



Using Maestro

The Maestro tool contains the following tabs, each with its own ways of customizing your system:

- Status tab
- Channel Plan tab
- RF tab
- Device tab
- Network tab
- STB tab
- Support tab
- About tab

What is Maestro?

Maestro is a configuration tool that you use optionally to customize your ZeeVee system beyond what is allowed in the front panel. For example, using Maestro you can assign a channel number (virtual channel) independent of the RF number, label the channels and manage all ZeeVee units on your network.

You can use Maestro with ZvPro and HDbridge 2000 series units, though the offerings and functionality may change depending on the model.

Connecting to Maestro

To use Maestro, you first need to connect to it through the computer.

1. Connect your computer directly to the ZeeVee modulator using a standard Ethernet cable (not a cross-over cable) or connect the unit and your computer to any LAN that has a DHCP server.
2. An IP address appears at the top of the front panel display.
3. Using any web browser (Chrome or Firefox preferred), enter the IP address to launch Maestro.
4. You will be directed to a login page. Your user name is always "admin." The default password is "admin" but you can change the password. Login is case-sensitive.
5. After you log in, the Maestro Status tab appears. Here you can see the general information about the unit.



Log In

Enter your user name and password for this system:

User Name:

Password:

System	RF #	Channel	Video	Audio	Model	Firmware	Uptime	Temp.	Messages
HDbridge2	2	2.1	COMPONENT 720p	→ 720p60	AUTO SPDIF-PCM	→ AC3	86 min	65c	⚠ channel 6.1: No audio detected on AV Input 4
	2	2.2	disabled	→	disabled	→			
	3	3.1	COMPONENT 480i	→ 480i60	AUTO SPDIF-PCM	→ AC3			

Managing Units on the Network

Maestro gives the option of viewing and managing one, many, or all units on the network.

Connected and Not Connected Status – Shows the total number of units discovered on the network and the number connected for management in Maestro.

The “connected” units are available for management in the current Maestro session (units not connected may contain different passwords or run out-of-date firmware). Only connected units are pulled into Maestro for management.

*If you are managing just a single unit, the display will show, for example, “1 connected, 9 not connected,” which means there are a total of 10 units on the network. Hit **Manage All** which connects to multiple units, and it may show “9 connected, 1 not connected.” That one unit not connected has either a password and/or firmware that is different from the others and until changed, cannot be managed in the Manage All set up.*

Manage All – Click this button to view and configure all units on your network. This function pulls in only systems with matching passwords and similar firmware.

Refresh All – Click this button to refresh system data.

The screenshot shows the ZeeVee Maestro web interface. At the top, there's a navigation bar with 'Status', 'CONFIGURATION' (Channel Plan, RF, Device, Network, STB), and 'HELP' (Support, About). Below this, a status bar indicates '1 connected, 55 not connected' and features 'Manage All' and 'Refresh All' buttons. A 'Send Emergency Alert' button is also present. The main content area is a table with columns: System, RF #, Channel, Video, Audio, Model, Firmware, Uptime, Temp., and Messages. The first row is selected, showing details for 'HDbridge2'.

System	RF #	Channel	Video	Audio	Model	Firmware	Uptime	Temp.	Messages		
<input checked="" type="checkbox"/> RF 2+3+5+6 HDbridge2	2	2.1	COMPONENT 720p	→ 720p60	AUTO SPDIF-PCM	→ AC3	HDb2540-NA	1.9.2.28470	86 min	65c	channel 6.1: No audio detected on AV Inp
	2	2.2	disabled	→	disabled	→					
	3	3.1	COMPONENT 480i	→ 480i60	AUTO SPDIF-PCM	→ AC3					
	5	5.1	COMPONENT 720p	→ 720p60	AUTO SPDIF-PCM	→ AC3					
	6	6.1	COMPONENT 720p	→ 720p60	AUTO Undetected	→ AC3					

Selected Box – Tells you how many units selected for configuration for use with the **Set All** function. Selected units are indicated with a checked box.

Naming the Units (Auto-Name)

Auto-Name

Auto-name format

This wizard will help you name your boxes in sequential order.

First, choose the name for the first device. It should include at least one number.

First name:

Examples:
ZEEVEE-R1-U1
RACK-1-1
ZVHD-1
QAM123

Note, the name of a device cannot exceed 63 characters total.

Auto-Name

Manual Sequencing

This process will allow you to order your systems by sequentially pressing their front panel buttons.

No button presses detected yet...

For each device:

1. Press the **left** button to increment the **first** number, or the **right** button to increment the **second** number.
2. Wait for the screen on the device to change
3. Move on to the next device, and repeat

Auto-Name – Enter a starting unit name here and Maestro automatically increments down and names the full rack of units (for example, mod_1 then second in line, mod_2, third is mod_3).

Entering a starting name prompts the user to hit buttons on the ZeeVee unit. Maestro then names each unit in order of the buttons pressed.

The screenshot shows the Maestro web interface with a configuration table. The table has columns for System, RF #, Channel, Video, Audio, Model, Firmware, Uptime, Temp., and Messages. A warning icon is present in the first row of the table.

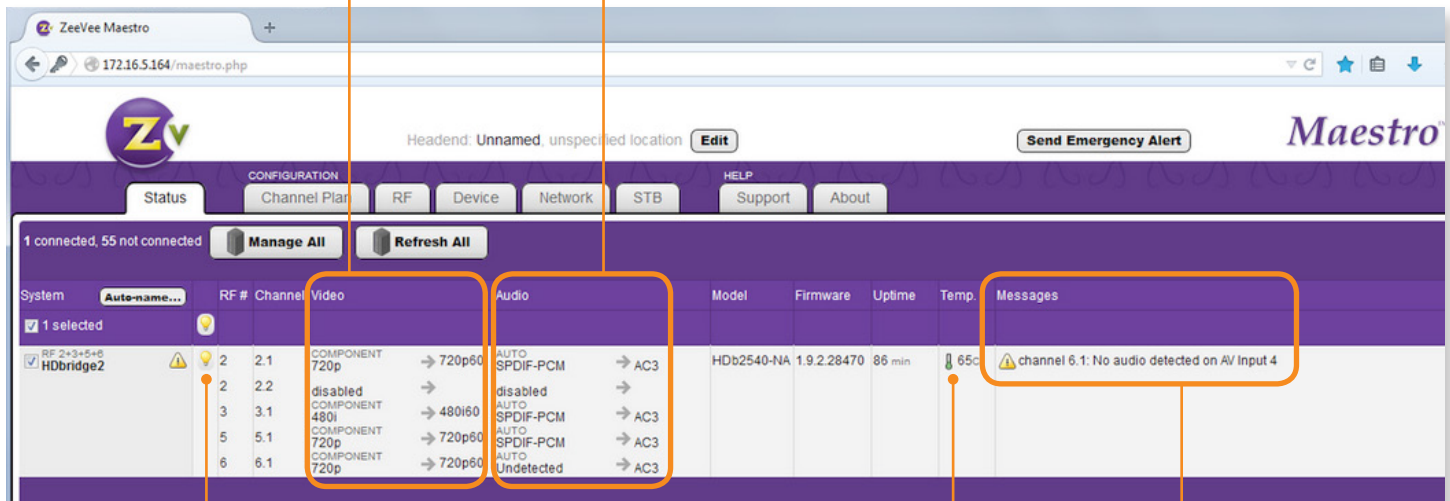
System	RF #	Channel	Video	Audio	Model	Firmware	Uptime	Temp.	Messages	
RF 2+3+5+8 HDbridge2	2	2.1	COMPONENT 720p	→ 720p60 AUTO SPDIF-PCM	→ AC3	HDb2540-NA	1.9.2.28470	86 min	65c	channel 6.1: No audio detected on AV Input 4
	2	2.2	disabled	→ disabled	→					
	3	3.1	COMPONENT 480i	→ 480i60 AUTO SPDIF-PCM	→ AC3					
	5	5.1	COMPONENT 720p	→ 720p60 AUTO SPDIF-PCM	→ AC3					
	6	6.1	COMPONENT 720p	→ 720p60 AUTO Undetected	→ AC3					

