

DVR 16 PRO

16 CHANNEL NETWORKABLE DVR
WITH INTEGRAL 500GB HARD DRIVE



USER MANUAL



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SAFETY NOTICE

IMPORTANT PRECAUTIONS!

HIGH VOLTAGE HAZARD!

HIGH VOLTAGE INSIDE!

- Please keep this manual for later use.
- Please strictly comply with the warning indications on the machine and in this book.
- Please abide by instructions when operating.
- Do not use accessory devices not recommended by the manufacturer. Incorrect usage of accessory device may cause harm.
- Please use the power adapter equipped for the unit. Before connecting the AC power cord to the socket, please check if the specified requirements of the adapter is in accordance with the local power supply network. Please contact your dealer or the local power supply administration if you are not sure about the power supply to be used.
- Do not place anything on or around the power cord. A damaged power cord may cause electric shock.
- Please do not touch any control parts not mentioned in the manual. Incorrect adjustment of a control part not mentioned in the manual may damage the machine.
- Before cleaning the machine, pull out the power plug and clean the machine with a slightly damp cloth. Do not use any liquid or sprayed cleaning agent.
- Disconnect the unit from the mains power source if the unit is not likely to be used for a long period of time.
- Ensure air ventilation around the unit, and do not cover or block the vent hole
- Do not place the unit in direct sunlight or near a heat source such as a heat radiator, heating equipment, or other objects that generate heat.

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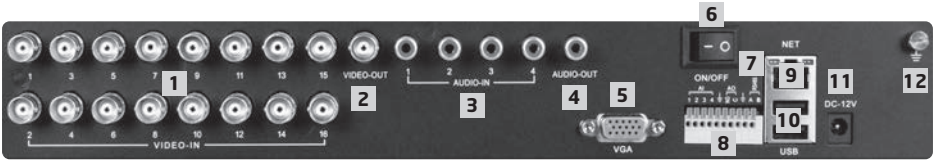
This manual is designed to be used as a quick start guide alongside the informative general user interface (GUI) of the DVR. Additional details of the subjects covered may be found within the on-screen menus of the machine itself. The menu above is not exhaustive and is designed to lead the user quickly to the most often required aspects of the unit.

Front Panel



No.	FUNCTION	DESCRIPTION / COLOUR
1	Standby	Blue
2	Access to Picture and PTZ settings	Blue
3	Search recorded data	Blue
4	Pan tilt zoom control	Blue
5	Open main menu	Blue
6	Record mode settings	Blue
7	Keys	Control keys for main menu navigation
8	Main power on	Blue
9	Network connection on	Green
10	Recording status on	Red
11	Remote control receiver	N/A
12	USB	USB input for Mouse control or back up
13	Eject	Blue
14	Play/Pause	Blue
15	Rewind	Blue
16	Slow motion playback	Blue
17	Fast Forward	Blue
18	Stop	Blue
19	Exit to main screen	Blue

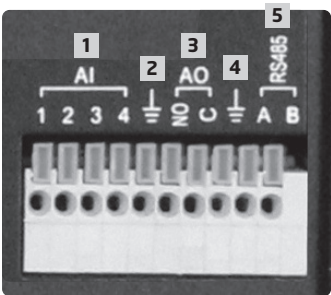
Rear Panel



No.	interface	ID Description
1	VIDEO IN	Video input BNC connectors x 16
2	VIDEO OUT	Video output BNC
3	AUDIO-IN	Audio input AV connectors x 4
4	AUDIO-OUT	Audio output AV
5	VGA	VGA display output
6	OFF/ON	Power switch
7	RS485	RS485 Interface
8	ALARM	Alarm input and output interface (see Alarm Interface specific description)
9	NET/LAN	Network Interface
10	USB	USB interface
11	DC-12V	12V Power Input from power supply
12	GND	Ground column

NB. To obtain best quality on screen display It is highly recommended to connect a monitor via the VGA output using a quality VGA lead.

Alarm input and output connections



4-Channel Alarm Terminal

1	Alarm input 1-4
2	GND
3	Alarm Output
4	GND
5	RS485 Interface

NB. Output port is normally open

Basic operations

POWER ON

Plug the lead from the 5-way power supply marked DVR into the 12VDC power supply input of the DVR. Turn on the DVR at the power switch located on the rear panel. The Power supply indicator light (Blue) will illuminate on the DVR front panel followed by a short bleep.

