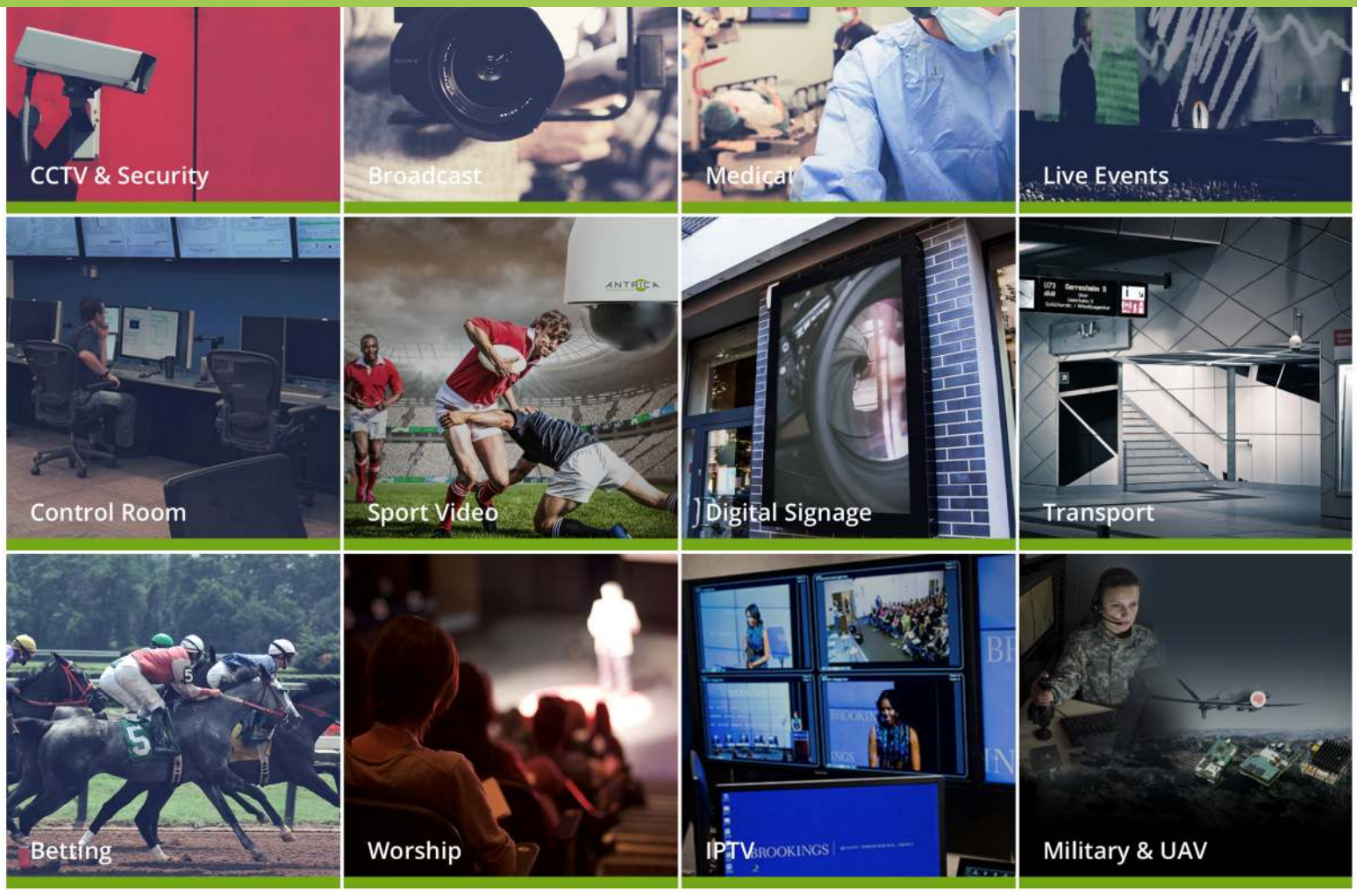
ANT-48100 User Manual

1 Channel Transcoder (4 Channel Decoder)



Contents

Overview

The ANT-48100 TRANSCODER is a highly flexible IP to IP transcoder. Featuring up to 4 channels of decoding on one Ethernet port (NIC) and 1 channel of re-encoding (Transcoding) on a second Ethernet Port (NIC). This transcoder is intended for IP to IP transcoding without offering any local video inputs or outputs. The Transcoder engine can take up to 4 decoded streams and re encode then as a 1x1 (full screen) or 2x2 image with a main stream and secondary stream. The decoder block can decode 1-4 streams then combine them as a quad image or in the case of one decoded stream a single image. These quad and single images can also be scaled to 1080P 720P and 576P resolutions. Additionally, the decoder engine can decode URLs or pre-recorded video files. SRT decoding is supported.

Once decoded and scaled the images pass to the Encoder engine. The encoder can then re-encode (transcode) these decoded streams as HTTP, RTSP, RTP, MPEG-TS, RTMP or SRT streams on to a completely independent LAN Network Interface.

As the Transcoder features two independent Network interfaces it acts as an effective Video stream air gap between two networks.

1.What's in the Box

The ANT-48100 box contains

- ANT-48100 Transcoder
- 12 Volt Power converter with UK/EU/USA and China adaptors

2. Setting up the ANT-48100

Connect the both of the Ethernet ports of the ANT-48100 to a laptop or PC via an Ethernet switch using standard ethernet cables.

Connect the 12 volt power input and switch on.

The ANT-48100 will take approximately 1 minute to boot up. You will see there are 2 LED on the front. On power up this LED will illuminate RED. You are now ready to setup the ANT-48100 Transcoder

3. ANT-48100 IP addresses and Log In

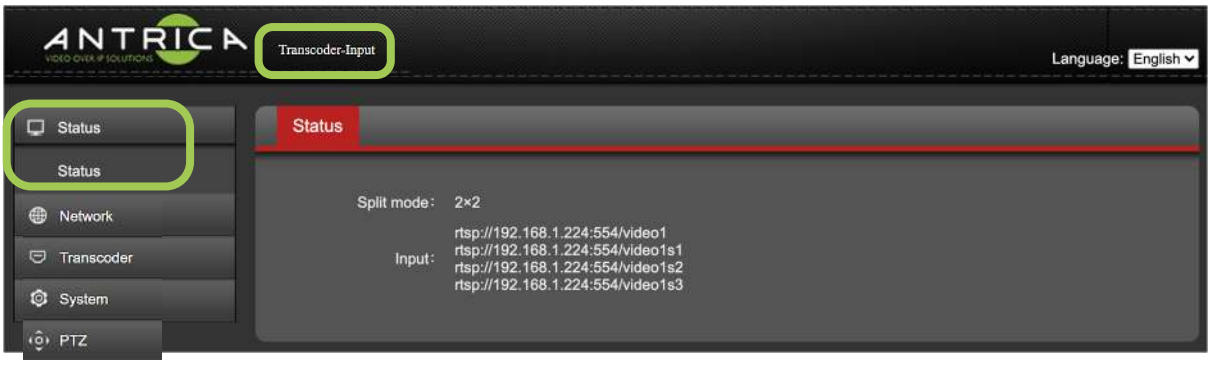
The ANT-48100 default IP address is **192.168.1.160 (IP-IN) and 192.168.1.168 (IP-OUT).** Please set the laptop/PC Ethernet IP address to be in the same sub-domain e.g. 1**92.168.1.XXX**

Open Chrome to view settings and Preview video (or other up to date browser to just view settings without video preview) and browse to **192.168.1.160 and / or 192.168.1.168**

You will be asked to LOGIN: **User : admin , password: admin**

4.0 Setup of the ANT-48100 in IP IN (Decoder) (192.168.1.160)

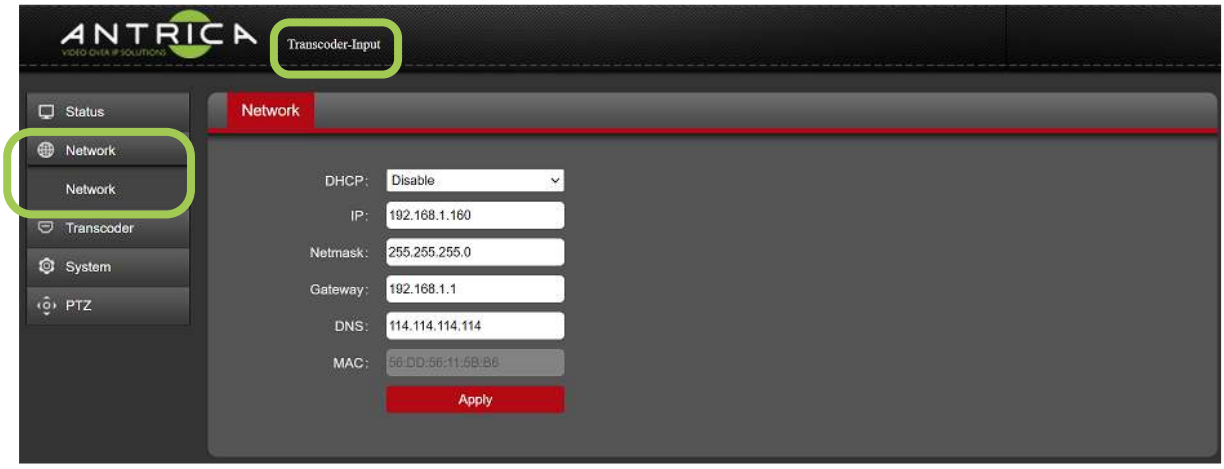
4.1 Status



The status tab will show you information on the IP Input settings. This is effectively a decoder within the transcoder and can decode up to 4 streams or files. This screen will show if you are in 1x1 mode (1-1 transcode) or 2x2 mode (4 channels decoded and arranged as a quad image then transcoded). The input URLs or files are shown here

