Infinium

QUICK SETUP

Encoders + RF Modulator module Setup

for IP MOD-64 2023 module

The IP-MOD-64 converts up to 64 IPTV streams to RF channels over 4 Coaxial Multiplex Frequencies.

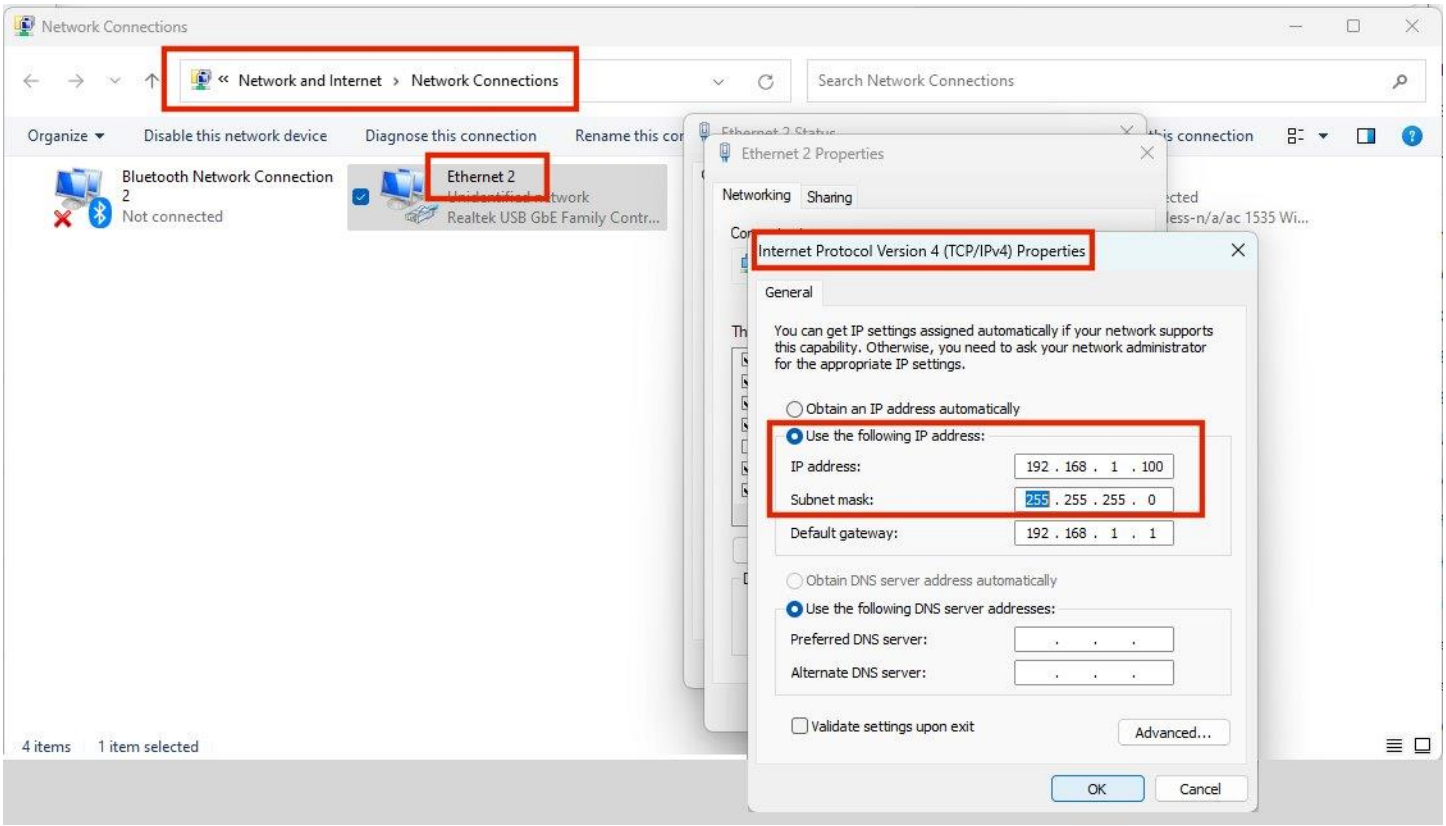
Each of the 4 Frequencies can assign multiple IP Streams coming from the IPTV input RJ45 Ethernet port.

Each assigned stream can be NAMED as wanted as well Numbered to list in the wanted sequence on the TVs remote controls

Configure the Infinium Encoders to stream

When you receive the INFINIUM chassis with encoders, each encoder needs to be set to the final IP_ADDRESS and the final MULTICAST IP ADDRESS, so when you connect all the modules to the network switch they will not conflict each others.

1) Configure your computer to a static IP address 192.168.1.100

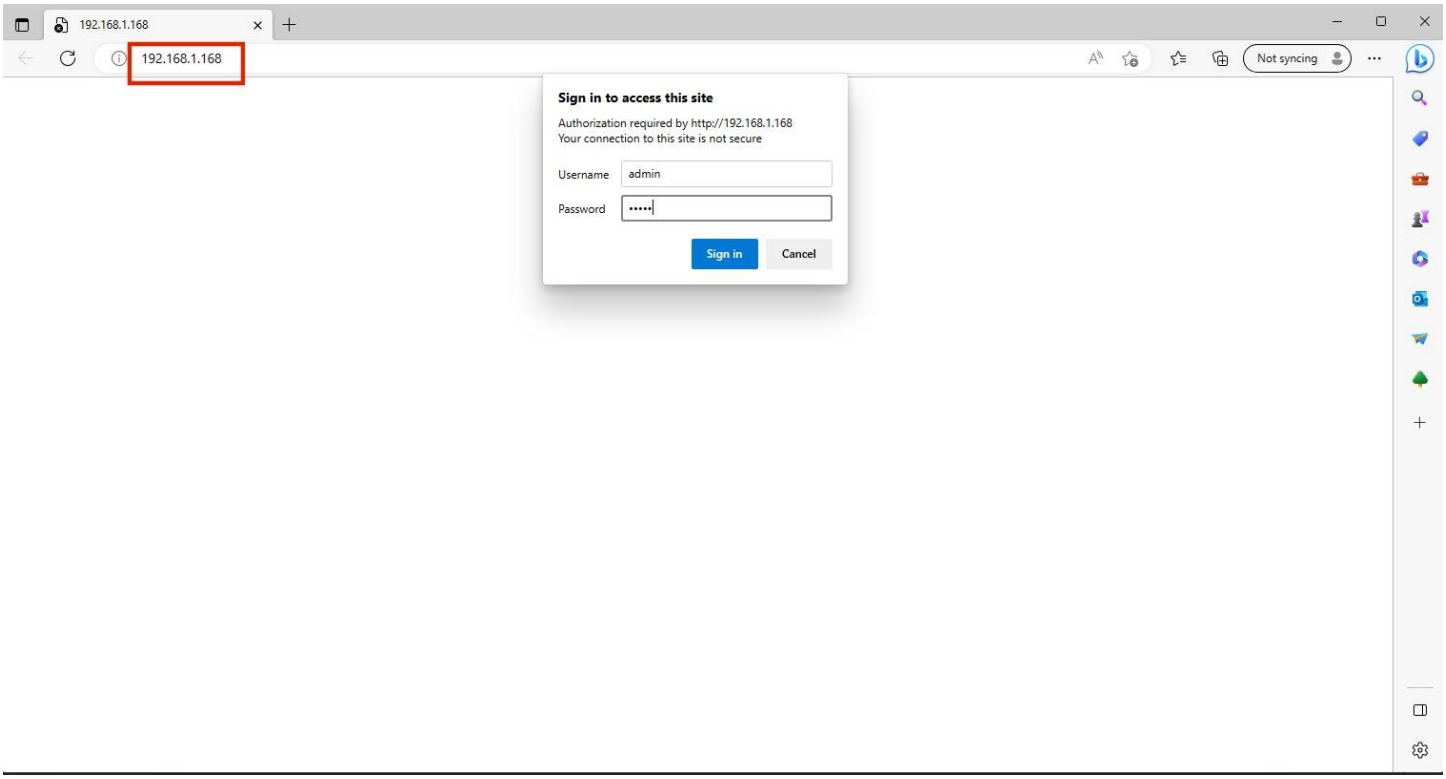


2) Connect your computer ethernet to the first Infinium encoder ethernet port

3) Open your computer browser and enter in the link bar 192.168.1.168

4) If all is configured as expected, the WEB INTERFACE of the encoder module should display
IF NOT, please check your computer settings for a static ip address as above.
IF THE INFINIUM MODULE IS NOT NEW, the ip address might have been changed, so it is necessary to reset the module to factory by holding the micro reset button (mini hole) on the encoder card panel for 30 seconds. This way the IP address will go back to 192.168.1.168 default and you will need to set the module again from scratch to your ip addresses and other settings.

5) Login to the encoder web interface with user name “admin” and password “admin”

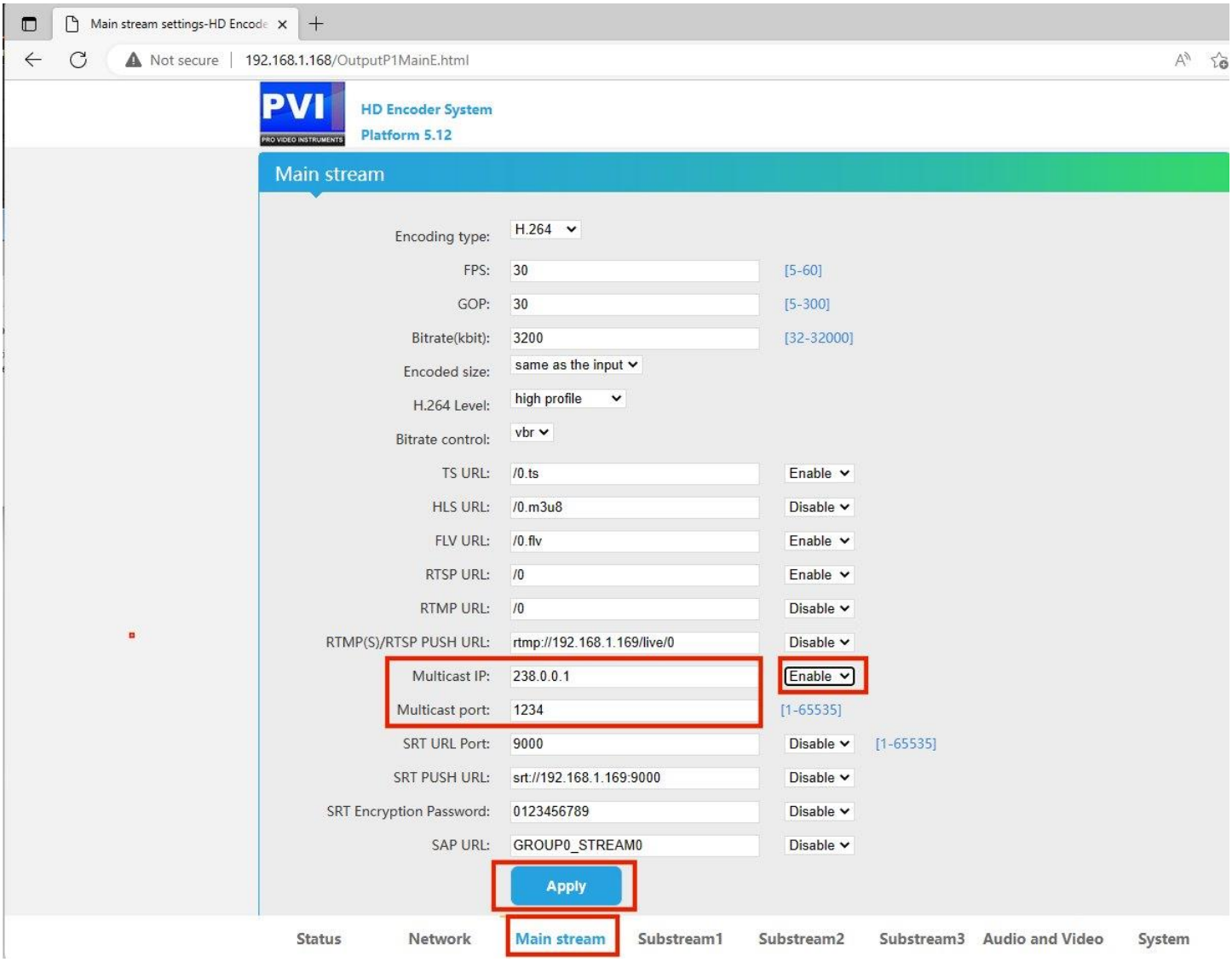


6) On the encoder go to the MAIN STREAM and set the MULTICAST IP ADDRESS to use for this channel. In our example we use 238.0.0.1 and port 1234

Please MAKE SURE NOT TO USE THE SAME ADDRESS ON EACH ENCODER OR THEY WILL CONFLICT !!!

