



MULTICAST IP STREAMING CONFIGURATION EXAMPLE

Before You Start :

- Multicast requires your switch / routers to be configured to PASS MULTICAST TRAFFIC
- Multicast addresses begins with 2xx.xxx.xxx.xx (any address with 1xx.xxx.xxx.xxx is not multicast but unicast)
- Multicast Requires a GIGABIT LAYER 2 or LAYER 3 switch as first connection to the encoder, in order to manage the traffic properly.
Make sure your Switch has the MULTICAST and the IGMP features activated
- A Properly configured Layer 2 or 3 network switch will not blink on all ports
Only the port connected to the encoder data and the other ports where a playback is in progress will blink. The Multicast IGMP control prevents the ip traffic to go where it is not needed. If your switch is not layer 2 or 3 or the multicast + igmp has not been activated on your switch, the ip streaming will go anywhere on all ports using bandwidth even with no playback in progress.
- With Multicast, the same stream goes 1 time (1 bandwidth) to an unlimited number of playback devices
- Make your first tests on a simple test bench, using a GIGABIT SWITCH
Do Not use a 10/100 hub or switch. It Must Be Gigabit, layer2 or 3 type, with IGMP and Multicast features support enabled.
Failing this point might Fail your first tests.
- To play your tests use a pc with VLC VIDEOLAN (www.videolan.org)
MEDIA > OPEN NETWORK > the unicast or multicast
IMPORTANT : THE LAN PORT ADDRESS of your pc must be set with a fixed ip address
THIS FIXED IP ADDRESS IS THE ADDRESS WHERE THE ENCODER SEND THE STREAM
TO AS UNICAST.

Encoder Configuration Example

The screenshot shows a web browser interface for an encoder. The address bar displays '192.168.0.136'. The page title is 'Web Management'. A left-hand navigation menu is visible, with 'IP Output' highlighted in a red box. The main content area is titled 'IP Output Configuration' and contains the following settings:

IP Output Enable:	<input checked="" type="checkbox"/>
Null Package Filter:	<input checked="" type="checkbox"/>
Service IP:	192.168.3.137
Output IP:	224.2.2.2
Subnet Mask:	255.255.255.0
Gateway:	192.168.3.1
Port:	1001

At the bottom right of the configuration area, there are two buttons: 'Default' and 'Apply'.

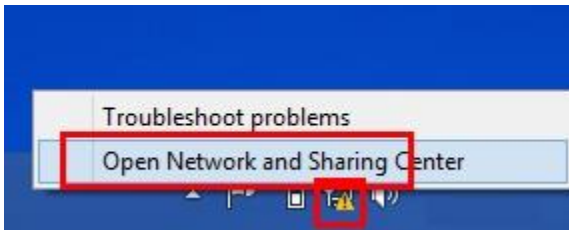
- BEFORE YOU START > MAKE SURE THE BLUE LED (CH LEDS ON FRONT PANELS) ARE ON
IF THE CH LEDS ARE OFF, THE ENCODER IS NOT ENCODING SO THERE IS NO TRANSMISSION
CH1 CH2 CH3 CH4 ... turns on depending on how many channels does your encoder
- NULL PACKET FILTER will remove the zeros from the ip transmission, saving bandwidth
- Service IP = is the BASE IP ADDRESS of the IPTV Streaming data port on the encoder
THIS MUST BE DIFFERENT from the NMS remote port ip
For example the IPTV address can be 192.168.3.xxx and the NMS could be 192.168.0.xxx
DEFAULT IPTV address is 192.168.3.137
DEFAULT NMS address is 192.168.0.136
use these for your tests First.
- OUTPUT IP = IS THE MULTICAST ADDRESS YOU WILL POINT TO ON YOUR PLAYERS TO
RECEIVE THIS STREAMING, TOGETHER WITH THE PORT VALUE BELOW ON THE PAGE
As Example : on VLC VIDEOLAN player you will point to " udp://@224.2.2.2:1001 "
- Subnet mask = 255.255.255.0

- Gateway = 192.168.3.1 - this only used when you use a router, so this is the router address to talk with
- Port = this is the service port where the stream goes
Default = 1001

