

JVC®

The Perfect Experience

Video Surveillance Products 2006-2007

Index

Line-up Chart

Color Camera

Storage

Flat Panel Display
& Monitor

IP Security
Products

System
Information

Technical
Information

Glossary


NTSC


- **Line-up Chart** P. 1
- **Color Camera** P. 2 – P. 15
 Fixed Camera/Fixed Dome Camera/PTZ Dome Camera
- **Storage** P. 16 – P. 17
 Digital Video Recorder
- **Flat Panel Display & Monitor** P. 18 – P. 22
 LCD Display Monitor/CRT Monitor
- **IP Security Products** P. 23 – P. 30
 Fixed IP Camera/Fixed IP Dome Camera/PTZ IP Dome Camera/
 Encoder/Software/Network Video Recorder
- **System Information** P. 31 – P. 35
 Ready Pak
 VR-609U/VR-616U system configuration
 VR-609U/VR-616U monitoring images
 VR-609U/VR-616U remote surveillance via network (LAN/WAN)
 System controller for VR-609U/VR-616U
 VN-E4U system configuration
- **Technical Information** P. 36 – P. 41
 Camera horizontal resolution chart
 Lens iris terminal
 Wide dynamic range function
 IR cut filter on/off function
 Easy day/night function
 Focus adjustment function
 Vandal resistant
 Dust and water protection (IP code)
 3 way mount
 Alarm zoom function
 Various functions of PTZ dome camera
 Relationship between focal length and field of view
 Network specific information
- **Glossary** P. 42 – P. 43
- **Index** P. 44

Video Security Products

Color Camera


TK-C920U(A)  **540 TVL** **Ready Pak** P.31 **Easy D/N** P.37
1/3" High Resolution Camera
▶ P.2 Specifications P.9

TK-C750U(A)  **Ready Pak** P.31
1/3" STD Resolution Camera
▶ P.2 Specifications P.9

TK-C925U  **540 TVL** **IR ON/OFF** P.37
1/3" Day/Night Camera
▶ P.3 Specifications P.10


TK-C1530U  **540 TVL** **IR ON/OFF** P.37
1/3" Day/Night Camera
▶ P.3 Specifications P.10


TK-C1460U  **Ready Pak** P.31 **ExDR** P.36 **IR ON/OFF** P.37
1/3" ExDR Day/Night Camera
▶ P.4 Specifications P.11


TK-C1480U  **Ready Pak** P.31 **ExDR** P.36
1/3" ExDR Camera
▶ P.4 Specifications P.11


TK-WD310U(B)  **WDR** P.36 **Easy D/N** P.37
1/3" WDR Camera
▶ P.5 Specifications P.12

TK-C205U(A)  **540 TVL** **Easy D/N** P.37 **Focus Adjustment** P.37
1/4" Fixed Dome Camera
▶ P.5 Specifications P.12

TK-C215V4U(A)  **540 TVL** **3-way Mount** P.38 **Easy D/N** P.37 **Focus Adjustment** P.37
1/4" Fixed Dome Camera
▶ P.6 Specifications P.13

TK-C215V12U(A)  **540 TVL** **3-way Mount** P.38 **Easy D/N** P.37 **Alarm Zoom** P.39 **Focus Adjustment** P.37
1/4" Fixed Dome Camera
▶ P.6 Specifications P.13

TK-C215VP4U  **540 TVL** **Vandal Resistant** P.37 **Easy D/N** P.37 **IP66** P.38 **Focus Adjustment** P.37
1/4" Fixed Dome Camera (Vandal Resistant)
▶ P.7 Specifications P.14

TK-C215VP12U  **540 TVL** **Vandal Resistant** P.37 **Easy D/N** P.37 **IP66** P.38 **Focus Adjustment** P.37 **Alarm Zoom** P.39
1/4" Fixed Dome Camera (Vandal Resistant)
▶ P.7 Specifications P.14

TK-C625U  **540 TVL** **System Info GSC-2000J** P.34 **IR ON/OFF** P.37
12x PTZ Dome Camera
▶ P.8 Specifications P.15


Storage


VR-609U  **System Information** P.32-P.34
9-ch Digital Video Recorder
▶ P.16 Specifications P.17

VR-616U  **System Information** P.32-P.34
16-ch Digital Video Recorder
▶ P.16 Specifications P.17


Flat Panel Display & Monitor

GM-H40L2  **40" LCD Display Monitor**
▶ P.18 Specifications P.21


LM-150  15" LCD Display Monitor
LM-170 17" LCD Display Monitor
▶ P.18 Specifications P.21


GD-17L1G  17" LCD Display Monitor
GD-19L1G 19" LCD Display Monitor
▶ P.18 Specifications P.21


TM-A101G  9"v CRT Monitor
▶ P.19 Specifications P.22

TM-A130SU  13"v CRT Monitor
▶ P.19 Specifications P.22

TM-A13SU 13"v CRT Monitor
TM-A13UCV 13"v CRT Monitor
▶ P.19 Specifications P.22

TM-A210G  20"v CRT Monitor
▶ P.19 Specifications P.22

TM-H150CG  14"v CRT Monitor
▶ P.20 Specifications P.22


TM-H1700G  16"v CRT Monitor
TM-H1900G 18"v CRT Monitor
▶ P.20 Specifications P.22


IP Security Products


IP Camera

VN-C20U  **Ready Pak** P.31 **Easy D/N** P.37 **PoE** P.41
1/3" Fixed IP Camera
▶ P.23 Specifications P.26

VN-C205U  **Easy D/N** P.37 **Focus Adjustment** P.37
1/4" Fixed IP Dome Camera
▶ P.23 Specifications P.26

VN-V215V4U  **Easy D/N** P.37 **PoE** P.41 **Dual Stream** P.41
1/4" Fixed IP Dome Camera
▶ P.24 Specifications P.27


VN-C625U  **IR ON/OFF** P.37 **Technical Information** P.39
12x PTZ IP Dome Camera
▶ P.24 Specifications P.27

VN-C655U(B)  **ExDR** P.36 **IR ON/OFF** P.37 **Technical Information** P.39
25x PTZ IP Dome Camera
▶ P.25 Specifications P.28

Encoder


VN-E4U  **System Information** P.35
Network Encoder
▶ P.25 Specifications P.28

Viewer & Control Software

VN-S400U  **System Information** P.35
Multi-Viewer
▶ P.29 Specifications P.29

VN-SE400U  **System Information** P.35 **Free Download**
External Device Controller Pack
▶ P.29

Network Video Recorder

VR-N100U  **Network Video Recorder**
▶ P.30 Specifications P.30

1/3" High Resolution Camera

Refer to P.31 Refer to P.37

TK-C920U(A)

540 TVL

Ready Pak

Easy D/N



TK-C920U(A) rear

- ▶ 1/3" high resolution IT CCD with 380,000 effective pixels
- ▶ 540 TV lines of horizontal resolution
- ▶ Easy day/night function
- ▶ Super LoLux™ sensitivity: 0.7 lx F1.2 (color mode), 0.48 lx F1.2 (B&W mode)
- ▶ S/N ratio 50 dB (AGC off)
- ▶ Revolutionary integrated 10-bit DSP
- ▶ Automatic electronic shutter (AES) on/off
- ▶ Automatic gain control (AGC) on/off, max. 26 dB (color mode)
- ▶ Auto tracking white balance (ATW) and manual: 2,300 K to 10,000 K
- ▶ Backlight compensation (BLC) on/off
- ▶ Sync systems INT/Line lock
- ▶ Support video/DC iris lens control
- ▶ C/CS lens compatible
- ▶ AC 24 V/DC 12 V power supply

1/3" STD Resolution Camera

Refer to P.31

TK-C750U(A)

Ready Pak



TK-C750U(A) rear

- ▶ 1/3" IT CCD with 250,000 effective pixels
- ▶ 330 TV lines of horizontal resolution
- ▶ Minimum illumination: 0.28 lx F1.2
- ▶ Auto tracking white balance (ATW) and One-touch auto white balance (AWB)
- ▶ Auto white balance adjustment range: 2,300 K to 10,000 K
- ▶ Automatic gain control (AGC) on/off, max. 26 dB
- ▶ S/N ratio 50 dB (AGC off)
- ▶ Backlight compensation (BLC) on/off
- ▶ Automatic electronic shutter (AES) on/off
- ▶ DC iris lens control
- ▶ Sync systems INT/Line lock
- ▶ C/CS lens compatible
- ▶ AC 24 V/DC 12 V power supply

1/3" Day/Night Camera

Refer to P.37 Refer to P.37

TK-C925U

540 TVL

IR ON/OFF

Focus Adjustment



- ▶ 1/3" high resolution IT CCD with 380,000 effective pixels
- ▶ Day/Night surveillance with auto IR cut filter on/off (Color/B&W shooting)
- ▶ 540 TV lines of horizontal resolution
- ▶ Super LoLux™ sensitivity: 0.7 lx F1.2 (color mode), 0.05 lx F1.2 (B&W mode)
- ▶ S/N ratio 50 dB (AGC off)
- ▶ Revolutionary integrated 10-bit DSP
- ▶ Built-in menu
- ▶ Automatic electronic shutter (AES) on/off
- ▶ Automatic gain control (AGC) on/off, max. 26 dB (color mode)
- ▶ Auto tracking white balance (ATW) wide, narrow, AWC and Manual Paint
- ▶ Backlight compensation (BLC) on/off
- ▶ Sync systems INT/Line lock
- ▶ Support video/DC iris lens control
- ▶ C/CS lens compatible
- ▶ Built-in display mode (CRT or LCD switchable)
- ▶ AC 24 V/DC 12 V power supply

Line-up Chart

Color Camera

Storage

Flat Panel Display & Monitor

IP Security Products

System Information

Technical Information

Glossary

Index

1/3" Day/Night Camera

Refer to P.37 Refer to P.37

TK-C1530U

540 TVL

IR ON/OFF

Focus Adjustment



- ▶ 1/3" high resolution IT CCD with 380,000 effective pixels
- ▶ Day/Night surveillance with auto IR cut filter on/off (Color/B&W shooting)
- ▶ 540 TV lines of horizontal resolution
- ▶ Super LoLux™ sensitivity: 0.7 lx F1.2 (color mode), 0.05 lx F1.2 (B&W mode)
- ▶ S/N ratio 50 dB (AGC off)
- ▶ Revolutionary integrated 10-bit DSP
- ▶ Scene file function for customer's parameter setting
- ▶ RS-422A/RS-485 remote control capability for camera setting
- ▶ Built-in menu
- ▶ Automatic electronic shutter (AES) on/off
- ▶ Automatic gain control (AGC) on/off, max. 26 dB (color mode)
- ▶ Auto tracking white balance (ATW) wide, narrow, AWC and Manual Paint
- ▶ Backlight compensation (BLC) on/off
- ▶ Sync systems INT/Line lock
- ▶ Support video/DC iris lens control
- ▶ C/CS lens compatible
- ▶ Built-in display mode (CRT or LCD switchable)
- ▶ AC 24 V/DC 12 V power supply

**Free software is available for camera control.**

Camera menu content, including AGC level, IRIS level, scene memory setting/call, color level, BLC area, can be set via PC.

For inquiries regarding control software, please access the following URL and select your country of residence.

http://www.jvc-victor.co.jp/english/company/contacts/hqpage_a2.htm



1/3" ExDR Day/Night Camera

Refer to P.31 Refer to P.36 Refer to P.37

TK-C1460U

Ready Pak ExDR IR ON/OFF



- ▶ 1/3" high sensitive IT CCD with 380,000 effective pixels
- ▶ Day/Night surveillance with auto IR cut filter on/off (Color/B&W shooting)
- ▶ 480 TV lines of horizontal resolution
- ▶ Extended dynamic range (ExDR) function
- ▶ Motion detection with alarm signal output
- ▶ 10x digital zoom function
- ▶ Super LoLux™ sensitivity: 0.4 lx F1.2
- ▶ Minimum illumination: 0.0003 lx (32x slow shutter, B&W mode)
- ▶ RS-422A/RS-485 remote control capability for camera setting
- ▶ Auto tracking white balance (ATW)
- ▶ Automatic gain control (AGC) on/off, max. 23 dB
- ▶ Auto/Manual image correction with Backlight compensation
- ▶ Y/C video output
- ▶ Sync systems INT/Line lock, Full genlock



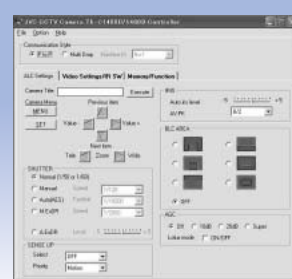
TK-C1460U rear

Free software is available for camera control.

Camera menu content, including AGC level, IRIS level, scene memory setting/call, color level, BLC area, can be set via PC.

For inquiries regarding control software, please access the following URL and select your country of residence.

http://www.jvc-victor.co.jp/english/company/contacts/hqpage_a2.htm



1/3" ExDR Camera

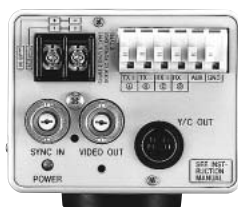
Refer to P.31 Refer to P.36

TK-C1480U

Ready Pak ExDR



- ▶ 1/3" high sensitive IT CCD with 380,000 effective pixels
- ▶ 480 TV lines of horizontal resolution
- ▶ Super LoLux™ sensitivity: 0.25 lx F1.2
- ▶ Minimum illumination: 0.0125 lx (32x slow shutter)
- ▶ Extended dynamic range (ExDR) function
- ▶ Motion detection with alarm signal output
- ▶ RS-422A/RS-485 remote control capability for camera setting
- ▶ Auto tracking white balance (ATW)
- ▶ Automatic gain control (AGC) on/off, max. 23 dB
- ▶ Auto/Manual image correction with Backlight compensation
- ▶ Y/C video output
- ▶ Sync systems INT/Line lock, Full genlock
- ▶ AC 24 V/DC 12 V power supply



TK-C1480U rear

Free software is available for camera control.

Camera menu content, including AGC level, IRIS level, scene memory setting/call, color level, BLC area, can be set via PC.

For inquiries regarding control software, please access the following URL and select your country of residence.

http://www.jvc-victor.co.jp/english/company/contacts/hqpage_a2.htm



1/3" WDR Camera

Refer to P.36 Refer to P.37

TK-WD310U(B)

WDR **Easy D/N**



- ▶ 1/3" digital image device with wide dynamic range (WDR)
- ▶ Innovative 14-bit DSP
- ▶ High-speed, automatic 5 level exposure control for each pixel
- ▶ 480 TV lines of horizontal resolution
- ▶ Easy day/night function
- ▶ Programmable camera menu system
- ▶ Auto tracking white balance (ATW), single-push and manual
- ▶ Automatic gain control (AGC) on/off, max. 34 dB
- ▶ 24 characters camera title
- ▶ Supports video/DC iris lens control
- ▶ Ultra compact body
- ▶ AC 24 V/DC 12 V power supply



TK-WD310U(B) rear

Notes:

1. The WDR function will not operate with AGC or slow shutter mode engaged.
2. In very dark conditions the image quality may suffer slight deterioration.
3. Under fluorescent lighting, the color balance may vary slightly.
4. All manufacturers utilizing this technology will experience similar phenomenon.

Line-up Chart

Color Camera

Storage

Flat Panel Display & Monitor

IP Security Products

System Information

Technical Information

Glossary

Index

1/4" Fixed Dome Camera

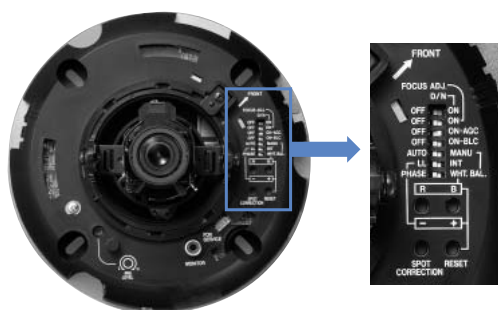
Refer to P.37 Refer to P.37

TK-C205U(A)

540 TVL **Easy D/N** **Focus Adjustment**



- ▶ 1/4" high resolution IT CCD with 380,000 effective pixels
- ▶ 540 TV lines of horizontal resolution
- ▶ Fits standard 6" electrical box for easy installation
- ▶ Easy day/night function
- ▶ Super LoLux™ sensitivity: 1.5 lx F1.2 (color mode), 0.9 lx F1.2 (B&W mode)
- ▶ S/N ratio 50 dB (AGC off)
- ▶ Revolutionary integrated 10-bit DSP
- ▶ Built-in variable focal length auto iris lens (f = 2.6 mm to 6.0 mm)
- ▶ Focus adjustment function
- ▶ Monitor video output (RCA) for easy camera setup
- ▶ Automatic gain control (AGC) on/off, max. 26 dB
- ▶ Auto tracking white balance (ATW) and manual: 2,300 K to 10,000 K
- ▶ Backlight compensation on/off
- ▶ Sync systems INT/Line lock
- ▶ AC 24 V/DC 12 V power supply



Cover inside



with electrical box

1/4" Fixed Dome Camera

Refer to P.37 Refer to P.37 Refer to P.38

TK-C215V4U(A)

540 TVL

Easy D/N

Focus Adjustment

3way Mount



Cover inside

- ▶ 1/4" high resolution IT CCD with 380,000 effective pixels
- ▶ 540 TV lines of horizontal resolution
- ▶ Easy day/night function
- ▶ Super LoLux™ sensitivity: 0.75 lx F1.3 (color mode), 0.4 lx F1.3 (B&W mode)
- ▶ S/N ratio 50 dB (AGC off)
- ▶ Revolutionary integrated 10-bit DSP
- ▶ Built-in 3.6x variable focal length auto iris lens (f = 2.8 mm to 10.0 mm)
- ▶ Focus adjustment function
- ▶ Triple axis rotation system for wide lens angle adjustment
- ▶ Monitor video output (RCA) for easy camera setup
- ▶ Automatic gain control (AGC) on/off, max. 26 dB
- ▶ Auto tracking white balance (ATW) and manual: 2,300 K to 10,000 K
- ▶ Backlight compensation on/off
- ▶ Sync systems INT/Line lock
- ▶ Easy flush mountable without optional bracket
- ▶ Compatible with US 6" electrical box
- ▶ AC 24 V/DC 12 V power supply



with electrical box

Line-up Chart

Color Camera

Storage

Flat Panel Display & Monitor

IP Security Products

System Information

Technical Information

Glossary

Index

1/4" Fixed Dome Camera

Refer to P.37 Refer to P.37 Refer to P.38 Refer to P.39

TK-C215V12U(A)

540 TVL

Easy D/N

Focus Adjustment

3way Mount

Alarm Zoom



Cover inside

- ▶ 1/4" high resolution IT CCD with 380,000 effective pixels
- ▶ 540 TV lines of horizontal resolution
- ▶ Easy day/night function
- ▶ Super LoLux™ sensitivity: 1.0 lx F1.6 (color mode), 0.6 lx F1.6 (B&W mode)
- ▶ S/N ratio 50 dB (AGC off)
- ▶ Revolutionary integrated 10-bit DSP
- ▶ Built-in 12x variable focal length auto iris lens (f = 3.8 mm to 45.6 mm)
- ▶ Alarm zoom function
- ▶ Focus adjustment function
- ▶ Triple axis rotation system for wide lens angle adjustment
- ▶ Monitor video output (RCA) for easy camera setup
- ▶ Automatic gain control (AGC) on/off, max. 26 dB
- ▶ Auto tracking white balance (ATW) and manual: 2,300 K to 10,000 K
- ▶ Backlight compensation on/off
- ▶ Sync systems INT/Line lock
- ▶ Easy flush mountable without optional bracket
- ▶ Compatible with US 6" electrical box
- ▶ AC 24 V/DC 12 V power supply



with electrical box

1/4" Fixed Dome Camera (Vandal Resistant)

