JVC®

The Perfect Experience

Video Surveillance Products

2006—2007

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Video Security Products

Colour Camera

TK-C920E(A)/921EG(A)
1/3 type
High Resolution Camera
540 TVL
Easy D/N P.42

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TK-C750E/751EG
1/3 type
STD Resolution Camera

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TK-C1460BE
1/2 type
ExDR Day/Night Camera
ExDR P.41
IR ON/OFF P.42

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TK-C1430E/1431EG
1/3 type
ExDR Day/Night Camera
ExDR P.41
IR ON/OFF P.42

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TK-C1480BE/1481BEG
1/2 type
ExDR Camera
ExDR P.41

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TK-WD310E(B)
1/3 type
WDR Camera
WDR P.41
Easy D/N P.42

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TK-C205VPE(A)
1/4 type
Fixed Dome Camera
540 TVL
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Easy Flush Mount P.43

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TK-C215V4E
1/4 type
Fixed Dome Camera
540 TVL
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Easy Flush Mount P.43

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TK-C215V12E
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TK-C676E(B)
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TK-C625E
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540 TVL
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LM-17GEA
17" LCD Monitor

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LM-170E 17" LCD Monitor

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10" CRT Monitor

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TM-A140PN
14" CRT Monitor

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TM-A14PN
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17" CRT Monitor

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TM-A210G
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TM-H150CG
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9-ch Digital Video Recorder

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VR-616E
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9-ch Digital Video Recorder

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IP Security Products

IP Camera

VN-C625U
12x PTZ IP Dome Camera
IR ON/OFF P.42
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VN-C655U(B)
25x PTZ IP Dome Camera
ExDR P.41
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VN-C205U
1/4 type
Fixed IP Dome Camera
Easy D/N P.42
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VN-C20U
1/3 type
Fixed IP Camera
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System Information P.40

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VN-SE400U
External Device Controller Pack
Free Download
System Information P.40

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1/3 type High Resolution Camera

Refer to **P.42**

TK-C920E(A)/921EG(A)

540 TVL | Easy D/N

- 1/3 type high resolution IT CCD with 440,000 effective pixels
- 540 TV lines of horizontal resolution
- Easy day/night function
- Super LoLux™ sensitivity: 0.7 lx F1.2 (colour 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 (colour 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 (**TK-C920E(A)**), AC 230 V (**TK-C921EG(A)**) power supply

TK-C920E(A) rear

TK-C921EG(A) rear

1/3 type STD Resolution Camera

TK-C750E/751EG

- 1/3 type IT CCD with 290,000 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), 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 (**TK-C750E**), AC 230 V (**TK-C751EG**) power supply

TK-C750E rear

TK-C751EG rear

1/2 type ExDR Day/Night Camera

Refer to P.41 Refer to P.42

TK-C1460BE

ExDR IR ON/OFF

TK-C1460BE rear

- 1/2 type high sensitive IT CCD with 440,000 effective pixels
- Day/Night surveillance with auto IR cut filter on/off (Colour/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: 0.3 lx F1.2
- Minimum illumination: 0.00023 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

Free software is available for camera control.

Camera menu content, including AGC level, IRIS level, scene memory setting/call, colour level, BLC area and IR cut filter on/off, 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 type ExDR Day/Night Camera

Refer to P.41 Refer to P.42

TK-C1430E/1431EG

ExDR IR ON/OFF

TK-C1430E rear

TK-C1431BEG rear

- 1/3 type high sensitive IT CCD with 440,000 effective pixels
- Day/Night surveillance with auto IR cut filter on/off (Colour/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: 0.45 lx F1.2
- Minimum illumination: 0.00045 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

Free software is available for camera control.

Camera menu content, including AGC level, IRIS level, scene memory setting/call, colour level, BLC area and IR cut filter on/off, 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

1/2 type ExDR Camera

Refer to **P.41**

TK-C1480BE/1481BEG

ExDR

- 1/2 type high sensitive IT CCD with 440,000 effective pixels
- 480 TV lines of horizontal resolution
- Super LoLux™ sensitivity: 0.3 lx F1.2
- Minimum illumination: 0.01 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 (**TK-C1480BE**), AC 230 V (**TK-C1481BEG**) power supply

TK-C1480BE rear

TK-C1481BEG rear

Free software is available for camera control.

Camera menu content, including AGC level, IRIS level, scene memory setting/call, colour 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 type WDR Camera

Refer to **P.41** Refer to **P.42**

TK-WD310E(B)

WDR Easy D/N

- 1/3 type 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
- Support video/DC iris lens control
- Ultra compact body
- AC 24 V/DC 12 V power supply

TK-WD310E(B) rear

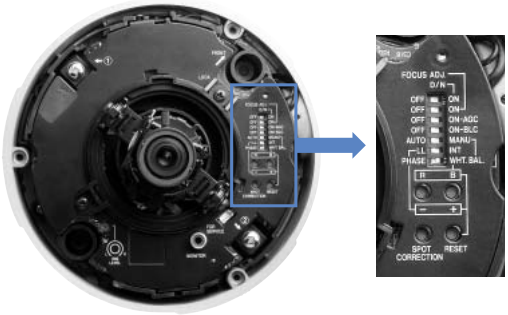
Notes:
1. The WDR function will not operate with AGC or slow shutter mode engaged.
2. In very dark conditions the image quality may suffer slight deterioration.
3. Under fluorescent lighting, the colour balance may vary slightly.
4. All manufacturer utilizing this technology will experience similar phenomenon.

1/4 type Fixed Dome Camera

Refer to P.42 Refer to P.42 Refer to P.42 Refer to P.43

TK-C205VPE(A)

540 TVL | Easy D/N | Focus Adjustment | Vandal Resistant | IP66



Cover inside

- 1/4 type high resolution IT CCD with 440,000 effective pixels
- Outdoor-ready vandal resistant structure (complies with IP66)
- Easy to install with built-in ceiling mechanism
- 540 TV lines of horizontal resolution
- Easy day/night function
- Super LoLux™ sensitivity: 1.0 lx F1.2 (colour mode), 0.7 lx F1.2 (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 = 2.6 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
- New inner cover to mask the direction of the camera

Refer to P.33-P.35

Options for TK-C205VPE(A)

System Information

Pendant mount

WB-S621U

Wall mount

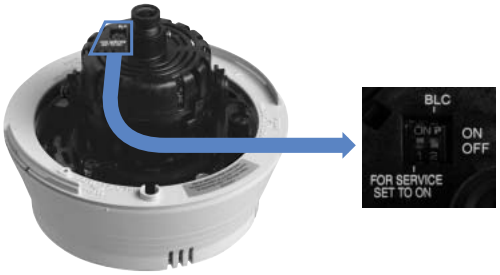
WB-S622U

1/4 type Fixed Dome Camera

Refer to **P.43**

TK-C210FWE

500 TVL | Easy Flush Mount



Cover inside

- 1/4 type high resolution IT CCD with 440,000 effective pixels
- 500 TV lines of horizontal resolution
- Super LoLux™ sensitivity: 1.3 lx F2.0 (colour mode)
- S/N ratio 48 dB (AGC off)
- Revolutionary integrated 10-bit DSP
- Built-in fixed wide angle lens (f = 2.9 mm)
- Wide lens angle adjustment mechanism (350° H x ±80° V x ±175° R)
- Monitor video output (RCA) for easy camera setup
- Automatic gain control (AGC) on/off, max. 50 dB
- Auto tracking white balance (ATW) and manual: 2,900 K to 8,000 K
- Backlight compensation on/off
- Sync systems INT only
- Easy flush mountable without optional bracket
- AC 24 V/DC 12 V power supply

Flush mount

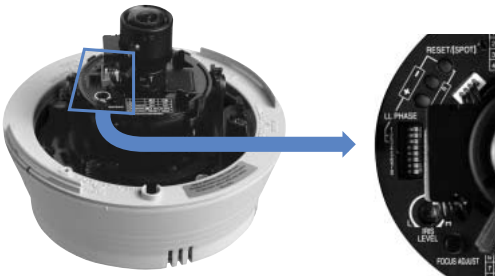
Without optional bracket

1/4 type Fixed Dome Camera

Refer to **P.42** Refer to **P.42** Refer to **P.43**

TK-C215V4E

540 TVL | Easy D/N | Focus Adjustment | Easy Flush Mount



Cover inside

- 1/4 type high resolution IT CCD with 440,000 effective pixels
- 540 TV lines of horizontal resolution
- Easy day/night function
- Super LoLux™ sensitivity: 0.9 lx F1.3 (colour mode), 0.6 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 mm)
- Focus adjustment function
- Wide lens angle adjustment mechanism (350° H x ±80° V x ±175° R)
- 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
- AC 24 V/DC 12 V power supply

Flush mount

Without optional bracket

1/4 type Fixed Dome Camera

TK-C215V12E

Refer to P.42 Refer to P.42 Refer to P.43 Refer to P.44

540 TVL | Easy D/N | Focus Adjustment | Easy Flush Mount | Alarm Zoom

Cover inside

- 1/4 type high resolution IT CCD with 440,000 effective pixels
- 540 TV lines of horizontal resolution
- Easy day/night function
- Super LoLux™ sensitivity: 1.3 lx F1.6 (colour mode), 0.8 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
- Wide lens angle adjustment mechanism (350° H x ±80° V x ±175° R)
- 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
- AC 24 V/DC 12 V power supply

Flush mount

Without optional bracket

Refer to P.33-P.35

Options for TK-C215 series

System Information

Pendant mount

WB-S621U

Wall mount

WB-S622U

	TK-C920E(A)/921EG(A)	TK-C750E/751EG
Image device	1/3 type Interline Transfer CCD	1/3 type Interline Transfer CCD
Number of effective pixels	440,000 (752 H x 582 V)	290,000 (500 H x 582 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, 625 lines	2:1 Interlaced, 625 lines
Scanning frequency	15.625 kHz (H), 50 Hz (V)	15.625 kHz (H), 50 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) **< B&W mode >**	1.5 lx (F1.2, AGC on, 50%) 0.7 lx (F1.2, AGC on, 25%) 〈 1.0 lx (F1.2, AGC on, 50%) 0.48 lx (F1.2, AGC on, 25%) 〉	0.55 lx (F1.2, AGC on, 50%) 0.28 lx (F1.2, AGC on, 25%)
Communication	—	—
Iris control	Video iris/DC iris	DC iris
White balance **< ATW colour 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 (1/50 s to 1/100,000 s)	on/off (1/50 s to 1/100,000 s)
Lens mount	C/CS	C/CS
Power supply	AC 24 V (50 Hz/60 Hz), DC 12 V: **TK-C920E(A)** AC 230 V (50 Hz/60 Hz): **TK-C921EG(A)**	AC 24 V (50 Hz/60 Hz): **TK-C750E** AC 230 V (50 Hz/60 Hz): **TK-C751EG**
Power consumption	380 mA: **TK-C920E(A)** 57 mA: **TK-C921EG(A)**	240 mA: **TK-C750E** 42 mA: **TK-C751EG**
Operating temperature range **< recommended >**	–10 ˚C to 50 ˚C < 0 ˚C to 40 ˚C >	–10 ˚C to 50 ˚C < 0 ˚C to 40 ˚C >
Dimensions (W x H x D)	51 mm x 58 mm x 126 mm: **TK-C920E(A)** 65 mm x 63 mm x 126 mm: **TK-C921EG(A)**	51 mm x 58 mm x 126 mm: **TK-C750E** 65 mm x 63 mm x 126 mm: **TK-C751EG**
Weight	370 g: **TK-C920E(A)** 713 g: **TK-C921EG(A)**	340 g: **TK-C750E** 680 g: **TK-C751EG**
Accessories	—	—

	TK-C1460BE	TK-C1430E/1431EG
Image device	1/2 type Interline Transfer CCD	1/3 type Interline Transfer CCD
Number of effective pixels	440,000 (752 H x 582 V)	440,000 (752 H x 582 V)
Video processing	Built-in DSP (10-bit)	Built-in DSP (10-bit)
Pick-up area	6.4 mm (H) x 4.8 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, 625 lines	2:1 Interlaced, 625 lines
Scanning frequency	15.625 kHz (H), 50 Hz (V)	15.625 kHz (H), 50 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) **< B&W mode >**	0.6 lx (F1.2, AGC 20 dB, 50%) 0.3 lx (F1.2, AGC 20 dB, 25%) 〈 0.015 lx (F1.2, AGC 20 dB, 50%) 0.008 lx (F1.2, AGC 20 dB, 25%) 〉	0.9 lx (F1.2, AGC 20 dB, 50%) 0.45 lx (F1.2, AGC 20 dB, 25%) 〈 0.03 lx (F1.2, AGC 20 dB, 50%) 0.015 lx (F1.2, AGC 20 dB, 25%) 〉
Communication	RS-422A/RS-485 (switchable) 9,600 bit/s	RS-422A/RS-485 (switchable) 9,600 bit/s
Iris control	Video iris/DC iris	Video iris/DC iris
White balance **< ATW colour temp. range >**	ATW/AWB/Manual < 2,500 K to 8,000 K >	ATW/AWB/Manual < 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 (1/50 s to 1/100,000 s)	Select from menu (1/50 s to 1/100,000 s)
Lens mount	C/CS	C/CS
Power supply	AC 24 V (50 Hz/60 Hz), DC 12 V	AC 24 V (50 Hz/60 Hz), DC 12 V: **TK-C1430E** AC 230 V (50 Hz/60 Hz): **TK-C1431EG**
Power consumption	550 mA	530 mA: **TK-C1430E** 75 mA: **TK-C1431EG**
Operating temperature range **< recommended >**	–10 ˚C to 50 ˚C < 0 ˚C to 40 ˚C >	–10 ˚C to 50 ˚C < 0 ˚C to 40 ˚C >
Dimensions (W x H x D)	74 mm x 63 mm x 149 mm	74 mm x 63 mm x 149 mm: **TK-C1430E** 74 mm x 63 mm x 149 mm: **TK-C1431EG**
Weight	640 g	620 g: **TK-C1430E** 840 g: **TK-C1431EG**
Accessories	4P plug x 1 Ferrite core x 1	4P plug x 1 Ferrite core x 1

