HDbridge

Advanced Configuration Manual

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Getting Started with HDbridge

RF Rules Apply

Treat the HDbridge system the same way as any other RF system. Each modulator (or "module") outputs a QAM signal that works with off-the shelf RF tools, equipment, and materials.

- Each module requires a full RF channel.
- Each display must have a QAM tuner.
- RF power output from each module must be balanced with existing modulators/feeds.
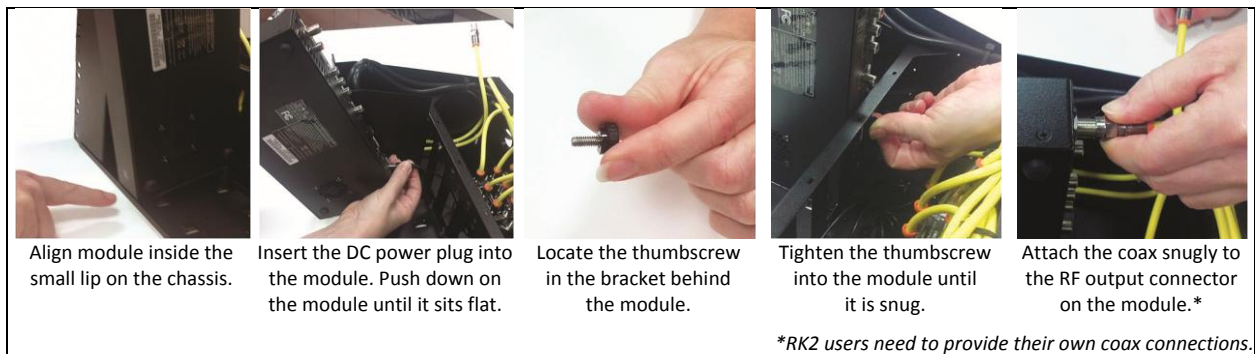- Standard calculations for distance and power apply.

Rack Chassis – RK1 or RK2

HDbridge modules mount into the HDb Rack Chassis for easy installation. For more flexibility, there are two Rack Chassis to choose from:

	RK1	RK2
Provided	• Power for 8 modules • 8-way RF combiner • RF amplifier Launch power is 34db	• Power for 8 modules RF output of each module is 25db
Not Provided	• Component cables • Digital Audio cables (optical or spdif) • Ethernet	• 8-way RF combiner • RF amplifier • Component cables • Digital Audio cables (optical or SPDIF) • Ethernet

Installing Modules in the Rack Chassis

The Rack Chassis mounts up to eight modules, with thumb screws to secure them to the rack.

| Align module inside the small lip on the chassis. | Insert the DC power plug into the module. Push down on the module until it sits flat. | Locate the thumbscrew in the bracket behind the module. | Tighten the thumbscrew into the module until it is snug. | Attach the coax snugly to the RF output connector on the module.* |

RK2 users need to provide their own coax connections.

Connect the Component and Digital Audio cables from the source. Connect Ethernet cables for advanced configuration. Refer to the HDbridge Rack Chassis Get Going Guide for detailed instructions on module installation.

Basic Configuration (Front Panel)

Factory default settings allow your module to broadcast a component video source with digital audio on Channel 2.1. Tune the HDTV to channel 2.1 to view your new Zv channel.

Channel Spacing

None required for digital channels. Channels can be set directly adjacent to each other and any other well-formed digital channels and will not cause interference. Spacing may be necessary when combining with other modulated analog channels.

Unlocking the Setup Button

After the unit boots up, it is ready for channel setup when the LED begins to show a steady blue. At that point, if channel setup is not started within 30 seconds, the LED will flash twice, and the unit will lock to prevent accidental reprogramming.

If the unit is locked, the LED will continue to show a steady blue even when the button is pressed.

To unlock, press and hold the button until the LED flashes twice (approximately 5 seconds). The LED will then flash the current channel. The unit is now ready for programming.

Once unlocked, the unit will re-lock automatically if there is no activity within 30 seconds.

Setting the Channel via the Front Panel Button

RF and HDTV channels can be changed using just the front panel button, no PC or Ethernet connection is required. When using the Front Panel Button for configuration, RF and HDTV channels are linked; for example RF channel 50 will be HDTV channel 50.1. To change the HDTV channel or to make other changes, refer to the Advanced Configuration section on pages 8-9.

- Digits are entered from left to right.
- Each digit is entered by pressing the front panel button multiple times. A "zero" is entered as 10 presses.
- Wait for the LED to blink blue between digits.
- After all digits are entered, wait a few seconds and the programmed channel number is played back.
  - The LED will blink red if an improper channel was selected. The original value is restored.
  - If the channel is valid, the broadcast is changed before playing back the new channel.

