www.dowshu.com

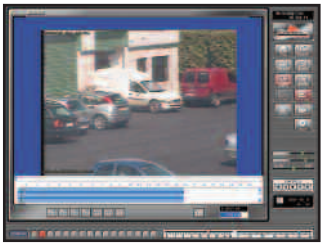
1000 Series Digital Video Recorder

DOWSHU









1000 SERIES

4, 8 and 16 CHANNELS

LCD display; Index search; Status search

The Dowshu 1000 series Digital Video Recorder (DVR) delivers cost effective, high quality video recording with a fully comprehensive security and digital video management capability. The range extends up to 16 channels with a recording speed of 100 FPS. Dowshu's unique Codec Cubic compression engine gives between CIF and D1 (DVD) video quality using image file sizes of between 3Kb and 30Kb. These relatively small file sizes extend recording time, give efficient transfer of data across networks and reduce data recall times.

The intuitive Graphical User Interface (GUI) makes the DVR set up simple. All features including video search options by time, date, sensors (alarms), motion detection, object, 24 hour preview, panorama, index or status, and the subsequent downloading of data to the in-built CD become intuitive.

All 1000 series DVRs have enough HDD storage to allow 1 month of recording at 1 FPS per camera at CIF image quality on all cameras. Internal HDD storage capacity is up to 2 Tb per DVR with further external storage obtained by using the unique Dowshu mass storage Tera Box - with an additional capacity of up to 6.4 Tb. The DVR has all leading security dome manufacturers telemetry protocols built in and will control advanced features such as presets, privacy zones, tours and variable speed pan and tilt (depending on the dome capability). Remote viewing and control of over 100 sites is possible from just one DVR or PC using Dowshu's Network DVR Management System (NDMS) software - ideal for central security management and used extensively in remote monitoring stations.

Established in 1998, Dowshu is already the world's largest supplier of 32 and 64 channel DVR's. Cutting edge products, combined with outstanding customer service, have resulted in Dowshu becoming the leading DVR manufacturer and network specialist to the security industry. At Dowshu, however, excellent products are not enough. We believe in developing close customer relations in order to meet our customers' needs. We offer all our customers a comprehensive service package, from sales and technical support to logistics and our product range is available for next day delivery in the UK and Ireland with bespoke systems and solutions delivered within 6 working days.

Live View up to 100 FPS

Play back up to 100 FPS

720 x 576 pixels, D1 (DVD) quality resolution

Individual frame settings per camera & global resolution

4, 8 and 16 channels

LCD status display

Built in CD writer

Intelligent search engines

Multi protocols

Motion detection

Point of sale

Alarm handling

Multi site control option

Removable BNC back plate

Audio recording

IP compatible

1000 SERIES DIGITAL VIDEO RECORDER

1000 SERIES

HARDWARE DESIGN

The Dowshu 1000 series DVR conforms to the Dowshu design criteria of high quality, reliability and best price performance.

The 1000 series DVR is designed for professional security and Management applications. It is robust, has a front-accessed lockable door, is rack mountable and has a removable back-panel so all connections remain intact if the product is removed for routine maintenance or servicing. It has six ports, including network connections, for communication with other devices. These enable remote control and video transmission and are screened to prevent unwanted access. The DVR uses Dowshu's unique Maximum Airflow Dynamics (MAD) cooling system to keep its temperature at a constant, optimum level. Cool air is funnelled to critical parts of the DVR, dramatically increasing HDD life and DVR reliability. An embedded Windows XP operating system ensures the software operation is as reliable and robust as the DVR hardware. Recorded video can be downloaded using the in built CD writer and played back on any PC without the need for conditioned software. Each DVR has trays for up to 6 HDD's which can be configured in RAID or sequential format for either high security, mirrored recording or for extended recording times, respectively. The Dowshu Tera Box can be used if further storage is required up to 6.4 Tb.
Dowshu supply each DVR with enough on-board storage to provide a month of recording at 1 FPS (CIF) on all cameras. Typically a 16 channel DVR requires 320 Gb of storage to do this, based on average image data sizes. Dowshu engineers will advise on the appropriate storage capacity for each application and build the DVR to suit.