	TK-C1480BE/1481BEG	TK-WD310E(B)
Image device	1/2 type Interline Transfer CCD	1/3 type WDR digital image device
Number of effective pixels	440,000 (752 H x 582 V)	380,000 (720 H x 540 V)
Video processing	Built-in DSP (10-bit)	Built-in DSP (14-bit)
Pick-up area	6.4 mm (H) x 4.8 mm (V)	5.04 mm (H) x 3.78 mm (V)
Sync system	Internal, Line lock, Full genlock	Internal, Line lock
Scanning system	2:1 Interlaced, 625 lines	2:1 Interlaced, 625 lines
Scanning frequency	15.625 kHz (H), 50 Hz (V)	15.625 kHz (H), 50 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	—
Video S/N ratio	50 dB (AGC off)	50 dB (AGC off)
Horizontal resolution	480 TV lines	480 TV lines
Minimum illumination (typical) **< B&W mode >**	0.6 lx (F1.2, AGC 20 dB, 50%) 0.3 lx (F1.2, AGC 20 dB, 25%) 0.0095 lx (F1.2, AGC 20 dB, 25%, 32x slow shutter)	1.9 lx (F1.2, AGC high, 50%) 0.9 lx (F1.2, AGC high, 25%) 〈 0.5 lx (F1.2, AGC on, 50%, Easy D/N) 0.25 lx (F1.2, AGC on, 25%, Easy D/N) 〉
Communication	RS-422A/RS-485 (switchable) 9,600 bit/s	—
Iris control	Video iris/DC iris	Video iris/DC iris
White balance **< ATW colour temp. range >**	ATW/AWB/Manual < 2,500 K to 8,000 K >	ATW/AWB/Manual < 2,500 K to 10,000 K >
Wide dynamic range function	ExDR (by dual shutters)	WDR (by multi sampling)
Backlight compensation	Yes (areas are selectable)	—
AES	Select from menu (1/50 s to 1/100,000 s)	—
Lens mount	C/CS	CS
Power supply	AC 24 V (50 Hz/60 Hz), DC 12 V: **TK-C1480BE** AC 230 V (50 Hz/60 Hz): **TK-C1481BEG**	AC 24 V (50 Hz/60 Hz), DC 12 V
Power consumption	450 mA: **TK-C1480BE** 75 mA: **TK-C1481BEG**	400 mA
Operating temperature range **< recommended >**	–10 °C to 50 °C < 0 °C to 40 °C >	–10 °C to 50 °C < 0 °C to 40 °C >
Dimensions (W x H x D)	74 mm x 63 mm x 149 mm: **TK-C1480BE** 74 mm x 63 mm x 149 mm: **TK-C1481BEG**	50 mm x 57.5 mm x 107 mm
Weight	600 g: **TK-C1480BE** 885 g: **TK-C1481BEG**	330 g
Accessories	4P plug x 1 Ferrite core x 1	Ferrite core x 1

	TK-C205VPE(A)	TK-C210FWE
CAMERA		
Image device	1/4 type Interline Transfer CCD	1/4 type Interline Transfer CCD
Number of effective pixels	440,000 (752 H x 582 V)	440,000 (752 H x 582 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
Scanning system	2:1 interlaced, 625 lines	2:1 Interlaced, 625 lines
Scanning frequency	15.625 kHz (H), 50 Hz (V)	15.625 kHz (H), 50 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)	48 dB (AGC off)
Horizontal resolution	540 TV lines	500 TV lines
Minimum illumination (typical) **< B&W mode >**	2.0 lx (F1.2, AGC on, 50%) 0.9 lx (F1.2, AGC on, 25%) 〈 1.3 lx (F1.2, AGC on, 50%, Easy D/N) 0.7 lx (F1.2, AGC on, 25%, Easy D/N) 〉	7.5 lx (F2.0, AGC on, 50%) 2.7 lx (F2.0, AGC on, 25%)
White balance **< ATW colour temp. range >**	ATW/Manual < 2,300 K to 10,000 K >	ATW/Manual < 2,900 K to 8,000 K >
Backlight compensation	on/off	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) >	2.9 mm, fixed < 71˚ (H) x 53˚ (V) >
Max. aperture ratio	F1.2 to F1.8	F2.0
Angle adjustment range	Horizontal: 350˚ Vertical: +80˚, –50˚ Tilt: ±15˚	Horizontal: 350˚ Vertical: ±80˚ Tilt: ±175˚
GENERAL		
Power supply	AC 24 V (50 Hz/60 Hz), DC 12 V	AC 24 V (50 Hz/60 Hz), DC 12 V
Power consumption	300 mA	220 mA
Operating temperature range **<Recommended>**	–10 ˚C to 50 ˚C < 0 ˚C to 40 ˚C >	–10 ˚C to 50 ˚C < 0 ˚C to 40 ˚C >
Weather resistance	IP66	—
Dimensions	ø 160 mm x 115.2 mm (H)	ø 145 mm x 120 mm (H)
Weight	1.3 kg	450 g
Accessories	Wrench x 1 Silica gel x 1 Template x 1	—

	TK-C215V4E	TK-C215V12E
CAMERA		
Image device	1/4 type Interline Transfer CCD	1/4 type Interline Transfer CCD
Number of effective pixels	440,000 (752 H x 582 V)	440,000 (752 H x 582 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, 625 lines	2:1 Interlaced, 625 lines
Scanning frequency	15.625 kHz (H), 50 Hz (V)	15.625 kHz (H), 50 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 >**	5.6 lx (F1.3, AGC on, 50%) 2.1 lx (F1.3, AGC on, 25%) 〈 3.6 lx (F1.3, AGC on, 50%) 〉 1.3 lx (F1.3, AGC on, 25%)	8.3 lx (F1.6, AGC on, 50%) 2.9 lx (F1.6, AGC on, 25%) 〈 4.9 lx (F1.6, AGC on, 50%) 〉 1.6 lx (F1.6, AGC on, 25%)
White balance **< ATW colour 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, 3.6x vari-focal < 73˚ (H) x 54˚ (V) to 20˚ (H) x 15˚ (V) >	3.8 mm to 45.6 mm, 12x vari-focal < 52˚ (H) x 39˚ (V) to 4.5˚ (H) x 3.4˚ (V) >
Max. aperture ratio	F1.3 to F3.0	F1.6 to F2.7
Angle adjustment range	Horizontal: 350˚ Vertical: ±80˚ Tilt: ±175˚	Horizontal: 350˚ Vertical: ±80˚ Tilt: ±175˚
GENERAL		
Power supply	AC 24 V (50 Hz/60 Hz), DC 12 V	AC 24 V (50 Hz/60 Hz), DC 12 V
Power consumption	340 mA	550 mA
Operating temperature range **<Recommended>**	–10 ˚C to 50 ˚C < 0 ˚C to 40 ˚C >	–10 ˚C to 50 ˚C < 0 ˚C to 40 ˚C >
Weather resistance	—	—
Dimensions	ø 145 mm x 120 mm (H)	ø 145 mm x 120 mm (H)
Weight	470 g	530 g
Accessories	—	—

27x PTZ Dome Camera

Refer to P.41 Refer to P.42 Refer to P.43 Refer to P.44

TK-C676E(B)

ExDR IR ON/OFF IP52 Technical Information

- 1/4 type high resolution IT CCD with 440,000 effective pixels
- 27x zoom lens (f = 3.8 mm to 103 mm) and 10x electronic zoom
- Super LoLux™ sensitivity: 0.9 lx F1.4
- Minimum illumination: 0.0125 lx F1.4 (2x slow shutter, B&W mode)
- Day/Night surveillance with auto IR cut filter on/off (Colour/B&W shooting)
- Extended dynamic range (ExDR) function
- Variable panning/tilting speed
- Auto trace/Auto pan/Auto patrol/Auto return/Area title
- 360 degree endless rotation, 180 degree Auto flip/Digital flip
- 100 preset positions
- Meets IP52 water resistance standard
- Easy AF and One-push auto focus
- Built-in menu with Private mask, Motion detection and Auto black
- RS-422A/RS-485 interface
- Alarm terminal (input x4, output x3)

25x PTZ Dome Camera

Refer to P.41 Refer to P.42 Refer to P.44

TK-C655E(C)

ExDR IR ON/OFF Technical Information

- 1/4 type high resolution IT CCD with 440,000 effective pixels
- 25x zoom lens (f = 3.8 mm to 95 mm) and 10x electronic zoom
- Super LoLux™ sensitivity: 1.0 lx F1.6
- Minimum illumination: 0.015 lx F1.6 (2x slow shutter, B&W mode)
- Day/Night surveillance with auto IR cut filter on/off (Colour/B&W shooting)
- Extended dynamic range (ExDR) function
- Built-in menu with Private mask, Motion detection, and Auto black
- Auto trace/Auto pan/Auto patrol/Auto return/Area title
- Variable panning/tilting speed
- 360 degree endless rotation, 180 degree Auto flip/Digital flip
- 100 preset positions
- Easy AF and One-push auto focus
- RS-422A/RS-485 interface
- Alarm terminal (input x4, output x3)

12x PTZ Dome Camera

Refer to P.42 Refer to P.44

TK-C625E

540 TVL IR ON/OFF Technical Information

- 1/4 type high resolution IT CCD with 440,000 effective pixels
- 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 (Colour/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)

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

Refer to P.33-P.35

Options for TK-C676E(B), TK-C655E(C)

System Information

Refer to P.33-P.35

Options for TK-C625E

System Information

Software for TK-C676E(B), TK-C655E(C) and TK-C625E

Free software is available for camera control.

Camera menu content, including AGC level, IRIS level, scene memory setting/call, colour 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

Remote Control Unit

RM-P2580E

- Dome camera preset position and menu setting for TK-C676E(B), TK-C655E(C) and TK-C625E
- Camera menu setting for TK-C1480BE/1481BEG, TK-C1460BE and TK-C1430E/1431EG
- Auto pan/Auto patrol/Area title
- Auto alarm operation
- Multi alarm inputs/outputs
- 8 video inputs/outputs with auto termination
- Built-in 8-ch sequential switcher function
- Operation lock function
- Interface: RS-485 for camera and RS-232C for external unit

	TK-C676E(B)	TK-C655E(C)
CAMERA		
Image device	1/4 type Interline Transfer CCD	1/4 type Interline Transfer CCD
Number of effective pixels	440,000 (752 H x 582 V)	440,000 (752 H x 582 V)
Sync system	Internal, Line lock	Internal, Line lock
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	50 dB
Horizontal resolution	480 TV lines	480 TV lines
Minimum illumination (typical) **< B&W mode >**	1.8 lx (F1.4, AGC 20 dB, 50%, wide end) 0.9 lx (F1.4, AGC 20 dB, 25%, wide end) 〈 0.05 lx (F1.4, AGC 20 dB, 50%, wide end) 0.025 lx (F1.4, AGC 20 dB, 25%, wide end) 〉	2.0 lx (F1.6, AGC 20 dB, 50%, wide end) 1.0 lx (F1.6, AGC 20 dB, 25%, wide end) 〈 0.06 lx (F1.6, AGC 20 dB, 50%, wide end) 0.03 lx (F1.6, AGC 20 dB, 25%, wide end) 〉
White balance **< ATW colour temp. range >**	ATW/Manual < 2,500 K to 8,000 K >	ATW/Manual < 2,500 K to 8,000 K >
Backlight compensation	4 patterns	4 patterns
Camera ID	16 characters	16 characters
LENS		
Zoom ratio	27x, 3.8 mm to 103 mm	25x, 3.8 mm to 95 mm
Iris range	F1.4 to F3.0	F1.6 to F3.7
Zooming speed	Approx. 3.6 s (max.)	Approx. 3.7 s (max.)
Focus speed	Approx. 0.7 s (max.)	Approx. 1.2 s (max.)
MOVING MECHANISM		
Panning	360˚ endless rotation	360˚ endless rotation
Tilting	0˚ to 180˚	0˚ to 180˚
Panning speed	300 ˚/s (preset), 80˚, 60˚, 40˚, 20˚, 12˚, 7˚, 3˚, and 1 ˚/s	1 ˚/s to 300 ˚/s
Tilting speed	180 ˚/s (preset), 60˚, 42˚, 26˚, 16˚, 7˚, 3˚, 1˚, and 0.5 ˚/s	1 ˚/s to 180 ˚ /s
GENERAL		
Communication	RS-485, 9,600 bit/s	RS-485, 9,600 bit/s
Power supply	AC 24 V (50 Hz/60 Hz)	AC 24 V (50 Hz/60 Hz)
Power consumption	1.3 A	1.3 A
Operating temperature range **< recommended >**	–10 ˚C to 50 ˚C < 0 ˚C to 40 ˚C >	–10 ˚C to 50 ˚C < 0 ˚C to 40 ˚C >
Dimensions	ø 152 mm x 190 mm (H)	ø 152 mm x 190 mm (H)
Weight	2.4 kg	2.4 kg

TK-C625E

CAMERA

Image device	1/4 type Interline Transfer CCD
Number of effective pixels	440,000 (752 H x 582 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) **< B&W mode >**	3.6 lx (F1.6, AGC 20 dB, 50%, wide end) 1.8 lx (F1.6, AGC 20 dB, 25%, wide end) 〈 0.15 lx (F1.6, AGC 20 dB, 50%, wide end) 〉 0.075 lx (F1.6, AGC 20 dB, 25%, wide end)
White balance **< ATW colour temp. range >**	ATW/Manual < 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
Iris range	F1.6 to F2.7
Zooming speed	Approx. 2.0 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
Tilting speed	1 ˚/s to 120 ˚/s

