



VisualSoft Suite User Manual

VisualDVR Legacy Edition 11.0



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
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1 VisualDVR (Legacy Edition)

1.1 VisualDVR (Legacy Edition) – Introduction

The original version of VisualDVR – now known as **VisualDVR Legacy Edition** – was first released in 2006. In 2023 we are making a major upgrade to the look of this application, known as **VisualDVR 2023 Edition**. The Legacy Edition will be gradually phased out. We will move support of a few hardware types into the new 2023 Edition, to join lost of new features and hardware. Other old hardware types will be discontinued.



VisualDVR is a video recorder with software and hardware designed either as a stand-alone recorder system, or able to interact with other components of the **VisualSoft Suite** such as **VisualDataLogger**, **VisualEventLogger**, **Visual3D-Inspector** and **VisualArchive**. The software and hardware is available in a [variety of versions](#) .

Key features:

- **VisualDVR HD: High Definition recording** in a range of models, from one to four channels.
- **VisualDVR SD: Standard Definition recording** in a range of models, from one to four channels.
- **VisualDVR "Combo Mode": one HD channel, plus two SD channels.**
- **Video Overlay** as standard on recorded files.
- Optional **video+overlay output** (depending on installed hardware).
- All models of **VisualDVR** are video players, as well as recorders.
- All models of **VisualDVR SD** and **HD** can be licensed for "**Black-Box Recording Only**" or "**Full Recording**" modes
- Supported **video formats** depend on the installed boards and software add-ons and include:
 - **MPEG-2** (Program or Transport Stream)
 - **H.264** (in an MP4 container)
 - **WMV 9**
- **Internal or Remote Control** using:
 - **Built-In Menu** system
 - Other VisualSoft applications (**Visual3D-Inspector**, **VisualDataLogger**, or **Start/Stop Controller**)
 - **3rd Party** software
 - IM, AIM, or **NEXUS-IC** from Wood Group
 - **SCOPE** from PiSYS
 - **SIMS** from Surespek
 - **Coabis** from AiZe (supported from Coabis version 12.1 onwards)

1.2 VisualDVR Options

VisualDVR is available in different hardware models, with different capabilities. The licence may be "Black-Box Only", or "Full Recording" mode (which also includes Black-Box recording). Video inputs and recordings may be Standard Definition, High Definition, or both. The table below shows the features available in each model.

	SD	Single Channel HD	Multi Channel HD	Combined 1HD+2SD
Available as One Channel	✓	✓	✓	N/A
Available as Two Channels	✓	✗	✓	N/A
Available as Three Channels	Contact us <small>187</small>	✗	✓	1HD+2SD
Available as Four Channels	✓	✗	✓	N/A
Also available as "Black-Box Only"	✓	✓	✓	✗
Key features available with "Full Recording" licences and with "Black-Box Only" licences				
SD WMV	✓	✓	✗	✓
SD MPEG-2	See note 1	✓	✗	See note 1
SD H.264	See note 2	See note 2	✓	See note 2
HD WMV	✗	✓	✗	✓
HD MPEG-2	✗	✓	✗	✓
HD H.264	✗	See note 2	✓	See note 2
Manual copying to DVD	✓	✓	✓	✓
Manual copying to external drives	✓	✓	✓	✓
Video playback	✓	✓	✓	✓
Recordable video overlay	✓ See note 3	✓	✓	✓

	SD	Single Channel HD	Multi Channel HD	Combined 1HD+2SD
Distributable video overlay	Hardware add-on	Hardware add-on	✓	Hardware add-on
Features available only with Full Recording licence (See note 4)				
Basic Survey Data logging	✓	✓	✓	✓
Built-in Dive Log / Eventing input	✓	✓	✓	✓
Compatible with VisualEvent Logger	✓	✓	✓	✓
Automatic copying to DVD	✓	✓	✓	✓
Automatic copying to USB drives	✓	✓	✓	✓
Automatic copying to mapped network drives	✓	✓	✓	✓
Logging to Project Task folders	✓	✓	✓	✓
Compatible with VisualArchive automated offline backup system	✓	✓	✓	✓

Notes:

1. SD recording in MPEG-2 format can be done using an add-on licence for a software encoder with the same capture card as is used for WMV format, or it can be done using hardware encoder cards (one per video channel).
2. SD or HD recording in H.264 format can be done using an add-on licence for a software encoder with the same capture card as is used for WMV format, or it can be done using hardware encoder cards (one per video channel).
3. If using Hardware encoders for SD MPEG-2, you will also need add-on overlay hardware cards for recordable or distributable overlay.
4. To upgrade from the Black-Box Only option to the Full Recording option requires an upgraded license; no software or hardware re-installation is needed.

5. To upgrade the number of channels requires an upgraded license, and usually also a replacement video encoder card. (Upgrading from One to Two Channel SD, or from Three to Four Channel SD is usually possible with the same hardware.)
6. **High Definition** recording requires one or more compatible HD video encoder cards and is currently available for **Single Channel** units, **Combined 1HD+2SD** units, or for **Multi Channel** units.
7. **Multiple DVR units** of any type, or mix of types, **can be synchronised** to work together by connecting them to a network.

1.3 What's New in v10.5?

OPERATING SYSTEMS for VisualSoft Suite 10.5:

Improvement: All applications including VisualDVR are now supported on both **Windows 7 32 bit** and **Windows 10 64 bit**.

PLEASE NOTE that VisualDVR has some limitations for legacy video formats and hardware on Windows 10 as listed below.

VisualDVR 10.5:

Note 1: Video Encoding Formats: If installed on Windows 10, VisualDVR 10.5 does not support recording of the legacy Windows Media Video (WMV) format. Only H.264 (recommended) and MPEG-2 are supported. Depending on the installed hardware these may or may not need add-on licences.

Note 2: Capture and Encoder Cards: There is no Windows 10 driver available for the Optibase MovieMaker 230 SD MPEG-2 encoder card, or for the Osprey 700e HD/SD capture card, so these legacy card models are no longer supported if installing VisualDVR on Windows 10. We are also dropping support of Osprey 815e and 825e HD/SD capture cards if you are using Windows 10. The Osprey 815e and 825e will be supported only in Windows 7, and this support is expected to end in version 11.

Note 3: 10.5 on Windows 7: If run on Windows 7, anything that was supported in version 10.4 will still be supported in version 10.5.

Note 4: 10.5 on Windows 10: If run on Windows 10, VisualDVR version 10.5 will be restricted as follows:

- Support only two motherboards: Advantech ASMB-813 & 822.
- On the Advantech ASMB-813, support only the Vitec VMC-7440 and the Winnov Videum Quatro/Duo.
- On the Advantech ASMB-822, support only the Winnov Videum Quatro/Duo.

1.4 What's New in v10.4?

Installer 10.4:

Improvement: Change to require and install .NET 4.8.

Improvement: Change to require and install DirectX June 2010 build, removing the need for .NET 3.5 on Windows 10 64 bit.

1.5 What's New in v10.3?

Osprey 460e Multi Channel SD Encoder Card

The **Osprey 460e capture card** is now available, and can capture up to four channels of SD video. The card is capable of recording the Windows Media Video, MPEG-2 and H.264 formats, with audio.

The card supports resolutions of up to 720 x 576 PAL and 640 x 480 NTSC, as well as overlay generation.

1.6 What Was New in v10.2?

Multi Channel High Definition VisualDVR

A **Multi Channel High Definition VisualDVR** is now available in a variety of models from One to Four Channels with a high quality hardware encoder for H.264 format video.

The **Multi Channel High Definition VisualDVR** supports recording, overlay generation, and live overlay distribution using a single card per video channel.

Windows 7

VisualDVR now **fully supports Windows 7** for all encoding formats including WMV, MPEG-2 and H.264. Windows XP is no longer supported. Please contact VisualSoft Support at visualsoft.support@f-e-t.com if you have a Windows XP machine.

1.7 What Was New in v10.1?

High Definition DVR

High Definition VisualDVR now supports the Osprey 815e HD card.

1.8 What Was New in v10.0?

H.264 Recording

H.264 recordings, inside MPEG-4 files, can now be made in up to 3 channels. Compared with the WMV and MPEG-2 formats, the H.264 compression format provides smaller file sizes for the same quality of video, or alternatively it can give better quality for the same file size.

High Definition DVR Combined Mode

In **VisualDVR Version 10**, users can now capture one channel in high definition (HD), whilst simultaneously capturing one or two channels in standard definition (SD).

High Definition VisualDVR Combined Mode can work in Windows Media Video (WMV) and MPEG-2 formats at resolutions of up to 1920 x 1080 for HD and up to 720 x 576 for SD. If a unit is licensed for Combined Mode, but HD recording is not being used, then 3 channels of SD video can be recorded.

Improved DVR Configuration Wizard

The **VisualDVR Configuration Wizard** has been expanded to allow users to choose recording formats and capture cards directly from the **Configuration Wizard** on startup. Hardware will now be auto-detected by **VisualDVR** on startup.

VisualArchive Auto-Setup

VisualDVR will now automatically create and share folders in the selected logging drive for each channel being recorded. This automation means far simpler configuration of **VisualArchive**, simply by clicking the Online Setup then Auto Detect buttons.

Simplified Black-Box Licensing

The "Black-Box Only" license provides a method of continuously recording video. Licensing for Black-Box Only has been simplified so that just one licence will now allow Black-Box recording of two channels. This replaces the need for multiple licences combining a VisualDVR licence with a Black-Box license.

1.9 VisualDVR Hardware

The basic VisualDVR unit is a single, rack mountable, 4U height PC. The unit includes a video capture card, a graphics output card, optional video overlay cards and multiple interfaces to external devices.

Note: Equipment configurations may vary from those shown in the pictures in this section.

1.9.1 Front Panel

The VisualDVR front panel has two doors, each of which has a removable air filter. The doors should not be removed, as this removes the air filter. The air filters should be cleaned routinely to promote good airflow through the unit. To open the doors, turn the lockable knob clockwise, before swinging the doors outwards from the centre.

Note: Equipment configuration may vary slightly from that shown in the picture below. The model shown here is a 4U high chassis.



Power Switch

The power switch is located inside the right-hand door of a standard VisualDVR chassis. Press this switch to start the unit.

The unit should be powered down either by using the VisualDVR menus, or by selecting the Shut Down option in Windows. The main power switch should only be used if both of these options does not work.

Reset Button

The red reset button should only be used if the system does not respond to the normal Windows' shutdown request.

USB Ports

There are several USB ports on the unit. These can be used to attach external USB hard disk drives. They can also be used to attach RS232 expansion units.

USB2.0 Ports are coloured Black, USB3.0 Ports are coloured blue. If attaching external data drives, USB3.0 is preferred due to their faster transfer speeds.

DVD Drive

The DVD drive is located on the right-hand side of the front panel of a standard VisualDVR chassis. The bay can be opened or closed by pressing the eject button.

Logging Drives

There will be up to four logging drives installed in the chassis dependent on the number of recording channels.

1.9.2 Rear Panel

The unit below is populated with four Vitec VMC-7440 HD/SD H.264 encoder cards and an RS-232 expansion card. Note that the placing of the cards depends on the speed and type of each slot. It is not always appropriate to place the four cards of the same type side by side. The order of the cards may differ depending on the mix of cards used and the motherboard type inside the PC. See also [Vitec VMC-7440 and Channel Numbering](#) ²⁹.



Power

Most modern units have an auto-sensing power supply, but older versions may have a 240V only version. It is recommended that you check the power supply before powering on the unit for the first time. An external UPS (Uninterruptible Power Supply) unit is recommended to prevent loss of power. For more information on the power supply, see [Power Supply Unit](#) ¹⁹.

Display

The unit's display can either output to a video monitor or to a PC monitor. Where a chassis has built in graphics ports, the separate graphics card should always be used.

Keyboard and Mouse

A keyboard and mouse must be attached.

RS232 serial Ports

There are usually one or two RS232 serial ports that can be used to supply serial data inputs to the Visual DVR software. These may be used for survey data inputs, ROV sensor inputs, or for external video overlay control. Some VisualDVR units have an extra RS232 card installed to provide additional ports.

USB Ports

There are several USB ports on the rear of the unit. These can be used to attach external USB hard disk drives. They can also be used to attach RS232 expansion units. USB2.0 Ports are coloured Black, USB3.0 Ports are coloured blue. If attaching external data drives, USB3.0 is preferred due to the faster transfer speeds.

1.9.3 Power Supply Unit (PSU)

There are a number of different power standards in use around the world, and on vessels. In order to make VisualSoft supplied hardware suitable for as many situations as possible, new units are fitted with an auto-switching power supply unit (PSU). These power supplies will adapt automatically to the power input, within the ranges specified below:

Voltage	100 to 240V
Frequency	12-6A
Current	60-50Hz






The above information can be found printed on the side of the power supply unit.

If you are unsure of the PSU that is fitted in your PC, it is essential that you check its capabilities before connecting to a power source.

If removing PC panels to check the PSU, you must ensure that the PC and its PSU are not connected to a power source and check that all cabling is removed. Only attempt this if you are suitably trained and experienced.

Never take power supply units apart; there are potentially fatal capacitors inside.

1.9.4 Cable Connection Colour Codes

Dot colour	Cable type
 Yellow	PC Monitor Graphics Card and Cables Match the yellow dot on one end the cable to the yellow dot on the card in the back of the PC and the other end to the back of the monitor
 Red	Optibase MPEG-2 SD Video Encoder Card and Cables Match the red dot on the cable to the red dot on the card in the back of the PC
 Orange	Osprey HD/SD Video Capture Cards and Cables
 White	Vitec VMC-7440 H.264 HD/SD Video Encoder Cards and Cables Match the white dot on one end the cable to the white dot on the card in the back of the PC.
 Navy Blue	Vitec SD Overlay Cards and Cables Match the navy blue dot on the cable to the navy blue dot on the card in the back of the PC

**Winnov Videum Video Capture Card and Cables**







Match the green dot on one end of the cable to the green dot on the card in the back of the PC and match the other end to Winnov breakout box

See also [Identifying the Cards in a VisualDVR](#) 

1.9.5 Capture Cards

This section shows the various wiring and cable connection options available with different video capture cards in VisualDVR.

Currently supported cards are:

Card	Stand ard or High Definit ion	Forma t	Visua l DVR editio ns sup ported	Softw are or hardw are en coder	Max conne cted chann els per card	Max record ed chann els per card	Max cards per Visual DVR PC
 Winnov Videum Duo	SD	WMV, MPEG-2*, or H.264*	2023 and Legacy	Software	4	2	1
 Winnov Videum Quattro	SD	WMV, MPEG-2*, or H.264*	2023 and Legacy	Software	8	4	1
 Optibase MovieMaker 230 Series	SD	MPEG-2	Legacy	Hardware	1	1	4
 Osprey 700e HD	SD or HD***	WMV, MPEG-2*, or H.264*	Legacy	Software	1	1	1
 Osprey 815e/825e HD	SD or HD***	WMV, MPEG-2*, or H.264	Legacy and 2023	Software	1	1	1
 Vitec VMC-7440 HD	SD or HD***	H.264	Legacy	Hardware	1	1	4

* MPEG-2 recording with these cards needs an add-on license.

** H.264 recording with these cards needs an add-on licence in VisualDVR (Legacy Edition)

*** HD recording is available from these cards with an HD DVR license.

Osprey 700e, 815e or 825e

Osprey HD Capture Cards are capable of encoding a single channel of HD or SD video in WMV, MPEG-2 or H,264 format.

The Osprey 700e and 815e cards have a video output, but are not capable of distributing video plus overlay.

The Osprey 815e and 825e capture cards are capable of recording up to 1080i or 1080p at 30 frames per second on the latest motherboards, but are restricted to 25 frames per second on older motherboards.

The Osprey 700e card is restricted to 25 frames per second, regardless of motherboard.

Osprey Cards Elecard Encoder Pack

Run “Elecard MPEG-2 HD Encoder Pack G4.exe” to install the software, selecting all default options

Select all default settings in the installation Configuration Tool.

When you have completed the installation, you must activate the Encoder Pack as follows

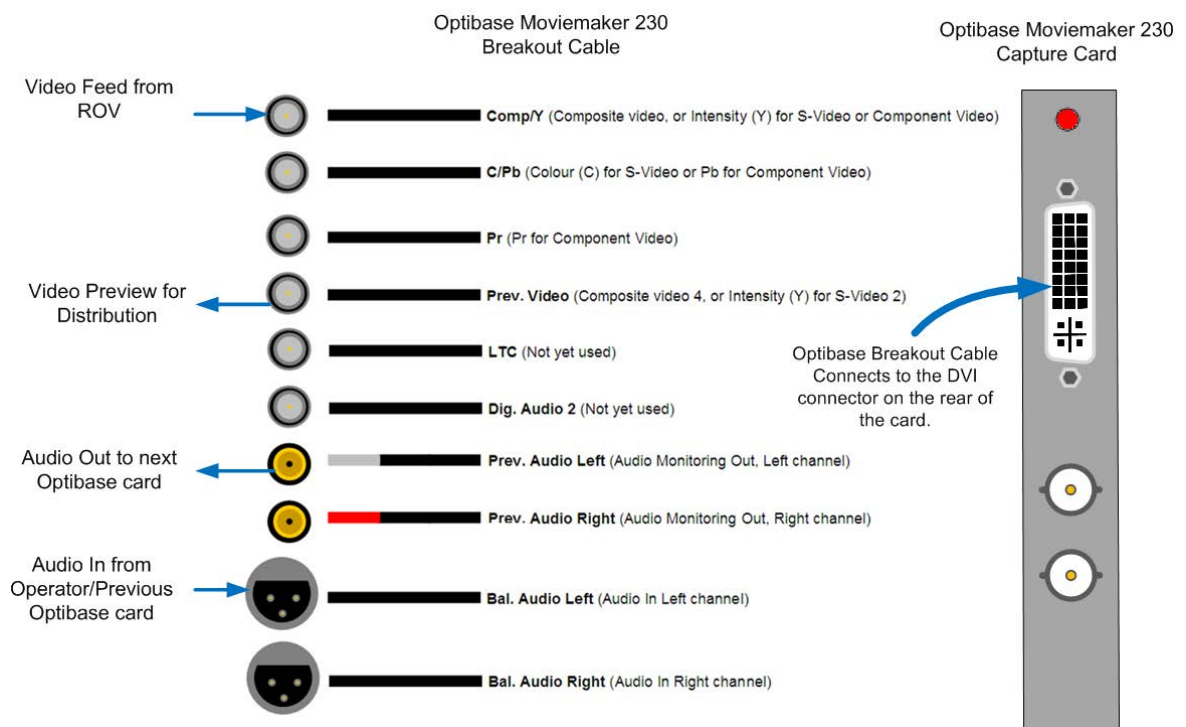
- All Programs > Elecard > Elecard MPEG-2-HD Encoder Pack G4 > Elecard Registration.
- Select Elecard MPEG2 G4 Pack > Activate
- Enter the serial number and click OK. (The serial number will be supplied by VisualSoft at time of purchase).

Optibase Moviemaker 230

The Optibase Moviemaker 230 encoder card is capable of encoding SD MPEG-2 video in Program Stream or Transport Stream.

All connections to the card (Composite video and Audio In/Out) are all achieved using a breakout cable.

Each video source requires a separate capture card, up to a maximum of four in one DVR chassis.



Audio must be Line Level before being Input into the first Optibase card. Audio from the P{rev. Audio output of the first card can be used as the input for the next card.

The Video output from the Prev. Video cable is a duplicate of the 'raw' video feed, so will not have any overlay applied to it. To add overlay to a distributable video from the Optibase card, a separate Overlay card is needed; see Optibase – Vitec in the VisualOverlay section of the Help File.

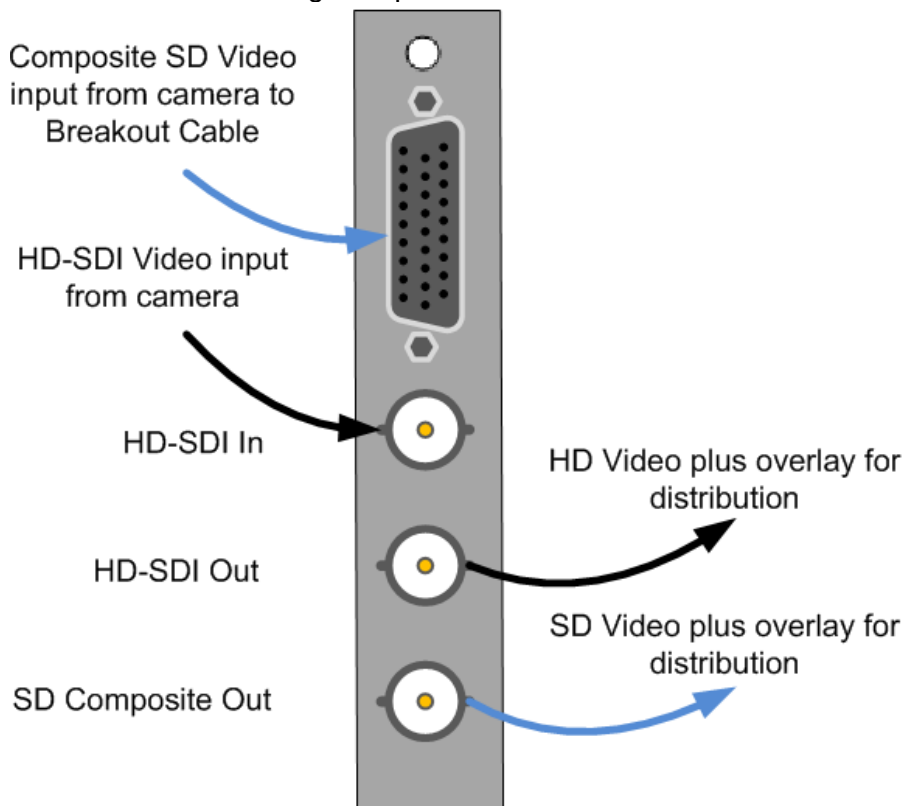
Vitec VMC-7440

The **Vitec VMC-7440** capture card is capable of encoding HD or SD H.264 video. The card can also be used to distribute video plus overlay.

Each video source requires a separate capture card, up to a maximum of four in one DVR chassis.

The card has HD-SDI input and output connectors (which may carry SD or HD digital signals), as well as an analogue Composite SD output BNC connector. Other connectors, such as Composite SD input and audio, both in and out, are on a [breakout cable](#)^[27] connected to the DB-26 adapter on the card.

Input must be just one of either SDI, HD-SDI or Composite; the card will not support more than one video signal input at the same time.

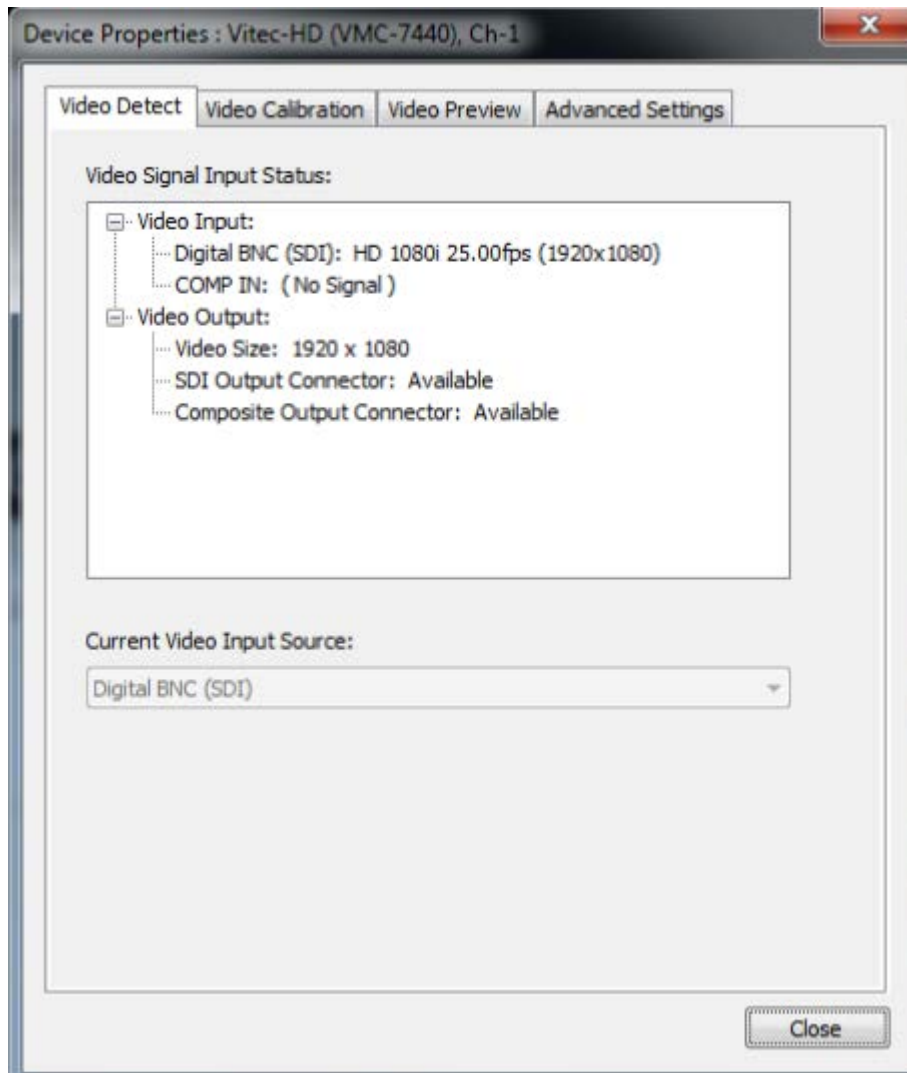


For video output, the card is able to downscale an HD-SDI source to create a Composite output. Because of the scaling involved in this, far better quality is achieved by taking the HD-SDI output and converting it to an Analogue Composite signal. Boxes to convert digital SDI signals to analogue Composite signals are available.

Vitec VMC-7440 Input Detect

When the VisualDVR application is running, the interfaced video signal can be manually checked by pressing CTRL-H on the keyboard, which opens the capture card Device Properties.

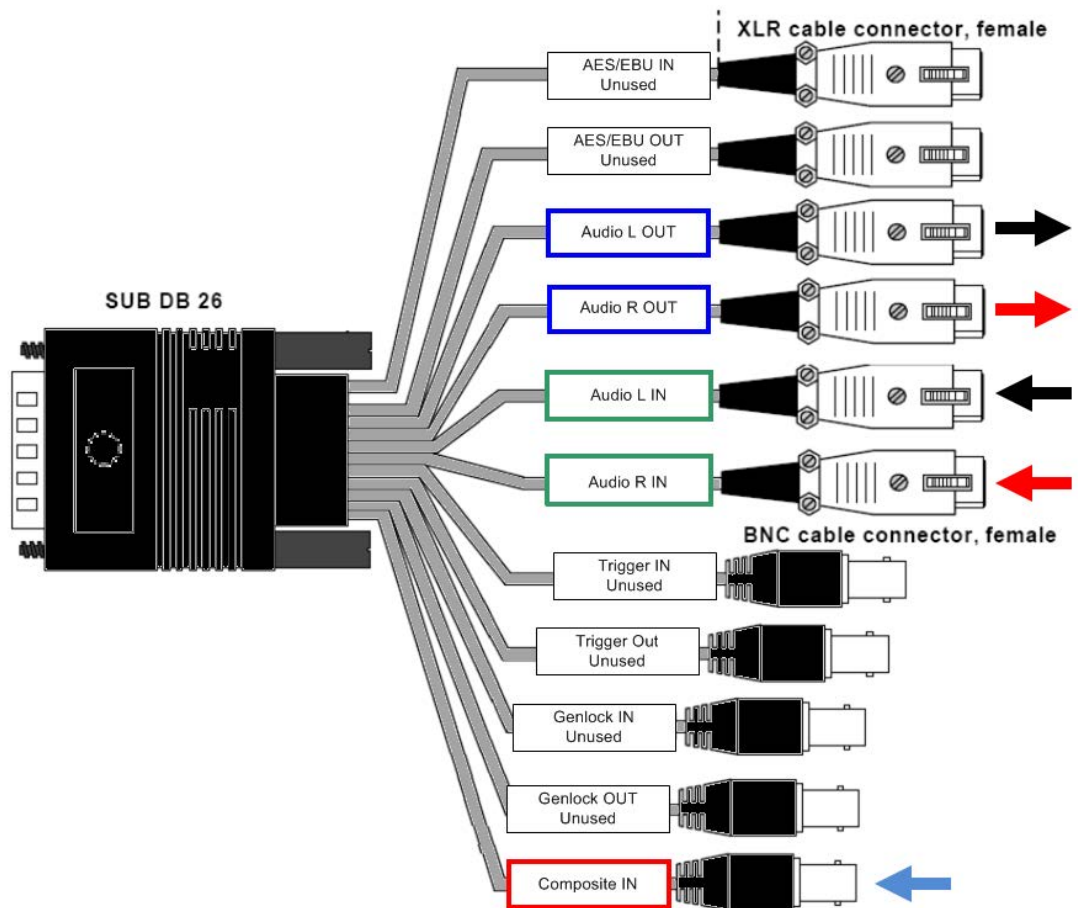
The Device Properties windows will open for whichever card is currently the main preview windows in VisualDVR.



In the example above, the card is detecting a 1080i (1920 x 1080) 25fps signal connected to the SDI input.

Vitec VMC-7440 Breakout Cable

SDI input, SDI output and Composite output are [on the Vitec VMC-7440 card itself](#)^[25]. For other connections use the breakout cable which connects to the DB26 socket on the rear of the card.



Outputs from the [Preamplifier](#)^[36] should be connected, via the [Audio Splitter](#)^[36], one to each of the Audio L IN and Audio R IN connections on the breakout cable.

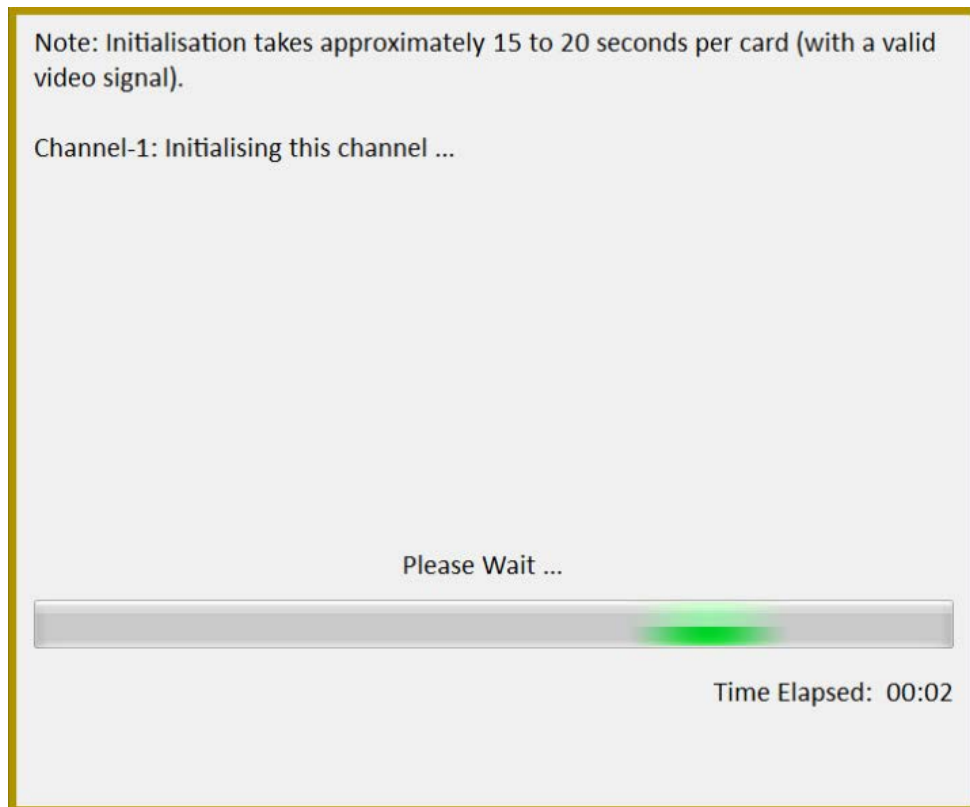
The Audio L Out and Audio R Out cables can be used as a pass-through to further distribute the audio from their corresponding inputs.

Note that several of the connections on the Vitec breakout cable above are unused, including the AES/EBU, Trigger and Genlock connections.

Vitec VMC-7440 Card Initialisation

When VisualDVR opens and the Vitec VMC-7440 cards are initialised for the first time, there is a short delay as each card is configured.

During this time, a screen appears showing how the initialisation status of the cards, and the time taken. This typically takes between fifteen and twenty seconds per card.



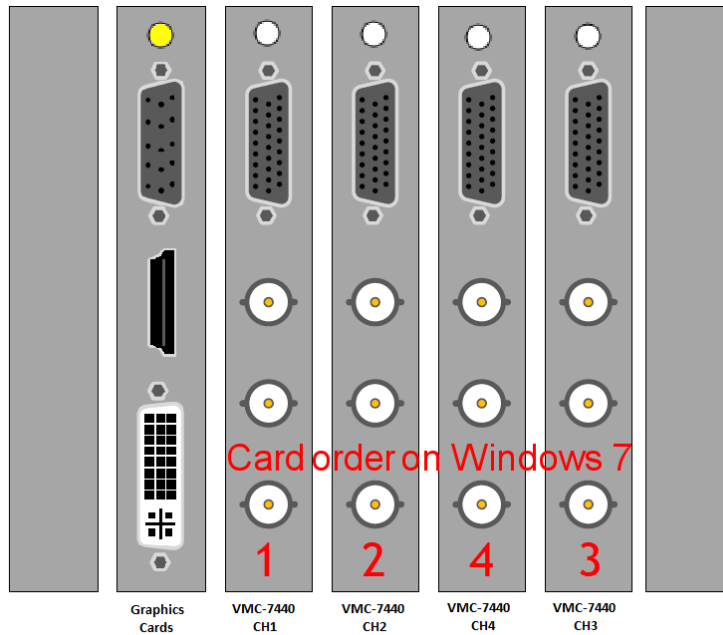
Once each installed card has finished initialising the application will start unless a video input has been detected that does not match the selected quality profile (see [Video Quality Settings – Profile Mismatch](#) ⁶⁵ for more information).

Please Note: The Vitec VMC-7440 card must have a video signal attached in order to initialise correctly. Please ensure that you have your video sources active when starting VisualDVR.

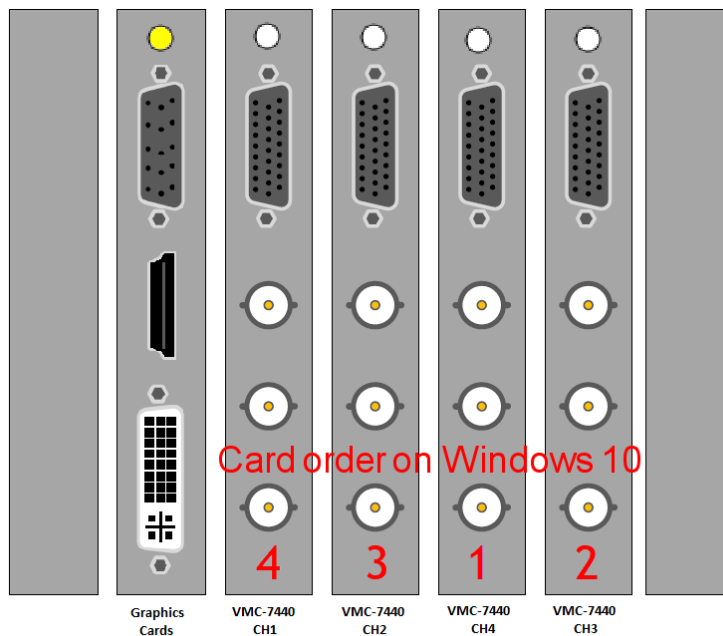
Vitec VMC-7440 and Channel Numbering

The layout of Vitec VMC-7440 video encoder cards and their channel numbering in VisualDVR varies according to the motherboard type, which may be either an Advantech ASMB-813 motherboard or an Asus Z170 motherboard, and also changes between Windows 7 and Windows 10. **Channel numbers are NOT sequential.**

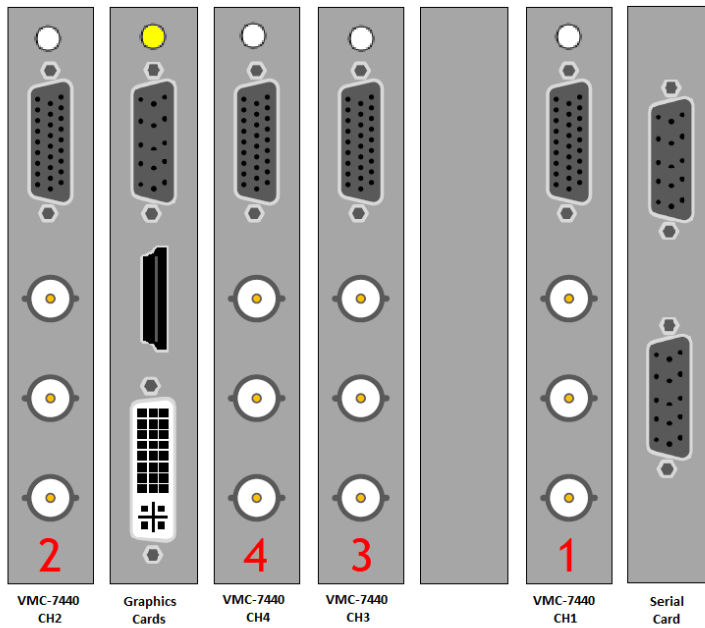
Windows 7 card layout and channel numbering in Advantech **ASMB-813** motherboard: **1, 2, 4, 3**



Windows 10 card layout and channel numbering in Advantech **ASMB-813** motherboard: **4, 3, 1, 2**



Windows 7 card layout and channel numbering in an **Asus Z170** motherboard: **2, 4, 3, 1**



NOTE: We do not support the Asus Z170 on Windows 10.

Winnov Videum

● **Winnov Videum Duo and Quattro** cards capture analogue SD video, and audio. The cards convert the analogue signals to a digital format which is then used by a software encoder in VisualDVR to record to file.

The cables for connecting to this card also have green dots at each end.

The **Videum Duo** can capture up to two channels of video, and has one DVI-I connector



The **Videum Quattro** can capture up to four channels of video and has two DVI-I

connectors


 A diagram showing two DVI-I connectors side-by-side. Each connector has a small square pin header and a larger rectangular pin grid. Green dots are located at the top-left of the first square header, the bottom-right of the first rectangular grid, the top-left of the second square header, and the bottom-right of the second rectangular grid.

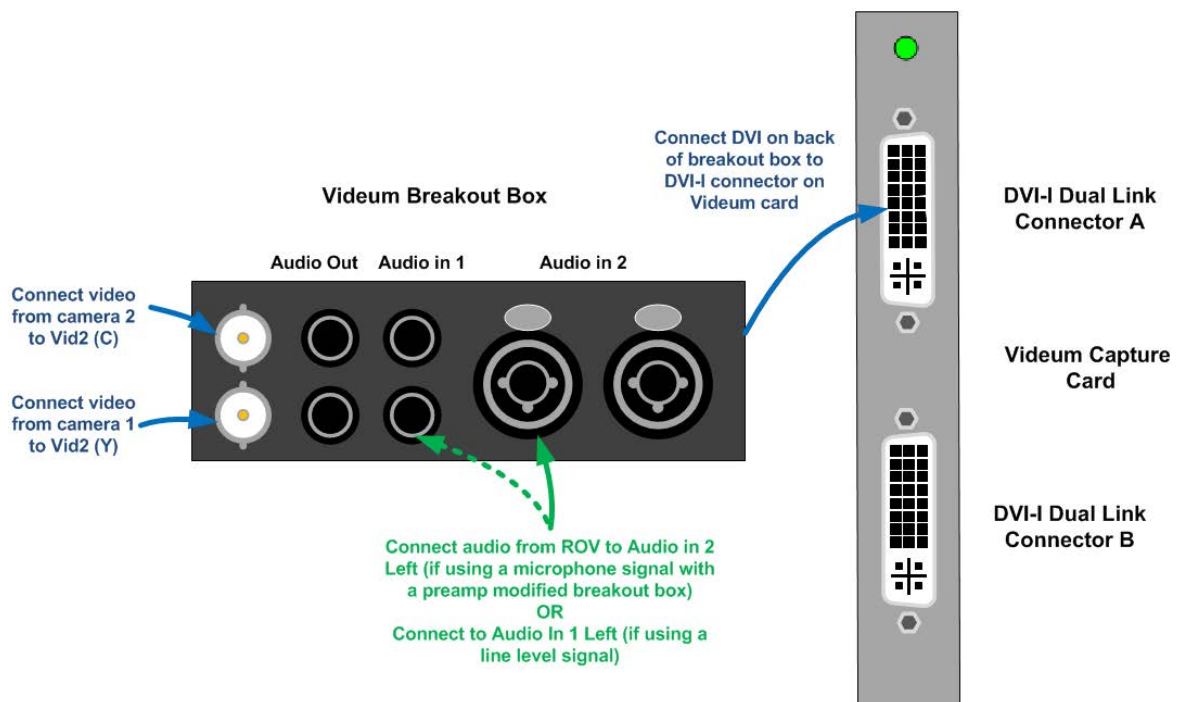
Each DVI-I connector can be used with either a [Breakout Box](#)³¹ or a [Breakout Cable](#)³³ for connecting your video and audio sources. The Breakout Boxes have been modified to have an in-built pre-amp to allow the use of either microphone level audio or line level audio (by using different ports on the box). The Breakout Cables cannot be modified and so they accept only line level audio. A microphone signal must be amplified before input to a Breakout Cable.

Winnov Videum Cabling – Breakout Box

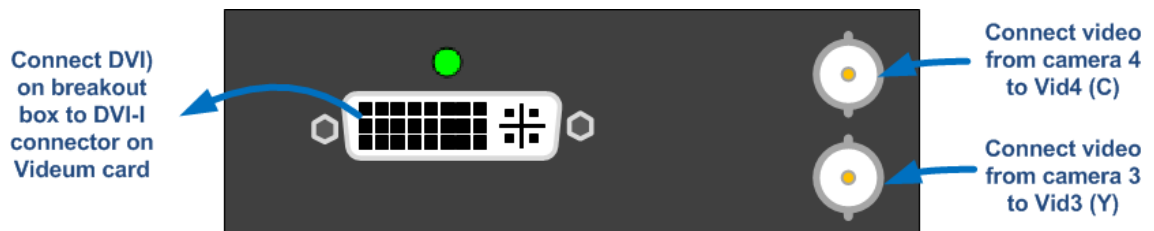
A Winnov **Videum Duo** card has a single DVI-I Connector on the back, allowing up to four connections, two of which can be recorded simultaneously.

Winnov **Videum Quattro** cards, have two DVI-I Connectors on the back so that a second breakout box can be attached to DVI-I Connector B. This allows up to eight sources to be connected, though only a maximum of four can be recorded simultaneously. Note that some systems will only show one box or cable as available, but you can still connect four channels to a single box.

A single Winnov Videum Breakout Box can be used for either two or four channels of video. The breakout box is connected to DVI-I Connector A, the upper connector on the card. The connecting cable between the card and its breakout box must be a **DVI-I Dual Link** cable. Other types of DVI cable such as typical PC monitor connection cables will not connect all of the required pins. Remember that Videum Breakout Cables supplied by VisualSoft will have a green dot ● stuck to the connector at either end.



