Think GAIA
For Life and the Earth

SANYO

2009 CCTV
Products Catalog

Products Line Up 2009

IP CAMERA

CMOS Full HD Network 10x AF Zoom Camera
VCC-HD4000P
DAY NIGHT
P.7 **10x** Optical Zoom

1/3" Color CCD E-Day/night Box-type H.264/JPEG Camera
VCC-N6695P
E-DAY NIGHT
Electronic Day/night function
P.10

Weatherproof AF Zoom Network Camera
VCC-XZN600P
DAY NIGHT
P.11 **30x** Optical Zoom

AF Zoom Network Camera
VCC-ZMN600P
DAY NIGHT
P.11 **30x** Optical Zoom

Vandal-resistant PTZ Network Dome Camera
VDC-DPN9585P
PAN-FOCUS Technology in Perspective
P.13 **2.6x** Pan-Focus Lens

Indoor mini PTZ Network Dome Camera
VCC-PN9575P
PAN-FOCUS Technology in Perspective
P.13 **2.6x** Pan-Focus Lens

SPECIALTY CAMERA

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VCC-9800P E
DAY NIGHT
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High-resolution 36x AF Speed Dome Camera
VCC-9700P E
P.21 **36x** Optical Zoom

High-resolution 30x AF Speed Dome Camera
VCC-9600P E
DAY NIGHT
P.22 **30x** Optical Zoom

High-resolution 30x AF Speed Dome Camera
VCC-9500P E
P.22 **30x** Optical Zoom

High-resolution Weatherproof AF Zoom Camera
VCC-XZ600P
DAY NIGHT
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High-resolution AF Zoom Camera
VCC-ZM600P
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High-resolution WDR Vandal-resistant Dome Camera
VDC-W1595VP
P.28 **2.3x** Vari-focal Lens

High-resolution Vandal-resistant Dome Camera
VDC-D1585VP
DAY NIGHT
P.28 **2.3x** Vari-focal Lens

High-resolution Vandal-resistant Dome Camera
VDC-C1575VP
P.28 **2.3x** Vari-focal Lens

PAN-FOCUS CAMERA

High-resolution Weatherproof Camera
VCC-XZ200P
DAY NIGHT
P.30 **2.6x** Pan-Focus Lens

High-resolution Vandal-resistant PTZ Dome Camera
VDC-DP9585P
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High-resolution Indoor mini PTZ Dome Camera
VCC-P9575P
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High-resolution Vandal-resistant Dome Camera
VDC-DP7585P
DAY NIGHT
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High-resolution Indoor mini Dome Camera
VCC-P7575PA
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CAMERA

1/3" COMS High-resolution WDR Day/night Camera
VCC-WD8875P
DAY NIGHT
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1/3" COMS High-resolution WDR Day/night Camera
VCC-WD8870P
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1/3" COMS High-resolution WDR Camera
VCC-W8775P
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1/3" COMS High-resolution WDR Camera
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Indoor mini Dome Camera
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DAY NIGHT
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1/3" Color CCD High-resolution Day/night Camera
VCC-4790P E
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1/3" Color CCD E-Day/night High-resolution Camera
VCC-6695P
E-DAY NIGHT
Electronic Day/night function
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1/3" Color CCD E-Day/night High-resolution Camera
VCC-6690P
E-DAY NIGHT
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1/3" Color CCD High-resolution Camera
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Dummy Camera
VC-0410
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Dummy Camera
VC-0450
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Standard Vari-focal IR Lens for 1/3" CCD Camera (f=2.8 to 11 mm)
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Standard Vari-focal Lens for 1/3" CCD Camera (f=3 to 8 mm)
VA-13VG308AS
P.43

Standard Vari-focal IR Lens for 1/3" CCD Camera (f=3 to 8 mm)
VA-13VG308ASIR
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Tele Vari-focal Lens for 1/3" CCD Camera (f=5 to 50 mm)
VA-13VG550T-LY
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Hard Disk Case for VCC-HD4000P
VA-HDC4000
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Wide Conversion Lens for VCC-HD4000P
VCP-L07W
P.9

120 GB 2.5" HDD for VCC-HD4000P
VA-HD2120
P.9

4 GB SD Memory Card for VCC-HD4000P
VA-SD004
P.9

H.264 / JPEG Network Board for
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VCC-9700P E
VCC-9600P E
VCC-9500P E
VA-82LAN
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JPEG Network Board for
VCC-9800P E
VCC-9700P E
VCC-9600P E
VCC-9500P E
VA-80LAN
P.15

