



VDR-216

High Resolution 16 Channel Recorder for Permanent- or Alarm Recording with up to 100 fps (MPEG-2) incl. LAN, Audio and Quadraplex mode

Video image recording for up to 16 cameras with very high image quality and speed for an excellent price - that's the VDR-216.

The VDR-216 system is very fast, flexible and high resolution 16 channel digital recorder that uses MPEG-2 compression with up to 100 frames per second.

The VDR-216 comes with 16 (F)BAS video inputs and allows the connection of analogue video cameras. The 5 video outputs can be used to view live video images as full size, quad image, 8x, 9x or 16x image and to replay record sequences. Thus the VDR-216 system provides a fully functional quadraplex mode (simultaneous recording), playback, backup and network transmission) with dynamic IP support (DHCP)

Video images can be recorded with very high resolution of 640 x 388 pixels (PAL) at a high speed of up to 100 frames per second (real-time). This speed can be divided between the 16 video inputs. The VDR-216 DVR is a multi-mode device, accepting 100V-250 V/AC, 50/60 Hz PAL/NTSC.

Data is stored on a 300 GB internal hard disk in the MPEG-2 compression format. The system can be expanded with a second, optional hard disk. In addition, the VDR-216 comes with an integrated CD-RW to make data available on CD-ROM.

Quick and responsive playback is available with the Jog/Shuttle. For data security reasons, the unit can be password protected. The integrated LAN Ethernet network interface allows the unit to be viewed and operated via 10/100 Base-T networks (software included). Access is provided by Internet Explorer or by RAS (Remote Access Service)

Features:

- 16 (F) BAS Video Inputs
 - 5 video outputs (2x FBAS, 1x S-Video, 1x Spot, 1x VGA)
- 640 x 288 pixels resolutions (PAL)
- Up to 100 frames per second (even with unsynchronised cameras)
- Integrated video sensors
- Full, quad, 8x, 9x or 16x screen display
- Alarm-controlled recording incl. pre-alarm phase
- 300 GB on board (plus one optional HDD)

Technical Specifications

Type	VDR-216
Resolution	640 x 288 pixels (PAL)
Video input	16 x BNC (F)BAS
Audio input	1 x 1 channel mono
Video output	2 x BNC (F)BAS; 1 x S-Video; 1 x Spot, 1 x VGA
Recording media	300 GB on board; incl. CD-RW drive
Recording format	MPEG-2
Recording Speed	up to 100 frames per second
Compression rate	64 KB (high) up to 8 KB (basic) in steps of 1 KB
Recording mode	alarm, ring
Motion detection	12 x 12, 8 levels sensitivity
Recording quality	4 levels (normal, enhanced, fine, super fine)
Playback speed	x1, x2, x4, x8, x16, x32, x64, x128 (forward/backward); x1/4, x1/2 (forward)
System log	event (motion, alarm), video loss, power failure
Password function	power ON/OFF, MENU, record off, key lock
Timer	Built-in real-time clock with programmable start / end dates for daylight saving hours
Multi-tasking (quadplex)	Quad - concurrent operation of record, play, network access and backup available
Alarm input/alarm output	16 inputs (NO or NC selectable) / 1 relay output (NO or NC)
PTZ control	RS-485 (Vicon, pelco, Sensormatic); 15-pin D-type
Digital zoom	x2
Aux control in/out	2/3 (selectable function menu start in, alarm reset in, one short record in, record start out, disk full alarm out, alarm out error out)
Serial RS-232 interface	9-pin D-type (local DVR control via PC)
Remote	IR remote control
Watermarking	Backup mode only
Power supply/Consumption	100-250 V AC, 50/60 Hz; 50W
Dimensions (W x H x D)	433 x 385 x 88 mm (W x H x D), excluding 19" rack mount brackets
Weight	5.5kgs (without HDD)
Operating condition	0° to +50° C; less than 90% RH
EMI	acc.to EN50081-1, EN55011 class B
EMC	acc. to EN50082-2, EN50204, EN61000-4-2, -3,-4,-6,-11
Safety	acc. to EN60950, EN60065
Scope of delivery	VDR-216, 19" rack mount brackets, CD-ROM, power cord
System	Operating system: embedded Linux CPU: proprietary CPU Internal HDD:300 GB Backup options: CD-RW, via network, via USB flash memory Network: RJ45 CAT-5 (10/100 Base -T, Dynamic IP, SMT, FTP) USB:2 x USB 1.1 socket for USB backup peripherals (1 x front, 1 x back)