Play the stream on a computer with VLC VIDEOLAN

Configure your computer to a FIXED IP ADDRESS

- 1) On windows 8 desktop select the network icon on botton right



- 2) Select ethernet

Control Panel Home

Change adapter settings

Change advanced sharing settings

View your basic network information and set up connections

View your active networks

Network 2
Public network

Access type: No Internet access
Connections:  [Ethernet](#)

Unidentified network
Public network

Change your networking settings



[Set up a new connection or network](#)

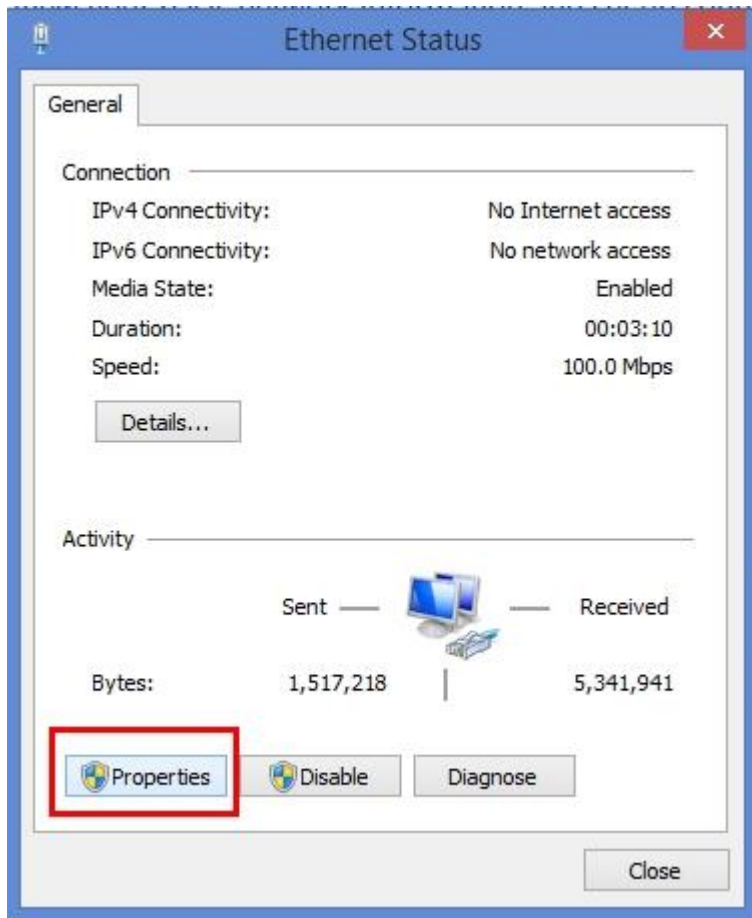
Set up a broadband, dial-up, or VPN connection; or set up a router or access point.



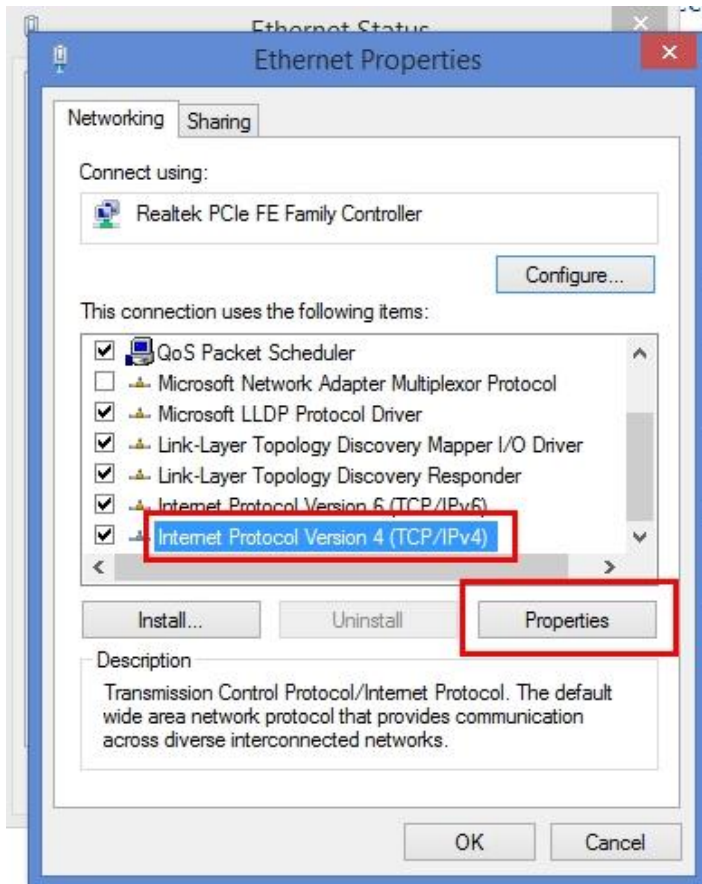
[Troubleshoot problems](#)

Diagnose and repair network problems, or get troubleshooting information.