4.2 Network

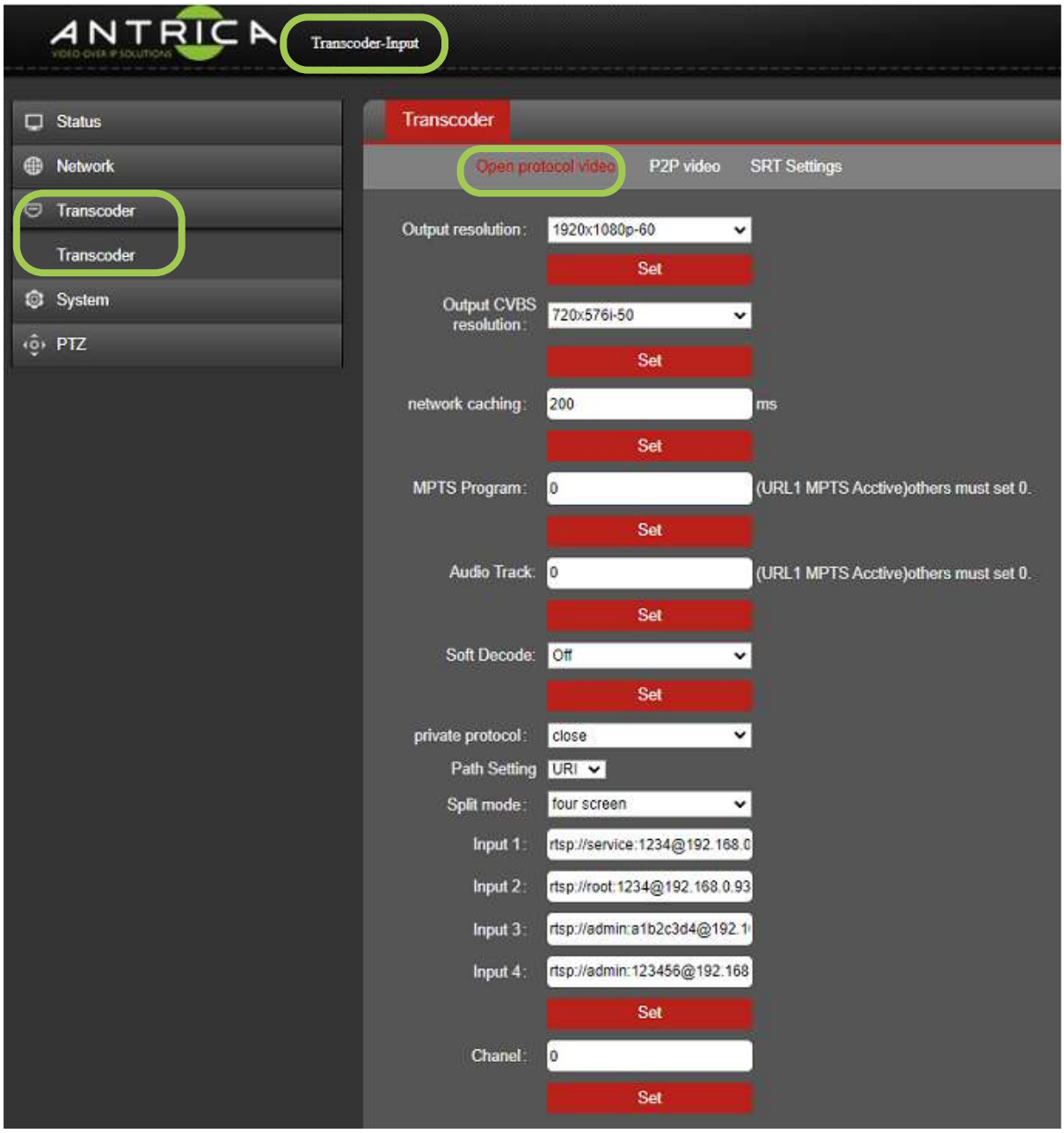
This section defines the network settings of the IP Ethernet input port. NOTE! The ANT-48100 has two ethernet ports (NICs) which are independent. This setting is for the IP input (decode)



4.3 Video Source

Video Source has 3 sub sections: **Open protocol Video, P2P video and SRT settings**

4.3.1 On Protocol Video



Output Resolution: This allows you to set the resolution of the decoded image/images prior to re encoding

Output CVBS resolution: Not used / Not applicable, as input is based on ANT-2601 decoder

Network Caching: This is a buffer for the decoder section and helps with Network jitter but as a result introduces latency in the overall Transcode process.

MPTS Program: select the program from a MPTS stream

Audio Track: for use with MPTS stream

Soft Decode: Off decoding is hardware on internal chipset CPU. **On** Soft decode, sometimes if hardware can't decode Soft decode will work

Private Protocol: Future use / functionality to be advised

Path Setting: This is either a URL or a .SDP file location for using as the source of the decoder section

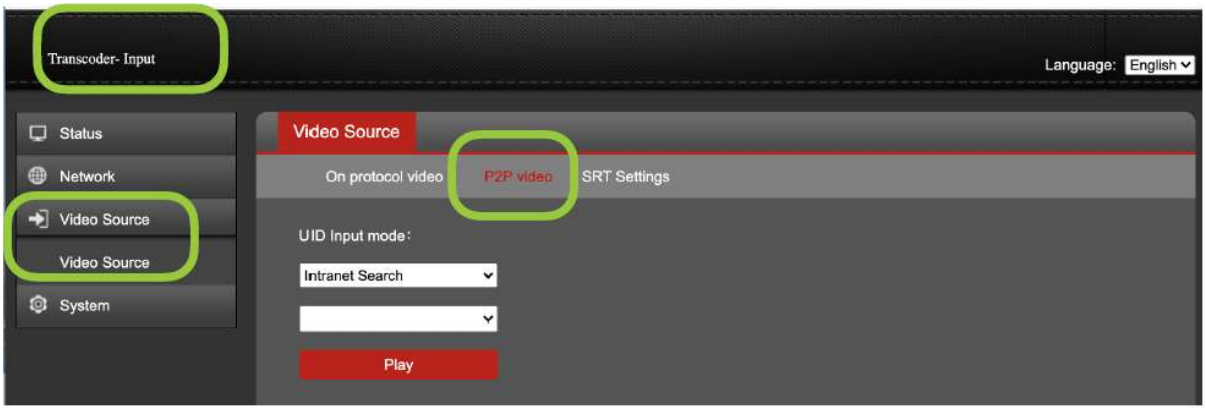
Split Mode (if using a URL): Select 1x1 or 2x2 mode (quad) for decoding

Input: 1-4: These are the URLs for the 4 decoded inputs. Generally, you would use 1 input in 1x1 mode or 2, 3 or 4 inputs for 2x2 mode.

Channel: Future use / functionality to be advised

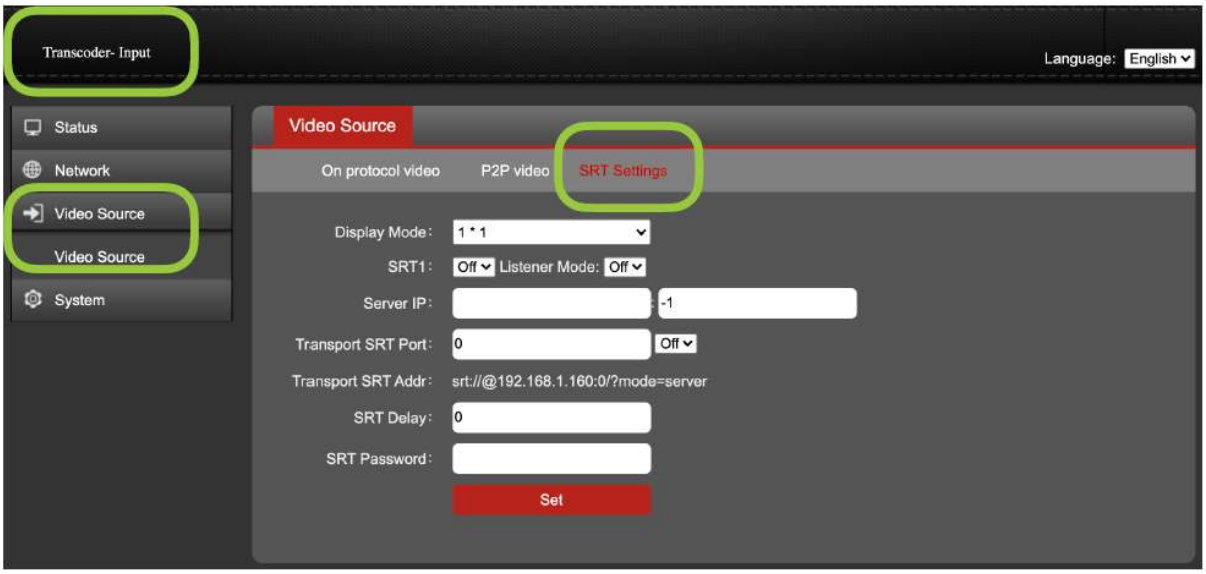
4.3.2 P2P Video

This is for future use; any new functionality will be advised.