As example use 238.0.0.1 on the first encoder, then 238.0.0.2 on the second, then 238.0.0.3 on the third encoder card, and so on. There is no need to change the port which can be 1234 for all encoders.

Remember to ENABLE the multicast via the drop down selector on the right of the multicast line, and to APPLY to save on the bottom of the page.

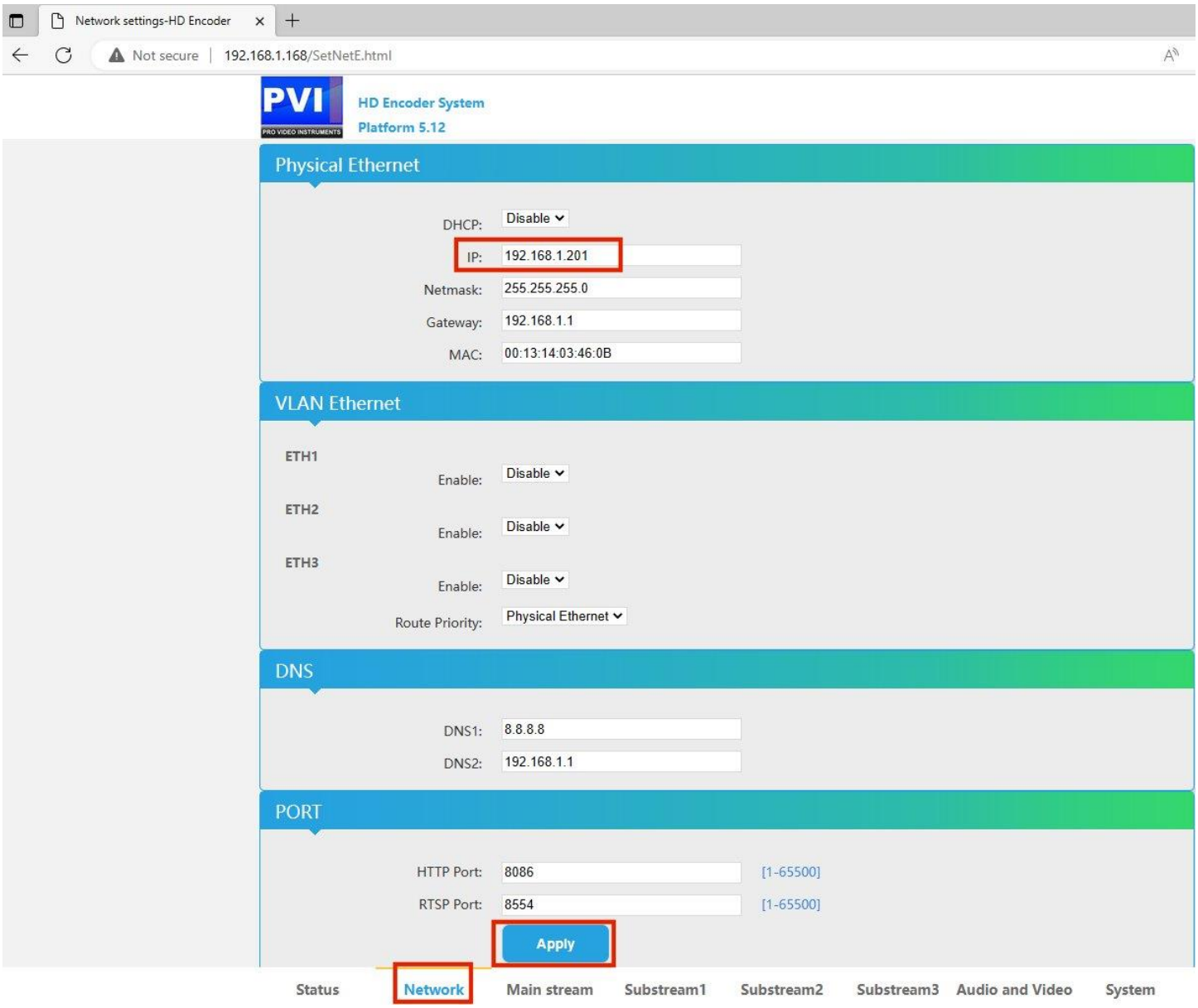


7) On the ENCODER NETWORK TAB make sure to change the web interface IP ADDRESS so each **encoder has a DIFFERENT IP and will not conflict**

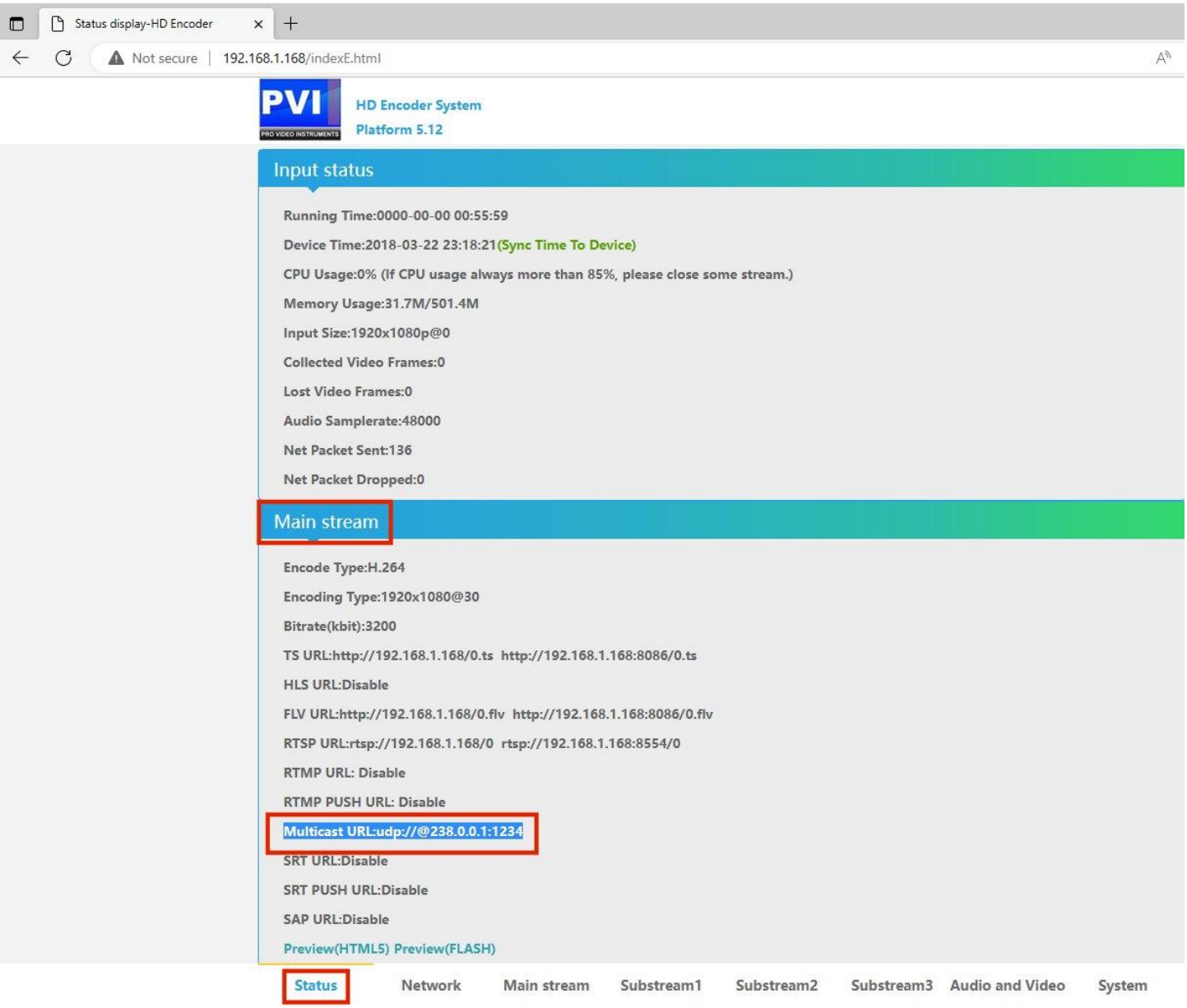
As example you can use 192.168.1.201 on the first encoder, then 192.168.1.202 on the second encoder, 192.168.1.203 on the third and so on..

Click APPLY on the bottom of the page to save.

Remember the ip address you set per each module or you won't be able to access the web interfaces after you apply



8) On the STATUS PAGE of the encoder you can check if the MULTICAST of this encoder card has been properly configured and see the multicast address it is streaming on



9) Repeat steps 1 through 7 per each encoder card of your system

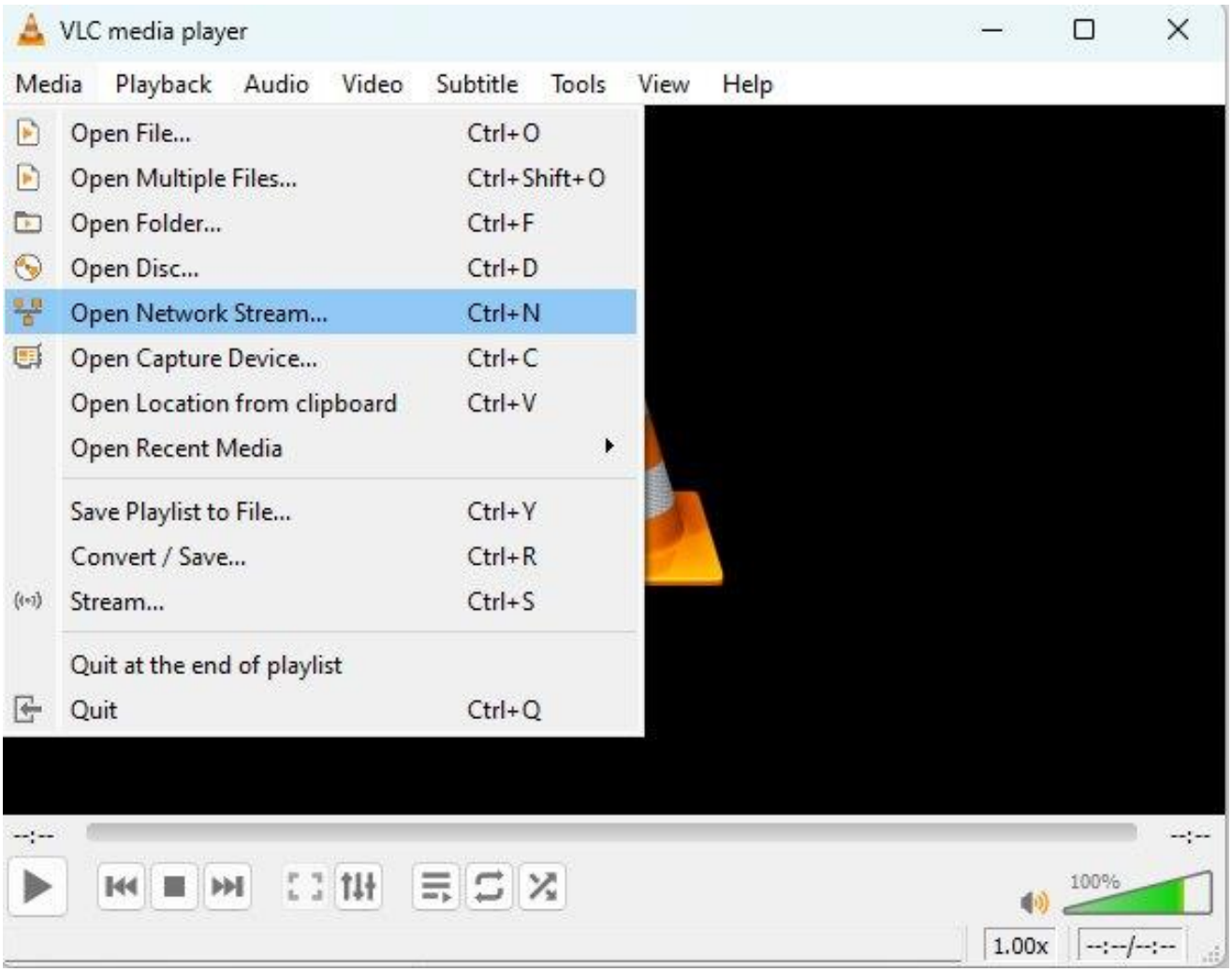
10) Connect the Encoders to a NETWORK SWITCH. If the encoders are streaming their own TEST PATTERN each related LED on the switch will start flashing continuously indicating there is streaming coming from that encoder card.

