

TURBO-RAID System Recorder

H.265/H.264 high-throughput and scalable embedded recorder featuring integrated GUI and robust embedded IP security enabling a secure end-to-end PC-less surveillance solution for mission-critical applications.

Supports full data encryption streaming recording for all i-PRO Extreme cameras which comply to FIPS 140-2 Level 1 standards to keep your video secured from spoofing and snooping activities.

Secure high bandwidth recording

- 16 ch. expandable to 32 ch. camera input. Support H.265 / H.264 mixed recordings.
- 512 Mbps total through put (including 256 Mbps recording bandwidth)
- Symantec device certificates pre-installed *Secure Communication Kits are necessary.

PC-less non-VMS surveillance solution

- No camera license fees with a default number of cameras; no annual license updates required.
- Built-in GUI and Dual HDMI (4K / FHD) outputs
- Automatic camera configuration

Scalable storage

- (4) integrated drive-bays RAID 1 / 5 / 6
- External storage expansion up to 132 TB

High reliability and high efficiency data reading/writing

- Dynamic HDD power management increases HDD life
- TURBO-RAID for quick RAID recovery without sacrificing recording bandwidth and performance
- Eco-writing : Acceleration of data access (reading / writing) by original file system
- Instantaneous power failure measures: Normal operation at instantaneous power failure within 200 ms; safe shutdown at power failure of 200 ms or more.



Applications

- Public safety (City / Road / Highway / Port)
- Transportation (Airport / Train / Subway)
- Bank / Retail
- Hospital / Education
- Factory