GENERAL

Communication	RS-422 or RS-485 (switchable), 9,600 bit/s
Power supply	AC 24 V (50 Hz/60 Hz)
Power consumption	1.5 A
Operating temperature range **< recommended >**	–10 ˚C to 50 ˚C < 0 ˚C to 40 ˚C >
Dimensions	ø 120 mm x 190 mm (H)
Weight	1.3 kg

RM-P2580E

Object cameras	TK-C676E(B), TK-C655E(C), TK-C625E, TK-C1480BE/1481BEG, TK-C1460BE and TK-C1430E/1431EG
Number of connected cameras (max.)	8
Cable length (max.)	1.2 km
Control terminals	4P push terminals (RS-485)
DATA I/O terminals (max.)	16
Alarm I/O (max.)	16
Unit alarm output	1 line (open-collector)
Auto output	1 line (open-collector)
CAM SW output	1
Dimensions (W x H x D)	300 mm x 75 mm x 203 mm

VIDEO LINES

Input	8 (BNC) / 8 through output (BNC)
Level	Composite video signal : 1 V (p-p), 75 ohms
Output	2 (BNC)
Power supply	AC 230 V (50 Hz/60 Hz)
Power consumption	3 W
Operating temperature range **< recommended >**	–10 ˚C to 50 ˚C < 0 ˚C to 40 ˚C >
Weight	1.5 kg

9-ch/16-ch Digital Video Recorder

Refer to P.36-P.38

VR-609E(9-ch)/VR-616E(16-ch) Available outside EU only

System Information

Photo: VR-616E

Front cover open

- 9-ch/16-ch real-time monitoring with multi-screen display Refer to P.36
- Built-in 240 GB HDD
- High resolution recording of 50 fps
- Wavelet compression
- Triplex working enables live, recording and playback all at the same time
- Spot monitor output
- Digital audio recording and playback
- Remote surveillance via network (built-in web server/bundled software) Refer to P.37
- E-mail event notification
- Convenient manual search with Jog&Shuttle
- Various search function
- Image sequence function
- Covert channel function
- Automatic check and recovery function
- On screen display (Time/Date/Camera ID/Recording information)
- Various images backup function
- Auto diagnostic function
- Digital zoom function
- Timer recording function
- Pre/Post alarm recording function
- Motion detection function (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.38

GSC-2000J/VR

System Information

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

VR-609E rear

VR-616E rear

Recording time list

VR-609E	Field rate											
Quality	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												
HQ3	22	27	36	55	110	221	332	443	554	665	887	998
HQ2	22	27	36	55	110	221	332	443	554	665	887	998
HQ1	22	27	36	55	110	221	332	443	554	665	887	998
Q4	22	27	36	55	110	221	332	443	554	665	887	998
Q3	22	27	36	55	110	221	332	443	554	665	887	998
Q2	33	41	55	83	166	332	499	665	832	998	1,331	1,497
Q1	44	55	73	110	221	443	665	887	1,109	1,331	1,775	1,997

(Unit: Hour)

VR-616E	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										
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)

9-ch Digital Video Recorder

Refer to P.39

VR-509E

System Information

DVD open

- Built-in DVD-R/RW drive for easy data export (DVD video format compatible)
- Built-in 320 GB (twin 160 GB) HDD
- High resolution 100 IPS (image per second) recording
- High quality MPEG-2 compression
- 9-ch real-time monitoring with multi-screen display Refer to P.39
- Digital audio recording and playback (2-ch)
- Remote surveillance via network (built-in web server/web viewer*) Refer to P.39
- E-mail event notification
- Convenient manual search with Jog&Shuttle
- Various search function
- Recording recovery after power failure
- On screen display (Time/Date/Camera title/Alarm No./Operational state)
- Timer recording and Alarm/Emergency recording function
- Pre-alarm recording
- Motion detection function
- Digital watermark (optional software necessary for decoding)*
- Multiple languages (English/German/French/Italian/Spanish)
- HDD mirroring
- NTP client function
- Covert channel function
- Passcode setting
- Operation lock
- Auto HDD scan
- Compact chasis design (340 mm wide)
- Expandable to 820 GB with the addition of an external 500 GB HDD

* Available soon

VR-509E rear

Recording time list

4-ch Loop on, Audio off

Total Framerate	SIF				HD1			
	High	Normal	Basic	Long	High	Normal	Basic	Long
25 x 4 ips	42	61	89	129	—	—	—	—
12.5 x 4 ips	68	100	145	210	37	64	109	185
8.3 x 4 ips	103	150	217	315	56	96	163	278
5 x 4 ips	144	210	304	441	79	135	229	390
2.5 x 4 ips	160	233	338	490	88	150	255	433
1.7 x 4 ips	241	350	507	736	132	225	382	650
0.8 x 4 ips	482	700	1,015	1,472	264	450	765	1,300
0.4 x 4 ips	965	1,400	2,030	2,944	529	900	1,530	2,601
0.2 x 4 ips	2,414	3,501	5,076	7,360	1,323	2,250	3,825	6,503
0.08 x 4 ips	4,828	7,002	10,152	14,721	2,647	4,500	7,650	13,006

(Unit: Hour)

9-ch Loop on, Audio off

Total Framerate	SIF				HD1			
	High	Normal	Basic	Long	High	Normal	Basic	Long
25 x 9 ips	—	—	—	—	—	—	—	—
12.5 x 9 ips	—	—	—	—	—	—	—	—
8.3 x 9 ips	45	66	96	140	—	—	—	—
5 x 9 ips	64	93	135	196	35	60	102	173
2.5 x 9 ips	71	103	150	218	39	66	113	192
1.7 x 9 ips	107	155	225	327	58	100	170	289
0.8 x 9 ips	214	311	451	654	117	200	340	578
0.4 x 9 ips	429	622	902	1,308	235	400	680	1,156
0.2 x 9 ips	1,073	1,556	2,256	3,271	588	1,000	1,700	2,890
0.08 x 9 ips	2,146	3,112	4,512	6,543	1,176	2,000	3,400	5,780

(Unit: Hour)

24 hours to 168 hours = 1 day to 1 week
169 hours to 720 hours = 1 week to 1 month
721 hours to 2,160 hours = 1 month to 3 months
More than 2,161 hours = More than 3 months

	VR-609E	VR-616E
VIDEO		
Input	9-ch (BNC)	16-ch (BNC)
AUDIO		
Input/Output	1-ch (RCA)	1-ch (RCA)
DISPLAY		
Speed	50 fps	50 fps
Split screen **< add user defined >**	1, 4, 6, 7, 9 < P in P >	1, 4, 6, 7, 9, 10, 16 < 10, 13, P in P >
RECORDING		
Speed	50 fps (max.), 25 fps/1-ch	50 fps (max.), 25 fps/1-ch
Resolution	720 x 288	720 x 288
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 x2, Spot x1, VGA x1, S-Video x1	Monitor x2, Spot x1, VGA x1, S-Video x1
CONTROL		
Sensor input	9	16
Relay output	4	4
Pan/Tilt/Zoom	9-ch	16-ch
Remote view	Via web browser Bundled software	Via web browser Bundled software
Protocol	TCP/IP	TCP/IP
OTHERS		
Watch dog	Self-recovery	Self-recovery
OS	Embedded Linux	Embedded Linux
Power supply	AC 230 V (50 Hz/60 Hz)	AC 230 V (50 Hz/60 Hz)
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
SCSI	—	—
GENERAL		
Operating temperature	5 ˚C to 40 ˚C	5 ˚C to 40 ˚C
Dimensions (W x H x D)	432 mm x 88 mm x 431 mm	432 mm x 88 mm x 431 mm
Weight	9.0 kg	9.0 kg

VR-509E

VIDEO	
Input	9-ch (BNC)
AUDIO	
Input/Output	2-ch (RCA)/2-ch(RCA)
DISPLAY	
Speed	25 IPS
Split screen	1, 4, 6, 9,
RECORDING	
Speed	100 IPS (max.), 25 IPS/1-ch: High-density mode 50 IPS (max.), 25 IPS/1-ch: High-precision mode
Resolution	352 x 288 (high-density mode) 720 x 288 (high-precision mode)
Compression method	MPEG-2
Image quality	Selectable 4 steps
Mode	Timer, Alarm, Emergency, Pre-alarm, Motion detection
PLAYBACK	
Display	1, 4, 9
Search mode	Date, Time, Alarm, Direct on the screen
MONITOR	
Output	EE/PB x2 (BNC x1, RCA x1) VGA x 1 (D-sub 9 pin) SPOT OUT x1 (BNC) THROUGH OUT x9 (BNC)
CONTROL	
Sensor input	9
Relay output	1
Remote view	Via web browser Optional software (available soon)
Protocol	TCP/IP
OTHERS	
OS	Embedded Linux
Power supply	AC 230 V (50 Hz/60 Hz)
BUILT-IN DEVICE	
HDD	320 GB (160 GB x 2)
Disk drive	DVD-R/RW drive
Serial	2 ports (USB 2.0 compatible)
LAN (RJ-45)	10 BASE-T/100 BASE-TX
RS-232C	1 port
GENERAL	
Operating temperature	5 °C to 40 °C
Dimensions (W x H x D)	340 mm x 88 mm x 350 mm
Weight	7.0 kg

40" LCD Monitor

GM-H40L1G 40"

GM-H40L1G rear

- Slim design and flexible mounting possibilities
- Custom colours easy to adopt by way of bezel and rear panel being easily replaced
- VESA FDMI™ standard compliant fixture points
- Eco sensor and self-diagnostic LED indicator
- Security lock for theft prevention
- P in P and P by P mode
- Two slots for optional IF cards and applications

17"/19" LCD Monitor

GD-17L1G/GD-19L1G 17" 19"

GD-17L1G rear

- Simple and stylish with space-saving design
- Built-in AC adaptor with detachable cord
- Built-in front mounted stereo speakers
- Control lock
- Direct VESA standard 100 mm mounting
- Tilting desktop stand with VESA 100 mm pitch holes

17" LCD Monitor

LM-17GEA 17"

LM-17GEA rear

- 17" TFT screen with metal cabinet
- Bright picture of 250 cd/m²
- 16.77 million colours
- PAL/NTSC multi-standard compatibility
- 16:9/4:3 selectable aspect ratio
- S-XGA resolution
- Two composite video inputs
- One PC input (analogue RGB)
- MAKE remote
- Direct VESA standard 100 mm mounting
- Stand unit included
- AC 100V to 240 V power supply

15"/17" LCD Monitor

LM-150E/LM-170E 15" 17"

Available in summer 2006

- 15" and 17" TFT screen with metal cabinet
- Bright picture of 400 cd/m²
- 500:1 contrast ratio
- XGA resolution (**LM-150E**) and S-XGA resolution (**LM-170E**)
- MAKE remote (RJ-45)
- Direct VESA standard 100 mm mounting

10" CRT Monitor

TM-A101G 10"

TM-A101G rear

- 10" 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
- PAL/NTSC 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

14" CRT Monitor

TM-A140PN 14"

TM-A140PN rear

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

14" CRT Monitor

TM-A14PN 14"

TM-A14PN rear

- More than 320 TV lines of horizontal resolution
- Two composite video inputs
- One Y/C input
- Two audio inputs
- PAL/NTSC multi-standard compatibility
- Tough, lightweight molded cabinet
- Built-in speaker

17" CRT Monitor

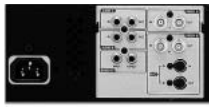
TM-A170G For European market 17"

TM-A170G rear

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

21" CRT Monitor

TM-A210G 21"



TM-A210G rear

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

15" CRT Monitor

TM-H150CG 15"

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/IF-C21SD1G/IF-C51SD1G)
- PAL/NTSC multi-standard compatibility
- AC 120 V/220 V to 240 V universal power supply
- Underscan, colour off, blue check functions
- Wired remote control (D-sub 15pin)

17"/19" CRT Monitor

TM-H1700G/TM-H1900G 17" 19"

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
- PAL/NTSC 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 15pin)

	GM-H40L1G
PANEL	
Screen size (W) x (H)	885 mm x 498 mm
Aspect ratio	16:9
Number of pixels	1,366 (H) x 768 (V)
OTHER SPECIFICATIONS	
Input	Composite video x 1 (bridged-out possible, auto termination), Y/C x1, PC (analogue RGB)/Component x1, DVI-D x1, Audio (2-ch) x1, Audio (STEREO) x1
Speaker output **< internal >**	2.2 W + 2.2 W (6 ohms), Audio output (2-ch) x1 < 1.7 W + 1.7W >
Dimensions (W x H x D)	986 mm x 595 mm x 126 mm
Weight	27.2 kg
Power supply	AC 220 V – 240 V (50 Hz/60 Hz)
Power consumption	1.5 A

	GD-17L1G	GD-19L1G
PANEL		
Screen size (W) x (H)	337.9 mm x 270.3 mm	376.3 mm x 301.1 mm
Aspect ratio	5:4	5:4
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 x1, Component (Y/B-Y/R-Y) x1, PC (analogue RGB) x1	Composite video x 1, Y/C x1, Component (Y/B-Y/R-Y) x1, PC (analogue RGB) x1
Speaker output **< internal >**	Built-in stereo speakers (2 W +2 W)	Built-in stereo speakers (2 W +2 W)
Dimensions (W x H x D)	388.2 mm x 340.0 mm x 66.0 mm (without stand) 388.2 mm x 363.6 mm x 192.0 mm (with stand)	428.3 mm x 370.2 mm x 72.5 mm (without stand) 428.3 mm x 395.5 mm x 200.0 mm (with stand)
Weight	5.0 kg (without stand) 5.7 kg (with stand)	6.5 kg (without stand) 7.3 kg (with stand)
Power supply	AC 120 V – 240 V (50 Hz/60 Hz)	AC 120 V – 240 V (50 Hz/60 Hz)
Power consumption	40 W	45 W

