ͲΛĠĖΨĖĹŰ

ULTRA ENCODE

User Manual, Reference and FAQ



Ultra Encode HDN1

ETH WI-FI PWR

TABLE OF CONTENTS

Preface	03	Accessing the Web UI
Introduction	03	Signing In/Out
Key Features	04	Dashboard
System Requirements	04	Input
		Encode
Tutorial	05	Live
Part 1. Ultra Encode Setup	05	Overlay
Part 2. YouTube Setup	10	General
		Network
Installation	11	User Admin
Safety Information	11	Firmware
FCC Compliance Statement	12	Control Hub
Interfaces & Indicators	13	About
Get Started With Ultra Encode	16	FAQ
Access Web UI	16	
Initialization	18	Support
Web UI Configuration	19	Warranty

1	9
2	1
2	2
2	5
3	3
3	7
5	2
5	8
6	3
6	8
7	3
7	4
7	7
8	0
8	2

Preface



Introduction

Our Ultra Encode family of universal live media encoders offers systems integrators, streaming professionals, and OEM partners a flexible and affordable encoding solution for applications including live streaming, AV over IP, remote contribution, IP production workflows and much more. Available in HDMI and SDI models, it builds on the functionality of the Ultra Encode family with expanded features including 4K encoding and streaming from the HDMI input; simultaneous multi-protocol streaming; higher streaming bitrates; file recording; and much more. This device is ideal for high-quality live streaming of content including sports, education, and live events as well as IP-based production and AV-over-IP.

Encoder supports multiple video encoding formats – including H.264, H.265 (HEVC), and NDI[®]|HX2 – and a wide array of delivery protocols including RTMP, RTMPS, SRT, RTSP, RTP, HLS, TS over UDP, TS over RTP, and TVU's ISSP technology. Up to eight channels of audio can be encoded in AAC format.

Encoder is ideal for broadcast video and audio, natively support live broadcast for Facebook, YouTube, and Twitch, as well as your own site, with multiplatform distribution. To customize encoder perfectly for your session, we have Web UI, where device work status, a thumbnail preview window and tabs for streaming settings, analytics, and stream health monitoring are provided.

Key Features

- Support RTSP/RTMP/RTMPS/SRT Caller/SRT Listener/NDI[®]|HX2/HLS/TS over UDP/TS over RTP/TVU ISSP streaming protocols
- Dual stream encoding main-stream and sub-stream
- 8 overlays for main and sub streams each
- Specify main stream or sub stream for each streaming session
- Multi-streaming to various video platforms simultaneously
- H.264 and H.265 (HEVC) Video encoders
- AAC Audio encoder
- Web UI a remote network management system provides webpage configuration with kinds of customization for device functions

System Requirements

Network

- 10/100/1000Mbps Ethernet
- Wi-Fi 802.11 a/b/g/n/ac
- USB 4G/5G mobile broadband modem (not included)
- USB Net

Web UI Supported Web Browser

- Microsoft Edge
- Mozilla Firefox version 61 and above
- Google Chrome version 49 and above
- Apple Safari 11.1 and above
- Opera 55.0.2994.44 and above

Ultra Encode Family

- Ultra Encode HDMI
- Ultra Encode SDI

Tutorial

Let's learn by example. Throughout this tutorial, we'll walk you through the creation of a basic YouTube live streaming with Ultra Encode.

It'll consist of two parts: Part 1. Ultra Encode setup Part 2. YouTube setup

Part 1. Ultra Encode Setup

1. Find Ultra Encode

- 1. Connect the encoder to a LAN and power it up.
- 2. Connect input signal.
- 3. Access Web UI
 - i. In Windows 10, open a File Explorer window, find the encoder in **Network > Other Devices**.
 - ii. Double click a encoder icon to open the Web UI of the device in your default web browser.
- 4. Log in with your username and password.



Find your Device



	English 👻	
t and password		
IGN IN		
ord?		

2. Add YouTube streaming session

- 1. In the left control pane, go to Live tab. Click Add Destination and choose YouTube RTMP.
- 2. Go to YouTube https://www.google.com/device, and paste the code prompted.

YouTube RTMP	×	
		Google
Next, visit https://www.google.com/device on your smartphone or computer and enter this code: YQFG-TGWL D		Connect a device Enter the code displayed on your device Enter code YQFG-TGWL
Go to YouTube		

3. Follow the page instructions to log in and trust your device.



YouTube RTMP

Next, visit https://www.google.com/device on your smartphone or computer and enter this code:

Х

YQFG-TGWL □

Go to YouTube



4. Choose the **Event** where you want to show your video clips.

Then you can simply save the server with default parameters for streaming.

- Content made for kids switch is off by default. You can go to Youtube Help to get detailed requirements. 5.
- Go back to the Live tab and turn on the switch 🔘 before YouTube icon to start the streaming session. 6.

Now the encoder is ready to bring your content to YouTube directly with all these settings.

Part 2. YouTube Setup

Create a live stream task in YouTube Studio to go live, and specify the Title, Category, Privacy, etc.

≡	🕨 Studio		
((•))			Live chat
Ô	N	Title Live Stream EDIT	Welcome to your privac
	Connect streaming software to go live	Gaming –	LEARN M
	Viewers will be able to find your stream once you go live	Privacy Private	
	STREAM SETUP HELP	Viewers waiting Likes O O	
	 Start sending us your video from your streaming so 	tware to go live	
	STREAM SETTINGS ANALYTICS STREAM HEALTH		
	Stream key	Additional settings	
	Select stream key	Enable DVR	
	Default stream key (Variable)		
	Stream key (paste in encoder) RESET	COPY	
	Stream URL	Added delay	
	rtmp://		
	rtmp://	Closed captions	
	Stream latency	Unlist live replay once stream ends	
	Normal latency ?		
	Low-latency (?)		
2	O Ultra low-latency (?)		Say somethin
F			e



Installation

Safety Information

Electrical Safety

- Seek professional assistance before using an adapter or extension cord. • These devices could interrupt the grounding circuit.
- Make sure that you are using the correct power adapter for the local • voltage. If you are not sure about the voltage of the electrical outlet you are using, contact your local power company.
- If the power adapter is broken, do not try to fix it by yourself. Contact a qualified service technician or your retailer for help.

Operation Safety

- Before using the product, make sure all cables are correctly connected and the power cables are not damaged. If you notice any damage, contact your dealer immediately.
- To avoid short circuits, keep paper clips, screws, and staples away from connectors, slots, sockets and circuitry.
- Avoid dust, humidity, and temperature extremes. Do not place the product in any area where it may become wet.
- If you encounter technical problems with the product, contact your dealer or the Magewell Support Team via support@magewell.net.

FCC Compliance Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) this device may not cause harmful interference, and cause undesired operation

(2) this device must accept any interference received, including interference that may cause undesired operation.

FCC Statement

This device has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This device generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this device does cause harmful interference to radio or television reception, which can be determined by turning the device off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the device and receiver.
- Connect the device into an outlet on a circuit different from that to which the receiver is connected. •
- Consult the dealer or an experienced radio/TV technician for help.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC Radiation Exposure Statement

The antennas used for this transmitter must be installed to provide a separation distance of at least 20cm from all persons and must not be co-located for operating in conjunction with any other antenna or transmitter.

Interfaces & Indicators

Ultra Encode HDMI



 \triangle Plug included Wi-Fi antenna when you want to connect to a wireless network.



Ultra Encode SDI



Figure 2 Ultra Encode SDI

 \triangle Plug included Wi-Fi antenna when you want to connect to a wireless network.



Indicators

Indicators status is as follows.

PWR (Power)

- On: power on.
- Off: power off.

IN (HDMI/SDI)

- On: input signal detected.
- Breathing: input signal undetected.

LIVE

- On: the encoder is streaming to at least one streaming address.
- Breathing: none of the live sessions is enabled.

ETH

- On: Ethernet connected.
- Off: Ethernet unconnected.

Wi-Fi

- On: Wi-Fi connected.
- Breath: Wi-Fi not connected or connecting.

Multiple indicators flash:

- All but PWR indicator lights flash once simultaneously: system is booting up or rebooting.
- The indicator lights flash in turn from IN, Live to Wi-Fi: firmware is updating.
 - \triangle If any other status appear, please try to unplug and re-plug in the power cable to recover your encoder.

Get Started With Ultra Encode

↓ ↓ ↓ Network	
Properties Open Connect with Desktop Con	Remote Add devices and printers View printers View device webpage Add devices and printers Network and Sharing Center
← → → ↑ 🛃 > Network Quick access	Other Devices (2)
Downloads Documents Pictures OneDrive	Ultra Encode B312220930003 Ultra Encode B311220914001
This PC	

Access Web UI

Manage your device via wired networks, USB NET, or Wi-Fi.

- 1. Connect your device to your LAN and power it up.
 - \triangle To ensure a smooth video, you are recommended to connect to a wired network.
- 2. Open Web UI:
 - Via File Explorer on Windows 7 and above
 - i. Open File Explorer in your PC, then locate your device in **Network** > Other Devices.
 - ii. Double click the device icon, open the sign page of Web GUI.
 - Via USB NET, IP Address: 192.168.66.1
 - Connect the device to your computer using provided USB cable. i.
 - ii. Type the USB NET IP address 192.168.66.1 in your web browser to access the Web UI.
 - Via device Wi-Fi AP, IP Address: 192.168.48.1
 - ⚠ Plug included Wi-Fi antenna when you want to connect to a wireless network.
 - i. In your smartphone/tablet/laptop, turn on WLAN, search for and join the device AP named Ultra Encode + (Serial number).

MVCEMELT.		English 👻
	SIGN IN	
	Enter your account and password	
Ultra Encode	Password	
	SIGN IN	
	Forgot your password?	

The AP names after your gear's Serial number, and the password is the last 8-number of the serial number. For example, a serial number 311210101001 indicates the initial AP password is 10101001.

We recommend that the distance between the Web UI and the encoder should be within 10m.

- ii. In your web browser, enter 192.168.48.1 to open the Web UI.
- Via "device-name.local":
 - i. Connect the Ethernet on the rear panel to the Ethernet based on your specific network requirements.
 - ii. Enter the "device-name.local" on the web browser within the same VLAN as the device, to access the Web UI login page. The default device-name is the SN (serial number) marked on the device surface.
- 3. Input your username and password.
 - The default administrator name and password are both Admin.
 - We recommend you to modify the admin password after initial logging-in.



Initialization

Follow the instructions of the Web UI to perform the device initialization and set a new device name.

Web UI Configuration

🚬 🛃 🔚 🗢 Network	
File Network Vie	w
Properties Open Connect on Desktop	Vith Remote Connection Add devices and printers Network
← → ~ ↑ 🛃 > N	etwork >
★ Quick access Desktop ↓ Downloads	Computer (6) Other Devices (2) Ultra Encode
 Documents * Pictures * OneDrive 	B312220930003 B311220914001
This PC	

Fig1 Find your device in Windows > Network

Accessing the Web UI

A free tool, Web UI, is provided to monitor and manage device status and configuration. If you know your device's IP address, type it into your web browser to access the Web UI. Alternatively, you can access the Web UI via wired Ethernet, USB NET, or Wi-Fi following the steps below.