VDR-204/VDR-208 Series Digital Video Recorder

- 4- or 8-channel digital recorder with MPEG-2 compression
- Quadplex operation modes: simultaneous record, playback, backup and network streaming
- Quad and mux modes on VDR-204, allowing multiscreen record and playback; VDR-208 allows multiscreen recording with playback on one screen
- Live remote recording, on-the-fly recording and control over the network
- Motion detection, video loss and sensor alarm function
- User defined settings for recording frame rate and resolution
- Convenient search by time, date or alarm
- Audio recording
- Playback and field-by-field viewing with JOG/Shuttle dial
- PTZ control through RS-485; quick easy setup through RS-232
- Free voltage power input; NTSC/PAL
- Various backup methods
- Supports static or dynamic IP (DHCP/PPPoE)

Table 1: Models and Descriptions

Model Number	Product Code	Description
VDR-204-12CD	8782-00	4-Channel Digital Video Recorder with 120 GB hard drive; 30 fps, CD/RW, PTZ control, audio, NTSC/PAL
VDR-204-30CD	8783-00	4-Channel Digital Video Recorder with 300 GB hard drive; 30 fps, CD/RW, PTZ control, audio, NTSC/PAL
VDR-208-30CD	8967-00	8-Channel Digital Video Recorder with 300 GB hard drive; 30 fps, CD/RW, PTZ control, audio, NTSC/PAL

The VDR-204 and VDR-208 are ideal for CCTV users who require an easy to use high-quality standalone 4-channel or 8-channel digital video recorder with the benefit of additional remote PC access via a network/Internet.

Incorporating high-quality MPEG-2 video and audio encoding and compression technology, these feature-rich DVRs are designed for use with industry standard composite video output CCTV cameras using BNC connectors.

The DVRs are operated and controlled by simple front panel controls. All CCTV video recording takes place on the unit's hard disk drive. Backup can be to a CD, through the network, or from the USB port to a memory stick. Multiple DVRs can be cascaded for greater camera coverage.

Three models are available. The VDR-204-12CD has a 120 GB hard drive; VDR-204-30CD provides 300 GB of hard drive space. The VDR-208-30CD provides a 300 GB hard drive. All units have a maximum recording speed of 120 fps. The models are NTSC/PAL compatible. Refer to Table 1.

Multiple recording modes are offered, schedule, event (motion detection, sensor), manual or continuous. There are 4 levels of recording quality, normal, enhanced, fine or superfine. All units have Quadplex simultaneous record, playback, backup and network streaming. The VDR-204 supports Quad and Mux modes, allowing multiscreen record and playback. The VDR-208 allows multiscreen recording, but playback on only one screen. Refer to Table 2 for Estimated Number of Days of Recording.

Both DVRs provide a convenient search by alarm, time or date. The JOG/Shuttle dial provides quick and responsive playback and field-by-field viewing. Motion detection can be programmed for sensitivity and specific area. In Quad mode, all settings are the same for all channels. Sensors (alarms) can be programmed, N.O./N.C. The VDR-204 also provides still image capture and search function.

Vicon strongly recommends the use of uninterruptible power supply systems (UPS) to prevent voltage fluctuations that can affect operation, cause video loss and damage to the equipment.

ASSOCIATED EQUIPMENT AND ACCESSORIES

NETSWITCH-16, Product Code 8495-00: 16-port network switch, includes 10/100Mbps ports, desktop/wall mount, 120 VAC.

