Control4 Operating System 2.10.0 Release Notes

Control4 Operating System Release Notes

About Control4®

Control4, a leading provider of the operating system for the smart home, delivers intelligent control of consumer electronics products, appliances and networking systems through an easy-to-use and intuitive software interface. Founded in 2003, the company delivers affordable automation and control of lighting, music, video, HVAC, security, and energy management systems to the broad market through more than 1,600 custom integrators, retail outlets, and distributors in over 65 countries. Control4 is the platform of choice for major consumer electronics companies, hotels, businesses and utilities that require an intelligent, open and affordable control solution. For more information, visit www.control4.com.

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Control4 Operating System (OS) Software Release 2.10.0 Release Notes

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1   Introduction

This Control4® Operating System 2.10.0 (OS 2.10.0) release is a full release and is intended for new installations as well as an update for existing installations so long as they fit within life cycle requirements tied to the 2.10 OS. This release has a little something for just about everyone.

An updated version of OS 2.10.0 (2.10.0.542164-res) has been released which supersedes the current release of OS 2.10.0 (2.10.0.540110-res) that was delivered on September 6, 2017. Details on the new OS 2.10.0 release can be found here: https://www.control4.com/docs/product/control4-software/dealer-release-notes-addition/english/latest.

2   Audio

Control4 has packed a lot into this release with regards to audio. Here's a summary of what's new:

- We've replaced older hardware (Speaker Point, 16x16 Audio Matrix Switch, 8-Zone Power Amplifier) with newer, more powerful, high-resolution audio products.

- We've dramatically improved the audio announcement experience with faster initializations and smooth transitions from music to announcement. We've also extended audio announcement play back to T3 Touch Screens.

- We've improved streaming audio performance, especially regarding load time and synchronization. From pressing play to hearing music, we've cut the load time nearly in half for most streaming services.

- Last, but not least, we've delivered three new audio streaming services for you and your customers' listening pleasure.

2.1   Triad One Streaming Amplifier

The Triad One is a single zone, hi-resolution streaming amplifier solution that allows you to add a room of audio (via WiFi or hardwired ethernet) to your existing multi-room audio solution. Or, easily create smaller, but powerful multi-room audio systems using the Triad One for every room. While intended to replace the Speaker Point, the Triad One provides considerably more functionality. Features include:

- High-resolution audio streaming, up to 192 kHz/24 bit

- Signal to noise ratio of 105 dB for clean, dynamic audio performance

- Powerful amplification with 100 watts per channel

- Amplification, digital encoding, and IR control of local sources

- Attractive design for elegant display on countertops or bookshelves, paired with your favorite speakers

- Powerful DSP includes 10-band EQ, bass/treble, mono summing, balance and loudness, high and low pass filter with adjustable crossover

- Subwoofer output allows you to create a high-impact 2.1 audio zone

- Comes pre-loaded with EQ presets for Triad speakers

- Mounting accessories include a rack mount and an in-wall (behind TV) mount

So much more than a mass-market streaming box, the Triad One was designed with the custom installer in mind.

	Triad One	Speaker Point
Audio Inputs		
Analog In	1	1
Digital (Coax) In	1	-
Digital (Optical) In	1	-
Audio Streams (Incoming)	1	1
Control4 Digital Media – Streaming services, ShairBridge, MyMusic	Yes, supports up to 192/24 audio resolution	Yes, limited to 44.1/16 audio quality
Total Discrete Sources	3 (2 inputs/1 stream)	2 (1 input/1 stream)
Audio Outputs		

Amplified Output	1	1
WPC @ 8 Ohm	60	40
WPC @ 4 Ohm	100	50
Line Level Out	1	1
Subwoofer/Mono Out	1	-
Discrete Audio Outs (LL/Spk)	No - Speaker and analog audio outs are mirrored	Yes
Total Stereo Zones	1	2
Encoded Inputs (Outgoing)	2	1
Other IO		
Ethernet	1	1
WiFi	802.11 b/g/n dual band	802.11 a/b
USB	Yes	-
IR Outputs	2	-
Amp Features		
Connector Type	Phoenix	Binding posts
Other Features		
Max Supported Audio Res.	192/24	44.1/16
NAS Content	Yes	Yes
USB Content	Yes, local or from EA/HC	Yes, from EA/HC
Bass, Treble	Yes	Yes
10-Band EQ, Presets	Yes	-

Loudness	Yes	-
Audio Delay	Yes	-
Mono Summing	Yes	-
Source Input Gain	Yes, analog only	-
System Expansion (Max # of Units)	Up to 32 units @ 48k/24 Up to 24 units @ 96k/24 Up to 16 units @ 192k/24	-

2.2 Triad 8 × 8 and 24 × 24 Matrix Switches

The Triad 8 × 8 and 24 × 24 Audio Matrix Switches enable up to 8 (or 24) stereo audio sources to simultaneously play to 8 (or 24) audio outputs. Triad Audio Matrix Switches are ideal for use with Triad Power Amplifiers and Control4 EA Series Entertainment and Automation Controllers, delivering dependable, high-resolution audio distribution throughout the home. Features include:

- 8 × 8 version includes 8 inputs (4 analog + 4 analog/digital) and 8 analog outputs for small to mid-sized multi-room audio systems
- 24 × 24 model includes 24 inputs (16 analog + 8 digital) and 24 analog outputs for larger multi-room audio projects
- Superior installation and integration (SDDP) experience vs. competitive products
- High signal to noise ratio (105 dB) delivers clean, dynamic audio performance
- Powerful DSP includes 5-band parametric EQ, bass/treble, mono summing, balance and loudness
- New 2.1 output option enables two stereo outputs to be grouped together to create a dynamic 2.1 (sat/ sub) audio zone
- Comes pre-loaded with EQ presets for Triad speakers
- Digital inputs support high-resolution audio from EA controllers up to 192 kHz/24-bit and other digital audio sources (PCM stereo only)
- Independent input gain for each source input provides consistent levels when switching between sources
- 3.5mm 12V trigger outputs, built in to the AMS, wake up the new Triad power amplifiers in 2 seconds, greatly simplifying wiring and programming, while reducing system energy and usage when the system is not active.
- Expandable to 48 zones by splitting sources between two AMS24 units.

