Apple TV IP Remote V4 For Crestron Custom and Crestron Home

Revision: 4.05
Date: 23 October 2026

Summary

This help file relates to the third evolution of Ultamation's Apple TV IP control modules for Crestron control systems. This is a completely new driver which uses a different protocol from the earlier v1.xx and v2.xx drivers, and there are no overlaps whatsoever. It provides the essential information for integration between an Apple TV and the Crestron control processor (both custom and Crestron Home), and for programming of the module with a host Crestron program or configuration with Crestron Home.

This module is compatible with 3-Series and 4-series Crestron systems, and it has been tested with Apple TVs of generation 4 and 5 (4K) using tvOS13 upwards.



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NOTE: This driver is NOT compatible with Crestron's Apple HomeKit integration on 3-Series processors. HomeKit MUST be disabled on the Crestron processor for this product to function.

NOTE: We suggest setting the Apple TV to never go to sleep. Apple TVs can go into a deep sleep after a while, which seems to turn off the IP Control until it has been woken up.

Module Overview

The latest integration module for Crestron systems provides the following functionality:

- Navigation (up, down, left, right)
- Select
- Menu/Exit
- "TV" (can be configured as Home or Watch in the Apple TV)
- Play/Pause
- Sleep/Wake
- App List
- Direct App Launching
- Text entry
    - Auto detect when in a text entry field
- Content Feedback (custom Crestron systems)
    - Playing/Paused
    - Title
    - Length
    - A URL containing the artwork (if available)
- Power Feedback (custom Crestron systems)
    - Awake/Asleep/Screensaver

The module is available for both custom Crestron systems and Crestron Home – the commissioning process described later in this document is the same for both, but the programming/configuration is very different and described in separate sections specific to each platform.

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For the most up to date information and answers to frequently asked questions, please refer to the following document (requires login to the Ultamation Help Centre).

https://ultamation.atlassian.net/servicedesk/customer/portal/1/topic/856f5ca0-1464-40af-95ba-d473aadc4f29/article/64978945

Where can I obtain the module?

The latest version of the SIMPL modules is always posted to the Ultamation shop product page.

The Crestron Home can be installed through the Crestron Home setup app/Configure Pro. It can be found under
Pair Devices > Drivers > Streaming Player > Apple.

Commissioning Apple TVs

The Crestron system communicates with the Apple TV directly via an IP connection. No special wiring or configuration is required outside of that needed for a standalone Apple TV installation.

Apple TVs must be "paired" with a controller, which requires interaction with the Apple TV. To accommodate this, we have updated the commissioning tool – now called the "Ultamation Commissioning Tool" – and streamlined the process of creating and uploading pairing & licence files. This avoids the need for integrators to implement pairing logic within their programs.

Ultamation Commissioning Tool

Please download and install the commissioning tool. This can be obtained from the product pages linked above.

Program Features

The commissioning tool provides the following features:

- Create a new pairing identity (for the Crestron processor)
- Load an existing pairing/licence file

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- Retrieve an existing pairing/licence file from a Crestron processor (requires SSH)
- Discover Crestron processors on the local network
- Discover Apple TVs on the local network
- Pair Apple TVs with the Crestron processor
- Verify pairing with Apple TVs (confirm correct pairing)
- Save the pairing/licence file
- Upload the pairing/licence file to a Crestron processor (requires SSH)

The tool detects whether the processor is custom Crestron or Crestron Home and places the file in the appropriate location.

