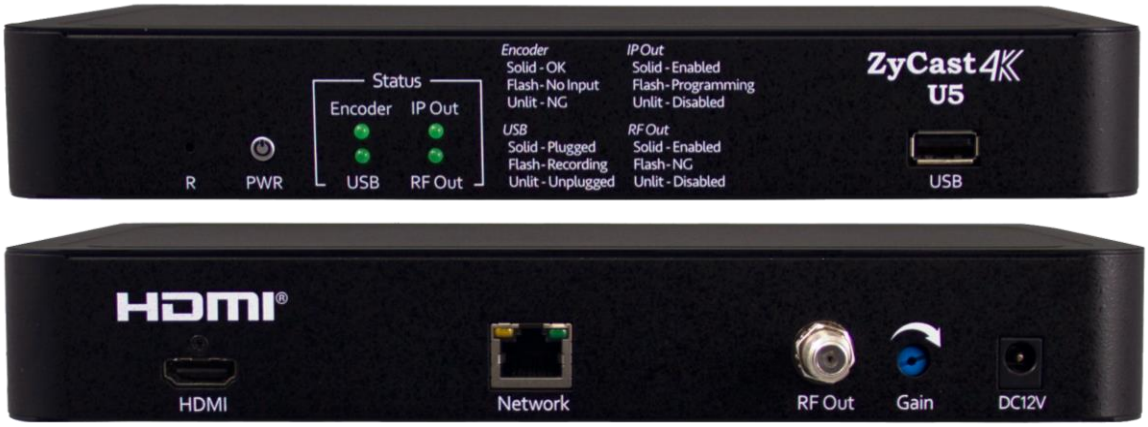
# Guide and User Manual

## U5

## Ultra HD Encoder

## With Simultaneous RF and IP Out





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## 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 power supply. The use of any other power supply could cause damage and invalidate the manufacturer's warranty.
- DO NOT connect the adapter to the device if the adapter is damaged.
- DO NOT cut the adapter wire.
- DO NOT plug the adapter into an AC outlet 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 dusts 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 to an AC outlet.

## Package Contents

This package contains:

- One U5
- One 12V 1.5A Power Adapter
- One Rack Mount Ear Kit (2 pcs)
- One Guide and User Manual

## 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/loose connectors, contact your distributor immediately. Do not put the equipment into service if there is any indication of defect or damage.

## 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**.

## Introduction to U5

**ZyCast**'s Single Channel U5 HEVC Encoder, a cutting-edge broadcasting solution that combines versatility, efficiency, and ultra high-definition video encoding. Designed to meet the demands of modern broadcasters and content creators, this encoder is engineered to deliver exceptional performance and flexibility.

With the ZyCast Single Channel U5 HEVC Encoder, you can effortlessly encode video content into the RF standard of your choice (DVB-C, DVB-T, J.83B, ISDB-Tb, DVB-T2*). Whether you require RF output or prefer the convenience of an IP video stream, this encoder has you covered.

Equipped with state-of-the-art HEVC (High-Efficiency Video Coding) technology, the ZyCast U5 encoder maximizes video compression efficiency, reducing bandwidth requirements without compromising on visual quality. This advanced encoding capability allows for the delivery of stunning, high-resolution content up to 4096 x 2160 pixels, ensuring an immersive viewing experience for your audience.

Thanks to its simultaneous RF and IP output capabilities, this encoder offers exceptional flexibility in content distribution. Whether you need to broadcast content over traditional RF networks or deliver content over IP-based platforms (UDP/RTP Multicast/Unicast, RTSP, SRT.)

In summary, the ZyCast Single Channel U5 HEVC Encoder combines the power of HEVC encoding, multiple standard RF output, and simultaneous IP streaming in resolutions up to 4096 x 2160 pixels. This encoder is the ideal solution for broadcasters and content creators seeking to deliver exceptional video content across various platforms. Upgrade your broadcasting capabilities with the ZyCast U5 encoder and unlock a world of possibilities.

Features

- ✓ Video Resolution Up To 4096 x 2160p60
- ✓ HDMI 2.0 & HDCP 2.2 Compliant
- ✓ Video Codec: HEVC (H.265) and AVC (H.264)
- ✓ Audio Codec: MP2, AAC, AC3
- ✓ HEVC (H.265) Profile: Main 4:2:0 8Bit
- ✓ RF Out Standards: DVB-T, ATSC, QAM-B (J.83), ISDB-Tb, DVB-C, DVB-T2*
- ✓ Supports Multicast/Unicast, RTSP, and SRT Streaming Protocol
- ✓ Friendly and Powerful Web User Interface Saves Your Setup Time (English and Spanish)
- ✓ Allows for Stream Recoding Using External USB Drive

*DVB-T2 Requires Additional Firmware License

Specifications

| **Video / Audio Input** | |
|---|---|
| HDMI 2.0 | Single Connector |
| Loopthrough | To Be Developed |
| HDCP Compliance | 2.2 |
| **Encoding Profile** | |
| Input Resolution | 4096 x 2160p / 3840 x 2160p<br>1920 x 1080p / 1280 x 720p<br>720 x 576p / 720 x 480p |
| Encode Resolution | Same as Input |
| HEVC(H.265) Tiers and Levels | 4096 x 2160p, Main Profile / Level 5.1<br>3840 x 2160p, Main Profile / Level 5.1<br>1920 x 1080p, Main Profile / Level 5.1<br>1280 x 720p, Main Profile / Level 5.1<br>720 x 576p, Main Profile / Level 5.1<br>720 x 480p, Main Profile / Level 5.1 |
| HEVC(H.265) Profile | Main ; 4:2:0 ; 8bit |
| H.264 Encoding | 4096 x 2160p High Profile / Level 4<br>3840 x 2160p High Profile / Level 4<br>1920 x 1080p High Profile / Level 4<br>1280 x 720p High Profile / Level 4<br>720 x 576p High Profile / Level 4<br>720 x 480p High Profile / Level 4 |
| Encode Bitrate | 1Mbps to 30Mbps |
| Rate Control | VBR, CBR |
| Audio Codecs | MPEG-1 Layer II /<br>MPEG-4 AAC-LC in ADTS / AC-3 |
| Sampling Rate | 44.1 and 48KHz |

| **Recording (Simultaneous Streaming & Recording)** | |
|---|---|
| Recording | USB 2.0 (MPEG-TS)<br>FTP Upload (To Be Developed) |
| **IP Output** | |
| Connector | RJ-45 x 1 |
| Standard | 1000Base-T Ethernet, Full Duplex |
| Streaming Protocol | HLS (TS) / RTSP / SRT<br>UDP Unicast, Multicast<br>RTP Unicast, Multicast |
| **General** | |
| Local Monitoring | 4 Indicator LEDs |
| GUI Supported | Firefox, Chrome and Edge |
| Password Protected | GUI: Changeable |
| Power Supply | 12VDC 1.5Amp. |
| Consumption | 0.75A ; 9W Typical |
| Dimension | Housing: 236mm x 145mm x 35mm |
| Language | English ; Spanish |

