



RELEASE NOTES

TSW-560/TSW-760/TSW-1060/TSW-560P/TSS-7/TSS-10

Version 2.007.0060

Product Description

TSW-560 5" Touch Screen

TSW-560P 5" Portrait Touch Screen

TSW-760 7" Touch Screen

TSW-1060 10" Touch Screen

TSS-7 7" Dedicated Scheduling Touch Screen

TSS-10 10" Dedicated Scheduling Touch Screen

Notes and Recommendations

- This firmware release supports TSW and TSS based touch screens. It is not possible to convert a TSS to TSW touch screen or vice versa.
- TSS-7 and TSS-10 do not support the following features that some or all TSW touch screens do:
 - Custom Smart Graphics projects
 - Control system connections
 - Pyng
 - .AV Framework
 - RAVA SIP Intercom
 - Sonos app
 - Zoom Rooms page flip mode
 - TSS-752 style scheduling interface

Firmware Upgrades

- Ensure the touch screen is given at least 30 minutes to complete firmware upgrade before power cycling. Normally it will complete in less time than this but in certain cases additional internal steps may be performed by the touch screen which requires a longer update time.

Firmware Downgrades

- Firmware upgrades are exhaustively tested to ensure there are no unintended operational changes to the device after the upgrade. While attempts are also made to ensure device configurations are preserved on firmware downgrade, it cannot always be guaranteed due to data storage adjustments that may occur between versions. Thus, if a TSW/TSS is to be left in a production environment after a firmware downgrade, performing a RESTORE after the downgrade is strongly advised to ensure consistent operation.

General

- Using the CAMERASTREAMENABLE command, the camera can be disabled from console.

Choosing an Application Mode

- TSS touch screens ship with Crestron Scheduling enabled by default and TSW touch screens ship with User Project enabled by default.
 - Sonos is not technically an application mode, it is invoked within the User Project mode.
- To choose a new application mode:
 - Browse to the web configuration interface and navigate to the Applications section of the settings tab and select the desired app from the drop-down.
 - Alternately, select apps using the “appmode” command at the text console in Toolbox.
 - A third alternative is to select the application using the Application Selection screen in Setup.
- Certain application modes disable the dedicated buttons on the touch screen if they are unused in that particular application.
- LCD brightness is controlled automatically when in Crestron Default (Crestron scheduling) mode.

App Updates - Sonos

- The TSW touch screen will only check for Sonos app updates after Sonos has been launched on that particular TSW at least once. The TSW touch screen will automatically check for Sonos updates at 02:00/2:00am local time and install the new version if found.
- Once Sonos is used at least once the current version can be checked in the Setup->About screen, and you can also check for new updates from there.
 - A manual check for update can also be done via the Crestron Toolbox console command by issuing the following command: *appupdate sonos* This command will enable the nightly check, even if a Sonos project has never been launched.
- If the TSW-XX60 touch screen has a newer Sonos App version than what is included in the firmware that is installed, the Sonos App will be downgraded temporarily. The Sonos App can be upgraded to the latest released version.
- The update button inside the Sonos app itself will not update the Sonos app on the TSW, the above method must instead be relied upon.

App Updates – Non-Sonos

Supported app partners will release app updates from time to time, which the TSS/TSW touch screen will automatically retrieve when available. A full firmware update is not required to update the partner apps. App updates are automatically applied at 02:00 local time when an update is available.

- For manual check/install, use one of the two methods below:
 - Browse to the web configuration, select App Upgrade from the Actions menu.

- Enter the touch screen Setup->About screen to do an immediate check and install new updates of the current running app.
- If the TSS-XX touch screen has a newer App version than what is included in the firmware that is installed, the installed App will be left installed.

Scheduling Applications and Calendars– Supported Features

Note: As of 2.006.0046 all partner scheduling applications support the LED accessories.

Scheduling Application/Calendar	Application Type	Initial Firmware Version	Reports Network Outage	Language Support	Supported Touch Screens
Crestron	Scheduler	1.3.52	Yes	Yes, 24 languages	TSW-560 TSW-560P TSW-760 TSW-1060 TSS-7 TSS-10
Robin	Scheduler	2.3.36	No**	English Only	TSW-760 TSW-1060 TSS-7 TSS-10
Teem	Scheduler	2.3.36	Yes**	English Only	TSW-760 TSW-1060 TSS-7 TSS-10
Appspace	Scheduler	2.3.36	Partial**	English Only	TSW-760 TSW-1060 TSS-7 TSS-10
EMS	Scheduler	2.3.36	Yes	English Only	TSW-760 TSW-1060 TSS-7 TSS-10
Zoom	Scheduler	2.3.36	No	English Only	TSW-760 TSW-1060 TSS-7 TSS-10
Gingco	Scheduler	2.6.63	No	German, English, Spanish	TSW-760 TSW-1060 TSS-7 TSS-10
NFS Rendezvous	Scheduler	2.6.63	No	English Only	TSW-760 TSW-1060 TSS-7 TSS-10

Space Connect	Scheduler	2.6.63	Yes	English Only	TSW-760 TSW-1060 TSS-7 TSS-10
SpaceIQ	Scheduler	2.7.43	No	English Only	TSW-760 TSW-1060 TSS-7 TSS-10
New Wave	Scheduler	2.7.43	No	English Spanish Portuguese Italian French German Japanese Chinese / Cantonese Norwegian Danish	TSW-760 TSW-1060 TSS-7 TSS-10
Exchange	Calendar	1.3.52	NA	NA	TSW-560
Fusion	Calendar	1.3.52	NA	NA	TSW-560P
Google	Calendar	1.3.52	NA	NA	TSW-760
Ad Astra	Calendar	2.6.63	NA	NA	TSW-1060
CollegeNET 25Live	Calendar	2.7.41	NA	NA	TSS-7 TSS-10

Note: As of 2.006.0046 all partner scheduling applications support the LED accessories.