TK-C215VP4U

Refer to P.37 Refer to P.37 Refer to P.37 Refer to P.38

540 TVL

Easy D/N

Focus
AdjustmentVandal
Resistant

IP66



- ▶ 1/4" high resolution IT CCD with 380,000 effective pixels
- ▶ Outdoor-ready vandal resistant structure (complies with IP66)
- ▶ Easy to install with built-in ceiling mechanism
- ▶ Triple axis rotation system for wide lens angle adjustment
- ▶ 540 TV lines of horizontal resolution
- ▶ Easy day/night function
- ▶ Super LoLux™ sensitivity: 0.8 lx F1.3 (color mode), 0.4 lx F1.3 (B&W mode)
- ▶ S/N ratio 50 dB (AGC off)
- ▶ Revolutionary integrated 10-bit DSP
- ▶ All normal adjustments accessible on face of camera with front cover removed
- ▶ Built-in variable focal length auto iris lens (f = 2.8 mm to 10 mm)
- ▶ Focus adjustment function
- ▶ Monitor video output (RCA) for easy camera setup
- ▶ Automatic gain control (AGC) on/off, max. 26 dB
- ▶ Auto tracking white balance (ATW) and manual: 2,300 K to 10,000 K
- ▶ Backlight compensation on/off
- ▶ Sync systems INT/Line lock
- ▶ AC 24 V/DC 12 V power supply
- ▶ New inner cover to mask the direction of the camera
- ▶ Optional heater unit: **KA-ZH215U** allowing you to use in various weather conditions

Line-up Chart

Color Camera

Storage

Flat Panel Display
& MonitorIP Security
ProductsSystem
InformationTechnical
Information

Glossary

Index

1/4" Fixed Dome Camera (Vandal Resistant)

TK-C215VP12U

Refer to P.37 Refer to P.37 Refer to P.37 Refer to P.38 Refer to P.39

540 TVL

Easy D/N

Focus
AdjustmentVandal
Resistant

IP66

Alarm Zoom



- ▶ 1/4" high resolution IT CCD with 380,000 effective pixels
- ▶ Outdoor-ready vandal resistant structure (complies with IP66)
- ▶ Easy to install with built-in ceiling mechanism
- ▶ Triple axis rotation system for wide lens angle adjustment
- ▶ 540 TV lines of horizontal resolution
- ▶ Easy day/night function
- ▶ Super LoLux™ sensitivity: 1.1 lx F1.6 (color mode), 0.6 lx F1.6 (B&W mode)
- ▶ S/N ratio 50 dB (AGC off)
- ▶ Revolutionary integrated 10-bit DSP
- ▶ All normal adjustments accessible on face of camera with front cover removed
- ▶ Built-in variable focal length auto iris lens (f = 3.8 mm to 45.6 mm)
- ▶ Alarm zoom function
- ▶ Focus adjustment function
- ▶ Monitor video output (RCA) for easy camera setup
- ▶ Automatic gain control (AGC) on/off, max. 26 dB
- ▶ Auto tracking white balance (ATW) and manual: 2,300 K to 10,000 K
- ▶ Backlight compensation on/off
- ▶ Sync systems INT/Line lock
- ▶ AC 24 V/DC 12 V power supply
- ▶ New inner cover to mask the direction of the camera
- ▶ Optional heater unit: **KA-ZH215U** allowing you to use in various weather conditions

12x PTZ Dome Camera

Refer to P.34

Refer to P.37

Refer to P.39

TK-C625U

540 TVL

System Info
GSC-2000J

IR ON/OFF

Technical
Information

Line-up Chart

Color Camera

Storage

Flat Panel Display
& MonitorIP Security
ProductsSystem
InformationTechnical
Information

Glossary

Index



- ▶ 1/4" high resolution IT CCD with 380,000 effective pixels
- ▶ 540 TV lines of horizontal resolution
- ▶ 12x zoom lens (f = 3.8 mm to 45.6 mm)
- ▶ Super LoLux™ sensitivity: 1.8 lx F1.6
- ▶ Minimum illumination: 0.075 lx F1.6 (B&W mode)
- ▶ Day/Night surveillance with auto IR cut filter on/off (Color/B&W shooting)
- ▶ Built-in menu with Private mask and Auto black
- ▶ Auto trace/Auto pan/Auto patrol/Auto return/Area title
- ▶ Variable panning/tilting speed
- ▶ 100 preset positions
- ▶ Easy AF and One-push auto focus
- ▶ 360 degree endless rotation, 180 degree Auto flip
- ▶ RS-422A/RS-485 interface
- ▶ Alarm terminal (input x1, output x1)



Free software is available for camera control.

Camera menu content, including AGC level, IRIS level, scene memory setting/call, color level, BLC area and PTZ control can be set via PC.

For inquiries regarding control software, please access the following URL and select your country of residence.

[http://www.jvc-victor.co.jp/english/
company/contacts/hqpage_a2.htm](http://www.jvc-victor.co.jp/english/company/contacts/hqpage_a2.htm)



	TK-C920U(A)	TK-C750U(A)
Image device	1/3" Interline Transfer CCD	1/3" Interline Transfer CCD
Number of effective pixels	380,000 (768 H x 494 V)	250,000 (510 H x 492 V)
Video processing	Built-in DSP (10-bit)	Built-in DSP (9-bit)
Pick-up area	4.8 mm (H) x 3.6 mm (V)	4.8 mm (H) x 3.6 mm (V)
Sync system	Internal, Line lock	Internal, Line lock
Scanning system	2:1 Interlaced, 525 lines	2:1 Interlaced, 525 lines
Scanning frequency	15.734 kHz (H), 59.94 Hz (V)	15.734 kHz (H), 59.94 Hz (V)
Video output	Composite video signal : 1.0 V (p-p), 75 ohms (BNC)	Composite video signal : 1.0 V (p-p), 75 ohms (BNC)
Y/C output	—	—
Video S/N ratio	50 dB (AGC off)	50 dB (AGC off)
Horizontal resolution	540 TV lines	330 TV lines
Minimum illumination (typical)	1.5 lx F1.2, AGC on, 50 IRE* 0.7 lx F1.2, AGC on, 25 IRE* < B&W mode > 1.0 lx F1.2, AGC on, 50 IRE*, Easy D/N 0.48 lx F1.2, AGC on, 25 IRE*, Easy D/N	0.55 lx F1.2, AGC on, 50 IRE* 0.28 lx F1.2, AGC on, 25 IRE*
Communication	—	—
Iris control	Video iris/DC iris	DC iris
White balance < ATW color temp. range >	ATW/Manual < 2,300 K to 10,000 K >	ATW/Manual (one-push adjustable) < 2,300 K to 10,000 K >
Wide dynamic range function	—	—
Backlight compensation	on/off	on/off
AES	on/off (1/60 s to 1/100,000 s)	on/off (1/60 s to 1/100,000 s)
Lens mount	C/CS	C/CS
Power supply	AC 24 V (60 Hz)/DC 12 V, UL listed	AC 24 V (60 Hz)/DC 12 V, UL listed
Power consumption	4.7 W	3.3 W
Operating temperature range < recommended >	14 °F to 122 °F (−10 °C to 50 °C) < 32 °F to 104 °F (0 °C to 40 °C) >	14 °F to 122 °F (−10 °C to 50 °C) < 32 °F to 104 °F (0 °C to 40 °C) >
Dimensions (W x H x D)	2 inches x 2-5/16 inches x 5 inches (50 mm x 57.5 mm x 126 mm)	2 inches x 2-5/16 inches x 5 inches (50 mm x 57.5 mm x 126 mm)
Weight	0.82 lbs. (370 g)	0.75 lbs. (340 g)
Accessories	—	—

* IRE is used in the same meaning as video level.

	TK-C925U	TK-C1530U
Image device	1/3" Interline Transfer CCD	1/3" Interline Transfer CCD
Number of effective pixels	380,000 (768 H x 494 V)	380,000 (768 H x 494 V)
Video processing	Built-in DSP (10-bit)	Built-in DSP (10-bit)
Pick-up area	4.8 mm (H) x 3.6 mm (V)	4.8 mm (H) x 3.6 mm (V)
Sync system	Internal, Line lock	Internal, Line lock
Scanning system	2:1 Interlaced, 525 lines	2:1 Interlaced, 525 lines
Scanning frequency	15.734 kHz (H), 59.94 Hz (V)	15.734 kHz (H), 59.94 Hz (V)
Video output	Composite video signal : 1.0 V (p-p), 75 ohms (BNC)	Composite video signal : 1.0 V (p-p), 75 ohms (BNC)
Y/C output	—	—
Video S/N ratio	50 dB (AGC off)	50 dB (AGC off)
Horizontal resolution	540 TV lines	540 TV lines
Minimum illumination (typical)	1.5 lx F1.2, AGC on, 50 IRE* 0.7 lx F1.2, AGC on, 25 IRE* < B&W mode > < 0.1 lx F1.2, AGC on, 50 IRE* < 0.05 lx F1.2, AGC on, 25 IRE* >	1.5 lx F1.2, AGC on, 50 IRE* 0.7 lx F1.2, AGC on, 25 IRE* < 0.1 lx F1.2, AGC on, 50 IRE* < 0.05 lx F1.2, AGC on, 25 IRE* >
Communication	—	RS-422A or RS-485 (switchable)
Iris control	Video iris/DC iris	Video iris/DC iris
White balance	ATW (wide/narrow)/AWC/Manual Paint	ATW (wide/narrow)/AWC/Manual Paint
Wide dynamic range function	—	—
Backlight compensation	on/off	on/off
AES	on/off (1/60 s to 1/100,000 s)	on/off (1/60 s to 1/100,000 s)
Lens mount	C/CS	C/CS
Power supply	AC 24 V (60 Hz)/DC 12 V, UL listed	AC 24 V (60 Hz)/DC 12 V, UL listed
Power consumption	6 W	6 W
Operating temperature range < recommended >	14 °F to 122 °F (−10 °C to 50 °C) < 32 °F to 104 °F (0 °C to 40 °C) >	14 °F to 122 °F (−10 °C to 50 °C) < 32 °F to 104 °F (0 °C to 40 °C) >
Dimensions (W x H x D)	2-5/8 inches x 2-1/2 inches x 5 inches (65 mm x 63 mm x 126 mm)	2-5/8 inches x 2-1/2 inches x 5 inches (65 mm x 63 mm x 126 mm)
Weight	1.32 lbs. (600 g)	1.32 lbs. (600 g)
Accessories	—	—

* IRE is used in the same meaning as video level.

	TK-C1460U	TK-C1480U
Image device	1/3" Interline Transfer CCD	1/3" Interline Transfer CCD
Number of effective pixels	380,000 (768 H x 494 V)	380,000 (768 H x 494 V)
Video processing	Built-in DSP (10-bit)	Built-in DSP (10-bit)
Pick-up area	4.8 mm (H) x 3.6 mm (V)	4.8 mm (H) x 3.6 mm (V)
Sync system	Internal, Line lock, Full genlock	Internal, Line lock, Full genlock
Scanning system	2:1 Interlaced, 525 lines	2:1 Interlaced, 525 lines
Scanning frequency	15.734 kHz (H), 59.94 Hz (V)	15.734 kHz (H), 59.94 Hz (V)
Video output	Composite video signal : 1.0 V (p-p), 75 ohms (BNC)	Composite video signal : 1.0 V (p-p), 75 ohms (BNC)
Y/C output	Y/C video signal (4-pin) Y: 0.714 V (p-p), 75 ohms C: 0.286 V (p-p), 75 ohms	Y/C video signal (4-pin) Y: 0.714 V (p-p), 75 ohms C: 0.286 V (p-p), 75 ohms
Video S/N ratio	50 dB (AGC off)	50 dB (AGC off)
Horizontal resolution	480 TV lines	480 TV lines
Minimum illumination (typical)	0.8 lx F1.2, AGC 20 dB, 50 IRE* 0.4 lx F1.2, AGC 20 dB, 25 IRE*	0.4 lx F1.2, AGC 20 dB, 25 IRE* 0.25 lx F1.2, Super AGC, 25 IRE*
< B&W mode >	0.02 lx F1.2, AGC 20 dB, 50 IRE* 0.01 lx F1.2, AGC 20 dB, 25 IRE*	0.0125 lx F1.2, AGC 20 dB, 25 IRE* 32x slow shutter
Communication	RS-422A or RS-485 (switchable) 9,600 bit/s	RS-422A or RS-485 (switchable) 9,600 bit/s
Iris control	Video iris/DC iris	Video iris/DC iris
White balance	ATW/AWB/Manual	ATW/AWB/Manual
< ATW color temp. range >	< 2,500 K to 8,000 K >	< 2,500 K to 8,000 K >
Wide dynamic range function	ExDR (by dual shutters)	ExDR (by dual shutters)
Backlight compensation	Yes (areas are selectable)	Yes (areas are selectable)
AES	Select from menu (1/60 s to 1/10,000 s)	Select from menu (1/60 s to 1/10,000 s)
Lens mount	C/CS	C/CS
Power supply	AC 24 V (60 Hz)/DC 12 V, UL listed	AC 24 V (60 Hz)/DC 12 V, UL listed
Power consumption	6.0 W	5.2 W
Operating temperature range	14 °F to 122 °F (-10 °C to 50 °C)	14 °F to 122 °F (-10 °C to 50 °C)
< recommended >	< 32 °F to 104 °F (0 °C to 40 °C) >	< 32 °F to 104 °F (0 °C to 40 °C) >
Dimensions (W x H x D)	2-13/16 inches x 2-1/2 inches x 5-7/8 inches (70 mm x 63 mm x 149 mm)	2-13/16 inches x 2-1/2 inches x 5-7/8 inches (70 mm x 63 mm x 149 mm)
Weight	1.43 lbs. (650 g)	1.54 lbs. (700 g)
Accessories	4P plug x 1 Ferrite core x 1	4P plug x 1 Ferrite core x 1

* IRE is used in the same meaning as video level.

TK-WD310U(B)

Image device	1/3" WDR digital image device
Number of effective pixels	380,000 (720 H x 540 V)
Video processing	Built-in DSP (14-bit)
Pick-up area	5.04 mm (H) x 3.78 mm (V)
Sync system	Internal, Line lock
Scanning system	2:1 Interlaced, 525 lines
Scanning frequency	15.734 kHz (H), 59.94 Hz (V)
Video output	Composite video signal : 1.0 V (p-p), 75 ohms (BNC)
Y/C output	—
Video S/N ratio	50 dB (AGC off)
Horizontal resolution	480 TV lines
Minimum illumination (typical)	1.9 lx F1.2, AGC high, 50 IRE* 0.9 lx F1.2, AGC high, 25 IRE* < B&W mode > < 0.5 lx F1.2, AGC on, 50 IRE*, Easy D/N > < 0.25 lx F1.2, AGC on, 25 IRE*, Easy D/N >
Communication	—
Iris control	Video iris/DC iris
White balance < ATW color temp. range >	ATW/AWB/Manual < 2,500 K to 10,000 K >
Wide dynamic range function	WDR (by multi sampling)
Backlight compensation	—
AES	—
Lens mount	CS
Power supply	AC 24 V (60 Hz)/DC 12V, UL listed
Power consumption	5.7 W
Operating temperature range < recommended >	14 °F to 122 °F (−10 °C to 50 °C) < 32 °F to 95 °F (0 °C to 35 °C) >
Dimensions (W x H x D)	2 inches x 2-5/16 inches x 4-1/4 inches (50 mm x 57.5 mm x 107 mm)
Weight	0.8 lbs. (330 g)
Accessories	Ferrite core x 1

* IRE is used in the same meaning as video level.

TK-C205U(A)

CAMERA	
Image device	1/4" Interline Transfer CCD
Number of effective pixels	380,000 (768 H x 494 V)
Video processing	Built-in DSP (10-bit)
Pick-up area	3.6 mm (H) x 2.7 mm (V)
Sync system	Internal, Line lock
Scanning system	2:1 Interlaced, 525 lines
Scanning frequency	15.734 kHz (H), 59.94 Hz (V)
Video output	Composite video signal : 1.0 V (p-p), 75 ohms (BNC)
Video S/N ratio	50 dB (AGC off)
Horizontal resolution	540 TV lines
Minimum illumination (typical)	3.0 lx F1.2, AGC on, 50 IRE* 1.5 lx F1.2, AGC on, 25 IRE* 0.9 lx F1.2, AGC on, 25 IRE* with optional clear dome cover < 2.0 lx F1.2, AGC on, 50 IRE*, Easy D/N > < 0.9 lx F1.2, AGC on, 25 IRE*, Easy D/N >
< B&W mode >	
White balance < ATW color temp. range >	ATW/Manual < 2,300 K to 10,000 K >
Backlight compensation	on/off
LENS	
Focal length < Angle of vision >	2.6 mm to 6 mm < 82° (H) x 59° (V) to 35° (H) x 26° (V) >
Max. aperture ratio	F1.2
Angle adjustment range	Horizontal: 120° Vertical: +80°, −50° Tilt: ±15°
GENERAL	
Power supply	AC 24 V (50/60 Hz)/DC 12 V, UL listed
Power consumption	4.3 W
Operating temperature range < recommended >	14 °F to 122 °F (−10 °C to 50 °C) < 32 °F to 104 °F (0 °C to 40 °C) >
Weather resistance	—
Dimensions	ø 6-3/16 inches x 3-9/16 inches (H) (ø 156 mm x 89 mm (H))
Weight	1.3 lbs. (570 g)
Accessories	—

* IRE is used in the same meaning as video level.

	TK-C215V4U(A)	TK-C215V12U(A)
CAMERA		
Image device	1/4" Interline Transfer CCD	1/4" Interline Transfer CCD
Number of effective pixels	380,000 (768 H x 494 V)	380,000 (768 H x 494 V)
Video processing	Built-in DSP (10-bit)	Built-in DSP (10-bit)
Pick-up area	3.6 mm (H) x 2.7 mm (V)	3.6 mm (H) x 2.7 mm (V)
Sync system	Internal, Line lock	Internal, Line lock
Scanning system	2:1 Interlaced, 525 lines	2:1 Interlaced, 525 lines
Scanning frequency	15.734 kHz (H), 59.94 Hz (V)	15.734 kHz (H), 59.94 Hz (V)
Video output	Composite video signal : 1.0 V (p-p), 75 ohms (BNC)	Composite video signal : 1.0 V (p-p), 75 ohms (BNC)
Video S/N ratio	50 dB (AGC off)	50 dB (AGC off)
Horizontal resolution	540 TV lines	540 TV lines
Minimum illumination (typical) < B&W mode >	0.75 lx F1.3, AGC on < 0.4 lx F1.3, AGC on >	1.0 lx F1.6, AGC on < 0.6 lx F1.6, AGC on >
White balance < ATW color temp. range >	ATW/Manual < 2,300 K to 10,000 K >	ATW/Manual < 2,300 K to 10,000 K >
Backlight compensation	on/off	on/off
LENS		
Focal length < Angle of vision >	2.8 mm to 10 mm < 73° (H) x 54° (V) to 20° (H) x 15° (V) >	3.8 mm to 45.6 mm < 52° (H) x 39° (V) to 4.5° (H) x 3.4° (V) >
Max. aperture ratio	F1.3	F1.6
Angle adjustment range	Horizontal: 350° Vertical: ±80° Tilt: ±100°	Horizontal: 350° Vertical: ±80° Tilt: ±100°
GENERAL		
Power supply	AC 24 V (50/60 Hz)/DC 12 V, UL listed	AC 24 V (50/60 Hz)/DC 12 V, UL listed
Power consumption	4.2 W	12.0 W (max.)
Operating temperature range < recommended >	14 °F to 122 °F (−10 °C to 50 °C) < 32 °F to 104 °F (0 °C to 40 °C) >	14 °F to 122 °F (−10 °C to 50 °C) < 32 °F to 104 °F (0 °C to 40 °C) >
Weather resistance	—	—
Dimensions	ø 6-1/8 inches x 4-7/8 inches (H) (ø 156 mm x 123 mm (H))	ø 6-1/8 inches x 4-7/8 inches (H) (ø 156 mm x 123 mm (H))
Weight	1.43 lbs. (650 g)	1.54 lbs. (700 g)
Accessories	—	—

* IRE is used in the same meaning as video level.