11) Connect your Computer to the switch and Use VLC VIDEOLAN software to test / play each stream to verify all is working. In this example we test the stream from the first encoder 238.0.0.1 port 1234

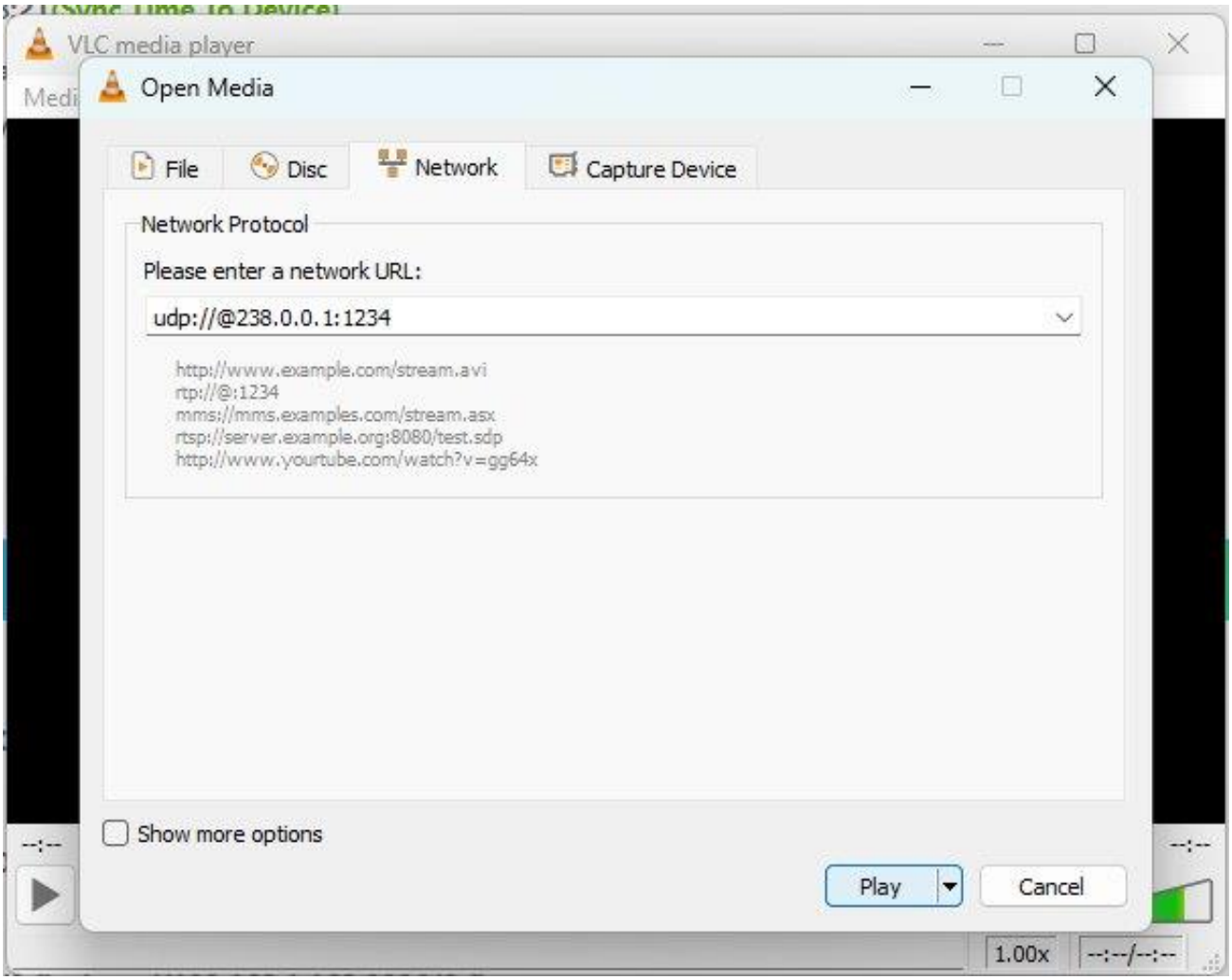
we can take the test link from the STATUS PAGE of the encoder as per step #8 above.

udp://@238.0.0.1:1234

12) On VLC software click FILE > OPEN NETWORK STREAM



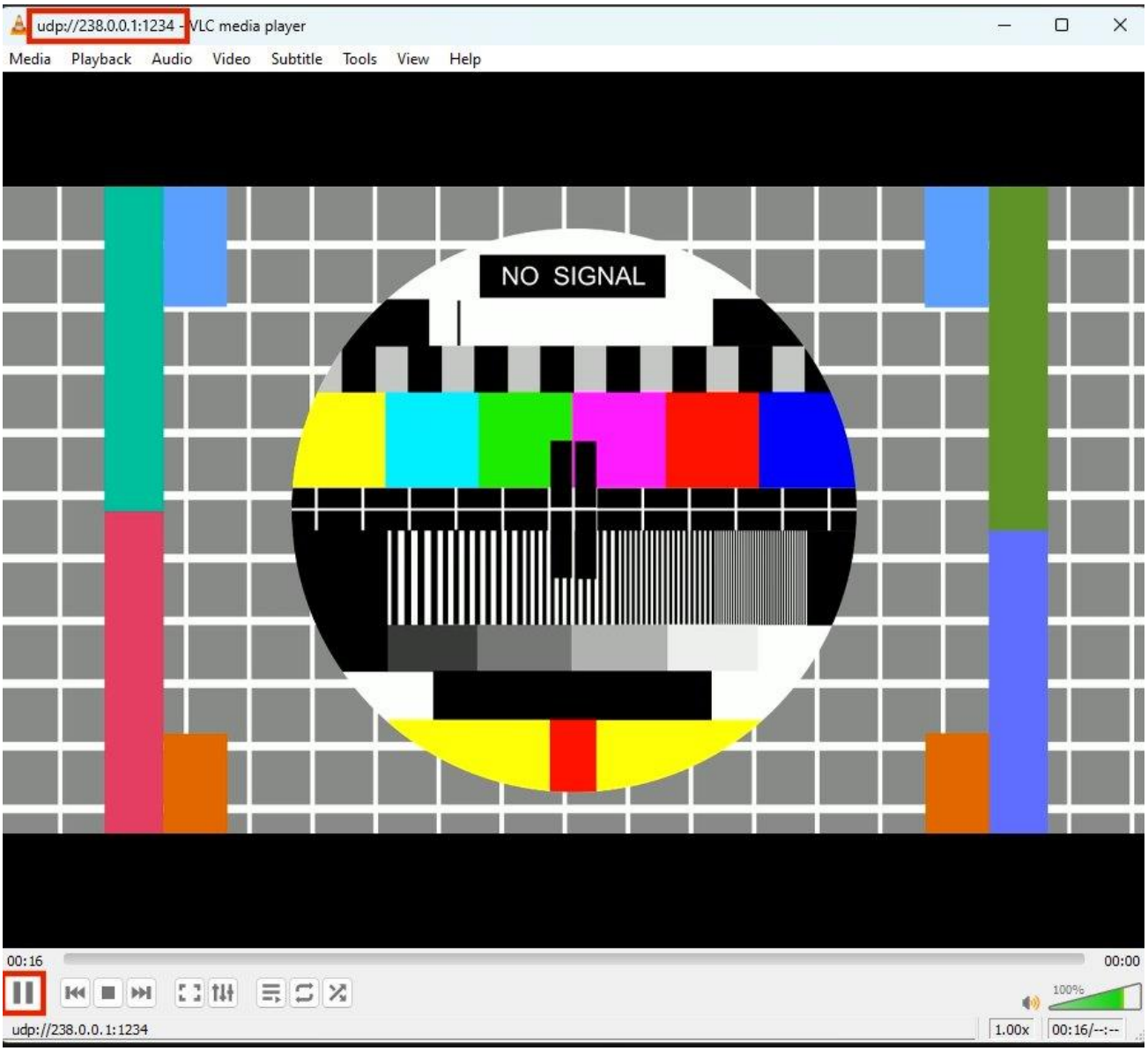
13) Enter the UDP multicast address **udp://@238.0.0.1:1234**



14) Hit PLAY

VLC will start playing the stream coming from this encoder.

Repeat the same test for all encoder using the proper multicast ip address UDP:///@238.0.0.2:1234 then UDP://@238.0.0.3:1234 then UDP://@238.0.0.4:1234 and so on, so you can test each encoder IS streaming



For any other setting on the encoders, please follow the MAIN instruction manual.

15) Connect the IP-MOD-64 Ip to RF Modulator module to the switch.

BOTH PORTS CAN BE CONNECTED TO THE SWITCH

The computer will be connected to the switch to manage everything at once.

