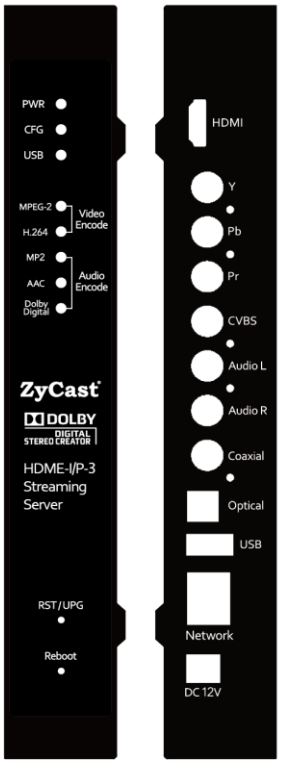
INSTALLATION & CONFIGURATION MANUAL

ZyCast

HDME-I/P-3

(Supports Dolby® Digital AC3 encoding)

HD IP Streaming HD Server



ZyCast Technology, Inc.

No. 33, Lane 181, Chung Hwa Road

Section 4, Hsin Chu, Taiwan 30060

Tel: +886-3-5400-949 Fax: +886-3-5400-413

E-mail: info@zycast.com.tw

www.zycasttech.com

Table of Contents

Safety Precautions

The presence of this symbol is to alert the installer and user to the presence of uninsulated dangerous voltages within the product's enclosure that may be of sufficient magnitude to produce a risk of electric shock.

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS DEVICE TO RAIN OR MOISTURE. DO NOT OPEN THE UNIT. REFER SERVICING TO QUALIFIED PERSONNEL ONLY.

- DO NOT apply power to the unit until all connections have been made, all components have been installed and all wiring has been properly terminated.
- DO NOT terminate, change or uninstall any wiring without first disconnecting the unit's power adapter from the device.
- This device is supplied with the appropriately rated 12VDC power supply with the center pin positive. The use of any other power supply could cause damage and invalidate the manufacturer's warranty.
- DO NOT power on the unit until all cables and connections to the device have been properly connected.
- The device should be installed in an environment consistent with its operating temperature specifications. Placement next to heating devices and ducts is to be avoided as doing so may cause damage. The device should not be placed in areas of high humidity.
- DO NOT cover any of the device's ventilation openings.
- If the device has been in a cold environment allow it to warm to room temperature for at least 2 hours before connecting power.

Package Contents

This package contains:

- One HDME-I/P-3 IP Streaming Server
- One Adaptor
- One installation / configuration manual

Inspect the package before starting installation to ensure there is no damage and all supplied contents are present. Contact your distributor or dealer should the device appear to be damaged or package contents are incomplete.

Product Description

ZyCast Technology's HDME-I/P-3 Streamer allows the user to stream any one audio/video source over an IP Network to any Smart HDTV's or connected computers within the IP Network. The IP Streamer accepts a HDMI, Component, or Composite video input and the unit is designed to deliver a rich HD/SD Streaming experience for its users deploying MPEG-2 or MPEG-4 standards.

Combine any sources and stream them over the network for multiple sources. The HDME-I/P-3 Streaming server enables high-definition streaming with resolutions up to 1080p, providing a high quality viewing experience for your customer. The unit is MPEG2 or MPEG4 switchable and supports UDP/RTP Streaming. The compact design saves space and is easily controlled via a GUI for rapid deployment.

The HDME-I/P-3 features:

- ✓ **Front panel LED Status Display**
- ✓ **Video resolution: Up to 1080p60(H.264 only)**
- ✓ **HDMI, Component, Composite inputs with auto detection**
- ✓ **Dual Mode H.264 (AVC) / MPEG-2 selectable**
- ✓ **Variable Bit Rate Control**
- ✓ **Closed Captioning Support**
- ✓ **Audio format: MPEG-1-Layer2(MP2), AAC, AC-3 Pass through, Supports Dolby Digital AC-3 encoding.**
  ***Manufactured under license from Dolby Laboratories. Dolby, Dolby Audio, and the double D symbol are trademarks of Dolby Laboratories.**
- ✓ **Easy installation and use**
- ✓ **GUI for setup and control**
- ✓ **GigE output port**
- ✓ **Light weight and compact design**

Specifications

CONNECTOR	
Video Input	1x HDMI 1x Component 1x Composite
Audio	1x Composite Analog (R/L) 1x Coax SPDIF 1x Optical SPDIF
Network	RJ45 - Ethernet 1Gbps
PROTOCOL	
IP Streaming	HTTP - Selectable UDP - Unicast/Multicast RTP - Unicast/Multicast TCP - Unicast
Misc. Network	Digital Living Network Alliance (DLNA) - MediaServer 1.5
ENCODING	
Video	MPEG-2 - CBR/VBR H.264 - CBR/VBR
Audio	Audio Codec - MPEG-1 Layer II, MPEG-2 AAC, MPEG-4 AAC, Dolby Digital AC-3 Encode
MISC	Closed Caption - Selectable Color Control - Adjustable
VIDEO RESOLUTION	
Video	Resolutions - 1080p/1080i/720p/576p/576i/480p/480i
Bitrate	
Video	MPEG-2 - SD: 2 to 8Mbps / HD: 10 to 20Mbps H.264 - SD: 1 to 4Mbps / HD: 2 to 10Mbps
Audio	96/128/196/256/384Kbps - Selectable

***Manufactured under license from Dolby Laboratories. Dolby, Dolby Audio, and the double D symbol are trademarks of Dolby Laboratories.**

****Specifications subject to change without prior notice***

Installation

System Installer must adhere to Article 820-40 of the NEC that provides guidelines for proper grounding and specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as possible.

Unpacking and Inspection

Each unit is shipped factory tested. Ensure all items are removed from the container prior to discarding any packing material.

Thoroughly inspect the unit for shipping damage with particular attention to connectors and controls. If there is any sign of damage to the unit or damaged or loose connectors contact your distributor immediately. Do not put the equipment into service if there is any indication of defect or damage.

Hardware Installation and Connections

It is highly recommended that quality cables and connectors be used for all video and audio source connections

1. Connect the media source (Satellite STB, Media player, or other media device) to the HDME-I/P streaming server by HDMI, YPbPr, or CVBS cables.
2. Connect the HDME-I/P streaming server to local area network (LAN).
3. Plug the power adapter to the device and power up.
4. Network Setup.