- 1. Connect your device to your LAN and power it up.
 - \triangle To ensure a smooth video, you are recommended to connect to a wired network.
- 2. Access Web UI:
 - Via File Explorer on Windows 7 and above
 - i. Open File Explorer in your PC, then locate your device in **Network** > Other Devices.
 - ii. Double click the device icon to open the sign page of Web UI.
 - Via USB NET, IP Address: 192.168.66.1
 - Connect the device to your computer using provided USB cable. i.
 - ii. Type the USB NET IP address 192.168.66.1 in your web browser to access the Web UI.
 - Via device Wi-Fi AP, IP Address: 192.168.48.1
 - A Plug included Wi-Fi antenna when you want to connect to a wireless network.



Fig2 USB NET connection



i. In your smartphone/tablet/laptop, turn on WLAN, search for and join the device AP named **Ultra Encode + (Serial number)**. The AP names after your gear's Serial number, and the password is the last 8-number of the serial number by default. For example, a serial number 311210101001 indicates the initial AP password is 10101001.

We recommend that the distance between the Web UI and the encoder should be within 10m.

ii. In your web browser, enter 192.168.48.1 to open the Web UI.

Fig3 AP connection



Signing In/Out

The Web UI allows multiple users to have read/write access to make configuration settings at the same time after logging-in. However, to avoid configuration conflicts, we do not recommend you to operate one device simultaneously.

- 1. Sign In: enter your account and password in the **SIGN IN** page.
 - The default administrator name and password are both Admin.
 - We recommend you to modify the admin password after initial logging-in.
- 2. Sign Out: click the down arrow symbol 💌 behind the logging-in username at the top-right of the Web UI, and select **Sign out**.

Dashboard

On **Dashboard** page, you can

- preview the thumbnail of the encoded video •
- check device hardware information
- check system status •
- set global volume mixer •
- check product module at the upper left corner •

MV⊡EMETT₀	Dashboard	Input	Encode	Live	Overlay	System	👤 Admin 👻
ULTRA ENCODE SDI	Vo Mi e	Volume Mixer olume Mixer ic bias • Line in		8b 0.0 8b 0.0 8b 0.0	× ••••••••••••••••••••••••••••••••••••		Main Stream i 1920x1080, 60 FPS \sim 8 Mb/s Sub Stream i i 1280x720, 30 FPS \sim 2 Mb/s Audio 2
BASIC INFO	h	Device name Ultra Encode B31 Hardware version B	Done	Reset Serial number B3122208090 Firmware versio 2.3.51*	002 n	Input Signal SDI, 1920× 44.10KHz	✓ 128 Kbps 1080p, 60.00Hz ,

Setting Volume Mixer

- Mic Bias: turn it on when connecting a microphone via line in. It allows flowing way power (around 2.3V) to the jack which makes the microphone sound. It is off by default.
- LINE IN: adjust the audio connected to the LINE IN. Click _____ to fine tone the volume at 0.1dB.
- LINE OUT: adjust the LINE OUT audio which remixes audio embedded in input signal and LINE IN. Click \Box to fine tone the volume at 0.1dB.
- HDMI/SDI IN: adjust input signal volume
- \triangleleft : mute current channel. Click = to fine tone the volume at 0.1dB. •
- • : restore current channel to default value
- Reset: restore all settings of the volume to default settings
- Done: click to save your configuration



	O O O O The copyright of this	OOOOOOO s video is reserved by Ma w resolution preview	Audio ch 2 well
BASIC INFO	Device name Ultra Encode B312220809002 Hardware version B	Serial number B312220809002 Firmware version 2.3.51*	Input Signal SDI, 1920×1080p, 60.00Hz , 44.10KHz
STATUS	U00% CPU 11% 1500 MHz WI-FI Unconnected	Memory 39% Mobile Unconnected	Ethernet ISend 6.37 Mb/s Receive 9.52 Mb/s
0 2023, Nanjing Magewell Electronics Co., Ltd. All rij	ghts reserved.		Support User guide Legal Warranty

Previewing Thumbnails

Thumbnails, with a low resolution of 640x360, give you a quick snapshot of video being encoded.

Checking BASIC INFO

- Device name: device name of your unit. You can modify the device name in the System > General > Device name section.
- Serial number: serial number of your unit, which is also marked on your device.
- Input Signal: current input signal format.
- Hardware version: hardware version of your unit.
- Firmware version: current firmware version that is installed in your unit. You can update the firmware, via the **System > Firmware** tab.

	OOOO The copyright of this	OOO OOO OOO	Audio ch 2 well 128 Kbps
BASIC INFO	Device name Ultra Encode B312220809002 Hardware version B	Serial number B312220809002 Firmware version 2.3.51*	Input Signal SDI, 1920×1080p, 60.00Hz , 44.10KHz
STATUS	L00% CPU 11% 1500 MHz	39%	Ethernet ISend 6.37 Mb/s Receive 9.52 Mb/s
© 2023, Nanjing Magewell Electronics Co., Ltd	All rights reserved.	Unconnected	Support User guide Legal Warranty.

Checking STATUS

• Gives you an overview of your system CPU, memory usage, network usage in real-time in order to evaluate the device performance & health.

Input

Click and enter the **Input** tab to check the input signal information detected by the device.

Video Options ⊗		
INPUT		
Color format	YUV BT.709	
Quantization	Limited range (16-235)	
OUTPUT		
Color format	YUV BT.709	
Quantization	Limited range (16-235)	
COLOR		
်ုံ Brightness	°	
Contrast	100	
 Saturation 	100	
O Hue	0	

Setting INPUT

- Color format: input video color format. Check the box to select other options, including RGB, YUV BT.601, YUV BT.709, YUV BT.2020.
- Quantization: input quantization range. Check the box to select other options, including Full range(0-255), Limited range(16-235).

Setting OUTPUT

- Color format: check the box to select other options, including YUV BT.601, YUV BT.709.
- Quantization: check the box to select other options, including Full range(0-255), Limited range(16-235).

Setting Color

Set color format of preview and stream video.

- Brightness: range from -100 to 100, the default value is 0.
- **Contrast:** range from 50 to 200, the default value is 100.
- Saturation: range from 0 to 200, the default value is 100.
- Hue: range from -90 to 90, the default value is 0.
- Click \bigcirc icon to restore the current setting to default value.

Signal ⊗ VIDEO STATUS Resolution 1920×1080p, 60,00Hz Color depth 10 4:2:2 Sampling Aspect ratio 16:9 Color format BT.709 Frame struc 2D Limited Quantization range Saturation rang Limited AUDIO STATUS 44100, 24 bits Sampling Channels 8 SDI STATUS Link type Single link Link speed 3G Single stream Stream type False Level B

False

0x00000000

2200 Pixels

1125 Lines

1920 Pixels

1080 Lines

0

Interlaced

Assignment

H total

V total

H active

V active

ST 352 payload ID

Checking VIDEO STATUS

- **Resolution** shows the input video pixel resolution & frame rate.
- Color depth shows the input video color depth, in bits.
- Sampling shows the input video color sampling format. •
- Aspect ratio shows the input video aspect ratio.
- Color format shows the input video color encoding format.
- Frame struct shows the input video frame type, 2D or 3D.
- Quantization range shows the quantization range, Full or Limited. •
- Saturation range shows the saturation range, e.g. Full or Limited. •

Checking AUDIO STATUS

- Sampling shows the input audio sampling rate and bit depth. •
- Channels shows the number of input audio channels detected.

Checking SDI STATUS

NOTE: This parameter is available for SDI products.

- Link type shows link type of input SDI signal, including single link, dual link, quad link.
- Link speed shows the current data speed.
- Stream type shows the number of streams that is contained in the data source.
- Level B shows whether the input signal is level B format.
- Interlaced shows whether the input signal is interlaced.
- Assignment shows the link number, especially when be fed into a source of

Vode	HDMI
HDCP encrypted	False
VIC	100
T content	False
Pixel rate	297 MHz
Timing-H total	4400 Pixels
Timing-H active	4096 Pixels
Timing-H front porch	88 Pixels
Timing-H sync width	88 Pixels
Timing-H back porch	128 Pixels
Timing-V total	2250 Pixels
Timing-V active	2160 Pixels
Timing-V front porch	8 Pixels
Fiming-V sync width	10 Pixels
Timing-V back porch	72 Pixels

INFO FRAME

multi-link interfaces.

- ST 352 payload ID shows the SMPTE ST 352 video payload identification code for SDI.
- **H total** shows the total number of pixels, horizontally.
- V total shows the total number of pixels, vertically.
- H active shows the number of active pixels, horizontally.
- V active shows the number of active pixels, vertically.

Checking HDMI STATUS

NOTE: This parameter is available for HDMI products.

- Mode shows the signal type (which is always HDMI for the HDMI product).
- HDCP encrypted shows whether the signal source is HDCP encrypted. In accordance with the related laws and regulations, the device doesn't process HDCP encrypted signals, so the value is None.
- VIC Video Identification Code, which is defined for CEA formats.
- IT content shows whether the transmission package is content.
- **Pixel rate** shows the maximum number of pixels the unit could possibly write to the local memory in one second.
- Timing-H total shows the total number of pixels, horizontally.
- Timing-H active shows the number of active pixels, horizontally.
- Timing-H front porch shows the Front Porch width in pixels.
- Timing-H sync width shows the Sync Pulse width in pixels.

INFO FRAME AVI 0x82 Туре 0x02 Version Length 13 bytes Checksum 0x13 Data 50 A8 00 64 00 00 00 00 00 00 00 00 00 AUDIO Туре 0x84 0x01 Version Length 10 bytes 0x70 Checksum Data 01 00 00 00 00 00 00 00 00 00 SPD Туре 0x83 Version 0x01 Length 25 bytes Checksum 0x63 Data 00 00 00 00 00 00 00 00 00 VS 0x81 Туре 0x01 Version 27 bytes Length Checksun 0x54

00 00 00 00 00 00 00 00 00 00 00

Data

- Timing-H back porch shows Back Porch width in pixels.
- Timing-V total shows the total number of pixels, vertically.
- Timing-V active shows the number of active pixels, vertically.
- Timing-V front porch shows the size of the vertical Front Porch in pixels.
- Timing-V sync width shows the width of the vertical Sync Pulse in pixels.
- Timing-V back porch shows the size of the vertical Back Porch in pixels.

Checking INFO FRAME

The info frames vary from different signal sources, AVI/AUDIO/SPD/VS may be included.

- Type shows the packet type.
- Version shows the packet Version.
- Length shows the length of the AVI InfoFrame payload.
- Checksum shows the packet checksum.
- Data shows the InfoFrame payload.