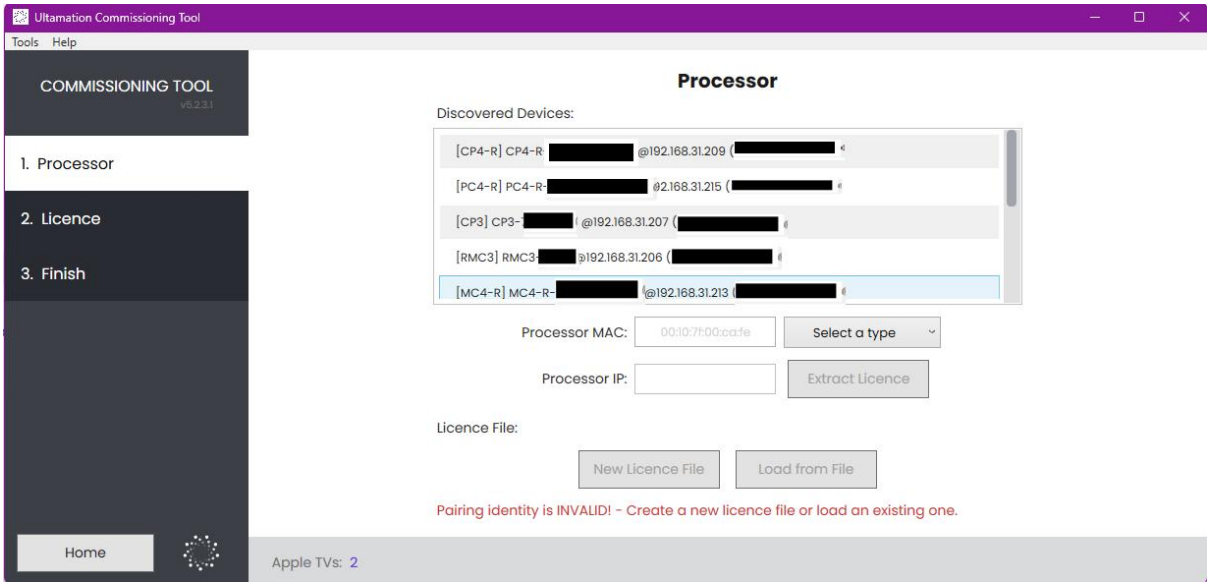
The commissioning tool is designed to guide you through the process as much as possible. This flow is described in detail below.

NOTE: If you wish to transfer your licence to another processor you need to contact support@ultamation.com and provide the order number/old mac address along with the mac address of the new processor.

Step 1 – Processor Identity

IMPORTANT: Ensure that your machine's firewall includes exceptions for the Ultamation Commissioning Tool to ensure you receive discovery packets for both Crestron and Apple devices.

Each licence file needs a processor identity so that the Apple TV knows where a connection is coming from. The pairing identity can be created from scratch or loaded from an existing file.



When starting from scratch, select the “New Licence File” option.

If you are creating a commissioning file without the Crestron processor available, please ensure that you enter the Crestron processor’s MAC address carefully in the appropriate place.

If you have already carried out commissioning and wish to modify or add new Apple TVs, you can either load a backup of the licence file or pull an existing file from a processor.

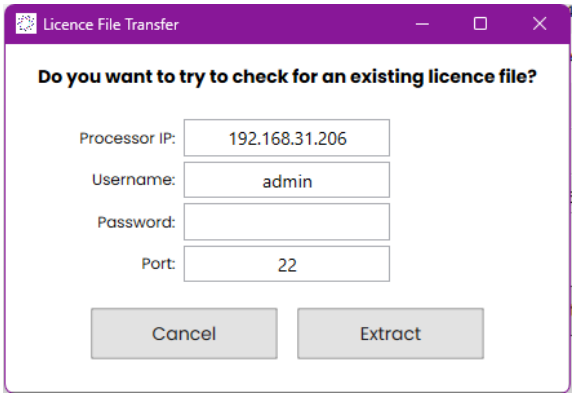
If you are on the same network as your Crestron processor, it will be discovered and shown in the processor list. When you select a processor from the list, the following will happen:

- The MAC address will be entered
- The processor IP address will be entered
- The Client Name label (what appears in the Apple TV remote list) will be auto generated
- The tool will ask you if you want to try to retrieve an existing licence file.