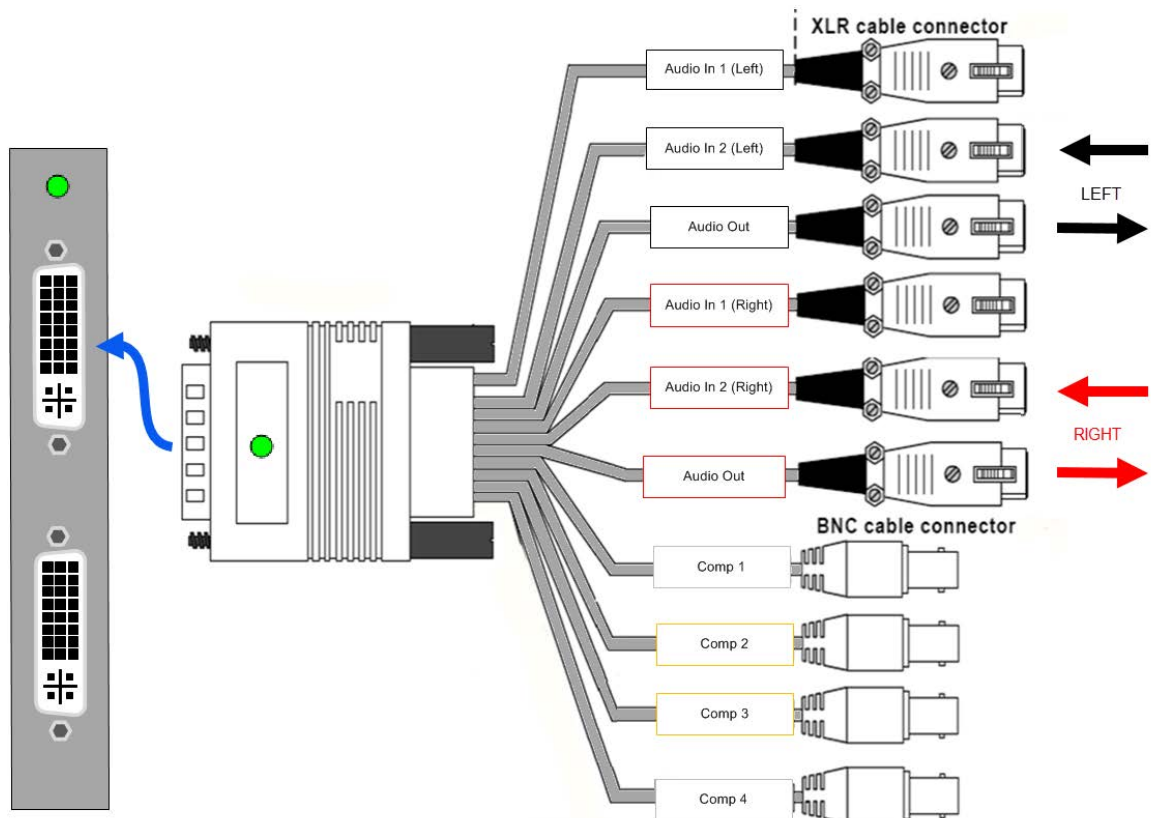
The back of the Breakout Box is connected as below.



Winnov Videum Cabling – Breakout Cable

A single Winnov Videum Breakout Cable can be used for either two or four channels of video. On a Winnov **Videum Quattro** card the upper DVI-I connector is port A, and the lower, B.

A Winnov **Videum Duo** card has a single DVI-I Connector, allowing up to four connections, two of which can be recorded simultaneously. For Winnov **Videum Quattro** cards, a second breakout cable can be attached to the lower DVI-I Connector B. This allows up to eight sources to be connected, though only a maximum of four can be recorded simultaneously. The second cable is not needed if you have only four sources or fewer.



There are two sets of Audio connections on the cable, one with white labels, one with red. White labels are for Left (L) channels 1 and 2, red labels are for Right (R) channels.

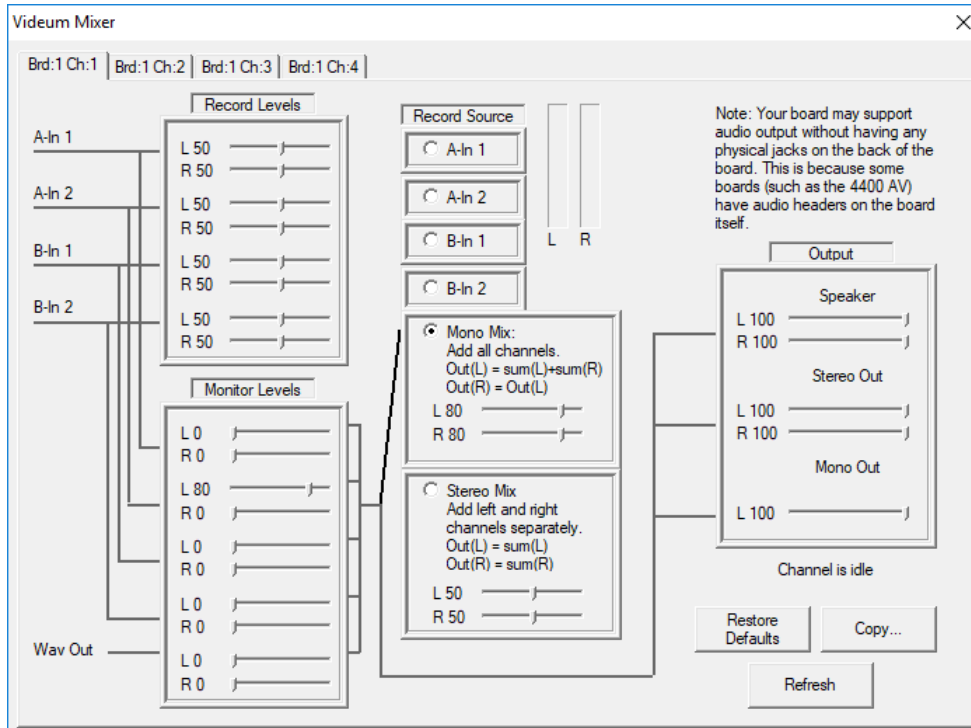
When configuring audio setup in the Winnov Videum audio control the Audio in 2 (left) connection is equivalent to the connection normally used in Videum breakout boxes. See [Winnov Videum Audio Input Setup](#)^[34] for more details of the audio control panel.

As the Winnov capture card requires a Line Level (amplified) input, rather than Mic Level (unamplified), then a separate preamplifier should be used. See [Preamplifier](#)^[36] for details of a typically used method of amplification.

Winnov Videum Audio Input Setup

The usual configuration for the audio input is to have a mono microphone connected to the left channel. In this case you should select the Mono Mix option as shown below so that the audio is recorded the same on both the left and right channels.

The Videum card is designed for a line level input signal rather than a direct microphone connection. If a Breakout Cable is being used rather than a Breakout Box, you should use a preamp to ensure the audio signal is strong enough.



The Videum Mixer panel above is opened by going to Programs > Winnov > Videum > Videum Mixer Control Panel.

Note: If using a Winnov Breakout Cable, as opposed to a Breakout Box, then the Record Levels > Record Source setting should be used.

1.9.6 Overlay Cards

If you wish to add overlay for external distribution (rather than for recording only) then for all capture card types except Vitec VM-7440 cards, you will need a separate overlay card for each video channel that you want to distribute.

Please refer to the VisualOverlay Manual or sections of the Help File for more information on configuring VisualOverlay.

1.9.7 Audio Devices

Audio interface devices allow microphone signals to be amplified and/or distributed to multiple capture cards. They may allow microphones with inputs that do not match the card to be used. This section gives details for the installation and use of this hardware.

Audio – Preamplifier

A Preamplifier allows you to amplify the signal from a microphone from Mic Level to Line Level. Audio levels may be too low without a preamp.

Mic level audio is a direct, low powered, output from a microphone that has not been amplified using a Preamplifier.

Line level audio is an output from an amplified source, such as a Mic Level signal that has been boosted to a higher power level using a Preamplifier.

Software encoding cards, such as the Osprey 460e, typically use a USB microphone or [audio interface](#)^[39], which do not require amplification.

[Winnov Videum](#)^[31] capture cards, use their own breakout boxes, which typically have amplification built in to the [Audio in 2-Left port](#)^[31].



The ART Tube Preamp has two versions as shown above. They each amplify a signal from Mic Level to Line Level. Either 1/4" Phono or XLR inputs and outputs can be used, with controls on the top or front of the unit to control the volume.

Audio – Stageline Splitter

The Stageline LS-280SW Rackmount Audio Splitter (Stageline Audio Splitter) is designed to fit into a standard 19" rack, using 230V 50Hz.

The unit can take up to two XLR audio inputs, and split these either as one input to eight outputs, or two inputs to four outputs each.

Stageline Audio Splitters are useful for those DVR units where there are multiple encoder cards, such as the [Vitec VMC-7440](#)^[25].

The LINK TO INPUT A button on the front panel allows all eight outputs to distribute the output from INPUT A.

In the example below, a [Preamplifier](#)^[36] is being used to boost the input signal from Mic level to Line level.



Vitec VMC-7440 Capture Card

Connections

The [Vitec VMC-7440](#)^[25] capture card has two audio inputs per channel; left and right on the [VMC-7440 Breakout Cable](#)^[27]. Two outputs from the Stageline Audio Splitter will be connected to the corresponding [Audio L IN and Audio R IN inputs](#)^[27] for each card.

In this case, the **LINK TO INPUT A** button on the front panel will be set to **ON**.

The XLR connection from the microphone should be connected to **INPUT A**.

For multiple capture cards, each pair of output channels should be used, from Ch-1 to Ch-4.

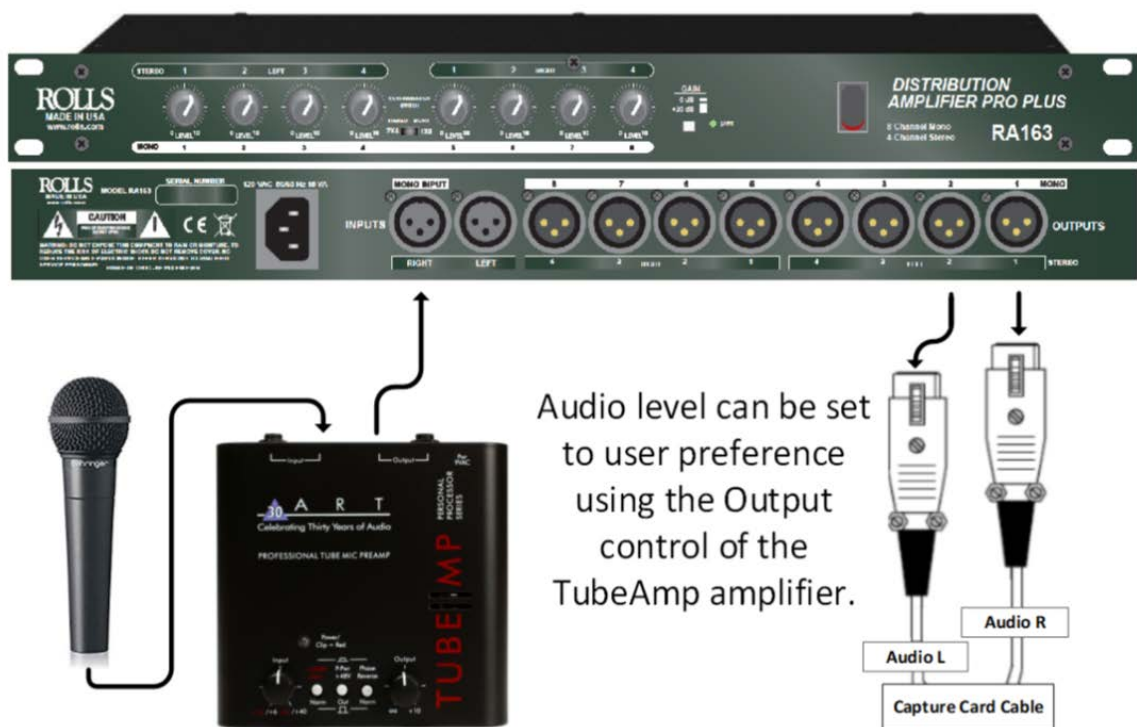
Audio – Rolls Splitter

The Rolls RA-163 Rackmount Audio Splitter (Rolls Audio Splitter) is designed to fit into a standard 19" rack, using 110V 50-60Hz.

The unit can take up to two XLR audio inputs, and split these either as one input to eight outputs, or two inputs to four outputs each.

Rolls Audio Splitters are useful for those DVR units where there are multiple encoder cards, such as the [Vitec VMC-7440](#)^[25].

In the example below, a [Preamplifier](#)^[36] is being used to boost the input signal from Mic level to Line level.



Vitec VMC-7440 Capture Card

Connections

The [Vitec VMC-7440](#)^[25] capture card has two audio inputs per channel; left and right on the [VMC-7440 Breakout Cable](#)^[27]. Two outputs from the Stageline Audio Splitter will be connected to the corresponding [Audio L IN and Audio R IN inputs](#)^[27] for each card.

In this case, the **Configuration Switch** on the front panel will be set to **MONO 1x8**.

The XLR connection from the microphone should be connected to **MONO Input – Right**.

For multiple capture cards, Mono output channels 1-8 on the rear panel should be used in order. .

Audio – XLR or 1/4" to USB Adapter

The Behringer UM2 USB Audio input device is designed to allow non-USB microphones to be used with those capture cards that do not have a means to interface with 1/4" Phono or XLR microphones directly.

The front panel has inputs for XLR or 1/4" microphone jacks, as well as a headphone connection.



The rear panel has RCA outputs and the connection for the USB cable which links the unit to your DVR PC. The power switch is also found here.

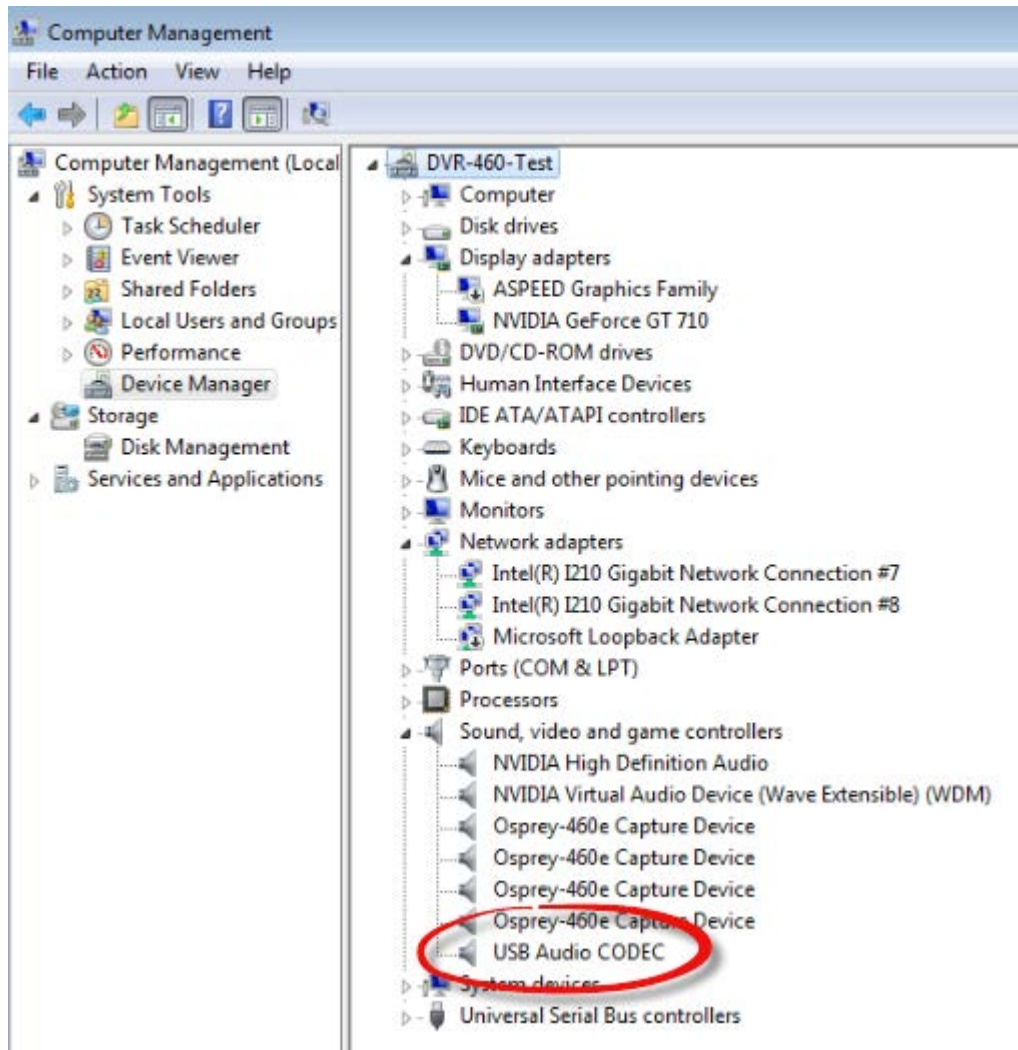


Audio – XLR or 1/4" to USB – Setup

When you first use the Behringer USB audio input device, you should connect the mains adapter and then the USB cable provided. The USB cable should be connected to a free USB port on the DVR PC.

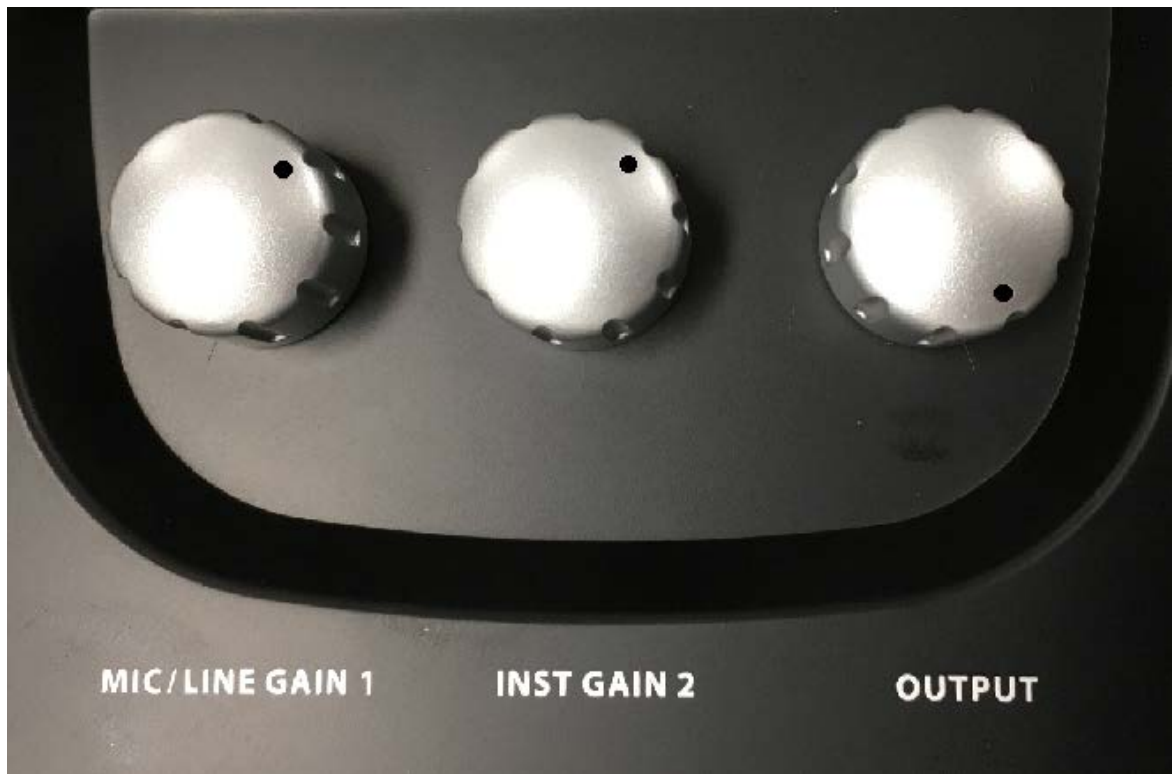
To ensure the Behringer device is identified correctly, ensure other USB audio devices, such as USB audio headsets, are disconnected.

When installed, the Behringer USB audio input device should appear in Device Manager as shown below.



Audio – XLR or 1/4" to USB – Controls

There are three controls on the top of the Behringer unit, for MIC/LINE GAIN 1, INST GAIN 2 and OUTPUT.



MIC/LINE GAIN 1 Controls the level of the main 1/4"/XLR input jack, which is the preferred port to use.

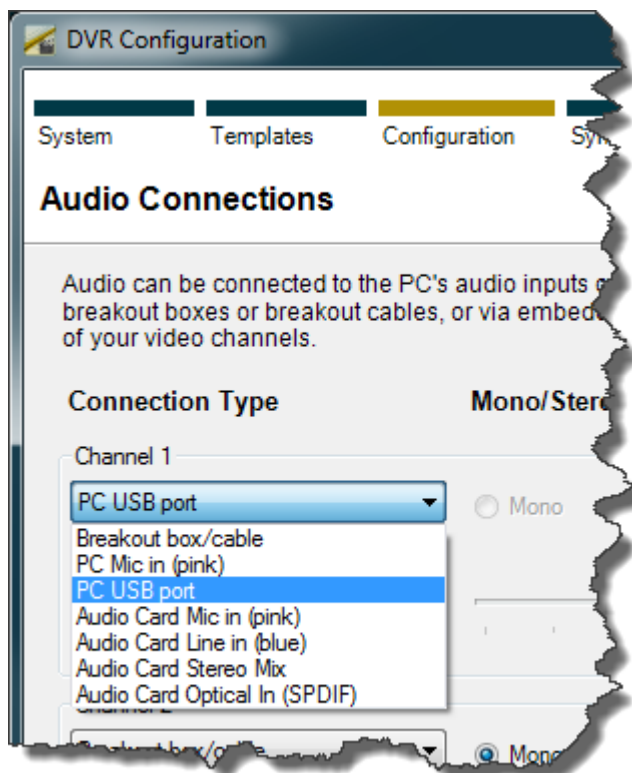
INST GAIN 2 Controls the level of the secondary 1/4" Mic port.

OUTPUT Controls the output level of the RCA connectors on the rear of the unit and the headset jack.

The Inst Gain 2 control need only be set if your are using the secondary Mic input. The levels indicated above are for guidance only, you should check the levels

Audio – XLR or 1/4" to USB – VisualDVR Configuration Wizard

When using the Behringer USB audio interface, select the audio input for VisualDVR as '**PC USB port**' in the Configuration Wizard audio menu in the same manner as you would for a USB headset.



Audio – Connecting Speakers to a VisualDVR PC – Winnov

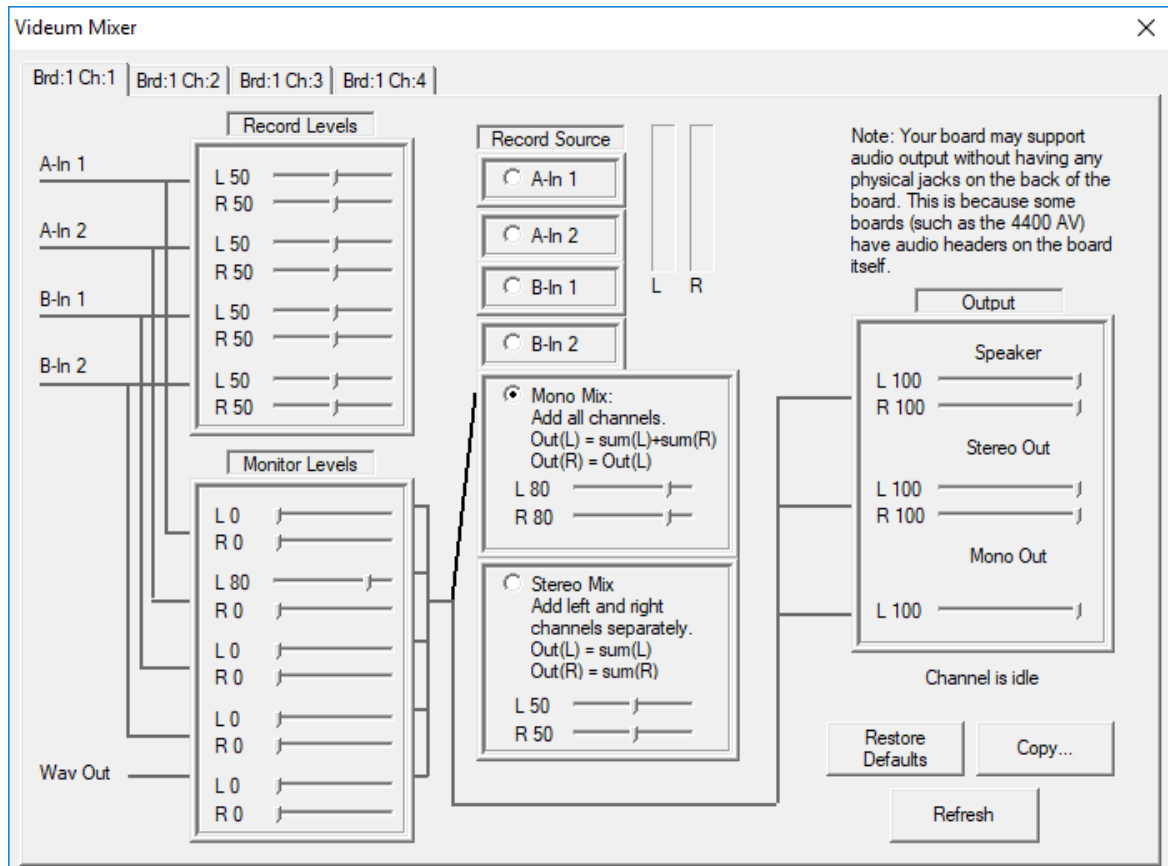
For Playback

Connect the speakers to the DVR and allow Windows to recognise the listening device automatically. The speakers device can be either a USB speaker / device or one with a 3.5mm jack connector. To use a speaker which has a 3.5mm jack connector you must have either a suitable 3.5 mm connection on the motherboard of the DVR or a suitable connection via a sound card plugged into the DVR. If you are unsure, [see Contact Details – Support](#) 186.

For Live Commentary and Playback with a Winnov Videum Audio Device and USB Speakers

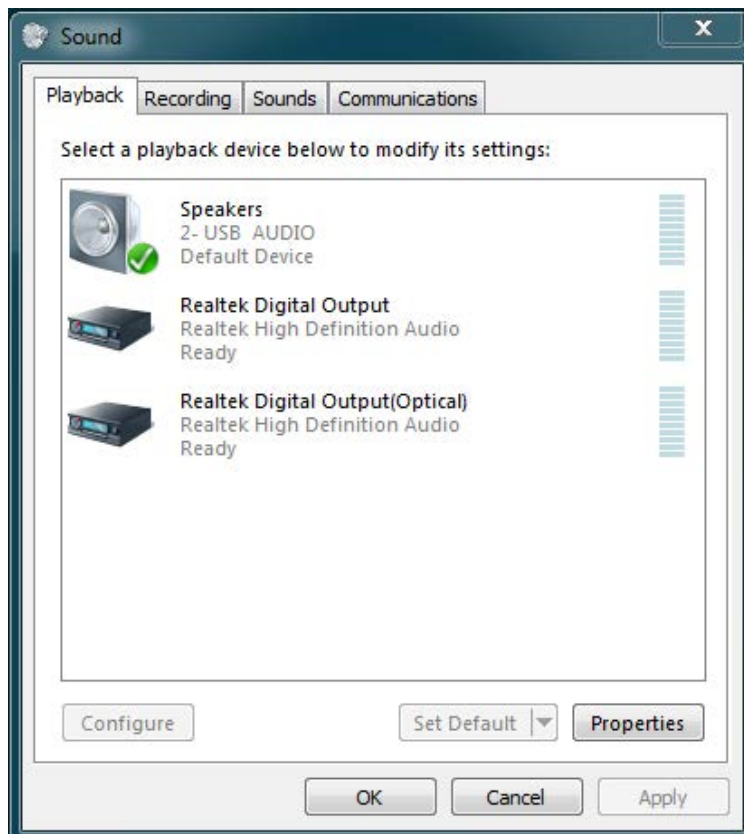
First, check the Mono Mix record source is selected in the Audio Control Panel of the Videum Information Panel. Right-click the eye-shaped icon in the system tray and choose Audio Control Panel.

Ensure the radio button for Mono Mix is enabled under the Record Source heading.



From the Start Menu of Windows choose Control Panel and then Sound.

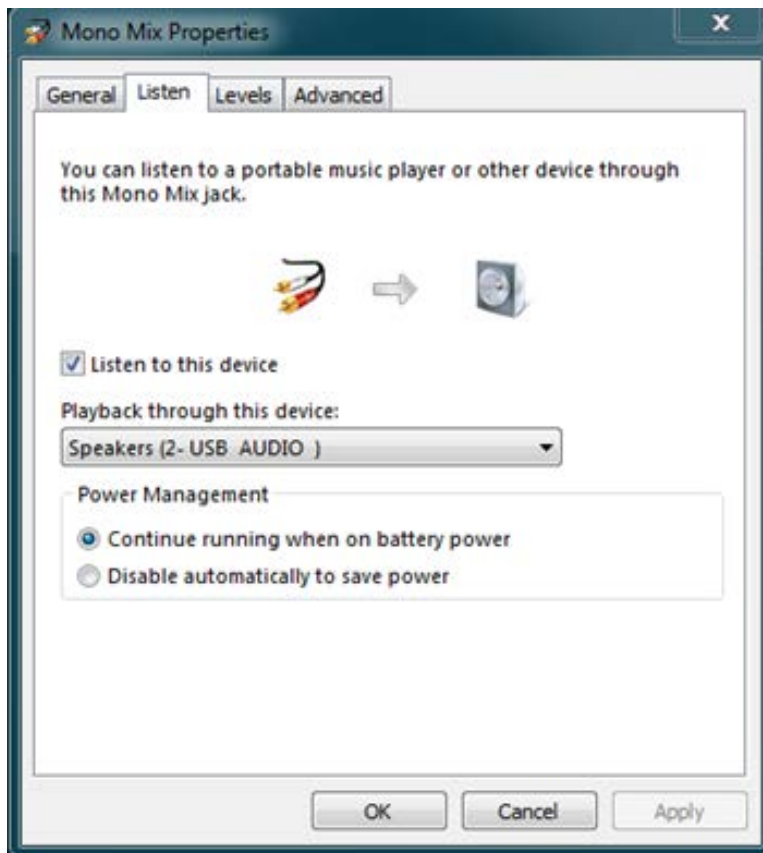
The Playback tab is displayed. Check the speakers device is listed.



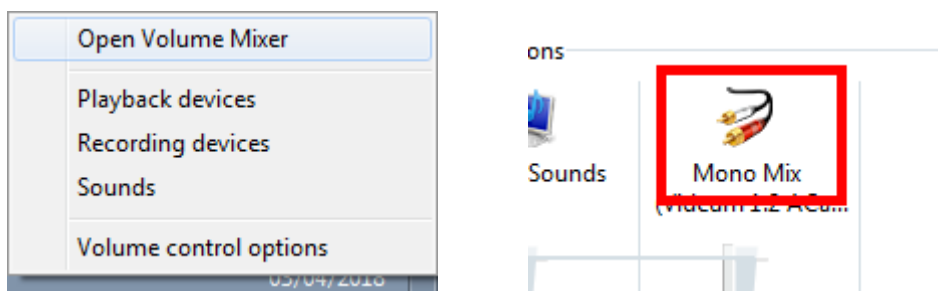
Next, choose the Recording tab and scroll down to the Mono Mix device.



Select Mono Mix and click Properties. Under the Listen tab, select the speakers device from the drop-down menu and tick the "Listen to this device" check-box



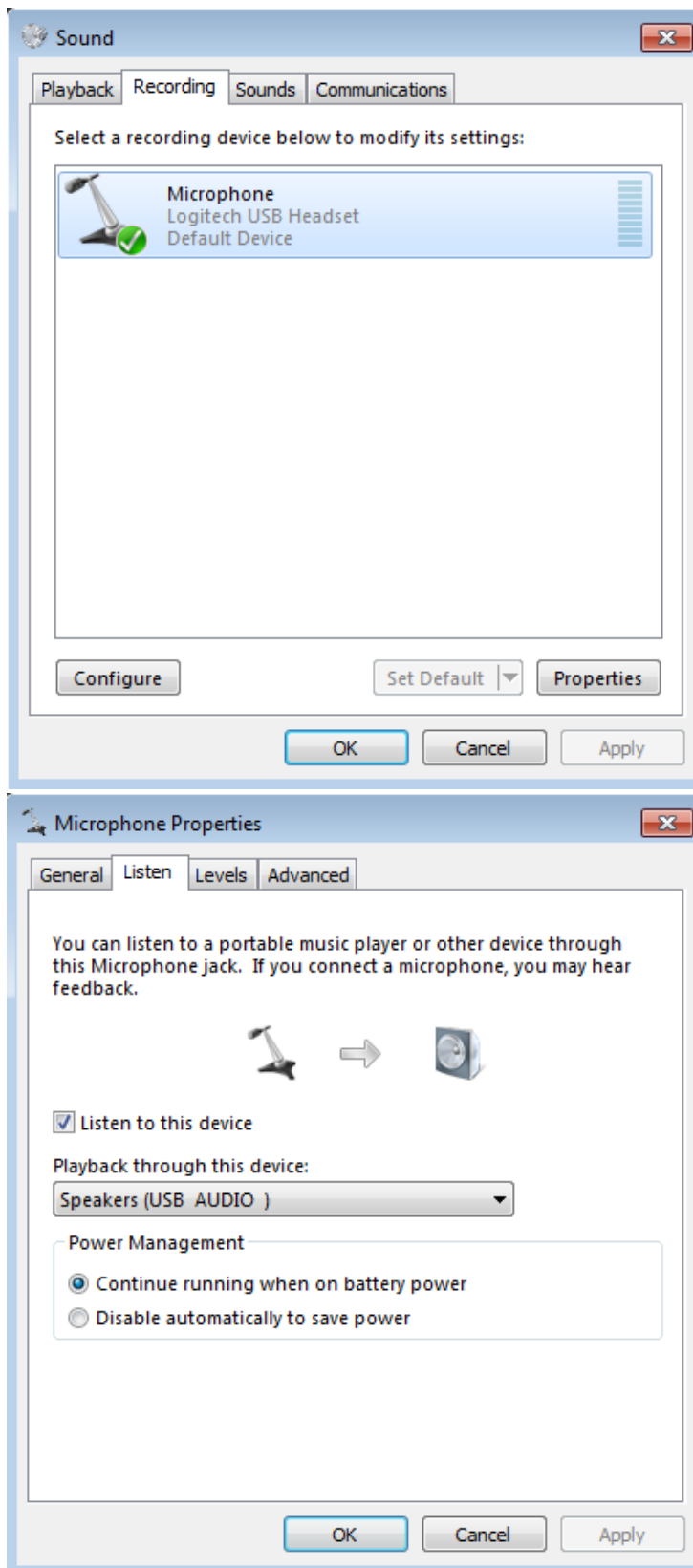
To stop live commentary through the listening device, you must first untick the "Listen to this device" check-box before disconnecting the speakers. To access the Listen tab of the Mono Mix properties directly, access the Volume Mixer from the system tray and double-click the Mono Mix device.



For Live Commentary and Playback using a USB headset Audio Device and USB Speakers

If you are recording your commentary using a USB headset microphone and wish to listen to the commentary live using a pair of USB speakers, follow the instructions above

except rather than listening to Mono Mix choose to listen to the USB headset microphone.



Audio – Connecting Speakers to a VisualDVR PC

For Playback

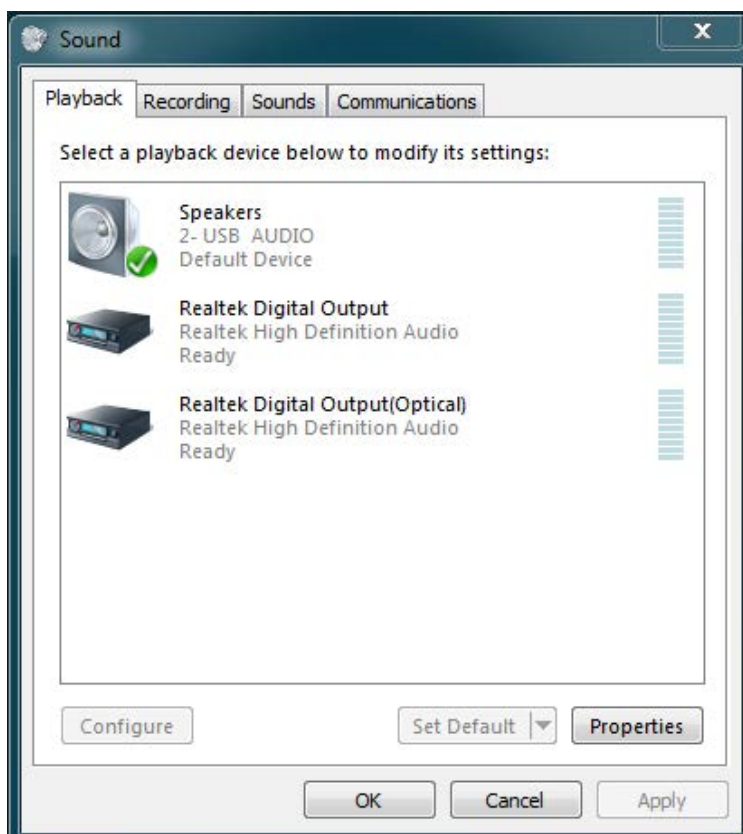
Connect the speakers to the DVR and allow Windows to recognise the listening device automatically. The speakers device can be either a USB speaker / device or one with a 3.5mm jack connector. To use a speaker which has a 3.5mm jack connector you must have either a suitable 3.5 mm connection on the motherboard of the DVR or a suitable connection via a sound card plugged into the DVR. If you are unsure, [see Contact Details – Support](#) ¹⁸⁶.

For Live Commentary and Playback using a USB Headset Audio Device and USB Speakers

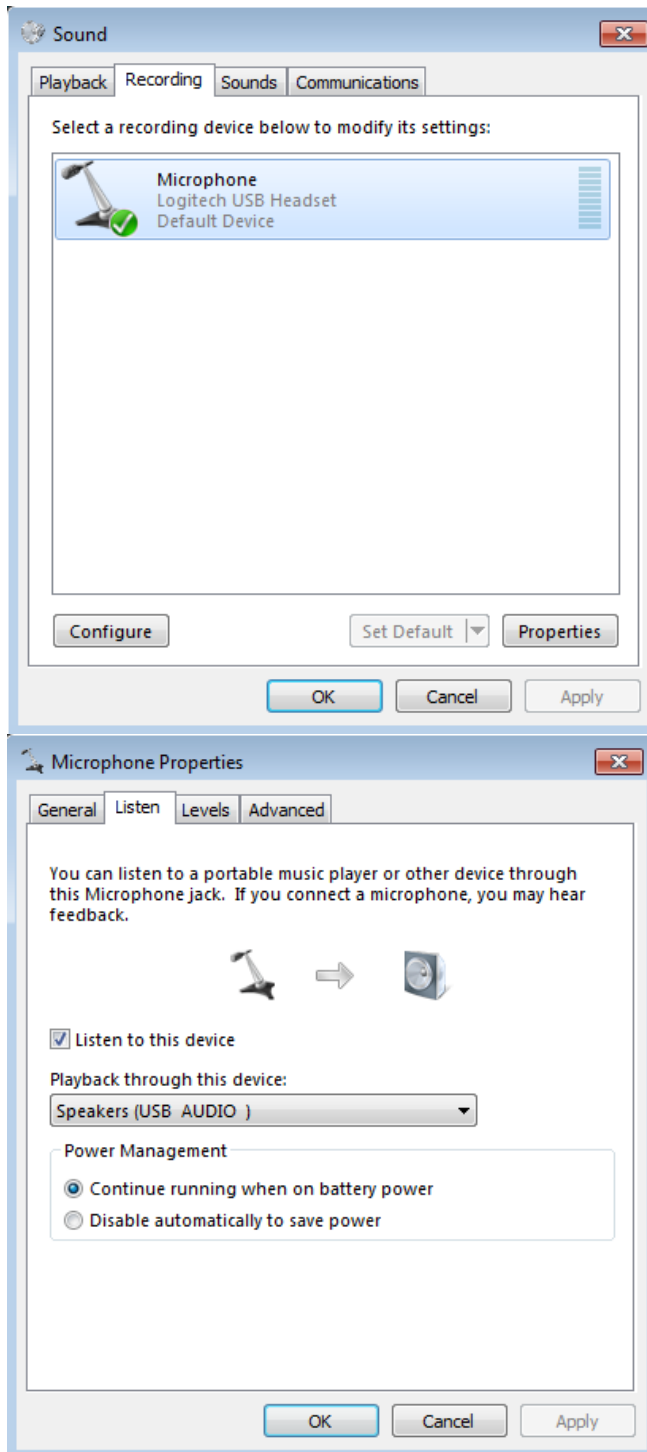
If you are recording your commentary using a USB headset microphone and wish to listen to the commentary live using a pair of USB speakers, choose to listen to the USB headset microphone by following the steps below.

From the Start Menu of Windows choose Control Panel and then Sound.

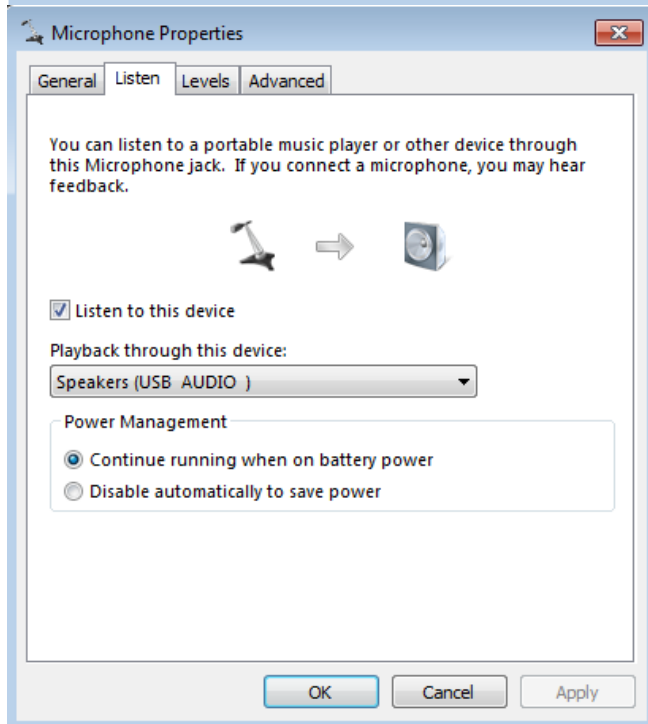
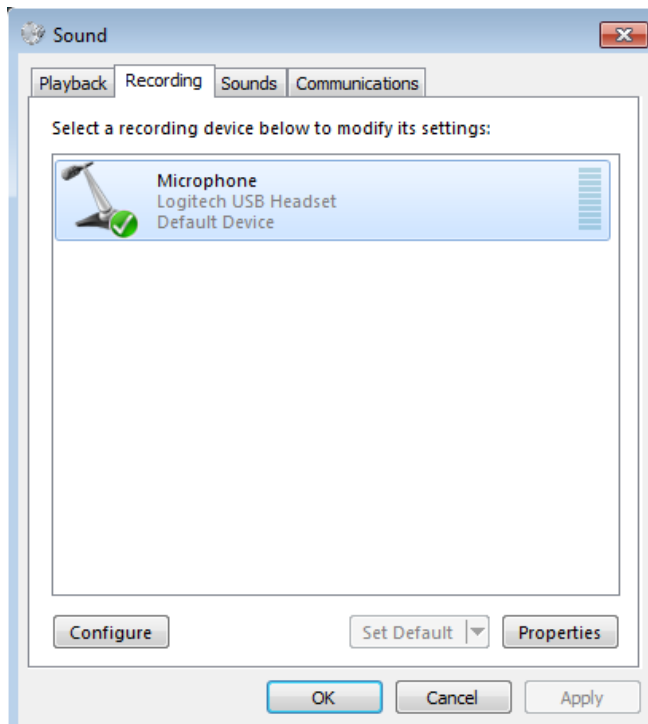
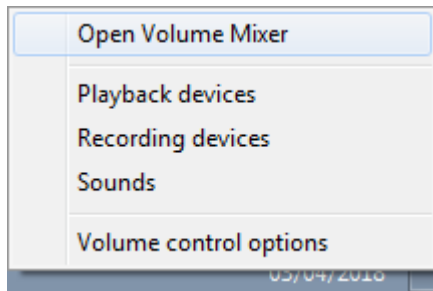
The Playback tab is displayed. Check the speakers device is listed.



Next, choose the Recording tab and scroll down to the USB device. Select Microphone and click Properties. Under the Listen tab, select the speakers device from the drop-down menu and tick the "Listen to this device" check-box



To stop live commentary through the listening device, you must first untick the "Listen to this device" check-box before disconnecting the speakers. To access the Listen tab of the USB Audio properties directly, access the Volume Mixer from the system tray and double-click the USB Audio device.



1.10 VisualDVR Quick Start Guide

This section provides a quick summary of the basic steps required for setup and operation of the **VisualDVR**.

The Quick Start Guide includes information on hardware setup and software setup, and describes the pages of the Configuration Wizard which opens when you start VisualDVR.

1.10.1 Quick Start: Hardware Setup

The **VisualDVR** unit should be securely mounted in a 19" rack.

Cables and connections are colour coded with small dots to indicate which connections go where – simply connect a cable with a coloured dot to the connection on the VisualDVR with a matching coloured dot.