IN IDUIT DO	D.T.													
INPUT PO	RI													
Manage El	DID of the	inpu	t port											
SmartEDI	o™ solves	confl	icts w	hen	con	necti	ng a loo	p-th	roug	h dev	vice.			
🔽 SmartE	DID™	K	eep la	st		Add	laudio		Lin	nited	pixe	el clo	ck	
Offset	0	1 2	3	4	5	6	7 8	3 9	Α	В	С	D	Е	F
00	00 F	FFF	FF	FF	FF	FF (30 3	4 F7	04	32	15	CD	5B	07
10	30 1	LA 01	1 03	80	30	1B 🗄	78 0	FE	95	A 3	54	4C	99	26
20	0F 5	50 54	4 FF	FF	80	81 (8 06	1 40	81	80	95	00	A9	40
30	B3 0	90 D:	1 00	D1	40	F3 3	39 8	0 18	3 71	38	2D	40	58	2C
40	45 0	90 C4	4 8E	21	00	00	LA 2	8 30	80	A0	70	BØ	23	40
50	30 2	20 30	5 00	C4	8E	21 (90 0	0 14	00	00	00	FC	00	55
60	53 4	12 20	9 43	61	70	74	75 7	2 65	5 ØA	20	00	00	00	FD
70	00 1	19 78	3 ØC	FF	22	00 (9A 2	0 20	20	20	20	20	01	E1
80	02 0	93 41	F1	5E	06	15 (92 1	1 13	8 04	14	05	20	21	22
90	1F 1	10 40	9 3F	5D	5E	5F (50 6	1 62	2 63	64	65	66	67	68
AØ	69 6	5A 68	3 26	ØF	7F	07 (99 7	F 07	7 83	2F	00	00	6E	03
BØ	0C 0	0 20	9 00	B 8	40	20 (8 06	0 01	02	03	04	E3	05	03
CO	00 E	7 0	60	61	65	66	5A 6	BES	5 ØF	00	00	8C	31	04
DØ	74 0	90 30	9 F2	70	5A	80 1	30 5	8 84	00	C4	8E	21	00	00
EØ	1E E	2 68	3 00	AØ	AØ	40	2E 6	0 30	20	36	00	C4	8E	21
	00.0	00 00	00	00	00	00 0	aa a	0 00	9 00	00	00	00	00	8D

EDID

Click the EDID to check the EDID information. By clicking Reset to Default, you can cancel your settings.

EDID is only available for products supporting HDMI signal.

Setting SmartEDIDTM

NOTE: This function is available for HDMI products.

- SmartEDIDTM
 - SmartEDIDTM is enabled by default. When it is disabled, other related functions can not be set.
 - Depending on the input capability of the encoder and that of the device connected to the loop-through interface, the encoder will smartly select to send the EDID to the video source device, to ensure both the encoder and the loop-through device can obtain the signal they support.
- Keep last
 - Keep the last EDID value used.
 - This function is disabled by default. To enable it, the SmartEDID function should also be enabled. When Keep Last is enabled and the loopthrough device is disconnected, the current EDID will still be used. The encoder will continue receiving signal so the video capture and encoding continues. Otherwise, the encoder will resend its EDID to the source device for it to redetermine what format of signal to send. As a result, there could be an interruption to the source signal for a short time.
- Add audio
 - Force the source device to output audio.

- If users connect a monitor which doesn't support audio to the loopthrough output, the source device will decide not to output audio. As a result, the device will not get any audio input. If Add Audio is enabled, the device will communicate with the video source device, forcing it to output audio.
- Limited pixel clock
 - If enabled, when the pixel resolution of the loop-through device is beyond the capability of the device, a lower pixel resolution will be used in order to avoid the output producing a blank screen.

Setting INPUT EDID

Any of the following actions can be performed on the input EDID of the device.

- **Default**: Click **Default** to reset the current EDID to default values.
- Import: Click and select an EDID file to import a local EDID file.
- **Export**: Click and set the file name to export the current EDID as a .bin file.

	D0	74	00	30	F2	70	5A	80	BØ	58	8A	00	C4	8E	21	00	00	
	EØ	16	E2	68	00	AØ	AØ	40	2E	60	30	20	36	00	04	öE	21	
	FØ	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	8D	
														Det	fault		Import	Export
L L L L L L L L L L L L L L L L L L L	_OOP-TH	IRU P	OR	Т														
	Offset	0	1	2	З	4	5	6	7	8	9	A	В	С	D	E	F	
	00	00	FF	FF	FF	FF	FF	FF	00	34	F7	04	32	15	CD	5B	07	
	10	30	1A	01	Ø 3	80	30	1B	78	ØF	EE	95	A3	54	4 C	99	26	
	20	ØF	50	54	FF	FF	80	81	00	81	40	81	80	95	00	A9	40	
	30	B3	00	D1	00	D1	40	F3	39	80	18	71	38	2D	40	58	2C	
	40	45	00	C4	8E	21	00	00	1A	28	3C	80	A0	70	BØ	23	40	
	50	30	20	36	00	C4	8E	21	00	00	1A	00	00	00	FC	00	55	
	60	53	42	20	43	61	70	74	75	72	65	0A	20	00	00	00	FD	
	70	00	19	/8	00	FF	22	00	0A	20	20	20	20	20	20	01	E1	
	08	102	10	41	F1	56	06	15	62	11	13	63	14	05	20	21	22	
	50	11	10	40 6 P	26	OC.	70	07	00	75	02	00	25	00	00	67	00	
	BØ	90	00	20	00	B8	40	20	00	80	01	02	03	94	E3	01	03	
	CO	00	E7	ØE	60	61	65	66	6A	6B	E5	ØF	00	00	80	31	04	
	DØ	74	00	30	F2	70	5A	80	BØ	58	8A	00	C4	8E	21	00	00	
	EØ	1E	E2	68	00	A0	A0	40	2E	60	30	20	36	00	C4	8E	21	
	FØ	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	8D	
																		Export
			_	_	_	_	_	_	_		_	_	_		_	_		

Checking Loop-through EDID

Loop-through EDID shows the EDID of the connected loop-through device. NOTE: This section is available for HDMI products.

• **Export**: Click and set the file name to export the current EDID as a .bin file.



NO SIGNAL IMAGES

- Select a JPEG image for no signal display, which size up to 1920x1080, 1MB. The device provided 2 pictures can not be deleted. By default, the switch is on.
- Add: You can add 2 more JPEG photos sizing up to 1920x1080, 1.00 MB.
- **Delete:** click the delete icon (1) to remove the uploaded image from your device.

Encode

MV@EMELT.	Dashboard	Input	Encode	Live	Overlay	System	👤 Admin 👻
DEINTERLACIN	1G	Video de-interla	ice				C
Convert interlaced progressive picture displayed on non in display devices.	video into a that can be terlaced	Mode		Bob			Apply
MAIN STREAM	I	System preferre	d				
Configure paramete main coding stream	ers for the	Output		Follow input	← , Follo	w input 🗸 ,	16 Mbps 👻
		Advanced settin	igs ≫				
		Bitrate Encoding	3	CBR			-
		Code type		H.265 (HEVC)			~
		Encoding profile	;	Main profile			•
		Quantization ra	nge	Limited range (1	.6-235)		•
		AR convert		Padding			•

MAIN STREAM	System preferred	C
Configure parameters for the main coding stream.	Output	Follow input \bullet Follow input \bullet Image: Constraint of the second seco
	Advanced settings $ st $	
	Bitrate Encoding	CBR
	Code type	H.265 (HEVC)
	Encoding profile	Main profile
	Quantization range	Limited range (16-235)
	AR convert	Padding
	Keyframe interval	60 frame
	Time code SEI message	Disabled
		Apply

Deinterlacing

For interlaced signals, the output can be interlaced HEVC stream, if de-interlace function is turned off, and the stream encoders both are HEVC.

- Video de-interlace: by default, the switch is on. The dual streams must be HEVC(H.265) for turning off de-interlace. After turning off, only HEVC is available for the code type of the dual streams.
 - Mode: when the Video de-interlace switch is on, it can be set to Blend or Bob, with Bob as the default.
- Apply: click Apply after configuration.

Setting MAIN STREAM

- System preferred: by default, it is off. Turn on the switch, and the output format would be consistent with the input signal. You can check the format on the right side of the thumbnail of the device status.
- Output: by default, it follows input resolution, frame rate, bitrate.
- Bitrate Encoding: options are CBR (default) and VBR. Live stream at CBR • (Constant Bitrate) for bandwidth stability. VBR(Variable Bitrate) files vary the amount of output data per time segment. And you need to set quantization parameters for VBR. The quantization parameter controls the amount of compression for every macroblock in a frame. Large values mean that there will be more compression, lower quality, and lower bandwidth. Lower values mean the opposite.

- Min QP: available when Bitrate Encoding is VBR. The range of values is 0 to 50. The default value is 4. And we recommend you use the default value and do fine adjustment if needed.
- Max QP: available when Bitrate Encoding is VBR. The range of values is 1 to 51. The default value is 40. And the value must be larger than the Min QP value. We recommend you use the default value and do fine adjustment if needed.
- Code type: options are H.264 (default) and H.265(HEVC) encoders.
- Encoding profile: for H.264 encoder, the profiles can be High (default)/Main profile/Baseline. For H.265 (HEVC), it can be Main profile.
- Quantization range: options are Full range(0-255) and Limited range(16-• 235) (default).
- AR convert: options are Ignore, Cropping and Padding (default).
- Keyframe interval: options are 0.5, 15-300 frames, the default is 60. A smaller number will result in a larger file size and less buffer time for seeing the first frame. To ensure a clear and smooth live broadcast, it is recommended that the key frame interval be less than or equal to 60 frames.
- Time code SEI message: options are off (default), system clock, and embedded. Turn on the switch to get A/V sync between multiple devices which support this SEI message as well.
- Closed caption SEI message: turn on the switch to encode closed captions (if present in the input signal) into H.264/H.265 (HEVC) SEI message. Native CEA-608 and 608 over 708 captions are both supported. It is off by default. Note that it is only supported by SDI product.

SUB STREAM 🔍	Output	1280×720 • , 60 FPS • , 2 Mbps •					
Configure parameters for the sub coding stream.	Advanced settings ≽						
	Bitrate Encoding	CBR					
	Code type	H.265 (HEVC)					
	Encoding profile	Main profile -					
	Quantization range	Limited range (16-235) 👻					
	AR convert	Padding -					
	Keyframe interval	60 frames					
	Time code SEI message	Disabled					

Setting SUB STREAM

- The device transmits SUB STREAM data by default, and it can not be switched off when the sub stream data is being recording or streaming. You can turn it off to lower bandwith usage.
- Output: by default, it is 1280x720, follow input frame, 2Mbps. •
- Bitrate Encoding: options are CBR (default) and VBR. Live stream at CBR (Constant Bitrate) for bandwidth stability. VBR(Variable Bitrate) files vary the amount of output data per time segment. And you need to set quantization parameters for VBR. The quantization parameter controls the amount of compression for every macroblock in a frame. Large values mean that there will be more compression, lower quality, and lower bandwidth. Lower values mean the opposite.
 - Min QP: available when **Bitrate Encoding** is VBR. The range of values is 0 to 50. The default value is 4. And we recommend you use the default value and do fine adjustment if needed.
 - Max QP: available when Bitrate Encoding is VBR. The range of values is 1 to 51. The default value is 40. And the value must be larger than the Min QP value. We recommend you use the default value and do fine adjustment if needed.
- Code type: options are H.264 (default) and H.265(HEVC) encoders.
- Encoding profile: for H.264 encoder, the profiles can be High (default)/Main profile/Baseline. For H.265 (HEVC), it can be Main profile.
- Quantization range: options are Full range(0-255) and Limited range(16-235) (default).
- AR convert: options are Ignore, Cropping and Padding (default).