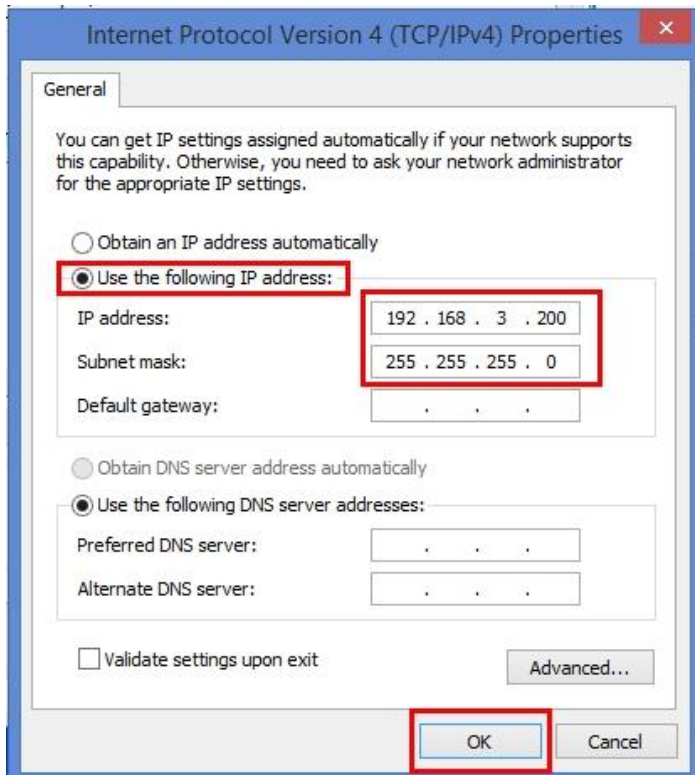
3) Select PROPERTIES



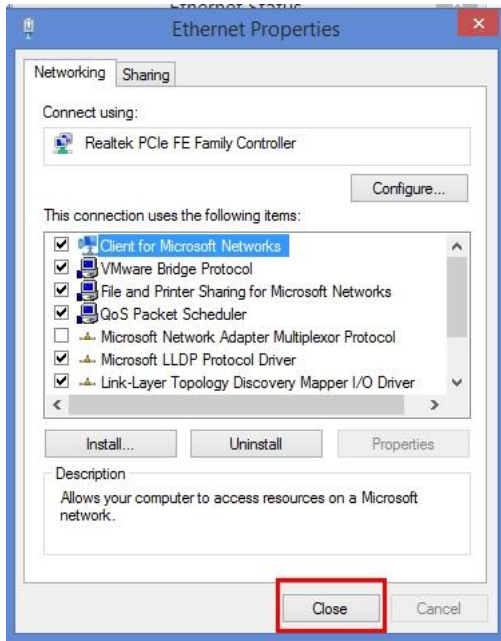
4) Select INTERNET PROTOCOL VERSION 4 - PROPERTIES