As a minimum you must do the following:

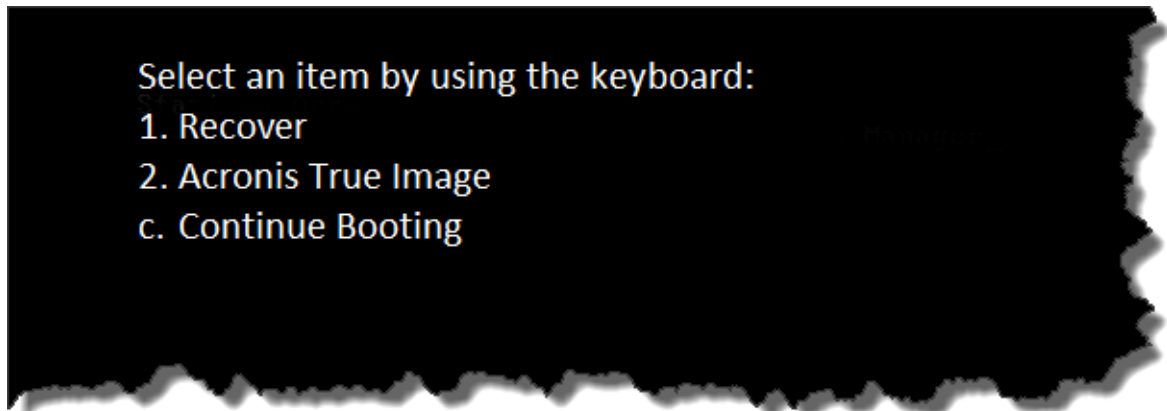
- Connect the power cable.
- Connect the monitor.
- Connect the keyboard and mouse.
- Connect the VisualDVR to a network. If this is not possible, enable the [Microsoft Loopback Adapter](#)^[145]. (Do not do both.)

If multiple VisualDVR units are required to operate as a synchronised system, starting and stopping recording at the same time, then you must connect all units to a suitable network. See [Network Specification – Multiple VisualDVRs](#)^[145] for details. You cannot use the Microsoft Loopback Adapter for multiple VisualDVRs if you want the recordings and controls to be synchronised.

- Connect one or more Video Input cables, Composite (analogue) or SDI (digital) or HD-SDI depending on the card type. See [Capture Cards](#)^[21] for detailed connection instructions and diagrams for the type of video capture card installed in your VisualDVR unit.
- If audio recording is required, connect an audio input as shown in [Capture Cards](#)^[21]. Follow the relevant instructions for the type of video and audio capture card(s) installed in your own VisualDVR unit.
- If you require speakers, to listen to video playback or to listen to live commentary, see [Connecting Speakers to VisualDVR](#)^[42]

1.10.2 Quick Start: Windows Boot and Recovery Options

When you start any VisualDVR PC, you may be presented with the Boot menu below.



This menu will clear after five seconds and the PC will continue to boot into Windows.

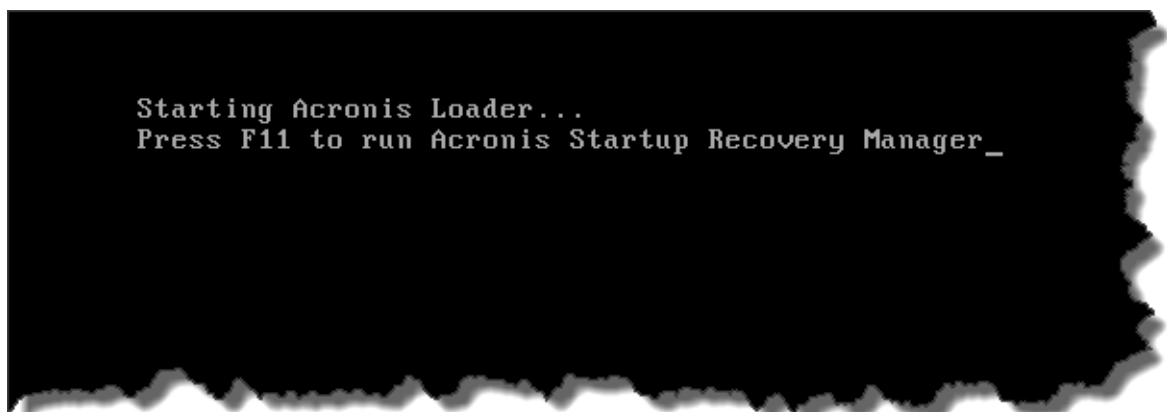
Alternatively, press the 'c' key to Continue booting.

Options 1 or 2, relate to recovering the PC to factory settings. This should only be done after consulting VisualSoft Support.

If the VisualDVR PC is the latest VisualDVR 2023 version, there will be no Acronis recovery partition present, so options will appear at Windows Startup.

On these PCs, there is a hidden Windows Recovery partition created before shipping from VisualSoft. Please contact visulsoft.support@f-e-t.com if you need to recover one of these systems.

Older PCs, specifically those running Windows 7 or before, may have a different recovery option that appears at Startup, as shown below.



1.10.3 Quick Start: Software Setup

Your **VisualDVR** unit will have been shipped with the latest release of the **VisualDVR** software already installed.

The **VisualDVR** software is updated from time to time. If your company has a valid Support & Maintenance contract for your **VisualDVR** unit you will be entitled to install these upgrades. For details of this process, including the need for "Prerequisites" please see the **VisualSoft Essential Information Guide** which you can [download](#) from our support website. Note that the Prerequisites may change from one version to the next.

Software Setup – Add-Ons

VisualDVR supports a wide range of recording formats, with SD, HD or both combined, and with H.264 or MPEG-2 or encoding. Depending on the chosen format you may or may not need specific hardware and you may or may not need some add-on 'encoder pack' software or add-on licences. The table below shows what is needed in each case.

If encoder packs are required they will be provided, along with installation instructions, at the time of purchase of your add-on licence. If you are not sure what you need, please [contact us](#) ¹⁸⁶.

Format & Resolution	SD MPEG-2 Encoder Pack	SD MPEG-2 Add-On Licence	HD MPEG-2 Encoder Pack	HD MPEG-2 Add-On Licence	H.264 Encoder Pack	H.264 Add-On Licence
MPEG-2 SD Optibase Hardware Encoder						
MPEG-2 SD Software Encoder	✓	✓				
MPEG-2 HD Software Encoder			✓	✓		
MPEG-2 1HD+2SD Software Encoder			✓	✓		
H.264 SD with Osprey HD card					✓	✓
H.264 HD Software Encoder (One Channel)					✓	✓
H.264 HD Hardware Encoder (Multi Channel)						
H.264 1HD+2SD					✓	✓

1.10.4 Quick Start: Basic Operation

1. Turn on the **VisualDVR** power switches. On some units there here is a switch on the back, beside the power cable input. On all units, there is a switch at the front, inside the door.
2. The unit will boot up into the Windows operating system, and will start the **VisualDVR** software.
3. You will be prompted to run the [VisualDVR Configuration Wizard](#)⁵⁶ to configure the system. This is required when first running the system and is also recommended each time you start the VisualDVR application, unless you are totally sure that no changes have been, or should be, made.

1.10.5 Quick Start: Configuration Screen

When you start **VisualDVR** you will usually be presented with the **Startup Configuration Screen**, which gives a summary of the current Licence, Hardware, Network, Copying and Archiving configuration of the unit.

If this is the first time that the **VisualDVR** unit has been used, or if significant changes have been made to it, then this screen will be skipped and you will be taken straight to the first page of the [Configuration Wizard](#)⁵⁶.

VisualDVR Startup Configuration

Startup Configuration

VisualDVR is configured with the settings shown below. You can keep these settings or change them.

License: 4 SD channels
Capture Card(s): Winnov Videum Quattro
Network: Broadcast, Named Group: Bill
Recording Channels: 4
Logging Destinations: See table below
Copy Destinations: Drives W (10% Reserved Free Space)
Copying & Archiving: Use VisualDVR's copying only
Project Tasks: Enabled

Channel Setup:

	Codec	Format	Video	Audio	Sync	BlackBox	Drive	Reserved
▶ 1	H.264	PAL	A-Vid1	Breakout box/cable	On	Off	E	15
2	H.264	PAL	A-Vid2	Breakout box/cable	On	Off	F	15
3	H.264	PAL	A-Vid3	Breakout box/cable	On	Off	G	15
4	H.264	PAL	A-Vid4	Breakout box/cable	On	Off	H	15

VisualDVR will start with these settings in

27 seconds

1.10.6 Quick Start: Configuration Wizard

The **Startup Configuration Wizard** will guide you through a series of questions, helping you to configure the system to meet your requirements. Each page of the Configuration Wizard explains the options available and provides you with information to help you make the correct decisions.

The Configuration Wizard is run by clicking the **Change Settings** button. Clicking **Start Now** will run **VisualDVR** with the currently configured settings. If no button is clicked within thirty seconds, **VisualDVR** will start with the current configuration (You can use **Pause Countdown** if you need more time to review the displayed settings).



System Configuration & Saved Templates

The first page of the Configuration Wizard shows a summary of the System Configuration, followed by the Saved Templates page, which allows you to save existing templates, load previous ones, or browse to the location of configuration .INI files if they are being stored in a non-standard location.

The progress bar at the top of the configuration window will show how far through the configuration you are.

Loading a previously saved configuration allows you to load a configuration that has been sent to you from another VisualDVR, and can therefore be used to duplicate the settings that are being used elsewhere. After you load a configuration template you will be able to make a copy of it using the Save-As button so that you do not risk changing the supplied settings.

Browsing to load INI files will allow you to read the settings from another PC even if you do not have them saved in single configuration template file. This is more likely to be of benefit during troubleshooting onshore than for offshore use.



Display when configuring "This computer".



Display when building a configuration for another computer.

Capture Cards

VisualDVR will automatically detect all Installed Capture Cards and display them as selectable on the following page. Cards displayed as greyed out are either not present in the DVR, or have not been fully configured.

If the DVR is to be run in Combined Mode, whereby HD and SD recordings can be made simultaneously, then an Osprey High Definition card can be selected, along with the Winnov Videum Duo Standard Definition card.

This page also lets you select No Recording if no card is present and the application is to be used for training or demonstration purposes without capturing video.

VisualDVR Configuration

System Templates **Configuration** Sync Files Confirmation

Installed Capture Cards

Select which card type(s) to use. If you want Combined Mode with HD and SD recording you can optionally combine one HD card type with a Winnov Videum Duo.

Available HD card types (can also be used for SD recording)

- ☐ Osprey 815e/825e High Definition (can also be used for SD recording)
- ☐ Osprey 700e High Definition (can also be used for SD recording)
- ☐ Vitec VMC-7440 High Definition (one channel per card)

Available SD card types

- ☐ Winnov Videum Duo (two channels per card)
- ☒ Winnov Videum Quattro (four channels per card)
- ☐ Optibase MovieMaker 230 (one channel per card)

☐ No recording - Run in training and demo mode only

< Back Next > Cancel

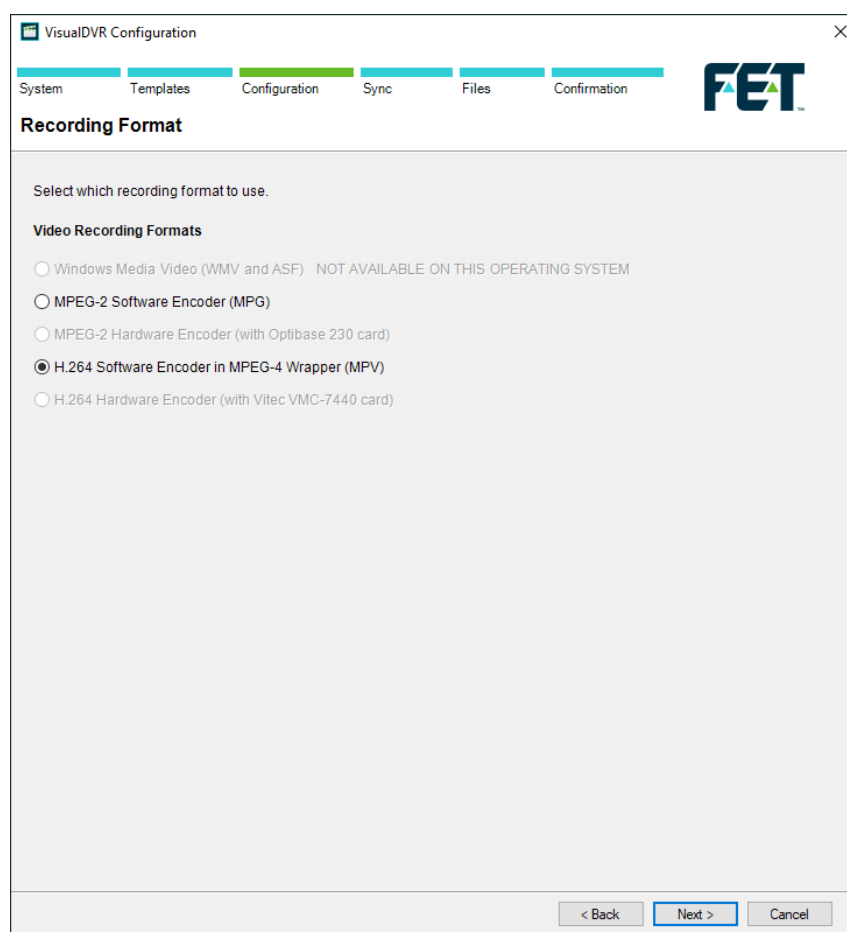
Recording Format

On the following Recording Format page, the relevant format should be selected. Only those options available due to the hardware and licencing settings selected previously will be available.

Currently a Winnov or Osprey video capture card is required for Software H.264, WMV or MPEG-2 recording. H.264 and Software MPEG-2 recording both require additional licences to become selectable.

Hardware MPEG-2 recording requires the use of the Optibase video capture card.

Hardware H.264 recording requires the use of the Vitec VMC-7440 card.



The screenshot shows the 'VisualDVR Configuration' window with the 'Recording Format' tab selected. The window has a progress bar at the top with steps: System, Templates, Configuration (active), Sync, Files, and Confirmation. The FET logo is in the top right corner. The main area is titled 'Recording Format' and contains the instruction 'Select which recording format to use.' Below this, under 'Video Recording Formats', there are five radio button options:

- ☐ Windows Media Video (WMV and ASF) NOT AVAILABLE ON THIS OPERATING SYSTEM
- ☐ MPEG-2 Software Encoder (MPG)
- ☐ MPEG-2 Hardware Encoder (with Optibase 230 card)
- ☒ H.264 Software Encoder in MPEG-4 Wrapper (MPV)
- ☐ H.264 Hardware Encoder (with Vitec VMC-7440 card)

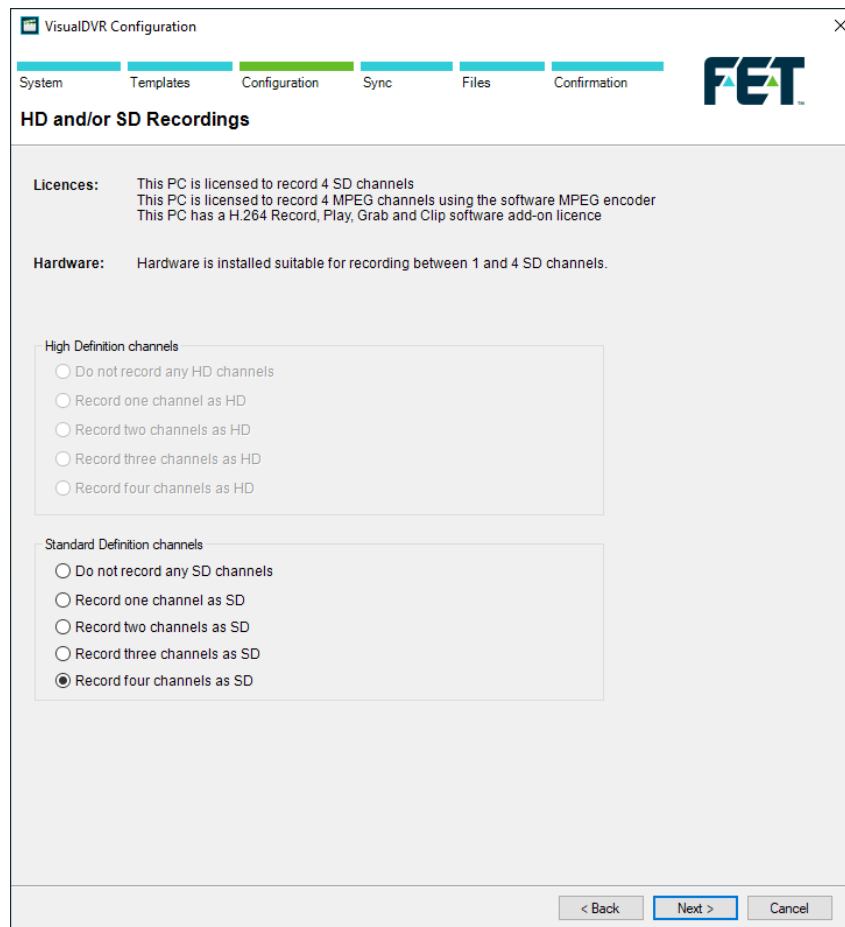
At the bottom of the window, there are three buttons: '< Back', 'Next >' (highlighted with a blue border), and 'Cancel'.

HD or SD Recordings?

You can configure your VisualDVR to record one or more video channels. The number of available channels is determined by the installed hardware, and also by the available software license. Even if you have a license and the right hardware for multiple channels, you may not always want to record all of them. You can make that selection on this page of the Configuration Wizard.

Using this page of the Configuration Wizard, you can also choose whether you are recording an HD or an SD picture (or both in HD/SD Combined Mode). Availability of HD recording is dependent on the installed hardware and licenses.

The Licences and Hardware panels of the screen will give summaries of the available options.



The image shows a screenshot of the 'VisualDVR Configuration' wizard, specifically the 'HD and/or SD Recordings' step. The wizard has a progress bar at the top with six steps: System, Templates, Configuration (current), Sync, Files, and Confirmation. The FET logo is in the top right corner.

HD and/or SD Recordings

Licences: This PC is licensed to record 4 SD channels
This PC is licensed to record 4 MPEG channels using the software MPEG encoder
This PC has a H.264 Record, Play, Grab and Clip software add-on licence

Hardware: Hardware is installed suitable for recording between 1 and 4 SD channels.

High Definition channels

- ☐ Do not record any HD channels
- ☐ Record one channel as HD
- ☐ Record two channels as HD
- ☐ Record three channels as HD
- ☐ Record four channels as HD

Standard Definition channels

- ☐ Do not record any SD channels
- ☐ Record one channel as SD
- ☐ Record two channels as SD
- ☐ Record three channels as SD
- ☒ Record four channels as SD

At the bottom, there are three buttons: '< Back', 'Next >', and 'Cancel'.

Video Connections

Connect your input cable to the breakout box, breakout cable, or direct to the card. Having connected the video cables you can use the Configuration Wizard to tell the software how these cables have been connected and what type of video signal they are carrying.

For each video channel select either PAL, NTSC or HD video format, then specify whether you have connected an S-Video cable (2x BNC connectors), a composite cable (1 BNC connector), or an HD cable (SDI connector). Finally, you should specify which of the available connections has been used. For example a Winnov Videum breakout box has four composite video connections, and you need to specify which cameras are connected to which of those four BNC connectors.

Only licensed selections will be selectable.

VisualDVR Configuration

System Templates **Configuration** Sync Files Confirmation

Video Connections

Video inputs can be HD, PAL or NTSC and can use Digital BNC (SDI), Analogue Composite or Analogue S-Video cables.

Format	Resolution	Connection Type	Connection
Channel 1			
<input type="radio"/> HD	<input type="radio"/> HD	<input type="radio"/> Digital BNC (SDI)	A-Vid1
<input checked="" type="radio"/> SD	<input checked="" type="radio"/> PAL	<input checked="" type="radio"/> Composite	
	<input type="radio"/> NTSC	<input type="radio"/> S-Video	
Channel 2			
<input type="radio"/> HD	<input type="radio"/> HD	<input type="radio"/> Digital BNC (SDI)	A-Vid2
<input checked="" type="radio"/> SD	<input checked="" type="radio"/> PAL	<input checked="" type="radio"/> Composite	
	<input type="radio"/> NTSC	<input type="radio"/> S-Video	
Channel 3			
<input type="radio"/> HD	<input type="radio"/> HD	<input type="radio"/> Digital BNC (SDI)	A-Vid3
<input checked="" type="radio"/> SD	<input checked="" type="radio"/> PAL	<input checked="" type="radio"/> Composite	
	<input type="radio"/> NTSC	<input type="radio"/> S-Video	
Channel 4			
<input type="radio"/> HD	<input type="radio"/> HD	<input type="radio"/> Digital BNC (SDI)	A-Vid4
<input checked="" type="radio"/> SD	<input checked="" type="radio"/> PAL	<input checked="" type="radio"/> Composite	
	<input type="radio"/> NTSC	<input type="radio"/> S-Video	

< Back Next > Cancel

Audio Connections

For the Vitec VMC-7440 H.264 card you must connect a “line level” signal. If using a microphone, the signal must be amplified by a pre-amplifier before connection to the capture card breakout cable.

If using Videum Duo or Quattro cards, you can connect either a microphone direct, or a pre-amplified line level signal. See [Capture Cards](#) ^[21] for details.

Where an HD input has been selected, you will be presented the choice of using direct audio via the Digital BNC (SDI) connection, the PC "Mic in" (pink) port, or the PC USB port, dependent on your audio input method.

For the Videum Duo and Quattro cards the most common setup is to use the mono option so that the single microphone input is recorded on both the left and right audio channels. As shown in the Configuration Wizard (see below) only the "Audio 2, Left" connection port on the breakout box is suitable for a microphone level signal.

VisualDVR Configuration

System | Templates | **Configuration** | Sync | Files | Confirmation

Audio Connections

Audio can be connected to the PC's audio inputs on the motherboard, to USB from a headset microphone, to breakout boxes or breakout cables, or via embedded digital SDI. Please select the audio input to be used for each of your video channels.

Channel	Connection Type	Mono/Stereo	Connection & Signal to use
Channel 1	Breakout box/cable	<input checked="" type="radio"/> Mono <input type="radio"/> Stereo	Box A, Audio 2, Left (Microphone level)
Channel 2	Breakout box/cable	<input checked="" type="radio"/> Mono <input type="radio"/> Stereo	Box A, Audio 2, Left (Microphone level)
Channel 3	Breakout box/cable	<input checked="" type="radio"/> Mono <input type="radio"/> Stereo	Box A, Audio 2, Left (Microphone level)
Channel 4	Breakout box/cable	<input checked="" type="radio"/> Mono <input type="radio"/> Stereo	Box A, Audio 2, Left (Microphone level)

Recording Volume: 80

< Back Next > Cancel

Video Quality Settings

Select the desired “Quality Profile” to specify the video type, size, frame rate and bit rate of the recording. Only those profiles available to the capture card and license combination for that channel will show as available, e.g. HD profiles will not be available on those channels previously selected as SD in earlier sections of the Configuration Wizard.

Selecting the box to the right of the first channel will apply that profile to all channels assuming that they are capable of supporting the profile.

The Configuration Wizard itself explains what each of these settings is for.

The screenshot shows the 'VisualDVR Configuration' window with the 'Configuration' tab selected. The 'Video Quality Settings' section contains explanatory text and four channels, each with a dropdown menu and an 'Apply to all channels' checkbox.

VisualDVR Configuration

System | Templates | **Configuration** | Sync | Files | Confirmation

Video Quality Settings

Regardless of the input type, video may be recorded in either PAL or NTSC formats. Typically PAL video is recorded with 25 frames per second (fps) and NTSC is recorded with 30 frames per second. However the VisualDVR default for NTSC is sometimes set at 25 frames per second to facilitate playback of multiple channels on a single PC.

Digital video may be recorded with differing bitrates (i.e. different levels of compression and picture quality. Higher bitrates (Mbps) mean less compression, and higher quality.

Standard settings may be pre-selected here. Non-standard settings can be configured using the Profile Manager application in Start > All Programs > VisualSoft Suite > Tools.

Channel 1: Default_PAL_720x576_25fps_4Mbps_H.264 ☐ Apply to all channels

Channel 2: Default_PAL_720x576_25fps_4Mbps_H.264

Channel 3: Default_PAL_720x576_25fps_4Mbps_H.264

Channel 4: Default_PAL_720x576_25fps_4Mbps_H.264

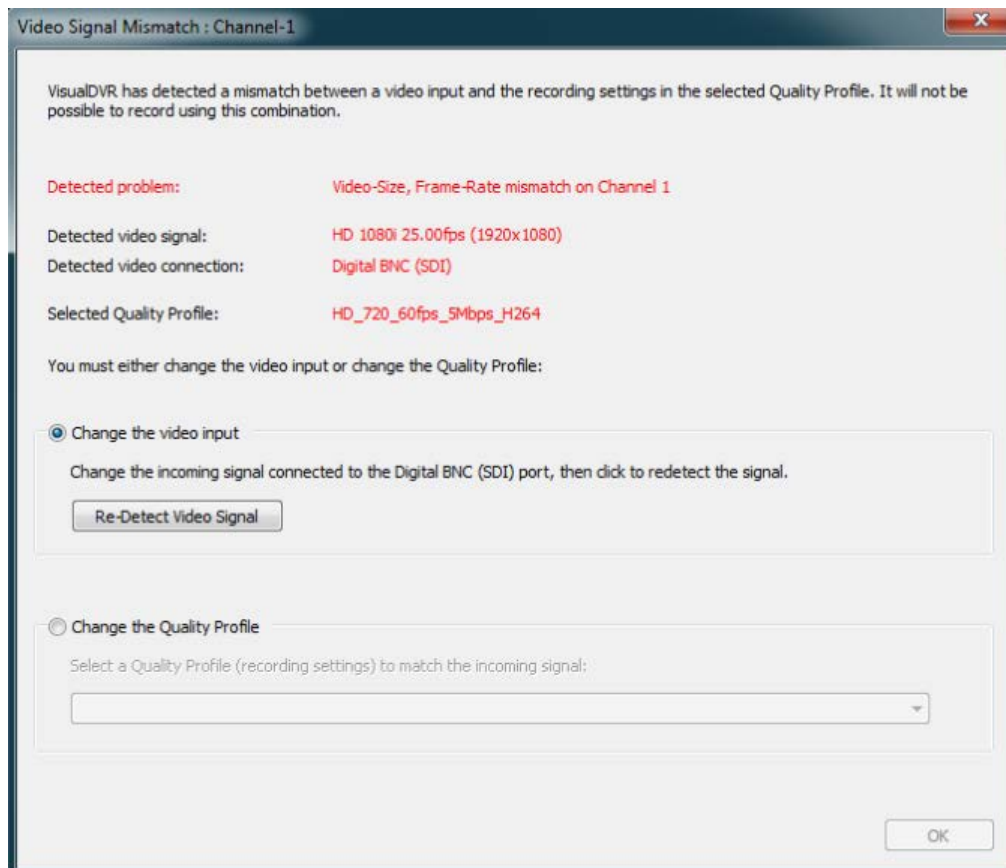
< Back | **Next >** | Cancel

Video Signal Mismatch

On HD systems, it is important that the resolution and framerate of the selected quality profile match the video input.

HD video capture cards can automatically detect the incoming signal, and a warning will appear when the application boots after the Configuration Wizard is complete asking you to change the signal, or the quality profile, so that these match.

In the example below, the camera source has been detected as 1080i 25fps, but the user has selected 720P 60fps.



VisualSoft Network

Next, select the desired network communication method. All VisualSoft programs communicate using a network connection. There are two main ways of doing this: Broadcast or Multicast. In the case of Broadcast, the messages are limited to the current subnet and are sent only to PCs in the same range of network addresses. Multicast messages are not limited to the same subnet and may be sent more widely.

In rare cases you may wish to use Point-to-Point and limit the sending of information such that it goes only to a single address. This is more common for PCs sending information to a VisualDVR, and is unlikely to be required for VisualDVR itself.

VisualDVR Configuration

System Templates Configuration Sync Files Confirmation

VisualSoft Network

Communication Method

- ☒ Broadcast - Communicate with computers in the current subnet only. Messages will be broadcast to each computer in the same subnet.
- ☐ Multicast - Communicate across multiple subnets if permitted by the network hardware. (Warning: IT staff may set Network Switches to block Multicast communications.)
- ☐ Point to Point - Do not receive messages, and allow this computer to send messages to only one other computer with IP address:

Restricted Communications

- ☐ Do not restrict communications. This computer will send and receive messages to and from all computers as allowed by the Communication Method chosen above.
- ☒ Add this computer to a Restricted Comms Group:
 - If added to a Restricted Comms Group, this computer will send and receive messages to and from other computers in the SAME group.
 - If added to a Restricted Comms Group, this computer will NOT send or receive messages to or from computers which are in DIFFERENT groups.
- ☐ Do not restrict or block Time Sync messages

Advanced Network Interface Card Metrics

On a VisualDVR with more than one connected network, you may need to adjust the NIC Metrics so that communications between VisualSoft applications are sent on the correct network. See the Advanced Network Interface Card Metrics section on the Network Comms tab of the VisualSoft Admin Panel.

< Back Next > Cancel

Restricted Comms Groups are used to define groups of computers that can only see each other and will not send and receive messages or interact with computers in another group. Computers with no Restricted Comms Group selected will be visible to all computers in the network regardless of group.

This is useful in situations where there are two or more ROVs on a vessel and you do not want them to communicate or synchronise their Start and Stop times when recording. In these circumstances, each VisualDVR would be restricted to its own group, but the VisualArchive PC would not be restricted. This would allow each VisualDVR to interact with VisualArchive, but the VisualDVR units would not have any effect on each other.

For more information see Admin Panel – Network Communications.

VisualDVR Configuration: NEXUS IC Options

VisualDVR Configuration

System Templates Configuration Sync Files Confirmation

NEXUS IC Options

☒ Enable IC-Inspection DVR control

Channel 1
Port: 4500
IC-Inspection Folder base path:

Channel 2
Port: 4501
IC-Inspection Folder base path:

Channel 3
Port: 4502
IC-Inspection Folder base path:

Channel 4
Port: 4503
IC-Inspection Folder base path:

☒ Enable IC-Inspection Time Synchronisation

☐ Send frame grabs to IC-Inspection via the network in real-time

☒ Save frame grabs to the folder selected below:

< Back Next > Cancel

Enable NEXUS IC-Inspection DVR control: If you are doing an inspection job using Wood Group's NEXUS IC-Inspection software (version 6.4 or above) you must turn on NEXUS IC-Inspection DVR Control on this page. In NEXUS add the VisualDVR as a "Generic DVR" device using its IP address.

IC-Inspection Time Synchronisation: NEXUS IC-Inspection can send a time synchronisation message to VisualDVR. If you turn on this option in IC-Inspection you must also turn it on here so that VisualDVR receives the time sync messages. (As with all VisualSoft time synchronisation options, you must use only one time sync source, so if you turn on NEXUS IC Time Sync, make sure that you turn off time sync in the VisualDVR Survey Data set up and other places such as VisualDataLogger.

IC-Inspection Base Folder path: VisualDVR will receive commands from IC-Inspection telling it to start or stop recording, create image grabs and so on. VisualDVR will still record video in the usual way, using the standard file names that are expected by VisualArchive and other VisualSoft applications. It will also make a copy of the video files and image grabs using names and locations requested by IC-Inspection. IC-Inspection will send either a full folder path, or a partial folder path. If IC-Inspection sends a partial file path this is usually based on the component selected for inspection in IC-Inspection. If VisualDVR receives a **partial folder path** it will be added to the "IC-Inspection Folder base path" that you specify here. You can use the same base path for all cameras, or have different paths for different cameras. There is a short-cut button to quickly copy the path set for Channel 1 to all other channels. In the example below the base path is "\\My

NAS\Shell NS 2019", so if IC-Inspection sends partial folder path "\Pipelines\PL1234", the video files will be sent to the combined path "\\My NAS\Shell NS 2019\Pipelines\PL1234".

Port Numbers: IC-Inspection sends commands to VisualDVR via the network using TCP ports. These port numbers are selected in IC-Inspection for each camera and the same port numbers must be set for each camera here.

IC-Inspection Frame Grabs folder: If you have a VisualDVR with Vitec VMC-7440 HD/SD hardware encoder cards in it, the DVR can send image grabs back to IC-Inspection immediately via the network. If you do not want to use that option, you can choose to save image grabs to a folder instead. Other types of VisualDVR, for example with the older Winnov Videum Duo or Quattro cards, cannot create instant image grabs. Instead they create the grabs when recording of the current file ends. In this case you need to tell it where to save those by selecting an IC-Inspection Frame Grabs folder.

Channel Synchronisation

Channel Synchronisation ensures that each video channel starts and stops recording at the same time. It also allows various other settings to be applied to multiple video channels when using the standard **VisualDVR** menus.

If synchronisation is turned on for a video channel it will send and receive start and stop commands. What it sends will affect other synchronised video channels of this **VisualDVR** and others on the network. It will also send and receive commands to and from **VisualDataLogger**, and will receive commands from **Visual3D-Inspector** or the **Start/Stop Controller** tool. Sending and receiving commands between different PCs requires valid network communications – see Admin Panel – Network Communications.

Use the Configuration Wizard to select which channels are to be synchronised. Typically if the cameras are all looking at the same thing, such as three ROV mounted cameras looking at a pipeline, then they should be synchronised. If they are looking at different things, such as two cameras carried by two different divers, then they should not be synchronised.

See also: [Synchronisation Explained](#)

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The screenshot shows the 'VisualDVR Configuration' window with the 'Sync' tab selected. The window has a progress bar at the top with steps: System, Templates, Configuration, Sync (highlighted), Files, and Confirmation. The FET logo is in the top right corner. The title of the tab is 'Synchronised Recording Start/Stop'. The main text area contains the following information:

VisualDVR can start and stop the recording of different video channels at the same time (synchronised), or you can start and stop them independently.

If synchronisation is turned on for a video channel it will send and receive start and stop commands. What it sends will affect other synchronised video channels of this VisualDVR and others on the network. It will also send and receive commands to and from VisualDataLogger, and will receive commands from Visual3D-Inspector or the Start/Stop Controller tool. Sending and receiving commands between different PCs requires valid network communications.

You can choose to synchronise all channels or only some of them. For example you may want to synchronise the first three channels of a four channel system, but leave the fourth channel to be used independently.

Synchronise:

- ☒ Channel 1
- ☒ Channel 2
- ☒ Channel 3
- ☒ Channel 4

There are two buttons: 'All on' and 'All off'. At the bottom of the window are three buttons: '< Back', 'Next >', and 'Cancel'.

Black-Box Mode

Black-Box mode allows continuous background recording of one or more cameras.

With a Black-Box licence video is recorded constantly, but is only stored on the VisualDVR logging drives, and cannot be recorded in a project structure.

If the VisualDVR unit has a full license then it is possible to enable Black-Box mode so that video is recorded non-stop, and then use the menus to Start and Stop normal recording mode so that the video recorded normally is copied to external locations, but the video recorded only in Black-Box mode remains only on the VisualDVR unit.

Use the Configuration Wizard to select which of the available channels you want to run in Black-Box mode.

The screenshot shows the 'VisualDVR Configuration' window with the 'Black-Box Recording' tab selected. The window has a progress bar at the top with steps: System, Templates, Configuration (selected), Sync, Files, and Confirmation. The FET logo is in the top right corner. The main content area contains the following text:

VisualDVR can record video from one or more channels in Black-Box mode giving 24/7 coverage. At the same time the normal Start/Stop commands are still available.

Video recorded between a manual Start and a manual Stop will be copied to the selected destination drives or copied by VisualArchive but video recorded by the ongoing Black-Box function (e.g. after a manual Stop) will be retained on the VisualDVR and will not be copied. Black-Box video files will be kept for as long as possible where there is enough disk-space for new recordings to be made.

Black-Box mode:

☐ Channel 1
☐ Channel 2
☐ Channel 3
☐ Channel 4

Buttons: All on, All off

Navigation buttons at the bottom: < Back, Next > (highlighted), Cancel

Logging File Limits

When recording for long periods of time VisualDVR can break the video files into manageable sections. Two limits are applied, time and file size.

If you want files of equal duration you should set the size limit to be so high that the time limit will always be reached first. The default settings are for 30 minute files, which for SD recording will create files of approximately 860MB so the default size limit of 5GB will never be reached.

If you want files of equal size then you should set the time limit high enough that it will not be reached before the size limit is reached.

VisualDVR Configuration

System Templates Configuration Sync Files Confirmation

Logging File Limits

To keep the file sizes of the recorded video manageable, and to reduce the risk if any file is lost or damaged the system is usually configured to automatically create a new file after a set amount of time, or when the file reaches a certain size.

Both the time limit and the size limit operate at all times. To ensure that the files are all of the same duration regardless of size you should set a size limit that is larger than would be expected within the configured time limit.

Video Duration Limit 30 minutes

Video File Size Limit 5 GB

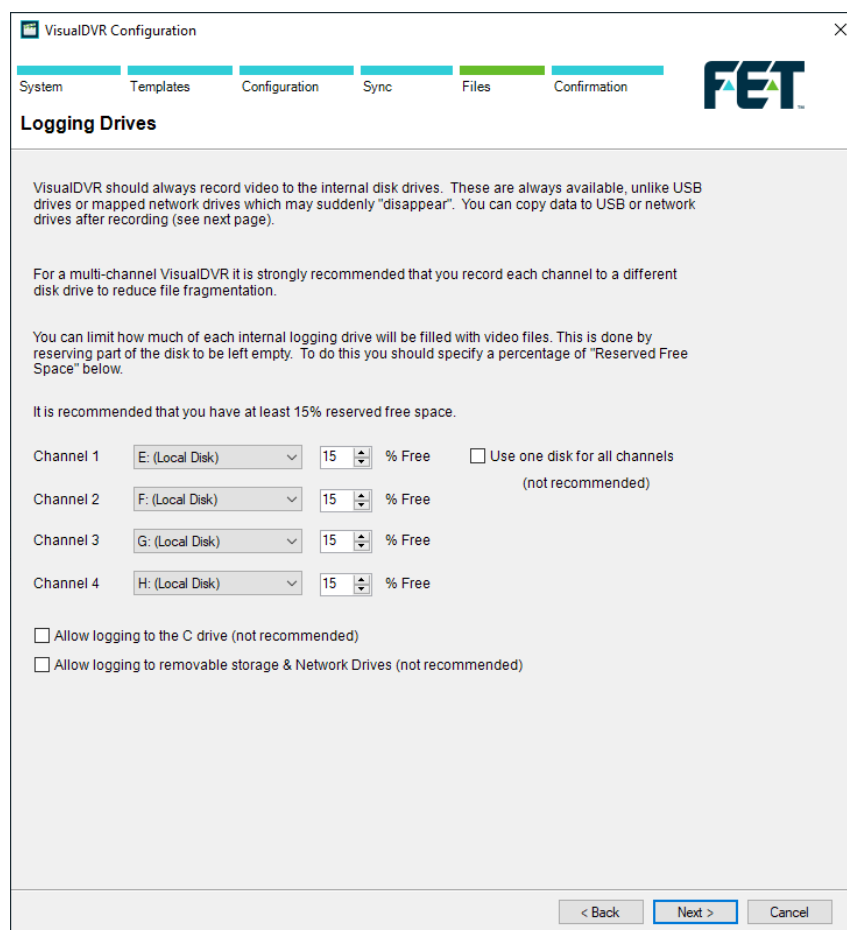
< Back Next > Cancel

Logging Drive Selection

VisualDVR should always be configured to record the video files to the internal disk drives. This ensures that you will not suffer down-time or loss of video if the network fails. It also ensures that VisualDVR runs as fast and efficiently as it can.

It is strongly recommended that each video channel is recorded to a different disk drive, one camera per disk, and that you do not record video to the C: drive. Note that you are only able to select which drive letters are used for logging. On the selected drives the software will automatically create a "VisualWorks" folder, and inside it a folder named "Encoder@PCNAME_ChX" where PCNAME is the name of the PC as defined in the Properties of "My Computer", and X is the channel number of a multi-channel recorder unit.

Other settings allow you to limit how much of each disk will be used for video recording and storage. The disk drives should not be allowed to become full to allow VisualDVR to operate efficiently.



VisualDVR Configuration

System Templates Configuration Sync Files Confirmation

Logging Drives

VisualDVR should always record video to the internal disk drives. These are always available, unlike USB drives or mapped network drives which may suddenly "disappear". You can copy data to USB or network drives after recording (see next page).

For a multi-channel VisualDVR it is strongly recommended that you record each channel to a different disk drive to reduce file fragmentation.

You can limit how much of each internal logging drive will be filled with video files. This is done by reserving part of the disk to be left empty. To do this you should specify a percentage of "Reserved Free Space" below.

It is recommended that you have at least 15% reserved free space.

Channel	Drive	% Free
Channel 1	E: (Local Disk)	15 % Free
Channel 2	F: (Local Disk)	15 % Free
Channel 3	G: (Local Disk)	15 % Free
Channel 4	H: (Local Disk)	15 % Free

☐ Use one disk for all channels (not recommended)

☐ Allow logging to the C drive (not recommended)

☐ Allow logging to removable storage & Network Drives (not recommended)

< Back Next > Cancel

Copying Video Files

After video files have been recorded to the internal disk drives, and after the end of each recording, it is possible to copy the recording to one or more extra locations. This can be done by VisualDVR itself, or by the VisualArchive data management program.

If VisualArchive is available we strongly recommend that you use it for all copying and backups and do not use the Auto-Copy function in VisualDVR. Only if VisualArchive is not available should you use the copying in VisualDVR.

If you choose both VisualDVR and VisualArchive for copying the video then you must ensure that they are copying to different disk drives.

VisualDVR Configuration

System Templates Configuration Sync Files Confirmation

Copying Video Files after Recording

After video has been recorded to the internal logging drives VisualDVR can automatically copy the video files onto DVDs or one or more USB or network drives. Alternatively you can use a different program, VisualArchive to do all of the file copying and backup.

It is possible to set both programs to copy the video files, but you must be careful to ensure that they are NOT both copying to the same destination.

☒ Use VisualDVR's copying only

☐ Use VisualArchive's copying only

☐ Use both VisualDVR and VisualArchive for file copying (not recommended)

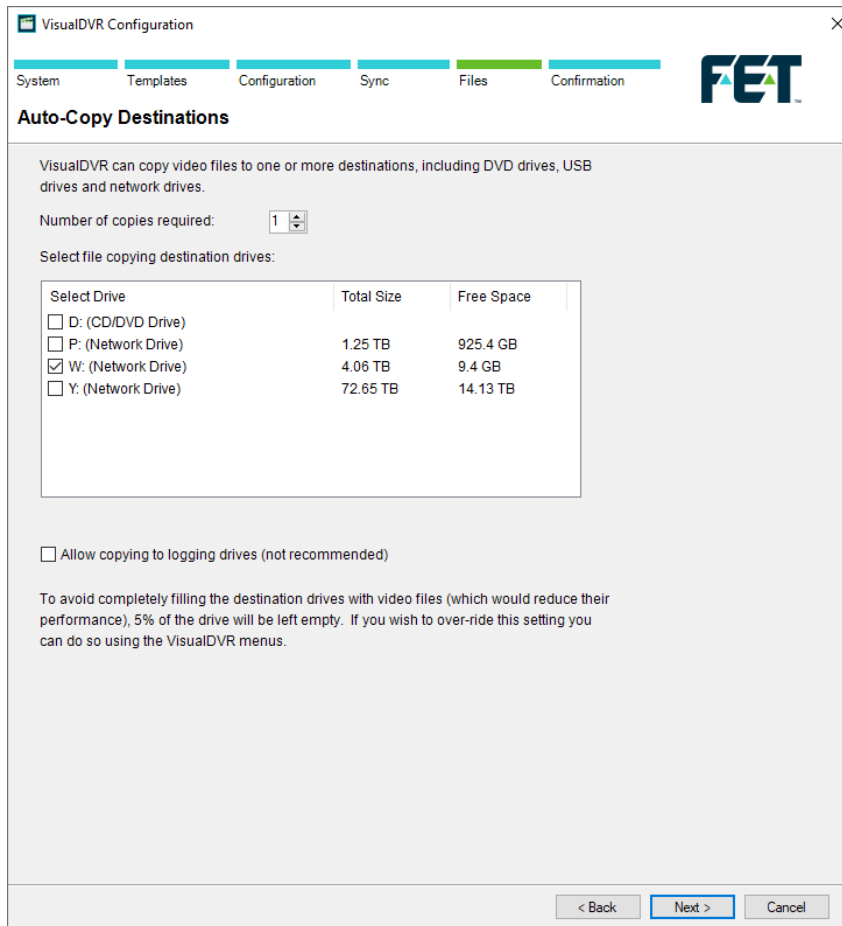
☐ Do not copy video files (not recommended)

< Back Next > Cancel

Auto-Copy Destinations

If you chose to use VisualDVR's copying you will see this page. If you chose only VisualArchive's copying, or you chose to not copy video files, then this page will be skipped.

