



Pro Convert HDMI 4K Plus

User Manual, Reference and FAQ



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Getting Started



Overview

Pro ConvertTM HDMI 4K Plus conforms to NewTek's NDI[®] (Network Device Interface) standard, converting video resolutions up to Ultra HD 4K60p into NDI streams with extremely low latency. It is a truly plug-and-play device, with automatic input signal format detection and DHCP-based network configuration, eliminating the need for manual setup. Source video is converted at its native resolution and frame rate by default, while a browser-based interface offers users control of FPGA-based up/down/cross-conversion, deinterlacing, image adjustments and other video processing. Performing these functions within the Pro Convert HDMI 4K Plus hardware can reduce network bandwidth usage and processing requirements for subsequent tools in the production workflow.

Key Features

- Support for NDI.
- Support for encoding up to 4K60p.
- Support for encoding up to 8 channels of embedded audio.
- Support for PoE (Power over Ethernet).
- Support for plug-and-play.
- Support for USB RNDIS (Remote Network Driver Interface Specification).
- Support for connection and management of PTZ camera.
- Support for web-based UI remote control.

System Requirements

Network

Gigabit Ethernet

Supported Web Browser for the Web UI

- Google Chrome version 49 and above
- Microsoft Internet Explorer 11
- Microsoft Edge
- Mozilla Firefox version 61 and above
- Apple Safari 11.1 and above
- Opera 55.0.2994.44 and above

Supported Software

- OBS
- XSplit
- vMix
- VidBlasterX
- Wirecast
- streamstar SW
- mimoLive
- Any other NewTek NDI[®] based encoding or streaming software

Installation

Safety Information

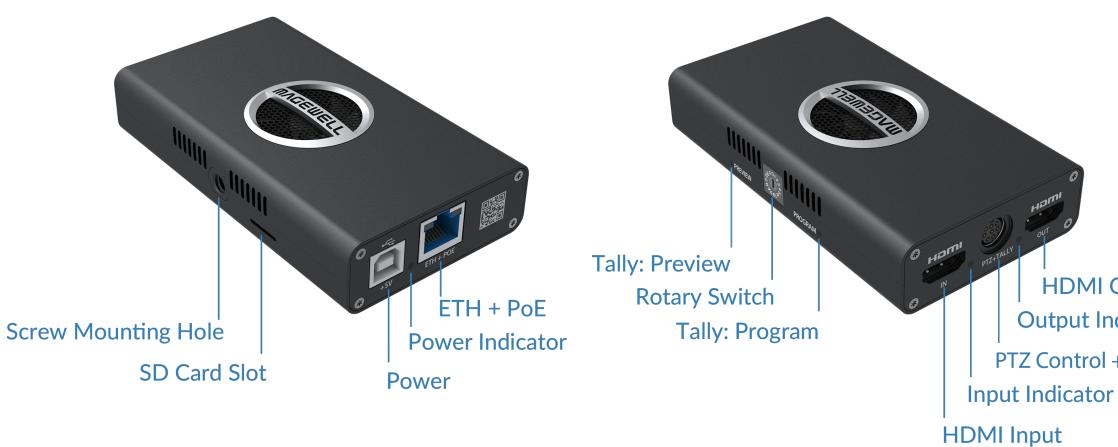
Electrical Safety

- 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. •
- Place the product on a stable surface.
- If you encounter technical problems with the product, contact your dealer or the Magewell Support Team via support@magewell.net.

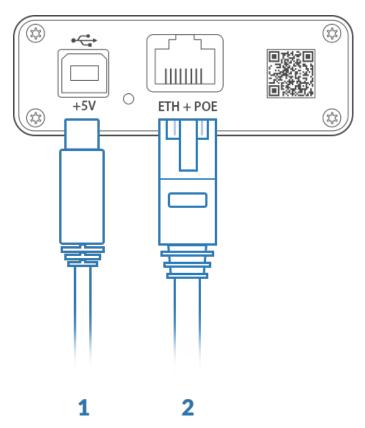
Interfaces & Indicators

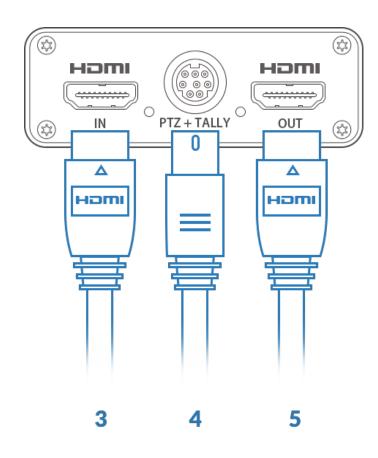


Note: The SD card function is not currently available.

HDMI Output **Output Indicator** PTZ Control + Tally Light

Connections



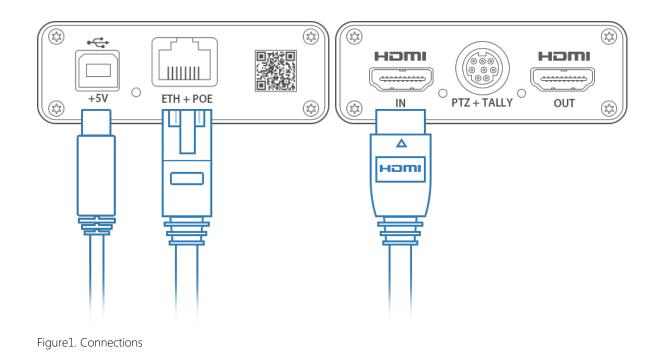


- Plug in the USB cable. 1.
 - For power supply: Connect the other end of the USB cable to the power adapter.
 - For Ethernet over USB (RNDIS): Connect the other end of the USB cable to your computer.
- Plug in the Ethernet cable. 2.
 - For PoE: Connect the other end of the Ethernet cable to a PoE switch or a PoE adapter for power and Ethernet connection.
 - To ensure high speed transmission, it is recommended to connect the Pro Convert unit to a gigabit network.
- 3. Plug in the HDMI cable to connect to the input signal source.
- Plug in a PTZ cable to connect to a PTZ camera or an external Tally light. 4.
- Plug in another HDMI cable to loopthrough the signal (if needed). 5.

Web UI Configuration

Pro Convert allows you to control your devices via a web-based user interface. With the Web UI, you can monitor the device's working status, input signal status, and configure settings for your sessions.

This chapter describes how to access and remotely control your unit via the Web UI.



Accessing the Web UI

If you know your device's IP address, type it into your web browser to display the Web UI. Alternatively, you can access the Web UI in one of the following ways. (1) For Windows7/8/8.1/10 users, you can find and access your Pro Convert device as a Network device in a File Explorer window. (2) Using the USB RNDIS function. (3) Using NewTek's NDI Studio Monitor, if it's installed on your system.

Solution 1: using Windows File Explorer

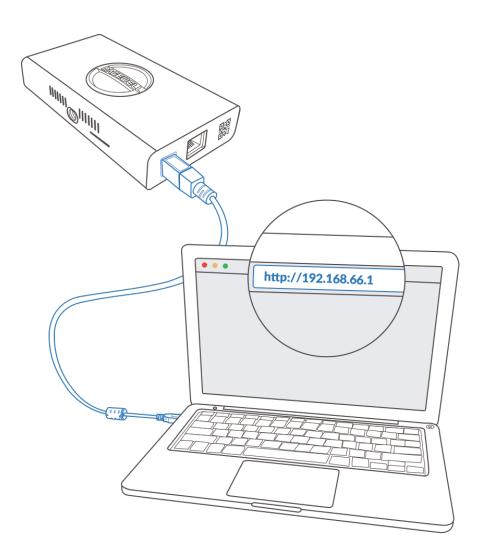
This method is available for Windows7/8/8.1/10 users.

- Step 1 Connect your converter via Ethernet and power it up as shown on the left - Figure1. Connections.
- Open a File Explorer window in one of the following ways. Step 2
 - Click on the Start II button and find File Explorer in the Start menu.
 - Press the Windows logo key 📕 + E.
 - Select the folder icon on the taskbar.

💣 🛃 = Networ	k		-	- 🗆 X
File Network V	/iew			~ 🕐
🗧 🔶 👻 🛧 🍎 🗸	Network >		✓ O Search Network	م
🖈 Quick access	> Computer (5)			
a OneDrive	> Media Devices (13)			
(A) WPS	> Multifunction Devices (1)			
	∨ Other Devices (9)			
This PC	Pro Convert #01 (B401180927001)	Pro Convert #02 (B401180927002)	Pro Convert #06 (B401180706006)	
	Pro Convert #07 (8401180927007)	Pro Convert #08 (B401180927008)	Pro Convert #09 (B401180927009)	
	> Printers (2)			
	> Scanners (1)			

Figure 2. Find your Pro Convert device in the Network > Other Device section

- Select the **Network** at the bottom of the list of items on the left side Step 3 of the File Explorer.
- Turn on the network discovery function if prompted. Step 4
- Find your Pro Convert device in the **Other Device** section, where it Step 5 will be shown as "Pro Convert + #board index + (serial number)".
 - The serial number (marked on your device) will be in a form like "B401180706006".
 - The **board index** (the rotary switch number on your device) is shown like "06" or "#06".
- Double click the converter icon to open the Web UI of the device in Step 6 your web browser.