Status Tab

The Status tab contains general system information, such as warning messages and a showing of all connected units and their associated RF number and channel information. You can also see the firmware version running for each unit.

Video – Identifies video input type and resolution in the first field. The second field shows video output resolution.

Audio – Identifies audio input type in the first field. The second field shows audio output type.



Lightbulb – Click the lightbulb icon to send an identifying flash to the front panel display on the device.

Temp – Monitors internal temperature of the unit.

Messages – Provides information about unit, such as general status or warnings.

Using Set All and the Auto-Increment Function

The Set All feature allows you to apply settings to all managed units. Most configuration options offer the Set All feature so that you can change settings across multiple units.

When you choose Set All for RF#, Channel#, Prog# (Channel Plan tab) and IP address (Network tab), the Auto-Increment function allows you to set information in a few easy steps.

Auto-Increment

What do you want to update?
Choose the values you wish to set with incremental values:

RF Channel First channel: Suggested starting RF number is 132 when setting 4 channels.

Channel First channel: Increment major numbers only
 Match HDTV Channels to RF Channels
Use format "[1-999][0-999]" for dotted configuration, or #[1-16383] for dotless configuration.

IP Address First address: Maximum last digit can be 255 when setting 1 device. Setting this will automatically change IP address type from DHCP to Static.

Program Numbers First Program Number: Program Numbers MUST be unique within an RF and should be unique across your headend

1. Click Set All and select Auto-increment.
2. Enter the first number (RF#, Channel#, Prog# or IP address) you wish to use. Maestro then automatically increments down and assigns all subsequent numbers or addresses.

For Channel #, enter the starting channel or select option to match the channel to the RF channel.

When **Increment major numbers only** is checked, only the number before the "." will increment (the major number, the number after "." is the minor number). For example, enter 50.1, and the channels will increment 51.1, 52.1, and so on.

For more information on RF#/Channel# and Prog# see pages 6 and 8. For details on IP Address, see page 15.

3. Click Set and channels or IP addresses update for your review. They are not saved until you click Apply on the Channel Plan or Network page.

Headend: Unnamed, unspecified location **Maestro™**

CONFIGURATION CHANNEL PLAN RF Device Network STB HELP Support About

1 connected, 64 not connected

1 system has been changed. Click "Apply" to save your new settings.

System	Auto-name...	RF #	Channel #	Name	Long Name	Rating	Video Source	Audio Source	Enabled
<input checked="" type="checkbox"/> 1 selected		<input type="button" value="Set All"/>	<input type="button" value="Set All"/>	<input type="button" value="Set All"/>	<input type="button" value="Set All"/>	<input type="button" value="Set All"/>	<input type="button" value="Set All"/>	<input type="button" value="Set All"/>	<input type="button" value="Set All"/>
<input checked="" type="checkbox"/> RF 2+3+5+6 HDbridge2		2	50.1	MYTV-HD	HD Video Ove	TV-G	Auto	Auto	Enabled
			2.2	ZvShow	ZvShow Char	TV-G	ZvC_file	ZvC_file	Disabler
		3	3.1	MYTV-HD	HD Video Ove	TV-G	Auto	Auto	Enabled
		5	5.1	MYTV-HD	HD Video Ove	TV-G	Auto	Auto	Enabled
		6	6.1	MYTV-HD	HD Video Ove	TV-G	Auto	Auto	Enabled

Show advanced controls

Apply – Click to save changes.

Reset – Click to clear any changes that have not been saved.

Channel Plan Tab — Setting Basic Channel Information

The Channel Plan tab allows you to configure RF numbers and virtual channels.

RF # – Allows you to enter the RF frequency for broadcast. RF#s are paired together by frequency. When you update the first RF number, the second updates automatically. Refer to the RF Frequency Map and Important Notes on page 21 for details.

Channel # – Allows you to enter a channel number (virtual channel). The channel number is what the TV displays and can be independent of the RF#. You can configure a channel number two ways:

1. As a dotted number — Enter the number with a “.” following it, for example, “5.1”. This is the default display.
2. As a dotless number — Enter the number with a “#” preceding it, for example, “#5”. Note that you can choose a channel number that is different from the RF#. For instance, if your RF# is 3, you can choose a channel number of 10.1 or #10.

Choosing Set All for RF number and Channel Number requires you to set up Auto-Increment. See page 5.

System	RF #	Channel #	Name	Long Name	Rating	Video Source	Audio Source	Enabled
1 selected	Set All	Set All	Set All	Set All	Set All	Set All	Set All	Set All
RF 2+3+4+6 HDbridge2	2	2.1	MYTV-HD	HD Video Ove	TV-G	Auto	Auto	Enabled
		2.2	MYTV-HD	HD Video Ove	TV-G	ZvC_file	ZvC_file	Disablen
	3	3.1	MYTV-HD	HD Video Ove	TV-G	Auto	Auto	Enabled
	5	5.1	MYTV-HD	HD Video Ove	TV-G	Auto	Auto	Enabled
	6	6.1	MYTV-HD	HD Video Ove	TV-G	Auto	Auto	Enabled

Help – Click to display tab-specific help text.

Updated versions of firmware offer this ZvShow “extra” channel. For more information, see page 12.

Apply – Click to save changes.

Reset – Click to clear any changes that have not been saved.

Channel Plan Tab — Setting More Channel Information

The Channel Plan tab allows you to label channels and their content.

Name – Allows you to enter the channel short name (up to 7 characters).

Long Name – Allows you to add a longer or more descriptive name to the channel (up to 63 characters).

The TV displays the Name and Long Name when the channel is changed or if the info guide information is requested.

Each TV handles the name display differently.