| **RF Output** | | |
|---|---|---|
| Connector | 1 x “F” Female | |
| Output Level | 35 dBmV | |
| Output Impedance | 75 ohm | |
| Level Adjustment | 0 to 20 dB | |
| Carrier Suppression | 55 dB | |
| Output Return Loss | 10 dB Typical | |
| MER | 40 dB Typical | |
| **Modulation Standard** | **(I) J.83 Annex B** | **(II) ATSC-8VSB** |
| RF Mode | Normal / Inverted | |
| Channel Type | STD / HRC / IRC | ATSC-8VSB |
| Frequency Range (Standard Mode) | 57 MHz to 861 MHz<br>(Ch 2 to Ch 135) | 57 MHz to 803 MHz<br>(Ch 2 to Ch 69) |
| Interleaver | I=128, J=1 | - |
| Constellation and Max Output Bitrate | 64-QAM (26.970Mbps)<br>256-QAM (38.810Mbps) | 8VSB (19.393Mbps) |
| VCN | Auto (Major & Minor) / Manual (Major & Minor) / Manual (One Part) | Auto (Major & Minor)<br>Manual (Major & Minor) |
| **Modulation Standard** | **(III) DVB-T** | **(IV) ISDB-Tb** |
| RF Mode | Normal / Inverted | |
| Frequency Range (Under 6MHz) | 57 MHz to 803 MHz<br>(Ch 2 to Ch 69) | 177.143 MHz to 803.143 MHz<br>(Ch 7 to Ch 69) |
| Constellation and Max Output Bitrate | 16-QAM (15.834Mbps)<br>64-QAM (23.751Mbps) | 16-QAM (15.490Mbps)<br>64-QAM (23.235Mbps) |
| FEC | 1/2, 2/3, 3/4, 5/6, 7/8 | 1/2, 2/3, 3/4, 5/6, 7/8 |
| LCN Mode (Default) | Colombia | Brazil |
| OFDM Mode | 2k, 8k | 2k, 4k, 8k |
| Guard Interval | 1/32, 1/16, 1/8, 1/4 | |
| **Modulation Standard** | **(V) DVB-C** | **(VI) DVB-T2*** |
| RF Mode | Normal / Inverted | |
| Frequency Range (Under 8MHz) | 50.500 MHz to 858.000 MHz<br>(Ch E2 to Ch E69) | 50.500 MHz to 858.000 MHz<br>(Ch E2 to Ch E69) |
| Constellation and Max Output Bitrate | 16-QAM (25.656Mbps)<br>32-QAM (32.071Mbps)<br>64-QAM (38.485Mbps)<br>128-QAM (44.899Mbps)<br>256-QAM (51.313Mbps) | PLP Constellation<br>QPSK / 16-QAM / 64-QAM / 256-QAM<br>(Up to 46.590Mbps) |
| Guard Interval | - | 1/32, 1/16, 1/8, 1/4, 1/128, 19/128, 19/256 |
| FFT Mode | - | 1k, 2k, 4k, 8k, 16k |

***DVB-T2 Requires Additional Firmware License***

**Specifications Subject to Change Without Notice**

## Hardware Installation

1. It Is Highly Recommended that Quality Cables and Connectors Be Used for All Video Source Connections
2. Connect Video Source Input

   **Note: HDMI 2.0 able is required for 4K encoding. Cable not provided with this device.**
3. Connect Ethernet Cable and/or Coaxial Cable as Desired
4. Plug Power Adapter into a Properly Rated Surge Protector
5. Apply Power to the Unit

## Device Setup and Programming

### Connecting to the GUI Interface

1. Connect an Ethernet Cable Directly to Network Port on the Rear of the Device 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 192.168.1.100
3. Enter Default IP for U5 into Your Web Browser (Suggested Browser: Firefox, Chrome, Edge)

Factory Default IP Address: 192.168.1.9

### GUI Login

After connecting the device to the GUI interface (please see descriptions above)

1. To Login: Enter User Name/Password

Default Login Info

| User Name | Password |
|---|---|
| admin | Admin123 |

**Note:** To modify the system password, go to the [**Administration]** page of GUI.

## Indicators and Button Control

Front LED Indicators

| 1. Power LED | |
|---|---|
| Solid Green | Unit On |
| Unlit | Unit Off |

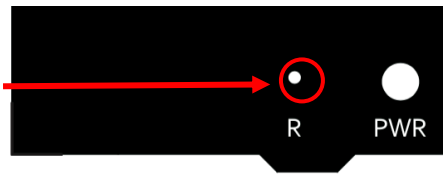
| 2. Status LED | | |
|---|---|---|
| ***Encoder Status*** | Solid | OK |
| | Flashing | No Input |
| | Unlit | Error |
| ***IP Output Status*** | Solid | Enabled |
| | Flashing | Programming |
| | Unlit | Disabled |
| ***RF Output Status*** | Solid | Enabled |
| | Flashing | Error |
| | Unlit | Disabled |
| ***USB Status (For Recording)*** | Solid | USB Plugged In |
| | Flashing | Recording |
| | Unlit | No USB Attached |

Reset Button Control (IP Reset and All Configuration Reset)