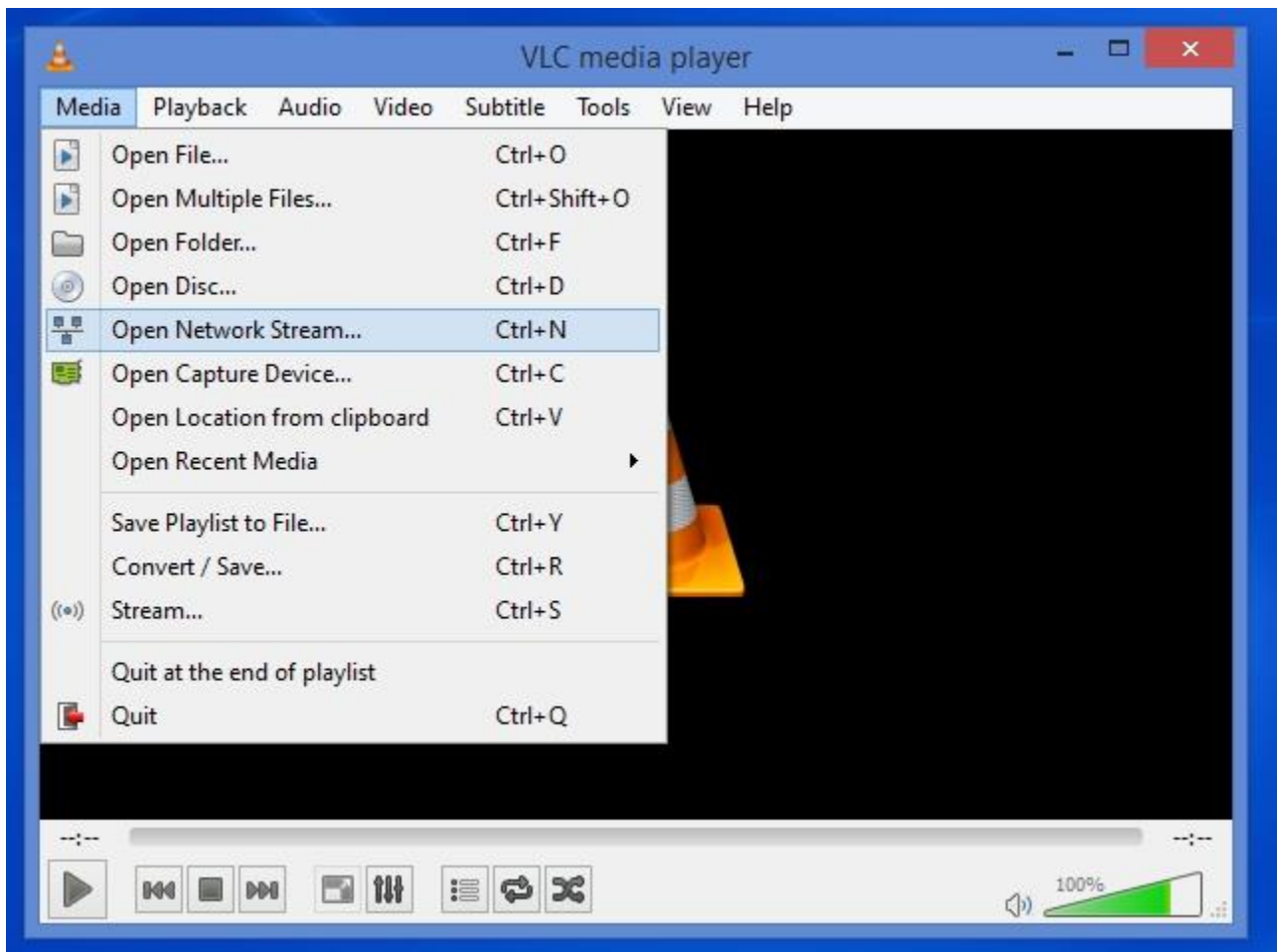
5) Select USE FOLLOWING IP ADDRESS and enter the UNICAST IP ADDRESS YOU HAVE SET ON THE ENCODER. In this example 192.168.3.200 - then press OK