When manually entering a valid MAC address, the tool will automatically switch to the licence management step. You can also choose between Crestron Home and Custom.

When manually entering an IP address, the tool will ask you if you want to try to retrieve an existing licence file.

To connect to a processor, you must know the SSH username and password.

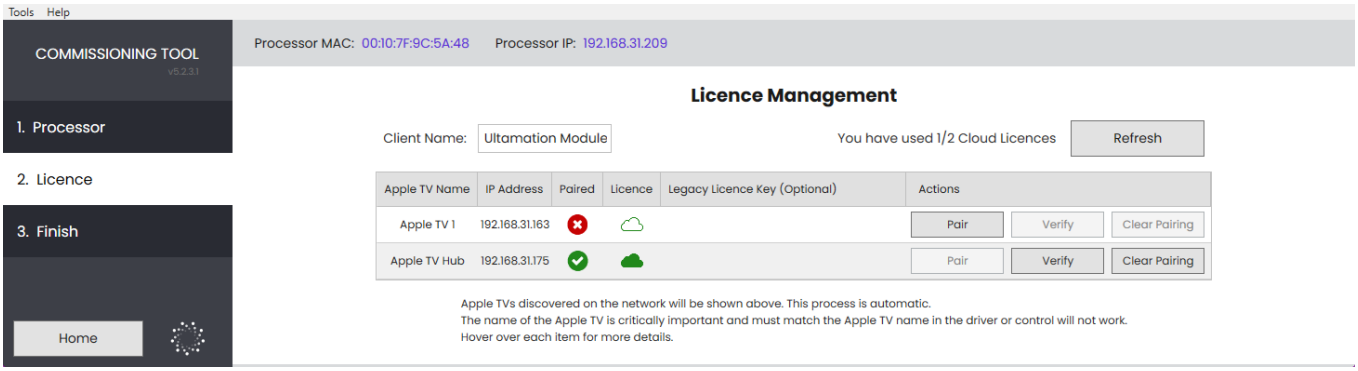


NOTE: Too many incorrect attempts will lock you out of the Crestron process for a time (default 24 hours). This can be cleared using a different machine from Crestron Toolbox.

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Step 2 – Pairing & Licence Management

The next step will display all the Apple TVs that have been discovered on the local network. If you do not see the Apple TVs as expected, please ensure you do not have any firewall running on your machine. Each Apple TV discovered on the network will appear in the list.



Each entry will show the name of the Apple TV, its IP address, its pairing status, and its licence status.

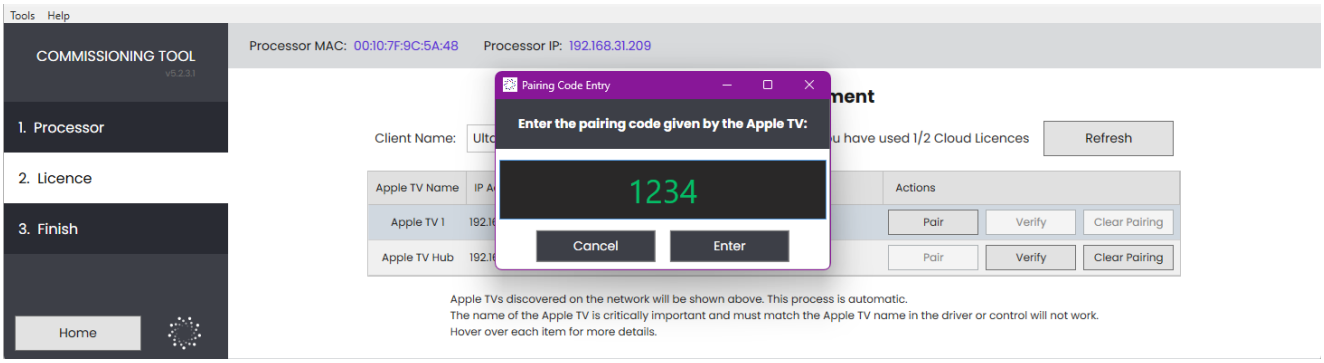
There will also be a text entry for a "Legacy Licence Key". This is an optional input, which should **only** be used if you purchased a licence prior to the 1st October 2025, when v4.00 of this driver was published. If this is the case, you **must** enter the licence key emailed to you with your order or control will cease after an hour of operation.

