



Single Channel DV-IP Codec

Setup Guide



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Whilst every attempt is made to ensure these manuals are accurate and current, Dedicated Micros reserve the right to alter or modify the specification of the machine described herein without prejudice.

DV-IP Codec

Setup Guide

Introduction



The DV-IP Codec is a single channel selectable encoder designed to increase the flexibility of NetVu Connected analogue/IP CCTV networks. Its versatility allows the user to choose whether the unit operates as a single channel encoder or decoder as the installation dictates.

Although small and compact the DV-IP Codec includes a range of advanced CCTV features including; Pre-Alarm capability and Integration opportunities using the NetVu SDK.

The DV-IP Codec is flexible enough to allow the CCTV network to grow as a hybrid, analogue/IP solution without the need for the customer to replace the entire installation. Typical applications for the unit include corporate buildings, shopping centres, universities and hotels.

By utilising the power of NetVu Connected technology, the DV-IP Codec provides the gateway to interoperability across the whole CCTV installation.

ENCODER CAPABILITY

In Codec mode the DV-IP Codec allows existing and new analogue cameras to be added to an IP network, allowing a CCTV solution to expand and adapt organically without the cost and trouble of completely replacing and redesigning the installation.

The encoder can stream simultaneously using different compression (MPEG-4 and JPEG can be streamed simultaneously) and using different resolutions.

DECODER CAPABILITY

The DV-IP Codec in its Decoder mode gives the user increased viewing flexibility by allowing additional monitoring stations to be deployed around the CCTV installation as and when required.

The unit can support full and quad screen viewing modes whilst multisite viewing and the automatic detection of MPEG-4/JPEG streams ensures the small form unit meets the latest CCTV viewing requirements

Either as a single monitor application or as part of a larger video wall solution the DV-IP Codec is a powerful addition to the NetVu Connected family of products.

Important Safeguards

Read Instructions

All the safety and operating instructions should be read before the unit is operated and adhered to during operation. These instructions should be retained with the unit, and all warnings and cautions contained should be heeded.

Power Sources

This unit should be operated only from the type of power source indicated on the manufacturer's label.

Servicing and Repair

Do not attempt to service this unit yourself as opening or removing covers may expose you to dangerous voltage or other hazards.

Refer all servicing and repair to qualified service personnel.

Equipment

Use only attachments/accessories specified by the manufacturer.

Ventilation

Ensure unit is properly ventilated to protect from overheating.



CE Mark

If this product is marked with the CE symbol it indicates compliance with all applicable directives.

Directive 89/336/EEC.

A 'Declaration of Conformity' is held at Dedicated Micros Ltd., 1200 Daresbury Park, Daresbury, Cheshire, WA4 4HS.

CE NOTICE (EUROPEAN UNION).

This product is marked with the CE symbol and indicates compliance with all applicable Directives. A "Declaration of Conformity" is held at Dedicated Micros LTD, 1200 Daresbury Park, Daresbury, Cheshire WA4 4HS www.dedicatedmicros.com

Hereby, Dedicated Micros LTD, declares that this Analogue to IP Codec is in compliance with the essential requirements and other relevant provisions of Directive 95/5/EC.

Marking by the symbol CE indicates compliance of this Dedicated Micros product to the Electromagnetic Compatibility Directive 89/336/EEC, and the Low Voltage Directive 73/23/EEC of the European Union. Such marking is indicative that this system meets the following technical standards

- EN 61000-6-3 EMC Standard Residential, Commercial and Light Industry.
- EN 62000-3-3 Limitations of voltage changes, fluctuations and flicker in public low-voltage supply systems for equipment with rated current up to 16A.
- EN 61000-3-2 Limits for harmonic current emissions for equipment with rated current up to 16A.
- EN 50130-4 Immunity requirements for components of fire, intruder and social alarm systems.
- EN 60950 Safety of IT and similar equipment.
- EN 55022 Class A. Radiated Emissions Standard, suitable for Commercial or Residential use

Further details about these applicable standards can be obtained from Dedicated Micros Ltd., 1200 Daresbury Park, Daresbury, Cheshire WA4 4HS

RF Interference warning

This is a class A product. In a domestic environment this product may cause radio frequency interference , in which case the user may be required to take adequate measures.

Canadian EMC statement

This product is compliant with Class A ICES-003

Note: *This Class A product meets the requirements of the Canadian Interference causing equipment regulations. Cet appareil numérique de la Classe A, respect toutes les exigences du règlement sur le matériel brouilleur du Canada.*

Components Supplied

Before installing the unit, please remove the components from the packaging and verify that all items listed below have been supplied:

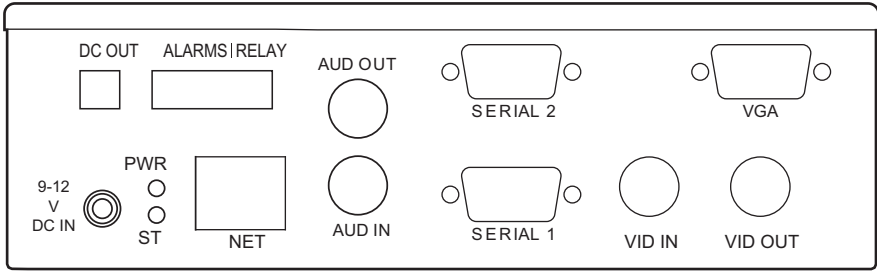
- 2 x fixing brackets
- 4 x M3 x 6mm posi screws for attaching brackets
- 1 x power supply
- 1 x mains lead
- 2 x CDs

Please ensure the following are available and have been tested prior to the installation:

- a) Mains power socket
- b) Network point
- c) Network cable
- d) Desk / Laptop PC with CD ROM drive and connection to the same network as the DV-IP Server

Installing the DV-IP Codec

The DV-IP Codec has connectors on the rear of the unit.



- VGA - SVGA 15 Way D Female monitor connection (for future development)
- VID IN - 75Ω BNC composite camera connections, 1V pk-pk
- VID OUT - 75Ω BNC composite spot monitor connection
- Decoder mode Displays video streams decoded from network on spot monitor.
- Encoder mode Reserved for displaying summary of network settings
- NET - RJ45 10/100BaseT Ethernet connection
- AUDIO IN - RCA (phono) socket (for future development)
- AUDIO OUT - RCA (phono) socket (for future development)
- ALARMS/RELAYS - Screw terminal, dry contact relay, NO/NC, user configurable (for future development)
- DC Out - 12V Push in Screw terminal, used to power external camera.
- SERIAL 1 & 2 - 9 way (male) D Type RS-232 (3 wire), RS-422, RS-485 serial port (Telemetry, debug, general purpose, text in image)
- POWER - 12V DC 12W separate mains power supply
- LED's
- PWR ON - Green
- STATUS - Green