Front Panel

Buttons/LEDs	Description
Reboot button	Reboots the device (unsaved settings will be lost)
RST / UPG button	To reset all the settings of the device to factory default: 1. Press and hold the RST/UPG button and boot-up the device 2. Hold the button until CFG led to flashes 10 times (about 10 seconds) 3. After the CFG led stops flashing release the button To upgrade firmware using the USB port: 1. Plug-in the USB drive with the upgraded firmware image (“hdip_upg.img”) 2. Press and hold the RST/UPG button and boot-up the device 3. USB led will flash while copying the image from USB drive (about 3~5 seconds) 4. Wait until the CFG led stop flashing 5. Release the RST/CFG button and wait for the device to reboot and upgrade the firmware (about 1 minute)
PWR	Power is ON
CFG	Indicates device is in configuration mode
USB	Indicates USB drive is mounted
MPEG-2	Indicates device is encoding video using MPEG-2
AVC	Indicates device is encoding video using AVC
MP2	Indicates device is encoding audio using MPEG-1 Layer 2
AAC	Indicates device is encoding audio using AAC
Dolby Digital	Indicates device is encoding audio using Dolby Digital (AC-3)

Connecting to the GUI Interface:

Factory Default IP: 192.168.1.9

1. Connect an Ethernet cable directly (**no Cross Over cable required**) to the Web Management Port on the rear panel of the encoder or connect the Ethernet cable to an Ethernet switch. Connect an Ethernet Cable to your PC/Laptop.
2. Modify your PC/Laptop IP address to 192.168.1.11.
3. Enter '192.168.1.9' into your web browser.
4. Enter GUI and make required device changes.
5. Save all changes as required, upload and reboot changes.
6. Verify parameters then end web session.

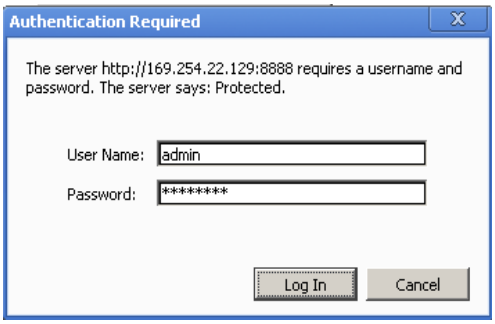
Connect using an ethernet cable to the device's remote setup port either directly to a laptop or PC or connect the device into the network. Confirm your device is on the same IP scheme as the HDME-I/P-3's default IP.

Open a web browser such as Chrome, Firefox.

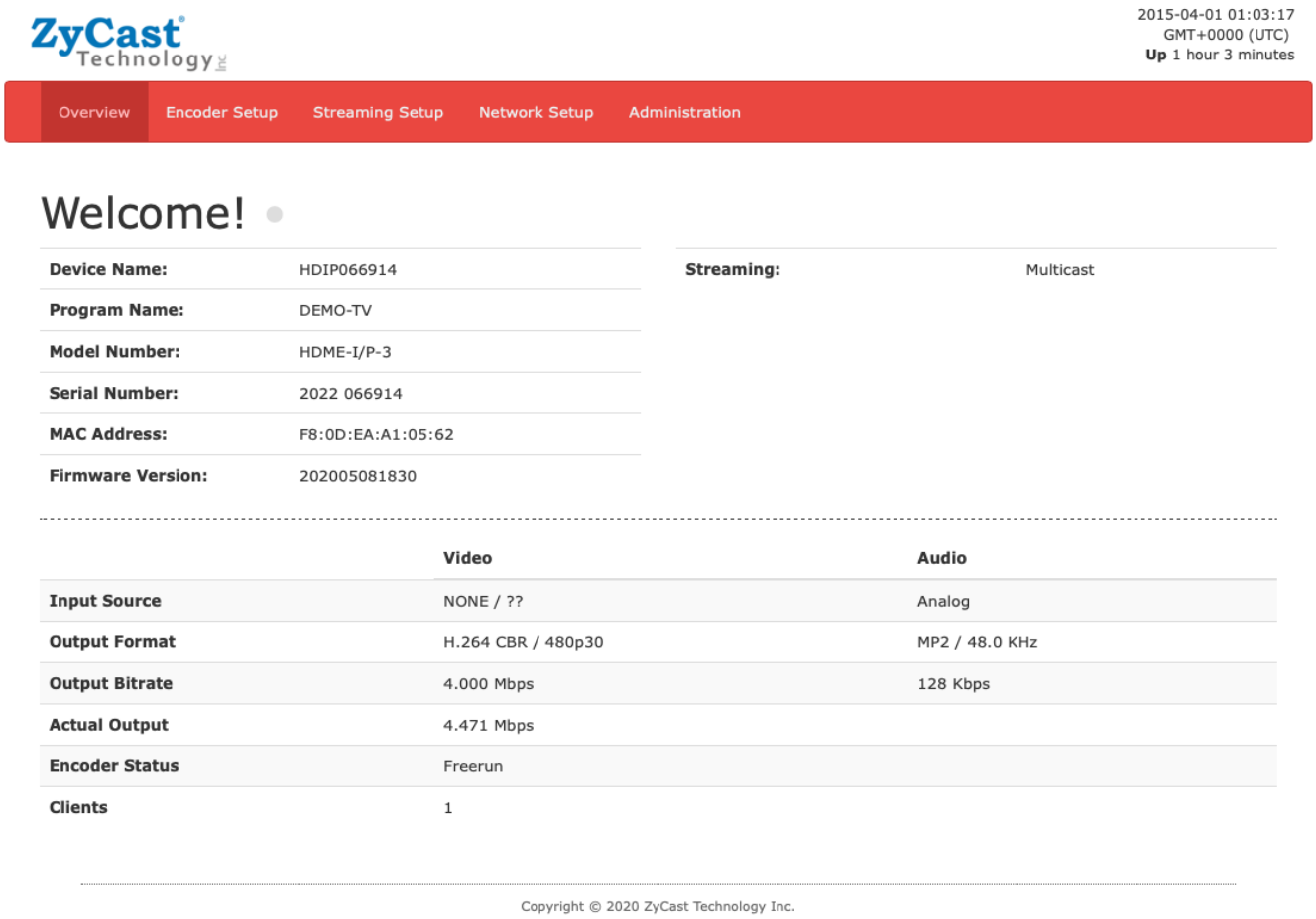
Enter the devices default IP address in the browser.

Login User and Password
User Name: **admin** Default Password: **Admin123**

Once the Welcome Page is displayed select the Encoder Setup tab and the below Login "Authentication Required" screen will be presented. Enter the User Name and Password then click Login.



