

Network DVR: HIKVISION/ULTIMAX DS-7316HI-S H.264 (16-ch.)

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Code: **M74160**

HIKVISION



Front view

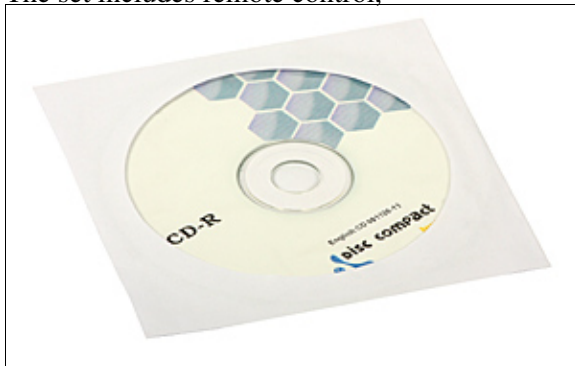
Possibility of mounting a CD/DVR writer in the front panel



Rear view



The set includes remote control,



CD-ROM with software,

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other accessories.



and input adapter

Hikvision 73... DVRs make a family of cutting-edge digital CCTV recorders using H.264 compression. HIKVISION DS-7316HI-S is the lowest model from the 73... series of 16-channel DVRs. It can record images with 4CIF (704 x 576) resolution at 6 fps or with 2CIF (704 x 288) resolution at 12 fps. It is suitable for CCTV systems in environments that do not require high dynamic parameters. The device supports all advanced functions implemented in higher models of HIKVISION DVRs, first of all - local recording and network transmission based on H.264 algorithms, providing good video quality at substantially lower bitrates than the previous standards, saving available disk capacity and bandwidth of the network.

HIKVISION recorders are known worldwide not only for their high performance and best technical parameters, but also for high quality.

A new menu has been designed to help everyone, even the beginner user, navigate and make required changes to the settings of the DVR. Both the location of frequently used functions and graphic layout meet the highest current standards.

Browsing the archives locally allows to play them back simultaneously from all channels. To quickly localize the interesting moment/period, the recorded video record is presented on a timeline (length - 24 hours). Clicking on any point causes an immediate playing of the recordings. The pace of playing is easy to adjust with the jog dial situated on the front panel.

Undoubtedly, the strongest feature of HIKVISION DVRs, which distinguishes them from competitors, is the opportunity to work on the Internet. Multiple levels of security, individual access rights for different users, stable operation in the network - all this shows that the products are ahead of all other equipment on the market.

HIKVISION DVRs connected to IP network are managed by iVMS 4000 software. The software enables the user/administrator to fully configure and manage HIKVISION and ULTIMAX DVRs, ULTINET video servers, and ULTICAM cameras.

Distinguishing features of HIKVISION DVRs

- Stable operation in all modes, including the use of an IP network.

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- H.264 video compression.
- OggVorbis audio compression.
- Ability to set recording parameters for each channel - including resolution, bit rate, image quality - full control over configuration options and system settings allows the user for optimum adjustment to the application.
- Possibility of setting individual image parameters depending on the recording mode - normal or triggered by an event.
- VGA output (resolution up to 1024x768, refresh rate 60 Hz).
- Additional video output.
- Ability to view images from single cameras (selected at a moment or displayed consecutively in the order specified by the user), as well as from 4, 9 or 16 cameras simultaneously.
- Ability to switch between the cameras (automatically, manually) and to set image display time from a single camera; configurable groups of cameras and switching cycle times.
- Live digital zoom.
- Detection of: attempts to damage a camera, video loss, motion in predefined areas of the camera image.
- Possibility to define up to 4 privacy zones for each camera.
- Cooperation with multiple PTZ cameras (support for many interfaces of speed dome cameras).
- Possibility of setting a timetable for patrol paths and starting points for PTZ cameras.