AUDIO STREAM	Audio output	HDMI embedded audio + Line in	•
Configure parameters for the audio streams.			Apply
	AAC	128 Kbps	•
			Apply

- that the key frame interval be less than or equal to 60 frames. • Time code SEI message: options are off (default), system clock, and
 - embedded. Turn on the switch to get A/V sync between multiple devices which support this SEI message as well.

Setting AUDIO

All audio streams will be affected with modification.

- Audio output: Can be either embedded audio signal (default) or embedded audio signal + Line in.
- AAC: all audio streams will be affected by modifying the AAC bitrate. It ranges from 16 to 256 Kbps, and the default value is 128 Kbps.

• Keyframe interval: options are 15-300 frames. The default value is 60. A less number will result in a larger file size and less buffer time for seeing the first frame. To ensure a clear and smooth live broadcast, it is recommended
Live

The encoder natively supports streaming to YouTube, Facebook, Twitch, as well as self-defined servers.

ΜΛ ΔΕΨΕΓΓ _°	Dashboard	Input	Encode	Live Ov	verlay System	👤 Admin 👻
-						
DESTINATIONS		R Off	RTSP	Name RTSP Server	Port 554	6
		N Off	NDI [®] HX3	Name NDI HX3	Source name B312220809001	
		N Off	NDI [®] HX2	Name NDI HX2	Source name B312220809001-2	
		H Off	HLS	Name HLS Server	Port 8080	
				+ Add Des	stination	

MVQEMETT.	Dashboard Input	Encode Live	Overlay	System	2 Admin -
DESTINATIONS	Select Server) RTSP Name	Port	×	
	RTMP	Twitch	Facebook	adband first	
	YouTube RTMP	RTSP	SRT Caller		
	SRT Listener	NDI [®] HX2	HLS		
	TS over UDP	TS over RTP	TVU ISSP		

Managing Live Streaming Sessions

You can manually added, modify, or delete any of streaming sessions listed in the Live tab.

- Click Edit to modify the parameters of the stream.
- Click **Delete** to remove the source from the list.
- Turn on/off the switch C to start/stop streaming.
- Click Add and select an RTMP, RTMPS, RTSP, SRT Caller/Listener, NDI[®]|HX2, HLS, TS over UDP/RTP, or TVU ISSP server to stream to.

Notes

- Supported streaming protocols RTSP, RTMP, RTMPS, SRT Caller, SRT Listener, NDI[®]|HX2, HLS, TS over UDP, TS over RTP, and TVU ISSP.
- Supports sessions over the same streaming protocol, such as
 - Up to 6 sessions of TS over RTP and TS over UDP simultaneously
 - Up to 6 sessions of SRT Caller and SRT Listener simultaneously, containing one SRT Listener session at most (max 8 clients simultaneously)
 - Up to 6 sessions of RTMP and RTMPS simultaneously
 - Supports streaming only 1 session of HLS, RTSP, or NDI|HX2
- Specify the main stream or sub stream for each session.

MVCEMETT.	Dashboard	Input	Encode	Live	Overlay	System	👤 Admin 👻
ⓒ EDIT SERVER		<mark>ዖ</mark>		yry005 Re-login			
		Name		Twitch Server			
		Stream		Main stream			•
		URL		US East: New Y	ork, NY		•
		Network		Wi-Fi first			•
		Delete				Test	Save

Live Streaming to Twitch

You can stream to Twitch if you have a Twitch account.

- \triangle To ensure smooth live streaming experience, connecting to a wired Ethernet network is recommended.
- Click + Add Destination in the Live tab, select Twitch, follow the on-1. screen instructions to log in and select a server. Your avatar will be displayed after a successful logging-in.
- 2. Choose the prime network for streaming. By default, the network connection priority is: Mobile Broadband > Ethernet > Wi-Fi.

The device scans for the available network according to the connection priority and connect to it for streaming. If the current network is disconnected, the unit automatically re-scans according to the priority. Plug a USB modem into your encoder while using mobile network to stream.

- Click **Test** to check the connection between the server and encoder. 3.
- 4. When prompted, click **OK**.
- 5. Go back to Live page, turn on 🚺 before streaming.

MVQEMETT.	Dashboard	Input	Encode	Live	Overlay	System	2	Admin 👻
ⓒ EDIT SERVER		1		Log In]			
		Name		Facebook Server	r			
		Stream		Main stream			-	
		URL		rtmps://live-api-	s.facebook.com:44	13/rtmp		
		Network		Wi-Fi first			-	
		Backup stream					•	C
		Stream key		Master stream k	ey		-	
		Publish settings						
		Publish to		Timeline			- 🧔	
		Title		aio11				
		Description						
		Privacy		Only me			-	
		Stream ID		Master stream			•	
		Delete				Test	Save	

Live Streaming to Facebook

You can live broadcast to Facebook if you have a Facebook account.

- ${\scriptstyle extsf{theta}}$ To ensure smooth live streaming experience, connecting to a wired Ethernet network is recommended.
- 1. Click + Add Destination in the Live tab, select Facebook, enter the Stream Name.
- 2. Click Log In. Follow the on-screen instructions to open Facebook, enter the code prompt, and log in.

 \triangle Your avatar will be displayed after a successful logging-in.

3. Choose the prime network for streaming. By default, the network connection priority is: Mobile Broadband > Ethernet > Wi-Fi.

The device scans for the available network according to the connection priority and connect to it for streaming. If the current network is disconnected, the unit automatically re-scans according to the priority. Plug a USB modem into your encoder while using mobile network to stream.

- (Optional) Turn on the **Backup stream** and specify the **Stream key**. 4.
- Specify Publish settings including Publish to, Title (0-63 characters), 5. Description (0-127 characters), Privacy and Stream ID.
- 6. Click Save.
- Click **Test** to check the network connection. 7.
- 8. After passing the test, click **OK**.

MAGEWELL°	Dashboard	Input	Encode	Live	Overlay	System		Admin 🝷
ⓒ EDIT SERVER				Log In				
		Name		YouTube RTMP				
		Stream		Main stream			•	
		Server		Primary server ((rtmps)		•	
		Network		Ethernet first			•	
		Publish settings						
		Publish to					-	
						Test	Save	

- (Optional) Click **Delete** to clear the session. 9.
- 10. Go back to Live page, turn on 🚺 before streaming.

Live Streaming to YouTube

You can stream to YouTube if you have a YouTube account, and you have enabled the Live streaming feature of your channel at least 24 hours before your streaming.

- \triangle To ensure smooth live streaming experience, connecting to a wired Ethernet network is recommended.
- \triangle To enable the Live streaming feature, refer to YouTube Help.
- 1. Click + Add Destination in the Live tab, select YouTube RTMP, enter the Stream Name, follow the on-screen instructions to log in and select a server.
- Click Log In. Follow the on-screen instructions to open YouTube, enter the 2. code displayed on your device, and log in. Your avatar will be displayed after a successful logging-in.
- 3. Choose the prime network for streaming. By default, the network connection priority is: Mobile Broadband > Ethernet > Wi-Fi.

The device scans for the available network according to the connection priority and connect to it for streaming. If the current network is disconnected, the unit automatically re-scans according to the priority.

Plug a USB modem into your encoder while using mobile network to stream.

4. Tap **Publish to** and select a channel or event for your session. Choose Add a new stream and enter title, description and privacy. Then a new live event would be added to your logging-in account automatically. And you can stream to YouTube using streamer without clicking on go live in YouTube Studio.

Choose a channel or event. Then go live in YouTube studio to ensure a successful live broadcast.

- 5. Click **Test** to check the connection between the server and encoder.
- 6. When prompted, click **OK**.
- 7. Go back to the Live page, and turn on 🚺 before streaming.

MAGEWELL*	Dashboard			Overlay		👤 Admin 👻
ⓒ EDIT SERVER		Name	RTMP Server			
		Stream	Main stream			-
		URL	rtmp:// 👻 10	0.10.15.225/live		
		Stream key	hdmi005			
		Authentication				
		Network	Mobile broadba	and first		-
		Delete			Test	Save

RTMP/RTMPS

- Name: specify a name for current task to facilitate server management, which will be displayed in the server list. The name can be $1 \sim 30$ character.
- Stream: choose to deliver a main or sub stream, which can be customized in Encode tab.
- URL: enter the RTMP URL address, or an RTMP address you have obtained from the live stream platform. Full address example:rtmp://192.168.1.136:1935/live. The port number part :1935 can be omitted, and the value range is 1 to 65535. If the RTMP address is a domain name, live can be omitted. If the RTMP address is an IP address, The part live cannot be omitted.

- Stream key: enter the stream key obtained from the live stream platform. If none, leave it empty. The key can be string of 0-512 characters.
- Authentication: turn on if your live streaming service provider requires. Obtain the User Name and Password from your live streaming service provider.
- Network: The device scans for the available network according to the connection priority and connect to it for streaming. If the current network is disconnected, the unit automatically re-scans according to the priority. By default, the network connection priority is: Mobile Broadband > Ethernet > Wi-Fi.

Plug a USB modem into your encoder while using mobile network to stream.

- **Test:** check the connection between the server and encoder.
- Save: save current configuration.

MVGEMELT.	Dashboard	Input	Encode	Live	Overlay	System	💄 Admin 👻
③ EDIT SERVER	Ν	lame		RTSP Server			
	Ρ	ort		554			
	C	Connections		-		5	+
	Ν	lain stream					
	Ν	lain key		mainstream			
	S	ub stream					
	S	ub key		substream			
	A	udio					
	A	uthentication					
	U	lser name					
	Р	assword					ø
		Delete					Save
			Mair Sub	n Stream URL: rtsp o Stream URL: rtsp	:// <user name="">:+ ://<user name="">:+</user></user>	<password>@10.10.</password>	9.153:554/mainstream 9.153:554/substream

RTSP

- Name: specify a name for current task to facilitate server management, which will be displayed in server list. The name can be $1 \sim 30$ character.
- Port: specify RTSP stream port, the value range is 554 (default), 10000-• 65535.
- Connections: set number of clients for each RTSP stream, 8 clients are supported at most. And you can check the client (session) number at the server list.
- Main stream: turn on to push main stream. Specify parameters in Encode • tab. By default, it is on.
- Main key: specify stream key for main stream. The main key should be different from sub key.
- Sub stream: turn on to push sub stream. Specify parameters in Encode tab. By default, it is off.
- Sub key: specify stream key for sub stream. The sub key should be different from main key.
- Audio: turn on to stream audio signal, otherwise audio will not be delivered. The audio signal consists of audio embedded in input signal and LINE IN. By default, it is on.
- Authentication: turn on if your live streaming service provider requires. • Type your user name and password for the streaming service.
- Save: save current configuration.
- The encoder can stream 1 RTSP session with other protocol streams.
- After configuration, the stream URLs display at the end of the page. If you have multiple network connections, there would be multiple stream URLs.