POWER OFF

Turn off the DVR at the power switch located on the rear panel

Notes on power

1. Auto resume after power failure

If the DVR is shut down abnormally, it can automatically backup video and resume previous working status after power restore.

2. Replacing the hard disk

Before replacing the hard disk, the power to the DVR must be turned off.

3. Replacing the battery

Before replacing the battery the power supply switch in the rear panel must be turned off. The system time must be checked regularly. If the time is not correct you must replace the battery, we recommend replacing the battery every year and using the same battery type.

Note: The settings information must be saved before replacing the battery otherwise information will lose.

MOUSE CONNECTION

In order to prevent un-authorized tampering most functions of the DVR are mouse controlled . Please plug in the supplied mouse via the USB interface on the front panel below the status LEDs.

LIVE VIEWING

On start up the DVR will display a quad (four channel) image. Using Mouse double click on any image to bring to full screen. Double click again to return to a quad screen. System time and date, channel name, recording status and alarm status are indicated by the following icons:



Recording status



Motion detect



Video loss



Camera lock

Controls

Right click the mouse anywhere on screen to activate the control menu selections. Selecting main menu will automatically show the SYSTEM LOGIN screen. The default settings are

User Name: Admin
Password: leave blank

Once logged in you may now right click again to access your menu selections. An opportunity to change the password is provided within the settings menu. Please note if an incorrect password is entered three times the DVR alarm will activate. If a wrong password is entered five times the system will lock out. To reset the system turn the main power off and back on after 5 minutes.

SHORTCUT MENU

Selecting main menu will take you through to the shortcut menu where most regularly used settings can be found. Explanations of functions are displayed by hovering the mouse over each icon.

Record	Record set up / record playback / record back up
Alarm	Motion detection and alarm event settings
System	Time and date / network settings / on-screen display settings
Advanced	Hard disk management / password settings / network settings
Info	Hard Drive status / system usage log / version details

Making a recording

RECORD CONFIGURATION

This section allows you to configure the recording capability of the DVR to your precise requirements by each channel / camera.

Channel	Select 1-4 (all other settings now effect the specific channel selected)
Redundancy	Select if double (backup) recording is required when two hard drives are fitted
Length	The record time captured when using motion or alarm trigger detection
Pre-Record	The system can automatically archive up to 30 seconds of recording prior to a motion or alarm trigger
Mode	Selects the recording preference either by schedule or to stop and start recording manually

SCHEDULE RECORDING

Week	You now have the ability to specify the recording requirements by each day (select all if all days are the same)
Period 1-4	Each day can be segmented into 4 specific recording periods
Regular	Simply records constantly within the selected period
Detect	Only records by motion detection within the selected period
Alarm	Only records by alarm trigger within the selected period

PLAYING BACK A RECORDING

To view recorded data right click anywhere on screen and enter playback directly from the menu. The playback screen can also be found in the main menu shortcuts record > Playback.

To play back recorded material left click on search and enter the following data.

- File Type** Do you wish to search for all recorded material or recordings made from specific triggers such as alarm or motion detection events.
- Read/Write** Do you wish to source the data from the main hard drive or previously backed up material on external storage such as a USB stick.
- Channel** Highlight all channels that you wish to source the data from.
- Start Time** Enter the time and date from which you wish the search to start.
- End Time** Enter the time and date at which you wish the search to finish.
- Play mode** Choose here the level of data decode.

When complete left click play. You can then simply use the icons at the foot of the screen to control playback of the whole selected period or choose specific start times from within the selected period via the list of start times on the right hand side of the screen.

Digital Zoom During playback it is possible to carry out a digital zoom. Left click and hold anywhere in the picture then move the mouse in any direction to create a selection window. Once you are happy with the selection window release the left click and then left click again within the created window to zoom in. To return to the original screen simply double click.

To exit the playback area right click and select > Up Window.

TRANSFERRING A RECORDING TO USB

Recorded data can be easily transferred using the supplied 2GB USB stick drive. The amount of data that can be stored is only limited by the capacity of the USB drive. Larger capacity drives are available.