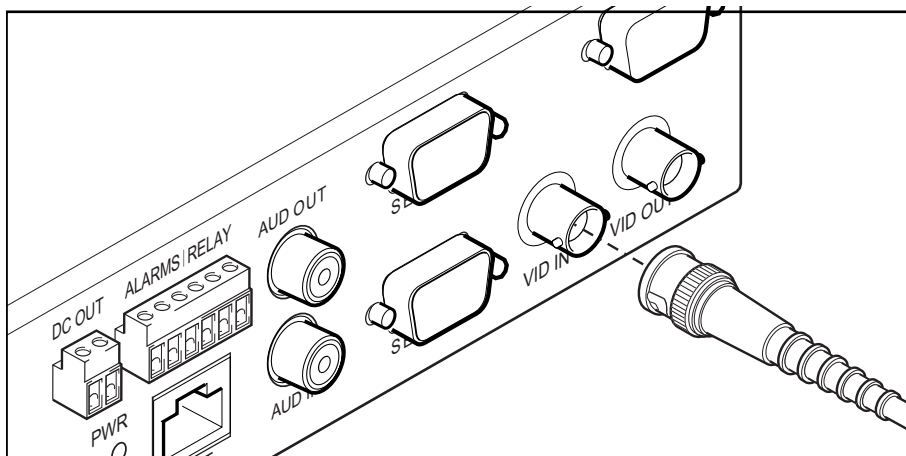
- SD SLOT- Available for future development

Choosing a location for installation

The unit is designed to be desk mounted. The following precautions must be taken during installation:

- The unit should be located in an area with low humidity and a minimum of dust. Avoid places like damp basements or dusty hallways.
- Ensure there is a 1" (2.54 cm) gap on either side of the unit.
- Ensure it is protected from moisture.
- Ensure the unit is not located in an area where it is likely to be subjected to mechanical shocks.
- When stacking units, ensure there is at least a ½" (1.3 cm) gap between each unit.
- If the unit is to be installed in a closed assembly, the maximum operating temperature must not exceed 104°F (40°C).

Step 1 Connecting Cameras



Encoder Mode

When configured as an encoder, the DV-IP Codec supports a Video In from an analogue video source via the 75Ohm BNC connector.

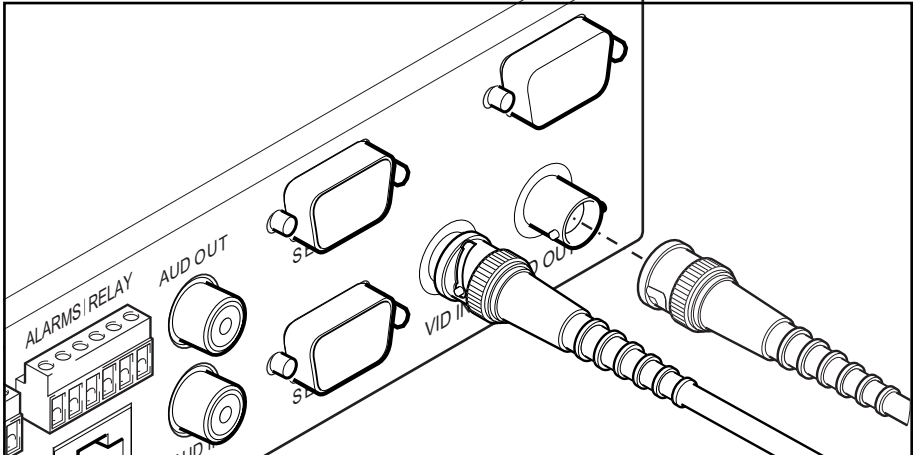
The video output displays the units network settings including IP address.

Decoder Mode

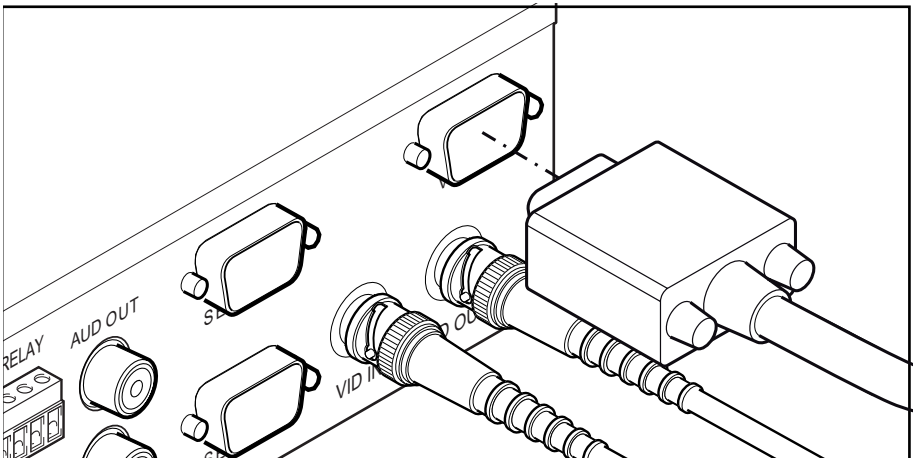
The video input is not supported.

Step 2 Connecting The Analogue Monitor

The video output displays the decoded video stream(s) as an analogue output. The video output will display the unit network settings, including IP address, for approx 20s after a network connection is established.

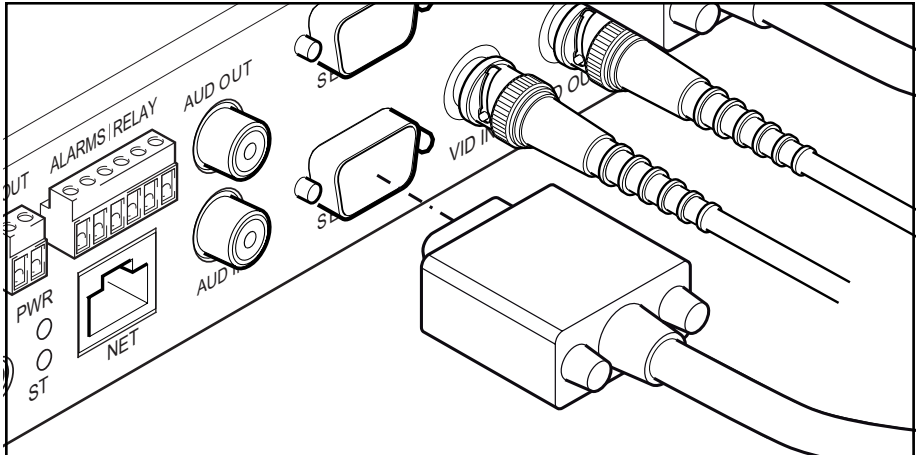


Step 3 Connecting the VGA monitor



Note: VGA output will be supported in a future release of software

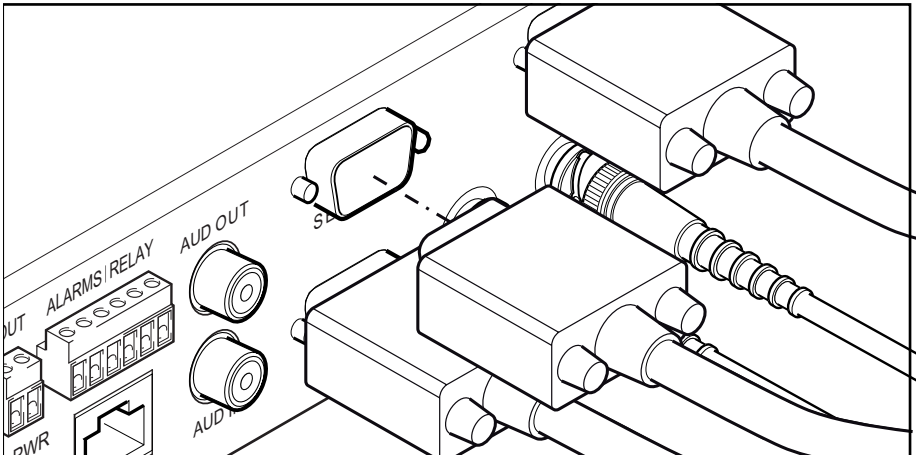
Step 4 Serial Connection 1



Serial port 1 on the Codec is configurable for 2 wire RS485, 4 wire RS422 or 3 wire RS232. For connector pin-out information, refer to Appendix A.