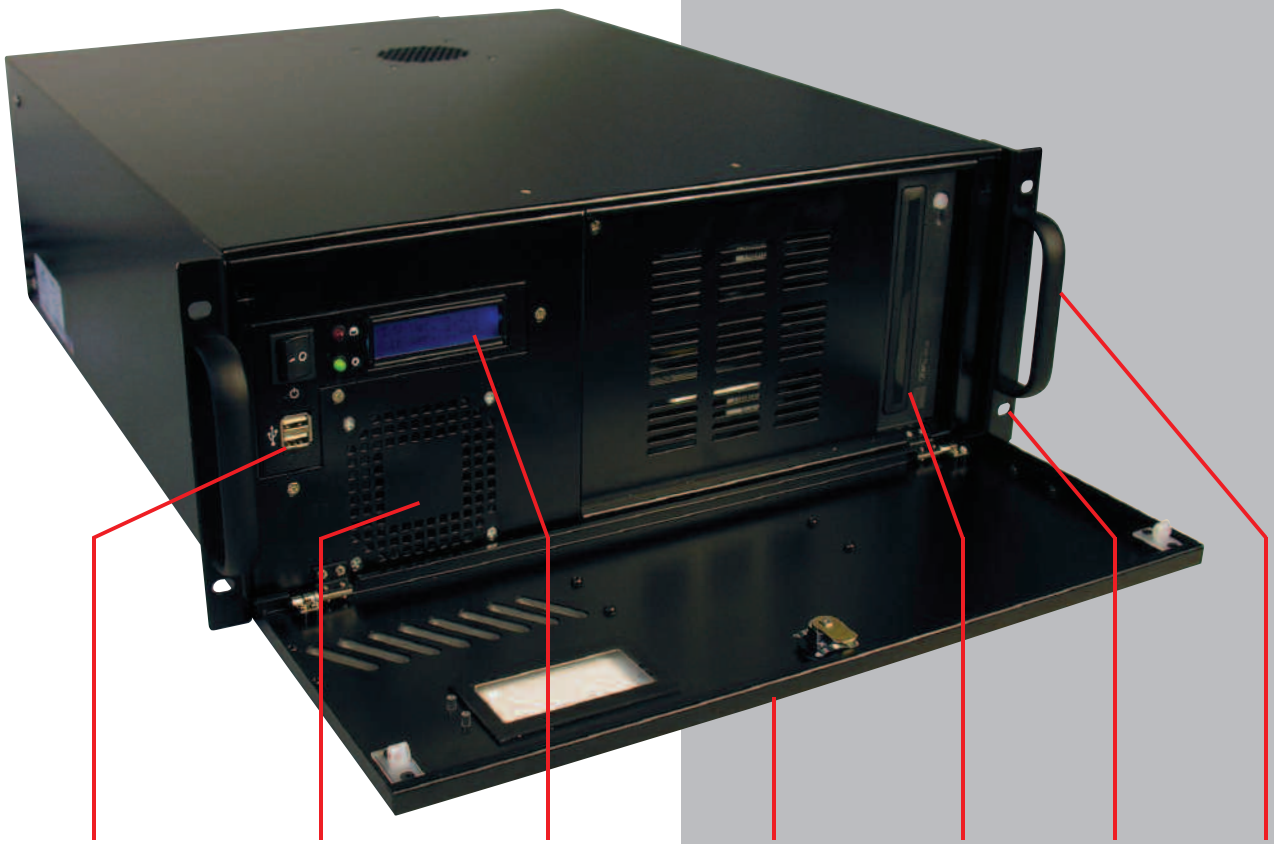
Removable back plate

HOW THE DVR IS USED

The Dowshu 1000 series DVR is typically used:

+ As part of a managed, multi site system controlled from a single central position or remote monitoring station using Dowshu's NDMS security management system.
+ As a stand alone DVR with operator control, remote access and IP transmission options.
+ As a stand alone DVR where video data is reviewed only when an incident has occurred.

The DVR can either be event driven, left in a time lapse mode or set up in a multi camera, real time recording mode.



GRAPHIC USER INTERFACE

The 1000 series DVR Graphical User Interface (GUI) is designed to give logical and intuitive control. Highly sophisticated applications are easily managed using visual menus, a mouse and keyboard. Dowshu recognise that careful design of the GUI reduces set up errors and helps the user optimise settings to suit each application. No prior network or IT experience is required for its installation.