Rating – Allows you to assign an audience rating for all entries in the program guide. Choose from the TV parental guidelines provided in the drop down list. The values sent follow MPEG2 and CEA-766 specification, region 1 (USA), dimension 0 (TV-Rating). Note that TV-MA-LSV is the most extreme content, with LSV short for “Language, Sex, Violence.

The rating defined here applies to all content on the channel.

You can use the Rating setting with programs such as VChip.

System	RF #	Channel #	Name	Long Name	Rating	Video Source	Audio Source	Enabled
1 connected, 55 not connected RF 2+3+5+6 HDbridge2	2	2.1	MYTV-HD	HD Video Ove	TV-G	Auto	Auto	Enabled
		2.2	MYTV-HD	HD Video Ove	TV-G	ZvC_file	ZvC_file	Disabled
	3	3.1	MYTV-HD	HD Video Ove	TV-G	Auto	Auto	Enabled
	5	5.1	MYTV-HD	HD Video Ove	TV-G	Auto	Auto	Enabled
	6	6.1	MYTV-HD	HD Video Ove	TV-G	Auto	Auto	Enabled

Video Source – Allows you to select the video input that is encoded and broadcast.

Audio Source – Allows you to select the audio input that is encoded and broadcast. You can also set this to “None” so that Maestro is not constantly searching for audio.

Auto is the default for most units. The Auto setting automatically detects the type of audio and video.

Enabled – Lets you choose to “enable” or “disable” the particular channel. If one of the inputs is not being used, disable the channel so that the TV won’t display it. RF is still occupied with a disabled channel.

Channel Plan Tab — Advanced Controls — Part 1

The advanced controls allow you to further specify channel settings, such as datarate and resolution.

Prog # – Allows you to identify each channel within an RF stream and make it unique.

If you have multiple channels per RF #, each channel needs a different program number.

Choosing Set All for Prog # number requires Auto-increment set up. See page 5.

Datarate – Allows you to control compression level of MPEG video encoding. The default setting of **Normal** provides the best video quality. On rare occasions, however, some HDTVs will be unable to keep up with the amount of data being sent, and this may result in video break up. In these instances, using **Low** datarate may help.

System	RF #	Channel #	Prog #	Name	Long Name	Rating	Video Source	Audio Source	Enabled	Datarate	Delays	Delayed Audio Out	1080 Res	720 Res	Calibrate
1 selected	Set All	Set All	Set All	Set All	Set All	Set All	Set All	Set All	Set All	Set All	Set All	Set All	Set All	Set All	
RF 2+3+4+5+6 HDbridge2	2	2.1	1	MYTV-HD	HD Video Ove	TV-G	Auto	Auto	Enabled	Normal	4:1 12:12				
		2.2	2	MYTV-HD	HD Video Ove	TV-G	ZvC_file	ZvC_file	Disable	Normal	4:1 12:12				
	3	3.1	1	MYTV-HD	HD Video Ove	TV-G	Auto	Auto	Enabled	Normal	4:1 12:12				
	5	5.1	1	MYTV-HD	HD Video Ove	TV-G	Auto	Auto	Enabled	Normal	4:1 12:12				
	6	6.1	1	MYTV-HD	HD Video Ove	TV-G	Auto	Auto	Enabled	Normal	4:1 12:12				

Click here to show Advanced Controls

1080 Res and 720 Res – Allows you to add slightly smaller resolutions to the list of resolutions (EDID) sent to the source. Selecting these “underscan” resolutions on the source will allow for the image to fit properly on TVs that still have “overscan” (the outside edge of the image is dropped from view).

Many HDTVs have inherited something called overscan compensation that causes the outside of an image to be dropped off the edge of the TV. By changing the information presented to the computer via the EDID on the VGA/HDMI connected, we can give the computer an alternate resolution to use instead of the default – one that’s a little smaller. Use Test Image 1 to select the best underscan resolution to be used. This resolution must be set first here in Maestro, and then selected at the VGA source.

For VGA/HDMI support, please see the VGA/HDMI FAQs located on the Tech Support section of the ZeeVee website.

Calibrate – Allows you to help center an image. Performs a calibration on the VGA signal to correct for color or position of the image. For best calibration results, set the VGA source to a static and light colored display, such as a white application window open to full screen.

Channel Plan Tab — Advanced Controls — Part 2

The following advanced controls allow you to make small adjustments to audio/video latency for lip sync purposes, to match audio to external audio system, and to adjust color for the best video quality.

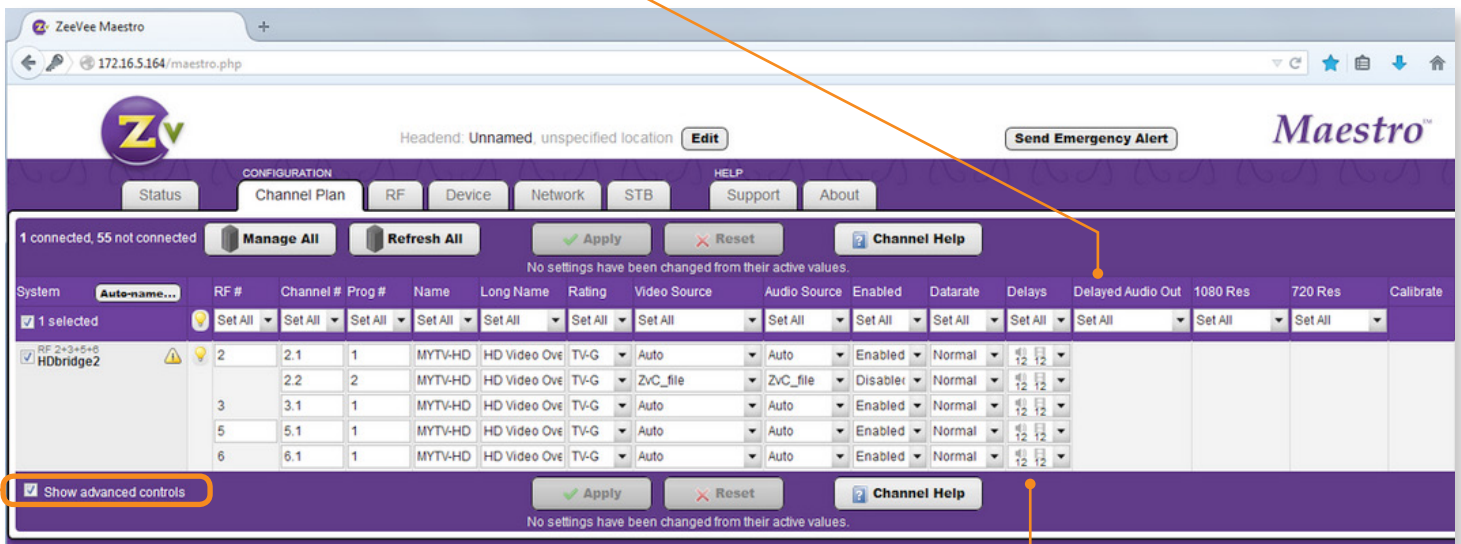
Delayed Audio Out – Allows you to match audio to external audio system (first port only). When using a distributed or whole-house audio system you can use this function to send audio from the first input (requires analog audio input) to your distributed audio system. By default this port will have a 400ms delay, but can be adjusted between 0 and 2000ms to match the specific latency of your modulated channel.

