

# DS-9000 Series Hybrid DVR

## Overview

DS-9000 series DVR is the Hybrid DVR of a new generation designed by HIKVISION. The product combines various patents, along with advanced IT technologies such as video encoding/decoding, embedded system, storage, network and intellectual technology, and etc.

Based on the solid expertise in the fields of digital video surveillance and well understanding of market demands for digitalization, networking and intelligentization, HIKVISION developed the latest digital surveillance product DS-900 series hybrid DVR, which can work as a standalone DVR, hybrid DVR or NVR, and as well as to build a powerful network for security system.

Also, DS-9000 series hybrid DVR can be widely applied in the fields of finance, public security, forces, telecom, transportation, electricity, education, water conservancy, and etc.



## Main Features

- **User-friendly menu and easy to operate**
- **Support connection to analog camera and IP camera**
- **Support up to 1280\*1024 VGA resolution**
- **Support local preview, storage and playback high-definition video**
- **Support digital zoom when preview and playback**
- **Support up to 16-ch synchronous playback**

- **Support partial digital zoom by using mouse when in PTZ control mode**
- **Different channels can be set different video retention periods**
- **Support normal and event video encoding parameters**
- **Support redundant recording**
- **Support hard disk array management**
- **Support NTP (Network Time Protocol) and SADP (Search Activated Device Protocol).**

## Functions and Performances

### Compression

- Support PAL/NTSC video input
- Adopt H.264 video compression standard
- Adopt OggVorbis audio compression standard
- Each analog channel supports dual stream, while main stream support up to 4CIF resolution, and sub stream supports up to CIF resolution
- Each IP channel supports up to HD720P (1280\*720) resolution
- Video encoding parameters of each channel can be set separately, including resolution, frame rate, bit rate, image quality and etc.
- Each channel supports normal and event compression parameters
- Support both composited and video stream, and the audio and video stream are strictly simultaneous.
- Support watermark

### Local Functions

#### Monitoring

- Support three independent local output including VGA, main and aux audio/video output
- High definition VGA display, max support 1280\*1024 resolution
- Support 1/4/6/8/9/16 image preview, channel sequence is adjustable.
- Support packet switch, manual switch and automatic cycle, the interval of automatic cycle can be changeable
- Support digital zoom function when preview
- Support shielding the designated preview channel
- Support motion detection, view tampering alert, video exception alert and video loss alert

- Support privacy mask
- Support various decoder control protocols and HIKVISION control protocol
- Support preset, patrol and pattern
- Support zoom in by clicking the mouse and trace function by dragging mouse

## **Hard Disk Management**

- Support up to 8 SATA HDs, each of them can support max 2TB capacity
- Support S.M.A.R.T. technology and hard disk suspend management
- Support hard disk array management
- Support Windows compatible file format and technology of pre-allocating hard disk space, no disk defragment.

## **Recording and Playback**

- Support cycle and non-cycle recording mode
- Support normal and event video encoding parameters
- Support multiple recording types, including manual, schedule, alarm, motion|alarm and motion&alarm recording and etc.
- Support 8 recording time periods with separate recording types
- Recording types of each audio and video channel can be set separately
- Support Pre-recording and Post-recording time of alarm and motion detection
- Support lock and unlock video files
- Support local redundant recording
- Support video data of the designated hard disk is for read only
- Support video data query by channel number, recording type, start time, and etc.
- Support partial digital zoom function for any area when single channel playback
- Support pause, play fast, play slow, forward, and rewind when playback, locating in progress bar by dragging the mouse.
- Support 4-ch synchronous playback, 16-ch synchronous playback is also supported after resources distribution.

## **Backup**

- Support backup the data through USB interface
- Support backup the data through build-in SATA-R/W
- Support backup by file or by time
- Support backup device maintenance and management
- Support video clips backup when playback

## **Alarm & Exception**

- Unified manage alarm in/out of the device and IP cameras
- Unified management of the motion detection alert, view tampering alert and no video signal of the device and IP cameras
- Support alarm in/out on guard schedule setup
- Support alarm in trigger: recording of any channel, alarm out, on screen warning, audile warning and upload to center
- Support various alarms, including hard disk full, illegal login, network break, IP conflicted, hard disk error, video exception, and video output standard mismatch
- Support auto recovery from exceptions

## Others

- Support front panel, mouse, IR control, special keyboard operation.
- Support multi-level user management
- Support kinds of log record and query, including operation, alarm and exception log

## Network

- Support 10/100/1000M adaptive network interface
- Support TCP/IP protocols, PPPoE, DHCP, DNS, DDNS, NTP, NFS, PPP and SADP are also supported
- Support unicast and multicast, support TCP, UDP, and RTP when unicast
- Support remote query, playback and download video files, support breakpoint resume
- Support remote acquire and configure parameters, support remote import and export device parameters
- Support remote acquire device status, system log and alarm status
- Support remote button operation, remote locking and unlocking panel buttons
- Support remote format hard disk, upgrade, reboot, shutdown and other system maintenance operations
- Support RS-232 and RS-485 transparent channel transmission
- Support event alarm upload to remote management host
- Support remote JPEG capture
- Support remote PTZ control
- Support voice talk and broadcast
- Build-in WEB Server