1. To Reset ***IP Address*** to Default Value

   **Press and Hold** reset button for 3 seconds on the front housing while the unit is powered on.

   Reset Button

   **Release** the button until power LED starts flashing in BLUE.

   Unit IP address will Revert Back to Default IP: 192.168.1.9

   Unit Login Data will Revert Back to Factory Default

   Name: admin / Password: Admin123

   **Note:** No Other Changes Will Be Made to the Configurations.

2. To Reset ***All Settings*** to Default Value

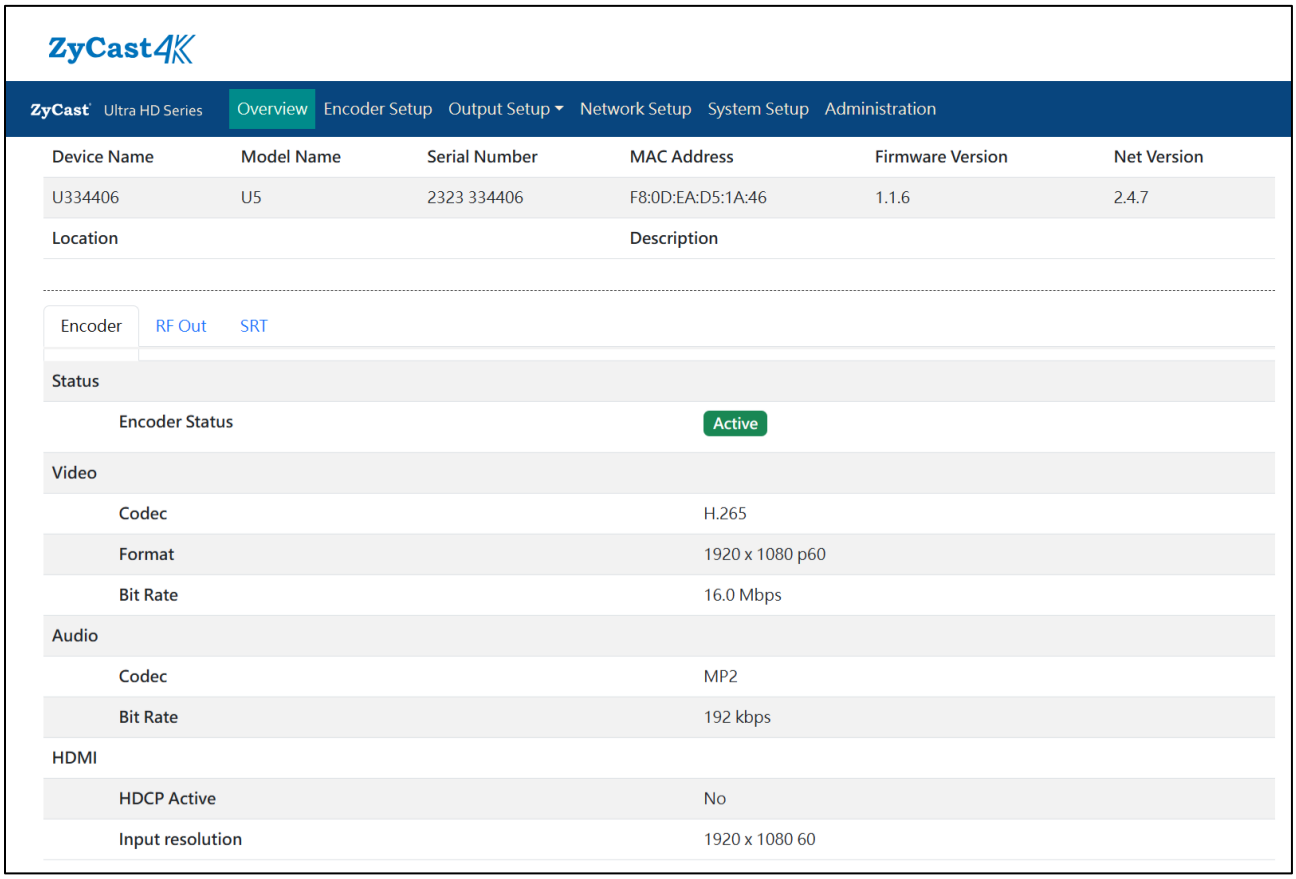
   **Press and Hold** reset button for 10 seconds on the front housing while the unit is powered on.

   **Release** the button until power LED starts flashing in PINK.

**Note: If user press the reset button for less than 3 seconds and then release it, no settings will be changed in the encoders, and power LED will remain the same status while reset button is pressed.**

## Overview Page

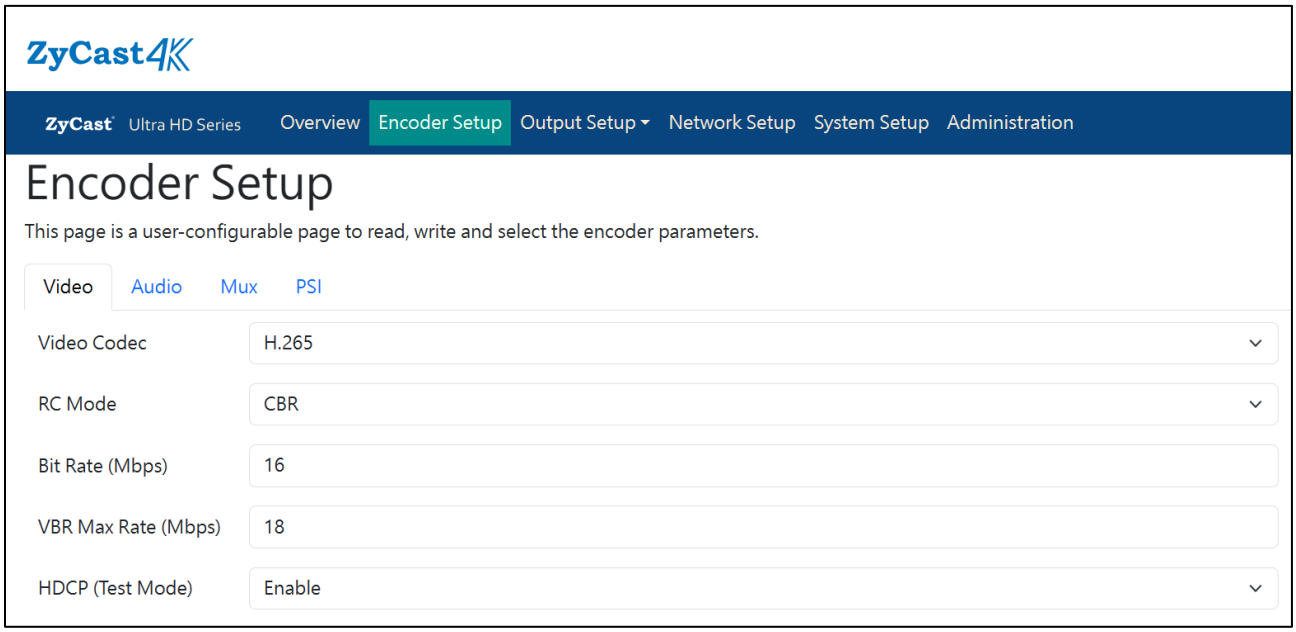
**[Overview]** page provides an overall system status of the U5. Users can navigate this page for quick information including encoder status, RF out, SRT streaming status (if enabled)…etc.




**Note: To view GUI in Spanish, use the dropdown menu to select Spanish at the bottom of the GUI.**

## Encoder Setup Page

Use the **[Encoder Setup]** page to adjust the encoder parameters as required in the system. There are 4 Tabs: Video, Audio, Mux, and PSI.




### Video Setting

Users can setup video encoding parameters in this section.

| Encoder Setting | Default | Settings Available |
|---|---|---|
| Video Codec | H.265 | H.265 \| H.264 |
| RC Mode* | VBR | CBR \| VBR |
| Bit Rate (Mbps) | 16 | H.265: 1~30 Mbps<br>H.264: 1~30 Mbps |
| VBR Max Bit Rate (kbps) | 18 | H.265: 2~40 Mbps<br>H.264: 2~40 Mbps |
| HDCP (Test Mode) | Disable | Disable \| Enable |

***RC Mode - Rate Control Mode of the video encoding, constant bit rate or variable bit rate.**

### Audio Setting

Users can setup audio encoding parameters in this section.

| Audio Setting | Default | Settings Available |
|---|---|---|
| Audio Output | AC-3 | MP2 \| AAC \| AC-3 |
| Audio Bit Rate | 192 Kbps | 64 \| 96 \| 128 \| 192 \| 256 \| 384 Kbps |

## Mux Setting

Users can setup additional encoder parameters in this section.

| Mux Setting | Default | Settings Available |
|---|---|---|
| TSID* | 1 | 0~65535 |
| SID* | 1 | 0~65534 |
| PMT PID | 1001 | 32~4999, 5004~7936 |
| Video PID | 1002 | 32~3840 |
| PCR PID | 1002 | Assigned by Device |
| Audio PID | 1003 | Assigned by Device |
| System** | DVB | ATSC \| DVB |