Delayed Audio Out is available only on HDbridge 2312, 2840, 2920 and ZvPro models.

Color (HDb2312 only) – The default values are set for the best brightness, contrast, saturation, and hue for most sources. In rare occasions composite sources may need adjustment for the best video quality.

Brightness control ranges from dark black level to very bright black level (default setting is 112). Contrast control ranges from minimum white level to maximum white level (default setting is 128). Saturation control ranges from no color to maximum color (default setting is 128). Hue control ranges from 0 to 255 that indicate -180 to +180 degree of color phase (default setting is 128).

(Field Not Pictured Below)



Click here to show Advanced Controls

Delays – Allows you to make small adjustments to audio/video latency for lip sync purposes.

In rare deployments, audio may not arrive to the ZeeVee device perfectly synchronized with the video. When this happens, the picture on the HDTV has a “lip sync” issue.

Additionally, the overall amount of latency in the video and audio stream can affect the picture quality. A higher latency can increase the picture quality and ensures compatibility with some older HDTVs, while a lower latency results in a faster response.

You can modify both audio and video delay to adjust lip sync and latency. Drag the center adjustment bar to adjust overall latency while keeping lip sync the same, and adjust the top and bottom arrows to adjust lip sync. The setting of 6 is approximately 220ms of latency. Each unit (6-12 for video and 6-16 for audio) equals approximately 32ms.

RF Tab

In the RF tab, you can configure RF information for individual units, such as changing the RF power output, stopping broadcast, and defining a cable plan.

RF Power – Allows you to change the output RF power of the device. When using ZeeVee hardware to add a channel to an existing lineup, you need to match the power of existing channels (otherwise adjacent lower-powered channels can be difficult to tune with some televisions). RF Power can be set to different levels between pairs of RFs, but they must be within 12dbmv of each other. Units can be set between +25dBmV and +45dBmV in 1db increments.

HDbridge models have a default option of +45dBmV. ZvPro models have a default option of +25dBmV.

RF On/Off – Allows you to disable the RF output (all broadcast). Setting this field to “Off” will make any associated channels disappear from your cable network.

System	RF #	Channel	RF Power	RF On/Off	QAMS	RF Modulation	Cable Plan	PID
1 selected			Set All	Set All	Set All	Set All	Set All	Set All
RF 2+3+5+6 HDbridge2	2	2.1, 2.2	45 dBmV	On	double	QAM256	US-QAM-Standard	256
	3	3.1						
	5	5.1	45 dBmV					
	6	6.1						

Cable Plan – Allows you to define a cable plan other than the default QAM Standard. If combining with an existing cable service, the cable plan must match the cable service.

RF Tab — Advanced Controls

QAMs – Allows you to choose between double (default) and single. Single QAM mode allows for multiple programs per RF. For example, RF 2 with programs 2.1 and 2.2; while double mode sends a single program (video/audio source) per RF.

Double mode allows for greater video quality especially with higher resolutions like 1080. When in double mode, the RF frequencies will be paired so only the first RF in the pair is configurable. The second RF will be assigned automatically based on the 6MHz frequency band that is adjacent to the first RF assigned. *RF channels do not always go in numerical order with the frequencies. See the chart on page 21 more information on RF channels and frequency.*

Changing between single and double mode will cause the unit to reset to factory defaults (IP address and password as well as all channel configuration) in some firmware versions.

RF Modulation – Allows you to define modulation schemes for digital cable (default QAM-256). QAM-256 allows for a higher bitrate than QAM-64, but some installations may prefer QAM-64 to fit into their network better. QAM-64 is only available when the unit is in “Double QAM” mode. Video quality may be degraded when running QAM-64.

System	RF #	Channel	RF Power	RF On/Off	QAMs	RF Modulation	Cable Plan	PID
1 selected			Set All	Set All	Set All	Set All	Set All	Set All
RF 2+3+5+6 HDbridge2	2	2.1, 2.2	45 dBmV	On	double	QAM256	US-QAM-Standard	256
	3	3.1						
	5	5.1	45 dBmV					
	6	6.1						

Click here to show Advanced Controls

PID – Allows you to define the program ID for each MPEG2 packet. Each packet has a unique identifier in the header that associates each packet with the proper program. This command sets the starting PID number that will be used for all transmissions. It is called the starting number because four PIDs are allocated. The first is for Video packets, the second is for Audio, the third is for the Program information and the fourth is for control information. Used rarely and only if you have a custom set top box to tune in our signal.

Any time the PID is changed, the unit must be restarted for the new value to take effect.

Device Tab — Naming Device and Using Action Buttons (Including ZvShow)

The Device tab allows you to make device-specific configurations, such as changing the device password and updating firmware.

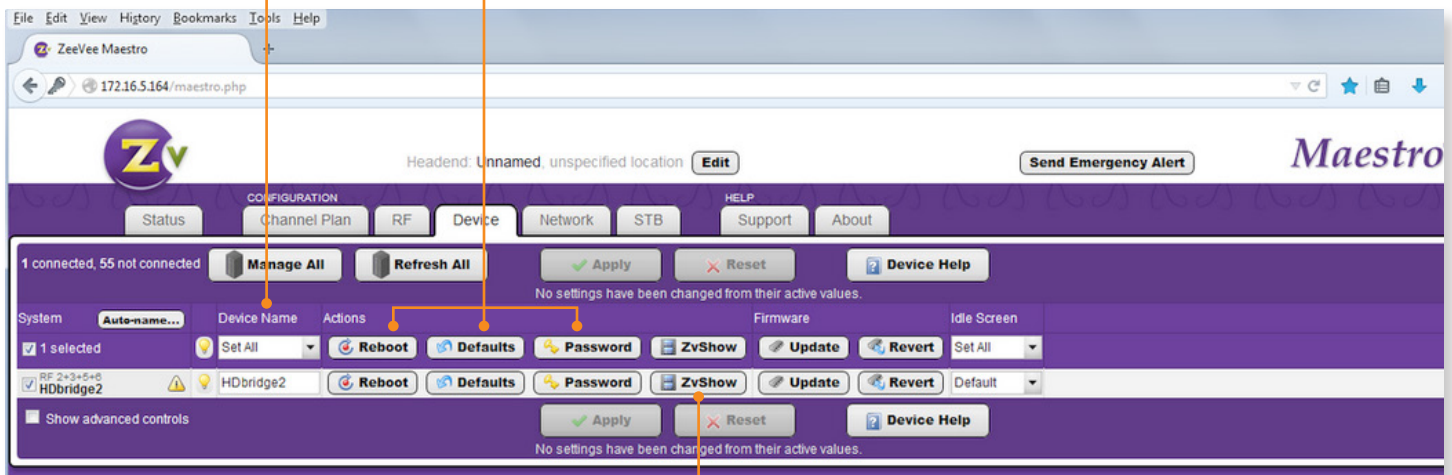
Device name – Allows you to name the device for easy recognition when managing multiple units. This is the device’s identifying name within the network, and this name also controls how devices are ordered within Maestro.

