



# Installation and Troubleshooting Guide

This document covers installation and troubleshooting of the Wireless Video Bridge and Wireless Genie Mini, or C41W.



Wireless Genie Mini and WB

### Wireless Video Bridge Setup/Beacon Mode

1. Select the placement for the WVB. Select a location for the WVB based on the following factors:
  - Best location to provide signal to all C41Ws and potential locations the customer may move a C41W client to.
  - Access to the coax SWiM network
2. Power on the WVB and observe the power up sequence. The WVB will boot up to **Beacon Mode**.
  - WVB LED flashes **blue** during boot up.
  - The boot up takes approximately one to two minutes.
  - Once boot up has completed, the WVB LED alternates **green/yellow**.
  - The WVB is now in Beacon Mode.
    - Beacon Mode works only on WVB and clients that have not previously been paired (factory fresh) or client that have been reset to factory defaults.
3. Setup the wireless clients (C41W) in the location they will be used.
  - If the C41W is to be mounted behind the TV, it should be placed as close to its final mounted position as possible to fully verify signal quality to the WVB.
  - Make sure you remove the plastic film from the C41W;
4. Connect the C41W to the TV and power on. The C41W will boot up to the **Connecting to Video Bridge** screen. Proceed to the next step in the installation, but **do not select Connect Now (or Continue, depending on your software version; older software versions will state Continue) at this time**. Move to the next client to verify signal.
5. The signal strength on every C41W should be checked by ensuring that the LED and on-screen signal meter is **green**.
  - The LED on the front of the C41W has roughly a ten-second refresh rate, so when moving the C41W, wait about ten seconds and verify the color of the LED.
- If one or more of the C41Ws' network LED are not **green**, the WVB will need to be relocated to an area that maximizes signal range to all clients and minimizes interference. If more than one C41W will be installed and a **green** LED cannot be achieved on all C41Ws the technician has the following options:
  - Use a wired client (C31/C41). Follow existing guidelines to install the wired client if needed.
  - Use more than one WVB. Choose another location for the first WVB that covers most of the C41W clients and choose a location for a second WVB to cover the C41W client(s) that have poor signal coverage.
6. Do not proceed if the signal strength is fair (**yellow** network LED's). A **yellow** LED on the C41W indicates poor signal strength to the WVB. Consider moving the WVB, adding another WVB, or using a wired client.

If a technician is finding it very difficult to get **green** LED signal coverage on all C41Ws in a single household after trying multiple locations in Beacon Mode, they can add a second Wireless Video Bridge to the work order without calling TSC. However, in most pilot households, we found that a single Wireless Video Bridge can support the entire network of C41Ws and a second Wireless Video Bridge was not necessary. In 98.5% of all installations during the pilot, only one WVB was needed.

Try to focus on good WVB placement; this will help all the clients get a good signal, and can prevent future service calls.

## WVB Installation

1. If not previously performed, install the ODU/SWiM and run the coax cable to the WVB location(s).
2. If not previously performed, install, update the software, and activate the Genie Server.
3. Connect the WVB to the SWiM/MoCA network (if more than one WVB is used, connect all WVBs to the SWiM/MoCA network)
4. If the WVB is not powered on, power on the WVB. After a short delay (one to two minutes) the LED should be solid **green**. Note: The LED will be solid **blue** if the Genie Server previously had ANY clients (wired or wireless) paired to it. If the LED is not solid **green** or solid **blue**, refer to Troubleshooting section. (Full boot takes one to two minutes, so be patient.)
5. On the Genie Server, verify the OSD “A wireless video bridge has been found and configured successfully” has been displayed. Select OK to clear the OSD. This often takes only 30 seconds, however it can take up to five minutes in some cases.
  - If the OSD does not display on the Genie Server, check the WVB LED and refer to the troubleshooting section.
6. Verify all WVBs are connected to the Genie Server by checking the WVB status under **Whole Home - Video Bridge - Video Bridge Status** on the Genie Server.
  - Each WVB in the system should show ACTIVE.
7. Installation of the WVB is complete once all WVBs appear ACTIVE on the Genie Server’s Video Bridge Status screen, and all WVBs have a solid **green** or solid **blue** LED. (This means that the Genie Server and the WVB are connected, even though you may not have a wired or wireless client connected).