Note: Serial port 1 on the codec may be used to configure the unit's settings

Step 5 Serial Connection 2



Encoder mode

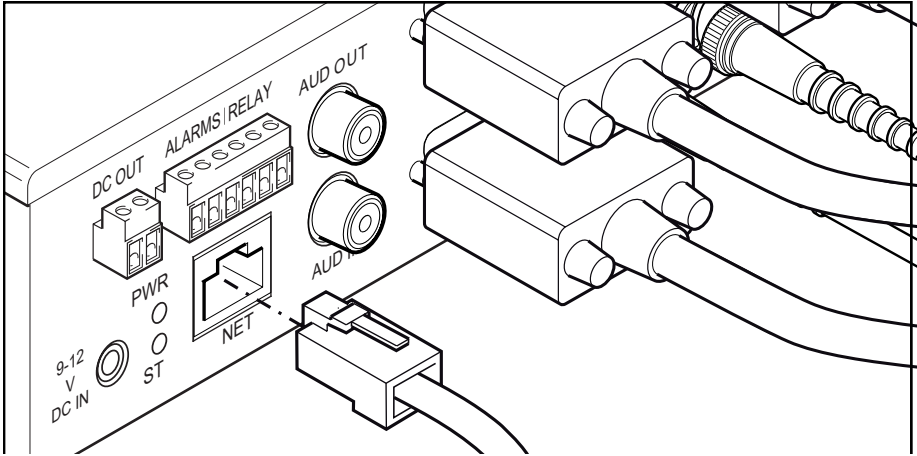
Serial port 2 on the Codec is configurable as a telemetry port for 2 wire RS485, 4 wire RS422 or 3 wire RS232.

For connector pin-out information, refer to Appendix A.

Decoder Mode

Serial port 2 has no function.

Step 6 Connecting Network



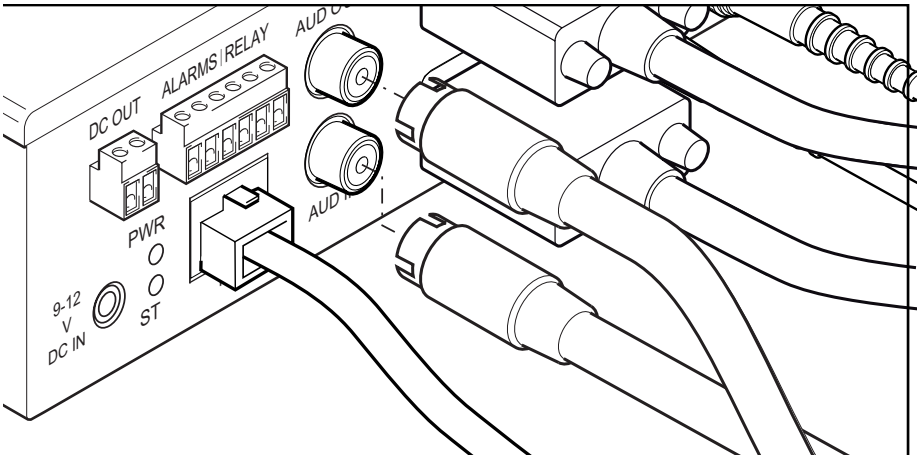
The DV-IP Codec supports a 10/100Mbps auto-detecting network port. Use a properly screened Ethernet cable to connect the unit to the network.

By default the unit is configured for DHCP where the unit is automatically allocated an IP address from the network DHCP server.

DHCP works on assigning an IP address at initial connection to the network, however it is possible for this IP address to change without notification (i.e. if there was a power failure), therefore it is recommended that the DV-IP Codec is allocated a fixed IP address to remove the possibility of address change.

When a network is configured for DHCP any networked unit connected to that network will automatically be assigned an IP address by the DHCP Server.

Step 7 Connecting Audio

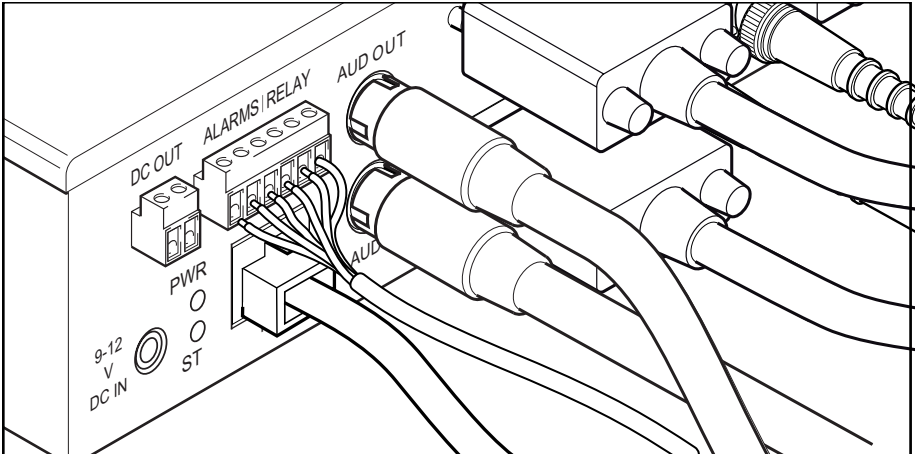


The DV-IP Codec support a single channel of bi-directional audio, accessible through NetVu Observer. Connect the audio equipment to the phono sockets AUDIO IN and AUDIO OUT.

The following modes of operation will be supported:

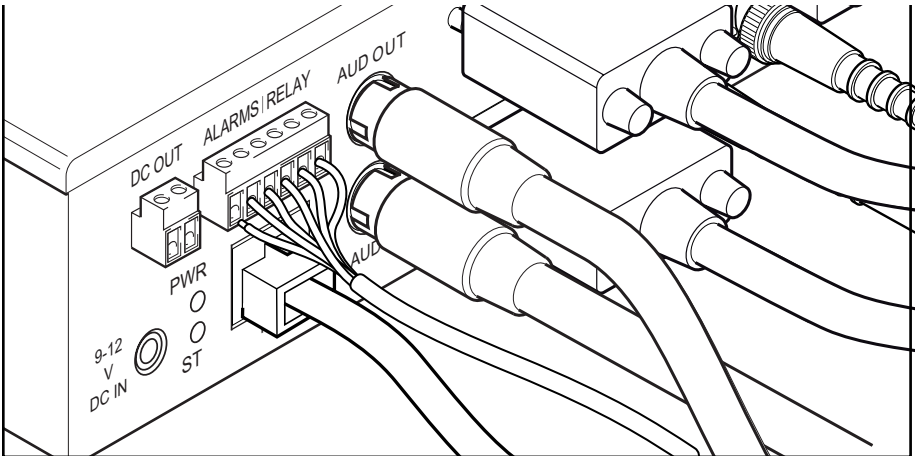
- Challenge – one way audio, DVR to camera, optionally recorded.
- Listen – one way audio from the camera to DVR, optionally recorded.
- Help Point – two way audio, optionally recorded.