When you choose **Set All** the Auto-Name function allows you to set information in a few easy steps. See page 3.

Reboot – Forces a restart of the unit. Clicking this button takes down channels for a few minutes.

Defaults – Resets system to factory default settings, including password and IP information. Clicking this button takes down channels for a few minutes.

Password – Allows you to change the device password. Clicking this button brings up a wizard that walks you through entering a new password.



ZvShow – Allows you to upload a video file that will broadcast on an “extra” channel. This channel is available in addition to the channels already offered on the unit. The content for the video on this channel comes from a stored video resident on the ZeeVee product. The video is played and looped onto the new ZvShow Channel continuously.

The video file must be converted using the ZvConvert tool, which can be found on our website at <http://www.zeevee.com/support/tools>.

For detailed instructions on using the ZvConvert and ZvShow channel, please see the application note on our website <http://zeevee.com/resources/documentation>.

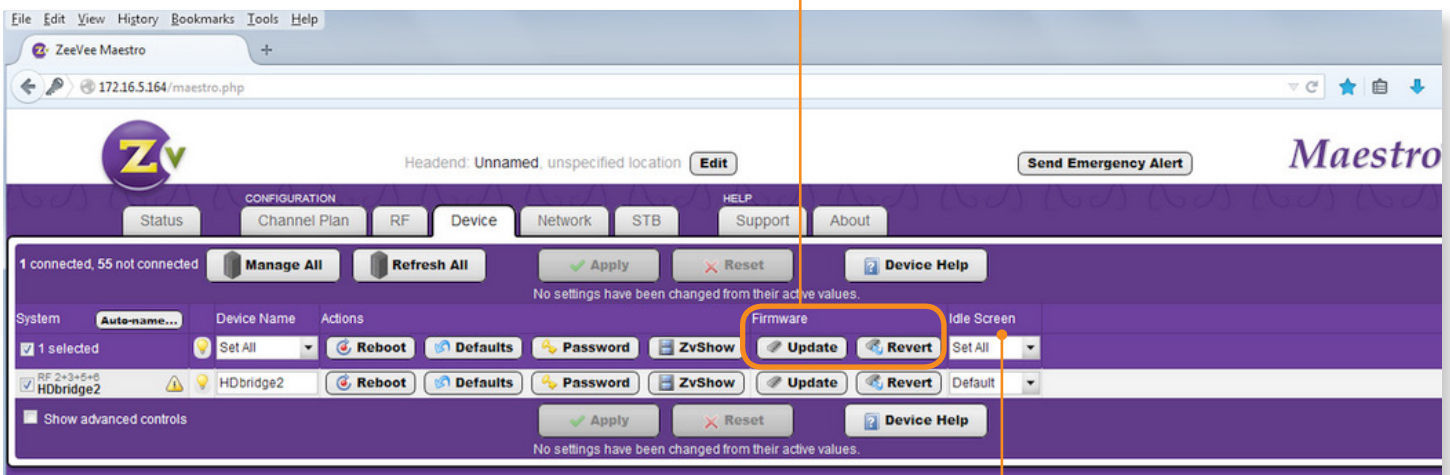
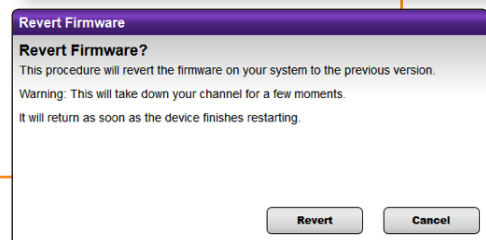
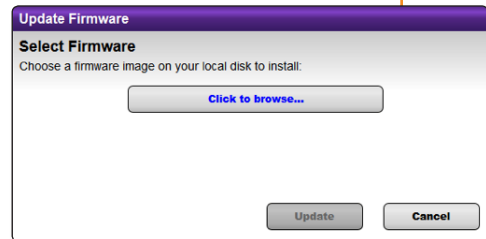
Device Tab — Choosing Firmware and Idle Screen

Update – Allows you to browse the saved firmware file.

Find and then download the most updated firmware in the Firmware section of the Support section on our website.

Revert – Allows you to revert back to the previously installed version of firmware. Use this function if a recent firmware update has made a change that is not compatible with your current set up or if you have issues with a firmware update.

Both firmware update and firmware revert will automatically reboot the unit.



Idle Screen – Allows you to upload a custom image that displays when no video is detected in the video port. Otherwise, the default image of a ZeeVee logo will display against a black background.

HD products such as the ZvPro line and HDbridge 2500/2600, 2840 and 2920 models require the image to have a resolution of 1280x720 or smaller. If the image is 1264x704 or smaller the image will move around the screen, otherwise it will remain static and be centered.

The HDbridge 2380 and 2312 require an image size of 720x480 or smaller. If the image is 704x464 or smaller the image will move around the screen, otherwise it will remain static in the center of the screen.

File formats accepted for all models are gif, jpg, jpeg, png and bmp. The image is not scaled.

Device Tab — Advanced Controls (Emergency Alert System)

Advanced controls in the Device tab focus on configuring the Emergency Alert System (EAS). ZeeVee devices support EAS by integrating with the Monroe R189 EAS Encoder/Decoder. Using EAS, you can tie systems into national (Federal, FEMA, etc.) or local (city, county, state) alert systems. When an alert is active, all current audio and video will be interrupted and replaced with the alert.