NETSWITCH-24, Product Code 8495-10: 24-port network switch, includes 10/100/1000Mbps ports, rack mount, 120 VAC.

Uninterruptible Power Supplies: 725, 1000, and 3000 VA units with DB9 (RS-232) and USB ports; 120 VAC input/output. Product Specification V147.

Technical Information

ELECTRICAL

Input Power Source: 100 - 240 VAC.
Current: 110 mA, nominal.
Power Consumption: 50 W.
Heat Equivalent: 2.8 btu/min (0.7 kg-cal/min).
 Note: These figures represent the conversion of 100% of the electrical energy to heat. Actual percentage of heat generated will be less and will vary from product to product. These figures are provided as an aid in determining the extent of cooling required for an installation.

Radio-Frequency Emission Standard: FCC Class A.
Safety Standard: UL 2044.

RECORDING/PLAYBACK/ARCHIVING

Recording Rate/Resolution: **VDR-204**
 Quad:
 NTSC: 720x480 (30 fps);
 PAL: 720x576 (25 fps).
 MUX:
 NTSC: 360x240/720x480 (120/30 fps over 4 channels);
 PAL: 360x288/720x576 (100/25 fps over 4 channels).
VDR-208
 NTSC: 320x240/640x240 (120 fps/60 fps over 8 channels).
 PAL: 320x288/640x288 (100 fps/50 fps over 8 channels).

Recording Quality: 4 levels, normal, enhanced, fine, super fine.

Recording Capacity: 120 or 300 GB, model dependant. CD/RW and USB memory stick options.

Recording Modes: Schedule, event (motion detection, sensor), manual, continuous.

Time-Lapse Recording Interval: **VDR-204**
 8 steps. NTSC: 1, 2, 3, 5, 7, 10, 15, 30 fps.
 PAL: 1, 2, 3, 5, 6, 10, 12, 25 fps.
VDR-208
 NTSC: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 15, 20, 30 fps.
 PAL: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 15, 20, 25 fps.

Playback Speed: VDR-204: Forward/Backward: X1, X2, X4, X8.
 VDR-208: Forward/Backward: X1, X2, X4, X8, X16, X32, X64, X128, field by field.

Slow Motion Speed: Forward: X1/4, X1/2.

Playback Search: Date/Time, Event (motion detection, sensor).
Multi-Tasking: Quadplex: concurrent operation of Record, Play, Network Access and Back-up.

VIDEO

Video Input Channels: 4 or 8 channels, model dependent.

Image System: NTSC/PAL, selectable.
Video Input: 4 or 8 channels composite, 4 or 8 channels loop through.
Video Output: VDR-204: 1 channel composite, 1 channel S-Video.
 VDR-208: 2 channels composite, 1 channel S-Video , 1 channel Spot, 1 VGA.

Video Compression: MPEG-2.

OPERATION

PTZ Control: 4 or 8 channels of Pan/Tilt/Zoom via RS-485.
Digital Zoom: X2.
Timer: Built-in real time clock with programmable start/end dates for daylight saving time.
Sensor Input: 4 or 8, N.O./N.C. selectable.
Alarm Output: 1 relay, N.O./N.C. selectable.
Aux Control In/Out: 2/3. Selectable function menu: Record Start in, Alarm Reset in, Record Start out, Disk Full alarm out, Alarm out, Error out, One-shot Record in (VDR-204 only). VCR-208: Additional - Record ON/OFF, Record Status Out

Audio: 1 channel, mono.
Motion Detection: 11x8 (VDR-204) or 12x12 (VDR-208), 8 level sensitivity.
Watermarking: Backup only.
System Log: Event (motion detection, sensor), video loss, power failure.
Password Function: Power on/off, menu, record off, key lock.