### The installation preference of the WVB is as follows:

- Home run wiring from the SWiM splitter to both the WVB and HR44.
- Home run wiring from the SWiM splitter to the WVB; then a coax jumper from the WVB to the HR44.
  - A split cable run to the WVB is not recommended.

## Installing Wireless Genie Mini Clients

1. On the Genie Server, go to **Whole-Home - Manage Clients - Add Clients** and note the PIN on the screen; keep the Genie Server on this screen until all C41Ws are installed.
  - **Upon selecting Add Clients, there will be a warning screen. You must use the Dash (-) key on the remote before you can add clients.**
  - **Do not exit the Add Clients screen until all the clients are added.**
  - **Add one client at a time all the way to Live TV video and programming the remote. This is important because the process will abort if attempting to add multiple clients at the same time. It is not necessary to wait for the client to update software before moving onto the next client.**
2. If not already powered on, power on one of the C41Ws.
3. If the C41W is not displaying a **green** signal strength icon or **green** network LED, do not proceed. Consider moving the WVB to improve signal strength.
4. On the wireless client (C41W), select **Connect Now/Continue** while on the **Connecting to Video Bridge** screen.
5. **Attempting to connect to video bridge...** will be displayed. During this step, it is common to see a gray screen or a flashing red LED.
6. When the wireless connection between the WVB and wireless client (C41W) completes, enter the PIN from the Genie Server.
  - If the user has enough Client services (or once they call DIRECTV to add the client service), you will be taken to the Name the Client screen.
7. Once the PIN is entered, select Add a New Location on the Client.
  - If the user does not have enough Client services on the account, you will get a 'Call DIRECTV' screen on the Client. You must call DIRECTV to add the Client to their account.
8. Enter a name for the Client, and you will have the option to copy/don't copy the location settings from the Genie Server or another Client.
9. After these steps have been completed, the wireless client (C41W) will be registered to the Genie Server and WVB. After the client has been added, the registration is maintained even if the WVB and/or wireless client (C41W) are power cycled. After 1-2 minutes, video should begin on the wireless client (C41W)
10. Complete the wireless client (C41W) setup by programming the remote and selecting "Watch DIRECTV"
  - In order to program other items such as the TV or AV receiver to an RC71 remote, you must setup the RC71 in RF mode.
11. If a 2nd and/or 3rd wireless client (C41W) are needed, start from step 4 of Add a Wireless Client. If more than 3 clients are to be added (4-8 C41Ws), place the other wireless client(s) (C41W) in standby before adding the additional clients. No more than 3 clients can be powered on at the same time.
12. After all C41Ws have been added, go to the Genie Server and select DONE on the Add Clients screen.
13. All wireless clients (C41W) that are ON should have solid **green** network LED. After 1-2 minutes, the WVB LED should display a solid **blue**.

***As mentioned earlier, make sure to add one client at a time. This is important because the process will abort if attempting to add multiple clients at the same time. When exiting Add Clients, it is likely to see a momentary disruption on the C41Ws as the network is stabilized.***

### Troubleshooting Basics

#### Where do you see the issue? : C41W (wireless client), WVB or Genie Server

- WVB initial setup: Is the WVB LED blinking **red**?
  - Reset. If doesn't fix, replace.
- C41W: is the network LED solid **yellow** or solid **red** (indicating poor signal strength to WVB)?
  - Focus should be on WVB placement.
- C41W: Is the PIN screen not displayed?
  - Verify state of WVB (flashing **green/blue** as long as the Genie Server is in Add Clients mode).
  - If not, verify the Video Bridge status on the Genie Server (was it added?).
  - If yes (WVB added to Genie Server), is the Add Clients screen displayed on Genie Server?

#### C41W: Did the Add Clients fail? Common Symptoms that could cause failure:

- Common Causes:
  - Did someone exit the Add Clients screen on the Genie Server? Re-enter the Add Clients screen on the Genie Server.
  - Do you have fair signal strength from the wireless client to the WVB? Focus should be on WVB placement.
- Troubleshooting Tips:
  - Check LED on C41W (should be green) and on WVB (should be Blue or Blue/Green).
  - Searching for Server may be caused by: the C41W is not paired/registered (C41W flashing red), or the WVB is disconnected from the server (WVB flashing yellow)
  - If WVB will not go to Blue/Green flash when server is in Add Clients, reboot WVB and server.