TK-C215VP4U

TK-C215VP12U

CAMERA

Image device	1/4" Interline Transfer CCD	1/4" Interline Transfer CCD
Number of effective pixels	380,000 (768 H x 494 V)	380,000 (768 H x 494 V)
Video processing	Built-in DSP (10-bit)	Built-in DSP (10-bit)
Pick-up area	3.6 mm (H) x 2.7 mm (V)	3.6 mm (H) x 2.7 mm (V)
Sync system	Internal, Line lock	Internal, Line lock
Scanning system	2:1 Interlaced, 525 lines	2:1 Interlaced, 525 lines
Scanning frequency	15.734 kHz (H), 59.94 Hz (V)	15.734 kHz (H), 59.94 Hz (V)
Video output	Composite video signal : 1.0 V (p-p), 75 ohms	Composite video signal : 1.0 V (p-p), 75 ohms
Video S/N ratio	50 dB (AGC off)	50 dB (AGC off)
Horizontal resolution	540 TV lines	540 TV lines
Minimum illumination (typical)	2.5 lx F1.3, AGC on, 50 IRE* 0.8 lx F1.3, AGC on, 25 IRE* < B&W mode > < 1.4 lx F1.3, AGC on, 50 IRE*, Easy D/N > < 0.4 lx F1.3, AGC on, 25 IRE*, Easy D/N >	3.5 lx F1.6, AGC on, 50 IRE* 1.1 lx F1.6, AGC on, 25 IRE* < 2.0 lx F1.6, AGC on, 50 IRE*, Easy D/N > < 0.6 lx F1.6, AGC on, 25 IRE*, Easy D/N >
White balance < ATW color temp. range >	ATW/Manual < 2,300 K to 10,000 K >	ATW/Manual < 2,300 K to 10,000 K >
Backlight compensation	on/off	on/off

LENS

Focal length < Angle of vision >	2.8 mm to 10 mm < 73° (H) x 54° (V) to 20° (H) x 15° (V) >	3.8 mm to 45.6 mm < 52° (H) x 39° (V) to 4.5° (H) x 3.4° (V) >
Max. aperture ratio	F1.3	F1.6
Angle adjustment range	Horizontal: 350° Vertical: ±70° Tilt: ±175°	Horizontal: 350° Vertical: ±70° Tilt: ±175°

GENERAL

Power supply	AC 24 V (50/60 Hz)/DC 12 V, UL listed	AC 24 V (50/60 Hz)/DC 12 V, UL listed
Power consumption	4.2 W	6.6 W
Operating temperature range < recommended >	14 °F to 122 °F (-10 °C to 50 °C) < 32 °F to 104 °F (0 °C to 40 °C) >	14 °F to 122 °F (-10 °C to 50 °C) < 32 °F to 104 °F (0 °C to 40 °C) >
Weather resistance	IP66	IP66
Dimensions	ø 6-1/4 inches x 4-7/8 inches (H) (ø 160 mm x 125 mm (H))	ø 6-1/4 inches x 4-7/8 inches (H) (ø 160 mm x 125 mm (H))
Weight	Approx. 2.64 lbs. (1.2 kg)	Approx. 2.86 lbs. (1.3 kg)
Accessories	Wrench x 1 Silica gel x 1	Wrench x 1 Silica gel x 1

* IRE is used in the same meaning as video level.

TK-C625U

CAMERA

Image device	1/4" Interline Transfer CCD
Number of effective pixels	380,000 (768 H x 494 V)
Sync system	Internal, Line lock
Video output	Composite video signal : 1.0 V (p-p), 75 ohms
Video S/N ratio	50 dB
Horizontal resolution	540 TV lines
Minimum illumination (typical)	3.6 lx F1.6, AGC 20 dB, 50 IRE* 1.8 lx F1.6, AGC 20 dB, 25 IRE* < B&W mode > < 0.15 lx F1.6, AGC 20 dB, 50 IRE* > < 0.075 lx F1.6, AGC 20 dB, 25 IRE* >
White balance	ATW/Manual
< ATW color temp. range >	< 2,300 K to 10,000 K >
Backlight compensation	4 patterns
Camera ID	16 characters

LENS

Zoom ratio	12x, 3.8 mm to 45.6 mm
Max. aperture ratio	F1.6
Zooming speed	Approx. 3.0 s (max.)
Focus speed	Approx. 1.2 s (max.)

MOVING MECHANISM

Panning	360° endless rotation
Tilting	0° to 90°
Panning speed	1.5 °/s to 180 °/s (preset)
Tilting speed	1 °/s to 120 °/s (preset)

GENERAL

Communication	RS-422A or RS-485 (switchable), 9,600 bit/s
Power supply	AC 24 V (60 Hz), UL listed
Power consumption	1.5 A
Operating temperature range	14 °F to 122 °F (-10 °C to 50 °C) < 32 °F to 104 °F (0 °C to 40 °C) >
Dimensions	ø 4-3/4 inches x 7-1/2 inches (H) (ø 120 mm x 190 mm (H))
Weight	2.9 lbs. (1.3 kg)

* IRE is used in the same meaning as video level.

9-ch/16-ch Digital Video Recorder

Refer to P.32-P.34

VR-609U_(9-ch)/VR-616U_(16-ch)

System Information

Line-up Chart

Color Camera

Storage

Flat Panel Display & Monitor

IP Security Products

System Information

Technical Information

Glossary

Index



Photo: VR-609U



Photo: VR-616U



Front cover open (VR-616U)

- ▶ Built-in 240 GB HDD, slot for optional, removable HDD up to 240 GB
- ▶ High resolution recording of 60 fps
- ▶ Wavelet compression
- ▶ Triplex working enables live, recording and playback all at the same time
- ▶ 9-ch/16-ch real-time monitoring with multi-screen display **Refer to P.32**
- ▶ Spot monitor output
- ▶ Digital audio recording and playback
- ▶ Remote surveillance via network (built-in web server/bundled software) **Refer to P.33**
- ▶ E-mail event notification
- ▶ Convenient manual search with Jog&Shuttle
- ▶ Variable speed search function
- ▶ Image sequence function
- ▶ Covert channel function
- ▶ Automatic check and recovery function
- ▶ On screen display (Time/Date/Camera ID/Recording information)
- ▶ Multiple backup functions
- ▶ Auto diagnostic function
- ▶ Digital zoom function
- ▶ Timer recording function
- ▶ Pre/Post alarm recording function
- ▶ Motion detection (Area/Sensing speed adjustable)
- ▶ JVC's PTZ dome camera control
- ▶ Multiple languages (English/French/Spanish)
- ▶ IR remote control unit (standard option)
- ▶ Video authentication system

System Controller (option)

Refer to P.34

GSC-2000J/VR

System Information



- ▶ Operates a single DVR and up to 16 cameras (JVC products only)



VR-609U rear



VR-616U rear

Recording time list

VR-609U		Field rate												
Quality	6f/1s	5f/1s	4f/1s	3f/1s	2f/1s	1f/1s	1f/2s	1f/3s	1f/4s	1f/5s	1f/6s	1f/8s	1f/9s	
Recording condition HDD: 240 GB, Audio recording: off, 9 cameras connected														
HQ3	18	22	27	36	55	110	221	332	443	554	665	887	998	
HQ2	18	22	27	36	55	110	221	332	443	554	665	887	998	
HQ1	18	22	27	36	55	110	221	332	443	554	665	887	998	
Q4	18	22	27	36	55	110	221	332	443	554	665	887	998	
Q3	18	22	27	36	55	110	221	332	443	554	665	887	998	
Q2	27	33	41	55	83	166	332	499	665	832	998	1,331	1,497	
Q1	36	44	55	73	110	221	443	665	887	1,109	1,331	1,775	1,997	

(Unit: Hour)

VR-616U		Field rate										
Quality	3f/1s	2f/1s	1f/1s	1f/2s	1f/3s	1f/4s	1f/5s	1f/6s	1f/8s	1f/16s		
Recording condition HDD: 240 GB, Audio recording: off, 16 cameras connected												
HQ3	20	31	62	124	187	249	312	374	499	998		
HQ2	20	31	62	124	187	249	312	374	499	998		
HQ1	20	31	62	124	187	249	312	374	499	998		
Q4	20	31	62	124	187	249	312	374	499	998		
Q3	20	31	62	124	187	249	312	374	499	998		
Q2	31	46	93	187	280	374	468	561	748	1,497		
Q1	41	62	124	249	374	499	624	748	998	1,997		

(Unit: Hour)

	VR-609U	VR-616U
VIDEO		
Input	9-ch (BNC)	16-ch (BNC)
AUDIO		
Input/Output	1-ch (RCA)	1-ch (RCA)
DISPLAY		
Speed	60 fps	60 fps
Split screen < add user defined >	1, 4, 6, 7, 9 < PIP >	1, 4, 6, 7, 9, 10, 16 < 10, 13, PIP >
RECORDING		
Speed	60 fps (max.), 30 fps/1-ch	60 fps (max.), 30 fps/1-ch
Resolution	720 x 240	720 x 240
Compression method	WAVELET	WAVELET
Image quality	Selectable 7 steps	Selectable 7 steps
Mode	Motion detection, Sensor, Schedule	Motion detection, Sensor, Schedule
PLAYBACK		
Display	1, 4, 9	1, 4, 9, 16
Search mode	Date, Time, Channel, Event	Date, Time, Channel, Event
MONITOR		
Output	Monitor x 2, Spot x 1, VGA x 1, S-video x 1	Monitor x 2, Spot x 1, VGA x 1, S-video x 1
CONTROL		
Sensor input	9	16
Relay output	4	4
Pan/Tilt/Zoom	9-ch	16-ch
NETWORK		
Transmission speed	Real-time	Real-time
Remote view	Via web browser Bundled software	Via web browser Bundled software
Protocol	TCP/IP	TCP/IP
OTHERS		
Watch dog	Self-recover	Self-recover
OS	Embedded Linux	Embedded Linux
Power supply	AC 120 V (50/60 Hz), UL listed	AC 120 V (50/60 Hz), UL listed
BUILT-IN DEVICE		
HDD	240 GB	240 GB
Removable rack	1 pcs	1 pcs
USB (1.0)	2 ports	2 ports
IEEE 1394	1 port	1 port
LAN (RJ-45)	10 BASE-T/100 BASE-TX	10 BASE-T/100 BASE-TX
GENERAL		
Operating temperature	41 °F to 104 °F (5 °C to 40 °C)	41 °F to 104 °F (5 °C to 40 °C)
Dimensions (W x H x D)	17-1/16 inches x 3-1/2 inches x 17-3/4 inches (432 mm x 88 mm x 431 mm)	17-1/16 inches x 3-1/2 inches x 17-3/4 inches (432 mm x 88 mm x 431 mm)
Weight	19.8 lbs. (9.0 kg)	19.8 lbs. (9.0 kg)

40" LCD Display Monitor

GM-H40L2

40"



GM-H40L2 rear

- ▶ High-speed input switching
- ▶ Self-diagnostic indicator lights. Anti-theft security lock
- ▶ PIP, PBP displays and six languages selectable OSD
- ▶ Bright picture of 400cd/m²
- ▶ 16.7 million colors
- ▶ PC and NTSC/PAL multi-standard compatibility
- ▶ 16:9/4:3 selectable aspect ratio
- ▶ UXGA compatibility
- ▶ One composite video input
- ▶ One PC input (DVI-D/analog RGB)
- ▶ RS-232C, RS-485, MAKE, TRIGGER or IR OUT control for professional applications
- ▶ Direct VESA standard compliant 400 x 200 mm mounting

15"/17" LCD Display Monitor

LM-150/LM-170

15"

17"



- ▶ Robust metal cabinet with corner protector
- ▶ Selectable MAKE, TRIGGER remote
- ▶ Selectable scansize direct key : over, 100% and user setting
- ▶ Direct keys on the front cabinet for input selection and picture settings
- ▶ 16:9/4:3 selectable aspect ratio
- ▶ XGA resolution (**LM-150**) and S-XGA resolution (**LM-170**)
- ▶ Bright Picture of 400 cd/m² (**LM-150**), 300 cd/m² (**LM-170**)
- ▶ 16.2 million colors (**LM-150**), 16.7 million colors (**LM-170**)
- ▶ Two composite video inputs, two PC inputs (DVI-D and analog RGB)
- ▶ NTSC/PAL compatibility
- ▶ Direct VESA standard 100mm mounting
- ▶ Tilt stand unit included, height selectable

17"/19" LCD Display Monitor

GD-17L1G/GD-19L1G

17"

19"



- ▶ Stylish and easy setup LCD display monitor
- ▶ Bright picture of 300 cd/m² (**GD-17L1G**), 250 cd/m² (**GD-19L1G**)
- ▶ Contrast ratio 500:1 (**GD-17L1G**), 1,000:1 (**GD-19L1G**)
- ▶ Wide view LCD panel
- ▶ PC and NTSC/PAL multi-standard compatibility
- ▶ AC 100 V–240 V built-in power supply with detachable AC cable
- ▶ Built-in front stereo speaker (2 W + 2 W)
- ▶ IR remote control unit
- ▶ Square and flush surface cabinet design
- ▶ Direct VESA standard 100 mm mounting
- ▶ Tilt stand unit included

Line-up Chart

Color Camera

Storage

Flat Panel Display & Monitor

IP Security Products

System Information

Technical Information

Glossary

Index

9"v CRT Monitor

TM-A101G

9"v



TM-A101G rear

- ▶ 9"v full-square CRT with more than 300 TV lines of horizontal resolution
- ▶ 16:9/4:3 selectable aspect ratio
- ▶ Space-saving cabinet design minimizes depth and height
- ▶ On screen menu adjustment
- ▶ NTSC/PAL multi-standard compatibility
- ▶ AC 120 V/230 V universal power supply
- ▶ Side-by-side 19" EIA rack mounting (height 5U)
- ▶ Built-in speaker
- ▶ Remote aspect ratio select
- ▶ Remote input select

13"v CRT Monitor

TM-A130SU

13"v



TM-A130SU rear

- ▶ 320 TV lines of horizontal resolution
- ▶ Two composite video inputs
- ▶ One Y/C input
- ▶ Two audio inputs
- ▶ NTSC/PAL multi-standard compatibility
- ▶ Tough metal cabinet
- ▶ Built-in speaker

13"v CRT Monitor

TM-A13SU/TM-A13UCV

13"v



TM-A13SU rear



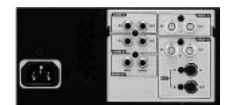
TM-A13UCV rear

- ▶ 320 TV lines of horizontal resolution
- ▶ Two composite video inputs
- ▶ One Y/C input (TM-A13SU)
- ▶ Two audio inputs (TM-A13SU)
- ▶ NTSC/PAL multi-standard compatibility
- ▶ Built-in speaker (TM-A13SU)

20"v CRT Monitor

TM-A210G

20"v



TM-A210G rear

- ▶ 450 TV lines of horizontal resolution
- ▶ Full-square CRT with vertical stripe phosphor
- ▶ 16:9/4:3 selectable aspect ratio
- ▶ NTSC/PAL multi-standard compatibility
- ▶ Control lock
- ▶ Remote aspect ratio select
- ▶ Remote input select
- ▶ AC 120 V/220 V–240 V universal power supply

14"v CRT Monitor

TM-H150CG

14"v



TM-H150CG rear

- ▶ More than 750 TV lines of horizontal resolution
- ▶ Ultra compact cabinet (height 7U)
- ▶ Input slot for optional component/SDI card (IF-C01COMG/IF-C01SDG/IF-C51SDG/IF-C21SDG)
- ▶ NTSC/PAL multi-standard compatibility
- ▶ AC 120 V/220 V–240 V universal power supply
- ▶ Underscan, Color off, blue check functions
- ▶ Wired remote control (D-sub 15 pin)

16"v/18"v CRT Monitor

TM-H1700G/TM-H1900G

16"v

18"v

TM-H1700G/
TM-H1900G rear

- ▶ 750 TV lines of horizontal resolution
- ▶ 16:9/4:3 selectable aspect ratio
- ▶ Underscan supports multiplexer applications
- ▶ On screen menu
- ▶ NTSC/PAL multi-standard compatibility
- ▶ AC 120 V/230 V universal power supply
- ▶ EIA rack mountable
(**TM-H1700G:** height 8U, **TM-H1900G:** height 9U)
- ▶ Big screen, small cabinet design
- ▶ Wired remote control (D-sub 15 pin)

GM-H40L2		
PANEL		
Screen size (W x H)	34-7/8 inches x 19-5/8 inches (885 mm x 498 mm)	
Aspect ratio	16:9 (4:3/16:9 selectable)	
Number of pixels	1,366 (H) x 768 (V)	
OTHER SPECIFICATIONS		
Input	Composite video x 1, Y/C x 1, RGB x 1, DVI-D x 1, Component x 1, Audio (2-ch) x 2	
Speaker output < internal >	2.2 W + 2.2 W (6 ohms); Audio output (2-ch) x1 < 1.7 W + 1.7 W >	
Dimensions (W x H x D)	38-7/8 inches x 23-1/2 inches x 4-7/8 inches (986 mm x 595 mm x 123 mm)	
Weight	59 lbs. (26.8 kg)	
Power supply	AC 120 V (50/60Hz), UL listed AC 220–240 V (50/60Hz), CE declaration	
LM-150		LM-170
PANEL		
Screen size (W x H)	12 inches x 9 inches (304 mm x 228 mm)	13-3/8 inches x 10-3/4 inches (338 mm x 270 mm)
Aspect ratio	4:3 panel (4:3/16:9 selectable)	5:4 panel (4:3/16:9 selectable)
Number of pixels	1,024 (H) x 768 (V)	1,280 (H) x 1,024 (V)
OTHER SPECIFICATIONS		
Input	Composite video x 2 (Bridged-out possible, Auto termination), DVI-D for PC x 1, RGB x 1	Composite video x 2 (Bridged-out possible, Auto termination), DVI-D for PC x 1, RGB x 1, Audio (monaural) x 1, Audio (2-ch) x 2
Speaker output < internal >	—	< 1 W monaural >
Dimensions (W x H x D)	13-1/2 inches x 11-1/2 inches x 2-7/8 inches (342 mm x 291 mm x 71 mm) without stand 13-1/2 inches x 13-1/8 inches x 7-1/4 inches (342 mm x 331 mm x 184 mm) with stand	14-3/4 inches x 13-1/4 inches x 2-7/8 inches (374 mm x 334 mm x 71 mm) without stand 14-3/4 inches x 14-3/4 inches x 7-1/4 inches (374 mm x 374 mm x 184 mm) with stand
Weight	13.6 lbs. (6.2 kg) without stand, 7.9 lbs. (3.6 kg) with stand	15.8 lbs. (7.2 kg) without stand, 10.1 lbs. (4.6 kg) with stand
Power supply	AC 100–240 V (50/60Hz), UL listed, CE declaration, Built-in power supply with detachable AC cable	AC 100–240 V (50/60Hz), UL listed, CE declaration, Built-in power supply with detachable AC cable
GD-17L1G		GD-19L1G
PANEL		
Screen size (W x H)	13-3/8 inches x 10-6/8 inches (337.9 mm x 270.3 mm)	14-7/8 inches x 11-7/8 inches (376.3 mm x 301.1 mm)
Aspect ratio	5:4 panel	5:4 panel
Number of pixels	1,280 (H) x 1,024 (V)	1,280 (H) x 1,024 (V)
OTHER SPECIFICATIONS		
Input	Composite video x 1, Y/C x 1, Y/B-Y/R-Y x 1, RGB x 1, Audio (2-ch) x 1	Composite video x 1, Y/C x 1, Y/B-Y/R-Y x 1, RGB x 1, Audio (2-ch) x 1
Speaker output < internal >	— < 2 W + 2 W >	— < 2 W + 2 W >
Dimensions (W x H x D)	15-3/8 inches x 13-1/2 inches x 2-5/8 inches (388.3 mm x 340.0 mm x 66.0 mm) without stand 15-3/8 inches x 14-3/8 inches x 7-5/8 inches (388.3 mm x 363.6 mm x 192.0 mm) with stand	16-7/8 inches x 14-5/8 inches x 2-7/8 inches (428.3 mm x 370.2 mm x 72.5 mm) without stand 16-7/8 inches x 15-5/8 inches x 7-7/8 inches (428.3 mm x 395.5 mm x 200.0 mm) with stand
Weight	11.0 lbs. (5.0 kg) without stand, 12.5 lbs. (5.7 kg) with stand	14.3 lbs. (6.5 kg) without stand, 16.0 lbs. (7.3 kg) with stand
Power supply	AC 120 V, UL listed AC 230 V, CE declaration	AC 120 V, UL listed AC 230 V, CE declaration