Solution 2: using USB RNDIS

RNDIS (Microsoft's widely used Ethernet over USB protocol) provides a virtual Ethernet link to the computer's operating system.

- -ġ-For Mac users, if connecting via USB RNDIS for the first time, you must first download and install the RNDIS driver that grants the converter Internet access before the USB cable is connected, like Horndis.
 - For Mac users, we recommend that you transmit 4K60p videos via Ethernet rather than via USB RNDIS in case of unstable transmission caused by the limitations of the RNDIS driver.
- Connect the device and your computer using a USB cable as shown Step 1 on the left.
- Type the USB RNDIS IP address in your web browser. The default Step 2 address is http://192.168.66.1.

The pop-up web UI of the connected device will be shown in your browser.

Please do not change it unless there is a conflict in your network.

 ${\scriptstyle extsf{theta}}$ Do not connect more than one converter simultaneously to the same system via USB RNDIS.

	DESKTOP-ASCNS3Q	>			
	DESKTOP-D5OSJ5L	>			
	DESKTOP-UOVST2V	>			
	HD Camera	>			
	MYPC	>			
~	PRO CONVERT	>	~	#00 (B401180706006)	
	PRO CONVERT AA	>		#00 (B401180706020)	
	Settings	>		#01 (B401180706008)	
	Disconnect				
	NDI.NewTek.com				
	Exit				

Figure 1. Select NDI stream in NDI Studio Monitor

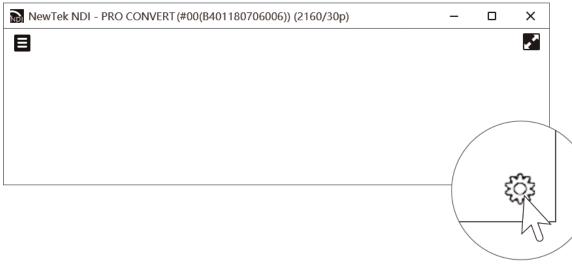


Figure2. Click the gear icon to open the Web UI

Solution 3: using the NDI Studio Monitor

Connect your converter via Ethernet and power it up as shown in Step 1 the Figure1. Connections.

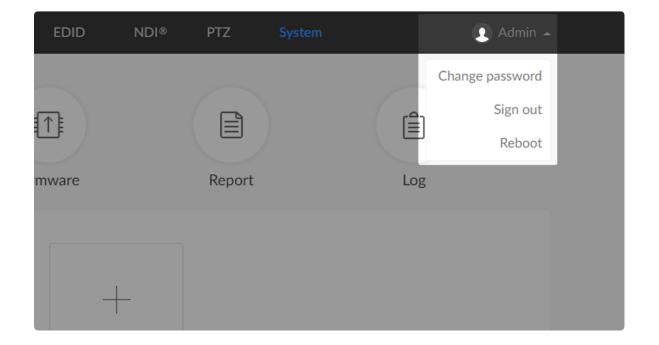
> The unit will automatically obtain an IP address by default. If you want to set up a fixed IP address for your device, see Setting Network.

- Step 2 Download and install the free NDI Studio Monitor software on a computer which is in the same LAN as the converter. The software can be found on the NewTek official website at https://www.newtek.com/ndi/tools.
- Launch the **NDI Studio Monitor** software on your computer. Step 3 The application will automatically search for compatible devices on the same LAN.
- Step 4 Click Menu button 🔳 at the top-left of the window, and select your converter - device name > channel name.

The video stream from the chosen channel will be displayed.

Click the gear icon at the bottom right of the Studio Monitor. Step 5 The pop-up web UI of the selected device will be shown in your web browser.

SIGN IN Pro Convert[™] HDMI®



Signing In/Out

The Web UI allows multi-users to have read/write access to make configuration settings at the same time after login. However, to avoid configuration conflicts, do not operate one device simultaneously.

Signing In: Enter your account and password in the SIGN IN page. Step 1

> • The default administrator account name and password are as follows:

Username: Admin

- Password: Admin
- It is recommended to change the admin password after login (see modify the admin password). Unlike the password, the administrator username cannot be modified.
- Your account will sign out automatically if there is no operation performed within ten minutes.
- Step 2 Signing Out: Click the drop-list icon Image: Signing Out: Click the drop-list icon the top-right of the Web UI, and select Sign out. The **Reboot** function requires administrative rights.

Dashboard

The Dashboard tab in the web UI can show the real-time status and parameters of the Pro Convert device. Click and enter the Dashboard tab to check the device status.

ͲΛĠℇ⋓ℇԼԼ°	Dashboard	Signal Video	EDID NDI®	PTZ System	👤 Admin 🛩
Pro Convert™ HDMI 4K Plus		Device name Serial number Hardware version Firmware version	Pro Convert B401180706006 B 1.0.276		
		Input 1920x1080p60.00 Memory 59.14%	Output Unconnected G Core Temperature 53.77 deg C	ITZ Control None Board Index O	© CPU 10.53% © Up Time 3 d 46 m
ETHERNET		Connection 1.0 Gbps	IP Address 192.168.1.60	Send 61.97 Mbps	Receive 525 Kbps
USB RNDIS		Connection High Speed	IP Address 192.168.66.1	Send O Kbps	Receive O Kbps

Checking Basic Information

- Device name shows the name of your Pro Convert unit. Only the Administrator can modify the device name in the System > Network tab. For detailed information, refer to Setting Device Name.
- Serial number shows the serial number of your unit, which is also marked on your device.
- Hardware version shows the hardware version of your unit.
- Firmware version shows the current firmware version that's installed in your unit. Only the Administrator can update the firmware, via the Firmware tab. For detailed information, refer to Updating the Firmware.

WVCEMELT.	Dashboard	Signal	Video	EDID	NDI®	PTZ	System	🗶 Admin 👻
Pro Convert™ HDMI 4K Plus			me Iber version version	B 1.0.276	0706006		Control	
		Input 1920x108 (0,000) Memory 59.14%	80p60.00	Output Unconn Core Tem 53.77 de	perature	None		CPU 10.53% () Up Time 3 d 46 m
ETHERNET		Connection 1.0 Gbps		IP Addres 192.168		Send 61.97	7 Mbps	Receive 525 Kbps
USB RNDIS		Connection High Spee		IP Addres 192.168		Send 0 Kbj		Receive O Kbps

Checking the Current Working Status

- **Input** shows the resolution and frame rate of the current input signal. For more detail about the input, go to the **Signal** tab.
- Output shows whether a loop-through device is connected to the Pro Convert device.
- PTZ Control shows the current protocol configured for the converter to communicate with a PTZ camera in the PTZ tab.
- CPU shows the current CPU usage (the load on the processor, shown as a percentage) of the Pro Convert device.

CPU usage increases when the device is handling more complex video processing tasks (e.g. encoding at higher resolutions and frame rates).

- Memory shows current memory usage. • You can find out the free memory in System > Report tab, subject to administrative rights.
- Core Temperature shows the current temperature of the unit's processor. Keeping the device free from dust and avoiding a high-temperature work environment may help to avoid overheating of the device. If the core temperature is approaching 100°C, please try to lower the temperature by ensuring a supply of cooler air.
- Board Index shows the rotary switch number. You can change the number on the rotary switch to set a different Board Index, which can be used in the generation of the NDI source name.
- Up Time shows the elapsed time since your device's last boot-up.

WV@EMELT.	Dashboard	Signal Video	o EDID	NDI® PTZ	System	🗶 Admin 👻
Pro Convert™ HDMI 4K Plus		Device name Serial number Hardware version Firmware version				
		Emput 1920x1080p60.0 Memory 59.14%	Output O Unconne Core Temp 53.77 de	cted	TZ Control None Soard Index 0	© CPU 10.53% © Up Time 3 d 46 m
ETHERNET		Connection 1.0 Gbps	IP Address 192.168.		Send 61.97 Mbps	Receive 525 Kbps
USB RNDIS		Connection High Speed	IP Address 192.168.		Send 0 Kbps	Receive O Kbps

HDMI 4K Plus	Serial number Hardware version Firmware version	B401180706006 B 1.0.276	tint of	
	Input 1920×1080p60.00	Output Unconnected	TZ Control None	部 CPU 10.53%
	(2005) Memory 59.14%	Core Temperature 53.77 deg C	 Board Index 0 	© Up Time 3 d 46 m
ETHERNET	Connection 1.0 Gbps	IP Address 192.168.1.60	Send 61.97 Mbps	Receive 525 Kbps
USB RNDIS	Connection High Speed	IP Address 192.168.66.1	Send O Kbps	Receive O Kbps
NDI®	General	Tally	QoS	Encoding
	Name #00 (B401180706006)	Preview Off	Video drop frames O	Video 33.90 Mbps

Checking Ethernet Status

- **Connection** shows Ethernet network connection status.
- IP Address shows Ethernet IP Address. You can manually change it in the System > Network tab with administrative rights.
- Send shows the current Ethernet transmission speed. NDI can generate high bitrates, dependent on resolution, frame rate and picture content. Observing this value will help to guide you in determining how many NDI streams your LAN can handle.
- Receive shows the current Ethernet receive speed.