Step 8 Connecting Relay



*The relay will be configurable as normally open or normally closed.
This feature will be available after future development.*

Step 9 Connecting Alarms



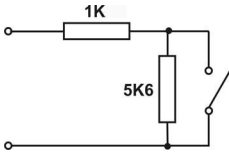
The unit will support three EOL alarm inputs. This functionality is part of the advanced alarms supported on NetVu Connected products and included features required for Central Monitoring and is compatible with the British Standard BS8418. This functionality is under development and will be available as a software upgrade. The End Of Line (EOL) functionality is part of the Advanced Alarms supported on NetVu Connected products and included features required for Central Monitoring and is compatible with the British Standard BS8418.

This feature will be available after future software development.

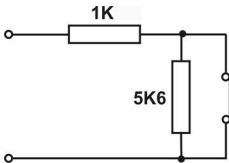
End Of Line Circuitry

The following describes the EOL tamper alarms circuitry needed when EOL has been configured. There should be two resistive values within the tamper alarm circuitry. These must be located inside the alarm device (furthest point from the unit).

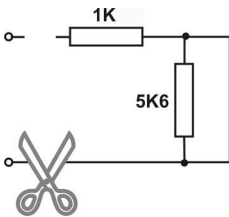
The alarm state could be Normally Open or Normally closed however the tamper states are the same for both settings.



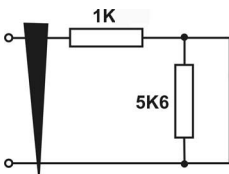
Open, the resistive value is 6.8K ohms ($1K + 5.6K$).



Closed, the resistive value is 1K ohms, as the circuit does not see the 5.6K ohm resistor.

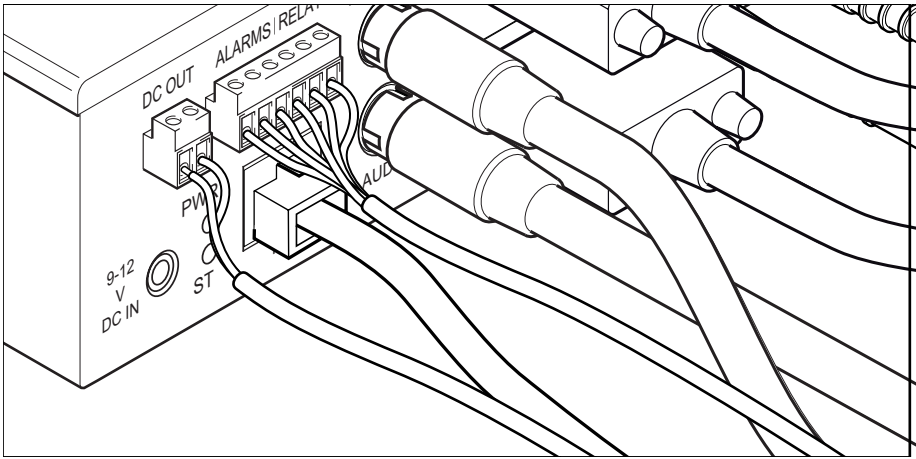


Open Circuit Tamper, the resistive value is infinity as the circuit has been cut and therefore is 'open'.



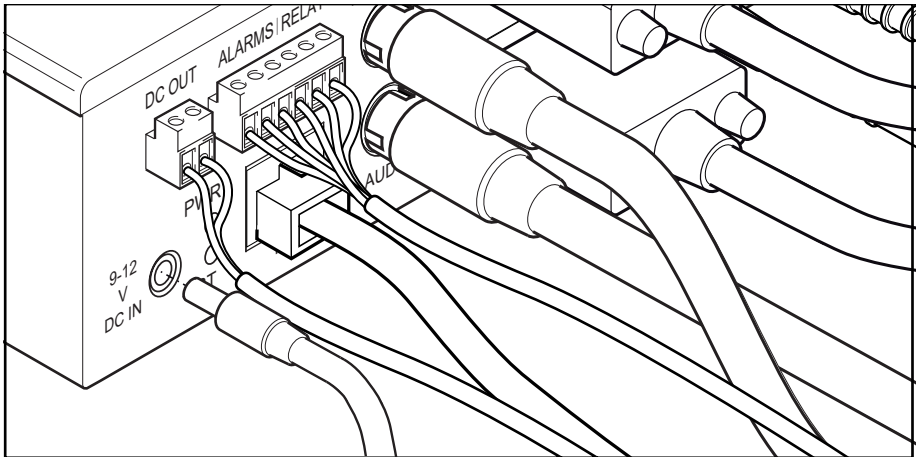
Short Circuit Tamper, the resistive value is 0 Ohms.

Step 10 Connecting DC Out



The power socket can be used to power a 12VDC 6W camera.

Step 11 Connecting Power



The DV-IP Codec is supplied with an external power supply. Connect the PSU to the unit and then to the power source.

Note: The Status LED is for future expansion.

Configuring the Unit

Locating the Unit IP address

The unit is configured using on the on-board web pages, allowing the unit configuration to be modified once it has been installed in position.

The IP address of the unit is required to access these pages. The Codec has DHCP enabled by default to allow a network DHCP server to assign an IP address automatically. The assigned IP address will be displayed on a connected spot monitor.

The following message is displayed on the spot monitor whilst the Codec is checking the network settings:

Checking Network Link

Once the network connection to the Codec is established, a message similar to that detailed below is displayed on the spot monitor:

```

Hostname   :DM00D0D905C10D
IP         :172.16.80.7
Subnet     :255.255.0.0
Gateway    :172.16.50.1
MAC        :00:D0:D9:05:C1:0D
  
```

If no monitor is available, it can be found by using the serial port, refer to Appendix B. For ease of configuration, it is recommended that the installer sets the IP address before installing the unit in position.

One of the first tasks should be to disable DHCP and assign a permanent IP address to the unit. If this is not done, the IP address of the unit may change whenever it is powered off or reset, and the new address will have to be acquired directly from the unit (ie using a serial connection or by connecting a spot monitor and cycling the power).

It is possible to enable DHCP to allow the unit to acquire a free IP address, and then allocate the address permanently by entering the details in the IP address box, which will also disable DHCP.

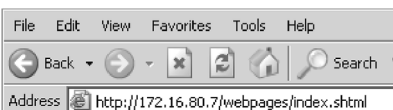
If a permanent IP address is not assigned to the unit, it will attempt to contact the DHCP server every time it starts up. If for any reason, a DHCP server cannot allocate an IP address to the unit, the Codec will use a default IP address (169.254.11.10).