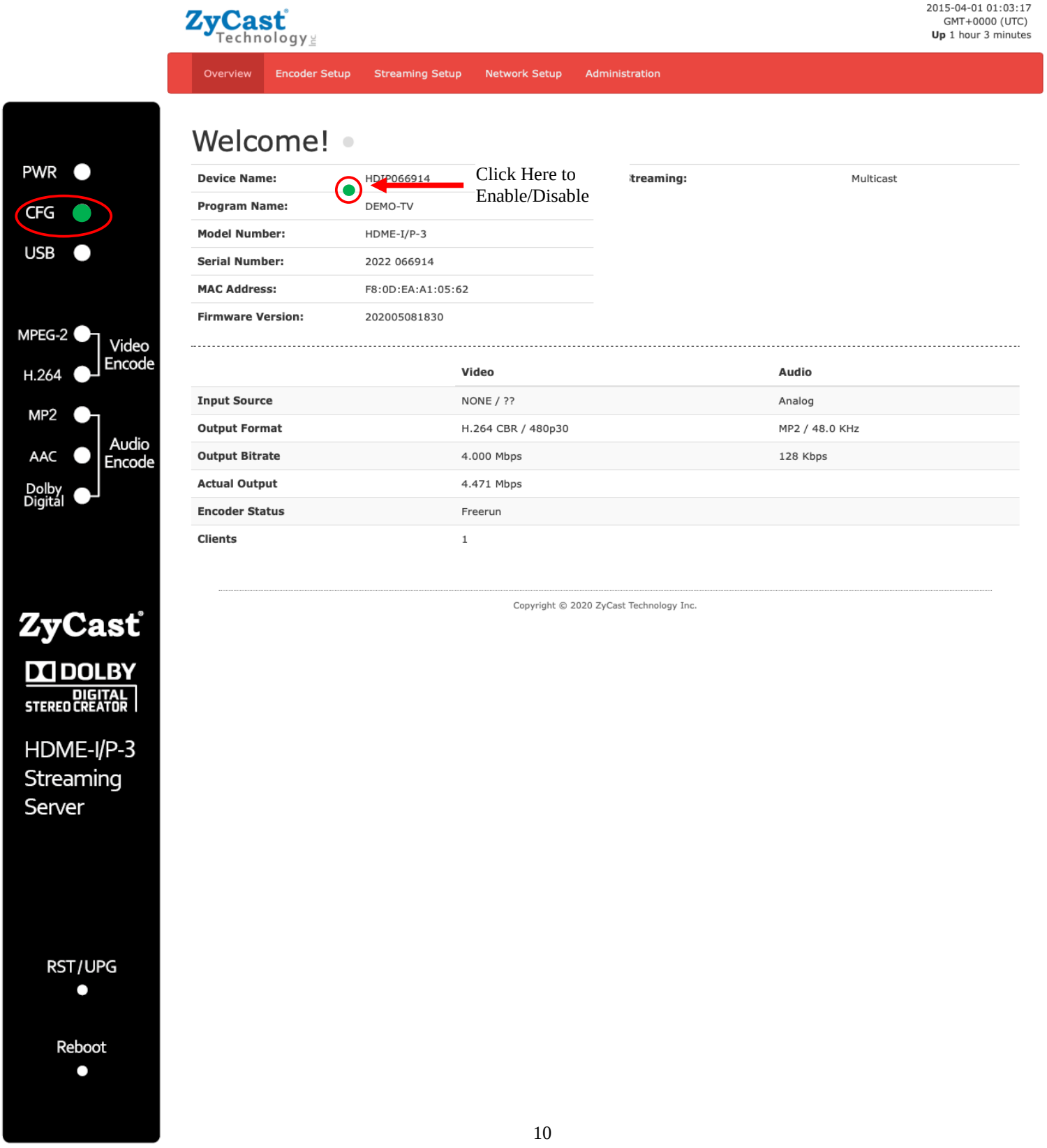
Overview



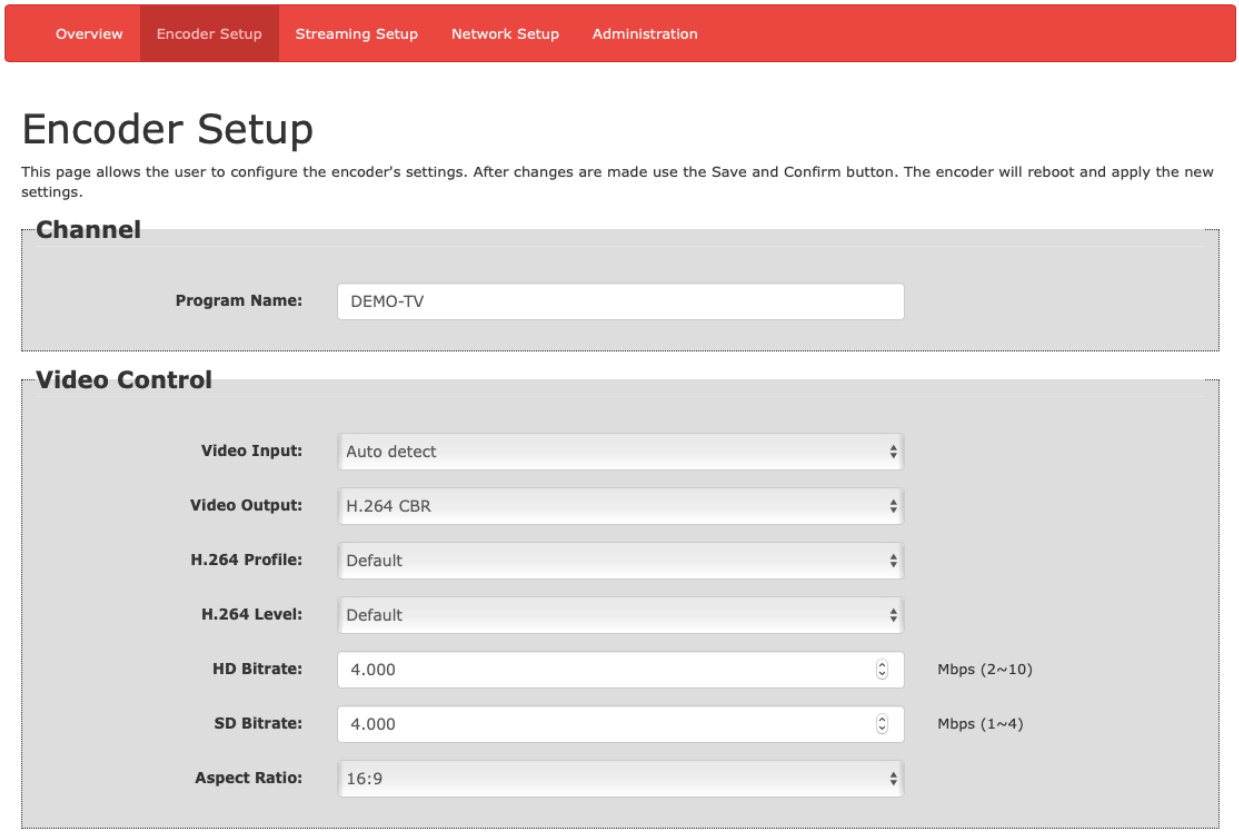
Overview / Welcome page of the HDME-I/P3 displays current status of the encoder including Input type, Output format type, Output Bitrate, Actual Output, Encoder Status, and # of connected Clients.