> **Example: Programming Channel 50**
> - Press the Front Panel Button 5 times. The LED blinks YELLOW at each press.
> - Wait for the LED to flash BLUE once.
> - Press the Front Panel Button 10 times.
> - Wait for the LED to flash BLUE once.
> - Wait 5 more seconds (exits channel setting mode).
> - The system will play back the new channel number.

To read back the current channel (assume it is Channel 50):

- Press and Hold the button until the LED turns yellow, and then blue again. Release the button.
- The LED will flash yellow twice per second FIVE times.
- There will be a two second pause.
- The LED will flash yellow twice per second TEN times.
- The LED will return to a steady blue.

Changing Modulation Standards

Cable STD, HRC, and IRC channel plan considerations: Most cable services program their channel placements using a Standard (STD) channel lineup. In increasingly rare cases, HRC or IRC channel placements are used. The modulator can be reprogrammed to use these standards by entering the following channel numbers using the channel programming procedure:

STD	Channel 205
HRC	Channel 206
ORC	Channel 207

Restoring Factory Defaults

Remove the power. Depress and hold the reset button in the back of the unit. Reapply power. The LED will flash blue/yellow for approximately 20 cycles, followed by a fast blue blink (approx. 20 cycles). Once the LED is a *solid yellow,* release the reset button. The unit will then restore all factory defaults and go through a full reboot.

Advanced Configuration Using WebManager

For advanced configuration settings and/or remote access to the system, the HDbridge modules utilize the WebManager, a web interface available over an Ethernet connection either directly to a PC or through a switch/LAN connection. You will need a standard patch cable, not a cross-over cable. PCs that are connected directly to the units do not require an internet connection.

Once your PC is connected to the module, the modules will be listed under "Network" or "Network Neighborhood." Double-click on a module icon to open WebManager in a new browser window.

If the units are not displayed:

- Verify that Universal Plug and Play (UPnP) is installed on your computer. In Windows 7, UPnP is enabled by default but Windows XP users may need to download/install it.
- Verify Network Discovery is enabled.
- Change to DHCP instead of a static IP address.
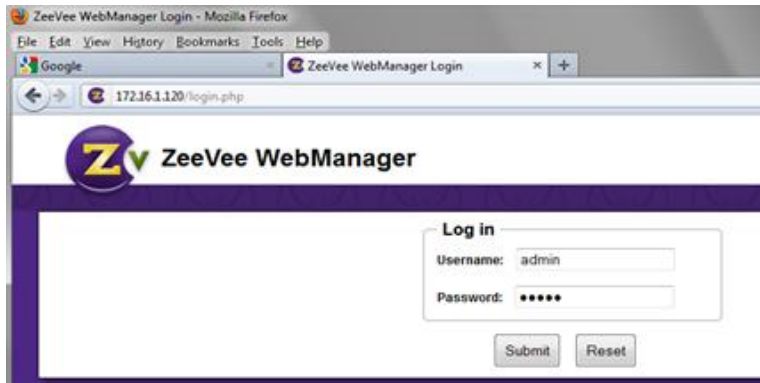- For additional information and troubleshooting steps see the FAQ section on www.zeevee.com.
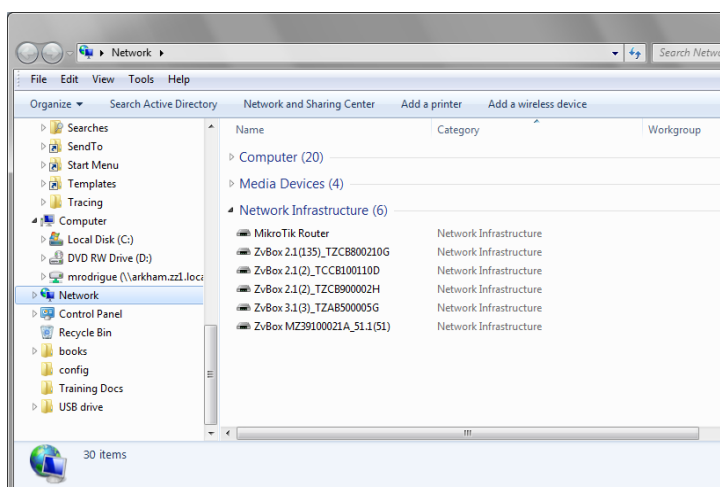
Logging in to WebManager