JPEG Network Board (PoE) for
VDC-DP7585P /
VCC-P7575PA
VA-51LAN
P.15

JPEG Network Board for
VDC-DP7585P /
VCC-P7575PA
VA-50LAN
P.15

JPEG Network Board for VCC-XZ200P
VA-20LAN
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SSP + Twisted Pair Board for
VDC-DP7585P / VCC-P7575PA
VA-50ST P.33

SSP + Twisted Pair Board for VCC-XZ200P
VA-20ST P.30

Twisted Pair Board for VCC-9685VP
VA-10T
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Heater Board for VCC-XZ200P /
VDC-DPN9585P / DP9585P / DP7585P
VA-50H P.34

SANYO Video Management Software (VMS)
VA-SW50 (Advanced)
VA-SW60 (Enterprise)
P.17

Network Recorder Software
VA-SW3050S/C
Network Software
VA-SW3050LITE
P.18

Attachment (Indoor use) Adaptor Bracket
for VCC-9800P E / 9700P E
9600P E / 9500P E
VA-80A
P.24

Adaptor Bracket
for VCC-9800P E / 9700P E
9600P E / 9500P E
VA-80AB
P.24

Corner Mounting Adaptor
for VCC-9800P E / 9700P E
9600P E / 9500P E
VA-80AC
P.24

Pole Mounting Bracket
for VCC-9800P E / 9700P E
9600P E / 9500P E
VA-80AP
P.24

Pendant Mounting Bracket
for VCC-9800P E / 9700P E
9600P E / 9500P E
VA-80BP
P.24

Wall Mounting Bracket for
VCC-9800P E / 9700P E
9600P E / 9500P E
VA-80BW
P.24

Outdoor Housing for
VCC-9800P E / 9700P E
9600P E / 9500P E
VA-80EX
P.24

Surface Cover for
VCC-9800P E / 9700P E
9600P E / 9500P E
VA-80F
P.24

Clear Dome Cover (outdoor housing) for
VCC-9800P E / 9700P E
9600P E / 9500P E
VA-CM8C
P.24

Smoked Dome Cover (outdoor housing)
for VCC-9800P E / 9700P E
9600P E / 9500P E
VA-CM8S
P.24

Smoked Dome Cover (indoor housing)
for VCC-9800P E / 9700P E
9600P E / 9500P E
VA-CZ80
P.24

In-Ceiling Bracket (closed type) for
VCC-9800P E / 9700P E
9600P E / 9500P E
VA-80ME
P.24