On the Welcome Screen, we have added a tool to help the installer locate a unit in a rack or headend. Press the LED ON button (shown below). This will cause the CFG LED light to flash continuously for the installer to identify and locate the HDME-I/P-3.

To turn off, simply press the LED tool again.



Encoder Setup



Encoder Settings

Use the Encoder Setup Page to set the parameters for your encoder and application.

Encoder Setup

The HDME-I/P-3 provides the user with a variety of parameter settings. Many of the default settings will allow the user to quickly start streaming video. Select and set the encoder's parameters on the encoder setup page.

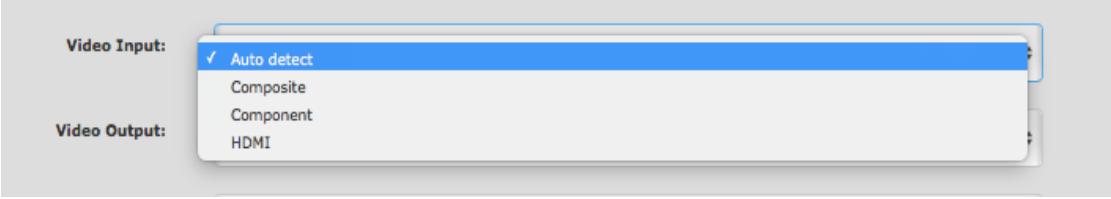
Set Encoder Settings

Channel:
Enter Program Name: Enter a Program Name as required.

Video Control:

Video Input: Select Video Input.

Setting the device to ***Auto Detect*** allows the Encoder to automatically recognize which video source the user is using.

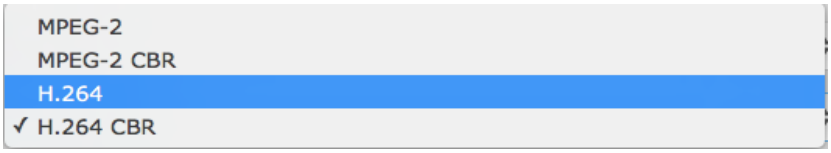


Selecting HDMI, Component, or Composite "locks" the encoder to detect only the input type selected.

Note: We recommend using the Factory default 'Auto Detect.'

Video Output: Select Video Output.

The HDME-I/P-3 outputs High Quality HD/SD video streams in MPEG-2, MPEG-2 CBR, H.264, and H.264 CBR.



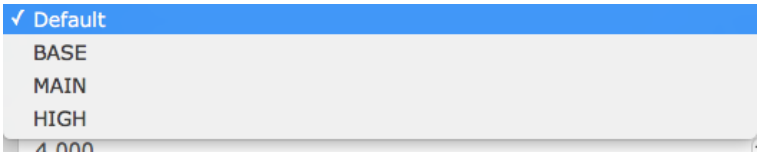
Video Output Format: Factory Default: H.264 CBR

H.264 CBR, H.264, MPEG-2 CBR, MPEG-2

H.264 Profile/Level

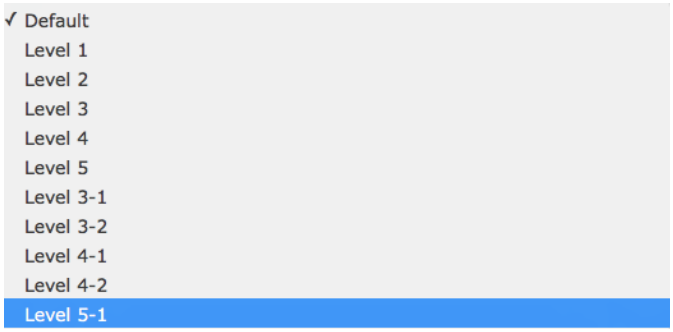
The HDME-I/P-3 offers Profile and Level control if H.264 is the Video Output type.

H.264 Profile: Select H.264 Profile as required. (Factory Default: Default)



H.264 Level: Select H.264 Level as required. (Factory Default: Default)

The HDME-I/P-3 offers the integrator the ability to select a H.264 Level Parameter.

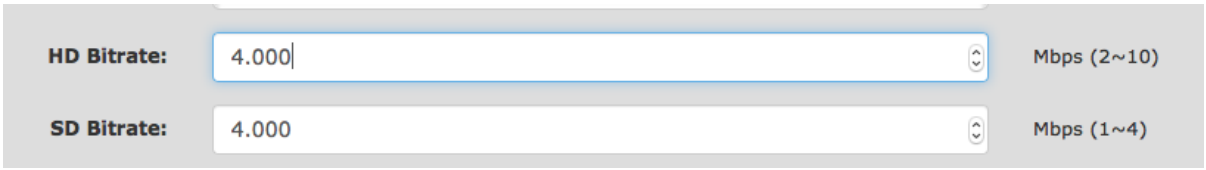


Set Video Bitrate: HD / SD

H.264 Video Bitrates

HD: 2 ~10 Mbps (default- 4 Mbps)

SD: 1 ~ 4 Mbps (default- 4 Mbps)



MPEG-2 Video Bitrates

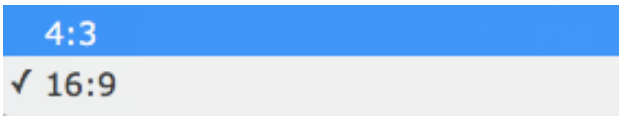
HD: 10~20 Mbps (default- 10 Mbps)

SD: 1~4 Mbps (default- 4 Mbps)

The HDME-I/P-3 allows the user to Set the Video Bitrate desired within the defined parameters offered.

Set Video Bitrate or use the default settings as required.

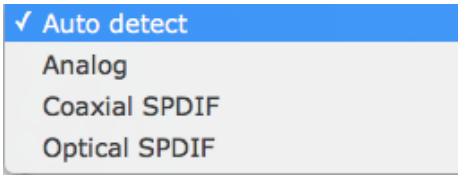
Aspect ratio: Select Aspect ratio



Select :16:9 **(default)** or 4:3

Audio Control

Audio Input: Select Audio Input

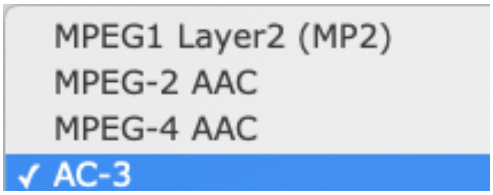


Setting the device to ***Auto Detect*** allows the Encoder to automatically recognize which Audio Input source the user is using.