AMS8 8 × 8 Audio Matrix Switch (Front)

AMS8 8 × 8 Audio Matrix Switch (Back)

AMS24 24 × 24 Audio Matrix Switch (Back)

2.3 Triad 8-Zone Power Amplifier

The Triad 8-Zone Power Amplifier delivers high-performance, reliability, and robust amplification in a compact form factor—providing the perfect solution for distributed audio systems. Low wake-from-standby time (under 2 seconds) and high-resolution audio quality make this amplifier worthy of any audio solution. Seamless integration with the Triad Audio Matrix Switches and other Triad Power Amplifiers provides you with an easily configurable, fully featured audio distribution solution for any size home. Features include:

- Powerful amplification driven by ICEpower modules delivers a dynamic, high-resolution audio experience
- Class-D amplification runs cool allowing you to stack one amplifier on top of the other
- Bridgeable outputs provide double the amplification for areas that require more amplifier power
- 1U rack height takes up half the rack space of other multi-room audio amplifiers
- Fast wake-from-standby (under 2 seconds) using 12V trigger from Triad Audio Matrix Switches is ideal for time-sensitive audio announcements and quick audio zone turn on
- Standby mode saves energy by muting audio when not in use
- Three power mode control options—12V trigger, audio sensing or always on
- Global input allows a single audio input to be linked to multiple amplifier outputs with a simple dip switch
- Global output allows you to chain multiple amplifiers together to create large audio zones
- Over-current protection prevents amplifier channels from overloading due to short circuits or incorrect wiring
- Thermal protection shuts down amplifier channels if thermal limits are exceeded, preventing damage

8-Zone Power Amplifier (Front)

8-Zone Power Amplifier (Back)

2.4 Advanced Audio Announcements

In OS 2.10, we've greatly improved the audio announcement experience with changes to both software and hardware to deliver smooth, responsive announcements throughout the home. Features include:

- Faster announcements—Around 2 seconds when using new Triad Audio Matrix Switches, Triad Power Amplifiers, the Triad One streaming amp, and EA controllers*

- Smooth volume ramping from music to announcements – no sudden jumps in audio or abrupt transitions

- Tight synchronization between all audio zones when using EA controller* analog and digital outputs and the Triad One

- New! Playback any audio format that's currently supported by Control4 digital media, including hi-res FLAC, WAV, AIFF, and ALAC files

- New! Support of announcements up to 30 seconds

- New! Announcements On/Off driver allows the homeowner to toggle announcements on and off from any Control4 navigator (see details below in the Announcements On/Off Driver section below)

Note: For better performance, **using EA Controller HDMI outputs for audio announcements is not recommended.** Due to slow load times and synchronization issues often encountered with third-party HDMI devices (TVs, AV receivers, etc.) announcements may be missed or out of sync, leading to a poor customer experience. If HDMI must be used for announcements, it is recommended to create a separate announcement for HDMI end points with the appropriate delay to ensure the announcement will be heard. Combining EA HDMI end points and EA analog and digital audio end points in the same announcement will require that all audio outputs be delayed substantially so that they can all be heard. However, even with this delay, synchronization of audio announcements over HDMI cannot be guaranteed.

*Important:** Advanced Announcements are only supported in Advanced Audio Mode. With the OS 2.10 release, the only device that will cause a project to be in Legacy Audio Mode is the Speaker Point. In order to experience Advanced Announcements, all Speaker Points (other than units that are in local amp/Advanced Audio mode) must be removed from the project. Projects in legacy audio mode will experience pre-OS 2.10 audio announcement behavior.

2.5   T3 Audio Announcements

In OS 2.10, we've extended audio announcements to Control4 T3 Touch Screens! Perfect for areas of the home where speakers are not installed or for projects with no multi-room audio capabilities, T3 Audio Announcements provide a way to deliver alerts, chimes, and other notifications virtually anywhere in the home. T3 Audio Announcements support the following formats: MP3 (up to 320 Kbps) and FLAC, M4A, OGG, and WAV (all up to 48 kHz).

Note: Due to independent audio platforms between the T3 Touch Screens and the EA-HC controllers/Triad One amplifiers, announcements on T3 Touch Screens cannot synchronize with these devices. Synchronization between all these devices is being considered for a future release, but will not be included in OS 2.10.

2.6   Announcements On/Off Driver

This experience button driver allows the end user to easily turn a room's audio announcements on or off from a Control4 navigator. This will turn all announcements on or off in a room—including standard announcements and T3 Touch Screen announcements.

When this driver is added to a room in the project, the Announcements On/Off driver icon will automatically be displayed in the listen menu for the room in which it was added. In addition, any Announcements On/Off drivers in the project can be displayed on other room navigators by unhiding/showing the driver for each room's Listen menu.

Tip*: You can view the on/off status of a room's announcements at any time by going to the room Properties page in Composer (System Design -> Select Room -> Miscellaneous tab). There is an announcements section that displays a check box. If the box is checked, announcements in the room are currently disabled.

2.7   Advanced Audio Improvements

In OS 2.10, we've completely revamped our Advanced Audio (Digital Media) architecture to provide faster performance, better synchronization, and fixes for digital audio performance issues identified in previous releases (audio dropouts, stuttering, etc.). Listed below are a few changes and recommendations to note for HDMI audio in OS 2.10:

- System audio latency—There are now three levels of overall system audio latency (Latency Profiles) on the Digital Media properties page in Composer. For systems upgrading to OS 2.10, a profile will be assigned based on the audio latency setting in your existing project. For new systems, the default is Level 1, which is suitable for most projects. However, it may be necessary to adjust the latency profile depending on the complexity of your project. For more information, see the Documentation section on the Digital Media properties page in Composer.

- EA controller custom delay—In previous releases, a custom delay between HDMI, analog, and digital outputs of an EA controller could be entered in Composer to help with audio synchronization between all outputs. With the new Advanced Audio architecture in OS 2.10, many of these delays will not be necessary (HDMI being the exception). If you experience poor

audio synchronization on projects that are updated to OS 2.10, please check the custom delay value, re-set to zero, and make small adjustments if necessary.

- EA controller HDMI audio—In OS 2.10, Control4 recommends that HDMI audio be used in single room audio systems only. Control4 cannot guarantee synchronization with other multi-room audio zones due to inconsistent processing delays of third-party HDMI devices. See the Advanced Audio Announcements section for more tips on using HDMI audio for announcements.

2.8 New Streaming Services

Control4 is excited to announce support for three highly requested streaming services: Spotify, SiriusXM, and iHeartRadio!