To create an archive of data insert the USB stick drive into a spare USB port.

Please note: There are two ports on the rear of the unit and one on the front. USB2 on the rear of the unit and the USB port on the front of the unit are linked. It is not possible to use these linked ports for both the mouse and stick drive at the same time.

Once a USB stick is present got to the main menu click record then backup.

If the USB stick is not visible on the back up screen click detect. The DVR will then display the details of the stick and its available capacity. If this is the USB stick you wish to use select it by clicking on the left hand box next to the stick description.

Now click backup. On this section you will select the data that you wish to backup to the selected USB stick.

- Type** Do you wish to back up all recorded material or recordings made from specific triggers such as alarm or motion detection events.
- Channel** Select the channels that you wish to back up.
- Start Time** Select the start date and time of the desired back up.
- End Time** Select the end date and time of the desired back up.

Once you have entered the selections above click Add, data applicable to the selections will now appear in the main screen. Further more precise selections can then be made by clicking on the boxes to the left of the file details or selecting all files by clicking on the box next to Channel. Once your file choices have been made the required free data capacity and total capacity will be displayed at the bottom of the screen.

Clicking start will commence the back up operation and replace the capacity requirement with information on the estimated time to complete the process.

TRANSFERRING A RECORDING TO DVD

Recorded data can also be transferred to DVD. To create an archive of data insert a writeable DVD into the DVD drive.

Now click backup. On this section you will select the data that you wish to backup. Once the correct data is selected click "burn" to transfer the data to the DVD.

ALARM INPUTS AND OUTPUTS

This section allows you to configure the alarm event capability of the DVR it also control the actions of the DVR should an alarm event take place.

An alarm event can be created in a number of ways.

- Motion detection** The DVR can detect movement changes in the images being captured via it's own software. Each channel can be configured to create alarm events via on-screen movement (Enable). The area of detection can be defined to specific areas on screen (Region), default is full screen, and sensitivity can be adjusted to avoid false triggering. Motion detection triggers can then be configured to create an alarm output or start recording sessions on an of the channels, show a message on screen or send an e-mail alert.
- Video Blind** The DVR can detect failing light conditions on specific channels which would create a poor quality image, this could include lights being turned off or even covering the camera by accident or on purpose by an intruder. Sensitivity and actions following a trigger event can be configured.
- Video Loss** Damaged or severed cables, failure of power supply or damage to a camera can all cause a video loss event. Actions following a video loss event can be configured.
- Alarm Input** Additional alarm devices such as PIR detectors, magnetic contacts or panic attack buttons can be used to trigger actions via the alarm inputs on the rear panel of the DVR. Detector inputs can be set as normally open or normally closed to suit. Actions following an alarm event can be configured.

System

The system sections allows configuration of much of the general functionality of the DVR.

General	Setting time and date, Language and machine identification details.
Encode	Each channel can be configured for recording resolution, frame rate and picture quality. High resolution with high frame rates at high quality will create the highest amount of data (Bit rate) and therefore fill up the hard drive at the quickest rate.
Network	The DVR output can be viewed locally around a network (LAN) or remotely via the internet. Settings can be entered using a fixed or DHCP IP address. Details of the correct data to enter can be provided by your internet service provider or IT support.
Net service	Settings can be made for network communication via PPPOE, NTP and SMTP for e-mail alerts. Specific setting requirements can be provided by your internet service provider or IT support. Includes opportunity to enter forwarded Port number for mobile device viewing.
GUI Display	Settings for how the on-screen information is displayed.
PTZ Config	Settings and configuration of control of Pan and Tilt zoom cameras.
RS232	
Tour	

ADVANCED

HDD Manage	Settings for the Hard drive.
Account	Configuration of users and their level of access. Individual users can be arranged in groups and have their access to functions within the DVR controlled.
Online user	Information with regard to online users is displayed and can be disconnected if required.
Output Adjust	Allows precise set up of the image display on screen to fit various monitors exactly.
Auto Maintain	Configure schedule for auto reboot and auto delete old recordings to assist processor and increase Hard drive life.
Restore	Selectable factory setting restore on major functions.
Upgrade	Access for software remote and local software upgrades.