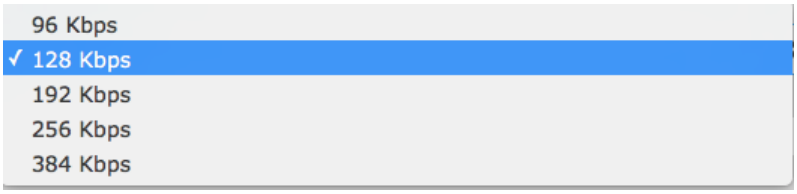
Selecting Analog, Coaxial SPDIF (Digital Coax), or Optical SPDIF (Toslink) “locks” the encoder to detect only this type of Audio Input.

Audio Output: Select Audio Output Type

Use the Drop Down tool to Select the Audio Format required.



Audio Bitrate: Select Audio Bitrate



Use the Drop Down tool to Select the Audio Bitrate required.

Color Control
Modify Brightness/Contrast/Saturation/Hue

Change the above settings as required on the Encoder.

Factory Default: 128

Change the above settings as required on the Encoder.

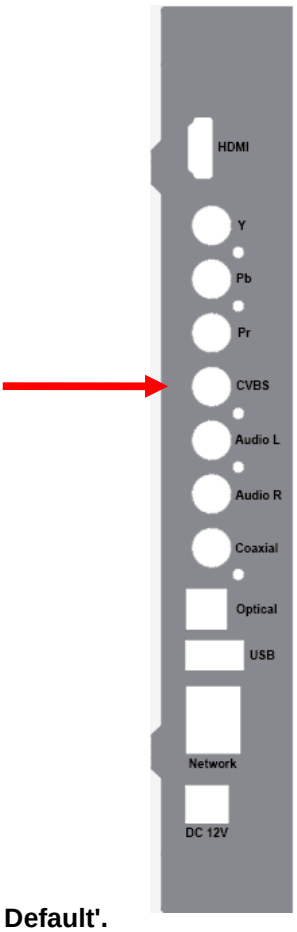
Factory Default: 128

Enable Closed Captioning

Steps to Enable Closed Caption:

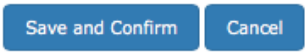
1. Connect Video source to HDMI or YPbPr port.
2. Connect Video with supporting Closed Caption source to CVBS port.
3. *A supporting Closed Caption Player/TV must be used for this function.*

Insert Closed Captioning Support device into the CVBS (Composite) Port



Enable/Disable Closed Caption Functionality by checking the Checkbox as shown above.

Note: *Even with Closed Captioning enabled in the encoder- no closed captioning support will be available unless the Closed Captioning Source is connected.*



'Save and Confirm' *the changes made on the Encoder Page.*

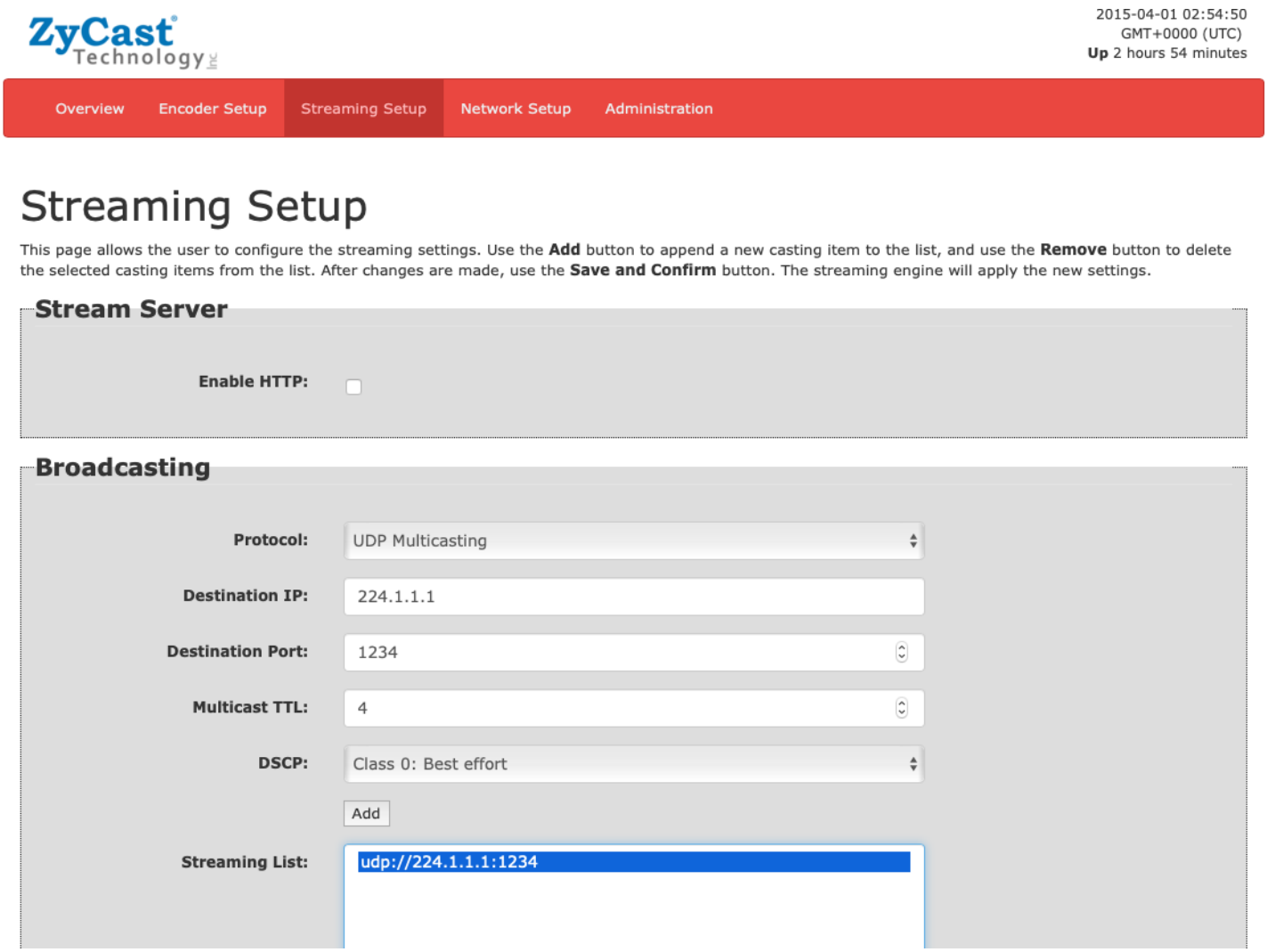
Note: To reset all changes made or saved go to the Administration Page and select '**Reset to Default'.**

After pressing the '**Save and Confirm'** button- the user will be brought back to the Overview page.

Leaving the encoder page without saving changes will cause the previous settings to be used.