#### How to troubleshoot for signal strength issues and how to determine possible structural interference and verify WVB placement:

- Range – the WVB wireless technology is designed to work with 80 feet and five walls
- Construction – The construction reference refers to residential internal wall construction.
  - External walls are denser by nature to protect from outside elements, provide sound proofing and strength of the building, they will reduce the range of the WVB signal.
  - There could be additional loss with walls constructed of stucco, concrete, brick, stone or double walls.
  - Barriers and construction materials can impede signal as well.
- Placement – positioning the WVB behind a blocking structure will significantly reduce range. Blocking structures could be TV, cabinet, closet, etc.

#### Customer Internet Changes/Issues

If a change occurs to the customer's internet connection, it can impact the Genie system. Even though the Wireless Video Bridge and C41W clients operate on a completely separate wireless network from a customer's Wi-Fi, the C41Ws are still sharing Internet access over the Wireless Video Bridge, so changes to network settings affect them. If changes are made to the customer's Internet connection, the first step is to restore defaults under Settings & Help - Settings - Network Setup on the Genie Server, then reset the Genie Server. Once the Genie Server has fully restarted and is operating normally, power-cycle the Wireless Video Bridge (wait for the WVB to show a solid blue LED). On the Genie Server, perform a Repeat Network Setup. Once a code 88 is seen, power-cycle all wired clients.

There is a one to two minute period after reset where the system is stabilizing. Full functionality will not be immediately available after reset, and technicians should give the system this time to recover before beginning troubleshooting.

### Wireless Client Troubleshooting

#### C41W Gray/Black screen no Banner

##### Troubleshooting

1. If the wireless client (C41W) network LED is Green, follow normal Gray/Black screen troubleshooting.
  - Change channels
  - Turn off the wireless client (C41W) for 15 seconds and then turn it back on.
  - Verify the customer's TV is on the correct input
  - Verify cables and connection to the TV is good (including trying a different cable and input to the TV)
    - If the LED is not green, or normal Gray/Black troubleshooting does not resolve, continue to step 2.
2. Run system test on the Genie Server. Troubleshoot any error codes that appear.
3. If there are no error codes, check the LED status light on WVB.
  - If LED is **not blue**, see WVB LED status troubleshooting
  - If WVB LED is **blue**, check LED status light on the wireless client (C41W)
  - If LED is not solid **green**, see wireless client (C41W) status troubleshooting
4. On the Genie Server go to **Setting & Help - Settings > Info & Test - More System Info**
  - a. Scroll down to the Wireless Client(s) that is having the issue and look at its "RSSI".
  - b. If the RSSI does not show "Excellent" then troubleshoot the same as a "Yellow" Network LED on the C41W"
5. If internet connected, power-cycle the router.
6. Reset the WVB.
7. Reset the Genie Server, and wait for it to boot up to video.
8. If the client does not have live TV, reset the client, wait for client network LED to turn **green** and wait 2 minutes.
9. If the Genie Server is connected to the router wirelessly (HR44 internal Wi-Fi/CCK-W), change to a BB-DECA, and refer to Resetting a Genie with Clients section later in the training. If still unresolved, complete an FPR.

#### C41W Program Banner displayed, no Video on TV

Follow the troubleshooting steps listed for Gray/Black screen.

#### Freeze Frame/Pixelization on C41W

Follow the troubleshooting steps listed for Gray/Black screen.

#### C41W Video/Audio on TV but no Menu, Guide or List displays

Follow the troubleshooting steps listed for Gray/Black screen.

#### C41W: Add Clients failed (does not display video)

Follow the troubleshooting steps listed for Gray/Black screen. Wireless Client Troubleshooting

#### Wireless Client Network LED Failures/Bad Wireless Connection

##### Symptoms

- WVB has a Solid Red LED
- Wireless Client has Yellow, Red or Blinking Red Network LED

##### Probable Cause

- Poor placement of the WVB and/or Wireless Client

##### Troubleshooting

1. For Yellow or Solid Red Network LED on the Wireless Client:
  - a. Ensure there are no obstacles around the WVB or the Wireless Client that would degrade signal quality.
  - b. Try moving the WVB to a better location to improve the signal to the Wireless Client locations. Remember the minimum distance guidelines to separate the WVB from other wireless devices like the customer's router, an HR44 with built-in Wi-Fi, or, for example, a Playstation 3 with a Wi-Fi connection.
2. For a blinking Red network LED on the Wireless Client:
  - a. Put the Genie Server back into "Add Client" mode: **Menu - Settings & Help - Settings - Whole Home - Manage Clients - Add Clients.**
  - b. The Wireless Client should be on the **Select a Server** or **Wireless Connection Lost** screen. Select **Reset Wireless** from the C41W on-screen display.
  - c. Follow the installation steps to check the signal strength and pair the Wireless Client.

