



# Technical Support White Paper

## USB Restore

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## Technical Support White Paper: USB Restore

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# 1. Summary

The Control4® USB Restore utility enables Control4 Dealers and Installers to minimize the time, paperwork, inconvenience, and other costs associated with devices that fail during the update process or some other time. Combined with the Control4 USB Stick Creator program, these tools will quickly become valuable in your Control4 arsenal.

Occasionally, and most likely during an Update process, a Control4 device becomes inoperable. At this point, the Dealer/Installer calls Control4 Technical Support, and together they troubleshoot the device. If Technical Support is unable to restore the device using Telnet or other measures indicated by Technical Support, an RMA (Return to Merchandise Authorization) is issued. An RMA is inconvenient and costly for Control4 and for the Control4 Dealer/Installer because of increased time on the job, shipping charges, and a probable return trip to the customer site.

Most of the devices that are returned via RMA can be restored to a fully-functional condition. To enable Technical Support and the Dealer/Installer to restore devices in the field and cut down on the number of RMAs, Control4 has developed the USB Restore utility (which replaces the Control4 Recovery utility). If a device doesn't update correctly, or if in some other way it becomes inoperable, the Dealer/Installer can recover the device on the spot.

This document provides important information about how to use the Control4 USB Restore program. While this is a beneficial tool, it should be used as directed for best results and to avoid other problems. The Control4 USB Restore utility is intended as a last effort before returning the device to Control4.

**CAUTION:** *The operations to restore the device are dangerous, and unplugging the power during the restore has a high likelihood of making the device's software unrecoverable without returning it.*

## 1.1 Products Affected

Control4 Media Controller, Home Theater Controller, Home Controller HC-200, Home Controller HC-300, Home Controller HC-500, Home Controller HC-1000 V1 and V2, 7" Touch Screen and 10.5" Touch Screen V1 and V2, 10.5" Wall-Mount Touch Screen, 7" Table Top Touch Screen, Mini Touch Screen V1 and V2, Speaker Point®.

## 1.2 Topic

This white paper describes how to restore a Control4 device to its factory-default condition.

## 1.3 Roles

Control4 Dealer, Control4 Installer

## 1.4 Related Documents and Resources

*Technical Support White Paper: USB Stick Creator*

*Technical Support White Paper: USB Install*

## 2. Usage Scenario

- The Dealer encounters a Control4 device that, for some reason fails to operate. The Dealer/Installer will insert the USB stick created from the USB Restore utility into the USB port of the failing device, and then power cycle the device.
- As the device boots, the early-boot-process detects the existence of the USB stick containing the USB Restore utility. A 30-second delay gives the Dealer an opportunity to remove the stick prior to restoring the device to its factory defaults. After the restore process starts, it is very important that the USB stick created from the USB Restore utility not be removed until the restore is completed!
- If the device to be recovered has a hard drive, the USB Restore utility does not make any modifications to the hard drive partition which stores media. In most cases, this isn't necessary, as the problem with the device is generally limited to the system partition on the hard drive. Any media stored on the media partition of the hard drive will remain intact after the restore has completed as long as there are no other factors affecting the drive's functionality.
- Depending on the device being recovered, the USB Restore process takes between 10 – 20 minutes, and potentially as much as 30 minutes to restore.
- After the device is restored to the factory default state, the device reboots automatically (except for the Home Controller HC-1000 V1 and V2 and 10.5" Touch Screen V2; see Section 5 of this white paper for information).
- The USB Restore utility has now restored the device to a factory default image of a specific version. If the project is at a different version level, the Control4 Dealer uses Update Manager to update the project to the correct version for the Control4 system.

## 3. Requirements

### 3.1 Recoverable Devices

Control4 Media Controller, Home Theater Controller, Home Controller HC-200, Home Controller HC-300, Home Controller HC-500, Home Controller HC-1000 V1 and V2, 7" Touch Screen and 10.5" Touch Screen V1 and V2, 10.5" Wall-Mount Touch Screen, 7" Table Top Touch Screen, Mini Touch Screen V1 and V2, Speaker Point®.

