicates that the control system is online.)

To add or edit an entry, tap **Add/Edit** next to the corresponding entry. The **Ethernet Setup - Edit IP Table Entry** screen is displayed.

Ethernet Setup - Edit IP Table Entry Screen



Tap the **CIP ID** text field to display the on-screen hex keypad.

Edit CIP IP On-Screen Hex Keypad

- Use the keypad to make the new entry.
- Tap the **x** button in the text field to clear any previous entry.
- Tap the delete button to delete the last digit.
- Tap **Save** to save a new entry or tap the back arrow button to discard any changes. The display returns to the **Ethernet Setup - Edit IP Table Entry** screen.

On the **Ethernet Setup - Edit IP Table Entry** screen, tap the **IP Address / Hostname** text field to display an on-screen keyboard.

Edit IP/Host On-Screen Keyboard

- Use the keypad to make the new entry.
- Tap the **x** button in the text field to clear any previous entry.
- Tap the delete button to delete the last character.
- Tap **Save** to save a new entry or tap the back arrow button to discard any changes. The display returns to the **Ethernet Setup - Edit IP Table Entry** screen.

On the **Ethernet Setup - Edit IP Table Entry** screen, tap **Save Entry** to save the current entry or **Delete Entry** to clear the entry.

Tap the back arrow button to return to the **Ethernet Setup - IP Table** screen.

Tap the back arrow button on the **Ethernet Setup - IP Table** screen to return to the Setup screen.

Audio Setup

Tap **Audio Setup** on the Setup screen to display the **Audio Setup** screen.

Audio Setup Screen

Use the **Audio Setup** screen to control the master volume, media volume, and beep volume settings for the touch screen.

NOTE: The **Media Volume** controls adjust the H.264 streaming media level in relation to the **Master Volume** controls.

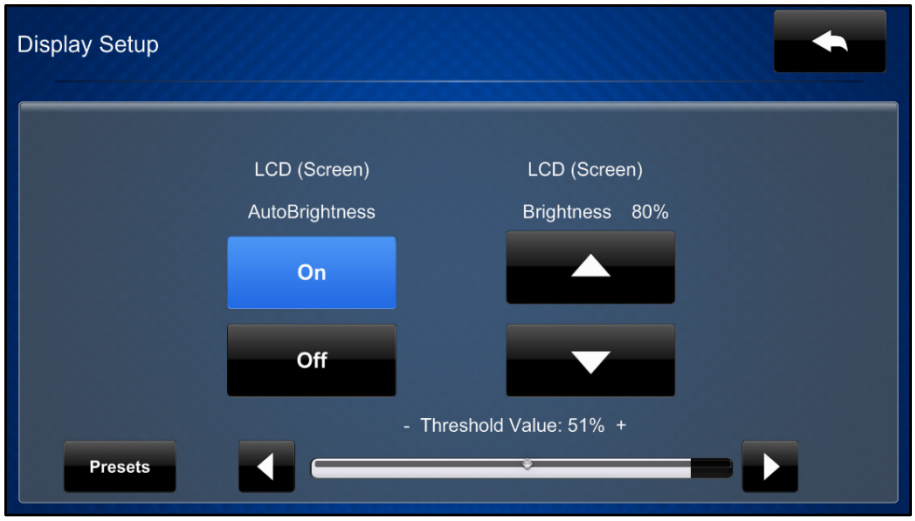
- **Master Volume**
  - Tap the up and down arrow buttons to raise or lower the touch screen master volume incrementally from 0 to 100%.
  - Tap **Mute On** or **Mute Off** to mute or unmute the master volume.
  - Tap **Play Test** to play a test recording at the current volume level.
- **Media Volume**
  - Tap the up and down arrow buttons to raise or lower the touch screen media volume incrementally from 0 to 100%.
  - Tap **Mute On** or **Mute Off** to mute or unmute the media volume.
- **Beep Volume**
  - Tap the up and down arrow buttons to raise or lower the touch screen beep volume incrementally from 0 to 100%.
  - Tap **Beep On** or **Beep Off** to turn the beep volume on or off.

Tap the back arrow button to return to the Setup screen.

Display Setup

Tap **Display Setup** on the Setup screen to display the **Display Setup** screen.

Display Setup Screen

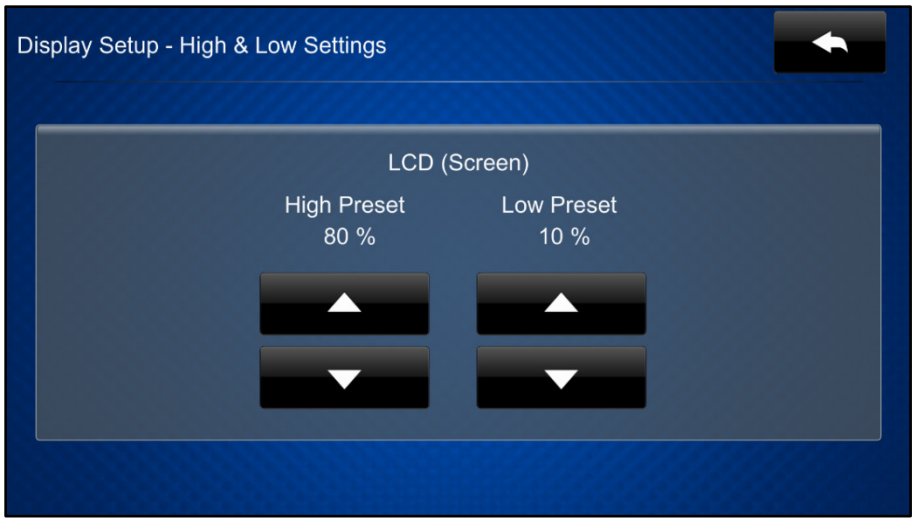


Use the **Display Setup** screen to adjust the LCD display settings and presets.

- Tap **On** or **Off** under **AutoBrightness** to turn auto brightness on or off.
- Tap the up and down arrows under **Brightness** to raise or lower the LCD display brightness incrementally from 0 to 100%.
- Tap the left and right arrow buttons under **Threshold Value** to raise or lower the LCD ALS (ambient light sensor) threshold value for switching between high and low auto-brightness presets from 0 to 100%.

Tap **Presets** to display the **Display Setup - High & Low Settings** screen.

Display Setup - High & Low Settings Screen



Use the **Display Setup - High & Low Settings** screen to adjust the auto-brightness preset values for the LCD display.

- Tap the up and down arrow buttons under **High Preset** to raise or lower the auto-brightness value for the high preset incrementally from 0 to 100%.
- Tap the up and down arrow buttons under **Low Preset** to raise or lower the auto-brightness value for the low preset incrementally from 0 to 100%.

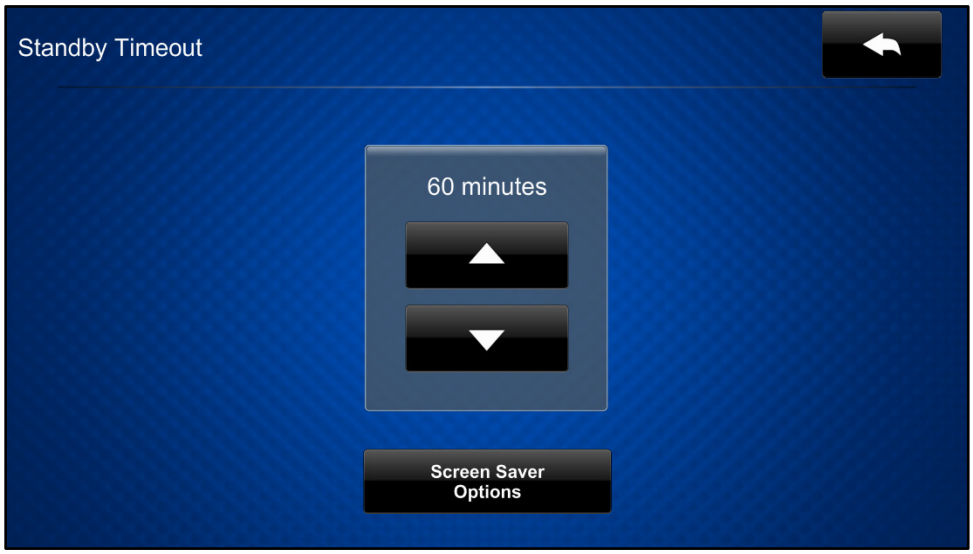
Tap the back arrow button to return to the **Display Setup** screen.

Tap the back arrow button on the **Display Setup** screen to return to the Setup screen.

Standby Timeout

Tap **Standby Timeout** on the Setup screen to display the **Standby Timeout** screen.

Standby Timeout Screen

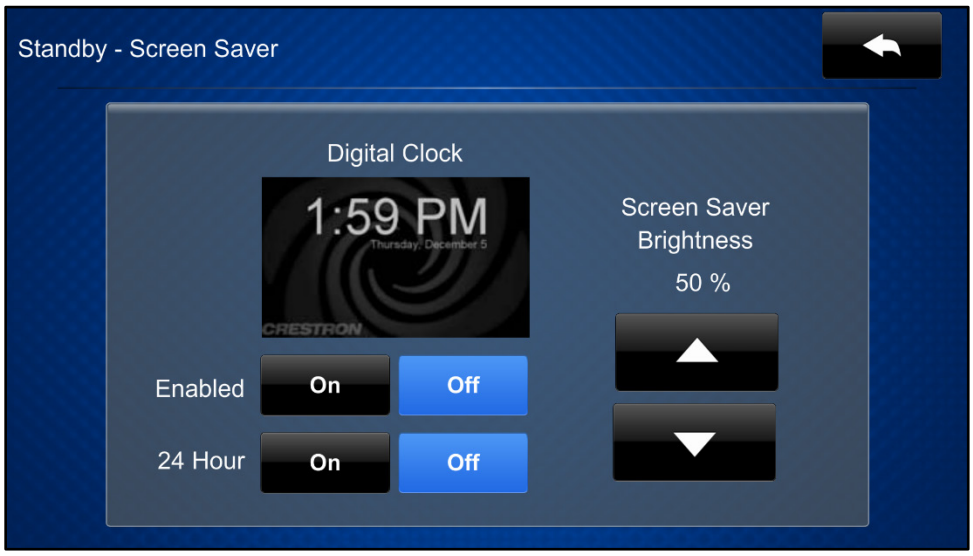


Use the **Standby Timeout** screen to set the standby timeout settings for the touch screen.

Tap the up and down arrow buttons to increase the touch screen standby timeout duration from 0 to 120 minutes.

Tap **Screen Saver Options** to display the **Standby - Screen Saver** screen.

Standby - Screen Saver Screen



- Tap **On** or **Off** next to **Enabled** to turn the digital clock screensaver on or off during standby timeout
- Tap **On** or **Off** next to **24 Hour** to turn 24-hour time format for the digital clock on or off.
- Tap the up and down arrow buttons under **Screen Saver Brightness** to increase or decrease the screensaver brightness from 0 to 100%.

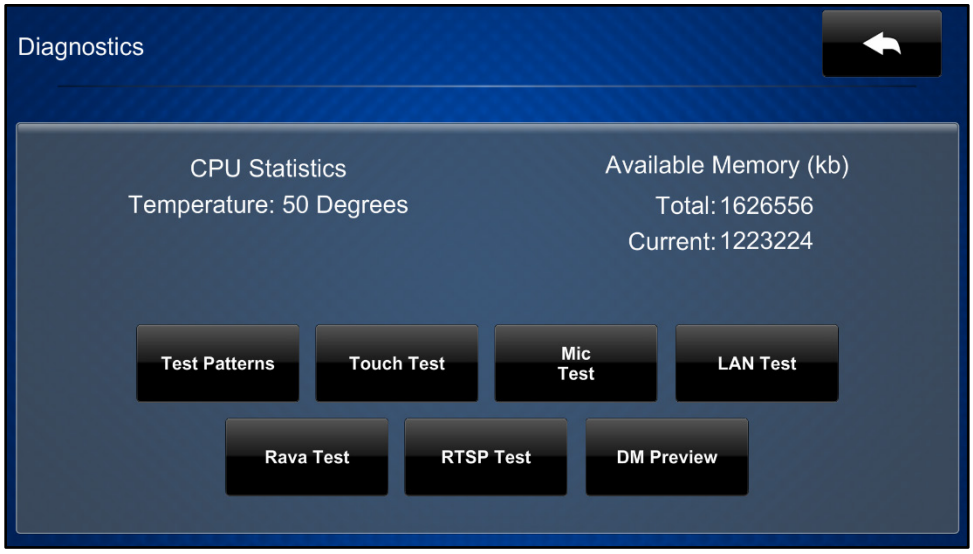
Tap the back arrow button to return to the **Standby Timeout** screen.

