

JVC®

The Perfect Experience / —

NETWORK VIDEO RECORDER VR-N900U

Hybrid Digital Recorder for Both
Analog and Network (IP) Cameras



Major Features

- Pre-installed XProtect Enterprise software for user-friendly and easy operation
- Can be used as a stand-alone unit without PC or an edge device for XProtect Enterprise
- Hybrid recording solution with built-in 4-channel encoder
- VCR/DVR-like operation with front panel controls including Jog/Shuttle and VGA monitor output
- Up to 9-channel recorder fully camera licensed
- Support Motion JPEG/MPEG-4 camera recording
- Built-in 250GB HDD with an additional expansion slot. External storage up to 4TB using the optional 2 units of VR-D0.
- Frame rate set up
Display frame rate: up to 60 ips at VGA
Recording frame rate: up to 120 ips at VGA
Distribution frame rate: up to 30 ips at VGA
- Open platform for systems enabling integration of third-party devices
- Automatic IP camera detection



Take your existing Analog or Digital Surveillance System to the Next Generation



Just as lifestyles have changed, the global infrastructure has been rapidly changing from analog to digital, and in accordance with this worldwide trend, surveillance systems are also in a state of transition. In this environment, JVC's VR-N900U is the ideal enterprise solution for creating or updating an existing surveillance system for digital networks (IP), whether using analog, digital, or a mixture of both. The VR-N900U has an automatic IP camera addressing mode to make installation as uncomplicated as analog. User-friendly operation is assured with the pre-installed

XProtect Enterprise software, and the added versatility of a unique VCR/DVR-like design that makes it possible to control basic functions on the front panel. The VR-N900U is a true hybrid recorder for use in a stand-alone system or an edge device for an XProtect Enterprise network solution.



Hybrid recording solution

With the built-in 4-channel encoder unit, VR-N900U accepts directly both analog and IP cameras without any additional investment. This convergence of IP and analogue allows you to dramatically upgrade to the latest IP surveillance system while keeping your existing analog equipment.

Up to 9 channel inputs

From a mixture of up to 4 analog and 5 IP cameras is possible, to a total of 9 IP cameras. Using additional VN-E4 encoders, more analog cameras can be recorded.

Motion JPEG/MPEG-4 recording

The VR-N900U supports both Motion JPEG and MPEG-4 from dedicated cameras popular in the market today.

Integration with third party devices

VR-N900U is open platform to meet customer demand, and supports not only JVC IP cameras but also dedicated third party IP cameras and encoder units as well.

VCR/DVR-Like Front Panel Design and Operations



Power Switch

Live/Playback Selection
Viewed images can be switched between live view and playback view.

Various Camera Controls
Camera selection, PTZ controls, Preset position selection, Search, Zoom-in, Zoom-out, etc.

Playback/Recording Controls
Play/stop of recorded images, Recording, Key Lock/Unlock, Image search, etc.

Jog/Shuttle Dial
Forward/reverse playback, single-step forward/reverse, Playback speed and direction setting, etc.

Pre-installed Milestone XProtect Enterprise

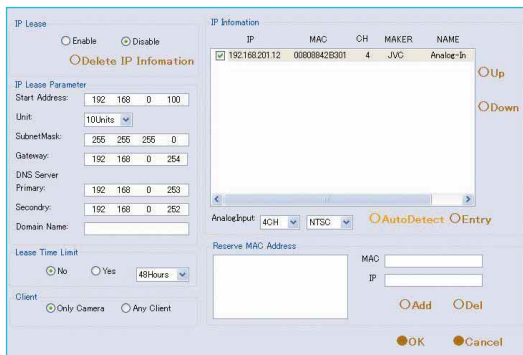
Collaboration between Milestone Systems AV and JVC, produced an embedded version of Milestone XProtect Enterprise for ease of use and enhanced security. In the IP Network surveillance market, VR-N900U achieves user-friendly set-up/operation as an IP solution.

System scalability and compatibility

With the pre-installed Milestone software, you can use VR-N900U as the edge device for XProtect Enterprise solution. The VR-N900U is fully compatible with Milestone software, therefore making the NVR an ideal edge device for larger system solutions.

Automatic IP camera detection

A new IP camera discovery protocol allows to quick setup the VR-N900U with all the cameras on the network.



Other features

- Built-in Serial interface for USB memory/ dedicated UPS & external HDD unit
- Supports PTZ camera control
- Quick search by time, date (or timeline), or alarm
- Built-in Motion Detection
- Scheduled recording on weekly basis
- Frame rate:
 - Recording: Up to 120 ips (VGA)
 - Display: Up to 60 ips (VGA)
 - Distribution: Up to 30 ips (VGA)
- Audio interface: 2 inputs and 1 output
- Network interfaces (RJ-45):
 - 10BaseT/100BaseTX for Client PCs x 1
 - 1000BaseT for IP cameras x 1

Recording Time Schedule

The actual recording time varies depending on the camera settings, input image contents and condition of the hard disk. Use the table below as a guide to the recording time.