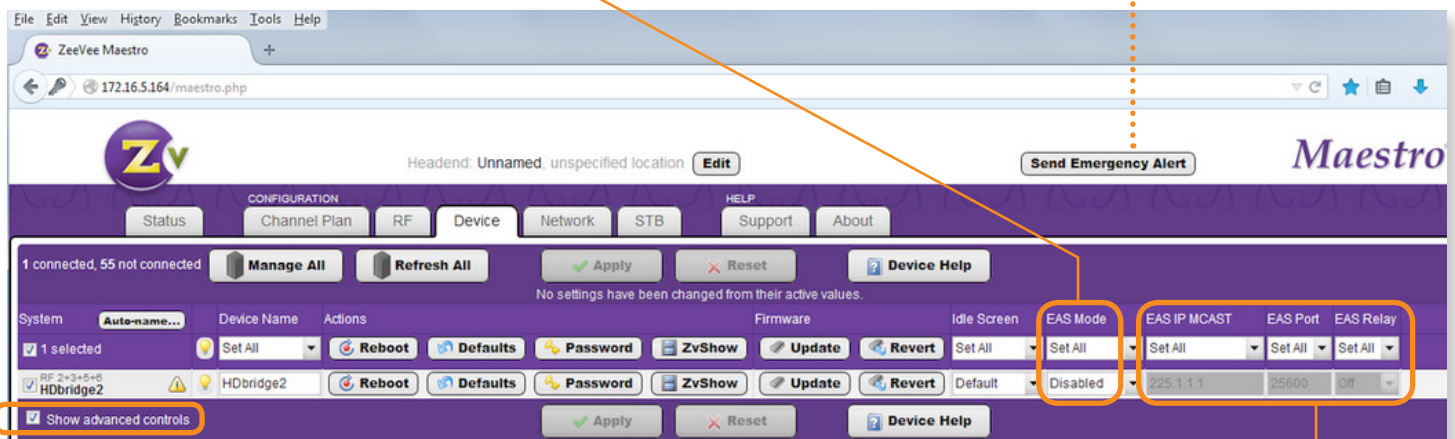
For detailed instructions on generating EAS alerts, please see the application note on our website <http://zeevee.com/resources/documentation>.

EAS Mode – Controls whether EAS is disabled (default) or is enabled and your choice of EAS mode delivery. The EAS mode determines how the alerts are delivered to the ZeeVee units:

- Disabled – Alerts can only be generated by Maestro using the Send Emergency Alert button located at the top of Maestro.*
- EAS Net – Alerts can be accepted from Monroe R189 units with the EAS-NET option or the equivalent
- EAS MPEG2 – Alerts can be received from Monroe R189 units using the Stream MPEG 1/2 option and unicast addressing
- EAS MPEG2 MCAST – Alerts can be received from Monroe R189 units using the Stream MPEG 1/2 option and multicast addressing

* ZeeVee provides an alternative means to generate simple alerts directly from Maestro.

1. Click the Send Emergency Alert button located at the top of Maestro.
2. Supply the desired text, properly encoded audio file (audio is optional), and duration of the alert. This information will be sent to all currently managed devices.
3. Click Send Alert.



Click here to show Advanced Controls

EAS IP MCAST – Allows you to enter the multicast address where the ZeeVee device receive EAS MPEG2 multicast streams. Valid multicast IPs are between 224.0.0.0 and 239.255.255.255. For EAS Net or EAS MPEG2 mode the ZeeVee system IP address will be used and this option is not configurable.

EAS Port – Allows you to specify the port number on the ZeeVee unit that will listen for the alert. You must define this port on the unit generating the alert (such as the Monroe R189 unit with EAS Net).

EAS Relay – Allows you to enable an EAS relay (default is “off”) that forwards the alert sent by the Monroe R189 to all other known ZeeVee devices. The alert is forwarded sequentially so a large installation might see a delay before all modulators begin processing the alert. The ZeeVee EAS Relay feature allows you to configure one ZeeVee unit in the Monroe R189. That one device communicates with the Monroe box and its information cascades down to the other ZeeVee units. (EAS Relay is used with EAS Net function only.)

EAS Relay should only be enabled on a single unit in a headend, otherwise messages may be sent multiple times.

Network Tab — Assigning IP Type and Address

IP Type – Defines the IP address the device uses, either uses a DHCP (default) to get a dynamic IP address or a static IP address. After saving changed IP type, the system requires a reboot to initiate the new IP address.

IP Address — Displays and allows you to configure the current IP address of the unit. If you choose **Set All** here, Maestro uses its auto-increment function to assign subsequent addresses (see page 5).

Mask and Def Gateway – Enter the subnet mask you want to use. The Mask field is required.

When using a static IP address, you must configure the IP Address, Mask, and Default Gateway manually. When using DHCP, these settings are assigned dynamically.

The screenshot shows the Network configuration page in the Maestro web interface. The interface includes a navigation menu with tabs for Status, Channel Plan, RF, Device, Network, STB, Support, and About. The Network tab is active. Below the navigation, there are buttons for Manage All, Refresh All, Apply, Reset, and Network Help. A table displays the configuration for the selected system (Auto-name...). The table has columns for IP Type, IP Address, Mask, and Def. Gateway. The first row is selected and shows 'Set All' for all fields. The second row shows 'DHCP' for IP Type, '172.16.5.164' for IP Address, '255.255.255.0' for Mask, and '172.16.5.1' for Def. Gateway. A red box highlights the first row, and a red line connects it to the explanatory text above.

System	IP Type	IP Address	Mask	Def. Gateway
1 selected	Set All	Set All	Set All	Set All
RF 2+3+5+8 HDbridge2	DHCP	172.16.5.164	255.255.255.0	172.16.5.1

Network Tab — Advanced Controls

1 connected, 55 not connected **Manage All** **Refresh All** **Apply** **Reset** **Network Help**

No settings have been changed from their active values.

System	Auto-name...	IP Type	IP Address	Mask	Def. Gateway	DNS 1	DNS 2	NTP 1	NTP 2	Mac Address
<input checked="" type="checkbox"/> 1 selected		Set All	Set All	Set All	Set All	Set All	Set All	Set All	Set All	
RF 2+3+5+8 HDbridge2		DHCP	172.16.5.164	255.255.255.0	172.16.5.1	172.16.2.2	172.16.1.10	0.pool.ntp.org	1.pool.ntp.org	00:1C:D5:16:0C:38

Show advanced controls **Apply** **Reset** **Network Help**

No settings have been changed from their active values.

Click here to show
Advanced Controls

DNS 1, DNS 2 – (Optional setting) Used only when assigning static IP address.

NTP 1, NTP2 – Network Time Protocol (NTP) is an optional setting used to assign time on the network or unit. This setting is required when using the Emergency Alert System (EAS) and can bet set whether IP address is static or DHCP.