	LM-17GEA
PANEL	
Screen size (W) x (H)	338 mm x 270 mm
Aspect ratio	4:3 panel (4:3/16:9 selectable)
Number of pixels	1,280 (H) x 1,024 (V)
OTHER SPECIFICATIONS	
Input	Composite video x 2 (bridged-out possible, auto termination), RGB x1
Speaker output **< internal >**	—
Dimensions (W x H x D)	402 mm x 348 mm x 68.6 mm
Weight	5.0 kg
Power supply	AC 100 V to 240 V (50 Hz/60 Hz)
Power consumption	45 W

	TM-A101G	TM-A140PN	TM-A14PN
CRT	10" Stripe pitch of 0.50 mm P-22 phosphor	14" Stripe pitch of 0.65 mm	14" Stripe pitch of 0.65 mm
Horizontal resolution	More than 300 TV lines	More than 320 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)	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	8 cm round, 1 W output
Power supply	AC 120 V, AC 230 V (50 Hz/60 Hz)	AC 230 V (50 Hz/60 Hz)	AC 230 V (50 Hz/60 Hz)
Dimensions (W x H x D)	222 mm x 220 mm x 316.3 mm	346 mm x 310 mm x 368.5 mm	368 mm x 310 mm x 371.5 mm
Weight	6.8 kg	12.2 kg	9.5 kg

	TM-A170G	TM-A210G
CRT	17" Trio-dot pitch of 0.27 mm	21" Dot pitch of 0.63 mm
Horizontal resolution	More than 750 TV lines	More than 450 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)	Composite video x 2 (bridged-out possible, auto termination), Y/C x 1 (bridged-out possible), 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, AC 230 V (50 Hz/60 Hz)	AC 120 V, AC 220 V to 240 V (50 Hz/60 Hz)
Dimensions (W x H x D)	395 mm x 334 mm x 418 mm	476 mm x 407.5 mm x 492 mm
Weight	19.6 kg	28.1 kg

	TM-H150CG	TM-H1700G	TM-H1900G
CRT	15" Dot pitch of 0.27 mm	17" Trio-dot pitch of 0.27 mm P-22 phosphor	19" 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)	Composite video x 2 (bridged-out possible, auto termination), Y/C x 1 (bridged-out possible), Audio (1-ch) x 2 (bridged-out possible)	Composite video x 2 (bridged-out possible, auto termination), Y/C x 1 (bridged-out possible), 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, AC 220 V to 240 V (50 Hz/60 Hz)	AC 120 V, AC 230 V (50 Hz/60 Hz)	AC 120 V, AC 230 V (50Hz/60Hz)
Dimensions (W x H x D)	360 mm x 310 mm x 418 mm	395 mm x 334 mm x 418 mm	440 mm x 375 mm x 496 mm
Weight	16.0 kg	19.6 kg	25.1 kg

12x PTZ IP Dome Camera

VN-C625U

Refer to P.42 IR ON/OFF
Refer to P.44 Technical Information

- 1/4 type high resolution IT CCD with 380,000 effective pixels
- 12x optical zoom lens
- 360 degree endless rotation and 180 degree Auto flip
- Up to 30fps Motion-JPEG in VGA mode (640 x 480)
- CF card slot for local alarm recording
- Access protection
- 10 BASE-T/100 BASE-TX
- Day/Night surveillance with auto IR cut filter on/off
- Auto patrol, Auto panning, 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

VN-C655U(B)

Refer to P.41 ExDR
Refer to P.42 IR ON/OFF
Refer to P.44 Technical Information

- 1/4 type 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/Digital flip
- Up to 30fps Motion-JPEG in VGA mode (640 x 480)
- Access protection
- 10 BASE-T/100 BASE-TX
- Extended dynamic range (ExDR)
- Day/Night surveillance with auto IR cut filter on/off
- Auto patrol, Auto panning, 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

Refer to P.33-P.35

Options for VN-C625U

System Information

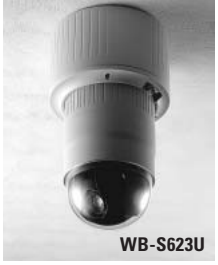
Pendant mount

WB-S621U

Wall mount

WB-S622U

Ceiling bracket



WB-S623U

Ceiling recessed bracket

WB-S625U

Outdoor housing

WB-1540U

Refer to P.33-P.35

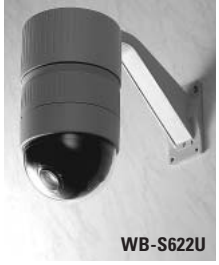
Options for VN-C655U(B)

System Information

Pendant mount

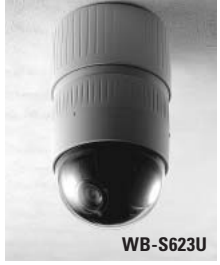
WB-S621U

Wall mount



WB-S622U

Ceiling bracket



WB-S623U

Outdoor housing

WB-1550U

1/4 type Fixed IP Dome Camera

VN-C205U

Available outside EU only

Refer to P.42

Easy D/N

Refer to P.42

Focus Adjustment

- 1/4 type high resolution IT CCD with 380,000 effective pixels
- Easy day/night function
- Focus adjustment function
- UP to 30 fps Motion-JPEG in VGA mode (640 x 480)
- Full hybrid with both analogue 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

Cover inside

Viewing image

1/3 type Fixed IP Camera

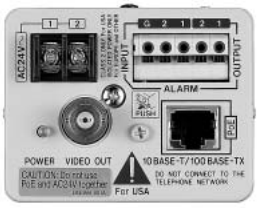
VN-C20U

Refer to P.42 Refer to P.46

Easy D/N PoE

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

Viewing image



VN-C20U rear

4-ch Network Encoder

VN-E4E

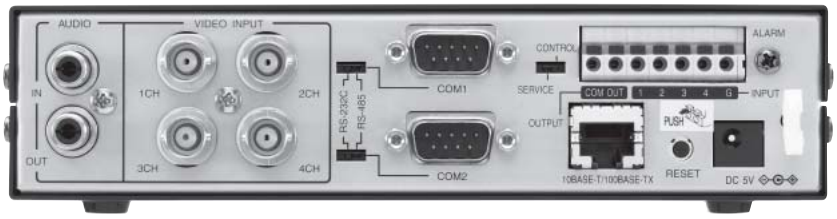
Refer to P.40

System Information

- 30 fps at VGA (640 x 480) per channel offering 120 fps in total
- Direct connection with up to 4 analogue cameras
- JPEG compression
- 10 BASE-T/100 BASE-TX
- Pre/Post alarm recording
- External device control via RS-485/RS-232C
- Support for JVC and Pelco-D* protocol
- Two-way audio input/output
- FTP client/server function
- Support NAT/IP masquerade
- Multicasting capability
- Built-in web server
- Motion detection function
- DC 5 V power supply

* PTZ dome camera only

Viewing image



VN-E4E rear

VN-C625U

CAMERA

Image device	1/4 type 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%, wide end) 1.8 lx (F1.6, AGC 20 dB, 25%, wide end) < 0.15 lx (F1.6, AGC 20 dB, 50%, 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)
Power consumption	2.0 A (max.)
Operating temperature	0 ˚C to 40 ˚C
Dimensions	ø 120 mm x 190 mm (H)
Weight	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/Web browser
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 III 500 MHz or higher (3.2 GHz or higher recomended)
Memory	More than 128 MB (more than 1 GB recomended)
HDD space	More than 20 MB
Display/Video card	More than 1,024 x 768 pixels, True colour (24-bit or 32-bit)

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

VN-C655U(B)

CAMERA

Image device	1/4 type Interline Transfer CCD
Number of effective pixels	380,000 (768 H x 494 V)
Wide dynamic range	400x (max.): ExDR
Minimum illumination (typical) **< B&W mode >**	2.0 lx (F1.6, AGC 20 dB, 50%, wide end) 0.6 lx (F1.6, AGC 20 dB, 25%, wide end) 0.07 lx (F1.6, AGC 20 dB, 50%, wide end, 32x slow shutter) < 0.06 lx (F1.6, AGC 20 dB, 50%, 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 < 2,500 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 position	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
Alarm I/O	Input x2, Output x2
Power supply	DC 18 V (AC 24 V to DC 18 V adapter included)
Power consumption	1.4 A (max.)
Operating temperature	0 ˚C to 40 ˚C
Dimensions	ø 152 mm x 190 mm (H)
Weight	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/Web browser
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 III 500 MHz or higher (3.2 GHz or higher recomended)
Memory	More than 128 MB (more than 1 GB recomended)
HDD space	More than 20 MB
Display/Video card	More than 1,024 x 768 pixels, True colour (24-bit or 32-bit)

VN-C205U

CAMERA

Image device	1/4 type 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)
Minimum illumination (typical) **< B&W mode >**	1.5 lx (F1.2, AGC on, 25%, wide end) 0.9 lx (F1.2, AGC on, 25%, wide end, with optional clear dome cover) < 0.9 lx (F1.2, AGC on, 25%, 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
Power consumption	800 mA
Operating temperature	0 °C to 40 °C
Dimensions	ø160 mm x 134 mm (H)
Weight	1.0 kg

NETWORK

Network interfaces	RJ-45, 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 (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	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 colour (24-bit or 32-bit)

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

VN-C20U

Image device	1/3 type Interline Transfer CCD
Number of effective pixels	380,000 (768 H x 494 V)
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%) 1.0 lx (F1.2, AGC on, 25%) 〈 1.0 lx (F1.2, AGC on, 50%, Easy D/N) 〈 0.4 lx (F1.2, AGC on, 25%, Easy D/N) 〉
Interface	RJ-45, 10 BASE-T/100 BASE-TX
Alarm I/O	Input x2, Output x2
Protocol	UDP/IP, TCP/IP, HTTP, FTP, DHCP, ARP, ICMP, SMTP, NTP, DSCP
Picture	Resolution (pixel): 320 x 240, 640 x 480 Compression: Motion-JPEG
Frame rate (fps)*	30 fps (max.) in 640 x 480 and 320 x 240
Storage RAM	16 MB (8 MB for Pre/Post alarm buffer)
Access protection	3 level passwords
Motion detection	Yes
Multicasting	Yes
Web server	Yes
View through	Web browser (Internet Explorer 6.0 (SP 2))
Power supply	PoE (Power over Ethernet, IEEE 802.3af compliant) AC 24 V
Power consumption	0.5 A (max.)
Operating temperature	0 °C to 40 °C
Dimensions (W x H x D)	70 mm x 55 mm x 138 mm
Weight	560 g

SYSTEM REQUIREMENT

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

* Frame rate varies depending on the operating environment.

VN-E4E	
Video input	Composite video signal+ : 1.0 V (p-p), 75 ohms (BNC) x 4
Interface	RJ-45, 10 BASE-T/100 BASE-TX
Alarm I/O	Input x 4, 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 (10 MB RAM)
Motion detection	Up to 300 areas, sensitivity adjustable
Multicasting	Yes
Web server	Yes
View through	Web browser (Internet Explorer 6.0 (SP 2))
Power supply	DC 5 V (AC adapter included)
Power consumption	3.0 A (max.)
Dimensions (W x H x D)	185 mm x 44 mm x 189 mm
Weight	1.1 kg
SYSTEM REQUIREMENT (recommended)	
OS	Windows XP pro/home (SP2)
Web browser	Internet Explorer 6.0 (SP2)
CPU	PentiumⅣ 1.5 GHz for 1-ch PentiumⅣ 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 colour (24-bit or 32-bit)
Sound card (for audio use)	Sound Blaster PCI

+ VN-E4E accepts PAL composite only.
++ Frame rate varies depending on the operating environment.

Viewer Software/Control Software

Refer to **P.40**

VN-S400U/VN-SE400U

System Information

► Multi-viewer **VN-S400U**:
Up to 256 VN-C655U(B)/VN-625U 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.
Object cameras: TK-C676E(B), TK-C655E(C), TK-C625E, TK-C1460BE, TK-C1480BE/1481BEG, TK-C1430E/1431EG and RM-P2580E.

Downloadable from the following URL
http://www.jvc-victor.co.jp/english/pro/vnetworks/index-e.html
➡ SUPPORT ➡ DOWNLOAD

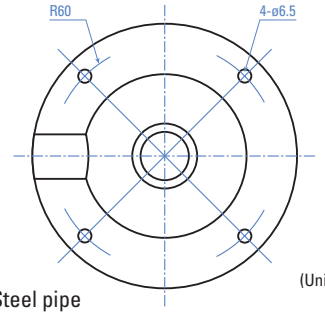
Specifications

			VN-S400U
Forms of provision			Fee charged for CD-ROM
Compatible models	**VN-C625U**		Yes
	VN-C655U(B)		Yes
	VN-C11U	**(Firmware Ver 1.2 or later)**	Yes
	VN-C30U	**(Firmware Ver 1.3 or later)***	Yes
	VN-A1U	**(Firmware Ver 2.0 or later)**	Yes
	VN-C3U		Yes
	VN-C2U		Yes
	VN-C1U		Yes
PC model			PC/AT compatible
CPU			PentiumIII more than 1 GHz
Memory			More than 256 MHz
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 colour 24-bit
LAN card			100 BASE-TX
Compatible OS	**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.