● 9 channel recording without audio recording as reference (Hour)

Image Size	Data/Image (kB)	Frame rate per second (each camera)							
		30	15	10	5	3	1	0.5	0.2
VGA	32	-	-	17	34	57	178	380	985
	24	-	-	24	48	80	245	514	1321
	16	-	-	37	75	125	380	783	1994
	10	-	-	62	123	205	622	1267	3204
QVGA	27	-	-	21	42	70	215	454	1172
	15	-	-	40	80	133	406	837	2128
	8	-	-	78	155	259	783	1590	4011
	5	-	-	126	252	420	1267	2559	6432

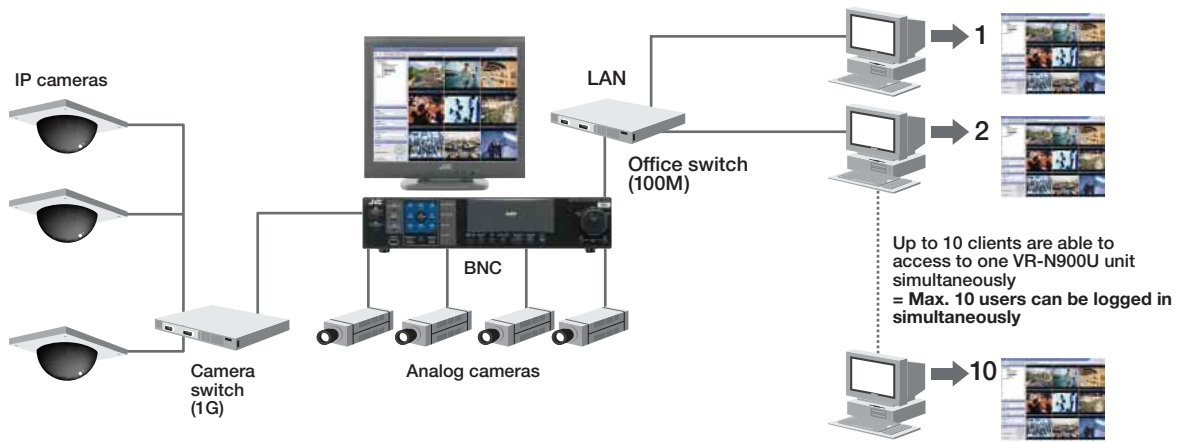
Example: In case of 9 cameras / VGA 24kB each / 5 frame rate each, 48 hours recording is possible.

Supported firmware to be connected to VR-N900U

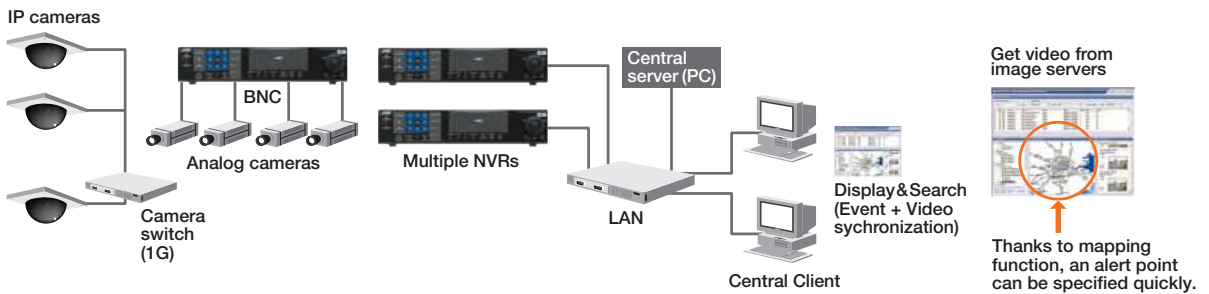
Brand	Product	Supported Firmware
JVC	VN-C20U	Ver. 1.0+
	VN-C215V4U/VP4UV	Ver. 1.0+
	VN-C625U	Ver. 2.06+
	VN-C655U(B)	Ver. 2.07+
	VN-E4	Ver. 1.2+
Verint	S1700	Ver. 4.22b build 28+
	S1704	Ver. 4.22b build 28+
	S1708_SSL	Ver. 4.22b build 28+
	S1900	Ver. 4.4j build 100+
	S2700e	Ver. 4.4h build 600+
AXIS	206	Ver. 4.21
	207	Ver. 4.22
	211/211A	Ver. 4.3
	216FD	Ver. 4.34
	225FD	Ver. 4.31