HDD interface:

- Possibility to connect up to 4 SATA HDDs, each up to 2TB capacity (total up to 8TB).
- Support of S.M.A.R.T. technology.
- Ability to create disk groups.
- Video files are saved in formats compatible with Windows.
- Recording technology is based on pre-allocation of disk space during initialization, allowing the optimum use of available memory resources.

Recording and playback:

- Option of overwriting existing data.
- Event-triggered or continuous recording.

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- Many recording modes, including continuous, scheduled or triggered (by an alarm event, motion detection or interference) ones.
- Possibility to set pre- and post-alarm periods for recordings triggered by motion detection or alarm events.
- Local playing of recordings from all channels at the same time.
- Protection of selected recordings against overwriting.
- Searching options include selection of date and time, channel, kind of recording.
- Digital zoom during playback.
- Very easy access to recordings - normal/ fast/slow/ frame by frame playback. Access to these functions also from the front panel using the jog dial for selecting the time of the recording and playback speed. Fast selection of any time point by using the timeline and drag-and-drop method.

Archiving:

- Possibility of data archiving onto external USB storage device (flash drive, HDD etc.) via the USB port located on the front panel.
- Possibility of simultaneous browsing the recordings and archiving the data.
- Suitable place to mount an internal DVD writer.
- Possibility to choose any time interval for data archiving.

Alarms and exceptions:

- Ability to define alarm-system activity periods.
- Alarm options include motion detection, loss of signal, interference into the system.
- Exceptions include: disk overflow or failure, network failure, loss of video, non-compliance of video standards, IP address conflict.
- Handling of exceptional situations: recording of selected channel, triggering defined alarm output, warning on the screen, audible alarm, notifying the monitoring center.

Other features:

- Control with a USB mouse, remote control, front panel buttons, dedicated keyboard.
- Ability to define user accounts with different access/management rights.
- System log recording all events; easy way to find events according to main category: alarm, exception, action, information.
- Starting and stopping alarms manually or automatically.

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- Ability to save and import/export DVR settings.

Networking:

- 10/100 Mbps Fast Ethernet NIC
- Support for TCP/IP, PPPoE, DHCP, DNS, DDNS, NTP, SADP protocols.
- Possibility of remote control, downloading and viewing of recordings, archiving.
- Remote setup and configuration of DVR.
- Remote import/export of settings.
- Remote monitoring of device status, alarms, event log.
- Remote initialization and formatting of disks, remote firmware update, remote control of operations.
- Remote switching on/off of recording.
- Remote switching on/off of alarms.
- Possibility of saving screenshots.
- Remote control of PTZ cameras in several windows..
- Support for many PTZ protocols: Pelco-p, Pelco-d WX, Pelco-D, Samsung, TLPelco-p, BBV, KC3360S, ACES, ALSON, Tc Pelco P, Tc Pelco D, ANTEN, ADR8060, LC-D2104, A01, LG, 1602-Protocol, 3609hd, AB-D, AB-P, ADV, BEWATOR-PELCO-D, Dragon, DSCP, HIKVISION, HY, Honeywell, Intergative P, LiLin, Manowang, Nitro, Philips-3, PIH-1016, PLD, RedApple, SHINEI, SONY-EVI, SPD, Siemens and others.
- Built-in web server - access to the DVR through client software or web page.

DVRs of 73... series have Dual Stream function (two streams of data with independently determined parameters). DS-7316HI-S supports the auxiliary stream in QCIF resolution.

More on different models and their features in the Library article: DVRs of the world's leader - HIKVISION/ULTIMAX.