SAVE AND CONFIRM ALL CHANGES MADE ON THE ENCODER PAGE

Streaming Setup

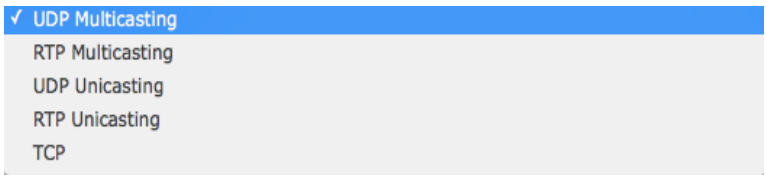


Note: Your HDME-I/P-3 can stream HTTP and Multicast simultaneously if desired.

To Stream via Unicasting- unselect HTTP or Multicast.

Multicasting / Unicasting / TCP Setup:

1. **Select** Stream type from Protocols available.



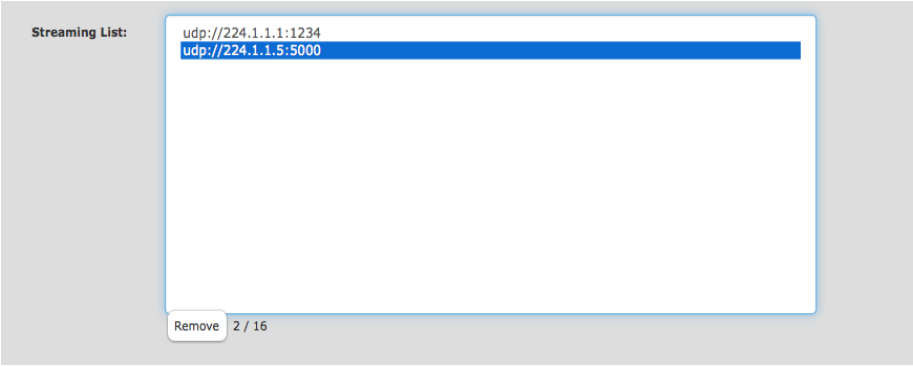
2. Enter Destination IP Address.
3. **Enter** Destination Port.

4. **Enter** TTL value. [Default Multicast TTL: 4]

5. **Select DCSP Class:**
   Use drop down to select / change desired DSCP class.
   Default: Class 0: Best effort

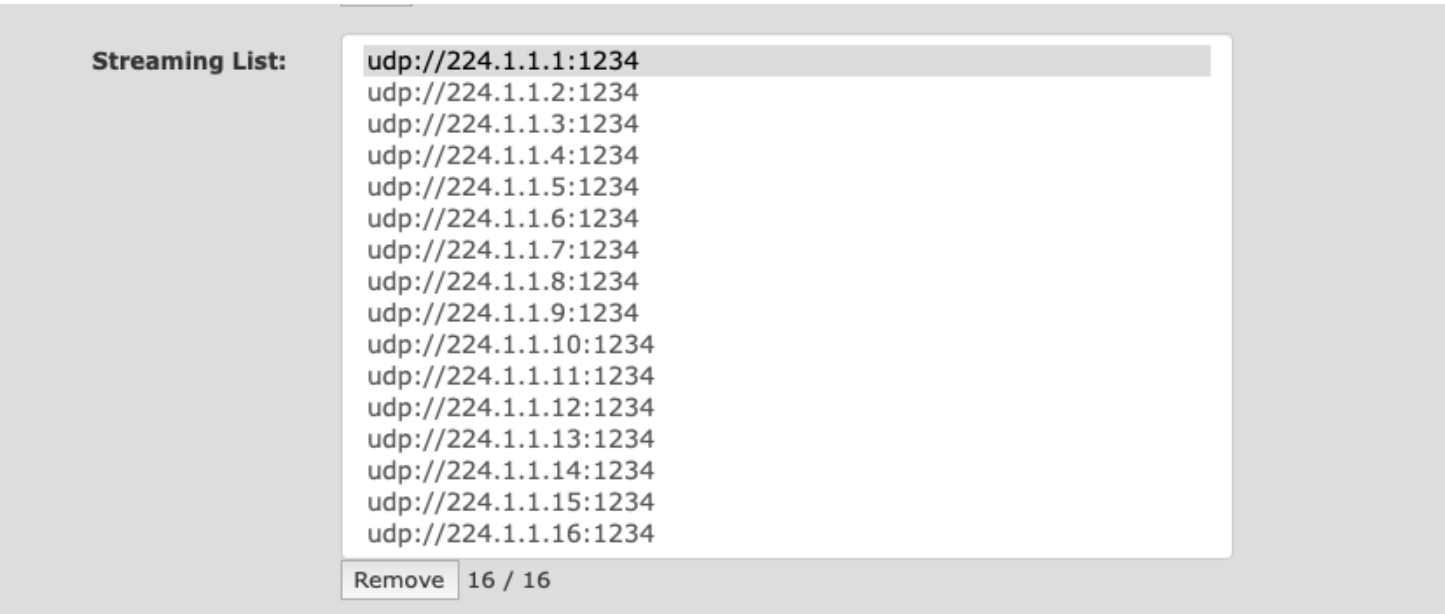
6. **Select** Add.

   Note: Stream Destination IP Address will be added to the Stream Casting list.



