Divar MR Series Digital Video Recorder

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BOSCH
Invented for life

- ▶ Cost effective, secure embedded design
- ▶ Efficient MPEG-4 file compression
- ▶ View and record video in CIF, 2CIF, or 4CIF resolution
- ▶ Bosch and third-party PTZ dome control
- ▶ Export to USB or optional DVD writer

The Divar MR digital versatile recorder gives a compact and convenient CCTV management solution in an all-in-one embedded unit. It provides high-quality digital recording on up to 16 channels, with an internal storage capacity of up to 2 TB. The Divar MR boasts exceptional video quality and a high level of advanced functionality. Ease-of-use and versatility feature highly in its design, giving trouble-free recording and management.

Functions

The Divar MR offers high-quality, real-time digital recording on up to 16 channels. View and control cameras, handle alarms, and check device status all through one convenient interface. In addition, the Divar MR offers:

- Improved clarity for better recognition on recorded video
- Longer recording time
- An extended range of features
- Multiple interfacing options
- Powerful search functions
- Synchronous audio
- Remote configuration and management
- Low maintenance requirements
- Lower total cost of ownership

Image quality

The image quality of the Divar MR is excellent. Highly efficient MPEG-4 compression significantly reduces bandwidth and storage requirements compared to JPEG and wavelet technologies. Store more detail and extend retention periods while reducing overall storage costs. The Divar provides real-time recording in CIF resolution on all channels simultaneously. Use 4CIF to capture more detail in every scene for those applications where even greater clarity is needed.

Multiple control methods

A variety of control methods contribute to an outstanding system with a high degree of operational flexibility. Bosch's IntuiKey keyboard places an easy-to-use system control at your fingertips. Alternatively, use the Divar MR's front panel control buttons and jog dial, IR remote control, or a standard mouse for quick access to the system.

In addition to these control options, use the intuitive PC-based Divar MR Control Center software to easily manage multiple Divar MRs in your surveillance system. The Divar MR Control Center provides complete remote management, including live viewing and control, playback, configuration, and remote alarm notification. With the Control Center, all operation and control is centralized to create a highly scalable video management solution.

For added convenience, view live images using a web browser. This gives the freedom to access Divar MR images from virtually anywhere.

Embedded design
The embedded design of the Divar MR offers a higher level of security against network attacks than traditional systems and has a lower maintenance requirement. The security of recordings remains high while the need to install software patches and anti-virus updates is eliminated. Simple to set up and operate, the integrated architecture of the Divar MR makes life easier for both installers and users.

Operational convenience
The Divar incorporates a robust set of features designed to increase the convenience of operation:
- Easily compare past and present events by viewing live and playback images simultaneously in different cameos
- React immediately to events with the instant playback / recording functions – a dedicated button starts instant recording with a single push
- Automatically protect important event recordings against overwriting
- Quickly find events using the Smart Search feature to automatically detect changes within any area of the view selected
- Automatically trigger e-mail notifications when selected events occur

A dedicated Archive Player is included when video is exported, allowing video playback on a PC without installing additional software. The Archive Player also allows image authentication so that video tampering can be detected or ruled out in legal disputes.

Comprehensive interfaces
Flexible interface options make it easy to connect to a variety of external devices.
- Up to 16 video input and output channels
- VGA and dual monitor BNC outputs
- Audio inputs (4 or 8) and an audio output
- Ethernet 10/100BaseT network connection
- Up to 16 alarm inputs and 8 outputs
- Biphase connection allows one cable to control Bosch PTZ cameras at a range of up to 1.5 km / 0.9 miles
- Third-party PTZ control via RS422/RS485 connection
- USB connectors front and back – connect a mouse to control the user interface, or archive video to a USB memory stick or similar device

Note: The Divar MR's On Screen Display (OSD) is optimized for a VGA monitor. It is possible to display the OSD on the composite MONITOR A output but the quality of the OSD is reduced. We recommend using the unit's VGA MONITOR A output.

Applications
The Divar MR is available in 8 and 16 channel versions with a variety of hard drive capacities, and if required, an internal DVD writer. The Divar MR range delivers a comprehensive solution that is ideal for applications such as:
- Retail outlets

- Schools
- Apartment buildings
- Hotels

Tailor video content and memory to specialized needs by using the highly flexible recording/storage capability, thus helping to save space and reduce storage costs.