INFO

HDD Info	Information on Hard drive including HDD type . Space left on drive quoted both a capacity or record time left according to record settings.
BPS	Live display of Specific KB/S and MB/H rate per channel.
LOG	Time and dated data log of all major users and system functions.
Version	Specific description of DVR including serial number and build date.
Logout	Logout of the DVR , Shutdown the DVR or re-boot the DVR.

Remote viewing

Network Connection

To enable remote viewing you need to first connect the DVR with your network and enter your networks details.

- Step 1** Connect the DVR with your networks router using PC type network cable.
- Step 2** Fill out the DVRs network settings page; this should be done by your IT technician or a Networking Engineer.
- Step 3** To allow remote viewing of your DVR, your router requires at least 3 ports "forwarded" to the DVRs IP address (avoid using port 80), two are for PC viewing, the third is for mobile phone viewing (This port is entered in the Net Service area), if your mobile phone supports this. The best APP at time of writing for mobile viewing is Meye ProV2 - This should be done by your IT technician or a Networking Engineer.



Note: If this setup is not done correctly you will NOT be able to view your DVR via a PC or mobile phone, either locally within the premises or remotely or both. If you can view your DVR locally but not remotely this indicates incorrect setup of your routers "port forwarding".

Important - Settings for remote viewing with a mobile phone

As mentioned above , the preferred current APP (iPhone and Android) for remote viewing of images from Digi-view systems is MeyeProV2. In addition to the port forwarding requirements it is required that all channels are encoded as follows not forgetting the video and audio tick selections.

Input at the " encode" page of the "system" section of the main menu.



LOCAL NETWORK VIEWING - INTERNET EXPLORER

After connecting your DVR to the network, your PC 'Web browser' (internet explorer) can be used for local or remote viewing.

Step 1 Open web browser on a local PC (same premises as DVR), then enter the DVRs IP address and 'HTTP port' into the address bar. For example, the IP address of the DVR is 10.10.10.105, and 'HTTP port' number is 5557 then you should enter http://10.10.10.105:5557 on the address bar to connect.

The first time you connect to the DVR from a new PC a security warning message will pop-up asking whether you accept "web.cab" file. You must to accept in order to be able to access your DVR.

(If the "web.cab" file pop-up fails to show or download, please reduce IE security level or disable third party pop-up blockers and try again)

Note: If this is the first time you have connected to your DVR from this PC it will take 4-5 minutes to load

Step 2 Login; enter user's name and password, the default Administrator User ID is admin, and the password is empty (no password).

Note: You may use this method for future Local network viewing of your DVR.

BASIC WEB OPERATION - CONTROL PANEL BUTTONS

Split

Choose how many camera images you wish to display. For 4 channel DVRs choose 'view 4' or for 8 channel DVRs choose 'view 8' etc.

Playback

Enters playback mode; used for searching and playing back recordings already stored on the DVR.

Log

Display event log information, if any.

Local Cfg

Operate alarm set up on the web end.

Device Cfg

Right click mouse and select 'Device Cfg'. You can now adjust most of the DVRs Config settings as if you were at the DVR in person.

DISPLAYS LIST OF AVAILABLE CAMERAS

PTZ controls

Only suitable for PTZ cameras.

Picture adjustment controls

Such as Colour, Contrast etc.

Viewing your cameras

Choose and click a viewing window on the left hand side where you wish to display your first camera. Next, pick a camera from the right hand list and double click it. The camera you have chosen will now be displayed in the left hand window. Adding your other cameras is the same method; you just have to choose an unused window from the left hand side for each new camera.

REMOTE NETWORK VIEWING - INTERNET EXPLORER

Step 1 Open Internet Explorer on a remote PC then enter the DVR premises' external IP address and the DVRs 'HTTP port' into the address bar. For example, if the external IP address is 94.135.246.12, and 'HTTP port' number is 5557 then you should enter `http://94.135.246.12:5557` on the address bar to connect.

To find your DVR premises' external IP address, using a PC at the DVRs location go to www.google.co.uk and type in "what is my IP?". Any of the top search results will take you to a website which will display your External IP address.

The first time you connect to the DVR from a new remote PC a security warning message will pop-up asking whether you accept "web.cab" file. You must to accept in order to be able to access your DVR.