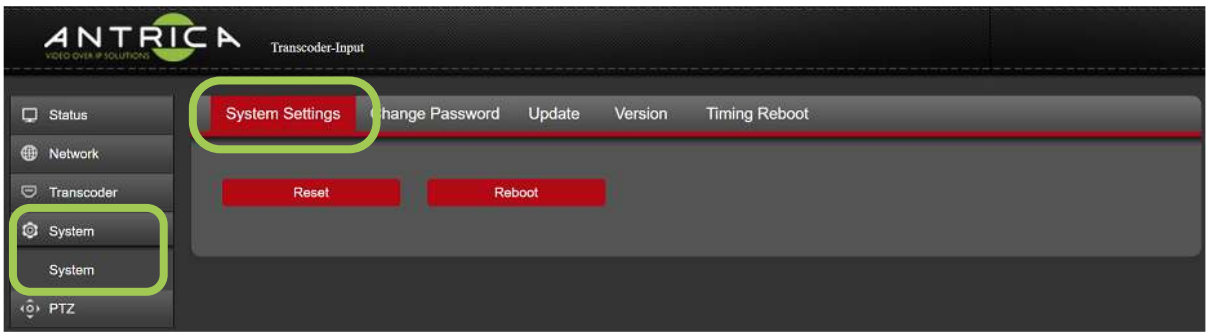
4.3.3 SRT Settings

The SRT setting can only be used if your source device (i.e. camera or encoder.) has SRT capabilities. If so, then these settings should be familiar to you.

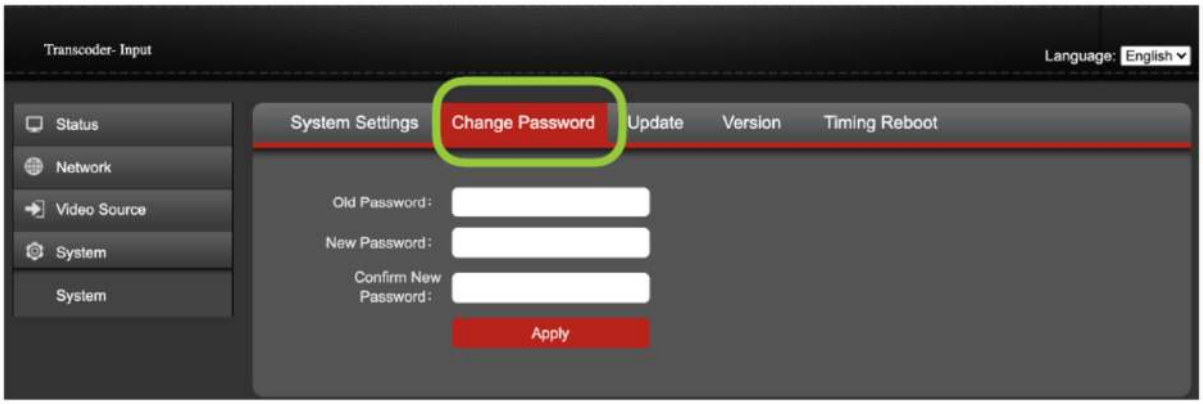


4.4 System

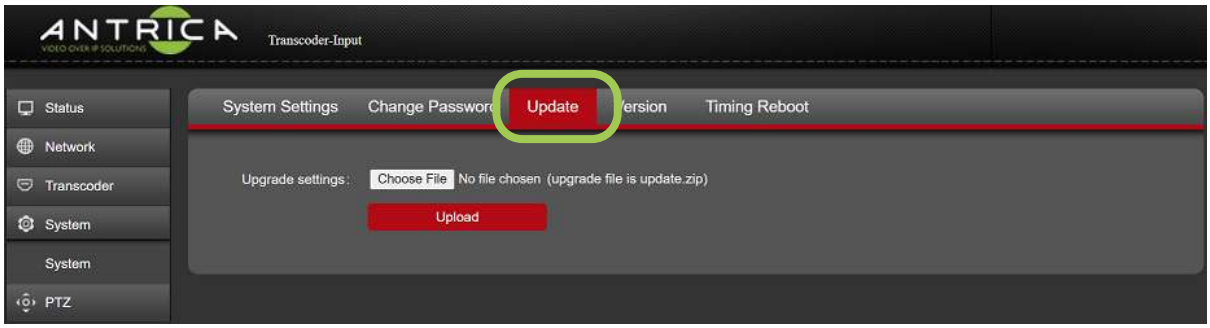
System Settings Tab: This allows the Decoder section of the transcoder to be Factory Reset or rebooted. If the “Transcoder-Input” is reset from either the front panel or webpage, the password will be changed back to the default of “Admin”.



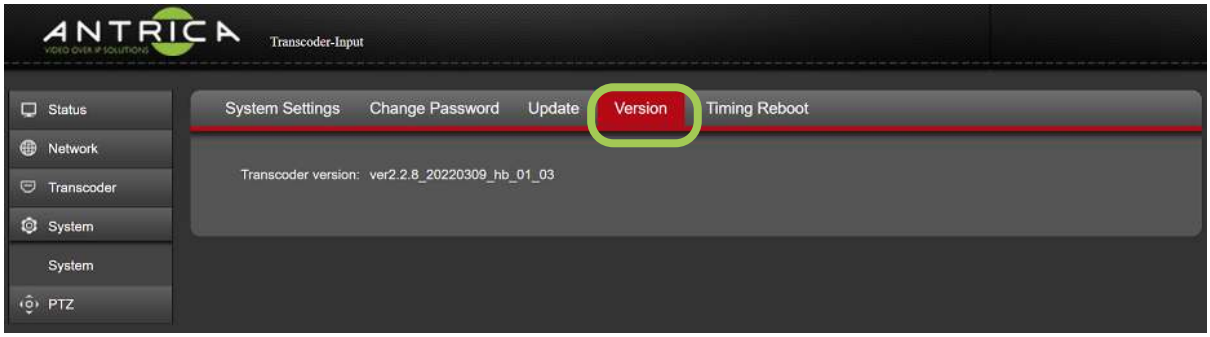
Change Password: Allows for the default admin password or previously used password to be changed.



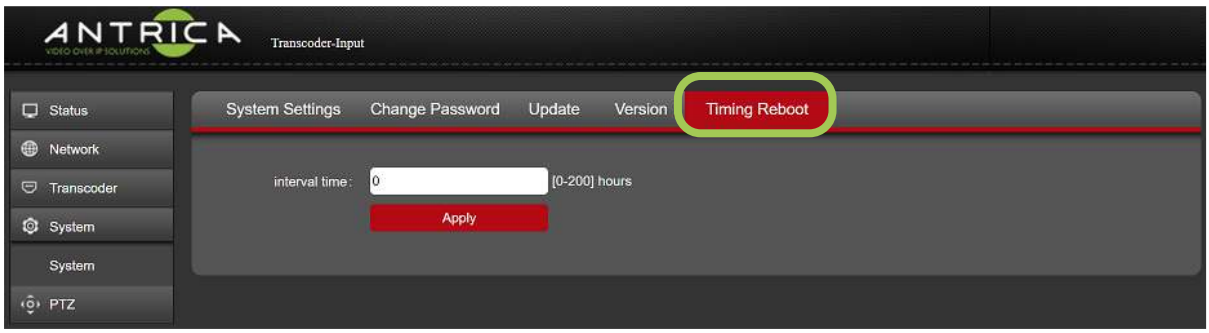
Update: This allows firmware for the decoder section to be upgraded



Version: The firmware currently installed for the Decoder part of the Transcoder.



Timing Reboot: Allows the Decoder section to be rebooted automatically every N Hours (1-200 Hours). If set to 0 then no reboot will happen.



4.5 PTZ

This is for future use, any new functionality to be advised.