Live view in multi-screen mode



Set up view - master menu

Live view

Live view is the default screen view comprising a single camera or multi-camera display with camera and multi screen select buttons. Sensor buttons show camera no. alarm status and Control buttons activate outputs such as barriers and gates - all of which can be named. A mouse click on any multi-screen view or on a number in the camera no. bar, takes the selected camera view into full screen mode. A navigator on the right hand side of the Live View screen gives access to the following functions:

+ Login
+ Setup
+ Pan and tilt
+ Search and export
+ Back up
+ Exit

A numerical display below the navigator shows the space still left on the DVR's HDD's for recording, in numbers of days, based on the current DVR settings.

Login

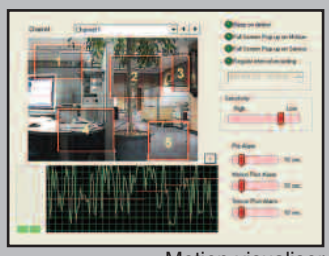
Multiple user names and passwords provide different levels of access for different operators giving greater security.

Set up

The set up menu accesses the following DVR adjustments:

+ **Adjust.** Brightness, contrast and hue can be varied per camera and balanced to optimise image quality when using different brands of camera on the same site. Camera titles are input in this menu.

+ **Motion.** Boxes defining areas where movement can be detected are drawn in each camera view. The sensitivity of each box is graphically adjusted using a "motion visualiser" which indicates the likely number of activations the present settings would incur. Pre and post alarm activation recording times and rates can be defined, including the option to vary recording rates for any of the cameras in the system when any alarm is activated ie. an alarm on one camera can activate recording on another - including, in the case of a dome, sending it to a preset position first.



Motion visualiser



Schedule view

+ **General.** Voice warnings; frame rate and resolution on alarmed cameras; subsequent actions on video loss and on screen display fonts can all be adjusted.

+ **Frame.** Frame rate, resolution and quality can be defined for each camera. Increasing these parameters increases overall video quality.

+ **Schedule.** Camera and sensor recording and activation parameters can be altered on a schedule to suit different times of day, different days of the week and specific days in the year. This function is most typically used in offices or on premises where alarms and recording requirements change between the working day, night time, weekends and holidays.

+ **Alarm.** Alarm output activation can be set to 'normally open' or 'normally closed' and each output can be used to trigger multiple actions on the system - such as sending a number of domes to preset positions or increasing recorded frame rates on particular cameras.

+ **Network.** This menu allows the operator to set frame rate and resolution quality for video transmission over Local or Wide Area Networks (LAN/WAN) or regulate the band width use. These settings can be different to those of the local DVR and do not affect local functionality.

+ **Administration.** Access to particular camera views or menu options can be restricted for particular users and different levels of password protection defined. A log of direct or remote DVR use and the status of HDD capacity is tracked with a full audit trail.

+ **Information.** System information, such as individual site software summaries or site phone numbers and contact details can be set up for future reference.

+ **Pan and Tilt.** Dome telemetry protocols, preset positions, privacy zones and tours are set up for each dome. Over 45 telemetry protocols are built in to the 1000 series DVR as standard.

+ **Instant record.** A right-hand mouse click in a camera view will activate recording on that camera at a pre-defined, usually higher, frame rate. Each instant record activation is logged and can be played back or down loaded, as a group, with any other instant record files.