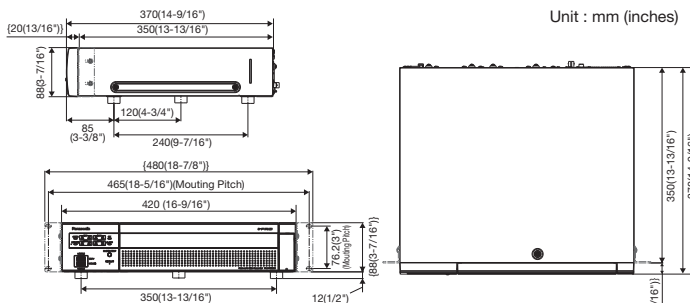
Specifications

Supported Camera	Compatible vendor	Panasonic i-PRO series Network cameras, ONVIF NVT conformant camera and encoder
	Supported Image Format	H.265(H.265), H.264, JPEG
	Supported Image Resolution (Depending on the camera)	•Aspect ratio [4 : 3] 4000x3000, 2560x1920, 2048x1536, 1280x960, 800x600, 640x480 •Aspect ratio [16 : 9] 3840x2160, 2560x1440, 1920x1080, 1280x720, 640x360 •Aspect ratio [1 : 1] 2992x2992, 2816x2816, 2048x2048, 1280x1280 •Aspect ratio [9 : 16] 1080x1920, 720x1280, 360x640
	Supported Audio Format	G.711 for Onvif, G.726 (ADPCM) 32 kbps, AAC-LC
Recording	Maximum Number of Cameras	MAX. 32*1 (Default number of cameras : 16)
	Recording Mode	Event, Schedule, Emergency
	Pre-alarm Recording	Up to 15 seconds *When the delivery speed from the network camera is less than 4 Mbps.
	Sub-stream Recording	64 / 128 / 256 / 384 / 512 / 768 kbps
Main Unit Functions	Scheduled Recording Mode	16 programs, 6 time zones/day, Independent setup for each day of the week
	Frame Rate/Camera	Up to 60 fps (Depending on the camera)
	Camera Control	Pan/Tilt, Zoom, Focus, Brightness, Preset position call and program (up to 256), Auto mode, Click centering, Wheel zoom, Zoom reset, Auto Back Focus, Aux, Wiper (for WV-SUD638)
	Multiscreen Mode	[Main monitor] • Control screen 4 / 9 / 16 split screen display • Wide view screen 2 / 3 / 4 / 5 / 6 / 7 / 9 / 12 / 16 / 24 / 32 split screen display, 1 screen sequence, 4 / 9 / 16 split screen sequence [Sub monitor] 1 / 4 / 9 / 16 / 24 / 32 split screen display, 1 screen sequence, 4 / 9 / 16 split screen sequence
	Playback Control	PLAY, Rev PLAY, Pause, Stop, FF, FR, Prev Record, Next Record, Prev Image, Next Image, Go to Date, Go to Last (30 s), Time-saving playback
	Search Mode	Search criteria : Time date, Playback by designating a timeline, VMD, Thumbnail
	Copy	File Format: Original Format / MP4 Recorded data of selected cameras and time date range can be copied to USB storage.
	Camera Title	Up to 16 Characters
	Clock Display	Time : 12H/24H, Date : 5 formats
	Digital Zoom	Live/Play: 1.25x 1.5x 1.75x 2x 2.5x 3x 3.5x 4x 5x 6x 7x 8x (only for 1-screen or 4-screen)
System Log	Operator access (500), Network error (100), Error (1,000), Event (1000), Operation (500)	
System Setup	Setup page in English, French, Italian, Spanish, German, Russian, Portuguese, Thai, Simplified Chinese, Japanese	
360 Camera Dewarp	Only 1ch display mode.	
re-encoding	2Client	
SD Memory Data Download	Images recorded in the SD card in the i-PRO series cameras can be transferred to the recorder automatically. (H.265/H.264)	
Browser GUI	Camera Control	Pan/Tilt, Zoom, Focus, Brightness, Preset position call and program (up to 256), Auto mode, Click centering, Wheel zoom, Zoom reset, Aux, Wiper (for WV-SUD638)
	Playback Control	PLAY, Rev PLAY, Pause, Stop, FF, FR, Prev Record, Next Record, Prev Image, Next Image, Go to Date, Go to Last (30 s)
	Search Mode	Search criteria: Time date, Event type, VMD, Camera number
	Display Mode	1 / 4 screen
	Image Download	File Format: Original Format / MP4 Recorded data of selected camera and time range can be downloaded to a PC. Viewer software can be downloaded separately.
	Copy	File Format: Original Format / MP4 Recorded data of selected cameras and time date range can be copied to USB storage.
	Camera Title	Up to 16 characters
	Clock Display	On the browser. Time: 12H/24H, Date: 5 formats
	Alarm Control	Reset
	Digital Zoom	Live/Play: 2x, 4x (only for 1-screen)
System Log	Operator access (500), Network error (100), Error (1,000), Event (1000), Operation (500)	
GUI Language	Setup page in English, French, Italian, Spanish, German, Russian, Portuguese, Thai, Simplified Chinese, Japanese	
Required PC	CPU: Intel® Core™ i7-860 or faster, RAM : 4 GB or more, VRAM: 128 MB or more (Min. 64 MB), Microsoft® DirectX® 9.0c or later	

