Vemotion Encoder and Streaming Server for Local Viewing

Support Guide

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CHANGE HISTORY

Version	Date	Change Summary	Author
V1.0	**25.04.2016**	**Initial Draft**	**TPL**

FOREWARD

Vemotion specialise in the acquisition of analogue and IP video streams, compressing via H264 and transmission of high quality video over low bandwidth and unreliable networks, as well a cost effective delivery over high bandwidth providers. These networks include, but are not limited to Cellular, Satellite and broadband bearers. Vemotion gives the ability to switch dynamically between low and high bandwidth video streams, adjusting the video quality to suit. HD 1080p streams are catered for and ONVIF compatibility allows integration into Video Management Software (VMS) platforms. Viewing the transmitted stream can be done via a multitude of platforms, from mobile phones to command and control rooms.

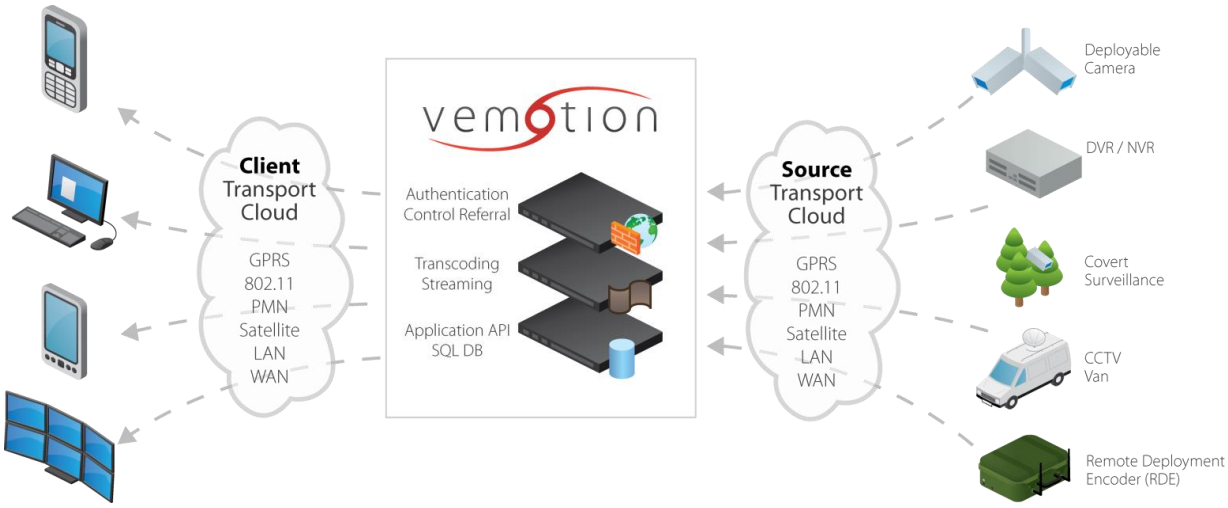
This handbook provides a reference for users of the Vemotion applications. It aims to help you install and set up the Vemotion software.

The system is flexible and may be tailored to meet specific business requirements.

For further details or if you need any extra support please contact Vemotion.

HOW DOES VEMOTION WORK?

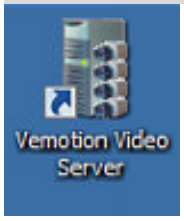
Vemotion specialise in innovative video compression enabling multiple live video channels to be transmitted to a server and then multi cast to a platform of your choice. You can allocate available bandwidth between channels, increasing picture resolution to view a scene of particular interest.



VEMOTION SOFTWARE

There are many software applications that work in conjunction with one another allowing video streams to be taken from any source and transmitted to the viewing client.

Vemotion Video Server (VVS)

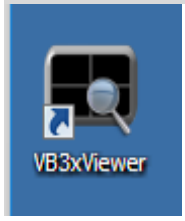


The VVS allows you to program how many cameras you wish the Encoder to have access to by adding a channel per camera. The VVS also allows you to record the camera of your choice at the specific resolution, bit rate & frame rate desired. It also permits you to add either analogue or IP Cameras. It then sends the streams to the Vemotion Encoder software to begin processing.

Vemotion Encoder (VE)

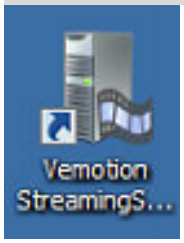
The Vemotion Encoder transcodes live video captured from the camera into highly-compressed data finding a perfect balance between quality and compression.

Local User Interface (LUI) – VB3X Viewer



The VB3X viewer will allow you to connect directly to the Vemotion Video Server to enable a live stream from the camera to be viewed on the Hardware Encoder itself acting as a PC or to enable the video feed to be viewed on an HD screen.

Vemotion Streaming Server (VSS)



The Vemotion Stream Server is used to consolidate and distribute the Vemotion video streams.

Vemotion V264 Player and Vemotion Viewer

This is the software that displays the live video on the viewing device of your choice, be it CCTV control rooms, PC, laptop or Android & iOS phones or tablet. The software not only displays the live video, it also enables various control options.

Vemotion Android Encoder (VB-10)

This Vemotion Android Encoder will allow your phone to become the Encoder and stream video to the Streaming Server.

Vemotion Proxy

This software allows connection to a network video stream from the Vemotion Streaming Server from ONVIF/RTSP and web clients. These clients can be viewing management software, to recording devices and the video stream is in an open format compared to the stream that is viewed within the Vemotion Viewers and Players.

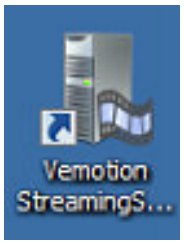
Vemotion Encoder and Streaming Server (VSS) for Local Viewing

Support Guide

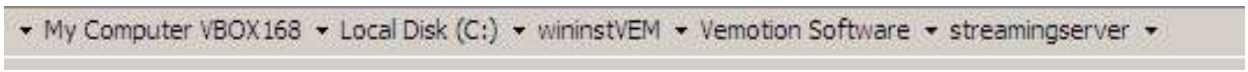
STREAMING SERVER SET UP ON THE HARDWARE ENCODER

In some cases you may want to view the video stream locally rather than over a cellular network. For this example we shall choose Wi-Fi for the Network bearer. Wi-Fi is normally activated in all encoders. If your product does not have Wi-Fi please contact support before setting up.

