Panasonic
ideas for life

16CH Real-Time MPEG-4 Digital Disk Recorder

`Version 1.5` **WJ-RT416** Series

NTSC	**WJ-RT416** (120 V AC) <With 1x 250GB HDD>	PAL	**WJ-RT416** (220 ~ 240 V AC) <With 1x 250GB HDD>
	WJ-RT416K (120 V AC) <Without HDD>		**WJ-RT416K** (220 ~ 240 V AC) <Without HDD>
	WJ-RT416V (120 V AC) <With DVD drive, 1x 250GB HDD>		**WJ-RT416V** (220 ~ 240 V AC) <With DVD drive, 1x 250GB HDD>
	WJ-RT416VK (120 V AC) <With DVD drive, without HDD>		**WJ-RT416VK** (220 ~ 240 V AC) <With DVD drive, without HDD>

MPEG-4

16CH Real-Time MPEG-4 Digital Disk Recorder supporting 480 ips (NTSC) / 400 ips (PAL)

Key Features

- Equipped with 8 Dual Core Encoders, all 16 cameras can be recorded at 30 ips (NTSC) / 25 ips (PAL) per channel.
- MPEG-4: High quality and high compression technology for economical recording
- Supports multiplexed video and control data over the coax (4ch default, additional 4ch by optional board WV-PB4164) and RS-485 camera control (channel 1 ~ 16)
- Panasonic Camera Control: Pan/Tilt, Zoom, Focus, Iris, Preset Position, Auto mode (depends on the camera model) with a system controller, the monitoring software or the web browser.
- Various Recording Modes: Manual, Timer, Event (Pre/Post)
- Flexible Recording/Playback Controls: REC, PLAY, Pause, Stop, FF, REW, Prev Record, Next Record
- Various Display Modes: 4 / 6 / 9 / 16 split screen display (Live)
- 16 alarm inputs and 4 alarm outputs
- Synchronized audio recording for 16 channels
- Direct Search and List Search (Time & Date, Event Type, Camera number)
- Alarm notification via e-mail
- Three user levels: Manager, Operator and Viewer
  Camera partitioning setting can be applied to each user level.
- VMD (Video Motion Detector): Mask area: 24 x 20, Sensitivity: 01 ~ 99
- Recorded image data can be copied to CD-R, DVD-R, DVD+R, USB memory (FAT32), USB HDD (FAT32) via COPY interface (Specified model only) or DVD-R, CD-R via internal DVD drive (WJ-RT416V), Viewer software can be included when copying.
- Equipped with 6 HDD slots (5 HDD slots and 1 DVD drive for V models)
- HDD Safety Mode to protect HDDs during installation
- Optional WV-CU650 or WV-CU950 system controllers can be connected (RS-485). Playback speed can be controlled by Jog/Shuttle. Direct camera preset position program is also available.
- Integration capability with System150*1 or System650*2: System controllers connected to System150/650 can control WJ-RT416. Cameras connected to System150/650 can be controlled from the monitoring software (RT4Client) or the web browser.
- Built-in network interfaces (10Base-T / 100Base-TX) for remote monitoring and operation
- Multi-recorder, Multi-site system can be made with the provided monitoring software (RT4Client).
- Recorded video and audio data can be downloaded to the client PC with the monitoring software (RT4Client) or the web browser. Downloaded images can be played by the viewer software (RT4Viewer).
- The viewer software (RT4Viewer) can convert recorded audio and video data into Windows® Media-format, and also can extract audio to wav file.
- Up to 16 network clients can monitor live spot images (total network video stream is 16, Refresh rate depends on the number of streams, recording mode and playback mode).
- Up to 4 playback streams can be sent to the network.
- Selectable Unicast/Multicast for efficient network utilization

*1 System150 version 2.2 or later   *2 System650 version 3.0 or later
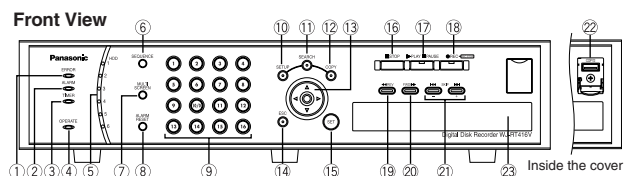
Standard Accessories

- CD-ROM* .... 1 pc.
- Installation Guide .... 1 pc.

* The followings are included on the CD-ROM.
  - Operating instructions of the monitoring software (PDF)
  - Monitoring software (RT4Client, including the viewer software)

The followings are for installation.
- Power cable (for NTSC model) ..... 1 pc.
- Power cable (for PAL model) ..... 2 pcs.
- HDD mounting screws, sleeves, dampers
- Rack mounting brackets .... 2 pcs.
- Fixing screw for rack mounting brackets ... 8 pcs.