Tap the back arrow button on the **Standby Timeout** screen to return to the Setup screen.

Diagnostics

Tap **Diagnostics** on the Setup screen to display the **Diagnostics** screen (TS-1542-C shown).

Diagnostics Screen (TS-1542-C)



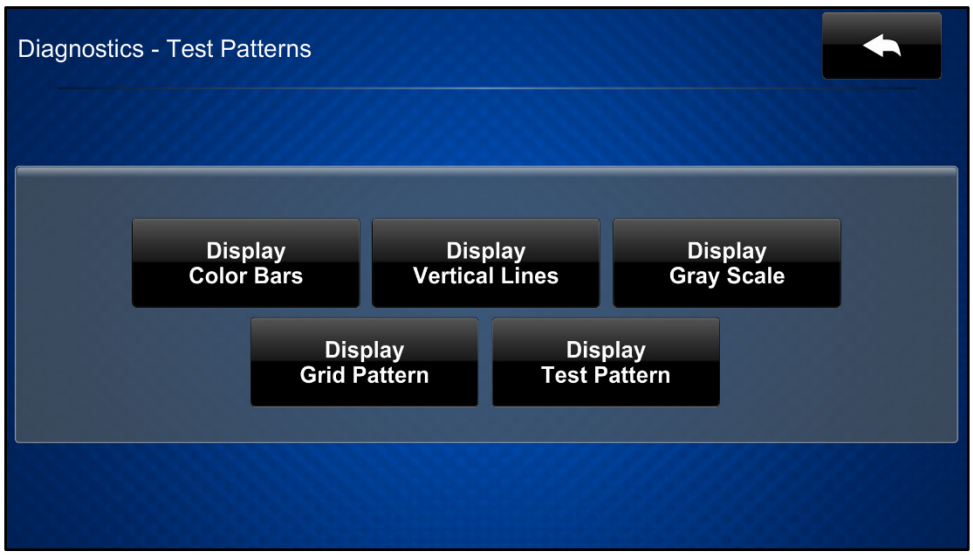
Use the **Diagnostics** screen to access various diagnostic test screens for the touch screen. The TS-1542-C provides an additional button for configuring the DM® input settings. The **Diagnostics** screen also provides the touch screen CPU temperature and available memory.

Each test screen is described in the sections that follow.

Test Patterns

Tap **Test Patterns** on the **Diagnostics** screen to display the **Diagnostics - Test Patterns** screen.

Diagnostics - Test Patterns Screen



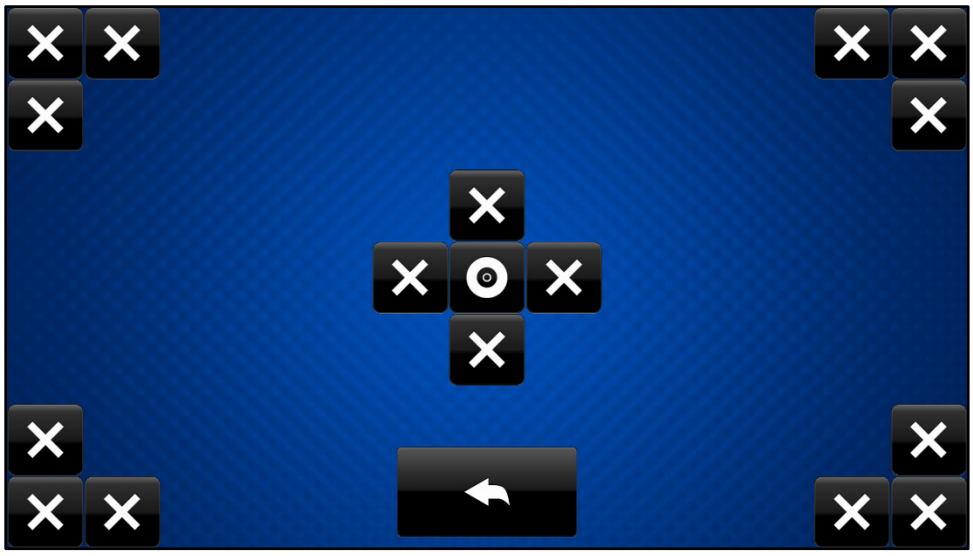
Use the **Diagnostics - Test Patterns** screen to display any of the available test patterns. Tap one of the buttons on the screen to display its respective test pattern.

Tap the back arrow button to return to the **Diagnostics** screen.

Touch Test

Tap **Touch Test** on the **Diagnostics** screen to display the touch test screen.

Touch Test Screen



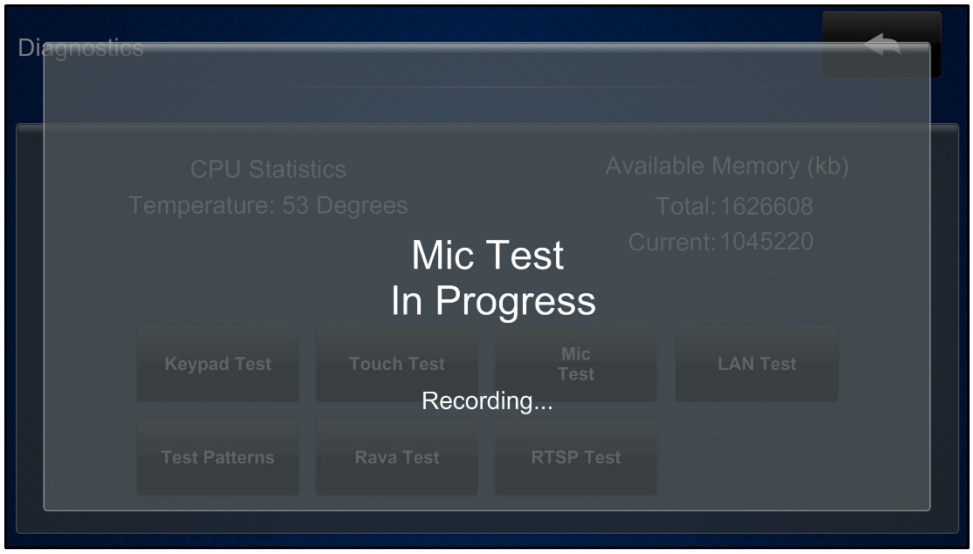
Use the touch test screen to test the touch functionality of the display. When a location button is tapped, its respective indicator lights on the screen.

Tap the back arrow button to return to the **Diagnostics** screen.

Mic Test

Tap **Mic Test** on the **Diagnostics** screen to begin a microphone test.

Diagnostics - LAN Screen



During a microphone test, the built-in microphones record sound for five seconds and then play the sound back to confirm that the microphones are functioning. This test is performed twice: The first test records and plays sound back from the left microphone, and the second test records and plays sound back from the right microphone.

When the second playback is finished, the display automatically returns to the **Diagnostics** screen.

LAN Test

Tap **LAN Test** on the **Diagnostics** screen to display the **Diagnostics - LAN** screen.

Diagnostics - LAN Screen

Use the **Diagnostics - LAN** screen to view and test the Ethernet connection. The **Diagnostics - LAN** screen displays the touch screen MAC and IP addresses, subnet mask address, default router address, primary and secondary DNS addresses, hostname, and domain name. A **Link** indicator is provided to indicate the status of the Ethernet connection. (Green indicates that the Ethernet connection is active.)

The **Diagnostics - LAN** screen also provides controls to test the connection to the default router. Tap **On** to begin the test and **Off** to end the test.

During the router test, the touch screen pings the default router. If the router is communicating with the touch screen, connection data is displayed below the ping test controls within five seconds. The connection data updates after every successive ping.

Tap the back arrow button to return to the **Diagnostics** screen.

Rava Test

Tap **Rava Test** on the **Diagnostics** screen to display the **Diagnostics - Rava** screen.

Diagnostics - Rava Screen

Use the **Rava Diagnostics** screen to test using the Rava SIP Intercom with the touch screen. This screen may be used to call another touch screen that has a Rava SIP intercom, to test and configure projects, and to adjust various Rava settings.

- To place a call to another touch screen with a Rava SIP intercom, enter the extension of the touch screen using the numeric keypad, and then tap **Call**.

  NOTE: If the intercom functions but the Rava project does not, there is an issue with the project. If the intercom does not function, there is an issue with the intercom settings.

- Use the buttons on the left and right of the screen to view or control various call settings.

Tap **Rava Setup** to display a second screen for Rava setup.

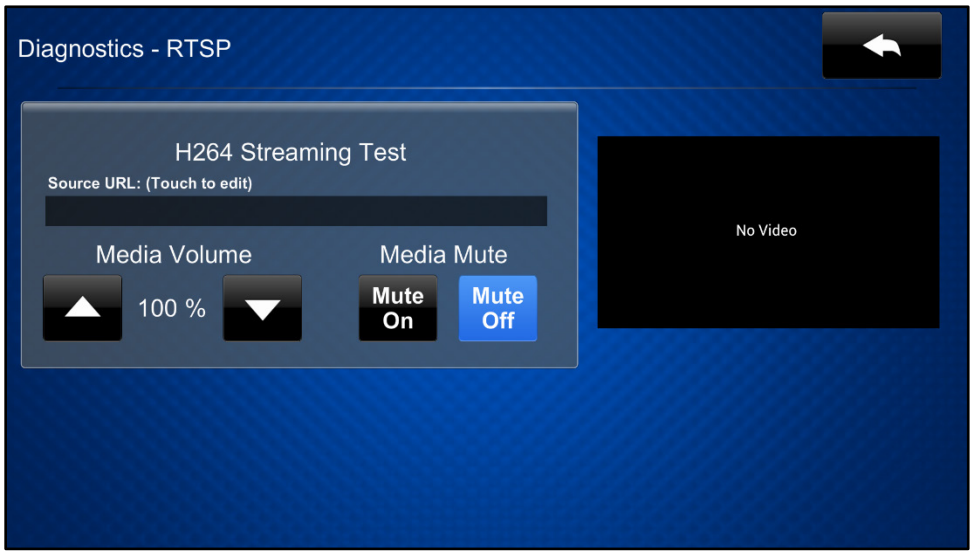
The **Rava Settings** screen provides controls to switch between **Peer to Peer Mode** and **SIP Server Mode**, and when set to the latter, controls to switch between **Normal Mode** and **Door Mode**. Touching the text fields on the screen opens the on-screen keyboard or on-screen numeric keypad for entering the appropriate information.

Tap **Apply** to save any changes. Tap the back arrow button to return to the **Diagnostics - Rava** screen.

RTSP Test

Tap **RTSP Test** on the **Diagnostics** screen to display the **Diagnostics - RSTP** screen.

Diagnostics - RSTP Screen



Use the **Diagnostics - RTSP** screen to view and test RTSP (real time streaming protocol) on the touch screen.

- Tap the text field under **Source URL: (Touch to edit)** to display an on-screen keyboard for entering an H.264 streaming video source URL.
- Tap the up and down arrow buttons under **Media Volume** to raise or lower the media volume incrementally from 0 to 100%.
- Tap **Mute On** or **Mute Off** next to **Media Mute** to mute or unmute the media volume.

Tap the back arrow button to return to the **Diagnostics** screen.

DM Preview (TS-1542-C Only)

Tap **DM Preview** on the TS-1542-C **Diagnostics** screen to display the **Diagnostics - Local Video Preview** screen.

Diagnostics - Local Video Preview Screen

Use the **Diagnostics - Local Video Preview** screen to preview the video source that is connected to the DM® input.