2.8.1 Spotify Connect

This driver allows you to use your Spotify mobile or desktop app to send audio to a Control4 system through Spotify Connect. Each driver installed in the project creates a unique Spotify Connect device name, visible to all Spotify apps on the local network. By default, the Spotify Connect device name will be the same as the driver name in Composer. However, a custom Spotify Connect name can be created within the Properties page of the driver. Each driver instance has the option to auto turn-on a zone when it receives audio through Spotify Connect.

Additionally, users can save a preset of the current queue playing through Spotify Connect (including shuffle and repeat state) and recall that preset later. Presets can be saved either from a Control4 navigator or from a keypad. Up to 20 presets can be saved at a Control4 navigator and 20 presets saved to a Control4 keypad, per driver.

Each driver in the project can receive only one stream at a time, but this stream can be sent to multiple rooms through a Control4/Triad multi-room audio system. If multiple streams are desired, multiple copies of the driver should be installed and additional Spotify accounts will be needed. The only exception is Spotify Premium for Family accounts, where each family user (up to six total) can stream to a Spotify Connect driver as if they are an individual account. Up to 10 drivers per project are allowed.

Note: The Spotify driver requires an EA controller or an HC-800 as the primary controller in the project. It is not compatible with the HC-250 as the primary controller.

2.8.2 SiriusXM

This driver enables playback of SiriusXM live stations including music, news, sports, talk radio, comedy, and more on Control4 controllers and the Triad One. Add stations as favorites directly from a Control4 navigator. All SiriusXM favorites show up in Control4 Stations, are available for playback from the Wakeup/Goodnight agent and can be triggered from programming. Each copy of the driver requires a single, valid SiriusXM online listening login. If you have multiple SiriusXM accounts, add a copy of the driver to the project for each account.

2.8.3 iHeartRadio

This driver enables playback of all iHeartRadio live radio stations- including Clear Channel stations - all through Control4. Add stations to your library directly from a Control4 navigator. All iHeartRadio library stations show up in Control4 Stations, are available for playback from the Wakeup/Goodnight agent, and can be triggered from programming. Each copy of the driver in the project requires a

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single, valid iHeartRadio login (can be a free account). If you have multiple iHeartRadio accounts, add a copy of the driver to the project for each account.

Note: For all three drivers, be sure to review driver documentation in Composer and the OS 2.10 Frequently Asked Questions for New Streaming Services.

3   UI/Mobile

3.1   Return to Home

The Return to Home feature sends the UI back to its default room after a configurable timeout period. The default room is the room where the device (driver) is located in the project tree in Composer. Using Composer and the UI Configuration Agent, a dealer can quickly configure this setting for every T3 and EA controller on-screen in the project. The feature is also available for the end user inside the Settings > Device Settings screen. The default configuration Default configure is NOT to return to home.

3.2   OS navigators selected in Intercom Enhancements

All T3 Touch Screens have audio echo cancellation or echo limiting. T3 touch panels manufactured before May 2015 can benefit from echo cancellation calibration. Calibration emits a series of "beeps" at startup. By default, echo cancellation calibration is disabled. On these T3 touch panels, the Intercom settings include a switch to enable Echo Calibration:

- Settings—Intercom Settings and Composer T3 Intercom Properties

- Default—Disabled

- Effect—Emits soft beeps on startup or when enabled.
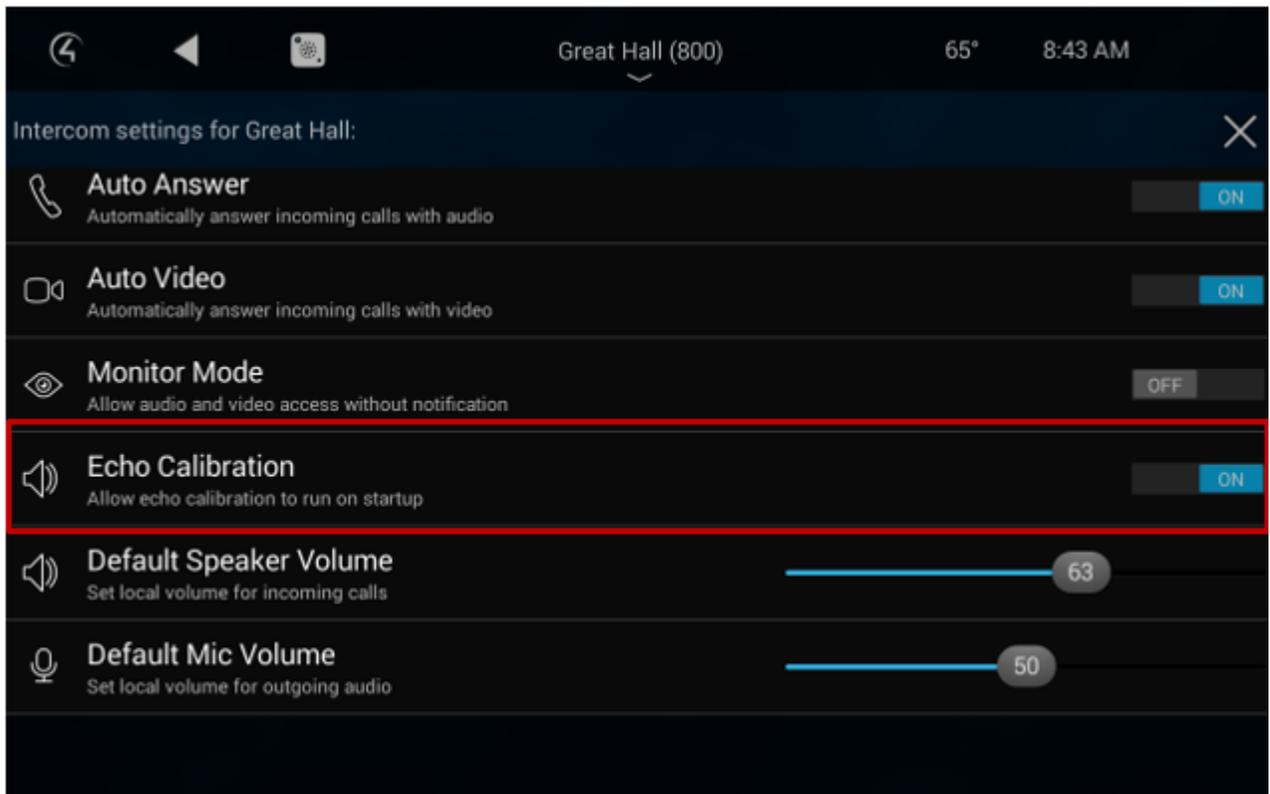
Turning Echo Calibration on (as shown in the image above) will cause, the calibration of said echo cancellation to execute within a few seconds. You may then turn Echo Calibration off. Leaving Echo Calibration on will cause the T3 Touch Screens to re-calibrate any time they restart which may be undesirable in a bedroom or other quiet room. The UI setting gives the opportunity to re-calibrate manually when desired.