You will be directed to a login page.
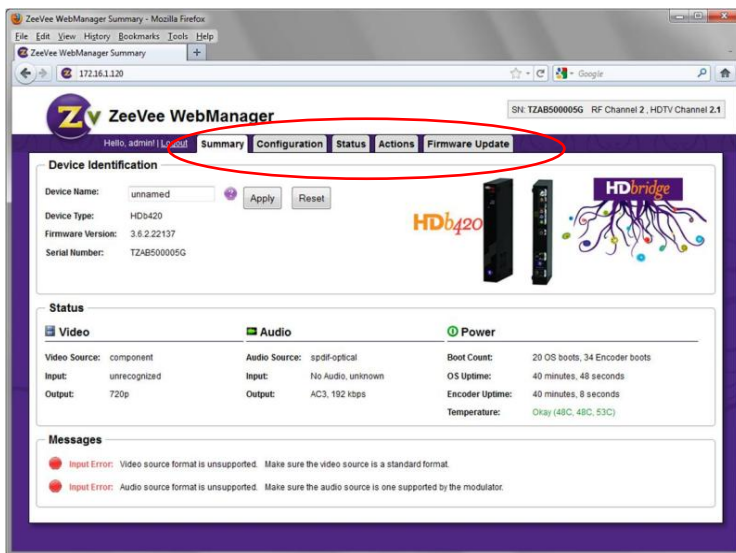
The Username will always be "admin."

The default password is "admin" but it can be changed in the configuration tool (see page 8).

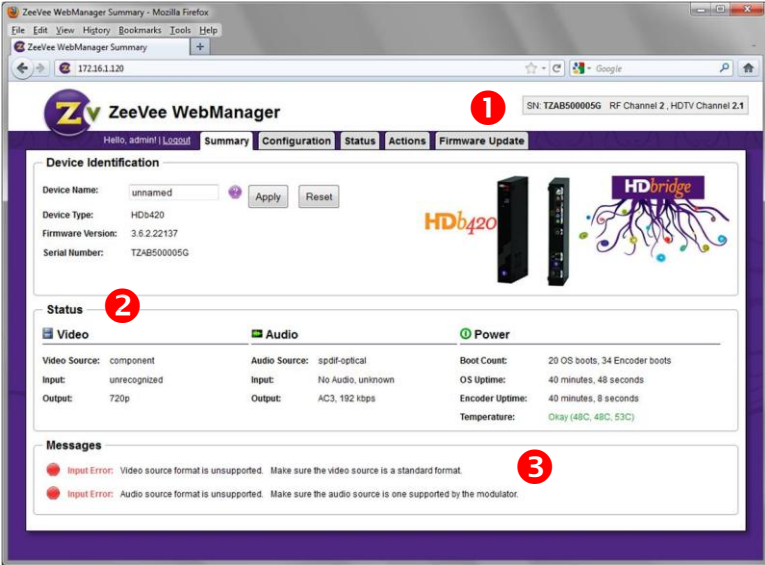NOTE: Login is case-sensitive.

Navigating in WebManager

Tabs across the top allow for different configuration and actions.

Summary Tab

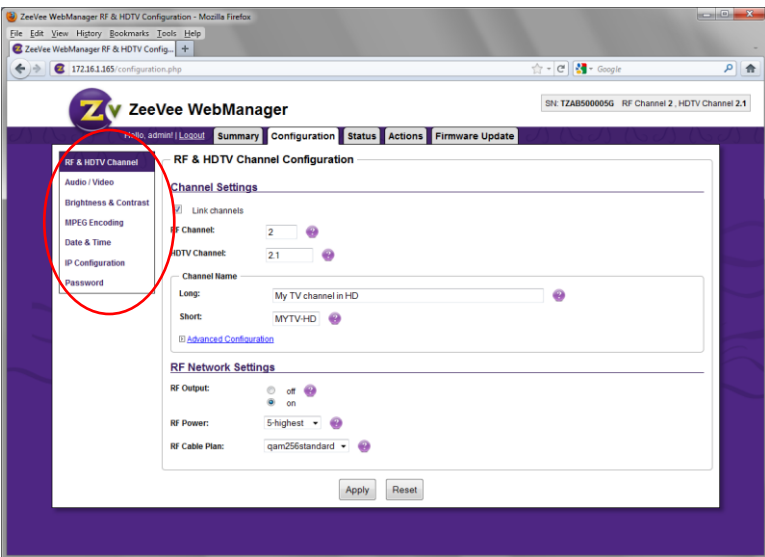The Summary tab shows general information about the module.

1. Serial number and current channel settings.
2. General status information.
3. Messages showing any errors or warnings WebManager has discovered.

Configuration Tab

The Navigation Bar on the left lists categories that link to a specific configuration section.

RF & HDTV Channel

RF & HDTV Channel Configuration is where most changes typically occur.