- Tap the up and down arrow buttons next to **Media Volume** to raise or lower the media volume incrementally from 0 to 100%.
- Tap **Mute On** or **Mute Off** next to **Media Mute** to mute or unmute the media volume.

Tap the back arrow button to return to the **Diagnostics** screen.

Tap the back arrow button on the **Diagnostics** screen to return to the Setup screen.

About

Tap **About** on the Setup screen to display the **About** screen.

About Screen

Use the **About** screen to view information about the touch screen, including the loaded firmware and the operating system versions.

Tap the back arrow button to return to the Setup screen.

Configuration via Web Interface

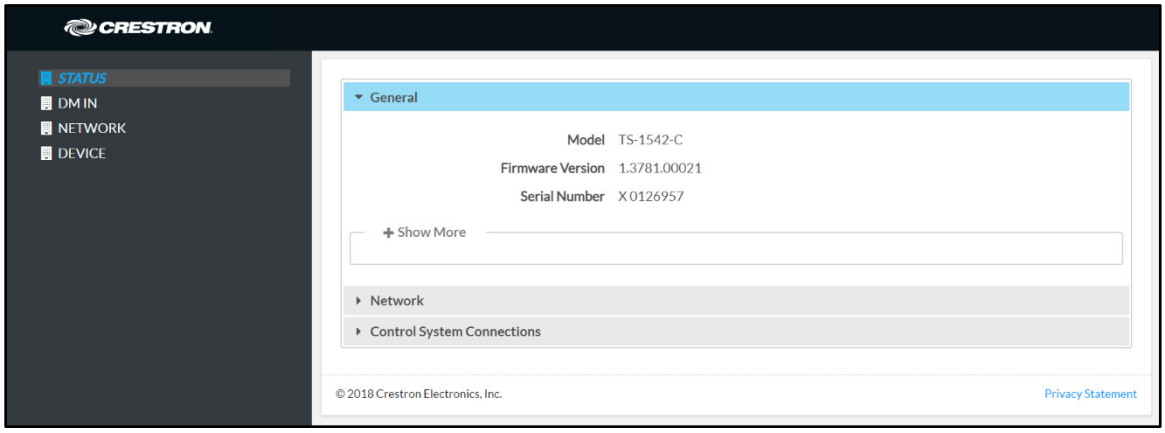
The touch screen may be monitored and configured using the included web configuration interface. The configuration interface is accessible from a web browser if the touch screen IP address is known.

To access the configuration interface:

1. Open a web browser.
2. Enter the touch screen IP address into the browser URL field. The configuration interface is displayed (TS-1542-C shown below).

NOTE: If authentication is enabled for the touch screen, an administrator username and password must be entered prior to accessing the web configuration interface. For more information on configuring authentication settings, refer to "Authentication Management," starting on page 40.

TS-1542-C Configuration Interface



Use the navigation menu on the left side of the page to select the various configuration pages. The menu is always visible on the left side of the page, with the selected page highlighted in blue.

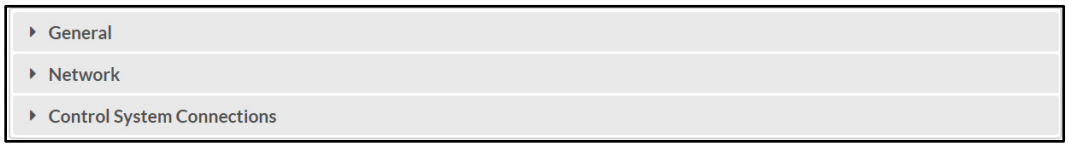
The Status page is the default page that is displayed, as shown in the image above.

Status

Select **STATUS** from the navigation menu to display selections for viewing the device and network settings.

Click on a selection name to expand the selection. If the selection is expanded, click the selection name again to collapse the section.

Status Page Selections

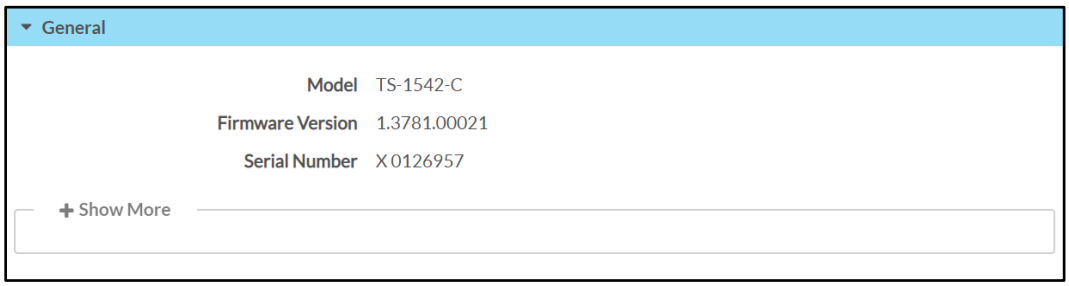


Each selection is described in the sections that follow.

General

Click **General** to view general device information.

Status Page - General



The following **General** information is displayed:

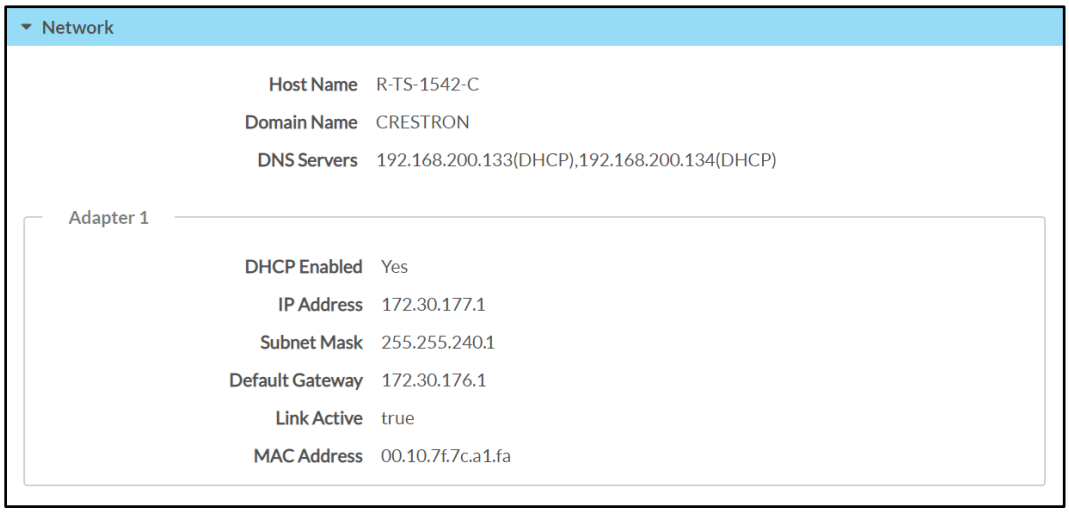
- **Model:** The touch screen model name
- **Firmware Version:** The firmware version loaded onto the touch screen
- **Serial Number:** The touch screen serial number

Click **+ More details** at the bottom of the **Device** tab to display an expanded section that shows additional touch screen information (for Crestron internal use only). If **+ More Details** is selected, click **- Less details** to collapse the section.

Network

Click **Network** to view the status of the network settings for the touch screen.

Status Page - Network



The following **Network** information is displayed:

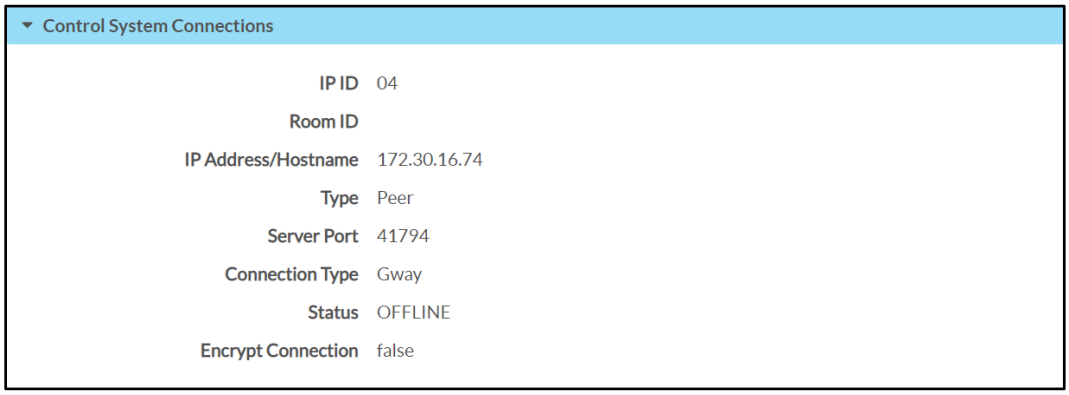
- **Host Name:** The touch screen hostname
- **Domain Name:** The touch screen domain name
- **DNS Servers:** The DNS (domain name server) addresses used to resolve the touch screen domain to an IP address
- **DHCP Enabled:** Reports whether the IP address is static (**Yes**) or dynamic (**No**)
- **IP Address:** The touch screen IP address
- **Subnet Mask:** The touch screen subnet mask address
- **Default Gateway:** The gateway router address
- **Link Active:** Reports the status of the Ethernet connection (A **true** message indicates that the Ethernet connection is active, while a **false** message indicates that the Ethernet connection is inactive.)
- **MAC Address:** The unique touch screen MAC (media access control) address

For more information on configuring network settings, refer to "Network" on page 26.

Control System Connections

Click **Control System Connections** to view the status of a connected control system.

Status Page - Control System Connections



The following **Control System** information is displayed:

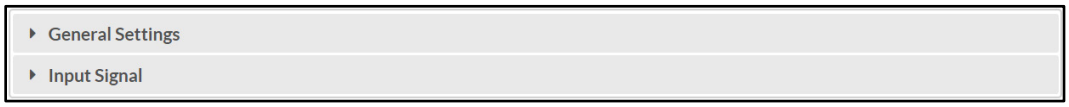
- **IP ID:** The IP ID used to connect the touch screen to the control system
- **Room ID:** The control system room ID that the touch screen is associated with (for connections with the Crestron Virtual Control server-based control system)
- **IP Address/Hostname:** The control system IP address or hostname
- **Type:** The control system connection method
- **Server Port:** The control system server port
- **Connection Type:** The control system connection type
- **Status:** The control system connection status
- **Encrypt Connection:** Reports the status of an encrypted control system connection (A **true** message indicates that an encrypted connection is active, while a **false** message indicates that an encrypted connection is inactive.)

DM In (TS-1542-C Only)

Select **DM IN** from the TS-1542-C navigation menu to display selections for configuring the DM input settings.

Click on a selection name to expand the selection. If the selection is expanded, click the selection name again to collapse the section.

DM In Page Selections



Each selection is described in the sections that follow.

General Settings

Click **General Settings** to configure the HDCP (high-bandwidth digital control protection) settings for the touch screen.

DM Input Page - General Settings

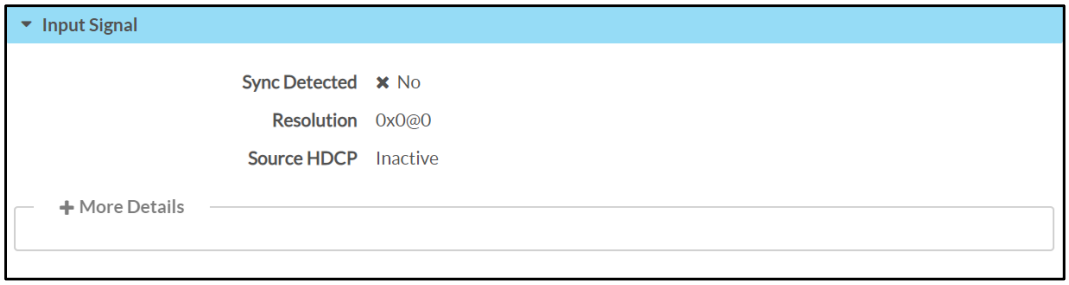
Toggle the **HDCP Support** switch to enable or disable HDCP for the DM input.

When HDCP is enabled, source signals that require HDCP compliance are allowed to pass through to the touch screen display. When HDCP is disabled, source signals that require HDCP compliance are not allowed to pass through to the touch screen display.

Input Signal

Click **Input Signal** to view the status of the input signal connected to the DM input (if one is present).