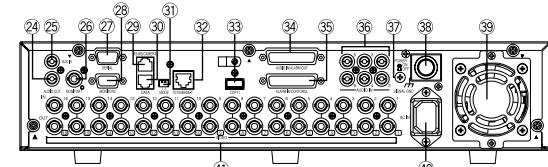### Optional Accessory

4CH Camera Control Board
WV-PB4164

Part Names and Functions

Front View

Inside the cover

① Error Indicator	⑨ Camera Selection Buttons
② Alarm Indicator	⑩ Setup Button
③ Timer Indicator	⑪ Search Button
④ Operate Indicator	⑫ Copy Button
⑤ HDD Access Indicators	⑬ Arrow Button
⑥ Sequence Button	⑭ Escape Button
⑦ Multi-screen Button	⑮ Set Button
⑧ Alarm Reset Button	⑯ Stop Button

⑰ Play/Pause Button	
⑱ Record/Record Stop Button	
⑲ Fast Reverse Playback Button	
⑳ Fast Forward Playback Button	
㉑ Skip Buttons	
㉒ Copy 2 Port	
㉓ Internal CD/DVD drive (Only for the WJ-RT416V)	

Rear View

㉔ Audio Output Connector	㉛ Mode Switch
㉕ AUX Input Connector	㉜ Network Port
㉖ Monitor 1 Connector	㉝ Copy 1 Port
㉗ Serial Terminal	㉞ Audio Input/ Alarm Output Terminal
㉘ Monitor 2 Connector	㉟ Alarm Input/ Control Terminal
㉙ RS-485 Port	
㉚ Data Port	

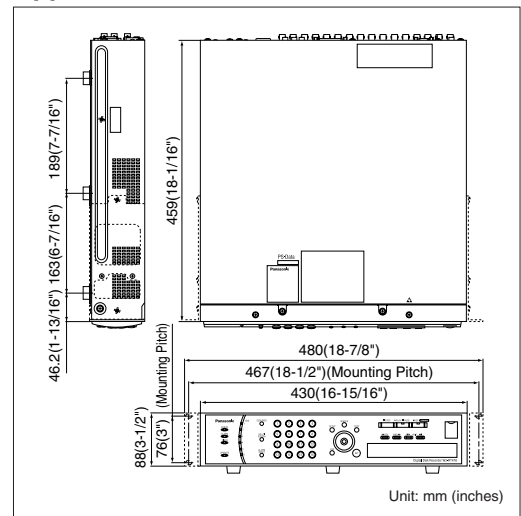|	
㊱ Audio Input Connectors	
㊲ Signal Ground Terminal	
㊳ Power Button	
㊴ Cooling Fan	
㊵ Power Cord Inlet	
㊶ Video Input Connectors/ Video Output Connectors	

Specifications

TV System		NTSC	PAL
Audio / Video IF	Video Inputs	16x 1.0 V [p-p] / 75 Ω NTSC composite video inputs (BNC) Multiplexed control data compatible: 1 ~ 4 CH / 1 ~ 8 CH*1 Active loop through outputs: 1 ~ 4 CH / 1 ~ 8 CH*1 Auto termination loop through outputs: 5 ~ 16 CH / 9 ~ 16 CH*1	16x 1.0 V [p-p] / 75 Ω PAL composite video inputs (BNC) Multiplexed control data compatible: 1 ~ 4 CH / 1 ~ 8 CH*1 Active loop through outputs: 1 ~ 4 CH / 1 ~ 8 CH*1 Auto termination loop through outputs: 5 ~ 16 CH / 9 ~ 16 CH*1
	Video Outputs	Monitor 1: 1.0 V [p-p] / 75 Ω NTSC composite video signal (BNC) Monitor 2: RGB output (15 pin D-sub) Same video as Monitor 1	Monitor 1: 1.0 V [p-p] / 75 Ω PAL composite video signal (BNC) Monitor 2: RGB output (15 pin D-sub) Same video as Monitor 1
	Audio Inputs	16x –10 dBV, 51 KΩ (CH 1 ~ 6: RCA, CH 7 ~ 16: 25 pin D-sub), AUX (Mic): –52 dB, 2.2 KΩ (RCA)	
	Audio Output	1x –10 dBV, 1 KΩ (RCA)	