If you made your purchase after this date, you will have been given a cloud licence. You can see the current number of cloud licences in the top right, next to the refresh button. A cloud licence entitles you to usage of a single Apple TV with a single processor. A legacy licence key and a cloud licence are entirely independent, so if you have a mix of both your system will still work as intended.

There are also buttons for pairing, verifying a pairing, and clearing a pairing.

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When you press the Pair button, the Apple TV will display a 4-digit code on the display. At the same time, the commissioning tool will ask you to enter the 4-digit code. Carefully type the code shown on-screen into the code entry box.



Icon States:

Please refer to the table below to see the state of your Apple TV's licence and pairing:

State	Icon	Message
Pairing - Paired		This Apple TV is paired.
Pairing - Unpaired		This Apple TV is unpaired.
Licencing – Valid Cloud Licence and paired		There is a valid cloud licence being used for this Apple TV.
Licencing – Valid Cloud Licence but NOT paired		You have more cloud licences than are being used. Once paired this cloud licence will then be used.
Licencing – Invalid Cloud Licence and paired		You don't have enough cloud licences for the

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		number of Apple TVs paired.
Licencing – Invalid Cloud Licence and NOT paired		You don't have enough cloud licences for the number of Apple TVs discovered.
Licencing – Valid Offline Key		The offline key is valid.
Licencing – Invalid Offline Key		The offline key is invalid.

If you wish to repeat the pairing process for a specific Apple TV, you should first "Forget" the remote from the Apple TV under **SETTINGS > REMOTES AND DEVICES > REMOTE APP AND DEVICES** and then unpair from the commissioning tool.

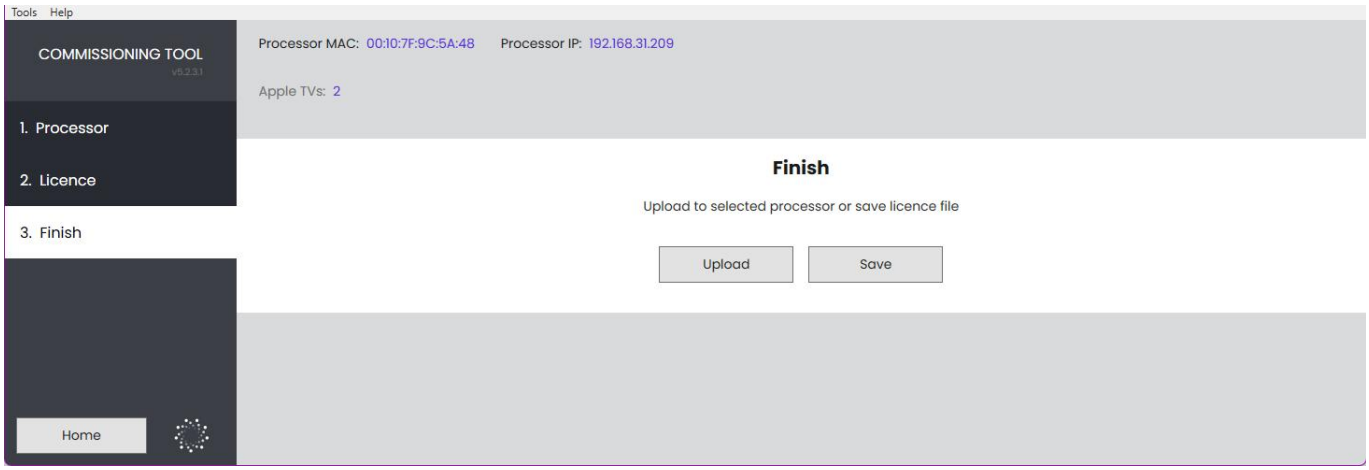
When an Apple TV entry has a valid licence key (based on the Apple TV name, and the processor's MAC address) the key column will show a green checkmark.

