



**DS-9100HFI-RH Embedded DVR**  
**Technical Manual**

## Notices

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## Overview

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The Hikvision DS-9100HFI-RH series Net DVR is a new generation of video surveillance product with powerful functionalities in video encoding and decoding, video data storage, intelligent video analytics and network management. The product supports RAID disk array and virtual disk configuration to enhance data reliability and storage capability, as video data can be divided and replicated among 8 hard disk drives.

Capable of working as a standalone DVR, NVR and as well as building a powerful network for security system, DS-9100HFI-RH series Net DVR can be widely applied in the fields of finance, public security, forces, telecom, transportation, electricity, education, water conservancy, etc.



DS-9100HFI-RH Embedded Net DVR

## **Order Models**

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**DS-9104HFI-RH, DS-9108HFI-RH, DS-9112HFI-RH, DS-9116HFI-RH**

**Note: 1. The default DVRs are without HDD or CD-R/W.**

**2. A factory recommended HDD should be used for this device.**

## Main Features

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- **Up to 4CIF real-time recording;**
- **HDMI video output at 1920×1080 resolution;**
- **Extendable intelligent video analytics features;**
- **Smart search and playback for the recorded video with moving object in the user-defined monitoring area;**
- **Support LF main/slave cameras tracking;**
- **Up to 16-ch synchronous playback;**
- **Disk array and virtual disk configurable;**
- **Manual disk array rebuilding;**
- **Hot swap/spare rebuilding;**
- **RAID level migration;**
- **Online storage capacity expansion.**

## Functions & Performances

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- HDMI video output at up to 1920×1080 resolution;
- VGA video output at up to 1280×1024 resolution;
- Real-time recording at 4CIF resolution;
- Live view, storage and playback of network video signal at up to 2.0 megapixel;
- Support intelligent features as an option;
- Support LF main/slave cameras tracking;
- Smart search and playback for the recorded video with moving object in the user-defined monitoring area;
- Digital zoom of video in live view or playback mode;
- Zoom in/out by clicking the mouse and trace function by dragging mouse in PTZ control mode;
- Search, playback and backup of record files by event;
- Up to 16-ch synchronous playback;
- Support reverse of recorded files;
- HDD with hot-swap capability;
- HDD group management, and each channel can be configured with separate period of saving record files;
- Disk array and virtual disk configurable;
- Manual disk array rebuilding;
- Hot swap/spare rebuilding;
- RAID level migration;
- Online storage capacity expansion;
- Support one-button configuration;
- Support redundant recording;
- Available with 8 SATA interfaces;
- Support eSATA disk (optional);
- Network monitoring for traffic, packet capturing and connection;
- NTP, SADP, SMTP, NFS and iSCSI protocols support.

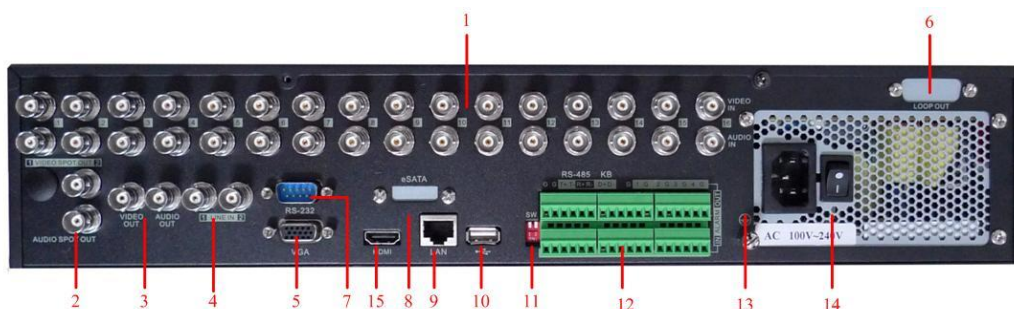
## Panels & Interfaces

### Front Panel



- ① Status Indicator(Alarm, Ready, Status, HDD, MODEM, Tx/Rx, Guard)
- ② Power Button
- ③ IR receiver
- ④ DVD-ROM
- ⑤ DIRECTION/ENTER Buttons
- ⑥ Front Panel Lock
- ⑦ USB Ports
- ⑧ Control Buttons
- ⑨ Alphanumeric Buttons
- ⑩ JOG SHUTTLE Control
- ⑪ Left and Right Button

## 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 LOOP OUT (optional)
- ⑦ RS-232 Serial Interface
- ⑧ eSATA Backup/Extended Storage Interface (optional)
- ⑨ LAN Network Interface
- ⑩ USB Interface
- ⑪ RS-485 Matched Resistance Switch
- ⑫ RS-485 Serial Interface, Keyboard Interface, 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.
- ⑭ 100~240VAC Power Input
- ⑮ HDMI interface



## Specifications

Model		DS-9104HFI-RH	DS-9108HFI-RH	DS-9116HFI-RH
Video/Audio input	Video compression	H.264		
	Analog video input	4-ch, BNC (1.0Vp-p, 75Ω), PAL/NTSC adaptive	8-ch, BNC (1.0Vp-p, 75Ω), PAL/NTSC adaptive	16-ch, BNC (1.0Vp-p, 75Ω), PAL/NTSC adaptive
	Audio compression	OggVorbis		
	Audio input	4-ch, BNC (2.0Vp-p, 1kΩ)	8-ch, BNC(2.0Vp-p, 1kΩ)	16-ch, BNC (2.0Vp-p, 1kΩ)
	Voice talk input	2-ch, BNC(2.0Vp-p, 1kΩ)		
Video/Audio output	CVBS output	2-ch, BNC (1.0Vp-p, 75Ω); resolution: PAL: 704×576, NTSC: 704×480		
	HDMI output	1-ch, resolution: 1024×768/60Hz, 1280×1024/60Hz, 1920×1080/60Hz		
	VGA output	1-ch, resolution: 1024×768/60Hz, 1024×768/70Hz, 1280×1024/60Hz		
	Encoding resolution	4CIF/DCIF/2CIF/CIF/QCIF		
	Video loop out	Optional		
	Frame rate	25 fps (P) / 30 fps (N)		
	Video bit rate	32Kbps-2048Kbps, or user defined (Max. 6144Kbps)		
	Audio output	2-ch, BNC (Linear, 600Ω)		
	Audio bit rate	16kbps		
	Dual stream	Support		
	Stream type	Video/Video & Audio		
	Synchronous playback	4-ch	8-ch	16-ch
Hard disk	Interface type	8 SATA interfaces		
	Capacity	Up to 2TB capacity for each disk		
Disk array	Array type	RAID0, RAID1, RAID5, RAID10		
	Number of array	8		
	Number of virtual disk	8		
External interface	Network interface	1, RJ45 10M/100M/1000M adaptive Ethernet		
	Serial interface	1 RS-232 interface (for parameters configuration, maintenance, transparent channel); 1 RS-485 interface (for PTZ control); 1 RS-485 keyboard interface (for special keyboard control)		
	USB interface	3, USB2.0		
	Alarm in	16		
	Alarm out	4		
Others	Power	100 ~ 240 VAC, 6.3 A, 50~60 Hz		

	<b>supply</b>	
	<b>Consumption</b>	≤ 70 W (without hard disk or DVD-R/W)
	<b>Working temperature</b>	-10℃~+55℃
	<b>Working humidity</b>	10%~90%
	<b>Chassis</b>	19-inch rack-mounted 2U chassis
	<b>Dimensions (W × D × H)</b>	445 × 470 × 90 mm
	<b>Weight</b>	≤ 8 Kg (without hard disk or DVD-R/W)