			NTSC	PAL
Audio / Video Format (Recording and NW)	Video Format	Image Resolution	Field (704 x 240), SIF (352 x 240), Independent for each camera	Field (704 x 288), SIF (352 x 288), Independent for each camera
		Video Compression	MPEG-4: Super Fine (SF), Fine (FQ), Normal (NQ), Extended (EX), Independent for each camera	
		Color Mode	4 : 1 : 1	
	Audio Compression Method		ADPCM 8 Kbps, 8 Bit	

Recording	Recording Mode	Manual (Power ON start available), Alarm, Timer (schedule)
	Timer (Schedule) REC Mode	One program, 2 time zone / day, Independent time zone setup for each day of the week or daily
	Frame Rate / Camera	Full / 1/2F / 1/4F / 1/8F / 1/16F, Independent for each camera
	Frame Rate Total	480 ips / 400 ips
	Pre-alarm Recording	Max. 5 sec.

Main Unit Functions	REC / Playback Control	REC, PLAY, Pause, Stop, Fast Rev Play (6 steps), Fast Fwd Play (7 steps), Next record, Prev Record, Step Fwd, Step Back, (Made by 7 buttons)
	Search Mode	Search criteria: Time date, Record type, Camera number
	Display Mode	Live: 4 / 6 / 9 / 16 split screen display, Spot sequence, Quad sequence, Dwell time 5 ~ 30 sec., Play back: Spot, Quad sequence
	Camera Title	Alphanumeric, Up to 10 characters
	Clock Display	OSD, Image embedded, 12H / 24H, Date: 5 formats
	Time Synchronization	Terminal (Slave), NTP (Client)
	Summer Time	User definable (Menu setup required)
	VMD	Mask area: 24 x 20, Sensitivity: 01 ~ 99
	Video Loss Detection	Supported (Sync Level)
	Copy to External Media	WJ-RT416, WJ-RT416K: CD-R, DVD-R, DVD+R, USB memory (FAT32), USB HDD (FAT32) via COPY interface (Specified model only), Viewer software can be included. WJ-RT416V, WJ-RT416VK: CD-R, DVD-R, DVD+R, USB memory (FAT32), USB HDD (FAT32) via COPY interface (Specified model only) or DVD-R, CD-R via internal DVD drive, Viewer software can be included.
	User Level / Registrations	3 levels: Manager (4 Users), Operator (8 users), Viewer (20 users), User level-Camera partitioning available. Applicable for Main unit and NW users
	System Log	Access log (100), Error log (100), Operation log (500)
	System Setup	OSD Setup menu (English, Chinese, Japanese, Custom)

Functions with System Controller	Camera Control	Pan/Tilt, Zoom, Focus, Iris, Preset position call and program (up to 256), Auto mode, Setup menu
	REC / Playback Control	REC, PLAY, Pause, Stop, Fast Rev Play (6 steps), Fast Fwd Play (7 steps), Next record, Prev Record, Step Fwd, Step Back

Monitoring Software (RT4Client)	Number of Recorder Registration	Unlimited
	Camera Control	Pan/Tilt, Zoom, Focus, Iris, Preset position call (up to 256), Auto mode
	Recorder Control	REC, PLAY, Pause, Stop, Prev Record, Next Record, Next Image, Play Speed, Frame play, Alarm reset
	Search Mode	Search criteria: Time date, Record type, Camera number
	Display Mode	1 / 4 / 6 / 9 / 16 split screen display (Live / Playback)
	Favorite Display	10 Favorites, Multiple recorders can be mixed.
	Image Download	Supported
	Camera Title	Up to 12 alphanumeric characters
	Recorder Title	Up to 12 alphanumeric characters
	Clock Display	OSD, Image embedded, 12H / 24H, Date: 5 formats
	Audio	AUX: Bi-directional between client PC and Recorder Audio input 1 ~ 16: Single directional from recorder to PC (Live and Playback)
	Local Recording	Supported
	System Setup	GUI Setup menu, Setup data Download/Upload supported
	GUI Language	English, Chinese, Japanese, Custom
	Required PC	CPU: Intel® Pentium® 4 3.0 GHz or faster, RAM: 512 MB or more, VRAM: 256 MB or more, Overlay compatible, Microsoft® DirectX® 8.0a or later
	Supported OS	Microsoft® Windows® XP Home Edition SP2, Microsoft® Windows® XP Professional SP2