Attachment for VDC-DPN9585P /
DP9585P / DP7585P
VA-50AL
P.34

Attachment for VDC-W1595VP /
VDC-D1585VP / VDC-C1575VP
VA-50AM
P.34

Attachment for VCC-PN9575P / P9575P /
P7575PA / 9685VP
VA-50AS
P.34

Pendant Mounting Bracket
(long) for VA-50AL / VA-50AM
VA-50AS
VA-50BPL
P.34

Pendant Mounting Bracket
(short) for VA-50AL / VA-50AM
VA-50AS
VA-50BPS
P.34

Wall Mounting Bracket
for VA-50AL / VA-50AM
VA-50AS
VA-50BW
P.34

In-Ceiling Bracket
VA-DK02
P.34

Smoked Cover for VCC-PN9575P /
P9575P / P7575PA / 9685VP
VCZ-50
P.34

Half-Mirror Cover for VCC-PN9575P /
P9575P / P7575PA / 9685VP
VCZ-51
P.34

Camera Control Unit
VAC-70
P.42

Camera Mount
VA-VCT31
P.42

Dome Camera housing
VA-CDH60
(Smoked cover)
VA-CDH60C
(Clear cover)
P.42

DVR

16-channel Hybrid DVR | MPEG-4
DSR-HB8000
P.49

16-channel DVR | JPEG2000
DSR-5716P
P.51

9-channel DVR | JPEG2000
DSR-5709P
P.51

16-channel DVR | M-JPEG
DSR-3716PA
P.53

9-channel DVR | M-JPEG
DSR-3709PA
P.53

16-channel DVR | MPEG-4
DSR-2016
P.55

4-channel DVR | MPEG-4
DSR-2004
P.55

DVR ACCESSORIES

External HDD Unit for DSR-5709P /
DSR-5716P with VZU-SATB1
VA-EXH
P.48

Disc Writer Unit
for DSR-5709P / DSR-5716P
VA-EXD1 B
P.48

Disc Writer Unit
for DSR-3709PA DSR-3716PA
VA-EXD1 W
P.48

SCSI Board
for DSR-5709P / DSR-5716P
VZU-SCB1
P.48

S-ATA Board
for DSR-5709P / DSR-5716P
VZU-SATB1
P.48

DVR Utility Software
for DSR-2016 / DSR-2004
DVR Utility 2000S
P.56

RACK MOUNT BRACKET

Rack Mount Bracket (1U)
VA-RACMK1
P.48

Rack Mount Bracket (2U)
VA-RACMK2
P.48

Rack Mount Bracket
for DSR-2016
VA-RACMK3
P.48

SSP CONTROL UNIT

SSP System Controller
VSP-9000
P.57

SSP System Controller
VSP-8500
P.58

SSP System Controller
VSP-3000
P.59

MONITOR

19" High Performance
Professional LCD Monitor
VMC-L2019P
P.60

17" High Performance
Professional LCD Monitor
VMC-L2017P
P.60

LCD MONITOR BRACKET

Wall Mounting Bracket
VA-BWM2
P.60

Arm Bracket
VA-AWM3
P.60

Camera Selection

Super High Resolution Camera

DAY NIGHT

VCC-XZ200P
P.30
2.6x Pan-Focus Lens **520TVL**

VDC-DP9585P
P.31
2.6x Pan-Focus Lens **520TVL**

VDC-DP7585P
P.33
2.6x Pan-Focus Lens **520TVL**

VCC-ZM600P
P.25
30x Optical zoom **540TVL**

VDC-D1585VP
P.28
2.3x Vari-focal Lens **520TVL**

VDC-D1785IRVP
P.27
3.2x Vari-focal Lens **540TVL**

VCC-9800P E
P.21
36x Optical zoom **540TVL**

VCC-9600P E
P.22
30x Optical zoom **540TVL**

VCC-XZ600P
P.25
30x Optical zoom **540TVL**

VCC-WD8875P*
P.37
550TVL

VCC-WD8870P*
P.37
550TVL

VCC-P9575P
P.31
2.6x Pan-Focus Lens **520TVL**

VCC-P7575PA
P.33
2.6x Pan-Focus Lens **520TVL**

VCC-9700P E
P.21
36x Optical zoom **540TVL**

VCC-9500P E
P.22
30x Optical zoom **540TVL**

VCC-ZM500P
P.26
30x Optical zoom **540TVL**

VCC-W8775P*
P.38
550TVL

VCC-W8770P*
P.38
550TVL

VCC-5995P*
P.41
540TVL

VDC-C1575VP
P.28
2.3x Vari-focal Lens **520TVL**

VCC-9685VP
P.39
2.9x Vari-focal Lens **540TVL**

Wide Dynamic Range Camera
VDC-W1595VP
P.28
2.3x Vari-focal Lens **480TVL**

DAY NIGHT

VCC-4795P E*
P.40
540TVL

VCC-4790P E*
P.40
540TVL

E-DAY NIGHT
Electronic Day/Night function

VCC-6695P*
P.41
540TVL

VCC-6690P*
P.41
540TVL

*Lens (sold separately)

VA-13VG2811ASIR
P.43

VA-13VG308ASIR
P.43

VA-13VG550T-LY
P.43

VA-13VG308AS
P.43

Lens is optional for the models with an asterisk (*).