## Client Troubleshooting

Here are some basic troubleshooting tips and tricks.

### C41W does not display the Enter PIN screen

Troubleshooting

1. If the Genie server is not in the Add Clients screen, put the Genie server in the Add Client mode and follow the installation procedures.
2. If that does not resolve the issue, follow the installation steps.

### C41W Menus in Spanish

Factory-reset the affected clients by holding down the power button for 15 seconds; this should clear the problem.

### C41W Component Cable Problems

Some older model televisions may not be able to recognize the 10-pin component cable used with a C41W. Technicians may need to use the 10-pin to composite cable adapter for setup, then switch back to the 10-pin to component cable adapter for regular viewing after setup is complete. **Submit an FPR if you encounter this issue.**

## OSD Troubleshooting

### Genie Server OSD

- *“Wireless Connection Lost. The connection to wireless video bridge has been lost. Please make sure all wireless video bridges are connected and have power. If the problem persists call DIRECTV at 1-800-531-5000”*

#### Probable Cause

- The WVB lost connection to the Genie Server
- The WVB lost power or is rebooting
- Troubleshooting should focus on the connection from the WVB to the Genie Server

#### Troubleshooting

1. Check if the clients are having a problem. If yes, troubleshoot client symptoms.
2. If no, educate customer that the OSD was temporary and choose to ignore OSD.

### C41W OSD

- *“Wireless Connection Lost. The connection to wireless video bridge has been lost. Please make sure all wireless video bridges and server are properly connected and that this client is within range of the wireless video bridge”*

#### Probable Cause

- The WVB lost connection to the Genie Server
- The WVB lost power or is rebooting
- The C41W is not in range of the WVB

#### Troubleshooting

1. Check the C41W LED and troubleshoot accordingly.
2. If LED is **green**, troubleshoot as per C41W Gray/Black screen symptoms.

### C41W OSD

- *“Select a Server. No Servers Were detected. Check your network connections”*

#### Probable Cause and Troubleshooting

3. Verify the wireless client (C41W) network LED is green
  - Verify C41W LED is green AND WVB LED is Blue (or green/blue flashing).
  - If not, troubleshoot for whichever LED state is in error.
  - If both C41W and WVB LEDs are good, and waiting 2 minutes does not resolve, reboot WVB, then reboot server.
4. If the wireless client (C41W) network LED is blinking red, reset the WVB (this is needed in case the WVB has not loaded the new software)
5. Treat the same as Genie Server OSD “Wireless Connection Lost”

### C41W OSD

- *“Connecting to Video Bridge”*

#### Probable Cause and Troubleshooting

1. Make sure the Genie Server is in the Add Clients screen.
2. Follow the normal installation process starting at Connect Now on the wireless client (C41W).

### C41W OSD

- *“Unable to connect to Video Bridge. Make sure that the video bridge is in survey mode and this client is within range of your video bridge signal”*

#### Probable Cause and Troubleshooting

1. Make sure you are not selecting “Connect now” or “Continue” on more than one client at a time.
2. Select the OK button will bring the user back to connect to video bridge screen
3. Ensure the Genie server is on the Add Clients screen,
4. Ensure that the WVB LED is alternating **blue/green**.

### Reset to Factory Defaults

If any of the troubleshooting steps call for a reset on either the WVB or C41W, here are the procedures.

To reset the WVB back to factory defaults perform the following.

1. Unplug all the C41W clients
2. Remove the COAX from the WVB rear panel input labeled "Towards LNB".
3. Press and hold the red reset button on the rear panel of the WVB.
4. Continue to hold the reset button until the WVB status light displays the following colors.
  - Red
  - Yellow
  - Green
5. Then release the reset button.
6. The WVB status will then begin to blink **blue** as it boots up. The WVB will then blink **green/yellow** as it will be reset back to beacon mode.
7. Follow the installation process to pair the C41Ws and configure the WVB to the HR44.