*** Incrementally change TSID and SID if more than 1 unit is in the same system.**

** Select ATSC for ATSC and J.83B Standards

** Select DVB for DVB-T, DVB-C and ISDB-Tb Standards

## PSI (Program Specific Information) Setting

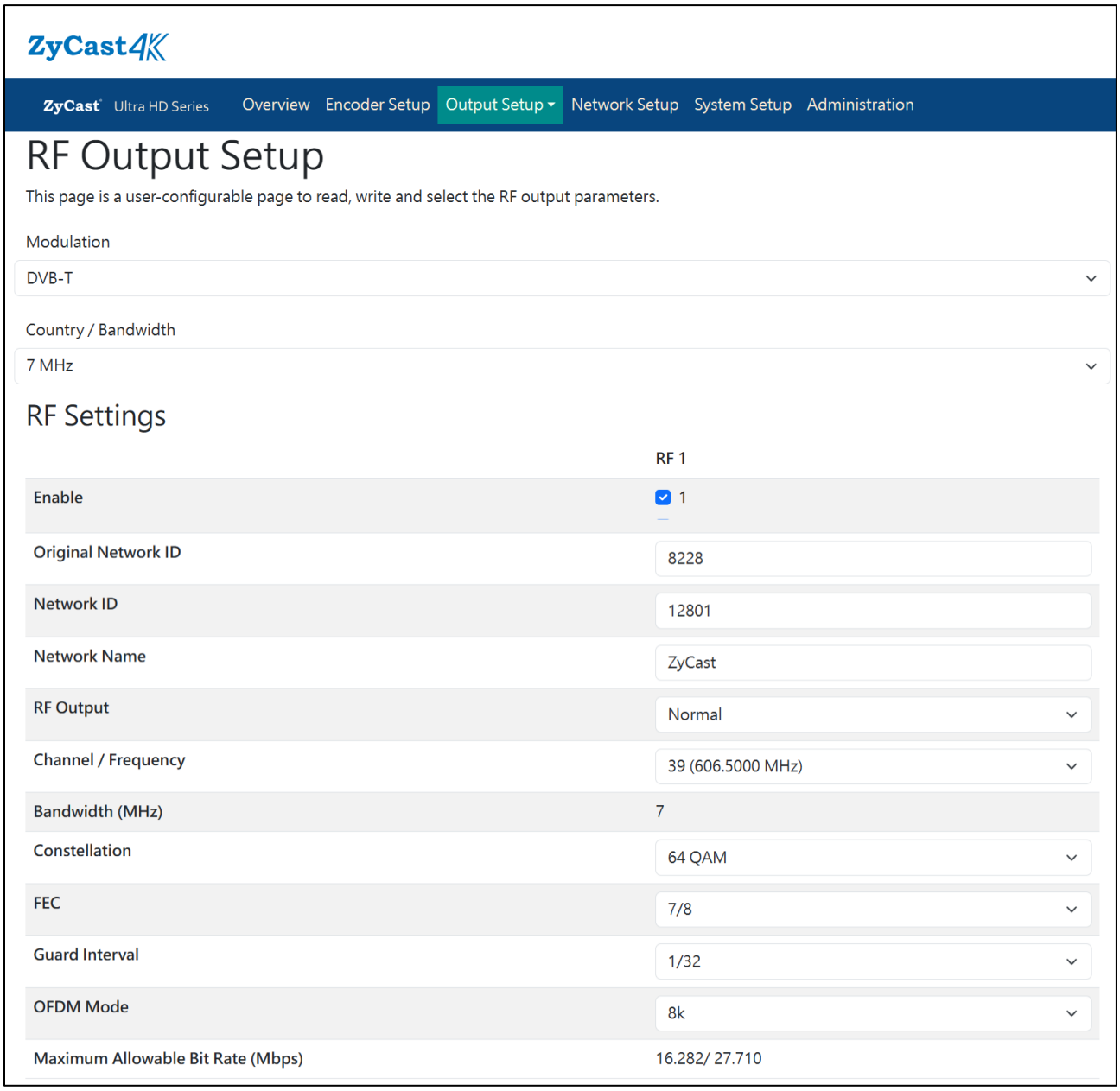
Users can setup program information in this section.

| PSI Setting | Default | Settings Available |
|---|---|---|
| LCN (Channel Number) | 101 | 1~999 |
| LCN Mode | AU | EACAM \| ITC \| NorDig \| APN \| NZ \| AU \| Colombia |
| Channel Name | CHANNEL-1 | Assigned by User |
| Provider Name | ZyCast | Assigned by User |

**Note: Save and Confirm all changes made to the Encoder Setup Page. Leaving without saving the set parameters will cause the device to revert to the last saved settings.**

## Output Setup – RF Out Page

Use the **[RF Output Setup]** page to set the RF output parameters.




The U5 encoder offers the integrator the ability to select from a variety of multiple standards: DVB-T, DVB-C, ISDB-Tb, ATSC, J.83B (QAM-B). If users wish to use DVB-T2, please contact your distributor for FW license. Below illustrates the parameters for DVB-T. If you require instructions for other standards, please contact your distributor.

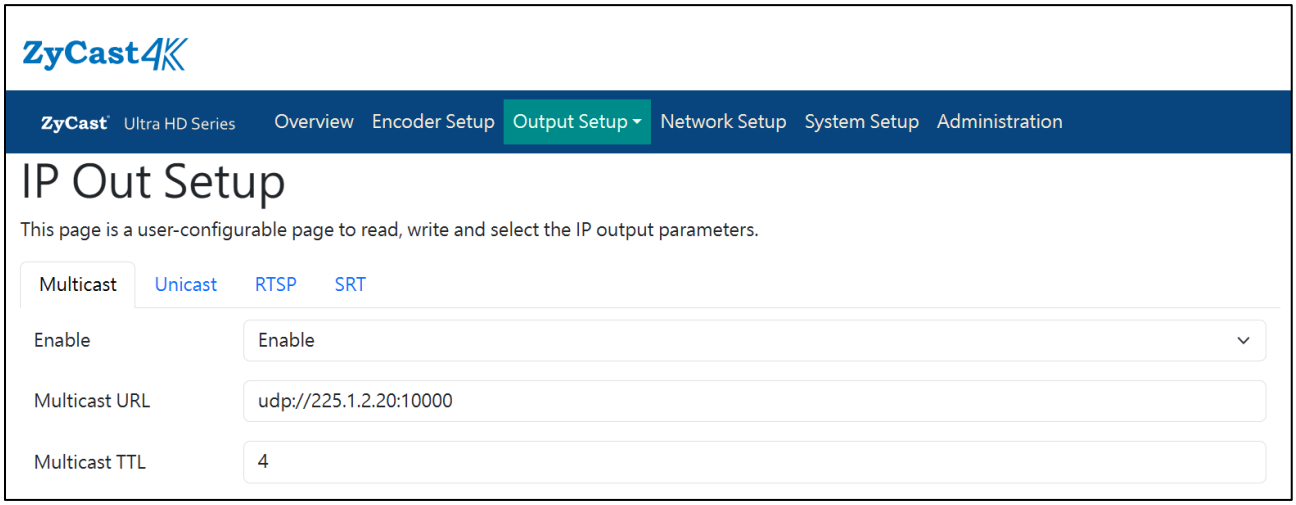
### DVB-T RF Out Setting

1. **Select** Modulation Standard and Bandwidth
2. **Enable** RF Output by Checking the Checkboxes
3. **Modify** Original Network ID and Network ID if Needed (Device assigns the value according to bandwidth chosen.)
4. **Modify** Network Name as Desired
5. **Select** Output Mode: Normal or Inverted
6. **Select** Output Frequency

7. **Select** Output Constellation: 16QAM or 64QAM
8. **Select** FEC: 7/8 or 5/6 or 3/4 or 2/3 or 1/2
9. **Select** Guard Interval: 1/4 or 1/8 or 1/16 or 1/32
10. **Select** OFDM Mode: 8K or 2K
11. **Save and Confirm** All Changes Made

### Output Setup – IP Out Page

Use the **[IP Output Setup]** page to set the IP output destinations.