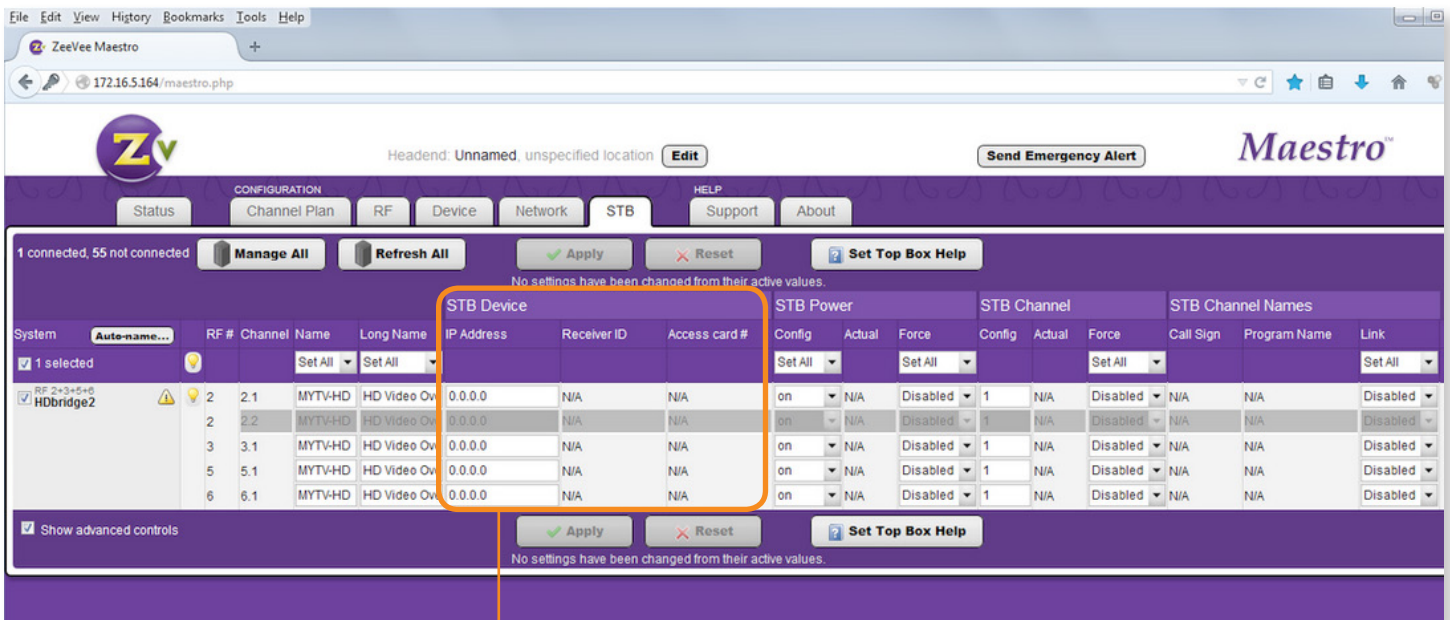
Mac Address – This address is for information only and cannot be edited.

STB Tab (Controlling Set Top Boxes)

The STB tab enables ZvSTB control functionality, which allows for simple control of H25 DirecTV receivers (also called set top box) through Maestro.

To use ZvSTB Control, first you configure the set top box and then you configure Maestro to manage the box.

For detailed instructions on using ZvSTB, please see the application note on our website <http://zeevee.com/resources/documentation>.



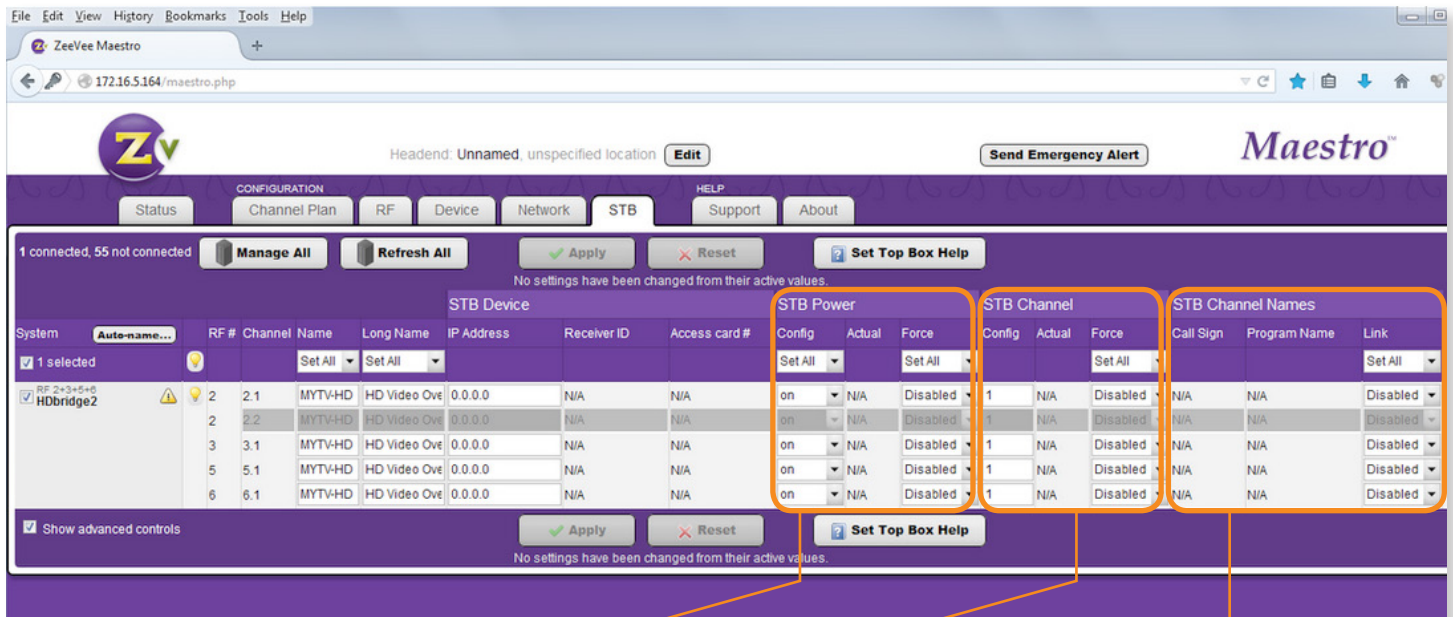
CONFIGURING STB DEVICE FIELDS

IP address – Enter the IP address of the given set top box. To view and manage individual set top box units, you need to enter the proper IP address for the given box in its associated input field. If an IP address is not present in the STB IP Address field for a given input, the ZeeVee unit does not enable remote management operations.

Receiver ID and Access card ID# – ID information from the receiver.

The Call Sign Name, Program Name, Receiver ID, and Access Card values are all updated and displayed at regular intervals. These are informational and helpful to determine which STB is connected.

STB Tab — Setting Power, Channel Number, and Channel Names



STB POWER

Config – Allows you to power individual unit “on” or “off.”

Actual – Shows whether individual unit is powered on or off.

Force – Allow you to enable (or disable), the associated set top box to “force” the setting you specify. With Force enabled, Maestro will query the box automatically and periodically and set the command to your configuration. For example, if the set top box is turned off, yet it’s configured in Maestro as “on,” an enabled Force sends a command to set the power on to match the Maestro setting.

STB CHANNEL NUMBER

Config – Allows you to enter the desired channel number for the STB.

Actual – Indicates the current channel set to the STB for the specified input port (on the ZeeVee unit).

Force – Allow you to enable (or disable), the associated set top box to “force” the setting you specify. With Force enabled, Maestro periodically queries the STB and will automatically change the configuration settings to those set in the STB tab. For example, if “242” appears in the Actual field, yet it’s configured in Maestro as “142,” an enabled Force sends a command to set the channel to 142 to match the Maestro setting.