### Genie Mini Wireless (C41W) Reset

Reset Duration	Type of Reset
<b>Press Power button and hold &gt; 5 seconds</b>	Factory reset all parameters except Wi-Fi Resets remote from RF to IR
<b>Press Red Button Reset and hold &gt; 20 seconds</b>	Resets Everything Factory reset all parameters inclusive of Wi-Fi Resets remote from RF to IR
<b>Press Red Button - No Hold</b>	Standard reset.

### Genie Reset Process

#### Resetting a Genie With Clients

If something has changed with the customer's router or internet connection, or anytime a Restore Defaults is performed, you need to reset the system.

If the Genie was connected to the Internet and a Restore Defaults and Repeat Network Setup is performed, the following steps need to be performed:

1. On the Genie Server, perform **Restore Defaults** under **Network Setup**. R
2. Reset the Genie Server and wait for video to return.
3. Reset the WVB and wait for the LED to be solid **blue**.
4. After the Genie Server and WVB fully reset, perform **Repeat Network Setup** on the Genie Server.
5. Reset all wired and wireless clients, including RVU TVs.

### Genie Server Diagnostic Codes

Diagnostic Code	Text	Cause	Action
89 (Genie only)	<p>Unable to connect to the Wireless Video Bridge(s) on your network. In order to display any video the receiver needs to be connected to a Wireless Video Bridge. Please verify that all Wireless Video Bridges on your network are powered on and have the coaxial cable connected. Select "Test Again" to see if this has solved the issue.</p> <p>Diagnostic Code: 89</p>	The Genie server does not detect the WVB	<ol style="list-style-type: none"> <li>Determine if the WVB was deliberately removed from the network by the customer. If it was, removing the WVB from the Genie by using the system menus. (Menu - Settings &amp; Help - Settings - Whole Home - Video Bridge)</li> <li>Ensure all WVBs are powered on and connected to coax / MoCA network</li> </ol>
90 (Genie only)	<p>One or more of the Wireless Video Bridges on your network reports an error. You may experience poor quality or intermittent loss of video on your wireless clients. Please reset your Wireless Video Bridge(s) using the red reset button on the back panel. Select "Test Again" to see if this has solved the issue.</p> <p>Diagnostic Code: 90</p>	WVB Internal Error. (Hardware Issue)	<ol style="list-style-type: none"> <li>Perform a reset on the WVB.</li> <li>If WVB continues to blink Red, replace the WVB.</li> </ol>
91 (Genie only)	<p>"One or more of the Wireless Video Bridges on your network reports an error. You may experience poor quality or intermittent loss of video on your wireless clients. Please check the coaxial cable connection to your Wireless Video Bridge(s) then reset them using the red reset button on the back panel. Select "Test Again" to see if this has solved the issue."</p> <p>Diagnostic Code: 91</p>	WVB MoCA Error	<ol style="list-style-type: none"> <li>Troubleshoot the MoCA / Coax network. Verify cabling and connectors.</li> </ol>
92 (Genie only)	<p>"One or more of the Wireless Video Bridges on your network reports an error. You may experience poor quality or intermittent loss of video on your wireless clients. Please reset your Wireless Video Bridge(s) using the red reset button on the back panel. Select "Test Again" to see if this has solved the issue."</p> <p>Diagnostic Code: 92</p>	WVB Ethernet Error.	<p>Should not occur.</p> <p>Escalate to NET, NET to escalate to STB Field Support.</p>