VisualDVR can be set up to copy its own video files to a DVD or to an external disk drive automatically after the end of each recording. You can choose one or more destination drives using this page of the Configuration Wizard.



The screenshot shows the 'Auto-Copy Destinations' configuration window. At the top, a progress bar indicates the current step is 'Files', with previous steps 'System', 'Templates', 'Configuration', 'Sync', and 'Confirmation' completed. The 'FET' logo is in the top right corner. The main content area explains that video files can be copied to DVD drives, USB drives, or network drives. A 'Number of copies required' spinner is set to 1. Below, a table lists available drives for selection. The 'W: (Network Drive)' is selected. At the bottom, there is an unchecked checkbox for 'Allow copying to logging drives (not recommended)' and a disclaimer about leaving 5% of the drive empty. Navigation buttons '< Back', 'Next >', and 'Cancel' are at the bottom right.

VisualDVR Configuration

System Templates Configuration Sync Files Confirmation

Auto-Copy Destinations

VisualDVR can copy video files to one or more destinations, including DVD drives, USB drives and network drives.

Number of copies required: 1

Select file copying destination drives:

Select Drive	Total Size	Free Space
<input type="checkbox"/> D: (CD/DVD Drive)		
<input type="checkbox"/> P: (Network Drive)	1.25 TB	925.4 GB
<input checked="" type="checkbox"/> W: (Network Drive)	4.06 TB	9.4 GB
<input type="checkbox"/> Y: (Network Drive)	72.65 TB	14.13 TB

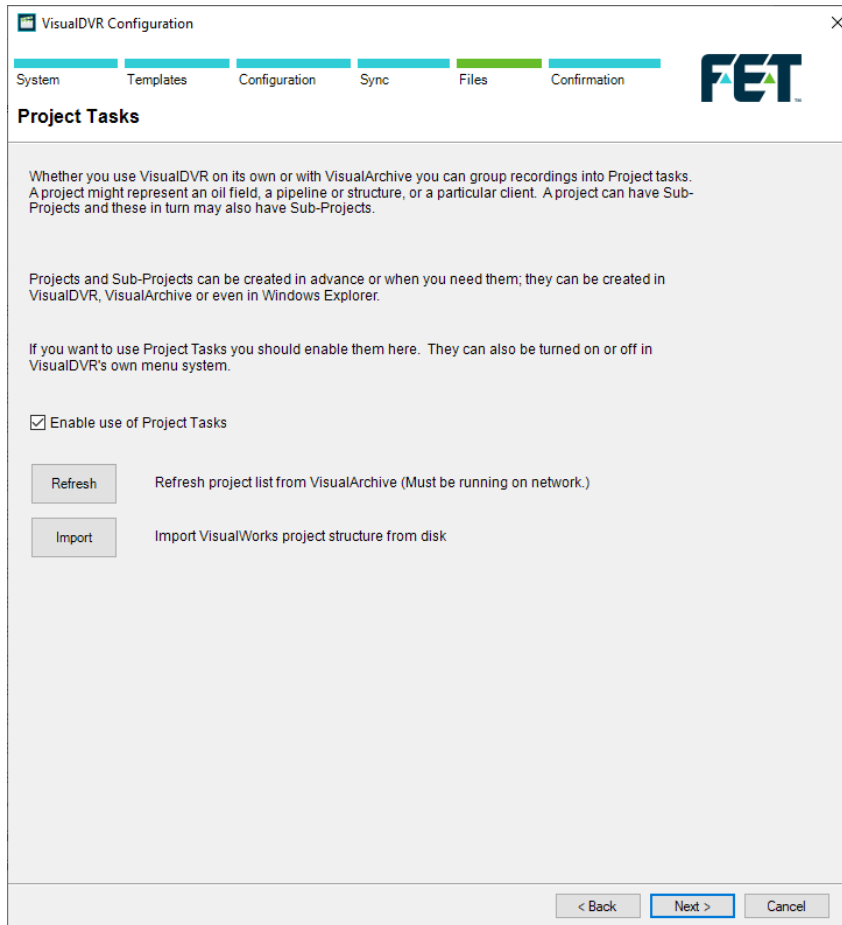
☐ Allow copying to logging drives (not recommended)

To avoid completely filling the destination drives with video files (which would reduce their performance), 5% of the drive will be left empty. If you wish to over-ride this setting you can do so using the VisualDVR menus.

< Back Next > Cancel

Project Tasks

When searching for video it is more convenient to search by a specific pipeline or component name than by time. VisualDVR allows data to be placed in “Project Task” folders corresponding to these names.



The screenshot shows the 'VisualDVR Configuration' window with the 'Project Tasks' tab selected. The window has a title bar with a close button (X) and a navigation bar with tabs: System, Templates, Configuration, Sync, Files, and Confirmation. The 'Configuration' tab is active. The 'Project Tasks' section contains the following text:

Whether you use VisualDVR on its own or with VisualArchive you can group recordings into Project tasks. A project might represent an oil field, a pipeline or structure, or a particular client. A project can have Sub-Projects and these in turn may also have Sub-Projects.

Projects and Sub-Projects can be created in advance or when you need them; they can be created in VisualDVR, VisualArchive or even in Windows Explorer.

If you want to use Project Tasks you should enable them here. They can also be turned on or off in VisualDVR's own menu system.

☒ Enable use of Project Tasks

Refresh Refresh project list from VisualArchive (Must be running on network.)

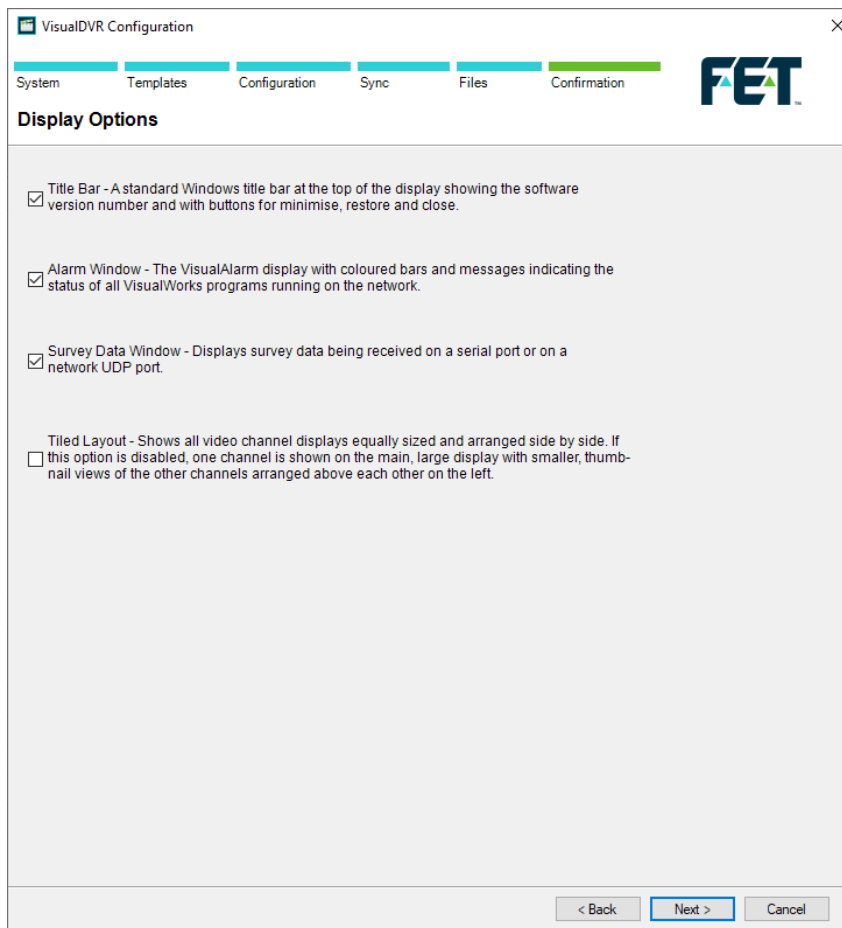
Import Import VisualWorks project structure from disk

At the bottom of the window are three buttons: '< Back', 'Next >', and 'Cancel'.

Display Options

This page of the Configuration Wizard gives you control over how the VisualDVR screen layout will look.

The Alarm Window is ON by default, and it is recommended that you do not switch it off.



The image shows the 'VisualDVR Configuration' window, specifically the 'Display Options' tab. The window has a title bar with a close button (X) and a progress bar at the top with steps: System, Templates, Configuration (selected), Sync, Files, and Confirmation. The FET logo is in the top right corner. The 'Display Options' section contains four checkboxes, all of which are checked:

- ☒ Title Bar - A standard Windows title bar at the top of the display showing the software version number and with buttons for minimise, restore and close.
- ☒ Alarm Window - The VisualAlarm display with coloured bars and messages indicating the status of all VisualWorks programs running on the network.
- ☒ Survey Data Window - Displays survey data being received on a serial port or on a network UDP port.
- ☐ Tiled Layout - Shows all video channel displays equally sized and arranged side by side. If this option is disabled, one channel is shown on the main, large display with smaller, thumbnail views of the other channels arranged above each other on the left.

At the bottom of the window are three buttons: '< Back', 'Next >' (highlighted with a blue border), and 'Cancel'.

Summary

This page allows you to review the choices that you have made. If you want to make any changes you can use the Back button, otherwise click on Next.

VisualDVR Configuration

System

Templates

Configuration

Sync

Files

Confirmation

FET

Summary

VisualDVR will be configured with the settings shown below.

License: 4 SD channels
Capture Card(s): Winnov Videum Quattro
Network: Broadcast, Named Group: Bill
Recording Channels: 4
Logging Destinations: See table below
Copy Destinations: Drives W (5% Reserved Free Space)
Copying & Archiving: Use VisualDVR's copying only
Project Tasks: Enabled

Channel Setup:

	Codec	Format	Video	Audio	Sync	Black Box	Drive	Reserved
▶ 1	H.264	PAL	A-Vid1	Breakout box/cable	On	Off	E	15
2	H.264	PAL	A-Vid2	Breakout box/cable	On	Off	F	15
3	H.264	PAL	A-Vid3	Breakout box/cable	On	Off	G	15
4	H.264	PAL	A-Vid4	Breakout box/cable	On	Off	H	15

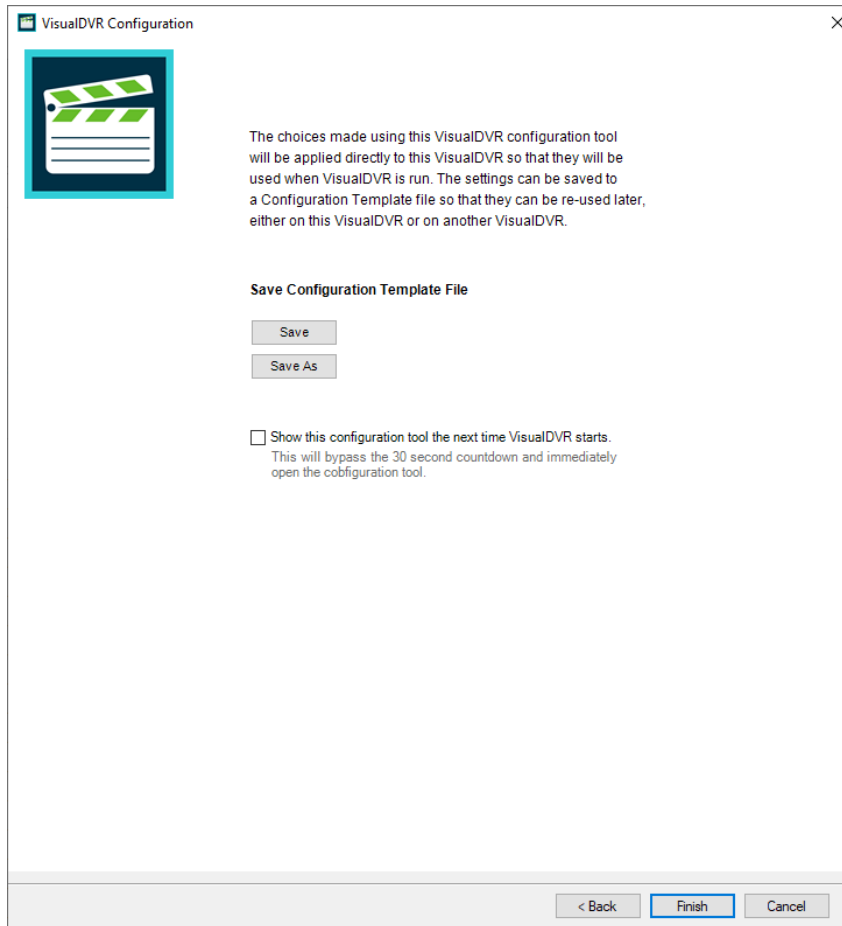
< Back

Next >

Cancel

Finish

The final page of the VisualDVR Configuration Wizard allows you to apply the settings to the PC on which you are running the Configuration Wizard by clicking Finish, or to save a single configuration file which combines all of the Configuration Wizard's settings. This file can then be opened by running the VisualDVR Configuration Wizard on another PC.



1.10.7 Quick Start: Configure Survey Data

ASIndex	Date	Time	Easting	Northing	KP	Depth	Pitch	Roll	Heading	Fix
00:03:21.218	23/07/2013	15:50:35	463246.85	6348162.09	23.0763	100	6.85	2.09	48.51	57036

Configure a serial or network "Survey Data" source in one of two ways. Either right-click in the Survey data Window (as shown above) and select Serial Input, then Survey Data, or use the VisualDVR menus to select **System Setup & Admin...**, **Advanced**, and then **Configure Serial Data Input...**.

The online survey data can input by two methods:

- Serial Port
- UDP Network Connection

The data string may be sent either by using a serial cable, or by using the UDP network protocol.

Survey Position data input

Survey position data can be received by VisualDVR using the settings configured below. This data will be logged with the video and will be available for video overlay. It can also be used as the time source for all VisualSoft applications.

Data may be received via a Serial (COM) Port, or via a Network UDP Port. To open a port, please configure the port settings and click on the Apply button.

To decode the received data please specify the column separator and the line terminator, then type a list of column names. Note that these column names will be logged with the data and will be seen by the client.

☒ **Serial Port Settings** COM 1 is open.

Port: Baud Rate: Data Bits: Stop Bits: Parity:

☐ **Network Settings** Port: is closed.

Port: IP Address:

Input Data Format (ASCII Only)

Column separator: Line terminator:

Column names:

Data Received:

☐ Convert US Station values to decimal numbers. e.g. Convert 1+22.3 to 122.3

☒ Synchronise all VisualSoft logging to the time in the received data

Received date format: Received time format:

1. Select either Serial port or the Network port and IP address which has been connected to the Survey Navigation PC
 - a. If using a serial port, configure the required COM port settings for Baud Rate, Data Bits, Stop Bits, and Parity, making sure that they match the format being sent from the navigation software.
 - b. If using a UDP port enter the port number on which the data is being transmitted by the navigation software.
2. Open the selected port by clicking on the Apply button at the bottom of the window. You should now see something in the "Data Received" area.
3. Select the Column separator (usually a comma) and the Line Terminator (usually <CR><LF>) so that they match your incoming data string.
4. Type the Column names that match the received data e.g. Date,Time,KP,Easting,Northing,Heading etc. This list should use the same column separator as the data itself, so if your data has a comma between each column, type a comma after each column name. Note that these column names which you type here will be logged with the data and they will be seen when you issue the data to your client. Be careful to spell them correctly. Also note that you should not put a space after each comma. You can have a space as part of a column name, e.g. "ROV KP", but do not put a space at the start of the column name.
 - a. If you are using the VisualEvent Logger, you need to match the column names in this Survey Data setup to the column names used to "Log and update" the events. For example if your event configuration is setup to use a column named Easting make sure to use exactly the same here, and do not abbreviate as East or E.
5. If using a United States style Foot Post or Station format with a + sign between the digits representing hundreds of feet and tens of feet, select the check box to have this + sign removed and the value decoded correctly as a number.
6. You can set-up of Time Synchronisation between the **VisualSoft** applications and the online navigation PC by using this received survey data string. See [Quick Start: Time Sync using Survey Data](#)^[81].

1.10.8 Quick Start: Time Sync using Survey Data

For a more detailed description of Time Synchronisation in the VisualSoft Suite, see the topic [Time in the VisualSoft Suite](#)¹⁶⁴.

If you want to use the received Survey Data as the time synchronisation source for VisualDVR and other networked VisualSoft applications, select the box labelled "Synchronise all VisualSoft logging to the time in the received data."

You must then provide the information that VisualDVR needs to decode that received data.

- Is the date that is being sent by your navigation software in the format DD/MM/YYYY or does it have the month first, in the US format MM/DD/YYYY? (NOTE that the date separator must be either "/" or "\", other separators such as full stops (periods) are not currently supported.)
- Is the date that is being sent by your navigation software UTC or local time? We usually recommend that you send whichever format you want to display in the video overlay text. If the overlay will show local time, burned into the video image, then it makes sense to send local time from the navigation PC, so that the logged "Raw Survey" data file will show the same time zone as the overlay. If your client wants UTC time in the overlay, then it may be best to send and log UTC.

It is very important that you correctly identify the date and time formats. VisualDVR will use these, and the timezone setting of the PC itself to calculate not only local time for display, but also UTC time for file names and data timestamps.

If you have no interest in local time, and want everything to be logged and also displayed using UTC you must set the timezone of the VisualDVR PC, and all other VisualSoft PCs to be UTC. This is done using the Windows clock settings.

1.10.9 Quick Start: Keeping a Dive Log

In the Main Menu you will find [DVR Log Entry...](#). Selecting this will allow you to make a short log entry, whether you are recording video or not. You can also access this option by pressing the Space Bar on your keyboard. The log can be viewed later by going to Start, All Programs, VisualSoft Suite, Tools, **File Viewer**.

DVR Log entries that are made while recording video are also logged with the video and can be viewed side by side with the video and other data by using the free viewer **VisualReview**.

1.10.10 Quick Start: Recording Video

To start video recording, click the left mouse button on the Main Display window to open the Main menu.

The default option is **Start Recording**, so you can quickly click a second time to start the recording.

To stop video recording, click the left mouse button on the Main Display window to open the Main menu.

The default option is now **Stop Recording**, so you can click a second time to stop the recording. You will get an extra prompt asking you to confirm this, so that you do not stop recording accidentally.

1.10.11 Quick Start: JPEG Images and Video Clips

Instead of using the menu system, it is possible to create JPEG image grabs or video clips using simple keyboard shortcuts.

Press **F2** to grab a JPEG image of the current video frame.

Press **F3** to mark the start of a video clip at the current video frame.

Press **F4** to mark the end of a video clip at the current video frame.

Press **F5** to open Windows Explorer at the Clips folder.

NOTE: Before using the keyboard shortcuts for the first time, you should use the menus to select the destination drive to be used for JPEG images and video clips.

1.10.12 Quick Start: Using the Menus

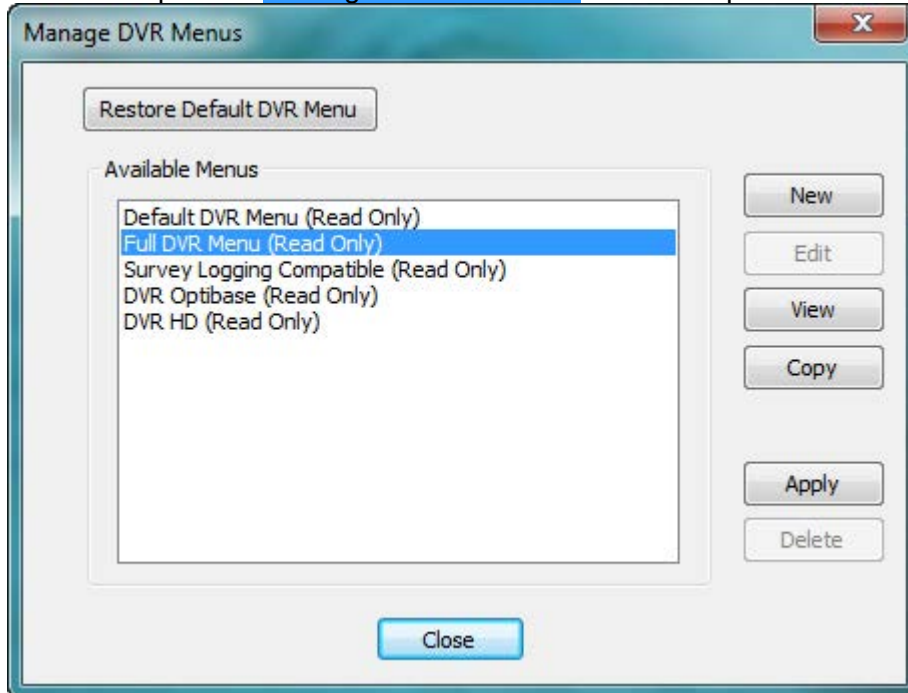
The VisualDVR menu system can be opened by clicking on the main video display.

What you see in the menu will depend on whether or not the system is currently recording, and also on whether or not changes have been made using the [menu configuration tool](#)⁸³.

1.10.13 Quick Start: Configuring the Menu

The full **VisualDVR** menu system includes a wide range of options and tools. This makes **VisualDVR** highly versatile, but if you do not need all of these tools you may prefer to have a more simple and streamlined menu focusing only on the tools that you need. This is possible by using the Manage DVR Menu configuration.

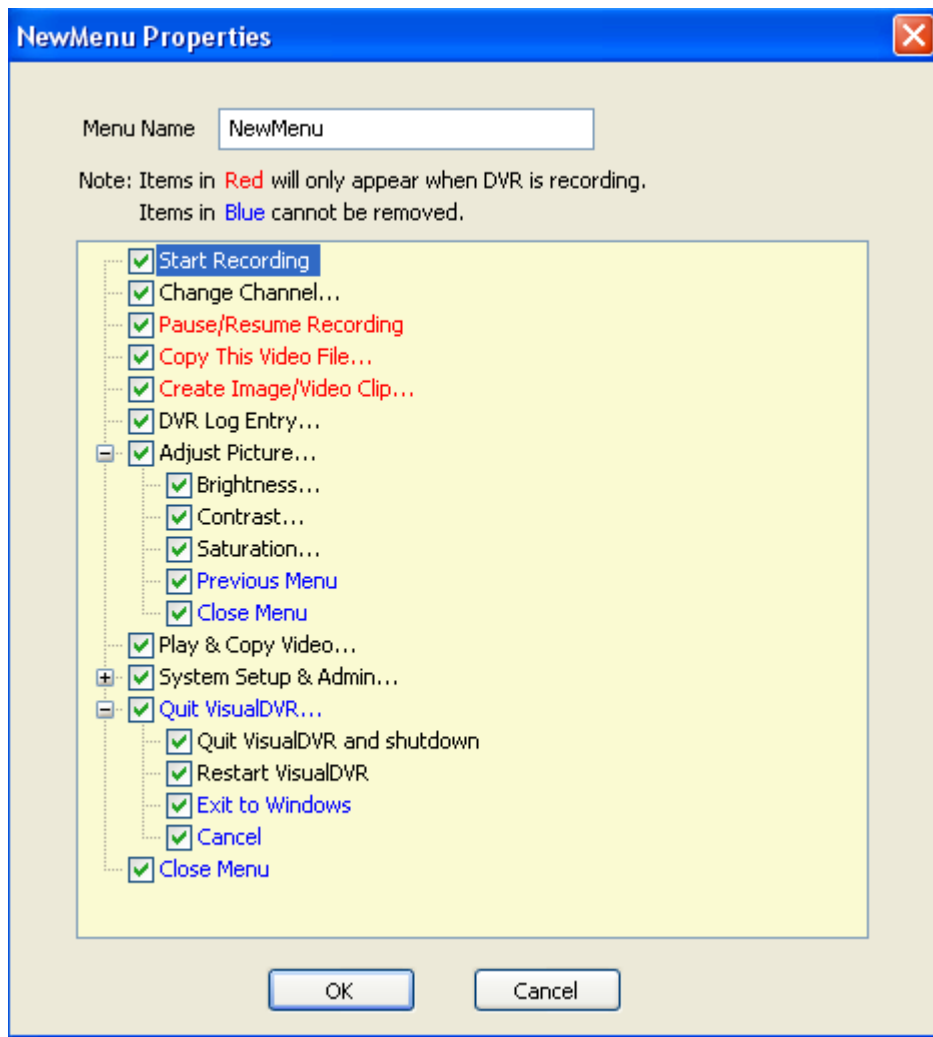
To open the menu configuration tool, open the **System Setup & Admin...** menu, then select the option to **Manage DVR Menus...**. This will open the window shown below:



Any of the five pre-configured DVR menu layouts can be activated by highlighting your selection and clicking Apply. These layouts are read only and cannot be edited, providing access to the Manage DVR Menu option at all times.

Customised menus can be created using the [New] button, which opens the window shown below. Settings for new menus are saved in VisualDVRMenus.ini.

Give the new menu a name and then turn off any menu items that are not required.



It is not possible to move menu items; they are either on or off, and if they are on they are always in the same menu branch.

Menu items that are shown in **red** will only be visible when **VisualDVR** is recording.

Menu items in **blue** cannot be turned off if other branches in the same level of the tree are still on. For example in the **Adjust Picture** sub-menu as shown above, the **Previous Menu** and **Close Menu** options cannot be turned off unless Brightness, Contrast and Saturation are all also off. Similarly, you cannot turn off the whole **Adjust Picture** sub-menu unless all of its sub-items are also off.

Quit VisualDVR and **Close Menu** options in the main menu are always available.

1.11 VisualDVR Screen Display

VisualDVR has a large video window with a status bar at the bottom. The status bar clearly shows the current operation, video format, audio level and time information. Any menus and prompts are placed temporarily over the video display.

The layout of the video image or images varies according to the number of video channels supported by the installed version of VisualDVR.

1.11.1 VisualDVR Single Channel Display

With a single channel display, one channel takes up the whole of the video preview area.



1.11.2 VisualDVR Two Channel Display

The display below shows two video channels. Channel 1 has been selected as the main display. This is done by clicking in the small video preview window on the left to select it for the main display. The **>>>>** symbol below the empty Channel 1 box on the left indicates that this channel's picture is being shown on the main display.



The other camera, in this case Channel 2, is shown as a small video window with a minimal status bar display below it.

1.11.3 VisualDVR Four Channel Display

A Four Channel unit operates in the same way as a Two Channel unit, with an extra two video preview displays on the left. The image below shows the Four Channel screen layout on an SD system, with all four channels in Recording Stopped mode, and Channel 1 selected as the main display.



1.11.4 VisualDVR Display Options

In addition to the standard display areas, such as the video windows and status display which are described above, you can adjust other optional display settings. These settings are adjusted using the menus under the **System Setup & Admin** menu, then **Display...**.

VisualDVR Display Options: Title Bar

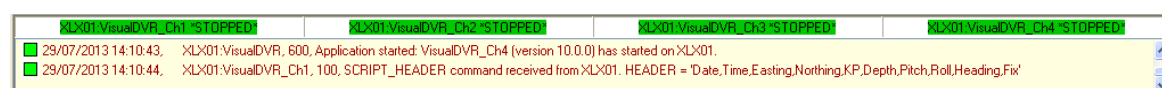
The Title Bar allows the **VisualDVR** display to be minimised or resized like any other Windows program. It also allows the program to be closed using the standard “red cross” button in the top right corner? The Title Bar displays information about the name of the **VisualDVR** PC (the “host”), the software version in use, and also the current Quality Profile that you are using.

VisualDVR Display Options: Alarm Window

The Alarm Display shows all warnings and alarms received from this and other **VisualDVR** units, and also from other **VisualSoft** applications running on the same network. The coloured strips at the top indicate the status of an individual **VisualDVR** channel or **VisualSoft** application. A green bar is used to indicate an error free status. A flashing green bar indicates error free status of a video recorder that is not currently recording. An amber bar indicates that a warning message has been issued by that application or channel, and a red bar indicates that an alarm message has been issued. Below the coloured bars is a scrolling list of status, warning and alarm messages, each displayed with the time at which they were issued, and the application or channel that issued the message.

When it is enabled, the Alarm Display is positioned across the very top of the screen, above the main video display.

The Alarm Display is on by default, and it is recommended that you **do not turn it off**.



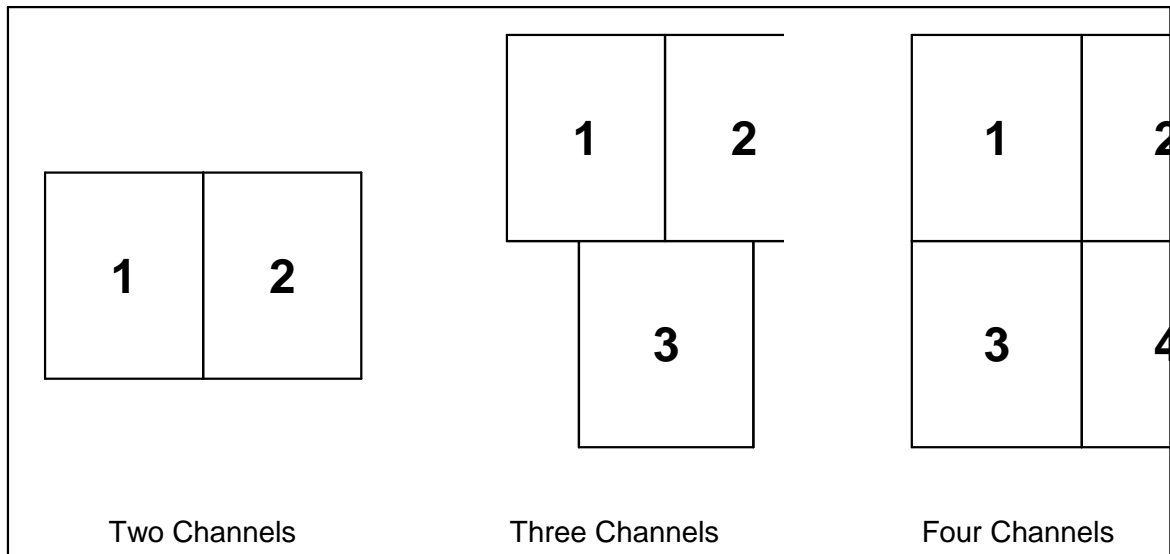
VisualDVR Display Options: Survey Data

The Survey Data Display shows data being received via Serial or Network ports, as configured using the option to **Configure Serial Data Input...** which is accessed via the **Advanced** setup menu. When it is enabled, the Survey Data Display is positioned immediately above the main video display.

ASIndex	Date	Time	Easting	Northing	KP	Depth	Pitch	Roll	Heading	Fix
00.03.21.218	23/07/2013	15:50:35	463246.95	6348162.09	23.0763	100	6.95	2.09	48.51	57036

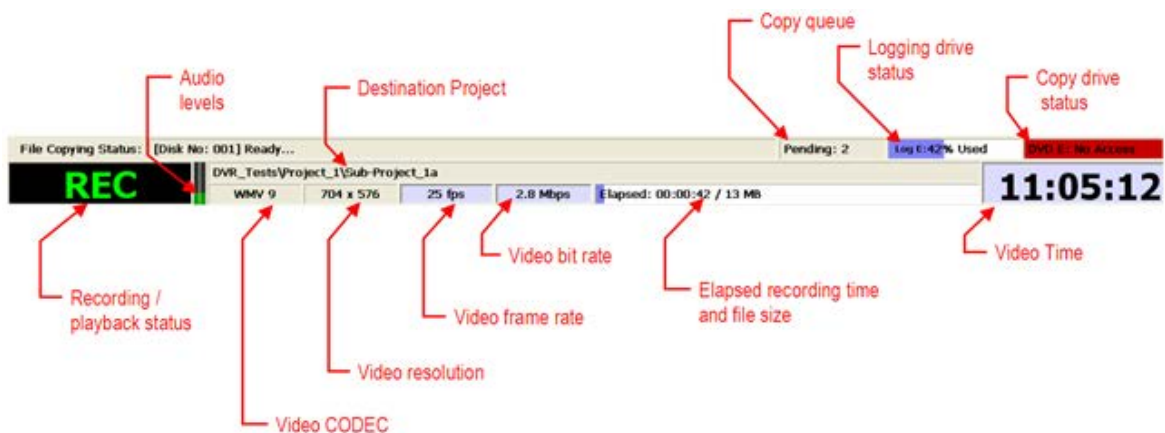
VisualDVR Display Options: Tiled Video Layout

If the Tiled Video Layout is turned on for multi-channel units, the usual thumbnail displays on the left of the screen are removed. Instead, all of the video channels are displayed in equally sized windows. For a two channel display, the two windows will be shown side by side. For a three channel system, channels one and two will be shown at the top of the screen, with channel three centred underneath them. A four channel display will have two rows of two channels.



1.11.5 Status Bar Information

The status bar at the bottom of the VisualDVR screen contains much relevant data about the VisualDVR application.



Recording / Playback Status

The main recording status indicator can show several outputs, detailed below, depending on whether VisualDVR is currently stopped, recording, playing back, recording Black-Box files or exiting.

STOPPED	STOPPED	Black/yellow flashing indicates system is in standby mode.
REC		System is recording video in normal mode.
BlackBox		System is recording video in continuous Black-Box mode.
PLAY		A video file is being played.
STOP		Video file playback is paused.
EXITING	EXITING	Black/yellow flashing indicates system is shutting down.

Audio Levels

This displays the volume level of the audio on the currently selected video channel. The display uses a vertical bar that changes colour from green to red if the level becomes so high that it may result in distortion.

Destination Project and Logging Drive Status

Destination Project

This indicates the selected Project Task or structure component folder in which the recorded data will be saved.

Elapsed Recording Time and File Size

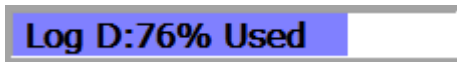
This shows how long the current recording has been running, and the current size of the file that has been created. The blue progress bar in the background gives an indication of the elapsed time/size as a percentage of the configured file time/size limits.

Elapsed: 00:00:35 / 11 MB

Where a screen grab has been taken using the **F2** button, a green indicator will appear in the progress bar. If a video grab has been taken the progress bar will turn yellow once **F3** is pressed until the **F4** button is pressed to finish the video grab.

Logging Drive Status

This shows the percentage disk usage of the internal logging drive. The blue progress bar in the background gives an indication of used disk space as a percentage of the total available disk space.



Video Status Information

Video Codec

This shows the user which encoding and compression method has been selected. Typical options are:

- WMV 9 Windows Media version 9
- MPEG-2 Motion Picture Experts Group version 2
- H.264 Motion Picture Experts Group version 4

Video Resolution

This shows the chosen video resolution in pixels, in the format width x height. Example values are:

- 1920 x 1080 "Full HD", The highest resolution currently available on VisualDVR
- 1280 x 720 High Definition (HD)
- 768 x 576 Suitable for PC monitors
- 720 x 576 PAL D1 resolution
- 704 x 576 PAL D1 cropped resolution – suitable for playback on normal TV monitors.

Video Frame Rate

This indicates the selected number of frames per second to be encoded. Typical values are 25fps for PAL or 30fps for NTSC. HD profiles also include frame rates of 29.97fps, 50fps and 60fps. Note that the background of this display will become yellow if the frame rate falls significantly below the expected value.

Video Bit Rate

This indicates the target bit rate for video encoding. Higher bit rates generally indicate higher quality, but also result in larger file sizes. In most cases, increasing the bit rate beyond a certain level will not increase the quality. Typical bit rates are 3 or 4 megabits per second (Mbps), and these provide a generally acceptable quality. For highly specialised surveys this may rise to 6 Mbps. High Definition bit rates can be as high as 20 Mbps. Note that the background of this display will become yellow if the bit rate falls significantly below the expected value.

Video Time

In recording mode and standby mode this shows the current time on the VisualDVR unit. In playback mode it displays the time associated with the currently displayed video, i.e. the time at which it was recorded.

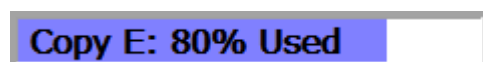
Copy Queue and Copy Drive Status

Copy Queue

This indicates the number of files that are queued, waiting to be copied to DVD or an external drive.

Copy Drive Status

This shows the disk usage or other status information for the DVD or external copy destination drive. The blue progress bar in the background gives an indication of used disk space as a percentage of the total available disk space. If the DVD drive has no recordable disk in it, the status will show "No Access".



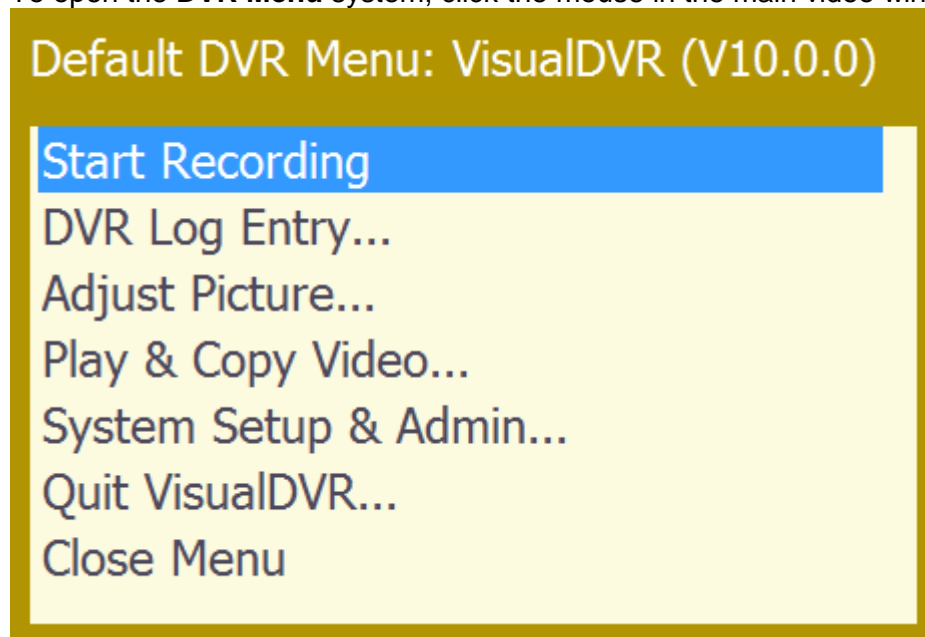
1.12 Starting VisualDVR and Using the Menus

On most units, the **VisualDVR** software will start automatically when the PC is powered on. This will display the live video feed if connected.

If VisualDVR does not start automatically, you can start it using the desktop icon, or the Windows Start menu.



To open the **DVR Menu** system, click the mouse in the main video window.



NOTE: The **Change Channel** option is only available on Two to Four Channel units. You can also change to a different channel in the main video window by clicking on the relevant thumbnail image to change that channel to the main window.

1.13 Multiple Channels and Multiple VisualDVR Units

The **VisualDVR** software in each unit can be configured and licensed to record up to four video and audio channels. Each channel may be set to be synchronised with other channels or **VisualDVR** units on the network, or may be left unsynchronised so that it will operate independently. In a Quad Channel unit it is possible to synchronise any combination of channels, for example you can set Channels 1, 2 and 3 to be synchronised, and leave Channel 4 independent so that it can be set to a lower resolution in the Quality Profile and may be used as a Black-Box recorder.

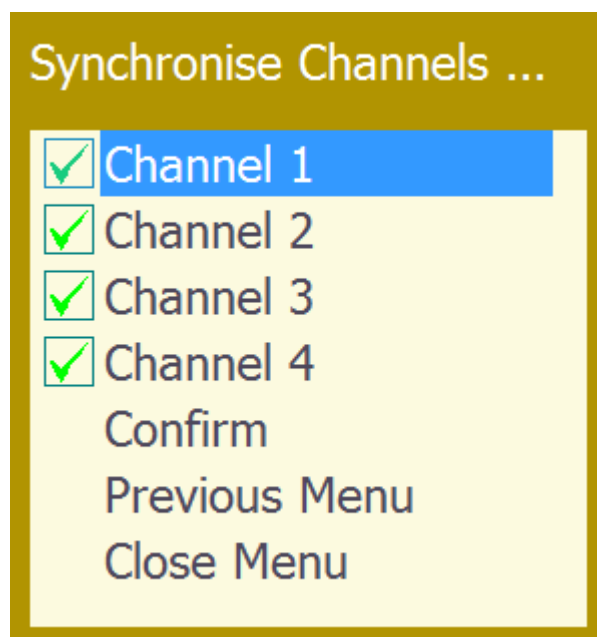
Synchronisation settings also control the sending and receiving of commands to and from **VisualDataLogger**, **Visual3D-Inspector** and the stand-alone **Start/Stop Controller** tool.

When used in conjunction with **VisualArchive**, extra options are available such as Parallel Pairing of two **VisualDVR** units, changing video file camera names, plus all of the extra functions for backup and archiving provided by **VisualArchive**. See [Methods of Copying and Backing-Up](#)^[114] for full details of how to use **VisualDVR** together with **VisualArchive**.

If you want to prevent two VisualDVR units synchronising their start/stop commands, for example if they are recording video from two different ROVs, then you need to use the Restricted Communications options which you can find in the VisualSoft Admin Panel or in the start-up [Configuration Wizard](#)^[66] of VisualDVR itself.

1.13.1 Selecting Channels for Synchronisation

To select Channels for synchronisation, open the **System Setup & Admin...** menu and select the option to **Synchronise with other Channels or Units...**. This opens a menu showing each available Channel.



1.13.2 Synchronisation Explained

Any Channel that is set to be synchronised will issue and respond to start and stop commands.

A channel which is not synchronised will not issue or respond to start and stop commands.

Start and Stop commands may occur because of user action, or because a logging file reaches a defined size or duration limit.

Start and Stop commands may come from any of the following sources:

- Other synchronised channels on the same **VisualDVR**
- Channels on a different **VisualDVR** on the network
- Other VisualSoft applications, such as **VisualDataLogger** or **Visual3d-Inspector**
- The VisualSoft **Start/Stop Controller** application
- 3rd Party Software using the VisualSoft API commands.