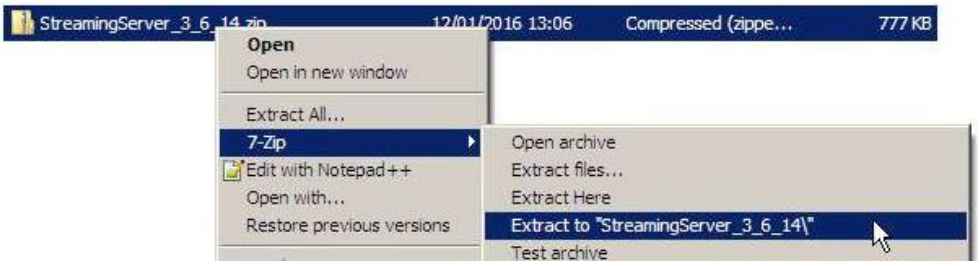
On the desk top there should be an icon called the Vemotion Streaming Server;



If it is not on your desk top go to the following;



Right Click on the zip file. 7-zip and extract to, as below;

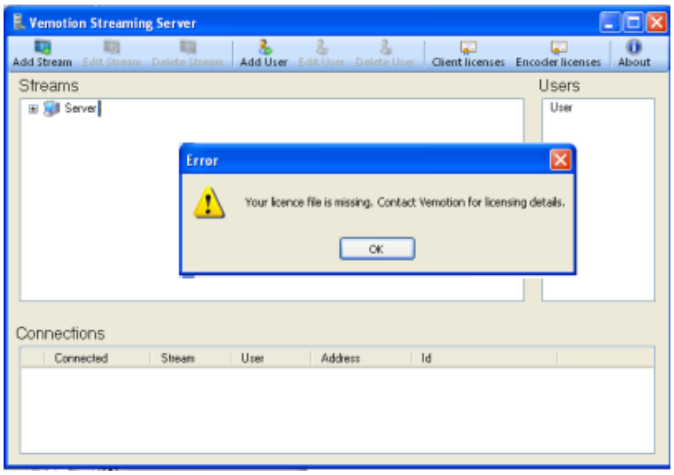


Once unzipped, click on the folder and right click;

Run that and click next buttons and finally the close button.

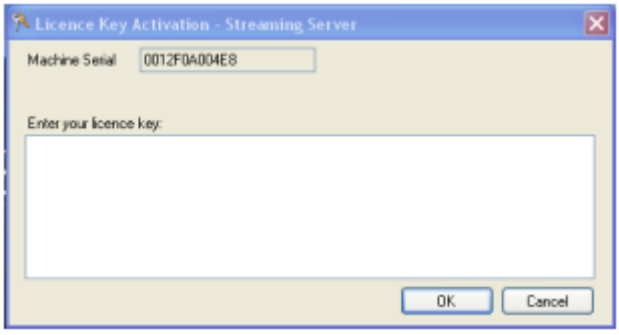
LAUNCHING THE VSS

Double-click the Vemotion Streaming Server Icon from within Windows or the shortcut on the Desktop



Licence Key

Select 'OK' in the error box above and the following screen will appear.



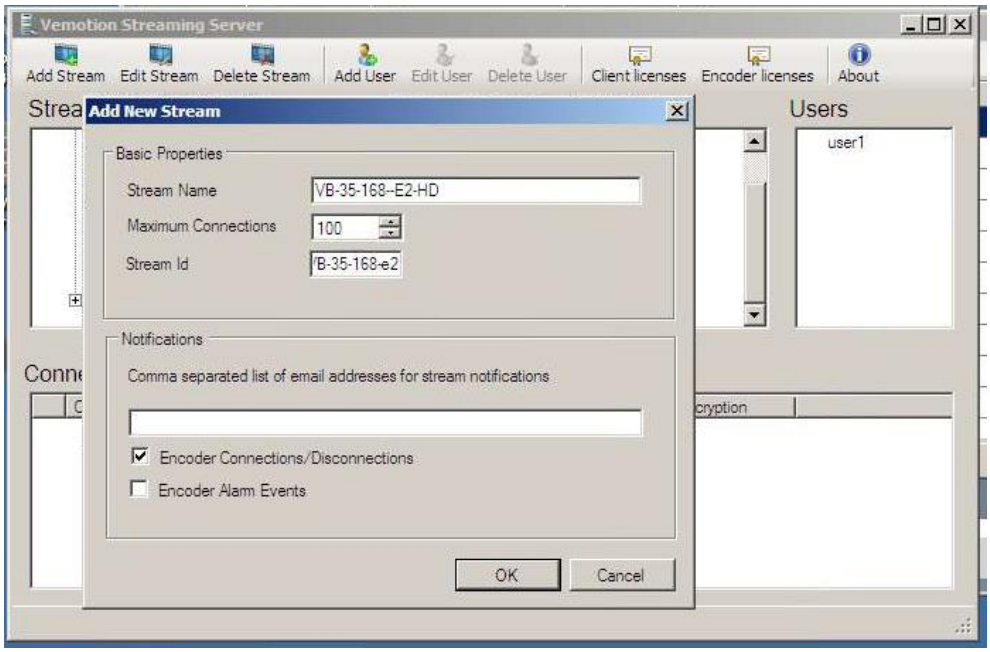
The Machine Serial code shown should be emailed to orders@vemotion.com with the Licence Key request:

- The Licence Key will be sent to you by Vemotion
- Copy and paste the Licence Key into the Licence Key window
- Click 'OK'

You will now have access to the Streaming Server.

Adding Video Streams

Click add stream, a box will appear named add new stream.



When you are adding a stream you will need to specify a number of details:

Stream Name

Enter the stream name, it is sometimes helpful to the Serial number of the Encoder. This is the name of the stream that will be presented to the user in the list of streams to connect to.

Maximum connections

By default, multiple users can view the same stream. You can restrict the number of concurrent users that are able to connect to the stream here, simply set the required number in the box.

Stream ID

A stream ID will automatically and randomly be assigned. The Stream ID is used by encoders to identify which stream to connect to. This can be any string and the relevant encoder must be configured to match.

