



DS-8100HCI-S Embedded Net DVR
Technical Manual

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Overview

DS-8100HCI-S embedded net DVR is an excellent digital surveillance product adopts embedded Linux OS and DaVinci Processor, along with the most advanced technology in the Information technology Industry such as video encoding/decoding, hard disk recording and TCP/IP transmission. The firmware is burned into the flash, making it more stable and reliable than software programs running from a standard disk drive.

DS-8100HCI-S series combines the advantages of Digital Video Recorder (DVR) and Digital Video Server (DVS). Based on the latest TI DaVinci platform and adopt the advanced H.264 video compression standard, it is widely applied as a stand-alone unit or a part of a powerful surveillance system.



DS-8100HCI-S Embedded Net DVR

Order Models

DS-8104HCI-S, DS-8108HCI-S, DS-8116HCI-S

- Each channel supports up to 4CIF encoding resolution.
- 4/16/16 alarm input and 2/4/4 alarm output.
- Support up to 4/8/8 SATA interface.
- Support 4-ch/8-ch/16-ch playback
- Dual stream.

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

User-friendly menu and easy to operate

VGA output resolution supports up to 1024×768

Support preview, backup and playback high definition image

Support digital zoom when preview and playback

Support digital zoom by using mouse when in PTZ control mode

Different channels can be set different recording expired time

Support normal and event video encoding parameters

Support redundant recording

Support hard disk group management

Support NTP, SADP protocols

Functions & Performances

Compression

- Support PAL/NTSC video input
- Adopt H.264 video compression standard
- Adopt OggVorbis audio compression standard
- 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

Local Functions

- VGA output resolution supports up to 1024×768
- Support 1/4/9/16 image preview, camera order is adjustable
- Support group switch, manual switch and automatic cycle, the dwell time can be changeable
- Support digital zoom function when preview
- User-defined preview layout
- Support motion detection, view tampering alert, video exception alert and video loss alert
- Support privacy mask
- Support various PTZ 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 HDDs, each of them can support up to 2TB capacity
- Support S.M.A.R.T. technology
- Support HDD standby function
- Support hard disk group management
- Support Windows compatible file format and technology of pre-allocating hard disk space, no disk fragmentation.

Recording and Playback

- Support overwrite and non-overwrite 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
- Support Pre-record and Post-record time of alarm and motion detection
- Support lock and unlock video files
- Support redundant recording
- Support set video data of the designated hard disk for read only
- Support video data query by channel, by record type, by time, and etc.
- Support digital zoom function when playback
- Support pause, play fast, play slow, forward, and rewind when playback, locating in progress bar by dragging the mouse.

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 video clips when playback
- Support backup device maintenance and management

Alarm & Exception

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

Others

- User can control DVR by front panel, mouse, IR control, and special keyboard
- Support multi-level user management
- Various log record and query, including operation, alarm and exception log
- Support trigger or clear alarm manually
- Support import and export configuration files

Network

- 10/100M adaptive network interface
- Support TCP/IP protocols, PPPoE, DHCP, DNS, DDNS, NTP, 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 get and configure parameters, support remote import and export device parameters
- Support remote acquire device status, system log and alarm status
- Support remote button operation
- Support remote locking and unlocking panel buttons and mouse
- Support remote format hard disk, upgrade, reboot, shutdown and other system maintenance operations
- Support RS-232 and RS-485 transparent channel transmission
- Support exception and alarm upload to remote management host
- Support remote trigger and stop recording manually
- Support remote trigger and stop alarm out manually
- Support remote JPEG capture
- Support remote PTZ control
- Support voice talk and broadcast
- Build-in WEB Server

Development

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

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

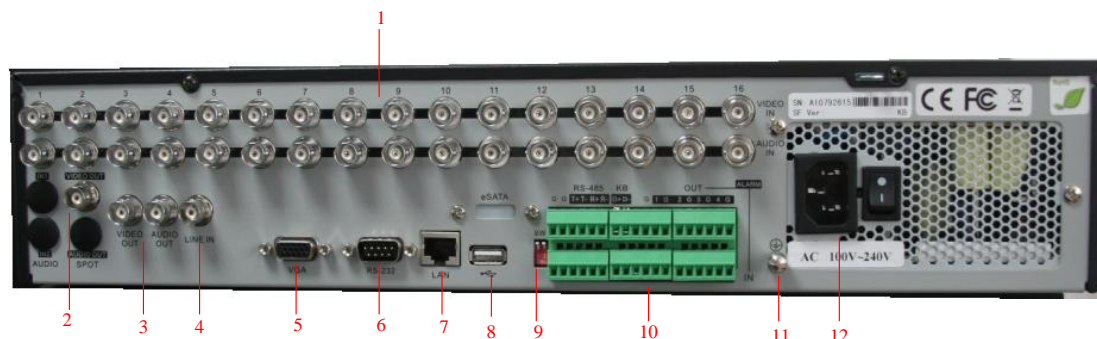
Distributed video accessing businesses, including the global eyes, wide field of vision