HDMI Input Page - Input Signal



- **Sync Detected:** Reports whether the HDMI input signal is synced to the touch screen
- **Resolution:** The resolution of the input signal
- **Source HDCP:** Reports whether HCDP is active on the input signal

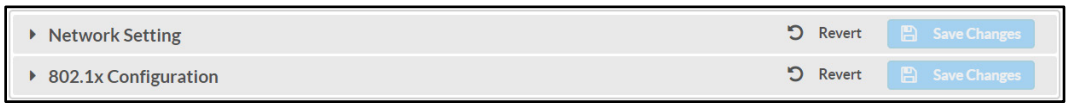
Click **+ More details** at the bottom of the **Input Signal** tab to display an expanded section that shows additional input signal information. If **+ More Details** is selected, click **- Less details** to collapse the section.

Network

Select **NETWORK** from the navigation menu to display selections for configuring the touch screen network settings.

Click on a selection name to expand the selection. If the selection is expanded, click the selection name again to collapse the section.

Network Page Selections

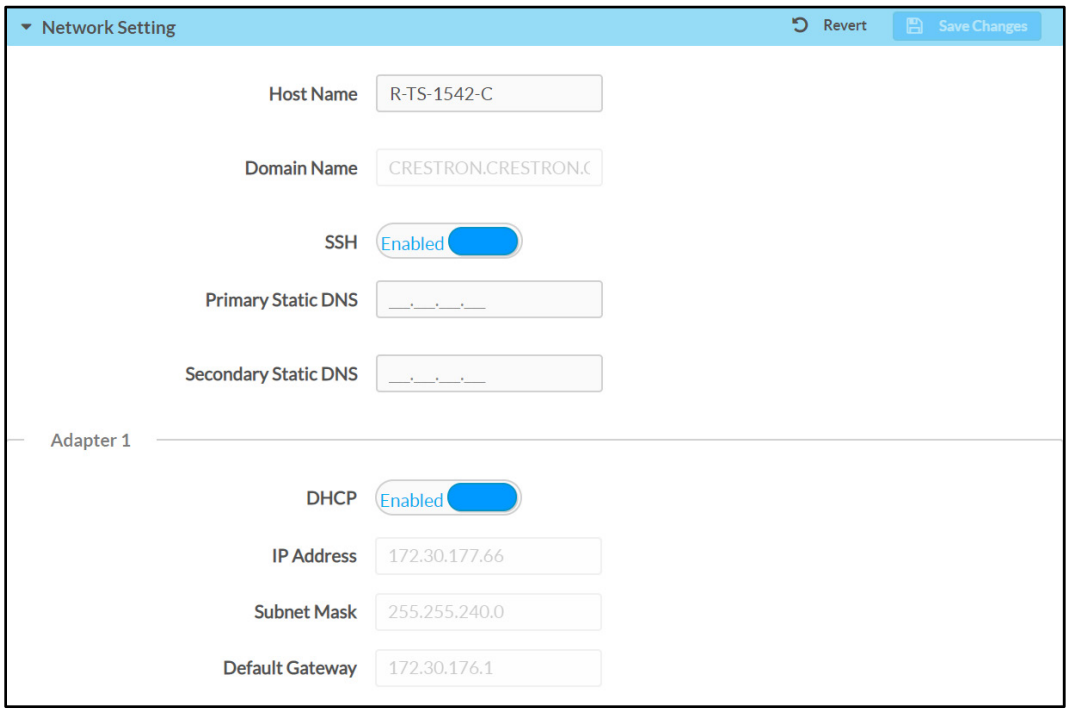


Each selection is described in the sections that follow.

Network Setting

Click **Network Setting** to configure general network settings for the touch screen.

Network Page - Network Setting



NOTE: The **IP Address**, **Subnet Mask**, and **Default Gateway** fields are required only if DHCP is set to **Disabled**.

- **Host Name:** Enter the touch screen hostname.
- **Domain Name:** Enter the touch screen domain name
- **SSH:** Toggle the switch to enable or disable using SSH (secure socket shell) for secure remote access.
- **Primary Static DNS:** Enter the primary DNS address used to resolve the domain name to an IP address.
- **Secondary Static DNS:** Enter the secondary DNS address used to resolve the domain name to an IP address if the primary DNS fails.
- **DHCP:** Toggle the switch to enable or disable using DHCP.

  NOTE: If DHCP is enabled, IP does not function until a reply has been received from the server. The touch screen periodically broadcasts requests for an IP address.

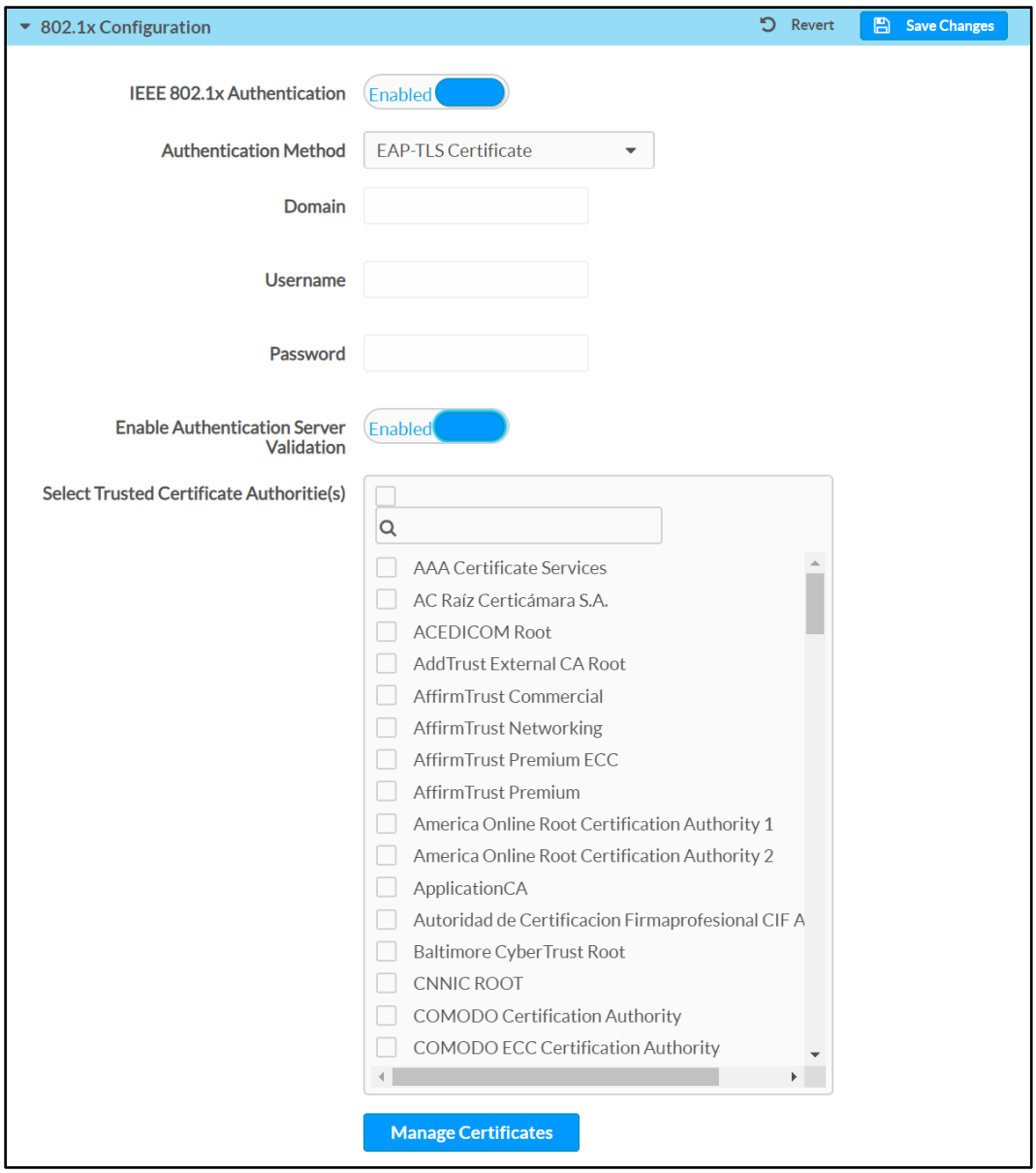
- **IP Address:** Enter the touch screen IP address on the network. Valid IP addresses consist of four octets, 0 to 255, separated by periods.
- **Subnet Mask:** Enter the touch screen subnet mask address on the network.
- **Default Gateway:** Enter the gateway router address on the network.

Click **Save Changes** next to the **Network Setting** tab to save any changes. Click **Revert** to revert to the last saved settings.

802.1x Configuration

Click **802.1x Configuration** to configure IEEE 802.1x network authentication for touch screen security.

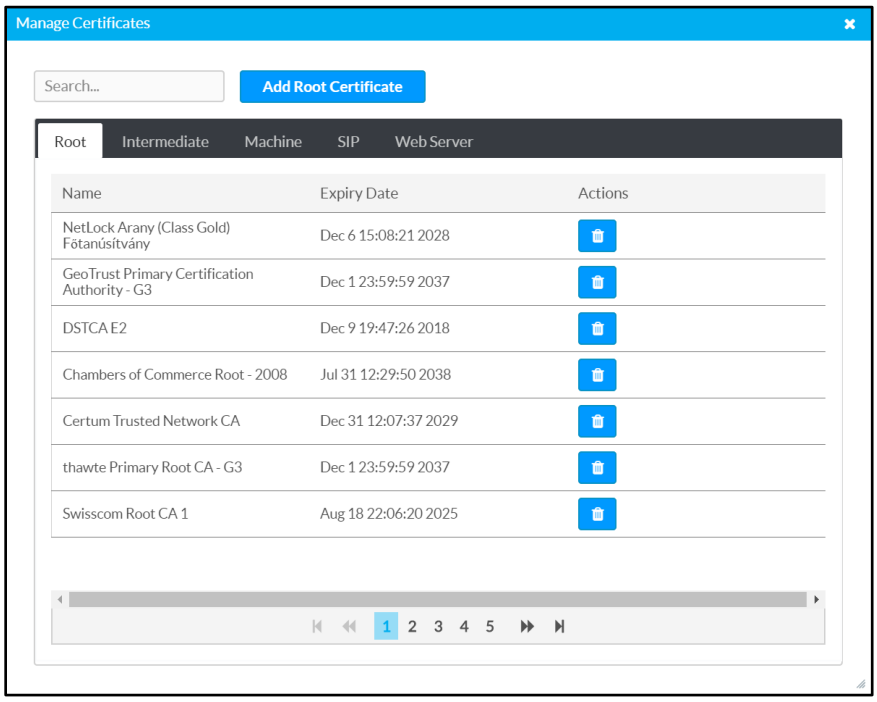
Network Page- 802.1x Configuration



- **IEEE 802.1x Authentication:** Toggle the switch to enable or disable using 802.1x authentication for the touch screen.
- **Authentication Method:** Select an 802.1x authentication method (**EAP-TLS Certificate** or **EAP MSCHAP V2- password)** from the drop-down menu.
- **Domain:** If **EAP MSCHAP V2- password** is selected for **Authentication Method**, enter a domain name that is required for authentication.
- **Username:** If **EAP MSCHAP V2- password** is selected for **Authentication Method**, enter a username that is required for authentication.
- **Password:** If **EAP MSCHAP V2- password** is selected for **Authentication Method**, enter a password that is required for authentication.
- **Enable Authentication Server Validation:** Toggle the switch to enable or disable using server validation for increased security.
- **Select Trusted Certificate Authorities:** Select trusted CAs (Certificate Authorities) from the provided CAs to be used for server validation:
  - Click the check box to the left of a CA to select it as a trusted CA.
  - Enter a search term into the text field at the top of the CA menu to search for and display CAs that match the search term.
  - Click the check box to the left of the search field at the top of the CA menu to select all CAs as trusted CAs.

Click **Manage Certificates** to add or remove CAs from the list. The **Manage Certificates** dialog box is displayed with the **Root** tab selected.

Manage Certificates Dialog Box - Root Tab



Click the tabs near the top of the page to switch between the different types of CAs (**Root**, **Intermediate**, **Machine**, **SIP**, or **Web Server**). The same settings are provided for each type of CA.