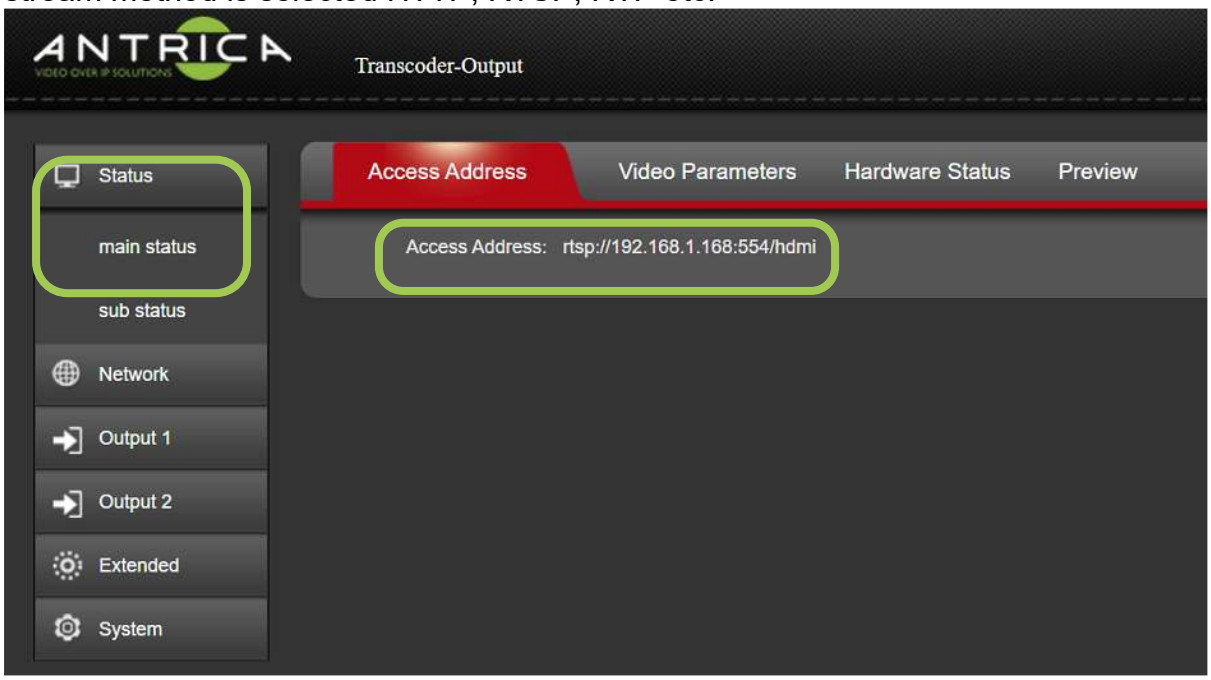
5.0 Setup of the ANT-48100 in IP OUTPUT (Encoder) (192.168.1.168)

5.1 Status

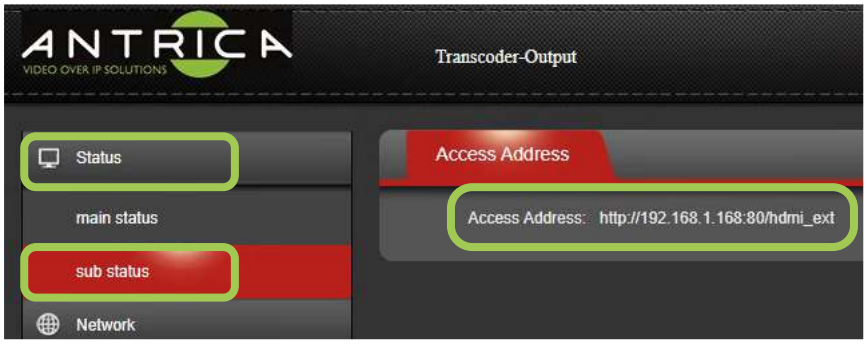
Status shows information about the Encoder section of the ANT-48100 Transcoder and is broken down into 4 sections:

Access Address:

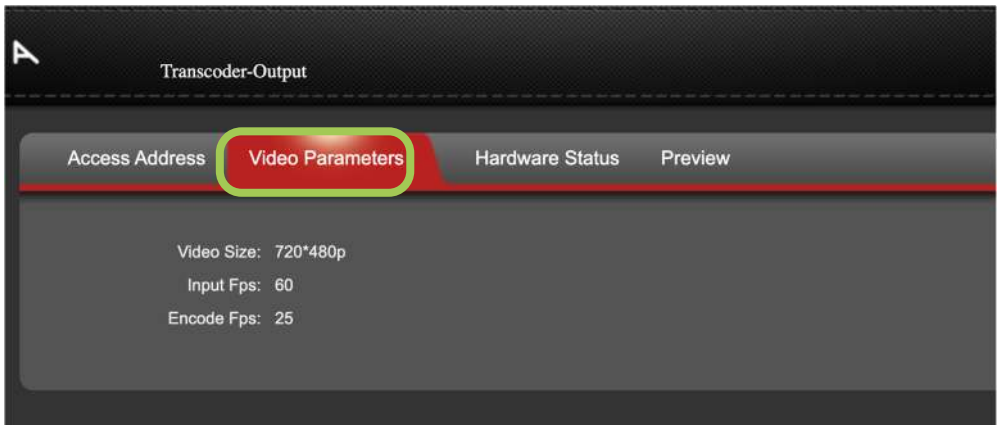
main Status: The URL of the encoded stream, from “Output 1” depending what stream method is selected HTTP, RTSP, RTP etc.



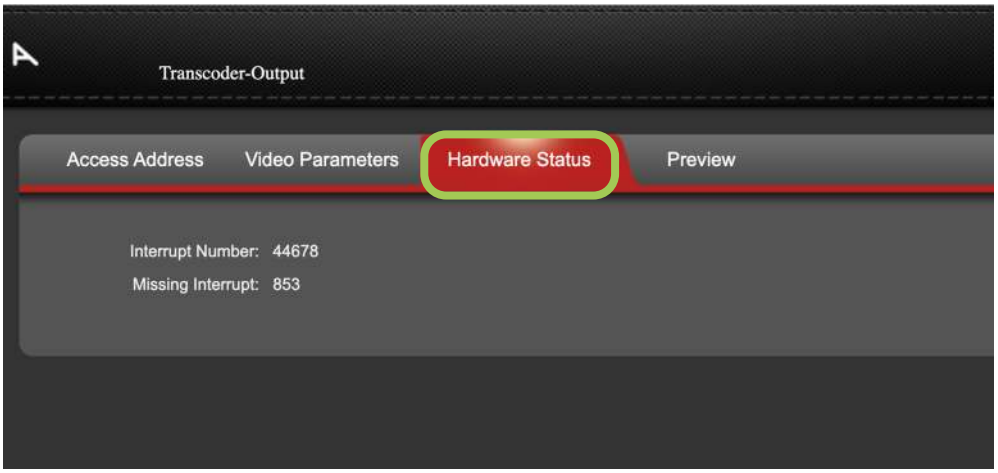
Sub Status: The URL of the encoded stream, from “Output 2” depending what stream method is selected HTTP, RTSP, RTP etc.



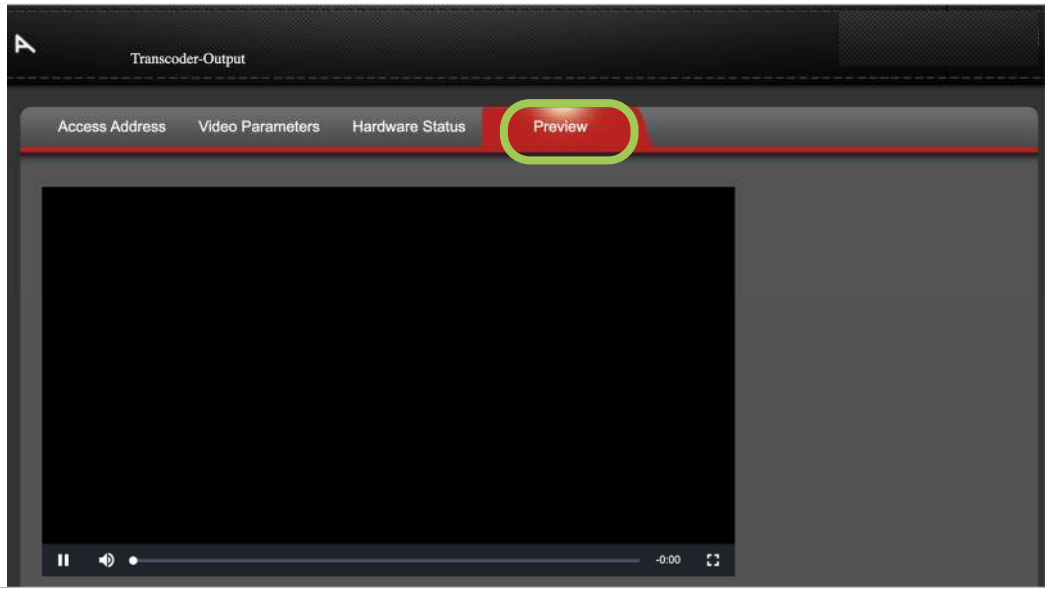
Video Parameters: shows the resolution and frame rate of the signal input being supplied by the decoder section, and the encoding frame rate as set in the Output 1 section.



Hardware Status: Future use / no usable information for end user.