**ROBIN app displays network disruption, but only checks physical network connectivity -- if the device connected to a WiFi hotspot or has a network cable plugged in.

**TEEM: There is a network indicator (that looks like Wi-Fi) in the top right corner. Interacting with any of the buttons when the app is offline produces an error message.

**Appspace - There is no indication in the app that the device is offline. However, the Room Card will turn gray for the status if the device is offline or cannot reach the cloud service. If the device loses connectivity to the Appspace server, portal itself you will see the 'Lost Connection' status after 15min. Once the device reports back to the server it will switch back to Online.

*** For best results and lightbar integration, minimum EMS version is v44.1 Update 28

Crestron Scheduling

- Hard keys/hard key backlighting are automatically disabled in Crestron Scheduling mode. Even if manually turned on, the next time the scheduling interface starts they will turn back off.
- "Theme/Style Override URL" field is intended for .css files that override default styling rules. It should not be used for image files.

SpaceIQ (added 2/14/2020)

- It was observed that the SpaceIQ application crashes after an update of firmware. The display will show a white screen with a small blue swirl. This is an issue with the SpaceIQ application and they are currently working on resolving the problem. If you are running SpaceIQ, it is recommended not to update the firmware until the problem is resolved. If the panel is in this state the issue can be cleared by selecting a different application mode and selecting SpaceIQ again.

NewWave (added 2/14/2020)

- Current Room status does not display on Scheduling page for the first time after entering the credentials, the user will not see the current room status when the scheduling page is loaded initially. The user will need to navigate to the next day and then back to today on scheduling page and panel will refresh and display the correct meetings.

Gingco

- Reserve Now – Gingco can only reserve meetings in 15-minute increments and never in the past. If a user wants to do a reserve now at 2:07 for example, the first reserve now block available will be 2:15 to 2:30.
- The Gingco app does not indicate when the panel is offline or unable to communicate with the server. Users that attempt to create a meeting from the panel will receive a failure message with no indication that the operation failed due to a network communications issue.

NFS Rendezvous

- The NFS Rendezvous does not indicate when the panel is offline or unable to communicate with the server.
- In some cases, the user may get into an authentication page that cannot be dismissed. A device reboot is required.
- There is a display issue on 7" touchscreens when the room is in a meeting. The organizer of the meeting is clipped and illegible.

Space Connect (updated 2/14/2020)

- The Space Connect app does not indicate a network outage and will appear to be online and functional when it is not able to communicate with the Space Connect portal.
- Network outage behavior – Rooms that show unavailable will change to available during a network outage.
- For ad-hoc meetings the End Meeting button is not always active.

Sharing Cloud

- SharingCloud does not have a production ready version at the time of release. Selecting SharingCloud on the device loads the SharingCloud homepage in a full screen kiosk mode browser.
- When the SharingCloud release is ready it will be made available via the app update process. Users can force the update using the Actions menu on the web configuration page, or from the About screen in the Setup pages.

Teem

- It is recommended to disable the device Standby and Screensaver when using Teem. Teem provides a screensaver from their portal as part of the Teem app.

- Teem rooms require a Teem license assigned in the portal. With no license assigned, the TSS touch screen appears to be functional but does not report current info and the user cannot create meetings.
 - Recovery: Ensure that a license has been assigned to the room in the Teem portal.

Appspace

- Only the Meeting Room card used for scheduling is supported on this release. Streaming video and images may be supported in a future release.
- This firmware image has 1.44.1 in the package, which does not control LED.
 - The 1.47.0 update is immediately available from the update site, which does control the LED. Users, after first switching to the Appspace app, will need to perform an update to get LED control.
 - Note - Devices already in Appspace mode running the 1.47.0 version do not require an additional app update after the firmware is installed.
- App updates are initiated from the Actions menu on the web configuration page, or from the About screen in Setup.

EMS

- Users selecting the EMS application must provide the unique URL to their EMS deployment.
- When the EMS application loads, there is a profile dropdown and a room dropdown. Choosing a profile populates the room dropdown to select a room. The options are stored in a cookie, so anytime the cookie is cleared the user will have to go through the selection process again.
- The EMS web application will produce an error message if there is a network outage. Restart the panel after an outage to resume normal operation.
- Sometimes, after the TSS screensaver is dismissed, the EMS room needs reconnection
 - Workaround: Leave the device Standby and Screensaver disabled.
- When creating reservations from the TSS touch screen, the user cannot select half hour segments from the time ribbon using the EMS app.
- Users cannot start an ad-hoc meeting unless it is on a :15 minute time slot.

Google Calendar

- Google currently has a token refresh limit of 50, if the limit is reached, it will invalidate the oldest refresh token. Therefore, if a deployment has 50 panels under one account, and if an admin re-registers one of the panels with Google, the panel with the oldest refresh token from the remaining 49 will go offline. It is recommended only 15 or 20 calendars/touch panels are used for one user account. This limit does not apply to service accounts.

System Requirements and Dependencies

Other software versions:

- Device Database 81.00.002 or later is required for TSW-XX60 support.
- Smart Graphics 2.12.11 corrects an issue that can lead to less than optimal performance of page flips and page loading, for certain projects. It is strongly recommended that TSW-XX60 projects be compiled with this version or later.