Browser GUI	Camera Control	Pan/Tilt, Zoom, Focus, Iris, Preset position call (up to 256), Auto mode
	REC/Playback Control	PLAY, Pause, Stop, Prev Record, Next Record, Step Fwd, Play Speed
	Search Mode	Search criteria: Time date, Record type, Camera number
	Display Mode	1 / 4 / 6 / 9 / 16 split screen display (Live/Playback)
	Image Download	Supported
	Camera Title	"Cam1" to "Cam16" (fixed) on the browser
	Clock Display	On the browser. Format depends on the PC time/date format.
	GUI Language	English, Chinese, Japanese
	Supported OS	Microsoft® Windows® XP Home Edition SP2, Microsoft® Windows® XP Professional SP2
	Supported Browser	Microsoft® Internet Explorer® 6.0 SP2

Viewer Software (RT4Viewer)	Playback Control	Play, Pause, FF, Prev Record, Next Record, Next image
	File Export	Downloaded image data can be converted to Microsoft® Windows® Media-formatted file
	Additional Functions	Alteration detection, Save as Bitmap
	Supported OS	Microsoft® Windows® XP Home Edition SP2, Microsoft® Windows® XP Professional SP2, English

TV System		NTSC	PAL
Alarm	Alarm Source	16x Terminal inputs, 16x Camera alarms, PSData	
	Alarm Action	Alarm recording, e-mail notification, Alarm message, Camera spot with positioning, Terminal output, Buzzer, LED. Panasonic Alarm Protocol	
	Alarm Control	Reset	
	Alarm Log	9,990	
Network	Network Interface	10Base-T / 100Base-TX (RJ-45)	
	Maximum Bandwidth	Approx. 24 Mbps (Data download at Non-recording status)	
	Supported Protocol	TCP/IP, UDP/IP, SMTP, POP3, DHCP, DNS, NTP	
	No. of Simultaneous Video Streams	Live full rate: Up to 4, Live I frame only: Up to 16, Playback: Up to 4 (live will be I frame only), Simultaneous Live I frame and Playback is possible.	
	Security Method	User authentication, Alteration detection with the viewer software	
External IF	Alarm / Control Connector — Alarm	16x Terminal inputs (25 pin D-sub, Make contact), 4x Alarm outputs (25 pin D-sub, Relay, N.O. / N.C)	
	Alarm / Control Connector — Control	Time adjust input	
	Alarm / Control Connector — Error / Warning	HDD error output, Error output	
	DATA Interface	1x RS-485 (RJ-11) PSData compatible for control from WV-CU650, WV-CU950 or Matrix switcher	
	RS-485 Camera Interface	1x RS-485 (RJ-11), 2/4wire, half duplex, for 1 ~ 16 CH	
	Copy Interface	High speed serial interface (USB TypeA connector front/rear)	
HDD / DVD	HDD	WJ-RT416V, WJ-RT416VK: 1x 3.5 inch 250 GB HDD WJ-RT416, WJ-RT416K: 6 HDD slots WJ-RT416V, WJ-RT416VK: 5 HDD slots	
	DVD	WJ-RT416V, WJ-RT416VK: 1x CD/DVD drive supporting DVD-R/CD-R burning	
General Specifications	Safety/EMC Standard	UL (6500), FCC (Part15 ClassA), C-UL (E60065), DOC (ICES003 ClassA)	CE (EN60065, EN55022 ClassB, EN55024), GOST (GOST R 51558)
	Power Source	120 V AC, 60 Hz	220 ~ 240 V AC, 50 Hz
	Power Consumption	WJ-RT416, WJ-RT416K: 110 W	WJ-RT416V, WJ-RT416VK: 120 W
	Ambient Operating Temperature	+5 °C ~ +45 °C (41 °F ~ 113 °F)	
	Ambient Operating Humidity	WJ-RT416, WJ-RT416K: 5 % ~ 90 % (without condensation) WJ-RT416V, WJ-RT416VK: 10 % ~ 80 % (without condensation)	
	Dimensions	430 mm (W) x 88 mm (H) x 459 mm (D) (16-15/16"(W) x 3-1/2" (H) x 18-1/16" (D)) (excluding rubber feet and projections)	
	Weight	WJ-RT416, WJ-RT416V: 12 kg (26.49 lbs.) WJ-RT416K, WJ-RT416VK: 11 kg (24.28 lbs.)	

*1 With WV-PB4164 control board

Appearance

189(7-7/16")
163(6-7/16")
46.2(1-13/16") (Mounting Pitch)
459(18-1/16")
480(18-7/8")
467(18-1/2")(Mounting Pitch)
430(16-15/16")
88(3-1/2")
76(3")

Unit: mm (inches)

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Important
– Safety Precaution: carefully read the operating instructions and installation manual before using this product.
– Panasonic can not be responsible for network performance and/or other manufacturer products that reside on the network.

• All TV pictures are simulated.
• Weights and dimensions are approximate.
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