### WVB LED States

LED State	Description	Action
Off	Device not powered	Plug in the approved power supply to a reliable power source.
Blink Blue	Booting up. Start within 10 seconds of power ON.	Normal WVB boot up process, takes approximately 2 minutes.
Solid Blue	Normal Operation Wireless Clients should have a connection to the Genie Server.	No Action.
Solid Yellow	MoCA Network Established but MoCA network is degraded	Troubleshoot the MoCA / Coax network. Verify cabling and connectors.
Blink Yellow	No MoCA Network Detected.	Troubleshoot the MoCA / Coax network. Verify cabling and connectors.
Solid Red	The WVB has a good connection to the Genie server; however there is a Poor Wireless connection to one or more Wireless Clients (C41W).	Follow "Wireless Client (C41W) Network LED Failures" troubleshooting, focusing on the Wireless Client(s) that has a Yellow or Red Network LED
Blink Red	Device Error Detected	<ol style="list-style-type: none"> <li>1. Perform a reset on the WVB.</li> <li>2. If WVB continues to blink red, replace the WVB.</li> </ol>
Blink Green and Yellow	Wireless Video Bridge in Beacon Mode.	<p>Normal Wireless Video Bridge survey/Beacon mode without MoCA network connected.</p> <p>Used to position the WVB and Wireless Clients during the Wireless Video Bridge survey/Beacon Mode.</p>
Blinking Green	Transitioning out of Wireless Video Bridge Beacon Mode MoCA network connected, however there is no communication between the Genie server and the WVB	This is normal when initially connecting to the MoCA network. Allow 5 minutes for the LED to change to Solid Green.
Solid Green	Good Connection to the Genie server but no Wireless Clients paired with WVB.	Follow "Adding Wireless Clients" steps to pair and register the Wireless Clients.
Blink Green and Blue	Wireless Client Add mode	Normal state when adding Wireless Clients (C41W). See Adding Wireless Client for next steps

### C41W LED States

Power LED State	Network LED State	Description	Troubleshooting Steps
OFF	OFF	Device not powered	Plug in the approved power supply to a reliable power source.
Flashing Blue	Any	Client is updating Software	Allow the C41W to finish downloading. Update could complete 2-3 minutes
ON	OFF	Wireless Client (C41W) booting	Allow Wireless Client (C41W) to finish booting. Wireless Client (C41W) should boot in 1-2 minutes
ON	GREEN	Normal operation	This means the Wireless Client had a good connection to the WVB.
ON	YELLOW	Wireless Client (C41W) connected to the WVB, but wireless connection is degraded.	Follow "Wireless Client (C41W) Network LED Failures" troubleshooting above.
ON	RED	Wireless Client (C41W) connected to the WVB, but wireless connection is severely degraded.	Follow "Wireless Client (C41W) Network LED Failures" troubleshooting above.
ON	Blinking RED	Wireless Client (C41W) not connected to the WVB.	Follow "Wireless Client (C41W) Network LED Failures" troubleshooting above.

### Notes on Blinking Red LED

There are several times during an installation when a blinking **red** LED is normal behavior for the C41W.

1. When the C41W is first connected to the TV and power supply, it will boot up into Beacon Mode and display a blinking **red** LED (and show an empty signal bar on the on-screen display on the TV). This is because the internal wireless network has not yet been created to support video and data transfer from the Genie Server to the wireless client.
2. After the Wireless Video Bridge has been connected to the Genie and technicians begin connecting the C41W clients to the Wireless Video Bridge, the C41W will switch from Beacon Mode to Client Addition Mode, so the connection to the Wireless Video Bridge will be temporarily reset. This causes the C41W's LED to blink **red** during the two-minute countdown displayed on the TV. The LED will return to green after the C41W re-establishes its connection to the Wireless Video Bridge, which can take one to two minutes.
3. When the Genie enters or exits out of the Add Clients screen, it changes from Client Addition Mode to Operating Mode (or vice-versa), causing the connection to the C41W clients to be temporarily reset. During this transition, the C41W's LED light will briefly change to blinking **red**, but will return to green after the C41W re-establishes its connection to the Wireless Video Bridge, which can take one to two minutes.
4. When selecting Continue or Connect Now, the LED on the C41W will flash red, and is normal behaviour. Be patient during this, and allow one to two minutes. If it is still blinking red and doesn't finish the connection to the server, troubleshoot according to the symptom or LED state.

Remember, it's important to be patient and follow the steps! Don't assume that a blinking red LED means trouble!

## Removing a WVB

This process is only intended to be used if the WVB is to be permanently removed from the Genie Server. If replacing a WVB, go to the “Replace WVB” section in this document. If more than one WVB has been installed and a WVB is removed permanently, this procedure should be performed to stop an error from occurring on the Genie Server.