Operational Installation/Upgrade Instructions

Firmware upgrades can be performed using any of the following methods:

- Web Configuration UI
- XiO Cloud
- Autoupdate, which can be enabled/disabled from the Web Configuration UI and occurs at 02:00 local time whenever a new firmware update is available from Crestron.
 - Autoupdate is enabled by default on TSS products.
 - Autoupdate is disabled by default on TSW products.
- Crestron Toolbox PUF tool
- FTP transfer/PUF command

Version History

Version	Date
2.007.0060	02/14/2020

Changes since Last Version

Please note updates have also been made in “Notes and Recommendations” section of this document for scheduling applications and calendars. All limitations and bugs related to the 3rd party scheduling applications are listed in that section.

New Features

- Crestron Home
 - Full support for Crestron Home
- Crestron Flex for Microsoft Teams
 - Direct connection with UC engine, simplifies setup and configuration

Bug Fixes

General

- Resolved issue where the panel does not come online in XiO Cloud if the webserver is disabled.
- Added a mechanism to prevent excessive light sensor values from being sent to Fusion possibly causing performance issues for large deployments.

Crestron Scheduling

- Resolved issue where panels intermittently lose sync to the Office 365 calendar.

Known Issues and Behaviors

General

- Note the version of firmware for auto update will remain at 2.3.52, if you wish to upgrade to the latest version please upgrade manually and disable the auto update feature, this will prevent the firmware from reverting back to 2.3.52. The reason for this is due to the very intermittent issue we previously discovered, when running the Crestron Scheduling Application the panel display may get stuck on the Crestron Logo after a firmware update or reboot. (This issue was documented in the 2.7.43 release notes on 10/30/19). This will allow firmware upgrades to happen in a controlled time slot and enable our customers to recover any panel that might exhibit this issue immediately after an upgrade. This problem will be resolved in the next release (current target late March 2020), and then the auto update firmware will be updated to that version.
- When upgrading from version 2.6.63 to any version of 2.7.x, the project memory limit size may change to 0. This will only affect applications in user project mode and cause projects to restart unexpectedly. If you are upgrading from firmware version 2.6.63, after upgrade check the project memory limit size by entering the command “projectmemory” via the console. If it is set to 0, please change the size by entering the command “projectmemory 600”, this will set the limit size to the correct value of 600 MB. Upgrades from all other versions will not have this issue.

Version	Date
2.007.0043	10/30/2019

12/16/2019 update

Please note that Crestron is recently aware of an issue with touch panels running the Crestron Scheduling Application connected to Office 365 calendar. It has been observed that panels intermittently lose sync to the Office 365 calendar and must be rebooted to restore connectivity. Crestron is working to correct this issue as soon as possible, until then we advise all customers using the Crestron Scheduling Application with Office 365 not to upgrade to v2.7.43 or if currently on v2.7.43 and having these sync issues to downgrade to 2.6.63.

Changes since Last Version

Please note updates have also been made in “Notes and Recommendations” section of this document for scheduling applications and calendars

This release does not support Crestron Home, for Crestron Home support please use firmware version 2.5.64

New Features

- XiO Cloud
 - All settings available on the device webpage are now available by XiO Cloud with the exception of local user management and certificate deployment.
 - To utilize all new configurations settings in XiO cloud, the touch panel must be upgraded to version 2.7.43. It is highly recommended that all panels in XiO cloud be upgraded to work with the new release of XiO cloud.
 - Note, if the user tries to set any of the new LED Accessory parameters from XiO Cloud with older version Touch Panel firmware, a “Pending” message will show continually for those parameters, this is only a cosmetic issue and the panel will still function normally.
 - Note once upgraded to 2.7.43 the camera must be disabled on the TSW panel to re-enable the remote-control functionality. The camera for the TSW panel can be disabled either on XiO Cloud or the Web Config UI.

- New configuration setting has been added to enable/disable the camera
 - Available in XiO Cloud and local Web config UI
 - Changing this setting will initiate a reboot of the touch panel
 - This setting will have no effect on No Camera models, however changing the setting will still initiate a reboot.
 - Setting the new configuration to enable from XiO Cloud will cause multiple reboots on No Camera model panels, camera setting must always be left to disable for No Camera model panels.
- New scheduling providers:
 - SpaceIQ
 - New Wave
- New Calendar providers:
 - CollegeNET 25Live

Bug Fixes

General

- Resolved issue where the panel would only sync with the NTP source during initial boot up, causing time drift. This issue only happens when the panel is in app mode or not used with a control system.
- Resolved issue where the H.264 player stops streaming video when the screensaver is enabled.
- Resolved issue with the video streaming stops working after the Sonos Application has been launched and then closed.
- Resolved issue when a certificate signed by an intermediate CA is installed into the panels, the web server does not provide the full certificate chain when a client connects.

Crestron Scheduling

- Resolved issue when a panel boots up on a network with no access to the outside internet, it does not attempt to reconnect to Office 365 when the internet is restored.
- Resolved issue where the panel is unable to display results of the Find Rooms function, when more than 20 rooms are returned.

Known Issues and Behaviors

General

- For the EMS scheduling application, the max number of characters in the URL cannot exceed 234.
- For Panels that are both connected to Fusion and XiO Cloud, “Custom Room Properties” must be disabled in Fusion, to have configurations from XiO cloud work properly.
- Setting the new configuration to enable/disable the camera from XiO Cloud will cause multiple reboots on No Camera models.

Crestron Scheduling

- When running the Crestron Scheduling Application a very intermittent issue was observed where the panel display will be stuck on the Crestron Logo. This issue only happens after a reboot or a firmware

upgrade. The user will still have access to the panel via the local webconfig UI or XiO Cloud and the problem can be cleared by initiating another reboot.

Version	Date
2.006.0063	9/27/2019

Note: This release does not support Crestron Home, for Crestron Home support please use firmware version 2.5.64.

