16-Ch MPEG-4 Hybrid Digital Video Recorder

DSR-HB8000 PAL

- Monitor Plus enables monitoring of up to 80 cameras
- Camera coaxial telemetry control
- Hybrid design for connection of up to 16 analog and IP cameras*1
- Expandable large capacity HDD for up to 3.75 TB*2 including removable drive
- Simultaneous recording and playback
- Live picture monitoring (400 IPS/16 ch)
- Real-time recording speeds for high picture quality: 400 IPS (360 x 288), 200 IPS (720 x 288), 100 IPS (720 x 576)
- Versatile full network capability

*1 IP cameras: 4 units max.
*2 750GB x 5 bays

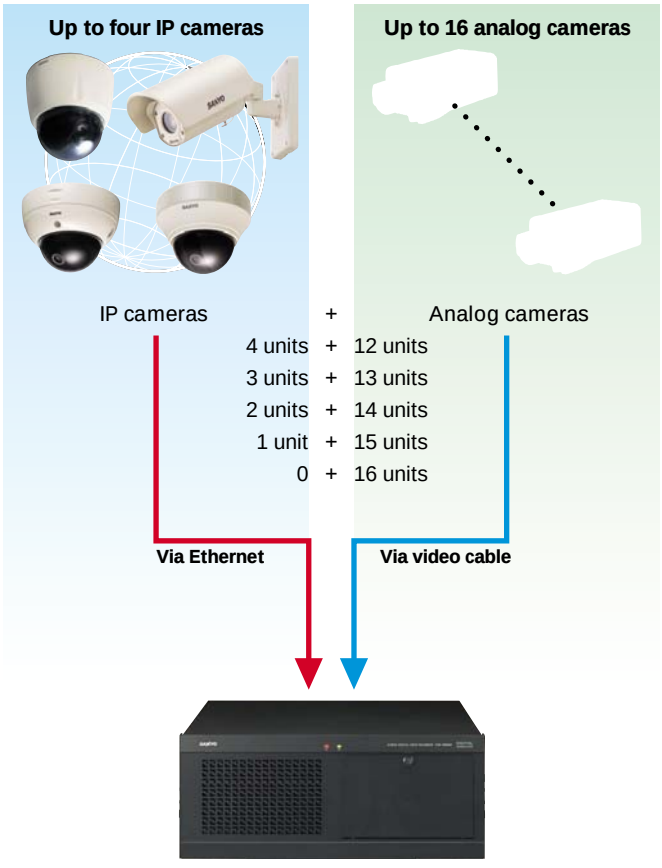
HYBRID DVR

Realize high-quality recording and delivery of streams from up to 16 analog and IP cameras* in real time!

*IP cameras: 4 units max.

New digital security systems integrating analog and IP cameras into a single system

The DSR-HB8000's hybrid design allow concurrent connection and control of both IP network and conventional analog cameras. Up to four IP cameras such as network pan-focus PTZ cameras or the PTZ cameras with network board options can be connected for use with analog cameras for a total of 16 surveillance cameras in all.



Camera Coaxial Telemetry Control

The DSR-HB8000 allows the user to control PTZ and zoom cameras. The unit transmits H-SSP*1 signals by overlaying them on to the video signal through a coaxial cable. This makes it possible to control cameras that support coaxial H-SSP*1 transmission without any additional device other than a video cable, and also from a SANYO controller or over a network. In addition, Pelco and BBV*2 cameras can also be controlled if they support coaxial signal transmission.

Coaxial Control or RS-485

Communication protocol

Coaxial control:	SANYO (H-SSP*1) / PELCO-C / BBV*2
RS-485:	SANYO (SSP), PELCO-D, VICON, ULTRAK (KALATEL, SENSOMATIC, ELMO, ERNA, VCL, MARK MERCER, BBV, BOSCH)*2

*1 H-SSP (High speed SANYO Security Serial Protocol) is a communication protocol for security devices from SANYO.

*2 TBD

Adoption of MPEG-4+ for high-quality moving pictures

The DSR-HB8000 employs a unique image compression format called MPEG-4+, which has been adapted for speedy, high-quality data transmission over a network and special fast-forward and reverse playback. The conventional MPEG-4 format can of course also be selected to meet a broad range of needs, including long-term image recording, high-quality audio playback and secure transmission of control signals.

