



## VDR-304/VDR-308/VDR-316 Series Digital Video Recorder

- 4-, 8- or 16-channel digital recorder with MPEG-4 compression
- Quadplex operation mode: simultaneous record, playback, backup and network streaming
- Multi-channel record, playback and backup
- Live remote recording, on-the-fly recording and control over the network
- Live monitoring and remote playback by web browser
- 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-422/485; quick easy setup through RS-232
- 100-240 VAC power input; NTSC/PAL
- Various backup methods
- Supports static or dynamic IP (DHCP/PPPoE)

The VDR-304, VDR-308 and VDR-316 are ideal for CCTV users who require an easy to use high-quality standalone 4-channel, 8-channel or 16-channel digital video recorder with the benefit of additional remote PC access via a network/Internet; live monitoring and remote playback are available by web browser.

Incorporating high-quality MPEG-4 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 used for greater camera coverage.

Five models are available. The VDR-304-16CD has a 160 GB hard drive; VDR-304-30CD provides 300 GB of hard drive space and the VDR-304-50CD provides 500 GB of hard drive space. The VDR-308-30CD and VDR-316-500 provide a 500 GB hard drive. All units have a maximum recording speed of 120 fps total over all channels and real time view for each input. 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 units allow multi-channel record, playback and backup. Refer to Table 2 for Estimated Number of Days of Recording.

The 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. Sensors (alarms) can be programmed, N.O./N.C. Still image recording and playback and search functions, including calendar, are provided.

**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 and 1000 VA units with DB9 (RS-232) and USB ports; 120 VAC input/output. Product Specification V147.

**Table 1: Models and Descriptions**

Model Number	Product Code	Description
VDR-304-16CD	8782-15	4-Channel Digital Video Recorder with 160 GB hard drive; 120 fps (real time) total across all channels, CD/RW, PTZ control, audio, NTSC/PAL
VDR-304-30CD	8783-05	4-Channel Digital Video Recorder with 300 GB hard drive; 120 fps (real time) total across all channels, CD/RW, PTZ control, audio, NTSC/PAL
VDR-304-50CD	8783-15	4-Channel Digital Video Recorder with 500 GB hard drive; 120 fps (real time) total across all channels, CD/RW, PTZ control, audio, NTSC/PAL
VDR-308-30CD	8967-05	8-Channel Digital Video Recorder with 300 GB hard drive; 120 fps (real time) total across all channels, CD/RW, PTZ control, audio, NTSC/PAL
VDR-316-500	8851-10	16-Channel Digital Video Recorder with 500 GB hard drive; 120 fps (real time) total across all channels, CD/RW, PTZ control, audio, NTSC/PAL

# Technical Information

**ELECTRICAL**

**Input Power Source:** 100 - 240 VAC, 50/60 Hz.

**Current:** 640 mA, nominal.

**Power Consumption:** 70 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 Resolution:** Full D1.  
 NTSC:  
 360x240//720x240/720x480.  
 PAL:  
 360x288/720x288/720x576.

**Recording Quality:** 4 levels, normal, enhanced, fine, super fine (super fine only at 720x480/720x576).

**Recording Capacity:** 160, 300 or 500 GB, model dependant. CD/RW and USB memory stick drives.

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

**Recording Speed:** 120 fps (real time), total over all channels (100 fps PAL).

**Display Speed (max):** VDR-304: 120 fps (real time).  
 VDR-308: 240 fps (real time).  
 VDR-316: 480 fps (real time).

**Time-Lapse Recording Interval:** 13 steps  
 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:** Forward/Backward: X1, X2, X4, X8, X16, X32, X64, X128, field by field.

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

**Multi-Viewer:** 128 channels.

**Playback Search:** Date/Time by calendar GUI; Event (motion detection, sensor) or still image.

**Multi-Tasking:** Quadplex: concurrent operation of Record, Play, Network Access and Back-up.

**VIDEO**

**Video Input Channels:** 4, 8 or 16 channels, model dependent.

**Image System:** NTSC/PAL, selectable.

**Video Input:** 4, 8 or 16 channels composite, 4, 8 or 16 channels loop through, model dependant.

**Video Output:** VDR-304: 1 channel composite BNC, 1 channel S-Video, 1 VGA.  
 VDR-308/316: 2 channels composite BNC, 1 channel S-Video, 1 channel Spot, 1 VGA.

**Video Compression:** MPEG-4.

**OPERATION**

**PTZ Control:** Pan/Tilt/Zoom via RS-422/485.

**Digital Zoom:** X2.

**Timer:** Built-in real time clock with programmable start/end dates for daylight saving time.

**Sensor Input:** 4, 8 or 16, 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, Record ON/OFF, Record Status Out

**Audio:** 1 channel, mono.

**Motion Detection:** 12x12 8 level sensitivity.

**Watermarking:** Still image backup.

**System Log:** Video loss, power failure, HDD full/fail, menu called, reset HDD format, reset SW upgrade, email fail, FTP fail.