Notifications

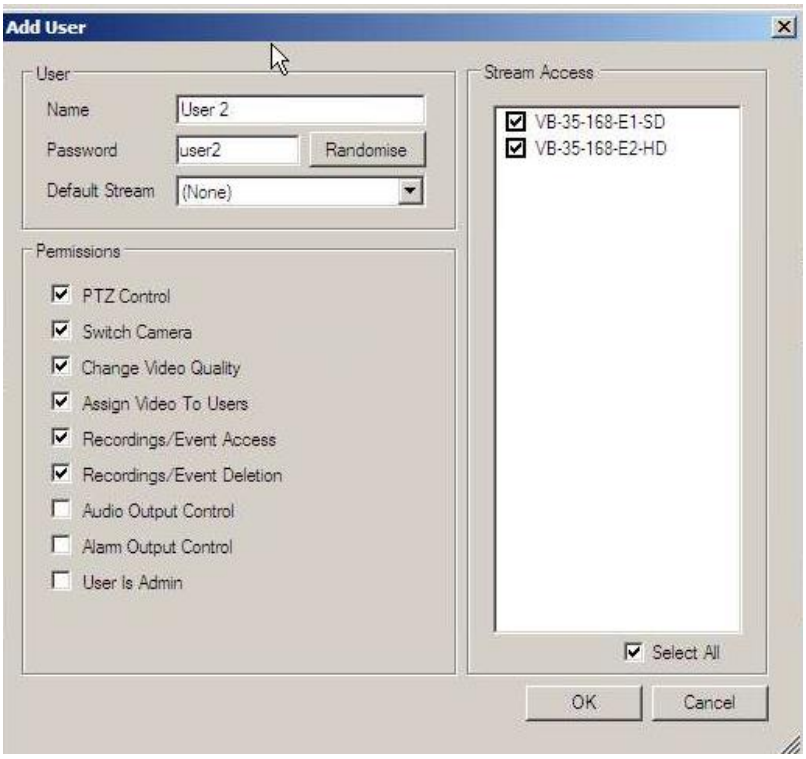
You can enter a list of comma separated email addresses in here. Recipients will be sent an email notification when an encoder connects or disconnects from a stream channel on the server or when an alarm has been activated through the encoder. A suitable mail server must be configured for this feature to function.

Click ‘OK’ to save. The stream will be added to the VSS Streams window and also show details including the Stream Name and ID if you expand the drop down box.

Adding Users

Users represent operatives who want to view live video streams through the Vemotion Streaming Server. By default there are no users added to the system.

Click add user and the add user box will appear.



For each user, a username and password must be configured in the server and these must be used in the Vemotion viewer application in order for the user to be able to access and view video streams.

User

This is the username that a user will need to access video streams.

Password

This is the password that a user will need to access video streams. If required a random password can be generated by clicking the Randomise button.

Default Stream

When connecting to the server using a Vemotion Viewer, the user can opt to connect to a specific video stream, if they are allowed to, or the 'Ops Channel' if a default stream is specified.

When connecting to the 'Ops Channel', the video stream presented to the user upon connection is called the 'Default Stream' and is set using this option. Select an appropriate video stream.

When connected to the Ops Channel, the stream that the user is watching can be changed dynamically by the Vemotion Stream Manager application.

Note: To allow the user access to the Ops Channel, set a default stream. If no default stream is set, the Ops Channel will not be presented to the user for selection.

Permissions

Set up here what you wish you user to be able to do with the cameras by ticking the relevant boxes

Stream access

This section allows you to control which users can connect and view which video streams, if any. Users will always be able to access non-restricted video streams. (See adding video stream – Authentication required option).

To allow a user access to a particular restricted video stream, check the checkbox next to the stream.

To remove access from the user, uncheck the relevant box.

To allow access to all streams tick select all box

Note: If the user is not allowed access to any restricted streams and there are no unrestricted streams on the system and the user does not have a default stream set, then they will see no video streams and be unable to view any video. Once added the user will be visible in the users section of the screen.

Connections

The connections window of the VSS shows details of Vemotion Viewers and Vemotion Managers connected to the VSS. The columns are as follows;

Connected

Shows the time and date that a connection was made

Stream

Shows the video stream that the user has connected to

User

Shows the user who has connected to a video stream

Address

Shows IP address of the connection

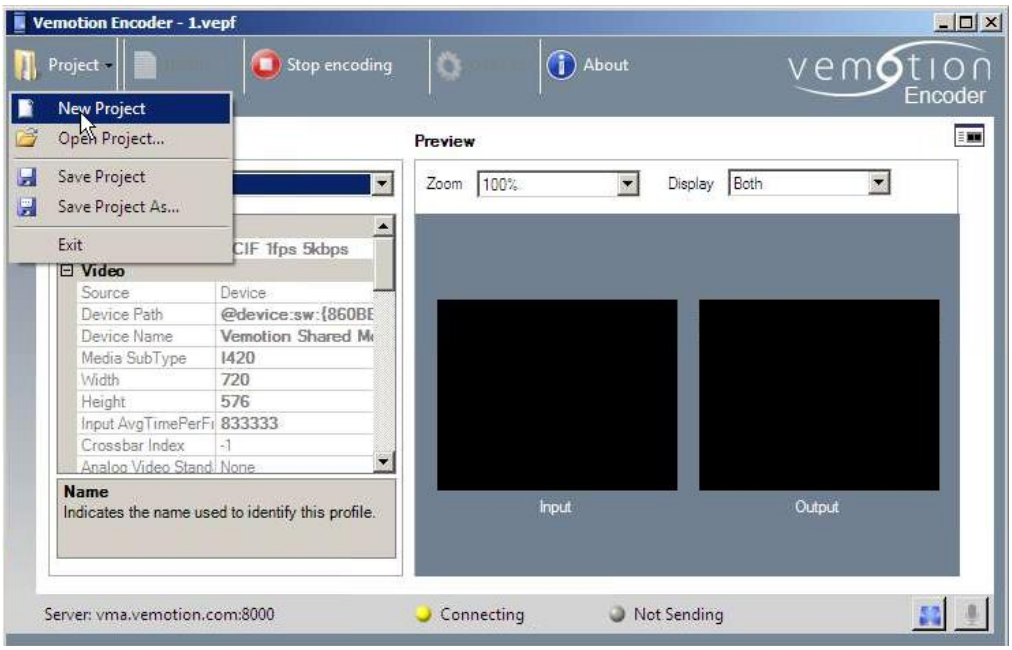
ID

This is an identifier enabling developers to tie up a connection with debug/log entries. It has little relevance during normal use

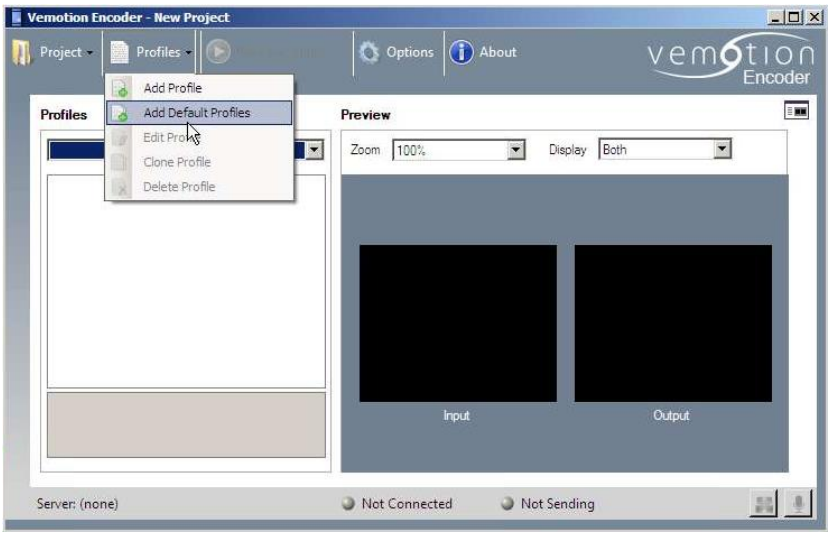
SETTING UP THE ENCODER SOFTWARE

Click on the Vemotion encoder icon.