Changes since Last Version

New Features

- XiO Cloud
 - Added project load support from XiO Cloud.
 - Load User Projects (TSW only)
 - Load Custom Scheduling HTML
 - Remote Control
 - Touch screens support the XiO Cloud remote control feature, enabled by default.
 - View and Control the touch screen from the XiO Cloud account page
 - There is an on-screen notification when the device is being controlled remotely
 - User may optionally disable this feature
 - Status and Settings
 - Manage control system settings including
 - IPID
 - IP Address of the control system
 - Server port
 - Status
 - Manage Time/Date settings including
 - Time Zone
 - NTP Server
 - Report display status – Standby or Screensaver
 - Report USB Accessory connection status (SSW/SSC/LB)
 - Actions
 - Enter Setup
 - Enter Standby
 - Upload Projects
 - Manage Certificates
 - Alerts
 - Control System Status
- New scheduling providers:
 - NFS
 - Space Connect
 - Gingco
- Crestron Scheduling
 - Ad Astra (read only)

- Moved “Manage Certificates” button to Actions select list from “802.1x Configuration” setting

Bug Fixes

General

- Resolved TSW-1060 upgrade issue. After upgrade from 2.003.0022 to 36, TSW could no longer connect to UC-Engine
- Resolved Browser Audio Unmutes After Long Term Playback
- Resolved the Not able to get out of the Sonos app using the Home hard button
- Resolved the condition where Remote Control Panel (TSW-560P- and 1060P) should be displayed in Portrait mode mirroring the device not horizontal landscape mode
- Fixed the SONOS button appearance and position. Enabled the Button to check for updates to appear in the “ABOUT” page in setup, previously not showing up
- Resolved XiO Cloud & TSW/TSS: Time zones and UTC are getting mismatched in device after applying from XiO Cloud
- Resolved issue where Zoom Rooms gets relaunched when a Zoom PopupWindow activity is being used.

Crestron Scheduling

- Room Friendly name is not showing on the Panel, the room values are being displayed
- Special characters sent by Fusion for the meeting subject and organizer are not shown correctly
- Corrected an issue on the TSW-560P where scrolling was non-functioning from the lower left touchscreen area

Scheduling Applications

- Resolved the Teem APP condition - Couldn't Load Theme msg on occasional panel reboots

Rava Sip

- RAVA-SIP - TSW-60 panels not ringing when a call is made to the panel using RAVA (SIP Server)
- RAVA-SIP - TSW-60 panels have no Audio heard on the initiating panel nor on the destination panel indicating there is an incoming call using PEER to PEER

Known Issues and Behaviors

General

- TSS-7 and TSS-10 touch screens cannot be downgraded below version 2.002.0048.
- The panel may display a loading screen if it is changed from scheduling mode to user mode without a user project loaded to the panel.
- Some YouTube videos will not play back in the embedded web browser.
- Authenticated but non-admin users currently have access to the onscreen setup pages. This will be restricted to just admins in a future release.
- The first time that an app update is checked for after selecting an application mode, it may perform an update to the same version even though no update is required. This is a harmless behavior.
- TSS-TSW: Performed restore on TSW-1060 when in team video mode, it reversed the TSW1060 to project mode

Web Interface

- Firefox can have issues rendering the web interface correctly and is thus not a recommended browser at this time.

Crestron Scheduling

- Observed intermittent disconnection with Office 365 on some deployments. The connection may recover on its own after some time, or a reboot of the device recovers the connection. This will be resolved in the next release.
- Extended window did not show after the pressing the Extend button for the first time.
- Panels that are connected to Fusion will change the Background Media type from Video to Image after reboot or making changes to other Room custom properties.
- Panels connected to Fusion with google provider will show incorrect value for Push Registration field
- The Offline icon will show randomly on the panel when it is connected to Ad Astra and is online with meetings
- In the WEBUI under Room Scheduling the Calendar Sync field does not show Last Sync Failed message when Fusion services were stopped for more than 30 minutes
- In demo mode, the meeting is deleted instead of truncated when it is ended early
- ALS threshold value does not revert back to default after a restore
- While 'ver -v' command can be used to check current installed Crestron Scheduling version, a reboot may be required after an update for the version to update.

Version	Date
2.003.0052	3/31/2019

Changes since Last Version

Bug Fixes

- Teams Video/Flex: Removed validation that prevented UC-ENGINE hostname from being defined as FQDN.
- Zoom: Corrected issue where credentials would need to be re-entered after firmware update.
- Corrected issue with login as Active Directory user via Toolbox. NOTE: File transfer actions like projects and firmware are not yet supported using AD login via Toolbox or third-party tools. This will be corrected in an upcoming release.

Known Issues

General

- TSS-7 and TSS-10 touch screens cannot be downgraded below version 2.002.0048.
- The panel may display a loading screen if it is changed from scheduling mode to user mode without a user project loaded to the panel.
- Some YouTube videos will not play back in the embedded web browser.
- Authenticated but non-admin users currently have access to the onscreen setup pages. This will be restricted to just admins in a future release.

- The first time that an app update is checked for after selecting an application mode, it may perform an update to the same version even though no update is required. This is a harmless behavior.

Web Interface

- Firefox can have issues rendering the web interface correctly and is thus not a recommended browser at this time.

Crestron Scheduling

- Hard keys/hard key backlighting are automatically disabled in Crestron Scheduling mode. Even if manually turned on, the next time the scheduling interface starts they will turn back off.
- While 'ver -v' command can be used to check current installed Crestron Scheduling version, a reboot may be required after an update for the version to update.
- "Theme/Style Override URL" field is intended for .css files that override default styling rules. It should not be used for image files.
- In scheduling functionality, when booking a meeting at the panel the end time may be shown twice when only one end time is available
- In demo mode, the meeting is deleted instead of truncated when it is ended early
- ALS threshold value does not revert back to default after a restore

Teem

- The Teem app displays the correct time, but the meeting information is not current.
 - Recovery: Reboot the device.
 - Workaround: Leave the device Standby and Screensaver disabled. Teem provides a screensaver from their portal.
- Teem rooms require a Teem license. The TSS touch screen appears to be functional but does not report current info and the user cannot create meetings.
 - Recovery: Ensure that a license has been assigned to the room in the Teem portal.