MVQEMETT.	Dashboard	Input	Encode	Live	Overlay	System	9	Admin 👻
_								
		Name		SRT Caller				
		Stream		Main stream			•	
		Address		10.10.15.225				
		Port		8000				
		Connect timeout		3000			ms	
		Retry duration		10000			ms	
		Latency		120			ms	
		Bandwidth		25			%	
		MTU		-		1496	+	
		Stream ID		upload.srt/live	/hdmi005			
		Encryption		Not Used			•	
		Network		Mobile broadb	and first		•	
		Delete				Test	Save	

SRT Caller

- Name: specify a name for current task to facilitate server management, which will be displayed in server list. The name can be $1 \sim 30$ character.
- Stream: choose to stream main or sub stream, which can be customized in • Encode tab.
- Address: enter the Listener address when Mode is set to Caller. If the SRT • listener and caller are on the same LAN, enter the private IP address of the SRT listener on the LAN. If the SRT listener and caller are in different network environments, enter the public IP address of the SRT listener.
- **Port:** enter the port number specified by the encoder, which ranges from 1 • to 65535.
- Connect timeout: specify SRT connection timeout in milliseconds, which ranges from 1000 to 30000ms. The default value is 3000.
- Retry duration: specify retry duration when SRT SRT connection timeout in milliseconds, which ranges from 0 to 10000. The default value is 10000ms.
- Latency: possible values are 30 ~ 8000ms. The default value is 120ms. We recommend that you set the same latency for SRT caller and listener.
- Bandwidth: indicate the portion of the total bandwidth of a stream required • for the exchange of SRT control and recovery packets. Available values are 5 ~ 100%, and the default value is 25%. A worse network condition requires more bandwidth for overhead to ensure normal transmission.
- MTU: specify maximum transmission unit (MTU) in bytes, ranging from 232 to 1500. The default size is 1496.

- Stream ID: specify Stream ID of 0 to 256 characters which should be consistent with that of its sender.
- Encryption: specify the stream encryption algorithm to ensure the data security, options are not used, AES-128/192/256.
- **Passphrase:** specify stream key of 10 to 79 characters, which is the same as the SRT listener.
- Network: The device scans for the available network according to the connection priority and connect to it for streaming. If the current network is disconnected, the unit automatically re-scans according to the priority. By default, the network connection priority is: Mobile Broadband > Ethernet > Wi-Fi.
 - Plug a USB modem into your encoder while using mobile network to stream.
- **Test:** check the connection between the server and encoder.
- Save: save current configuration.

MAGEWELL*	Dashboard	Input Encode	Live	Overlay	System	🙎 Admin 👻
	Nam	ne	SRT Listener			
	Strea	am	Main stream			
	Port		8000			
	Late	ncy	120			ms
	Band	dwidth	25			%
	MTU	J	-		1496	+
	Cont	nections	-		7	+
	Encr	ryption	Not Used			•
	[Delete				Save
					FFmpeg URL: SI	t://10.10.9.153:8000
_						

SRT Listener

- Name: specify a name for current task to facilitate server management, which will be displayed in server list. The name can be $1 \sim 30$ character.
- Stream: choose to stream main or sub stream, which can be customized in Encode tab.
- Port: specify the service port of the encoder, ranging from 8000, and 10000 to 65535. The default value is 8000.
- Latency: options are 30 ~ 8000ms and the default value is 120ms. We • recommend that you set the same latency for SRT caller and listener.
- Bandwidth: indicate the portion of the total bandwidth of a stream required • for the exchange of SRT control and recovered packets. Available values are 5 ~ 100% and the default value is 25%. A worse network condition requires more bandwidth for overhead to ensure normal transmission.
- MTU: specify maximum transmission unit (MTU) in bytes, ranging from 232 to 1500. The default size is 1496.
- Connections: 8 connections at most.
- **Encryption:** specify encryption algorithm for stream data security. Options • are not used (default), AES-128/192/256.
- **Passphrase:** specify stream key of 10 to 79 characters, which is the same as the SRT caller.
- Save: save current configuration.
- The encoder can stream up to 6 SRT sessions simultaneously, containing one SRT Listener session at most.
- After configuration, the play URL and passphase are shown in the page below.

ΜΛ ΔΕΨΕΓΓ _°	Dashboard		Encode		Overlay		🙎 Admin 🝷
ⓒ EDIT SERVER		Name		NDI HX2			
		Program stream	n	Main stream			•
		Preview stream	ı	Sub stream	s (width and height) sho	uld be both within 640 pi	▼
		Source video					
		Machine nan	ne	Ultra Encode			
		Group name		public			
		Source name		#serial-no#-2	2		
				#serial-no# indicate The current source	es the serial number of the serial number of the serial name is: B3112209190	he device. 58-2	
		Transport Mod	e	TCP (Uni-conr	nection)		-
		Failover					
		Receiver contro	ol				
		Web control					•
		Delete					Save

• After configuration, the stream URLs display at the end of the page. If you have multiple network connections, there would be multiple stream URLs.

NDI

- Name: specify a name for current task to facilitate server management, which will be displayed in server list. The name can be $1 \sim 30$ character.
- Program stream: Options are Main stream, Sub stream, and full black video stream (640x360@30FPS).
- Preview stream: Options are Main stream, Sub stream, and full black video • stream (640x360@30FPS). Both width and height of the stream resolution must be no greater than 640.
- Source Video
 - Machine name

It is case-insensitive, and should be a combination of A to Z, a to z, 0 to 9 and special characters like _-#(). By default, it is Ultra Encode.

Group name

Specify the Group name which the source belongs to. It is caseinsensitive, and should be a combination of A to Z, a to z, 0 to 9 and special characters like _-. Multiple groups are supported, which should be comma-separated. By default, it is public.

Source name

By default, it is **#serial-no#**, serial number.

Transport Mode

- UDP (Unicast) indicates that the encoder sends a UDP stream directly to the receiver. It is used where lower latency matters. And multiple simultaneous streams will work independently for multiple receivers.
- UDP (Multicast) indicates that the encoder sends the UDP stream to a multicast group. It is used for one-to-many broadcast for lower CPU utilization. Parameters in a multicast configuration include:
 - Multicast IP ranges from 224.0.0.0 to 239.255.255.255.
 - Subnet Mask can be legitimate value ranging from 255.0.0.0 to 255.255.255.0.
 - Time To Live ranges from 1 to 255. The default value is 4.
- **RUDP (Unicast)** indicates that the encoder sends the reliable UDP stream directly to the receiver.
- TCP (Uni-connection) indicates that the encoder sends the TCP stream directly to the receiver.
- TCP (Multi-connection) indicates that the encoder sends the TCP stream to more than one receiver.
- Failover: turn on to protect your NDI transmission from failure. If the initial source video fails, the backup device begins to provide a service. The initial source will be automatically switched back to after it recovers. This function is disabled by default.
 - Source name shows the backup NDI channel name. Click Change... and select the failover (backup) video device within the same NDI group as the initial source.

MVCEMETT.	Dashboard	Input	Encode	Live	Overlay	System	2	Admin 👻
		Name		HLS Server				
		Stream		Main stream			-	
		Stream key		stream				
		Delete					Save	
					Stream URL:	http://10.10.9.153:80	80/hls/stream.m3u	18

HLS

- Name: specify a name for current task to facilitate server management, which will be displayed in server list. The name can be $1 \sim 30$ character.
- stream: options are main stream, and sub stream. Modify the stream profile in Encode tab.
- Stream key: set key for your chosen stream. The keys of dual streams should be different.
- Save: save current server configuration.
- The encoder can stream 1 HLS session with other protocol streams.
- After configuration, the stream URLs will display at the end of the setting page. If you have multiple network connections, there would be multiple stream URLs.

- Receiver Control: turn on Web control to enable you to open the Web UI by clicking the gear icon in the NDI Studio Monitor application.
- When streaming NDI[®]|HX2, the encoder would send dual streams simultaneously.
- The encoder can stream 2 $NDI^{\mathbb{R}}$ |HX2 sessions with other protocol streams.

WVGEMELT.	Dashboard	Input	Encode	Live	Overlay	System	💄 Admin 👻
ⓒ EDIT SERVER		Name		TS over UDP			
		Stream		Main stream			-
		Address		10.10.14.183			
		Port		50000			
		Custom PID					
		PMT PID				256	+
		Video PID				257	+
		Audio PID				258	+
		PCR PID				45	+
		Network		Mobile broadba	and first		•
		Delete					Save

NAGEWELL°	Dashboard	Input	Encode	Live	Overlay	System	٩	Admin 👻
		Name		TS over RTP				
		Stream		Main stream			•	
		Address		10.10.15.255				
		Port		6000				
		Custom PID						
		PMT PID				256	+	- 1
		Video PID				257		- 1
		Audio PID				259	·	- 1
						45		- 1
		TCKTID				-5		
		Network		Ethernet first			•	
							Save	

TS over UDP/RTP

- Name: specify a name for current task to facilitate server management, which will be displayed in server list. The name can be $1 \sim 30$ character.
- Stream: options are main stream and sub stream, which can be customized in Encode tab.
- Address: specify the destination address.
- **Port:** specify the stream port. The value ranges from 1 to 65535.
- Custom PID: PID stands for packet ID. Toggle it on to set the PIDs. PMT PID (program map table) should be different from Video PID, Audio PID and PCR (program clock reference) PID.
 - PMT PID: the default value is 256. The value ranges from 16 to 8190.
 - Video PID: the default value is 257. The value ranges from 16 to 8190.
 - Audio PID: the default value is 258 for channel 1 to channel 8. The value ranges from 16 to 8190.
 - PCR PID: it is used to sync the audio and video. The default value is 45. The value ranges from 16 to 8190.
- Network: The device scans for the available network according to the connection priority and connect to it for streaming. If the current network is disconnected, the unit automatically re-scans according to the priority. By default, the network connection priority is: Mobile Broadband > Ethernet > Wi-Fi.

Plug a USB modem into your encoder while using mobile network to stream.

- Save: save current configuration.
- You can set TS over UDP/RTP MTU at the System > General > LIVE part.

MVGEMETT.	Dashboard	Input	Encode	Live	Overlay	System	👤 Admin 👻
		Name		TVU ISSP			
		Stream		Main stream			•
		Port		6539			
							Save
						Stream URL: issp://1	0.10.9.153:6539

TVU ISSP

- Name: specify a name for current task to facilitate server management, which will be displayed in server list. The value can be 1 to 30 characters, including A-Z, a-z, 0-9, spaces, ._-+'[]() and can not begin or end with a space.
- Stream: options are main stream and sub stream, which can be customized in Encode tab.
- Port: specify the stream port. The value can be 6539 (default), 10000-65535.
- Save: save current configuration.
- The encoder can enable 1 TVU ISSP session exclusively.
- After configuration, the stream URLs display at the end of the page. If you have multiple network connections, there would be multiple stream URLs.