Type a search term into the **Search...** text field to search for and display CAs that match the search term.

The following information is provided for each type of CA:

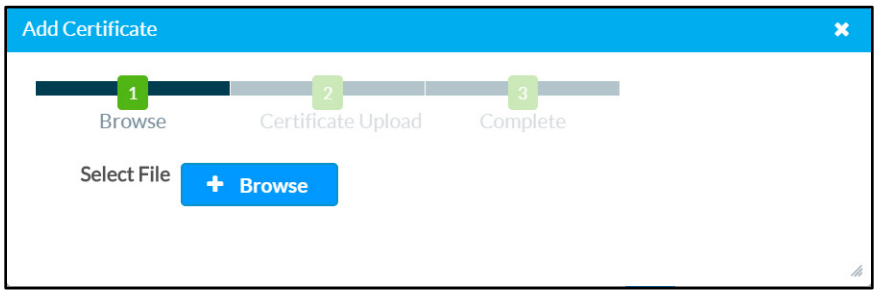
- **Name:** The CA name
- **Expiry Date:** The date and time that the CA is set to expire

If the CAs span multiple pages, use the navigation arrows on the bottom of the page to move forward or backward through the pages, or select a page number to navigate to that page.

Click the trashcan button in the **Actions** column for a CA to delete it. A pop-up dialog box is displayed asking if the CA should be deleted. Click **Yes** to delete the certificate or **No** to cancel.

Click **Add [Type] Certificate** to add a CA of one of the five available types (**Root**, **Intermediate**, **Machine**, **SIP**, or **Web Server**) to the list of CAs. The **Add Certificate** pop-up dialog box is displayed.

Add Certificate Dialog Box



To add a new certificate:

1. Click + **Browse**.
2. Navigate to the CA file on the host computer.
3. Select the CA file, and then click **Open**.
4. Click **Load** to load the CA file to the touch screen. The upload progress is shown in the dialog box.
5. Once the touch screen has completed the upload, click **OK**.

Click the **x** button to close the **Add Certificate** dialog box at any time during the upload process. Clicking the **x** button before the CA file is uploaded to the touch screen cancels the upload.

Click the **x** button to close the **Manage Certificates** dialog box and to return to the **802.1x Authentication** page.

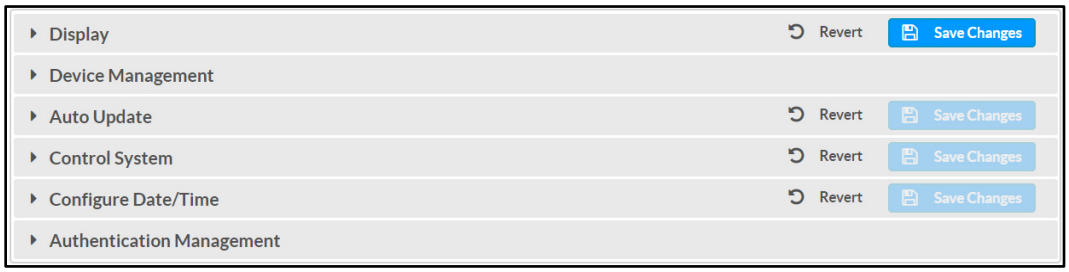
Click **Save Changes** next to the **802.1x Configuration** tab to save any changes. Click **Revert** to revert to the last saved settings.

Device

Select **DEVICE** from the navigation menu to display selections for configuring the touch screen device settings.

Click on a selection name to expand the selection. If the selection is expanded, click the selection name again to collapse the section.

Network Page Selections

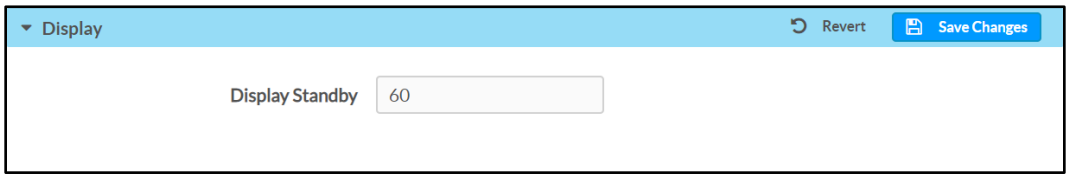


Each selection is described in the sections that follow.

Display

Click **Display** to configure the standby timeout settings for the touch screen.

Device Page - Display



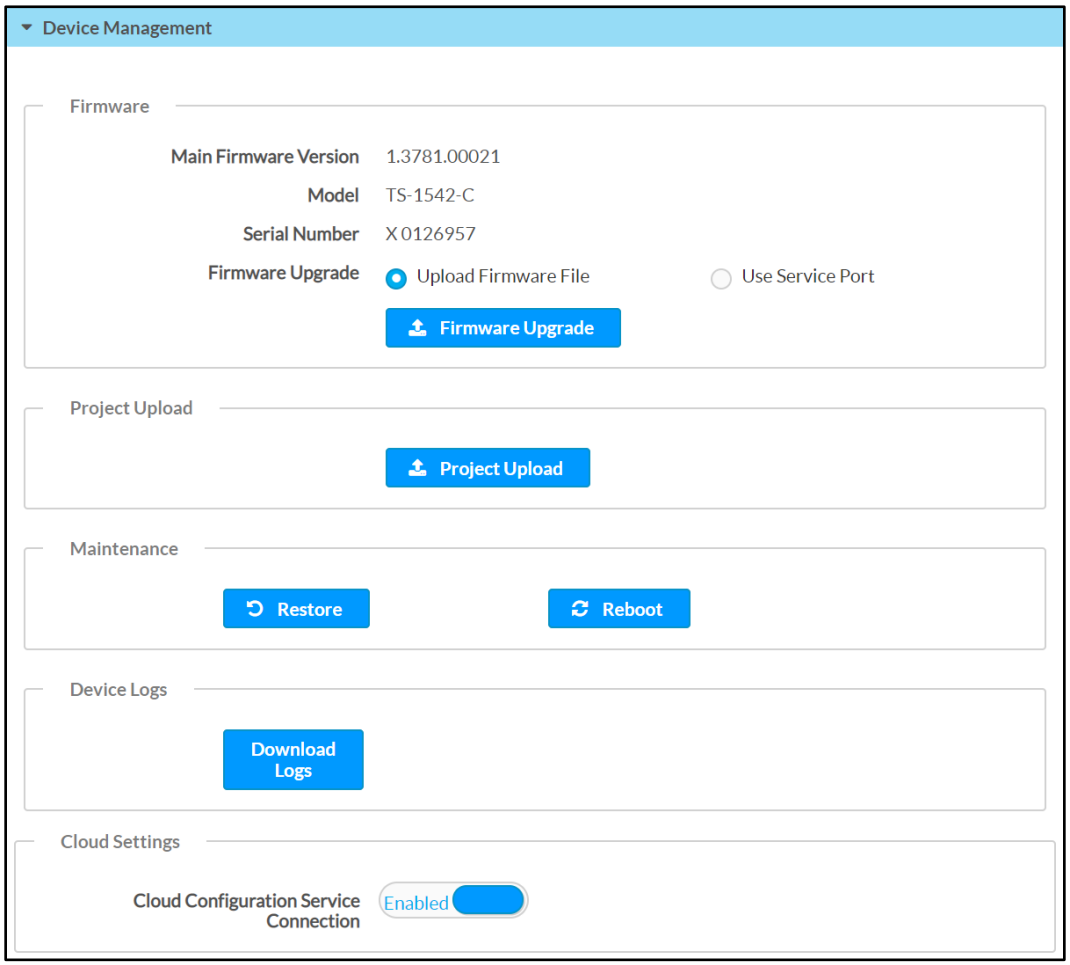
Enter a standby timeout duration (1–120 seconds) for the touch screen in the **Display Standby** text field.

Click **Save Changes** next to the **Display** tab to save any changes. Click **Revert** to revert to the last saved settings.

Device Management

Click **Device Management** to perform various device management tasks.

Device Page - Device Management



Firmware

The following firmware information is displayed:

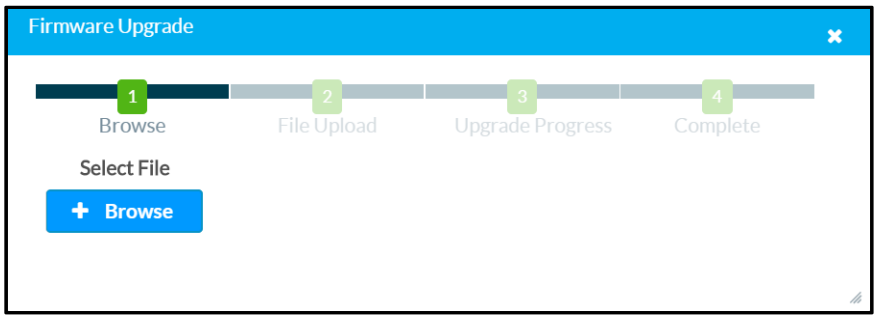
- **Main Firmware Version:** The firmware version loaded onto the touch screen
- **Model:** The device model
- **Serial Number:** The device serial number.

To upload a firmware PUF (package update file) through the web configuration interface:

NOTE: Visit www.crestron.com/firmware to download the latest firmware PUF.

1. Select **Upload Firmware File** next to **Firmware Upgrade**.
2. Click **Firmware Upgrade**. The **Firmware Upgrade** dialog box is displayed.

Firmware Upgrade Dialog Box

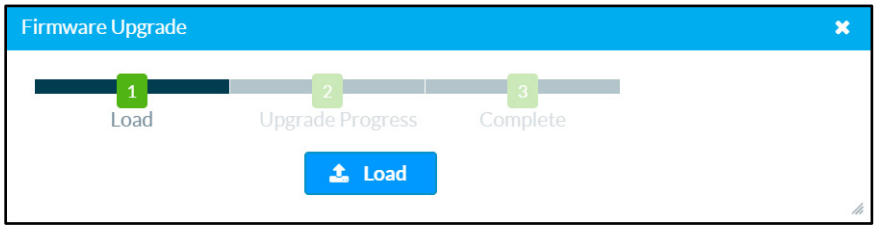


3. Click + **Browse**, and then navigate to the firmware PUF on the host computer.
4. Select the firmware PUF, and then click **Open**.
5. Click ↑ **Load** to load the PUF to the touch screen. The upload progress is shown in the dialog box.
6. Once the touch screen has completed the firmware upgrade, click **OK**.

To upload a firmware PUF via the touch screen USB (service) port:

1. Select **Use Service Port** next to **Firmware Upgrade**:
2. Click **Firmware Upgrade**. The **Firmware Upgrade** dialog box is displayed.

Firmware Upgrade Dialog Box



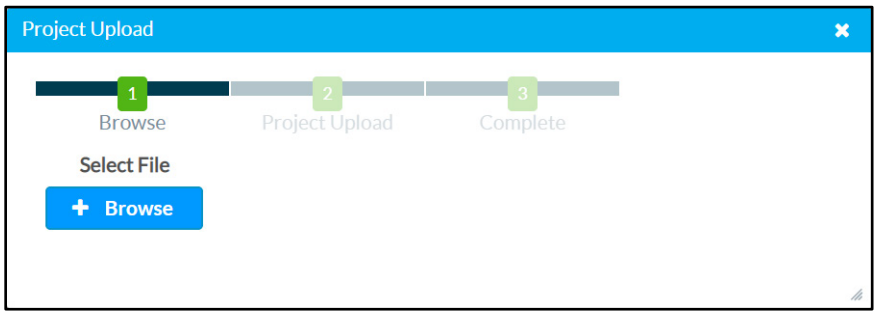
3. Click ↑ **Load** to load the PUF to the touch screen. The upload progress is shown in the dialog box.
4. Once the touch screen has completed the firmware upgrade, click **OK**.

Click the **x** button to close the **Firmware Upgrade** dialog box at any time during the upgrade process. Clicking the **x** button before the PUF is uploaded to the touch screen cancels the upgrade.

Project Upload

Click **Project Upload** to upload a custom user project to the touch screen. A **Project Upload** dialog box opens.