Similarly, when the pairing process has been completed successfully, a green checkmark will appear in the paired column. Note – this does not reflect an ACTIVE connection to the Apple TV, but simply that pairing has been completed. To verify that the pairing is still valid, use the VERIFY action.

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Step 3 – Uploading and Backup

Once the pairing has been completed, the file must be transferred to the correct Crestron processor (as specified in by the MAC address field).



The Upload function will transfer the file via SFTP to the processor on the given IP address. This process also determines if the processor is custom Crestron or Crestron Home and places the file in the appropriate location (creating the directory path in the process).

For custom Crestron, the filepath is: \USER\Ultamation\licence.json

For Crestron Home, the filepath is: \user\Data\ThirdParty\Ultamation\licence.json

For VC4, the filepath is : opt\crestron\virtualcontrol\RunningPrograms\Ultamation\licence.json

We strongly recommend that you make a backup of the licence.json file for each deployment, just in case the Crestron processor fails. Although licence keys will need to be updated, you will NOT need to re-pair the Apple TVs if you move a licence file between different processors.

When transferring a licence file to a processor, the modules will periodically check the licence file for changes and update the licences. This means you can go from unlicenced trial mode to fully licenced without needing to rebooting the processor.

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SIMPL PROGRAMMING

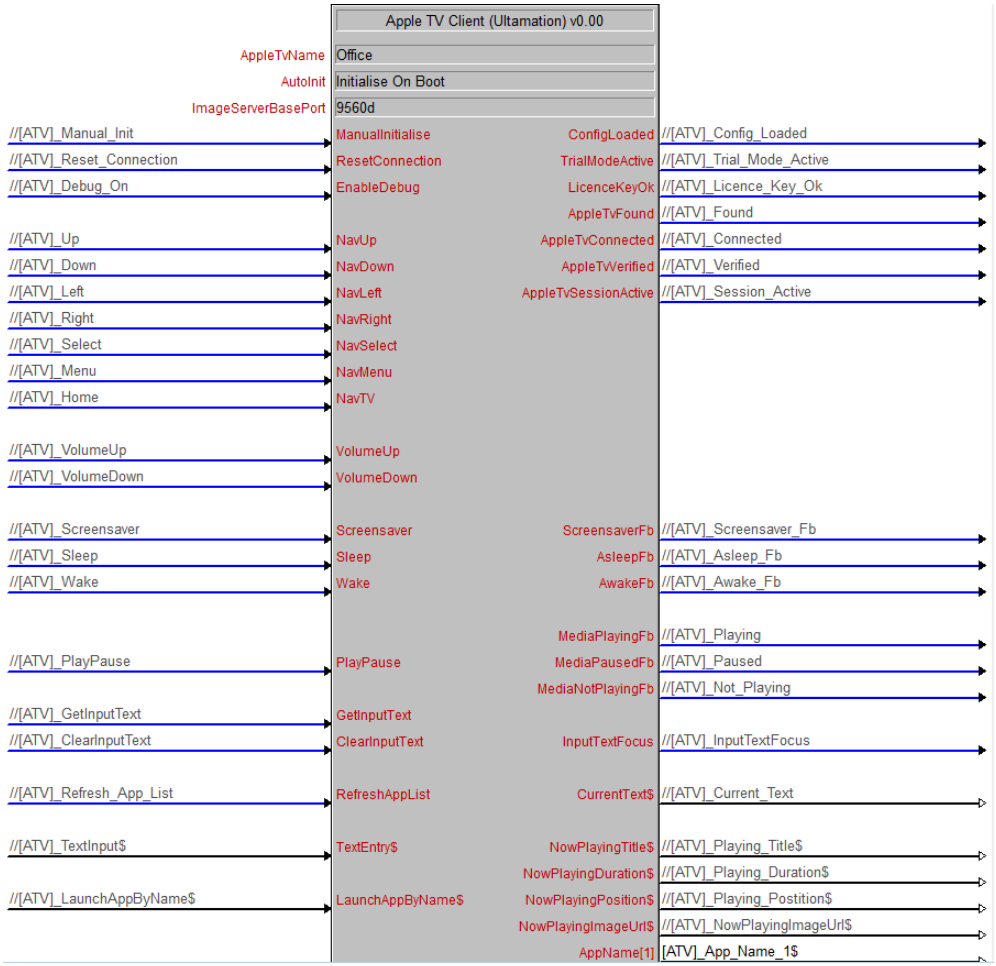
To use the Apple TV control module, simply drop an instance of the Apple TV Client (Ultamation) v4.xx module into your SIMPL Windows program for each Apple TV you have commissioned (see the first part of the manual).