Specifications:

Name	HIKVISION DS-7316HI-S
Code	M74160
Compression	H.264
Number of video channels	16
Recording parameters (each channel)	4CIF - 6 fps 2CIF - 12 fps CIF - 25 fps (PAL); 30 fps (NTSC) Possibility to optimize the recording speeds*

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Live monitoring	25 fps
Audio recording/compression	4 channels 16kbps / OggVorbis
HDD capacity/interface	max 8 TB (4 x 2 TB) / SATA
Interface (support for external devices)	USB 2.0 (HDD, flash drive, DVD-RW writer)
Video outputs	VGA (1024x768@60Hz), CVBS (1 Vpp 75 - PAL)
Network software	Multiclient, Web
Viewing video on another device	PC
Pre/post alarm	5 to 30 s / 5 s to 10 min
Control	USB mouse, dedicated keyboard, remote control, LAN
Security	Password system, individual levels of access, assigned MAC address
Menu (languages)	English, Czech, Polish, Slovak and other
Power	100-240 VAC; 6.3 A (max.)
Dimensions	440 mm x 390 mm x 70 mm
Weight	8 kg (without HDD/s)
Remarks	High performance and stable work in LANs

* The DVR with the V3.1 firmware version can be managed locally by multiple users with granted privileges for making changes in the system. It significantly increases the functionality of the devices, especially when handling larger networks controlled by staff with different access privileges. The new firmware also introduces support for network-attached storage. This way the surveillance data is stored on a remote server, being protected in the case of theft, damage to the DVR etc. The DVR, aside from the standard configurations, can now record 4CIF images at frame rate increased to 6 fps (in each channel), or 4CIF images at 25 fps in two channels, when the rest of the channels records CIF images (also at 25 fps).

HDD capacity calculation: assessment of the total volume for recording video data requires adoption of certain record parameters and video storage time. The formula below gives the amount of disc space (in MB) for saving one hour recording from one channel:

$$q_i = (d_i * 3600) / (8 * 1024)$$

where d_i means bitrate in kbps. The bitrates of HIKVISION DVRs can be selected from 32 kbps to 8000 kbps.

The list of main functions divided into categories

Category	Function	Description
Security features	Management	Creating/deleting user accounts. One default administrator can create up to 32 user accounts and define their privileges.
	Password	Modification.
Disk operations	HDD management	Formatting, displaying information.
	Recording	Manual, continuous, triggered by motion detection, external alarm (and their combinations).
	Recording parameters	Bitrate, frame rate, quality level etc.
	Playback	According to time (timeline), file by file,

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		quick search, slow, pause, frame by frame, synchronous playback of two channels.
	Backup	Backup of video files and video clips.
Local monitoring (functions)	Live monitoring	Live viewing on VGA/video monitor. Screen splits: 1/1, 1/4, 1/9, 1/16. Automatic/manual switching.
	Channel status indicator	Recording, video loss.
	Motion detection	Setting of areas, sensitivity levels, handling methods.
	Alarm inputs	Handling methods, schedule programming.
	Alarm outputs	Setting of parameters.
	Privacy zones	Masking some areas.
	Interference/tampering	Handling methods.
	Exceptions	Extraordinary events: disc error, discs full, illegal access etc.
	Information about alarms	List of alarm events.
Networking	ADSL	PPPoE, DNS.
	Live monitoring	TCP, UDP, RTP, Multicast.
	Management	Control of DVR functions via the network.
	Alarm	Notification about alarms sent to managing computer.
	Remote monitoring	Client program, IE browser.
	Remote configuration	Remote setting of DVR parameters.
	Remote recording	Recording through the network.
	Remote playback	Playback through the network.
	Download	Downloading of recorded files.
	Remote update	Firmware updating.
	Transparent channel	Remote control of device connected to DVR serial port.
	Web	Access to DVR via IE.
	PSTN	Connection through PSTN.
Utility functions	OSD	OSD setup
	Event log	Access to DVR log.
	Intercom	Bidirectional voice connection/public address announcements.