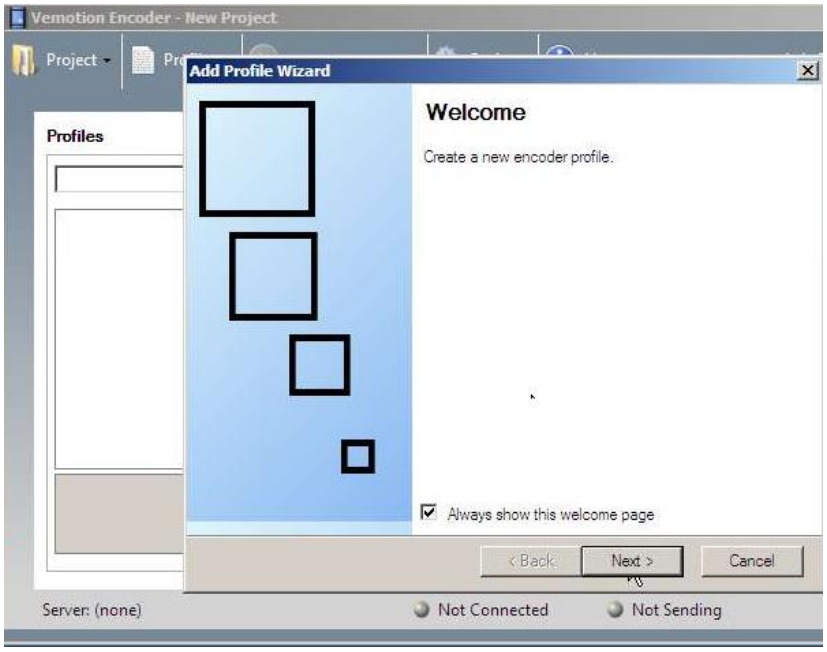
Project – open new project



Click on profiles and either add default profiles or add profile.

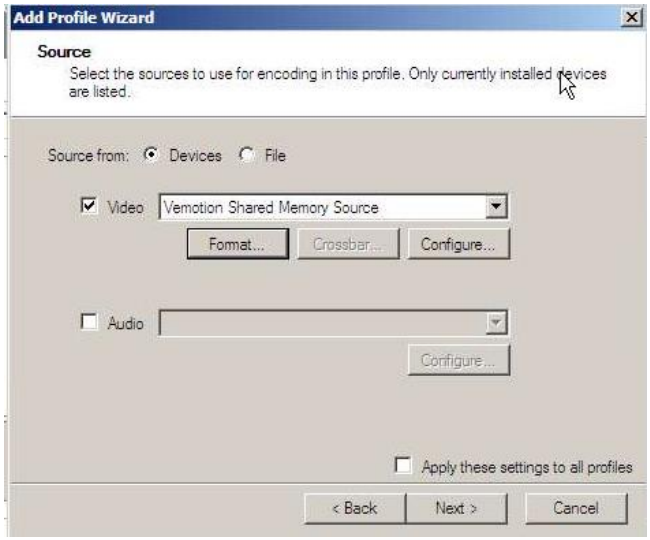


<u>Add profile wizard page</u>



Click next

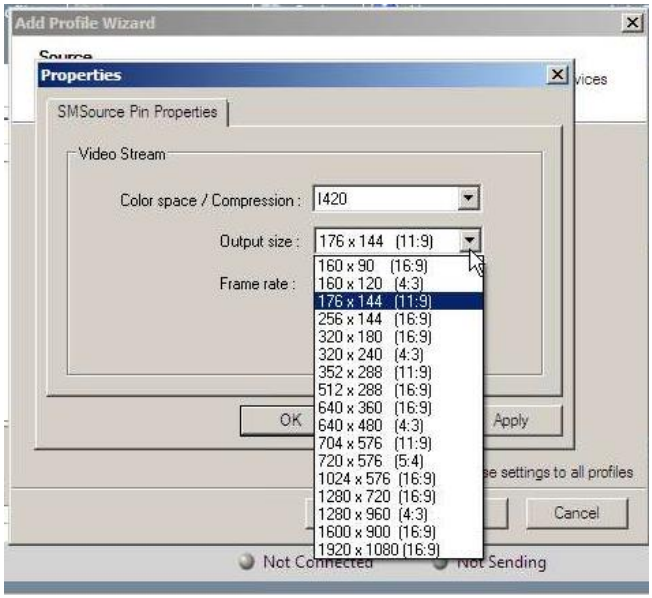
Source



When you run an encoder you must tell the encoder where this shared memory is and this is the Vemotion shared memory source on the encoder app.

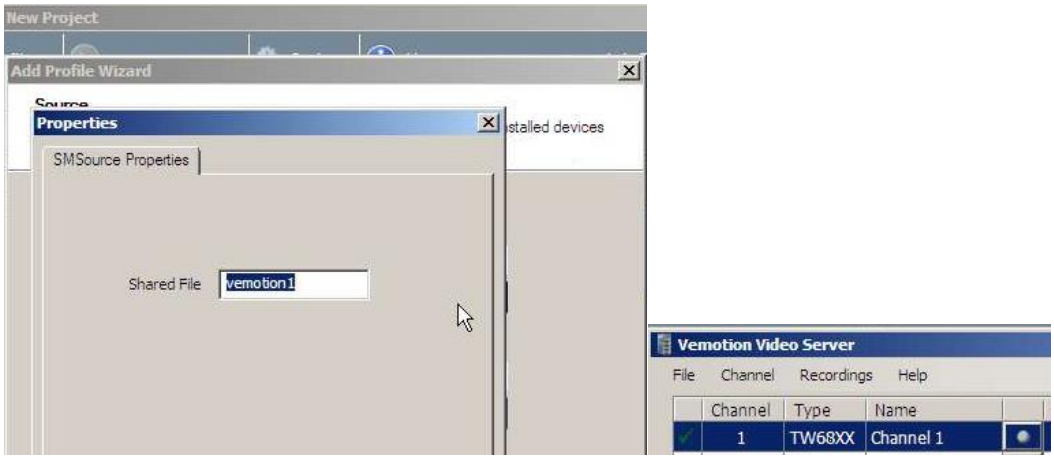
Format

The Format button allows you to configure the camera size into the encoder and also allows you to change the frame rate to what you want to encode. Click apply when you have selected your choices.