Ensure you have used **exactly** the same AppleTvName as is defined in the pairing configuration file.

The module includes two other parameters – "AutoInit" – this can be left at the default of "Initialise on Boot" which will attempt to start the module as soon as the program starts. Alternatively, you can select "Manual Initialisation" and you MUST initialise the module using the "ManualInitialise" signal. This should be pulsed once. The other parameter is "ImageServerBasePort" which will define the port the image will be hosted on, you should keep these the same for each Apple TV to reduce the number of ports needed.

If you trigger this signal a second time (or after an AutoInit), an error will be reported in the logs.

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The “ResetConnection” signal should not normally be required as the module will attempt to reconnect to an Apple TV periodically (an inactive connection is checked once every 10 seconds) – however, if you must, you can drop the connection and reconnect by pulsing this signal.

The “EnableDebug” signal should be held high while you wish to receive extended debug information. This is only required for diagnosing issues. Before contacting support@ultamation.com, please enable this signal and capture the output as this will help troubleshooting.

The remaining signals are used to control the Apple TV and are level sensitive – e.g. if you hold NavRight high it will automatically scroll through the currently playing content. Some apps require you to then explicitly **stop** the scrolling with the NavSelect command, though others will stop on release.

NOTE: This is Apple TV app dependent behaviour.

The Apple TV can be woken by pulsing the Wake signal.

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NOTE: It can take some seconds for the Apple TV to wake from sleep. Commands will not function when the Apple TV is waking from sleep.

The LaunchAppByName$ signal allows you to launch a specific app directly using a serial string. The app names available are provided on the AppName outputs of the module, and this list is retrieved when the Apple TV module first connects. The string used to launch the apps is not case sensitive and will match the first app that is a match. For example, if you send "netf" this will match "Netflix".

NOTE: The text entry functions will only work when the Apple TV's on-screen UI is in a text input state, i.e. the screen is showing an active keyboard.

The GetInputText signal will, when pulsed, return the current text input shown on the Apple TV UI on the Current Text$ signal. The current text will also be automatically filled now when typing.

The ClearInputText will, when pulsed, clear the current input text on the Apple TV UI.

The TextEntry$ signal will send the given text to the Apple TV, replacing any current text on the Apple TV UI. For non ascii characters within please use Unicode format \u - for example, 我 would be \u6211.

The InputTextFocus signal will automatically update when the Apple TV enters a section that allows for text entry. The signal will raise high in that case and will go low again after leaving that section.