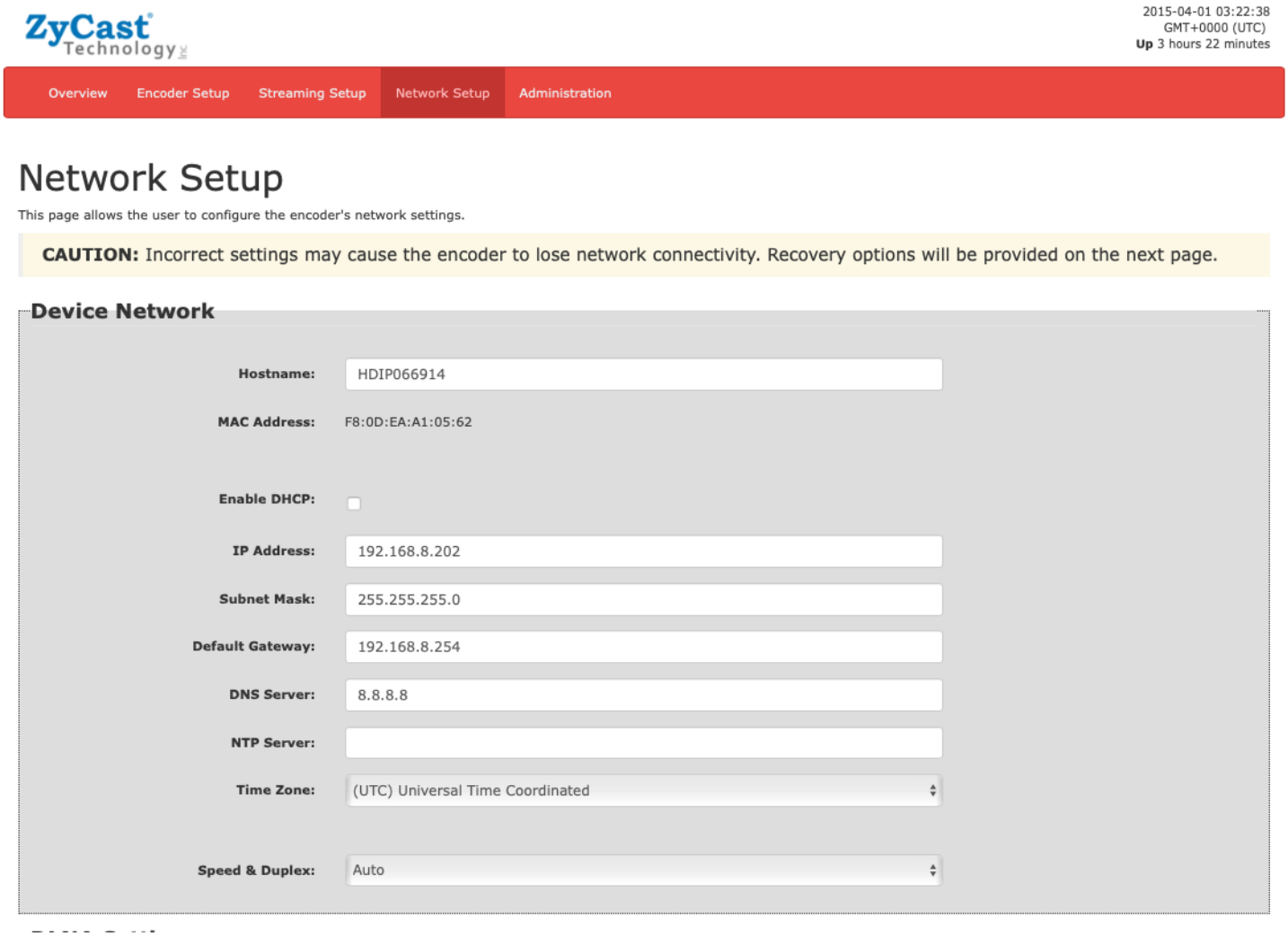
7. **SAVE AND CONFIRM** all changes made on the Streaming Setup page.

8. To remove an IP Address from the Casting list simply select it and **Select** Remove.



Note: The HDME-I/P-3 can have up to 16 different Multicast Addresses.

Network Setup



Host Name

User definable. If required enter a new Host Name.

Setting Static IP

1. To set a Static IP **'Uncheck** *' Enable DHCP'.*
2. Enter IP Address, Subnet Mask, Default Gateway, and DNS Server.

NTP Server

Enter NTP Server address (if required).

Time Zone

Select required Time Zone (if required).

Speed & Duplex

Select using the drop down tool the required Speed/Duplex parameter (if required).

Factory Default: Auto

Speed & Duplex

Select using the drop down tool the required Speed/Duplex parameter (if required).

Factory Default: Auto

DLNA Settings
Device Name

User Definable Name which will be displayed on Welcome Page.

HTTP/SOAP PORT

Modify SOAP Port (if required).

Note: SOAP Port is used as part of the unit's IP address when entering into a browser

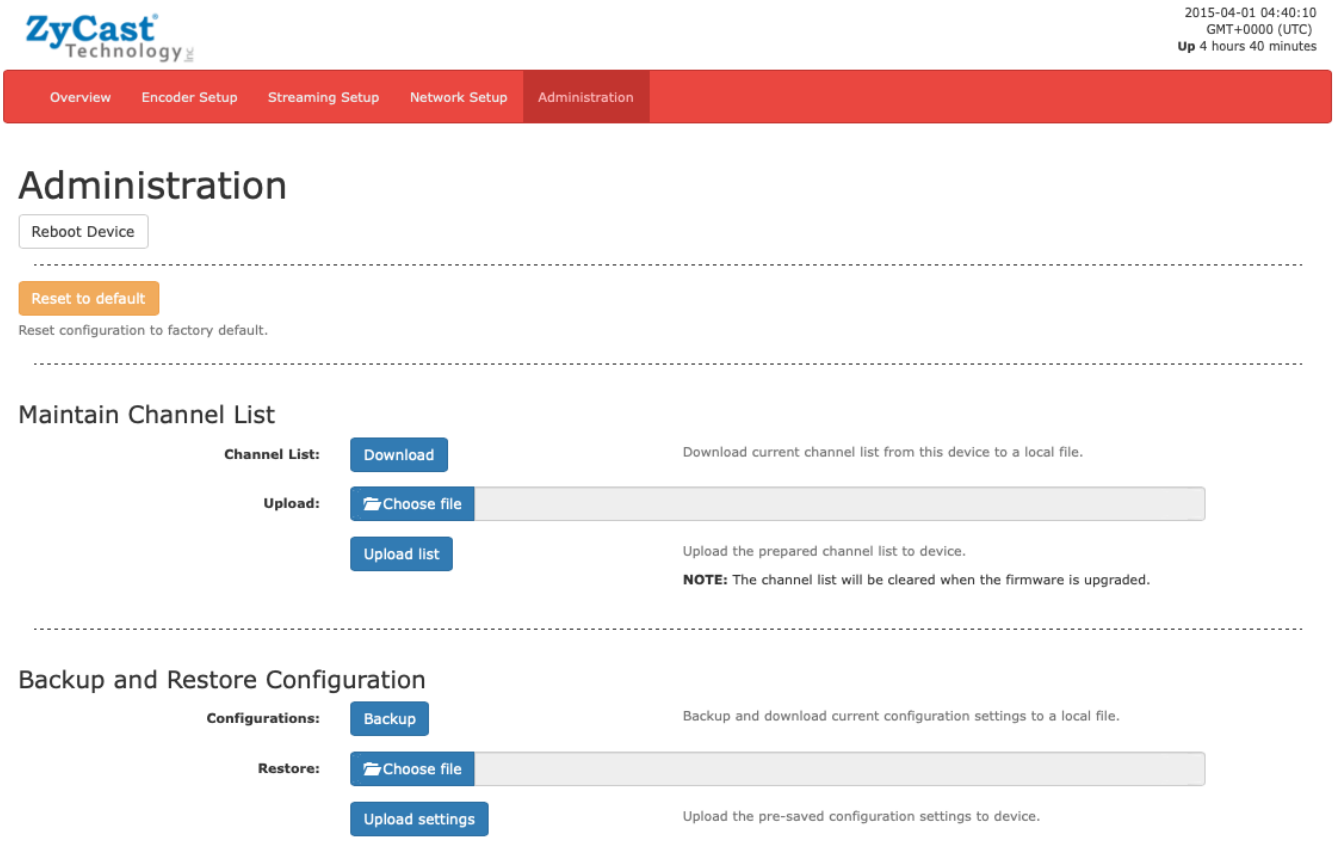
Example: IP_Address_of_Unit:SOAP_PORT or 192.168.1.9:8888

User **MUST** enter PORT ID as part of the IP address to Open GUI of device.