Configure

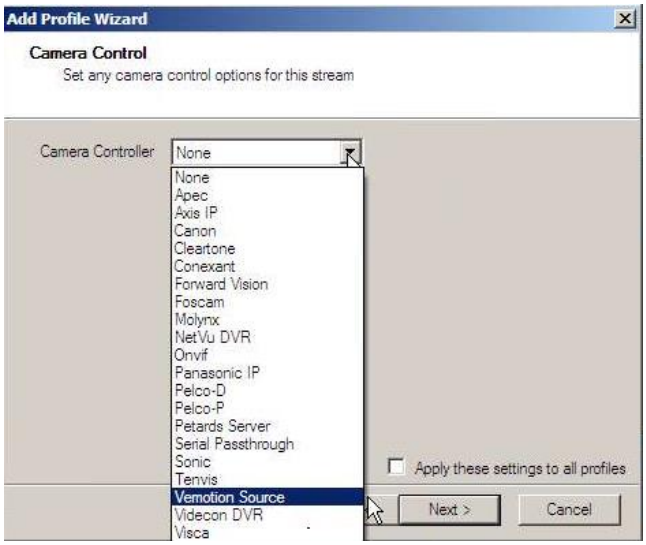
The configure button in the encoder app tells you which camera to go to as default. Vemotion 1 signifies channel 1 on the VVS.



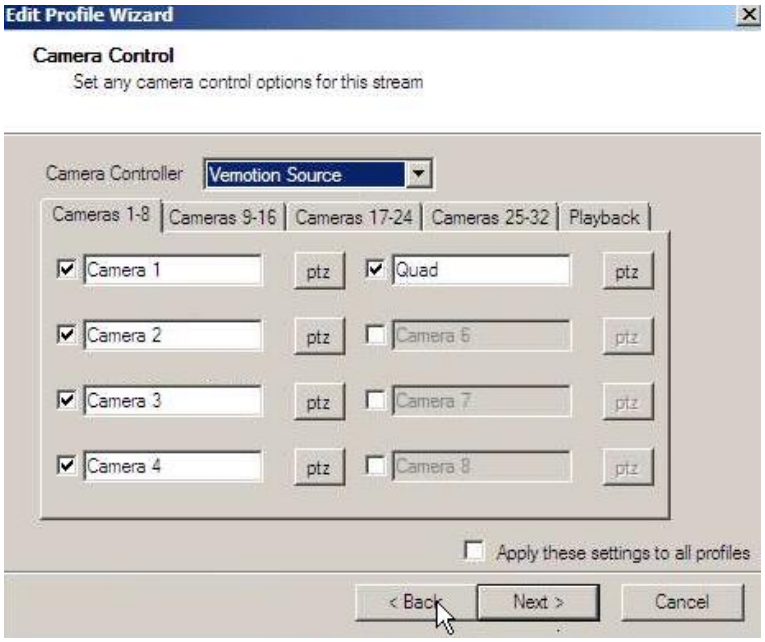
You have the option to apply to all profiles and then select next.

Camera Control

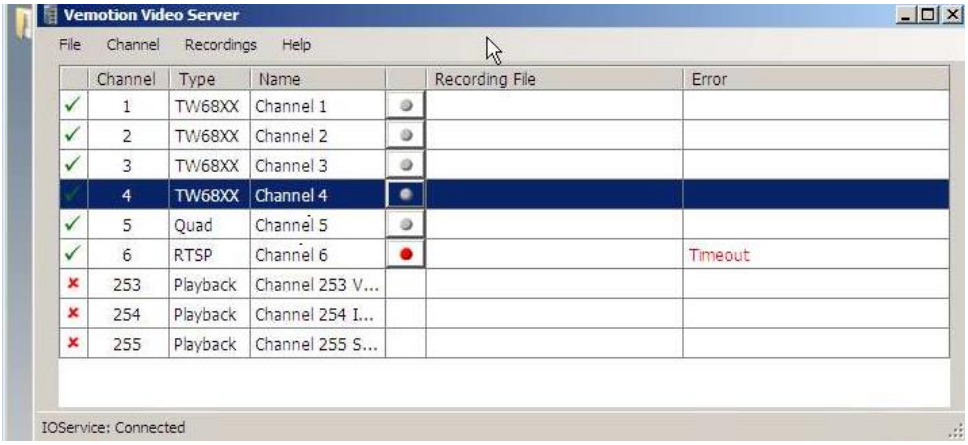
Drop down list of camera choices.



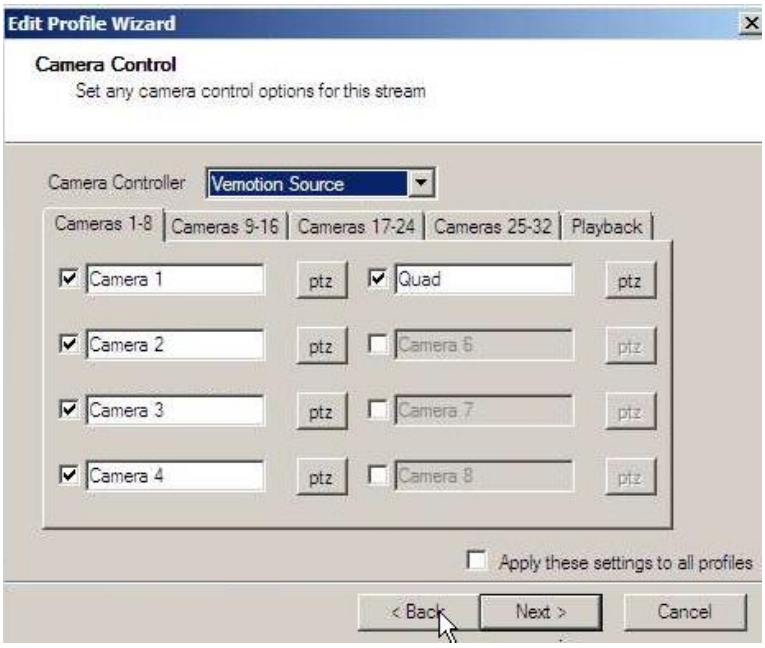
At this point click on Vemotion source on drop down which then gives you the ability of multiple channels on encoder rather than one. This will take you to;



Shared memory sources are directly related to camera inputs. So this camera control relates to the VVS that you have input each camera to. Channel 1,2,3,4 on the Vemotion Video Server, shown below relate to Camera 1-4 on the Vemotion Encoder Camera Control tab above. Also remember to add a Quad as channel 5 should you wish a quad view.