STB CHANNEL NAMES

Call Sign – Displays channel call sign – for example, “CNN.”

Program Name – Displays channel name associated with call sign – for example, “CNN newsroom.”

Link – Allows you to enable or disable the ZeeVee channel so that you can edit the Call Sign and Program Name fields. You cannot edit these fields when this option is enabled.

The entire block of set top box units under management can be controlled simultaneously by clicking Set All option at the top of the column.

Support Tab

The Support tab provides general information on the units and helps you troubleshoot issues.

The screenshot shows the ZeeVee Maestro web interface. The browser address bar shows '172.16.5.164/maestro.php'. The page title is 'ZeeVee Maestro'. The navigation menu includes 'Status', 'Channel Plan', 'RF', 'Device', 'Network', 'STB', 'Support', and 'About'. The 'Support' tab is active. The main content area shows a table of system units. The first row is selected, and the 'Send Troubleshooting Report' button is highlighted. Below the table is a list of 'Unconnected hosts'.

System	Report	Serial	Model	Firmware	RF #	Operating System	Temperature	Current Time (UTC)
1 selected	Send helpful data to ZeeVee							
<input checked="" type="checkbox"/> RF 2+3+5+6 HDbridge2	<input type="checkbox"/> Send Troubleshooting Report	UZMD500255F	HDb2540-NA	1.9.2.28470	2, 3, 5, 6	1h29m25s, 11 boots	(58c, 52c, 39c, 65c, 48c)	Thu Oct 23 19:29:10 20

Unconnected hosts

- 172.16.2.152
- 172.16.2.22
- 172.16.2.24
- 172.16.2.203
- 172.16.5.21
- 172.16.5.71
- 172.16.2.210
- 172.16.5.46
- 172.16.2.62
- 172.16.2.193
- 172.16.2.73
- 172.16.5.80
- 172.16.5.96
- 172.16.2.177

Send Troubleshooting Report –

Gathers all relevant log and configuration information and generates a report to help troubleshoot issues. If the unit is connected to the internet, Maestro sends report directly to a ZeeVee Support server. Otherwise, it will provide a link where you can download the report and email it to ZeeVee.

Click in the box to generate a full report (this will temporarily disable video input to the TVs while it is generating.)

System Troubleshooting Report

Send Report

This will make the system build a troubleshooting report, then send it automatically to ZeeVee.

There is no existing trouble report nor is one in progress

Generate a full report; WARNING, this will disable video and audio for about 5 minutes.

Start **Cancel**

Naming Units in a Headend

You can assign a name to all units in a headend by clicking on the Edit button of Maestro. If you are managing multiple head ends in different locations, you can name them as a whole for easier management.

Edit Headend – Headend information allows you to assign a name (as well as notes about the headend), which makes managing multiple headends across multiple locations easier. This naming function is especially helpful for identifying units that you manage remotely.

The screenshot shows the Maestro web interface in a browser window. The address bar shows the URL `172.165.164/maestro.php`. The page header includes the Zv logo, the text "Headend: Unnamed, unspecified location" with an "Edit" button, and a "Send Emergency Alert" button. The main content area is titled "Headend Information" and contains a form to "Enter headend information". The form includes fields for "Name:", "Notes:", "Zipcode:", and "Provider:". Below the form are "Update" and "Cancel" buttons. In the background, a configuration panel is visible with a table of units:

System	RF #
1 selected	2
RF 2+3+5+6 HDBridge2	3
	5
	6



Map for Configuring RF Numbers and Virtual Channels

The Cable TV Channels vs RF Frequency (MHz) Map shows how the RF channels are paired and matched with RF frequency. You will need to refer to this map when configuring RF numbers and virtual channels.

Important Notes

- RF numbers are applied in pairs based on the frequency map. For instance, if you enter RF # "2," then RF # "3" automatically populates.
- RF numbers "4" and "5" cannot be paired together because of a gap in the frequencies (MHz).
- The RF numbers are not always paired in numerical sequence (as with RF # 6, which pairs with 95, and RF # 99 which pairs with 14 and so on).
- ZV channels can be set directly adjacent to any other well-formed channel and will not cause interference. No channel spacing is required.

Cable TV Channels vs RF Frequency (MHz) Map									
RF Ch.	Band (MHz)	RF Ch.	Band (MHz)	RF Ch.	Band (MHz)	RF Ch.	Band (MHz)	RF Ch.	Band (MHz)
2	54-60	27	240-246	57	420-426	87	600-606	122	780-786
3	60-66	28	246-252	58	426-432	88	606-612	123	786-792
4	66-72	29	252-258	59	432-438	89	612-618	124	792-798
5	76-82	30	258-264	60	438-444	90	618-624	125	798-804
6	82-88	31	264-270	61	444-450	91	624-630	126	804-810
95	90-96	32	270-276	62	450-456	92	630-636	127	810-816
96	96-102	33	276-282	63	456-462	93	636-642	128	816-822
97	102-108	34	282-288	64	462-468	94	642-648	129	822-828
98	108-114	35	288-294	65	468-474	100	648-654	130	828-834
99	114-120	36	294-300	66	474-480	101	654-660	131	834-840
14	120-126	37	300-306	67	480-486	102	660-666	132	840-846
15	126-132	38	306-312	68	486-492	103	666-672	133	846-852
16	132-138	39	312-318	69	492-498	104	672-678	134	852-858
17	138-144	40	318-324	70	498-504	105	678-684	135	858-864
18	144-150	41	324-330	71	504-510	106	684-690	HRC Frequencies = Standard Frequencies minus 1.25 MHz Except for: Channel 5, Video = 78.0 MHz Channel 6, Video = 84.0 MHz IRC Frequencies = Same as Standard Frequencies Except for: Channel 5, Video = 79.25 MHz Channel 6, Video = 85.25 MHz	
19	150-156	42	330-336	72	510-516	107	690-696		
20	156-162	43	336-342	73	516-522	108	696-702		
21	162-168	44	342-348	74	522-528	109	702-708		
22	168-174	45	348-354	75	528-534	110	708-714		
7	174-180	46	354-360	76	534-540	111	714-720		
8	180-186	47	360-366	77	540-546	112	720-726		
9	186-192	48	366-372	78	546-552	113	726-732		
10	192-198	49	372-378	79	552-558	114	732-738		
11	198-204	50	378-384	80	558-564	115	738-744		
12	204-210	51	384-390	81	564-570	116	744-750		
13	210-216	52	390-396	82	570-576	117	750-756		
23	216-222	53	396-402	83	576-582	118	756-762		
24	222-228	54	402-408	84	582-588	119	762-768		
25	228-234	55	408-414	85	588-594	120	768-774		
26	234-240	56	414-420	86	594-600	121	774-780		

The highlighted areas in the frequency map show the RF numbers that can be paired together but are not numerically sequential.