Mounting drawings and specifications

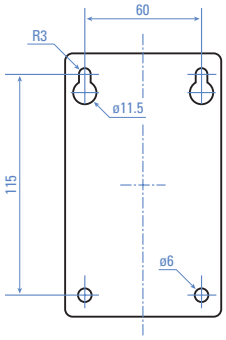
WB-S621U
Pendant mount



(Unit: mm)

- Materials: Aluminium & Steel pipe
- Weight: Approx. 2.5 kg
- Mansell number: Approx. 4Y-8/0.9

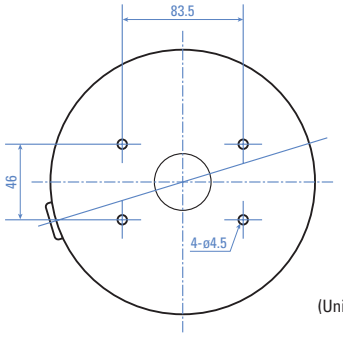
WB-S622U
Wall mount



(Unit: mm)

- Materials: Aluminium
- Weight: Approx. 2.0 kg
- Mansell number: Approx. 4Y-8/0.9

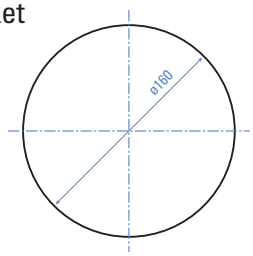
WB-S623U
Ceiling bracket



(Unit: mm)

- Materials: Aluminium
- Weight: Approx. 1.5 kg
- Mansell number: Approx. 4Y-8/0.9

WB-S625U
Ceiling recessed bracket

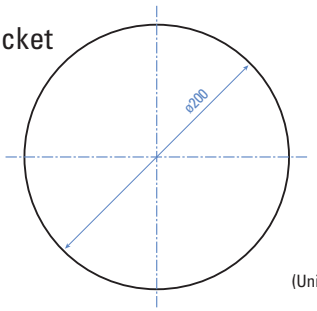


(Unit: mm)

- Materials: Aluminium
- Weight: Approx. 0.6 kg
- Mansell number: Approx. 4Y-8/0.9

Mount hole
(Thickness of between
5 mm and 31 mm)

WB-S575U
Ceiling recessed bracket

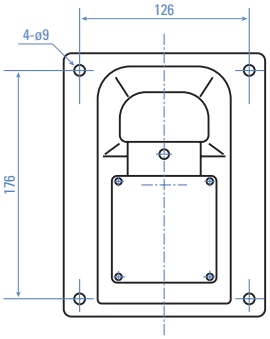


(Unit: mm)

- Materials: Aluminium
- Weight: Approx. 0.6 kg
- Mansell number: Approx. 4Y-8/0.9

Mount hole
(Thickness of between
5 mm and 31 mm)

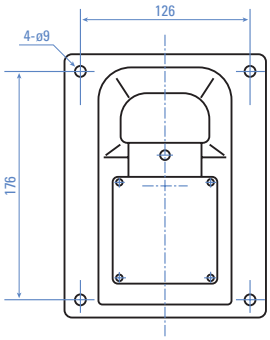
WB-1540U
Outdoor housing



(Unit: mm)

- Materials: Aluminium
- Weight: Approx. 5.0 kg
- Mansell number: Approx. 4Y-8/0.9

WB-1550U
Outdoor housing



(Unit: mm)

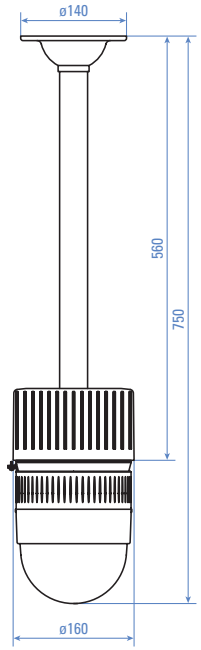
- Materials: Aluminium
- Weight: Approx. 5.0 kg
- Mansell number: Approx. 4Y-8/0.9

Combination of brackets and cameras

Bracket \ Camera		TK-C676E(B) TK-C655E(C) VN-C655U(B)	TK-C625E VN-C625U	TK-C205VPE(A)	TK-C210FWE TK-C215V4E TK-C215V12E
Pendant mount	WB-S621U	Yes	Yes	Yes	Yes
Wall mount	WB-S622U	Yes	Yes	Yes	Yes
Ceiling bracket	WB-S623U	Yes	Yes	No	Yes
Ceiling recessed bracket	WB-S625U	No	Yes	No	No
Ceiling recessed bracket	WB-S575U	Yes (Not VN-C655U(B))	No	No	No
Outdoor housing	WB-1540U	No	Yes	No	No
Outdoor housing	WB-1550U	Yes	No	No	No

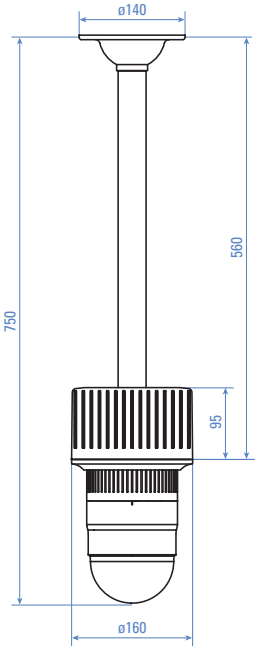
Dimensions of brackets and cameras

WB-S621U
+TK-C676E(B)/TK-C655E(C)/ VN-C655U(B)



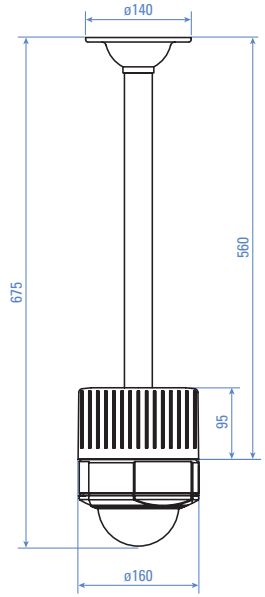
Weight: Approx. 4.9 kg (Unit: mm)

WB-S621U
+TK-C625E/VN-C625U



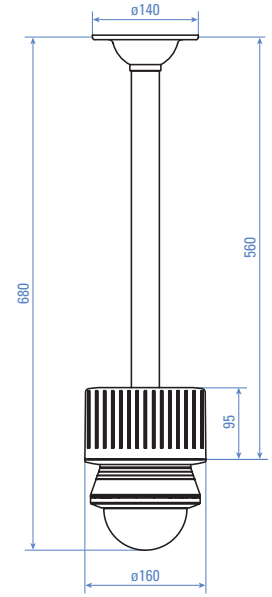
Weight: Approx. 4.3 kg (Unit: mm)

WB-S621U
+TK-C205VPE(A)



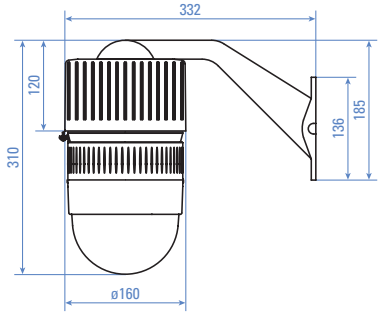
Weight: Approx. 4.3 kg (Unit: mm)

WB-S621U
+TK-C210FWE/TK-C215V4E/ TK-C215V12E



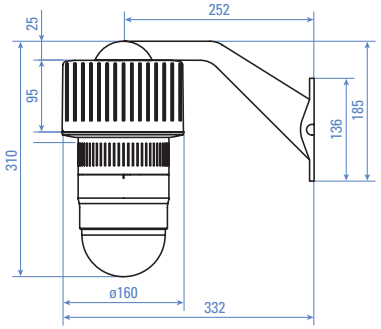
Weight: Approx. 3.0 kg (Unit: mm)

WB-S622U
+TK-C676E(B)/TK-C655E(C)/VN-C655U(B)



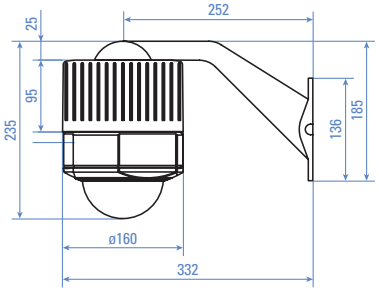
Weight: Approx. 4.4 kg (Unit: mm)

WB-S622U
+TK-C625E/VN-C625U



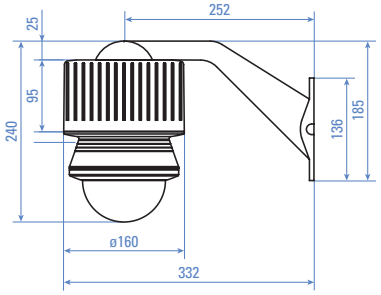
Weight: Approx. 3.3 kg (Unit: mm)

WB-S622U
+TK-C205VPE(A)



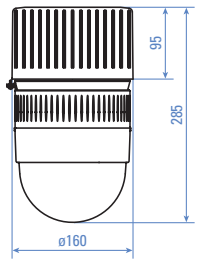
Weight: Approx. 3.3 kg (Unit: mm)

WB-S622U
+TK-C210FWE/TK-C215V4E/TK-C215V12E



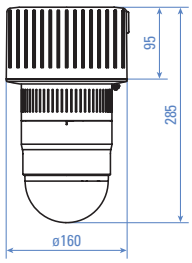
Weight: Approx. 2.5 kg (Unit: mm)

WB-S623U
+TK-C676E(B)/TK-C655E(C)/VN-C655U(B)



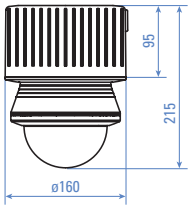
Weight: Approx. 3.9 kg (Unit: mm)

WB-S623U
+TK-C625E/VN-C625U



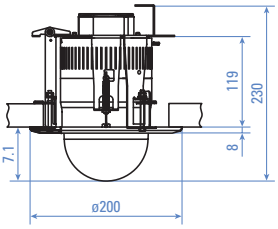
Weight: Approx. 2.8 kg (Unit: mm)

WB-S623U
+TK-C210FWE/TK-C215V4E/TK-C215V12E



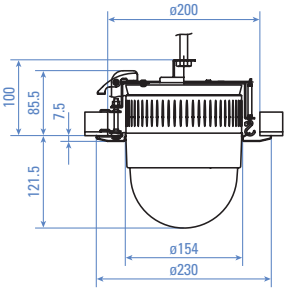
Weight: Approx. 2.0 kg (Unit: mm)

WB-S625U
+TK-C625E/VN-C625U



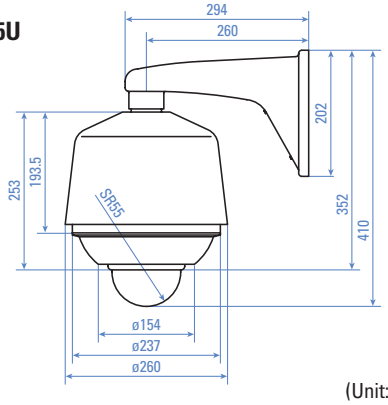
Weight: Approx. 1.9 kg (Unit: mm)

WB-S575U
+TK-C676E(B)/TK-C655E(C)



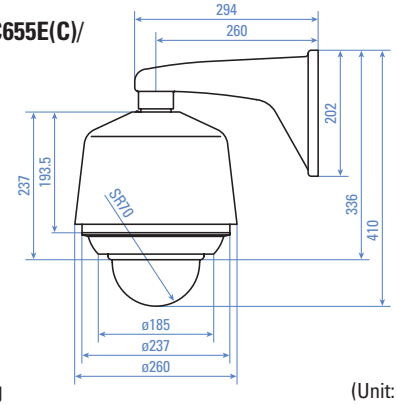
Weight: Approx. 3.0 kg (Unit: mm)

WB-1540U
+TK-C625E/VN-C625U



Weight: Approx. 6.3 kg (Unit: mm)

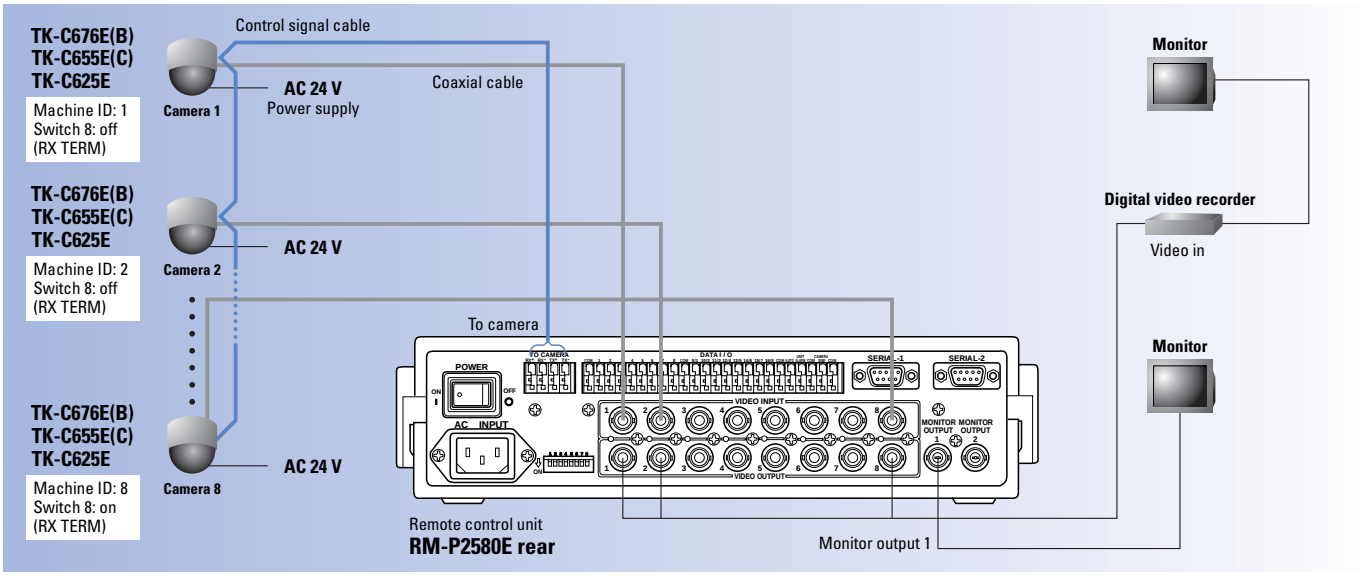
WB-1550U
+TK-C676E(B)/TK-C655E(C)/ VN-C655U(B)



Weight: Approx. 7.4 kg (Unit: mm)

RM-P2580E system configuration

This figure is general example of the surveillance application.