Only T3 Touch Screens manufactured before May 2015 include the switch in the settings UI. Newer T3 Touch Screens that have hardware-based echo cancellation do not benefit from the software echo calibration and do not include the switch in the UI.

Note: There is no new SKU for newer T3 touchscreens as the internal component change was considered a minor change.

Composer also includes a new checkbox to turn Echo Calibration on or off. (Echo Calibration is off by default). The Echo Calibration checkbox in Composer is available for all T3 Touch Screens, which is a known issue. If checked, Echo Calibration will execute even on T3 Touch Screens that would not benefit.

The effectiveness of Echo Calibration will vary depending on the environment. Experiment in the setting where each T3 Touch Screen is installed, and leave Echo Calibration disabled in any environment where it may disturb the homeowner.

4   DS2 Mini

There is a new form factor for the DS2 which we are calling the DS2 Mini. This model has a smaller footprint for installation. This new form factor uses the same driver as the current DS2 hardware with simpler setup—the new driver will automatically update the firmware to the correct version and will run the Auto configuration for you when it is identified.

Note: There is a new driver for both DS2 and DS2 Mini included with OS 2.10. Existing DS2 drivers should be updated to the new driver.

5   Camera Enhancements

5.1   Full Screen Cameras

Camera views are enhanced on the T3 Touch Screens and EA On-Screen Navigators in OS 2.10 with the goal of making video the focus of the camera page. The video from the camera is presented in a full-screen view. With a T3 Touch Screen, users can interact and move PTZ cameras by simply touching on a location on the screen. The camera will move and center on the place touched. Users can also use a two-finger swipe gesture to move quickly through multiple cameras. Control buttons can be hidden or can be left on the screen. The EA On-Screen Navigators includes a special "hint screen" that shows users how to interact with camera using the System Remote Control (SR-260 or SR-250).

5.2   Camera Page Jump

With OS 2.10, a new Navigation Agent in Composer give dealers the ability to create a full-page camera display on a T3 or EA On-Screen Navigator through programming. This security enhancement gives a number of powerful options to dealers, including displaying security cameras on T3 Touch Screens when motion is triggered, when door bells are pressed, security zones are triggered, and much more. Cameras appear from 30 seconds to up to 10 minutes before being automatically dismissed—users can also dismiss cameras manually.

EA On-Screen Navigators also support the Camera Page Jump option, but dealers will need to make sure they account for when TVs turns on or when Room Off commands are sent for the optimal user experience with TV screens.

6   ZigBee Hardware

6.1   ZigBee IO (Z2IO)

Labeled by some as the "ZigBee Swiss Army Knife", the Z2IO is a ZigBee accessory that allows for great flexibility in integration because it combines previously separate hardware capabilities and components into one product. This product is useful for garage doors, lifts, sensing, and much more.

- IR —There are two IR ports for that allow the controlling of up to 4 IR devices.

- Contact sensing—Configurable for up to four contacts plus one internal magnetic reed contact

- Relay control—Configurable for up to two relays

- Temperature and humidity detection—There is one built-in internal thermistor/humidistat and the Z2IO also supports the ability to connect to an external thermistor.

6.2   ZigBee Contact Sensor (Z2C)

Z2C is a battery-powered ZigBee accessory that allows for integration of remote contact sensors. This is great for remote temperature sensing, door and window status, and garage doors. What's new is that it contains up to 4 wired dry contact sensors on one product.

- 1 internal magnetic reed contact

- Internal thermistor and humidistat

- Support for 1 external thermistor
- Up to 4 dry contact sensors
- Amazing battery life, powered by 2 AA batteries

6.3 Thermostat

With the release of OS 2.10, we are introducing new firmware for the C4-THERM. The firmware now gives the ability to apply a temperature offset for the wired remote temperature sensor. We have also introduced the ability to bind a temperate and humidity value from the Control4 Z2IO and Z2C to be used as a remote temperature or humidity sensor.

7 Dealer and End User Tools

7.1 When >> Then

When >> Then is a new personalization engine that allows customers to customize their Control4 home automation experience. Without any knowledge of programing or installing any new software, customers can change how Control4 works in their homes with an intuitive web interface.

When >> Then is accessible through a customer's customer.control4.com account. Customers must be running OS 2.10 and have a valid 4Sight subscription to access the When >> Then automation tool from their online account. For dealers, When >> Then is also accessible using the controller local IP Address by logging in to the controller using the Pro-Installer user configured in the Identity agent in Composer Pro.

When >> Then features:

- When >> Then automations—Customers can create When >> Then automation sequences by selecting an event type and selecting an action to create a custom experience. It is that simple. Customers can create many When >> Then automations limited only by the Control4 hardware installed in their homes.
- View and Edit—A customer can always go back to the When >> Then web interface to view and modify any When >> Then automations they have created in the past. Simply log in login to customer.control4.com to access the interface.
- Extend existing dealer programming—While customers cannot delete or modify dealer programming created in Composer Pro, customers can extend what the dealer has created. This will provide the maximum level of customization to the customer and it will decrease the amount of calls to the dealers to change programming for their customers.
- Email and Push notifications—Customers can create many types of push and email notifications using the When >> Then interface. For example, if you want to be notified when the front door lock is unlocked, set up a When >> Then email notification**.**
- Project Backup—Customers are prompted to initiate a cloud backup if a recent backup (within 7 days) is not detected. If there is a problem, dealers can always go back to the most recent project backup.
- Logins—There are two ways to login to When >> Then**:**
  - o **Primary Account Holder**—With a valid 4Sight subscription, the customer can log in as the primary account holder at customer.control4.com. This login can be used to login to When >> Then locally from the controller..

- o **Pro-Installer**⸺In Composer Pro, dealers can setup the Pro-Installer user found in the Identity Agent. Once a dealer has changed the default password, a dealer can access When >> Then locally from the controller.

- Easily identify When >> Then automations in Composer Pro⸺A dealer can see When >> Then automations created by customers using the When >> Then web interface in Composer Pro and Detective Suite. All When >> Then automations display in Composer Pro and Detective Suite under the Programming tab in Fuchsia.