#### Multicast Streaming

1. **Enable** Multicast Streaming
2. **Enter** Multicast Streaming Destination and Port Number

   Examples:

   rtp://IP_address:Port_Number rtp://224.1.1.1:10000

   udp://IP_address:Port_Number udp://224.1.1.10:50001
3. **Enter** TTL (Time to Live) Value
4. **Save and Confirm** All Changes Made

#### Unicast Streaming

1. **Enable** Unicast Streaming(s) as Needed
2. **Enter** Unicast Streaming Destination and Port Number

   Examples:

   rtp://IP_address:Port_Number rtp://192.168.100.201:5000

   udp://IP_address:Port_Number udp://192.168.100.202:6000
3. **Save and Confirm** All Changes Made

**Note:** Users can stream up to 5 unicast streams at one time.

## RTSP Streaming

1. **Enable** RTSP Streaming. The device automatically assigns the output destination based on its IP Address.

   **Note: Multicast RTSP is only available when there is a RTP multicasting streaming output.**

2. **Copy** URL of RTSP Stream.
3. **Save and Confirm** All Changes Made

## SRT Streaming

The U5 is capable of SRT streaming. SRT (Secure Reliable Transport) is an open-source transport protocol created by Haivision. It allows for video streaming over the public internet without any intermediary device. It is used around the world to transport video over the internet.

Below is a step by step set up for 3 modes of SRT: Listener Mode / Caller Mode / Rendezvous Mode.

**Note:** The device requires accurate time stamping for SRT functionality. Please go to **[Network Setup]** page to connect the device to Internet, and go to **[System Setup]** page to set up NTP server under Time Tab.

Listener Mode

1. **Enable** SRT Streaming
2. **Select** Listener Mode
3. **Set** Listen Port:

   Public Port the Firewall Opens at Listener Device Side

   Note: Caller Port is Not Needed Under Listener Mode
4. **Set** Latency(ms) as Desired
5. **Set** Bandwidth(%) as Desired
6. **Enter** Passphrase for Stream Security (Optional)
7. **Save and Confirm** All Changes Made

**Note 1:** Listener Mode requires access to on-premises routers/NAT to ensure listen port is allowed.

**Note 2:** Listener Mode requires a “Caller” device on the Internet/network to establish connection.

**Note 3:** It is suggested NOT to use port from 0~1024 to avoid conflict with assigned ports for TCP and UDP protocols on Internet.

Caller Mode

1. **Enable** SRT Streaming
2. **Select** Caller Mode
3. **Enter** IP Address:

   Public IP Address for the Firewall at Listener Device Side
4. **Set** Listen Port:

   Public Port the Firewall Opens at Listener Device Side
5. **Set** Caller Port:

   Public Port the Firewall Opens at Caller Device Side
6. **Set** Latency(ms) as Desired
7. **Set** Bandwidth(%) as Desired
8. **Enter** Passphrase for Stream Security (Optional)
9. **Save and Confirm** All Changes Made

**Note 1:** Caller Mode requires access to on-premises routers/NAT to ensure caller port is allowed.

**Note 2:** Caller Mode requires a "Listener" device on the Internet/network to establish connection.

**Note 3:** It is suggested NOT to use port from 0~1024 to avoid conflict with assigned ports for TCP and UDP protocols on Internet.

Rendezvous Mode

1. **Enable** SRT Streaming
2. **Select** Rendezvous Mode
3. **Enter** IP Address:

   Public IP Address for the Firewall at the Other Rendezvous Device Side
4. **Set** Listen Port and Caller Port**:**

   Under Rendezvous Mode, Use Same Port Number for the 2 Rendezvous Devices
5. **Set** Latency(ms) as Desired
6. **Set** Bandwidth(%) as Desired
7. **Enter** Passphrase for Stream Security (Optional)
8. **Save and Confirm** All Changes Made

**Note 1:** Rendezvous Mode does not require any NAT configuration on the local routers.

**Note 2:** Rendezvous Mode requires a "Rendezvous" device on the Internet/network to establish connection.

**Note 3:** It is suggested NOT to use port from 0~1024 to avoid conflict with assigned ports for TCP and UDP protocols on Internet.

**Note: Save and Confirm all changes made to the Streaming Setup Page. Leaving without saving the set parameters will cause the device to revert to the last saved settings.**

Streaming Capability: 5 Streams Simultaneously (Video at 30 Mbps)

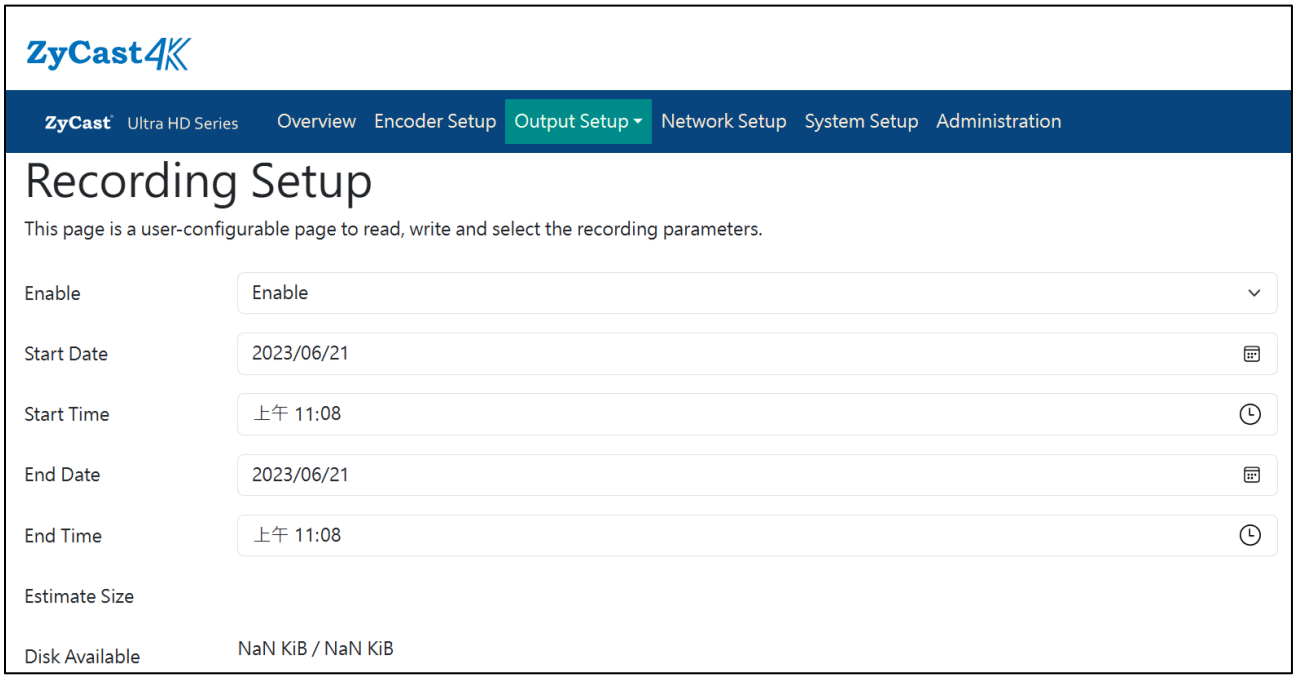
The U5 was designed to output multiple streams at one time:

1 x Multicast Stream (UDP, RTP, RTSP)

4 x Unicast Stream (UDP, RTP, RTSP, SRT)

## Output Setup – Recording Page

Use the **[Recording Setup]** page to configure recording parameters.

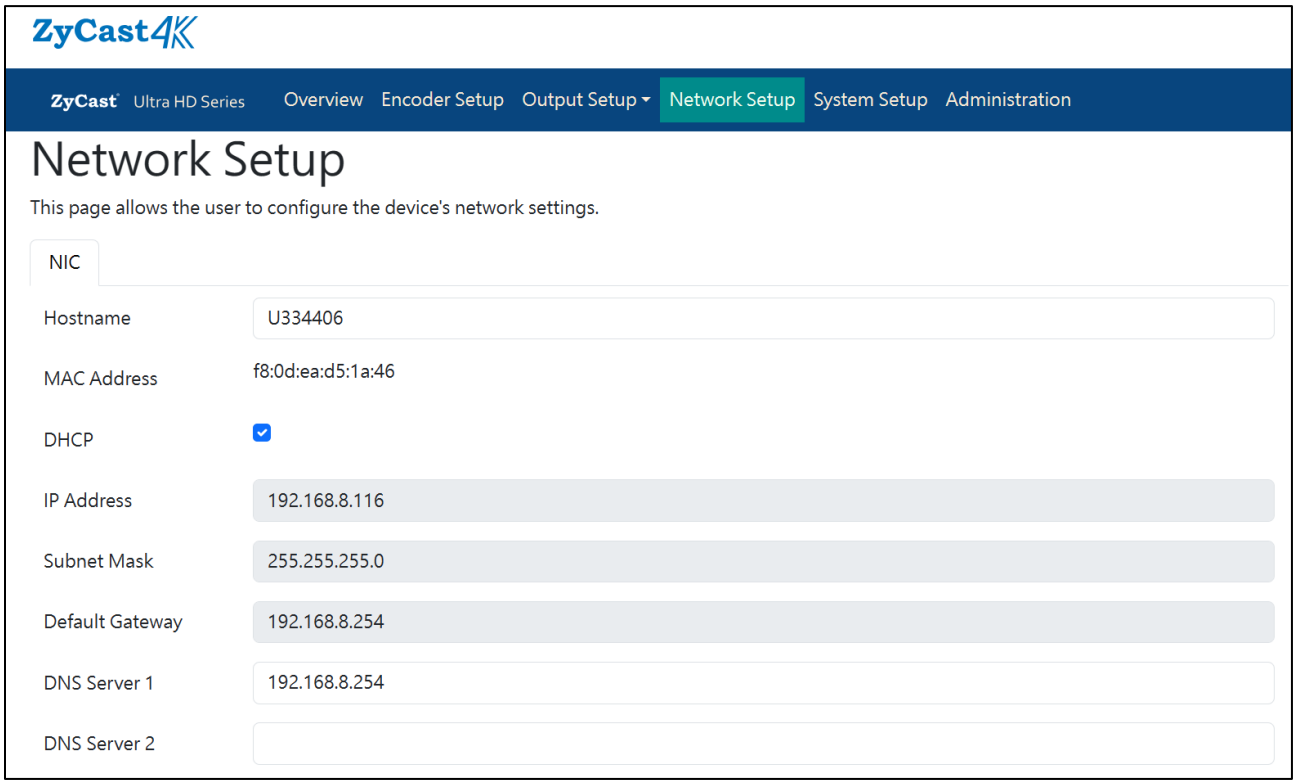



1. **Attach** USB Drive to the front of the unit.
2. **Enable** Recording
3. **Set** Start Date / Start Time as Desired
4. **Set** End Date / End Time as Desired
5. **Save and Confirm** All Changes Made

**Note 1:** If **HDCP (Test Mode)** is enabled in the **[Encoder Setup]** Page, users can not record the streaming content.

### Network Setup Page

Use the **[Network Setup]** page to set IP Addresses and network related parameters.




1. **Modify** Hostname as Required
2. **Enable** DHCP (if Required) by Checking the Checkbox, or
3. **Enter** Static IP address
4. **Enter** Subnet Mask
5. **Enter** Default Gateway
6. **Enter DNS Server** Address (if Required)
7. **Enter NTP Server** Address (if Required)

   Note: The U5 requires accurate time stamping for SRT functionality.
8. **Save and Confirm** All Changes

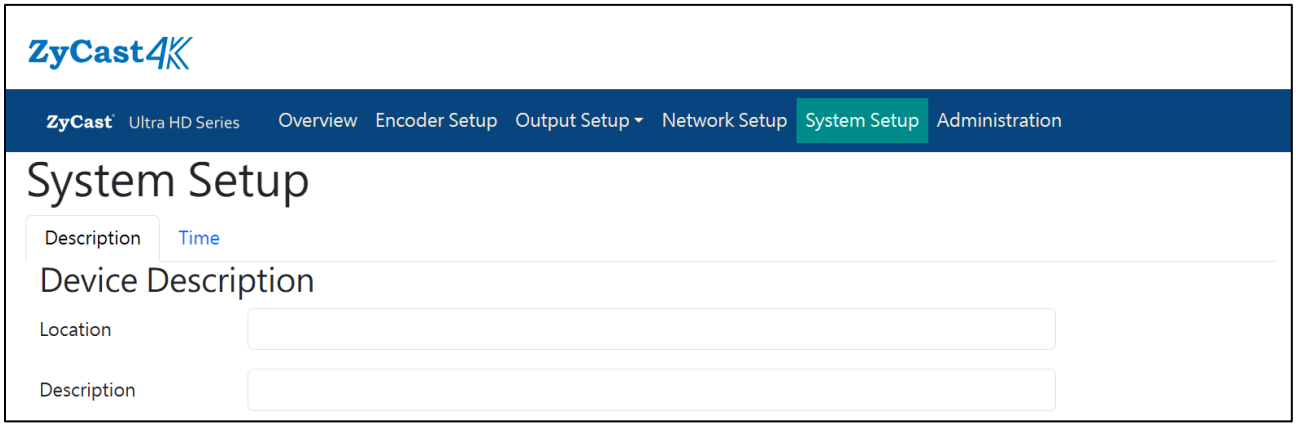
## Forgot IP Address

See *Page 9* for details how to return to the default IP address (factory default) setting.