- The TOP ETHERNET PORT on the IP MOD receives the ip streams

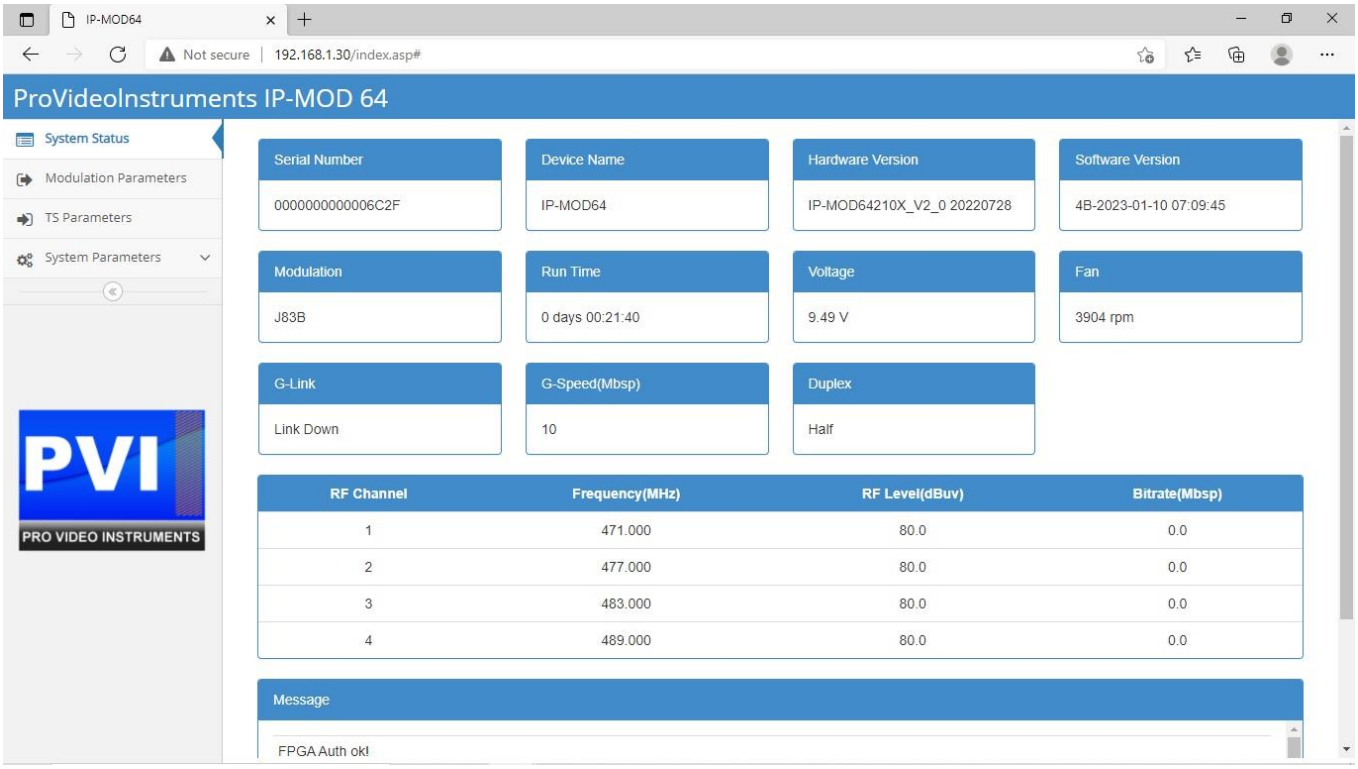
- The BOTTOM ETHERNET PORT on the IP MOD is to control the IP MOD web interface

- The DEFAULT IP ADDRESS of the IP MOD is 192.168.1.30

user name: user

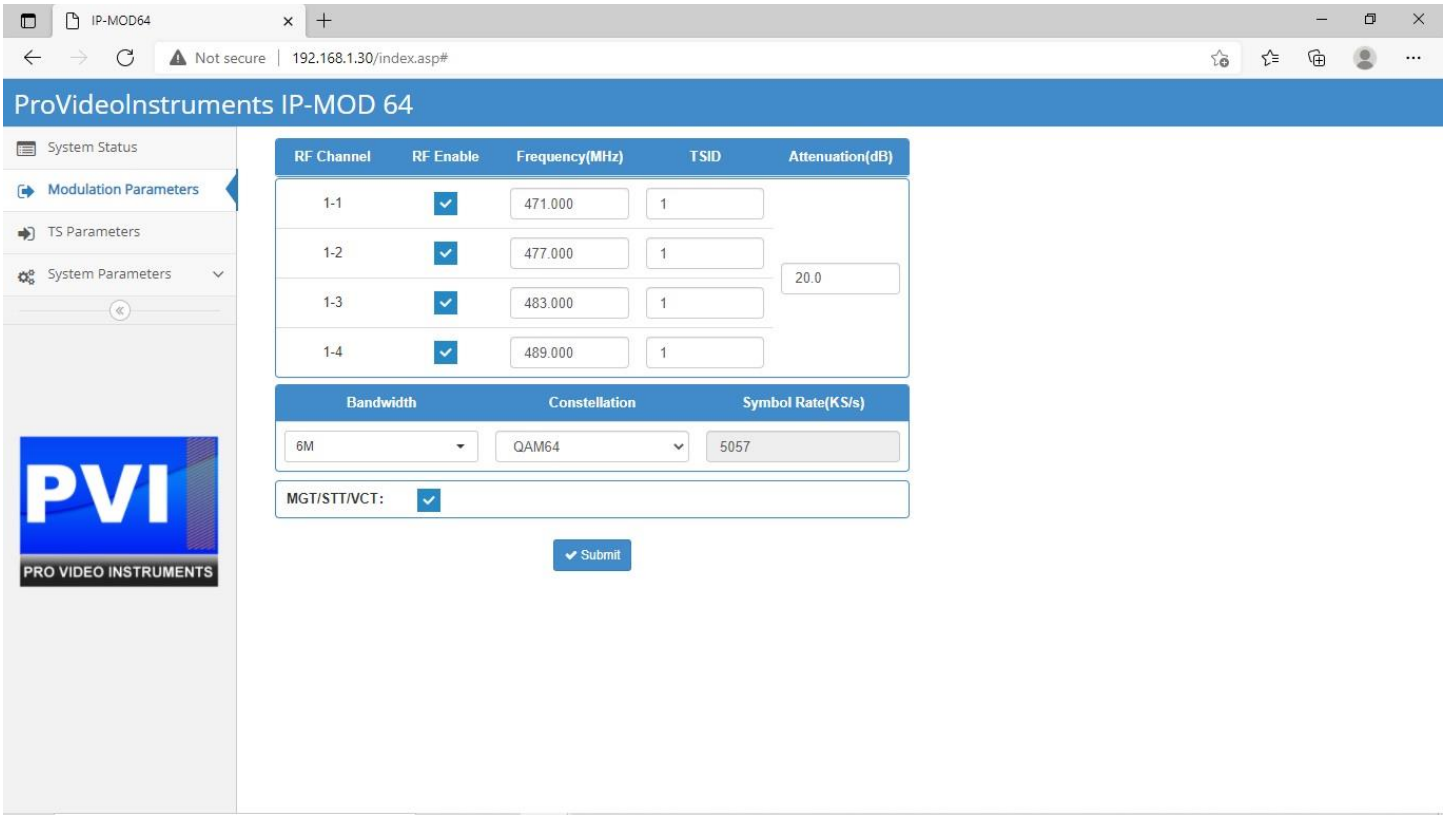
password: user

16) Use the WEB BROWSER of your control computer to login to the IP-MOD web interface typing the address 192.168.1.30



The SYSTEM STATUS shows the actual main settings and status of this IP MOD CARD.

17) Click on MODULATION PARAMETERS to set the 4 frequencies of this module



RF ENABLE : turn on/off the output of this frequency on the coaxial spectrum

FREQUENCY : Set the wanted frequency per each channel (in mhz). Use the CENTER FREQUENCY of the channel you need. Refer to our frequencies chart for QAM / ATSC / DVBT / ISDBT / DVBC standard.

TSID : TRANSPORT STREAM ID number per each of the frequency. Leave to 1 if no need to change.

BANDWIDTH: 6M for QAM J83B USA CABLE STANDARD. See our frequencies chart for other settings.

CONSTELLATION: use QAM64 if you have few channels, or switch to QAM 256 for the maximum capacity of bitrate on the frequencies to fit more channels.

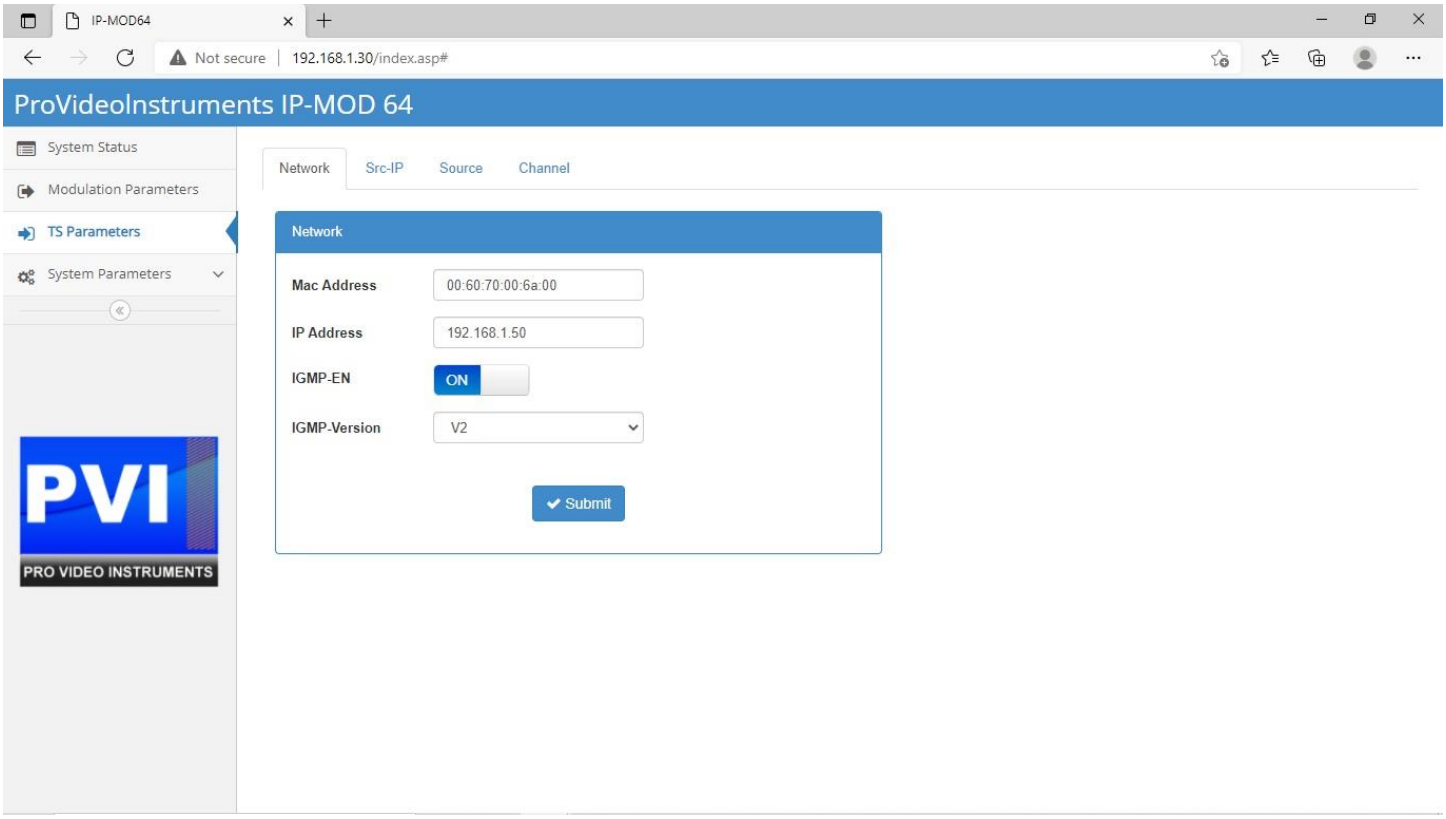
MGT/STT/VCT : descriptors tables injection - Must be ON or the TV will not recognize the channels.