DSR-HB8000 Centered Network System

PTZ Cameras + Network Board
Up to four IP cameras connectable to network

Analog Cameras
Up to 16 units connectable in total with IP cameras

Monitor
Full motion playback of camera feeds ranging from full to 16 screen display

Printer

PC

System Controller
Networked control of surveillance cameras

Easy to manage data storage with large capacity HDD for up to 3.75 TB of data
- One system disk (S-ATA)
- Two S-ATA HDD bays
- One removable S-ATA HDD tray
- Two HDD w/S-ATA cards

PCI bus/S-ATA expansion board for functional upgrading

Network

TCP/IP Access
Emulation of up to four networked external DVR servers

DVR 2 DSR-HB8000
DVR 3 DSR-HB8000
DVR 4 DSR-HB8000
DVR 5 DSR-HB8000

Monitor Plus
Feeds from up to 80 surveillance cameras can be monitored from a single monitor.

DVR 1
DSR-HB8000

Audio input

Keyboard (packaged)

Mouse (packaged)

Alarm out (x 16)

Alarm in (x 16)

Easy Backup
- Internal DVD/CD drive
- Internal Removable HDD (S-ATA)
- USB 2.0 ports (front x 2, rear x 2)
- NAS* (TCP/IP) x 2

Text input

ATM*

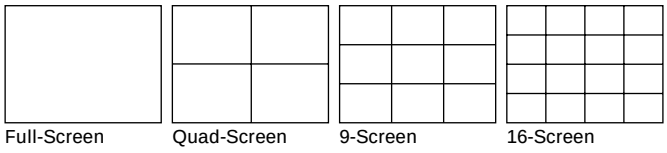
AVE Video serial interfaces for POS/ATM*

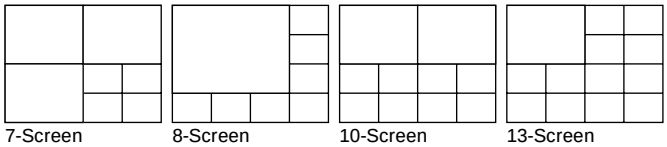
POS

*TBD

Full-Motion, Multiple-Screen Display of Live Video Images

In addition to full screen, from four to 16 channels can be displayed simultaneously on the monitor screen. Video playback is in full-motion because the total of all channels selected is at a speed of 400 IPS. Each video stream is displayed on a split screen in order of the number of each camera designated.





Diverse Search Functions

One Channel Search:
Single channel search and playback of recorded video.

Time/Date Search:
Playback of recorded video according to designated date and time.

Thumbnail Search:
Thumbnail display of list of up to 24 shots from search of video.

Motion Search:
Search of images in which movement was detected by motion sensing.

Time Bar Search:
Display of maps of recorded data from all channels and playback of different feeds on multiple screens.

Text Search:
Playback and search of images and text by keyword from among recorded POS (Point of Sales System) / ATM (Automated Teller Machine) data.

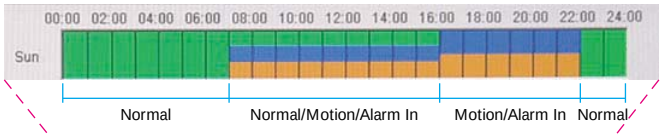
Alarm Log Search:
Playback and search of video by event.

A Host of Recording Features to Meet Users' Needs for Security

Recording schedule settings

The DSR-HB8000 is programmable for automatic recording. Users can select one or more of four recording modes: Normal, Motion, Alarm In, and Text (with a POS/ATM* connection). The recording schedule is programmable in 15 minute increments for each day of the week and features color coded schedule maps and drag-and-drop operability for selection of camera modes. *TBD

Example of daily schedule settings



Screen for recording schedule setting

Alarm operation condition settings

When the Alarm In recording mode is programmed on the recording schedule, the time frame in which external alarm inputs are detected can be limited by programming Alarm In recording by time frame alone.

Recording condition settings

Recording conditions can be programmed for each camera connected to the DSR-HB8000.