## System Setup Page

### Description

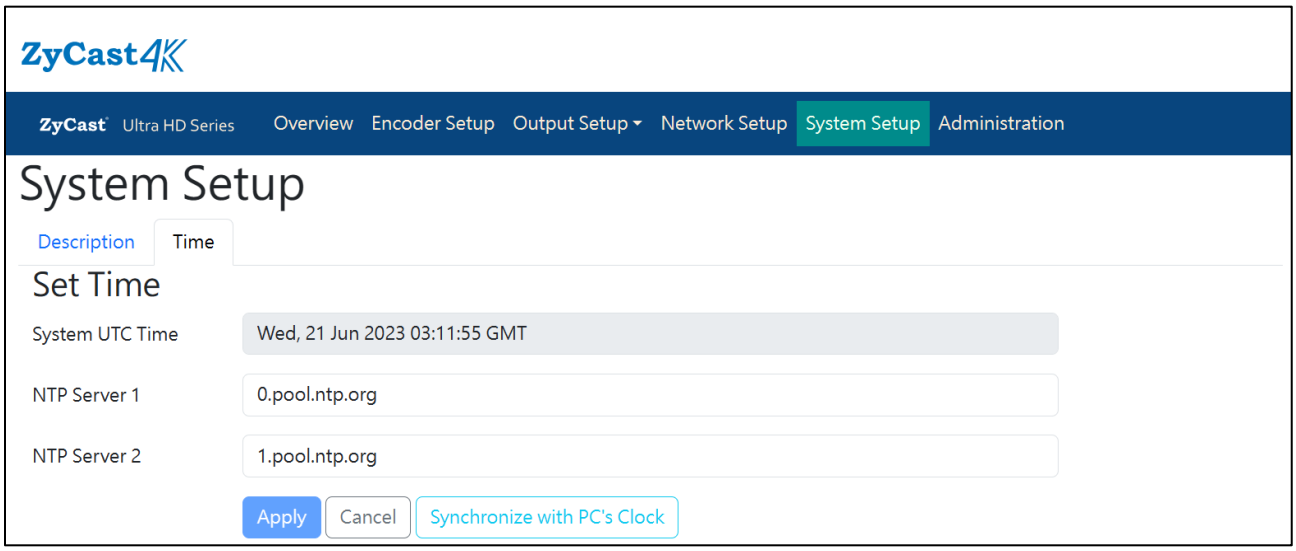
Use the **[System Setup]** page to designate location and description of the U5 unit.




This info will be displayed on the **[Overview]** page.

### Time / NTP Server Setup

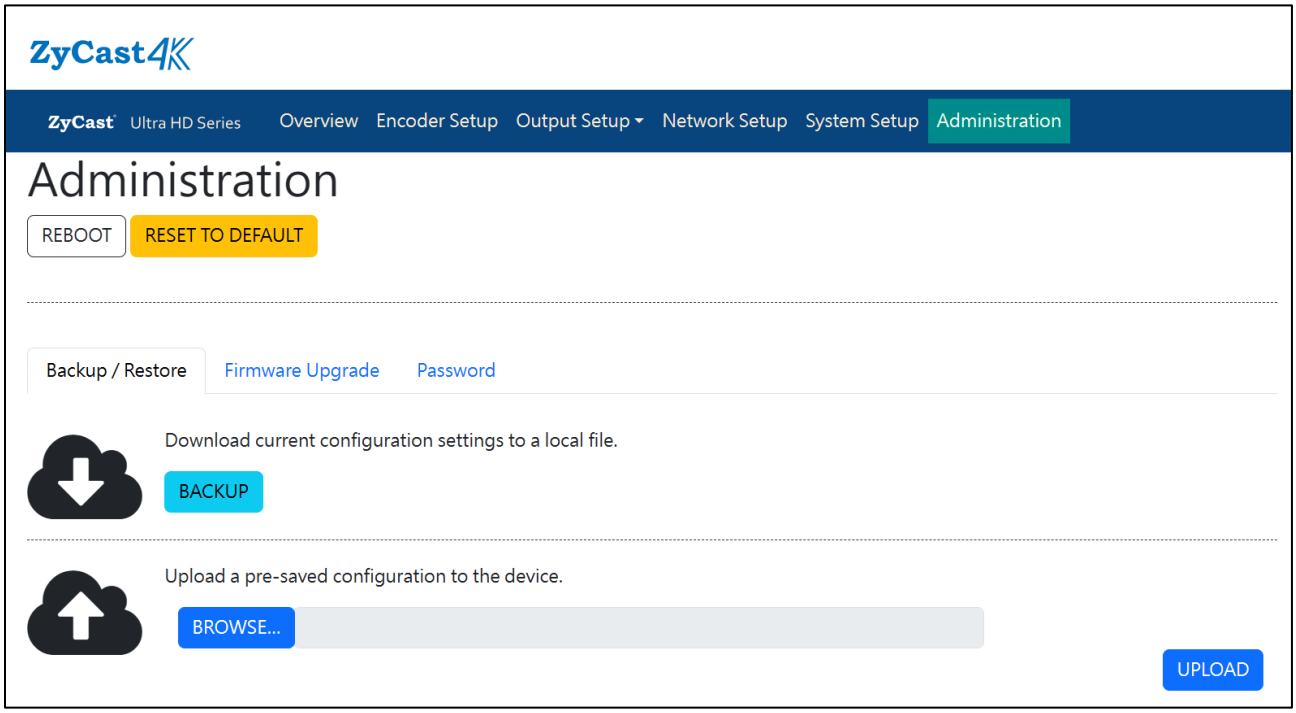
Use the Time tab to set the unit's System Time and NTP Server.




1. **Select** Time Tab on System Setup Page
2. **Enter** NTP Server 1 / 2 Addresses as Required

   Note: The U5 requires accurate time stamping for SRT functionality.
3. **Select** Synchronize System with PC Clock as Required
4. **Hit** **Apply** to Apply all Changes

## Administration Page




### Reboot

Use the Reboot button to reboot the device. No parameters will be changed. All unsaved changes will be lost.

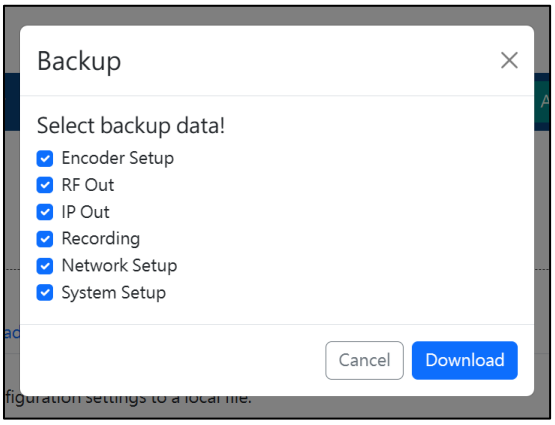
### Reset to Default

Use the Reset to Default button to reset all parameters to original factory settings.