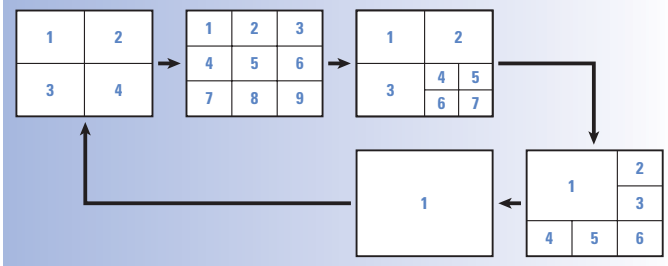


VR-609E/VR-616E monitoring images

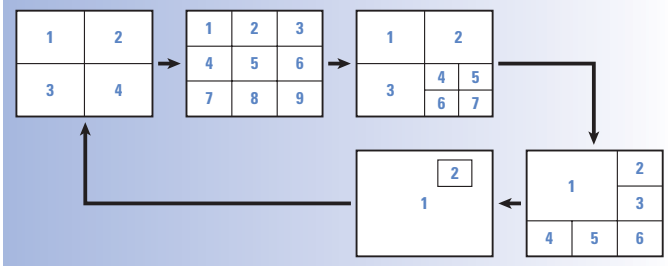
Possible to customize the layout of the display from several patterns.

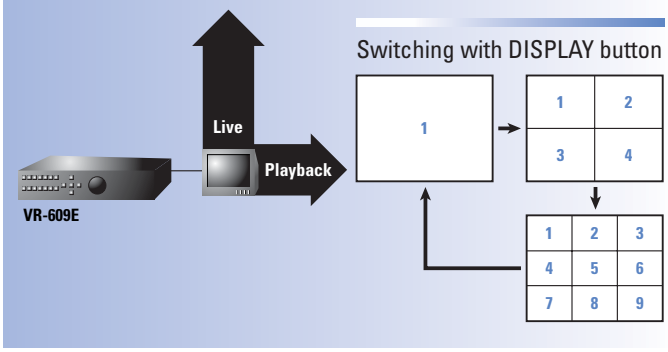
VR-609E

Default setting: Switching with DISPLAY button



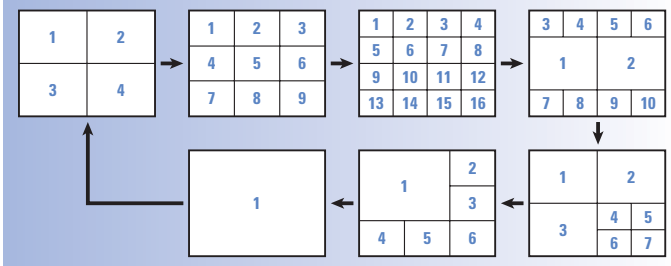
User setting: Switching with USER and DISPLAY buttons



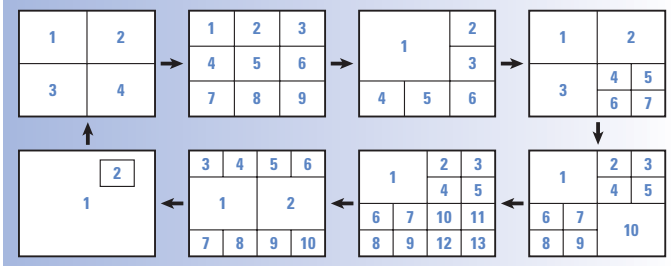


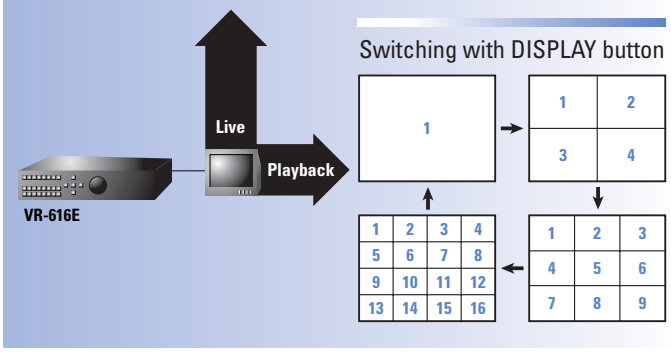
VR-616E

Default setting: Switching with DISPLAY button



User setting: Switching with USER and DISPLAY buttons

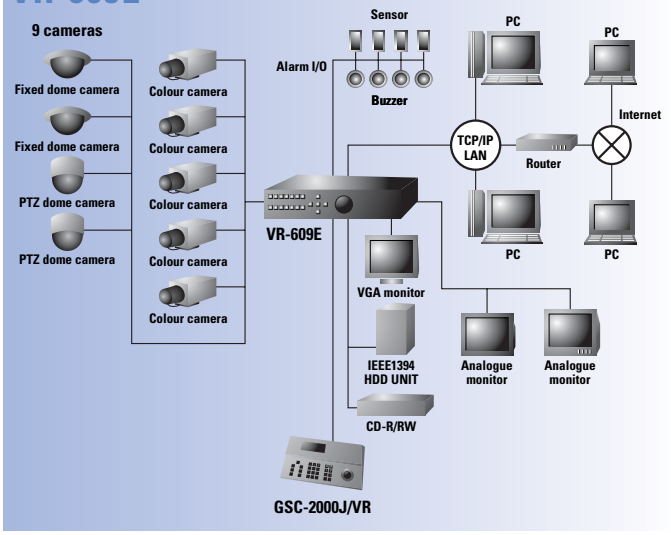




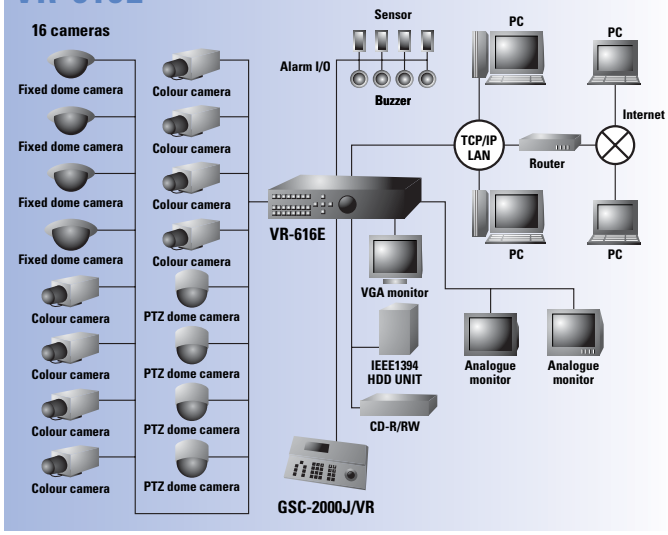
VR-609E/VR-616E system configuration

These figures are general examples of the surveillance application.

VR-609E



VR-616E

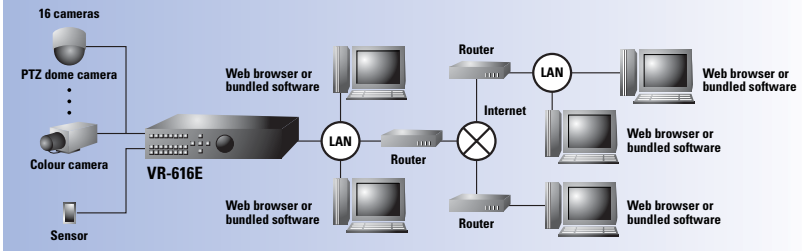


VR-609E/VR-616E remote surveillance via network (LAN/WAN)

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 4 1.8 GHz
	Memory	More than 256 MB
	Graphic Board	• DirectX support • Direct Draw Video overlay supported VGA (DirectX 7.x, 8.x) • 1,024 x 768 or better, True colour 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 98/2000/Me/XP

The PC specification are 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-616E 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-609E/VR-616E player]

Live mode

- Title/Boarder on/off
- Display mode selection ☐ ⊞ ⊞ ⊞ *VR-616E only
- PTZ dome camera select and control
- Channel selection

Search mode

- Time date search
- Event search
- Download (remote back up)
- 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-609E/VR-616E

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

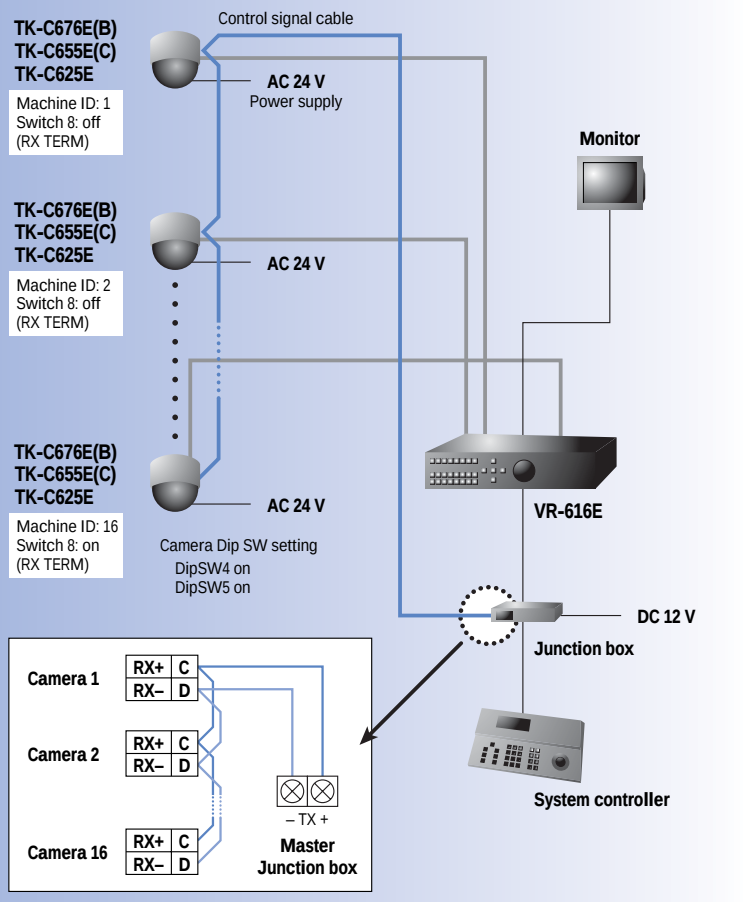
PTZ dome camera control: TK-C676E(B), TK-C655E(C) and TK-C625E

- 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-609E and VR-616E

- 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.

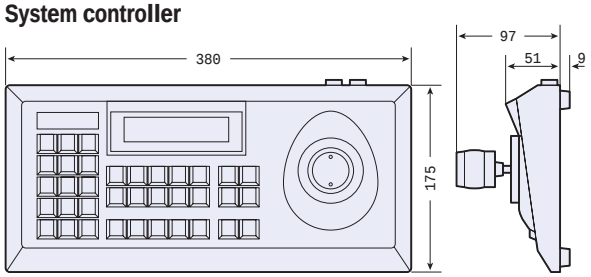
Specifications

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	5 ˚C to 40 ˚C
Operating humidity	30 % to 80 % RH non-condensing
Weight	1.2 kg

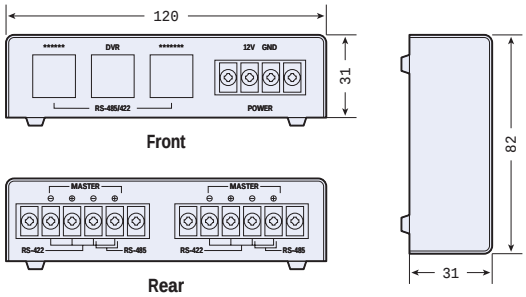
Dimensions

(Unit: mm)

System controller

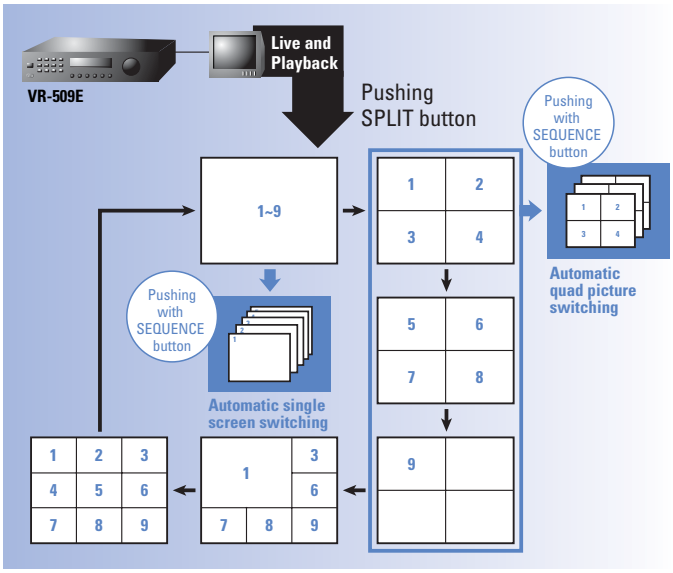


Junction box



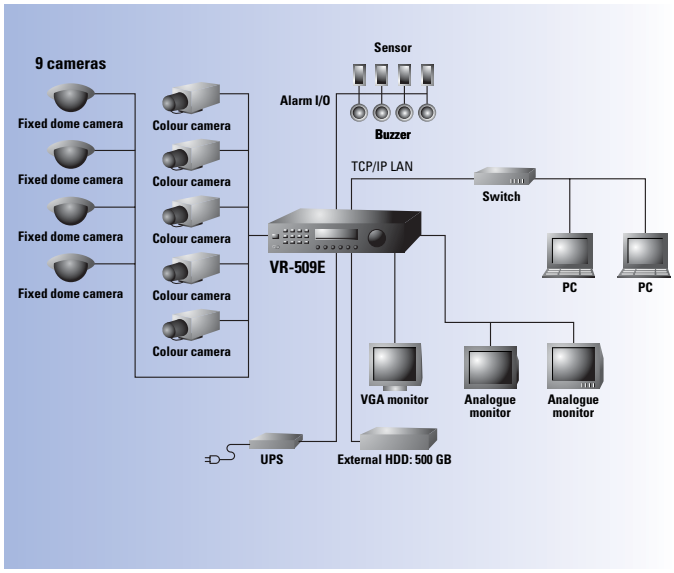
VR-509E monitoring images

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



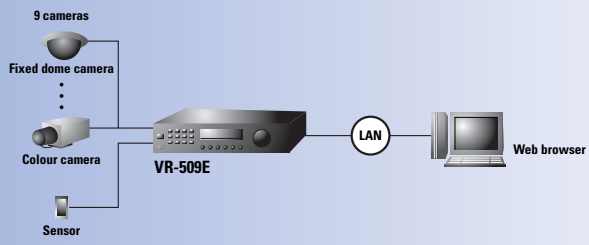
VR-509E system configuration

This figure is general example of the surveillance application.