Quality: Recorded picture resolution settable in five steps

Frame rate: Settable according to each recording mode (Normal, Motion, Alarm In, Text)

Encode mode: MPEG-4+ or MPEG-4 (hardware encode)

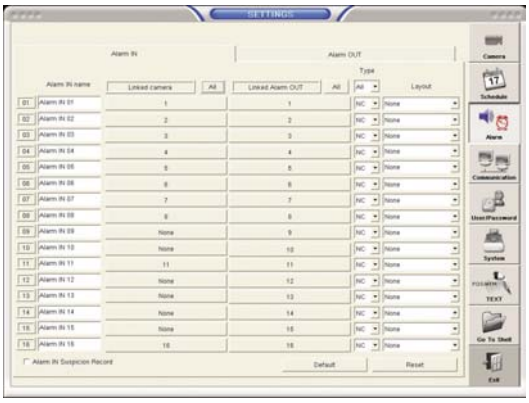
Pre/Duration alarm recording time settings

Duration Rec: 1 sec. to 5 min

Pre Rec:
4 settings available in four steps: None, Short, Medium, Long

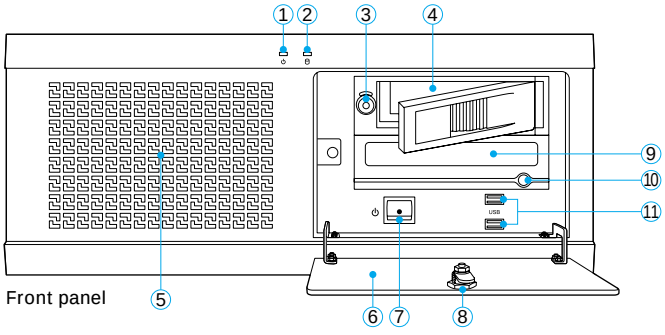
External alarm input and alarm output settings

Alarm signal output times can be set and triggering of system cameras and alarms can also be set to occur when alarms signals from external alarms are input to the Alarm In terminals on the DSR-HB8000's rear panel.

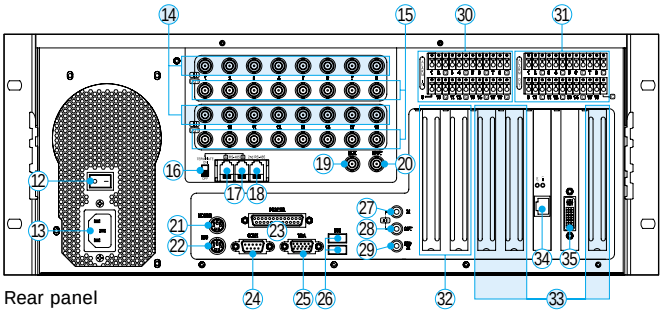


Screen for alarms setting

Locations of Controls



Front panel



Rear panel

① Power indicator
② HD access indicator
③ Removable HDD lock
④ Removable HDD
⑤ Ventilating hole
⑥ Front panel cover
⑦ POWER button
⑧ Front panel lock
⑨ DVD-R/RW / CD drive
⑩ DVD / CD open/close button
⑪ USB 2.0 ports