Line-up Chart

Color Camera

Storage

Flat Panel Display & Monitor

IP Security Products

System Information

Technical Information

Glossary

Index

Line-up Chart

Color Camera

Storage

Flat Panel Display & Monitor

IP Security Products

System Information

Technical Information

Glossary

Index

	TM-A101G	TM-A130SU
CRT	9"v Stripe pitch of 0.50 mm (P-22 phosphor)	13"v Stripe pitch of 0.65 mm
Horizontal resolution	More than 300 TV lines	More than 320 TV lines
Input	Composite video x 2 (Bridged-out possible, Auto termination) Audio (1-ch) x 2 (Bridged-out possible)	Composite video x 2 (Bridged-out possible, Auto termination) Y/C x 1 Audio (1-ch) x 2 (Bridged-out possible)
Audio speaker	8 cm round, 1 W output	8 cm round, 1 W output
Power supply	AC 120 V, UL listed AC 230 V, CE declaration	AC 120 V, UL listed
Dimensions (W x H x D)	8-3/4 inches x 8-3/4 inches x 12-1/2 inches (222 mm x 220 mm x 316.3 mm)	13-5/8 inches x 12-1/4 inches x 14-5/8 inches (346 mm x 310 mm x 368.5 mm)
Weight	15.0 lbs. (6.8 kg)	26.9 lbs. (12.2 kg)

	TM-A13SU	TM-A13UCV	TM-A210G
CRT	13"v Stripe pitch of 0.64 mm	13"v Stripe pitch of 0.64 mm	20"v Stripe pitch of 0.63 mm
Horizontal resolution	More than 320 TV lines	More than 320 TV lines	More than 450 TV lines
Input	Composite video x 2 (Bridged-out possible, Auto termination) Y/C x 1 Audio (1-ch) x 2 (Bridged-out possible)	Composite video x 2 (Bridged-out possible, Auto termination)	Composite video x 2 (Bridged-out possible, Auto termination) Y/C x 1 (Bridged-out possible, Auto termination) Audio (1-ch) x 2 (Bridged-out possible)
Audio speaker	8 cm round, 1 W output	—	8 cm round, 1 W output
Power supply	AC 120 V, UL listed	AC 120 V, UL listed	AC 120 V, UL listed AC 220 V – 240 V, CE declaration
Dimensions (W x H x D)	14-1/2 inches x 12-1/4 inches x 14-11/16 inches (368 mm x 310 mm x 371.5 mm)	14-1/2 inches x 12-1/4 inches x 14-11/16 inches (368 mm x 310 mm x 371.5 mm)	18-3/4 inches x 16-1/8 inches x 19-3/8 inches (476 mm x 407.5 mm x 492 mm)
Weight	21.0 lbs. (9.6 kg)	20.9 lbs. (9.5 kg)	63.0 lbs. (28.1 kg)

	TM-H150CG	TM-H1700G	TM-H1900G
CRT	14"v Trio-dot pitch of 0.27 mm	16"v Trio-dot pitch of 0.27 mm (P-22 phosphor)	18"v Trio-dot pitch of 0.27 mm (P-22 phosphor)
Horizontal resolution	More than 750 TV lines	More than 750 TV lines	More than 750 TV lines
Input	Composite video x 2 (Bridged-out possible, Auto termination) Y/C x 1 (Bridged-out possible) Audio (1-ch) x 2 (Bridged-out possible) 1 card slot for component or SDI card	Composite video x 2 (Bridged-out possible, Auto termination) Y/C x 1 (Bridged-out possible, Auto termination) Audio (1-ch) x 2 (Bridged-out possible)	Composite video x 2 (Bridged-out possible, Auto termination) Y/C x 1 (Bridged-out possible, Auto termination) Audio (1-ch) x 2 (Bridged-out possible)
Audio speaker	8 cm round, 1 W output	8 cm round, 1 W output	8 cm round, 1 W output
Power supply	AC 120 V, UL listed AC 220 V – 240 V, CE declaration	AC 120 V, UL listed AC 230 V, CE declaration	AC 120 V, UL listed AC 230 V, CE declaration
Dimensions (W x H x D)	14-3/16 inches x 12-1/4 inches x 15-1/2 inches (360 mm x 310 mm x 418 mm)	15-5/8 inches x 13-1/4 inches x 16-1/2 inches (395 mm x 334 mm x 418 mm)	17-3/8 inches x 14-7/8 inches x 19-5/8 inches (440 mm x 375 mm x 496 mm)
Weight	35.2 lbs. (16.0 kg)	43.2 lbs. (19.6 kg)	55.2 lbs. (25.1 kg)

1/3" Fixed IP Camera

VN-C20U

Refer to P.31 Refer to P.37 Refer to P.41

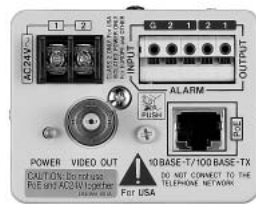
Ready Pak **Easy D/N** **PoE**



- ▶ 1/3" high resolution IT CCD with 380,000 effective pixels
- ▶ Full frame rate Motion-JPEG in VGA/QVGA mode switchable
- ▶ Support Power over Ethernet (PoE)
- ▶ Easy day/night function
- ▶ Access protection
- ▶ Built-in 10 BASE-T/100 BASE-TX interface
- ▶ Pre/Post alarm buffer
- ▶ Alarm I/O (2-in/2-out)
- ▶ FTP client function
- ▶ Multicasting capability
- ▶ Built-in web server
- ▶ Motion detection function



Viewing image



VN-C20U rear

Line-up Chart

Color Camera

Storage

Fat Panel Display & Monitor

IP Security Products

System Information

Technical Information

Glossary

Index

1/4" Fixed IP Dome Camera

VN-C205U

Refer to P.37 Refer to P.37

Easy D/N **Focus Adjustment**



- ▶ 1/4" high resolution IT CCD with 380,000 effective pixels
- ▶ Fits standard 6" electrical box for easy installation
- ▶ Easy day/night function
- ▶ Focus adjustment function
- ▶ UP to 30 fps Motion-JPEG in VGA mode (640 x 480)
- ▶ Full hybrid with both analog and IP output
- ▶ CF card slot for local alarm recording
- ▶ Access protection
- ▶ Built-in 10 BASE-T/100 BASE-TX interface
- ▶ FTP client/server function
- ▶ Multicasting capability
- ▶ Built-in web server
- ▶ Motion detection function



Viewing image



Cover inside



with electrical box

Line-up Chart

Color Camera

Storage

Flat Panel Display & Monitor

IP Security Products

System Information

Technical Information

Glossary

Index

1/4" Fixed IP Dome Camera

Refer to P.37 Refer to P.41 Refer to P.41

VN-V215V4U

Easy D/N

PoE

Dual Stream



- ▶ 1/4" high resolution IT CCD with 380,000 effective pixel
- ▶ Built-in 3.6x variable focal length auto iris lens (f = 2.8 mm to 10 mm)
- ▶ Triple axis rotation system for wide lens adjustment
- ▶ Dual stream Motion-JPEG/MPEG-4
- ▶ Up to 30 fps at VGA
- ▶ Easy day/night function
- ▶ Built-in 10 BASE-T/100 BASE-TX interface
- ▶ Support Power over Ethernet (PoE)
- ▶ Alarm I/O (1-in/1-out)
- ▶ Multicasting capability
- ▶ Built-in web server
- ▶ Monitor output for focus adjustment

12x PTZ IP Dome Camera

Refer to P.37 Refer to P.39

VN-C625U

IR ON/OFF

Technical Information



- ▶ 1/4" high resolution IT CCD with 380,000 effective pixels
- ▶ 12x optical zoom lens
- ▶ 360 degree endless rotation and 180 degree Auto flip
- ▶ Up to 30 fps Motion-JPEG in VGA mode (640 x 480)
- ▶ CF card slot for local alarm recording
- ▶ Access protection
- ▶ Built-in 10 BASE-T/100 BASE-TX interface
- ▶ Day/Night surveillance with auto IR cut filter on/off
- ▶ Auto patrol, Auto pan, Auto tour function
- ▶ Private mask function
- ▶ Up to 100 preset positions
- ▶ Alarm I/O (2-in/2-out)
- ▶ FTP client/server function
- ▶ Multicasting capability
- ▶ Built-in web server
- ▶ Motion detection function



Viewing image

25x PTZ IP Dome Camera

Refer to P.36 Refer to P.37 Refer to P.39

VN-C655U(B)

ExDR

IR ON/OFF

Technical Information



- ▶ 1/4" high resolution IT CCD with 380,000 effective pixels
- ▶ 25x optical zoom lens and 10x electronic zoom
- ▶ 360 degree endless rotation and 180 degree Auto flip
- ▶ Up to 30 fps Motion-JPEG in VGA mode (640 x 480)
- ▶ Access protection
- ▶ Built-in 10 BASE-T/100 BASE-TX interface
- ▶ Extended dynamic range (ExDR)
- ▶ Day/Night surveillance with auto IR cut filter on/off
- ▶ Auto patrol, Auto pan, Auto tour function
- ▶ Private mask function
- ▶ Up to 100 preset positions
- ▶ Alarm I/O (2-in/2-out)
- ▶ FTP client/server function
- ▶ Multicasting capability
- ▶ Built-in web server
- ▶ Motion detection function



Viewing image

Line-up Chart

Color Camera

Storage

Fat Panel Display & Monitor

IP Security Products

System Information

Technical Information

Glossary

Index

Network Encoder

Refer to P.35

VN-E4U

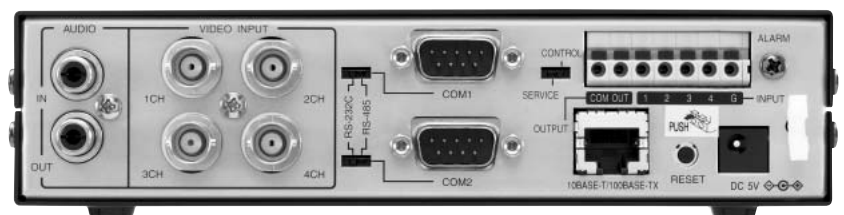
System Information



- ▶ Direct connection with up to 4 analog cameras
- ▶ JPEG compression
- ▶ Built-in 10 BASE-T/100 BASE-TX interface
- ▶ Pre/Post alarm recording
- ▶ External device control via RS-485/RS-232C
- ▶ FTP client function
- ▶ Support NAT/IP masquerade
- ▶ Multicasting capability
- ▶ Built-in web server
- ▶ Motion detection function
- ▶ DC 5 V power supply



Viewing image



VN-E4U rear

VN-C20U

Image device	1/3" Interline Transfer CCD
Number of effective pixels	380,000 (768 H x 494 V)
Video S/N ratio	50 dB
Lens mount	C/CS
Iris control	DC Iris
White balance	Auto/Manual
Minimum illumination (typical) < B&W mode >	2.5 lx F1.2, AGC on, 50 IRE* 1.0 lx F1.2, AGC on, 25 IRE* < 1.0 lx F1.2, AGC on, 50 IRE*, Easy D/N > < 0.4 lx F1.2, AGC on, 25 IRE*, Easy D/N >
Interface	RJ-45 (Cat 5), 10 BASE-T/100 BASE-TX
Alarm I/O	Input x2, Output x1
Protocol	UDP/IP, TCP/IP, HTTP, FTP, DHCP ARP, ICMP, SMTP, NTP, DSCP
Picture	Resolution (pixel): 160 x 120, 320 x 240, 640 x 480 Compression: Motion-JPEG
Frame rate**	30 fpt (max.) in 640 x 480 and 320 x 240
Storage RAM	16 MB (8 MB for pre/post alarm recording)
Access protection	3 level passwords
Motion detection	Yes
Multicasting	Yes
Web server	Yes
Monitor out	Yes (BNC connector, NTSC)
View through	Web browser (Internet Explorer 6.0 (SP2))
Power supply	AC 24 V /PoE (Power over Ethernet, IEEE 802.3af compliant)
Power consumption	0.5 A (max.)
Dimensions (W x H x D)	2-7/8 inches x 2-5/8 inches x 5-7/8 inches (70 mm x 55 mm x 138 mm)
Weight	1.2 lbs. (560 g)

SYSTEM REQUIREMENT (recommended)

OS	Windows XP pro/home (SP2)
CPU	Pentium IV 1.5 GHz or higher
Memory	More than 1 GB
HDD space	More than 20 MB
Display/Video card	More than 1,024 x 768 pixels, True color (24-bit or 32-bit), VRAM 256 MB

* IRE is used in the same meaning as video level.

** Frame rate varies depending on the operating environment.

VN-C205U

CAMERA	
Image device	1/4" Interline Transfer CCD
Number of effective pixels	380,000 (768 H x 494 V)
Video processing	Built-in DSP (10-bit)
Pick-up area	3.6 mm (H) x 2.7 mm (V)
Video output (INT only)	Composite video signal: 1.0 V (p-p), 75 ohms (BNC)
Monitor output (INT only)	Composite video signal: 1.0 V (p-p), Hi-Z (RCA) : Front side
Minimum illumination (typical) < B&W mode >	1.5 lx F1.2, AGC on, 25 IRE ⁺ , wide end 0.9 lx F1.2, AGC on, 25 IRE ⁺ , wide end with optional clear dome cover < 0.9 lx F1.2, AGC on, 25 IRE ⁺ , Easy D/N, wide end >
White balance < ATW temp. range >	ATW/Manual < 2,300 K to 10,000 K >
AGC	on/off
Focus adjustment	on/off
Backlight compensation	on/off
LENS	
Focal length < Angle of vision >	2.6 mm to 6.0 mm < 82° (H) x 59° (V) to 35° (H) x 26° (V) >
Max. aperture ratio	F1.2
Angle adjustment range	Horizontal: 120°, Vertical: +80°, -50°, Tilt: ±15°
GENERAL	
Alarm I/O	Input x2, Output x2
Power supply	AC 24 V (60 Hz)/DC 12 V, UL listed
Power consumption	800 mA
Operating temperature	32 °F to 104 °F (0 °C to 40 °C)
Dimensions	ø 6-5/16 inches x 5-9/32 inches (H) (ø 160 mm x 134 mm (H))
Weight	2.2 lbs. (1.0 kg)

NETWORK

Network interfaces	RJ-45 (Cat 5), 10 BASE-T/100 BASE-TX (auto negotiation)
Protocol	TCP/IP, UDP/IP, HTTP, FTP, ICMP, ARP, DHCP, NTP
Picture	Resolution (pixel): 320 x 240, 640 x 480 Compression: JPEG (7 levels)
Frame rate	30 fps (max.) in 640 x 480
Internal storage capacity	8 MB (RAM) or CF card ⁺⁺ (option)
Data transmission	Multicast/Unicast
Access protection	3 level passwords
View through	JVC controller software and VR-N100U with VDR view/ Web browser (Internet Explorer 5.x/6.x)
Internal clock backup battery	Yes

SYSTEM REQUIREMENT (recommended)

OS	Windows 2000 server (SP1 or later)/pro (SP1 or later), Windows XP pro/home (SP 1 or later)
CPU	Pentium IV 3.2 GHz or higher
Memory	More than 1 GB
HDD space	More than 20 MB
Display/Video card	More than 1,024 x 768 pixels, True color (24-bit or 32-bit)

⁺ IRE is used in the same meaning as video level.

⁺⁺ May not be compatible with certain CF cards; use of industrial version Compact Flash cards JVC recommended.

Line-up Chart

Color Camera

Storage

Flat Panel Display & Monitor

IP Security Products

System Information

Technical Information

Glossary

Index

VN-V215V4U

CAMERA

Image device	1/4" Interline Transfer CCD
Number of effective pixels	380,000 (768 H x 494 V)
Video processing	Built-in DSP (10-bit)
Pick-up area	3.6 mm (H) x 2.7 mm (V)
Monitor output (INT only)	Composite video signal: 1.0 V (p-p), Hi-Z (RCA) : Front side
Minimum illumination (typical) < B&W mode >	2.1 lx F1.3, AGC on, 25 IRE ⁺ , wide end < 1.3 lx F1.3, AGC on, 25 IRE ⁺ , Easy D/N, wide end >
White balance < ATW temp. range >	ATW/Manual < 2,300 K to 10,000 K >
AGC	on/off
Focus adjustment	on/off
Backlight compensation	on/off

LENS

Focal length < Angle of vision >	2.8 mm to 10 mm < 73° (H) x 54° (V) to 20° (H) x 15° (V) >
Max. aperture ratio	F1.3
Angle adjustment range	Horizontal: 350°, Vertical: ±80°, Tilt: ±175°

GENERAL

Alarm I/O	Input x1, Output x1
Power supply	DC 12 V, UL listed or PoE
Operating temperature	14 °F to 113 °F (-10 °C to 45 °C)

NETWORK

Network interfaces	10 BASE-T/100 BASE-TX
Protocol	RTP/IP, TCP/IP, UDP/IP, DHCP, NTP, FTP client
Picture	Resolution (pixel): 320 x 240, 640 x 480 Compression: JPEG/MPEG-4
Frame rate	30 fps (max.) in 640 x 480
Data transmission	Multicast/Unicast

SYSTEM REQUIREMENT (recommended)

OS	Windows XP pro/home (SP2)
CPU	Pentium IV 3.2 GHz or higher
Memory	More than 1 GB
HDD space	More than 20 MB
Display/Video card	More than 1,024 x 768 pixels, True color (24-bit or 32-bit)

⁺ IRE is used in the same meaning as video level.

VN-C625U

CAMERA

Image device	1/4" Interline Transfer CCD
Number of effective pixels	380,000 (768 H x 494 V)
Minimum illumination (typical) < B&W mode >	3.6 lx F1.6, AGC 20 dB, 50 IRE [*] , wide end 1.8 lx F1.6, AGC 20 dB, 25 IRE [*] , wide end < 0.15 lx F1.6, AGC 20 dB, 50 IRE [*] , wide end >
Backlight compensation	Yes (4 areas are selectable)
Shutter speed	Select from menu (1/60 s, 1/100 s to 10,000 s)
White balance < ATW temp. range >	ATW/Manual < 2,300 K to 10,000 K >

LENS

Zoom ratio	12x optical (3.8 mm to 45.6 mm)
Max. aperture	F1.6
Auto focus	Easy AF/One push AF
MECHANISM	
Preset position	100 positions
Panning	360° endless rotation
Panning speed	1.5 °/s to 180 °/s
Tilting	0° to 90°
Tilting speed	1 °/s to 120 °/s

GENERAL

Outer dome cover	Clear
Alarm I/O	Input x2, Output x2
Power supply	DC 12 V (AC 24 V to DC 12 V adapter included), UL listed
Power consumption	2.0 A (max.)
Operating temperature	32 °F to 104 °F (0 °C to 40 °C)
Dimensions	ø 4-23/32 inches x 7-1/2 inches (H) (ø 120 mm x 190 mm (H))
Weight	2.65 lbs. (1.2 kg)

NETWORK

Network interfaces	10 BASE-T/100 BASE-TX
Protocol	TCP/IP, UDP/IP, HTTP, FTP, ICMP, ARP, DHCP, NTP
Picture	Resolution (pixel): 320 x 240, 640 x 480 Compression: JPEG
Frame rate	30 fps (max.) in 640 x 480 and 320 x 240
Internal storage capacity	8 MB (RAM) or CF card** (option)
Data transmission	Multicast/Unicast
Access protection	3 level passwords
View through	JVC controller software and VR-N100U with VDR view/ Web browser (Internet Explorer 4.x/5.x/6.x)
Internal clock backup battery	Yes

SYSTEM REQUIREMENT (recommended)

OS	Windows 2000 server (SP1 or later)/pro (SP1 or later), Windows XP pro/home
CPU	Pentium IV 3.2 GHz or higher
Memory	More than 1 GB
HDD space	More than 20 MB
Display/Video card	More than 1,024 x 768 pixels, True color (24-bit or 32-bit)

^{*} IRE is used in the same meaning as video level.