(If the "web.cab" file pop-up fails to show or download, please reduce IE security level or disable third party pop-up blockers and try again)

Note: If this is the first time you have connected to your DVR from this PC it will take 4-5 minutes to load

Step 2 Login; enter user's name and password, the default Administrator User ID is admin, and the password is empty (no password).

Note: If the initial network setup is not done correctly you will NOT be able to view your DVR via a PC or mobile phone, either locally within the premises or remotely or both. If you can view your DVR locally but not remotely this indicates incorrect setup of your routers "port forwarding".

Troubleshooting

The DVR cannot boot up normally.

Possible reasons are as follows:

- 1 The power supply is not correctly connected.
- 2 The rear power switch is in the off position
- 3 The power supply is damaged
- 4 The hard disk is damaged .
- 5 The front panel is damaged.
- 6 The main board of the DVR is damaged.

The DVR reboots automatically or stops working after boot up a few minutes.

Possible reasons are as follows:

- 1 The input voltage is not stable or too low.
- 2 The hard disk is damaged.
- 3 The DVR is subject to poor environmental conditions. Heat , dust , moisture etc
- 4 The hardware of the DVR is damaged.

System cannot detect hard disk.

Possible reasons are as follows

- 1 The hard disk power supply line is not connected.
- 2 The cables of the hard disk are damaged.
- 3 The hard disk is damaged.
- 4 The SATA port of main board is damaged.
- 5 Hard disk cables not fully inserted

There are no video outputs in single channel, multiple channels and all channels.

Possible reasons are as follows

- 1 The image brightness is set to zero.
- 2 There is no video input signal or the signal is too weak.
- 3 The channel protection or the screen protection is set.
- 4 The hardware of the DVR is damaged
- 5 No cameras connected
- 6 No power to connected cameras

Real-time image problems such as the image color or the brightness distortion.

Possible reasons are as follows

- 1 The PAL / NTSC settings are not correct for region (Pal to be used in Europe)
- 2 The signal from the camera is too weak due to excess distance between camera and DVR.
- 3 The color and brightness setting of the DVR is wrong.

I cannot find the video files in local playback mode.

Possible reasons are as followed:

- 1 The data line of the hard disk is damaged
- 2 Recording did not take place in the specified time range.
- 3 The hard disk is damaged.
- 4 The video files to look up are covered.
- 5 The recording is not on.
- 6 Harddrive has been overwritten

The local video is not clear.

Possible reasons are as follows

- 1 The image quality is too bad.
- 2 The reading program is wrong. Reboot up the DVR.
- 3 The data line of the hard disk is damaged.
- 4 The hard disk is damaged.
- 5 The hardware of the DVR is damaged.
- 6 DVR connected via video output not VGA

There is no audio signal in the surveillance window.

Possible reasons are as follows

- 1 There is no audio device connected.
- 2 The audio lines are damaged.
- 3 The hardware of the DVR is damaged.

There is audio signal in the surveillance window but no audio signal in playback

Possible reasons are as followed:

- 1 Setting issues: the audio option is not chosen.
- 2 The according channel is not connected with the video.
- 3 There is no audio device connected.

The time is wrong.

Possible reasons are as followed:

- 1 Setting is wrong.
- 2 The battery is in bad connection or the voltage is too low.

The motion detect is not working,

Possible reasons are as followed:

- 1 Settings are not correct in Record Conf.
- 2 Settings are not correct in Alarm > Motion detect
- 3 The motion detect area set is not correct.
- 4 The sensitivity is too low.

I cannot login via web.

Possible reasons are as followed:

- 1 The OS of the computer is not Windows 2000 service pack 4 or higher (le Windows XP)
- 2 ActiveX is not allowed by PC
- 3 Active X version is older than 8.1
- 4 Network connection failure.
- 5 Network setting issues.
- 6 Invalid password or user name.

The image is not clear or there is no image in network preview state or video file playback state.

Possible reasons are as followed:

- 1 Network is not stable.
- 2 The user machine has limited resource.
- 3 Choose the play-in-team mode in the network setup of DVR.
- 4 The region shelter or channel protection is set.
- 5 The user has no surveillance to view
- 6 The real-time image of the hard disk recording machine itself is not clear.