SYSTEM FEATURES

Network Interface: 10-Base-T; static IP, dynamic IP, DHCP, PPPoE – TCP/IP, SMTP (email), FTP.
Operating System: Embedded Linux™.
CPU: Proprietary CPU.
Internal Hard Drive: 120 GB or 300 GB, model dependant.
Backup Options: CD-RW, via network connection, via USB flash memory.

Technical Information

CONNECTORS

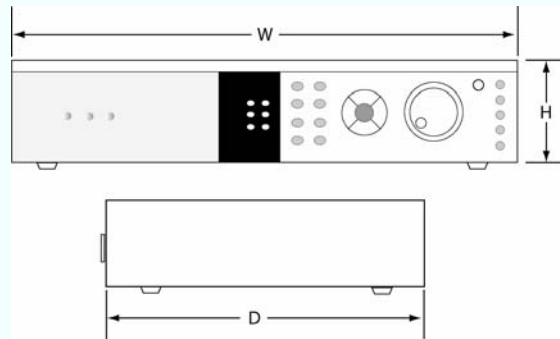
- Video Input:** 4 or 8 BNCs with loop through to 4 or 8 BNCs for video output.
- Video Output:** VDR-204: 1 BNC, 1 S-video.
VDR-208: 2 BNCs, 1 S-video, 1 Spot BNC, 1 VGA 15-pin D type.
- Audio:** 2 phono, in/out.
- Serial:** RS-232, 9-pin D-type; local DVR control via PC or for quick setup.
- PTZ/Alarm/AUX:** 15-pin D type, for PTZ control via RS-485, alarm relay N.O/N.C., 4 sensors N.O/N.C.
VDR-208: additional 15-pin D type for sensors 5-8.
- Network:** RJ-45 CAT5, connects to ADSL modem/hub.
- USB:** USB socket for backup peripherals.

MECHANICAL

- Dimensions:** See Figure
Height (H): 3.5 in. (88 mm).
Width (W): 17.0 in. (433 mm), excluding rack mount brackets.
Depth (D): 15.2 in. (385 mm).
- Weight:** VDR-204: 12.1 lb (5.5 kg);
VDR-208: 15.4 lb (7 kg), excluding hard drive.
- Mounting:** Desk-top or 19-in. rack mount (mounting brackets included).
- Shipping Dimensions:**
Height: 7.0 in. (178 mm).
Width: 21.5 in. (546 mm).
Length: 20.0 in. (508 mm).
- Shipping Weight:**
VDR-204: 20.7 lb (9.4 kg).
VDR-208: 22.2 lb (10.1 kg).
- Shipping Volume:** 1.7 ft³ (0.05 m³).

ENVIRONMENTAL

- Operating Temperature Range:** 32 to 122° F (0 to +50° C).
- Humidity:** Up to 90% relative, noncondensing.



		VDR-204			
Quality	Hard Drive	Quad (720 x 480) MUX (360 x 480)		MUX (720 x 480)	
		5 fps	30 fps	3 fps	7.5 fps
Superfine	120 GB	21.5 days	3.5 days	8.5 days	3.5 days
	300 GB	54 days	9 days	22 days	9 days
Fine	120 GB	35.5 days	5 days	13 days	5 days
	300 GB	81.5 days	13 days	32.5 days	13 days
Enhanced	120 GB	40.5 days	6.5 days	16 days	6.5 days
	300 GB	102 days	16 days	40 days	16 days
Normal	120 GB	46 days	7.5 days	18 days	7.5 days
	300 GB	115 days	18 days	45 days	18 days

		VDR-208			
Quality	Hard Drive	320 x 240		640 x 240	
		4 fps	8 fps	2 fps	4 fps
Superfine	300 GB	12.5 days	6.5 days	12.5 days	7.5 days
Fine	300 GB	19 days	9.5 days	16 days	10 days
Enhanced	300 GB	20.5 days	11.5 days	19 days	12.5 days
Normal	300 GB	24 days	13 days	22.5 days	14 days

Table 2: Estimated Days of Recording