^{**} May not be compatible with certain CF cards; use of industrial version Compact Flash cards JVC recommended.

Line-up Chart

Color Camera

Storage

Fat Panel Display & Monitor

IP Security Products

System Information

Technical Information

Glossary

Index

VN-C655U(B)

CAMERA

Image device	1/4" Interline Transfer CCD
Number of effective pixels	380,000 (768 H x 494 V)
Wide dynamic range	400x (max.)
Minimum illumination (typical)	2.0 lx F1.6, AGC 20dB, 50 IRE ⁺ , wide end 0.6 lx F1.6, AGC 20dB, 25 IRE ⁺ , wide end 0.07 lx F1.6, AGC 20dB, 50 IRE ⁺ , wide end, 32x slow shutter < B&W mode > < 0.06 lx F1.6, AGC 20dB, 50 IRE ⁺ , wide end >
Backlight compensation	Yes (4 areas are selectable)
Shutter speed	Select from menu (1/60 s, 1/100 s to 10,000 s)
White balance	ATW/Manual
< ATW temp. range >	< 2,500 K to 8,000 K >

LENS

Zoom ratio	25x optical (3.8 mm to 95 mm), 10x electronic
Max. aperture	F1.6
Auto focus	Easy AF/One push AF

MECHANISM

Preset positions	100 positions
Panning	360° endless rotation
Panning speed	1 °/s to 300 °/s
Tilting	0° to 90°
Tilting speed	1 °/s to 180 °/s

GENERAL

Outer dome cover	Clear
Alarms I/O	Input x2, Output x2
Power supply	DC 18 V (AC 24 V to DC 18 V adapter included), UL listed
Power consumption	1.4 A (max.)
Operating temperature	32 °F to 122 °F (0 °C to 50 °C)
Dimensions	ø 6 inches x 7-1/2 inches (H) (ø 152 mm x 190 mm (H))
Weight	4.9 lbs. (2.2 kg)

NETWORK

Network interfaces	10 BASE-T/100 BASE-TX
Protocol	TCP/IP, UDP/IP, HTTP, FTP, ICMP, ARP, DHCP, NTP
Picture	Resolution (pixel): 320 x 240, 640 x 480 Compression: JPEG
Frame rate	30 fps (max.) in 640 x 480 and 320 x 240
Internal storage capacity	8 MB (RAM)
Data transmission	Multicast/Unicast
Access protection	3 level passwords
View through	JVC controller software and VR-N100U with VDR view/ Web browser (Internet Explorer 4.x/5.x/6.x)
Internal clock backup battery	Yes

SYSTEM REQUIREMENT (recommended)

OS	Windows 2000 server (SP1 or later)/pro (SP1 or later), Windows XP pro/home
CPU	Pentium IV 3.2 GHz or higher
Memory	More than 1 GB
HDD space	More than 20 MB
Display/Video card	More than 1,024 x 768 pixels, True color (24-bit or 32-bit)

⁺ IRE is used in the same meaning as video level.

VN-E4U

Video input	Composite video signal : 1.0 V (p-p), 75 ohms (BNC) x 4
Interface	RJ-45 (Cat 5), 10 BASE-T/100 BASE-TX
Alarm I/O	Input x 2, Output x 1
Protocol	UDP/IP, TCP/IP, HTTP, FTP, DHCP, IGMP, ARP
Picture	Resolution (pixels): 320 x 240, 640 x 480 Compression: JPEG
Frame rate (fps)*	320 x 240: 30 fps total: 120 fps 640 x 480: 30 fps total: 120 fps
Serial connectors	RS-485, RS-232C, D-sub 9 pin 2 ports
Internal memory	2 MB SDRAM for pre/post alarm recording
Motion detection	Up to 300 areas, sensitivity adjustable
Multicasting	Yes
Web server	Yes
View through	VR-N100U with VDR view/ Web browser (Internet Explorer 6.0 (SP 2))
Power supply	DC 5 V
Power consumption	20.0 W (max.)
Dimensions (W x H x D)	7-9/32 inches x 1-7/8 inches x 8-1/4 inches (185 mm x 40 mm x 190 mm)
Weight	2.4 lbs. (1.1 kg)

SYSTEM REQUIREMENT (recommended)

OS	Windows XP pro/home (SP2)
Web browser	Internet Explorer 6.0 (SP2)
CPU	Pentium IV 1.5 GHz for 1-ch Pentium IV 3.4 GHz for 4-ch
Memory	More than 1 GB
HDD space	More than 20 MB
Display/Video card	1,600 x 1,200 pixels, True color (24-bit or 32-bit)
Sound card (for audio use)	Sound Blaster PCI

* Frame rate varies depending on the operating environment.


Viewer Software/Control Software

Refer to P.35

VN-S400U/VN-SE400U

System Information



- ▶ **Multi-viewer VN-S400U:**
Up to 256 VN-C30U/VN-C11U/VN-C655U/VN-C625U devices can be registered and as many as 16 window displays and recordings are possible (Display and recording change depending on the operating environment).
- ▶ **External device controller pack VN-SE400U:** 
This plug-in software is compatible with VN-S400U. Compatible with TK-C625U, TK-C1460U and TK-C1480U.



Downloadable from the following URL

<http://pro.jvc.com> → V.Networks Web site → SUPPORT → DOWNLOAD

Specifications

VN-S400U

Forms of provision	Fee charged for CD-ROM
Compatible models	
VN-C625U	Yes
VN-C655U	Yes
VN-C11U (Firmware Ver1.2 or later)	Yes
VN-C30U (Firmware Ver1.3 or later)*	Yes
VN-A1U (Firmware Ver2.0 or later)	Yes
VN-C3U	Yes
VN-C2U	Yes
VN-C1U	Yes
PC model	PC/AT compatible
CPU	Pentium III more than 1 GHz
Memory	More than 256 MB
HDD space	More than 20 MB
Graphic board	Supported DirectX
Display and video card	More than 1,024 x 768 (recommended 1,280 x 1,024) More than True color (24-bit)
LAN card	100 BASE-TX
Compatible OS	
Windows 2000 server	—
Windows 2000 professional	Yes (SP4)
Windows XP professional	Yes (SP1/1a)
Windows XP home edition	Yes (SP1/1a)
Windows server 2003	—
Browser	Internet Explorer 6.0 (SP1)

* VN-S400U is not compatible with VN-C30U JPEG multicast.

Line-up Chart

Color Camera

Storage

Flat Panel Display & Monitor

IP Security Products

System Information

Technical Information

Glossary

Index

Network Video Recorder

VR-N100U



- ▶ Integrated network video recorder and IP camera management
- ▶ Easy access to live and archived video from anywhere and anytime
- ▶ Records 16 cameras at 30 fps and high resolution
- ▶ Automatic camera discovery and configuration
- ▶ A single static IP address can support thousands of IP cameras
- ▶ Manages the camera's network usage, thus preserving bandwidth
- ▶ Storage of 1.3 TB or 2.0 TB available (4x HDDs in RAID 5, expandable up to 105 TB)
- ▶ Control via JVC NVR client software and/or web browser (e. g. Microsoft Internet Explorer)
- ▶ Interfaces with IT industry standard hardware

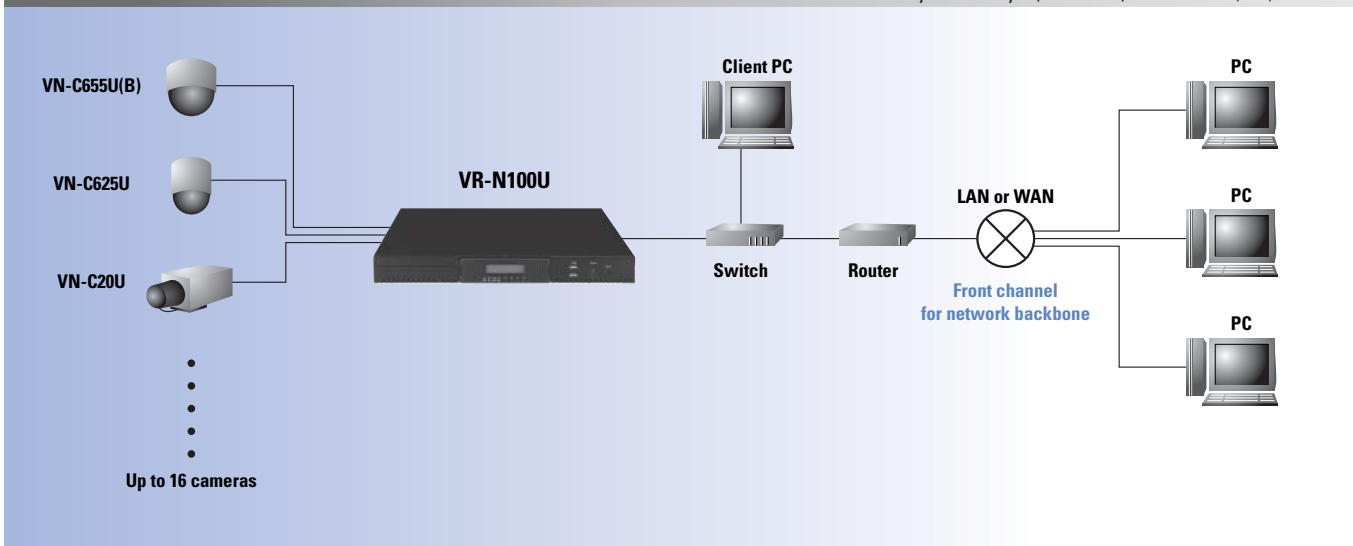
Model Number

VR-N100U-1320: 1.3 TB HDD

VR-N100U-2000: 2.0 TB HDD

System Configuration

For inquiries regarding VR-N100U, please contact: JVC Professional Products Company
1700 Valley Road Wayne, NJ 07470, U.S.A. TEL: (973) 317-5000



Specifications

VR-N100U

Hardware

- 19" 1U rack mount chassis
- 1x server motherboard with CPU/Fan/RAM/OS/APP
- 1x LCD/LED system status display
- 4x HDDs (RAID set, 5th optimized recovery cache)
- A single static IP address can support thousands of IP cameras
- Dual 10 BASE-T/100 BASE-TX network interface card
- SCSI: support for VR-N100U-ST expandable RAID modules
- PCI expansion slot: support for additional upcoming functionality and features
- 6 ATAPI channels: support for onboard RAID set
- Power supply: AC 120 V
- Power consumption: 0.5 A
- Dimensions (L x W x H): 22-13/16 inches x 16-3/4 inches x 1-3/4 inches (580 mm x 426 mm x 45 mm)
- Weight: 25.0 lbs. (11.3 kg)
- Operating temperature: 32 °F to 95 °F (0 °C to 35 °C)
< storage >: < 14 °F to 149 °F (-10 °C to 65 °C) >
- UL60950-1, TÜV/GS, FCC part 15 subpart B class A

Software

- 16 camera license
- Automatic camera discovery and configuration
- Software RAID
- 24 x 7 x 365 operation
- Simultaneous real time recording at 30 fps
- Video motion detection (motion capable cameras required)
- Pan/Tilt/Zoom (PTZ capable cameras required)
- Random access search
- Customized setting for each camera
- Enterprise client management windows software
- Unlimited user license with VR-N100U
- Unlimited customized software multiplexer switch
- Unlimited VR-N100U and camera support

Refer to P.38

Ready Pak

IP66



The JVC Ready Pak series is a packaged surveillance system that includes a JVC camera and lens assembled in an environmental housing. The assembly is pre-wired, and adjusted to make installation simple and quick saving your valuable time in the field.

The Ready Pak housing meets the standard for IP66/NEMA protection. The assembly includes an integral sunshield and wall mount. A heater is included to insure the camera is maintained at a proper temperature.

The Ready Pak is available with a choice of 4 JVC cameras and a choice of a 2.5 mm to 12 mm or 5 mm to 50 mm variable focal lens.

If you need further information, please contact JVC for assistance.

Line-up Chart

Color Camera

Storage

Flat Panel Display & Monitor

IP Security Products

System Information






Technical Information

Glossary

Index

Selection guide

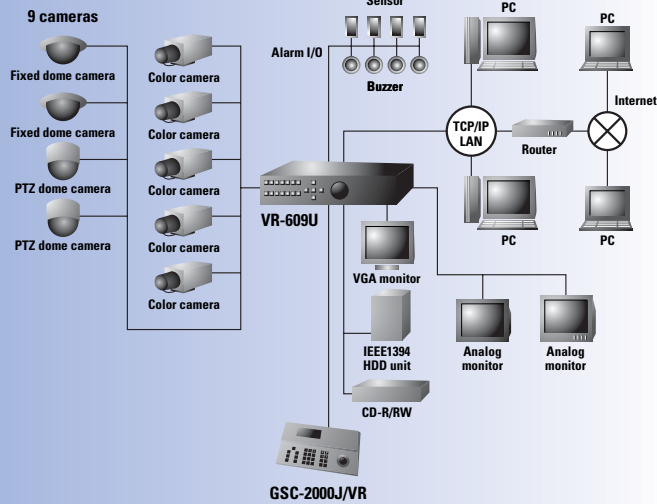
For inquiries regarding Ready Pak, please contact: JVC Professional Products Company
1700 Valley Road Wayne, NJ 07470, U.S.A. TEL: (973) 317-5000

Camera	Ready Pak prefix	Auto iris vari-focal	Ready Pak suffix	Model number
 TK-C750U(A) Standard resolution	HMTK-C750	2.5 mm to 12 mm	-212	HMTK-C750-212
		5 mm to 50 mm	-550	HMTK-C750-550
 TK-C920U(A) High resolution	HMTK-C920	2.5 mm to 12 mm	-212	HMTK-C920-212
		5 mm to 50 mm	-550	HMTK-C920-550
 TK-C1480U ExDR	HMTK-C1480	2.5 mm to 12 mm	-212	HMTK-C1480-212
		5 mm to 50 mm	-550	HMTK-C1480-550
 TK-C1460U Day/Night	HMTK-C1460	2.5 mm to 12 mm	-212	HMTK-C1460-212
		5 mm to 50 mm	-550	HMTK-C1460-550
 VN-C20U Fixed IP camera	HMVN-C20	2.5 mm to 12 mm	-212	HMVN-C20-212
		5 mm to 50 mm	-550	HMVN-C20-550

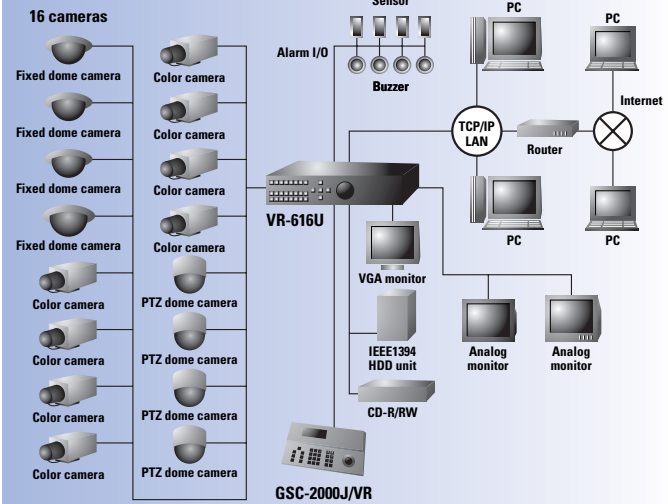
VR-609U/VR-616U system configuration

These figures are general examples of the surveillance application.

VR-609U



VR-616U

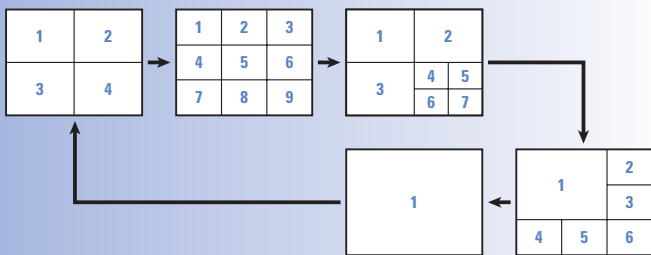


VR-609U/VR-616U monitoring images

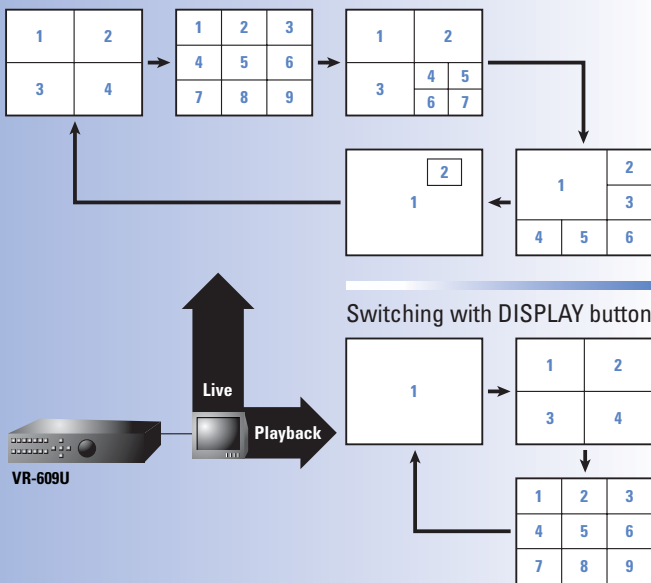
Possible to customize the layout of the display from several patterns.

VR-609U

Default setting: Switching with DISPLAY button

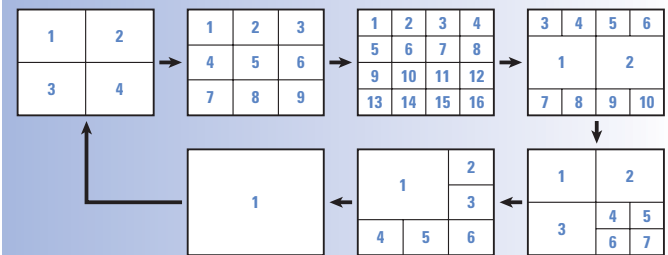


User setting: Switching with USER and DISPLAY buttons

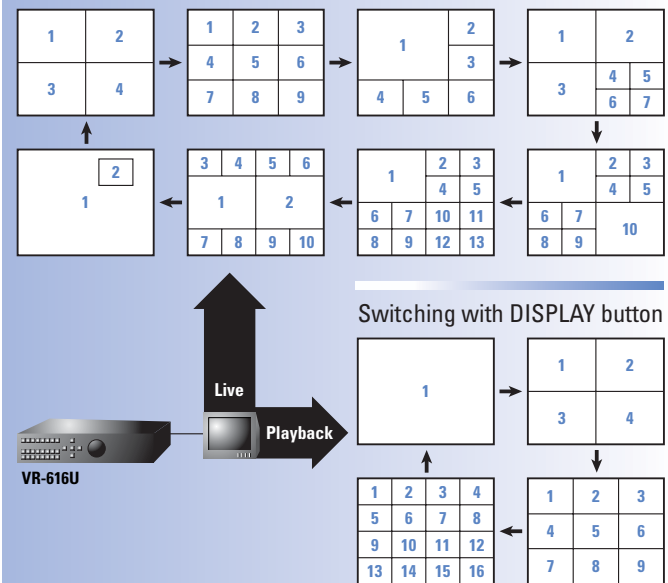


VR-616U

Default setting: Switching with DISPLAY button



User setting: Switching with USER and DISPLAY buttons

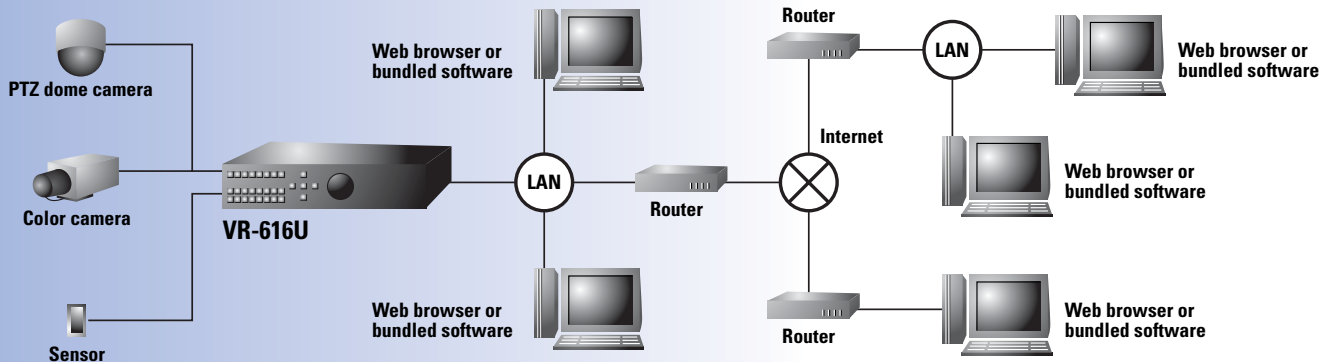


VR-609U/VR-616U remote surveillance via network (LAN/WAN)

System configuration

Supports web server, remote control and remote file transfer via network

⚠ Remote monitor/playback/operation, depend on network quality.
 When the network quality is bad, the connection could be cut or the playback could be slower.
 Please use remote network operation in a sufficient network environment.