1. Navigate to **Menu - Settings & Help - Settings**.
2. Select **Whole-Home - Video Bridge**.
3. If a WVB is configured to the network, the “Remove Video Bridges” option is enabled.
4. Select the option Remove Video Bridges. The screen will list all the WVB’s that are configured to the network. Select **Continue** to remove the WVB. If there are multiple WVBs, select the checkbox next to the WVB to remove, and select Continue.
5. Follow the on-screen instructions and press **-** (dash) to complete the removal of the WVB.
6. A successful completion OSD will appear. Press “OK”.

The removal will cause the wireless clients that are paired with this WVB to disconnect from the wireless network.

## Replacing a Wireless Video Bridge

To replace a WVB, use the following procedure:

1. Turn on the Genie Server.
2. Put all C41Ws in standby.
3. Remove power and disconnect the coax from the WVB to be replaced.
4. Install, connect and power on the new WVB.
5. Allow WVB to fully boot up (one to two minutes). The Genie Server will display OSD, “A wireless video bridge has been found and configured successfully”.
6. Select OK to dismiss the OSD.
7. Turn on the clients to verify they connect to the Genie Server through the WVB. There may be brief gray screens as the network connections are established but video/audio should stabilize shortly (less than one minute).
8. If the clients do not connect within one to two minutes, reset the clients.
9. Next, remove the previous WVB from the Genie by following the steps to “Remove WVB from the Genie Server”. Select the WVB that needs to be removed. This step is required to stop any errors related to the Genie not able to access the old WVB.

## Wireless Video Bridge Software Updates

The WVB is capable of getting software updates, however, the customer's system must be internet connected in order for the WVB to receive firmware updates. The WVB initiates the request to update its firmware. It does this between the hours of 12AM (midnight) and 4AM (time zone as per the Genie Server) after booting up and will continue every 7 days thereafter.

While the WVB is downloading the firmware it will remain online and operational so there should be no interruption on the C41W. Once the download has completed the WVB will reboot and switch to the new firmware image. During the reboot, the WVB will be offline. While rebooting, the Genie Server and clients will display the "Wireless Connection Lost" OSD.

Click "Remind Me Later" or "OK" to clear the OSD.

In the event that the download server does not respond or an error occurs during the firmware file transfer, the WVB will try again on its next update cycle. The WVB will remain online and operational in this event.

Downloading the WVB firmware is transparent to the customer and occurs in the background. Once the download completes the WVB will boot up in approximately one to two minutes. During the reboot process the WVB light will blink **blue**. Video service will be lost to the wireless clients while this is on progress. Clients may display Searching for Server or WVB Connection Has Been Lost.

## C41W Software Update - Special Note

Occasionally, while on the PIN screen, the C41W will start a software download. **Do not exit the Add Clients screen on the Genie Server during a software download on the C41W.** Doing so will interrupt the software download and require it to start again after the client reboots; there is no need to troubleshoot or factory reset clients for this.

### Maximum Distances and Material Loss

The WVB and the Wireless Client (C41W) should be placed no further than 80 feet apart and have no more than 5 internal walls between them. It is important to recognize this guidance, and that home construction may significantly decrease range.

Walls and other barriers can decrease the range and significantly impact the maximum distances. Use signal strength to determine installation quality.

Below are examples of various barriers and how they degrade the signal and lower the maximum distance from the WVB

**TABLE 1.**

Standard	Medium	Strong	Extreme
<5 dB	5-10 dB	10-20 dB	>20 dB
<ul style="list-style-type: none"> <li>■ Plexiglass</li> <li>■ Sheet plywood</li> <li>■ Internal wall (2 layers drywall + 2"x4" studs)</li> </ul>	<ul style="list-style-type: none"> <li>■ Fir lumber</li> <li>■ Non-stucco external wall (wood siding)</li> <li>■ Wood floor/ceiling</li> </ul>	<ul style="list-style-type: none"> <li>■ Stucco wall (with diamond metal mesh)</li> <li>■ Brick/Stone wall/fireplace</li> <li>■ Double-pane tinted high efficiency door/window</li> </ul>	<ul style="list-style-type: none"> <li>■ Metal objects (ducting, appliance, enclosure)</li> </ul>
No impact up to 5 barriers; up to 15 ft distance impact for each additional barrier	Up to 30 ft distance impact per barrier	Up to 45 ft distance impact per barrier	Potential link breakage with solid red LED