Project Upload Dialog Box



To upload a custom user project:

1. Click + **Browse**, and then navigate to the project .vtz file on the host computer.
2. Select the project .vtz file, and then click **Open**.
3. Click ↑ **Load** to load the project .vtz file to the touch screen. The upload progress is shown in the dialog box.
4. Once the touch screen has completed the project upload, click **OK**.

Click the **x** button to close the **Project Upload** dialog box at any time during the upgrade process. Clicking the **x** button before the project file is uploaded to the touch screen cancels the upload.

Maintenance

Click **Restore** to restore the touch screen configuration settings to their default values. After **Restore** is selected, a dialog box is displayed asking whether the device settings should be restored. Select **Yes** to restore the settings or **No** to cancel the restore.

Click **Reboot** to reboot the touch screen. After **Reboot** is selected, a dialog box is displayed asking whether the touch screen should be rebooted. Select **Yes** to reboot the device or **No** to cancel the reboot.

Device Logs

Click **Download Logs** to download the touch screen message logs for diagnostic purposes. The message files download as a compressed .tgz file. Once the compressed file is downloaded, extract the message log files to view them.

Cloud Settings

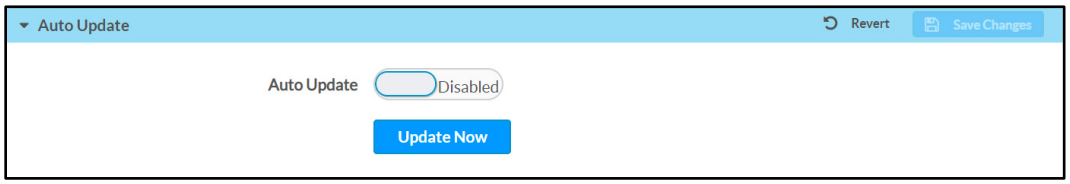
Toggle the **Cloud Configuration Service Connection** switch to enable or disable a connection between the touch screen and a Crestron XiO Cloud™ service account. A connection to the Crestron XiO Cloud service is enabled by default.

For more information on connecting to the Crestron XiO Cloud service, refer to "Connect to Crestron XiO Cloud Service" on page 48.

Auto Update

Click **Auto Update** to configure automatic firmware updates for the touch screen.

Device Page - Auto Update



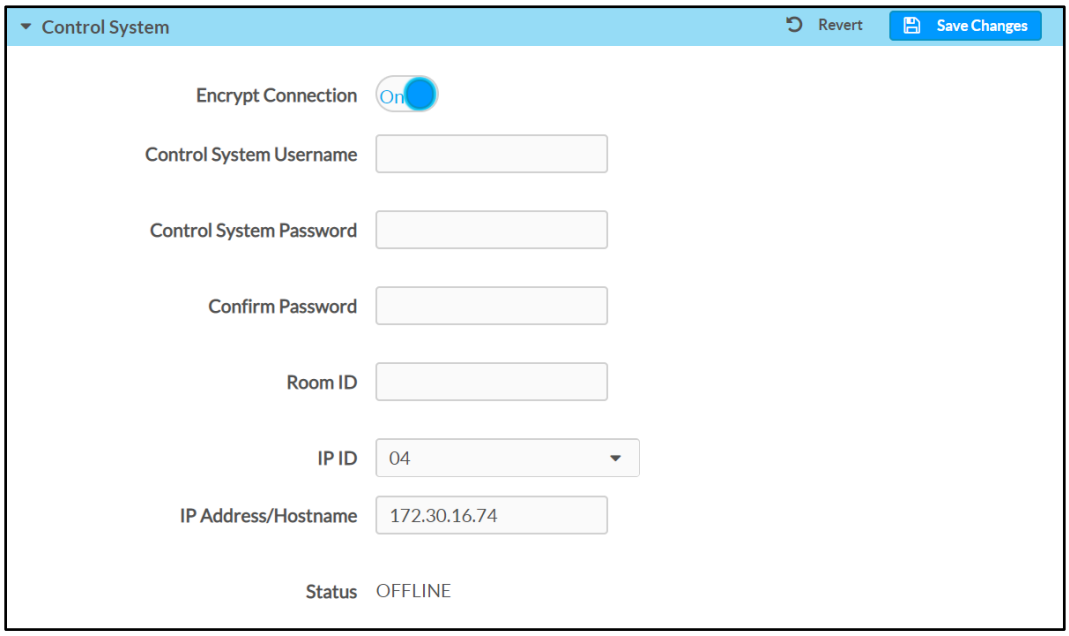
- **Auto Update:** Toggle the switch to enable or disable automatic firmware updates.
- When **Auto Update** is enabled, the touch screen connects to a secure Crestron file server to check for new firmware at an established time outside of business hours (02:00 local time). If new firmware is available, the touch screen attempts to download and install the firmware.
- Click **Update Now** to check the file server for new firmware and to update the touch screen immediately if new firmware is available.

Click **Save Changes** next to the **Auto Update** tab to save any changes. Click **Revert** to revert to the last saved settings.

Control System

Click **Control System** to configure a connection to a Crestron control system.

Device Page - Control System



- **Encrypt Connection:** Toggle the switch to turn on or off an encrypted connection to the control system.
- **Control System Username:** If **Encrypt Connection** is enabled, enter a username for the encrypted connection.
- **Control System Password:** If **Encrypt Connection** is enabled, enter a password for the encrypted connection.
- **Confirm Password:** Reenter the password set for **Control System Password**.
- **Room ID:** Enter a control system room ID to associate with the touch screen (for connections with the Crestron Virtual Control server-based control system)

  NOTE: For more information on connecting the touch screen to Crestron Virtual Control, refer to the help file in the Crestron Virtual Control web configuration interface. To access the help file, click the question mark button ? on the top left of the page.

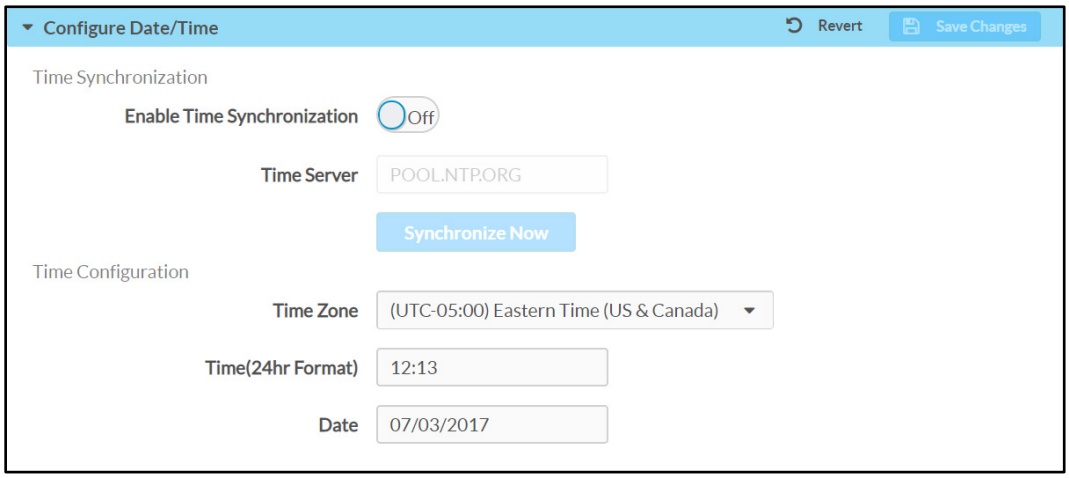
- **IP ID:** Enter an IP ID for connecting the touch screen to the control system.
- **IP Address/Hostname:** Enter the control system IP address or hostname.
- **Status:** Reports the status of the control system (ONLINE or OFFLINE)

Click **Save Changes** next to the **Control System** tab to save any changes. Click **Revert** to revert to the last saved settings.

Configure Date/Time

Click **Configure Date/Time** to configure date and time settings for the touch screen.

Device Page - Configure Date/Time



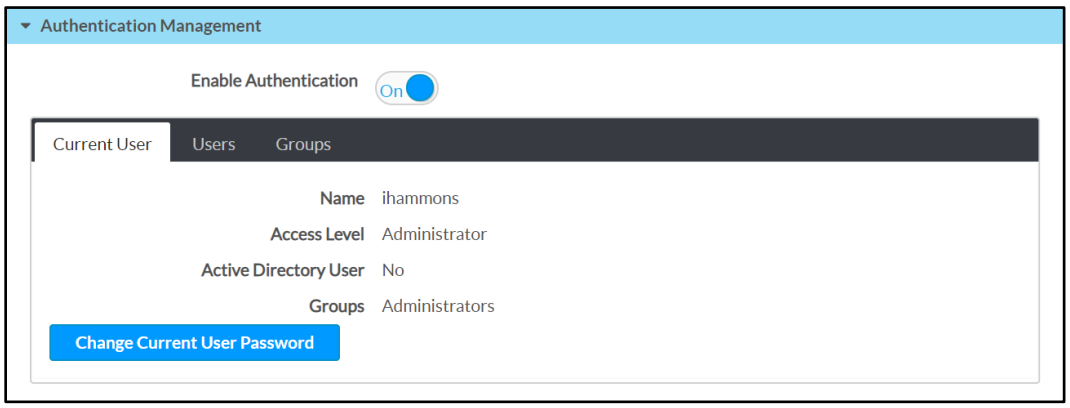
- **Time Synchronization**
  - **Enable Time Synchronization:** Toggle the switch to turn time synchronization via SNTP (Simple Network Time Protocol) on or off.
  - **Time Server:** With **Enable Time Synchronization** set to **On**, enter the SNTP server used to synchronize the date and time for the touch screen.
  - **Synchronize Now:** With **Enable Time Synchronization** set to **On**, tap **Synchronize Now** to synchronize the touch screen with the SNTP server entered for **Time Server**.
- **Time Configuration**
  - **Time Zone:** Select a time zone for the touch screen using the drop-down menu.
  - **Time(24hr Format):** Select the time for the touch screen (in 24-hour format) using the pop-up menu that is displayed.
  - **Date:** Select the date for the touch screen using the pop-up calendar that is displayed.

Click **Save Changes** next to the **Configure Date/Time** tab to save any changes. Click **Revert** to revert to the last saved settings.

Authentication Management

Click **Authentication Management** to configure authentication management for touch screen users and groups and to set different access levels.

Settings Tab - Authentication Management



Toggle the **Enable Authentication** switch to turn authentication for the touch screen on or off. Authentication is turned on by default.

When authentication is turned on, the web configuration interface prompts the user to enter a new administrator username and password. After rebooting the touch screen, this username and password must be entered to access the web configuration utility or to connect to the touch screen through Crestron Toolbox™ software.

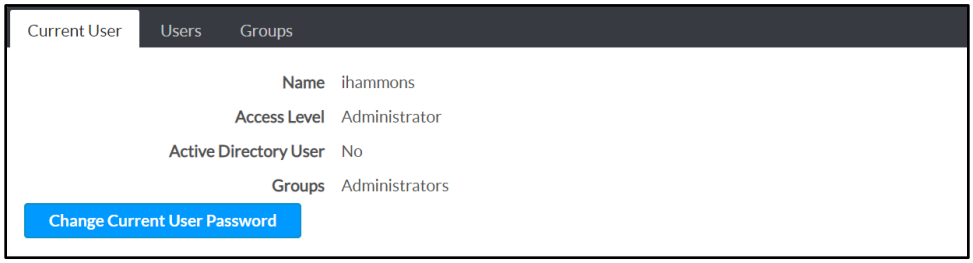
CAUTION: Do not lose the administrator username and password, as the touch screen settings must be restored to factory defaults to reset the username and password.

Use the following **Authentication Management** settings to add, delete, and edit touch screen users and groups.

Current User

Click the **Current User** tab to view and edit information for the current touch screen user.