Checking USB RNDIS Status

- Connection shows USB RNDIS connection status.
- IP Address shows USB RNDIS IP Address. By default, it is http://192.168.66.1. You can manually change it in the System > Network tab, with administrative rights.
- Send shows current USB RNDIS send speed.
- Receive shows current USB RNDIS receive speed.

	58.95%	53.40 deg C	0	3 d 48 m
ETHERNET	Connection 1.0 Gbps	IP Address 192.168.1.60	Send O Kbps	Receive 191 Kbps
USB RNDIS	Connection High Speed	IP Address 192.168.66.1	Send O Kbps	Receive O Kbps
				The state
NDI [®]	General	Tally	QoS	Encoding
NDI [®]	General _{Name} #00 (B401180706006)	lally Preview Off	QoS Video drop frames O	Video 0 Kbps
	Name	Preview	Video drop frames	Video
	Name #00 (B401180706006) Clients	Preview Off Program	Video drop frames O Audio drop frames	Video O Kbps Audio
	Name #00 (B401180706006) Clients 0	Preview Off Program Off	Video drop frames O Audio drop frames	Video O Kbps Audio

Checking NDI[®] Status

Setting NDI parameters refers to NDI.

- \triangle Do not turn off NDI[®] during video transmission.
- **General** shows NDI source information.
 - Name shows NDI source name configured in the NDI[®] tab.
 - Clients shows the total number of NDI clients receiving the streams sent by your converter.
- Tally shows NDI outputs "on-air" status.
 - Preview shows whether the NDI stream has been selected to the Preview bus by any client. If yes, it shows **On** and is green, otherwise, it is **Off** and grey.
 - **Program** shows whether the NDI stream has been selected to the Program bus by any client. If yes, it shows **On** and is red, otherwise, it is Off and grey.
- QoS shows the number of frames dropped in the previous second.
 - Video drop frames shows dropped video frames in the previous second.
 - Audio drop frames shows dropped audio frames in the previous second.
- Encoding shows the encoding speed in the previous second.
- Video shows the video bitrate for the previous second.
- Audio shows the audio bitrate for the previous second.
- Video shows output NDI video information.

- **Resolution** shows the NDI video output resolution that is configured in the Video > OUTPUT section.
- Frame rate shows the NDI video output frame rate that is configured in the Video > OUTPUT section.
- Audio Shows NDI audio output information.
 - Sampling shows the sampling rate and bit depth of the audio output.
 - Channels shows the total number of NDI audio output channels. The converter supports up to 8 channels of embedded audio. NOTE: Conversion of HDMI audio into the NDI audio format is performed using a conversion factor of -20dBFS (HDMI) = +4dBU (NDI). This is the SMPTE broadcast audio standard for the alignment of references levels between dBu and dBFS.

Signal

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

WV@EMELT.	Dashboard	Signal Video	EDID NDI®	PTZ System	() Admin
VIDEO STATUS		Resolution	1920×1080p, 60	0.00 Hz	
		Color depth	8		
		Sampling	4:4:4		
		Aspect ratio	16:9		
		Color format	BT.709		
		Frame struct	2D		
		Quantization range	Limited		
		Saturation range	Limited		
AUDIO STATUS		Sampling	48000, 16 bits		
		Channels	2		
HDMI STATUS		Mode	HDMI		
1001314103			None		
		HDCP encrypted	16		
		IT content	False		

MVQEN	UELL°	Dashboard S	ignal Video	EDID	NDI®	PTZ	System	1	Admin 👻
١	/IDEO STATUS		Resolution	192	20×1080p, 60.	.00 Hz			
			Color depth	8					
			Sampling	4:4:	:4				
			Aspect ratio	16:	9				
			Color format	BT.	709				
			Frame struct	2D					
			Quantization range	Lim	ited				
			Saturation range	Lim	ited				
ļ.	AUDIO STATUS		Sampling	480	000, 16 bits				
			Channels	2					
ł	HDMI STATUS		Mode	HD	MI				
			HDCP encrypted	Nor	пе				
			VIC	16					
			IT content	Fals	e				

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.

⋒⋏⋤⋸⋓⋹∟∟°	Dashboard	Signal	Video ED	DID NDI®	PTZ System	(1) Admin -
AUDIO STATUS		Sampling		48000, 16 bits		
		Channels		2		
HDMI STATUS		Mode		HDMI		
		HDCP en	crypted	None		
		VIC		16		
		IT conter	it	False		
		Pixel rate		148.50 MHz		
		Timing-H	total	2200 Pixels		
		Timing-H	active	1920 Pixels		
		Timing-H	front porch	88 Pixels		
		Timing-H	sync width	44 Pixels		
		Timing-H	back porch	148 Pixels		
		Timing-V	total	1125 Lines		
		Timing-V	active	1080 Lines		
		Timing-V	front porch	4 Lines		
		Timing-V	sync width	5 Lines		
		Timing-V	back porch	36 Lines		
INFO FRAME		AVI				
		Туре		0x82		

Checking HDMI STATUS

- 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.
- **3D struct** shows the layout of the two views within a video frame for stereoscopic 3D video. This parameter is only available for 3D signals.
- **3D sub sampling** shows the method for subsampling 3D video. This parameter is only available for 3D input signals.
- 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.
- 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.

INFO FRAME AVI Туре 0x82 0x02 Version 13 bytes Length Checksun 0x07 Data 50 08 00 10 00 00 00 00 00 00 00 00 00 AUDIO 0x84 0x01 Length 0x70 01 00 00 00 00 00 00 00 00 00

INFO FRAME	AVI	
	Туре	0x82
	Version	0x02
	Length	13 bytes
	Checksum	0x07
	Data	50 08 00 10 00 00 00 00 00 00 00 00 00
	AUDIO	
	Туре	0x84
	Version	0×01
	Version	0x01 10 bytes

AUDIO	
Туре	0x84
Version	0x01
Length	10 bytes
Checksum	0x70
Data	
	01 00 00 00 00 00 00 00 00 00
MW-SPD	01 00 00 00 00 00 00 00 00 00
	0x83
MW-SPD	
MW-SPD Type	0x83
MW-SPD Type Version	0x83 0x01

Checking AVI of INFO FRAME

- 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.

Checking AUDIO of INFO FRAME

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

Checking MW-SPD of INFO FRAME

- **Type** shows the packet type.
- Version shows the packet version.
- Length shows the length of source product description InfoFrame payload.
- Checksum shows the packet checksum.
- Data shows the InfoFrame payload.

Video

Click and enter Video tab to check the information detected by the device, and modify the video format according to your needs. By clicking Reset to Default in the bottom right corner of the page, you can cancel your modified settings.

MVQEMELT.	Dashboard	Signal	Video	EDID	NDI®	PTZ	System	(💽) Admin 🚽
INPUT		🗹 Colo	or format:	YUV BT.70)9			•
		🔽 Qua	ntization:	Limited				•
PROCES	s	🔅 Brigh	these					0 0
	~	Cont						100 2
		⊙ Satu						100 2
		O Hue				•		o و
		Deinterla	ice:	None				•
		Special e	ffect:	Mirror				

Setting INPUT Format

By default, INPUT shows the input information extracted from the signal. If a non-standard signal is incorrectly recognized by the device, you can manually adjust the parameters to correct it.

Color format

Check the box to select other options, including RGB, YUV BT.601, YUV BT.709 and YUV BT.2020.

Quantization

Check the box to select other options, including Full and Limited.

Setting PROCESS Format

By default, the video format of NDI streams is the same as that of input source.

Brightness

Drag the slider bars to adjust it. Click \odot to restore to default.

Contrast

Drag the slider bars to adjust it. Click \odot to restore to default.

Saturation

Drag the slider bars to adjust it. Click \odot to restore to default.

Hue

WVQEMELT.	Dashboard	Signal	Video	EDID	NDI®	PTZ	System		Admin 👻
INPUT			lor format: antization:	YUV BT.70	9			-	
PROCESS		BrigCorSatuHue	utrast		•	-• -•		0 4	0 0
		Deinter Special		None				-	

	Contrast	10	0 0
	Saturation		0 0
	O Hue	• 0	Ð
	Deinterlace:	None	-
	Special effect:	Mirror	
OUTPUT	Resolution:	Follow input	•
	Frame rate:	Follow input	•
	Aspect ratio:	- 16 + : - 9	+
	Color format:	YUV BT.709	•
	Quantization:	Limited	-
			_

Drag the slider bars to adjust it. Click \odot to restore to default.

Deinterlace •

Check the box to select other deinterlace options, including:

- None an interlaced source will be encoded with both fields intact.
- Top field: Duplicate the upper field data vertically to create a full frame.
- Bottom field: Duplicate the lower field data to create a full frame.
- Special effect

Check the box to set a mirror effect (horizontal flip) of the video.

Setting OUTPUT Format

By default, the video format of the NDI output stream is the same as that of input source.

Resolution

Select or customize your own resolution if necessary.

Frame rate

Follow input is the default. Reduced rates are a Half, a Third or a Quarter of the input frame rate.

Aspect ratio •

Check the box to set a different aspect ratio, then select values for the ratio.

Color format

Check the box to select other options, including: YUV BT.601, YUV BT.709, YUV BT.2020.

Quantization

Check the box to select other options, including: Full, Limited.

Saturation

Check the box to select other options, including: Full, Limited, Extended.