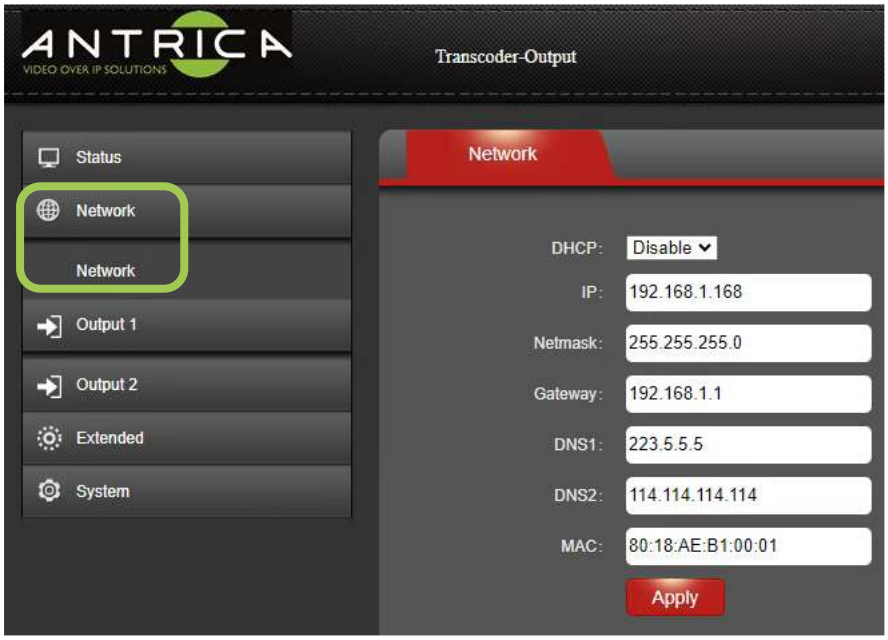


Preview: Allows a delayed preview of the encoded video stream if using, for example, Chrome as a browser. RTMP-HLS has to be set to “open” – see section 5.4.5 RTMP-HLS



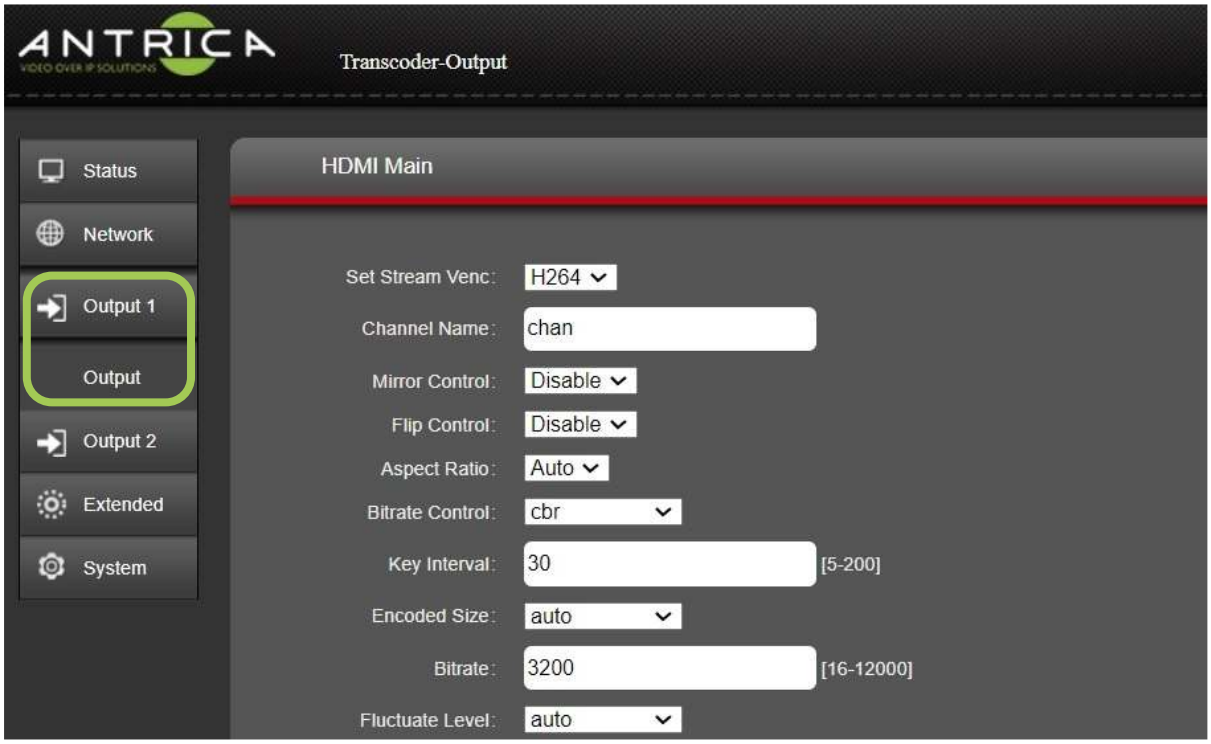
5.2 Network

This section allows you set the Transcoder (Encoder) network IP address, DHCP On/Off and other network settings such as Gateway, Netmask, DNS and information about the MAC address.



5.2 Output 1

This section defines the Encoder parameters, type of Codec and all other encoder settings. Some understanding of encoding is required, if not please use the default value and then selecte the required streaming protocol



Output 1: This is Encoders main stream. The sub stream is Output 2

Set Stream Venc: Choose H264 or H265 Encoding codec

Channel Name: This name will appear in some NVR / VMS's

Mirror Control: Will "mirror" the image in a left / right orientation

Flip Control: Will "flip" the image in top / bottom orientation

Aspect Ratio: Defines Auto, 16:9 or 4:3 aspect ratio for the streamed image

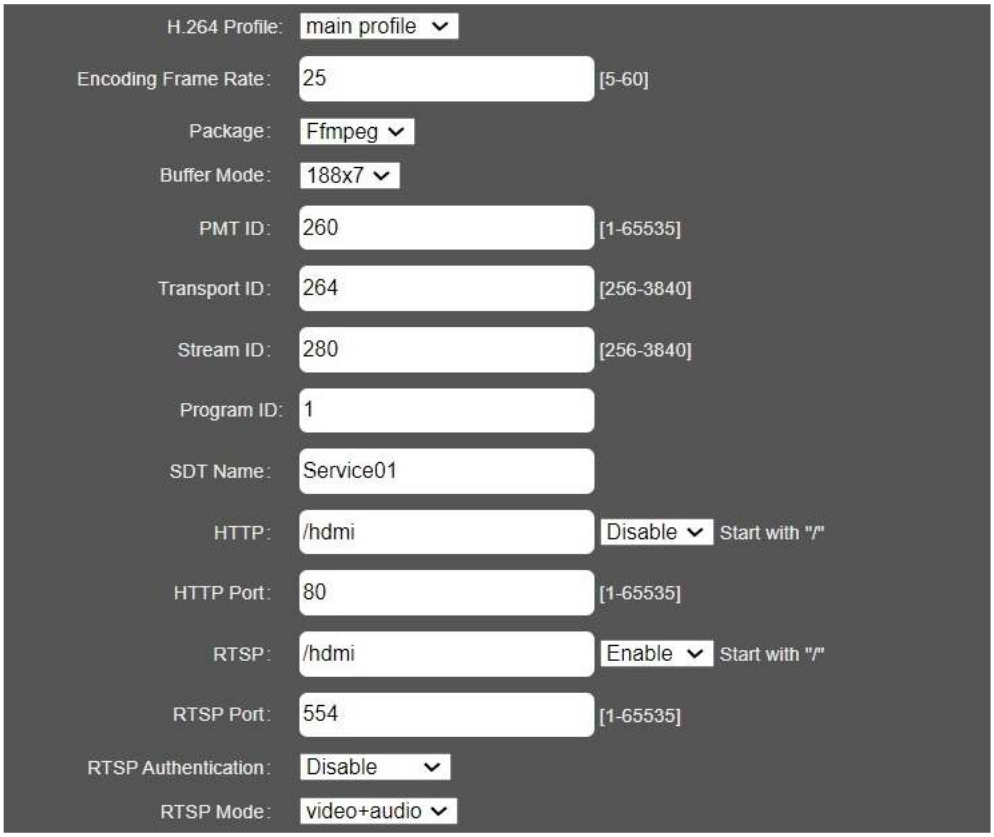
Bitrate Control: CBR or VBR modes

Key Interval: This is the GOP for the encoder ratio of I-frame to P-frames.

Encoded Size: Resolution settings, "auto" is the same as the input

Bitrate: Set the encoder bit rate in kilo bits per second (1 = 1kB/s). The actual IP video will use this value as a guide. Please note that is not the absolute value when used in CBR mode, but a "guide".

Flutuate Level: This is used in CBR mode, and will determine how much the bitrate fluctuates around the set bitrate value. 1Level is the less fluctuation and 5level is the most.



H.264 Profile: Baseline, main or high profiles**.** When **"Set Stream Venc"** is H265 this option is not present

Encoded Frame Rate: Frames per second of encoded stream

Package: options are ffmpeg or VLC, select according to the "decoder type" you are using. This is to "aid" the decoder to decode of the video.