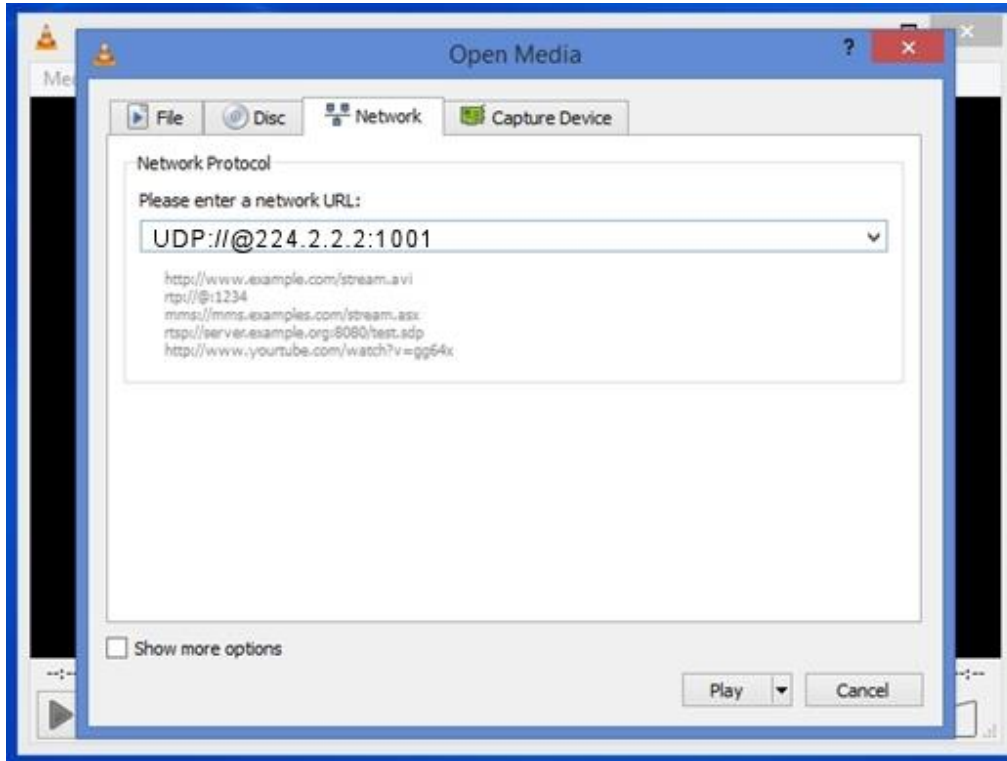
6) Close all the Network Setup Windows



7) Open VLC VIDEOLAN PLAYER, SELECT MEDIA > OPEN NETWORK STREAM

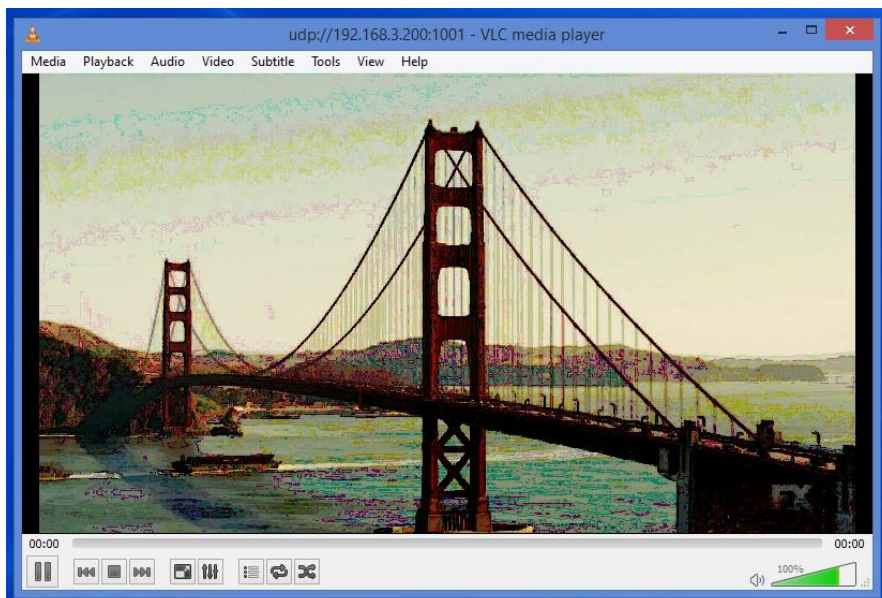


- 8) Enter the MULTICAST IP ADDRESS AND PORT TO PLAY
In our test > `udp://@224.2.2.2:1001` (`udp://@address:port`) – click PLAY



- 9) VLC starts playing your unicast stream
If it does not start play > Connect the computer directly to the encoder IPTV port using a direct network cable
If you are running on a switch, make sure your switch is a GIGABIT LAYER 2 OR 3 SWITCH UDP streaming capable
Disconnect other computers and devices that might have the same unicast ip address and create IP address conflicts. Multiple unicast destination can only be connected to a unicast source through a router or a server
PVI cannot provide tech support on equipments not sold by PVI. Ask to the related vendor and tech support