Overlay

The overlay function is available when the resolutions of the input signal and the mainstream are no greater than 2048x1080, and image rotation of the output signal is 0°.



Setting Overlays for the Main and Sub Streams **Display Overlays** is off by default. You can preview thumbnails with overlays after turning it on.



WVQEMELT.	Dashboard Input En	code Live Red	cord Overlay Syste	em 😢 Admin 👻
© TEXT				(1920, 0)
	(0, 1080) Location	Custom		(1920, 1080)
		Horizontal	- 737 + Ve	rtical – 273 +
	Font	Source Har	n Sans	• B I
	Size & Fill		337	+
	Outline		12	+
	Content	1-63 charact	ers no# #eth-ip# and #wifi-ip# indicate the d	evice name, device serial number. Ethernet
		IP address, and V	Vi-Fi IP address respectively.	CONCERNING OF THE HUMBER, LENGTHER
	Delete			Save

Adding Text

- Location: options are Custom(default), Top left, Top right, Top center, Bottom left, Bottom right, Bottom center, and Center. Or just drag the item on the 1920x1080 canvas and place it at your desired location.
- Horizontal: specify the horizontal coordinates manually when location is Custom.
- Vertical: specify the vertical coordinates manually when location is Custom.
- Font: options are Source Han Sans (default), and Lato. Bold and Tilt are also provided.
- Size & Fill: font size is 26px by default. You can set from 6 to 400px. The default fill color is rgba(255, 255, 255, 1), and you can click the color-picker to custom your desired color.
- Outline: the default width of outline is 1px. You can set from 0 to 100px. And the default outline color is rgba(0, 0, 0, 1), and you can click the colorpicker to custom your desired color.
- **Content:** 1 to 63 characters are supported to display.
- Save: save current configuration.

MV@EMELT.	Dashboard	Input	Encode	Live	Overlay
€ CLOCK					

Font

Size & Fill

Outline

Time

Horizontal -

Source Han Sans

YYYY-MM-DD hh:mm:ss

Adding Clocks

👤 Admin 👻

0

• B

Save

Vertical

26

1

+

- Location: options are Custom(default), Top left, Top right, Top center, Bottom left, Bottom right, Bottom center, and Center. Or just drag the item on the 1920x1080 canvas and place it at your desired location.
- Horizontal: specify the horizontal coordinates manually when location is • Custom.
- Vertical: specify the vertical coordinates manually when location is Custom.
- Font: options are Source Han Sans (default), and Lato. Bold and Tilt are also provided.
- Size & Fill: font size is 26px by default. You can set from 6 to 400px. The default fill color is rgba(255, 255, 255, 1), and you can click the color-picker to custom your desired color.
- Outline: the default width of outline is 1px. You can set from 0 to 100px. • And the default outline color is rgba(0, 0, 0, 1), and you can click the colorpicker to custom your desired color.
- Time: options are as follows.
 - YYYY-MM-DD hh:mm:ss
 - MM/DD/YYYY hh:mm:ss
 - DD/MM/YYYY hh:mm:ss
 - YYYY-MM-DD
 - MM/DD/YYYY
 - DD/MM/YYYY
 - hh:mm:ss
 - hh:mm

- ⋒⋏⋳⋹⋓⋹∊∊ 👤 Admin 👻 Custom Location Alpha transparency 255 20 % Scale Picture
- Save: save current configuration.

Adding Pictures

- Location: options are Custom(default), Top left, Top right, Top center, Bottom left, Bottom right, Bottom center, and Center. Or just drag the item on the 1920x1080 canvas and place it at your desired location.
- Horizontal: specify the horizontal coordinates manually when location is Custom.
- Vertical: specify the vertical coordinates manually when location is Custom.
- Alpha transparency: it can have a value from 0 (0%) to 255 (100%) in • opacity.
- Scale: resize your picture between 1% and 400%. By default it is 100%.
- **Picture:** choose a picture from Overlay > Gallery. There is no picture by • default.
- Save: save current configuration. •



Gallery

- Upload JPEG/PNG files for overlays, up to 1920x1080, 1 M. And you can add 8 pictures at most.
- You can choose the picture in Overlay > Picture after uploading successfully.
- Click delete button \bigcirc to delete current picture from your device.

General

MAGEWELL®	Dashboard In	put Encode	Live O	verlay System	👤 Admin 👻
General	Network	Q User Admin	Firmware	C2 Control Hub	About
DEVICE NAME Change the device name other name you like.	Uit: to any	ra Encode B312220809(002		Save
SECURITY	HTTI	rt	80		
	нтт	PS			0
	Po	rt	443		

SECURITY	LITTO	
SECONT	niir	
	Port	80
	HTTPS	C
	Port	443
	CA Certificate	Drag & drop a certificate or click to upload
	CA Private Key	Drag & drop a key or click to upload
		Save

Devivce Name

- When used solely as a device name: valid characters are A-Z, a-z, 0-9, space, ., _, -, +, ', [,], (, and). The first and last character cannot be a space.
- When used as a domain name for WebUI access: valid characters are a-z, 0-9, - (hyphen), and . (dot). Enter "device_name.local" in a web browser to access the Web UI within the same LAN as the device.
- Save: save current configuration.

Modify SECURITY settings

1. Modify HTTP port.

The default port is 80. Modify the port number ranging from 1 to 65535, based on your network condition, then click Save.

2. Secure the Control Hub with HTTPS.

Turn on HTTPS, then specify the port number ranging from 1 to 65535 for HTTPS. The default port is 443.

Modify HTTPS port.

The default port is 443. Modify the port number ranging from 1 to 65535, based on your network condition, then click Save.

• Import a CA certificate and private key into Control Hub.

A/V SYNC	Audio offset	•	
To match up the audio and video tracks, set a positive value to delay the start of the audio track, set a negative value to reduce the delay.		Save	Reset

LIVE	TS Over UDP/RTP			
Set Live parameters.	MTU	-	1496	+
			Save	Reset
NDI®	Access Manager			
	Groups	Public		
	Discovery Server			
				Save

Renew certificates by uploading the new files that you want to, without removing existing ones. Then click Save.

3. Re-log into Web UI.

Open your Web browser and type http://IPaddress:new-port, or https://IPaddress to access the SIGN IN page.

A/V Sync

- Audio offset ranges from -200 to 200ms. To match up the audio and video tracks, set a positive value to delay the start of the audio track, or set a negative value to reduce the delay. We recommend that you start your live after this configuration to enjoy the A/V sync adjustment.
- Save: save current configuration.
- Reset: reset parameters to default values.

Live

- TS over UDP/RTP MTU: specify maximum transmission unit (MTU) in bytes, ranging from 228 to 1500. The default size is 1496.
- Save: save current configuration.
- **Reset:** reset parameters to default values.

NDI®

• Group name: specify the group which the source belongs to. 1 to 63 characters are supported. It is case-insensitive, and should be a combination

DATE & TIME	Time zone	UTC	-
Set proper time for your			
streamer to live and record			Save
streamer to live and record.			
	Set time automatically		•
	NTP server 1	0.pool.ntp.org	
	NTP server 2	1.pool.ntp.org	
			Save
RESET	Reset all settings		
Reset all settings will cause all			
configurations to return to the	Import settings		
default value			
default value.	Export settings		
DEROOT			

Date & Time

the switch is off.

• Save: save current configuration.

• Time zone: specify a time zone for your device.

- Set time automatically: turn on Set Time Automatically. Then the device's time will synchronized to the world-time servers depending on the timezone you set. Otherwise, you can set time manually.
- NTP server 1: the default server is 0.pool.ntp.org.
- NTP server 2: the default server is 1.pool.ntp.org.
- Save: save current configuration.

of A to Z, a to z, 0 to 9 and special characters like _-. Multiple groups are supported, which should be comma-separated. By default, it is public.

• Discovery Server: turn on the switch to auto-detect a source sender in different network segment and ping the sender. And the Server IP should be the IP address of the server running discovery server software. By default,

DATE & TIME	Time zone	UTC	•
Set proper time for your streamer to live and record.			
	Set time automatically		
	NTP server 1	0.pool.ntp.org	
	NTP server 2	1.pool.ntp.org	
RESET	Reset all settings		
Reset all settings will cause all configurations to return to the	Import settings		

Reboot the device

RESET	Reset all settings			
Reset all settings will cause all configurations to return to the	Import settings			
default value.	Export settings			
REBOOT	Reboot the device			
Reboot will shut device down				
and then start it again immediately.	Auto reboot			
	Reboot time	2023-09-15	© 11:17:32	
	Repeat event	No-repeat		•
				Save

Resetting Your Device

- Reset all settings: be cautious that resetting your device would restore configurations to defaults.
 - You can **Reset all settings** on the "SIGN IN" page, when the device is connected to PC via USB NET.
- **Reboot the device:** power off the device and restart it when it does not work.

Reboot

- **Reboot the device:** power off the device and restart it when it does not work.
- Auto reboot: off by default. Turn it on to set Reboot time (YYYY-MM-DD HH-MM-SS), Reboot time, and click Save.
 - Repeat event: Support no-repeat (default), daily, weekly, monthly, yearly.
 - **Daily**: The repeat mode can be repeated every N days, or every workday.
 - Weekly: The repeat mode can be Repeat every 1 week next days: multiple choices are available.
 - Monthly: The repeating pattern may be repeat N days every N month, or on weekday every N month.
 - Yearly: The repeating pattern can be every N day N month, or on N

REBOO

weekday of N month.

Network

Networking information, including Ethernet, USB NET, mobile network, Wi-Fi and AP, can be set in the Network tab.

MVQEMETT.	Dashboard In	put Encode	Live	Overlay System	💄 Admin 👻
General	Network	Q User Admin	Firmware	Control Hub	About
ETHERNET Settings for Ethernet IP :	Link address. DHC	status P	1.0 Gbps		
	IP	address	10.10.9.153		
	Ne	twork gateway	10.10.0.1		
	DI	15	10.0.1.3		Apply

Setting ETHERNET

The device automatically detects and connects to the Ethernet when networking to a DHCP-enabled LAN. Or you can set the IP address manually for a fixed IP address or an auto-networking failure.

- **DHCP:** it is on by default. Turn off the switch to modify current network setting or when being connected to a non-DHCP network.
 - IP address: device IP address.
 - Subnet mask: device subnet mask.
 - Network gateway: device gateway.
 - **DNS:** DNS server IP address.
- Apply: make current configuration effective. When prompted, click Yes.
- Verify: input new IP address to open the Web UI.

ͲϒϾϾϺϾΓΓ 👤 Admin 👻 Choose a network Mine 0 Î magewell WI-FI Others magewell 006 5GHz magewell-GUEST 9 🔶 $\ominus \widehat{\diamondsuit}$ magewell009 5G HUAWEI-0401VH 5G 0 ŝ

WI-FI			Change
Display the Wi-Fi information.	SSID	magewell	
	Status	Medium (-58 dBm)	
	DHCP		•
	IP address	10.20.0.176	
	Subnet mask	255.255.255.0	
	Network gateway	10.20.0.1	
	DNS	10.0.1.3	
			Apply
AP		Change pa	assword Disable

Setting Wi-Fi

16 Wi-Fi network information can be saved for auto-detection.

- **Disconnect:** click to cut off current Wi-Fi network.
- Change... click to choose a different WLAN to connect to.
- SSID: named after device serial number.
- Status: Wi-Fi signal strength.
- IP address: WLAN IP address.
- Subnet mask: WLAN subnet mask.
- Network gateway: WLAN gateway.
- DNS: WLAN DNS server IP address.