Default SOAP Port: 8888

****** SAVE AND CONFIRM ALL CHANGES MADE ON THE NETWORK SETUP PAGE***

Administration



Use the Administration page to restore factory defaults, reboot the device, make **backup** copies of encoder configuration, perform Firmware upgrades and change password.

Reboot Device
Click the 'Reboot Device ' button to reboot the device from within the GUI.

Note: The Streamer can be rebooted using pressing the 'Reboot' button on the front of the device.

All unsaved changes will be lost.

Reset to Default
Click the 'Reset to Default' button to disregard any parameter changes made to the device.

Note: Device settings will revert to factory default settings.

Maintain Channel List

If using ZyCast RB-601 IPTV Set Top Box- use the Maintain Channel List functions to import and set the Channel List.

Backup and Restore Configuration

Saving your configuration files
We highly recommend you save your encoder configuration files. Simply **Click** the **"Backup"** button and the config files will be saved to your computer.

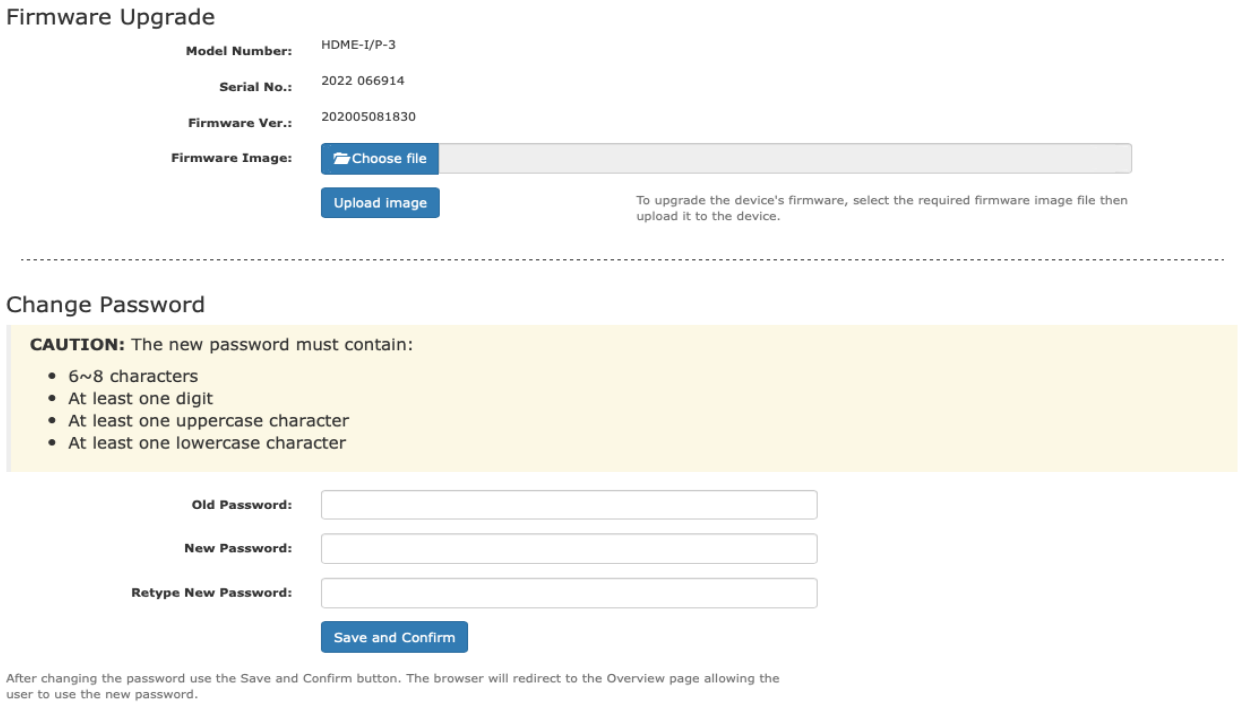
A “**config.cfg”** file will be created. Locate the file My Computer> C Directory > Documents and Settings> User>My Documents>Downloads>configs.cfg.

Backup:
We highly recommend saving your device’s setting.

1. Select Administration tab.
2. Select backup from the menu.
3. Locate and name file for future use.

Restore:

1. Select Administration tab.
2. Select “Choose file” menu.
3. Locate the required file to be imported.
4. Select “Upload settings” to import the selected file into the device.
   Note: backup can be imported to assist in setting up new or multiple devices onsite. Remember to save and backup any and all changes.



Use the Firmware upgrade function to import new FW versions.

1. Select Administration tab.
2. Select “Choose file” menu.
3. Locate the required image file to be imported.
4. Select “Upload image” to import the selected file into the device.

Change Password:
Use the Change Password section to change or modify the device’s password as desired.
Remember to **Click** *'Save and Confirm*' button to save new password.

Private Address Ranges, IPv4

Private IPv4 addresses are addresses set aside by the IANA (Internet Assigned Numbers Authority) for use within networks that will not directly communicate or not be seen by the internet. These private addresses cannot be used on the Internet or be used to communicate with the Internet. ISP's filter out and delete packets using private IP addresses. Any organization that uses private IP addresses on devices that communicate with the internet must use a device that performs Network Address Translation.

Anyone can use private addresses and they are not required to seek permission to use them. Again, networks using private IP addresses cannot communicate directly with the internet.

There are three blocks of addresses that are set aside by IANA for use in private internet and are not publicly routable on the global internet:

Private Class A Range: 10.0.0.0 - 10.255.255.255

Private Class B Range: 172.16.0.0 - 172.31.255.255

Private Class C Range: 192.168.0.0 - 192.168.255.255

It is important to note that only *some* of the 172.xx.xx.xx and the 192.xx.xx.xx address ranges are designated for private use. The remaining addresses are public and can be routable via the global Internet.

More information regarding private addresses can be found at http://www.iana.org and https://www.arin.net.

For More information on ZyCast products visit: **www.zycasttech.com**

HDME-I/P-3 Streaming Server Notes

PRODUCT NOTES:

ITEM	VALUE
USER NAME / PASSWORD	
SERIAL NUMBER	
INSTALLATION DATE	
PURCHASE DATE	
DEVICE NAME	
FIRMWARE VERSION	
STREAMING METHOD	