Commands affected by synchronisation are:

- Start Recording / Stop Recording
- Pause Recording / Resume Recording
- Start Logging / Stop Logging
- Change Quality Profile Settings
- Change File Duration or Size Limits

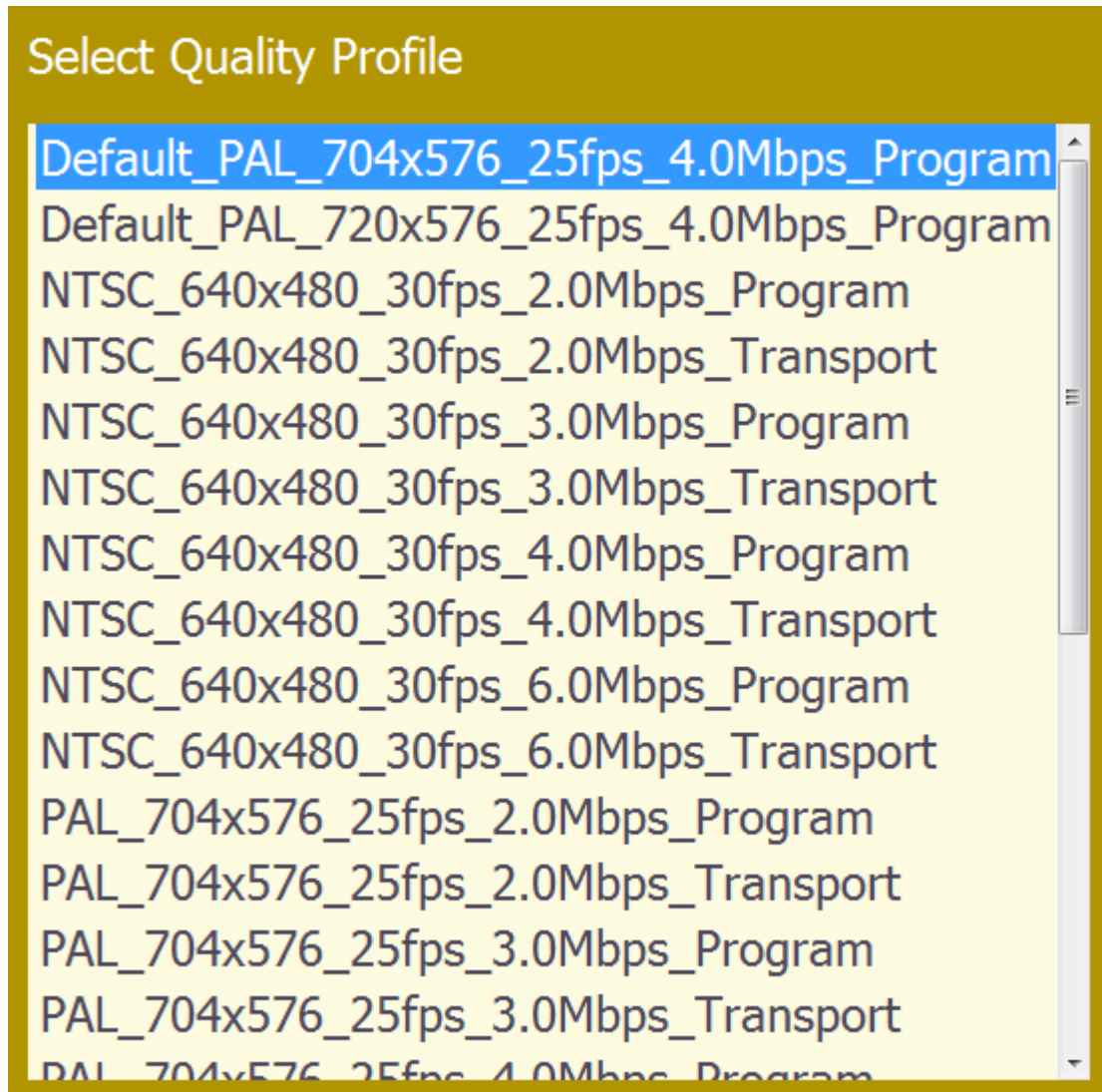
For example if one DataLogger and two Dual Channel VisualDVR units are connected on a network, and the first unit has synchronisation enabled for both channels while the second unit has synchronisation enabled only for Channel 1, the following behaviour will be seen:

	DVR-1, Channel 1	DVR-1, Channel 2	DVR-2, Channel 1	DVR-2, Channel 2	DataLog ger
Synchronised?	✓	✓	✓	No	✓
User starts recording on DVR-1 Channel 1	Start recording	Start recording	Start recording	No change	Start logging
User stops recording on DVR-1 Channel 1	Stop recording	Stop recording	Stop recording	No change	Stop logging
User starts recording on DVR-2 Channel 2	No change	No change	No change	Start recording	No change
User stops recording on DVR-2 Channel 2	No change	No change	No change	Stop recording	No change
Automatic file duration limit reached on DVR-2 Channel 1	Stop & start recording	Stop & start recording	Stop & start recording	No change	Stop & start logging
Automatic file size limit reached on DVR-2 Channel 2	No change	No change	No change	Stop & start recording	No change
Automatic file duration limit reached on DVR-1 Channel 2	Stop & start recording	Stop & start recording	Stop & start recording	No change	Stop & start logging
Quality Profile changed on DVR-1 Channel 2	Profile changes	Profile changes	Profile changes	No change	N/A
Quality Profile changed on DVR-2 Channel 2	No change	No change	No change	Profile changes	N/A

User stops logging on DataLogger	Stop recording	Stop recording	Stop recording	No change	Stop logging
----------------------------------	----------------	----------------	----------------	-----------	--------------

1.14 Video Quality Profiles

Clicking the left mouse button will open the Main menu, which includes an option for **System Setup & Admin...** option that will open a sub menu. From the sub-menu, select the option to **Select Quality Profile...**. For ease of use, you will be presented with a list of predefined video Quality Profiles, similar to those shown in the menu below.



For users needing a configuration not included in the list of pre-configured options, there is tool which allows you to build new configurations that will then appear in this list.

For advice on how to use the VisualSoft Profile Manager please contact us using the details on the last page of this document.

1.15 Video Storage Settings

The video is recorded to files on a hard disk. Usually, this will be the internal hard disk. From there the video files may be copied to DVD and/or external drives. Each video file is limited to a user-defined size or duration. The default is 30 minutes. This can be changed from the [System Setup & Admin...](#) menu which is accessed via the Main menu.

1.15.1 Video File Naming Convention

The naming convention for video files is automatic. The format is based on a timestamp that defines the start time of the video file. Without this timestamp the video files would not have any time reference, which is essential for exploiting the random access capability of digital video.

1.15.2 Assigning Project Task or Component Names to Video Files

When searching for video related to a specific pipeline or structure component, it is more convenient to search by the component name than by time. **VisualDVR** therefore allows data to be placed in a user-defined hierarchy of folders corresponding to the pipeline or structure and its components. Together the folders of this hierarchy make up a Project. Once the Project Task definition is imported into **VisualDVR**, you can use it when recording video to directly assign recorded files to structural components. This will determine where the video files will be located on disk. Each time you start recording, **VisualDVR** will prompt you to select a component from the project tree. Click the correct location for the video to start recording.

Project Tasks are more fully explained in section 14 below.

1.16 Recording Video

Start Recording

To **start** video recording, click the mouse in the main screen to open the Main menu. The default option is [Start Recording](#), so you can simply click a second time to start the recording. If you have selected the option to [Enable use of Project Tasks](#) (see [Recording Using Project Tasks](#) ^[100]), then you will be prompted to select which part of the folder hierarchy you want the recorded video to be copied to. Left-click the required component to select it. If you need to expand a branch of the tree, click on the + sign and it will be expanded to allow you to select a lower branch level.

Stop Recording

To **stop** video recording, left-click to open the Main menu. The default option will be [Stop Recording](#), so you can simply click a second time to select this. You will then be given a Yes / No choice to confirm that you really do want to end the recording. Click the [Yes](#) option to confirm.

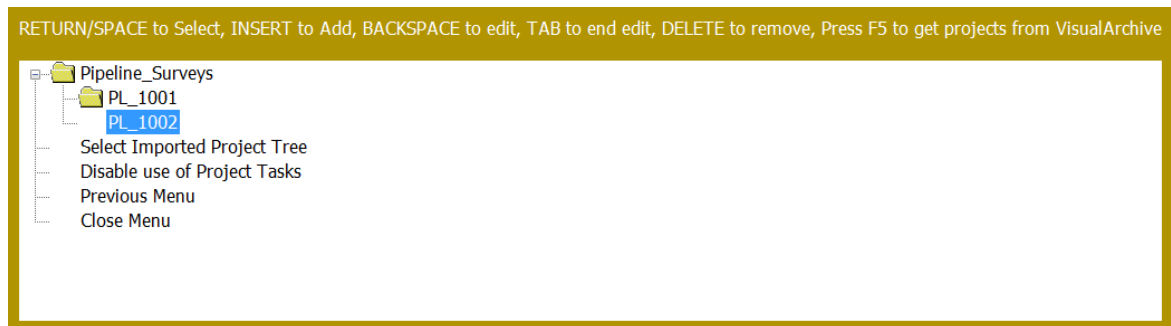
1.16.1 Recording Using Project Tasks

Project Tasks allow video files to be associated with particular components of a structure being inspected, or with other project related sub-categories. In order to use Project Tasks, this option must first be enabled. From the Main Menu, select **System Setup & Admin...**, and then **Setup logging and copying...**. In the Logging and Copying menu, click on **Enable use of Project Tasks**.

After enabling the use of Project Tasks, you must import or create a Project Task folder hierarchy. The picture below shows an example of a Project Folder hierarchy.

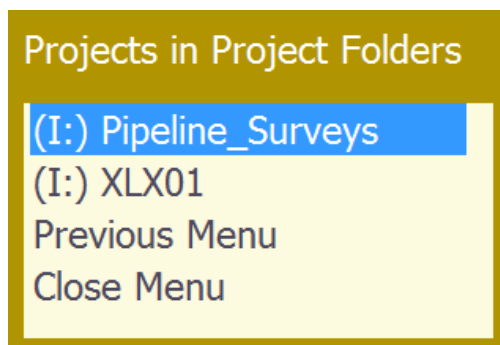
Note the instructions in the title bar for editing the folder names and hierarchy:

- Space Bar Add a new Project Task below the highlighted level
- Backspace Edit the highlighted Project Task name
- Tab Quit editing the Project Task name
- Return Select the highlighted Project Task for logging.
- F5 Obtains a list of online Projects from **VisualArchive**



Importing Project Tasks

As an alternative to creating and editing the Project Task hierarchy within **VisualDVR**, it is also possible to import a folder structure from an external disk or networked PC. To do this, open the Logging and Copying menu and select **Import Project Tasks...**. This will open a list of all disk drives on which there is an available **VisualWorks** Project folder.



Note that importing Project Task folders does not import any data contained in those folders, and does not physically create a folder hierarchy on the logging disk. Instead a configuration file is created in which the hierarchy is saved, and folders are created only

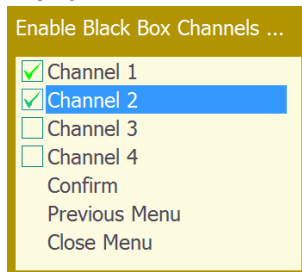
on the copy destination (DVD or external drive) as they are used by the logging process. Unused folders in the hierarchy will not be created.

1.16.2 Black-Box Recording Mode

The Black-Box recording mode provides a method of continuously recording video. Black-Box video files are kept on the internal system only and are not automatically copied to DVD or external disk drives. The Black-Box video files are automatically deleted to make space for new recordings if the logging drive becomes full, starting with the oldest files.

To start Black-Box recording mode, open the Main Menu and select **System Setup & Admin...**. This will open the System Setup & Admin menu, from which you should select the option for **Black-Box (Continuous Recording) Mode...**.

On a multi-channel system, a menu is opened in which the user may tick the boxes for each channel that is to be recorded in Black-Box mode. Select the required Black-Box channels and then click on the **Confirm** option to accept the changes before closing the menu.



When Black-Box recording is active, the Recording/Playback Status display will show BlackBox, as in the example below:

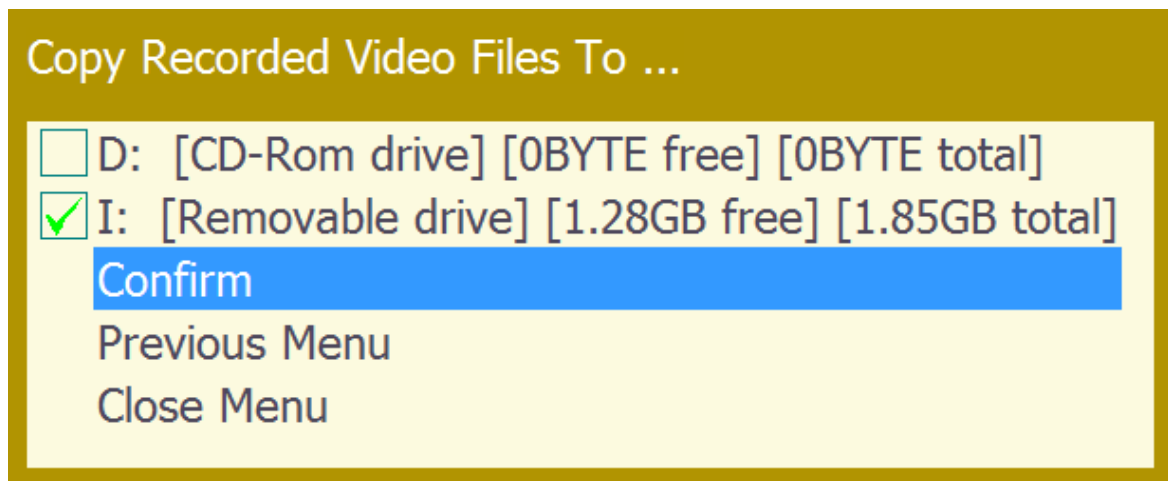


To end continuous Black-Box recording re-select **Black-Box (Continuous Recording) Mode...** from the System Setup & Admin menu

During Black-Box recording it is possible to use the normal **Start Recording** and **Stop Recording** commands, providing you have a full VisualDVR licence. In this case the recordings created will be standard DVR files capable of being copied elsewhere, either by using VisualArchive or DVR's Auto-Copy function. Black-Box recording will resume if the **Stop Recording** command is used.

1.16.3 Copying the Current Video File

It is possible to setup video file copying without stopping the current recording. Select the menu option **Copy This Video File...** and then specify one or more drives from the displayed list.



Click **Confirm** to accept the disk selection. When the current recording finishes the file will be copied to the selected drive(s).

1.17 Creating Survey or Inspection Events

Pipeline Surveys and Inspections

To log survey or inspection events for pipeline surveys, you should use the **VisualEventLogger** software on any PC connected to the same network as **VisualDVR**. Note that the **VisualEventLogger** software does not need any license to log data, but you will need a license for **VisualEdit Eventing** or **VisualEdit Professional** if you want to make any changes or additions to what you have logged.

Structure Inspection

For surveys and inspections of structures such as platforms, wellheads, templates or manifolds, we recommend the use of **Visual3D-Inspector** which has the same event logging capability as **VisualEventLogger**, but also allows you to plan and manage your activity using 3D drawings of the structure being inspected. Video recording can be controlled remotely from **Visual3D-Inspector**. You will need a license for **VisualEdit**

Eventing or **VisualEdit Professional** if you want to make any changes or additions to what you have logged.

Less critical operations

For operations where event observations are less critical than standard inspection operations you can use a more simple "**DVR Log**" to highlight features of interest. The DVR Log is opened by pressing the space bar and you can then type a quick comment, and optionally request a still image grab. Note that it is not possible to edit the DVR Log offline without first importing it into the standard event logging table. To do that you will need a licence for **VisualEdit Eventing** or **VisualEdit Professional**. What you can log and edit using the DVR Log is very limited compared with the standard event logging package; think carefully about what you need to provide before deciding to use only the DVR Log.

1.17.1 Using the "DVR Log" Whilst Recording Video

VisualDVR allows a dive log to be kept during video recording to identify and "bookmark" features in the video file. These log entries may be categorised into different types, and may have text comments added to them. It is also possible to flag any event as being an "Anomaly".

To log an entry while the system is in recording mode press the space bar or left-click with the mouse to open the Main Menu.



The DVR Log window has a number of fields and buttons.

The upper box allows you to enter a detailed comment if required. Below that is a drop-down list of available Log Types.

If you want to add extra Log Types to the drop-down list, simply select the drop-down and type the required information then click on the Add button. Entries may be removed from the list by selecting them and clicking on the Remove button. If you tick the Anomaly check box then this will set an anomaly flag.

To log an entry, select the appropriate Log Type, enter a comment if needed, set the anomaly flag if needed, then click on OK.

If you also want a JPEG still image grab, select the relevant box.

If you want a video clip, select the box and choose how you want the clip to relate the log entry. You can have a clip centred on the time of your log entry, starting at the time of the log entry, or ending at the log entry.

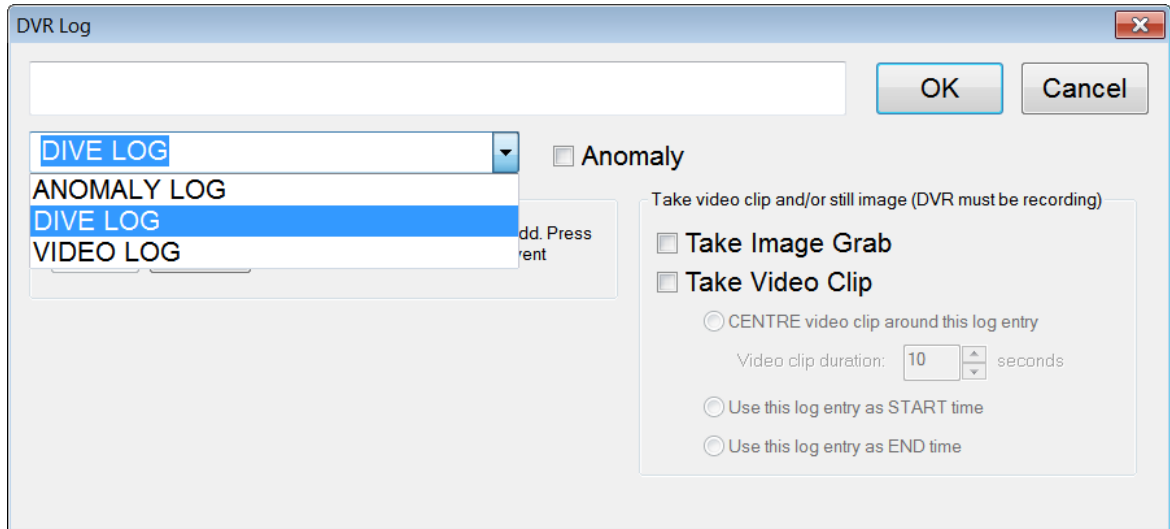
The log entries are stored in a file in the same place as the video file. Each entry may be used as a bookmark for instant access to the correct place in the video using the VisualDVR playback menu. If data is copied to a Project the DVR Log may also be viewed using VisualReview. The format of the file is a comma separated list:

e.g. Date, Time, Type, Anomaly Flag, Text Comment

- 22/06/2007, 12:23:29, Video Log, N, Start of Dive
- 22/06/2007, 12:25:29, Debris, Y, Scaffold Poles

1.17.2 Using the “DVR Log” Whilst Not Recording Video

Creating DVR Log entries while recording is Stopped, is exactly the same as above, except that you cannot make still images or video clips, and the file can only be viewed using the File Viewer and not with **VisualReview** (which needs video files).



1.18 Creating a Still Image or Clip During Recording

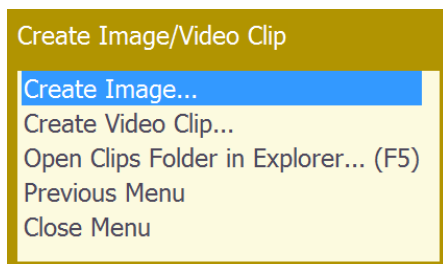
It is possible to create a still image or a video clip without stopping the current recording. Both video clips and still image JPEG files are saved on a selected disk drive in a folder named VisualWorks\Clips\PCNAME, where PCNAME is the Windows PC name of the **VisualDVR** unit.

The recording progress bar of VisualDVR will reflect image and video grabs by inserting green bars where images have been captured and purple sections where video clips have been captured. The example below shows several image grabs and one video clip on a recording.

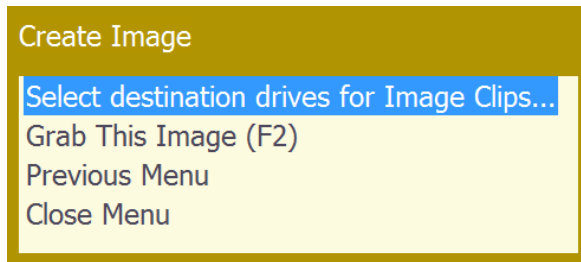


1.18.1 Creating a JPEG Image

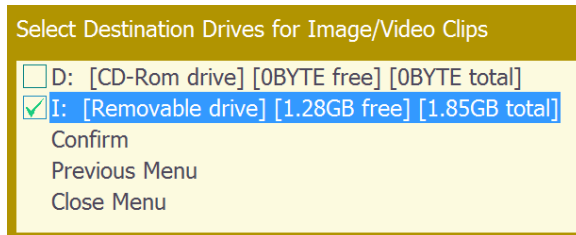
To create a still image, open the Main Menu and click on **Create Image/Video Clip...** to open the menu.



Select **Create Image...** to open the menu below.



First click on **Select Destination Drives for Image Clips...** to open a drive list similar to this one:



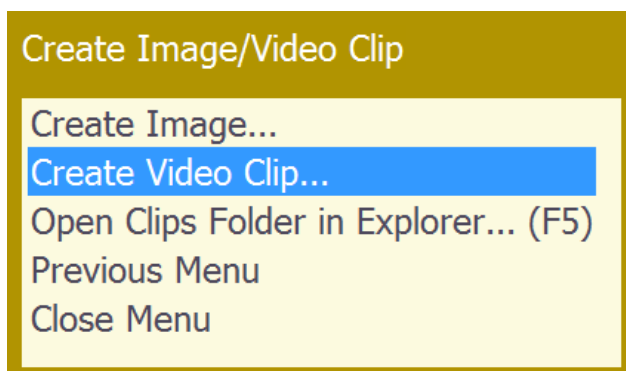
Select a destination drive for the resulting image and click on **Confirm**.

When the preview display screen in VisualDVR shows the required image, click on **Grab This Image** or press the **F2** key. The image will be written to the selected drive as a JPEG image file.

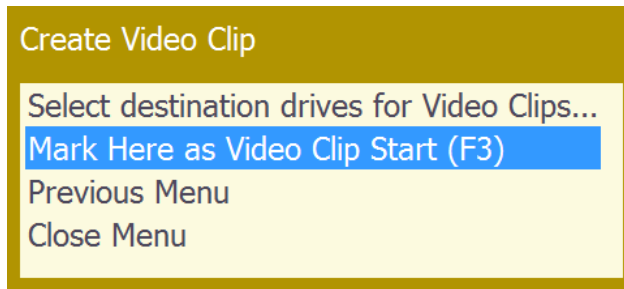
It is possible to open the Clips folder in Windows Explorer to view, or copy the logged images. This can be done either via the menu or by pressing the **F5** key.

1.18.2 Creating a Video Clip

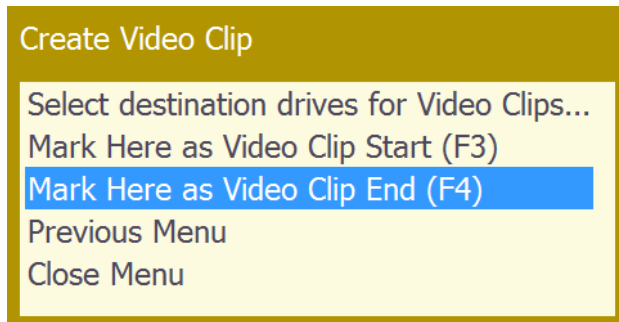
To create a video clip, open the Main Menu and click on **Create Image/Video Clip...** to open the menu below, and then select **Create Video Clip...**



First click on **Select Destination Drives for Video Clips...** to open the drive list. Select a drive, and click on confirm. Once the destination drive has been chosen, select the option to **Mark Here as Video Clip Start (F3)**.



When the display is at the end of the required clip, re-select the **Create Image/Video Clip...** option and click on **Mark Here as Video Clip End (F4)**.



The clip will be immediately written to the selected destination, or at the end of the current file if VisualDVR is currently recording.
After the first clip, when you have successfully selected a destination drive, you can start and end video clips more quickly using the **F3** (start a clip) and **F4** (end a clip) sequence on your keyboard.

1.18.3 Using Keyboard Shortcuts for JPEG Images and Video Clips

Instead of using the menu system, it is possible to create JPEG image grabs or video clips using simple keyboard shortcuts:

Press **F2** to grab a **JPEG** image of the current video frame.

Press **F3** to mark the **start of a video clip** at the current video frame.

Press **F4** to mark the **end of a video clip** at the current video frame.

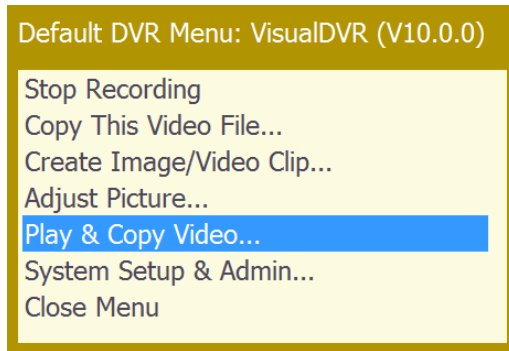
Press **F5** to **open Windows Explorer at the Clips folder**.

NOTE: Before using the keyboard shortcuts for the first time, you should use the menus to select the destination drive to be used for JPEG images and video clips.

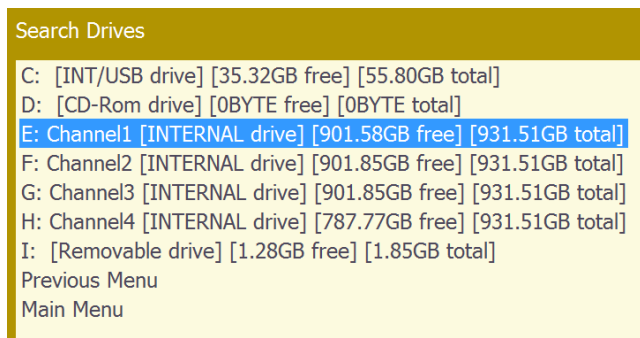
1.19 Playing Video

To playback a video file, you must first locate the file to be played. Click to open the Main menu, and highlight **Play & Copy Video...**. Click this to enter the search menus as described below.

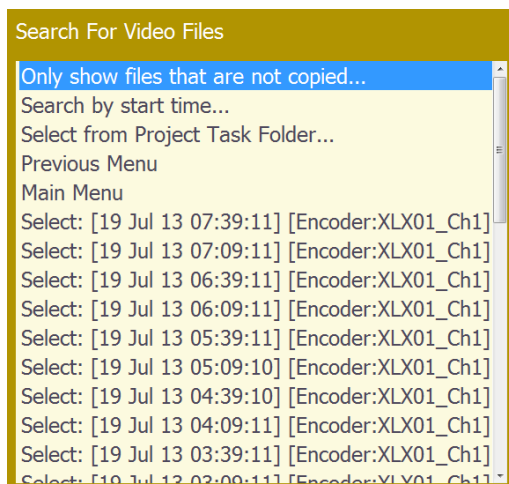
Select a video file, by choosing a disk drive and then a search method as described here. Note, that each video file is represented in the menu using its start time.



Click Play & Copy Video to enter the search menus.



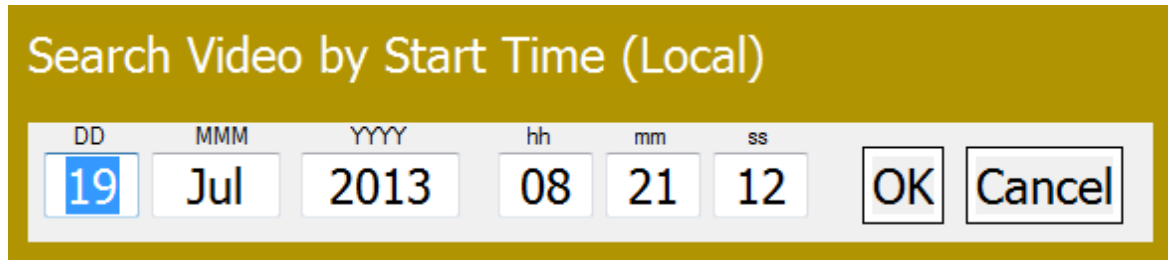
Selected a drive to see a list similar to the one shown here.



Use the displayed options to find and select a video file for playback.

1.19.1 Find Video Using Date and Time

The **Search by start time...** option can be used to locate a video file recorded at a specified time. Enter the date and time, and then click the OK button.



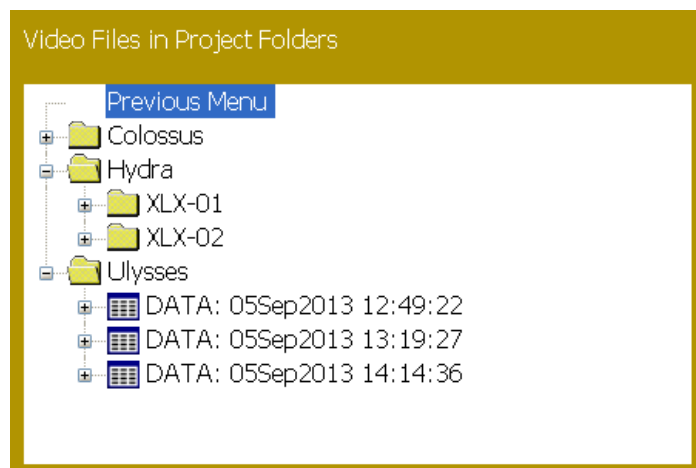
Search Video by Start Time (Local)

DD	MMM	YYYY	hh	mm	ss		
19	Jul	2013	08	21	12	OK	Cancel

Find Video Using Structure Component, Pipeline or Project Name

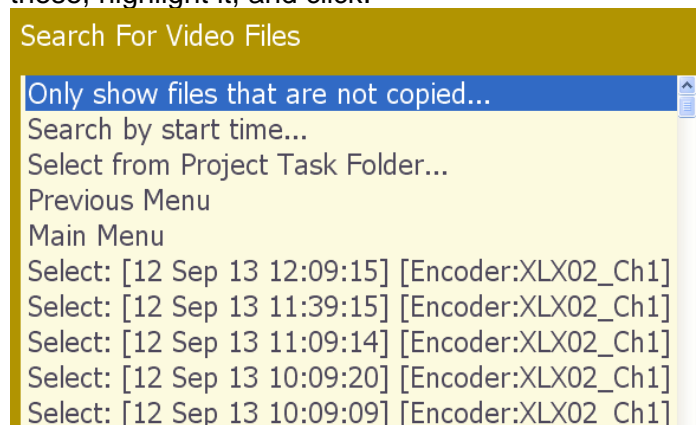
Select from Project Task Folder... can be used to locate video that has been linked to a pre-defined project tree.

Expand a branch of the tree to see the video files associated with it. Highlight the required file and click to select it for playback.



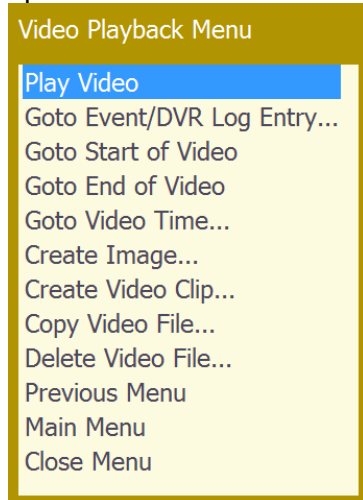
Select an Unassigned Video

The video search tool shows the options listed above, and also includes any video files that were not assigned to Project Tasks when they were recorded. To select one of these, highlight it, and click.

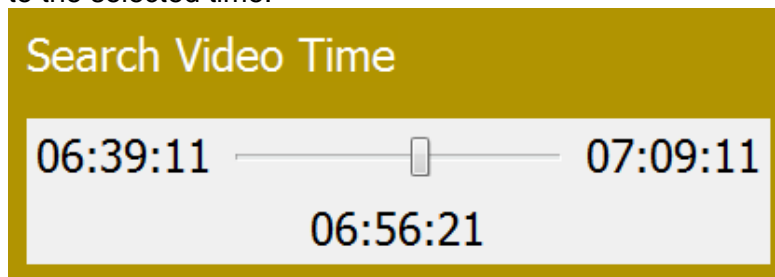


1.19.2 Play the Selected Video

Having located and selected the required video file, you will see the following list of options:



Goto Video Time... will open a slider control showing the start and end times of the video file at either side, and the currently selected time at the bottom. This allows you to browse through the video using the timestamp. As the slider is moved, the video will jump to the selected time.



1.19.3 Playback Speed

While a video file is being played, you can control the playback speed by rotating the mouse wheel to speed up and slow down. The speed can vary from 0 to 10 times normal speed. If the play is stopped and you rotate the mouse wheel backwards then the video will step backwards.

1.19.4 Pause Playback

You can pause video playback by clicking the left mouse button. While the playback is paused, clicking opens the Video Playback Menu (shown in section 0 above). To resume playback simply select the **Play Video** option.

The Video Playback Menu also includes an option to **Goto Video Time...** as described above. This is used to quickly search the selected video file. Play continues when the mouse is clicked to accept the selected position.

1.19.5 Stop Playback



Video playback is stopped by clicking the mouse in the same way as pausing the video playback. To end playback and remove the video from the display, open the Video Playback Menu and select the **Main Menu** option.

1.20 Synchronising Video with Other Data


If the video is to be cross-referenced with other data then a method of setting the time on the **VisualDVR** will be required. For example, with Coabis the preferred method is to enable the Coabis PC to provide the time source. Click on the **Time** tab of the VisualSoft Admin Panel icon in the system tray of the Coabis PC, right click the PC name in the list and select **Time Sync > Synchronise all VisualSoft logging to the internal clock** as the time sync source. **VisualDVR** is compatible with Coabis version 12.1 and later.

1.20.1 Interfacing to Other Inspection Applications

The inspection applications Coabis, SCOPE, Inspection Manager, and SIMS each have interfaces provided for the control of the **VisualSoft Suite**, including the **VisualDVR** unit. These interfaces all operate across a network connection. Please refer to the user manuals of the relevant inspection application for further information on configuration. The table below provides a quick check list for testing the control of the **VisualSoft Suite** from Coabis and SCOPE.

Test	Description	Pass?
1	<p>Check that time synchronisation is being received by the VisualDVR. The live time is displayed on the status bar and this should match the time of the PC clock on the Coabis/SCOPE computer.</p> <p>If it does not then click on the VisualSoft Suite Admin Panel icon</p> <p> in the system tray of the Coabis/SCOPE computer and ensure that the PC is enabled as the time sync source in the Time tab.</p>	
2	<p>Check that you can start and stop the video recording from Coabis/SCOPE. The recording status is displayed in the VisualDVR status bar and should change when instructed to start or stop from the remote computer.</p> <p>If this fails then check the network communication setup between the two PCs.</p> <p>In particular, click on the VisualSoft Suite Admin Panel icon</p> <p>, setup the network to be 'Point-To-Point' in the Network Comms Settings tab and enter the address of the VisualDVR PC.</p> <p>Note that the VisualDVR should be set to either broadcast or multicast and not 'Point-To-Point'.</p>	

Test	Description	Pass?
3	<p>Check that you can access the routine video files from Coabis or SCOPE.</p> <p>If you cannot, then check that the files exist in the destination project tree managed by VisualArchive. VisualArchive must be running on either the VisualDVR unit or on a network attached PC. The project tree must be shared and accessible from the Coabis or SCOPE PC.</p>	
4	<p>Check that you can capture a separate anomaly video clip while recording. The anomaly video clip should be automatically placed in the directory specified by Coabis/SCOPE after the current video file is closed or recording is stopped.</p> <p>If this fails check the directory name. If it is a remote folder on the network then the name must start with the name of the computer e.g. \\Coabis\SharedFolder\...</p> <p>If the directory name starts with a drive letter then that drive letter must exist on the VisualDVR either as a local drive, an external drive or a mapped drive.</p>	
5	<p>Check that you can capture a separate anomaly still image while recording. The image should be automatically placed in the directory specified by Coabis/SCOPE almost immediately.</p> <p>If this does not happen then check the directory name as in test 3 above.</p> <p>If the image is black then you must alter the settings of the graphics card on the VisualDVR. Switch off, then attach a keyboard & mouse and reboot. Access the desktop. Right-click and select Properties. Go to settings page and select Advanced. Next, select the Troubleshooting page and adjust the "graphics acceleration" slider control so that DirectDraw is disabled. Then apply the change and close the dialog windows.</p>	
6	<p>When using more than one VisualDVR to record independently then you should ensure that the VisualDVR units do not all start and stop recording simultaneously if only one is instructed to do so from Coabis or SCOPE.</p> <p>Click the VisualSoft Suite Admin Panel icon</p>	

Test	Description	Pass?
	<p> in the system tray. This contains an option to 'Add this Computer to a Restricted Comms Group'. If this is enabled then the system will only communicate with other VisualWorks systems on the same local network, with the same identifier entered in the "Restricted Comms Group" box. Therefore, to ensure that the Coabis/SCOPE PC only controls the one VisualDVR, you should set this option on both computers. Any Group Name can be used. For example, you could simply use the VisualDVR unit's computer name, and set it the same on both the DVR and the Coabis PC.</p> <p>If you have one VisualArchive, but multiple independent VisualDVR units, then you can leave this option disabled on the VisualArchive PC so that it can monitor all messages from all systems. If you run VisualArchive on one of the VisualDVR units then you should not disable this option. In this case VisualArchive will still manage the video files but it will not be able to receive status messages from the other VisualDVR units.</p>	
7	<p>Check that the audio input to the VisualDVR is being recorded, and that the audio quality is acceptable by playing back a sample test video file. The audio input to the VisualDVR is displayed in the status bar, but regardless of this display you should always check the audio quality by playing back a sample.</p> <p>If audio is not being recorded then check that the audio cable has been connected to the correct port on the capture board. Also check that Windows is configured to record from the input of the video capture board and not from the audio input of the motherboard.</p>	

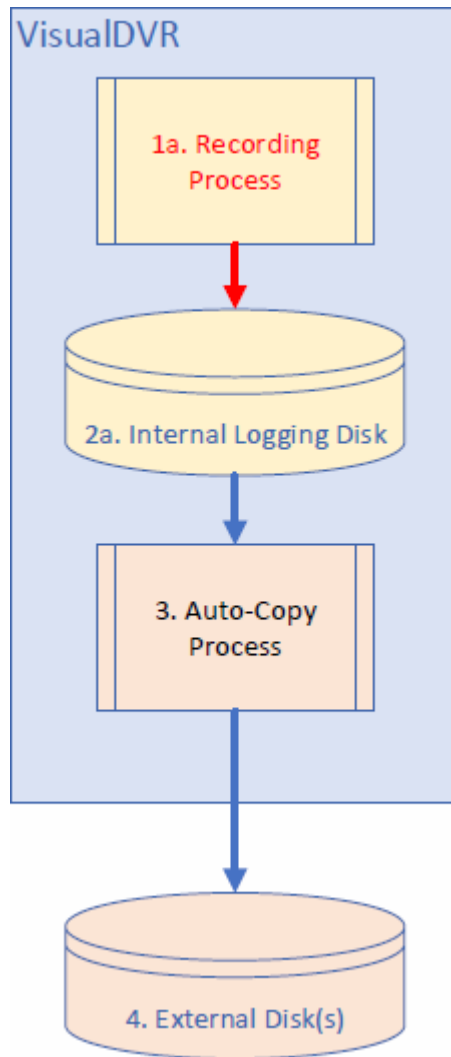
1.21 Methods of Copying and Backing-Up

When using VisualArchive, data and video recorded in the VisualSoft Suite flows through the applications and storage devices in the following ways. If you use VisualEvent Logger online during video recording then those events are logged by VisualDVR's Recording Process and start out on VisualDVR's internal logging disk before being copied or transferred to other disks with the associated video files.

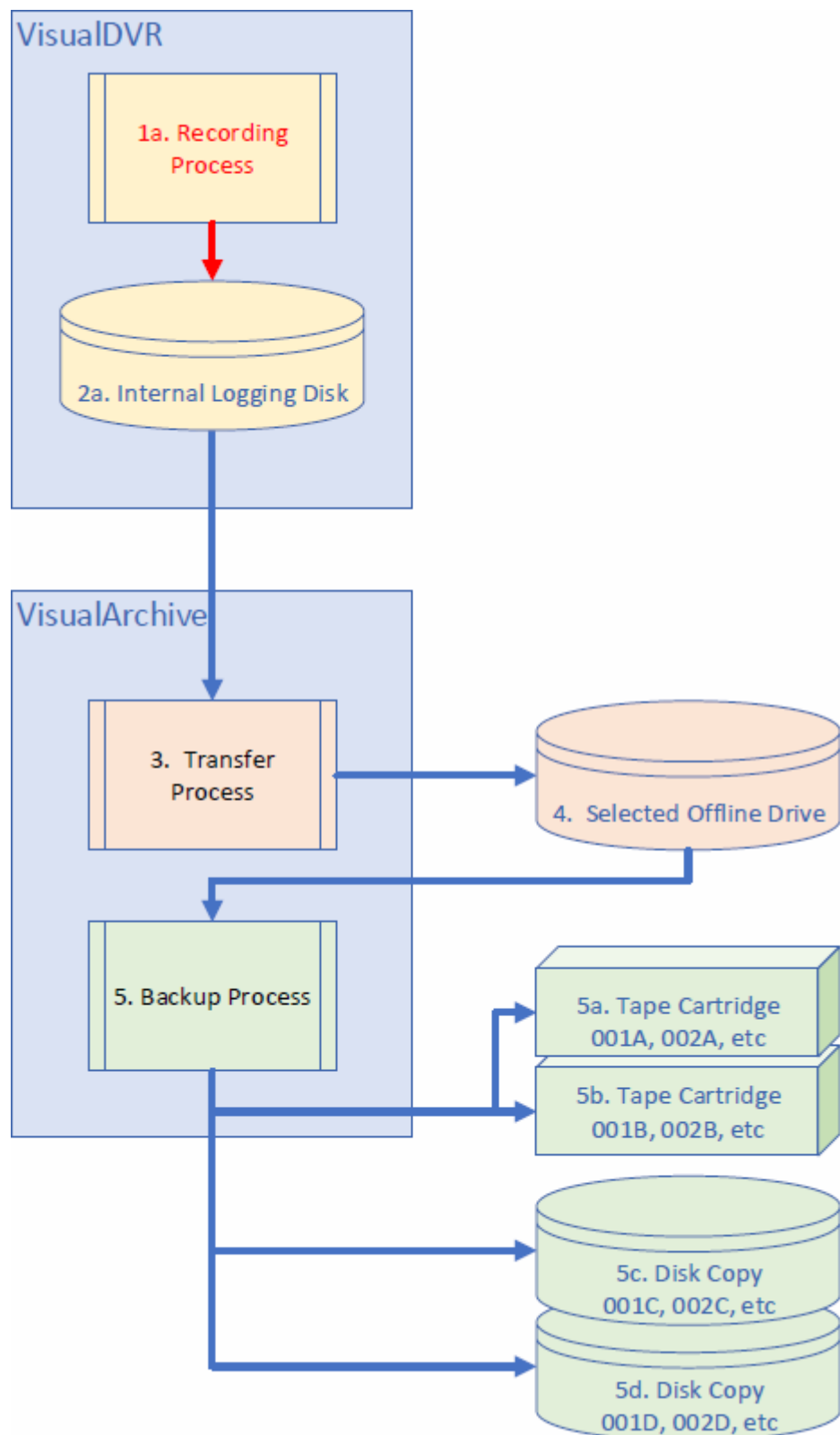
1.21.1 Data Flow

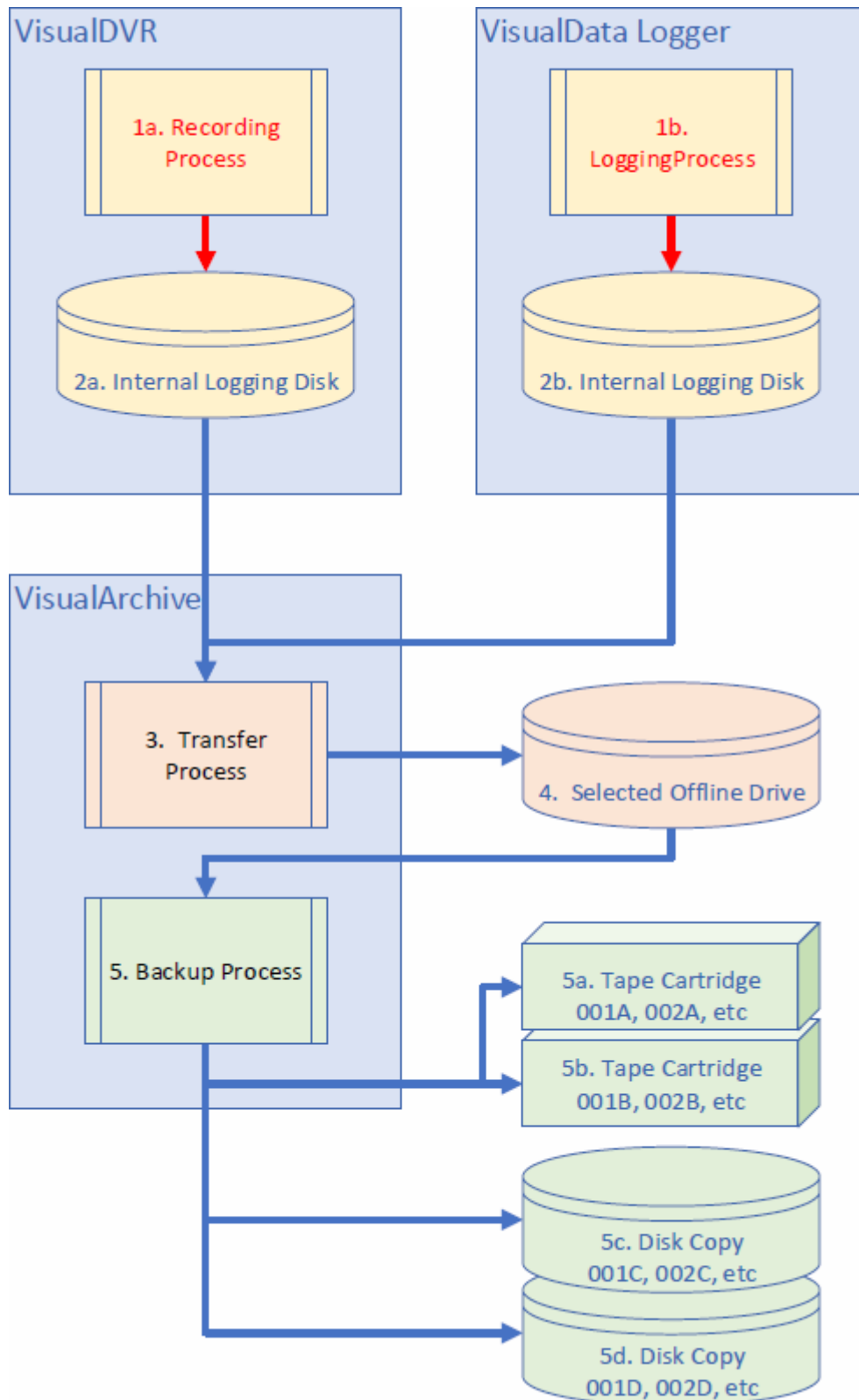
Data and video recorded in the VisualSoft Suite flows through the applications and storage devices in the following ways with a basic "VisualDVR only" method or a more robust and secure "VisualArchive data management". If you also use VisualEvent Logger online during video recording then those events are logged by VisualDVR's Recording Process and start out on VisualDVR's internal logging disk before being copied or transferred to other disks with the associated video files.