Searching Wi-Fi Network manually

- Click Change... to choose a different WLAN to connect to, and Enter the 1. network security key.
- (Optional) Check Connect automatically, then the Wi-Fi network will be 2. joined automatically.
- 3. Click **connect**.

Setting Wi-Fi manually

- Set IP address manually: turn on the switch to modify current network setting or when being connected to a non-DHCP network.
- IP address: device IP address.
- Subnet mask: device subnet mask.
- Network gateway: device gateway.
- DNS: DNS server IP address.

AP			Change password	Disable
Display the AP information.	SSID	B311220930005		
	IP address	192.168.48.1		
	Subnet mask	255.255.255.0		
USB NET				Edit
USB NET				Edit
USB NET Settings for IP address of USB NET.	Link status	High Speed		Edit
USB NET Settings for IP address of USB NET.	Link status IP address Subnet mask	High Speed 192.168.66.1 255.255.255.0		Edit
USB NET Settings for IP address of USB NET.	Link status IP address Subnet mask	High Speed 192.168.66.1 255.255.255.0		Edit
USB NET Settings for IP address of USB NET. MOBILE NETWORK	Link status IP address Subnet mask	High Speed 192.168.66.1 255.255.255.0		Edit
USB NET Settings for IP address of USB NET.	Link status IP address Subnet mask	High Speed 192.168.66.1 255.255.255.0		
B NET ings for IP address of USB DBILE NETWORK	Link status IP address Subnet mask IP address Subnet mask	High Speed 192.168.66.1 255.255.255.0 192.168.8.161 255.255.255.0		Edit

Setting AP

You device can work as an AP to be joined to for remote web control.

• SSID: by default, it is named after the device serial number.

• Verify: input new IP address to open the Web UI.

- **IP address:** fixed as 192.168.48.1.
- Subnet mask: fixed as 255.255.255.0.
- Change password...
 - AP password: the default AP password is the last 8-number of the serial number. For example, a serial number 311210101001 indicates the initial AP password is 10101001. It ranges from 8 to 16 characters including A-Z, a-z, 0-9, space ._-+'[]() and cannot begin or end with a space.
- Disable: click to turn off AP mode. This renders you unable to manage the • device over AP, which is not recommended, especially when you are using wireless network or linux/mac OS.

• Apply: make current configuration effective. When prompted, click Yes.

MV@EMELT₀	Dashboard	Input	Encode	Live	Overlay	System	٤	
		Subnet mask		255.255.255.0				
		Network gate	way					
		DNS						
		_						
		USB NET			×			
АР		IP address	192.1	. 66 . 1		Change password	Disable	
Display the AP information	on.		Cancel	Apply				
		Subnet mask		255.255.255.0				
USB NET							Edit	
Settings for IP address of NET.	USB	Link status		High Speed				
		IP address		192.168.66.1				

AP			Change password	Disable
Display the AP information.	SSID	B311220930005		
	IP address	192.168.48.1		
	Subnet mask	255.255.255.0		
USB NET				Edit
Settings for IP address of USB				
NET.	Link status	High Speed		
	IP address	192.168.66.1		
	Subnet mask	255.255.255.0		
MOBILE NETWORK	IP address	192.168.8.161		
Display the mobile broadband	Subnet mask	255.255.255.0		
information.	Network gateway	192.168.8.1		
	DNS	192 168 8 1		

Setting USB NET

You can connect your device to a PC via USB NET for remote control.

- Link status: USB NET connction status.
- IP address: USB NET IP address, 192.168.66.1 by default. You can click Edit... to change it.
- Subnet mask: Subnet mask of USB NET.
- Edit...: enter a new address and click Apply in the prompt window. The IP address will show the changed IP address after modification.

Setting Mobile Network

The encoder supports streaming via a USB modem.

- IP address: IP address assigned by the USB modem.
- Subnet mask: subnet mask.
- Network gateway: gateway.
- **DNS**: DNS server IP address.

ADVANCED SETTINGS	Network priority	Wi-Fi
		When multiple network connections are available, you can set the priority of the network connect
		Apply

Advanced Settings

Network priority

The default network priority is as follows: Ethernet > Wi-Fi > Mobile Broadband. This parameter does not impact the real-time transmission of video and audio data during live streaming. However, it may affect the quality of other network-related services, such as the ability to communicate with the Control Hub for device management and monitoring purposes. If the parameter is set to Mobile Broadband, please insert a USB mobile network card into the encoder.

User Admin

Administrator is allowed to perform the following tasks. The User Admin tab is invisible when you log in as a general user.

- Creating/Removing General User Accounts
- Modifying User Password

ͲΛĠĖ₩ĔĹĽ°					Overlay		▲ Admin +
(B)	®		2	*		ය	
General	Network	Add New Us	ser		× a	ntrol Hub	About
USER ADMIN Admin user create and ma users that are stored local	nage y on	User name 3-12 charac Password			ø		
the device.		Confirm pas	sword sword		ø		
		Role					
		User	Cancel	ОК	•		

Creating/Removing General User Accounts

After signing in with default admin account, you may need to add general users to give them permissions to do basic operations, like monitoring the device, or setting some of the parameters.

- 1. Access the Web UI, and sign in as administrator.
- Go to User Admin tab. 2.
- Click Add user. 3.
- Enter username, password, and confirm your password. 4.
 - The username is a string of 3 to 12 characters, which contains the letters A-Z, a-z, numbers 0-9 and underline.
 - The password is a string of 1 to 32 characters, which contains the letters A-Z, a-z, numbers 0-9 and special characters _~!@#\$%^&*-+=.
- 5. Assign the user to an Administrator role or general User role.
 - Administrators have the highest level of access to an account.
 - A general user will have limited access to the account as per the permissions given by the Admin. You may not get access to the "User Admin" function.
 - The user role can not be changed. You might need to recreate a new

user.

- 6. Click OK.
- 7. Repeat step 3~5 to add multiple users. You can add up to 15 users.
- 8. To delete a user: Click **Delete** in the username card. When prompted, click Yes.

Set Password in the following ways.

- 1. Modify user password logged-in via drop-list beside your avatar at the top right
- 2. Modify a specified user password in **User Admin** tab with admin account

Modifying current logged-in user password

- 1. Log in Web UI.
- 2. Click the drop-list icon 💌 beside your avatar icon, and click **Change** password.
- 3. In the pop up window, type in your old password, the new password, and confirm your new password.

The password is a string of 1 to 32 characters, which contains letters A-Z, a-z, numbers 0-9 and special characters $_{-}!@#$ %^&*-+=.

4. Click **OK**.



Change Password

1-31 characters	Ø
New password	
1-31 characters	Ø
Confirm password	
Confirm password Verify your new passcode	Ø
Confirm password Verify your new passcode	Ø

 \times

MVQEMETT.	Dashboard	Input Encod	e Live	Overlay System	👤 Admin 👻
General	Network	Q User Admin	Firmware	Control Hub	About
USER ADMIN Admin user create and ma users that are stored local the device.	nage Iy on	Add New User	Admin Admin		

Modifying a specified user password

- 1. Access the Web UI and sign in with the administrator account.
- 2. Go to User Admin tab, then you can change any user's password.
- 3. Click the **Set password**.
- 4. In the pop up window, type in and confirm your new password. The password is a string of 1 to 32 characters, which contains letters A-Z, a-z, numbers 0-9 and special characters $_{-}!@#$ %^&*-+=.
- 5. Click OK.

Set Password

New password

1-32 characters (A-Z, a-z, 0-9 and _~!@#\$%^&*-+=) Ø

Confirm password

Verify your new passcode	ø
--------------------------	---

ОК

Cancel

×
Firmware

Detect and update firmware to the latest version online, or you can manually add a firmware file to update the unit to specified version.

ΜΛGEWELL °	Dashboard	Input Encode	Live Ov	verlay System	🙎 Admin 👻
General ONLINE UPDATE	Network	Q User Admin	Firmware	C-S Control Hub	About
Check and update the d the latest version on the internet, enjoy the latest features and improveme appreciate your assets.	levice to 2 t :nts, and	Current Version 2.0.182* Your firmware i	s up to date. 🅑		
MANUAL UPDATE					
Drag and drop a firmwar here to update the devic specified version manua	re file ce to a Ily.		Current versio	n: 2.0.182*	

Online Update

By default, the function is on. When a new version is detected, a Firmware icon will flow on the control pane.

- 1. Turn on 💽 switch, and the online update function is on. The unit would detect the latest released firmware automatically when connecting to the Ethernet.
- 2. Click 👩 icon to check for the latest firmware manually.
- 3. Click **Update** button to download and install the new version file if any. Do not disconnect from the power source or perform any operation while updating the firmware as this could damage your gear. After a successful update, the device will restart automatically.
- 4. Verify: click 🙆 checking for updates again.

Current version: 2.0.182* Attach the update file (.mwf) by drag & drop or click to upload

MV@EMETT.	Dashboard	Input Encode	Live	Overlay	System	2 Admin -
General	Network	2	*		c <u></u>	About
General	Network	Control Hub		×		About
CONTROL HUB 1		Invitation code 4-digit Control Hub address IP address or domain name HTTPS HTTP port				Deregister
CONTROL HUB 2		80 Cancel	Save			Register

Manual Update

1. Click on **click to update** to select the **.mwf** firmware update file from your local storage, or just drag and drop the file from your computer into the upload zone.

Dowload firmware file from our official website. The device will automatically verify the update file and upload the file after the file verification is passed.

Click Update to download and install the new version file. Then the device 2. will reboot to complete the update.

Do not disconnect from the power source or perform any operation while updating the firmware as this could demage your gear.

3. Verify: check the Firmware version in Dashboard or Firmware tab. It should be the same as your target version number.

Control Hub

You can apply for remotely control using Control Hub. 2 platforms are supported simultaneously, Control Hub 1 and Control Hub 2.

- Click **Register...** and input parameters in the prompted window. And save after configuration.
 - Invitation code: a 4-digital numbers security code obtained from Control Hub. If not leave it empty.
 - Control Hub address: input IP address or domian name of Control Hub.
 - HTTPS: turn it on when data security matters, and Control Hub enables HTTPS at the same time. It is off by default.