Note: Always consult the network administrator for IP address, Subnet Mask and Gateway information.

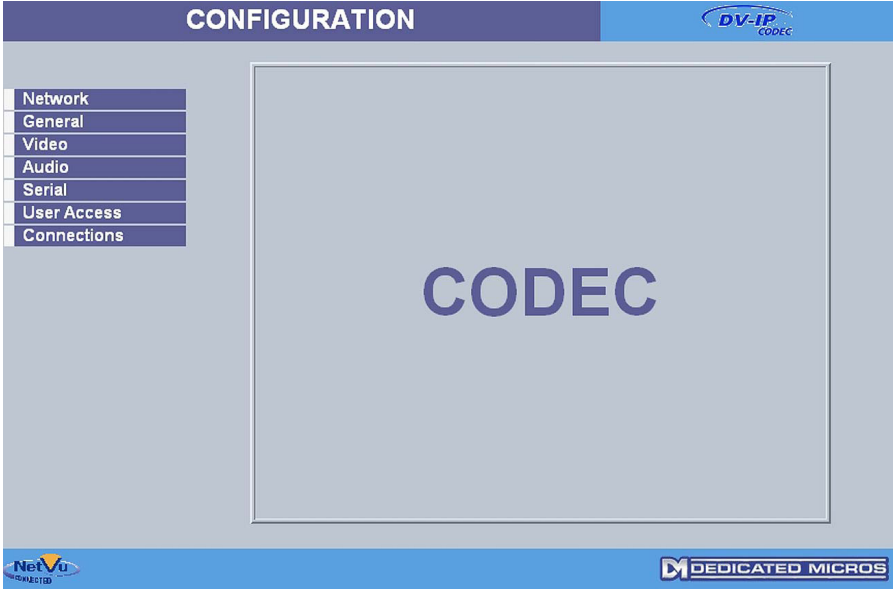
Accessing the Configuration Web Pages

The unit is configured using on the on-board web pages. To access these:

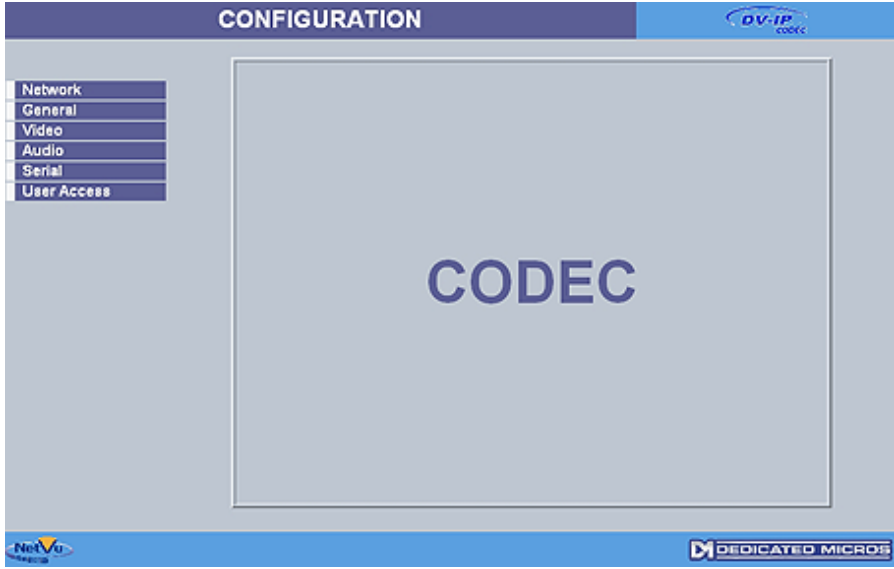
1. Launch Internet Explorer (or Netscape Navigator).
2. Type the IP address of the unit into the address bar.
3. The Main Menu page will be displayed.



Encoder Mode



Decoder Mode



The configuration menus are accessible using the links on the left hand side of the page.

NOTE: Any changes made on the web pages are automatically saved when the page is closed. Use the 'Cancel' button to revert to the previous settings and then navigate away.

Network

This page allows access to the network settings of the unit.

CONFIGURATION

- Network
- General
- Video
- Serial
- Audio
- User Access
- Connections

Network

IP Address	172	17	88	10
Subnet	255	255	0	0
Gateway	172	17	50	1
Primary DNS:	0	0	0	0
Secondary DNS:	0	0	0	0
DHCP IP:	0.0.0.0			
DHCP Subnet:	0.0.0.0			
DHCP Gateway:	0.0.0.0			
DHCP Name:				

Reset
Cancel

IP Address, Subnet, Gateway These are the settings that have already been configured using the Serial port configuration. This is the static IP address and subnet mask, and if applicable default gateway.

Note: Always consult the network administrator for IP address, Subnet Mask and Gateway information.

- Primary DNS
This is the primary DNS server IP address for applications that are utilising domain names
- Secondary DNS
This is the IP address of the secondary DNS server in case of failure of the primary server
- DHCP IP
If the unit is enabled for DHCP and installed on a DHCP network, the IP address allocated by the DHCP server is displayed here.

Note: DHCP should be disabled. The IP address of the unit may change whenever it is powered off or reset, and the new address will have to be acquired directly from the unit. DHCP is disabled once an IP address is assigned in the IP address box.

- DHCP Subnet
If the unit is enabled for DHCP and installed on a DHCP network, the Subnet allocated by the DHCP server is displayed here.
- DHCP Gateway
If the unit is enabled for DHCP and installed on a DHCP network, the Gateway allocated by the DHCP server is displayed here.

DHCP Name	If the unit is enabled for DHCP and installed on a DHCP network, the Name allocated by the DHCP server is displayed here.
Reset	Will reboot the unit to allow the new settings to be enabled
Cancel	Settings are automatically saved when the page is closed. Use this button to cancel any changes before navigating away from the page.

Note: *The unit will need resetting to implement any changes made to this page. The unit can be reset using the 'Reset' button onscreen.*

General

All video inputs and outputs can be globally configured as PAL or NTSC, depending on the locality.

The screenshot shows the 'CONFIGURATION' window with the 'General' tab selected. The settings are as follows:

- Codec Mode:** Decoder
- Video Standard:** PAL
- System Resolution:** 704 x 576
- System name:** DM000D905E0CD
- Camera Name:** Camera 1
- Language:** English
- Timezone:** Greenwich Mean Time: Dublin, Edinburgh, Lisbon, London GMT +0
- Buttons:** Sync Time from PC, Factory Reset, Reset, Cancel
- Footer:** NetVu, DEDICATED MICROS

Codec Mode	The Codec can operate as an encoder or decoder. Select Encoder to convert composite video from an analogue source, such as a camera, into a digital stream for transmission over networks. Select Decoder to combine one or more digital video streams from a network into analogue composite video.
Video Standard	This is a global setting for all the video inputs on the unit. The video format will be configured as PAL or NTSC, depending on the locality.
System Resolution	This is the fundamental resolution for the unit. The available settings are: 704x576, 704x288, 352x288 or 176x144 in PAL mode 704x480, 704x240, 352x240 or 176x120 in NTSC mode
System Name	This is the name allocated to the unit, required when connecting to an EDP via NetVu Observer.
Camera Name	When the unit is configured as an Encoder, this will be displayed on screen by a DVR or NetVu Observer when viewing the video stream from the encoder.
Language	Specifies the web page language
Timezone	From the accompanying drop down menu, select the appropriate timezone (corresponding to the location of the unit).
Sync Time from PC	The unit can be synchronised with the PC being used for the configuration process. The PC network clock time will then be adopted by the unit.
Factory Reset	Will set the unit back to the Factory Defaults
Reset	Will restart the Codec with the new settings applied

Cancel

Settings are automatically saved when the page is closed.
Use this button to cancel any changes before navigating away from the page.