- Modify customer's When >> Then automations⸺Dealers can use Composer Pro to easily modify any When >> Then automation created by a customer. However, after a dealer has modified a When >> Then automation created by a customer, the customers will no longer have access to modify the When >> Then automation.

Note: The Notification agent and the Email agent will be automatically installed with OS 2.10 to be available for When >> Then automations. If they are removed, then those items won't show up as available options within When >> Then web interface.

7.2 Update Manager Enhancements

We listened to your feedback and we have completely rewritten the Update Manager in Composer with OS 2.10.0.

- **Start an update with fewer clicks**—We've removed some of the nested dialog boxes that would require manual click-through in many update scenarios.

- **Real progress**—During the download and update process, you now see real-time progress for each device being updated.

- **Show and hide columns**—You can show, hide, and sort columns in the device display and show the IP address of each device.

- **At-a-glance status**—Bold icons and messages quickly inform you of your update availability and overall status for each item.

- **Tooltips**—Hover your mouse over items to see additional tooltip information

- **Saved update URLs**—If you use more than one update URL (for example, you participate in beta), the URLs are now preserved. Add or remove URLs at any time without being required to continually copy and paste a beta URL each time you wish to update.

- **Hide and show details**—You may now customize the update manager agent display to hide message details that you do not need.

- **Context menus**—We've added context menus throughout the Update Manager UI. Right-click to show a menu of relevant options.

- **Informative completion email**— When an update is complete, a new email alert provides overall status and information about each device that was part of the update.

7.3 System Manager Web

System Manager Web is an HTML version of the current Windows-based System Manager tool in Composer Pro. System Manager Web will allow dealers to easily access and configure Control4 hardware settings.

- Enable or disable the Director process to make the controller a primary (or secondary) controller
- View and change process status
- View and change network (ethernet and WiFi) and IP settings

Since System Manager Web is not a client application, a browser connection to a controller is required to use it. Through the connection to a controller, System Manager Web can also reach and configure any other Control4 device on the LAN, (touch screens, IO extenders, and other controllers). Separate connections to downstream devices are not needed. To access System Manager Web, browse to https://Controller_IP_Address and login using either the System Admin or Pro Installer profile. The System Admin password is the root password of the controller). The Pro Installer password must have been previously configured in Composer Pro using the Identity agent (Director must be running). A browser may also be used to directly access a controller with Director disabled; however, in this case, only the System Admin profile will be available.

7.4 System Manager

All OS 2.10 devices now support Snapshot in System Manager. Snapshot collects all log files and additional diagnostic information from a device and downloads a .zip file to the location you specify. Snapshots make it much easier to collect necessary information when reporting issues.
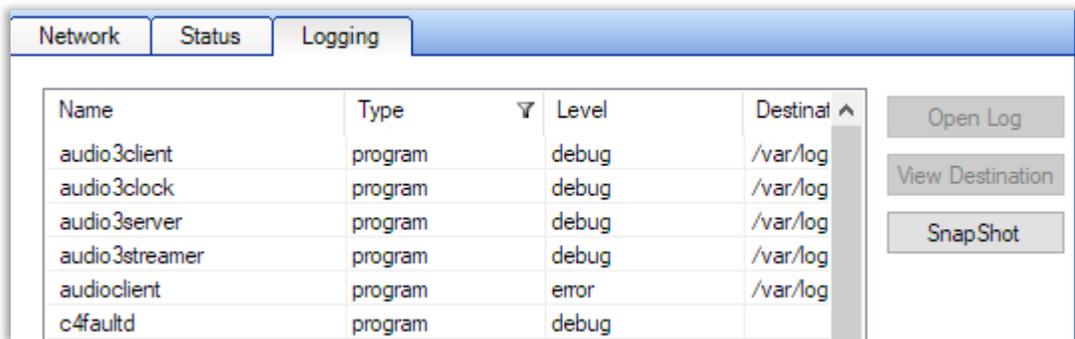
Network	Status	Logging			
Name	Type	▽	Level	Destinat ∧	Open Log
audio3client	program		debug	/var/log	View Destination
audio3clock	program		debug	/var/log	
audio3server	program		debug	/var/log	SnapShot
audio3streamer	program		debug	/var/log	
audioclient	program		error	/var/log	
c4faultd	program		debug		

7.5 Composer Search

The search function in Composer can now search by Device and Proxy ID numbers. This means that there are now 3 types of search criteria available. But the real feature is the additional filters to allow dealers to more easily find devices (by Category) and, also, begin to expose the Experience drivers as a category.

- Alphanumeric—Just like we have always had. This is a 'contains' search.
- Device ID—New! Enter a number and Composer searches all the device IDs in the tree. For example, enter "23".
- Proxy ID—New! Enter a colon immediately followed by the number and Composer will search Proxy IDs instead of the Device ID. For example, enter ":23".

7.6 Detective Suite Enhancements

In OS 2.10, we have integrated Detective Suite functionality directly into Composer Pro. The Connections Detective and Programming Detective functionality are now fully integrated. This improves performance and provides a few minor enhancements, making this functionality more flexible and powerful for Dealers.

Functional improvements include:

- Improved startup and operational performance with reduced memory consumption
- Programming and Connection Detective functionality now available when using Composer with Virtual Director
- Improved searching and filtering
- Improved reporting and export formats
- Detective window is automatically updated when changes are made in the project
- Double click to jump to Programming or Connections for editing
- Find and delete "orphaned" programming

7.7 Programming in Composer

7.7.1 Else

At long last, Else is available to simplify programming when a conditional evaluates to false. Prior to OS 2.10, adding programming under a false condition required counter-intuitive tricks that could be prone to errors (such as adding a Stop prior to the false-condition programming). In OS 2.10, Else has been added to programming control in Composer:
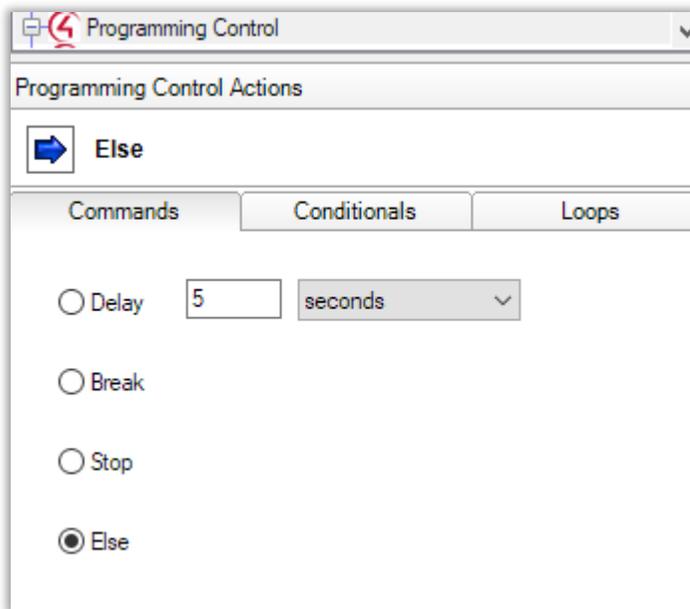
To use Else, first create your conditional and then drag and drop the Else onto the conditional. You can then drop other programming onto the Else. A conditional can have only one Else.