Option 1: VisualDVR Auto-Copy only



Option 2: VisualDVR with VisualArchive



Option 3: VisualDVR and VisualData Logger with VisualArchive

1.21.2 “Pushing” data to another hard disk from VisualDVR

VisualDVR's Auto-Copy process is able to make its own backups of the video files that it records. These backups are made by copying the video files to one or more other disk drives (and/or to DVDs). The copying process can be fully automated so that copies are made as soon as each video file finishes recording. This backup can be thought of as **VisualDVR** “pushing” the video files onto another disk. When **VisualDVR** copies video files it will automatically create the required Project folder and Dataset folder to store them in. See [Copying Video to DVD or External Disk](#)^[120] for details.

NOTE: If you use **VisualArchive** to “pull” data and also use **VisualDVR** to “push” data you must make sure that they are not both sending the video files to the same disk drive.

1.21.3 “Pulling” data to another disk using VisualArchive

It is also possible to use a separate program, **VisualArchive**, running on a different PC to “pull” the video files onto another disk drive. **VisualArchive's Transfer Process** will copy the video files from the **VisualDVR** to the current storage location chosen in **VisualArchive**. When **VisualArchive** copies video files it will automatically create the required Project folder and Dataset folder to store them in.

If **VisualArchive** is available we recommend that you use it, and that you disable the Auto-Copy file pushing in **VisualDVR**. If you need extra copies **VisualArchive** can do this also.

NOTE: If you use **VisualArchive** to “pull” data and also use **VisualDVR** to “push” data you must make sure that they are not both sending the video files to the same disk drive.

1.21.4 Creating backup tapes using VisualArchive

VisualArchive can also copy the video files onto archive tapes such as LTO. This setting can be enabled and configured using the **Backup Devices** window and **Project Properties** in **VisualArchive**. After the video has been copied into the dataset folder on the **VisualArchive** storage disk, it will then be copied to one or more tape backups.

1.21.5 Creating extra disk copies using VisualArchive

In addition to copying data to the main storage drive in **VisualArchive**, you can also select one or more extra disk copies using the **Disk Copy** function in **VisualArchive**.

1.21.6 Selecting the Correct Backup Methods

When recording using **VisualDVR** you can create backups using **VisualDVR** itself, using **VisualArchive** or by using both together. The questions and answers below will help you to decide which method of backing up is appropriate for your needs.

Q:	Do you want to make a backup to DVD?
A:	To make DVD backups you should use VisualDVR's internal Auto-Copy .

Q:	Do you want to use two VisualDVRs as a linked Parallel Pair?
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A:	This is only possible if you use VisualArchive to manage the video files from both VisualDVRs. See Parallel Pair – Failsafe Recording in the VisualArchive User Manual.
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Q:	Do you want to make backups on LTO Tapes?
A:	This is only possible if you use VisualArchive . See Backup Devices in the VisualArchive User Manual.

Q:	Do you want to make backups on Virtual Tapes (a file which mimics the behaviour of a backup tape).
A:	This is only possible if you use the archiving functions of VisualArchive . See Backup Devices in the VisualArchive User Manual.

Q:	Do you want to make a copy of the data on an external hard disk like a USB disk, or another network drive?
A:	You can do this using either the internal Auto-Copy built into VisualDVR or using a Disk Copy backup device in VisualArchive .

Q:	Are you logging a simple survey data string connected to VisualDVR ?
A:	This will be automatically copied with the video by VisualDVR or VisualArchive .

Q:	Are you logging event data such as inspection events or dive log events?
A:	This will be automatically copied with the video by VisualDVR or VisualArchive .

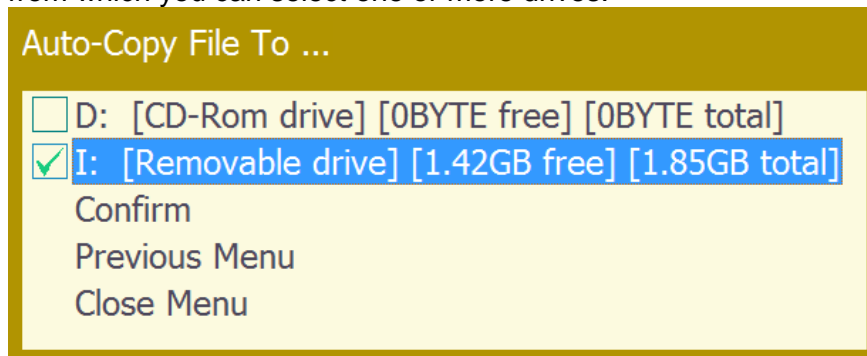
Q:	Are you using VisualData to log other data (bathy, profilers, MBE, motion etc.)?
A:	This data cannot be copied by VisualDVR . You must use VisualArchive to copy both the video from VisualDVR and the sensors from VisualData / VisualProfiler .

1.21.7 Copying Video to DVD or External Disk

The procedure for copying files to either a DVD or to an external disk is the same for both. The system can be configured to copy files automatically when they are created, or the user can choose to copy files manually. If a project tree has been used then the relevant portions of that tree will be created on the destination storage drive as they are used and the video files will be saved to the correct component folder.

Automated Copying

Open the Main menu, and highlight **System Setup & Admin...**. Click this to enter the Setup menu then click on **Setup logging and copying...**. The first stage is to specify where the video files should be copied to: In the Logging and Copying menu select the option to **Select destination drives for file copying...**. This will open a menu list of destination drives from which you can select one or more drives.



Clicking the mouse toggles the selection of the highlighted drive. Select one or more drives and then click on **Confirm** to finalise the selection.

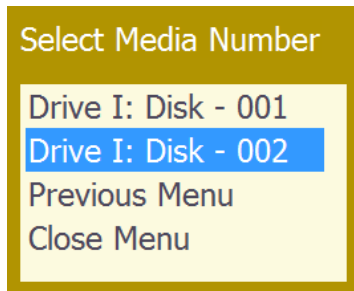
By default, the automatic copying process will copy **all** video files that have not already been copied to the selected destination drive(s). If this is not what you want then you can enter specific time limits for the files that should be copied. From the Logging and Copying menu select the option to **Copy video files within a time range...** and enter a start time and an end time to determine which files must be copied. All files recorded after the chosen start time, and before the end time will be copied.

Manual Copying

When you locate a video file using the search tool (described in section 20 above) there is an option to copy the file to a selected destination drive. This marks the video file as ready for copying and adds it to the queue of pending file operations. The actual copying process will happen in the background while recording or playback continues. The status of the file copying is displayed on the status line at the bottom of the **VisualDVR** screen (see [Copy Queue and Copy Drive Status](#) ⁹²).

Creating a Second Copy of a DVD or Disk Drive

VisualDVR allows the operator to make an extra copy of a disk that has already had video files automatically copied to it. From the Logging and Copying menu select the option to **Recreate another copy of Hard Disk or DVD ...**. This will open a list of available drives, each with a Media Number assigned by **VisualDVR**.



This will copy all files originally copied to the selected drive letter, to the drive that currently has that drive letter. In this way a second copy of a DVD or a removable hard drive can be made.

Note that this function to create a second copy will only work if the original video files are still available on the logging drive.

1.21.8 Using VisualArchive for Data Management

VisualArchive is a program designed to manage the storage and archiving of digital video and associated survey data. When using **VisualArchive** it is still possible, but not recommended to configure **VisualDVR** to copy video files itself. If you use the Auto-Copy in **VisualDVR** at the same time as using **VisualArchive** it is essential that the **VisualDVR** copy location is not the same as the location used for data storage by **VisualArchive**.

VisualArchive can perform the following roles in conjunction with **VisualDVR**:

- Copy video data from **VisualDVR** to a remote storage disk.
- Copy and synchronise other survey data.
- Copy video and survey data to tape or virtual tape.
- Rename video files to set specific camera names (See Rename video files in the VisualArchive User Manual.).
- Configure two **VisualDVR** PCs as a “Parallel Pair” for failsafe recording (See Parallel Pair – Failsafe Recording in the VisualArchive User Manual.).

To use **VisualDVR** with **VisualArchive** and enable these extra functions you must make configuration changes within both programs.

For more details of **VisualArchive** and its operation please see the **VisualWorks** help file which can be opened from the Start / Programs / **VisualSoft Suite** menu of any PC with the **VisualSoft Suite** software installed. Alternatively, the help file can be downloaded from the Downloads section of our support [website](#).

VisualDVR records video files into a folder named Encoder@PCname_ChN where “PCname” is the name of the PC, and ChN is the channel number (i.e. Ch1, Ch2, Ch3 or Ch4). A single channel **VisualDVR** unit omits the channel number from the folder name, using only Encoder@PCname. The Encoder folders are created inside a folder named **VisualWorks** which must itself be at the root level of a disk drive, e.g. E:\VisualWorks or F:\VisualWorks.

For **VisualArchive** to access the video data on a **VisualDVR** unit, the location of the logged video files must be accessible via a network connection and the following basic rules should be followed:

- Each **VisualDVR** unit should have a logical, easily understood name
- Each PC (**VisualDVR** and **VisualArchive**) must be connected to the same network, and have IP addresses that form part of the same subnet.
- The disk or folder containing each video logging folder (Encoder@*) must be shared with full access permissions.

Setting up Shared Folders on the VisualDVR

Each video channel has a logging disk associated with it. See [Logging Drive Selection](#)⁷² for details of how these are selected.

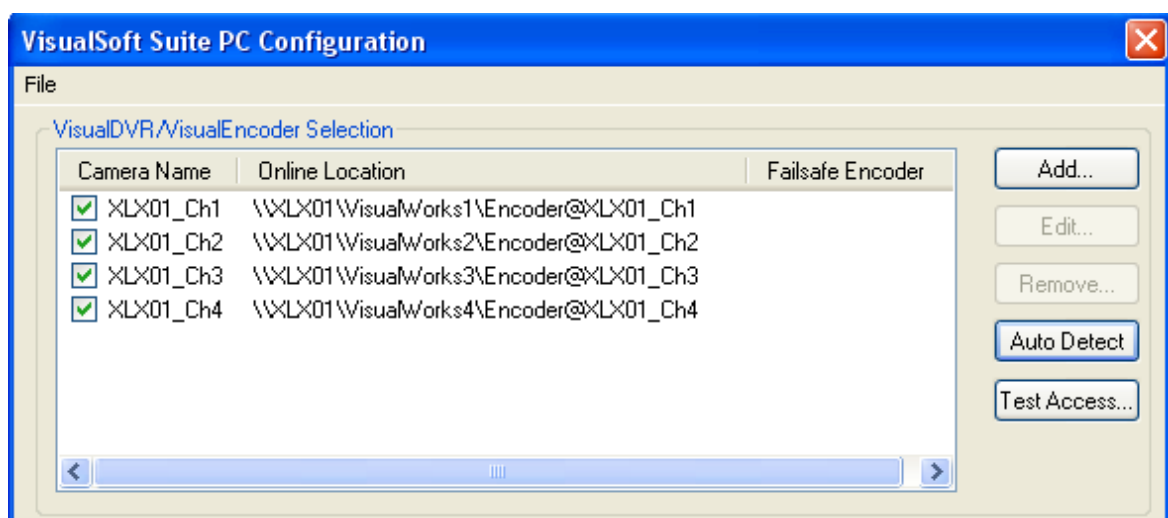
After the logging drives have been selected, each of the logging folders will be shared automatically by the VisualSoft Suite software.

The VisualWorks logging folders in each logging drive will be automatically shared as VisualWorks1, VisualWorks2 and so on.

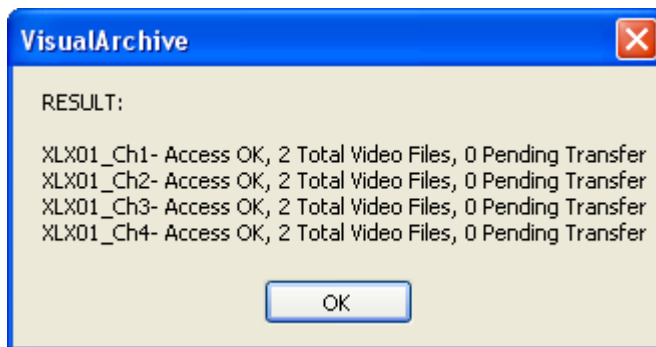
Visual Archive Setup

Once the VisualWorks folders on the VisualDVR have been shared automatically, they will be detectable by VisualArchive. On the VisualArchive PC, run the VisualArchive application and click on "Online Setup" in the menu ribbon. This will open the "VisualSoft Suite PC Configuration" window. Click the Auto Detect button.

The Auto Detect tool will search the network for shared VisualWorks folders on PCs where VisualDVR is running and will add the relevant locations automatically.

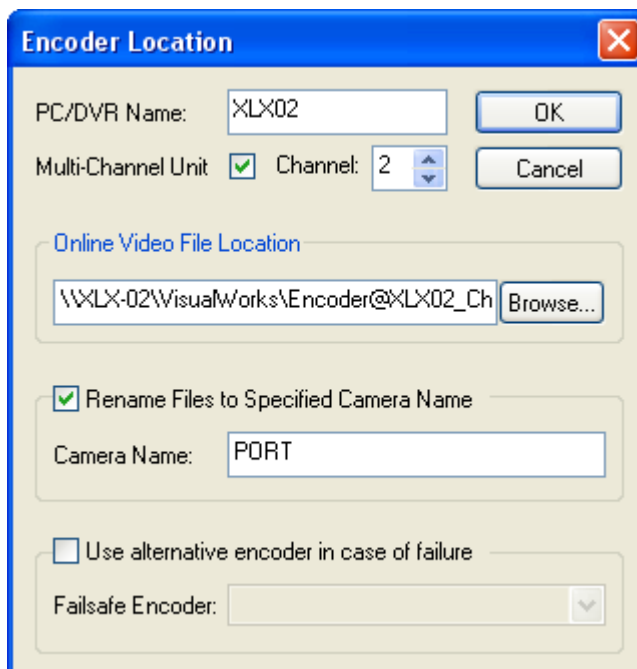


Once the online locations of the VisualDVR recording drives have been added, you should click the Test Access button to confirm that VisualArchive has access to each Encoder channel.



Automatic Renaming of Video Files

It is also possible to set the name of a camera to override the basic channel numbering scheme with more "user friendly" names. In the example below the Channel 2 video files are being renamed to "PORT". To do this, click the Edit button for an Encoder channel, turn on the Rename option by ticking the box and type the new camera name. All video associated with the selected channel will be renamed using the camera name that you enter here.



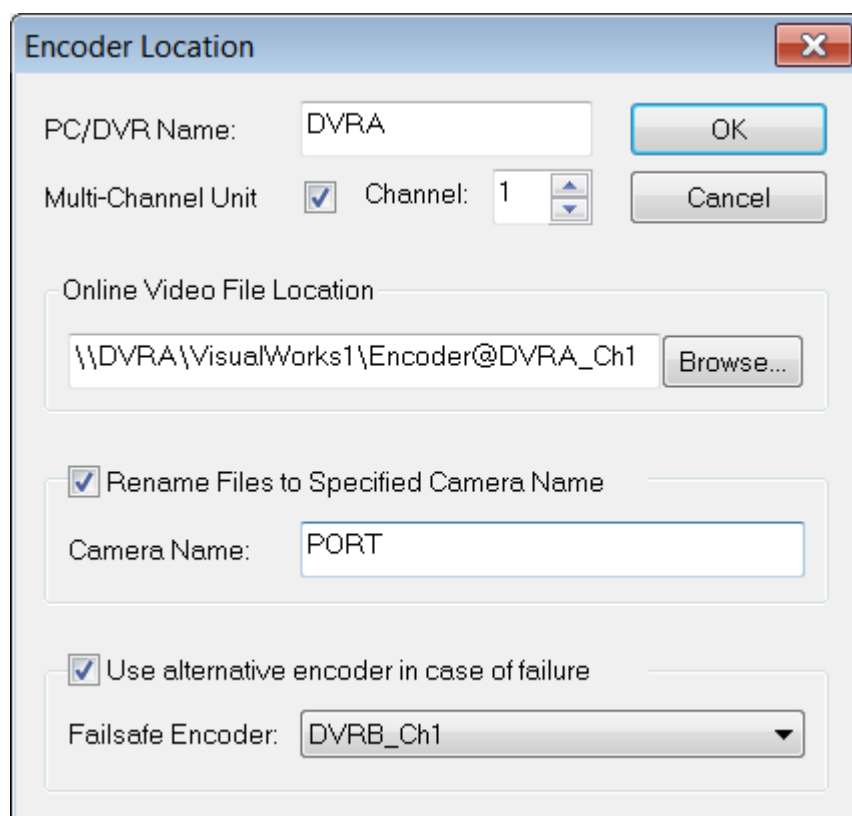
Setting up Visual DVRs in Parallel Pair configuration

When using VisualDVR in conjunction with VisualArchive it is possible to configure a Parallel Pair of VisualDVR units to operate in a failsafe mode such that failure of part or all of one unit will not cause loss of video. VisualArchive can be configured to

automatically use the video files from the second unit if it detects a problem with the video files from the first unit.

Operating in Parallel Pair mode requires two matched VisualDVR units, with each video feed being sent to both VisualDVRs. Channel 1 on one unit should display and record the same picture as Channel 1 on the other unit. Each Channel on the first unit can be associated with a matching Channel on the second unit. The file on the second DVR will be used automatically if a problem is detected with the file on the first DVR, and vice versa. The VisualDVR PCs should be named so as to clearly identify which unit is which. The following setup steps should be used in VisualArchive:

To enable the Parallel Pair operation for each channel, tick the box labelled "Use alternative encoder in case of failure", and use the drop-down list to match the channels on the second unit to those on the first unit. In this example you can see that Channel 1 of "DVRB" (shown at the bottom) is being used as the alternative for Channel 1 on DVRA (shown at the top).

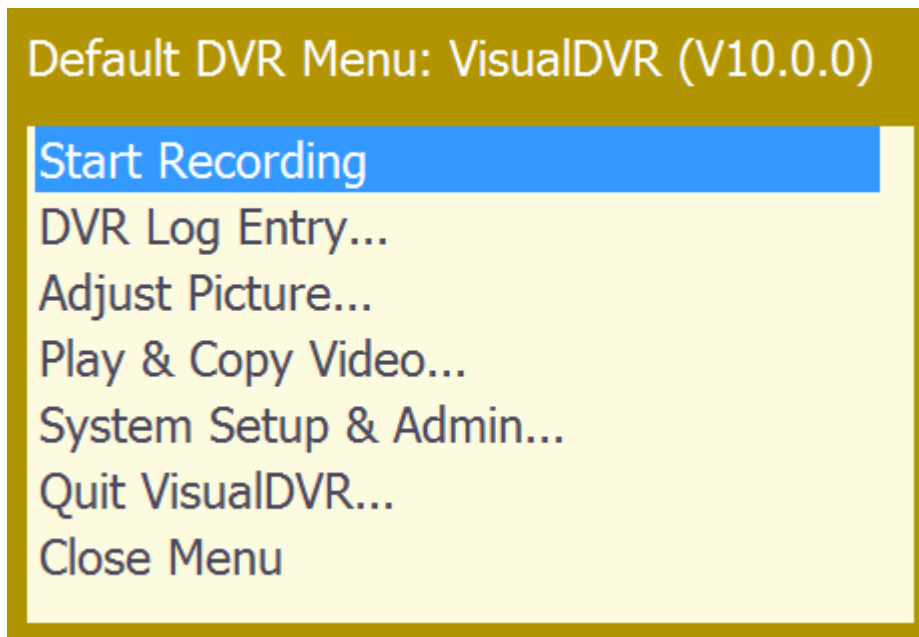


The image shows a Windows-style dialog box titled "Encoder Location". It contains several fields and checkboxes for configuring video encoding. At the top, "PC/DVR Name:" is set to "DVRA". To the right are "OK" and "Cancel" buttons. Below this, "Multi-Channel Unit" is checked, and "Channel:" is set to "1" with up/down arrows. A section titled "Online Video File Location" contains a text field with the path "\\DVRA\\VisualWorks1\\Encoder@DVRA_Ch1" and a "Browse..." button. Another section has a checked checkbox "Rename Files to Specified Camera Name" and a "Camera Name:" field set to "PORT". The final section has a checked checkbox "Use alternative encoder in case of failure" and a "Failsafe Encoder:" dropdown menu currently showing "DVRB_Ch1".

Once the failsafe encoder is setup, click on the Test Access button again to check that Visual Archive is able to access all of the Online Locations of the Parallel Pair of DVRs.

1.22 Menus

VisualDVR can be fully controlled by a menu system. To open the menu click the mouse on the main video window.



You can customise the menus to hide the things that you don't need. Different menu configurations can be saved and reloaded, so that you could create a very simple menu for your normal day-to-day operations, and still keep a more complex version to allow you to change the setup between projects.

1.22.1 Main Menu

To open the **VisualDVR** menu system, press down on the Control Wheel, or click the left mouse button if using a traditional mouse. This will display the Main Menu. This menu differs slightly depending on whether the **VisualDVR** is in standby mode (STOPPED) or record mode (REC).

Standby Mode

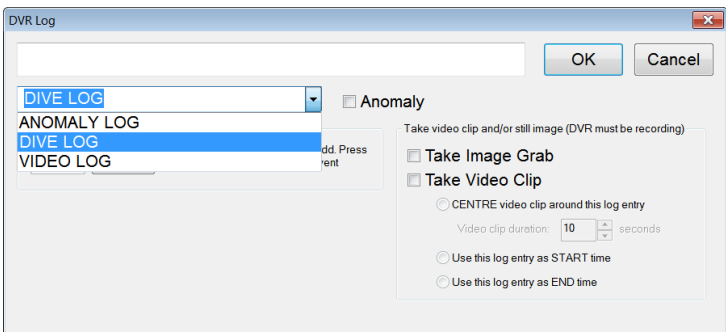
Recording Mode

Default DVR Menu: VisualDVR (V10.0.0)

Start Recording
 DVR Log Entry...
 Adjust Picture...
 Play & Copy Video...
 System Setup & Admin...
 Quit VisualDVR...
 Close Menu

Default DVR Menu: VisualDVR (V10.0.0)

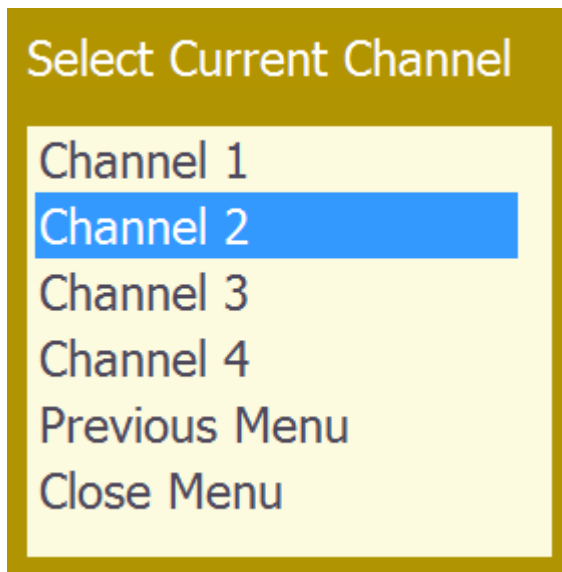
Stop Recording
 Copy This Video File...
 Create Image/Video Clip...
 Adjust Picture...
 Play & Copy Video...
 System Setup & Admin...
 Close Menu

Main Menu	
Start Recording	Begin recording video.
Stop Recording	Stop recording video.
Change Channel...	<p>Open the Select Current Channel Menu. This allows the user to select which channel is being controlled by the Start and Stop recording, Adjust Picture and other menu commands.</p> <p>NOTE: This menu item is only available with the VisualDVR Dual and Quad channel options.</p>
Pause/Resume Recording	<p>This command pauses and resumes video recording without creating a new video file. This creates a break in the timing information contained in the video file.</p> <p>Note that this option should only be used if no other data such as survey positioning data of event data is being logged. If other data is being logged it can only be integrated with the video for display in VisualEdit or VisualReview if each video file has a continuous, unbroken timeline.</p>
DVR Log Entry...	<p>Opens a text entry box in which you can record details of the required event. Type the required text, and click on OK.</p> 

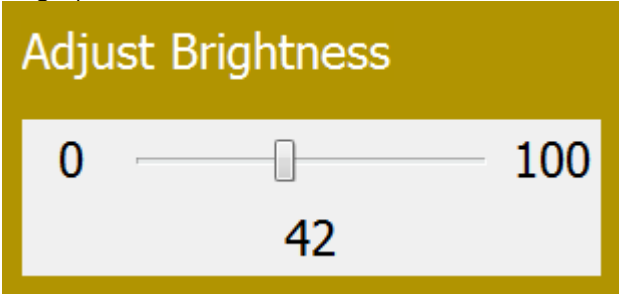
Main Menu	
	See Creating Survey or Inspection Events ^[103] for further details.
Copy This Video File...	Opens the drive selection list. Select a drive, and click confirm to add the current video file to the copy queue. As soon as recording of the current file stops, the file will be copied to the selected destination drive.
Create Image/Video Clip...	Allows a destination drive to be specified, and allows the user to mark the clip start point. Re-select this menu item to mark the end point. The clip will be written to the selected drive.
Adjust Picture...	Open the Adjust Picture Menu and configure settings for brightness, contrast and saturation. (See Adjust Picture Menu ^[128] .)
Play & Copy Video...	Search for files for playback or copying. See Video Playback Menu ^[130]
System Setup & Admin...	Open the Setup & Admin menu. This allows you to configure the encoding parameters of the VisualDVR system, and to configure file copying options. (See System Setup and Admin Menu ^[132] .)
Quit VisualDVR...	Open the Quit Options menu. (See Quit Options Menu ^[143] .)
Close Menu	Remove the menu from the video display screen.

1.22.2 Select Current Channel Menu

This simple menu shows a list of the available Video channels, and allows the user to highlight one of them as the “Current” channel. This channel will then be the one affected by menu commands such as Start or Stop Recording, and Adjust Picture. Note that if the current channel and other channels are synchronised, then these commands will also affect the other synchronised channels. See [Multiple Channels and Multiple VisualDVR Units](#) ^[94] details of channel synchronisation.



1.22.3 Adjust Picture Menu

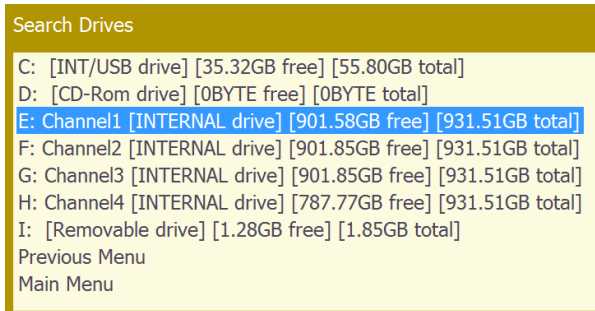
Adjust Picture Menu	
Brightness...	<p>Opens a slider bar that allows the brightness level to be set to any value between 0 (fully dark) and 100 (fully bright).</p>  <p>Left click on the slider bar and hold down the button while dragging it to the required value. To apply the change and return to the previous menu level, click on the horizontal line to the side of the slider control bar.</p>
Contrast...	<p>Opens a slider bar that allows the contrast level to be set to any value between 0 (no contrast) and 100 (maximum contrast). The level is adjusted in the same way as the brightness.</p>
Saturation...	<p>Opens a slider bar that allows the colour saturation level to be set to any value between 0 (minimum colour saturation – i.e. black and white) and 100 (maximum colour saturation). The level is adjusted in the same way as the brightness.</p>
Previous Menu	Return to the Main Menu.

Close Menu

Remove the menu from the video display screen.

1.22.4 Search, Play and Copy Video Menus

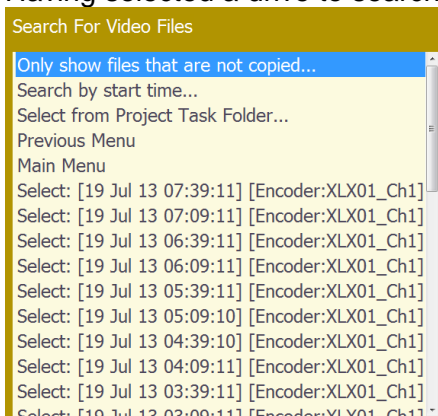
The Search Drives menu shows a list of all drives with available **VisualWorks** Projects. For each disk the menu shows both the free space on the drive and the total size of the drive.



Use the mouse to highlight the required drive in blue, and then click to open the list of available data and options for that drive.

Selected Drive – Options List

Having selected a drive to search you will be presented with a list similar to this:



At the top of the menu for the selected drive you will see a number of alternative search options, and below that a list of files in the selected drive. The files shown here are those that have not been logged as part of a Project Task. These are known as “Unassigned” video files and are described in section 30.1.1 below.

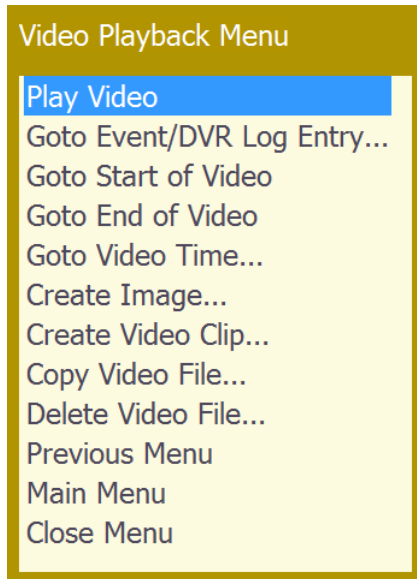
The first option in the menu is to **Only show files that are not copied...**. This provides a quick and simple QC tool, allowing you to rapidly select and copy only those video files that have not yet been copied to DVD or external disk.

Other options allow you to search by the start time of a video file, or to search using the tree of Project Tasks.

Files without a Project or Task

Video files that have no assigned Project or Task are shown with their start date and time, and the name of the encoder PC (**VisualEncoder** or **VisualDVR**). Select a file using a mouse or by rotating the Control Wheel to highlight the required file, and then click to open the list of file handling options in the Video Playback Menu.

1.22.5 Video Playback Menu



Video Playback Menu	
Play Video	Play the video file from the current position.
Goto Event/DVR Log Entry...	Open a list of logged events and /or DVR Log entries. Select an event or DVR Log entry to jump to that time in the video.
Goto Start of Video...	Jump to the start of the selected video file.
Goto End of Video...	Jump to 2 seconds before the end of the selected video file so that you may then play the end of the file for QC or other purposes.
Goto Video Time...	<p>Opens a slider control showing the start and end times of the video file at either side, and the currently selected time at the bottom. This allows you to browse through the video using the timestamp. As the slider is moved, the video will jump to the selected time.</p> 
Create Image...	Opens a menu in which you must first select a destination drive for the image, and then select the Grab This Image (F2) option.

Video Playback Menu

	<p>Select Destination Drives for Image/Video Clips</p> <p><input type="checkbox"/> D: [CD-Rom drive] [0BYTE free] [0BYTE total] <input checked="" type="checkbox"/> I: [Removable drive] [1.28GB free] [1.85GB total] Confirm Previous Menu Close Menu</p> <p>Create Image</p> <p>Select destination drives for Image Clips... Grab This Image (F2) Previous Menu Close Menu</p>
Create Video Clip...	<p>Opens a menu in which you must first select a destination drive for the clip, and then select the menu option to Mark Here as Video Clip Start (F3).</p> <p>Create Video Clip</p> <p>Select destination drives for Video Clips... Mark Here as Video Clip Start (F3) Previous Menu Close Menu</p> <p>After specifying the start point, re-open the clips menu to mark the end point.</p> <p>Create Video Clip</p> <p>Select destination drives for Video Clips... Mark Here as Video Clip Start (F3) Mark Here as Video Clip End (F4) Previous Menu Close Menu</p>
Copy Video File...	<p>Opens a drives list menu, allowing the user to select one or more drives to copy the selected file to. Select the required drive(s) and click on Confirm.</p>

Video Playback Menu	
	<p>Alternatively, select Save As... to specify a single file name and destination for the copied file.</p> <div> <p>Copy Video File To Drives</p> <ul style="list-style-type: none"> <input type="checkbox"/> D: [CD-Rom drive] [0BYTE free] [0BYTE total] <input type="checkbox"/> E: Channel1 [INTERNAL drive] [901.24GB free] [931.51GB total] <input type="checkbox"/> F: Channel2 [INTERNAL drive] [901.51GB free] [931.51GB total] <input type="checkbox"/> G: Channel3 [INTERNAL drive] [901.51GB free] [931.51GB total] <input type="checkbox"/> H: Channel4 [INTERNAL drive] [787.43GB free] [931.51GB total] <input checked="" type="checkbox"/> I: [Removable drive] [1.28GB free] [1.85GB total] <p>Save As...</p> <p>Confirm</p> <p>Previous Menu</p> <p>Close Menu</p> </div>
Delete Video File...	<p>Opens a prompt to confirm or cancel the deletion of the selected video file.</p> <div> <p>Delete the following video file?</p> <p>Video File: 19 Jul 13, 08:09:11, XLX01_Ch1</p> <p>In Directory: E:\VisualWorks\Encoder@XLX01_Ch1</p> <p>Yes No</p> </div>
Previous Menu	Return to the previous level of the search menu.
Main Menu	Return to the Main Menu.
Close Menu	Remove the menu from the video display screen.

1.22.6 System Setup and Admin Menu

This menu differs slightly depending on whether the **VisualDVR** is in standby mode (STOPPED) or record mode (REC).

Standby Mode

Recording Mode

System Setup & Admin Menu

Select Quality Profile...
 Setup logging and copying...
 Configure video source...
 Configure audio source...
 Configure audio output monitor...
 Black Box (Continuous Recording) Mode...
 Synchronise with other Channels or Units...
 Display...
 Advanced...
 Manage DVR Menus...
 Previous Menu
 Close Menu

System Setup & Admin Menu

Configure Video Overlay... (F6)
 Configure video source...
 Configure audio source...
 Configure audio output monitor...
 Display...
 Previous Menu
 Close Menu

System Setup & Admin Menu

Select Quality Profile...

Opens the Quality Profiles Menu

(See [Video Quality Profiles](#) ⁹⁸.)

Setup Logging and copying...

Opens the Logging and Copying menu.

(See [Setup Logging and Copying Menu](#) ¹³⁷.)

Configure video source...

Opens a menu displaying the current video source and format. The format may be switched between PAL and NTSC. No format displays for HD inputs.

Configure Video Source

Input Source: A-Vid1

Input Format: PAL

Previous Menu

Close Menu

Click on the displayed **Input Source** to open a menu from which it may be changed. If you are unsure which connector has been used to connect the video to the card at the back of the PC, use the **AUTO-DETECT** option.

The menus shown below give the various options for the currently supported video input cards. (See [Capture Cards](#) ²¹ for connection details.)

Optibase MovieMaker 230 (MPEG-2)

This card has no user configurable input options.

System Setup & Admin Menu

Winnov Videum Duo (Windows Media Video)

Options 1, 2, 3, and 4 are the composite video inputs.

Options Y/C 1 and Y/C 2 are the S-Video inputs.

Winnov Videum Quattro (Windows Media Video)

Options A-Vid1 to A-Vid4 are the composite video inputs of the first breakout cable/box. B-Vid1 to B-Vid4 are the composite inputs of the second cable/ box.

Options A-Y/C 1 and A-Y/C 2 are the S-Video inputs of the first cable or box. B-Y/C 1 and B-Y/C 2 are the S-Video inputs of the second cable or box.

Select Video Input Source

- ☒ A-Vid1
- ☐ A-Vid2
- ☐ A-Vid3
- ☐ A-Vid4
- ☐ B-Vid1
- ☐ B-Vid2
- ☐ B-Vid3
- ☐ B-Vid4
- ☐ A-Y/C 1 (Y:A-Vid1 C:A-Vid2)
- ☐ A-Y/C 2 (Y:A-Vid4 C:A-Vid3)
- ☐ B-Y/C 1 (Y:B-Vid1 C:B-Vid2)
- ☐ B-Y/C 2 (Y:B-Vid4 C:B-Vid3)
- ☐ AUTO-DETECT
- Previous Menu
- Close Menu

System Setup & Admin Menu

Configure audio source...

Opens a menu displaying the current audio source, and volume setting.

Configure Audio Source

Input Source: Box A, Audio 2, Left

Input Volume: 80

Previous Menu

Close Menu

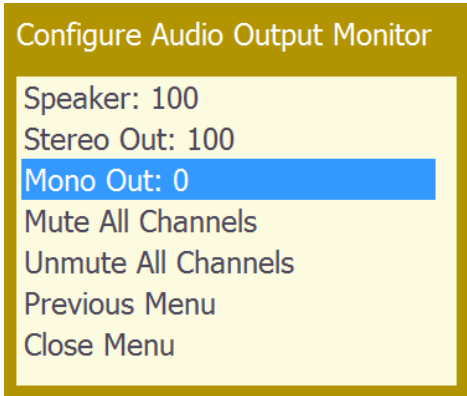
Click on the displayed **Input Source** to open a menu from which it may be changed. Click on the displayed volume to open a slider control to adjust the volume.

Winnov Videum (Windows Media Video)

The Videum card is usually configured to use the **Box A, Audio 2, Left** option.

Select Audio Input Source

- ☐ Box A, Audio 1, Left
- ☐ Box A, Audio 1, Right
- ☐ Box A, Audio 1, Left & Right
- ☒ Box A, Audio 2, Left
- ☐ Box A, Audio 2, Right
- ☐ Box A, Audio 2, Left & Right
- ☐ Box B, Audio 1, Left
- ☐ Box B, Audio 1, Right
- ☐ Box B, Audio 1, Left & Right
- ☐ Box B, Audio 2, Left
- ☐ Box B, Audio 2, Right
- ☐ Box B, Audio 2, Left & Right
- Previous Menu
- Close Menu

System Setup & Admin Menu	
	Optibase MovieMaker 230 (MPEG-2) This card has no user configurable input options.
Configure audio output monitor...	Opens a menu to configure the PC speakers for audio output monitoring. 
Black-Box (Continuous Recording) Mode...	Allows the user to Enable or Disable Continuous “Black-Box” recording mode for each Channel. (See Black-Box Recording Mode ¹⁰² .)
Synchronise with Other Channels or Units...	Allows the user to enable or disable synchronisation of each Channel. See Synchronising Video with Other Data ¹¹² for details of synchronisation.
Eject DVD	Ejects the DVD from the drive. If the system is busy, this request will be queued until the current task (such as copying video files) is completed.
Display...	Opens the Display Options menu. (See Display Options Menu ¹³⁹ .)
Advanced...	Opens the Advanced Setup menu. (See Advanced Setup Menu ¹⁴⁰ .)
Manage DVR Menus	This option allows you to disable or re-enable items in the various VisualDVR menus. (See Quick Start: Configuring the Menus ⁸³ for details of how to use this tool.)
Previous Menu	Return to the Main Menu ¹²⁵ .

System Setup & Admin Menu

Close Menu

Remove the menu from the video display screen.

1.22.7 Setup Logging and Copying Menu

If the use of Project Tasks is currently disabled the menu will be displayed as shown on the left. If Project Tasks are already enabled, the menu on the right will be displayed.

Project Tasks Disabled

Setup Logging and Copying	
Enable use of Project Tasks	
Import Project Tasks...	
Remove Project Tasks...	
Set logging file limits...	
Setup internal logging drives...	
Select destination drives for file copying...	
Select destination drives for Image / Video Clips...	
Set reserved free space on destination drives...	
Copy video files within time range...	
Recreate another copy of Hard Disk or DVD...	
Cancel video files assigned for copying...	
Previous Menu	
Close Menu	

Project Tasks Enabled

Setup Logging and Copying	
Disable use of Project Tasks	
Select Project Task for video logging...	
Import Project Tasks...	
Remove Project Tasks...	
Set logging file limits...	
Setup internal logging drives...	
Select destination drives for file copying...	
Select destination drives for Image / Video Clips...	
Set reserved free space on destination drives...	
Copy video files within time range...	
Recreate another copy of Hard Disk or DVD...	
Cancel video files assigned for copying...	
Previous Menu	
Close Menu	

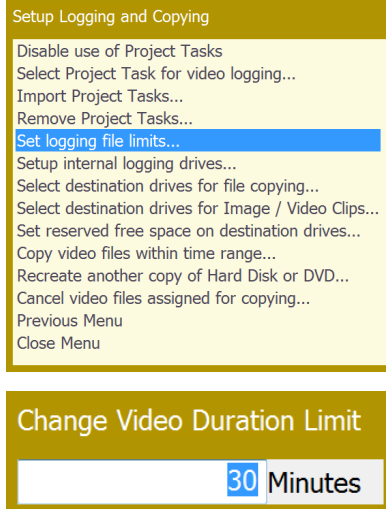
Setup Logging and Copying Menu

Enable use of Project Tasks	Enables the use of the Project Task folders for logging and copying video. (See Recording Using Project Tasks .)
Disable use of Project Tasks	Disables the use of the Project Task folders for logging and copying video. (See Recording Using Project Tasks .)
Select Project Task for video logging...	Allows the user to select a Project Task with which logged video data will be associated.
Import Project Tasks...	Allows the import of a pre-configured folder hierarchy of Project Tasks.
Remove Project Tasks...	Deletes the current Project Task hierarchy from the logging system.

Setup Logging and Copying Menu

Setup Logging File Limits...

Opens a menu from which the user can specify a maximum size and maximum duration for recorded video files.



Setup internal logging drives...

Allows the user to select from a list of available disk drives. The selected drive will be used for logging data internally before it is copied elsewhere.

Note that you are only able to select which drive letters are used for logging. On the selected drives the software will automatically create a "VisualWorks" folder, and inside it a folder named "Encoder@PCNAME_ChX" where PCNAME is the name of the PC as defined in the Properties of "My Computer", and X is the channel number of a multi-channel recorder unit.

Select destination drives for file copying...

Allows the user to select from a list of available disk drives. The selected drive will be used as the destination for copying all recorded (or selected) video files. (See [Automated Copying](#) ¹²⁰.)

Set reserved free space on destination drives...

Allows the user to specify a percentage of the selected destination disk to be left free so that copied video files do not totally fill the drive.

Channel 1: Reserve Disk Free Space

% Free

Copy video files within time range...

Allows the user to enter selected start and end times to restrict which video files will be copied to the selected destination drive.

Setup Logging and Copying Menu	
	<p>Video Copy Start Time (Local)</p> <p>DD MMM YYYY hh mm ss</p> <p>25 Jul 2013 14 52 47 OK Cancel</p> <p>Video Copy End Time (Local)</p> <p>DD MMM YYYY hh mm ss</p> <p>30 Jul 2013 14 53 17 OK Cancel</p>
Recreate another copy of Hard Disk or DVD...	Creates an extra copy of all files that have been previously copied to a selected drive letter. This allows a second copy of a DVD or external USB disk to be made. (See Creating a Second Copy of a DVD or Disk Drive .)
Cancel video files assigned for copying...	Allows the user to remove video files from the copying queue.
Previous Menu	Return to the System Setup and Admin Menu .
Close Menu	Remove the menu from the video display screen.

1.22.8 Display Options Menu

Display Options ...