### Backup

We highly recommend saving your device's settings. Backup can be imported to assist in setting up new or multiple devices on site. Remember to save and backup any and all changes.

1. **Hit** Backup Button
2. **User Can Choose Which Data to Backup from the Following Pages: Encoder Setup / RF Out / IP Out / Recording / Network Setup / System Setup**




3. **Locate and Name** File for Future Use

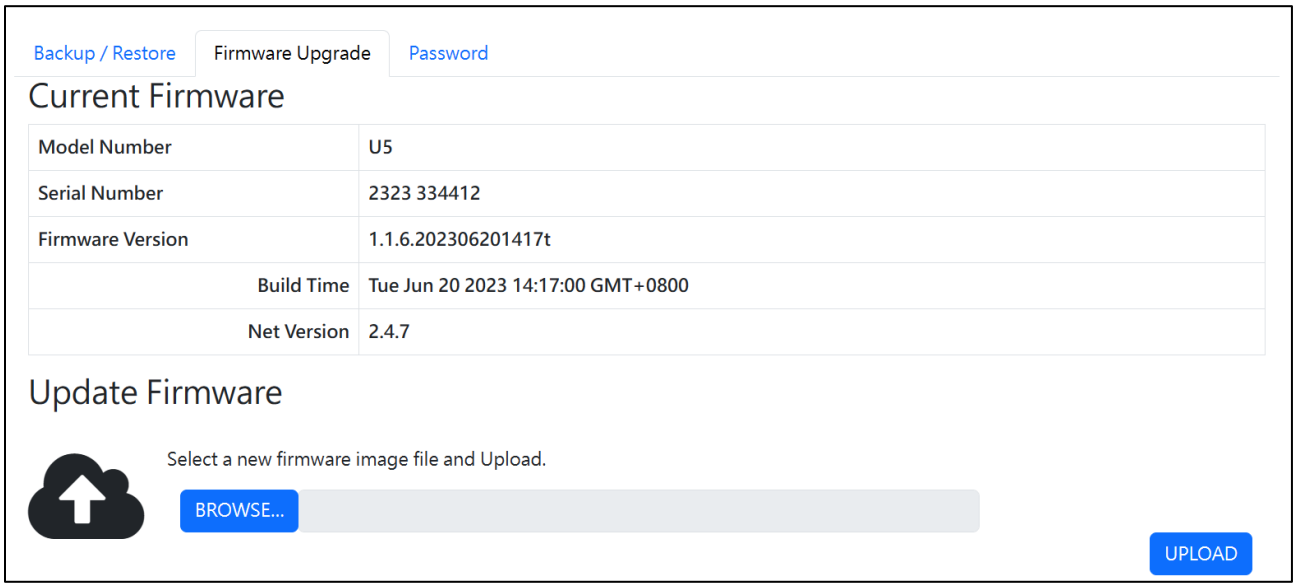
## Restore

1. **Hit** Browse Button and Choose the Required File to be Imported
2. **Hit** Upload Button to Import the Selected File into the Device

**Note:** Do not power off the unit while importing.

## Firmware Update

Use the Firmware Upgrade section to import new FW version if any update is required.

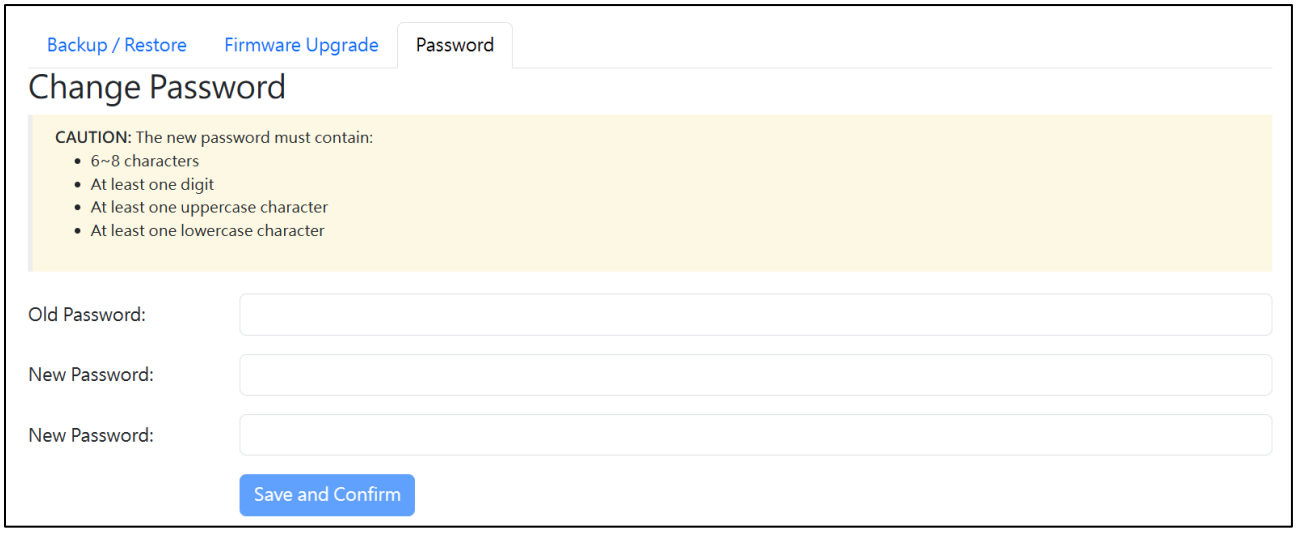



1. **Select** Firmware Upgrade Tab
2. **Hit** Browse Button and Choose the Required Image File to be Uploaded
3. **Hit** Upload Button to Import the Selected Firmware into the Device

**Note:** Do not power off the unit while importing.

## Change Password

Use the Password section to change or modify the device's password as desired.




1. **Select** Password Tab
2. **Follow** Listed Instructions
3. **Save and Confirm** to Apply New Password

## Reference: 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 us 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 internets 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.

## 4K Video Receiving and Decoding

To play 4K video, please make sure the receiving devices are able to decode 4K content in HEVC and/or H.264. Please check the TV specifications for details. For users using PC as receiver and decoder for IP streaming, following are the recommended specifications for the PC:

| | Item | 4K @ H.264 | 4K @ HEVC |
|---|---|---|---|
| Windows PC | CPU | 7th Generation Intel Core i7 processor equivalent or better | |
| | Graphics Card | NVIDIA GeForce GTX 1050 equivalent or better | |
| | RAM | 8 GB or more | |
| | OS | Windows 7 or later | |
| MAC | Hardware | MacBook – 2013 or newer | MacBook Pro – 2016 or newer |
| | | | iMac (27-inch) – late 2015 or newer |
| | | | MacBook – early 2016 or newer |
| | OS | 10.10 Yosemite or later | 10.13 High Sierra or later |
| VLC Player | Version | 3.0 or later | |

Product Notes:

| | |
|---|---|
| Model Number: | U5 |
| Serial Number: | |
| Purchase Date: | |
| Purchased from: | |
| Install Date: | |

Distributed by:

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