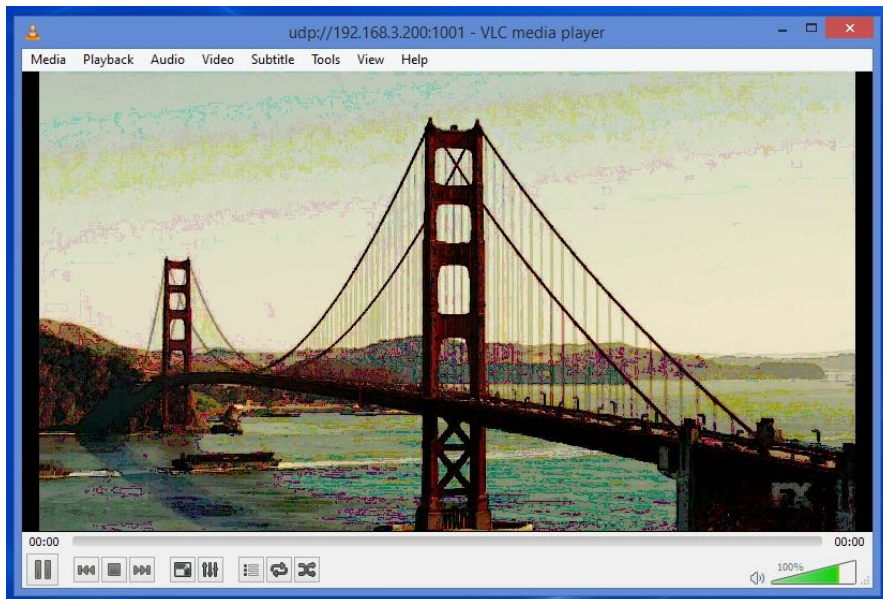
10)



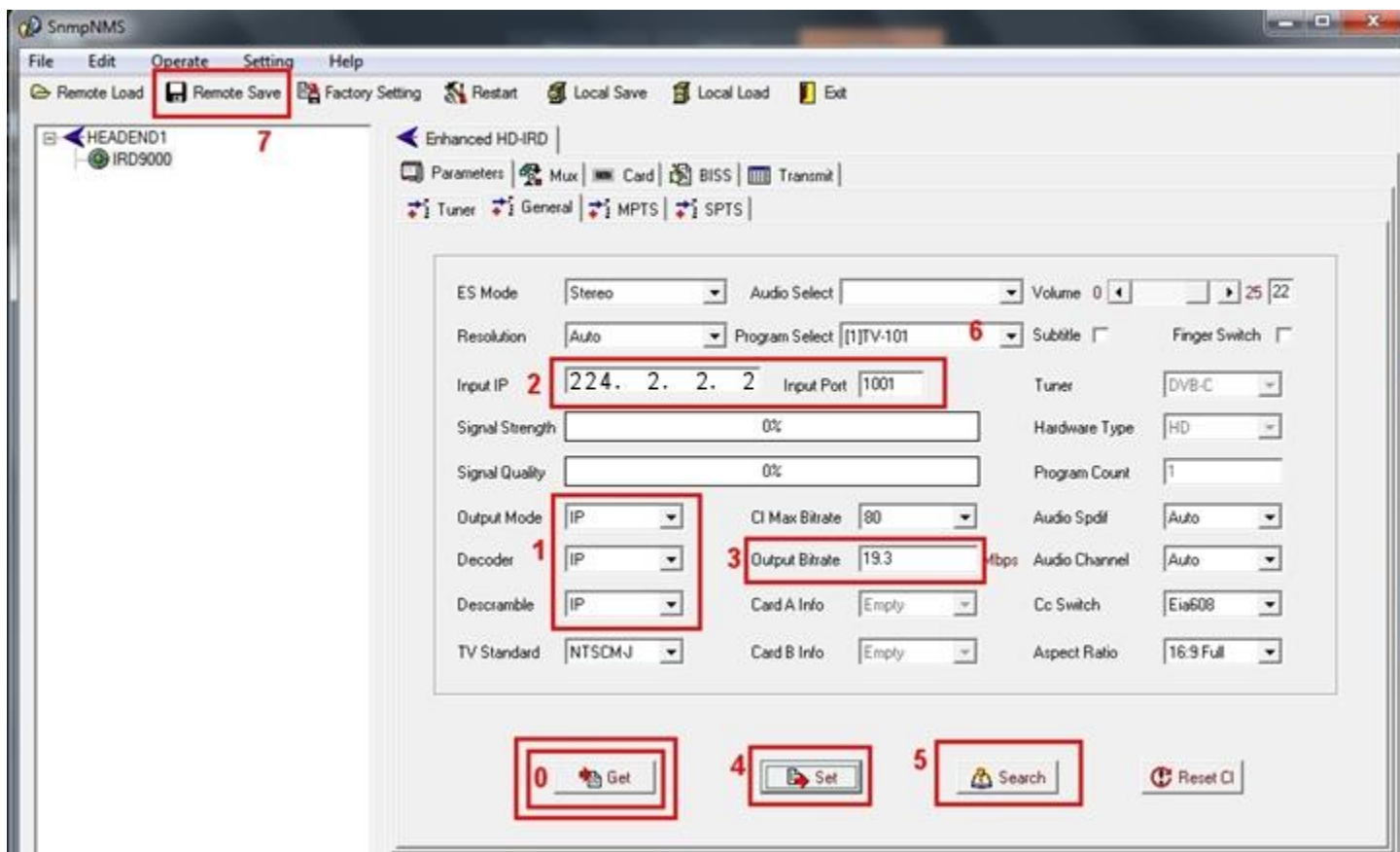
11) If VLC does not start playing we suggest the following :