The Status signals have the following meaning:

- ConfigLoaded – A pairing/licence configuration file has been loaded and read correctly. This does **not** mean it contains the valid information for this Apple TV however!
- TrialModeActive – This will be high when the config file does not include a valid licence (matching the Apple TV name and Crestron processor MAC address). It will be high while trial mode is active and go low when the trial mode expires after 1 hour.
- LicenceKeyOk – This will be high when the config file has a valid licence. You will never see **both** LicenceKeyOk and TrialModeActive high at the same time.

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- AppleTvFound – This will go high when the named Apple TV advertises itself on the LAN. This indicates that Bonjour discovery is working. An Apple TV cannot be controlled until this goes high.
- AppleTvConnected – This will be high when the module has a TCP connection to the named Apple TV – this demonstrates connectivity, but does not indicate valid pairing.
- AppleTvVerified – This will be high when the module has both connected AND verified its pairing keys with the Apple TV.
- AppleTvSessionActive – When this is high, it's all-systems-go! You have a verified, encrypted session with the Apple TV and then next thing to happen will be the App list will be populated.
- ScreensaverFb – The Apple TV is currently displaying its Screensaver
- AsleepFb – The Apple TV is asleep
- AwakeFb – The Apple TV is awake
- MediaPlayingFb – There is a piece of media currently playing on the Apple TV
- MediaPausedFb – There is a piece of media loaded on the Apple TV and is paused
- MediaNotPlayingFb – There is no media loaded on the Apple TV, after pausing and leaving an app this can take some time to update as the Apple TV will keep it loaded for a while in the background.
- NowPlayingTitle$ = The name of the media that is playing on the Apple TV, if available.
- NowPlayingDuration$ - The total length of the media playing – in HH:MM:SS format, this will only update when media starts/pauses/plays
- NowPlayingPosition$ = The current position of the media playing = in HH:MM:SS format, this will only update when media starts/pauses/plays
- NowPlayingImageUrl$ - If available, this will contain a url link containing the artwork for what media is currently playing on the Apple TV.

Ultamation will continue to explore adding new features to the Companion Link driver.

Multiple Program Slots – 3-Series Only

Running Apple TV module instances across program slots in 3-Series is not supported because of limitations with the MDNS listener. This is not a limitation in 4-Series.

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Configuring the Apple TV driver in Crestron Home

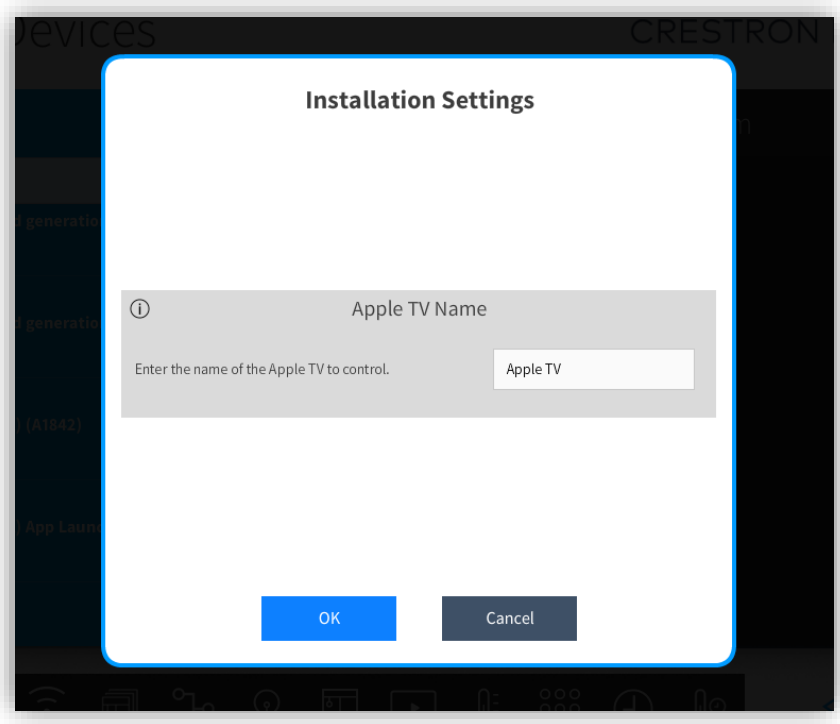
There are two modules for controlling the Apple TV in Crestron Home:

> Apple TV IP Control module - this provides remote control of the Apple TV and presents itself as a video server source in Crestron Home.
> Apple TV App Launcher module - this module can **only** be used alongside the main Apple TV module, and is an extension device that provides a list of apps available, buttons to launch the app, and programmatic hooks to allow you to launch the apps from sequences/quick actions.

Both modules are found under **Devices > Streaming Player > Apple**

When adding the modules, you will be asked for a name. This is the name displayed in Crestron Home and is **not** coupled to the Apple TV name, though it makes sense to use the same name for the homeowner's benefit.

The next page asks for the name of the Apple TV to be controlled. This **must** match the name of the physical Apple TV as it is used during commissioning.

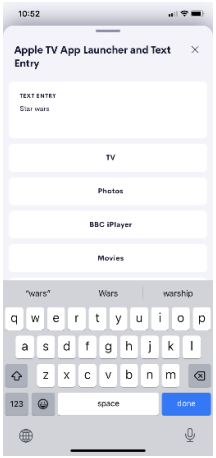


Crestron Home does not expose the name of the device given in the previous step to the driver, which is why we need this piece of information.

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For the Apple TV IP Control, you will now be able to route the Apple TV HDMI output to a display or video distribution and operate the source like any other video source.

For the App Launcher, the tile has been enhanced to provide text entry functions – open the tile and you will be presented with a text input box, together with a list of applications that can be launched at the touch of a button (the order of the list is determined by the Apple TV's response). Touch the input box to bring up a keyboard and press enter to submit the text to the Apple TV.
Note: Text entry will only show when the Apple TV's on-screen UI is in a text input state, i.e. the screen is showing an active keyboard.



A "Refresh App List" button will be found at the top of the App List which allows the homeowner to update the App List without restarting Crestron Home.

NOTE: The App Launcher is dependent upon a matching Apple TV instance – if you do not load the Apple TV driver or if the names do not match, then the App Launcher will say "OFFLINE". Please also ensure that both drivers are updated to the same version whenever upgrading.

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The apps can also be launched programmatically:



The quick action shown above selects the Apple TV as the source, and then selects the Netflix App on the Apple TV.

Support

If you have any issues with an integration solution please let us know by contacting Ultamation support on support@ultamation.com and please include as much detail about your issue as possible, such as a recent processor error log.

Licence verification messages are posted to the error log, so please ensure you have checked this.

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Licencing

This driver (including software, images and all other associated assets distributed as part of the purchased download package) is licenced on a PER APPLE TV, PER PROCESSOR basis.

A purchase should not be completed without correct information as refunds cannot be issued for errors or changes made to details following purchase.

This is an electronic product and there is no physical delivery.

The driver is provided without any warranty with respect to the reliability of the controlled device or changes to device protocol. We will endeavour, through best efforts, to maintain the driver's functionality and any bug fixes will be provided free-of-charge. Additional functionality may be released as a variation of this driver and this will be a separate, purchasable, product.

Cloud Licence

This driver contacts Ultamation's licencing server at startup. If the server finds a matching licence for the driver and processor then the driver will be licenced. Otherwise, the driver will check the legacy licence key. If you purchase a licence **after** you have loaded the driver, please reboot the system to see changes take effect.

If you were emailed a licence key with your order, you must enter this into the **Legacy Licence Key** field in the Ultamation Commissioning Tool when pairing. Otherwise, you were given a cloud licence key and will see the number of available cloud licences above the table in the commissioning tool.

If no licence exists for the product/processor, the driver will enter a short trial period **(one hour)** to allow for verification of correct control or evaluation.

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