Appspace

- Only the Meeting Room card used for scheduling is supported on this release. Streaming video and images will be supported in a future release.
- Appspace does not support Room Availability Sign integration in this release. Room Availability Sign support will be available in a future release.
- In some situations after a network connection outage, the Appspace registration is reset.
 - Recovery: reconnect the panel to the Appspace portal
- A small percentage of panels configured with Appspace may be reset or fail to update.
 - Recovery: re-register the touch screen with the Appspace portal

EMS

- When the EMS application loads, there is a profile dropdown and a room dropdown. Choosing a profile populates the room dropdown to select a room. The options are stored in a cookie, so anytime the cookie is cleared the user will have to go through the selection process again.
- The EMS web application will produce an error message if there is a network outage. Restart the panel after an outage to resume normal operation.
- Sometimes, after the TSS screensaver is dismissed, the EMS room needs reconnection
 - Workaround: Leave the device Standby and Screensaver disabled.

- When creating reservations from the TSS touch screen, the user cannot select half hour segments from the time ribbon using the EMS app.
- Users cannot start an ad-hoc meeting unless it is on a :15 minute time slot.

Zoom Rooms

- When page flip mode is enabled, the user project cannot be loaded from the web interface. It must be loaded from Toolbox instead.

Sonos

- If the Home button is pressed while the Sonos app is active but the TSW is in standby or screensaver mode, the interface may become stuck in the Sonos app requiring a project reset or panel reboot. A fix for this issue will be in an upcoming version.

Version	Date
2.003.0043	2/7/2019

Changes since Last Version

Bug Fixes

- Corrected issue with rsyslog messages being sent to wrong port.
- Corrected issue where hostnames beginning with numeric characters were erroneously flagged as invalid.

App Updates

- Zoom updated to version 4.3.6.

Version	Date
2.003.0040	1/3/2019

Changes since Last Version

Bug Fixes

- Corrected issue introduced with 2.003.0036 that required Zoom be reselected as the application after firmware update, if the TSW-760/1060 touch screen is already installed and running the Zoom Rooms application.

Version	Date
2.003.0036	12/17/2018

Changes since Last Version

New Features

Application Modes - General

- Added Crestron Scheduling support for TSW-560 and TSW-560P.
 - Note: if upgrading existing TS-560 and TSW-560P touch screens for Crestron Scheduling, the firmware upgrade must be run twice. The first upgrade installs the firmware and the second upgrade will install the scheduling interface.

- Added Appspace scheduling, EMS, Robin, and Teem support for TSW-760 and TSW-1060.
- Added Zoom Scheduling support for TSS-7, TSS-10, TSW-760, and TSW-1060.
- Added Microsoft Teams Video Support to TSW-1060 for use with UC-ENGINE.
- Added ability to set Application Mode from XiO Cloud for all products.
- Added ability to set Application Mode from local device setup UI.

Application Modes – Crestron Scheduling

- Added new background states to indicate whether the room is occupied or unoccupied when it's unbooked.

Application Modes – Zoom Rooms

- Added Zoom Room App Control Device Extender which gives program visibility into Zoom Room call status. Requires Device Database 99.00.001 or later.
- Added ability to launch and close Zoom Rooms app programmatically from App Control extender. Requires Device Database 99.00.001 or later.
- Added Zoom Rooms app autoupdate, so now new versions of the Zoom app will be installed automatically without requiring a full firmware update.

SIP Intercom

- Added Support for video over SIP protocol. This feature is enabled by default both for outgoing and incoming calls, and is required for Pyng OS2 and 2N Doorstation integration. For more info on this integration, see OLH 1000283.
 - On the Rava diagnostic page in setup video will appear if a SIP call with video is received.
- Added support for Multicast SIP Video with 2N Doorstations
- Added new console commands:
 - SIPVIDEO
 - SIPEARLYMEDIA

General

- The Sonos version and Check for Sonos Update button on the Setup – About page will now only show if the Sonos app has ever been launched.
- Added new SNMP OID's for Project File Name, Project File Date, IP ID, IP Table Status, IP Table Address, and IP Table Port.
- Added new PROXY console command to enable the proxying of traffic to a specified proxy location/port.
- Added Auto Update support to web configuration interface.
 - Auto Update -> Enable will cause the device to install any new firmware releases from Crestron at 02:00 local time when they become available.
 - Pressing Update Now(whether Auto Update is enabled or disabled) will cause the device to check the cloud for any new versions of firmware for the device, and install if available.

Bug Fixes

- Various auto update fixes.
- Various web configuration fixes.
- Corrected issue with video stretch capability.
- Corrected issue where disabled hard buttons would still trigger associated joins if they are connected in programming.

- Corrected issue where setting a new CAMERASTREAMNAME wouldn't delete the previously entered name.
- User login is now case insensitive.
- Corrected issue with delayed SIP video from IP based BPT doorstations.
- Corrected issue where starting ping test from setup pages would cause setup to exit.
- Corrected issue where browser could not be launched in Zoom page flip mode.
- Corrected issue where Google Calendar meeting info in web interface would be empty while meeting was occurring.

Known Issues

General

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- Authenticated but non-admin users currently have access to the onscreen setup pages. This will be restricted to just admins in a future release.
- The first time that an app update is checked for after selecting an application mode, it may perform an update to the same version even though no update is required. This is a harmless behavior.