EDID

Click and enter the EDID tab to check the EDID information. By clicking Reset to Default in the bottom right corner of the page, you can cancel your settings.

ΜΛGEWELL°	Dashboard	Signal Vio	leo	ED	ID		NE)I®	1	PTZ	Syst	tem					👤 Admin
INPUT PORT		SmartEDID	M 🗌 K	eep l	ast	~	Add	audi	io I	🗹 Limited p	oixel	cloc	k	1			
Settings for the EDID of t	the converter.	Offset	e	1	2	3	4	5	6	7 8	9	А	В	С	D	Е	F
SmartEDID™ solves conf connecting a loop-throug		90 10 20 30 40 50 60 70 80 90 A0 80	01 0F D1 8A 58 96 02 55 55	1A 50 00 2C 0F 4D 03 5F 07	01 54 50 45 87 41 51 60 50	03 FF C0 1D 00 3C 47 F1 65 3D	80 FF 01 74 50 00 45 57 66 06	00 80 00 1D 00 57 61 62 C0	FF 0 00 7 31 4 08 E 00 1 74 0 00 0 45 4 10 1 63 6 57 0 6E 0	8 02 0 45 8 00 E 02 0 00 0 00 C 4C F 04 4 07 6 00	EE 40 30 3A 1E 00 0A 13 16 5F	01 95 61 F2 80 00 20 05 03 7F 10	A3 40 70 18 00 20 14 12 01	54 71 5A 71 00 20 20 20 32 67	4C 40 38 FD 00 20 21 09 7F	99 81 2D 00 01 22 7F 00	26 80 58 40 0F FC 66 5D 07 83
OUTPUT PORT Settings for the EDID obt the device which output connected to.		C0 Offset 00 10 20 30							6 		_	78 Defau A 	lt	Im	E3		Export

Setting SmartEDIDTM

- SmartEDIDTM
 - SmartEDIDTM is enabled by default. When it is disabled, other related functions can not be set.
 - Depending on the input capability of the converter and that of the device connected to the loop-through interface, the converter will smartly select to send the EDID to the video source device, to ensure both the converter and the loop-through device can obtain the signal they support.

Keep last

- Keep the last EDID value used.
- Keep the same EDID setting as the last time. This function is disabled by default. To enable it, the SmartEDID function should also be enabled. When Keep Last is enabled and the loop-through device is disconnected, the current EDID will still be used. The converter will continue receiving signal so the video capture and encoding continues. Otherwise, the converter 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 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 Pro Convert will not get any audio input. If Add Audio is enabled, the Pro Convert 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 Pro Convert, 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.

Checking OUTPUT EDID

OUTPUT EDID shows the EDID of the connected loop-through device.

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

NDI[®] is a standard developed by NewTek to transport IP video over a LAN with high-quality and low latency. Click and enter the NDI[®] tab to configure NDI[®] settings and the Failover function. Note that you need to click Apply at the bottom-right corner of the page to save any changes.

NDI®	Source Video	
	Group name:	public
Settings for NDI which is a standard developed by NewTek to share video on a local Ethernet network	Source name:	#%board-id% (%serial-no%) #00 (B401180706006)
	Receiver Control	
	PTZ control	
	Web control	
	Failover	C
	Source name	N/A
	IP Address	N/A
		Change

Figure1. Set Source Video parameters in the Web UI

	DESKTOP-ASCNS3Q	>			
	DESKTOP-D5OSJ5L	>			
	DESKTOP-UOVST2V	>			
	HD Camera	>			
	MYPC	>			-
\checkmark	PRO CONVERT	>	~	#00 (B401180706006)	
	PRO CONVERT AA	>		#00 (B401180706020)	
	Settings	>		#01 (B401180706008)	
	Disconnect				
	NDI.NewTek.com				
	Exit				

Figure2. Monitor Pro Convert devices using NDI Studio Monitor

Setting Source Video

- Group name shows the group that your converter is multicasted to.
 - The group name should contain A to Z, a to z, 0 to 9 and special characters like _-. The group name entry can contain comma-separated values, allowing your converter to multicast to all the groups listed here.
 - The default group is **public** group.
 - To make a private NDI group, refer to Creating a Private Group.
- Source name shows the NDI source name used for your converter.
 - By default, the source name is **#%board-id% (%serial-no%)**. when you monitor Pro Convert devices using NDI Studio Monitor, the NDI stream name is displayed as on the left in Figure 2.
 - You can change the **board-id** via the rotary switch on your unit.
 - serial-no indicates the unit's serial number, as per the barcode label.
 - %board-id% and %serial-no% are the only supported variables.
 - You can change the Source Name to a string with maximum of 30 characters, containing A to Z, a to z, 0 to 9, spaces and special characters like _-#()%.
 - If no text is entered for the Source Name, it will take the default value #%board-id% (%serial-no%) automatically after clicking Apply.

ΨΛGEWELL°	Dashboard	Signal	Video	EDID	NDI®	PTZ	System	() Admin
NDI®		Source Vi	ideo					
		Group na	me:	magewell0	1			
Settings for NDI wh developed by NewT a local Ethernet net	ek to share video on	Source na	ame:	#%board-id #00 (B40118	% (%serial-no 0706006)	5%)		
		Receiver	Control					_
		PTZ cont	rol					
		Web cont	trol					
		Failover						
		Source	e name	N/A				
		IP Add	lress	N/A				
								Change

		🚯 NDI Access Manager				_ ×		
		Groups Networks						
		Output Groups	Memo	Memo				
		Public	All ungrouped NDI s	All ungrouped NDI sources				
				New	Edit	Delete		
NDI Access Manager		Receive Groups	Memo					
		magewell01	Internal Stream					
Configure NDI Output Group								
Name: magewell01								
Memo: Internal Stream								
				New	Edit	Delete		
					01/			
	OK Cancel	NDI.NewTek.com			OK	Cancel		

How to create a private NDI Group

By default, all NDI channels are in the **public** group, visible to all NDI clients on the same LAN. Here's a walkthrough of the basics for creating and joining private groups.

1. Creating a Private Group In Web UI

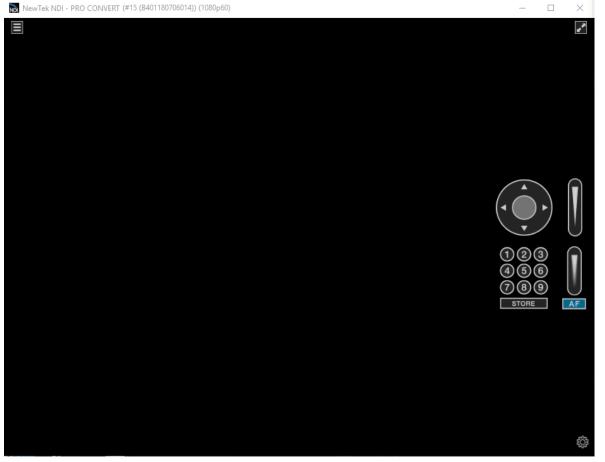
- Access the Web UI, and sign in with your account. Then click and Step 1 enter the **NDI**[®] tab.
- Change the Group name. Here for example, magewell01. Step 2 A converter is allowed to send streams to multiple groups when setting the Group name as comma-separated values, such as "magewell01,magewell02,magewell03,magewell04".
- Click **Apply** to save your changes. Step 3 Now, any NDI-enabled clients of groups magewell01, magewell02, magewell03, or magewell04 can receive video streams multicasted by your converter on the same LAN.

2. Joining In the Private Group In NDI Access Manager

- Download and install the **NDI tools** from the NewTek official site Step 4 https://www.newtek.com/ndi/tools for free.
- Launch the NDI Access Manager in your system. Step 5
- Click New in Receive Groups section in the Groups tab, and add Step 6 the same group that was created in the Pro Convert Web UI. Here for example, magewell01.
- Click **OK**. Step 7

⋒⋏⋳⋹⋓⋹∊∊	Dashboard	Signal	Video	EDID	NDI®	PTZ	System	2 A	dmin -
NDI®		Source V	ïdeo						
		Group na	ime:	public					
Settings for NDI which developed by NewTek to a local Ethernet networ	o share video on	Source na	ame:	#%board-id9 #00 (B401180	% (%serial-no)706006)	%)			
		Receiver	Control						
		PTZ cont	rol						
		Web con	trol						
		Failover							
		Source	e name	N/A					
		IP Add	dress	N/A					
								Change	

Figure 1. Set Receiver Control parameters in the Web UI



Setting Receiver Control

PTZ control

This function is disabled by default. Turn it on when you want to control a connected PTZ camera through the **NDI Studio Monitor**, then the PTZ controller interface will be shown in the NDI Studio Monitor.

Web control

This function is enabled by default. We recommend you keep it turned on, because you cannot open the Web UI by clicking the gear icon in the NDI Studio Monitor if this function is disabled.

Figure2. NDI Studio Monitor: PTZ controller

ͲΛĠℇ⋓ℇ⅃⅃°								🙎 Admin 🛩		
NDI®		Source \	/ideo							
		Group na	ame:	public						
	Settings for NDI which is a standard developed by NewTek to share video on				#%board-id% (%serial-no%)					
a local Ethernet network				#00 (B40118	0706006)					
		Receiver								
		PTZ con	trol							
		Web cor	ntrol							
		Failover								
		Sourc	e name	N/A						
		IP Ad	dress	N/A						
								Change		

Setting Failover

Failover is a method of protecting your NDI transmission from failure. If the source video fails, the backup device begins to provide a service. The initial source will be restored 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.
- IP Address shows the IP Address of the backup NDI channel. The failover IP Address is automatically obtained after you select the backup NDI source.