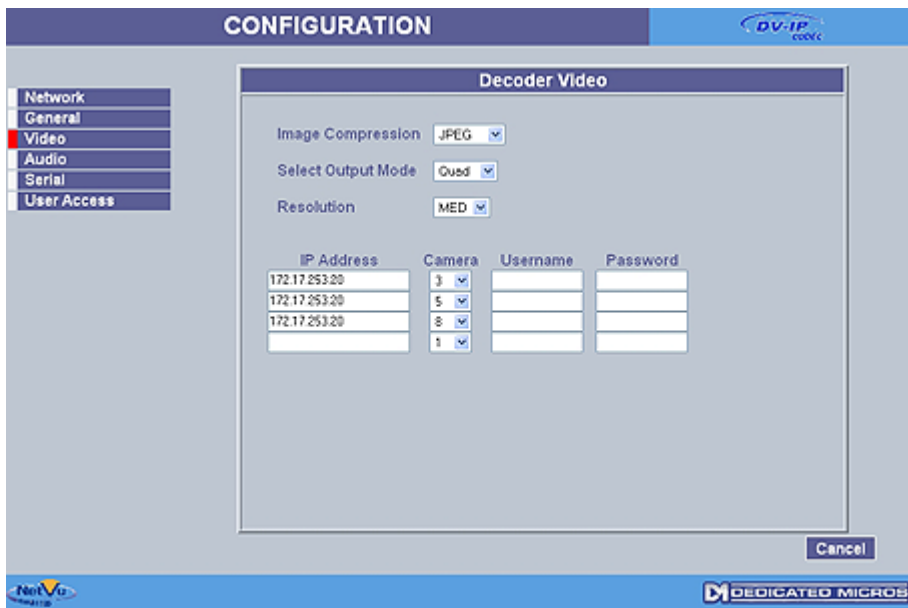
All other parameters on this page may be needed should Technical Support be required.

Note: *The unit will need resetting to implement any changes made to this page. The unit can be reset using the 'Reset' button onscreen.*

Video

This page allows configuration of the video settings and will change depending on whether the unit is set up as a decoder or an encoder.

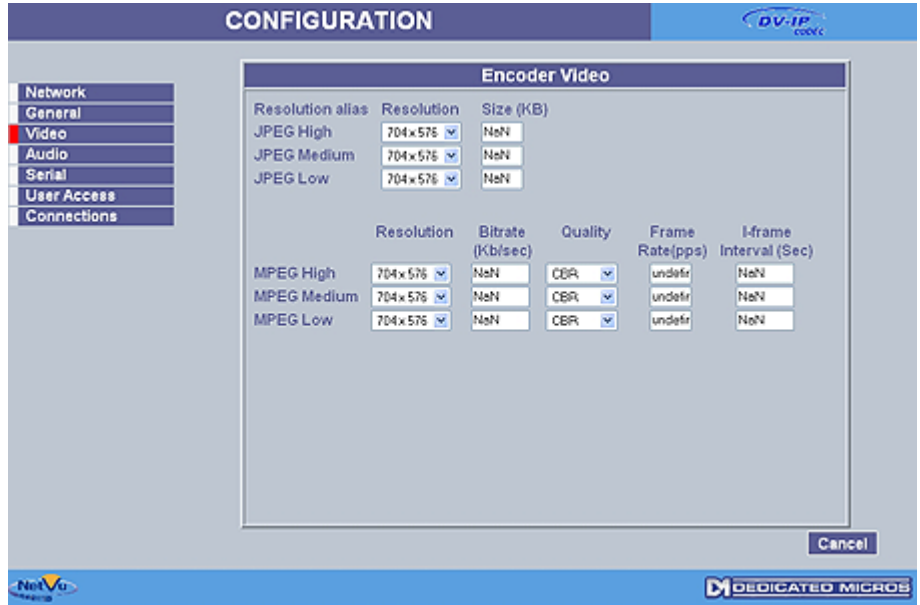
Decoder Mode



The unit can convert digital signals to analogue. Connect the analogue device into the BNC Vid Out socket on the decoder.

Image Compression	This setting specifies the type of digital signal that is being received, either JPEG or MPEG.
Select Output Mode	The unit can send either a single image or a quad to the monitor.
Resolution	The resolution of the output can be set to high, Medium or Low.
IP Address	The unit can decode IP streams from individual cameras, DVR's or encoders. The IP address of the unit to be decoded should be entered in this column.
Camera	If the IP address is sending more than one digital feed (ie a DVR) then the individual camera feed into the DVR should be selected here.
Username/Password	If the unit providing the video stream requires a login, the details should be entered here.

Encoder Mode



When configured as an encoder, the unit supports both JPEG and MPEG-4 compression for high quality image display. Refer to the introduction for more information on when to use JPEG and MPEG-4.

The JPEG image size has two configurable parameters, File Size and Image Resolution.

The file size setting can be configured between 5 to 45 KB. This determines the size of the images transmitted across the network. The image resolution setting has been included to allow the most appropriate image resolution to be configured in line with the selected file size. The image resolution is the number of pixels captured in each image.

Resolution Alias	This describes which of the alias High, Medium and Low viewing settings are being configured, for either JPEG or MPEG.
Resolution	There are four pre-configured resolutions to select from. These correspond to the standard CIF format. You can select from 704x576 (704x480), 704x288 (704x240), 352x288 (352x240), 176x144 (176x120) pixels. PAL (NTSC)
Size (KB)	This is the image size for the JPEG alias being configured. A larger file size will give more information per frame.

TIP: The resolution and size settings should be tested to ensure the most appropriate recordings are produced which fit the customer and storage requirements for the system.

Bitrate	The bitrate dictates how much information is sent in each second of MPEG video. Higher bitrate will generally result in a better quality image, but will take more network capacity. This option will only be available if 'Quality' is set to CBR (Constant Bit Rate)
Quality	There are 30 variable bitrate quality settings available (10 Low, 10 Medium and 10 High), and one Constant Bit Rate (CBR) option.

- Framerate (pps) This dictates the number of pictures per second this profile will send to the viewer
- I-Frame Interval(Sec) MPEG-4 compression uses I and P frames, the I frame is a full frame image from the video source, this option allows the Administrator to determine how often the I frame will be recorded within the selected profile.
- Cancel Settings are automatically saved when the page is closed. Use this button to cancel any changes before navigating away from the page.