Alarm/Event	Alarm Source	9x Terminal inputs, 32x Camera alarms (Panasonic Alarm Protocol), 128x Command alarms
	Event Mode	Off / On
	Alarm Action	Alarm recording, e-mail notification, Alarm message, Camera positioning, Terminal output, Panasonic alarm protocol output, Buzzer, Indicator
	Alarm Control	Reset
Input / Output	Spot Output Connector	1x 1 V [p-p] / 75 Ω (BNC) NTSC/PAL (selectable in setup menu)
	Monitor (HDMI) Connector	[Main monitor] HDMI 4K UHD(3840x2160p) /30Hz, 4K UHD(3840x2160p) /25Hz, 1920x1080p /60Hz, 1920x1080p /50Hz, 1920x1080i /60Hz, 1920x1080i /50Hz [Sub monitor] HDMI 1920x1080p /60Hz, 1920x1080p /50Hz, 1920x1080i /60Hz, 1920x1080i /50Hz -10 dBv, 600 Ω, unbalanced x1 (RCA pin jack)
	Audio Output Connector	Alarm input 1 - 9*2, Alarm output*3, Alarm reset input*2
	Control Terminal	Alarm Control Time adjustment input/output*2, +5 V output*4, Emergency recording input Error/Warning Network error output*3, HDD error / Recording error output*3, Camera error output*3, Recorder error output*3
Network	Mouse Connection Port	2 (Front 1, Rear 1)
	Network Port	2x 10BASE-T / 100BASE-TX / 1000BASE-T (RJ45)
	USB Storage	USB 3.0 / USB 2.0 memory, USB 3.0 / USB 2.0 connected HDD (except bus powered device)
	External Storage	2x WJ-HXE400
Other Functions	Network Interface	2x 10BASE-T / 100BASE-TX / 1000BASE-T (RJ45)
	Maximum Recording Rate	256 Mbps or less
	Maximum Band Width	Total 512 Mbps or less
	Supported Protocol	IPv4: TCP/IP, UDP/IP, HTTP, HTTPS, FTP, SMTP, DNS, NTP, SNMP, RTP, RTSP, ICMP, APP IPv6: ICMPv6
	E-mail	Upon Alarm or Warning
	No. of Simultaneous Users	16 or less
	User Registration	Up to 32 users
	User Level	3 Levels (Programmable)
	Partitioning	User level - Camera (View & Control, No Access)
	Security Method	User authentication (ID and Password), Host authentication, Alteration detection, SSL/TLS
HDD	Time Synchronization	Terminal (Master/Slave), NTP (Server/Client)
	Summer Time	User definable (using menu setup)
	Remote Monitoring on Smartphone/Tablet	16 clients or less *5
	Type	8.89 cm (3.5 inch) Serial ATA HDD, Up to 4x HDDs can be installed.
Viewer Software	Maximum Capacity	22 HDD slots (with 2x WJ-HXE400 Extension Units, 9x HDDs installed in an extension unit) Up to 6 TB will be supported.*6
	RAID(Hardware RAID)*7	RAID 1, 5, 6
	Playback Control	PLAY, Rev PLAY, Pause, FF, FR, Prev Record, Next Record, Prev Image, Next Image
General Specifications	Additional NX Viewer Functions	Alteration detection, Save as JPEG, Two times zoom, Print, Copy, Aspect ratio switching, fish eye correction, corridor display
	Supported OS, Language	Language of the software will be English or Japanese
	Safety / EMC Standard	cUL (UL60065), FCC Part15 ClassA
	Power Source	120 V AC 50 Hz/60 Hz
Additional Accessories	Power Consumption	approx. 72 W
	Ambient Operating Temperature	Main body : +5 °C to +45 °C (41 °F to 113 °F) Mouse (provided) : +5 °C to +40 °C (41 °F to 104 °F)
	Ambient Operating Humidity	5 % to 90 % (without condensation)
	Maximum Operating Altitude	2,000 m (6,562 feet) above sea level
	Dimensions	420 mm(W)x88 mm(H)x370 mm(D) (From Rack Mount Bracket 350 mm) (16-9/16 inches(W)x3-7/16 inches(H)x14-9/16 inches (D))(From Rack Mount Bracket (13-13/16") (excluding rubber feet and projections)
	Mass (approx.)	When no HDD is installed: 7.0 kg (15.4 lbs)
	Hard Disk Extension Unit WJ-HXE400	
	Rack Mount Bracket WV-Q202	

*1 Two Additional Camera Kits WJ-NXE30 are necessary.
 *2 Non-voltage make contact input, +3.3 V pull-up Approx. 23 kΩ
 *3 Open collector output, 24 V DC, -200 mA max.
 *4 +5V ±0.5 V 200 mA max.
 *5 Panasonic Security Viewer v.3.0 or later is required on smartphone/tablet PC.
 *6 Please check the following URL for the latest information. (<https://security.panasonic.com/download/library/>)
 *7 Additional RAID Kit WJ-NXR30 is necessary.

Appearance



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Important

- Safety Precaution : Carefully read the Important Information, Installation Guide and safety operating instructions before using this product.
- Panasonic cannot be responsible for the performance of the network and/or other manufacturers' products used on the network.

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