PTZ

Pro Convert supports control of multiple PTZ cameras through the 8-pin PTZ control socket. Wire PTZ cameras in a daisy chain if you want to control multiple cameras. Click and enter the PTZ tab to set parameters.

- Note:
- If installing more than one PTZ camera, you need to make sure that all cameras are set to the same protocol ("VISCA"), the same Baud Rate, and are connected in serial mode.
- If the V addresses of the cameras are set to fixed, the IDs must be different for the converter to determine their identities.
- If the V address are not fixed, the converter will assign an ID for the PTZ camera automatically. If multiple cameras are connected, the directly connected one is Device 1, the next one in the chain is Device 2, etc.
- Check your camera manual for instructions on how to set up your PTZ cameras.

MVCEMETT.	Dashboard	Signal	Video	EDID	NDI®	PTZ	System	Admi	n -
PTZ CONTROL Settings for the camera cou the Convert device.	nnecting with						:		
		Protocol	[None				•	
		Baud rate		9600				•	
		Device ID		-			1	+	
		Invert pan o	direction						
		Invert tilt d	lirection						
								Arrange cameras	

Setting PTZ Control Parameters

Protocol

Shows the control language that allows the camera and the converter to communicate to each other. For now, only Sony VISCA Protocol is supported. If multiple cameras are connected, all cameras should also be set to the same value.

Baud rate

Shows the control data speed. For example, "9600 baud" means that the PTZ control port is capable of transferring a maximum of 9600 bits per second. If multiple cameras are connected, each camera should be set to the same value as used here.

Options are: 2400, 4800, 9600, 19200 and 38400. By default, the Baud rate is 9600.

Device ID

Shows the ID of the camera, which allows the controller to identify different PTZ cameras, especially when multiple cameras are connected. The value ranges from 1 to 7. By default, the value is 1.

Invert pan direction

Turn on to reverse the pan-direction movement. You can enable this function to make control more intuitive when the camera is not installed in the normal position.

Invert tilt direction

Turn on to reverse the tilt-direction movement. You can enable this function to make control more intuitive when the camera is not installed in the normal position.

System

With administrative rights, you can access the **System** tab to control more functions, such as:

- Creating or removing general user accounts for accessing the converter
- Changing passwords for all users of the converter
- Changing the converter's name •
- Network settings for joining a specific LAN
- Updating firmware for the latest features and improvements
- Exporting reports and logs to get technical support •
- Rebooting or resetting the converter to fix problems •

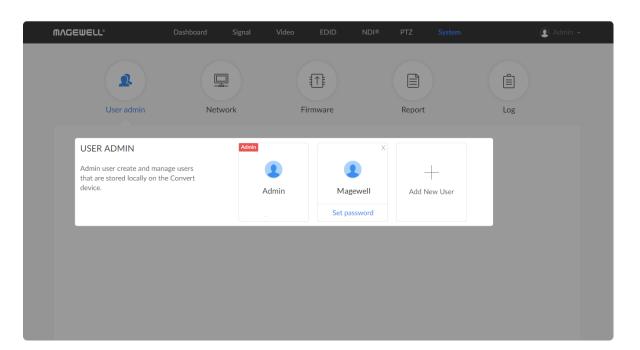
Otherwise, the **System** tab is invisible when you log in as a general user.

ΜΛGEWELL°	Dashboard Signal	Video EDID M	NDI® PTZ System	😰 Admin 🛩
2	P			
User admin USER ADMIN Admin user create and mana that are stored locally on the device.	Passwo	me	Report	Log

Creating/Removing General Users

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.

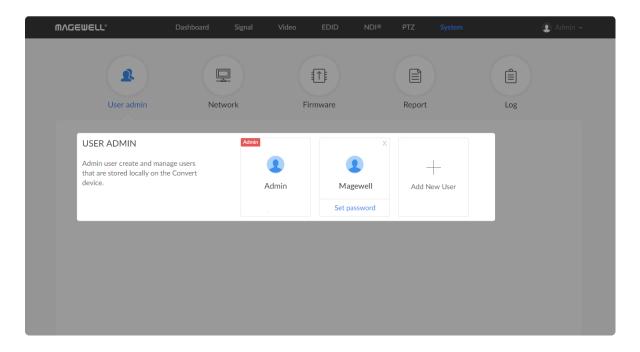
- Step 1 Access the Web UI, and sign in as administrator.
- Click and enter the System tab. Step 2
- Click Add New User. Step 3
- Type in the user name, password, and confirm your password. Step 4
 - The username is a string of 3 to 12 characters, which contains the letters A-Z, a-z, numbers 0-9 and underscore.
 - The password is a string of 1 to 32 characters, which contains the letters A-Z, a-z, numbers 0-9 and special characters _-



~!@#\$%^&*-+=.

- Repeat Step 3 to 5 to add multiple users. Step 6 Converters support the addition of up to 15 general users.
- To delete a user, move the cursor to the user name you want to Step 7 delete, then click the delete button $^{"}\!X"$ appeared at the top-right corner.
- Confirm the deletion when prompted. Step 8

EDID **NDI®** PTZ 🖸 Admin 🔺 Change password Sign out E Reboot Report Log mware +



Setting Password

After login, You can either set up a password in the user account drop-list, or in the **System** tab (with administrative rights).

Solution 1: Setting in via the user account drop-list

- Access the Web UI, and sign in with your username and password. Step 1
- Click the drop-list icon seide the logged-in username, and click Step 2 Change password.
- In the prompt window, type in your old password, the new Step 3 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 _~!@#\$%^&*-+=.
- Click **OK**. Step 4

Solution 2: Setting in the System tab

- Access the Web UI and sign in from the administrator account, then Step 1 you can change any user's password.
- Step 2 Click and enter the System tab.
- Move the cursor to the specific user name, then click Set password. Step 3
- In the prompt window, type in and confirm your password. Step 4 The password is a string of 1 to 32 characters, which contains letters A-Z, a-z, numbers 0-9 and special characters _~!@#\$%^&*-+=.
- Step 5 Click **OK**.

m.	∧GEWELL°				EDID	NDI®	PTZ	4	Admin -
	L. User admin	Netw] ork	F	Îmware		Report	Log	
	ETHERNET		Link statu	5:	1.0 Gbps				
	Settings for device name an of Ethernet.	d IP address	Device na	me:	Pro Convert				
			Set IP Add	dress Manua	ally			C	>

ß	2			Ê	
User admin Netw	vork	Firmware	Report	Log	
ETHERNET Settings for device name and IP address	Link status: Device name:	1.0 Gbps Pro Convert			
of Ethernet.	Set IP Address Ma				
	IP Address:	192.168.1.60			
	Subnet mask:	255.255.255.0			
	Gateway:	192.168.1.1			
	DNS server:	10.0.0.3			
	Apply				
USB RNDIS	Link status:	High Speed			

Setting Device Name

To change device name in the **System** tab requires administrative rights. By default, the device name is the same as the product model name.

- Access the Web UI, and sign in as administrator. Step 1
- Click and enter the **System** tab, then select **Network**. Step 2
- Step 3 Enter a new **Device name**.

The device name is a string of 1 to 30 non-case sensitive characters, containing letters a to z, A to Z, 0-9, spaces and special characters like _-+.

Click Apply to save changes, and confirm with Yes when prompted. Step 4

Network Settings

To change network connections in the System tab requires administrative rights. You can change the device name while setting network parameters. By default, the Pro Convert unit automatically detects any connected network. You can set a static IP Address if the device failed to auto-configure using DHCP. If multiple devices are connected using USB RNDIS, change the RNDIS IP address according to your own arrangement.

Setting Ethernet IP Address

Step 1	Access the Web UI, and sign in as administrate
Step 2	Click and enter the System tab, then select N
Step 3	Turn on Set IP Address Manually, then enter
	Subnet mask, Gateway, and DNS server.
Step 4	Click Apply to save changes.
Step 5	When the prompt appears, click Yes .

tor.

letwork.

r a new **IP address**,

ETHERNET	Link status:	1.0 Gbps
Settings for device name and IP address of Ethernet.	Device name:	Pro Convert
	Set IP Address Mar	nually
	IP Address:	192.168.1.60
	Subnet mask:	255.255.255.0
	Gateway:	192.168.1.1
	DNS server:	10.0.0.3
	Apply	
USB RNDIS	Link status:	High Speed
Settings for IP address of USB RNDIS.	IP Address:	192.168. 66 .1

Setting USB RNDIS IP Address

Step 6

RNDIS (Microsoft's widely used Ethernet over USB protocol) provides a virtual Ethernet link for the converter to connect to a computer operating system. Note:

- It is not recommended that you modify this IP address unless there is a conflict on your LAN.
- Do not connect more than one converter simultaneously to one system when using USB RNDIS.
- Access the Web UI and sign in as administrator. Step 1
- Click and enter the **System** tab, then select **Network**. Step 2
- Step 3 Enter a new **IP address** for USB RNDIS.
- Step 4 Click Apply to save changes, then click Yes when prompted.