The iVMS 4000 program allows to get access to up to 50 DVRs. The program allows to create user accounts with different privileges, from "administrator" with full rights to "guests" with individually granted access to certain functions.

iVMS 4000 software allows to manage HIKVISION DVRs. A wide range of possible settings and functions includes:

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- Modification of parameters of each individual channel.
- Channel name: strings up to 32 characters.
- Frame rate: full (PAL: 25 fps, NTSC: 30 fps), 22, 20, 18, 15, 12, 10, 8, 6, 4, 2, 1, 1/2, 1/4, 1/16 fps.
- Maximum bitrate: 32kbps, 48kbps, 64kbps, 80kbps, 96kbps, 128kbps, 160kbps, 192kbps, 224kbps, 256kbps, 320kbps, 384kbps, 448kbps, 512kbps, 640kbps, 768kbps, 896kbps, 1Mbps, 1.25Mbps, 1.5Mbps, 1.75Mbps, 2Mbps, or "Self-defined".
- Modification of parameters of each individual channel: by default - CIF; other options: 4CIF, QCIF, 2CIF.
- Image quality: 6 options (only effective for variable bitrate option).
- Bitrate type: variable/fixed.
- Schedule option / setup.
- Pre-recording time / post-recording time: setting adequate periods of recording time before/after alarm event.
- Parameters of the Internet connection.
- The client allows to set parameters of motion detection in each channel:
 - ◆ motion detection area/s,
 - ◆ sensitivity,
 - ◆ channels which will be recorded after motion detection,
 - ◆ alarm handling methods,
 - ◆ schedule of motion detection,
 - ◆ type of alarm after the loss of video signal.



Hangzhou Hikvision Digital Technology company is one of the leading manufacturers of CCTV equipment. The company has its headquarters in China, employs over 2300 employees in branches around the world. More than 700 of them are engineers from the R&D department.

In the annually published Security 50 report, Hikvision company is among the top players. In 2009, the company was ranked number 12 on the list of the world's CCTV industry companies with the highest profits. It also took 3rd place in the ranking taking into account the increase in revenue compared to previous years. For several years, Hikvision has been appreciated by the specialist press as one of the 5 most important producers in the sector. The importance of the company in the market is evidenced by the fact that it was the main supplier of security systems for the Beijing 2008 Olympic Games. Other achievements include implementations of complex monitoring systems in networks of restaurants, CCTV systems for railways, hospitals, casinos and many other places.

More information on this company is available on the manufacturer website.

Name	Lang.	File type	File size	Date
Instrukcja DVR	PL	·	1.3 MB	2010.02.19
Szybkie uruchomienie DVR	PL	·	1.1 MB	2010.02.24

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Program iVMS 4000	PL	·	27.3 MB	2010.03.16
Instrukcja iVMS 4000	PL			
CE declaration	EN	·	0.3 MB	2010.02.16
DVR operating manual	EN	·	3.2 MB	2010.02.16
DVR quick guide	EN	·	0.5 MB	2010.02.16
iVMS 4000 utility program	EN	·	20 MB	2010.02.16
iVMS 4000 user manual	EN	·	4.3 MB	2010.02.16
Instrukcja iVMS 4500	PL	·	0.45 MB	2010.04.13
iVMS 4500 WinMobile	EN	·	0.9 MB	2010.04.13
Firmware V3.1.0 100803	Multilang.	·	8 MB	2010.10.20
iVMS 4500 Symbian S60 3rd Software	EN	·	0.95 MB	2010.10.22
iVMS 4500 Symbian S60 3rd Manual	EN	·	0.65 MB	2010.10.22
iVMS 4500 JAVA Software	EN	·	0.23 MB	2010.10.22
iVMS 4500 BlackBerry Software	EN	·	0.16 MB	2010.10.22
iVMS 4500 Android Software	EN	·	1.6 MB	2010.10.22
iVMS 4500 Android Manual	EN	·	0.56 MB	2010.10.20
iVMS 4000 v2.0.3 110110	Multilang.	·	38 MB	2011.01.25
Firmware V3.2.0 110726	Multilang.	·	8.9 MB	2011.11.03