VR-509E remote surveillance via network (LAN)

System configuration



System requirement

PC	**Type**	PC/AT compatible machine
	CPU	More than Pentium III 1 GHz
	Memory	More than 256 MB
	Monitor	More than XGA (1,024 x 768 pixels) SXGA (1,280 x 1,024 pixels) recommended
	Sound card	Sound blaster (PCI) recommended
	LAN card	100 BASE-TX
OS		Windows XP Home Edition SP2 Windows XP Professional SP2
Web browser		Internet Explorer ver. 6.0

Built-in web server function

Live image display

- Split screens selectoin (Single/Quad/6 way/9 way)
- Camera selection (1 to 9)
- Picture size selection (25%/50%/75%/100%/200%/400%/800%)
- Picture quality selection (High/Normal/Basic/Lowest)
- Display information on/off selection (CAM No./TITLE/VR-509E TIME/ALARM REPORT)
- View setting saving (PC SET & VR-509E SET)
- Snapshot (save the still image in JPEG)

Viewing playback

- Alarm search (Channel/Alarm type/Date)
- Time/Date search
- Playback image display (Play/Pause/Search/Skip/Still save)

Timer recording

- Weekly/Date/Timer mode on&off

Useful functions setting

- Input of camera titles using keyboard
- Convert channel selection
- Mail notification
- Adjust clocks with NTP server
- NTP server resistration
- Upload/Download VR-509E settings
- Maintenance/Operation log/Recording log/Open source/Status

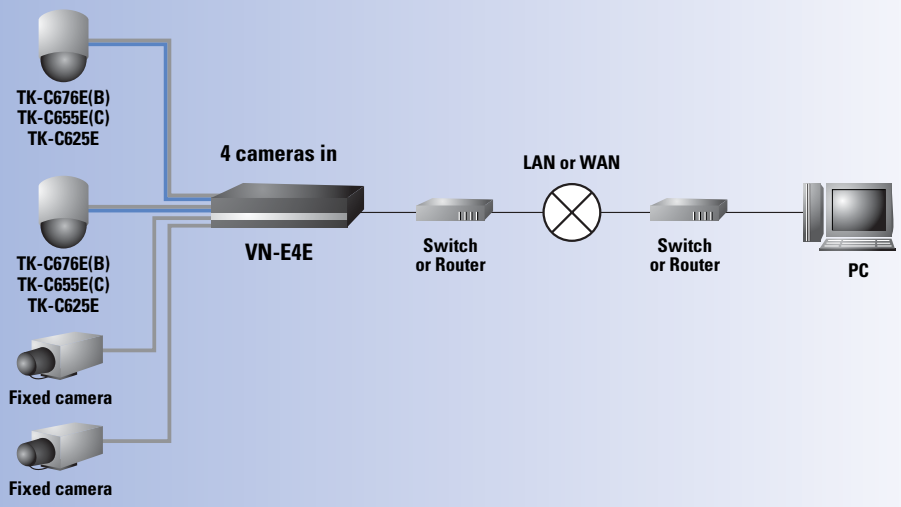
VR-509E settings selection

- Monitor out/Indication/Auto change/Rec detail/Rec pattern/Alarm rec/Rec mode/Audio out/Alarm terminal/Rear terminal/Buzzer

Network setting

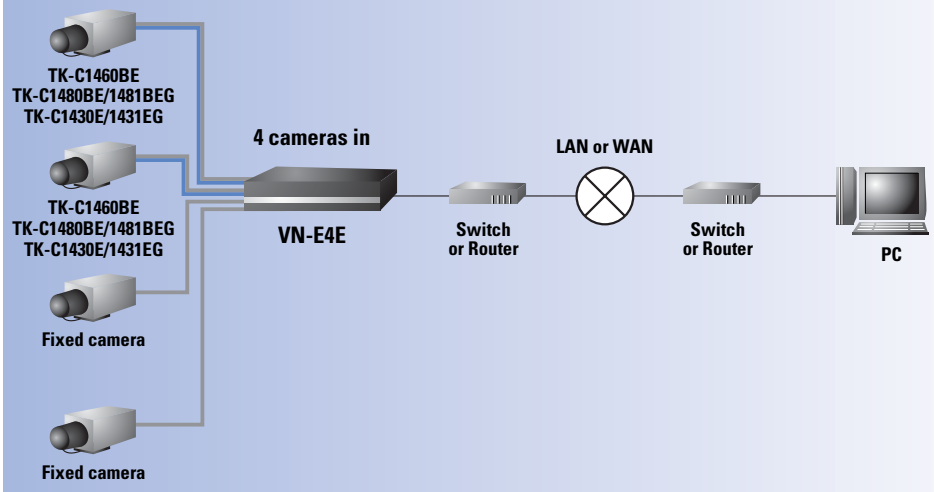
VN-E4E system configuration

TK-C676E(B), TK-C655E(C), TK-C625E series controller

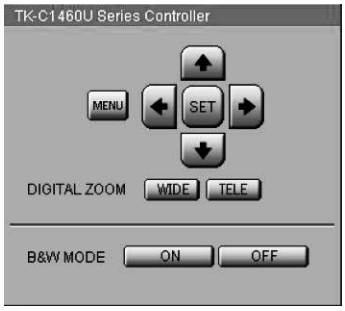


*

TK-C1460BE,TK-C1480BE/1481BEG,TK-C1430E/1431EG series controller



*

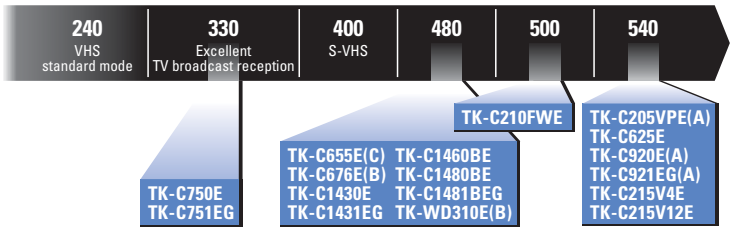


Video signal
Control signal
Network

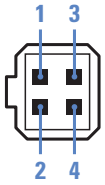
* This is just an image of the built-in web browser of VN-E4E.

1 Camera line-up by horizontal resolution

Holizontal 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

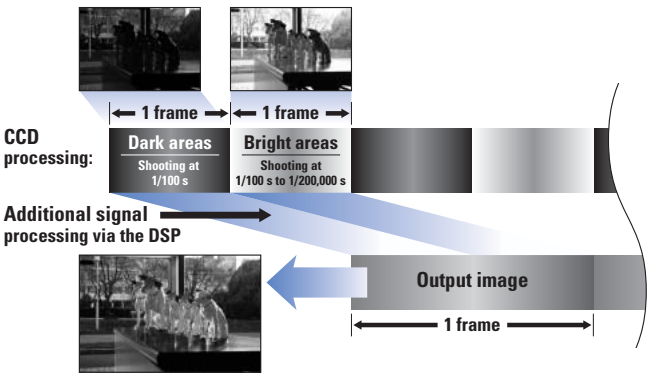
Object cameras: TK-C920E(A)/921EG(A) [**P.2**], TK-C1460BE [**P.3**], TK-C1480BE/1481BEG [**P.3**] and TK-WD310E(B) [**P.4**]

3 Wide dynamic range function

ExDR WDR

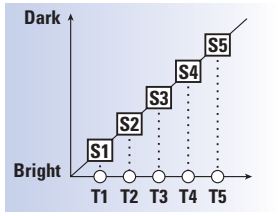
Extended dynamic range (ExDR)

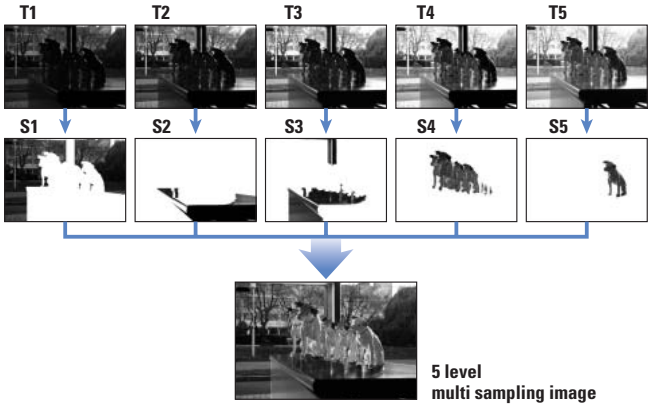
Under adverse backlighting conditions, conventional cameras can not make clear images. In this case, images in dark areas become almost black as pitch and images in bright areas become almost white. JVC's new digital signal processor (DSP) circuit, which enables the realization of a wide dynamic range 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)

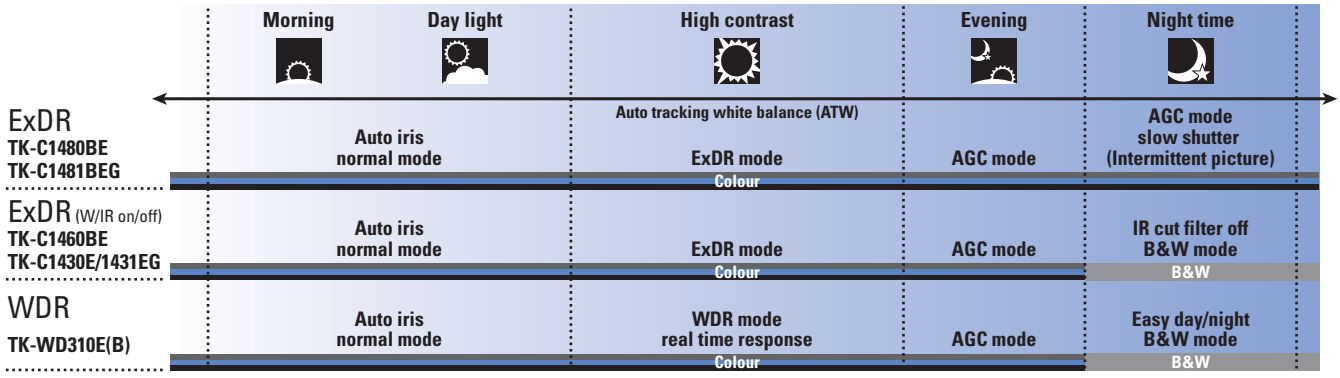
JVC's innovated technology featuring a wide dynamic range function performs by multi sampling method. TK-WD310E(B) automatically adjust luminance by pixel with 14-bit digital processing as well as implement 5 level multi sampling, in order to realize an accurate colour reproduction.