Serial

This page allows configuration of the Serial ports on the rear of the unit. It can be programmed to operate with telemetry.

Note: The page layout will change dependent on whether the Codec is configured as a Decoder or Encoder (Encoder shown).

Serial Port Usage

Encoder Mode

Serial Port 1 is defined as Admin Terminal (RS232)
Serial Port 2 is a telemetry port (RS485)

Decoder Mode

Serial Port 1 is defined as Admin Terminal
Serial Port 2 is disabled

Telemetry Protocol

The Codec will accept either Dennard or DM-Serial protocols

Baud Rate, Parity, Data Bits

This allows the communication settings to be configured.

Stop Bits, Flow Control

Cancel

Settings are automatically saved when the page is closed.
Use this button to cancel any changes before navigating away from the page.

Note: When a telemetry protocol is selected these settings will be set to the default to pre-determined values for the protocol, and should not normally be altered manually.

Note: Any changes to this page will require the unit to be reset. Use the reset button on the Network Page.

Note: The telemetry receiver in the dome should be set to address number 1. For Dennard domes this means that the blue switch should be set to 0 and the yellow switch to 1

Audio

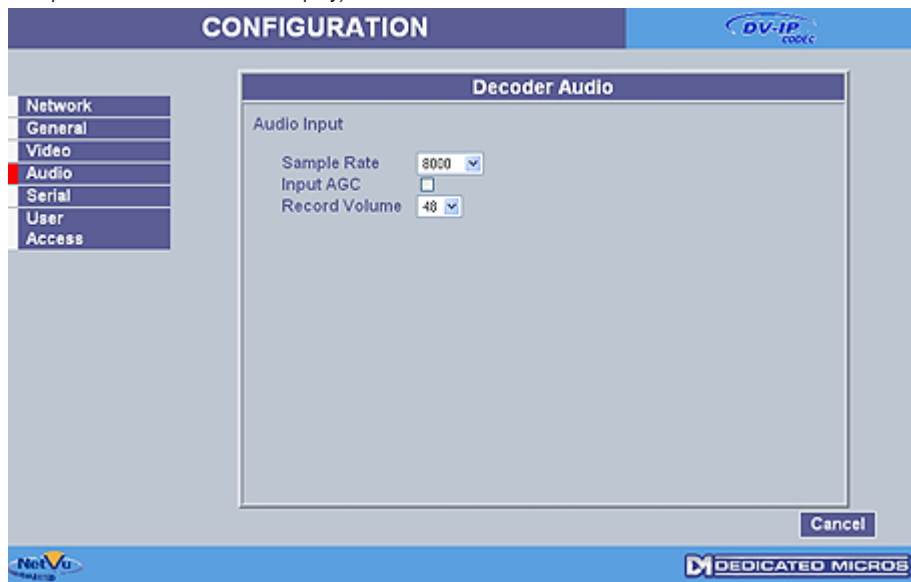
The settings for any available audio stream can be edited on this page.

Encoder mode

The analogue audio input is encoded as in-line audio into the video stream

Decoder Mode (shown)

The analogue audio input will be routed across the network back to the source of the video being decoded (or if multiple channels of video are being decoded, to the source of the video in the top left quadrant of the decoder's display)



Sample Rate	The sample rate related to the quality of the audio being processed. A higher figure will require more bandwidth to transmit. It is selectable between 8000 Hz (voice mail quality or 8 bit mono), 11025 Hz, 16000 Hz and 22050 Hz (half CD quality or 16 bit mono).
Input AGC	The Automatic Gain Control will lower an excessive volume
Record Volume	Adjustable level between 0 and 64
Cancel	Settings are automatically saved when the page is closed. Use this button to cancel any changes before navigating away from the page.

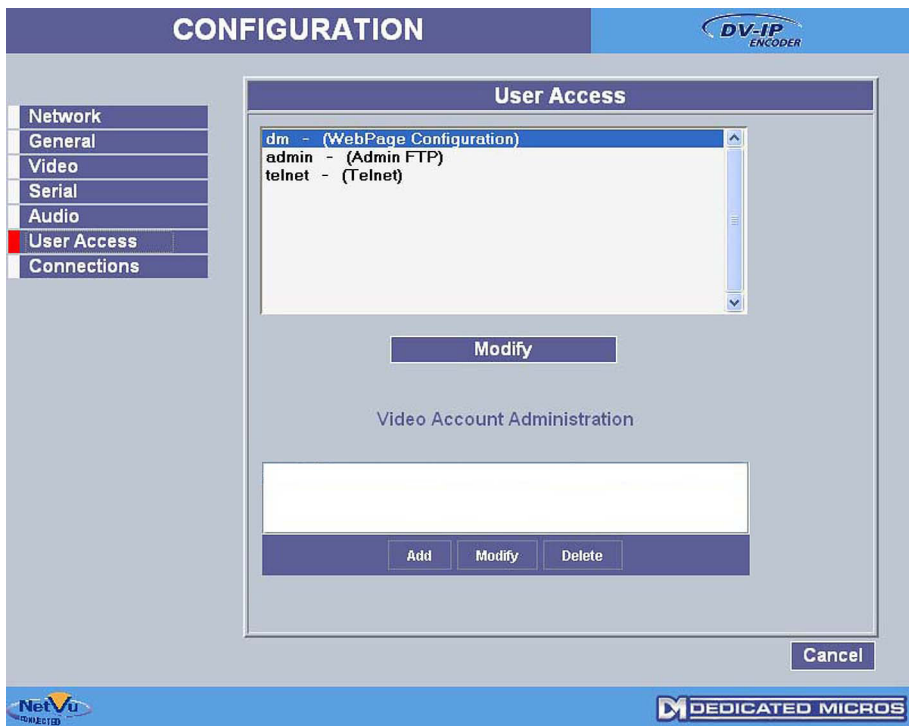
User Accounts

The unit can protect access to the configuration options by setting passwords. These can be set individually for Webpage configuration, FTP administration and Telnet access.

The image shows the User Accounts Administration page. The default passwords are:

- Webpage Configuration : Username = dm : password = web
- FTP Admin : Username = dmftp : password = ftp
- Telnet : Username = dm: password = telnet

This page also controls the Video Account Administration, used for controlling which users have access to the video stream from the Codec.



- User Account Administration** Within this section the system accounts that have been pre-configured using the .ini files will be displayed. This allows the username and password of these accounts to be easily modified.
- Modify** It is possible to modify the data for any user account being viewed. This allows the username, password and camera access to be edited.
- Cancel** Settings are automatically saved when the page is closed. Use this button to cancel any changes before navigating away from the page.

Note: Please ensure all configured Usernames and Passwords are retained as loss of this information may result in the unit being returned to Dedicated Micros.

Video Accounts

Video accounts are only active when unit is configured as an encoder. The video account for viewing must be added to the Codec by an administrator (someone with access to the Codec's web pages).

Once an account and password are set up on the Codec, the account details will be requested via a pop up window in ObserVer when it tries to connect to the stream.