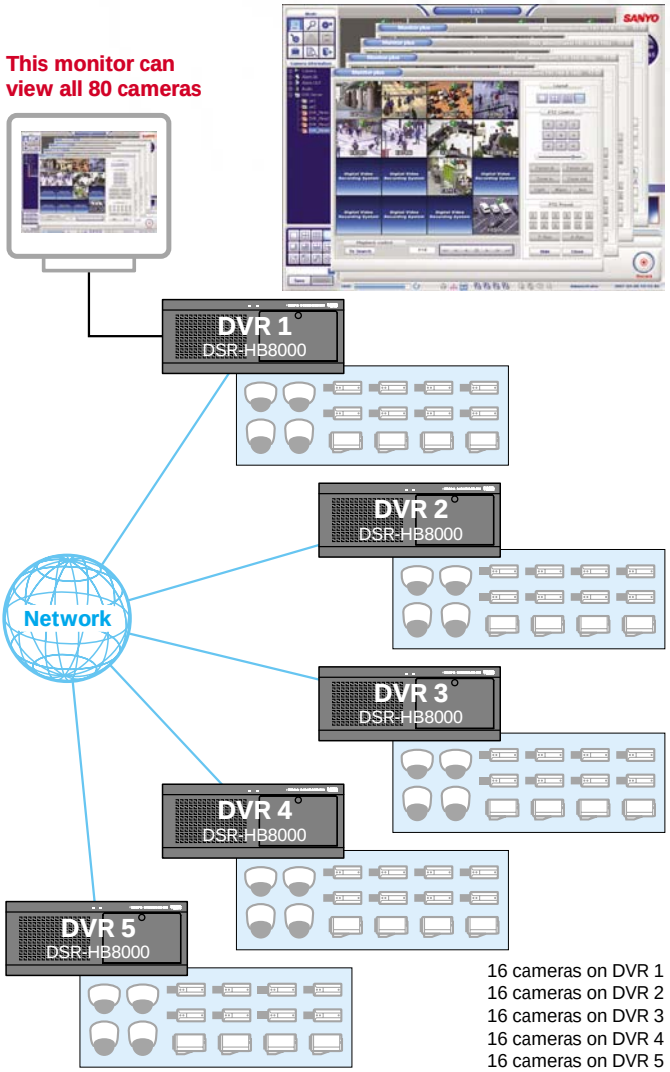
⑫ Power switch
⑬ Power socket (AC IN)
⑭ Video input terminals
⑮ Video throughout terminals
⑯ RS-485 termination switch
⑰ RS-485 ports
⑱ RS-485 (2nd port)
⑲ Monitor outputs (MON 1)
⑳ Monitor outputs (MON 2)
㉑ Mouse port
㉒ Keyboard port
㉓ Parallel port
㉔ RS-232C port
㉕ VGA port
㉖ USB 2.0 ports
㉗ Audio line input*
㉘ Audio line output
㉙ Mic input*
㉚ Alarm inputs
㉛ Alarm outputs (D/O)
㉜ PCI express slots
㉝ PCI slots
㉞ LAN (Gigabit)
㉟ Audio 16 inputs (for camera)

*TBD

Networked Functional Expansion

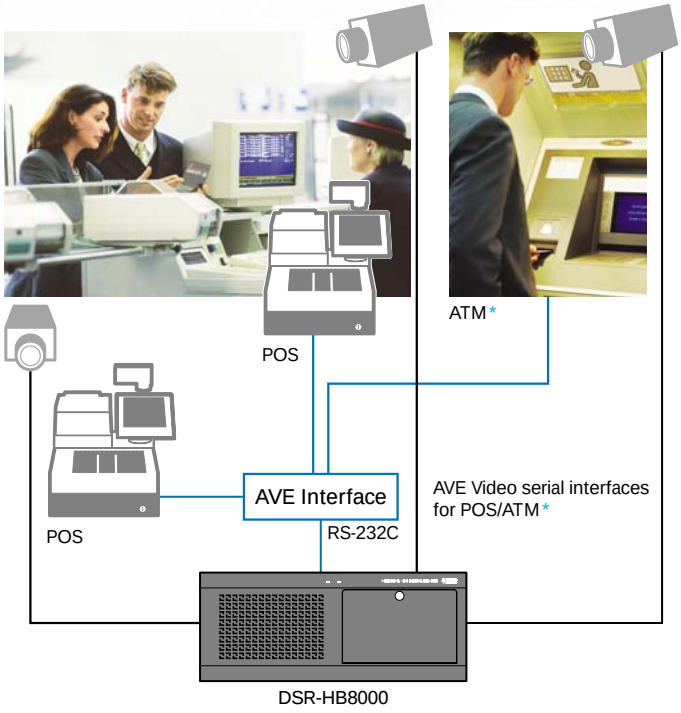
Monitor Plus

Images from other networked DVRs can be accessed and controls using a DVR at hand. Up to 80 cameras can be monitored from a single DVR.



Input of Text Data to Surveillance Video

Recorded images can be searched by electronic journal data and text data. The who, when, by which machine and to whom of POS system and ATM* cash receipts and payments can be verified via an AVE Interface as a means of protecting against crimes such as shoplifting, robbery and cash register tampering.