Buffer Mode: When in MPEG-TS determines how many video "frames" are placed in each IP packet

PMT ID: For use MPEG-TS – PID ID for "Program Map Table"

Transport ID: For use MPEG-TS – Transport Stream ID

Stream Id: For use MPEG-TS – Video PID. Audio PID is "Stream ID" +1

Program ID: For use MPEG-TS – Program ID – a number

SDT Name: For use MPEG-TS – "stream description table" name

HTTP: Select Enable if you wish to use http streaming and edit the stream identifier

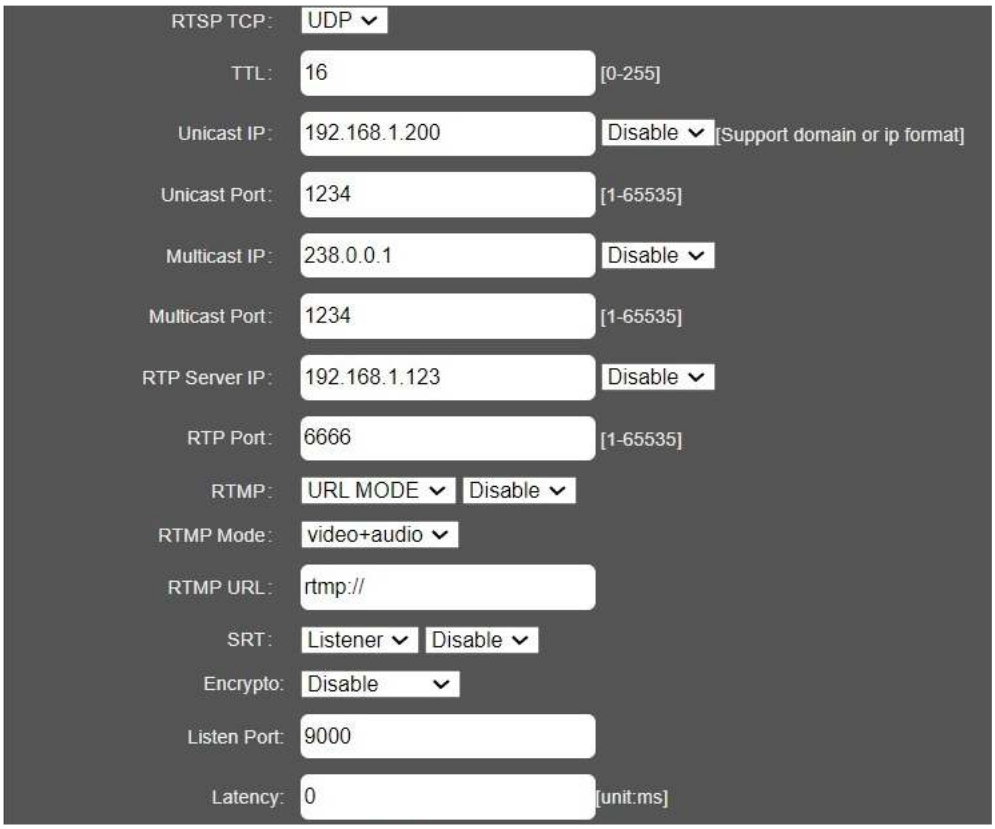
HTTP Port: select port for HTTP streaming

RTSP: Select Enable to use RTSP mode and edit the stream identifier

RTSP Port: select port for RTSP streaming

RTSP Authentication: Enable user name password RTSP authentication

RTSP Mode: Video + Audio, video or Audio only



RTSP TCP: select UDP or TCP streaming

TTL: Networking “Time to live” parameter

Unicast IP: Enable MPEG-TS Unicast here and set destination IP

Unicast Port: Destination port for Unicast streaming

Multicast IP: Enable multicast MPEG-TS and set the destination IP

Multicast Port: Destination port for Multicast streaming

RTP Server: Enable RTP mode and set IP

RTP Port: port to used with RTP streaming

RTMP: Enable RTMP mode and define either IP addressing or URL addressing here

RTMP Mode: Define video + Audio, Video or Audio only

RTMP URL: user defined RTMP URL

SRT: Enable SRT here and define if listener or caller

Encrypto: for use with SRT, password with length of 10-16 characters

Listen Port: for use with SRT

Latency: for use with SRT

5.3 Output 2

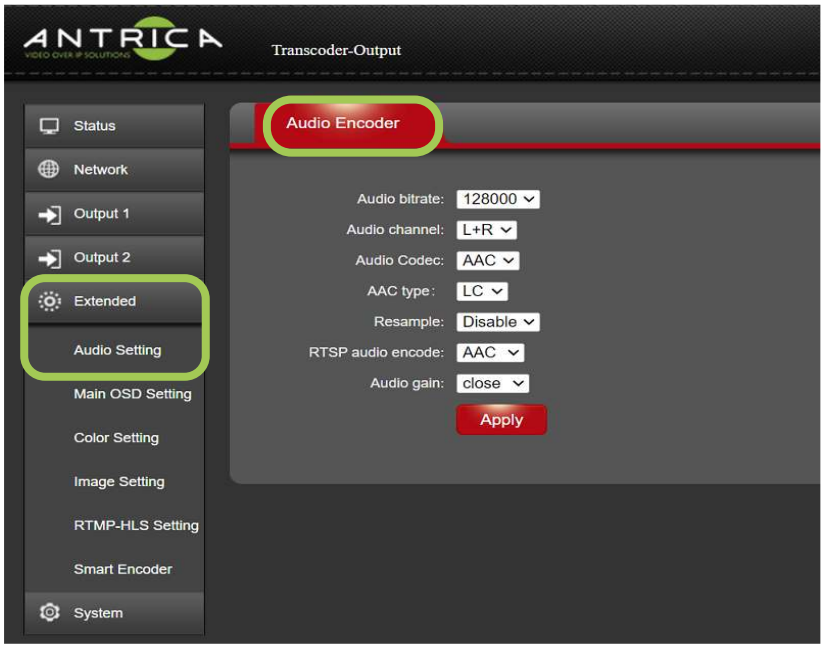
Output 2 has almost the same settings as “Output 1”, so any setting in “Output 2” has the same functional as that mentioned for “Output 1”

NOTE Some of the setting options in “Output 1”, for example the “**Mirror Control:**” will also have the effect on “Output 2”.

5.4 Extended

5.4.1 Audio Setting

The audio settings for the audio with the streamed video



Audio bitrate: allow for bitrate kbps between 24 and 320.

Audio channel: selected the audio channel to be encoded, left and right, left only or right only

Audio Codec: Codec AAC, MP3 or MP2

AAC type: If AAC selected the LC or HE options available. LC is “Low-Complexity” and is the “normal” AAC, HE is “High-Efficiency” requiring low bitrates for the same quality.

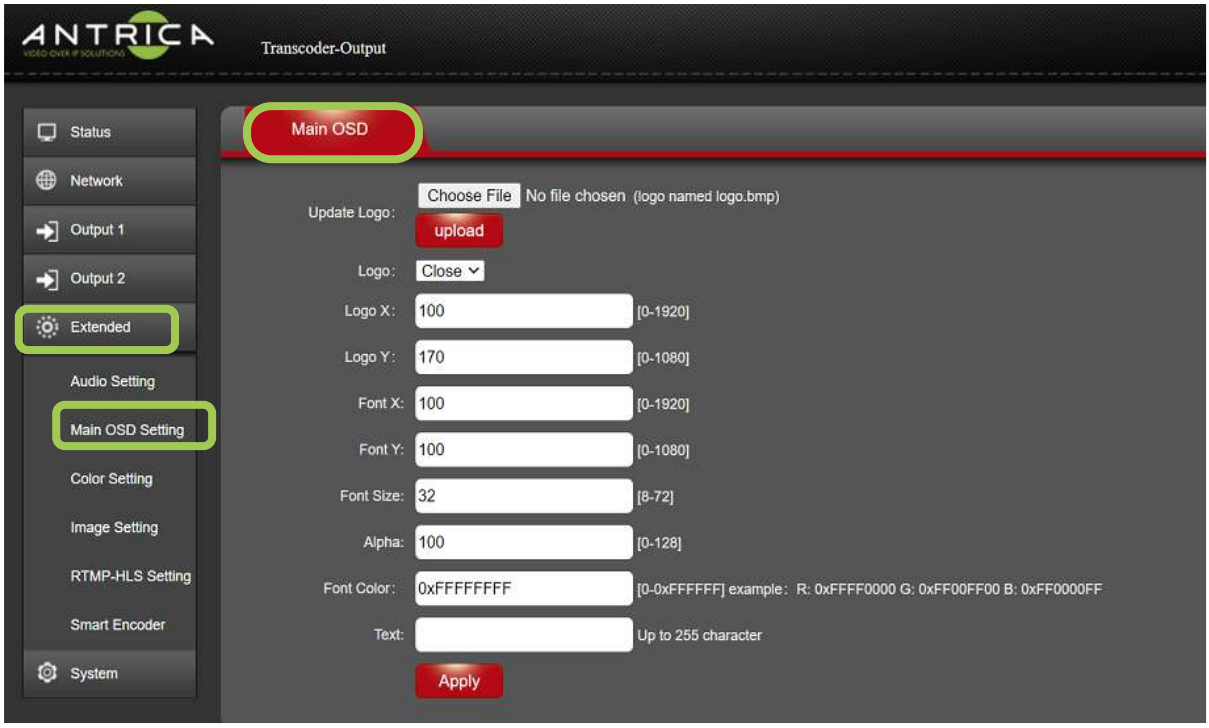
Resample: Default is 48kHz, the option are 32kHz and 44.1kHz

RTSP audio encoded: AAC LC or G.711.