IMPORTANT: This example is for QAM J83B USA CABLE TV use. This modulator supports ATSC / DVBT / DVBC also

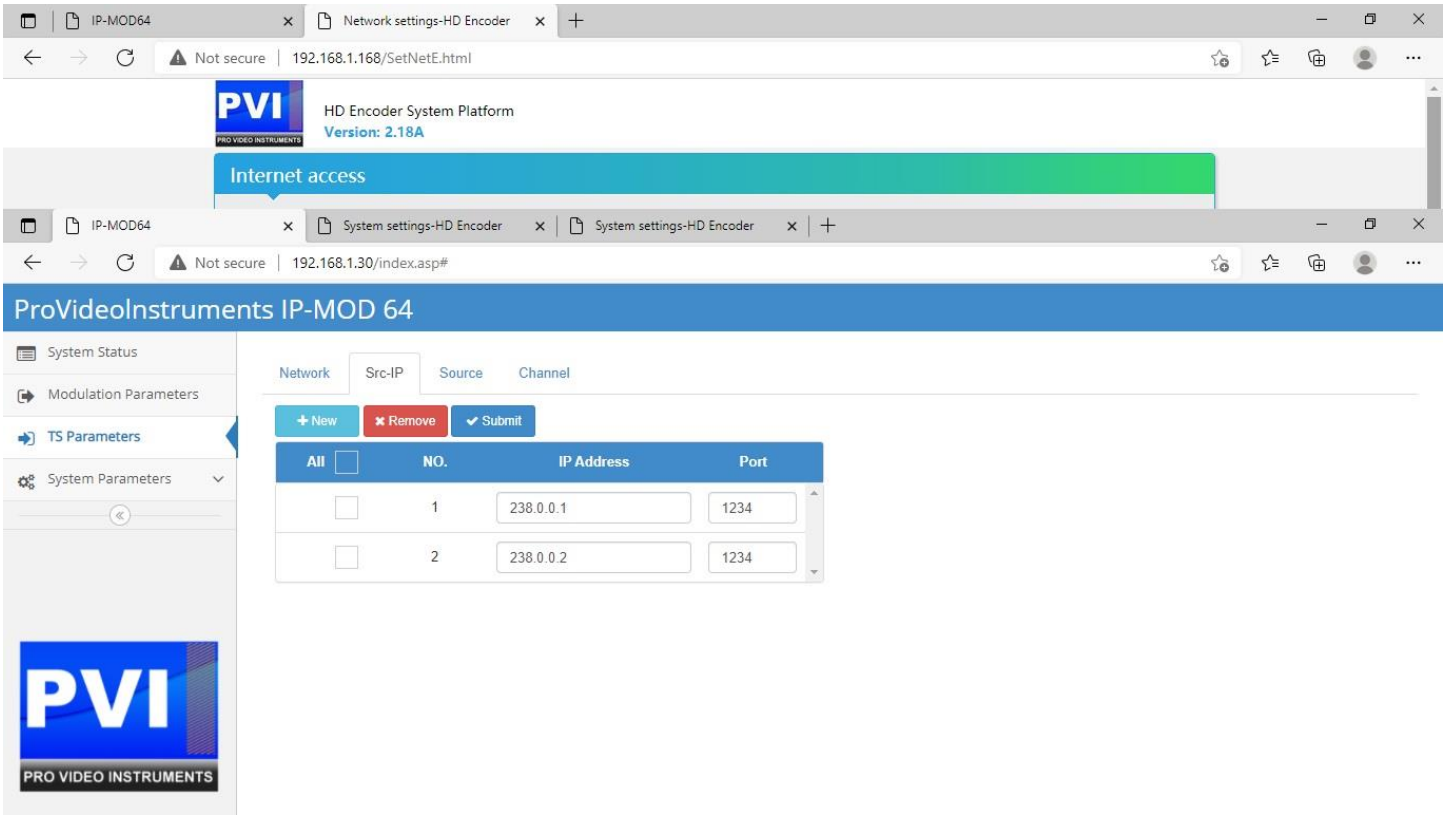
To change please email to support@provideoinstruments.com your request so we can provide you with the specific instructions.

18) Select TS PARAMETERS to add the incoming streaming to the IP MOD ethernet port receiver

NETWORK TAB: do not change these parameters unless needed.



SRC-IP TAB : the source IP tab is where you add the INCOMING MULTICAST STREAMS to the modulator STREAM LIST

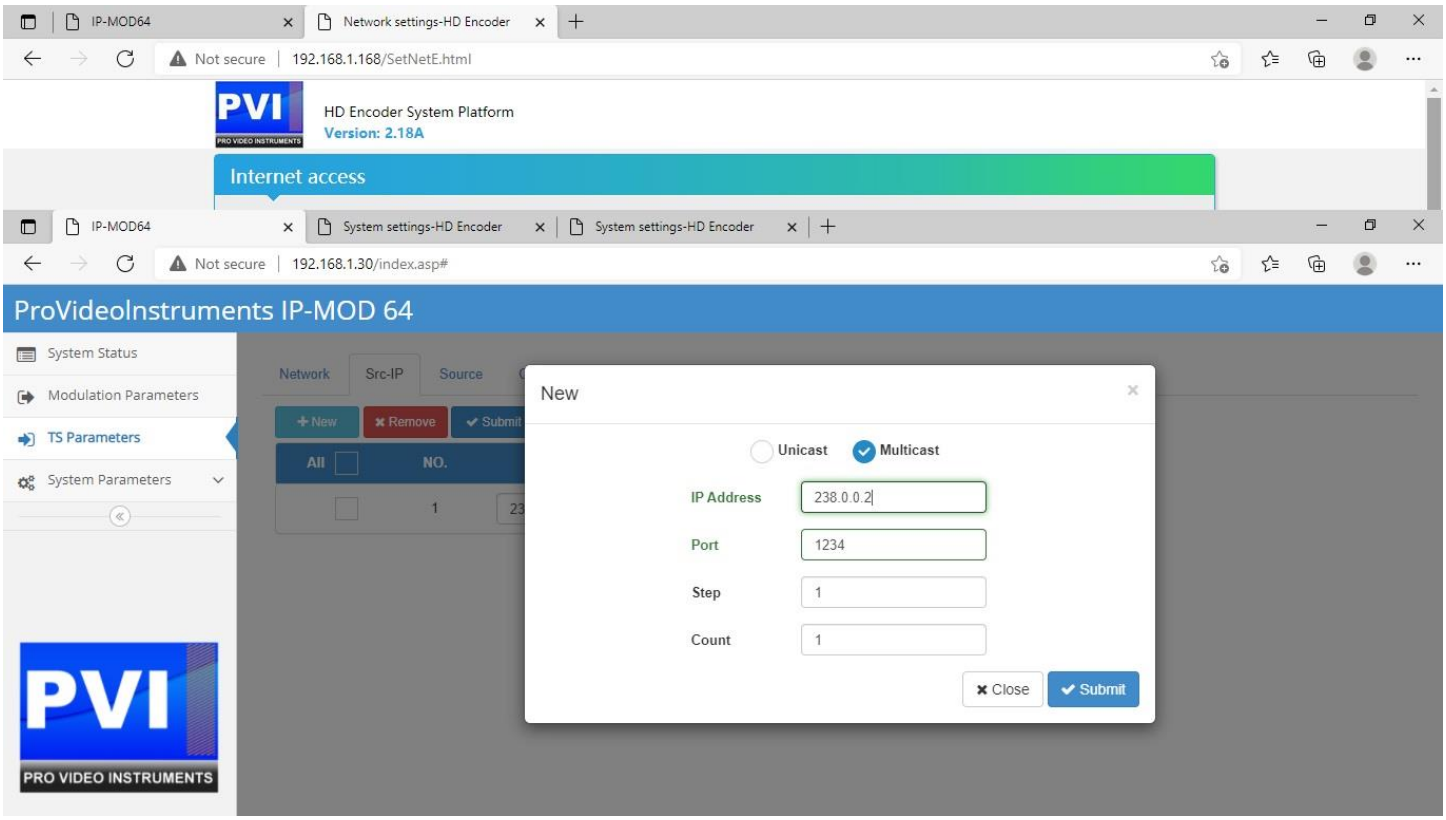


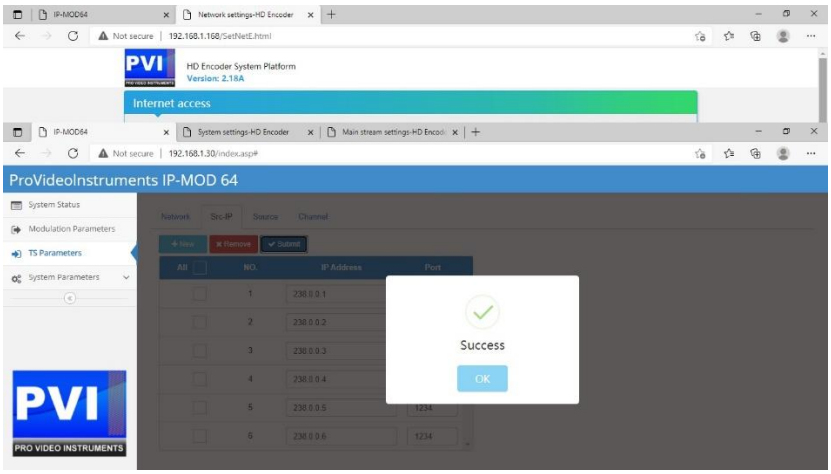
Click on NEW to add a new stream to the list

select MULTICAST then enter the IP and PORT for the multicast stream you want to add.

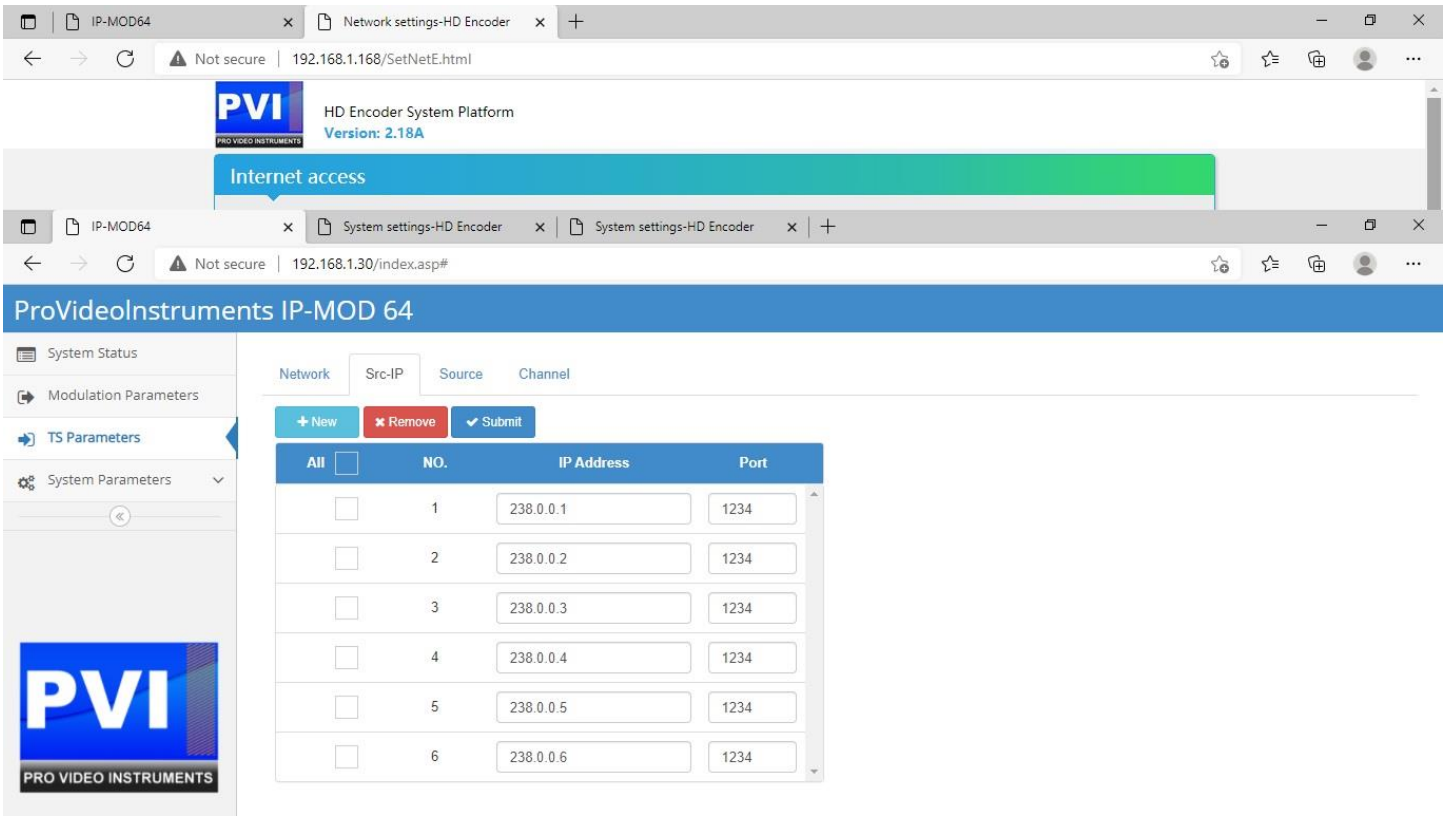
In our example we will repeat this to add to the list all the multicast ip addresses from the encoders.