7.7.2 Enable/Disable Programming

We have added the ability to enable and disable programming in Composer. Disabling programming is a convenient way to turn off troublesome programming without having to delete and re-create it later or to prevent the programming from executing at an inconvenient time. All programming items within a block are disabled or enabled with the parent item. Right-click on the programming for an item in Composer and select Disable or Enable.

You can disable a single command.

Disable Else disables all the programming items contained in the Else.

Disable Entire Conditional disables the items under the conditional including the Else.
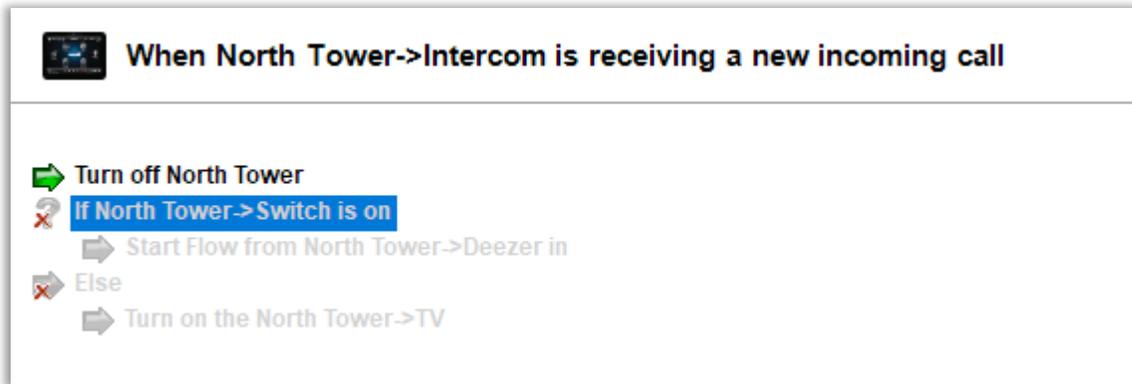
7.8 Inspector

Inspector has been completely rewritten. It is now modular and provides more tests and more details about issues the tool may find. When you run Inspector, it deposits additional output in the /tmp directory that can guide you in resolving issues it may find or provide details that can help you understand better what Inspector has found that you may choose to ignore or resolve. It also displays the unique directory after its run. For example:

```
Inspector finished.  Check /tmp/insp_run_2017-08-15_12.22.32 for
more detailed results
```

Inspector displays more informative status for each of its tests:

- [FAILED] A test has failed. Failed does not necessarily mean that the system will be degraded. For example, a modification to the contents of a package will cause the package integrity check to fail, but may otherwise have no impact on the system. The output in the /tmp directory will describe the specifics of the failure.

- [WARNING] A test has encountered an anomaly that may require some investigation or may be part of deliberate troubleshooting measures. Output in the /tmp directory may provide additional information.

- [INFO] Some inspector messages are for informational purposes only.

- [PASSED] A test has passed. In some cases, additional information about the test may be provided in the /tmp directory.

- [UNKNOWN] Some tests may provide an indeterminate result that does not align with the more specific results above. The /tmp directory may provide some additional details, but in general, this condition requires no further investigation.

7.9 Other Changes

- The DirectorState.xml file has been removed. Director files are instead stored in database files. It is important that these database files not be modified or manipulated. The Director database provides greater reliability and performance.
- The project_change.log now records when a project is cleared and when a system begins and finishes an update.
- As in previous releases, the project is locked during updates. New, advanced troubleshooting features may also cause a project to be locked until normal operation is restored. To preserve project integrity, project backups are now prevented when a project is locked. Composer will notify you when you are connected to a system with a locked project.
- The 4Store agent is deprecated and is no longer automatically added to new projects. If you are constructing a project that requires 4Store, you must manually add the 4Store agent.
- The SNMP agent has been removed. The variable exploration found in the old SNMP agent has been enhanced and moved to the Variables agent.
- Flash Navigator has been removed from the default system image on the HC-250. If you factory restore an HC-250, you must update the HC-250 to restore Flash Navigator.
- Variable Containers were removed from Composer Pro in OS 2.6.0. However, projects could continue to use Variable Containers even though new Variable Containers could not be created. If you are updating a project that uses Variable Containers, you should clean up or remove the Variable Containers before updating; otherwise Director will remove the Variable Containers for you after updating to OS 2.10.

8 Developer Tools

OS 2.10 features many changes that will improve integration support used by those that develop customized drivers using the DriverWorks SDK. These changes are reviewed in detail in the What's New sections of the DriverWorks SDK documentation. Here is what's new:

- Advanced Lua Properties enhancements (see Getting Started Guide)
- Driver-based Conditionals (see Getting Started Guide)
- Many new API functions (see API Reference Guide)
- New Lock proxy (see Proxy and Protocol Guide)
- Updated Camera proxy (see Proxy and Protocol Guide)
- New dynamic ability in Thermostat V2 proxy to enable/disable Single Setpoint mode (see Proxy and Protocol Guide)
- New HTML WebView capability provided to developers creating Experience Button drivers (see Proxy and Protocol Guide)

9 Known Issues

9.1 ZigBee Routing Tree Issues

The ZigBee routing tree displayed in Composer may show a node as "Unknown" due to several issues:

- The route information changes frequently and Composer uses information that may be stale, leading to referential inconsistencies.
- The routing may be incomplete at the time of rendering.
- A device may be asleep or the batteries are dead and the route information is not completely known.

9.2   Viewing Camera Displays "Maximum Resolution Exceeded" Message

Existing camera drivers are supported with the new and improved OS 2.10 camera UI. There are instances where some drivers and cameras deliver video quality that is higher than can be displayed on-screen navigator on the EA or the T3 touch screen. Given that cameras can provide very high-quality video streaming (4K or potentially even higher quality soon), we picked these configurations to keep the priority on automation control. We want to maintain headroom for the controller functionality.