To change the RF and HDTV channel:

1. Enter the RF and HDTV channel the HDbridge module should use for broadcast.
    By default, they are linked – so if the RF Channel is 2, the HDTV channel will default to 2.1.
2. Long and Short channel names may be displayed by the HDTV.
3. Hit "Apply" to save your changes.
4. After clicking "Apply," the changes will be displayed.
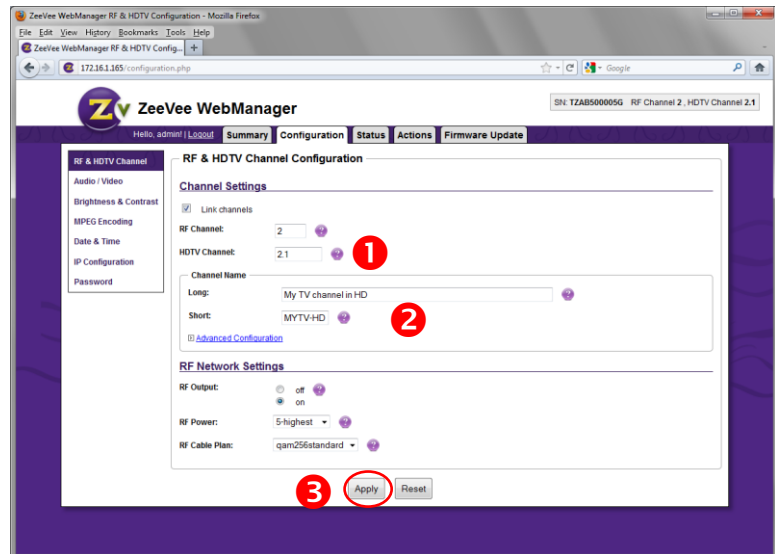
To create an HDTV (virtual) channel that's different from the RF channel:
1. Uncheck "Link Channels."
2. Set RF and HDTV channels independently.
3. Hit "Apply" to save your changes.
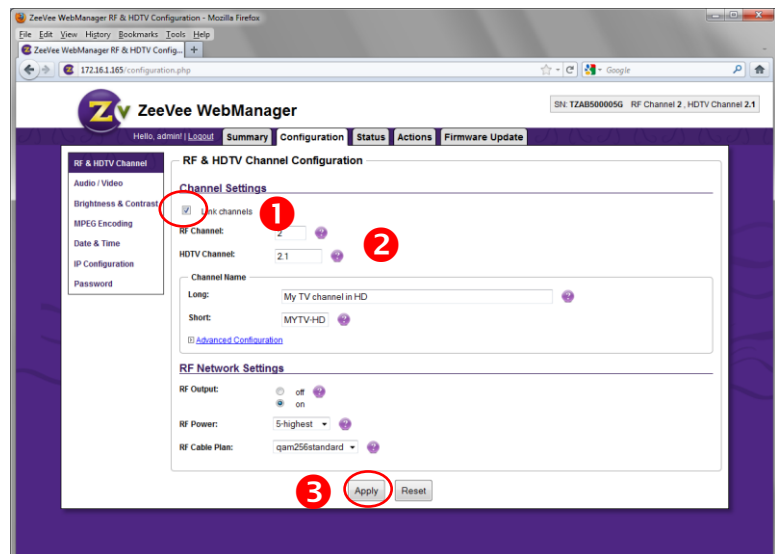
RF & HDTV Channel *(continued)*

Additional changes you can make:

1. RF Output: Turns the broadcast on and off.

2. RF Power: Defaults to highest of 25dBmV; it can be changed in increments of 1 down to 5dBmV.

3. RF Cable Plan: Allows for changing between QAM 256 and QAM 64, as well as STD, HRC, and IRC.

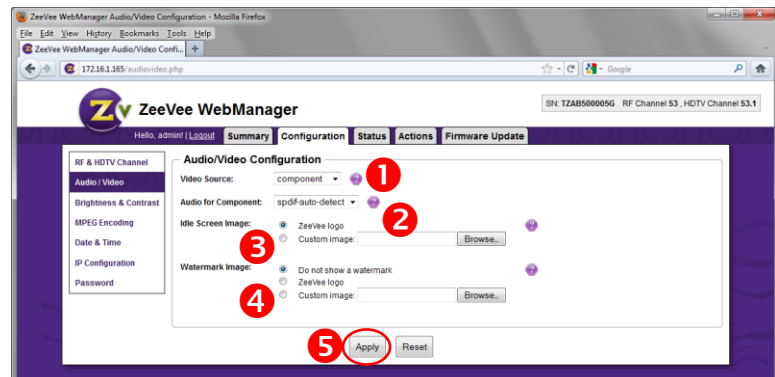4. Hit "Apply" to save your changes.
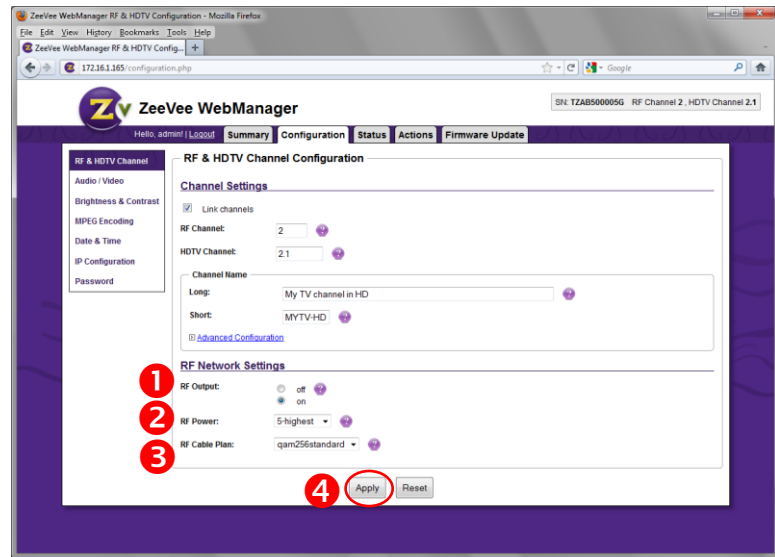
For advanced channel settings:

1. Click the "Advanced Configuration" link to display Event Information Table (EIT) options.

2. EIT Program Name: Similar to Long and Short names, it may be displayed on the HDTV in "Guide" or "Info."

3. Rating: Used to apply a "rating" to content, especially for use with tools like V-Chip.

4. Hit "Apply" to save your changes.
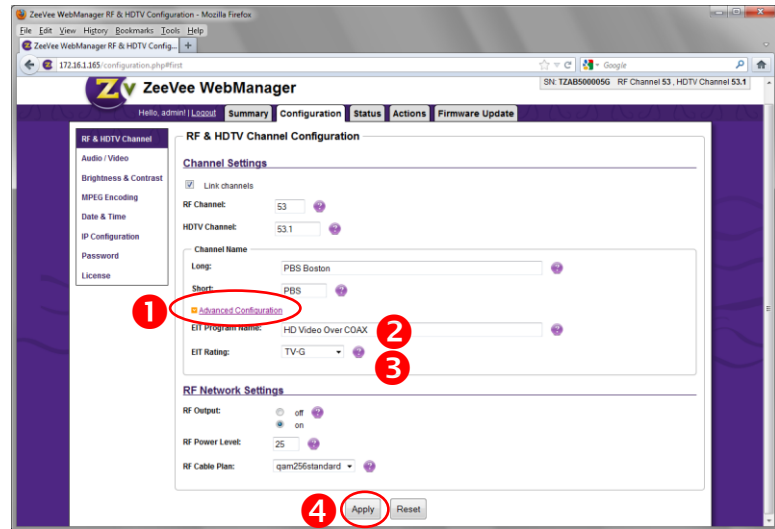
Audio / Video

1. Video Source: Defaults to Component. Other options include Test Image or Idle Screen.

2. Audio Source: Defaults to "auto-detect." It can be set to "none" or to a specific input.

3. Idle Screen: Defaults to a bouncing ZeeVee logo. A new image can be uploaded to customize the idle screen for each channel.

   - NOTE: Images for the custom idle screen must have a resolution of 1280x720 or less. Images with a resolution of 700x500 or less will "bounce" around the TV screen; otherwise the image will be fixed in the center of the screen. The image is not scaled. Accepted file types are PNG, JPG, GIF or BMP.

4. Watermark: A "bug" that fades in and out in the bottom right corner. By default it is turned off. Like the idle screen it can be customized with another image. Accepted file types are PNG, JPG, GIF or BMP.

   - NOTE: The image for a watermark must have a resolution of 64x64 or less.
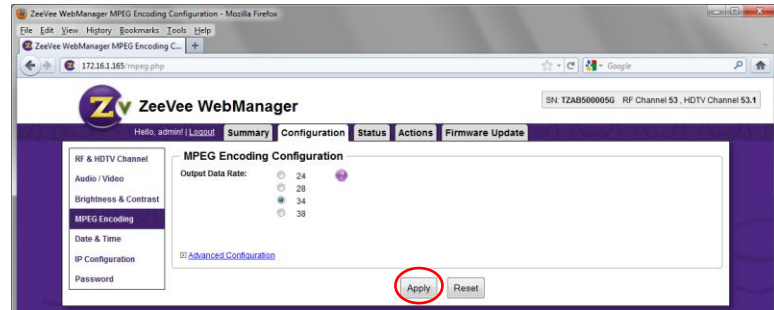
5. Hit "Apply" to save your changes.

MPEG Encoding

The Output Data Rate defaults to 34. However, some HDTVs may show break-up with fast motion video (mostly Sharps, but also some older LGs or Samsungs).

If so, select a lower data rate.

Hit "Apply" to save your changes.