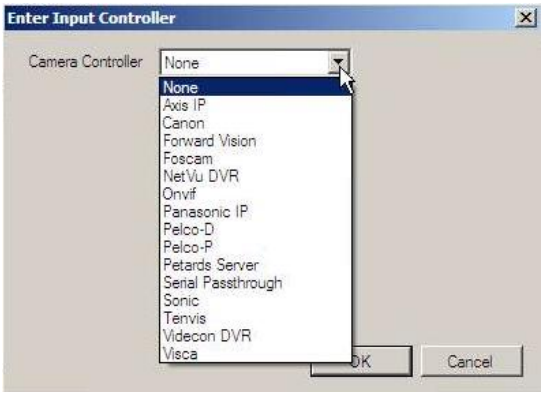
Each camera has its own shared memory.



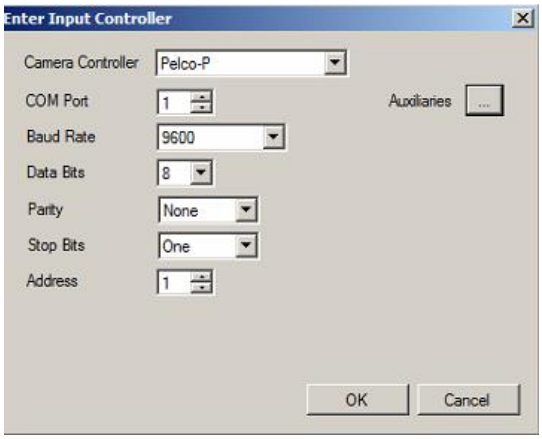
To set individual PTZ control cameras press PTZ. This takes you to the

Enter Input Controller page

Choose the Camera controller that relates to the camera.



This then takes you to the page where by you can add the specifics, most are already pre-set however make sure the com port is correct to the hardware unit you are working with.

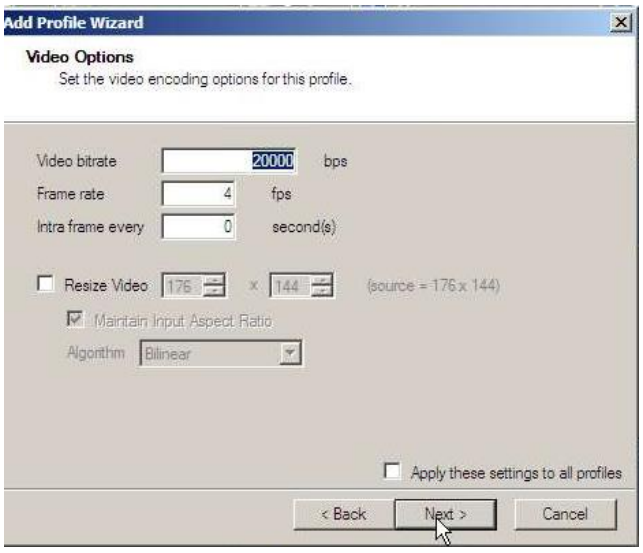


Highlight the controller/protocol of your camera, do not change any of the other settings and press ok. Make sure the correct com port is also If all your added cameras have the same control protocols then you can tick, then tick apply to all profiles.

Click next to bring you to the

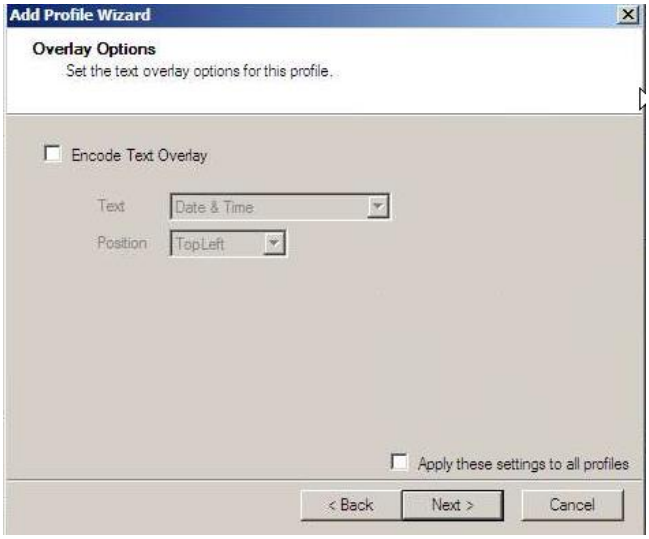
Video options page.

Here you can set the specific bitrate, frame rate for the transmitted video stream.



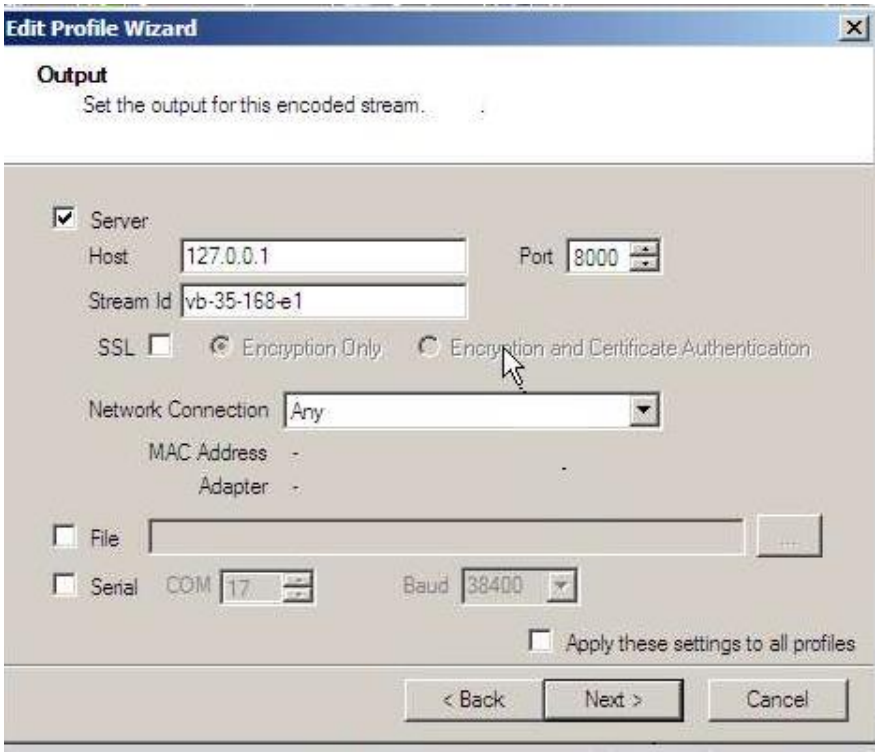
Overlay options

Do you want date and time on the screen. If so tick encode text overlay. Time and date will be synced with the internet. If this is to be seen on all transmissions then tick apply to all. Then click next.