Type the manually assigned IP address in your web browser to access the Web UI, verifying if the network settings work.

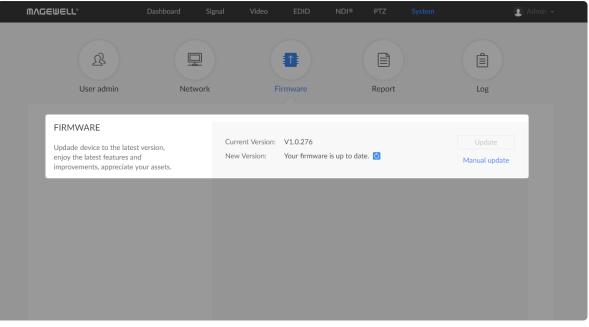


Figure1. Click Manual update

ጠላር	JEWELL®	Dashboard	Signal Video	EDID	NDI®	PTZ	System	4	Admin -
	ß								
	User admin	Netw	Manual Update		×	< port		Log	
	FIRMWARE Upgrade device to the latest we enjoy the latest features and improvements, appreciate you		Current version: Update to version		1.0.266 1.0.276	l		Update Manual update	
				Update					





Updating the Firmware

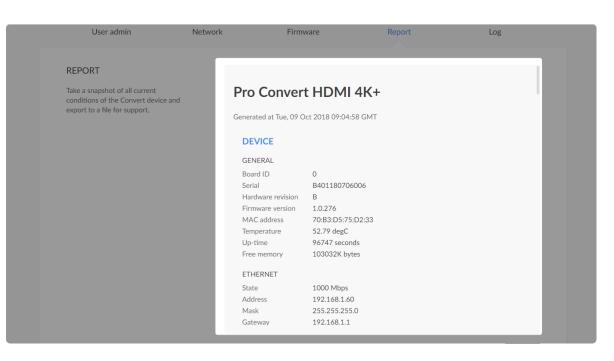
To update the firmware via the **System** tab requires administrative rights.

- Access the Web UI, and sign in as administrator. Step 1
- Click and enter the System tab, then select Firmware. Step 2
- Click on Manual update. Step 3
- Select the .mwf firmware update file from your local storage. Step 4 You can download the Pro Convert firmware package from the Downloads section of the Magewell website: http://www.magewell.com/downloads/pro-convert.
- Step 5 Click **Open** to upload the updates package. The device will automatically verify the update file. The unit will upload the file after the file verification is passed.
- In the Manual Update window, click Update. Step 6 DO NOT shut down or reboot the device when updating firmware.
- Step 7 Click **Reboot** to complete the update.

The changes take effect after you reboot the device.

Log in to your unit's Web UI and check the current Firmware Step 8 version in the Dashboard tab.

> The Firmware version should have changed to show the number of the new update.



Exporting Reports and Logs

You can export reports and logs from your converter 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 equipment like the source device. These operations require administrative rights.

Exporting Reports

Step 1	Access the Web UI and sign in as administrato
Step 2	Click and enter the System tab, then select Re
Step 3	Click Export to generate a .html file.
Step 4	When the prompt appears, click Export .

or.

eport.

SYSTEM LOG	Total : 31	events	All Information Warning Erro
Track important events generated by	Level	Date & Time	Detail
the device and export them as a file for technical support.	(i)	2018-10-09 16:56:31	User 'Admin' (192.168.1.222) logged out, session 10
	()	2018-10-09 16:38:27	Start NDI transfer
	()	2018-10-09 16:38:27	Stop NDI transfer
	(i)	2018-10-09 16:38:27	User 'Admin' (192.168.1.159) logged in, session: 11
	(i)	2018-10-09 16:38:04	User 'Admin' (192.168.1.222) logged in, session: 10
	⚠	2018-10-09 15:31:48	User 'Admin' (192.168.1.159) session 6 timeout
	()	2018-10-09 15:06:10	User " (0.0.0.) logged out, session 7
	⚠	2018-10-09 14:36:17	User 'Admin' (192.168.1.222) session 5 timeout
	()	2018-10-09 14:05:48	Start NDI transfer
	(i)	2018-10-09 14:05:44	Stop NDI transfer
	()	2018-10-09 14:05:23	Start NDI transfer
	()	2018-10-09 14:05:23	Stop NDI transfer
	()	2018-10-09 14:05:23	User 'Admin' (192.168.1.159) logged in, session: 6
	()	2018-10-09 14:04:37	Signal locked: 1920x1080p60.00
	⚠	2018-10-09 14:04:33	Signal unlocked
	()	2018-10-09 14:04:22	Signal locked: 1920x1080p60.00

Clearing/Exporting All Logs

- Step 1 Access the Web UI and sign in as administrator.
- Step 2 Click and enter the System tab, then select Log.
- (Optional) Filter current logs. Step 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.
- (Optional) Click Export... to get a .html file of all logs. Step 4
- When prompted in the window, click **Export** Step 5
- (Optional) Click Clear to delete all logs. Step 6
- Step 7 When prompted in the window, click Yes.

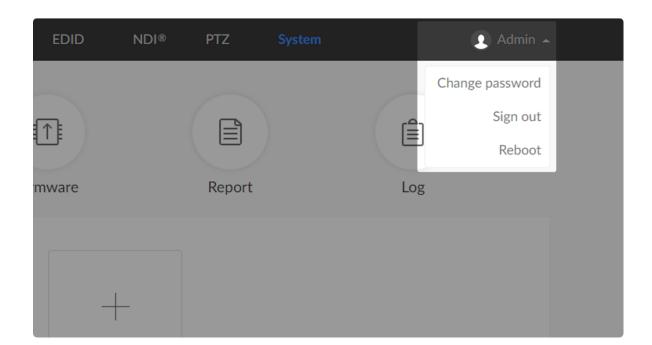




Figure1. Connections

Figure2. Reset all settings

Rebooting/Resetting Pro Convert

Rebooting/resetting your Pro Convert when problems are encountered.

Rebooting Pro Convert

- \triangle Rebooting your device will not lose any of your configuration settings.
- Step 1 Access the Web UI and sign in as administrator.
- Click the drop-list icon Image: behind your username at the top-right of Step 2 the Web UI and select Reboot.
- When prompted in the window, click **Reboot**. Step 3

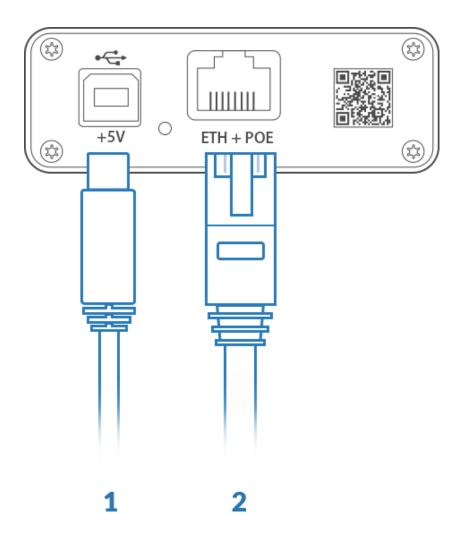
Resetting All Settings

- \triangle Warning: Resetting your device will lose all your configuration data.
- Step 1 Connect the device and your computer with the USB cable.
- Step 2 Launch your web browser and type in the USB RNDIS address to access the Web UI SIGN IN page.

The default address is http://192.168.66.1. Please do not change it unless there is a conflict in your network.

Click **Reset all settings** at the top right corner of the **SIGN IN** page. Step 3 The reset process may take a few minutes.

FAQ



How to supply power to the Pro Convert

There are 2 ways to power your converter:

- Via USB: Plug in the supplied 5V power adapter via the USB cable to supply power.
- Via PoE: Plug in an Ethernet cable connected to a PoE switch or a PoE adapter for power and Ethernet connection.

Note:

- Pro Convert devices require a 5V DC source with a current rating of no less than 2.1A.
- We recommend that you use only the included Magewell accessories.
- If any included accessory is lost or broken, please contact your Magewell authorized local resellers for help.

How to configure Pro Convert via Web UI

Pro Convert allows you to set up and control via a web-based user interface as either an administrator or a general user.

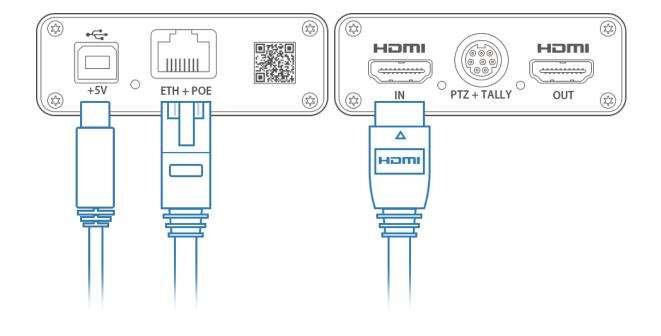
You can get access to the Web UI using Windows File Explorer, through your web browser over a USB connection, or with NDI Studio Monitor software. Make sure that at least one of the following web browsers is installed in your system.