System requirement

PC	Type	PC/AT compatible machine
	CPU	Required: more than Pentium III 866 MHz Recommended: more than Pentium IV 1.8 GHz
	Memory	More than 256 MB
	Graphic board	<ul style="list-style-type: none"> • DirectX support • Direct Draw Video overlay supported VGA (DirectX 7.x, 8.x) • 1,024 x 768 or better, True color or higher • Graphic memory 32 MB or higher • The on-board video chip cannot be used. Tested with the video card of nVIDIA Geforce FX5700 Ultra.
	HDD	Free space more than 12 MB
	Compatible OS	Windows 98, Windows 2000, Windows Me, Windows XP

The PC specification is merely recommended specifications for using the client software with ease and is not a guarantee against its operation. Using on the system that is not fulfilled the system requirements, the response from PC may become slow.

Built-in web server function

Live monitoring

- ▶ Display mode selection *VR-616U only
- ▶ Possible to display the type or alarm signals on a screen
 - Sensor: When there is a sensor signal input from Alarm-in connector
 - Motion: When there is a motion detection
- ▶ Possible to control PTZ dome camera

Playback search

- ▶ Possible to check channel, date and time
- ▶ Password protection: Only one person is allowed to see the web playback screen



Function of bundled software [VR-609U/VR-616U player]

Live mode

- ▶ Title/Border on/off
- ▶ Display mode selection *VR-616U only
- ▶ PTZ dome camera select and control
- ▶ Channel selection

Search mode

- ▶ Time date search
- ▶ Event search
- ▶ Download (remote backup)
- ▶ Channel selection

Playback mode

- ▶ Play (Forward&Backward), Pause, Stop control
- ▶ Play speed selection (5 level)
- ▶ Print image
- ▶ Resolution selection

4-ch mode



System controller for VR-609U/VR-616U

Operates a single DVR and up to 16 cameras (JVC products only).

Line-up Chart

Color Camera

Storage

Flat Panel Display & Monitor

IP Security Products

System Information

Technical Information

Glossary

Index



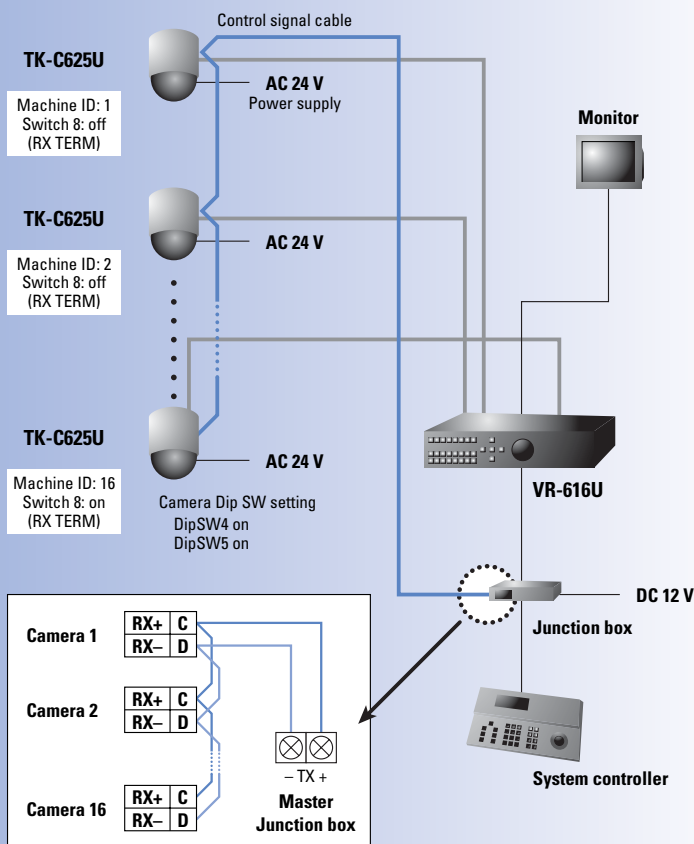
PTZ dome camera control: TK-C625U

- ▶ Built-in 3 axis joy stick
- ▶ Built-in pan/tilt and zoom controls
- ▶ Focus far/near
- ▶ Auto focus on/off
- ▶ Panning/Tilting 8 steps
- ▶ Zooming 4 steps
- ▶ IRIS open/close
- ▶ Home/Preset position call
- ▶ Auto pan/Auto patrol on/off
- ▶ Camera menu on/off
- ▶ Parameter change
- ▶ Operation lock function
- ▶ RS-485 operation
- ▶ DC 12 V power operation via junction box
- ▶ Easy wiring connection and operation

DVR control: VR-609U and VR-616U

- ▶ Various function keys to control JVC DVR
- ▶ Direct connection from junction box for easy wiring
- ▶ Multi camera control available
- ▶ Channel selection
- ▶ Image sequence on/off
- ▶ Auto sequence on/off
- ▶ Alarm reset
- ▶ Zoom on/off
- ▶ Freeze on/off
- ▶ Triplex on/off/move
- ▶ Display split screen
- ▶ User setting on/off
- ▶ Menu on/off
- ▶ Master menu return/Slave menu call
- ▶ Parameter change
- ▶ Recording on/off
- ▶ Forward playback on/off/pause
- ▶ Reverse playback on/off/pause
- ▶ VGA on/off

System configuration



Please use a twisted pair cable. Connect a +terminal (TX+)/-terminal (TX-) of this equipment to the RX+/RX- terminal of a PTZ dome camera. The camera connected at the end should setup a terminal.

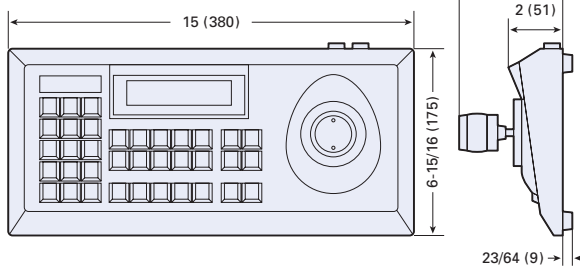
Specifications

GSC-2000J/VR

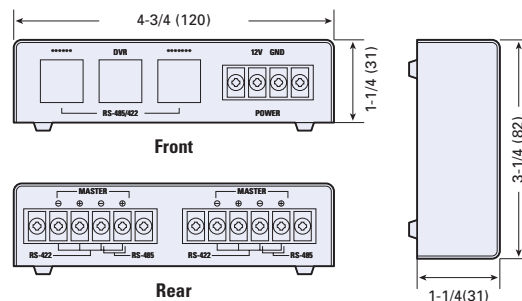
Connector port	Direct TX+/-, RX+/- (RJ-45)
Communication	RS-485
Communication speed	9,600 bit/s
Operating distance	1.2 km (max.)
Number of camera/DVR control	16/1 (max.)
Power supply	DC 12 V
Power consumption	300 mA, 3.6 W
Operating temperature	41 °F to 104 °F (5 °C to 40 °C)
Operating humidity	30 % to 80 % RH non-condensing
Weight	2.6 lbs. (1.2 kg)

Dimensions

System controller



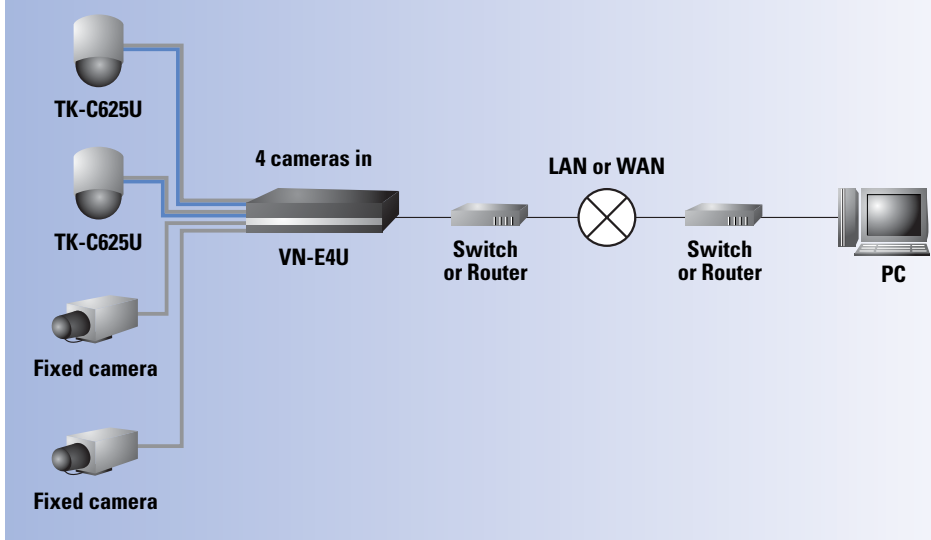
Junction box



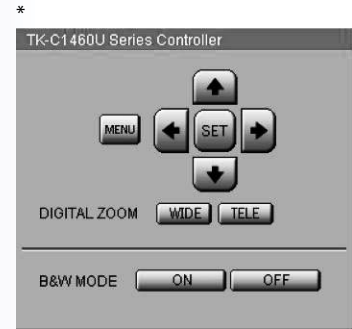
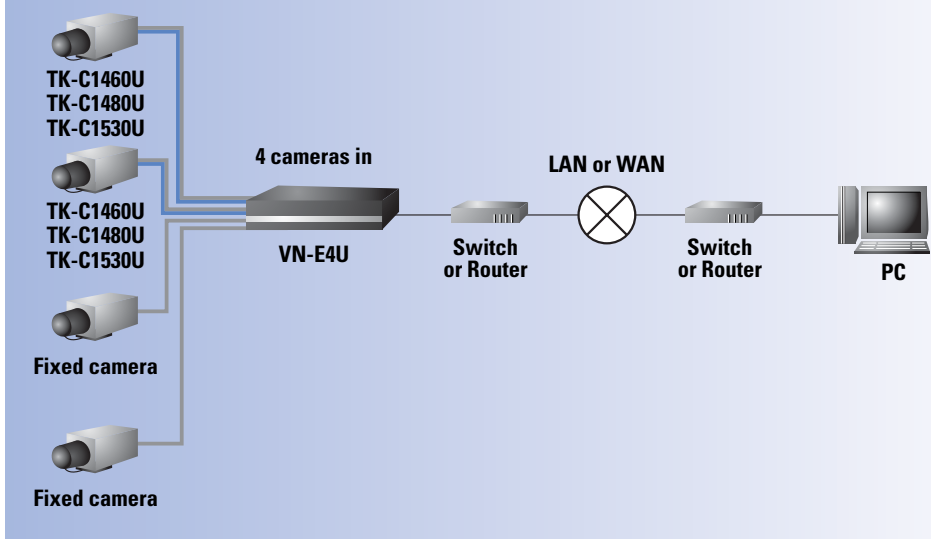
- Line-up Chart
- Color Camera
- Storage
- Fat Panel Display & Monitor
- IP Security Products
- System Information
- Technical Information
- Glossary
- Index

VN-E4U system configuration

TK-C625U controller



TK-C1460U/TK-C1480U series controller

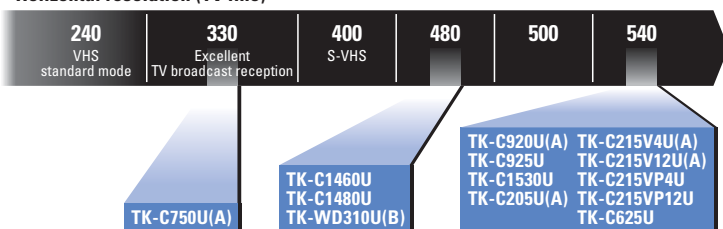


- Video signal
- Control signal
- Network

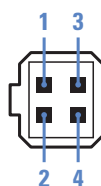
* This is just an image of the built-in web browser of VN-E4U.
Note: RS-422A/RS-485 selectable.

1 Camera horizontal resolution chart

Horizontal resolution (TV line)



2 Lens iris terminal



Pin No.	Lens DC iris does not contain EE amplifier	Video iris contain EE amplifier
1	Brake ⊖	9.5 V (max. 50 mA)
2	Brake ⊕	NC
3	Drive ⊕	VIDEO
4	Drive ⊖	GND

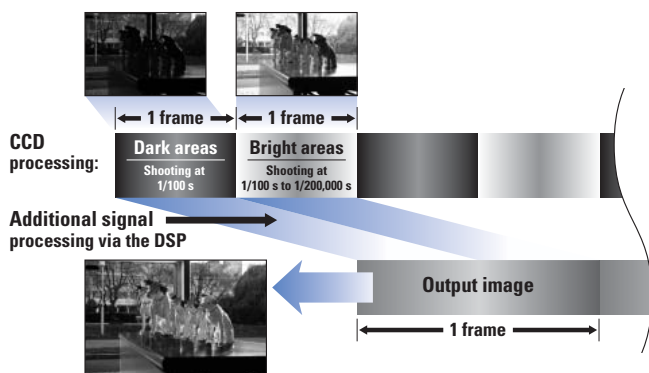
Object cameras: TK-C920U(A) [P.2], TK-C1460U [P.4], TK-C1480U [P.4] and TK-WD310U(B) [P.5]

3 Wide dynamic range function

ExDR **WDR**

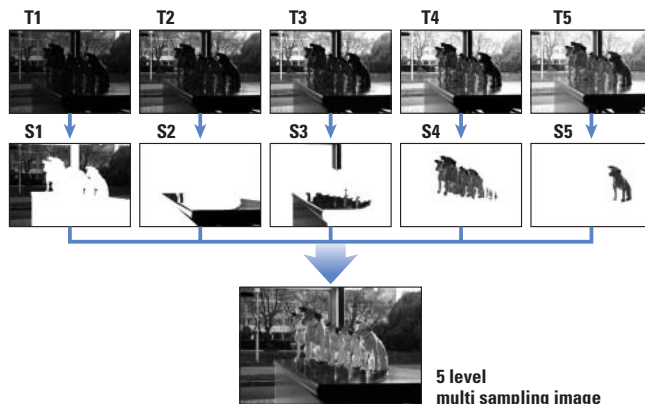
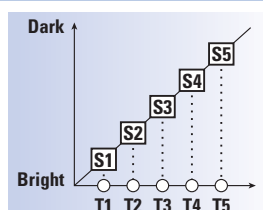
Extended dynamic range (ExDR)

Under adverse backlighting conditions, conventional cameras can not make clear images. In this case, images in dark areas become almost black as pitch and images in bright areas become almost white. JVC's new digital signal processor (DSP) circuit, which enables the realization of a wide dynamic range function, solves these problems. By capturing clear images through the use of a low-speed shutter in dark areas and a high-speed shutter in bright areas and then combining these two images, a uniformly easy-to-view image can be achieved.



Wide dynamic range (WDR)

JVC's innovated technology featuring a wide dynamic range function performs by multi sampling method. TK-WD310U(B) automatically adjust luminance by pixel with 14-bit digital processing as well as implement 5 level multi sampling, in order to realize an accurate color reproduction.



Selection guide for JVC line-up

	Morning	Day light	High contrast	Evening	Night time
ExDR	Auto iris normal mode		Auto tracking white balance (ATW)	AGC mode	AGC mode slow shutter (Intermittent picture)
TK-C1480U	Auto iris normal mode		ExDR mode color	AGC mode	IR cut filter off B&W mode
ExDR (W/IR on/off)	Auto iris normal mode		ExDR mode color	AGC mode	IR cut filter off B&W mode
TK-C1460U VN-C655U(B)	Auto iris normal mode		ExDR mode color	AGC mode	B&W
WDR	Auto iris normal mode		WDR mode real time response color	AGC mode	Easy day/night B&W mode B&W
TK-WD310U(B)	Auto iris normal mode		WDR mode real time response color	AGC mode	Easy day/night B&W mode B&W

Advantage for each model

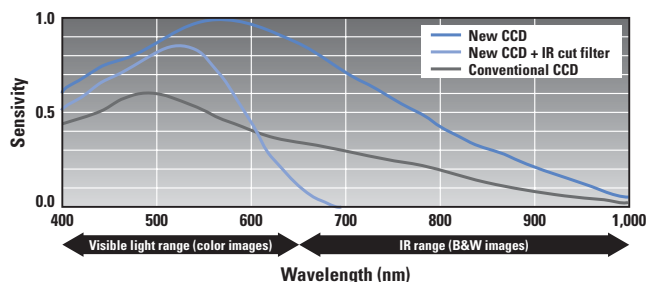
	Advantage	Summary	Application example
ExDR	• 0.4 lx F1.2, AGC 20 dB, 25 IRE • 0.0125 lx under slow shutter • S/N ratio 50 dB	• ExDR image output • Menu/RS-422A/RS-485 interface	• Casinos • Traffic • Town center
TK-C1480U	• 0.4 lx F1.2, AGC 20 dB, 25 IRE • 0.0003 lx under slow shutter (B&W) • S/N ratio 50 dB	• ExDR image output • Menu/RS-422A/RS-485 interface • Day/Night function (IR)	• Banks • Retail shops • Prison
ExDR (W/IR on/off)	• 0.4 lx F1.2, AGC 20 dB, 25 IRE • 0.0003 lx under slow shutter (B&W) • S/N ratio 50 dB	• ExDR image output • Menu/RS-422A/RS-485 interface • Day/Night function (IR)	• Banks • Retail shops • Prison
TK-C1460U VN-C655U(B)	• 14-bit high speed digital process • Realize high speed WDR with 5 level multi sampling each pixel	• WDR image output • Ultra compact body	• Bank ATM • Train (platform) • Entrance
WDR	• 14-bit high speed digital process • Realize high speed WDR with 5 level multi sampling each pixel	• WDR image output • Ultra compact body	• Bank ATM • Train (platform) • Entrance
TK-WD310U(B)	• 14-bit high speed digital process • Realize high speed WDR with 5 level multi sampling each pixel	• WDR image output • Ultra compact body	• Bank ATM • Train (platform) • Entrance

4 IR cut filter on/off function IR ON/OFF

IR cut filter makes it possible to capture both color, black and white images with just one camera. This is done by turning the filter to "ON" when shooting in sunlight during the day for color images and turning it to "OFF" at night for black and white images. Therefore continuous twenty-four-hour surveillance is possible thanks to this function.

* Noise will briefly occur on the screen when switching to the IR cut filter.

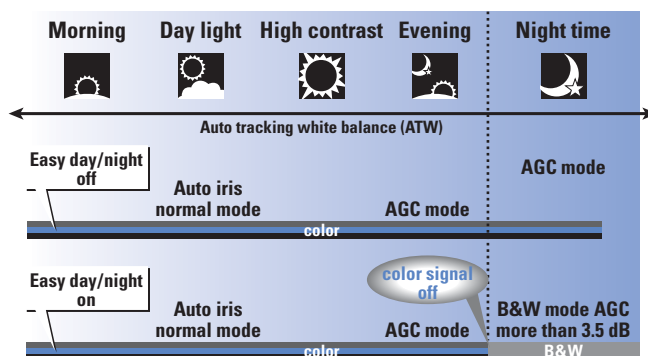
Spectral sensitivity characteristics of the CCD



Object cameras: TK-C925U [P.3], TK-C1530U [P.3], TK-C1460U [P.4], TK-C625U [P.8], VN-C625U [P.24] and VN-C655U(B) [P.25]

5 Easy day/night function Easy D/N

Camera uses color mode when the object is bright, and black and white mode when it is dark. (In this mode, AGC is always active regardless of the setting.)