☒ Title Bar

☒ Alarm Window

☒ Survey Data Window

☐ Tiled Video Layout

Confirm

Previous Menu

Close Menu

Display Options Menu	
Title Bar	Display and enable the standard Windows title bar with program name, version and other details, plus buttons for minimise, maximise and close.
Alarm Window	Select this option to open a display above the video window, listing all alarm and warning messages from all VisualSoft Suite applications found on the network.

Display Options Menu	
Survey Data Window	Select this option to open a display above the video window, showing the incoming survey data. See “Configure Serial Data Input” in the Advanced Setup menu, section 35.
Tiled Video Layout	Arranges the video windows side-by-side rather than having one main window with a series of small thumbnail views.
Confirm	Confirms the selected options.
Previous Menu	Return to the System Setup and Admin Menu.
Close Menu	Remove the menu from the screen display.

1.22.9 Advanced Setup Menu

Advanced Setup Menu	
Configure Serial Data Input...	
Configure Video Overlay... (F6)	
Delete All Video Files From Internal Drive...	
Reset Media Numbering...	
Multicast Video...	
Licence Details...	
Configure Network...	
NEXUS IC DVR control...	
Previous Menu	
Close Menu	

Advanced Setup Menu	
Configure Serial Data Input...	Opens the “Position Data Serial Input Setup” tool. Select either “Serial Port Settings” or “Network Settings”, then specify the appropriate parameters. If you change the network Port number, you must click the Apply button. Select the Field and Record Delimiters that match your incoming data string, and specify the Field names that describe your data. These Field Names

Advanced Setup Menu

will be available for selection in the **VisualOverlay** setup (instructions for which are in a separate User Manual).

Survey Position data input

Survey position data can be received by VisualDVR using the settings configured below. This data will be logged with the video and will be available for video overlay. It can also be used as the time source for all VisualSoft applications.

Data may be received via a Serial (COM) Port, or via a Network UDP Port. To open a port, please configure the port settings and click on the Apply button.

To decode the received data please specify the column separator and the line terminator, then type a list of column names. Note that these column names will be logged with the data and will be seen by the client.

☒ Serial Port Settings COM 1 is open. ☐ Network Settings Port: is closed.

Port: COM 1
Baud Rate: 9600
Data Bits: 8
Stop Bits: 1
Parity: NONE

Port:
IP Address: 200.1.1.100

Input Data Format (ASCII Only)
Column separator: Comma
Line terminator: <CR><LF>
Column names: Date,Time,KP,Eastng,Northing,Hdg,DCC
Data Received:
☐ Convert US Station values to decimal numbers. e.g. Convert 1+22.3 to 122.3
☒ Synchronise all VisualSoft logging to the time in the received data
Received date format: day/month/year
Received time format: hour:minute:second (UTC)

Apply Close

Configure Video Overlay
(F6)...

Opens the **VisualOverlay** configuration tool. Instructions for **VisualOverlay** are available in a separate User Manual. **VisualOverlay** can also be opened directly by pressing the **F6** key on your keyboard.

Delete All Video Files From
Internal Drive...

Cleans up the internal logging drive, by removing all previous files. This will open a prompt as shown here. Click **Yes** to remove all files.

Remove ALL files from internal video storage?

Yes No

Reset Media Numbering...

This option will reset the numbering of storage devices such as DVDs or external disk drives so as to restart at 001.

Advanced Setup Menu	
	<p>Reset Media Number to start at 001 ?</p> <p>Yes <input type="button" value="No"/></p>
Multicast Video (MPEG-2 Only)	<p>This option applies only when using MPEG-2 video encoding, and opens a prompt asking whether you wish to enable multicasting of video over the network.</p> <p>Video Multicasting is a basic streaming protocol for the selected video channel. Video will be streamed with the same quality settings as the recorded file.</p> <p>----- WARNING ----- Use of Video Multicasting will cause a delay at the start of each recording. This will cause gaps of up to 5 seconds between recordings and datasets.</p> <p>Do you want to ENABLE video multicasting?</p> <p><input type="button" value="Yes"/> No</p>
License Details...	Opens the Licensing window. See Admin Panel – Licensing for details.
Configure Network...	Opens the VisualSoft Suite Admin Panel to the Network tab. See Admin Panel – Network Communications for details.
NEXUS IC DVR control...	Configure options for remote control of VisualDVR from Wood Group's NEXUS IC-Inspection software. See also VisualDVR Configuration: NEXUS IC Options ⁶⁷ where the same options are available.
Previous Menu	Return to the System Setup and Admin Menu ¹³² .
Close Menu	Remove the menu from the screen display.

1.22.10 Quit Options Menu

Quit Options Menu	
Quit VisualDVR and shutdown	Closes the VisualDVR program, and then the unit will power down.
Restart VisualDVR	Closes the VisualDVR program, and then restarts the hardware unit. VisualDVR is set to run automatically when the unit restarts.
Exit to Windows	The VisualDVR program will close and the unit will remain powered on with Windows running.
Cancel	Return to the Main Menu.

1.23 Networking

Even if you use only one **VisualDVR**, it must have a network connection to allow messages between the main **VisualDVR** recording application and the associated Alarm monitoring, Overlay and data decode tools.

If multiple **VisualDVR** units are being used, and are required to be synchronised for simultaneous recording, timestamping, or for the sharing of survey data from a serial port then each unit must be connected to a suitable network.

1.23.1 Multicasting Video

Enabling Multicasting of Video

When encoding video, **VisualDVR** is able to send the video across a network for display in **VisualEdit** or **VisualReview**. To enable multicasting of the current video channel, open the Advanced Setup Menu, and select the option to Multicast Video. This will open a prompt asking you to confirm whether or not to enable multicasting.

Note that if you use this multicasting option it will cause a delay at the start of each recording. This will cause gaps of up to 5 seconds between recordings and datasets. Automated file changes when a time or file size limit is reached will be affected by these gaps and data will be lost.

Video Multicasting is a basic streaming protocol for the selected video channel. Video will be streamed with the same quality settings as the recorded file.

----- WARNING -----
Use of Video Multicasting will cause a delay at the start of each recording. This will cause gaps of up to 5 seconds between recordings and datasets.

Do you want to ENABLE video multicasting?

No

NOTE: If you want to enable multicasting of more than one video channel, you must do so one channel at a time by changing the Current Channel as described in section 28.

Viewing Multicast Video

To view video that is being multicast on the network, run either **VisualEdit** or **VisualReview** and open the Mode menu. Select the Online option, and follow the prompts to specify which **VisualDVR** units and channels you wish to view. Alternatively you can receive the video using Windows Media Player and enter the URL <http://encodename:80> where “encodename” is the name of the **VisualDVR** PC.

1.23.2 Network Specification – Single VisualDVR Only

For a single **VisualDVR**, with no VisualDataLogger or VisualArchive you can use either a physical network as below, or a virtual network using Microsoft's Loopback Adapter. You must NOT use both at the same time.

Option1: Physical Network

- A Network Interface Card in each **VisualDVR** unit, supporting 1 Gigabit/second (Gbps)
- A Network Switch supporting speeds of 1 Gbps
- Cat 5e or better cabling. (Cat 6 or better is recommended)

Option2: Loopback Adapter

- Enable the [Loopback Adapter](#) ¹⁴⁵ and assign an IP address

1.23.3 Network Specification – Multiple VisualSoft PCs

For multiple **VisualDVR** units or for **VisualDVR** with other VisualSoft PCs running **VisualDataLogger**, **VisualEventLogger**, **VisualArchive**, etc., you must use a physical network connection as below:

- Network Interface Cards in each **VisualDVR** unit, all supporting 1 Gigabit/second (Gbps)
- A Network Switch supporting speeds of 1 Gbps
- Cat 5e or better cabling. (Cat 6 or better is recommended)
- No Loopback adapters enabled
- All PCs must in the same IP subnet range. i.e. xxx.yyy.zzz.nnn where xxx, yyy and zzz are the same on every PC
- The final part of the IP address (nnn) must be different on each PC connected to the network
- A typical example is 192.168.100.**10**, 192.168.100.**20**, 192.168.100.**30**, 192.168.100.**40**, etc.
- Subnet mask set to 255.255.255.0
- It is usual for all PCs to be part of the same workgroup or domain

1.23.4 Microsoft Loopback Adapter

The Microsoft Loopback Adapter is a software tool supplied with Windows to create a virtual network on a single PC.

Only use the Microsoft Loopback Adapter if you cannot connect the **VisualDVR** to a normal physical network.

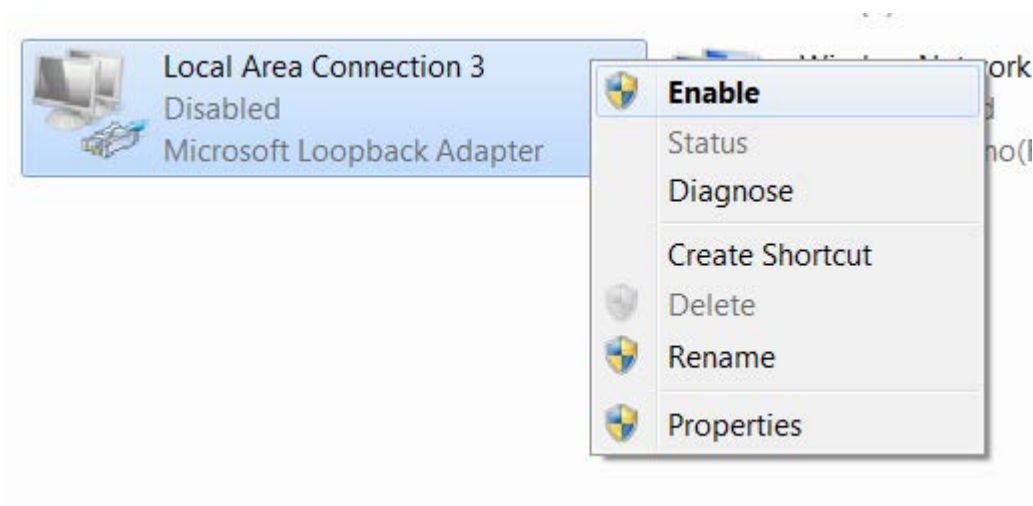
Only use the Microsoft Loopback Adapter if the **VisualDVR** is completely stand-alone, and you are not using other VisualSoft applications such as **VisualArchive** or **VisualDataLogger**.

Only use the Microsoft Loopback Adapter if there are no other network connections being used on the same VisualDVR PC.

Enabling the Loopback Adapter

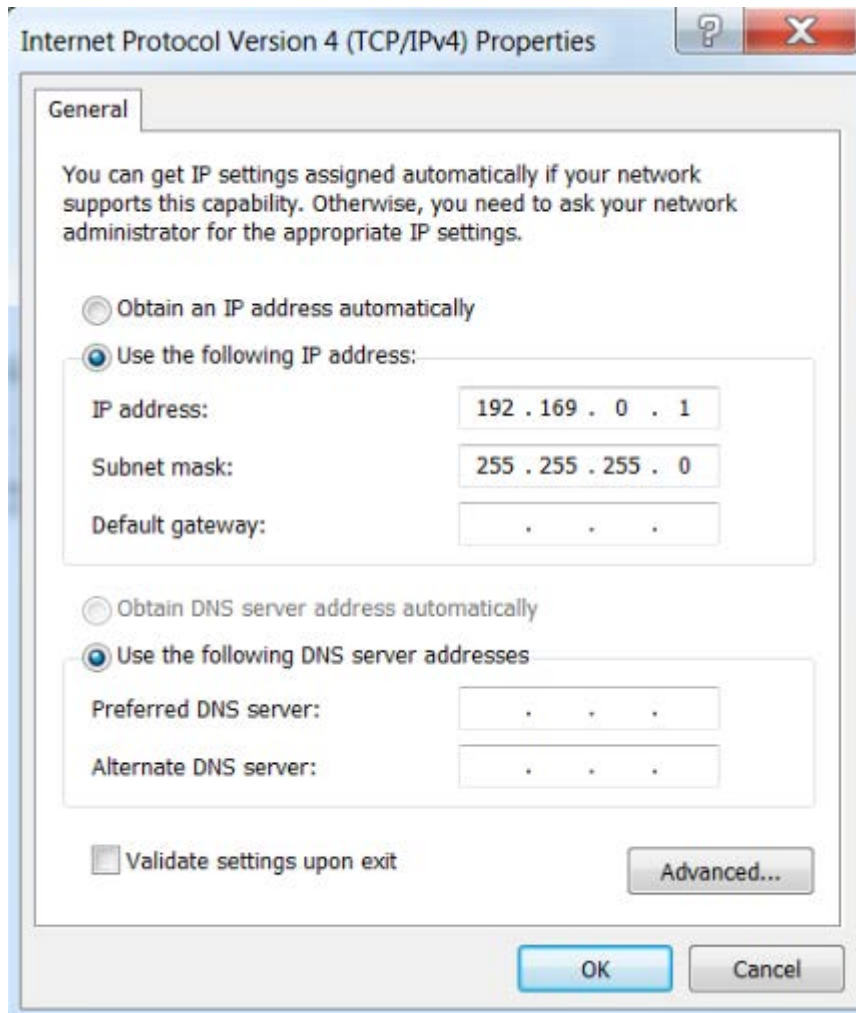
To enable the loopback adapter, go to Control Panel > Network and Sharing Center > Change adapter settings

Right-Click the Microsoft Loopback Adapter and Click 'Enable'.



Configuring the Loopback Adapter

To configure the Loopback Adapter, Right-Click it in the Network Connections window (Control Panel > Network and Sharing Center > Change adapter settings) and select Properties.

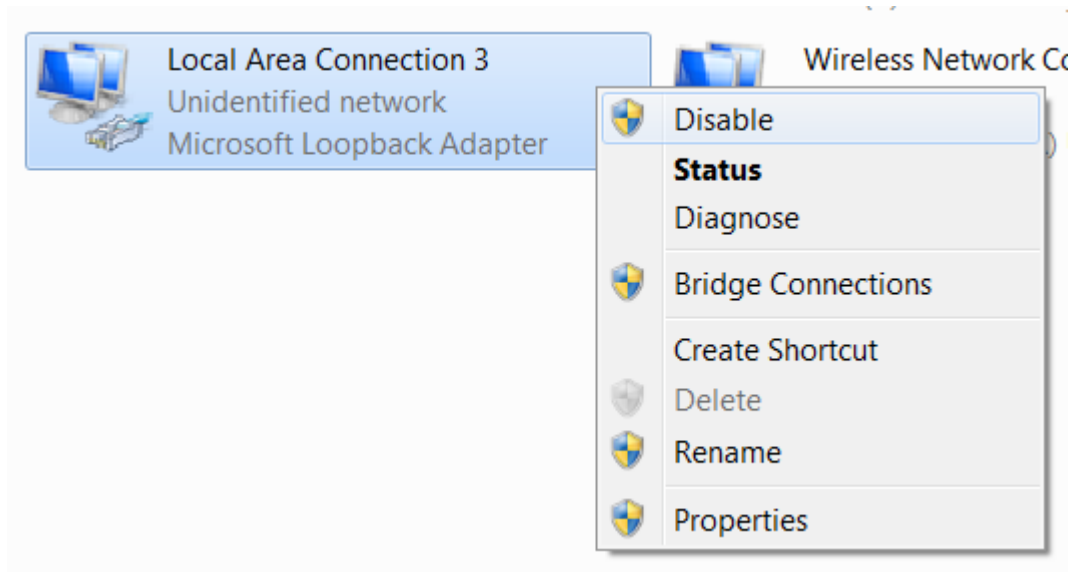


Enter an IP address and subnet mask. The example above will work (and does not need to match any other IP addresses so long as the PC has no other active network connections). Then click on OK.

Disabling the Loopback Adapter


If you have another connected network port on the PC, you should Disable the Loopback Adapter.

To disable the adapter, right click the adapter in the Network Connections window (Control Panel > Network and Sharing Center > Change adapter settings) and select Disable.








1.24 Working with 3rd Party Applications

The VisualSoft Suite, including VisualDVR is designed to work alongside other applications from other 3rd party companies. We have offline playback in VisualEdit and VisualReview that can be controlled by, or can control, other companies viewers and inspection systems. We have recording, overlay and image grabbing in VisualDVR that can be controlled by a number of 3rd party applications. The following sections of this user guide describe some of these 3rd party interactions and how to configure them; they should each be read alongside the 3rd party documentation.

If you have a 3rd party application that you think should work with a VisualSoft application, and it is not listed below, please contact VisualSoft Support by email to visualsoft.support@f-e-t.com or by [calling our support line](#) .

Known 3rd party applications that are compatible with VisualSoft Applications include:

Application	Compatibility
AiZe's Coabis to VisualDVR Connection 	Remote control of VisualDVR from Coabis
AiZe's Coabis and VisualOverlay Setup 	Remote control of VisualDVR's overlay from Coabis
Eiva's NaviModel 	Remote control of NaviModel from VisualEdit, and event logging from NaviModel into VisualEdit
Fugro's Starfix 	Remote control of time synchronisation from Starfix, and sending of navigation and event data to VisualDVR
PiSYS	Remote control of, and image grabbing in VisualEdit
QPS's QINSy	Data import from QINSy into VisualEdit via pre-defined ASCII files
Wood's NEXUS 	Compatibility with Wood's <i>DVR Protocol</i> , allowing remote control of VisualDVR and overlay

1.24.1 AiZe's Coabis to VisualDVR Connection

From version 12.1 onwards of Coabis you can control VisualDVR from inside Coabis. The following sections describe how to configure this in both the Coabis and VisualSoft applications. You need to setup a few things in Coabis to get a successful connection between Coabis and VisualDVR.

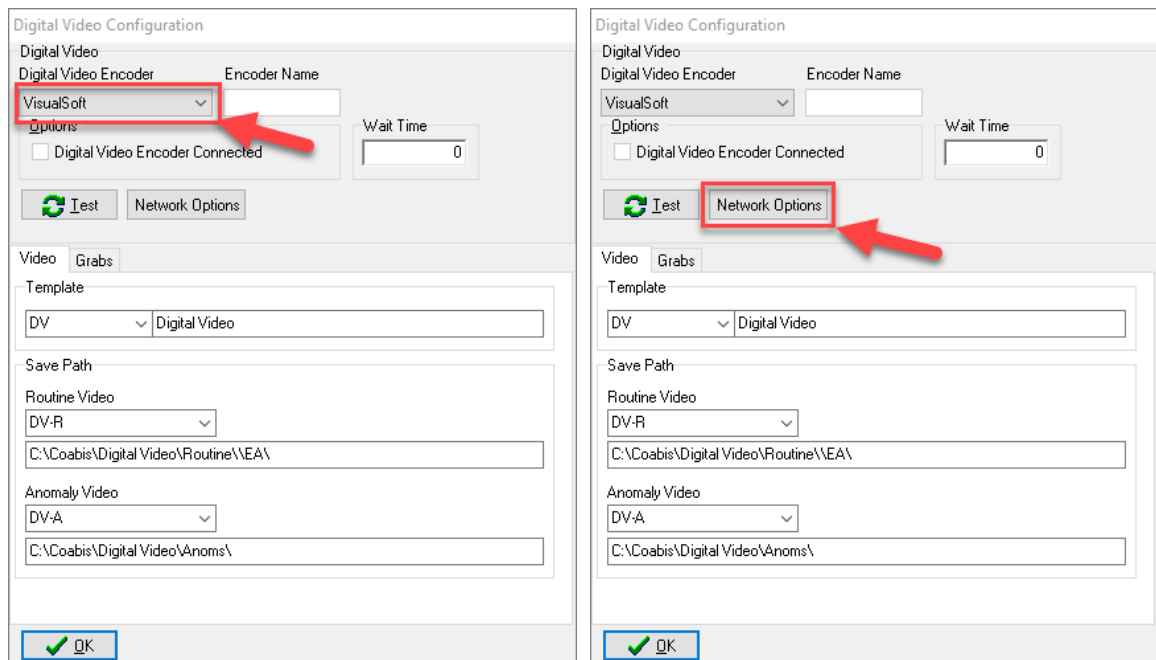
A. Installation


First make sure that you have installed the VS Control add-on, by running VisualSoft's installer "InstallVSControlV10.4.2.exe" (or a later version number of InstallVSControl).

B. Coabis Settings - Start the VisualSoft add-on


In Coabis go to **Site**, then **Tools**, and then **Digital Video Configuration**.

Set the **Digital Video Encoder** type as VisualSoft, and then click the **Network Options** button.



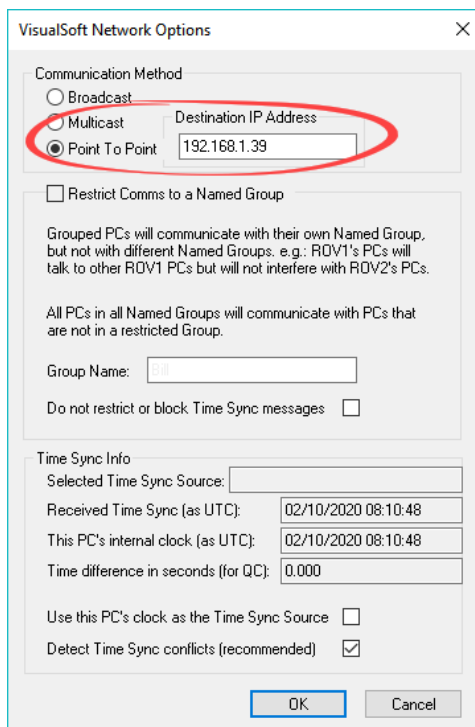
This opens a VisualSoft Network tool in the Windows System Tray notification area at the bottom right of your screen . You may need to click "Show hidden icons" in Windows before you can see it.

Configure the VisualSoft Network

Click on the VisualWorks Network icon  to open the settings window.

Select the Point to Point method so that you only control **one** VisualDVR and do not accidentally interfere with other DVRs or logging application that you or a survey contractor may have on the same network. Enter the IP address of the VisualDVR PC. If the DVR PC has more than one network connection and/or more than one IP address, make sure that you select the one that is in the same subnet range as the IP address of the Coabis PC.

In a typical setup of VisualDVR the time sync will be coming from a navigation data output derived in turn from a GPS or other GNSS time source. In that scenario, do NOT select Use this PC's clock as the Time Sync Source. Only if you want all logging to be synchronised to the internal clock of the Coabis PC should you select "Use this PC's clock". If you do that, you must also ensure that all other logging PCs for survey data sensors are also synchronised to that same source.

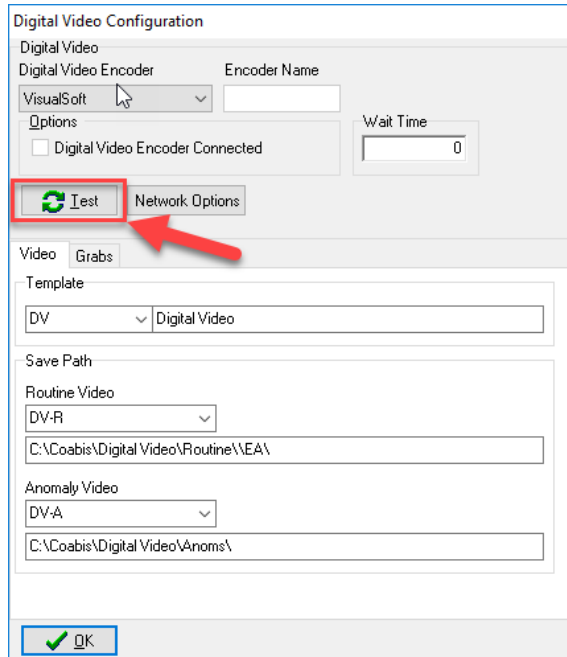


The image shows the 'VisualSoft Network Options' dialog box. The 'Communication Method' section has three radio buttons: 'Broadcast', 'Multicast', and 'Point To Point'. The 'Point To Point' option is selected and circled in red. To its right is a text field for 'Destination IP Address' containing '192.168.1.39'. Below this is a checkbox for 'Restrict Comms to a Named Group'. Further down is a 'Time Sync Info' section with several fields: 'Selected Time Sync Source' (empty), 'Received Time Sync (as UTC):' (02/10/2020 08:10:48), 'This PC's internal clock (as UTC):' (02/10/2020 08:10:48), and 'Time difference in seconds (for QC):' (0.000). At the bottom of this section are two checkboxes: 'Use this PC's clock as the Time Sync Source' (unchecked) and 'Detect Time Sync conflicts (recommended)' (checked). The dialog has 'OK' and 'Cancel' buttons at the bottom.

Click OK to close the VisualSoft Network options window.

Test the VisualSoft Network

Click the Test button in the Coabis Digital Video Configuration window. If the test is successful the Encoder Name will be filled in with the name of the VisualDVR PC, and a message will pop-up confirming a successful test.



After a successful test, configure other options in the lower part of the window (search for "Digital Video Interface" in Coabis's built-in help for more information), then click OK to close the Video Configuration window.

1.24.2 AiZe's Coabis and VisualOverlay Setup

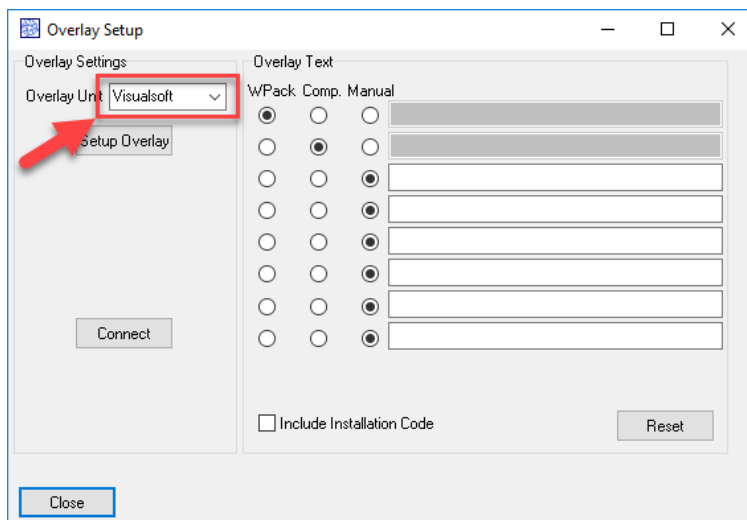
From version 12.1 onwards of AiZe's Coabis you can control VisualDVR's overlay from inside Coabis.

Before setting up the overlay, be sure to setup the configuration for the [Coabis to VisualDVR Connection](#) ¹⁵⁰

A. Coabis Settings - Overlay Setup

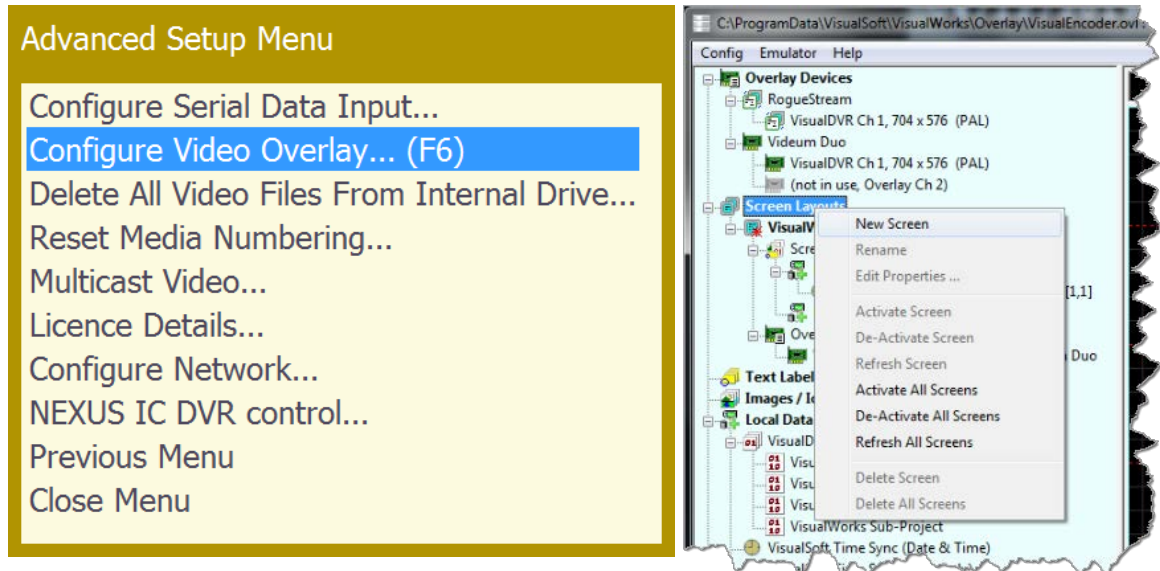
In Coabis go to **Site**, then **Tools**, and then **Video Overlay**.

In Overlay Settings, select the **Overlay Unit** type as VisualSoft, and then click the **Setup Overlay** button. This will prompt you to complete the setup in VisualDVR.

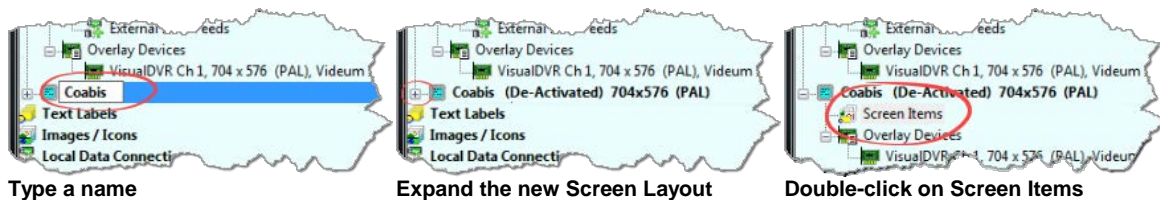


B. VisualDVR Overlay Settings

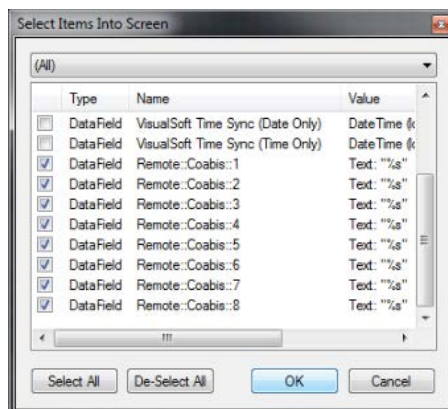
Open VisualDVR's overlay setup using **F6** on the VisualDVR keyboard, or with the VisualDVR menus via left click in the main video window. If you use the menus instead of **F6**, go to **System Setup & Admin**, then **Advanced**, then **Configure Video Overlay**.



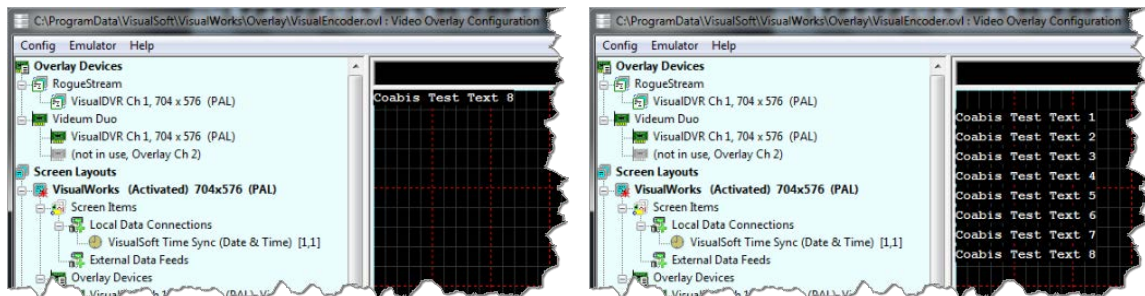
In the overlay window, right-click on **Screen Layouts** and select **New Screen**. Type a name for the new Screen Layout, for example "**Coabis**", then click the + sign next to the new Screen Layout to expand it, then when it is expanded, double-click on **Screen Items** in the newly expanded section, just below the new Screen Layout's name.



When you double-click Screen Items, you will see a window where you can select what you want to add to your overlay. Select the numbered "**Remote::Coabis**" items.



In the preview window on the right, all eight items will appear overwriting each other in the top left. Use drag and drop to move them where you want, then click OK to close the window.



Right-click on the **VisualWorks** Screen Layout in the tree view on the left, and select **"Deactivate"** to turn it off.

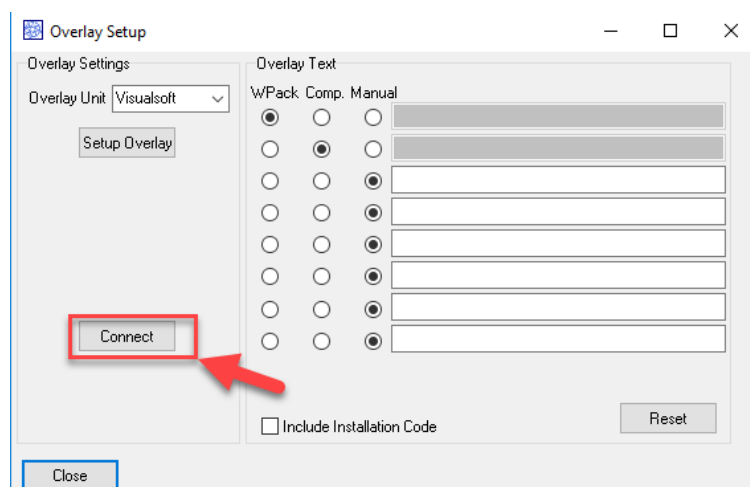
Right-click on the new **Coabis** Screen Layout in the tree view on the left, and select **"Activate"** to turn it on.

If you have more than one channel or camera, or more than one overlay device, be sure to add all of the relevant devices to the Coabis Screen Layout. You can do this by dragging and dropping from the list of devices in the tree view on the left.

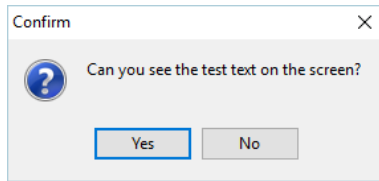
If you want all of the overlay text to be the same colour and style, right-click again on the new **Coabis** Screen Layout in the tree view on the left, and select **"Properties"**. If you want different items to look different, right-click on the individual items instead of on the Screen Layout. For more details on this see the VisualOverlay User Manual.

C. Test Video Overlay

Make sure that VisualSoft is still selected as the **Overlay Unit** type in Overlay Settings, then click **Connect**.

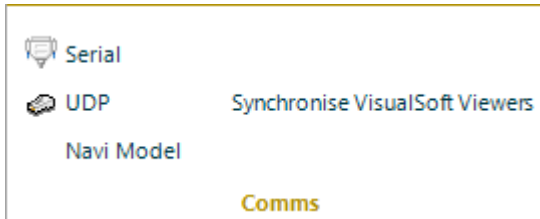


You should see text appear in the overlay preview and in VisualDVR's video window. Click Yes in Coabis to confirm you can see the overlay in VisualDVR, and close Coabis Overlay Setup.

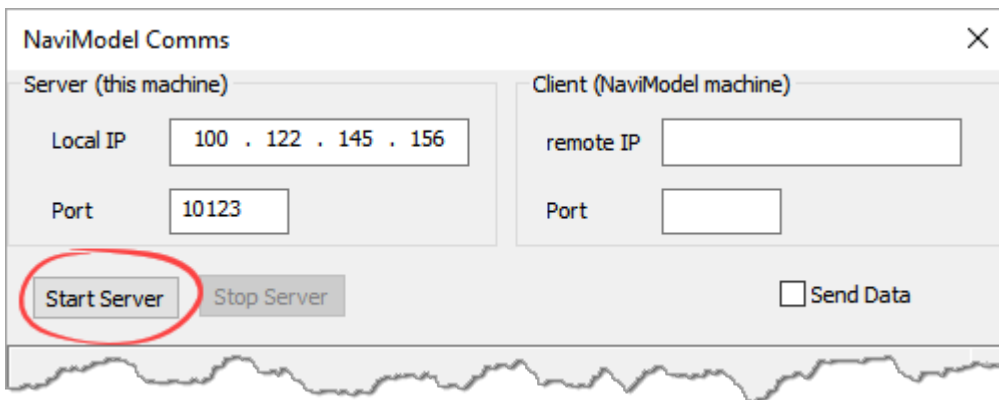


1.24.3 Synchronise Eiva's NaviModel display to VisualEdit playback

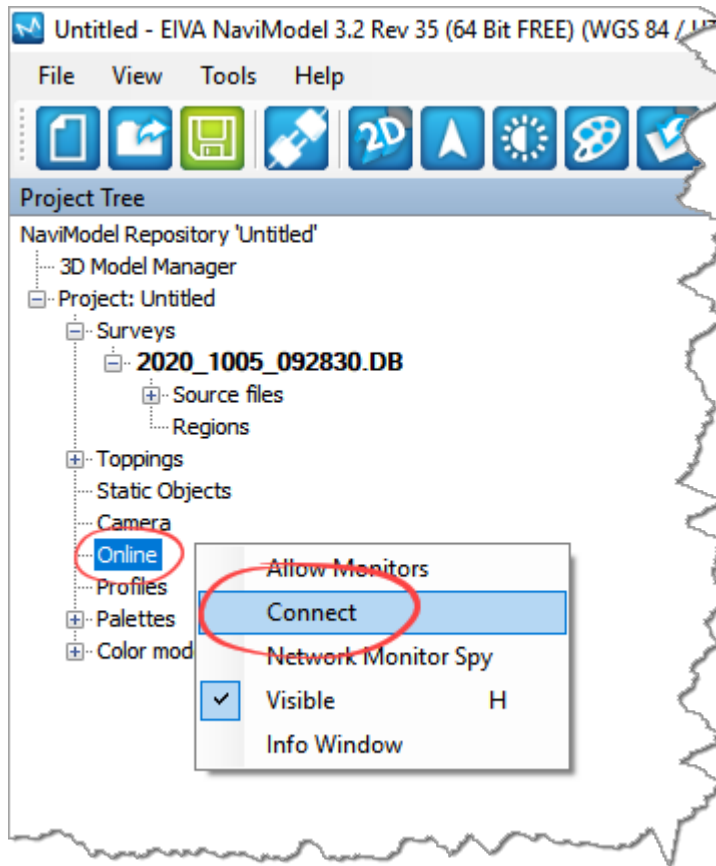
You can use VisualEdit to "drive" the 3D display of Eiva's NaviModel so that the position shown in the VisualEdit windows will be matched by NaviModel. After you load your data in VisualEdit, click on the Options Ribbon and select NaviModel in the Comms section on the left.



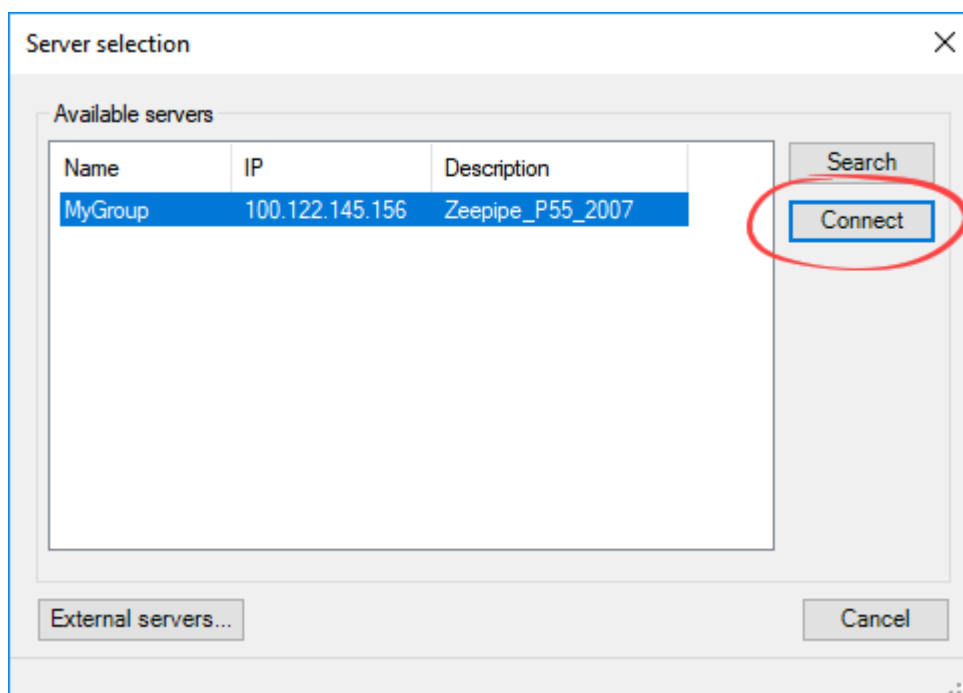
This will open a setup window where you should click **Start Server**.



Next, load your Project in NaviModel so that you can see the 3D display with the same survey as that you have in VisualEdit, then open a data connection into NaviModel from VisualEdit. In NaviModel, expand the Project data tree on the left and right-click on **Online**. Select Connect from the pop-up menu.



When you click Connect you will see a list of available "online" data servers. This might include a live feed from NaviPac's real-time online survey position, but should also include the VisualEdit server that you just started, which will be shown with the name of the data project loaded in VisualEdit. Select the Project and click Connect.



Now that the connection between VisualEdit and NaviModel has been initiated, you should return to the NaviModel Comms window in VisualEdit and select the box to Send Data. You should immediately see the data being sent from VisualEdit.

Click OK to close the NaviModel Comms window.

Position selection in VisualEdit

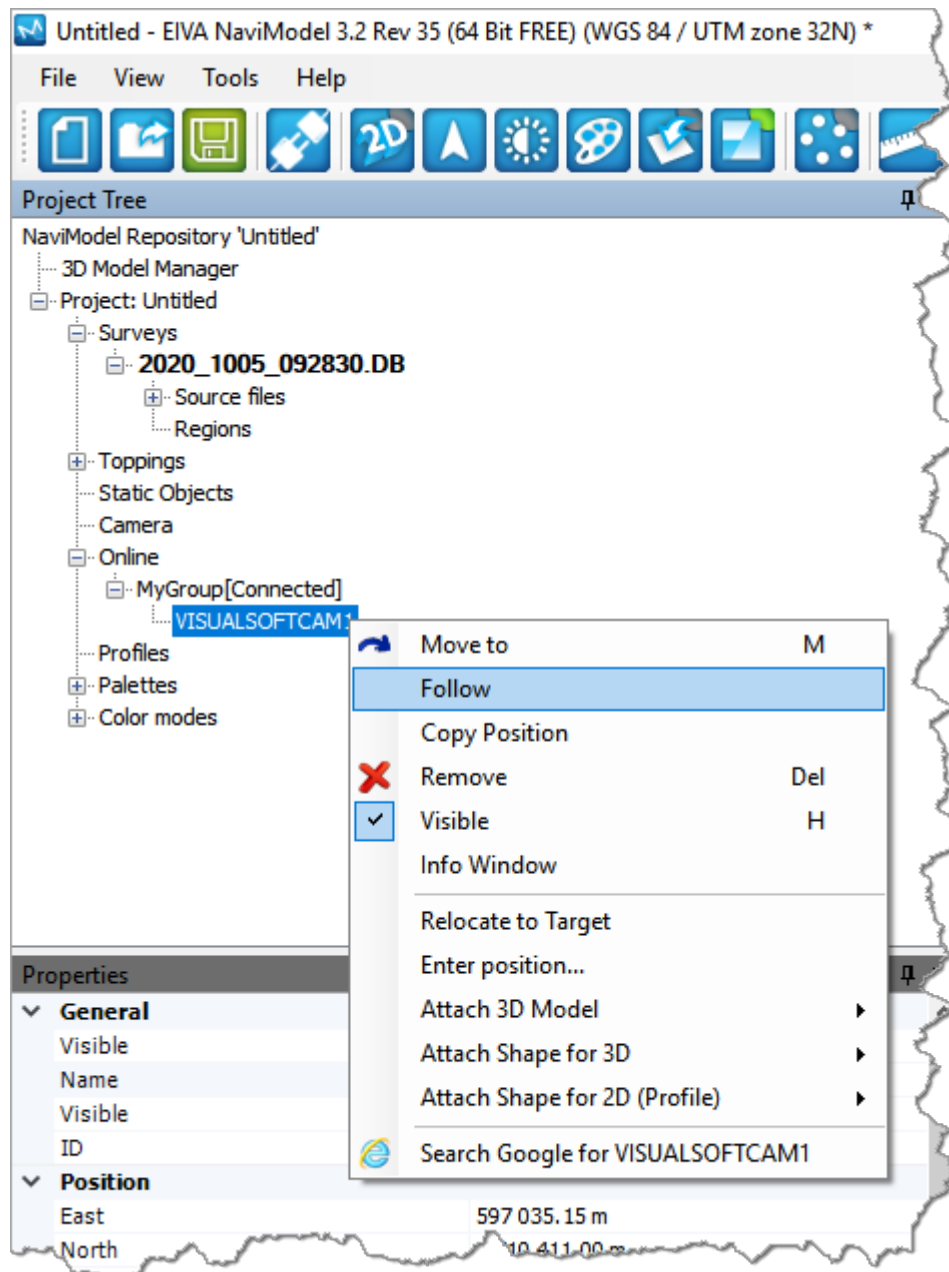
The default, and intended setup is that the “Video Position” table has data in the standard, pre-defined columns named KP, Easting, Northing and Depth. Which data columns are sent by VisualEdit is determined automatically using the following priority:

- First look in the “Video Position” table. Check that the table is not empty, not full of zero values, and there are KP/East/North/Depth columns available.
- If data is not found in the “Video Position” table, look in the “Processed Survey” table.
- As a last resort, if data is not found in the “Processed Survey” table, look in “Raw Survey”.
- When looking for the data columns the following search is used:
 - KP: Check first for a column named exactly “KP” then for one with a name containing “KP” then if for one that contains either “FP”, “MP” or “STA”.
 - Easting: Check for a column name containing “East” then for one exactly named just “E”.
 - Nothing: Check for a column name containing “North” then for one exactly named just “N”.
 - Depth: Check for a column name containing “Depth” then for one exactly named just “D”.