- Google Chrome version 49 and above
- Microsoft Internet Explorer 11
- Microsoft Edge
- Mozilla Firefox version 61 and above
- Apple Safari 11.1 and above
- Opera 55.0.2994.44 and above

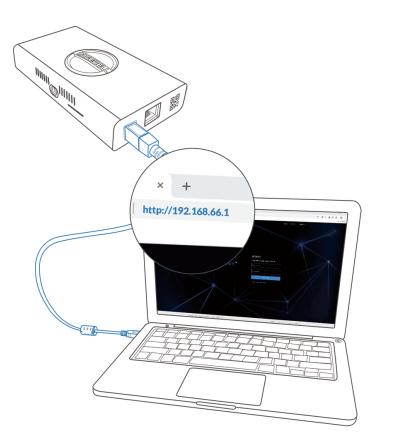


This method is available for Windows7/8/8.1/10 users.

- Step 1 Connect your converter via Ethernet and power it up as shown on the left.
- Open a File Explorer window in one of the following ways. Step 2
 - Click on the Start
 button and find File Explorer in the Start menu.
 - Press the Windows logo key # + E.
 - Select the folder icon on the taskbar.
- Step 3 Select the **Network** view at the bottom of the list of items on the left



🂣 📝 📗 🖛 Networ	rk			- 🗆	×
File Network V	/iew				~ 🕐
← → ~ ↑ 🔹 >	Network >		マ ひ Search Networ	k	Ą
🖈 Quick access	> Computer (5)				
a OneDrive	> Media Devices (13)				
(A) WPS	> Multifunction Devices (1)				
	∨ Other Devices (9)				
This PC	Pro Convert #01	Pro Convert #02	Pro Convert #06		
Network	(B401180927001)	(B401180927002)	(B401180706006)		
	Pro Convert #07 (B401180927007)	Pro Convert #08 (B401180927008)	Pro Convert #09 (B401180927009)		
	> Printers (2)				
	> Scanners (1)				



side of the File Explorer.

- Step 4 Turn on the network discovery function if prompted.
- Step 5 Find your Pro Convert device in the **Other Device** section, where it will be shown as "Pro Convert + #board index + (serial number)".
 - The serial number (marked on your device) will be in a form like "B401180706006".
 - The **board index** (the rotary switch number on your device) is shown like "04" or "#04".
- Step 6 Double click the converter icon to open the Web UI of the device in your web browser.

2. Using your web browser over USB

- \triangle For Mac users, if connecting the converter using USB RNDIS for the first time, you must first download and install the RNDIS driver that grants the converter Internet access before the USB cable is connected. The software could be HoRNDIS.
- Connect the Pro Convert device to your computer using the USB Step 1 cable.
- Launch your web browser, and type in USB RNDIS address to access Step 2 the Web UI. The default address is http://192.168.66.1.
- Enter your account and password in the SIGN IN page, and Step 3 configure the device after you login successfully. The default admin account (case-sensitive) is Admin, Admin.

	DESKTOP-ASCNS3Q	>		
	DESKTOP-D5OSJ5L	>		
	DESKTOP-UOVST2V	>		
	HD Camera	>		
	MYPC	>		
\checkmark	PRO CONVERT	>	~	#00 (B401180706006)
	PRO CONVERT AA	>		#00 (B401180706020)
	Settings	>		#01 (B401180706008)
	Disconnect			
	NDI.NewTek.com			
	Exit			

Figure 1. Select your NDI channel in NDI Studio Monitor

wTek NDI - PRO CONVERT (#00(B401180706006)) (2160/30p)	-		×
			1
		5	ŝ
		4	wit
	\leftarrow		-44

Figure2. Click the gear icon to open the Web UI.

3. Using NDI Studio Monitor

- From a computer on the same LAN, download and install Studio Step 1 Monitor from NewTek's official site https://www.newtek.com/ndi/tools for free.
- Run Studio Monitor on your system. Step 2
- Click the Menu icon 🔳 at the top left, and select your NDI channel: Step 3 device name > source name.
- Click the gear icon at the bottom right of the Studio Monitor. Step 4 The web UI of the selected device will open in your web browser.
- Step 5 Enter your account and password in the SIGN IN page, and configure the device after you login successfully.
 - The default admin account (case-sensitive) is Admin, Admin.

WVG	EWELL®				EDID		PTZ	😰 Admin 🚽
	NDI®		Source \	/ideo				
			Group n	ame:	public			
	Settings for NDI which i developed by NewTek to a local Ethernet networ	o share video on	Source r	ame:	#%board-id #00 (B40118	% (%serial-no 0706006)	9%)	
			Receiver	Control				
			PTZ con	trol				
			Web cor	ntrol				
			Failover					
			Sourc	e name	N/A			
			IP Ad	dress	N/A			
								Change

How to change device name and source name

Pro Convert allows you to set up and control via a web-based user interface as either an administrator or a general user. Changing the device name requires administrator rights, while changing the source name only requires general user rights.

The following describes the operational steps for changing both parameters via the administrator account. A general user account can only change the video source name, but the steps are the same as those for an administrator. Access the Web UI, and sign in as administrator. Step 1

1. Changing source name

Change the Source name. Step 3

The default source name is **#%board-id%** (%serial-no%).

- **board-id** indicates the unit's rotary switch number. You can change the **board-id** by operating rotary switch in your unit.
- serial-no indicates the unit's serial number (as shown on the barcode label on its surface).
- %board-id% and %serial-no% are the only supported variables.
- You can change the source name to a string with maximum of 30 case-sensitive characters, which contains A to Z, a to z, 0 to 9, spaces and special characters like _-#()%.
- The Source Name will be filled in with the default value #%board-id% (%serial-no%) automatically after clicking Apply, if you leave the parameter empty.

MVCEMELT.	Dashboard Signal	Video EDID	NDI® PTZ Syst	em 💽 Admin -
ß	.			
User admin	Network	Firmware	Report	Log
ETHERNET	Link statu	ıs: 1.0 Gbps		_
Settings for device name and of Ethernet.	IP address Device na	ame: Pro Conver	t	
	Set IP Ad	dress Manually		

DESKTOP-D5OSJ5L > DESKTOP-UOVST2V > HD Camera > MYPC > PRO CONVERT > PRO CONVERT AA > #00 (B401180706006) #00 (B401180706020) #01 (B401180706020)		DESKTOP-ASCNS3O	>			
DESKTOP-UOVST2V > HD Camera > MYPC > PRO CONVERT > PRO CONVERT AA > #00 (B401180706006) #00 (B401180706020) #01 (B401180706020)			(
HD Camera > MYPC > PRO CONVERT > PRO CONVERT AA > #00 (B401180706006) #00 (B401180706020) #01 (B401180706020)						
MYPC > PRO CONVERT > ✓ #00 (B401180706006) PRO CONVERT AA > #00 (B401180706020) #01 (B401180706020)			>			
PRO CONVERT > #00 (B401180706006) PRO CONVERT AA > #00 (B401180706020) #01 (B401180706008) #01 (B401180706008)		HD Camera	>			
PRO CONVERT AA > #00 (B401180706020) #01 (B401180706020)		MYPC	>			
#01 (P401190706009)	~	PRO CONVERT	>	~	#00 (B401180706006)	
#01 (P401190706009)		PRO CONVERT AA	>		#00 (B401180706020)	
Settings > #01(6401180700008)		Settings	>		#01 (B401180706008)	
Disconnect		Disconnect				
NDI.NewTek.com		NDI.NewTek.com				
		Exit				

Click **Apply** to save your changes. Step 4

2. Changing device name

- Click and enter the **System > Network** tab. Step 5
- Change the **Device name**. Step 6

The device name is a string of 1 to 30 non-case sensitive characters, containing letters a to z, A to Z, 0-9, spaces and special characters like _-+.

Click **Apply** to save your changes, and then click **Yes** when Step 7 prompted.

It may take a few minutes for your settings to take effect.

3. Verify your settings

Click and enter the **Dashboard** tab in the Web UI to check the Step 8 **Device name**, and **Name** in the **NDI**[®] > **General** section, or verify them by launching NewTek NDI Studio Monitor to check the device name and NDI source name shown there. The values should be the same as your settings.

> Download the Studio Monitor software from the NewTek official website https://www.newtek.com/ndi/tools for free.



MV@€M€ГГ		Reset all settings
	Pro Convert™ HDMI®	SIGN IN Enter your account and password User name Password SIGN IN Forgot your password?

How to reset a Pro Convert device

 \triangle Warning: Resetting your device will lose all your configuration data.

- Connect your converter to your computer. Step 1
- Launch your web browser, and type in the USB RNDIS address to Step 2 access the Web UI **SIGN IN** page.

The default address is http://192.168.66.1. Please do not change it unless there is a conflict on your network.

Click **Reset all settings** at the top right corner of the **SIGN IN** page. Step 3 The reset process may take a few minutes.