Object cameras: TK-C920U(A) [P.2], TK-WD310U(B) [P.5], TK-C205U(A) [P.6], TK-C215V4U(A) [P.6], TK-C215V12U(A) [P.6], TK-C215VP4U [P.7], TK-C215VP12U [P.7], VN-C20U [P.23], VN-C205U [P.23] and VN-V215V4U [P.24]

6 Focus adjustment function Focus Adjustment

By turning the focus adjustment function to "ON" when adjusting the focus, the lens iris is forcibly opened and the zone of acceptable focus (depth of field) becomes shallow (i.e. the zone of acceptable focus narrows). This enables more accurate focusing than would be possible under ordinary conditions. Once the necessary adjustments have been made and the function has been turned to "OFF", the iris returns to its optimal state.

Object camera: TK-C205U(A) [P.5] and VN-C205U(A) [P.23]

When the focus adjustment function is turned "ON", the lens iris is focused fully open for about 30 seconds before returning to its original position. This results in a shallow depth of field (high-speed shutter) and makes it much easier to adjust focus.

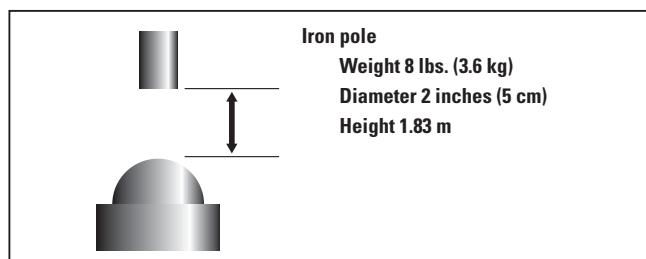
Object cameras: TK-C925U [P.3], TK-C1530U [P.3], TK-C215V4U(A) [P.6], TK-C215V12U(A) [P.6], TK-C215VP4U [P.7] and TK-C215VP12U [P.7]

What is depth of field ?

When a video is taken with the lens focused on the main object, there is a zone in which objects both in front of and behind the main object appear to be in focus. This zone is referred to as the "depth of field". When the zone of acceptable focus is broad, the depth of field is said to be "deep", and when the zone is narrow, the depth of field is said to be "shallow". If the depth of field is deep, the video will appear to be in focus from front to back. If the depth of field is shallow, however, only the main object will actually be in focus.

Depth of field	Shallow	Deep
Lens	Tele angle	Wide angle
Exposure	Open	Narrow
Position of object	Close	Far

7 Vandal resistant Vandal Resistant



Object cameras: TK-C215VP4U [P.7] and TK-C215VP12U [P.7]

Results

Weight: 3.6 kg Height: 1.83 m OK	Weight 1.5 times more Weight: 5.4 kg Height: 1.83 m OK	Weight twice times Weight: 7.2 kg Height: 1.83 m OK
--	---	--

After performing this standard test the dome cover did not sustain any cracking. The test was repeated with twice the initial test weight and again there was no evidence of cracking.

Line-up Chart

Color Camera

Storage

Flat Panel Display & Monitor

IP Security Products

System Information

Technical Information

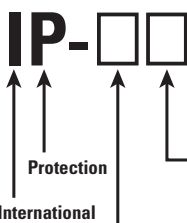
Glossary

Index

8 Dust and water protection (IP code)

Degrees of protection provided by electrical machinery and apparatus enclosures

IP66



Degrees of protection against water

Second characteristic numeral	Degree of protection (summary)	Degree of protection (definition)
0	No protection	—
1	Protected against vertically falling water drops	Vertically falling water drops shall have no harmful effects
2	Protected against vertically falling water drops when the enclosure is tilted up to 15 degrees	Vertically falling water drops shall have no harmful effects when the enclosure is tilted at any angle up to 15 degrees
3	Protected against spraying water	Water sprayed vertically toward either side of the enclosure at an angle of up to 60 degrees shall have no harmful effects
4	Protected against splashing water	Water splashed against the enclosure from any direction shall have no harmful effects
5	Protected against water jets	Water projected from a nozzle in jets against the enclosure from any direction shall have no harmful effects
6	Protected against powerful water jets	Water projected from a nozzle in powerful water jets against the enclosure from any direction shall have no harmful effects
7	Protected against the effects of temporary immersion in water	Temporary immersion of the enclosure in water under standardized conditions of pressure and time shall have no harmful effects
8	Protected against the effects of continuous immersion in water	Continuous immersion of the enclosure in water under conditions that shall be agreed upon between the manufacturer and user but which are more severe than those for numeral 7 shall have no harmful effects

Degrees of protection against solid foreign objects

First characteristic numeral	Degree of protection (summary)	Degree of protection (definition)
0	No protection	—
1	Protected against solid foreign objects of 50 mm diameter and greater	The object probe, a sphere with a 50 mm diameter, shall not fully penetrate
2	Protected against solid foreign objects of 12.5 mm diameter and greater	The object probe, a sphere with a 12.5 mm diameter, shall not fully penetrate
3	Protected against solid foreign objects of 2.5 mm diameter and greater	The object probe, a sphere of 2.5 mm diameter, shall not penetrate at all
4	Protected against solid foreign objects of 1.0 mm diameter and greater	The object probe, a sphere of 1.0 mm diameter, shall not penetrate at all
5	Dust protected	Penetration of dust is not totally prevented, but dust shall not penetrate in a quantity to interfere with satisfactory operation of the apparatus or to impair safety
6	Dust tight	No penetration of dust

* Information regarding close proximity with dangerous places has been omitted. * The full diameter of the solid probe shall not pass through the external opening.

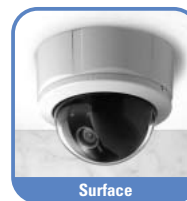
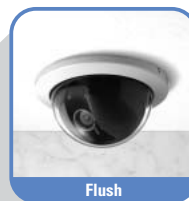
Object cameras: TK-C215VP4U [P.7], TK-C215VP12U [P.7], and Ready Pak [P.31]

9 3 way mount

3way Mount

3 ways flexibility of installation

No additional mounting hardware is required for flush mounting on a ceiling. Wall mounting is even possible thanks to the TK-C215's triple axis rotation system. Furthermore, use 6 inch electrical box, it's possible to directly install on ceiling.



Simple and flexible installation

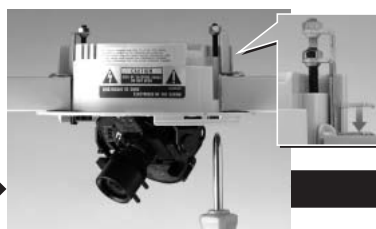
With self-contained L-shaped mounting brackets, flush installations of the TK-C215 series couldn't be easier. No extra brackets are required. With this new method, installation can be completed in nearly one-fifth the time of our conventional surveillance cameras. Moreover, surface mounting is possible, too.



1. Remove the camera's outer cover and ceiling panel.



2. Once the camera has been inserted into the hole drilled in the ceiling, push in the screws and rotate them 90° clockwise.



3. After removing the screwdriver, the springs attached to the screws will stretch and the camera can be firmly secured to the ceiling.
Note: This must be carried out for all three screws.



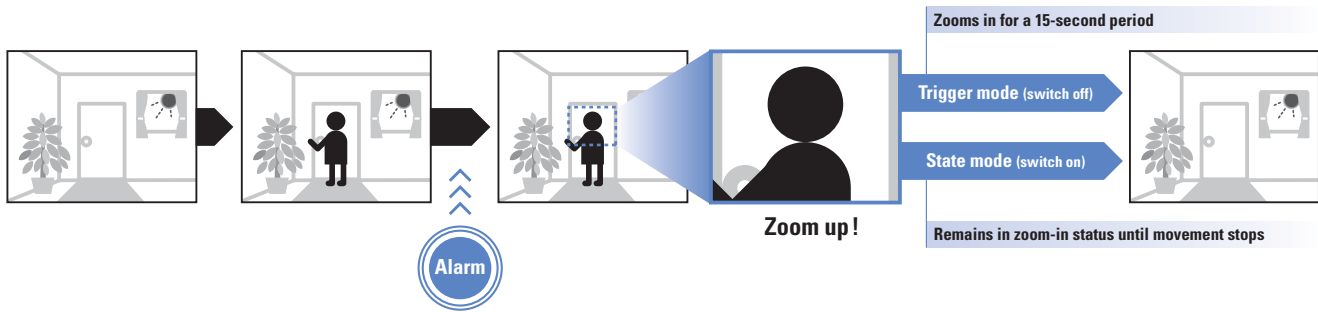
4. Mount the ceiling panel to complete installation.

Object cameras: TK-C215V4U(A) [P.6] and TK-C215V12U(A) [P.6]

10 Alarm zoom function

Alarm Zoom

Camera has "12x lens", "alarm input interface", and "memory for 2 different lens position". Thanks to this memory function, the camera lens unit can be set for 2 lens position and the zoom-up mechanism will move from "regular position" to "another position" when alarm signal comes, for instance.

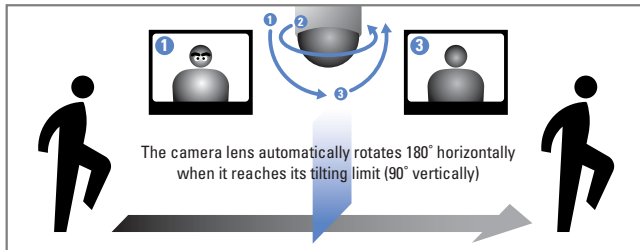


Object camera: TK-C215V12U(A) [P.6], TK-C215VP12U [P.7]

11 Various functions of PTZ dome camera

Auto flip (all models)

With the function switched on, the camera automatically flips over 180 degrees when it reaches its tilting limit, making it possible for the camera to continue displaying right-way-up images once it has gone through the vertical.



Digital flip (VN-C655U(B))

Digital flip inverts pictures on both vertical and horizontal axis once the tilt reaches 135 degrees, after the camera has passed through the vertical axis.

Auto pan (all models)

Use the Auto pan screen to set the Auto pan function, which allows the camera to be revolved slowly in a horizontal direction. Auto pan function has three modes, the return mode for continual movement between two positions, the right mode for clockwise rotation and the left mode for counterclockwise rotation.

Object cameras: TK-C625U [P.8], VN-C625U [P.24] and VN-655U(B) [P.25]

Auto trace (VN-C625U and VN-C655U(B): Auto tour)

Auto trace function lets the operator repeat a series of manual camera operations performed over a period of 30 seconds. When Auto trace mode is activated, the 30 seconds sequence of manual operations is memorised and then automatically repeated every 30 seconds.

Auto patrol (all models)

This function allows the camera to automatically move to multiple positions based on the preset position, sequence and time.

Auto return (all models)

The camera can be set to return automatically to its original position or to restart a specified operation (Auto pan or Auto patrol) at selected intervals.

AF for IR (all models)

Auto focus function activates when switching from color to black and white or vice versa, ensuring clear pictures even during switching.

Motion detection (all models except TK-C625U)

The image view is divided into 48 separate sectors. In the setup menu the user can designate the sectors where movement is to be auto-detected, so triggering an alarm signal. The setup menu is smart and this serves to eliminate false alarms, making the JVC's PTZ dome camera very reliable surveillance device.

Line-up Chart

Color Camera

Storage

Flat Panel Display & Monitor

IP Security Products

System Information

Technical Information

Glossary

Index

12 Relationship between focal length and field of view

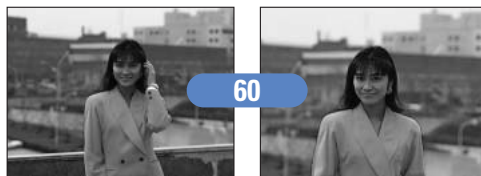
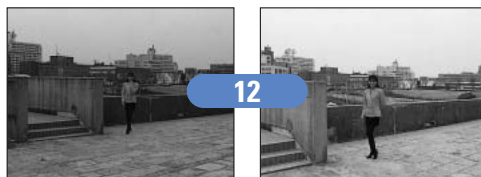
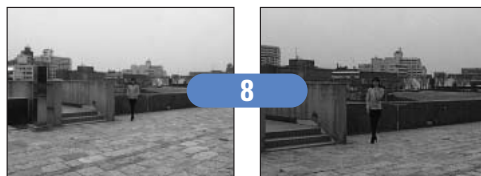
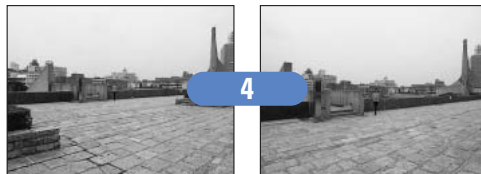
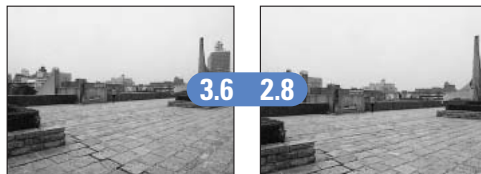
1/2"

1/3"

Lens focal length

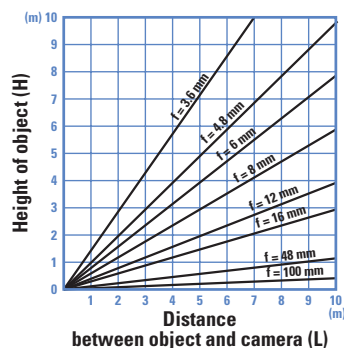
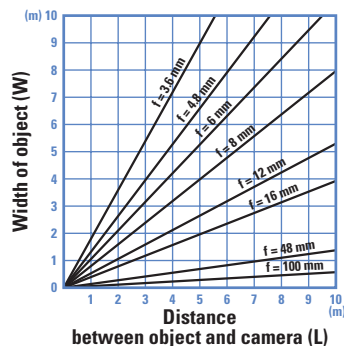
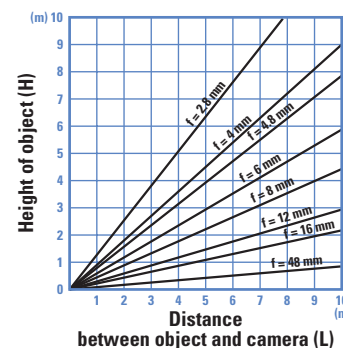
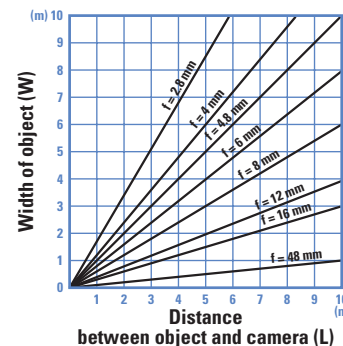
Simplified chart

Lens focal length (mm)	Horizontal angle of video (degree)	Vertical angle of video (degree)
3.6	81°	66°
4.8	67°	53°
6	56°	44°
8	44°	33°
12	30°	23°
16	23°	17°
69	5.3°	4°
100	3.7°	2.7°



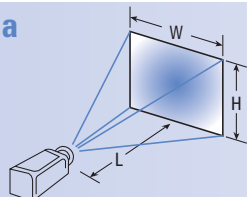
Simplified chart

Lens focal length (mm)	Horizontal angle of video (degree)	Vertical angle of video (degree)
2.8	81°	66°
4	62°	48°
4.8	53°	41°
6	44°	33°
8	33°	25°
12	23°	17°
16	17°	13°



• This shooting is an image that was taken with a distance of 10 meters between object and camera.

Formula



$$W = \frac{X}{f} \times L$$

$$H = \frac{Y}{f} \times L$$

$$(H = \frac{3}{4} W)$$

Parameter chart

CCD size	1/2"	1/3"	1/4"
X	6.4	4.8	3.6
Y	4.8	3.6	2.7

W = Width of video (m)

H = Height of video (m)

f = Focal length of lens being used (mm)

L = Distance between object and camera (m)

- Image range of monitor (width, height and angle) is 10% less than that of actual data.
- Due to distortion that occurs with a wide-angle lens, actual angle of taken image will be wider than calculated value.

Line-up Chart
Color Camera
Storage
Flat Panel Display & Monitor
IP Security Products
System Information
Technical Information
Glossary
Index

13 Network specific information

IP address

What is a private (local) IP address?

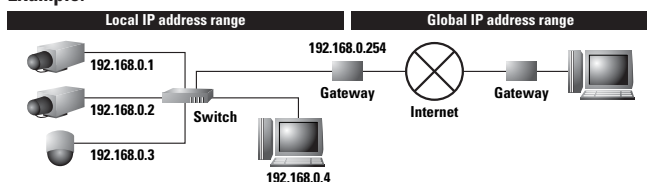
Private IP address is an IP address that can be used freely as a LAN network address without being connected to the Internet.

What is a global IP address?

Global IP address is an IP address that is assigned to a device connected to the Internet. This address is indispensable for carrying out transmissions via the Internet.

"192.168.0.2" is the IP address set in the initial settings for JVC IP products.

Example:



Simultaneous access by multiple users

The frame rate (or bit rate), which refers to the number of images that can be transmitted by JVC IP products within a second, is decided according to the specifications of JVC IP products. Within the range of specification approximately 10 users can simultaneously access JVC IP products. However, when a large number of users simultaneously access JVC IP products, there may be a decline in the frame rate or image quality.

Unicast and Multicast

Unicast transmission

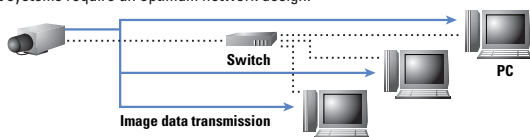
Since unicast involves one-to-one transmission between two terminals (e.g. between a camera and a monitoring PC), it is necessary for the bandwidths to be equivalent to the number of terminals when identical information is to be acquired by several terminals.



Multicast transmission

Since multicast is used to transmit a single packet to multiple terminals, the data transmission volume decreases regardless of the number of terminals. Multicast requires a compatible network device.

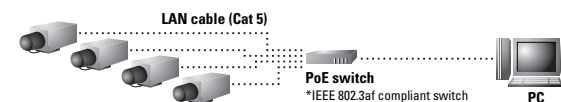
- * Remote surveillance via the Internet cannot be carried out with a multicast system.
- * Multicast systems require an optimum network design.



PoE (Power over Ethernet)

PoE

PoE supplies the electric power to the network camera by using LAN cable (Cat 5). Easy installation like JVC analog cameras is available with single cable. It doesn't require data cable and AC power cable separately. PoE compliant network switch or power injector is required for PoE installation.



Alarms

JVC IP products has two inputs and two outputs alarm terminals (except VN-E4U: input x 4/output x 1). Either a less voltage a-contact or c-contact output-type alarm input sensor should be employed. Since alarm output is NPN open collector output, NPN open collector output must be converted to less-voltage a-contact output when using a general sequencer. In addition, it is important to note that the GND must be connected to a control device. In the event that the control device has no GND, the JVC IP products GND should be connected to the COM terminal. When distributing an alarm to several multi-viewers (VN-S400U) with a single camera, it is possible to register up to 5 distribution addresses for up to 10 for JVC's JVC IP products (except VN-C20U).

File size

JPEG recorded file size calculation for 1 camera

JPEG data size per image (approximate data)

Resolution	Compression rate (kB)						
	1	2	3	4	5	6	7
160 x 120	9	6	4	3	3	3	2
320 x 240	22	15	10	9	8	7	6
340 x 480	59	37	24	19	17	16	15
640 x 480 (fine mode)	65	41	27	21	19	18	17

Example:

Camera setting: Resolution 320 x 240, Compression rate 2, Frame rate 2 fps

Q: What is the file size for 1 day recording ?

A: 15 (kB) x 2 (fps) x 86,400 (s) = 259,200 (kB) = **2.59 (GB)**

Q: How many days is the recording possible with 40 GB HDD ?

A: 40 (GB) ÷ 2.59 (GB) = 15.444 = **15 (days)**

Maximum recorded file size

The maximum recorded file size vary depending on the application and Windows file system.