Ensure that the version of DVR software being used supports accounts for IP cameras and an account is set up on the DVR. If IP cameras are not supported, or there is no appropriate account, the images from the Codec will not be available to the DVR.

User can be given permission to view the video available from this Codec using this menu. Click Add to enable a new user, providing the name and assigned password for the user. Once this is saved, the account will appear in the lower pane.

If no video accounts are set up, the video is available to anyone over the network.

Accounts can then be edited or deleted as required.

Connections

This page shows the IP addresses of machines currently connected to the encoder via the network.

Note: This page will only appear if the Codec is set as an Encoder.

CONFIGURATION

- Network
- General
- Video
- Audio
- Serial
- User Access
- Connections

Connections

IP Addresses

1	0.0.0.0	3	0.0.0.0
2	0.0.0.0	4	0.0.0.0

IP Addresses

This displays a list of up to 4 IP addresses that are connected to the encoder.

Connecting to the Codec

Note: This section applies when Codec is configured as an encoder

Using the DVR

The camera connected to a DV-IP Codec can be connected to and viewed across a network using a NetVu capable DVR or server, NetVu Observer or a DV-IP Codec.

To enable a NetVu capable DVR to connect to IP cameras;

1. Verify the Version of operating software on the DVR by pressing the menu button once to display the 'Time, Date & Language' page. If the Version is below 4.5(008), use the enclosed CD to upgrade the system to accept IP camera streams.

Using the OSD

In order to setup an IP Camera using the On Screen Display menus;

1. On the Camera Setup page, the 'Camera Type' parameter will now have an option called 'IP Cam'.
2. Select 'Edit' to set up the DV-IP Codec. Use the parameters listed below.
 - Type - NetVu Server
 - URL - <DV-IP Codec IP address>
 - Port - 0080
 - Camera Number - Refer to Note below
 - FPS - 04

Using the unit webpages

To set up an IP Camera using the DVR on board webpages;

1. Open your web browser and type the IP address of the DVR into the address line. Select 'Configuration Options' and log in using the web username and password (defaults username-dm, password-web).
2. Select 'Cameras' on the side bar. There is a new page called 'IP-Camera and Record Setup'. Select this page.

Add the DV-IP Codec information to a free position in the camera table. Use the parameters listed below.

Camera type - IP
 IP Cam type - NetVu Server
 IP Cam URL - <Enter the IP address of the DV-IP Codec>
 IP Cam port - 80
 IP Cam Cam - Refer to note below
 IP Cam FPS - 4

It is possible to treat the digital video feeds from other networked Dedicated Micros DVR's as IP cameras.

To set up Digital Streams from NetVu capable DVR's as IP cameras;

1. Ensure the DVR has IP Camera capability enabled.

On the OSD

In order to setup a DVR video feed as an IP feed using the On Screen Display menus;

1. On the Camera Setup page, the 'Camera Type' parameter will now have an option called 'IP Cam'.
2. Select 'Edit' to set up the DV-IP Codec. Use the parameters listed below.
 - Type - NetVu Server
 - URL - <Source DVR IP address>

Port - 0080

Camera Number - Number of the camera feed on the source DVR to be used

FPS - 04

On the web pages

In order to setup a DVR video feed as an IP feed using the onboard web pages;

1. Open your web browser and type the IP address of the DVR into the address line. Select 'Configuration Options' and log in using the web username and password (defaults username-dm, password-web).
2. Select 'Cameras' on the side bar. There is a new page called 'IP-Camera and Record Setup'. Select this page.
3. Add the DV-IP Codec information to a free position in the camera table. Use the parameters listed below.

Camera type - IP

IP Cam type - NetVu Server

IP Cam URL - <Source DVR IP address>

IP Cam port - 80

IP Cam Cam - Number of the camera feed on the source DVR to be used

IP Cam FPS - 4

This will import the video feed from the other DVR into this camera position.

Using NetVu Observer

The DV-IP Codec produces a digital video stream from an independent IP address. NetVu Observer can connect directly to this video stream in the same way as it connects to a DVR. However, the camera needs to be within the same subnet as ObserVer.

A DV-IP Codec can be added to ObserVer to allow the Operator to easily select the camera for viewing and control:

1. Highlight the Stored Image Servers Folder, or if a sub-folder (a folder within a folder) is required highlight the top level folder.
2. Click the right mouse button and select the Add Image Server option.
3. Enter the IP address of the DV-IP Codec. Enter a suitable name to identify the camera in the Site list.
4. Click OK to enter these parameters. A shortcut to the camera will be displayed in the Site List. A PTZ camera will be controllable using NetVu ObserVer.
Alternatively, the IP address of the Codec can be entered into the dialog box on the bottom of the Image Server Tree pane. This will create a temporary connection to the camera. This can be made permanent by dragging the Entry into the Stored Image Servers folder.

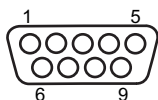
These basic instructions will display the camera for viewing and control. For more information on the options available, refer to the NetVu ObserVer documentation.

Note: *Codecs with protected video accounts will request username and password when NetVu ObserVer connects to the stream.*

Appendix A

Using Serial Ports

It is possible to connect a variety of telemetry cameras to the unit, using the following table as a guide to the serial port connections.



RS485 Connectivity

Pin	Description
1	RS485 + (A)
9	RS485 - (B)

RS232 Connectivity

Pin	Description	Desc
1	Data Carrier Detect	DCD
2	Receive Data	RX
3	Transmit Data	TX
4	Data Terminal Ready	DTR
5	Ground	GND
6	Data Set Ready	DSR
7	Ready to Send	RTS
8	Clear to Send	CTS
9	Ring Indicate	RI

RS422 Connectivity

Pin	Description	
1	Transmit Data	TX+ (A)
4	Receive Data	RX-
6	Receive Data	RX+
9	Transmit Data	TX- (B)

Appendix B

Locating the unit IP address using the serial port

Note: <ENTER> denotes pressing the Enter key on the keyboard.

1. With the mains power off, connect a standard 9DF-9DF RS232 communications cable from the PC to the serial port of the unit. Switch the power on at the mains outlet, the Power LED on the DV-IP Codec will illuminate.
2. On the PC, click Start->Programs->Accessories->Communications->Hyperterminal and create a new connection via the COM port using these settings.

Bits per second	38400
Data Bits	8
Parity	None
Stop bits	1
Flow Control	None
3. Power the Codec.
4. Hyperterminal will display the communications information as the unit boots up. This will include the IP address, Subnet and Gateway.

Assigning a permanent IP address using the serial port

The unit will assign and display an IP address when it boots. The address can be seen using the terminal connected to the serial port of the unit, as it boots up or by typing

```
ipcfg <ENTER>
```

To change the IP address of the unit;

Type "setip" followed by the new IP address

eg to change the unit to a fixed IP address of 192.168.200.19

```
setip 192.168.200.19 <enter>
```

The commands "setsub" and "setgw" can be used to alter the subnet mask and gateway address for the Codec

Note: *Setting an IP address in this way will disable the DHCP functionality. When a network is configured for DHCP any networked unit connected to that network will automatically be assigned an IP address by the DHCP Server. This IP address will be visible in Hyperterminal, via a serial connection, as the unit boots up.*

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