



- **Support normal and event video encoding parameters**
- **Support redundant recording**
- **Support NTP (Network Time Protocol) and SADP (Search Activated Device Protocol).**

## Functions and Performances

### Compression

- Support up to 16 video channels of compression at 4CIF resolution real time
- 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 dual stream, while main stream support up to 4CIF resolution, and sub stream supports up to CIF resolution
- Support both composited and video stream, and the audio and video stream are strictly simultaneous.
- Support watermark

### Local Functions

#### Monitoring

- Support IP camera, IP speed dome and DVS access and management
- Support user-defined preview layout, including multi-screen preview and adjustable channel sequence
- Support switching by group, manual switch and automatic cycle, the interval of automatic cycle can be changeable
- Support e-zoom function for the preview of single screen
- Support shielding the designated channel
- Parameters of each channel can be configured separately, including brightness, hue, contrast and saturation
- Support OSD, including date time and channel names
- Support adjustable position and style of date, and position of channel name can be changeable
- Support motion detection, view tampering alert, video exception alert and privacy mask
- Support video loss alert
- Support both main and auxiliary output of audio and video

- Support up to 1280\*1024 resolution of VGA output
- Support switchable audio preview channel
- 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 Windows compatible file format and technology of pre-allocating hard disk space

## **Recording and Playback**

- Support cycle and non-cycle recording mode
- Support multiple recording types, including manual, schedule, alarm, motion|alarm and motion&alarm recording and etc.
- Support 8 recording time periods of 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
- The audio data can be prohibited as composited stream is selected
- Support video data query by channel number, recording type, start time, and locked or not, etc.
- Support multi-channel video files query
- Support playback by time, by calendar or by files, continuous play by file list is supported as well
- Support partial e-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

## **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

- Support unified management of device alarm in/out and the alarm input/output of IP cameras
- Support unified management of the motion detection alarm of IP cameras
- Support alarm I/O on guard schedule setup
- Support alarm in trigger: recording of any channel, alarm out, on screen warning, audible 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
- Support 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

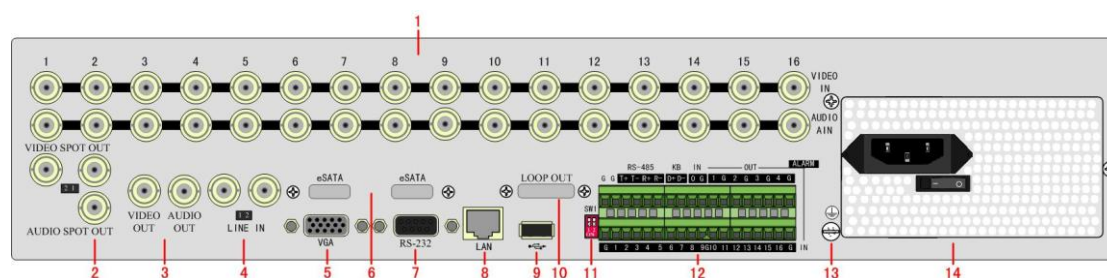
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## Front Panel



- 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

## 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

<b>Model</b>	DS-9016HF
<b>Video Compression</b>	H.264
<b>Preview Resolution</b>	4CIF
<b>Playback Resolution</b>	720P/4CIF/DCIF/2CIF/CIF/QCIF
<b>Analog Video Input</b>	16-ch, BNC(1.0Vp-p, 75Ω), PAL/NTSC adaptive
<b>Digital Video Input</b>	16-ch or 8-ch high definition (HIKVISION network protocol)
<b>Max Composited Video Input</b>	24-ch(Analog + Digital)
<b>Video Output</b>	2-ch, BNC(1.0Vp-p, 75Ω)
<b>Frame Rate</b>	PAL: 1/16~25FPS, NTSC: 1/16~30FPS
<b>Compression Output Bit Rate</b>	16Kbps~4Mbps self-defined, max 8Mbps
<b>Audio Compression</b>	OggVorbis
<b>Audio Input</b>	16-ch, BNC(2Vp-p, 1kΩ)
<b>Audio Output</b>	2-ch, standard 3.5mm audio interface BNC (Linear Electrical Level, 600Ω)
<b>Audio Output Bit Rate</b>	16kbps
<b>Preset Number</b>	256
<b>Patrol Number</b>	4
<b>Pattern Number</b>	1
<b>Voice Talk</b>	2-ch, BNC(2Vp-p, 1kΩ)
<b>Communication Interface</b>	1 RJ45 10M/100M/1000M Adaptive Ethernet Interface
<b>Serial Interface</b>	1 RS-232(for parameter configuration, device maintenance, transparent channel), 1 RS-485(for PTZ control), 1 RS-485 keyboard(for special keyboard control)
<b>SATA Interface</b>	8 build-in SATA interfaces, each HD support up to 2TB capacity
<b>USB Interface</b>	2 USB2.0 interfaces, can support USB flash memory, USB HDD USB mouse, USB DVD-R/W and CD-R/W
<b>VGA Interface</b>	1 VGA interface, support resolution: 1024*768*60Hz, 1280*1024*60Hz



<b>Alarm In</b>	16
<b>Alarm Out</b>	4
<b>Power Supply</b>	AC100~240V, 50~60Hz
<b>Power Consumption</b>	28W(without HD or DVD-R/W)
<b>Working Temperature</b>	-10°C~+55°C
<b>Working Humidity</b>	10%~90%
<b>Chassis</b>	19" Standard 2U
<b>Size</b>	450mm(L)×450mm(W)×95mm(H)
<b>Weight</b>	≤8Kg(without HD or DVD-R/W)