For advanced MPEG Encoding options:

1. Click the "Advanced Configuration" link.
2. Audio and Video Delay: Set audio and video delay independently to adjust for lip sync issues.
3. DC Coefficient: Used in the encoding process, this can affect picture quality and some HDTVs' ability to display.
4. PID and Program Number: Often needed when using a custom cable set-top box instead of the HDTV tuner.
5. Hit "Apply" to save your changes.
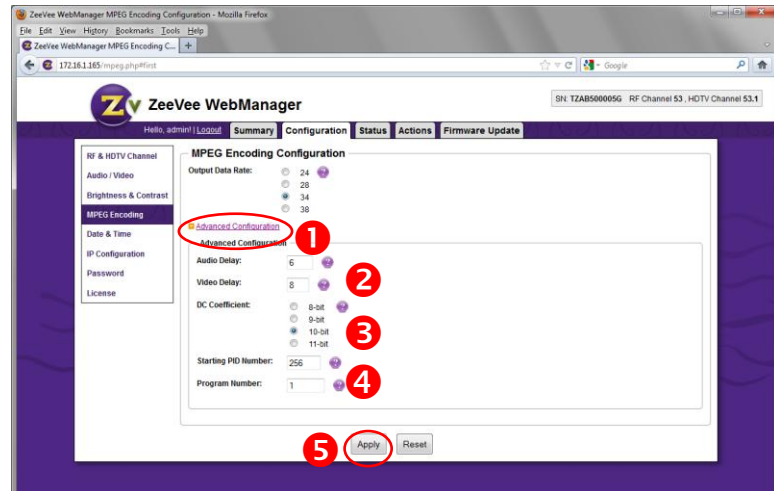
| IMPORTANT NOTE: Advanced Option changes for MPEG encoding are rarely needed. It is strongly recommended that you avoid making changes unless all other options fail. |

IP Configuration

1. IP Address Type: DHCP is set by default. IP addresses will be assigned by the local DHCP server.
2. Static IP Address Configuration: Static IP addresses can be assigned. Select "Static" in "IP Address Type" (above) and enter the appropriate IP address, Mask, and Default Gateway.
   - Important Note: Resetting to defaults via WebManager or the reset pin on back of the unit will also change the IP settings back to "DHCP." This is important because if a static IP address is set and you lose access because of the settings, you can reset it by using the pin on the back of the unit.
3. Hit "Apply" to save your changes.
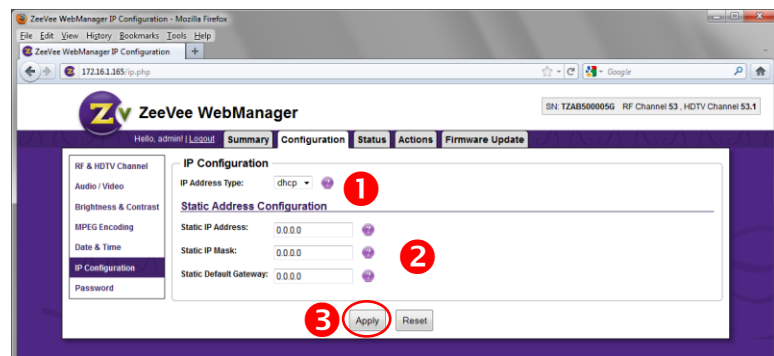
Password Management

Since the HDbridge units can be accessed over a network, changing the password allows for added security.

User Name is always "admin" the passwords can be set independently for each module.

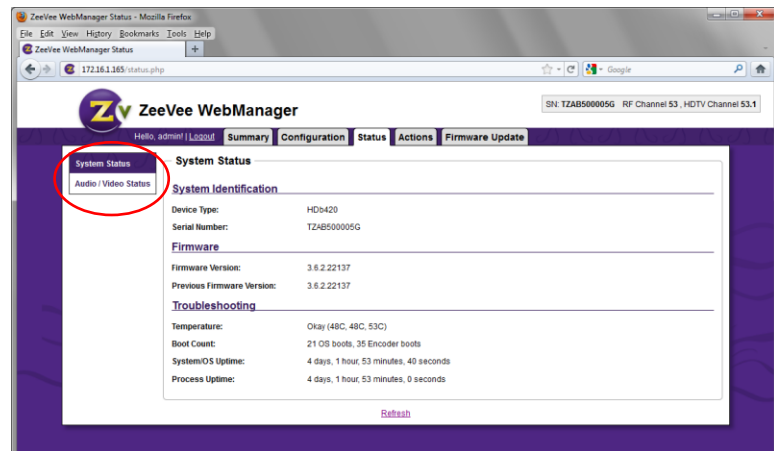Resetting to defaults via WebManager or the reset pin on the back of the unit will change the password to "admin."

Hit "Apply" to save your changes.
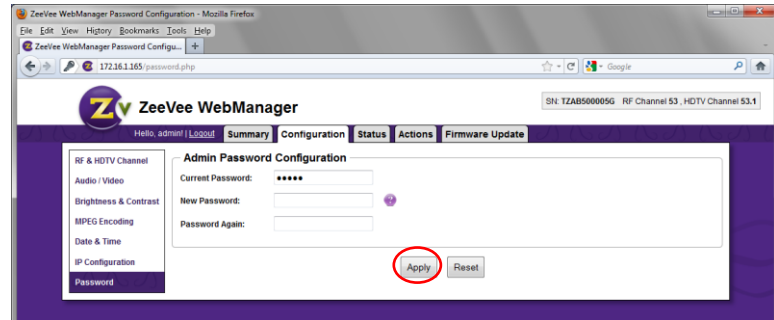
Status Tab

The Status tab provides general information about the module.