**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:** 160, 300 or 500 GB, model dependant.

**Backup Options:** CD-RW, via network connection, or via USB flash memory.

**Language:** English, Korean, Japanese, French, Spanish, German, Italian. Polish and Russian.

## Technical Information

### CONNECTORS

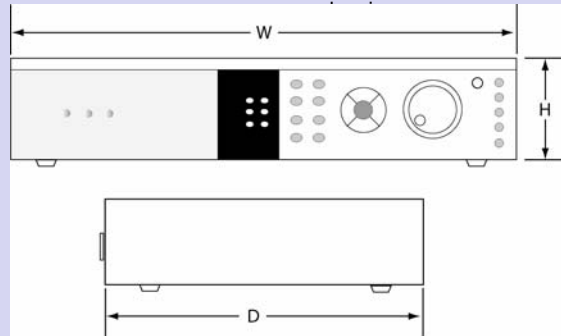
- Video Input:** 4, 8 or 16 BNCs with loop through to 4, 8 or 16 BNCs for video output.
- Video Output:** VDR-304: 1 BNC, 1 S-video.  
VDR-308/316: 2 BNCs, 1 S-Video, 1 Spot BNC, 1 VGA  
15-pin D type.
- Audio:** 2 phono, in/out.
- Serial:** RS-232, 9-pin D-type; local DVR control via PC or for quick setup.
- PTZ/Alarm/AUX:** 15-pin D type, for PTZ control via RS-422/485, alarm relay N.O./N.C., 4 sensors N.O./N.C.  
VDR-308/316: additional 15-pin D type for sensors 5-8/16.
- Network:** RJ-45 CAT5, connects to ADSL modem/hub.
- USB:** USB socket(s) 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:** 15.4 lb (7 kg), excluding hard drive; 18.1 lb (8.2 kg), including 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:** 19.4 lb (8.8 kg), excluding hard drive; 22 lb (10 kg), including hard drive.
- Shipping Volume:** 1.7 ft<sup>3</sup> (0.05 m<sup>3</sup>).

### ENVIRONMENTAL

- Operating Temperature Range:** 41 to 104° F (5 to +40° C).
- Humidity:** Up to 90% relative,



**Technical Information**

VDR-304											
Quality	Hard Drive	360 x 240					720 x 480*				
		1 fps	4 fps	8 fps	15 fps	30 fps	1 fps	4 fps	8 fps	15 fps	30 fps
Superfine	160 GB	29.9 days	11.1 days	6.7 days	4.8 days	2.5 days	19.8 days	7.6 days	5.1 days	3.6 days	1.9 days
	300 GB	56 days	21 days	12.6 days	9.0 days	4.6 days	37.2 days	14.2 days	9.6 days	6.7 days	3.6 days
	500 GB	94 days	35 days	21 days	15 days	7.7 days	62 days	23.7 days	16 days	11.2 days	6 days
Fine	160 GB	44.9 days	18.7 days	11.8 days	8.8 days	4.9 days	*	*	*	*	*
	300 GB	84.2 days	35 days	22 days	16.5 days	9.1 days	*	*	*	*	*
	500 GB	140 days	58.3 days	36.8 days	27.6 days	15.2 days	*	*	*	*	*
Enhanced	160 GB	56.9 days	26.5 days	17 days	12.6 days	7.5 days	*	*	*	*	*
	300 GB	106.7 days	49.6 days	31.8 days	23.6 days	14 days	*	*	*	*	*
	500 GB	177.8 days	82.7 days	53.1 days	39.4 days	23.3 days	*	*	*	*	*
Normal	160 GB	66.9 days	34 days	22.3 days	17.2 days	9.9 days	*	*	*	*	*
	300 GB	113 days	64 days	41.8 days	32.2 days	18.6 days	*	*	*	*	*
	500 GB	209 days	106.7 days	69.7 days	53.6 days	31 days	*	*	*	*	*

VDR-308										
Quality	Hard Drive	360 x 240				720 x 480*				
		1 fps	4 fps	8 fps	15 fps	1 fps	4 fps	8 fps	15 fps	
Superfine	300 GB	28.1 days	10.4 days	6.3 days	4.5 days	18.6 days	7.1 days	4.8 days	3.4 days	
Fine	300 GB	42.1 days	17.5 days	11 days	8.3 days	*	*	*	*	
Enhanced	300 GB	53 days	24.8 days	15.9 days	11.8 days	*	*	*	*	
Normal	300 GB	62.7 days	32 days	20.9 days	16.1 days	*	*	*	*	

VDR-316									
Quality	Hard Drive	360 x 240				720 x 480*			
		1 fps	4 fps	8 fps	15 fps	1 fps	4 fps	8 fps	15 fps
Superfine	500 GB	23.5 days	8.752 days	5.25 days	3.75 days	15.5 days	5.9 days	4 days	2.8 days
Fine	500 GB	35 days	14.6 days	9.2 days	6.9 days	*	*	*	*
Enhanced	500 GB	44.5 days	20.7 days	13.3 days	9.9 days	*	*	*	*
Normal	500 GB	52.25 days	26.7 days	17.4 days	13.4 days	*	*	*	*

\*Recording quality is fixed at Superfine when recording resolution is at 720 x 480.

**Table 2: Estimated Days of Recording  
(Based on recording on all channels)**



89 Arkay Drive  
Hauppauge, NY 11788  
www.vicon-cctv.com

TEL: 631-952-2288  
FAX: 631-951-2288  
TOLL FREE: 800-645-9116