POS system ATM*

Simulations of video images displayed with overlaid text data *TBD

Diverse Backup and Copy Functions

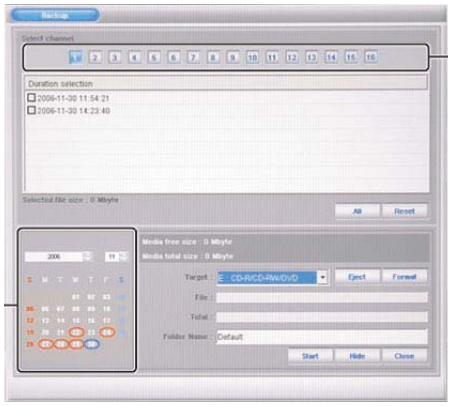
Easy secure backup of data

The DSR-HB8000 allows the user to save and manage vast amounts of data by simply clicking on the Data Backup button from the live screen. Data can be saved to the HDD, a CD-R, CD-RW or DVD (max. 4.6GB) using the onboard CD/DVD writing software, or even a USB memory stick plugged into a USB port.

Large-Capacity HDD

The unit supports a total storage capacity of up to 3.75 TB* with features including one system disk (S-ATA), two S-ATA HDD bays, a removable S-ATA HDD tray and two HDD w/S-ATA cards.

*Using 750 GB HDDs



Data recorded in 64MB units and displayed chronologically according date and time shot.

DSR-HB8000

Other Features

- Triplex recording
- Video loss alarm
- Disk full alarm
- On-screen mode setting
- Built-in time date generator
- Auto delete
- Automatic summer time adjustment
- Through output of video
- Position adjustable camera titles (10-character)
- Push-lock terminals for easy installation

Specifications

Model No.		DSR-HB8000
Category		Hybrid Digital Video Recorder
General	Hard disk capacity	System Disk (S-ATA) x1 + S-ATA HDD Bays x 2 + Removable S-ATA HDD Tray x 1 + HDD w/S-ATA card (option) x 2 Max. HDD Capacity 3.75 TB
	CPU	Intel Pentium® 4 3.00GHz
	RAM	512 MB, DDR2 PC2-4200
	Operating system	Microsoft Windows® XP Embedded
	Picture resolution (pixels)	720 x 576, 720 x 288, 360 x 288
	Video codec	MPEG-4+, MPEG-4
	Audio codec	G.721, 8 kHz sampling rate
	Picture quality	5 levels (Basic, Normal, Enhanced, Fine, Super Fine)
	Recording speed	400 IPS/16 ch (CIF), 200 IPS/8 ch (Half D1), 100 IPS/4 ch (D1)
	Still image capture (BMP/JPEG)	720 x 576, 720 x 288, 360 x 288
	Number of cameras	16 (IP cameras: 4 units max.)
	Menu languages	English, French, Spanish, German, Italian, others*1
	Coaxial Telemetry Control Protocol	COAX: SANYO (H-SSP), PELCO-C, BBV*1 RS-485: SANYO (SSP), PELCO-D, VICON, ULTRAK (KALATEL, SENSOMATIC, ELMO, ERNA, VCL, MARK MERCER, BBV, BOSCH)*1
Search mode		One Channel Search, Time/Date Search, Thumbnail Search, Motion Search, Time Bar Search, Alarm Log Search, Text Search
Video	Signal format	PAL standard (Color) / CCIR standard (B/W) auto select, 625 lines, 400 IPS
	Video input	VBS/VS 1.0 V (p-p) 75 ohms, BNC x 16
	Video output	BNC x 16 (Loop through), VGA x 1*2
	Main monitor output	VS 1.0 V (p-p) 75 ohms BNC x 1*2
	Monitor 2 output	VBS / VS 1.0 V (p-p) 75 ohms BNC x 1
Audio	Audio input	16 ch: MicroCross connector x 1 (rear)
	Audio output	–8 dBs 600 ohms unbalanced mini jack x 1 (rear)
Display	Speed (Live)	Max. 400 IPS (16 screen split)
	Emulation	Monitor Plus (Up to total 5 DVRs display)
	Screen split	1, 4, 7, 8, 9, 10, 13, 16
Back-up storage support		Internal DVD/CD drive, Internal Removable HDD (serial ATA), USB 2.0 x 4 (front x 2, rear x 2), [NAS*1 (TCP/IP)]
Network	Interface	ADSL, LAN / Dynamic IP supported
	LAN	RJ-45 x 1: 10/100/1000BASE-TX Compatible protocols: UDP, TCP/IP, HTTP, DHCP, SMTP, NTP, PPP server
Control signal	RS-485	RJ-11 x 2, (With a termination switch)
	RS-485 (2nd)	PTZ port x 1
	RS-232C	D-sub 9-pin x 1
	USB	USB 2.0 x 4 (front x 2, rear x 2)
	Alarm input (Push lock)	No-volt contact, (100ms or more) x 16
	Relay alarm output (Push lock)	Low level active (Max. 25 mA) x 16
	Mouse control input	PS/2 x 1
	Keyboard input	PS/2 x 1
Expansion slots		PCI x 5 (PCI express x 2, PCI x 3)
Electrical	Power source	100V to 240V AC, 50–60Hz, Free voltage
	Power current	8A (100V AC), 4A (240V AC)
	Operating conditions	Temperature: 5°C to 40°C (41°F to 104°F) Humidity: 30 to 80%RH (non-condensing)
	Storage temperature	–5°C to 60°C (23°F to 140°F)
Physical	Dimensions (W x H x D)	431 x 177 x 458 mm (17.0" x 7.0" x 18.0") — mountable as 4U rack unit
	Net weight (approx.)	21.8 kg (48.1 lbs.) (HDD x 4, DVD-R/RW x 1)
Standard accessories		Keyboard x 1, Mouse x 1, AC power cord (European x 1, North American x 1) S-ATA cable x 2, Audio conversion cable x 1, Rack mounting kit (1 set), Removable HDD key x 2, Front panel key x 2, DVD-ROM x 1 (Recovery disc: Windows® XP), CD-ROM x 1 (Application disc: Operation/programming manual)
Options		S-ATA card (Support add S-ATA HDD x 4), POS / ATM*1