Follow mode in NaviModel

Expand the two Online levels in the NaviModel Project Tree. You should then see a VisualSoft “camera”, VISUALSOFTCAM1.

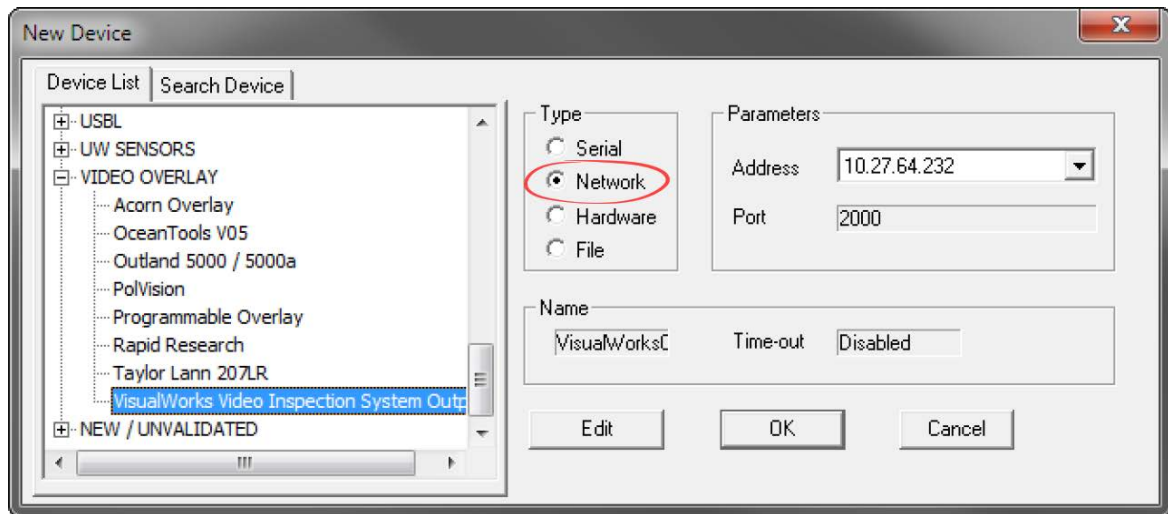
Right click on the **VISUALSOFTCAM1** and select **Follow**.



The display in NaviModel will now be locked to the current video position in VisualEdit. When you play the video or browse through the data lists in VisualEdit, the NaviModel display will move to the same Easting and northing position.

1.24.4 Fugro's Starfix

Starfix.IOWIN can send time and position data to VisualDVR, using the VisualWorks **Video Inspection System Output** in the Video Overlay section of IOWIN.



Set the communication type to Network, as shown above. There is no need to edit the network communication parameters because the actual communications are done through the VisualWorks network comms, (which is similar to Starfix.Message Manager), so although the user can select a port to use, no data is sent to that specific port by this driver. Instead VisualSoft's standard port number will be used automatically.

When the user enters the driver configuration menu they can select which survey information to send to the VisualSoft system. The driver will also send start and stop logging commands from Starfix to the VisualSoft system on receipt of a suitable command via Message Manager. In other words, Starfix.Logging will provide the driver with these commands via Message Manager so that when Starfix.Logging starts or stops, VisualSoft's VisualDVR will do the same. In effect the IOWIN dll translates Starfix logging commands to VisualSoft logging commands.

Please note – when first started the IOWIN driver will send a default pre-defined configuration to the VisualSoft system. Starting Starfix.Logging will then force the driver to output the correct user configured configuration when you start logging. You may therefore want to start the logging as a brief test to force your configuration through to the VisualSoft system and see the correct column headers in VisualDVR's survey data window.

1.24.5 QPS's QINSy

VisualEdit can import survey sensor and MBE data from a series of predefined ASCII files exported from QPS' QINSy logging and processing software. See help topic Configurable File Import.

1.24.6 Wood's NEXUS

To use NEXUS IC with VisualDVR you must configure it using the NEXUS IC Options page in the VisualDVR start-up Configuration Wizard.

VisualDVR Configuration

System Templates Configuration Sync Files Confirmation

NEXUS IC Options

☒ Enable IC-Inspection DVR control

Channel 1
Port: 4500
IC-Inspection Folder base path: \\MyNAS\Shell NS 2023

Channel 2
Port: 4501
IC-Inspection Folder base path: \\MyNAS\Shell NS 2023

Channel 3
Port: 4502
IC-Inspection Folder base path: \\MyNAS\Shell NS 2023

Channel 4
Port: 4503
IC-Inspection Folder base path: \\MyNAS\Shell NS 2023

☒ Enable IC-Inspection Time Synchronisation

☐ Send frame grabs to IC-Inspection via the network in real-time

☒ Save frame grabs to the folder selected below:

< Back Next > Cancel

Enable NEXUS IC-Inspection DVR control: If you are doing an inspection job using Wood Group's NEXUS IC-Inspection software (version 6.4 or above) you must turn on NEXUS IC-Inspection DVR Control on this page. In NEXUS add the VisualDVR as a "Generic DVR" device using its IP address.

IC-Inspection Time Synchronisation: NEXUS IC-Inspection can send a time synchronisation message to VisualDVR. If you turn on this option in IC-Inspection you must also turn it on here so that VisualDVR receives the time sync messages. (As with all VisualSoft time synchronisation options, you must use only one time sync source, so if you turn on NEXUS IC Time Sync, make sure that you turn off time sync in the VisualDVR Survey Data set up and other places such as VisualDataLogger.

IC-Inspection Base Folder path: VisualDVR will receive commands from IC-Inspection telling it to start or stop recording, create image grabs and so on. VisualDVR will still record video in the usual way, using the standard file names that are expected by VisualArchive and other VisualSoft applications. It will also make a copy of the video files and image grabs using names and locations requested by IC-Inspection. IC-Inspection will send either a full folder path, or a partial folder path. If IC-Inspection sends a partial file path this is usually based on the component selected for inspection in IC-Inspection. If VisualDVR receives a **partial folder path** it will be added to the "IC-Inspection Folder

base path" that you specify here. You can use the same base path for all cameras, or have different paths for different cameras. There is a short-cut button to quickly copy the path set for Channel 1 to all other channels. In the example below the base path is "\\My NAS\\Shell NS 2019", so if IC-Inspection sends partial folder path "\\Pipelines\\PL1234", the video files will be sent to the combined path "\\My NAS\\Shell NS 2019\\Pipelines\\PL1234".

Port Numbers: IC-Inspection sends commands to VisualDVR via the network using TCP ports. These port numbers are selected in IC-Inspection for each camera and the same port numbers must be set for each camera here.

IC-Inspection Frame Grabs folder: If you have a VisualDVR with Vitec VMC-7440 HD/SD hardware encoder cards in it, the DVR can send image grabs back to IC-Inspection immediately via the network. If you do not want to use that option, you can choose to save image grabs to a folder instead. Other types of VisualDVR, for example with the older Winnov Videum Duo or Quattro cards, cannot create instant image grabs. Instead they create the grabs when recording of the current file ends. In this case you need to tell it where to save those by selecting an IC-Inspection Frame Grabs folder.

1.25 Time in the VisualSoft Suite

Timestamps and Synchronisation

Different data is logged by different computers. There may be one or more **VisualDVR** unit and one or more computers running **VisualDataLogger** or **VisualEventLogger**. All video and other data is recorded with a very precise timestamp that includes both date and time to a resolution of one millisecond. This timestamp is used to link different types of data, such as linking Cross-Profiles or Events to Position data and to the correct video image. It is therefore extremely important that the time source on each different logging computer is synchronised with the time source of all of the other logging computers. In the VisualSoft Suite, one data source or one clock can be selected as the VisualSoft Time Sync Source for all VisualSoft logging. This source might be a data feed from a navigation system into **VisualDVR**, a data feed into **VisualDataLogger**, or any of the other options listed below.

The user will select and configure the Time Sync Source when setting up the navigation feed or other system, and the selected VisualSoft application will then automatically pass this timing information around the network to all other VisualSoft applications.

The Admin Panel will display the selected Time Sync Source and show the UTC time that is being used by the logging applications. Any potential problems or conflicts will be highlighted in the Admin Panel and alarm messages will be published to alert all users.

Time Sync Sources

The Time Sync Source for the VisualSoft Suite may be any one of the following:

- A network time-server application, setting all of the internal computer clocks on the network. This is the **most accurate method**.

- A time signal from an online navigation system direct to all VisualSoft applications using the VisualSoft API.
- Time and date in an ASCII "Survey Data" or "Position Data" string (via serial cable or network UDP) from an online navigation system to **VisualDVR**. This is the **most commonly used method** using data sent from applications such as HYPACK, QPS's QINSy, Eiva's NaviPac, Fugro's Starfix and others.
- Time and date in an ASCII data string (via serial cable or network UDP) from an online navigation system to **VisualDataLogger**.
- The internal clock on any one VisualSoft computer, selected via the **Admin Panel**. This method should be seen as a last resort, to be used only if none of the previous methods is possible. This method will not guarantee that the time is correct, but it will still allow all VisualSoft applications to use the same time, so even if the clock is wrong all relative timing will still be OK.

Time Zones and Daylight Saving

The VisualSoft Suite uses UTC time for all video file names and for other file names created by the online logging applications, **VisualDVR**, **VisualEventLogger** and **VisualDataLogger**. The advantage of this is that it does not vary as ships and computers move from one part of the world to another, and it does not jump forward and back by an hour at the start and end of daylight saving.

On the other hand, for many users of the video and other data it is more convenient and more natural to work with displays that show local time. Some companies even specify that they require local time to be displayed in video overlay text, but there are others who request the use of UTC time for everything.

Although the VisualSoft Suite will always use UTC for file names and internal timestamp data, users have the choice to display either UTC time or local time. This works by recording the Time Zone and daylight saving setting of the Windows clock at the time when the video or data was recorded. It is therefore very important that the Windows Time Zone is correctly configured for both location and daylight saving on all of the computers running applications in the VisualSoft Suite.

Understanding "Local Time"

Local Time has two components to it: First, a Time Zone based on **location** and second (in some locations) there is also a Daylight Saving component based on the **season**. Where you are determines a time zone as a fixed offset from UTC, and what time of year it is may add a further hour's offset for daylight saving. For example:

In Norway in the time zone is UTC plus one hour (known as Central European Time), and in summer there is an additional one hour offset for daylight saving, so the combined Local Time in Norway during the summer is UTC plus two hours, known as Central European Summer Time.

In Houston, Texas the location based Time Zone is UTC minus six hours (known as

Central Standard Time in winter), and in the summer months there is a daylight saving offset of plus one hour resulting in a Local Time during summer of UTC minus five (i.e. UTC minus six, plus one), known as Central Daylight Time.

Configuring VisualSoft PCs and Applications

1. Ensure that every PC has the correct location based Time Zone selected in the Windows clock settings.
2. Ensure that every PC has daylight saving enabled for places and seasons when it is relevant.
3. Double check that the two settings are the same on all PCs.
4. If sending date and time to VisualDVR or VisualData Logger as part of a survey data string, and if using that for time sync, make sure that you correctly indicate whether the data being sent has UTC date and time, or Local Data and Time. You can send either, but you must "tell" the DVR or Data Logger which it is.
5. If you want your video overlay to show local time, we recommend also sending local time (and date) in any data strings sent to a DVR. That means that when you view the data in VisualReview or VisualEdit everything will match.

If your software knows the Local Time and also has settings for the Time Zone and Daylight savings it can calculate UTC Time. So you can display and log Local Time and still have file timestamps in UTC.

If your software knows the UTC Time and also has settings for the Time Zone and Daylight savings it can calculate Local Time. So you can file timestamps in UTC and still display Local Time.

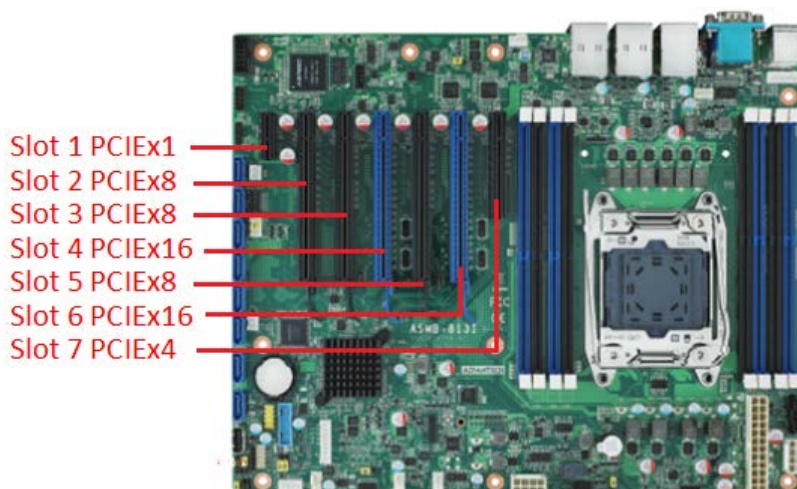
1.26 Correct motherboard slots for card installation

VisualDVR PCs come with the cards already installed. If you have to replace a card, or move one from another DVR chassis, it is important that the correct expansion slots are used.

Information presented below is for the [Advantech ASMB-813 motherboards](#)¹⁶⁸ used in VisualDVR hardware from 2017 to 2022. For information regarding other motherboards, please contact VisualSoft Support (visualsoft.support@f-e-t.com).

1.26.1 Advantech ASMB-813 motherboards

The Advantech ASMB-813 motherboard has multiple PCI-Express expansion slots. The correct placement of capture/overlay cards in those slots is as below.



The graphics card (GFX) is always placed in slot 6 as shown in the table below.

Cards with **Red** text in the table below are acting as encoder/capture cards.

Cards with **Blue** text are acting as overlay/distribution cards. Overlay cards are required where video is being distributed.

Cards with **Green** text are acting as both encoder/capture, and overlay/distribution cards.

Encoder/Capture Card	Slot 1	Slot 2	Slot 3	Slot 4	Slot 5	Slot 6	Slot 7
Osprey 815e/825e		Osprey		VMC-7440		GFX	
Vitec VMC-7440		VMC-7440	VMC-7440	VMC-7440	VMC-7440	GFX	
Winnov		Winnov	VM2-C8	VM2-C8	VM2-C8	GFX	VM2-C8

1.27 Identifying the Cards in a VisualDVR

A VisualDVR may have one or more different types of card, including video capture, video encoding, video overlay, PC graphics, serial port expansion, audio port expansion, etc. Most of the cards will have a small coloured dot on them. These dots are about 5mm across and can be used to help identify the card. Select from the list below, to work out which card is which:

 [Yellow Dot: PC Graphics Cards](#) 

 [Green Dot: Winnov Videum Capture Cards](#) 

 [White Dot: Vitec VMC-7440 HD H.264 Encoder Cards](#) 

 [Navy Blue Dot: Vitec SD External Overlay Cards](#) 

 [Red Dot: Optibase MovieMaker 230 SD MPEG-2 Encoder Cards](#) 

 [Orange Dot: Osprey 700e/815e/825e Capture Cards](#) 

[Cards without coloured dots](#) 

1.27.1 Yellow Dot: PC Graphics Cards

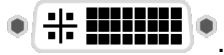
● Every VisualDVR unit has a **PC Graphics Card** installed identified in a VisualDVR unit by a yellow dot attached to the card. The cables for connecting to this card also have matching yellow dots on either end.

1.27.2 Green Dot: Winnov Videum Capture Cards

● **Winnov Videum Duo and Quattro** cards capture analogue SD video, and audio. The cards convert the analogue signals to a digital format which is then used by a software encoder in VisualDVR to record to file.

The cables for connecting to this card also have green dots at each end.

The **Videum Duo** can capture up to two channels of video, and has one DVI-I connector



The **Videum Quattro** can capture up to four channels of video and has two DVI-I connectors



Each DVI-I connector can be used with either a [Breakout Box](#)^[31] or a [Breakout Cable](#)^[33] for connecting your video and audio sources. The Breakout Boxes have been modified to have an in-built pre-amp to allow the use of either microphone level audio or line level audio (by using different ports on the box). The Breakout Cables cannot be modified and so they accept only line level audio. A microphone signal must be amplified before input to a Breakout Cable.



Winnov Videum Duo: 2 Channel Video Capture card



Winnov Videum Quattro: 4 Channel Video Capture card

[Driver Installation](#)^[181]

1.27.3 White Dot: Vitec VMC-7440 HD H.264 Encoder Cards

○ The **Vitec VMC-7440 capture card** is capable of encoding HD or SD H.264 video. The card can also be used in VisualDVR (Legacy Edition) to distribute video plus overlay to external displays.



Vitec VMC-7440 Capture/Overlay Card

[Driver Installation](#)  179

1.27.4 Navy Blue Dot: Vitec SD External Overlay Cards

- Some VisualDVR units have Vitec SD External Overlay Cards to send video with overlay to external displays.

There are a few different types of external overlay card, some SD and some HD. Select from the list below to work out which card you have.

- **Cards with BNC connectors: Vitec VMC-7440** used as an **HD/SD** overlay card.



[Driver Installation](#) 179

- **Cards with no BNC connectors, and also no audio sockets: Vitec VM-OSD** overlay card for SD.



[Driver Installation](#) 179

- **Cards with no BNC connectors, but with two 3.5mm audio sockets: Either Vitec VM2-C7 or Vitec VM2-C8** for SD.



The C7 and C8 models of this card look the same unless you can see the connector inside the PC, which is PCI on the C7 and PCIe on the C8. To avoid opening the PC chassis, you can instead check which motherboard is installed in the PC. This is displayed during the boot sequence, and will be either AIMB or ASMB.

If the motherboard is AIMB, then your Vitec overlay card is a VM2-C7. If the motherboard is ASMB then your overlay card is a VM2-C8.

[Driver Installation](#) 179

1.27.5 Red Dot: Optibase MovieMaker 230 SD MPEG-2 Encoder Cards

THESE CARDS ARE NOT COMPATIBLE WITH WINDOWS 10.

● The Optibase Moviemaker 230 encoder card is capable of encoding SD MPEG-2 video in Program Stream or Transport Stream.



Optibase Moviemaker 230 Capture Card

Driver Installation

1.27.6 Orange Dot: Osprey 700e/815e/825e Capture Cards

● The Osprey 700e/815e and 825e are all capture cards capable of capturing a single channel of HD or SD video using an SDI connection.

Each model type has its model number either stamped or printed on the plate of the card itself.

The Osprey 700e and 815e are capable of both capture and distribution from an SDI source. The Osprey 825 is only capable of capture.



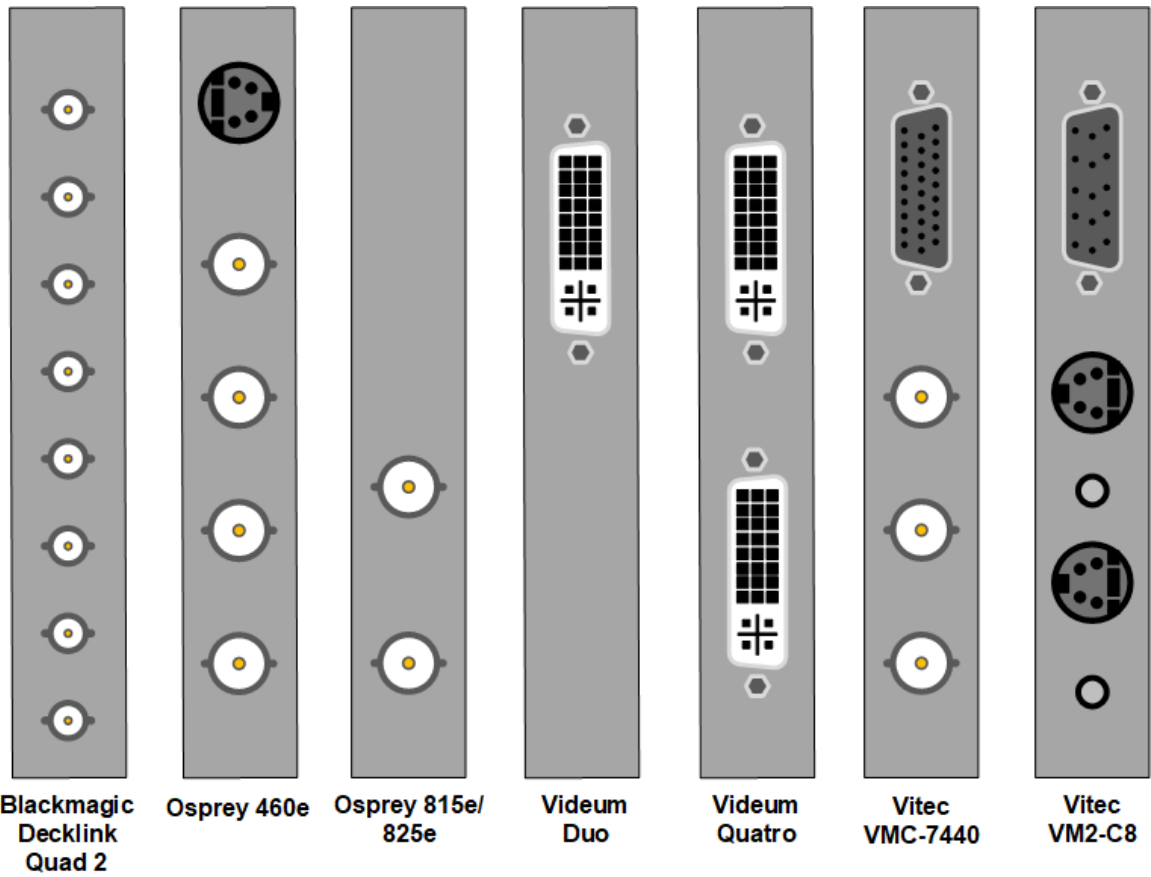
[Driver Installation](#) 

1.27.7 Cards without coloured dots

Some cards are rarely used, and are present in only a small number of VisualDVRs. These cards may not have a coloured dot.

You should also be aware that the dots may have been lost from some cards over time, or on a very old VisualDVR they may never have been attached.

If the card has a VGA connector and also either DVI or HDMI connectors, or if it has only HDMI connectors it will be a graphics card, rather than a capture or overlay card used by the VisualSoft Suite.



1.28 Reinstalling Hardware Drivers

First [identify which cards are installed in your VisualDVR](#)¹⁶⁹, then follow the relevant installation instructions:

[Drivers: Optibase MovieMaker 230 SD MPEG-2 Encoder Cards](#)¹⁷⁷

[Drivers: Osprey 700e/815e/825e Capture Cards](#)¹⁷⁷

[Drivers: Vitec SD Overlay Cards](#)¹⁷⁹

[Drivers: Vitec VMC-7440 HD Encoder and Overlay Cards](#)¹⁷⁹

[Drivers: Winnov Videum SD Capture Cards](#)¹⁸¹

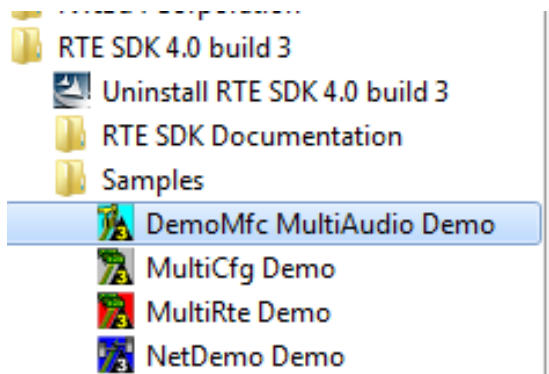
1.28.1 Drivers: Optibase MovieMaker 230 SD MPEG-2 Encoder Cards

The driver for the Optibase MovieMaker 230 card can be found at: <C:\Visualsoft\Utilities\Drivers\Capture Cards\Optibase\Optibase230\RTESDKVersion4.0.3>

If you cannot find your driver, or do not have a VisualSoft Utilities folder, please contact our support team at visualsoft.support@f-e-t.com.

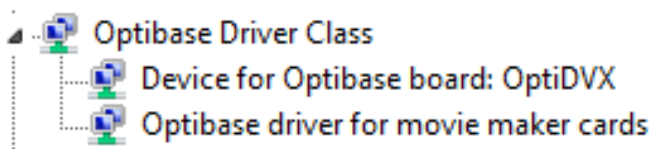
Install the driver by double-clicking the Setup.exe file. If you receive a warning that Windows cannot verify the publisher of the driver software, choose the option to 'Install this driver software anyway'.

Once the installation is complete, navigate to Start > Programs > RTE SDK4.0 Build 3 > Samples > DemoMfc MultiAudio Demo and run the application. This will complete installation of the card.



After the Optibase driver has been installed, and the DemoMFC run, there should be an entry in Windows Device Manager as below.

To open Device Manager, press the Windows key and type 'device manager'.



1.28.2 Drivers: Osprey 700e/815e/825e HD/SD Capture Cards

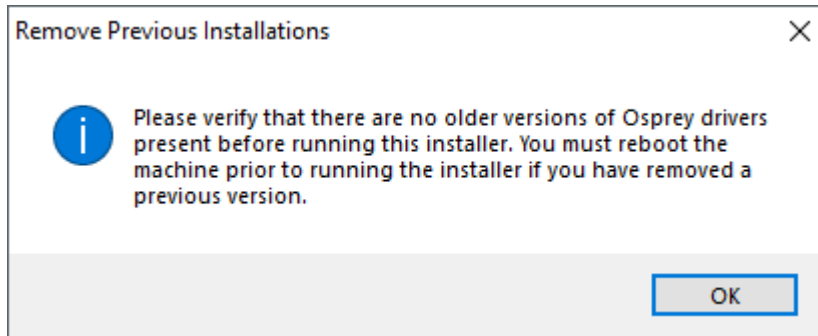
The drivers for Osprey 700 and 800 series capture cards can be found at <C:\VisualSoft\Utilities\Drivers\Capture Cards\Osprey>.

If you cannot find your driver, or do not have a VisualSoft Utilities folder, please contact our support team at visualsoft.support@f-e-t.com.

There are separate folders at the above location for the 700 and 800 series cards. There are different installers for 32-bit and 64-bit Windows versions. You can check your Windows version by pressing the Windows key and typing 'winver'.

To install the driver, double click the .msi installer in the folder for your card.

You will receive a warning to check that there is currently no older version of the Osprey driver installed on the PC. If there is, it must be removed, then the PC must be rebooted.



If you do not have an older driver installed, click Next and follow the on-screen prompts.

After the driver has installed, you must restart the PC to complete the installation.

1.28.3 Drivers: Vitec SD Overlay Cards

Vitec SD overlay cards include the VM-OSD, VM2-C7 and VM2-C8 cards.

The drivers for Vitec overlay cards can be found in <C:\Visualsoft Utilities\Drivers\Overlay>, there are separate folders for the VM-OSD cards and the VM2-C7 and C8 cards.

If you cannot find your driver, or do not have a VisualSoft Utilities folder, please contact our support team at visualsoft.support@f-e-t.com.

To install the driver, first open Windows Device Manager.

To open Device Manager, press the Windows key and type 'device manager'.

Each overlay card will have an entry in the other devices section of Device Manager, as shown below.



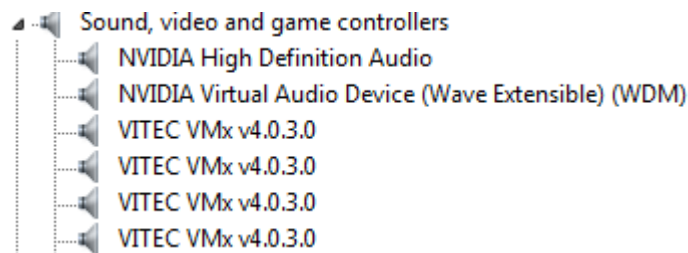
Right-Click an entry and choose the Update Driver Software option.

On the following screen, choose the 'Browse my computer for driver software' option.

Click the Browse button and browse to the <C:\Visualsoft Utilities\Drivers\Overlay> folder, then click Next.

The drivers for the first Vitec overlay card should now be installed. If you have multiple overlay cards to install, you can now Right-click and choose the 'Search automatically for updated drivers' option. The drivers will be installed automatically.

The Vitec overlay cards will now appear in Device Manager as below; one entry per card.



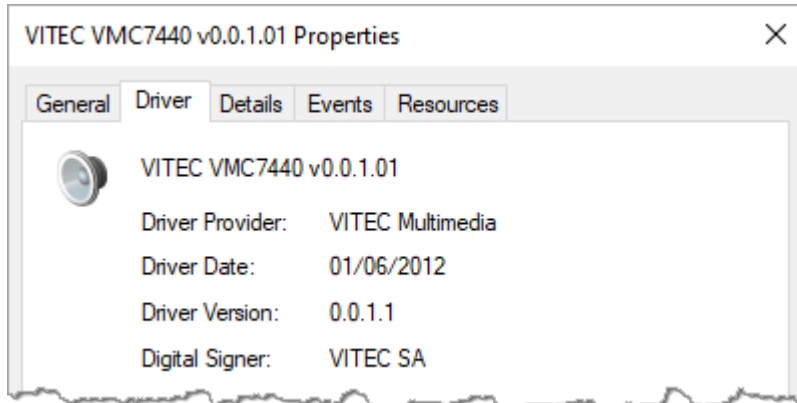
1.28.4 Drivers: Vitec VMC-7440 HD/SD Encoder and Overlay Cards

The driver for Vitec VMC-7440 cards can be found in <C:\Visualsoft Utilities\Drivers\Capture Cards\Vitec\VMC-7440\Win7>

If you cannot find your driver, or do not have a VisualSoft Utilities folder, please contact our support team at visualsoft.support@f-e-t.com.

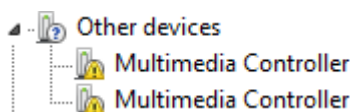
If you already have a Vitec VMC-7440 driver installed, the current driver version can be checked by right-clicking the card in Windows Device Manager and selecting Properties > Driver.

To open Device Manager, press the Windows key and type 'device manager'.



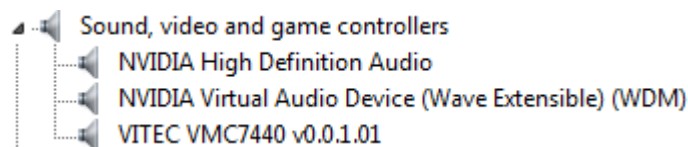
To install the driver, first open the Device Manager by pressing the Windows logo key and typing 'device manager'.

You should have a new Multimedia Controller entry for each card under Other Devices.



Right-Click an entry and choose the Update Driver Software option.

On the following screen, choose the Browse my computer for driver software option, then click the Browse button and browse to the folder shown at the top of this page and click Next install the drivers for the first VMC-7440 card. If you have more 7440 cards to install, you can now choose the option to Search automatically for updated drivers. The drivers will be found and installed automatically and the VMC-7440 cards will appear in device manager as below; one entry per card.



1.28.5 Drivers: Winnov Videum SD Capture Cards

The driver for Winnov Videum cards can be found at: <C:\VisualSoft\Utilities\Drivers\Capture Cards\Winnov>

If you cannot find your driver, or do not have a VisualSoft Utilities folder, please contact our support team at visualsoft.support@f-e-t.com.

The same driver is used for both the Winnov Videum Duo and Quattro cards.

If you are upgrading from an older driver version, you must first uninstall the existing driver.

To uninstall the driver, press the Windows key and navigate to Winnov > Uninstall. Follow the on-screen instruction and then reboot your PC to complete the uninstall process.

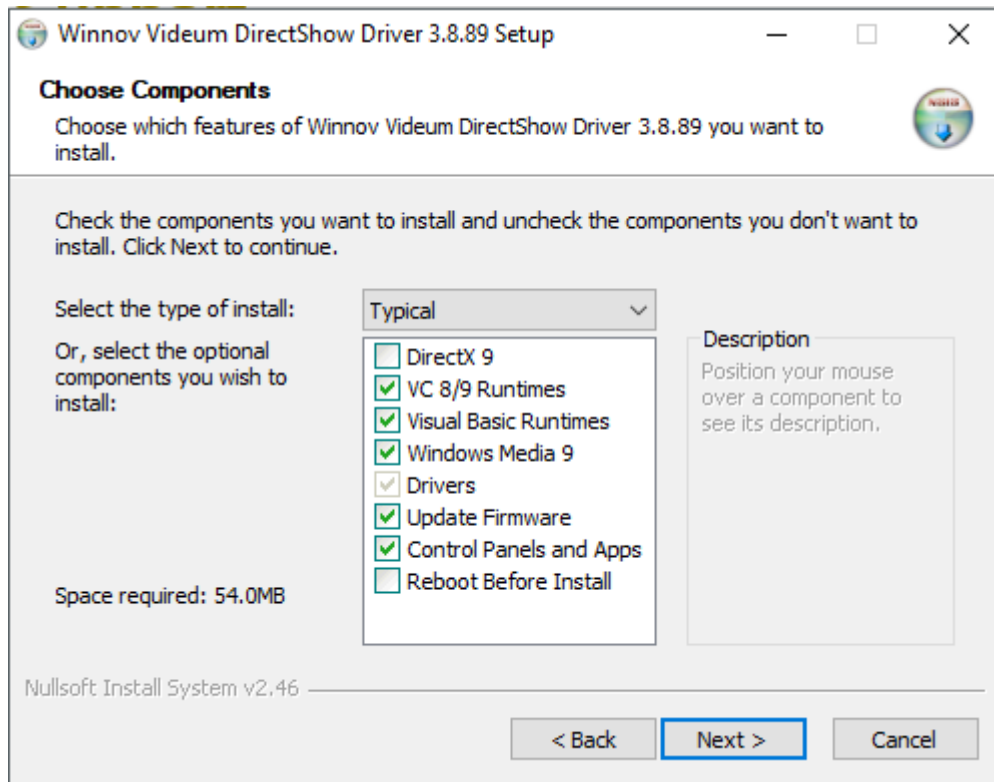
If you have no driver installed, the Winnov card channels will each appear in Windows Device Manager as a generic "Multimedia Video Controller" as shown below. There will be either two or four entries, depending on whether you have a Duo or Quattro version.

To open Device Manager, press the Windows key and type 'device manager'.

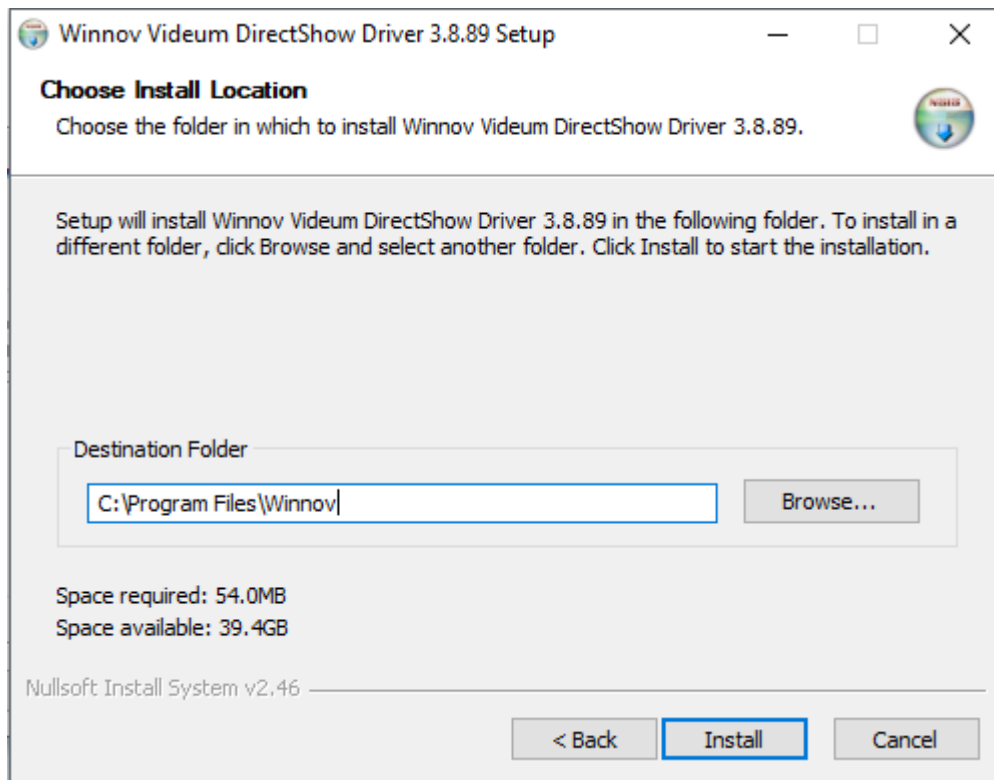


Install the driver by double-clicking the WNVAvs.exe file.

When prompted to Choose Components, as in the image below, leave the default options and click Next.

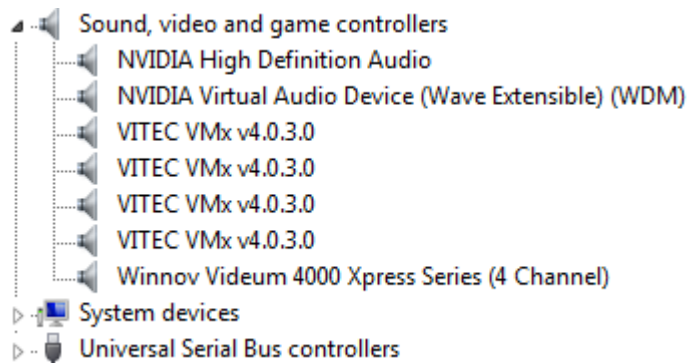


Choose the default installation location, ensuring you have enough free space available on your drive.

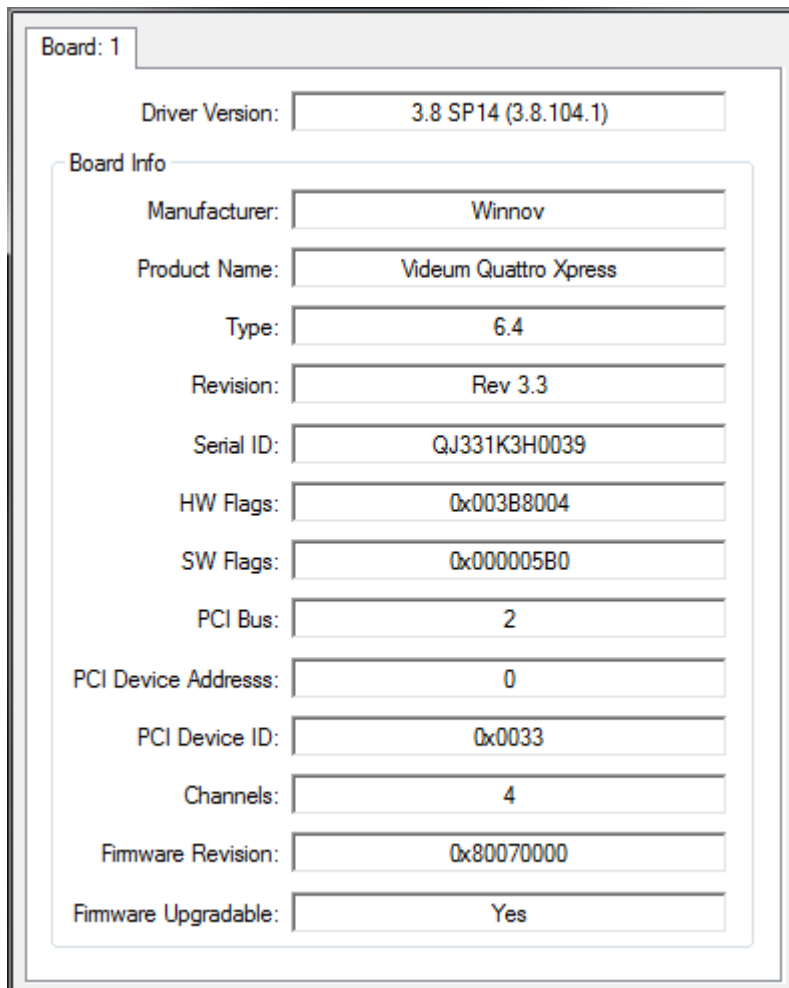


Once the installer has run, you should restart your PC to complete the installation.

After the Winnov driver has been installed, there should be an entry in Windows Device Manager as below. The number of entries will vary, depending on whether you have a Duo or Quattro card.



A white eye icon will appear in the system tray at the bottom right of your screen. Right-clicking on the eye icon and selecting Information Panel will display information regarding the installed Winnov card, including the driver version.



Audio properties are also available in the system tray menu. Set the audio levels as below for Brd:1 Ch:1.

The screenshot displays the 'Audio Properties' window for 'Brd:1 Ch:1'. The window is divided into several sections:

- Record Levels:** Contains sliders for L and R channels for A-In 1, A-In 2, B-In 1, and B-In 2. All sliders are set to 50.
- Monitor Levels:** Contains sliders for L and R channels for Wav Out and four other unlabeled sources. The sliders are set to 0 or 80.
- Record Source:** Includes radio buttons for A-In 1, A-In 2, B-In 1, and B-In 2. Below these are two mix options:
 - Mono Mix:** Selected. Description: 'Add all channels. Out(L) = sum(L)+sum(R), Out(R) = Out(L)'. Sliders for L and R are set to 80.
 - Stereo Mix:** Unselected. Description: 'Add left and right channels separately. Out(L) = sum(L), Out(R) = sum(R)'. Sliders for L and R are set to 50.
- Output:** Contains sliders for Speaker, Stereo Out, and Mono Out. All are set to 80.
- Note:** A text box stating: 'Note: Your board may support audio output without having any physical jacks on the back of the board. This is because some boards (such as the 4400 AV) have audio headers on the board itself.'
- Buttons:** 'Restore Defaults', 'Copy...', and 'Refresh'.

Channel used by audiodg.exe

2 Contact Details

Forum Subsea Technologies has offices in many parts of the world. The VisualSoft team is mostly based in Aberdeen in the UK, but we also have regional sales staff and some support services in other parts of the world.

The following pages have details of how to contact either our sales team or our support team, by telephone, email or by post.

2.1 Contact Details – Support



Website: f-e-t.com/visualsoft

Most support questions are most easily answered by email:

Using email gives our support team time to think about your problem before they reply, and time to test the software if necessary. If your question is urgent, do not hesitate to telephone us, but even then it may be best to send an email before you call, even if only a few minutes before you call. Sending us an email will allow you to include screen captures, data files and other things that may make it easier for us to quickly and accurately understand your problems.

Support Email (recommended)	visualsoft.support@f-e-t.com
Phone: UK & Global, during UK office hours	+44 (0) 1224 744 000
Phone: UK & Global, outside UK office hours Available for clients with a valid support contract. Operates from 17:00 until 08:30 UK time each night Monday to Thursday, and all through the weekend from 17:00 Friday evening until 08:30 Monday morning.	+44 (0) 1224 363 999
Phone: USA, 24/7 During Houston office hours this will connect you to our US team. At other times, or if the US team is busy, it diverts to the UK team.	+1 713 454 7091

2.2 Contact Details – Sales



Website: f-e-t.com/visualsoft

For address and telephone/fax details, please select the appropriate office for your region:

Aberdeen, UK	FET – VisualSoft Cumberland House Endeavour Drive Arnhall Business Park Westhill Aberdeenshire AB32 6UF UK
Sales and rental enquiries:	visualsoft.sales@f-e-t.com
Telephone:	+44 (0) 1224 744 000

Houston, USA	FET – VisualSoft 10344 Sam Houston Park Drive, Suite 300 Houston TX 77064 USA
Telephone:	+1 713 329 8273

Singapore	FET – VisualSoft Asia Pacific Rental Service
Email	visualsoft.sales@f-e-t.com
Telephone:	+65 9643 7433 / +65 9230 8138

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