### 3.2 Prerequisites for Restore

- Refer to *Technical Support White Paper: USB Stick Creator* for instructions about how to create a USB Restore to a USB stick.
- The device to be recovered must be Version 1.3.2 or later. For devices earlier than Version 1.3.2, contact Control4 Technical Support.
- In some cases, a device that failed during the update to 1.3.2 may be recoverable using the USB Restore utility.

### 3.3 USB Stick

The USB stick used for the USB Restore utility must be formatted to FAT32, and it must be at least 1 GB. Use the USB Stick Creator utility to create the USB Restore utility, which formats the USB Restore stick to FAT32.

## 4. Prepare for the USB Restore

Refer to the *Control4 Technical Support White Paper: USB Stick Creator* on the Control4 Web site at [www.control4.com/dealer](http://www.control4.com/dealer) to learn how to use the USB Restore program to create a USB Restore stick.

## 5. Perform the USB Restore

1. Unplug all USB devices from the Control4 device to be recovered.  
*NOTE: Mini Touch Screens cannot be recovered if they have not been updated to Version 1.3.2.*
2. Insert the USB stick containing the USB Restore utility in the USB port. The list below describes where the USB ports are for the various devices.

*NOTE: Know where the USB port is for the device you're restoring.*

- **Mini Touch Screen V1 and V2**—The USB port is located just above the encoder knob and Touch Screen. To access it, remove the front faceplate. If it is a WiFi device, remove the USB WiFi dongle, and replace it after the restore process has completed.
  - **7" Wall-Mount and Table Top Touch Screens**—The USB port is located on the right side of the Touch Screen. Remove the screws and front faceplate.
  - **10.5" Touch Screens V1 and V2**—The USB port is located on the top of the panel toward the left. On the V1 Touch Screen, you will need to remove one screw and a cover to get to the USB port. On the V2 Touch Screen, there is a rubber flap that you can lift to access the USB port.
  - **10.5" Wall-Mount Touch Screens**—The USB port is on the back of the device. It may need to be removed from its current location unless there is access to the back of the device.
  - **Speaker Point**—The USB port is on the back of the device labeled "USB."
  - **Home Controller HC-200**—The USB port is on the back of the device labeled "USB."
  - **Home Controller HC-300**—The USB port is on the back of the device labeled "USB."
  - **Home Controller HC-500**—The USB port is on the back of the device labeled "USB."
  - **Home Controller HC-1000 V1 and V2**—The USB port is on the back of the device labeled "USB."
  - **Media Controller**—The USB port is on the back of the device labeled "USB."
3. On the device, power cycle, reboot, or power down the device.  
*NOTE: In some cases, you may need to flip a breaker switch.*

After the device powers back up, the restore initiates, and a pattern displays on the LEDs. If you view the screen on a connected TV, you can see the pattern in the Navigator.

*NOTE: Due to software incompatibility, sometimes the LEDs will not display any status patterns; use the TV in this case.*

You'll know the restore is finished when the LED stops blinking or an on-screen message appears.

4. Read these special instructions when the restore has completed:
  - **Home Controller HC-1000 V1 and V2**—After the restore, three (3) solid lights appear for Data, Link, and Power. This indicates that the restore is finished and is awaiting removal according to the instructions in Section 5.1.
  - **10.5" Touch Screens V2**—After the restore, you are prompted with "Recovery Complete. Please remove stick." This indicates that the restore on the device is completed and is awaiting removal according to the instructions found in Section 5.3.
  - **WiFi and Special Network Settings**— After the restore, the network settings will also be reset. In the case of any Touch Screen, the Navigator may be used to reconfigure the network. Any other device will need an Ethernet connection, and will require System Manager to reconfigure the network. In this case, refer to Section 5.4 in this document.
5. Remove the USB stick according to these suggestions.
  - **Home Controller HC-1000 V1 and V2**—Press the **Identification** or **Identify** button on the Controller one (1) time, and then remove the stick.
  - **10.5" Touch Screens V2**—Hold the **Power** button for five (5) seconds, and then remove the stick. Push the **Power** button again to turn the device on.
  - **Any other device**—All other devices reboot on their own. Remove the USB stick when prompted to do so via the on-screen interface or when the LEDs stop blinking.
6. Configure Director. **Load** the project again, and check everything. Reload any media that may have been lost.