Audio gain: allows for fixed gain values of -20, -10, +5 and +10dB

5.4.2 Main OSD Settings

These setting allow for text and a static image to be burnt into the video.



Update Logo: To choose and upload the bmp image to be burnt into the encoded video

Logo: Logo option on (Open) or off (Close)

Logo X: Logo position, left to right across screen

Logo Y: Logo position, top to bottom across screen

Font X: Text message, see **Text:**, position, left to right across screen

Font Y: Text message, see **Text:**, position, top to bottom across screen

Font Size: Text message, see **Text:**,size of character

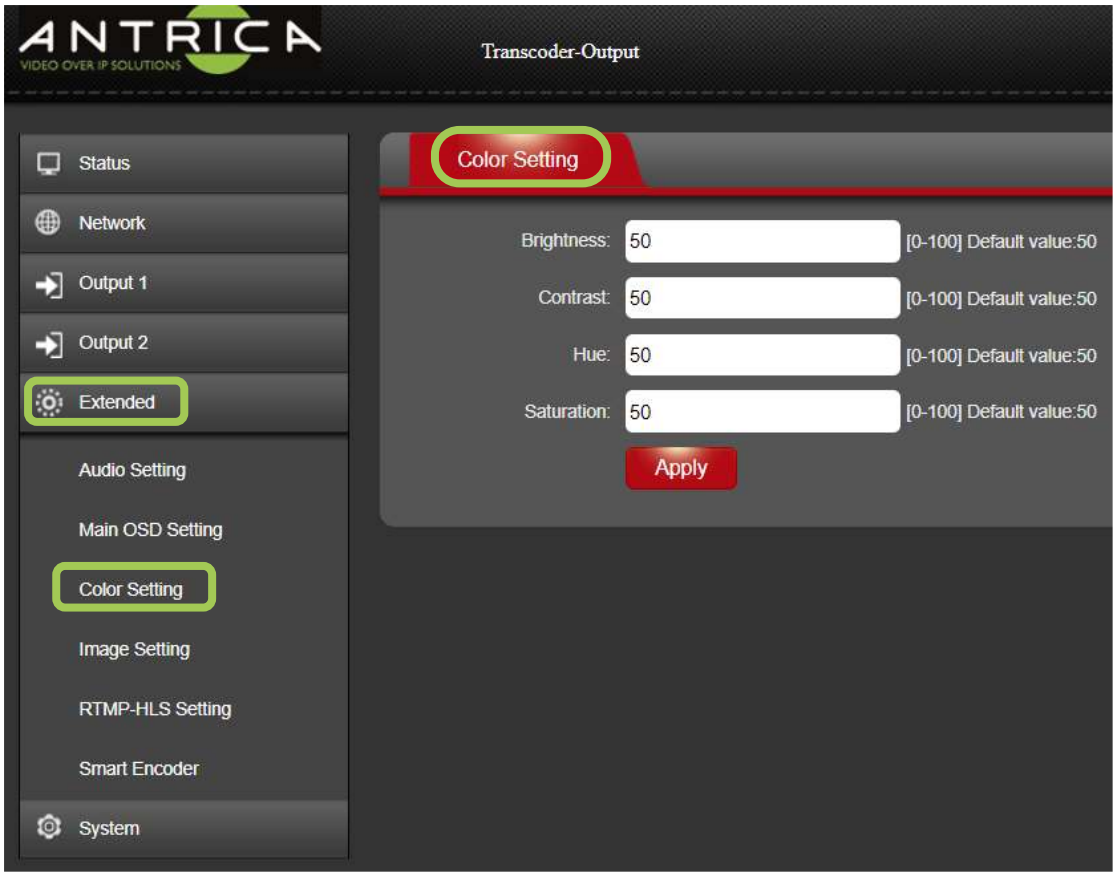
Alpha: Transparency of text and Logo, 0 is maximum Transparency, so text and logo are not seen, 128 is minimum Transparency so text and logo are solid “in front” of encoded video

Font Color: The last 6 Hexadecimal characters are the color of the text

Text: Single line of alpha numeric characters

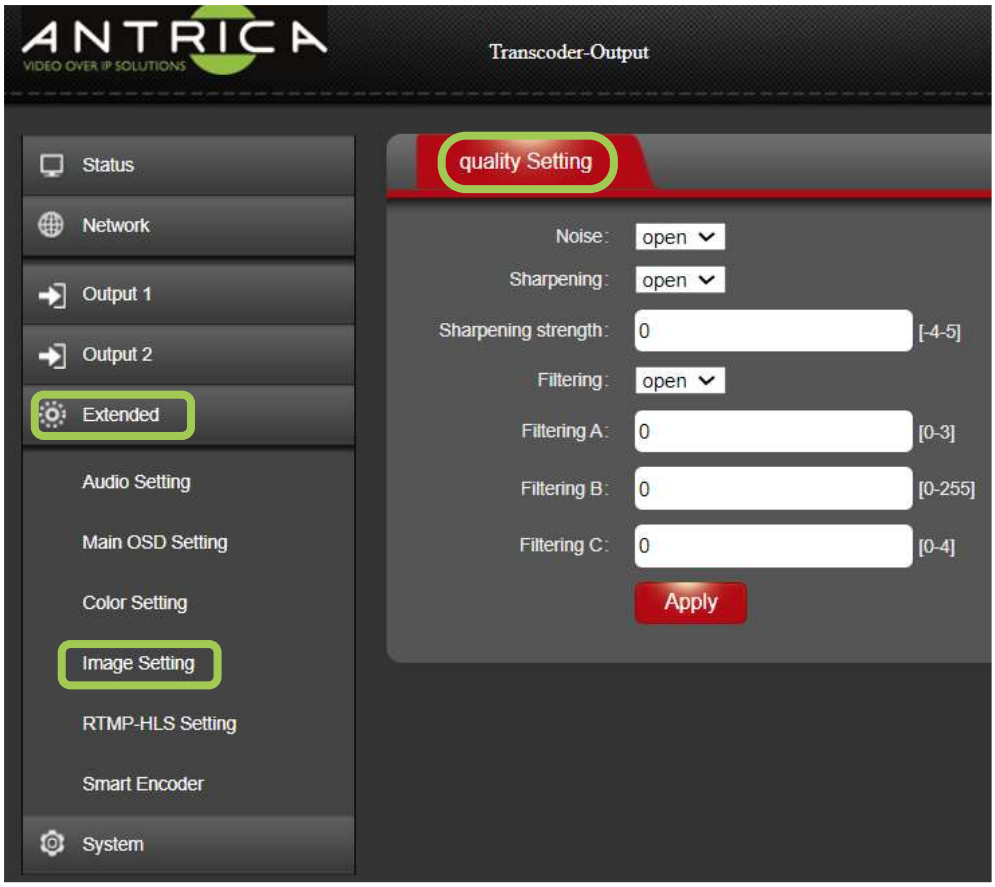
5.4.3 Color Setting

To make colour adjustments to encoded video. **Note** altering these setting may have an adverse effect on the encoded video, so it may look incorrect.



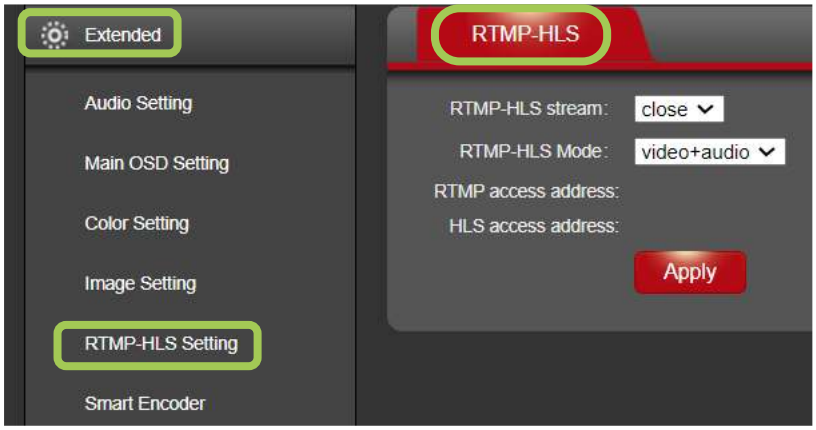
5.4.4 Image Setting

Altering these setting may have an adverse effect on the encoded video, so it may look incorrect.