The Navigation Menu on the left allows you to select between "System" and "Audio/Video" Status.

System Status

1. Firmware: Current and previous version of firmware.
2. Temperature: Monitored in three different locations inside each unit.
3. System and Process Uptime: Total uptime for both the module and the encoder processes.
4. Refresh: Information does not update automatically. Use the "Refresh" link to see updates to the data.
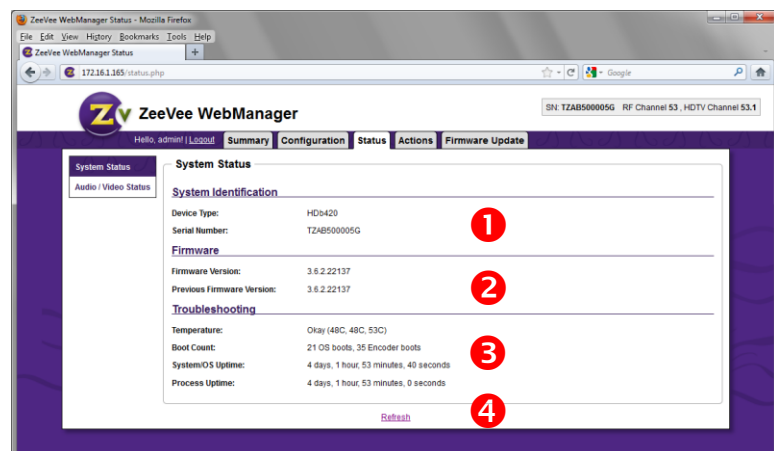
Audio/Video Status

1. Input Video: Video source and the recognized format.
2. Output Video: Output video format will match the input. HDBridge modules do not scale.
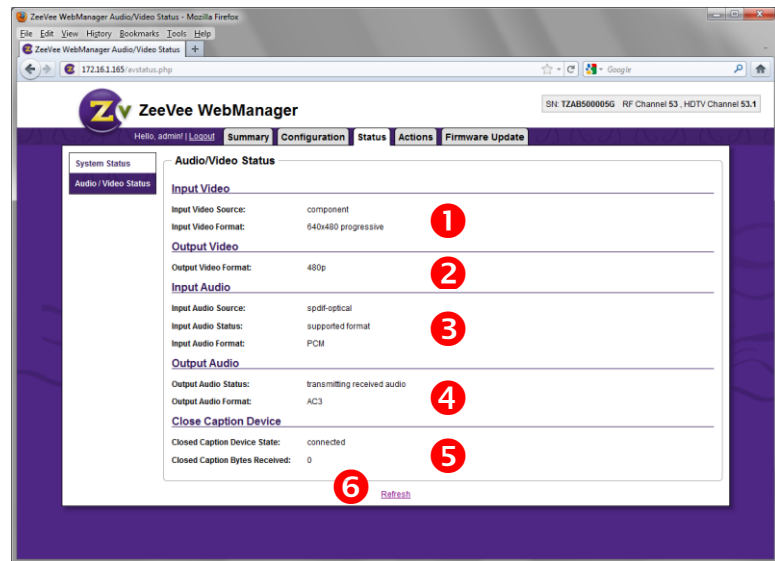3. Input Audio: Audio source, status, and format.
4. Output Audio: Audio output source and format.
5. Closed Caption Device: Closed Caption will always be connected, as it is built in, but only when it is active will the Bytes Received show increments.
6. Refresh: Information does not update automatically. Use the "Refresh" link to see updates to the data.

Actions Tab

The Actions tab allows you to restart or reboot the module, save your changes, run reports, etc.

1. Restart and Reboot: All configuration settings are saved through Restart and Reboot.
2. Reset to Defaults: Changes all configuration settings back to factory defaults and restarts the module.
3. Revert Firmware: Reverts the firmware to the previously used version.
4. Generate Report: Generates a troubleshooting report, then a link appears to download the file and email it to ZeeVee Tech Support (support@zeevee.com).
5. Identify Device: Signals the module to flash the lights on the front of the unit, making it easy to identify a specific module.
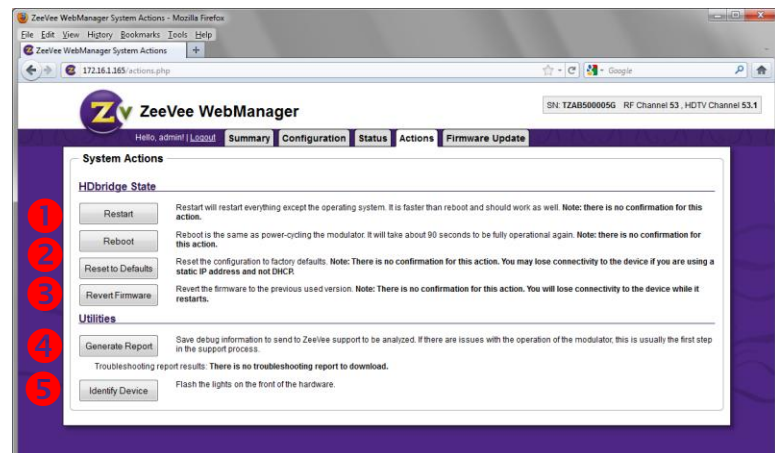
Firmware Update Tab