Authentication Management - Current User Tab



The following settings are displayed for the current user:

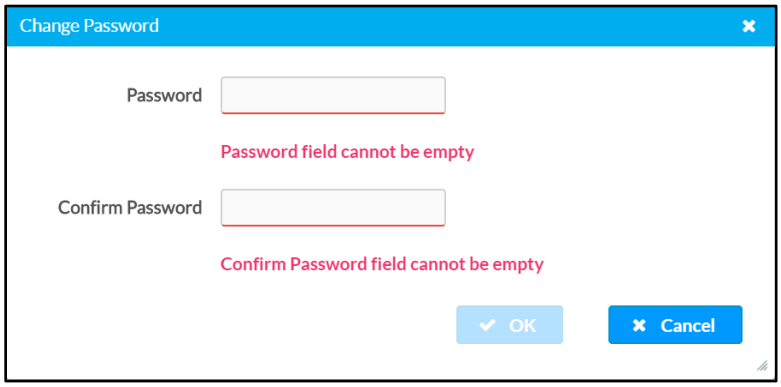
- **Name:** The chosen username
- **Access Level:** The access level granted to the user (**Administrator**, **Programmer**, **Operator**, **User**, or **Connect**)
- **Active Directory User:** Reports whether the current user is (**Yes**) or is not (**No**) authenticated through Active Directory® software

  NOTE: A user must be added to an Active Directory group before the user may be selected as an active directory user. For more information, refer to "Groups" on page 45.

- **Groups:** Any groups of which the current user is a member

Click **Change Current User Password** to change the password for the current user. The **Change Password** dialog box is displayed.

Change Password Dialog Box



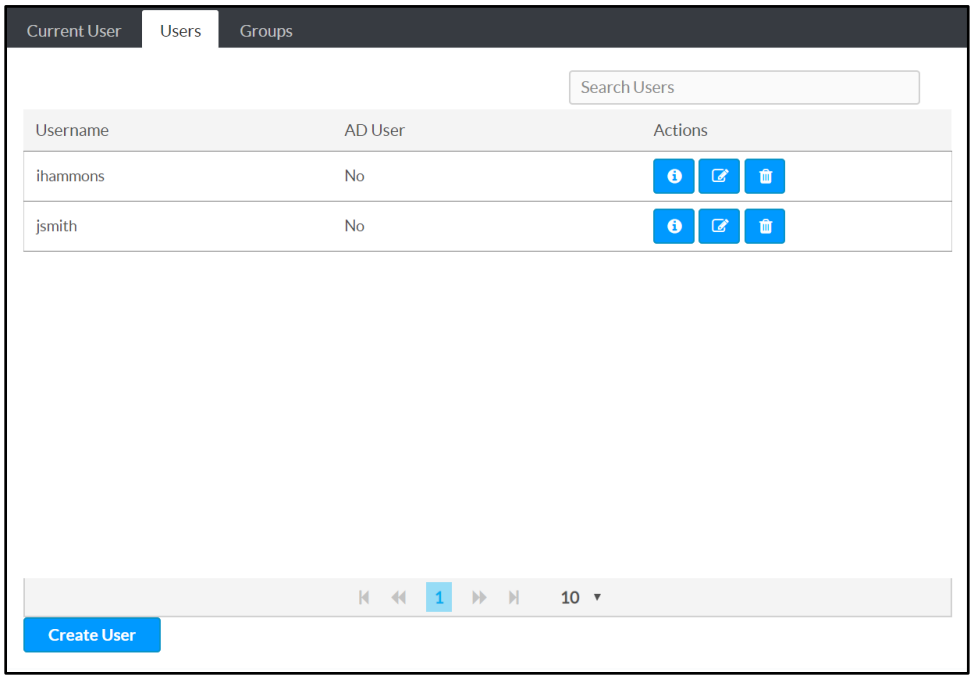
Enter a new password in the **Password** field, and then reenter the password in the **Confirm Password** field.

Tap **OK** to save the new password, or tap **Cancel** to cancel the change.

Users

Click the **Users** tab to view and edit information for the touch screen users.

Authentication Management - User Tab



Enter text in to the **Search Users** field to search for and display users that match the search term(s).

Touch screen users are listed in table format. The following information is displayed for each touch screen user:

- **Username:** The chosen username
- **AD User:** Reports whether the user is (**Yes**) or is not (**No**) authenticated through Active Directory

> **NOTE:** A user must be added to an Active Directory group before the user may be selected as an active directory user. For more information, refer to "Groups" on page 45.

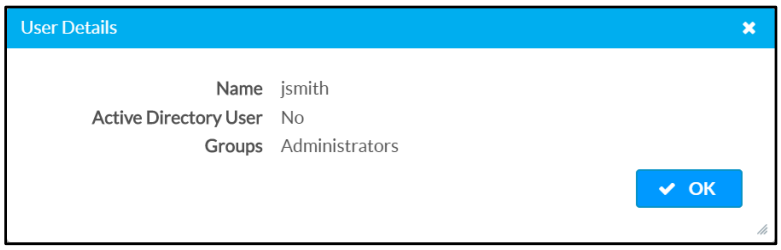
If the touch screen users span multiple pages, use the navigation arrows on the bottom of the page to move forward or backward through the pages, or select a page number to navigate to that page. Additionally, the number of users displayed on each page may be set to 5, 10, or 20 users.

An **Actions** column is also provided for each user that allows various actions to be performed. The following selections may be selected from the **Actions** column.

User Details

Click the information button in the **Actions** column to view information for the selected user. The **User Details** pop-up dialog box is displayed.

User Details Dialog Box



The following settings are displayed for the current user:

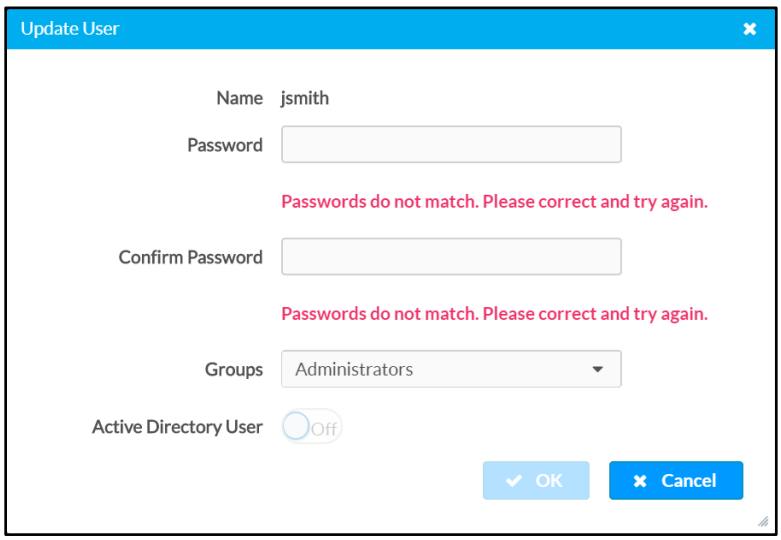
- **Name:** The chosen username
- **Active Directory User:** Reports whether the user is (**Yes**) or is not (**No**) authenticated through Active Directory
- **Groups:** Lists any groups that contain the user

Click **OK** to return to the **Authentication Management > Users** page.

Update User

Click the editing button in the **Actions** column to edit settings for the selected user. The **Update User** dialog box is displayed.

Update User Dialog Box



The following **Update User** settings may be viewed or configured:

- **Name:** The chosen username
- **Password:** Enter a new password for the selected user.
- **Confirm Password:** Reenter the password provided in the **Password** field.
- **Groups:** Add the user to one or more groups. For more information, refer to "Groups" on page 45.
- **Active Directory User:** Toggle the switch to turn authentication via Active Directory on or off for the selected user.

  NOTE: A user must be added to an Active Directory group to be selected as an Active Directory user.

Click **OK** to save any changes and to return to the **Authentication Management** > **Users** page. Click **Cancel** to cancel any changes.

Delete User

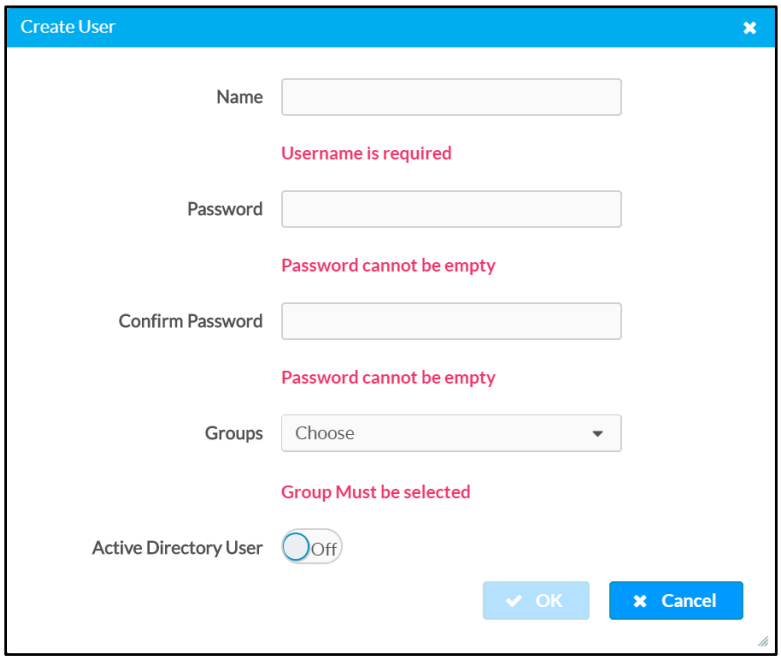
Click the trashcan icon in the **Actions** column to delete the user.

A pop-up dialog box is displayed asking whether the user should be deleted. Click **Yes** to delete the user or **No** to cancel deleting the user.

Create User

Click **Create User** at the bottom of the page to create a new touch screen user. The **Create User** dialog box is displayed.

Create User Dialog Box



Use the following settings to create a new user:

- **Name:** Enter a username.
- **Password:** Enter a password for the user.
- **Confirm Password:** Reenter the password provided in the **Password** field.
- **Groups:** Add the user to one or more groups. For more information, refer to "Groups" on page 45.
- **Active Directory User:** Toggle the switch to turn authentication via Active Directory on or off for the user.

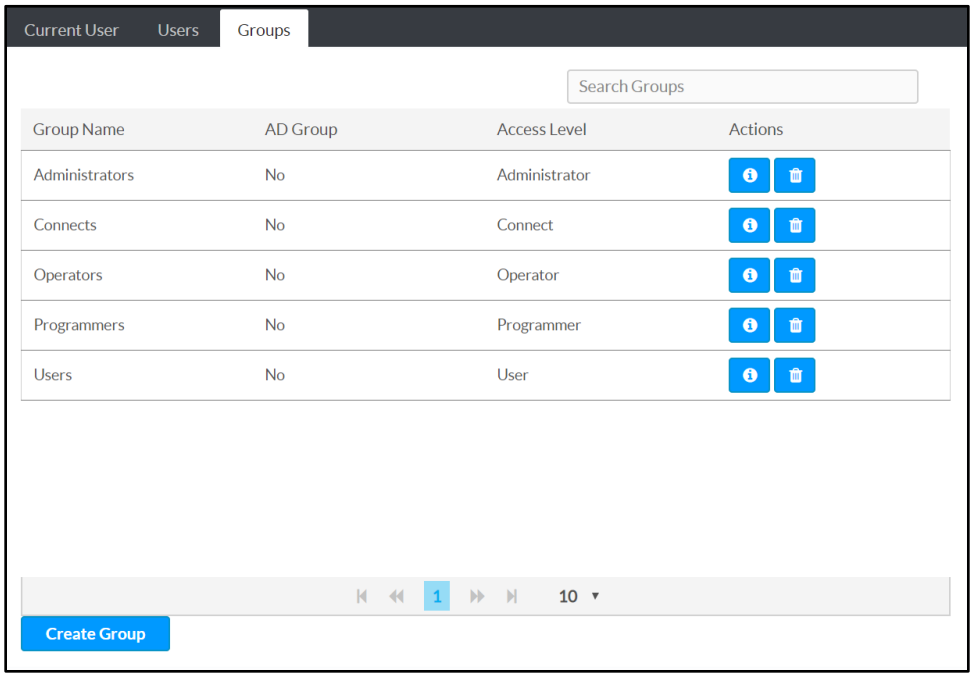
  NOTE: A user must be added to an Active Directory group to be selected as an Active Directory user.