Web Interface

- Firefox can have issues rendering the web interface correctly and is thus not a recommended browser at this time.

Crestron Scheduling

- Hard keys/hard key backlighting are automatically disabled in Crestron Scheduling mode. Even if manually turned on, the next time the scheduling interface starts they will turn back off.
- While 'ver -v' command can be used to check current installed Crestron Scheduling version, a reboot may be required after an update for the version to update.
- "Theme/Style Override URL" field is intended for .css files that override default styling rules. It should not be used for image files.
- In scheduling functionality, when booking a meeting at the panel the end time may be shown twice when only one end time is available
- In demo mode, the meeting is deleted instead of truncated when it is ended early
- ALS threshold value does not revert back to default after a restore

Teem

- The Teem app displays the correct time, but the meeting information is not current.
 - Recovery: Reboot the device.
 - Workaround: Leave the device Standby and Screensaver disabled. Teem provides a screensaver from their portal.
- Teem rooms require a Teem license. The TSS touch screen appears to be functional but does not report current info and the user cannot create meetings.
 - Recovery: Ensure that a license has been assigned to the room in the Teem portal.

Appspace

- In some situations after a network connection outage, the Appspace registration is reset.

- Recovery: reconnect the panel to the Appspace portal
- A small percentage of panels configured with Appspace may be reset or fail to update.
 - Recovery: re-register the touch screen with the Appspace portal

EMS

- Sometimes, after the TSS screensaver is dismissed, the EMS room needs reconnection
 - Workaround: Leave the device Standby and Screensaver disabled.
- When creating reservations from the TSS touch screen, the user cannot select half hour segments from the time ribbon using the EMS app.
- Users cannot start an ad-hoc meeting unless it is on a :15 minute time slot.

Zoom Rooms

- When page flip mode is enabled, the user project cannot be loaded from the web interface. It must be loaded from Toolbox instead.

Version	Date
2.002.0048	8/20/2018

Please see the [release notes](#) for the TSS-7/10 v2.002.0048 for more details.

Version	Date
2.001.0050	9/18/2018

Changes since Last Version

New Features

- Added support for Crestron Pyng OS 2.
- Added support for Zoom Rooms® [Direct Share](#) feature. To learn more about Zoom Rooms see OLH #[100124](#).
- Due to changes in the Sonos native app experience, this feature is no longer supported on the TSW-560. The TSW-760, TSW-1060, and TSW-560P still have support for this feature. Smart Graphics Media Player integration with Sonos will still function on the TSW-560.

Bug Fixes

- Improved scaling of Sonos app on TSW-560P.

Known Issues

- Do not view the internal camera stream via it's URL, instead use the associated Source ID in the Embedded Video object.
- The USB port is for internal use only. Keyboard and mouse connections are not supported at this time and can cause project display issues.
- Mic Test plays back at a set volume that may not be the full volume.
- When using Do Not Disturb with BPT door stations, the video preview will cease to display after DND is enabled then disabled.

- The TSW-560 and TSW-560P web configuration interface offers scheduling as a valid interface type, when it is not. This setting will currently not work and should not be used. The scheduling support for these products will be added in future.
- RTSP connections via multicast are currently being limited to 8. This limit will be raised in a future firmware version.
- Using the 'Stretch' property on a video window object will currently have no effect.

Version	Date
2.001.0040	7/12/2018

Changes since Last Version

New Features

- Added support for Sonos app version 9.0 or later. Firmware versions 2.001.0037 or earlier will not load Sonos versions past 8.6.

Note:

- Due to important security fixes included in the previous firmware version 2.001.0037, this is a recommended update if you have not already updated to 2.001.0037. See 2.001.0037 release notes for more details.

Known Issues

- Do not view the internal camera stream via it's URL, instead use the associated Source ID in the Embedded Video object.
- The USB port is for internal use only. Keyboard and mouse connections are not supported at this time and can cause project display issues.
- Mic Test plays back at a set volume that may not be the full volume.
- When using Do Not Disturb with BPT door stations, the video preview will cease to display after DND is enabled then disabled.
- The TSW-560 and TSW-560P web configuration interface offers scheduling as a valid interface type, when it is not. This setting will currently not work and should not be used. The scheduling support for these products will be added in future.
- RTSP connections via multicast are currently being limited to 8. This limit will be raised in a future firmware version.
- Using the 'Stretch' property on a video window object will currently have no effect.

Version	Date
2.001.0037	5/30/2018

Changes since Last Version

New Features

- This 2.001.0037 firmware(and any later versions) is qualified for all uses(custom projects, scheduling projects, and Zoom Rooms). There are no separate versions as there were in the past with 2.001.0020/2.000.0051.
- Added support for TSW-760-LB and TSW-1060-LB products.

Bug Fixes

- Multiple Vulnerabilities regarding Unauthenticated Remote Code Execution (CVE-2018-11228 & CVE-2018-11229) has been addressed in this release of firmware. Crestron recommends updating firmware to prevent this vulnerability from being exploited. For more information see Online Help 5471.
- Corrected issue with RTSP streams not displaying on the Setup->RTSP Diagnostics page.
- Corrected issue that would set the SIP Local Extension value back to default after upgrade to 2.000.0051.
- Corrected aspect ratio issue with the built in camera.
- Corrected issue where correct login credentials with special characters would lead to a login failure from the web configuration interface.
- Corrected issue where Active Directory logins could fail from the web configuration interface.
- Corrected issue where newly created user under Authentication would not show in the Users Tab until panel is rebooted.

Version	Date
2.001.0020	3/26/2018

Changes since Last Version

New Features

- Added Zoom Rooms support.

Known Issues

- This version was intended for Zoom Rooms support only.