5.4.5 RTMP-HLS Setting

This is to enable RTMP and HLS streaming. The RTMP-HLS stream needs to be set to open to allow the preview video to be section, as mention in **Preview** in the Status setting (Section 5.1)



When “enabled” (open) the RTMP and HLS setting will be:

RTMP access address: rtmp://192.168.0.167:1935/hls/hd-live

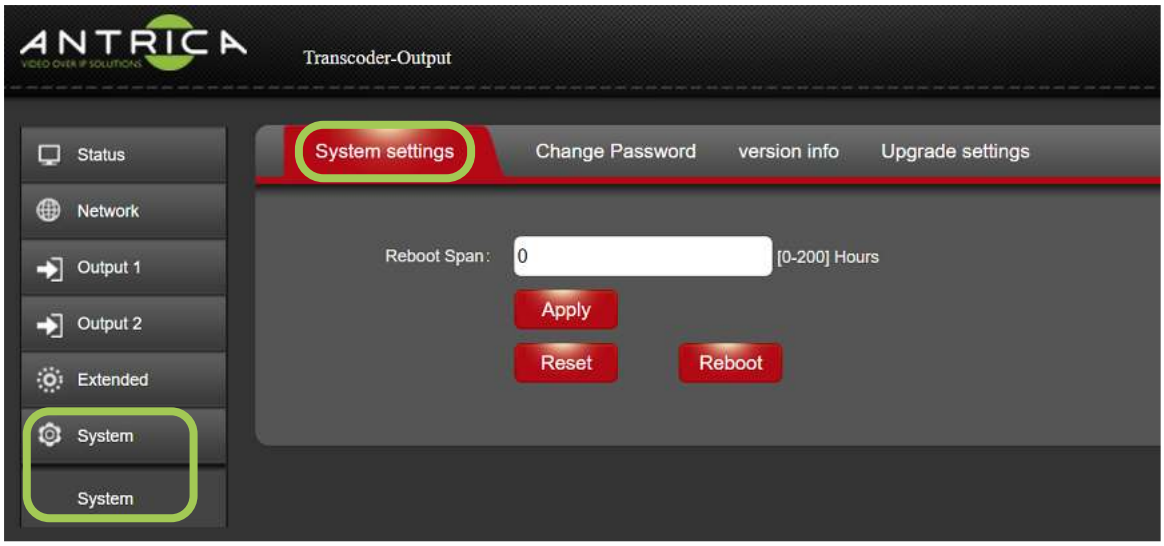
HLS access address: http://192.168.0.167:8235/hls/hd-live.m3u8

5.4.6 Smart Encoder

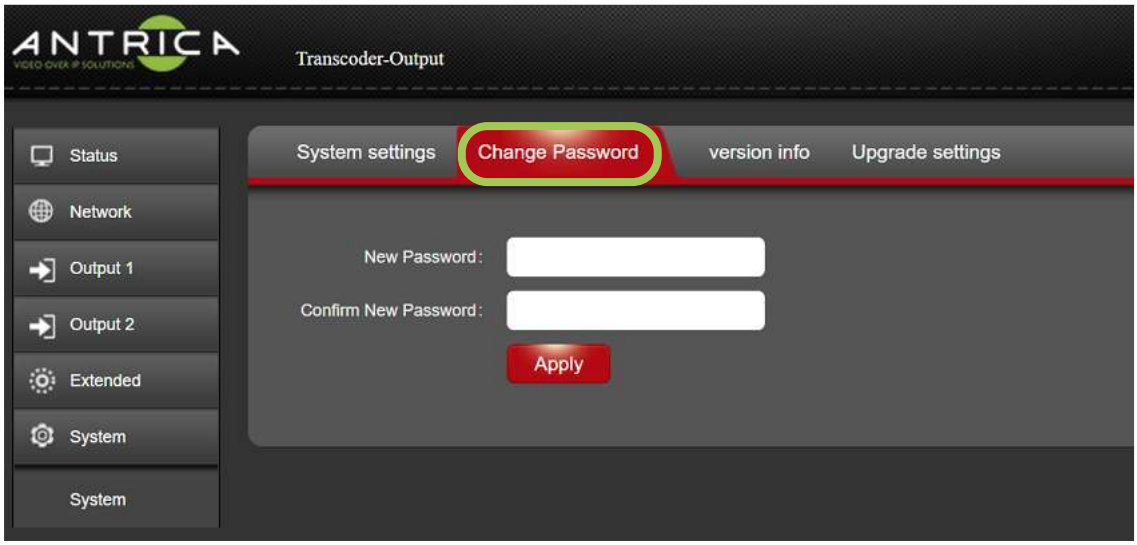
If you are using low bitrate, enabling (open) this feature may improve video quality slightly.

5.5 System

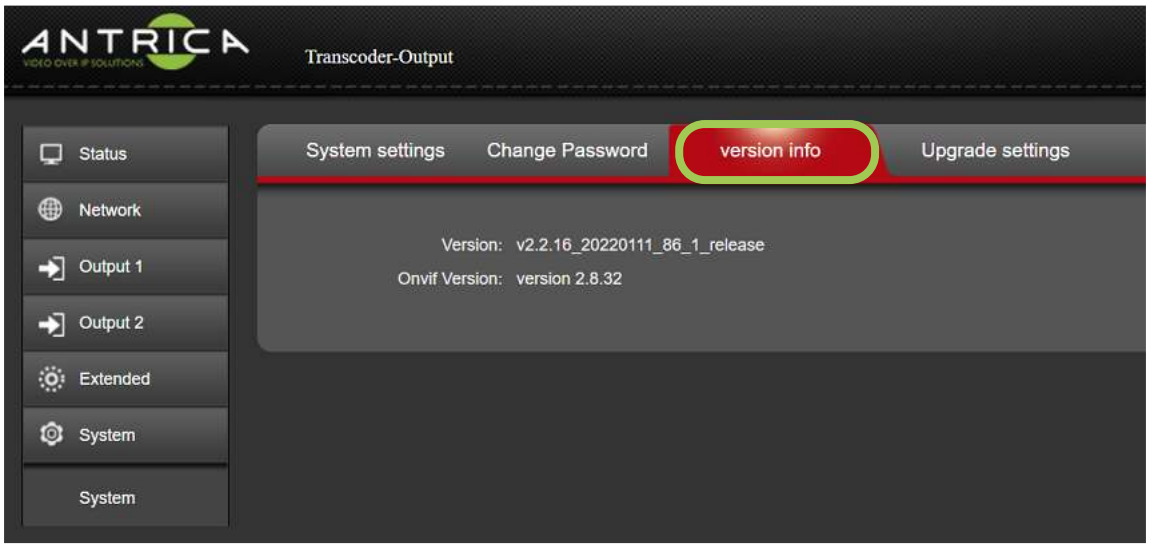
System Settings Tab: This allows the Encoder section of the transcoder to be Factory Reset or rebooted.



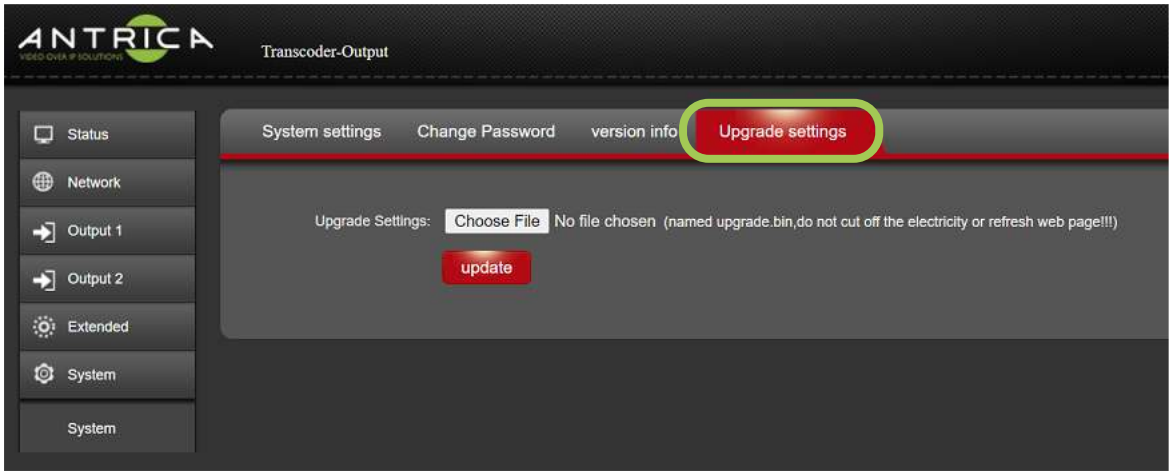
Change Password: Allows for the default admin password or previously used password to be changed. If the “Transcoder-Output” is reset from either the front panel or webpage, the password will be changed back to the default of “Admin”.



Version: The firmware currently installed for the Encoder part of the Transcoder.



Update: This allows firmware for the Transcoder-Output / Encoder section to be upgraded



6.0 Other Information

Please visit our website www.antrica.com and browse to the product page (e.g ANT-48100) where you can find a DOWNLOADS SECTION :

- application notes
- Full User manuals
- FAQs
- Firmware
- Other useful information
- More help Open up a Technical Support Ticket from the support page.

Contact: support@antrica.com

Call : +44 1628 626098 during UK office hours, and ask for technical support

Document info

Version	Date	Author	Comments
1.0	6-Sep-21	Les	First draft
2.0	26-Aug-22	David M	Corrections and new images ver2.2.8_20220309_hb_01_03 and v2.2.16_20220111_86_1_release - Onvif 2.8.32
2.1	6-Sept-24	David M	Text and image updates