You can also add external third party streams from your network and add them to the coaxial tv distribution

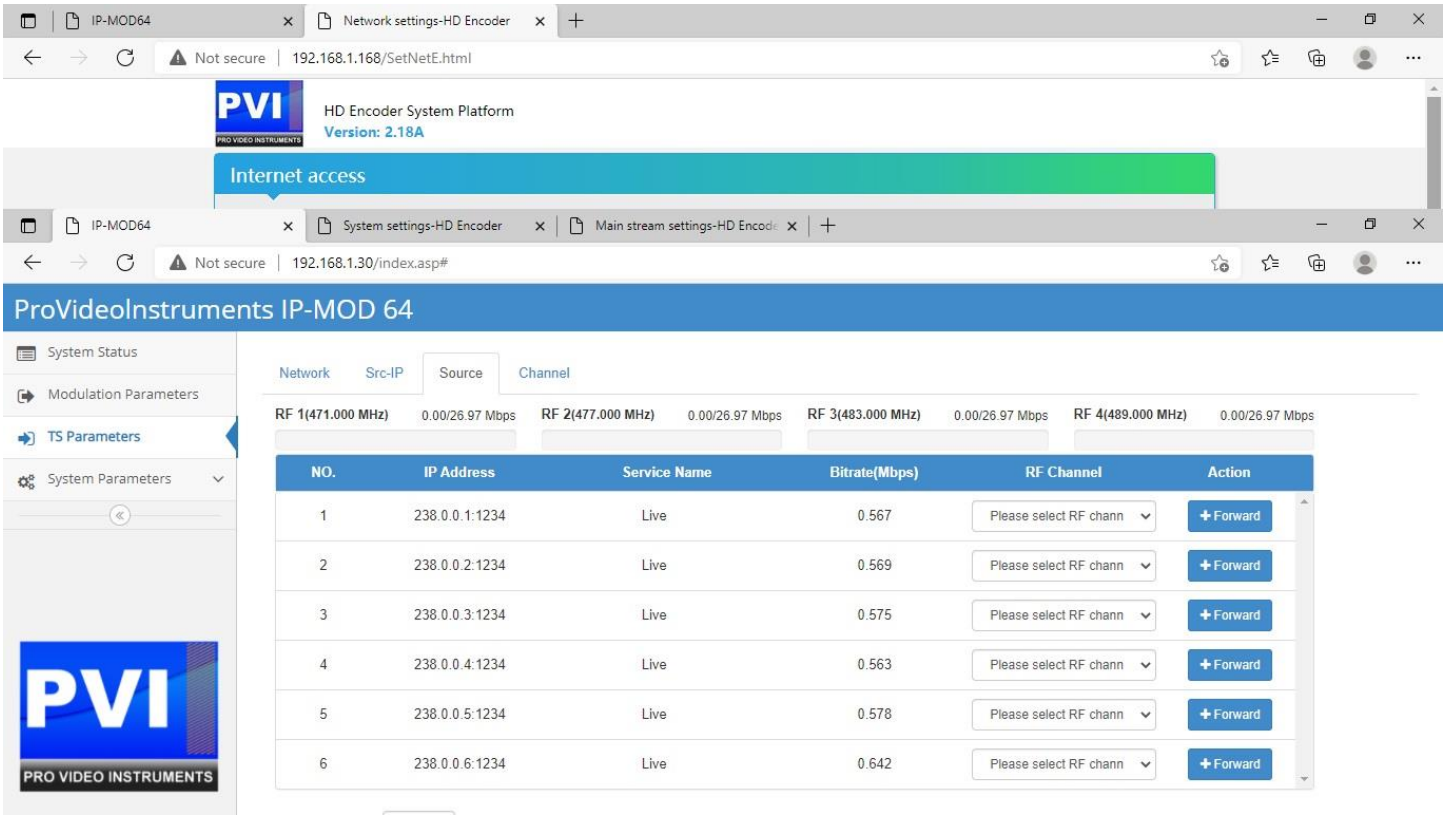




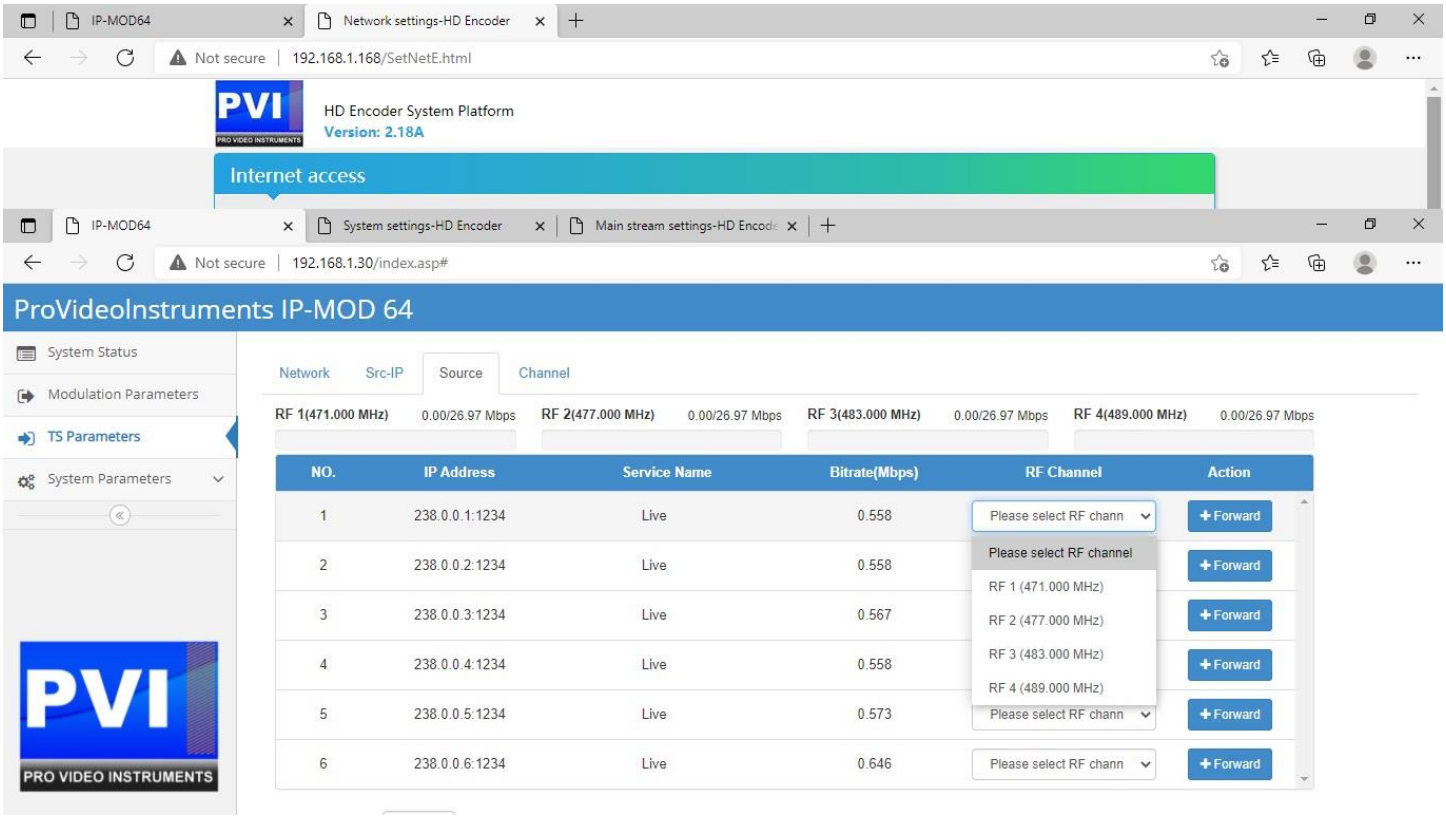
The list of incoming streams will show like this picture. You can add up to 64 streams.



SOURCE TAB : in this tab you assign the streams to the 4 Frequencies channel out up to the maximum bandwidth capacity of each frequency.

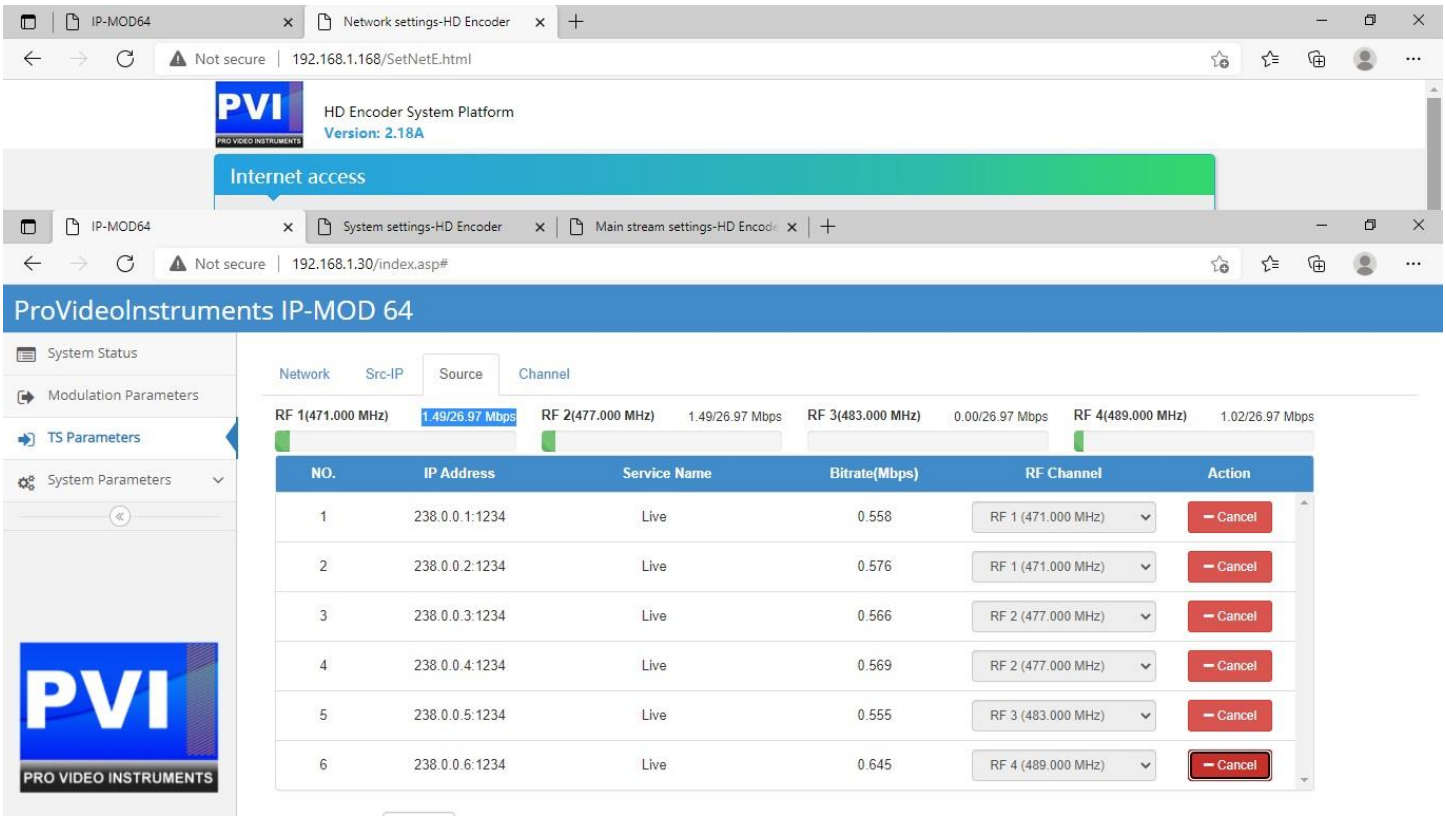


Use the DROP DOWN SELECTOR on the side of each stream to MAP THAT STREAM TO THE WANTED FREQUENCY MUX OUT. After selected, click FORWARD to add this stream to the multiplex of that frequency.