Maximum recorded file size (JPEG)

Application software		Windows file system	
Standard controller 2 GB	VN-S400U No limitation	FAT32 4 GB	NTFS 2 TB

For long recording, it is recommended to use VN-S400U and NTFS file system. The VN-S400U possesses a function that allows them to automatically separate recording files every hour on the software side. For example, if you record for three days straight, 72 recording files will automatically be created. (24 hours/day x 3 days = 72 hours)

JPEG network traffic

Data size per image x Frame rate x 8(bit/byte) x 1.2(overhead) = JPEG network traffic

Example:

Q: What is the network traffic if the camera setting is resolution 320 x 240, compression rate 2 and frame rate 5 fps ?

A: 15 (kB) x 5 (fps) x 8 (bit/byte) x 1.2 = 720 (kbps)

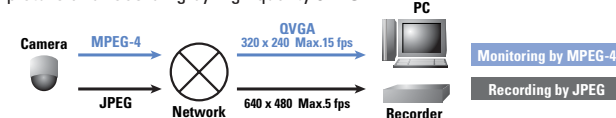
RJ-45 connector assign

Pin No.	T568A type	T568B type	Signal
1	Green/White	White/Orange	TD+
2	Green	Orange	TD-
3	Orange/White	White/Green	RD+
4	Blue	Blue	—
5	Blue/White	White/Blue	—
6	Orange	Green	RD-
7	Brown/White	White/Brown	—
8	Brown	Brown	—

Dual Stream (MPEG-4 & JPEG)

Dual Stream

As example, simultaneously able to use both monitoring by smooth MPEG-4 picture and recording by high quality JPEG.



Technical information for software developers

The following technical information are available for integrating JVC IP products cameras into customers own application software or system.

API: UDP, HTTP data and other communication specifications that include the structure of control data, structure of JPEG data and some examples of sequence until JPEG data is acquired.

In order to receive these JVC confidential technical information, please contact local JVC sales office and enter into the license and non-disclosure agreements. These information are supplied on royalty free basis.

Local JVC sales office :

http://www.jvc-victor.co.jp/english/company/contacts/hqpage_a2.htm

A Automatic gain control (AGC)

Using a circuit built into the camera, gain control makes it possible to automatically maintain a constant output signal level even if there are changes in brightness. This makes it possible to obtain a picture with the same level of brightness regardless of whether it is taken in a dark or bright place. (Noise may slightly stand out.) When a strong signal exceeding the set level is input, signal saturation is prevented by controlling gain. In the event that a weak signal is input, the signal is raised to correspond with the set level and this fixed level is maintained.

Application program interface (API)

This refers to the instruction and function sets that can be utilized when developing software as well as the established rule set for the program procedures that are necessary for employing these instruction and function sets.

Automatic electronic shutter (AES)

This is a function that automatically controls the device output level according to the incident light amount by utilizing the electronic shutter function of a solid-state image device.

Auto negotiation

Auto negotiation is regulated by IEEE 802.3u. This function can be used to determine the appropriate transmission system for the corresponding device (Hub etc.) as well as select the optimum (highest possible speed) transmission method prior to transmission. When the corresponding device supports two or more of the transmission systems as well as the auto negotiation function, the high-priority items (fast transmission speed etc.) are given precedence. In the event that the corresponding device does not support the auto negotiation function, the transmission speed is automatically selected, but the automatic selection of full-duplex/half-duplex is not performed and half-duplex is always chosen.

Auto white balance (AWB)

When using CCD or film, pictures often come out reddish or greenish (orangish or bluish) in color when taken under incandescent or fluorescent light. AWB makes it possible to adjust white color balance under a wide variety of light sources. Automatic tracking (tracing) white balance (ATW), automatic white balance (AWB), automatic white balance control (AWC), manual mode and other features are available.

B Backlight compensation (BLC)

With backlight scene, the auto iris function responds to the bright portion of the screen, thus causing the iris to narrow and resulting in the "darkening of the subject" phenomenon. Backlight compensation is a function that can be utilized to correct this phenomenon.

C Category 5 (Cat 5)

This refers to the quality assurance of connection parts such as unshielded twisted pair (UTP) cables and connectors. With LAN, category 3 is primarily utilized. For 100 BASE-TX, category 5 and above are used, and category 5e and above are required for 1,000 BASE-T.

Charge coupled device (CCD)

A charge coupled device is a semiconductor device that converts images to electrical signals.

Closed circuit television (CCTV)

Refers to a system of cameras and video accessory devices over an internal cabling path. Differs from broadcast video.

Compact flash (CF)

This is the standard for memory cards advocated by San Disk Corporation, and is utilized as a storage device for digital cameras etc. Compact flash combines flash memory that does not go off even when the power is turned off and an I/O controller circuit on just one card.

Common intermediate format (CIF)

This is the universal video signal format regulated by ITU-T H.261. CIF supports moving images with a data rate of up to 30 frames per second and a resolution of 352 x 288 pixels.

CSMA/CD

This is an access control method utilized for ethernet transmissions. When collisions occur due to multiple terminals attempting to simultaneously make transmissions, the transmissions are stopped and then resumed after an appropriate amount of time has passed.

D Dynamic host configuration protocol (DHCP)

This protocol is employed to automatically allocate IP addresses to clients when they turn on their PCs and then retrieve these addresses from them when they switch off their computers. On the server side, it is only necessary to collectively prepare several DHCP-client-use IP addresses. It is also possible to simultaneously provide clients with information such as gateway addresses, domain names and subnet masks.

Domain name system (DNS)

This system is used to replace IP addresses, which are expressed on the Internet with numerals (e.g. 255.254.253.0), with domain names that are easy to remember. On the internet, there are servers referred to as DNS servers that have IP address and domain name tables. By connecting to DNS servers, users can access the server that possesses the IP address via the domain name.

Digital signal processor (DSP)

This processor converts the input analog signal to a digital signal and then performs a variety of signal processing tasks. Thus, unlike analog processing, it is possible to produce stable and clear images without signal degradation within the circuit.

Dynamic range

This refers to the range within which the reproduction of images can be performed without adversely affecting gradation. The amount of light necessary for the luminance signal to reach the white peak at 100 IRE (100 % video level) is defined as 1, and this is the ratio of the

amount of light with which it is possible to perform the reproduction of images without clipping even when more light comes in than the amount stated above. In general, this is expressed in dB, % and times.

E Electronic sensitivity up

This is a function used to increase sensitivity by lengthening image device storage time beyond the norm or adding image signals to image memory via frames or field units.

Electronic zoom

This is a function that employs the scanning variable of an image device or image memory rather than an optic lens to electronically enlarge or shrink the image on the screen.

Ethernet

This is the LAN standard devised by Xerox Corporation, DEC Corporation (currently a branch of Compaq Computer Corporation) and Intel Corporation, and has been standardized by the IEEE 802.3. CSMA/CD has been adopted for data transmission over networks.

F Firewall

This is a software system that is used to prevent unauthorized entry into an organization's computer network from the outside. It also refers to computers with built-in firewall systems.

Frame rate

This rate is established by JVC IP Products and refers to the number of frames transmitted per second for JPEG and MPEG-4 images. The maximum frame rate is fixed for each image size depending on the specifications of the respective JVC IP Products models.

File transfer protocol (FTP)

This is one of the communications protocols used when exchanging files over the Internet. FTP is employed as the standard Internet file transfer method. Selecting FTP can often save time when downloading.

FTP client function

This is a JVC IP Products (VN-C655U(B)/C625U/C205U/C20U/E4U) function that makes it possible to periodically (range of values: 0 to 86,400 seconds) upload images (JPEG still images only) to any FTP server.

FTP server function

This refers to the JVC IP Products (VN-C655U(B)/C625U/C205U) user page storage function. By utilizing any FTP client software program, HTML or JPEG image signals independently created by the user can be uploaded to VN-C655U(B)/C625U/C205U.

Full duplex

This is a transmission method by which it is possible to send and receive data simultaneously.

F number

This is a number that represents lens brightness; the smaller number, the brighter lens. The relationship between brightness (F number), focal length (fl) and effective diameter (D) is described by the following equation: $F = fl/D$.

G Genlock

This is a type of external sync system with a function that synchronizes external sync signals with frequency and phase. There are three types of genlock input signals: composite sync signals (composite SYNC), composite video signals (VBS or VS) and black burst signals (BBS).

H Half duplex

This is a transmission method by which data cannot be sent and received simultaneously, but rather can only be transmitted in one direction at a time.

Hyper text transfer protocol (HTTP)

This is a protocol used by World wide web (WWW) servers and web browsers for sending and receiving information such as files.

The institute of electrical and electronics engineers 1394 (IEEE1394)

This is a next-generation, high-speed SCSI standard used to connect computers with peripherals and other devices. Both daisy-chain connections of up to 63 devices and tree connections are made possible by this protocol. The transfer speeds of 100 Mbps, 200 Mbps and 400 Mbps have been standardized.

I Iris

The iris controls the amount of light taken in by the lens when changes in illumination occur. A manual iris lens is used when luminance is fixed, and an auto iris lens is used in cases when luminance changes according to the time of day.

J Java applet

This is a small program that is distributed from a WWW server to a web browser (client) and then executed by the Web browser. It is used for the purpose of adding movement to the screen. When viewing the image of JVC IP Products (VN-C655U(B)/C625U/C205U/C20U/E4U) on Internet Explorer or Netscape, this program is utilized to display moving images.

Joint photographic coding experts group (JPEG)

This is a standard established by ITU-TS (International Telecommunication Union: formerly known as CCITT) and ISO (International Organization for Standardization) that decides the compression and expansion of color still images. This technology makes it possible to compress still images from a scale of 1/10 to 1/100. Although one of the disadvantages of this is that both compression and distribution are time consuming, compressibility can be modified; this means that by altering the degree of deterioration in image quality during compression it becomes possible to choose from among image quality, file size and processing time.

L Local area network (LAN)

This refers to the connection of multiple computers or peripherals over a network within a confined area such as the same building, site or organization. Correspondingly, a computer network that goes beyond buildings or sites to connect LAN between remote locations is referred to as a wide area network (WAN).

Lens mount

Cameras have different types of lens sockets including C mount, CS mount and bayonet mount. C and CS mounts are screw-type mounts; C mounts have a flange focal length of 17.526 mm and CS mounts have a flange focal length of 12.5 mm. Bayonet mounts are often employed in three-chip cameras and this type of mount conforms to the standard for studio-use cameras.

Line lock

This is a function that synchronizes the camera's vertical synchronizing signal with the frequency of the commercial power supply. The function can be used to reduce hum noise induction to the video signal and illumination flicker. If the image output of several cameras is switched, vertical synchronization disturbance, which occurs on the screen, can be prevented.

M Media access control (MAC) address

This refers to the unique address allotted to all devices connected to LAN, and is represented as a 16 base, 12 digit, 48-bit (6 byte) address. The high 3 bytes are assigned by the device's vendor ID and the low 3 bytes are assigned by a unique number from the vendor.

Minimum illumination

The minimum level of object illumination required for security cameras is referred to as "minimum illumination". The lower this value is, the higher the sensitivity of the camera. This value also serves as an indication of how dark of a place shooting can be carried out in. It should be duly noted that minimum illumination changes depending on both the F number of the lens being used and the reflectance of the object. If a security camera is used at a level close to the minimum illumination, the image may become blurred. Since this is undesirable, we recommend that sufficient illumination be used.

Motion detection

This is a function that alerts you with an alarm when there is motion in the image.

Motion-JPEG

This is a technology that makes it possible to decompress still JPEG images at a high speed as well as make them appear as if they are moving by showing them in succession. This can also refer to the moving image data or the codec that performs compression/decompression. Unlike MPEG data, which only records differential information between the frames of a moving image, Motion-JPEG makes it possible to edit any portion of a moving image because each frame is saved as a still image.

Moving picture coding experts group/**Moving picture experts group (MPEG)**

There are numerous standards such as MPEG-1, MPEG-2 and MPEG-4 for technologies utilized to compress digital moving images. MPEG-1 takes into account storage/playback on storage media such as CD-ROM and has playback quality equivalent to that of VTR. MPEG-2 takes into consideration usage with broadcast media and has playback quality equivalent to that of HDTV. MPEG-4 is aimed at the distribution of low-quality images at a high compression rate through the use of a slow-speed network.

Multicast

This is a method that makes it possible to simultaneously transmit the same data to several specified computers.

N Network address port translation (NAPT)

Network address port translation is the official name for IP masquerade. This technology is used to effectively utilize scarce IP address resources by converting IP addresses and TCP/IP port numbers between two networks (WAN/LAN).

Network address translation (NAT)

This technology makes it possible to mutually convert private and global IP addresses as well as transparently access these addresses. NAT functions are incorporated in a router.

Network time protocol (NTP)

NTP is a time information protocol that is used as a standard on the Internet. SNTP is a simplified version of NTP.

O OLE control extension (OCX)

OCX is a software component based on OLE2.0. Although the correct term is OLE control, the filename extension is "OCX", and therefore it is primarily referred to as OLE control extension. It is also called Active X.

OSI reference model

This model shows the protocol guidelines and its functions are separated into a total of seven layers. The upper layer of the model, which is closest to human interface, consists of three layers: the application layer, the presentation layer and the session layer. The lower layer, which is used for transmission purposes, consists of four layers: the transport layer, the network layer, the data link layer and the physical layer.

P Personal computer memory card international association (PCMCIA)

PCMCIA stands for personal computer memory card international association and regulates cards and slots related to PC cards.

Port address translation

This technology is used to convert IP addresses and TCP/UDP port numbers between two

networks (WAN/LAN) and effectively utilize scarce IP address resources. This is also referred to as IP masquerade or NAPT.

Port number

This is the upper layer process of an IP that accepts information from the lower layer. TCP and UDP network protocols are identifiers used to differentiate between programs.

Protocol

This term refers to the rules of transmission. Protocol provides a definition of the procedures that should be followed when sending and receiving data.

Q Quarter common intermediate format (QCIF)

With QCIF, the resolution of CIF is reduced in similar proportion by half and the resolution becomes 176 x 144 pixels. The number of pixels is one-fourth that of CIF and this format supports moving images at a data rate of up to 30 frames per second.

Quality level

This is used for JVC IP Products' JPEG images to determine to what extent the original image should be compressed. There are settings for either seven levels or three levels (high, medium and low). Quality level is closely related to image quality and the lower the degree of compression, the higher the image quality; however, this also causes the volume of data in the image file to increase. The default setting is either "2" or "Medium".

R Redundant array of independent disks (RAID)

This is referred to as a RAID disk array and is a means by which multiple hard disks can be combined to be utilized like a single disk and reliability and processing speed can be increased. Although there are seven different types of RAID ranging from RAID 0 to RAID 6, only RAID 0, 1, 5 and combinations of these types are actually used.

Resolution

Resolution is the scale used to express the degree to which a screen is clear or blurred. Both horizontal resolution and vertical resolution are indicated using actual numbers and are also employed as scales for representing camera performance. In fact, horizontal resolution is generally utilized to compare performance. It can be said that the higher number, the better performance of camera. Ordinarily, a televised TV broadcast with fairly good horizontal resolution has a resolution of around 330 TV lines.

Real-time transport protocol (RTP)

This is a transmission protocol used for streaming playback of sound or images. In UDP-type protocols, for which packet-loss countermeasures, transmission time guarantees, etc. are not implemented, effective bandwidth and delay time are usually sent to the server via RTCP. The server adjusts the quality of the data to be sent via RTP according to the transmission status information it has received and then sends the data.

S Smear

This is a phenomenon in which vertical streaks appear above and below brightly lit spot lights or objects in images with especially high luminance. When an excessive amount of light enters a solid-state image device, an unnecessary electric charge occurs in the vertical transfer section, thereby causing this phenomenon.

Simple network management protocol (SNMP)

This is a protocol used to form a network management system on a TCP/IP network. There is a manager and an agent; the manager inquires about network management information and the agent responds to these inquiries. The manager function is performed by an exclusive SNMP manager software program and the agent function is carried out by telecommunications equipment such as a router or Switching-Hub.

T Transmission control protocol (TCP)

This is an OSI reference model transport layer protocol that is utilized as a standard on the Internet. Although TCP is highly reliable due to the fact that it has a retransmission control mechanism, it has a low transmission speed.

Transmission control protocol/Internet protocol (TCP/IP)

This is a standard Internet protocol that is comprised of a protocol that specifies a communications software program (application) and then establishes a data transmission channel (TCP), and a protocol related to communication pathways (IP).

U User datagram protocol (UDP)

This is utilized as an OSI reference model transport layer protocol. Although UDP has low reliability due to the fact that it has no retransmission control mechanism, it has a high transmission speed.

Uninterruptible power supply (UPS)

This is a device that can be used to supply power for a fixed period of time in the event of an unexpected power outage so that PCs can be shut down safely.

V Voice over IP (VoIP)

This technology makes it possible to place telephone calls over an IP network. Although the internet can be used as a phone line, the call quality of internet phone is generally not very high because transmission speed and delay cannot be guaranteed.

W Wide dynamic range function **WDR Refer to P.36**

This refers to a function through which various processes are performed, thereby making it possible to capture clear images even when there is extreme backlighting.

Author, Director and Editor: Kazufumi Namise, Kenji Nikki

Products	Features	Specifications
GD-17L1G	17" LCD Display Monitor	P. 18 P. 21
GD-19L1G	19" LCD Display Monitor	P. 18 P. 21
GM-H40L2	40" LCD Display Monitor	P. 18 P. 21
GSC-2000J/VR	System Controller (option)	P. 16 P. 34
LM-150	15" LCD Display Monitor	P. 18 P. 21
LM-170	17" LCD Display Monitor	P. 18 P. 21
TK-C1460U	1/3" ExDR Day/Night Camera	P. 4 P. 11
TK-C1480U	1/3" ExDR Camera	P. 4 P. 11
TK-C1530U	1/3" Day/Night Camera	P. 3 P. 10
TK-C205U(A)	1/4" Fixed Dome Camera	P. 5 P. 12
TK-C215V12U(A)	1/4" Fixed Dome Camera	P. 6 P. 13
TK-C215V4U(A)	1/4" Fixed Dome Camera	P. 6 P. 13
TK-C215VP12U(A)	1/4" Fixed Dome Camera (Vandal Resistant)	P. 7 P. 14
TK-C215VP4U(A)	1/4" Fixed Dome Camera (Vandal Resistant)	P. 7 P. 14
TK-C625U	12x PTZ Dome Camera	P. 8 P. 15
TK-C750U(A)	1/3" STD Resolution Camera	P. 2 P. 9
TK-C920U(A)	1/3" High Resolution Camera	P. 2 P. 9
TK-C925U	1/3" Day/Night Camera	P. 3 P. 10
TK-WD310U(B)	1/3" WDR Camera	P. 5 P. 12
TM-A101G	9"v CRT Monitor	P. 19 P. 22
TM-A130SU	13"v CRT Monitor	P. 19 P. 22
TM-A13SU	13"v CRT Monitor	P. 19 P. 22
TM-A13UCV	13"v CRT Monitor	P. 19 P. 22
TM-A210G	20"v CRT Monitor	P. 19 P. 22
TM-H1700G	16"v CRT Monitor	P. 20 P. 22
TM-H1900G	18"v CRT Monitor	P. 20 P. 22
TM-H150CG	14"v CRT Monitor	P. 20 P. 22
VR-609U	9-ch Digital Video Recorder	P. 16 P. 17
VR-616U	16-ch Digital Video Recorder	P. 16 P. 17
VN-C205U	1/4" Fixed IP Dome Camera	P. 23 P. 26
VN-C20U	1/3" Fixed IP Camera	P. 23 P. 26
VN-C625U	12x PTZ IP Dome Camera	P. 24 P. 27
VN-C655U(B)	25x PTZ IP Dome Camera	P. 25 P. 28
VN-E4U	Network Encoder	P. 25 P. 28
VN-S400U	Viewer Software	P. 29 P. 29
VN-SE400U	Control Software	P. 29 —
VN-V215V4U	1/4" Fixed IP Dome Camera	P. 24 P. 27
VR-N100U	Network Video Recorder	P. 30 P. 30

Line-up Chart

Color Camera

Storage

Flat Panel Display & Monitor

IP Security Products

System Information

Technical Information

Glossary

Index



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