Version	Date
2.000.0051	3/26/2018

Changes since Last Version

New Features

- This firmware release support non-scheduling and scheduling uses, so there is no longer a separate firmware release for scheduling. To enable scheduling on a TSW-760 or TSW-1060:
 - Open the web configuration interface and navigate to Settings->Miscellaneous->Project Type and select "Scheduling".
 - Type "OENABLE OOTBF" at the text console in Toolbox.
 - **NOTE:** When upgrading by transferring the firmware to the panel with FTP and then issuing the PUF command, the upgrade must be performed twice to enable the scheduling functionality
- This firmware introduces XiO Cloud support.
- Added "ICMP" command to enable/disable ICMP. NOTE: While the default is OFF for 2.000.0051, this will default to ON in the next firmware release.

Scheduling

- Added custom room name option for scheduling.

Web Interface

- Added authentication management.

- Added ability to upload scheduling UI from the web interface.
- Sonos app version 8.4 included in the firmware update.

Bug Fixes

General

- Corrected issue that could occur with upgrade process not completing gracefully. The fix for this issue will only be in place after this firmware upgrade is completed.
- Corrected issue where hard buttons can become unresponsive.
- Corrected issue with joins being cleared incorrectly when multiple control systems are in the IP table.
- Corrected issue where certain services on device including text console could become unresponsive if device acquired IPV6 address.

Scheduling

- Fixed issue where the panel would not respond correctly if pressed for too long
- Fixed issue where changes (end, extend) to meetings were appearing on the panel but not Exchange
- Fixed issue where end and extend buttons were not appearing at the correct time into a meeting
- Removed nonfunctional field to enter a custom organizer when directly connected to Exchange and Google

Version	Date
1.003.0054	11/10/2017

Changes since Last Version

Bug Fixes

- This release intended for native scheduling support only.
- Corrected authentication error. If you are currently using version 1.003.0052.001 it is STRONGLY recommended that you load this release.

Version	Date
1.003.0052	10/18/2017

Changes since Last Version

New Features

- **This release intended for native scheduling support only.**
- Introduces native scheduling support for TSW-760 and TSW-1060, including connecting to Fusion and directly connecting to Microsoft Exchange, Microsoft Office 365, Google Calendar, and Crestron Fusion
- Scheduling panel functionality supports different active and idle display formats
- Scheduling panel functionality supports custom image and video backgrounds and custom logos
- Scheduling panel functionality supports CSS for customization
- Scheduling panel functionality is WCAG 2.0 part 1.4.6 compliant for vision impaired users
- New web UI for configuring the touch screen

Version	Date
1.002.0031	12/11/2017

Changes since Last Version

Bug fixes

- Corrected issue where Sonos app would not check for updates in certain cases.
- Corrected issues where Sonos app would close when coming out of screensaver, if Sonos app was open prior to screensaver.
- Corrected issue where the screensaver might fail to show after a project restart.

Version	Date
1.002.0029	11/6/2017

Changes since Last Version

Bug fixes

- Corrected authentication error. If you are currently using version 1.002.0016.001 or 1.002.0028.001 it is STRONGLY recommended you load this release.

Version	Date
1.002.0028	10/13/2017

Changes since Last Version

Bug fixes

- Corrected issue with the installation of Sonos app updates.
- Corrected issue where HP printers on same network as TSW could lock up/reboot, due to HP's incorrect processing of traffic from ONVIF compatible devices.
- Corrected issue where user interface could disappear unexpectedly, leaving Crestron 'splash' screen.
- Corrected issue where user interface would not load correctly if updated just as a firmware upgrade is completing.
- Corrected issue where H.264 stream from internal camera would not display after multiple viewing instances.
- Corrected issue where Rava SIP ringing could be delayed when DNS server address exists in TSW but DNS server cannot be contacted.

Version	Date
1.002.0018	08/31/2017

Changes since Last Version

Bug fixes

- Corrected issue with Rava SIP intercom that could occur when a call is rejected/hung up.

Version	Date
1.002.0017	08/23/2017

Changes since Last Version

Bug fixes

- Corrected issue where analog join data going to the TSW could appear onscreen in a delayed fashion.

Version	Date
1.002.0016	07/26/2017

Changes since Last Version

New Features

- Added Active Directory login support. See new console commands ADLOGIN and ADLOGOUT.
- For troubleshooting purposes, LOGS folder now contains a file called "versions.log" that contains the current firmware version and the Smart Graphics version that was used to compile the currently loaded project.
- Updated OpenSSH to version 7.5p1.

Bug fixes

- Sonos app performance improvements.
- Corrected issue where local domain value would always report "localdomain".
- Corrected issue with ADDUSERTOGROUP command.
- Corrected issues with several 802.1x commands.

Version	Date
1.001.0003	06/16/2017

Changes since Last Version

Bug fixes

- Corrected issue that could occur on some TSW's after firmware recovery procedure was performed.

Version	Date
1.001.0001	06/05/2017

Changes since Last Version

New Features

- Enhanced PoE power negotiation so that touch screens will request 15W by default on LLDP-enabled PoE+ switches.
- *Applicable for TSW-1060 Only:* Added USBPOWER command to enable USB power when needed. Default value is USBPOWER AUTO where USB will be automatically enabled if a Crestron accessory

that requires it is detected (like a SSW device). In most cases, no change from AUTO should be required.

- Added WEBSERVER command to allow disabling of web server, if desired.
- ONVIF discovery added for built in camera.
- Added alternative MJPEG camera option. For some cameras, adding ?mjpegdecoder=sw or &mjpegdecoder=sw to the end of the URL will be required to view the stream. A good way to tell if this should be used is if the stream does not appear in the standard video window, but does appear if you paste the URL into the TSW web browser.
- Increased screen saver font size.