Networking video surveillance of examination hall

Video surveillance of pipelining, workshops and warehouses

Interfaces

Interfaces Descriptions



- ① VIDEO IN, AUDIO IN
- ② VIDEO SPOT OUT
- ③ VIDEO OUT, AUDIO OUT
- ④ LINE IN
- ⑤ VGA Interface
- ⑥ RS-232 Serial Interface
- ⑦ LAN Network Interface
- ⑧ USB Interface
- ⑨ RS-485 Matched Resistance Switch
- ⑩ RS-485 Serial Interface, Keyboard Interface (support cascade), ALARM IN, ALARM OUT
- ⑪ 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.
- ⑫ 100~240VAC Power Input

Specifications

Model	DS-8104HCI-S	
Video/Audio Input	Video Compression Standard	H.264
	Video Input	4-ch, BNC(1.0Vp-p, 75Ω), PAL/NTSC adaptive
	Audio Compression Standard	OggVorbis
	Audio Input	4-ch, BNC(2.0Vp-p, 1kΩ)
	Voice Talk Input	1-ch, BNC(2Vp-p, 1kΩ)
Video/Audio Output	Preview Resolution	PAL: 704×576 NTSC: 704×480
	VGA output	1, Resolution: 1024×768/60Hz
	Playback Resolution	4CIF/2CIF/CIF/QCIF
	Synchronous Playback	4-ch
	Video Output	2-ch, BNC(1.0Vp-p, 75Ω)
	Frame Rate (per channel)	4CIF: 8fps; 2CIF: 16fps; CIF: 25(P)/30(N)
	Bit Rate	32Kbps~2048Kbps, or user-defined
	Audio Output	1-ch, BNC(Linear, 600Ω)
	Audio Bit Rate	16kbps
Hard Disk	Interface Type	4 SATA Interfaces
	Capacity	Each supports up to 2TB capacity
External Interfaces	Network Interface	1, RJ45 10M/100M adaptive Ethernet interface
	Serial Interfaces	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	4
	Alarm Out	2
	Others	Power Supply
Consumption		≤50W(without hard disk or DVD-R/W)
Working temperature		-10℃~+55℃
Working humidity		10%~90%
Chassis		19" standard chassis
Size(mm)		70mm(H)×440mm(W)×390mm(D)
Weight	≤8Kg(without hard disk or DVD-R/W)	

Model	DS-8108HCI-S	
Video/Audio Input	Video Compression Standard	H.264
	Video Input	8-ch, BNC(1.0Vp-p, 75Ω), PAL/NTSC adaptive
	Audio Compression Standard	OggVorbis
	Audio Input	8-ch, BNC(2.0Vp-p, 1kΩ)
	Voice Talk Input	1-ch, BNC(2Vp-p, 1kΩ)
Video/Audio Output	Preview Resolution	PAL: 704×576 NTSC: 704×480
	VGA output	1, Resolution: 1024×768/60Hz
	Playback Resolution	4CIF/2CIF/CIF/QCIF
	Synchronous Playback	8-ch
	Video Output	2-ch, BNC(1.0Vp-p, 75Ω)
	Frame Rate (per channel)	4CIF: 8fps; 2CIF: 16fps; CIF: 25(P)/30(N)
	Bit Rate	32Kbps~2048Kbps, or user-defined
	Audio Output	1-ch, BNC(Linear, 600Ω)
	Audio Bit Rate	16kbps
Hard Disk	Interface Type	8 SATA Interfaces
	Capacity	Each supports up to 2TB capacity
External Interfaces	Network Interface	1, RJ45 10M/100M adaptive Ethernet interface
	Serial Interfaces	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 Supply	100~240VAC, 6.3A, 50~60Hz
	Consumption	≤50W(without hard disk or DVD-R/W)
	Working temperature	-10℃~+55℃
	Working humidity	10%~90%
	Chassis	19" standard chassis
	Size(mm)	70mm(H)×440mm(W)×390mm(D)
	Weight	≤8Kg(without hard disk or DVD-R/W)

Model	DS-8116HCI-S	
Video/Audio Input	Video Compression Standard	H.264
	Video Input	16-ch, BNC(1.0Vp-p, 75Ω), PAL/NTSC adaptive
	Audio Compression Standard	OggVorbis
	Audio Input	16-ch, BNC(2.0Vp-p, 1kΩ)
	Voice Talk Input	1-ch, BNC(2Vp-p, 1kΩ)
Video/Audio Output	Preview Resolution	PAL: 704×576 NTSC: 704×480
	VGA output	1, Resolution: 1024×768/60Hz
	Playback Resolution	4CIF/2CIF/CIF/QCIF
	Synchronous Playback	16-ch
	Video Output	2-ch, BNC(1.0Vp-p, 75Ω)
	Frame Rate (per channel)	4CIF: 2fps; 2CIF: 12fps; CIF: 25(P)/30(N)
	Bit Rate	32Kbps~2048Kbps, or user-defined
	Audio Output	1-ch, BNC(Linear, 600Ω)
	Audio Bit Rate	16kbps
Hard Disk	Interface Type	8 SATA Interfaces
	Capacity	Each supports up to 2TB capacity
External Interfaces	Network Interface	1, RJ45 10M/100M adaptive Ethernet interface
	Serial Interfaces	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 Supply
Consumption		≤50W(without hard disk or DVD-R/W)
Working temperature		-10℃~+55℃
Working humidity		10%~90%
Chassis		19" standard chassis
Size(mm)		70mm(H)×440mm(W)×390mm(D)
Weight		≤8Kg(without hard disk or DVD-R/W)