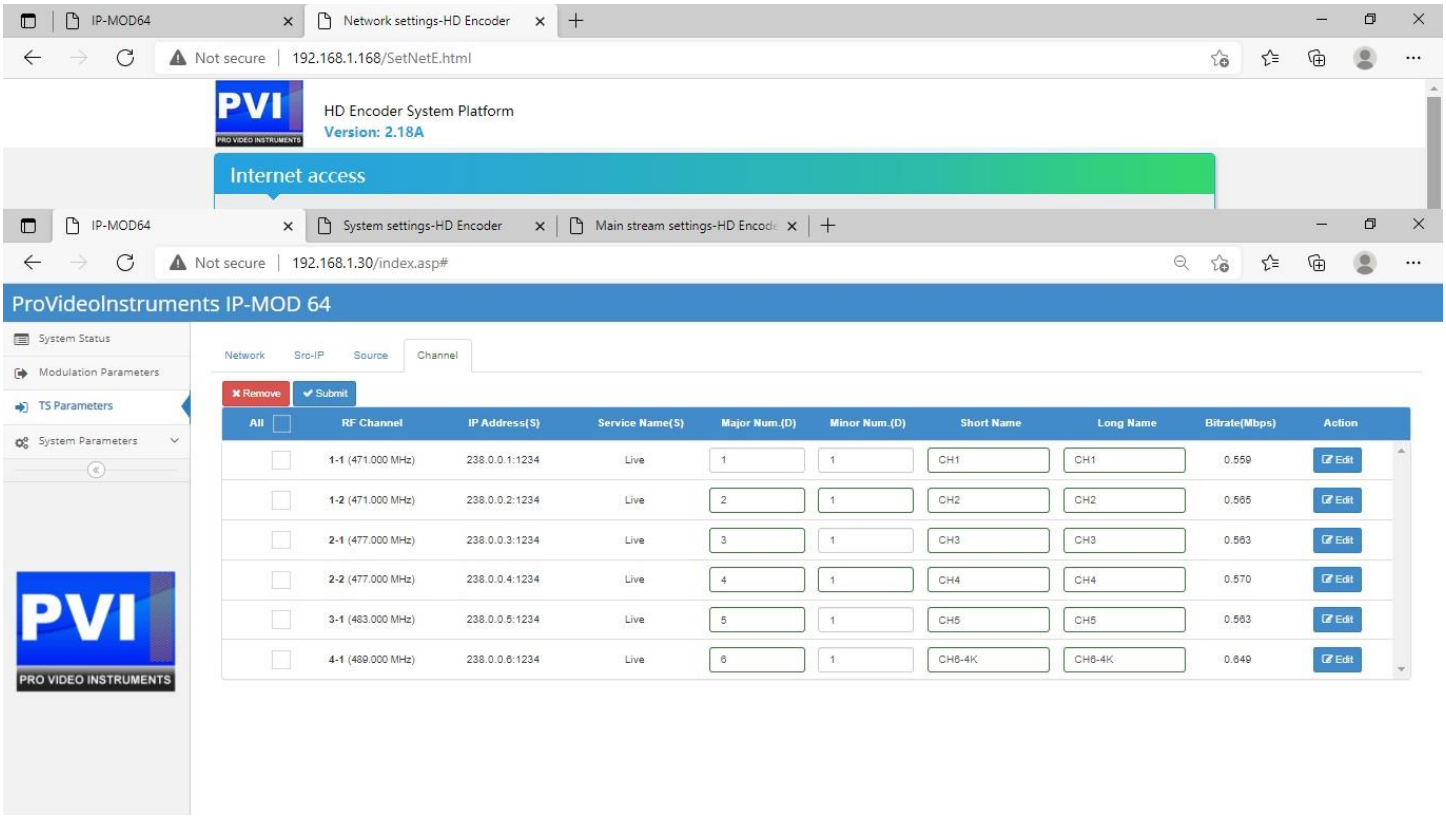


When a stream is assigned, the FORWARD BUTTON becomes red. You can use the RED button to cancel that stream to go out on a frequency.

IMPORTANT: A GREEN COLOR BAR on top of the list shows per each frequency the actual channel occupation.
The more streams you add to a frequency, the more the GREEN BAR fills up.
When the frequency is FULL, the bar can become RED in case the mapped streaming EXCEEDS the available bandwidth on that frequency. If so, please CANCEL the stream and add it to the next frequency channel.
To maximize the available bandwidth per each frequency, please consider to use the QAM 256 mode as seen in the modulation parameters on page #13 here above.


IP-MOD64
Network settings-HD Encoder
Not secure | 192.168.1.168/SetNetE.html
HD Encoder System Platform
Version: 2.18A
Internet access
IP-MOD64
System settings-HD Encoder
Main stream settings-HD Encod
Not secure | 192.168.1.30/index.asp#
ProVideoInstruments IP-MOD 64
System Status
Modulation Parameters
TS Parameters
System Parameters
Network
Src-IP
Source
Channel
RF 1(471.000 MHz) 1.49/26.97 Mbps
RF 2(477.000 MHz) 1.49/26.97 Mbps
RF 3(483.000 MHz) 0.00/26.97 Mbps
RF 4(489.000 MHz) 1.02/26.97 Mbps
NO. IP Address Service Name Bitrate(Mbps) RF Channel Action
1 238.0.0.1:1234 Live 0.558 RF 1 (471.000 MHz) Cancel
2 238.0.0.2:1234 Live 0.576 RF 1 (471.000 MHz) Cancel
3 238.0.0.3:1234 Live 0.566 RF 2 (477.000 MHz) Cancel
4 238.0.0.4:1234 Live 0.569 RF 2 (477.000 MHz) Cancel
5 238.0.0.5:1234 Live 0.555 RF 3 (483.000 MHz) Cancel
6 238.0.0.6:1234 Live 0.645 RF 4 (489.000 MHz) Cancel
PRO VIDEO INSTRUMENTS

CHANNEL TAB : here you set the channel NAME and NUMBER per each of the stream as they will show on TVs



MAJOR NUMBER: is the number for this channel on the TV remote control

MINOR NUMBER: is the SUB number for this channel on the TV remote control

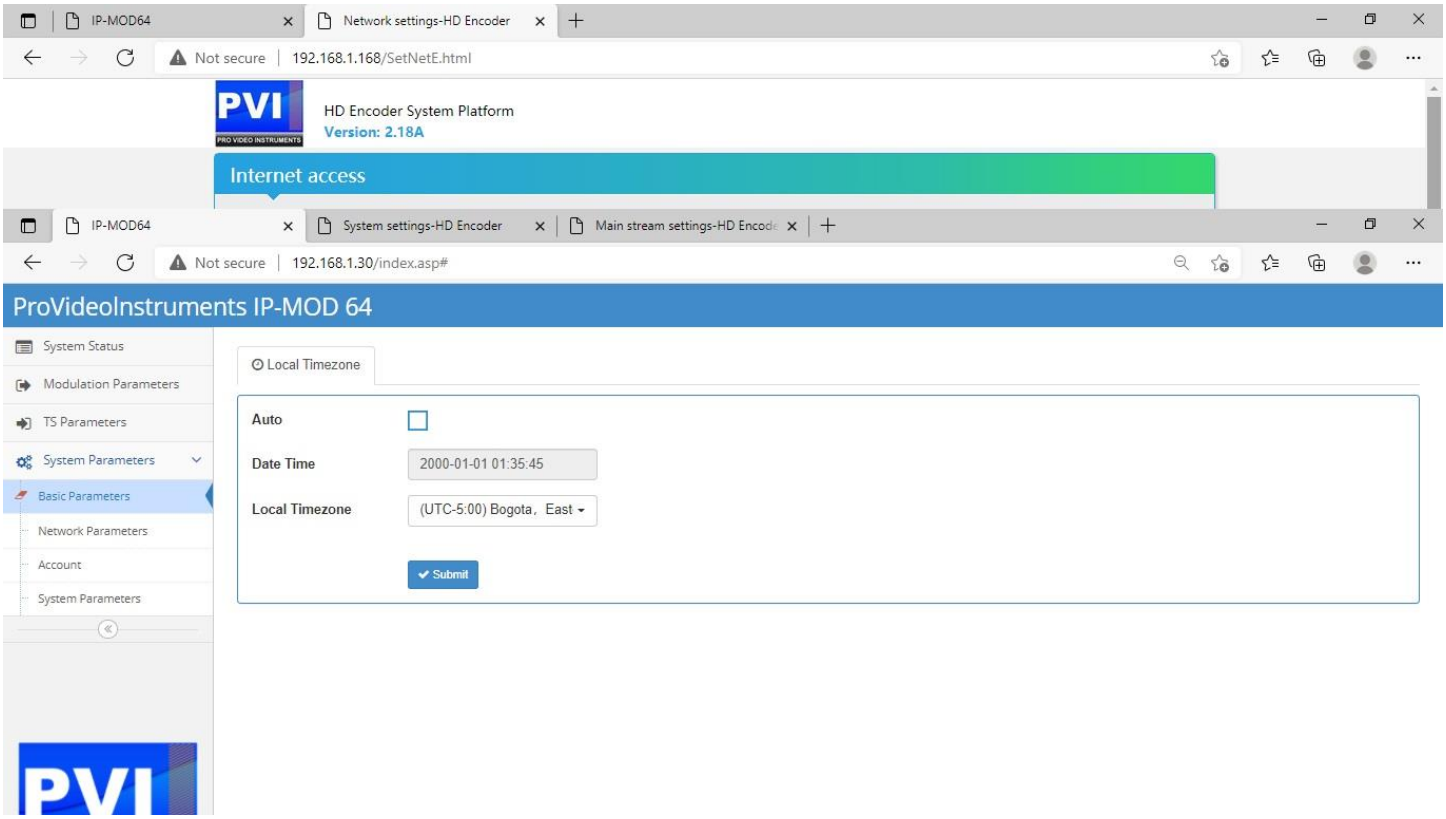
SHORT NAME / LONG NAME : the channel name used by the TVs to display the available channels list

After this is set you can connect a local TEST TV and rescan the channels to find these channels to confirm all is working

IMPORTANT: THE IP-MOD DOES NOT DO ANY TRANSCODING, SO IF A STREAM IS 4K OR HEVC OR H264 THE TVS WILL NEED TO BE ABLE TO DECODE THESE FORMATS OR WILL PLAY ONLY THE AUDIO. MOST OF THE MODERN 4K 8K TVs can play any format so will play H264 and HEVC formats from our encoders.