Bug fixes

- Corrected issue where streaming video would not change properly if the main section of the URL doesn't change. For example, this would often be the case if simply changing channels on an NVR.
- Corrected issue where a PUF update from the Web UI did not execute properly. Web UI PUF updates performed with version 1.000.0069 or later already on the TSW will succeed.
- Corrected issues with Rava Page All and calling not working.
- Corrected issue where the Sonos app erroneously reported that an OS update was required.
- Corrected issue where BROWSERHOMEPAGE command wasn't working properly.
- Corrected issue where screensaver could stop displaying after a week.
- Corrected join conflict issue with Smart Graphics scheduling application.
- Corrected issue where time from Crestron Fusion was not being set on the panel correctly.
- Corrected issue where dynamic graphic address containing hostname wasn't working.
- Corrected issue with **Hard_Button_Brt_Auto_Thresh** join.
- Corrected issue with IP table reporting incorrect online/offline status.
- Improved response of key backlight changes when ambient light changes.
- Corrected issue where setup allowed multiple entries with same IP ID, which is unsupported.
- Corrected issue where SIPLOCALPORT command did not allow a SIP port change.
- Corrected typo in SIPAUDIOMODE command.
- Corrected glitch that could appear in camera stream when viewed locally.
- Corrected issue where enabling and disabling the camera multiple times could cause stream to stop working.
- Corrected reporting issues with Camera Enable/Disable and Multicast Enable/Disable feedback joins.
- Corrected issue where an unknown audio codec from an H.264 camera prevents the video from playing.
- Corrected issue where PROJECTREFRESH command hour could not be set. Corrected issue where TSW-560P hard buttons were swapped in programming.
- Corrected issue where touch screen would not go into standby.

Known Issues

- Do not view the internal camera stream via its URL, instead use the associated Source ID in the Embedded Video object.
- The USB port is for internal use only. Keyboard and mouse connections are not supported at this time and can cause project display issues.
- Mic Test plays back at a set volume that may not be the full volume.

Version	Date
1.000.0059	02/08/2017

Changes since Last Version

New Features

- About screen in Setup now shows Sonos version, as well as status during "Check for App Updates".
- Updated Sonos app to current version.
- The camera can now stream out and be previewed locally on the screen at the same time.
- Added FULLSCREEN option to BROWSERMODE console command, which completely hides the address bar on the web browser.
- Initial firmware release for TSW-560P.

Bug fixes

- Corrected issue where user interface could freeze and require a reboot after running for a prolonged time.
- Corrected issue where 'ringback' tone was playing as 'ringing' tone.
- Corrected issue where Rava configuration parameters were unnecessarily case sensitive.
- Corrected issue where SIP Server Online/Offline status button shows opposite from actual status.
- Corrected issue where SCREENSHOT command would not capture any onscreen video content correctly.
- Corrected issue where "*" character was being stripped out of Rava SIP dial strings.
- Corrected issue where backlight feedback joins were not operating correctly.
- Correct hostname is now reported via LLDP.
- Corrected issue with Fusion Cloud connections, when using Fusion scheduling interface.
- Corrected issue with SIPAUTOANSWERDELAY command not working correctly.
- Disabled download ability in browser. Previously the web browser allowed some downloads to occur even though they were unusable by the system.
- Stability improvements for long duration video playback in the web browser.
- Corrected issue where pressing just outside a hard button area would wake the screen, even when hard buttons are configured to not wake the screen.
- AUPOLLINTERVAL is now defined in minutes, not seconds.
- Cleaned up erroneous errors in log relating to speech recognition functionality.
- Corrected issue where Touch Activity_fb was not being reset by hard button presses.
- Corrected issue where local camera preview window would appear on top of Sonos app.
- Corrected issues with Auto Update feature.

Known Issues

- If using the screensaver it may stop activating after a periodic project refresh. To correct this, set the following joins in the project:
 - Set the home page visibility join to "screensaver off"
 - Set the home page transition complete join to "screensaver on"
- Do not view the internal camera stream via it's URL, instead use the associated Source ID in the Embedded Video object.
- The USB port is for internal use only. Keyboard and mouse connections are not supported at this time and can cause project display issues.

- Mic Test plays back at a set volume that may not be the full volume.

Version	Date
1.000.0037	11/30/2016

Changes since Last Version

New Features

- Added support for built in camera.
- Added support for built in Sonos app.
- Added support for BPT intercom door stations.
- Added hard button enable/disable control via symbol and reserved joins.
- Updated EmbeddedVideo object with Source ID for built in camera.
- Updated setup screens with several usability enhancements.
- Added support for entering setup by placing 5 fingers on the screen for 15 seconds.
- Added autobrightness threshold control for hard buttons to setup.

Bug fixes

- Corrected several issues with streaming video.
- Corrected issue with touch detection extender.
- Corrected issue with hard buttons waking screen from standby even when this feature is disabled.
- Many system improvements.

Known Issues

- Do not view the internal camera stream via it's URL, instead use the associated Source ID in the Embedded Video object.
- When viewing the internal camera locally on-screen(i.e. a mirror view) the outbound camera stream will be stopped. Simultaneous function will be enabled in the future.
- The USB port is for internal use only. Keyboard and mouse connections are not supported at this time and can cause project display issues.
- Mic Test plays back at a set volume that may not be the full volume.
- LLDP hostname reporting is currently incorrect.
- Long term playback of video in the web browser (over 1 hour) is not recommended at this time.
- There is a small amount of latency on the internal camera stream. It will be improved in a future release.
- The web browser currently allows some downloads to occur even though they will be unusable by the system. A future version will block downloads completely.

Version	Date
1.000.0023	10/17/2016

Changes since Last Version

New Features

- Initial firmware release for TSW-XX60 touch screens.

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