Output Page

Output is pointing the encoder at the server to which it must send its streams.



Host

In this case the server is on the device you are currently programing therefore the host address will be the loop back adapter address 127.0.0.1.

Stream ID

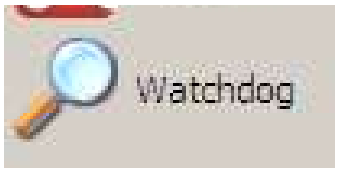
Set the Stream ID to be the same as in the VSS Stream ID.

Save this encoder profile as a Wi-Fi encoder.

ADDING AN ENCODER IN WATCHDOG

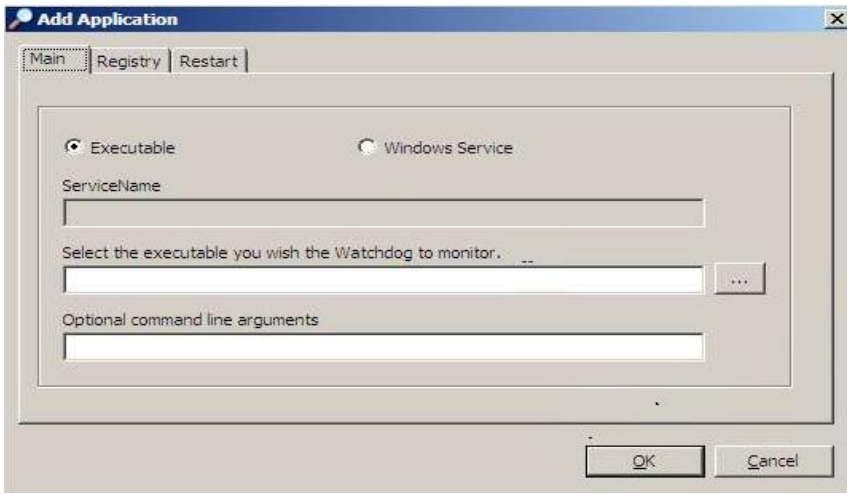
Watch dog app, adding an encoder

Find the watch dog app, this can be found by pressing the start button;

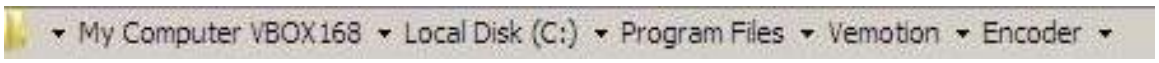


Click on this and click tools and pause.

Right click on the box and click add to go to the add application window;



Click on the box with three dots on and it will take you to the below;



Click open and then this will save where your new encoder will be saved.

Optional command line arguments must then be typed in to name the encoder to match the encoder profile you have set up. In this case the encoder has been named as default.

"c:\default.vepf"

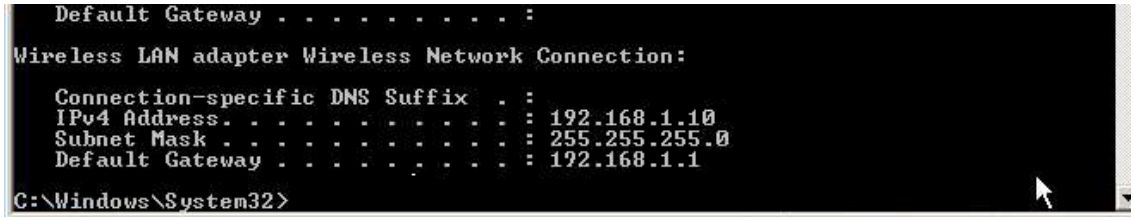
Press ok, come out of that add applications window, go to tools and press resume. All Encoder circles should be green if you have the authority to add multiple encoders.

This unit will not have a static IP address and needs to have one so that the Vemotion Player can be view the streams.

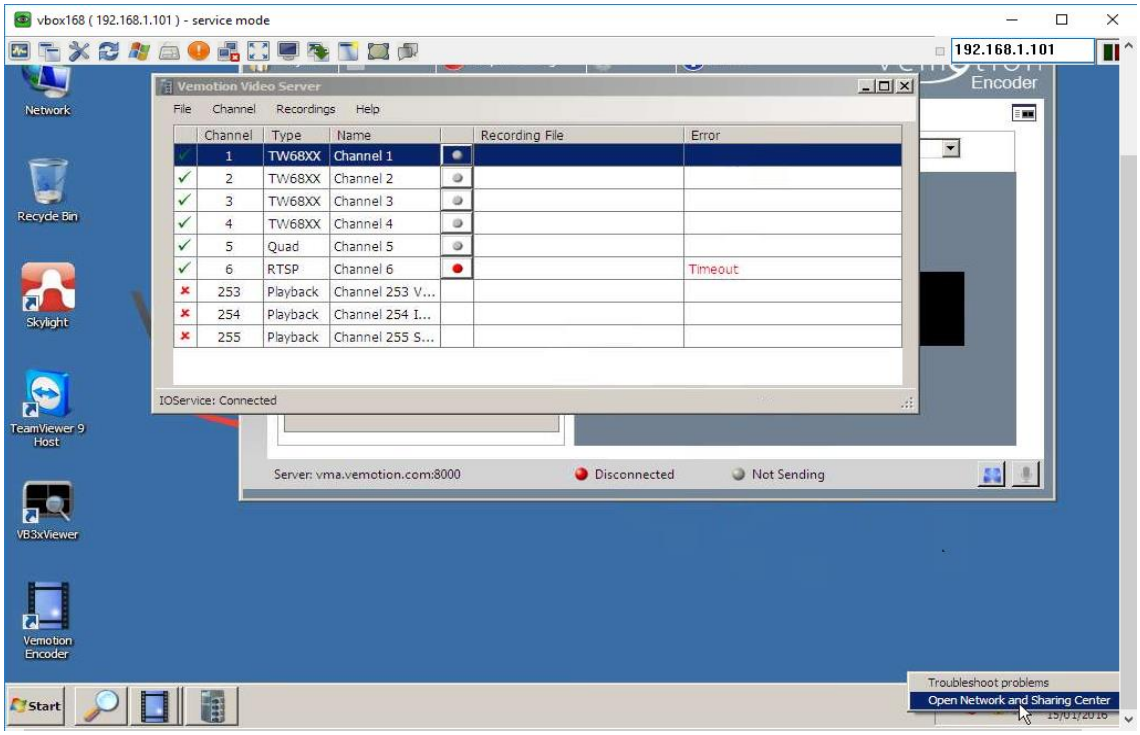
SETTING A STATIC IP ADDRESS

First you need to find out the IP address of the hardware encoder.