A Variety of System Configurations

Standalone application with bundled "VR-N900U Viewer" software



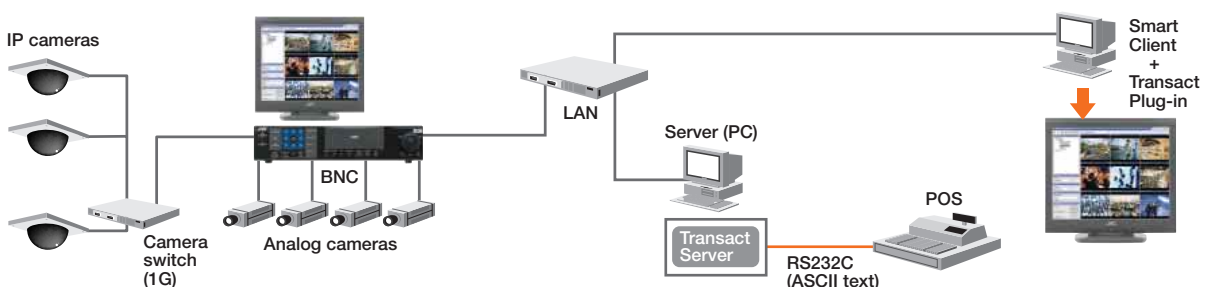
Total surveillance application with optional "Milestone Central Client" software



Event monitoring application with optional "Milestone Matrix" software



Retail surveillance application with optional "Milestone Transact POS" software



Note: • The VR-N900U can be used as a slave unit for the Milestone XProtect Enterprise software.
• Screen images shown above are simulated and may be different from the actual GUI.



Milestone XProtect Enterprise

Versatile Capabilities and Benefits

For your reference, here is an explanation of the XProtect Enterprise software by Milestone Systems A/S.

This software is comprehensive IP software for larger installations handling an unlimited number of cameras, multiple servers and multiple sites. It is a top performance solution in the high-end IP security market for integrating with other database systems.



Advantages

- **Compatibility:** Supports both Motion JPEG and MPEG-4 compressions
- **Reliability:** Currently serving more than 25,000 cameras installations worldwide.
- **Strength:** Utmost performance is possible by multi-thread 32bit programming technology. Standard PC can also be used.
- **Remote:** Multiple site surveillance (via PC or PDA) is available at any time by remote access.
- **Platform:** Depending on requirements, it is possible to upgrade to a total system by IP technology and open architecture based on license structure.

Integration

- System integration with POS/ATM (via XProtect Transact/Retail)
- Automatic video distribution is possible with XProtect Matrix.
- Central monitoring of large multi unit installations is possible through XProtect Central.
- Supports mobile surveillance via XProtect PDA Client
- Possible integration with external devices such as access control, alarm, etc.
- Unlimited access on IP network via XProtect Remote Client/Smart Client

Features

Video & Audio Recording

- Simultaneous recording and playback
- Supports Motion JPEG/MPEG-4
- Simultaneous viewing of recorded image and live image (max.64 cameras/one server)
- Display on two or three monitors
- Prompt database by Motion JPEG/MPEG-4 technology
- Independent frame rate set-up (REC/Live) depending on hardware
- Picture quality depends on camera and server performance.

Search, Export & Secure Data

- Prompt search by date/ time & action/VMD
- Smart search
- Images as JPEG or AVI together with time/date
- Export audio as WAV or AVI
- Export image and viewing software by CD
- Protect export images by encoding or password setting
- Export image/text able to encode
- Export log can be searched by user/file
- Access log for remote client user can be searched

Video Motion Detection (VMD)

- Separate adjustment available
- REC by video motion detection
- Speedy frame rate available by VMD
- Various outputs (Email / SMS / Alarm sound)

PTZ Control

- 50 preset positions for each camera
- PTZ go-to function for preset event positions
- Auto patrol
- Auto return
- Manual control by Remote Client
- REC/Live viewing is possible while recognizing the PTZ device.
- VMD-sensitive PTZ available

Administration

- On-the-fly configuration change available while recording
- Up to 8 event buttons per camera
- Database saving options for each hour
- Assign network drive from local server
- Supports DNS
- License: multi-site/multi-server per camera

Wide Range of Cameras

JVC Analog cameras



JVC IP Cameras/Encoder



Cameras from other companies

- Pelco PTZ Dome cameras (analog) (Copyright by Pelco)
- Verint Encoders and IP Cameras: S1700, S1704, S1708, S1900, S2700e, S2700eVR (Copyright by Verint)
- AXIS Cameras: 206, 207, 211, 216, 225 (Copyright by AXIS)

Peripheral Equipment

JVC Monitors



* Please kindly consult your local JVC subsidiaries regarding availability.