## 5.1 Expected Feedback during the Restore - Controllers

For best results, comply with these requests:

- The restore process can take up to 30 minutes. During that time, the only feedback the device sends is that a restore is under way. Please be patient.
- The device must remain powered throughout the restore process.
- Do not remove the USB stick with the USB Restore utility until prompted to do so, or until the LEDs stop blinking.

### 5.1.1 Controllers

The following steps apply to the Media Controller, Home Theater Controller, Home Controller HC-200, Home Controller HC-300, and Home Controller HC-500. Refer to Section 5.1.2 for information about Home Controller HC-1000 V1 and V2.

1. The device uses the LEDs and the on-screen display for feedback. The on-screen displays a warning that the restore media was detected and restore will begin in 30 seconds. The LEDs will blink slowly back and forth.
2. After 30 seconds, the on-screen image indicates that the restore is under way. The LEDs will begin to blink back and forth more rapidly.
3. After the restore is completed, the device reboots. A last on-screen message indicates that the restore is completed, and instructs you to remove the USB Restore stick. The device continues to boot, and Navigator takes over the splash screen.

## 5.1.2 Home Controller HC-1000 V1 and V2

1. When using the USB Restore stick, the Home Controller HC-1000 boots from the USB Restore stick. It will take about two (2) minutes for the HC-1000 to boot, and the restore operation to begin. Please be patient during this time.
2. When the HC-1000 is being restored, the Data and Link LEDs blink.
3. When the HC-1000 restore is completed, all three LEDs (Data, Link, and Power) remain lit and do not blink.
4. Due to the restore method, the HC-1000 does not reboot automatically after the restore is completed. When all three (3) LEDs are solid, press the **Identify** button and remove the USB stick.

## 5.2 Speaker Point

1. The Speaker Point® has no video display. It utilizes the LEDs for feedback. When the USB stick containing the USB Restore utility is detected, the LEDs blink slowly back and forth.
2. After 30 seconds, the LEDs begin to blink back and forth more rapidly.
3. After the restore is completed, the LEDs stop blinking, and the Speaker Point device reboots.
4. After the Speaker Point reboots and the LEDs stop blinking, you may remove the USB stick.

## 5.3 Touch Screens

### 5.3.1 7" Touch Screen, 10.5" Touch Screen V1, Mini Touch Screen V1 and V2 (POE, WiFi)

1. The Touch Screen displays a warning that the recovery media was detected and restore will begin in 30 seconds.
2. After 30 seconds, the screen image indicates that the restore is under way.
3. After the restore is completed, the Touch Screen reboots. A message indicates that the restore is completed, and instructs you to remove the USB Restore stick. The device continues to boot, and Navigator takes over the splash screen.

### 5.3.2 10.5" Wireless Touch Screen V2

1. The 10.5" Wireless Touch Screen V2 displays that it is booting the USB Restore stick.
2. After two (2) minutes, the screen image indicates that the restore is under way. Restore takes three (3) to five (5) minutes.
3. After the restore is completed, the Touch Screen displays a message to remove the USB stick. At this point, remove the stick, press the **Power** button for five (5) seconds or until the device turns off, and then press the **Power** button one more time to turn the device on.
4. After the Touch Screen boots, Navigator takes over the splash screen.

## 5.4 Resetting WiFi Devices

Follow these steps to reset a WiFi device that does not have a graphical interface.

1. Plug the device in to an Ethernet port. The default setting is Ethernet/dhcp.
2. Reconfigure the device in Composer using **Tools > System Manager**.

## 6. Other Restore Considerations

If a device was previously renamed, any recovered device needs to be identified in its Composer project again. As a best practice, we recommend that you disconnect the device, and then identify again any device that has been recovered.

### 6.1 Release 1.3.2 and Earlier

- 10.5" Touch Screen V1 and Mini Touch Screen V1 and V2 are not supported for restore with this release or earlier releases.
- Contact Control4 Technical Support for assistance restoring these older versions.