The EA On-Screen Navigator supports support a maximum video quality of 720p, and the. The T3 Touch Screens support a maximum video quality of 1080p. When video is received that is above the maximum size, the UI will present a "Maximum Resolution Exceeded" message. To work around this in the short term, switch from Video mode to Image mode. The long-term fix will require a new driver that supports a stream configuration optimized for on-screen, touch screen, and mobile devices. Control4 has provided specs and documentation to camera manufacturers in order to take advantage of these options within their drivers. New and enhanced drivers will appear over time for current cameras.

See Knowledgebase / Tech Note 2102 for more information at
https://dealer.control4.com/dealer/knowledgebase/article/2102

9.3   Viewing Camera Results in "No Video Displayed"

The default viewing resolution for all camera drivers (v2, based on the camera proxy) is set for 16 × 916x9 to optimize the camera viewing experience in Navigators. If a camera is unable to successfully respond to a request to use 16:9, no video will be displayed in Navigator. To resolve this issue, change the default aspect ratio in the camera driver to 4:3.

See Knowledgebase / Tech Note 2100 for more information at
https://dealer.control4.com/dealer/knowledgebase/article/2100

10   Life Cycle and Maintenance Changes

Before updating to OS 2.10, please note these important life cycle changes for products supported in Control4 OS 2.10. Most of the items which could impact a system deal with life cycle decisions which could impact the ability to upgrade from a previous version of the Control4 OS to the 2.10 version of the Control4 OS. This is mainly due to older hardware no longer being supported or updated for one reason or another. In this section, we will split this up into multiple areas:

10.1   Installation Blocked on Hardware

With the OS 2.10 release, Control4 no longer supports certain pieces of hardware. If the following devices are detected in the system, the installation of OS 2.10 will be blocked with a message

explaining that the devices will need to be removed before upgrading to OS 2.10.

Non-Supported Devices	SKU
HC-200	C4-HC200-E-B-*, C4-HC200B-E-B-NR
HC-300	C4-HC300-E-B, C4-HC300B-E-B-*, C4-HC300C-E-B-*
HC-500	C4-HC500-E-B, C4-HC500B-E-B
HC-1000	C4-HC1000-E-B, C4-HC1000V2-E-B, C4-HC1000V3-E-B

10.2 Installation Blocked on Incompatible Software

With the OS 2.10 release, Control4 no longer supports certain pieces of software.

In the OS 2.7.x release, Control4 switched from the Intercom agent to the Communication agent. This change required dealers to manually replace the old Intercom agent-based touch screen drivers or run the migration wizard.

Due to even more underlying architectural and base system changes to the Intercom code, you must change from the old Intercom agent-based touch screen drivers to the new Communication agent drivers before upgrading to OS 2.10.

If old Intercom agent-based touch screen drivers are found in the system, you will be prompted to remove and replace them (through the OS 2.9.1 migration wizard) before upgrading to OS 2.10.

Incompatible Driver/Agent	Replacement Driver/Agent
Intercom Agent	Communications Agent
In-Wall 7" TS V2	In-Wall 7" TS V2 (Communication Agent)
Portable 7" TS V2	Portable 7" TS V2 (Communication Agent)
InfinityEdge 7" TS	InfinityEdge 7" TS (Communication Agent)
InfinityEdge 5" TS	InfinityEdge 5" TS (Communication Agent)
Control4 Door Station	Control4 Door Station (Communication Agent)

10.3 Hardware with Limitations (Terminal Release Hardware)

The devices below can exist in a 2.10 project but will not be updated to OS 2.10.

These items should function normally, but may not always be able to take advantage of new features. In some instances, these devices may have reduced functionality (from previous OS releases). This is true of the 5" and 7" In-Wall Touch Screens (F.K.A. Infinity Edge).

Product	SKU	Notes
7" In-Wall v2	C4-TW7C0-*	These products will not update to OS 2.10, but they will update to a patched terminal release of 2.9.1.539509-res. These devices should function normally with current shipping features. They are not anticipated to receive any future updates.
7" Portable v2	C4-TSMC7-EN-*	
Exterior Door Station	C4-DSC-EN	
Interior Door Station	C4-DSC-EN-INT	
IO Extender	C4-IOX-E-B	The IO Extender V1 will not update to OS 2.10, but it will update to a patched terminal release of 2.9.1.539509-res. This device functions normally with the current shipping features and can be updated in the future if the need arises.
5" In-Wall (FKA: Infinity Edge)	C4-TSWMC5-EG-*	These products will not update to OS 2.10, but they will update to a patched terminal release of 2.9.1.539509-res. These devices will function normally as touch screens but will not be supported with Intercom. You will be prompted to acknowledge this before upgrading to OS 2.10 or to stay on OS 2.9.1.
7" In-Wall (FKA: Infinity Edge)	C4-TSWMC7-EG-*	
7" In-Wall RevB (FKA: Infinity Edge)	C4-TSWMC7-EG-*	

11 Updated or New Firmware

Device	Firmware version
Panelized Lighting Dimmer, Relay, and 0-10V	03.25.44_2.6.2.483642-fw
Wireless Dry Contact	4.0.28.144020b
Gen3 APD, KD, and FPD	4.2.77.d961cb1
Gen3 Switch, Speed Fan, and 0-10V Dimmer	4.2.77.d961cb1
Gen 3 Keypad	4.1.21.6659fc7
Gen3i Dimmer	1.0.251.a023187
Gen3i Switch	1.0.147.c50bea7
Gen3i Square Keypad	4.1.21.6659fc7
Gen3i Dual Channel Dimmer	1.0.144.4f3a8ba
Gen3i Dual Channel Switch	1.0.145.0beb3f4
System Remote Control SR-260	2.1.90.c5fe185
C4-THERM Thermostat	4.2.2.c60ffb6
Audio Matrix Switch V3	03.26.53_2.10.0.537971-fw
8 Zone Amplifier V3	03.26.52_2.6.0.482557-fw
4 Zone Amplifier	03.24.45_2.6.0.452539-fw
Z2IO and Z2C	1.0.313.cb6c17a

12 Upgrading to OS 2.10.0

There were some major changes in OS 2.6.0 that still apply to OS 2.10.0. They will require careful consideration if you are not already on OS 2.6.0 or higher. These changes include some life cycle changes, removal of legacy software, and changes to mobile apps. We've split mobile apps into two separate applications: one for supporting legacy installations, and one to move forward with the new installation requirements.