MV@EMELT.	Dashboard	Input Encode	Live C	Overlay System	💄 Admin 🝷
(Ç) General	Network	Q User Admin	Firmware	کے Control Hub	About
CONTROL HUB 1					Cancel
		Control Hub status	Online		
		Register status	Waiting		
		Control Hub address	10.10.8.183		
		HTTPS	Disabled		
		HTTP port	5544		
CONTROL HUB 2					Deregister
		Control Hub status	Online		
		Register status	Accepted		

- HTTPS port: input HTTPS port number between 1 and 65535, which should be consist with that of Control Hub. Port 443 is used by default.
- HTTP port: input HTTP port number between 1 and 65535, which should be consist with that of Control Hub. Port 80 is used by default.
- Click Deregister to stop the remote control from Control Hub.
- Check parameters related to Control Hub management.
 - Control Hub status: Online or Offline. Online indicates that the communication between device and Control Hub platform goes well. On the other hand, Offline indicates the communication is interrupted.
 - Register status: shows current status of Control-Hub-join permission, including
 - Incorrect invitation code: you need to change your registration with correct code.
 - Waiting: registration is successfully submitted to Control Hub • plarform.
 - Approved: registration is approved. This device can be remotely controlled.
 - Rejected: Registration is denied.
 - Deleted: Registration is deleted, you can re-apply for joining the Control Hub.
 - **Control Hub address:** shows the IP address of Control Hub.
 - HTTPS: shows the enable status of HTTPS.

• HTTPS/HTTP port: shows the HTTPS/HTTP port of device used to communicate with Control Hub.

About

Obtain basic data for device maintenance in About tab.

MV@EMELT.	Dashboard	Input E	ncode Li	ive C	Overlay System	🙎 Admin 👻
General	Network	Q User Ad	min F	irmware	C3 Control Hub	About
ABOUT		Device name		Ultra Encode	B311220930005	
Display the device inform	ation.	Product name		Ultra Encode		
		Serial number		B311220930	0005	
		Hardware version		В		
		Firmware version		2.0.182*		
		Ethernet MAC add	ress	D0:C8:57:81	:21:0A	
		Wi-Fi MAC address	5	D0:C8:57:81	:21:0B	
REPORT		Ultra Francia UD				1
Take a snapshot of all curr conditions of the device a export to a file for suppor	rent and	Generated at Fri Oc	₩ 1 tt 14 03:11:49 202	22		

Checking Device Information

- Device name: device name, which can be modified in the System > General > Device name area.
- Product name: device family name.
- Serial number: device serial number.
- Hardware version: device hardware version.
- Firmware version: device firmware version, which can be update in the Firmware tab.
- Ethernet MAC address: device Ethernet MAC address.
- Wi-Fi MAC address: device Wi-Fi MAC address.

REPORT Take a snapshot of all current conditions of the device and export to a file for support.	Ultra Encode HDMI Generated at Fri Oct 14 03:11:49 2022 DEVICE
	<pre>{ "product": { "device-name": "Ultra Encode B311220930005", "product-name": "Ultra Encode", "module-name": "Ultra Encode HDMI", "sn": "B311220930005", "hardware-ver": "B", "hardware-ver": "B", "firmware-ver": "2.0.182", "factory-firmware-ver-s": "2.0.165" }, "mac-addr": { </pre>
	Export

Exporting Reports

Export reports from your encoder when you want to get help from the Magewell Support team. These files will help our support engineers get a better understanding of your device status and other related information.

- 1. Go to About > Report.
- 2. Click **Export...** to generate a .html file.
- 3. When prompted, click **Export**.

SYSTEM LOG	Total : 100	00 events	All Information Warning Error		
Frack important events	Level	Date & Time	Detail		
generated by the device and		2022-10-14 03:05:48.152	Deleted user 'mmm'		
export them as a file for	(i)	2022-10-14 03:03:36.171	User 'Admin' (10.10.3.121) logged in, session: 1		
		2022-10-14 03:03:30.978	User 'Admin' (10.10.3.121) logged out		
	(i)	2022-10-14 02:55:54.487	User 'Admin' (10.10.3.121) logged in, session: 1		
	(i)	2022-10-14 02:40:04.261	User 'Admin' (10.10.11.125) logged in, session: 8		
	(i)	2022-10-14 02:39:54.397	Interface(eth0) IP valid and restarted server, name: SRT Caller, id: 2		
	(i)	2022-10-14 02:39:54.379	Interface(eth0) IP valid and restarted server, name: RTMP Server, id: 0		
	()	2022-10-14 02:39:54.216	Interface (eth0) was assigned IP address 10.10.9.153		
	(i)	2022-10-14 02:39:52.546	Audio signal present: 48000 Hz, 2 channels, 16 bits		
	(i)	2022-10-14 02:39:52.539	Video signal locked: 1920x1080i60.00		
	(i)	2022-10-14 02:39:52.530	Video signal locked: 1920x1080i60.00		
	(i)	2022-10-14 02:39:47.209	System startup		
	()	2022-10-14 02:30:24.791	Video signal locked: 1920x1080i60.00		
	(i)	2022-10-14 02:22:00.327	Video signal locked: 1920x1080i60.00		
	(i)	2022-10-14 02:21:45.815	Video signal locked: 1920x1080i60.00		
			Clear		

Clearing/Exporting All Logs

- 1. Access the Web UI and sign in.
- 2. Click and enter the **System** tab, then select **Log**.
- (Optional) Filter current logs. 3.

By default, all logs are displayed in the table. Log entries can be categorized as "error", "warning", and "information".

- **Total** shows the total number of filtered events.
- All: Check to show all logs.

The device can store up to 1000 local log entries. After 1000 entries have been recorded, the oldest entry will be deleted before a new one can be added.

- Information: Check to show information logs which record user actions or significant system events, e.g. login and signal locked.
- Warning: Check to show warning logs which mean something has not worked as it should. e.g. Ethernet is disconnected or signal is unlocked.
- **Error**: Check to show error logs which mean some serious error has • happened.
- 4. (Optional) Click **Export...** to get a .html file of all logs. When prompted in the window, click Export.
- 5. (Optional) Click **Clear** to delete all logs. When prompted in the window, click **Yes**.

FAQ

How to turn on/off AP mode

AP mode is on by default. Administrator can go to System > Network > AP section to turn on/off the AP mode and change AP password.

Can I set one live stream server to use the main stream and the other to use the sub stream?

Yes. You can select the main stream or sub stream for each session.

Can Ultra Encode stream to multiple destinations at the same time?

- Supports sessions over the same streaming protocol, such as •
 - Up to 6 sessions of TS over RTP and TS over UDP simultaneously
 - Up to 6 sessions of SRT Caller and SRT Listener simultaneously, containing one SRT Listener session at most (max 8 clients simultaneously)
 - Up to 6 sessions of RTMP and RTMPS simultaneously
 - Supports streaming only 1 session of HLS, RTSP, or NDI|HX2

What to do if I forget the Web UI password?

- Forgot admin password:
 - 1. Connect the device to your computer using provided USB cable.
 - 2. Type the USB NET IP address 192.168.66.1 in your web browser to access the Web UI.
- At top right of the "SIGN IN" page, click "Reset all settings" to restore all configurations to defaults, and the "Admin" password will be "Admin" again. Be cautious that resetting your device would restore configurations to defaults.
- Forgot a general user's password:
 - Sign in Web UI with the administrator account, then go to **System > User** Admin tab, then you can change the specific user's password.

	Reset all settings	
CICN IN		
SIGN IN Enter your account and password		
SIGN IN		
Forgot your password?		



Support

Get the Latest Information

If you have any problems using Magewell products or need more technical information, please visit the following.

- Tutorial video: Magewell TV
- YouTube channel: Magewell Video Capture Device
- Knowledge base: Ultra Encode Support

Technical Support

Ticket System: If you have any questions using Magewell products or need technical assistance, please submit and track your inquiries by clicking here.

Warranty

Limited Warranty

Except otherwise set between you and Magewell in advance in a written form, the free limited warranty service starts from the date on your proof of purchase. The proof can be: sales contract, formal sales receipt, invoice or delivery note. The earliest date of these proofs is the starting date of the free limited warranty. The period of free limited warranty goes as below:

- Ultra Encode Family: two (2) years;
- The power adapter provided as accessories: one (1) year;

How to get the limited warranty

- Please contact the Magewell support team by email (support@magewell.net) first, to determine whether your problem can only be solved by returning it to 1. Magewell for repair. Magewell might ask you to take photos of the front and back of the defective products.
- Magewell will issue an RMA letter to you if it is confirmed that you need to return the faulty product for further examination or repair. Please fill in the RMA with 2. necessary information as required.

If it is regular repair, you will be responsible for the shipping cost, duties and insurance cost (if applicable); if the product is DOA, Magewell will be responsible for the shipping cost.

- 3. If some components need to be replaced, Magewell will decide to repair, renovate or replace the components by itself. Magewell may use new or repaired component to repair the product. The repaired product can be expected to work normally and the performance to remain the same. Repaired products can work in a good working condition and at least function the same as the original unit. The original replaced component will become the property of Magewell and components which are replaced for the client will become his/her property.
- If the product is within warranty, Magewell will repair or replace the faulty units at its own discretion. In circumstances where the faulty unit is replaced by another 4. one, Magewell may use new, repaired or renovated units. The faulty unit will then become the property of Magewell while the replacement unit will become the property of the purchaser.
- If the warranty expires, Magewell will inform the purchaser whether the products can be repaired and the maintenance costs they need to pay. If purchasers 5.

decide to repair, Magewell will repair, renovate, or replace the components after receiving the maintenance costs. If purchasers give up repairing, Magewell will dispose of the faulty unit if the purchaser chooses that option.

- 6. The repaired or replaced product assumes 1) the remaining term of the Warranty of the replaced unit or faulty unit; 2) ninety (90) days from the date of replacement or repair, whichever provides longer coverage for you. The extended warranty is only valid for repaired/replaced components.
- 7. The period of service depends on the client's location (country and area) and the product.

To view the complete warranty policy, please visit www.magewell.com/quality-assurance.

Notice

Copyright © 2025 Nanjing Magewell Electronics Co., Ltd.

All rights reserved. No part of this publication may be reproduced, distributed, or transmitted in any form or by any means, including photocopying, recording, or other electronic or mechanical methods, without the prior written permission of the publisher, except in the case of brief quotations embodied in critical reviews and certain other noncommercial uses permitted by copyright law.

Trademarks

HDMI, the HDMI logo and High-Definition Multimedia interface are trademarks or registered trademarks of HDMI Licensing LLC. Windows is trademark or registered trademark of Microsoft Corporation. OS X and macOS are trademarks or registered trademarks of Apple Inc. NDI® is trademark or registered trademark of Vizrt NDI AB. HEVC Advance is a registered trademark of Access Advance LLC. Other trademarks and company names mentioned are the properties of their respective owners.

About this Document

- This document is for reference only. Please refer to the actual product for more details.
- The user shall undertake any losses resulting from violation of guidance in the document.
- In case that PDF document cannot be opened, please upgrade the reading tool to the latest version or use other mainstream reading tools.
- This company reserves rights to revise any information in the document anytime; and the revised contents will be added to the new version without prior announcement. Some functions of the products may be slightly different before and after revision.
- The document may include technically inaccurate contents, inconsistencies with product functions and operations, or misprint. Final explanations of the company shall prevail.
- The only warranties for Magewell products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein • should be construed as constituting an additional warranty. Magewell shall not be liable for technical or editorial errors or omissions contained herein.