Network connection is not stable.

Possible reasons are as followed:

- 1 Network is not stable.
- 2 IP address is conflicted.
- 3 MAC address is conflicted.
- 4 The network card of the computer or the hard disk recording machine is not functioning correctly

There is something wrong with the USB backup

Possible reasons are as follow

- 1 The data exceeds the USB stick capacity.
- 2 The USB stick is not compatible.
- 3 The USB stick is damaged.

Alarm is not working.

Possible reasons are as followed:

- 1 The setting of the alarm is not correct.
- 2 The connection of the alarm is not correct.
- 3 The alarm input signal is not correct.

The remote control is not working,

Possible reasons are as followed:

- 1 The remote control address is not correct.
- 2 The remote control distance is too far or the angle is too large.
- 3 The battery is flat in the remote control
- 4 The remote control input on the front panel is covered.
- 5 The remote controller or the front panel of the DVR is damaged.

The back up files cannot play.

Possible reasons are as followed:

- 1 There is no media player.
- 2 There is no DX8.1 software or higher edition.
- 3 There is no DivX503Bundle.exe file to play AVI video files.
- 4 The DivX503Bundle.exe and ffdshow-2004 1012-. Exe files must be installed in windows.

Technical Specification

SYSTEM

Channel	16 Channel
Format	H.264 main profile Hi3515
Master processor	Technical grade embedded micro controller
O.S.	Embedded Linux operation
System resources	Multichannel real-time recording, playback, multi users network ops, simultaneously. USB backup output

INTERFACE

Operation	16bit true color graphical operation interface, Interface support mouse operation
Picture display	1/4/8/9/16 frame

VIDEO

Video standard	PAL (625TVLine, 50fps); NTSC (525TVLine, 60fps)
Monitoring quality	PAL, D1 (704x576); NTSC, D1(704x480)
Playback quality	PAL, CIF (352x288); NTSC, CIF (352x240)(real-time)
Code capacity	CIF: 400FPS PAL, 480fps NTSC
Motion detection	396(22x18) surveyed area can be set in everyone frame; Multilevel sensitivity can be set

AUDIO

Audio compression	G711A
VoIP	Yes

RECORDING AND PLAYBACK

Recording mode	Manual/alarm/motion detection/timing
Local playback	Single channel, 16 channel multi channel simultaneously (max 16 channel)
Recording search	Time point, calendar, event, channel

STORAGE AND BACK UP

Occupation HDD space in channels	Audio: 28.8Mbyte/ hour + video: 25~450Mbyte/hour
Record storage	DVD-R/RW, Local HDD, DVD-R/RW and network
Backup mode	DVD-R/RW, Network, USB HDD, USB DVD-R/RW

INTERFACE

Video input	16 channel BNC
Video output	1 channel BNC, 1.0Vp-p, 75 Ohm, 1 channel VGA output
Audio input	4 channel RCA, 200-2800mV, 30KΩ
Audio output	1 channel RCA, 200-3000mV, 5KΩ
Alarm input	1 channel
Alarm output	1 channel
Network	RJ45, I.E. viewing, supports Windows mobile, Symbian, iPhone and black berry, Android cell phone viewing; Central Management System (CMS)

PTZ	1 x RS485
USB	2 x USB interface
HDD	2 x SATA supports 2TB, DVD-R/RW
WiFi, 3G	Yes

OTHER

Power	12V/4.15A external adaptor
Dissipation	<10W (w/o HDD)
Working temp.	0 degree - 55 degree
Working humidity	10% - 90%
Dimension	Colour box: 410 x 415 x 135mm, DVR: 353 x 325 x 61 mm Carton: 580 x 380 x 340mm
Weight	3.8KG/carton
Support language	S. Chinese, T. Chinese, English, French, Portugal, Russia, Italian, Spanish, Thai, Greek, Japanese, German, Turkish, Polski ,Finnish, Farsi, Vietnamese, Romanian and Hungarian.

Technical Support 01527 515145

Elite Security Products
Unit 7, Target Park, Shawbank Rd
Lakeside, Redditch B98 8YN



Telephone: 01527 515150
Technical Support: 01527 515145
email: info@espuke.com

www.espuke.com