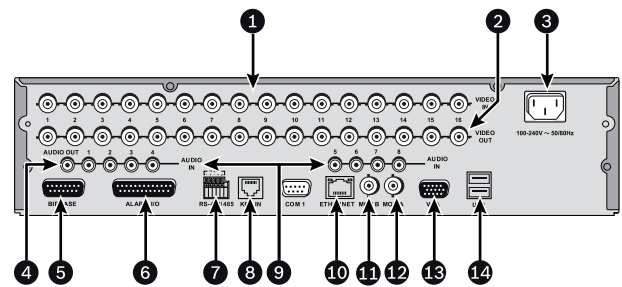## Certifications and approvals

Electromagnetic compatibility

USA	FCC Part 15, Class B
EU	EMC directive 2004/108/EC
Immunity	EN50130-4
Emission	EN55022 Class B
Mains Harmonics	EN61000-3-2
Voltage fluctuations	EN61000-3-3

Safety

USA	UL60950-1
EU	EN60950-1
Can	CSA C22.2 No. 60950-1

Region	Certification	
Europe	CE	
USA	FCC	+ UL

Installation/configuration notes

1	Camera video inputs	8	Keyboard
2	Camera loop through	9	Audio inputs
3	Power input	10	Ethernet
4	Audio output	11	CVBS monitor B
5	Biphase connection	12	CVBS monitor A
6	Alarm inputs/outputs	13	VGA monitor
7	RS-485 / RS422	14	USB ports

Minimum PC requirements for Control Center

Operating system	Windows 2000 Professional, XP, Vista or Windows 7
	DirectX 8.1
Web browser	Internet Explorer 6
Processor	Intel Pentium III or above, AMD Athlon with 800 MHz or above
RAM memory	512 MB or more
Free disk space	50 MB
Video system	AGP VGA with 64 MB Video RAM or above.
Connection	10/100-BaseT network interface

Parts included

Quantity	Component
1	Divar MR Digital Video Recorder
2	Power cords
1	Operation Manual
1	CD-ROM (with Divar MR PC software and Operation manuals)
1	Mouse
2	Connection boards for alarm I/O and Biphase
1	IR remote control unit
2	AAA batteries for remote control unit
1	Rack mount kit

Technical specifications

Electrical

Rated Voltage and Power

Power input	100 to 240 VAC; 50/60 Hz
Power consumption	Max. 80 W (with 1x HDD)
	Max. 120 W (with 4x HDD)
	Max. 1.2 A

Video

Video standard	PAL or NTSC selectable
Resolution	704x576 PAL, 704x480 NTSC
Compression	MPEG-4
Inputs	8 or 16 composite video 0.5–2 Vpp, 75 ohm automatic termination
Outputs	8 or 16 composite video 1 Vpp, 75 ohm

Audio

Inputs	4 or 8 line in, 30 kohm
Output	1 line, 100 kohm
Compression	ADPCM2
Sampling rate	8 KHz

Monitors

VGA	Analog RGB 800x600
	Monitor A Multi-screen, (VGA or CVBS)
MON-A	CVBS 1 Vpp ±0.1 V, 75 ohm, BNC
	Monitor A multi-screen (VGA or CVBS)
MON-B	CVBS 1 Vpp ±0.1 V, 75 ohm, BNC
	Monitor B spot/alarm

Display Modes

Monitor A	Full, full sequence, quad, quad sequence, multi-screen (live and playback)
Monitor B	Full, full sequence, quad, and event pop-up
Frame rate 8 channels NTSC	240 IPS (real time per channel)
Frame rate 16 channels NTSC	480 IPS (real time per channel)
Frame rate 8 channels PAL	200 IPS (real time per channel)
Frame rate 16 channels PAL	400 IPS (real time per channel)
Multiscreen mode 8 channels	1, 4, 9, 1+5
Multiscreen mode 16 channels	1, 4, 9, 16, 1+5, 1+7

Alarm Handling

Inputs	Screw terminal 8 or 16 inputs configurable NO/NC,
	Opto-coupled max. input 5 VDC
Outputs	Screw terminal 4 or 8 relay outputs, configurable NO/NC, max. rated 1 A, 30 VAC, 0.3 A, 125 VAC
Remote notification	Via e-mail or remote PC client

Connections

Ethernet	RJ45 modular jack 8 pins shielded:
	10/100 Base-T
Biphase	Screw terminal connector (5 outputs)
	Maximum 5 controllable cameras per Biphase output