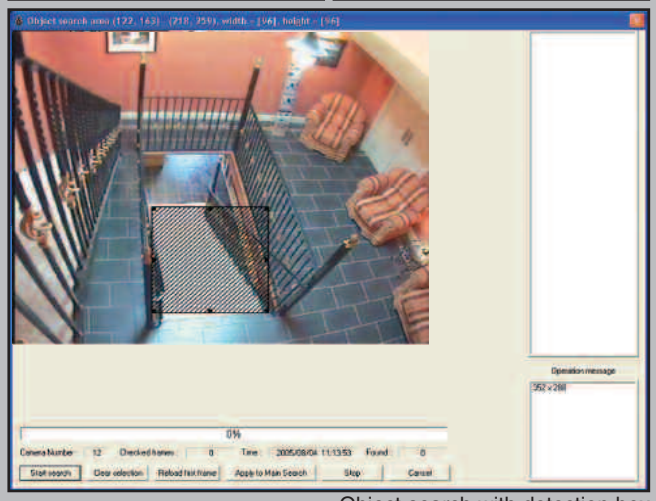
DOWSHU

Telemetry control keypad

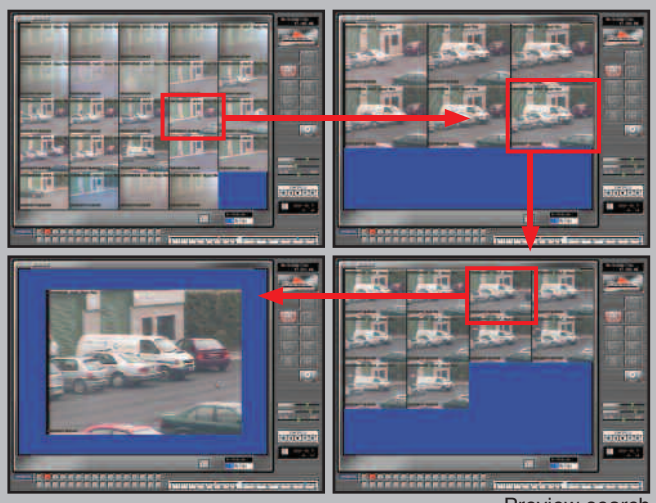


Telemetry - Vector View

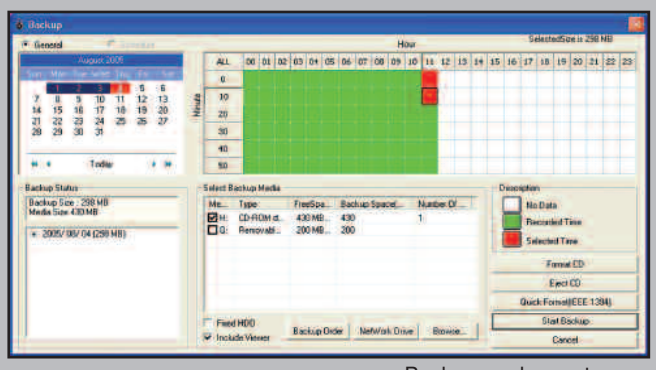




Object search with detection box



Preview search



Back up and export menu

Pan and tilt

A graphic interface with buttons controlling pan, tilt, zoom, focus, iris, presets, tours, output controls and privacy zones is enabled. Dowshu's "**Vector View**" gives additional telemetry control. When the mouse button is clicked, held down and dragged on a camera view, a line is drawn. The line direction defines the dome pan and tilt direction and its length, the speed. If the mouse button remains held, the line length and direction can be adjusted continuously to give accurate and intuitive control.

Search and export

The Dowshu 1000 series DVR has a comprehensive range of search and export options for recalling and downloading recorded video.

Search Options

+ **Time and date.** A calendar graphic shows month, day and time options with blue blocks representing periods containing recorded data. Mouse navigation allows information to be viewed per camera with a selection of screen setting adjustments and playback speeds.

+ **Status.** A graph of each cameras recording activity is displayed. The mouse can then be dragged along the scroll bar to show the recorded video from that time period until the required incident is found.

+ **Panorama.** A multi-screen display shows frame by frame images from a selected camera at a given time allowing close analysis and comparison of each frame. Panorama allows the user to zoom in to different parts of each frame independently.

+ **Object.** The mouse is used to define a box or number of box areas in a selected camera view. The DVR will then search for all movements within the boxes during a defined time period. As in motion detection, a "motion visualiser" adjusts sensitivity so that only relevant information is searched.

+ **Index.** Any motion, alarm or instant record actions can be located during a specified time period.

+ **Preview.** A pre-defined 24 hour period is displayed in one hour intervals within a 24 view multi-screen. Each hour is then divided into a 6 view multi-screen of 10 minute intervals. These views can then be further divided to give a 10 view multi-screen of 1 minute intervals. Each one minute section of video can then be played to find the relevant information - that's 3 mouse clicks to find the relevant recorded data from 24 hours of recording.