Click **OK** to save any changes and to return to the **Authentication Management** > **Users** page. Click **Cancel** to cancel creating a new user.

Groups

Click the **Groups** tab to view and edit settings for touch screen groups. Touch screen groups are used to group users by access level and Active Directory authentication settings.

Authentication Management - Groups Tab



Enter text in to the **Search Groups** field to search for and display groups that match the search term(s).

Touch screen groups are listed in table format. The following information is displayed for each touch screen group:

- **Group Name:** The chosen group name
- **AD Group:** Reports whether the group is (**Yes**) or is not (**No**) authenticated through Active Directory

  NOTE: Active Directory provides an additional layer of authentication for touch screen groups and users. Active directory group and user names are stored in the touch screen console along with a unique SID (security identifier). When an Active Directory user attempts to authenticate against the console, the console first checks the user credentials. If the Active Directory authentication is successful, Active Directory queries the console for the user or group's SID. The user is granted access to the touch screen only if at least one SID match is found.

- **Access Level:** The access level for the selected group (**Administrator**, **Programmer**, **Operator**, **User**, or **Connect**)

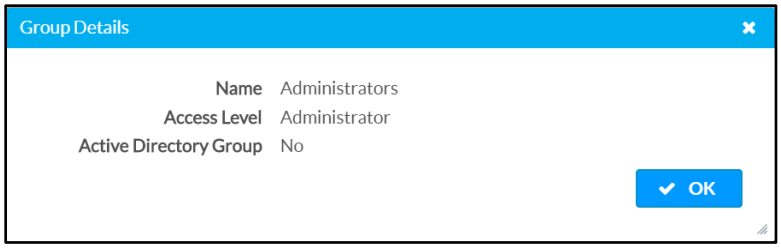
If the touch screen groups span multiple pages, use the navigation arrows on the bottom of the page to move forward or backward through the pages, or select a page number to navigate to that page. Additionally, the number of groups displayed on each page may be set to 5, 10, or 20 users.

An **Actions** column is also provided for each group that allows various actions to be performed. The following selections may be selected from the **Actions** column.

Group Details

Click the information button in the **Actions** column to view information for the selected group. The **Group Details** dialog box is displayed.

Group Details Dialog Box



The following settings are displayed for the current group:

- **Name:** The chosen group name
- **Access Level:** The access level of the group and its users
- **Active Directory User:** Reports whether the group is (**Yes**) or is not (**No**) authenticated through Active Directory

Click **OK** to return to the **Authentication Management > Groups** page.

Delete Group

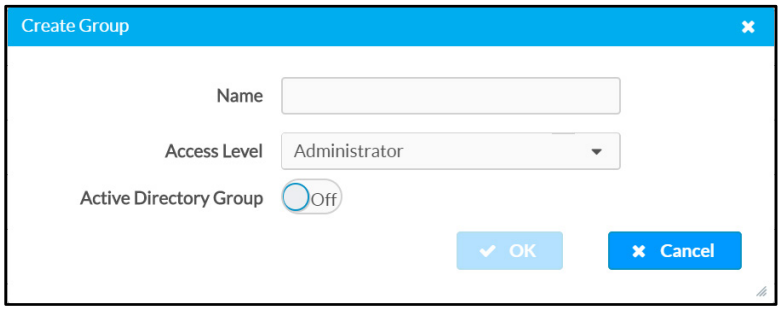
Click the trashcan icon in the **Actions** column to delete the group.

A pop-up dialog box is displayed asking whether the group should be deleted. Click **Yes** to delete the group or **No** to cancel deleting the group.

Create Group

Click **Create Group** at the bottom of the page to create a new touch screen group. The **Create Group** dialog box is displayed.

Create Group Dialog Box



Use the following settings to create a new group:

- **Name:** Enter a group name.
- **Access Level:** Select an access level for the group and its users from the drop-down menu.
- **Active Directory Group:** Toggle the switch to turn authentication via Active Directory on or off for the group.

Click **OK** to save any changes and to return to the **Authentication Management** > **Groups** page. Click **Cancel** to cancel creating a new group.

Connect to Crestron XiO Cloud Service

The Crestron XiO Cloud service allows all supported Crestron devices across an enterprise to be managed and configured from one central, secure location in the cloud. The Crestron XiO Cloud service may be used to view the status of a device, to configure various device and network settings, to manage licenses, and to update device firmware.

Devices must be claimed by the Crestron XiO Cloud service before they may be managed by the service. Devices may be claimed individually or as a group.

For information on creating environments, managing devices, and managing users with the Crestron XiO Cloud service, refer to the Crestron XiO Cloud User Guide (Doc. 8214).

Claim a Single Device

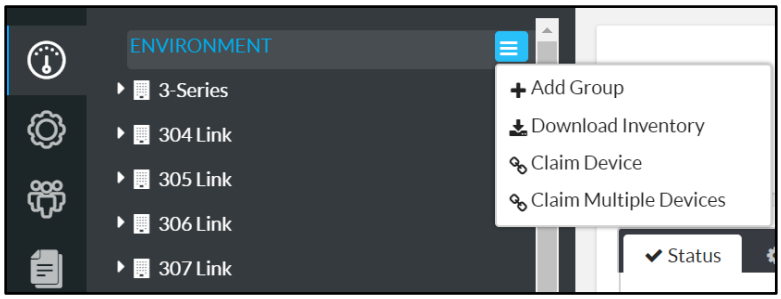
To claim a single device:

1. Record the MAC address and serial number of the device. The MAC address and serial number are labeled on the shipping box or on a sticker attached to the device.

   NOTE: Use the MAC address labeled *MAC Address*.

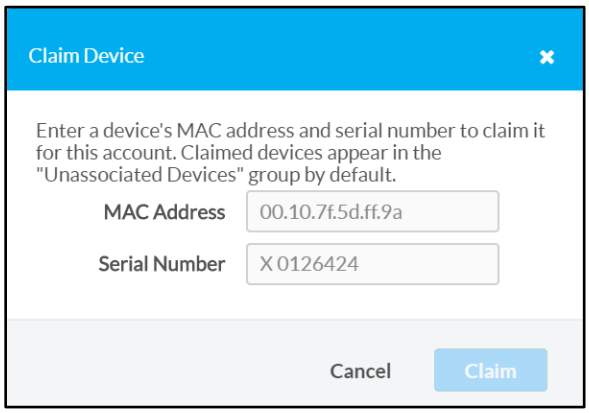
2. In the Crestron XiO Cloud service, click the **ENVIRONMENT** menu button to display a drop-down menu.

   Environment - Drop-Down Menu

3. Click **Claim Device**. The **Claim Device** dialog box is displayed.

Claim Device Dialog Box

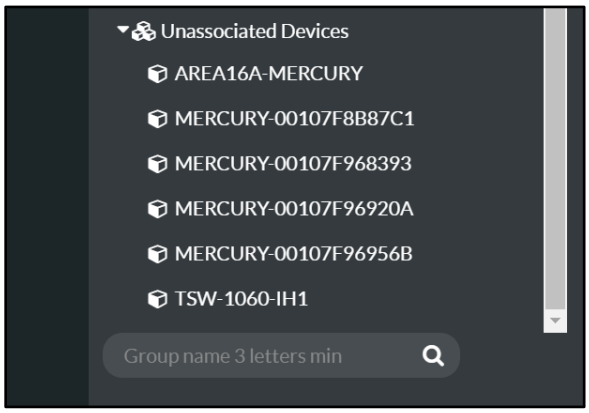


4. Enter the MAC address and serial number recorded in step 1 in the **MAC Address** and **Serial Number** fields, respectively.
5. Click **Claim**. A success message is displayed if the claim is successful.

NOTE: If an error message is displayed stating that the device does not exist, connect the device to a network that has access to the Internet, wait 15 minutes, and then try again.

6. Click **X** to close the dialog box. The hostname of the claimed device is displayed in the device tree under the group **Unassociated Devices**.

Unassociated Devices



The device may now be managed and assigned to a group.

Claim Multiple Devices

To claim multiple devices:

1. Record the MAC address and serial number of each device as a comma delimited CSV file. The MAC address and serial number are labeled on the shipping box or on a sticker attached to the device.

NOTE: Use the MAC address labeled *MAC Address*.

The CSV file should be formatted as shown below:

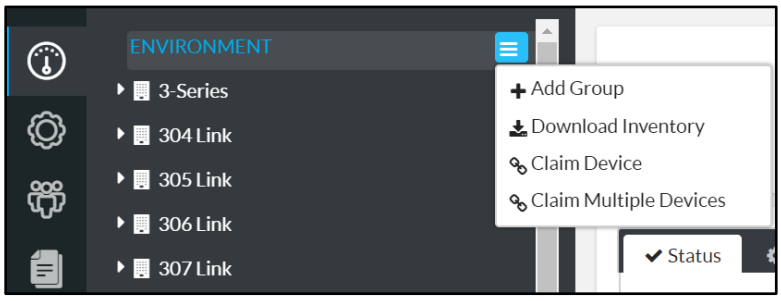
CSV File Format

```
MAC Address,Serial Number
00.10.7e.8b.81.b6,17284712
00.10.7e.8b.8c.87,17284570
00.10.7e.96.83.93,1716JBG01207
00.10.7e.96.92.0a,1716JBG01550
00.10.7e.8b.87.c1,17284670
```

NOTE: An optional third column may be added to the CSV file with custom device names. After being claimed, the device will take the custom name from the CSV file instead of its default name. For example, if adding a custom device name to the first example above, the formatting would be `00.10.73.8b.81.b6,17284712,[custom device name]`

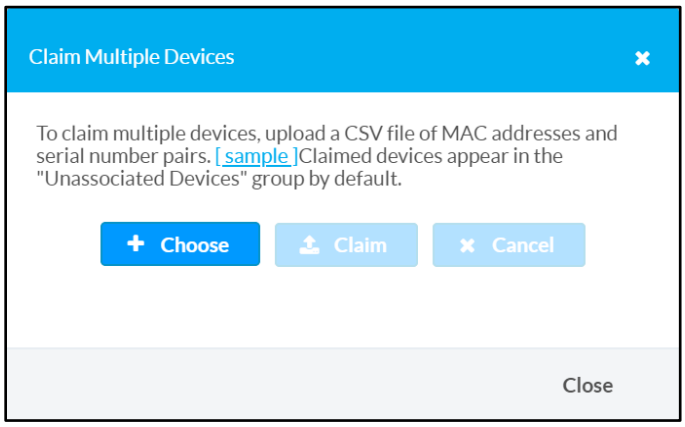
2. Save the CSV file to a location that may be accessed by the computer used to access the Crestron XiO Cloud service.
3. In the Crestron XiO Cloud service, click the **ENVIRONMENT** menu button to display a drop-down menu.

Environment - Drop-Down Menu



4. Click **Claim Multiple Devices**. The Claim Multiple Devices dialog box is displayed.

Claim Multiple Devices Dialog Box

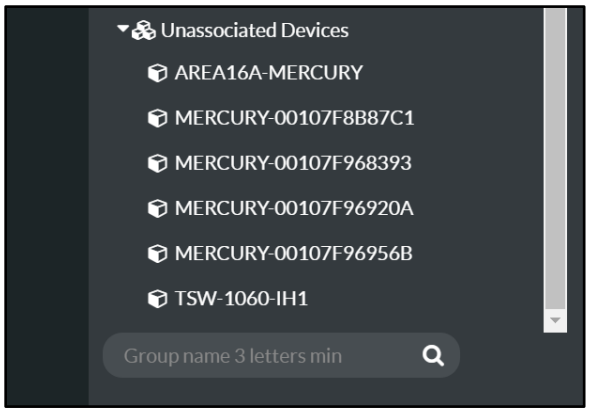


5. Click **Choose**, and then select the CSV file created in step 1.
6. Click **Claim** to claim all of the devices listed in the file. A message indicating the claim status of each device is displayed.

NOTE: If an error message is displayed stating that a device does not exist, connect that device to a network that has access to the Internet, wait 15 minutes, and then try again.

7. Click **X** to close the dialog box. The hostnames of the claimed devices appear in the device tree under the group **Unassociated Devices**.

Unassociated Devices



The devices may now be managed and assigned to a group.

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