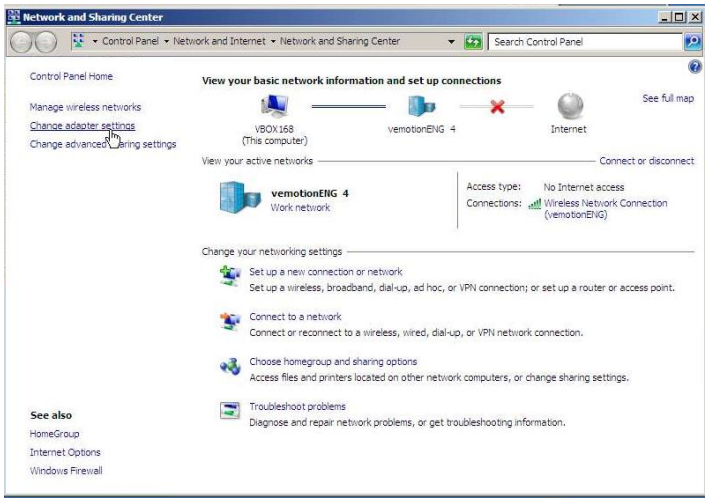
Press start and in the search programs and files type cmd to bring up the administrator. Type ipconfig enter and look for the wireless LAN IP address



Open Network and Sharing Centre.



Click on Change adapter settings

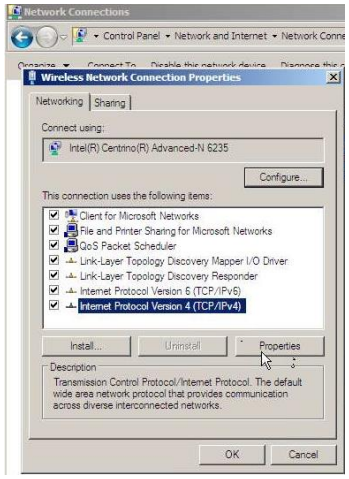


This takes you to the Network Connections page where you should be able to see what is connected.

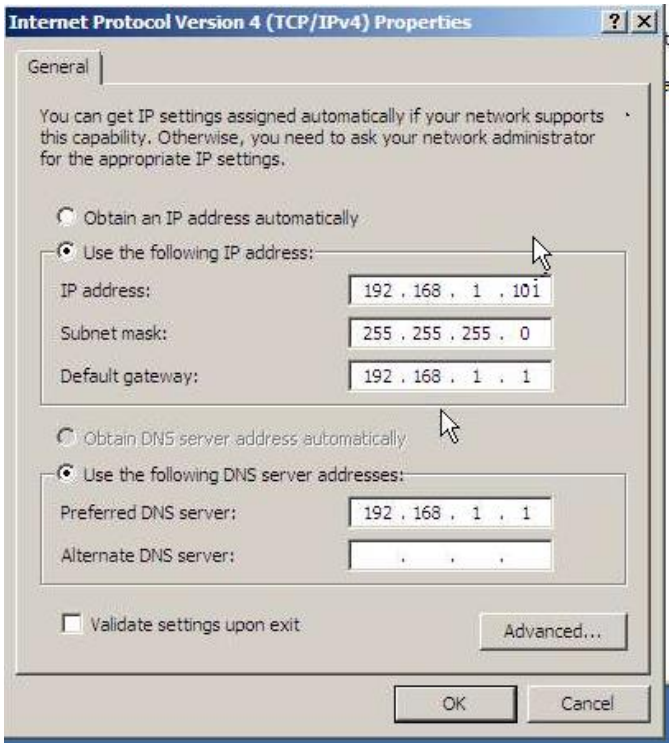
To check which port your camera is connected in, you can disconnect the camera and reconnect and check to see which disconnects and connects.

Right click on the icon and then left click on properties

Left click on Internet Protocol Version 4



Left click properties, click on use the following IP address but change the last octet to a different number.



Also add in the default gateway as per the cmd ipconfig.

When you come to adding the server host address in the Vemotion player add in the same IP address as you have configured the wireless network to. 192.168.1.101

Do not connect via Wi-Fi via the Player if you are already connected via Wi-Fi to the wireless network connection for set up.

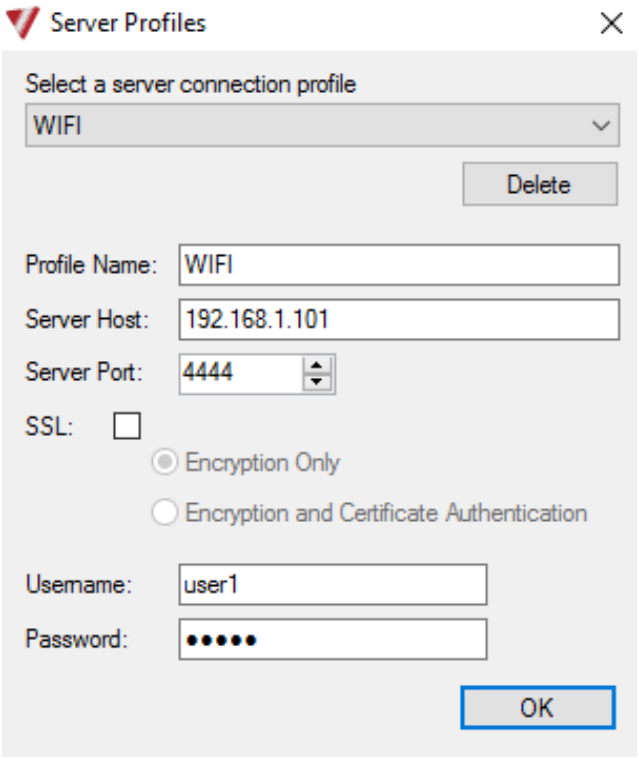
VIEWING THE VIDEO STREAM

Click on your viewing icon

Depending on the platform go into settings and look for the Wi-Fi signature of your encoder. Connect to the Wi-Fi.

Edit Server Profiles

When you come to adding the server host address in the Vemotion player add in the same IP address as you have configured the wireless network to. 192.168.1.101



Add in the Username and Password to match that set in the Vemotion Streaming Server.

Press Ok

This brings up a list of encoders video streams that you can view

If any more info is required please contact Vemotion – +44 (0) 8444 906 906 or info@vemotion.com

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