- a. Uninstall / Reinstall VLC player from VIDEOLAN.ORG
The first run windows prompts if you authorize TO BYPASS firewall for VLC, click YES
- b. Your Computer has multiple IP Ports and VLC gets confused about which one to use
Disable all unwanted ports
- c. Test on another computer
- d. Try using a simple GIGABIT SWITCH between the computer and the encoder data iptv port

12)



Play the stream on PVI IRDpro 9000



On the IRDpro 9000 NMS software – general tab – click GET to refresh the current settings

Connect the FE (LOWER PORT ON THE LEFT LOOKING AT THE REAR PANLE) on the IRDpro 9000 to the IPTV encoder port with a network cable or through a GIGABIT LAYER 2 OR 3 SWITCH

The Encoder CANNOT WORK WITH 10/100 base T routers and switches as main connection.

Use A GIGABIT LAYER 2 or 3 switch as main switch, then you can use lower switches as sub on the network.

- 1) Select the IP as main source
- 2) Set the MULTICAST IP AND PORT to receiver the streaming (in this example 224.2.2.2 port 1001)
- 3) Select the TOTAL BITRATE you expect on the ASI OUT PORT
For LPTV this must be set to 19.3 megabits
IMPORTANT : IF THE RECEIVED STREAM EXCEEDS this value, the ASI out data will be jammed.
Make sure the encoder video/audio total bitrate is below the value you set here so it does not overflow respect the fixed max bitrate you set here for the ASI out port
- 4) Click SET to set the parameters to the IRDpro 9000 – then click Get to verify these have been set
If the GREEN DOT on the left list is RED, then you are not connected to the IRDpro 9000.
Check this computer is connected to the NMS port and the computer ip address is fixed to 192.168.2.136
- 5) Click SEARCH to scan and find the incoming ip services
- 6) Select the service you want to DECODE to the audio/video out as monitoring
The ASI OUT will output the complete received IP stream

- 7) Click REMOTE SAVE to save permanently the current settings to the IRDpro 9000 so it will be not loast if you power off the unit

Play the stream through a WAN network

READ THIS FIRST :

PVI cannot provide tech support on products and devices configuration if these are not sold by PVI

Please contact the related vendor, service provider, tech support, and eventually send them this manual so they can provide you the proper configuration for your routers and IP addresses

MULTICAST ON WAN (internet) Operation :

Contact your Internet Service Provider to Activate one or more MULTICAST ADDRESSES on your service.

They will give you your multicast address to use and you will change the 224.2.2.2 and port 1001 to the specified one.

Your internet provider will enable the same multicast addresses and ports on all the routers at the reception sites

If you are planning to distribute the multicast stream to multiple unicast player, you could also use a server, so you stream to an internet server, and the server (at your internet service provider) will accept connections from the final player and re-stream / serve the unicast stream.

Some servers also offer video transcoding, handling the max bandwidth the client can have

For MULTIMEDIA SERVER services, please contact your internet service provider

For additional tech support

Please visit :

www.pvisupport.com

login / search / print the needed guide and manual

Or Send an Email to :

support@provideoinstruments.com

MON-FRI 9AM-5PM EST TIME – USA

Thank you