Exporting

All export functions take place without affecting recording. Downloads are fully encrypted (water marked) for tamper detection. All the software needed to play the recorded images on a PC is included within the download file and the download can be recorded to a networked PC, the in-built CD writer, a specified HDD in the DVR or to another networked DVR.

+ **Download.** The menu system takes the user through the entire process, from selecting the download drive through to the camera and time period required. The DVR will default to the last playback view for simplicity, but can be over ridden by keying in a preferred time period.

+ **Print out**. This immediately prints the present screen camera view.

Back up

Back up parameters are set, including the back up timescale schedule, the camera views required and whether viewing software is needed.

Exit

Exit takes the user out of the current menu back to the live view.

1000 SERIES

1000 SERIES OPTIONS AND FEATURES	DOWSHU
Signal format	PAL or NTSC selectable
Video input channels (BNC)	4 composite i/p, 8 and 16 loop thru, 1V pk - pk, 75Ω
Storage options	80 Gb up to 2.0 Tb internal
Primary storage	SATA EIDE HDD (up to 8 HDD bays)
Export storage options	DVD RAM, CD-RW IEEE 1394, USB
Recording mode	Event, continuous, instant and schedule (camera/day/time)
Recording speed	PAL 100FPS (360x288), 50FPS (720x288), 25FPS (720x576)
	NTSC 120FPS (360x240), 60FPS (720x240), 30FPS (720x480)
Resolution	PAL 720x576 (D1), 720x288 (2CIF), 360x288 (CIF)
	NTSC 720x480, 720x240, 360x240
Display speed	Real time 25FPS capability (100FPS on 16 channel)
Audio channels	4 (16 optional)
Audio input	8 bit, mono, PCM
Monitor output	1 x VGA, 1 x Video out, 1 x SVGA, 4 spot option
Multi screen display	1,4,7,9,10,13 and 16
Sensor / control	16 input / 4 output
Compression	CODEC Cubic 2.0
Average file size	3 to 5 Kb per frame - CIF standard
Typical file sizes	3~5 Kb = CIF, 7~11 Kb = 2CIF, 18~30 Kb = D1
Play back options	Date, time, channel, index, alarm, motion and thumbnail
Remote control	Live view, search, set up via PSTN, ISDN and TCP/IP
PTZ telemetry control	RS485 interface - over 45 built in protocols
Motion detection	5 regions per channel, adjustable sensitivity auto alarming
Pre / post alarm recording	One minute
Transmission speed	100 FPS LAN typ.
Watermarking / encryption	Authentication software to prevent manipulation
Multi level access	Forbidden camera, multi user access permission
GENERAL	
Unit dimensions	440W x 540D x 221H mm
Operating temp / humidity	5° C to 40° C, 0% to 90%
Power and consumption	100 to 240 Vac, 50/60 Hz, 2A, max 85 W
Approval	FCC, UL, CE, CB

Hard disc drive capacity FPS vs resolution		Video quality / resolution		
		3~5 Kb CIF	7~11 Kb 2CIF	18~30 Kb D1
Frames per second	Typical storage			
400	capacity	44 hours	-	-
200	based on a	89 hours	40 hours	-
100	320Gb HDD	7 days	81 hours	30 hours
50	recording on	15 days	7 days	59 hours
Industry standard 16	**all 16 cameras**	46 days	21 days	8 days

Figures based on actual case studies of Dowshu DVR's in use in the previous 3 years

Dowshu smart DVR's

Warranty

Dowshu DVR's are supplied with a comprehensive 2 year manufacturers warranty.