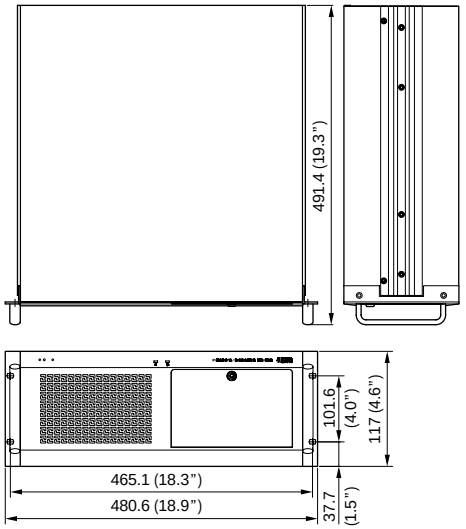
NOTE: Specifications subject to change without notice
*1 TBD *2 Either the video output or VGA output can be enabled at any one time.

Warnings regarding HDDs
- Do not attempt to install or replace a HDD on your own. You cannot use these HDDs on PCs.
- The unit may be damaged if it is exposed to impact or vibration, or the power plug is disconnected during operation.
- SANYO will not be held liable for any data loss due to an HDD error or a failure during recording.

* Screen images are simulated.

Dimensions

Unit: mm (inch)



Network Camera Lineup

PAN-FOCUS
Technology in Perspective

VDC-DPN9585P DAY NIGHT
Network Vandal-Resistant Day/Night PTZ Dome Camera

VDC-DP7585P DAY NIGHT
Vandal-Resistant Day/Night Dome Camera
+ VA-50LAN* or VA-51LAN*

VCC-PN9575P
Network Indoor Mini PTZ Dome Camera

VCC-P7575PA
Indoor Mini Dome Camera
+ VA-50LAN* or VA-51LAN*

VCC-XZ200P DAY NIGHT
Weatherproof Day/Night Zoom Camera
+ VA-20LAN*

Speed Dome Cameras

Outdoor type

Surface type

In-ceiling type

36x Optical zoom	VCC-9800P DAY NIGHT	+ VA-80LAN*
	VCC-9700P	
30x Optical zoom	VCC-9600P DAY NIGHT	
	VCC-9500P	

*Optional Network Board

Caution: Please consult the instruction manual to ensure safe and proper operation of the product.

DI Company of SANYO Electric Co., Ltd. obtained Quality Management System ISO 9001 and Environmental Management System ISO 14001 certifications.

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