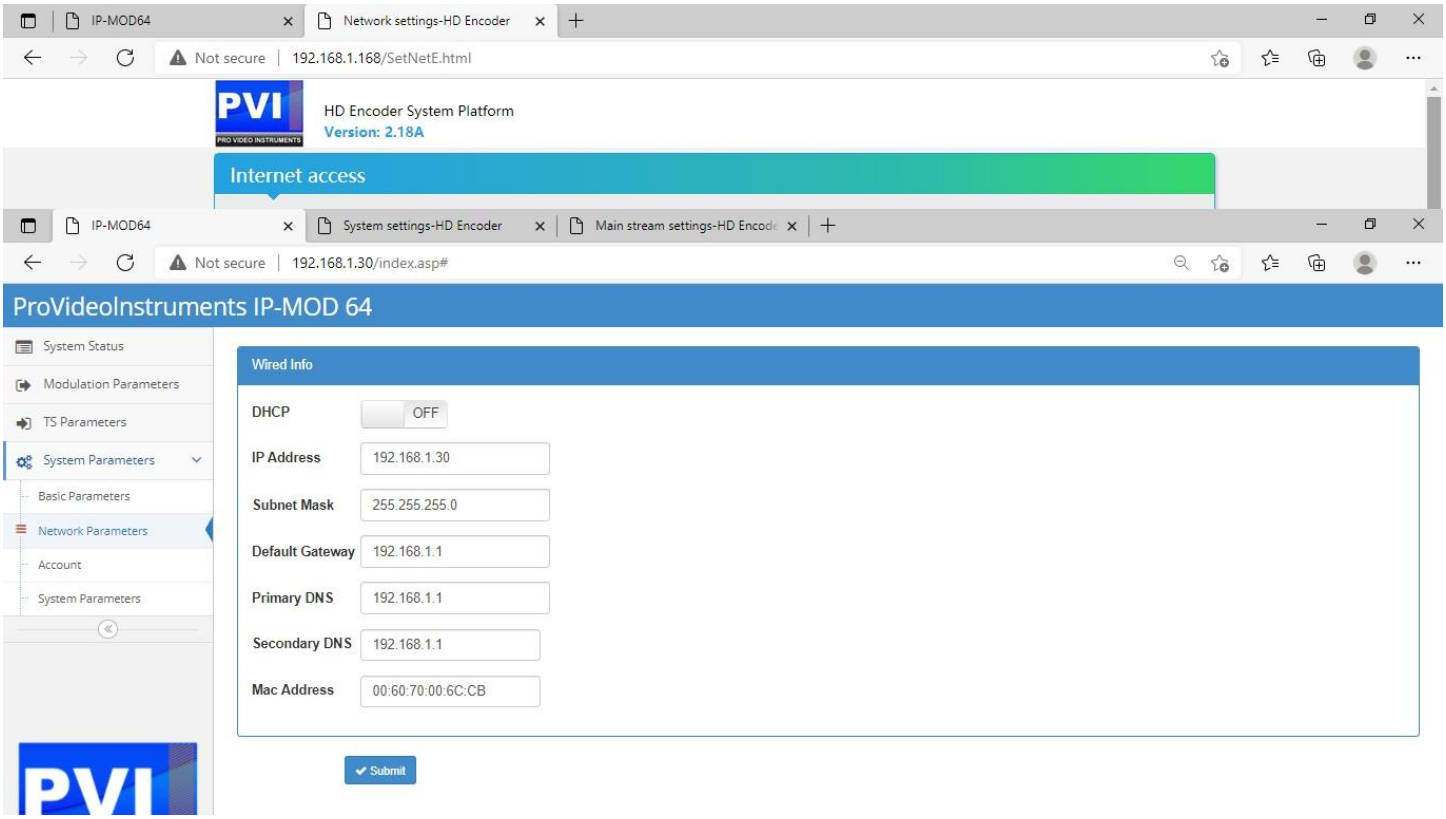
19) SYSTEM PARAMTERS

LOCAL TIMEZONE : Set the parameters for the TIME TABLE of the modulator, useful when DVR RECORDERS are used to record customers-side the channels. AUTO will take the automatic time sync from the internet IF available to the IP MOD management port.



NETWORK PARAMTERES: set the IP ADDRESS of the modulator to access the control

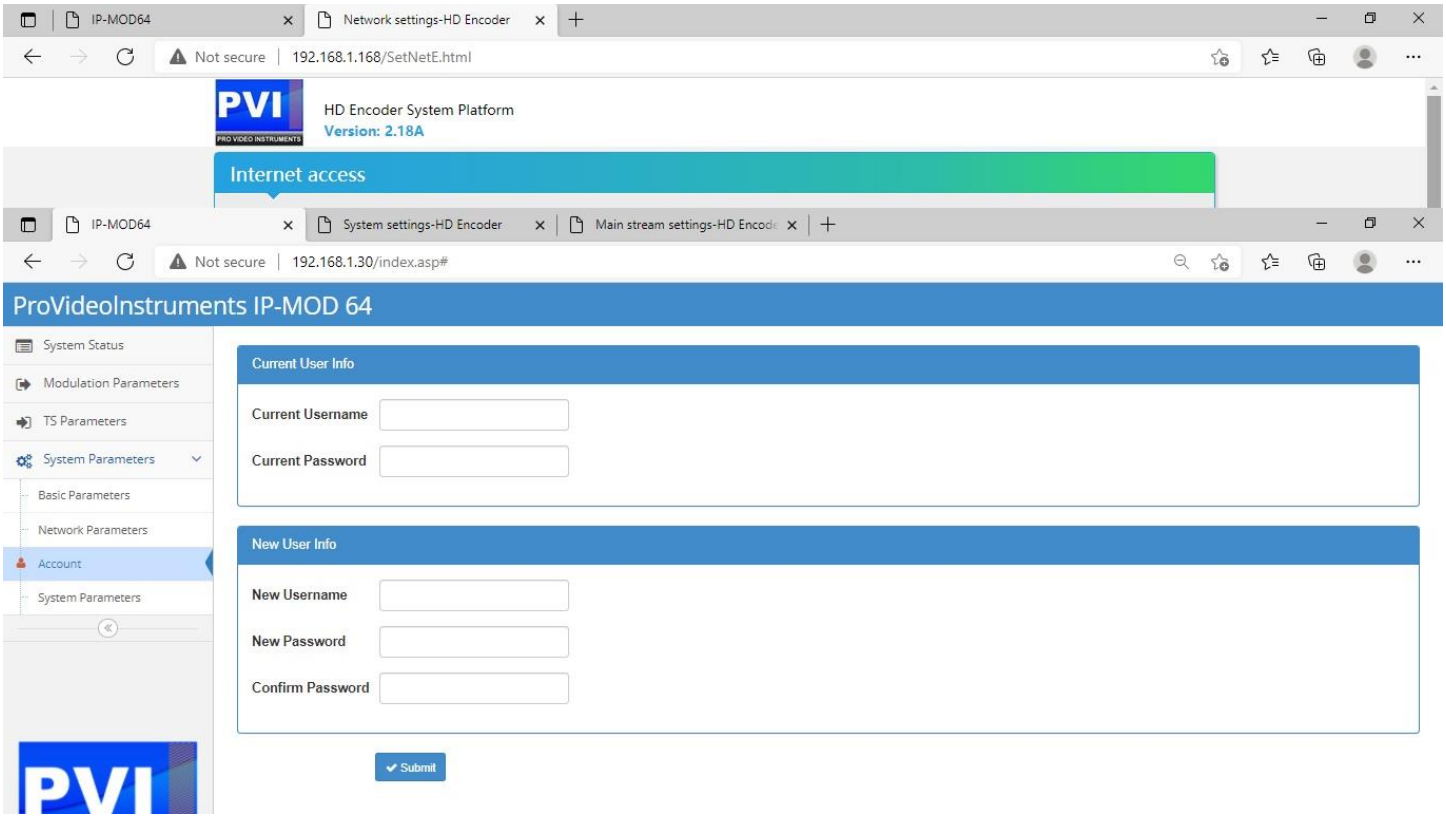
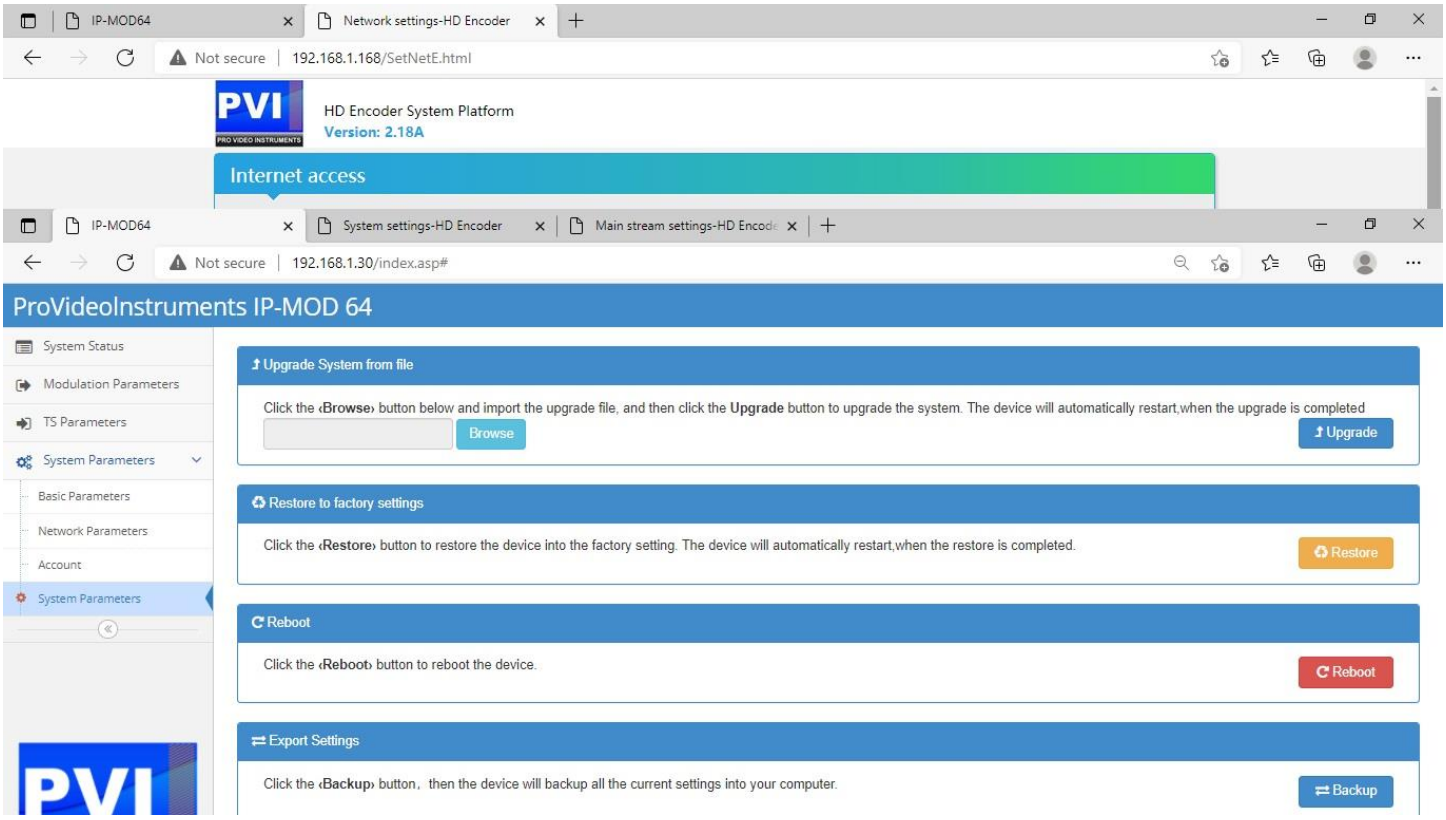
DO NOT CHANGE UNLESS IT IS NEEDED. IF YOU CHANGE THE IP AND YOU FORGET THE IP YOU WILL NEED TO USE A NETWORK SCANNER (WIRESHARK) TO FIND THE ACTUAL IP OF THIS MODULE, OR RESET TO FACTORY THE WHOLE SYSTEM



ACCOUNT: this sets the USER NAME AND PASSWORD for the WEB INTERFACE of the IP MOD.

default is user / user

DO NOT CHANGE UNLESS NECESSARY. USE A FIREWALL TO DISTRIBUTE THE PUBLIC STREAMING AND DIVIDE THE MAIN INFINIUM SWITCH FROM THE PUBLIC NETWORK.



UPGRADE: this page is to upgrade the module firmware or the restore factory default or to reboot the module