ΜΛ ΔΕΨΕLL°	Dashboard Signal	Video EDID	NDI® PTZ System	a 💽 Admin 👻
User admin	Network	Firmware	Report	Log
FIRMWARE Updade device to the latest v enjoy the latest features and improvements, appreciate you	version, New V	t Version: V1.0.276 ersion: Your firmware is	up to date. 🕑	Update Manual update

Figure1. Click Manual update

MAGEWELL® Dashboa	ard S	Signal Video	EDID	NDI® P	TZ System	💽 Admin 👻
Q User admin	Netw	Manual Update		×	port	Log
FIRMWARE Upgrade device to the latest version, enjoy the latest features and improvements, appreciate your assets.		Current version: Update to version:	Update	1.0.266		Update Manual update
igure2. Click update						
FIRMWARE Upgrade device to the latest version, enjoy the latest features and improvements, appreciate your assets.		Firmware update completed. You need to reboot device for the update to take effect. Reboot				
Figure3. Click Reboot						

How to manually update the firmware for Pro Convert

You can update firmware via the Web UI with administrative rights.

- Access the Web UI and sign in as administrator. Step 1
- Click and enter the System tab, then select Firmware. Step 2
- Click on Manual update. Step 3
- Select the .mwf firmware update file from your local storage. Step 4 You can download the Pro Convert firmware package from the Downloads section of the Magewell website: http://www.magewell.com/downloads/pro-convert.
- Click **Open** to upload the updates package. Step 5 The device will automatically verify the update file. The unit will upload the file after the file verification is passed.
- In the Manual Update window, click Update. Step 6 The device will verify the update file and automatically upload it if the verification is successful.
- In the Manual Update window, click Update. Step 7

⚠ DO NOT shut down or reboot the device during updating procedure.

- Step 8 After loading successfully, click **Reboot** to complete the update. The reboot process may take a few minutes.
- Step 9 Login to the Web UI again and check the current Firmware version number in the **Dashboard** tab.

The Firmware version should now show the number of the new update.

ΜΛ ΔΕΨΕΓΓ _°			EDID NDI®	PTZ System	(1) Admin 🗸
User admin	Network		rmware	Report	Log
USER ADMIN Admin user create and man that are stored locally on the device.	age users	dmin Q Admin	Magewell Set password		



Figure1. connections

Figure2. Reset all settings

What to do if you forgot the password

If you are a general user, ask your administrator to set a new password for you. If you are the administrator, you need to reset all settings back to default values, then set a new admin password.

1. To reset a general user's password.

- Access the Web UI, and sign in as administrator. Step 1
- Click and enter the **System** tab. Step 2
- Click the Set password link which appears when your mouse hovers Step 3 over the user name.
- Type in new password and confirm the new password as prompted Step 4 in the window.

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

Click **OK**. Step 5

2. To set a new admin password.

- Step 1 Connect the device to a computer with the USB cable.
- Step 2 Type in the USB RNDIS address to your web browser. The default IP address of USB RNDIS is http://192.168.66.1. Please do not modify it unless there is a conflict on your network.
- Click Reset all settings at the top-right corner of the SIGN IN page. Step 3 The reset process may take a few minutes, and all configuration data will be lost - not just the passwords.
- Sign in to the Web UI via the default admin account (case-sensitive): Step 4 Admin, Admin.

Step 5	Click and enter the System tab.
Step 6	Click the Set password link which appears

over the user name.

Type in new password, and confirm the new password as prompted Step 7 in the window.

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

Step 8 Click OK.

s when your mouse hovers

🔤 Select Command Prompt	-	×
C:\Users\win1064>ipconfig		^
Windows IP Configuration		
Ethernet adapter Ethernet:		
Connection-specific DNS Suffix . : Link-local IPv6 Address : fe80::6c54:b184:f07a:eacd%9 IPv4 Address : 192.168.1.124 Subnet Mask : 255.255.255.0 Default Gateway : 192.168.1.1		
Ethernet adapter Ethernet 2:		
Connection-specific DNS Suffix . : Link-local IPv6 Address : fe80::146b:1130:8511:736f%17 IPv4 Address : 192.168.55.3 Subnet Mask : 255.255.255.0 Default Gateway :		
Ethernet adapter Ethernet 5:		
Connection-specific DNS Suffix . : Link-local IPv6 Address : fe80::d962:b7ac:a87d:82ed%21 IPv4 Address : 192.168.65.2 Subnet Mask : 255.255.255.0 Default Gateway :		
C:\Users\win1064>		~



🛛 🗢 💷 🗖	n@m-System-Product-Name: ~
	m-Product-Name:~\$ ifconfig -a
enp0s20u1	L Link encap:Ethernet HWaddr 52:a0:c8:a7:36:da
	inet addr:192.168.66.2 Bcast:192.168.66.255 Mask:255.255.255.0
	inet6 addr: fe80::dd8b:5309:1f66:4a2c/64 Scope:Link
	UP BROADCAST RUNNING MULTICAST MTU:1500 Metric:1
	RX packets:32 errors:0 dropped:0 overruns:0 frame:0
	TX packets:33 errors:0 dropped:0 overruns:0 carrier:0
	collisions:0 txqueuelen:1000
	RX bytes:4312 (4.3 KB) TX bytes:6811 (6.8 KB)
enp2s0	Link encap:Ethernet HWaddr 74:d4:35:3d:fd:8c
	inet addr:192.168.1.193 Bcast:192.168.1.255 Mask:255.255.255.0
	inet6 addr: fe80::f27a:b042:8980:a949/64 Scope:Link
	UP BROADCAST RUNNING MULTICAST MTU:1500 Metric:1
	RX packets:63136 errors:0 dropped:0 overruns:0 frame:0
	TX packets:28725 errors:0 dropped:0 overruns:0 carrier:0
	collisions:0 txqueuelen:1000
	RX bytes:76043093 (76.0 MB) TX bytes:2715888 (2.7 MB)
lo	Link encap:Local Loopback
	inet addr:127.0.0.1 Mask:255.0.0.0
	inet6 addr: ::1/128 Scope:Host
	UP LOOPBACK RUNNING MTU:65536 Metric:1

RX packets:560 errors:0 dropped:0 overruns:0 frame:0

Figure2. Linux

How to retrieve your USB RNDIS IP Address

- Connect the device and your computer with a USB cable as shown Step 1 in Solution 2: using USB RNDIS.
- Step 2 Take the following steps according to your operating system.
 - For Windows users
 - 1. Type **cmd** in the search bar to start the command interpreter.
 - 2. Type in **ipconfig**, and find an IPv4 address of the form 192.168.xxx.2, as shown in Figure 1. Windows.
 - For Linux users
 - 1. Launch the **terminal**.
 - 2. Type in ifconfig -a, and find an IPv4 address of the form 192.168.xxx.2, as shown in Figure 2. Linux.
 - For Mac users

If connecting via USB RNDIS for the first time, you must first download and install the RNDIS driver that grants the converter Internet access before the USB cable is connected, like HoRNDIS.

- 1. Click the System Preferences icon in the Dock or choose Apple menu > System Preferences.
- 2. Choose **Pro Gearbox HDMI**, and check the **IP Address**, as shown in Figure3. Mac.

 \triangle If 192.168.xxx.2 is taken, the IP address would automatically change to another value within the ranges of 192.168.xxx.2 to 192.168.xxx.254.

	Network		Q Search
Loc	ation: Automatic	•	
 Pro Geax HDMI <> Connected Wi-Fi Connected 	Status:	Connected Pro Gearbox HDMI is curre the IP address 192.168.65.	
Bluetooth PAN Not Connected	Configure IPv4:	Using DHCP	\$
Thundet Bridge	IP Address:	192.168.65.2	
Not Connected	Subnet Mask:	255.255.255.0	
	Router:		
	DNS Server:		
	Search Domains:		
+ - *~			Advanced ?
		Assist me	Revert Apply

Step 3 Type in 192.168.xxx.1 in your web browser to access the Web UI.

Figure3. Mac

Support

Get the Latest Information

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

- Tutorial video: http://www.magewell.com/tv
- YouTube channel: Magewell Video Capture Device
- Knowledge base: http://www.magewell.com/kb/pro-convert
- Official website: http://www.magewell.com/pro-convert

Technical Support

Contact the Magewell Technical Support Team at support@magewell.net.

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:

- Pro Convert HDMI 4K Plus: two (2) years;
- The USB cable and 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.

Glossary and Abbreviations

Board Index

Board Index indicates the rotary switch number located in the Pro Convert. It helps users to mark and identify multiple devices

EDID

Extended Display Identification Data (EDID) is a metadata format for display devices to describe their capabilities to a video source.

Failover

Failover is used to provide a high degree of reliability. It switches to a standby NDI source channel upon the failure of the previously active source.

NDI®

NDI (Network Device Interface) is a standard developed by NewTek to transport video, audio & metadata over a local Ethernet network. Visit https://www.newtek.com/ndi/ for more information.

PoE

Power over Ethernet (PoE) is a networking feature defined by the IEEE 802.3af and 802.3at standards. PoE allows a single cable to provide both data connection and electric power to attached devices.

PTZ Camera

Pan-tilt-zoom (PTZ) cameras are those that are capable of remote control of direction (pan & tilt) and lens zoom.

QoS

Quality of service (QoS) is the description or measurement of the overall performance of a service. To quantitatively measure quality of service, several related aspects of the network service are often considered, such as packet loss, etc.

RNDIS

Remote Network Driver Interface Specification (RNDIS) is a Microsoft proprietary protocol used on top of USB. It provides a virtual Ethernet link to operating systems.

Tally

Tally lights comprise one or more signal-lamps on a professional video camera or monitor, to show when the device is on-air. A preview tally signal is typically green, while a program one is usually shown using the colour red.