	Impedance 128 ohm, max. overvoltage protection ±40 V, max. cable length 1.5 km (0.9 miles)
PTZ control interface	RS485/RS422
Serial interface	RS232 output signals according to EIA/TIA 232 F, max. input voltage ±25 V
	DB9 male connector
Keyboard	Conforms to RS485, max. signal voltage ±12 V, power supply to keyboard 11–12.6 V at max. 400 mA
	RJ11 modular jack 6 pins
USB	Three USB 2.0 ports

Dome Protocols

Supported PTZ cameras	Bosch, Pelco D, Pelco P, Ganz DSCP, Ganz P360V1, LG Multix, LG SD168, Kalatel Cyberdom, Panasonic CS850, Samsung SCC Note: Bosch Intuikey keyboard is only supported by Bosch PTZ/Dome cameras.

Network

Transmission speed	up to 120 IPS @ 352x288 PAL up to 120 IPS @ 352x240 NTSC
Bandwidth control	Automatic
Remote users	Maximum 5 simultaneously connected Control Center users
Protocol support	ICP/IP, DHCP, DNS, DDNS, HTTP, and NTP

Storage

Internal HDD	250, 500, 1000, or 2000 GB Up to 4 hard disks
Internal DVD writer	DVD+R / DVD+RW,
(not on all models)	DVD-R / DVD-RW,
	CD-R / CD-RW
External	Via USB (3x)

Security

	Password protection
	Image authentication

Record Frame Rate :

8-channels NTSC	Up to 240 IPS @ 352x240
	Up to 120 IPS @ 704x240
	Up to 60 IPS @ 704x480
16-channels NTSC	Up to 480 IPS @ 352x240
	Up to 240 IPS @ 704x240
	Up to 120 IPS @ 704x480

8-channels PAL	Up to 200 IPS @ 352x288
	Up to 100 IPS @ 704x288
	Up to 50 IPS @ 704x576
16-channels PAL	Up to 400 IPS @ 352x288
	Up to 200 IPS @ 704x288
	Up to 100 IPS @ 704x576

Recording

Overwrite modes	Normal partition (continuous and instant recording)
	Event partition (input and motion recording)
	Normal and event partition
	Off
Pre-alarm recording	Up to 60 sec.

Search

Playback function	FF, FB, Frame advance (control keys and jog dial)
Search mode	Date/time, Event (motion, input), bookmark, smart

Mechanical

Dimensions (W x D x H)	430 x 435 x 89 mm (16.9 x 17.1 x 3.5 in)
Weight (4x hard disks)	Approx. 9 kg (19.8 lb)
Rack mount kit	For mounting one unit in an EIA 19-inch rack

Environmental

Operating Temperature	+0°C to +40°C (+32°F to +104°F)
Humidity	0%RH to 80%RH

Ordering information

DVR-8K-050A Divar MR: 8-CH, 500 GB
Divar MR Digital Video Recorder with 8 channels and 500 GB
Order number **DVR-8K-050A**

DVR-8K-025A Divar MR: 8 CH, 250 GB
Divar MR Digital Video Recorder with 8 channels and 250 GB
Order number **DVR-8K-025A**

DVR-8L-025A Divar MR: INT. DVD, 8 CH, 250 GB
Divar MR Digital Video Recorder with internal DVD writer, 8 channels, and 250GB
Order number **DVR-8L-025A**

DVR-8L-050A Divar MR: INT. DVD, 8 CH, 500 GB
Divar MR Digital Video Recorder with internal DVD
writer, 8 channels, and 500 GB
Order number **DVR-8L-050A**

DVR-8L-100A Divar MR: INT. DVD, 8 CH, 1000 GB
Divar MR Digital Video Recorder with internal DVD
writer, 8 channels, and 1000 GB
Order number **DVR-8L-100A**

DVR-16K-050A Divar MR: 16 CH, 500 GB
Divar MR Digital Video Recorder with 16 channels and
500 GB
Order number **DVR-16K-050A**

DVR-16L-050A Divar MR: INT.DVD, 16 CH, 500 GB
Divar MR Digital Video Recorder with internal DVD
writer, 16 channels, and 500 GB
Order number **DVR-16L-050A**

DVR-16L-100A Divar MR: INT.DVD, 16 CH, 1000 GB
Divar MR Digital Video Recorder with internal DVD
writer, 16 channels, and 1000 GB
Order number **DVR-16L-100A**

DVR-16L-200A Divar MR: INT.DVD, 16 CH, 2000 GB
Divar MR Digital Video Recorder with internal DVD
writer, 16 channels, and 2000 GB
Order number **DVR-16L-200A**