The Firmware Update tab makes it easy to update your firmware by walking you through a three-step process.

1. Available Images: Click the appropriate link to save the correct firmware file locally.
2. Browse: Browse to the file on your local PC.
3. Upload & Install: Firmware will update and the module will reboot when finished. All settings are saved with the firmware update.
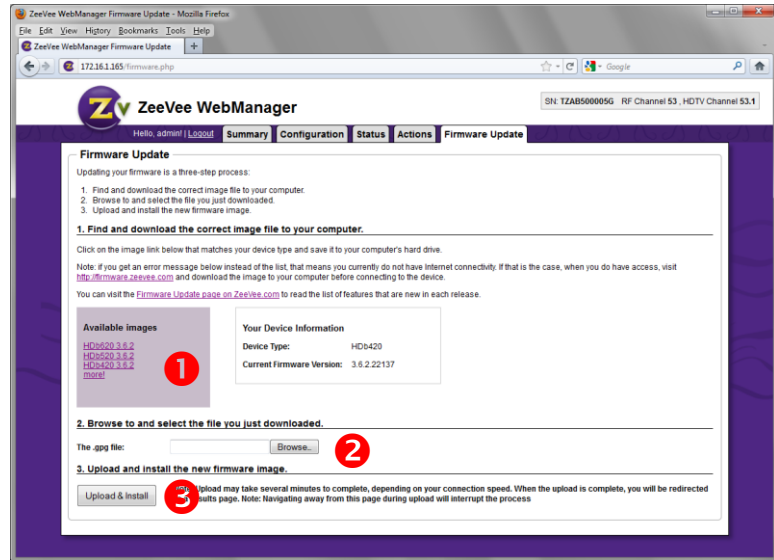
Troubleshooting

No Picture ... Verify the HDTV has a QAM (digital cable) tuner. Verify that you have performed a full channel scan on the HDTV with "cable mode" selected. Verify that the modulator is not conflicting with any other channel by connecting the HDbridge Module directly to the HDTV.

Idle Screen (bouncing logo) ... This happens because the modulator cannot detect the video source. Verify the source is on and producing a video signal. Verify that the component cable is connected to the source and modulator correctly. Verify that the green connector is in the green port, blue connector in the blue port, and red connector in the red port.

Image Breakup ... You may have chosen a channel number that is not completely vacant. Some analog modulators may spill over to adjacent channels and cause interference. Also, cable companies sometimes have extra signals where there should be none. Try moving the module channel to another location.
You may be experiencing an RF power balance issue. Verify that the RF power of the modulator is balanced with signals from other modulators and from the cable company.
Your HDTV may not be able to play the high data rate that the HDbridge module produces during fast action. Lower the data rate via the web interface.

1080 or 720 video input is not supported on this product ... This message is displayed on the screen when the video source resolution exceeds the capability of your HDbridge module. Set the video source to the appropriate resolution.

No Audio ... Verify that digital audio is connected to the modulator and to the source. Verify that the source audio output is set to PCM or AC-3.

Contact ZeeVee

For support, repairs, and warranty service 877-4ZEEVEE (877-493-3833)
For purchasing and sales inquiries...978-633-ZVHD (978-633-9843)

Warranty

Limited One Year Warranty: ZeeVee warrants your HDbridge Module against defects in materials and workmanship for a period of one year from the date of purchase. Visit www.zeevee.com for complete warranty details.

To Get Warranty Service: Warranty service will be provided by ZeeVee. If you believe you need service for your product, please contact ZeeVee directly by calling ZeeVee Support at (877) 493-3833. If it is determined that the product needs to be returned for service or exchange, you will receive a Return Material Authorization ("RMA") number. Our agents will help you through the process through which you can return the product. ZeeVee is not responsible for Customer products received without an RMA number and may reject such products.

To Get Out-Of-Warranty Service: To obtain out-of-warranty service for your product please call ZeeVee Support at (877) 493-3833 for information on the possibility of and any costs for repair or replacement of out-of-warranty products. No agent, company, dealer, distributor, or person is authorized to change, modify, or extend the terms of these warranties in any manner.