5 level multi sampling image

Selection guide for JVC line-up



Advantage for each model

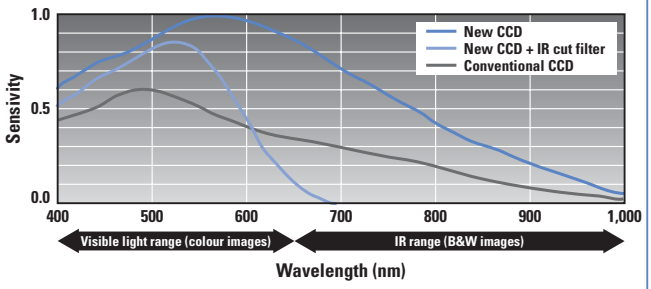
	Advantage		Summary	Application example
ExDR TK-C1480BE TK-C1481BEG	• 0.3 lx F1.2, 25% video • 0.01 lx under slow shutter • S/N ratio 50 dB	• ExDR image output • Menu/RS422A/RS485 interface	Ideal for Morning Day light Evening	• Casinos • Traffic • Town centre
ExDR (W/IR on/off) TK-C1460BE TK-C1430E/1431EG	• 0.3 lx F1.2, 25% video (TK-C1460BE) • 0.45 lx F1.2, 25% video (TK-C1430E/1431EG) • S/N ratio 50 dB	• ExDR image output • Menu/RS422A/RS485 interface • Day/Night function (IR)	Ideal for Morning Day light Evening Night time	• Banks • Retail shops • Prison
WDR TK-WD310E(B)	• 14-bit high speed digital process • Realize high speed WDR with 5 level multi sampling each pixel	• WDR image output • Ultra compact body • Easy day/night function	Ideal for High contrast Evening	• Bank ATM • Train (platform) • Entrance

4 IR cut filter on/off function

IR ON/OFF

IR cut filter makes it possible to capture both colour, 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 colour 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

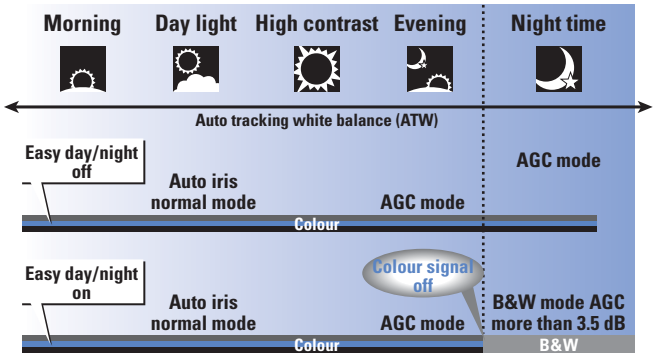


Object cameras: TK-C1460BE [**P.3**], TK-C1430E/1431EG [**P.3**], TK-C676E(B) [**P.13**], TK-C655E(C) [**P.13**], TK-C625E [**P.13**], VN-C625U [**P.26**] and VN-C655U(B) [**P.26**]

5 Easy day/night function

Easy D/N

Camera uses colour 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-C920E(A)/921EG(A) [**P.2**], TK-WD310E [**P.4**], TK-C205VPE(A) [**P.5**], TK-C215V4E [**P.6**], TK-C215V12E [**P.7**] and VN-C20U [**P.28**]

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-C205VPE(A) [**P.5**]

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-C215V4E [**P.6**] and TK-C215V12E [**P.7**]

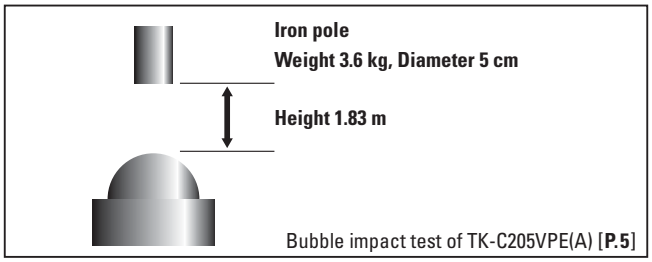
What is depth of field ?

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



Bubble impact test of TK-C205VPE(A) [**P.5**]

Results

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

8 Dust and water protection (IP code)

Degrees of protection provided by electrical machinery and apparatus enclosures

IP52 IP66

IP-□□

International Protection

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.

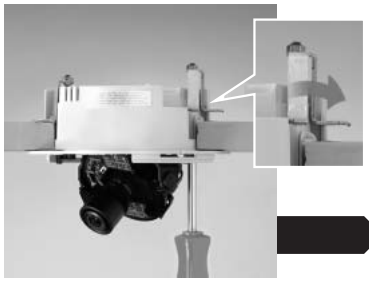
Object cameras: TK-C205VPE(A) [**P.5**], TK-C676E(B) [**P.13**], WB-1540U [**P.33-P.35**] and WB-1550U [**P.33-P.35**]

9 Easy flush mount

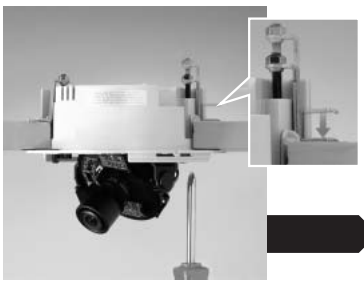
Easy Flush Mount

TK-C215 series uses an unprecedented flush mount installation method with which installation is as simple as ninety-degree rotation of the three L-shaped mounting brackets stored in the dome camera to secure it in place. 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.

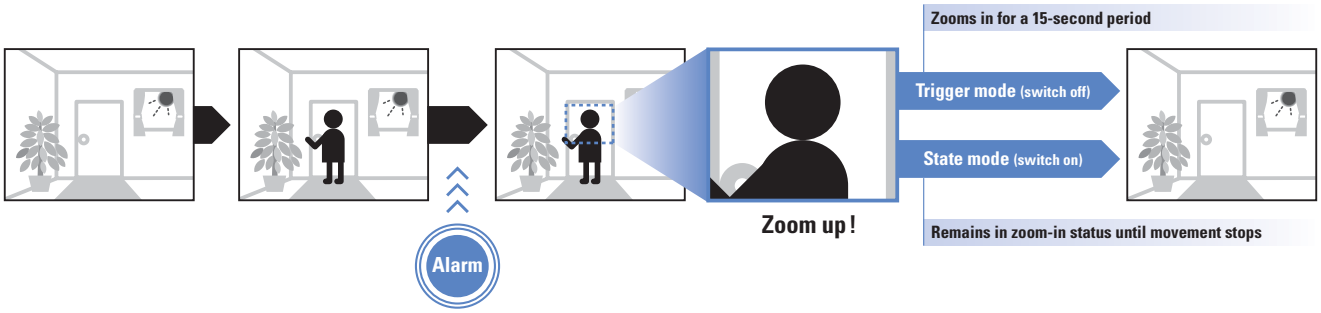
4. Mount the ceiling panel to complete installation.

Object cameras: TK-C210FWE [**P.6**], TK-C215V4E [**P.6**] and TK-C215V12E [**P.7**]

10 Alarm zoom function

Alarm Zoom

TK-C215V12E 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.

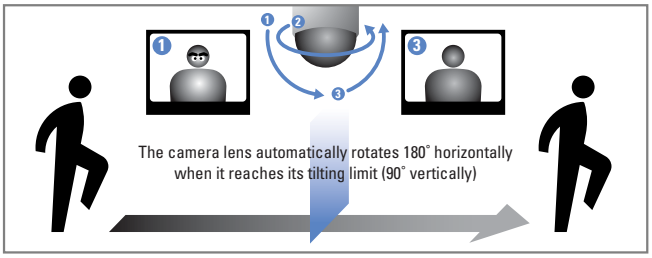


Object camera: TK-C215V12E [**P.7**]

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 (TK-C655E(C) and 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.

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 colour to black and white or vice versa, ensuring clear pictures even during switching.

Motion detection (all models except TK-C625E)

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.

Object cameras: TK-C676E(B) [**P.13**], TK-C655E(C) [**P.13**], TK-C625E [**P.13**], VN-655U(B) [**P.26**] and VN-C625U [**P.26**]

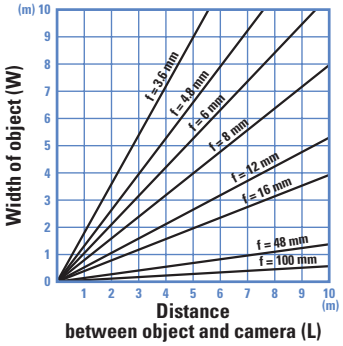
12 Relationship between focal length and field of vision

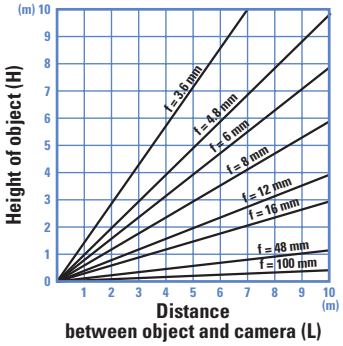
1/2" **1/3"**

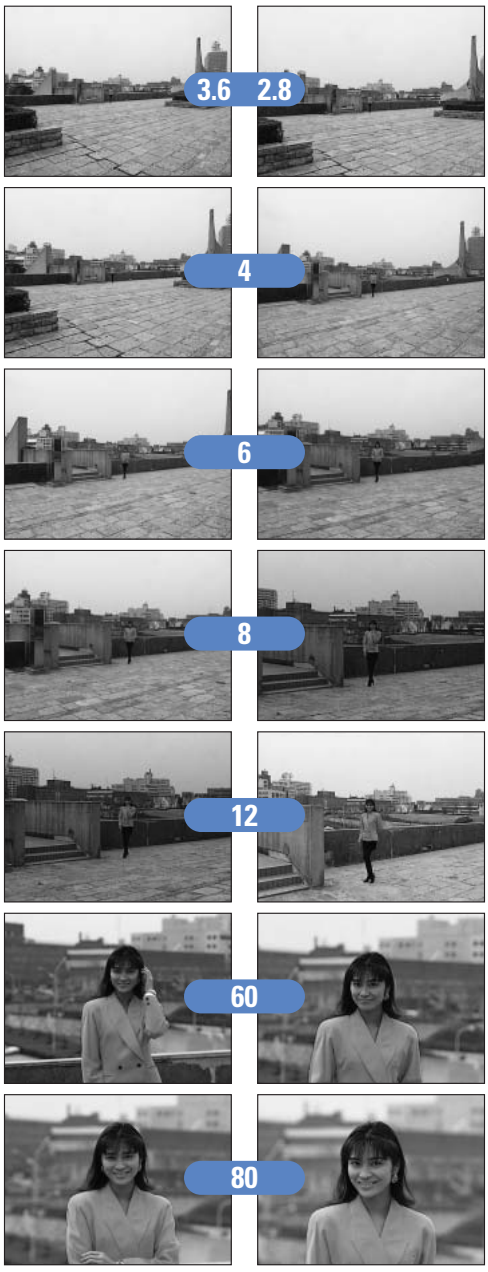
Lens focal length

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°

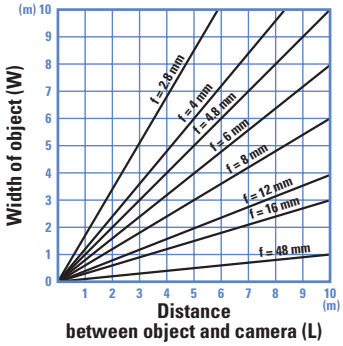


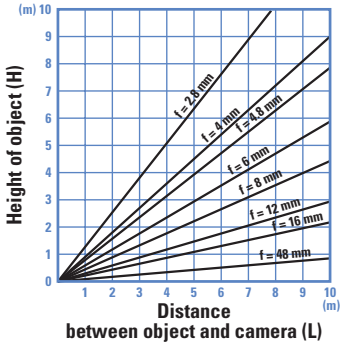




Simplified chart

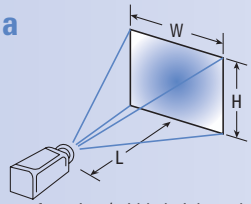
Lens focal length (mm)	Horizontal angle of video (degree)	Vertical angle of video (degree)
2.8	81°	66°
4	62°	48°
4.8	53°	41°
6	44°	33°
8	33°	25°
12	23°	17°
16	17°	13°





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

Formula



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

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

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

- 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.

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)

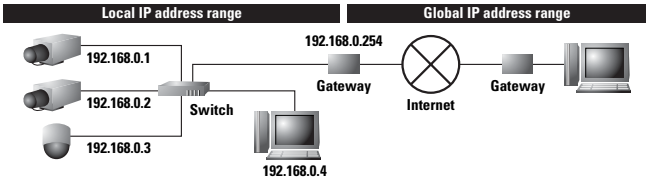
13 Information about network construction

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's V.Networks.

Example:

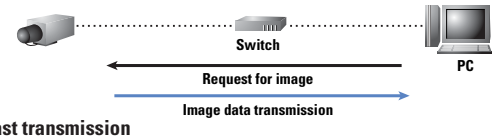


Simultaneous access by multiple users

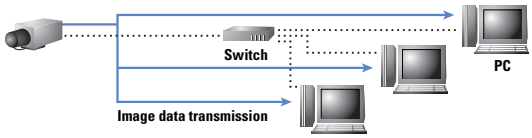
The frame rate (or bit rate), which refers to the number of images that can be transmitted by V.Networks within a second, is decided according to the specifications of V.Networks. Within the range of specification approximately 10 users can simultaneously access V.Networks. However, when a large number of users simultaneously access V.Networks, 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.

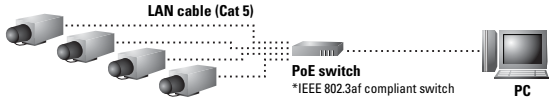


Multicast transmission
Since multicast is used to transmit a single packet to multiple terminals, the data transmission volume decreases regardless of the number of terminals. Multicast requires a compatible network device.
* Remote surveillance via the Internet cannot be carried out with a multicast 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). Offering an Easy installation is equal to JVC analogue cameras because it doesn't need data cable and AC power cable separately.



Alarms

V.Networks has two inputs and one output alarm terminals (except VN-C655U(B) and VN-C625U: input x 2/output x 2, VN-E4E: input x 4/output x 4). 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 V.Networks 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 V.Networks (without 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	VN-S400U	FAT32	NTFS
2 GB	No limitation	4 GB	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	——

Technical information for software developers

The following technical information are available for integrating V.Networks 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 colour when taken under incandescent or fluorescent light. AWB makes it possible to adjust white colour 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 a 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 analogue signal to a digital signal and then performs a variety of signal processing tasks. Thus, unlike analogue 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 V.Networks 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 V.Networks 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 V.Networks (VN-C655U/C625U/E4E/C20U) 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.
*It is necessary to equip VN-E4E with a Compact flash card (sold separately).

FTP server function
This refers to the V.Networks (VN-C655U/C625U/E4E/C20U) 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/C625U/E4E/C20U.
*It is necessary to equip VN-E4E with a compact flash card (sold separately).

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 VN-C655U/C625U/C20U/E4E 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 colour 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 V.Networks' 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.41
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.

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