## Development

- Provide the SDK supports Windows and Linux
- Provide software source code as demo
- Provide development support and training of application system

## Typical Applications

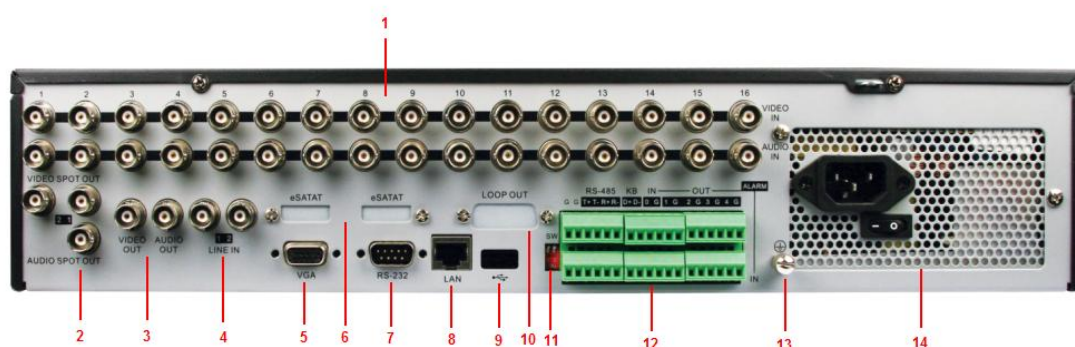
- Local or remote surveillance of banks, self-help banks and exchequers
- Remote surveillance of unmanned transformer substations and telecom basic stations
- Video surveillance of police industry, such as city public safety, transportation, prisons management, supervision of the police fairs
- Distributed video accessing businesses, including the global eyes, wide field of vision
- Networking video surveillance of examination hall
- Video surveillance of intelligent high-rises, intelligent communities
- Video surveillance of pipelining, workshops and warehouses
- ...

## Front Panel



- ① POWER
- ② USB Interfaces
- ③ Status Indicators (Alarm, Ready, Status, HDD, MODEM, Tx/Rx, Guard)
- ④ Numeric Keys/Channel Keys
- ⑤ Function Keys
- ⑥ Control Keys
- ⑦ Knob
- ⑧ IR receiver

## Rear Panel



- ① VIDEO IN, AUDIO IN
- ② VIDEO SPOT OUT (for video preview only), AUDIO SPOT OUT

- ③ VIDEO OUT, AUDIO OUT
- ④ LINE IN
- ⑤ VGA Interface
- ⑥ eSATA Backup/Extended Storage Interface (optional)
- ⑦ RS-232 Serial Interface
- ⑧ LAN Network Interface
- ⑨ USB Interface (optional)
- ⑩ LOOP OUT (optional)
- ⑪ RS-485 Matched Resistance Switch
- ⑫ RS-485 Serial Interface, Keyboard Interface (support cascade), ALARM IN, ALARM OUT
- ⑬ GND, when cascading multiple devices, it is required that grounding through GND first, and then connecting to the protection ground of control keyboard and power input.
- ⑭ AC110/220V Power Input

## Technical Specifications

Model	DS-9016HFI-S	
Video/Audio input	Video compression	H.264
	Analog Video input	16-ch, BNC(1.0Vp-p, 75Ω), PAL/NTSC adaptive
	IP Video input	IP only: 16-ch normal or 8-ch HD IP Camera(Hikvision Network Protocol) 16-ch analog video signal: 8-ch normal or 4-ch HD IP Camera(Hikvision Network Protocol)
	Composited video input	24-ch (Analog video + IP video)
	Audio compression	OggVorbis
	Audio input	16-ch, BNC(2Vp-p, 1kΩ)
	Voice talk input	2, BNC(2Vp-p, 1kΩ)
Video/Audio output	Preview resolution	PAL:704*576 NTSC:704*480
	VGA output	1, resolution: 1024*768/60Hz, 1024*768/70Hz, 1280*1024/60Hz
	Playback resolution	720P/4CIF/DCIF/2CIF/CIF/QCIF
	Video output	2-ch, BNC(1.0Vp-p, 75Ω)
	Frame rate	PAL: 1/16~25fps, NTSC: 1/16~30fps
	Video bit rate	32Kbps~2048Kbps, or user-defined (Max. 8192Kbps)
	Audio output	2-ch, BNC(Linear Electric Level, 600Ω)
	Audio bit rate	16kbps
Hard disk	Type	8 SATA interface
	Capacity	Each interface supports more than 2TB capacity
External interface	Network interface	1, RJ45 10M/100M/1000M adaptive Ethernet interface
	Serial interface	1 RS-232 interface (for parameters configuration, maintenance, transparent channel); 1 RS-485 interface (for PTZ control); 1 RS-485keyboard interface (for special keyboard control)
	USB interface	2, USB2.0
	Alarm in	16
	Alarm out	4
Others	Power supply	AC220V, 47~63 Hz
	Consumption(without hard disk)	28W
	Working temperature	-10℃~+55℃
	Working humidity	10%~90%
	Chassis	19" standard 2U chassis
	Size(mm)	450mm(L)×450mm(W)×95mm(H)
	Weight(without hard disk)	≤8Kg