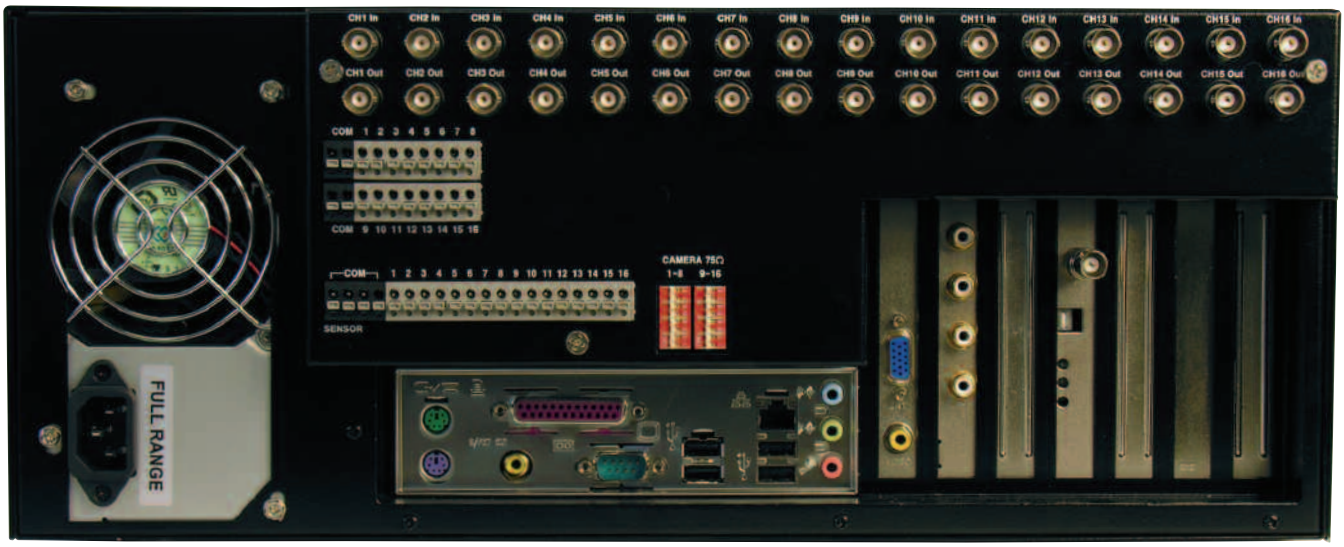
Point of sale (Optional)

The point of sale function records till receipt information with its corresponding video. Key words and till information can then be used to drive searches. A typical example would be in a grocery store where transactions over a certain value, or ones where the till receipt contains key words such as "whiskey" or "refund", could be used. This gives both vital security information and valuable store management feedback. A till interface unit is required at the till end of the system but the DVR has the point of sale functionality built in as standard.





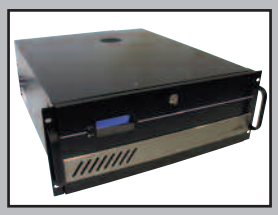
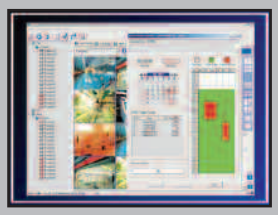
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Rear view - 16 channel DVR shown for illustration purposes

PRODUCT RANGE

DOWSHU

	Description	Dowshu data sheets
	**DVR** Available in 4, 8, 16, 32 and 64 channels with up to 400 FPS playback and 1600 FPS live view the DVR range delivers up to D1 quality and resolution. Its built in GUI helps optimise site set up and keeps video management simple.	7000 series Digital Video Recorder 3000 series Digital Video Recorder 1000 series Digital Video Recorder
	**NDMS** (Network DVR Management System) Designed for remote monitoring, NDMS allows fully functional control of over 100 remote DVR's across a network from a single location.	Network DVR Management System
	**Hybrid DVR** The Hybrid DVR allows both IP and analogue cameras to be viewed, managed and recorded within the same unit. The Hybrid DVR represents the future of digital video management.	Hybrid DVR
	**Tera Box 1000 (SCSI) & 2000 (USB)** Tera Box is a mass storage chassis compatible with all Dowshu DVR's. It is 1U high and can carry 4 x 320Gb HDD's - 1.28 Tb capacity altogether. By stacking up to 5 Tera Boxes together 6.4 Tb capacity can be achieved.	Tera Box 1000 and 2000
	**Network Server** The Network Server allows secure surveillance across IP based networks at speeds of up to 120 FPS.	Network Server
	**Center** Center software allows remote access to a single DVR from a PC. It comes free with each DVR.	Center Remote Access Software
	**I-DVR** I-DVR software allows web browser access for remotely viewing a DVR - simply type in your password and IP address for access.	I - DVR Remote Web Viewer

Please call Dowshu at the addresses below if you require any of the above data sheets.

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