12.1 Update Recommendations for Existing Systems

IMPORTANT! (1) The OS 2.10.0 release utilizes ZigBee Pro for ZigBee RF communications. Controllers and ZigBee firmware devices upgraded to OS 2.1 or later cannot be downgraded to Release 1.7.4 or prior versions.

(2) A few legacy products are not supported in OS 2.10.0. Other products are supported, but may have limited functionality or may not provide access to new capabilities. For a current list of products and lifecycles, see *http://dealer.control4.com/dealer/support/product-lifecycle*.

(3) OS 2.10.0 is a complete system software release. All supported Control4 devices will receive new software or firmware. The update process will affect all devices in the Control4 system.

12.1.1 ZigBee Pro

Control4 has been utilizing ZigBee Pro for ZigBee RF communications since the release of OS 1.8 in August 2009. With the introduction of OS 2.6.0, you no longer have the ability to upgrade Embernet-based devices, and this will continue to be the case in subsequent releases. If you have Embernet-based ZigBee devices in inventory or taken from another system, they must be installed on an OS 2.5.x system and have their firmware updated to ZigBee Pro prior to being installed on an OS 2.10.0 system.

12.2 Quick Reference to the OS 2.10.0 and Later Upgrade Process

12.2.1 Pre-work Prior to Arrival at the Customer's Location

1. Ensure that Composer Pro for OS 2.10.0 and later has been installed and activated on the installer's laptop or PC. Internet connectivity is required for activation for first-time installations.
2. **Internet connectivity is required on the premises for upgrading from OS 2.2.x to OS 2.10.0 and later**. After the Primary Controller has been updated to OS 2.10.0, the USB Install for OS 2.10.0 can be used to update the remainder of the devices on the system. Ensure that Internet connectivity is available or plan for temporary Internet connectivity during the time the upgrade is performed. You can then upgrade the system to OS 2.10.0.
3. **If a software license is needed, use your dealer account** on my.control4.com to assign the license to the customer's account.
4. **If updating from Release 1.7.4, 1.8.2, or a prior version**, you must first upgrade them to 2.2.x before they will be allowed to upgrade to OS 2.10.0

12.2.2 Upon Arrival at the Customer's Location

1. Connect to the Control4 system using the appropriate version of Composer Pro for the system that is currently running.
    a. Ensure that all IP and ZigBee devices have been identified and are online.
    b. Ensure that all system programming is working as it should prior to beginning the update.
    c. Make a backup of the Control4 system in Composer Pro prior to beginning the update. This backup should be named so that you can find it later if needed.
2. (Optional) Make sure that the customer's media collection is backed up. Whether the media is stored on a Control4 controller hard drive, a USB drive, or a network-attached storage device, it is subject to loss if the storage device fails. Control4 does not provide backup solutions for data storage, but recommends that you ensure that customers use a backup solution.
3. Connect to the Control4 system using Composer Pro 2.10.0 (or later) to initiate the upgrade to OS 2.10.0 or later, and then use Update Manager to begin the update process.
4. After the update, reboot the PC running Composer Pro to ensure that the Samba mounts to the controllers are current.

5. Back up the project. After completing the update, make a backup file of the Composer Pro project. Give it a name that distinguishes it from the pre-upgrade backup. If you ever need to restore this system, having a current backup will save a lot of time and effort.

12.3 Residential Software Product Releases

Control4 software releases (last several years)		
Release 2.5.x		
Thursday, June 6, 2013	2.5.0.235326-res	Initial Release—Next generation of lighting products, new line of Panelized Lighting products, and Wireless Music Bridge.
Thursday, August 8, 2013	2.5.1.242407-res	Maintenance Release—Configurable Decora Wired Keypad, Bus Ethernet Gateway, 48V Bus Power Supply; bug fixes.
Thursday, September 19, 2013	2.5.2.247182-res	Maintenance Release—Audio Matrix Switch, 8×8 HDMI Matrix Switch, 100 Series Power Amplifiers, bug fixes.
Wednesday, February 26, 2014	2.5.3.429171-res	Maintenance Release—Camera proxy, integrity detection & repair tool, WMA support, bug fixes.
Release 2.6.x		
Wednesday, September 10, 2014	2.6.0.455411-res	Initial Release— MSP and Pool UI, parity features, composer express, composer search/filter tools, dry input contact, new 48v power supply life cycle changes, bug fixes.
Release 2.7.x		
Tuesday, March 24, 2015	2.7.0.505218-res	Initial Release – Touch Screens, Thermostat v2 (C4-THERM) and Thermostat UI, SR-260, Composer Tools, Mobile Changes
Tuesday, May 5, 2015	2.7.1.506055-res	Maintenance Release – Defect fixes and new manufacturing image for T3 in-wall touch screens.
Thursday, June 25, 2015	2.7.2.507543-res	Maintenance Release – Defect fixes and T3 7" Tabletop.
Release 2.8.x		
Wednesday, October 14, 2015	2.8.0.512161-res	Initial Release – Security, My Music, Movies, Channels, Cloud Backup, T3 Wallpaper & Screensaver, and defect fixes.
Tuesday, January 26, 2016	2.8.1.514313-res	Maintenance Release – Defect fixes and T3 10" Tabletop, EA controllers, Apple Watch app, DS2 Door Station
Tuesday, April 5, 2016.	2.8.2.515794-res	Maintenance Release – Defect fixes, Card Access rebrand, and Chinese engraving

Control4 software releases (last several years)		
Release 2.9.x		
Wednesday, September 14, 2016	2.9.0.525559-res	Initial Release – Hospitality, MDU, Z-Wave, Shades UI, Custom buttons
Wednesday, February 1, 2017	2.9.1.532460-res	Maintenance Release – Gen3i Dual Load, IOX V2, Alexa update, defect fixes
Release 2.10.x		
Wednesday, September 6, 2017	2.10.0.542164-res	Triad One, Triad AMS, Triad 8 Zone, T3 Announcements, Spotify, Spotfiy Connect, SiriusXM, iHeartRadio, Z2IO, Z2C, When >> Then, SMW

13   Technical Support Contact Information

If you encounter any issues during or following the update, or if you have any questions, please contact Control4 Technical Support for assistance.

Phone: 1-888-400-4072

Email: support@control4.com

For more information about the new features and capabilities of OS 2.10.0 or later, visit http://dealer.control4.com/dealer/training.

14   Legal Notice

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