JVC External HDD Unit



USB Joystick (non JVC product)

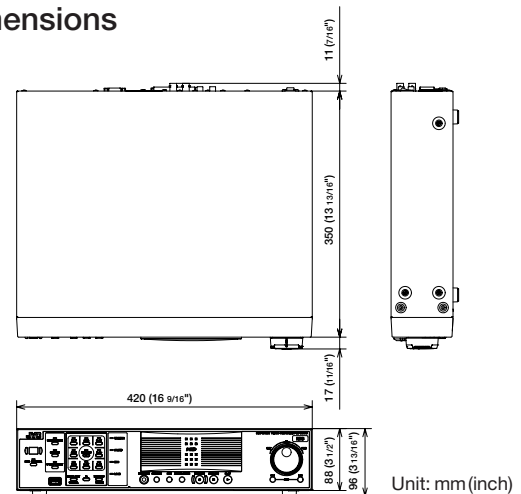


Specifications

Video recording	Motion JPEG/MPEG4
REC frame rate	Up to 120fps in VGA (total 9 cameras), Up to 180fps in QVGA (total 9 cameras)
Display frame rate	Up to 60fps in VGA (total 9 cameras)
Distribution frame rate	Up to 30fps in VGA (total 9 cameras)
Frame rate for analog inputs	Up to 20fps (total 4 inputs), Up to 5fps setting (each input)
Storage capacity	250GB HDD, Optional 250GB HDD can be installed in the internal slot. As an external option, up to 2 units of VR-D0U can be used. (500GB/1TB/2TB selectable)
Video channels	9 video channels
Resolution (VGA output)	1024x768 / 1280x1024 / 1600x1200
Camera live view	Up to 9 windows
PTZ support	IP PTZ camera: VN-C625/VN-C655 Analogue PTZ camera: JVC-protocol & Pelco-D protocol through RS-485 connector (PTZ only)
Alarm recording	Recording is controlled by alarm sensor signals input to the rear terminal.
Alarm recording frame rate	Frame rate for alarm recordings can be specified independently from the frame rate of normal recording.
Scheduled recording	Various recording settings are possible such as by weekly.
Manual recording	Recording start/stop for all 9 channels can be controlled by the switch on the front panel.
Playback	Playback can be controlled by Jog/Shuttle dial
Synchronized Playback	Sync playback for 9 channels is possible.
Search for recordings	Search by time, date, or event (Time and date only when operated with front panel)
Video clip export	Export is possible with converting AVI data.
Time synchronization	Date and time can be synchronized with an external NTP server.
System alarm notifications	ALARM OUT x 1, WARNING OUT x 1, RECORD TALLY, OPTION OUT 1/2
Security	Protected by username and password
Connectors (Interfaces)	Ethernet 10BaseT/100BaseTX, RJ-45 Ethernet 1000BaseT, RJ-45 Serial (equivalent to USB2.0) x 5 (UPS, external HDD, mouse, joystick, USB memory) D-Sub for RS-485 (for analog PTZ camera control) D-Sub 15pin for analog RGB monitor Signal input and output terminal (alarm in x 4, alarm out x 1, alarm reset x 1, emergency x 1, EXT REC IN x 1, OPE ON/OFF x 1, common x 3, warning out x 1, REC tally x 1, option out x 2) BNC x 4 (Video input) RCA x 2 (Audio input), RCA x 1 (Audio output)
Processors and memory	CPU: Pentium 4 RAM: 512MB
Power	120 - 240V AC
Operating conditions	5 - 40°C (41 - 104°F), humidity 30 - 80% RH
Language support	Main menu: English, Application menu: English, German, French, Italian, Spanish
Video access from remote PC	Live view / Playback of recording image / Camera control / AVI data conversion (These operations are available after downloading the VR-N900U Viewer software from the VR-N900U.)

Minimum system requirements for remote PC	OS: Windows 2000 Professional, Windows 2000 Server and Advanced Server, Windows XP Professional (32 or 64 bit), Windows Server 2003 (32 or 64 bit) CPU: Intel Pentium 4 2.4GHz or higher (Xeon recommended) RAM: 512MB (1GB recommended) Network: Ethernet (more than 100M bit) Graphic card: AGP or PCI-Express, 1024x768 (1280x1024 recommended), more than 16bit colour Hard disk: More than 50MB Software: Microsoft .NET Framework 2.0, and DirectX 9.0, more than Microsoft Internet Explorer 6.0 or later
Supported protocols	HTTP, SMTP (client), TCP, DHCP (client/IP lease), ARP, DNS (client), NTP
Included accessories	Startup guide, CD with User's Manual, Power cords
Approvals	EMC: EN55022 Class A, EN55024 FCC Parts 15 Class A Safety: EN60950-1, UL60950-1
Dimensions (W x H x D) and weight	420mm x 370mm x 88mm (16.6" x 14.6" x 3.5") 7.7kg (17lbs) excluding power supply

Dimensions



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