DVR Selection by Compression

Hybrid MPEG-4 16 ch

JPEG2000 16 or 9 ch

DSR-5716P
P.51

DSR-5709P
P.51

Optional item for DSR-5716P / DSR-5709P

VA-EXH
P.48

VA-EXD1 B
P.48

VZU-SCB1
P.48

VZU-SATB1
P.48

DSR-HB8000
P.49

MPEG-4 16 or 4 ch

M-JPEG 16 or 9 ch

DSR-2016
P.55

DSR-2004
P.55

DSR-3716PA
P.53

DSR-3709PA
P.53

Optional item for DSR-3716PA / DSR-3709PA

VA-EXD1 W
P.48

Camera Selection

IP Camera

DAY NIGHT

VCC-HD4000P
P.7
10x Optical zoom

Optional item for VCC-HD4000P

Wide Conversion Lens VCP-L07W
P.9

Hard Disk Case VA-HDC4000
P.9

120 GB 2.5″ HDD
VA-HD2120
P.9

4 GB SD Memory Card
VA-SD004
P.9

DAY NIGHT

VDC-DPN9585P
P.13
2.6x Pan-Focus Lens
PAN-FOCUS

VCC-XZN600P
P.11
30x Optical zoom

VCC-ZMN600P
P.11
30x Optical zoom

E- **DAY** NIGHT
Electronic Day/Night function

VCC-N6695P*
P.10

Color

VCC-PN9575P*
P.13
2.6x Pan-Focus Lens
PAN-FOCUS

LAN Board

Optional item

VA-82LAN (for VCC-9800P E / 9700P E / 9600P E / 9500P E)

VA-80LAN (for VCC-9800P E / 9700P E / 9600P E / 9500P E)

VA-51LAN (for VDC-DP7585P / VCC-7575PA)

VA-50LAN (for VDC-DP7585P / VCC-7575PA)

VA-20LAN (for VCC-XZ200P)
P. 15

VA-82LAN

Network Software

Optional item
Video Management Software (VMS)
VA-SW50 (Advanced)
VA-SW60 (Enterprise)
P. 17

Optional item
Network Recorder
VA-SW3050S (Server)
VA-SW3050C (Client)
P.18

Bundled item
VA-SW3050LITE (Viewer Software) P.18

DVR Selection by Compression

Remote surveillance

Surveillance from a remote location is possible by installing DVR Utility Software.

DVR Utility Software for DSR-2016 / DSR-2004
DVR Utility 2000S
P.56

Exclusive software for DSR-HB8000
Central Management Software
CMS

SSP Control Unit

VSP-9000
P.57

VSP-8500
P.58

VSP-3000
P.59

LCD Monitor

VMC-L2019P
P.60

VMC-L2017P
P.60

System Chart

IP Camera

Specialty Camera

Pan-focus Camera

Camera • Lens

DVR

SSP System

Monitor

Example System

IP Camera

SANYO presents remote network surveillance solutions.
The SANYO Network Camera series offers superior picture quality
and a high level of sensitivity for any situation.

Full HD

Full HD (Full High Definition)
Allows the user to view the surveillance picture in the same picture quality as that of a high definition digital TV of 1080 line scanning. The picture quality is good enough to be displayed on a large screen monitor.

4 M Pixels

Megapixel
The ultra-fine picture made up of 4 million pixels makes it possible to capture the finest details of a subject under surveillance.

H.264

H.264 Video Compression
The H.264, which optimizes the network video streams at a low transfer rate, is ideal for monitoring real-time video images.

JPEG

JPEG Video Compression
The commonly used JPEG format is suitable for monitoring and recording without losing quality.

PoE

Power-over-Ethernet (PoE)
SANYO Network cameras support the IEEE 802.3af standard for Power-over-Ethernet (PoE) applications to allow power supplied over LAN cabling. In addition to making installation easier, this allows camera installation in places where it would otherwise be difficult to secure a power source.

Protocols

Network Protocols
The cameras support major communication protocols such as RTP*, RTSP*, TCP/IP, UDP, HTTP, HTTPS, SMTP, NTP, DHCP, FTP, and UPnP and, are therefore easy to connect to a network.
* VCC-HD4000P only

DDNS

DDNS (Dynamic DNS)
SANYO Network cameras can be accessed with a fixed host name (e.g. sanyovcczmn600p), which makes the network easy to remember, always available, and secure.

Bi-directional audio communication

Surveillance-Point Monitoring with Video and Audio Data
Bi-directional audio communication and remote camera control make it possible to monitor any place regardless of local conditions. Monitoring the ambient sound adds a new dimension to the surveillance.

Alarm IN x 2 Alarm OUT x 1

Alarm Terminals
These terminals offer the added functions of e-mail and/or image sending when some motion is detected in a preset range or an external alarm is received.

SANYO'S network surveillance recording solution

Hybrid Digital Video Recorder
The DSR-HB8000 is a hybrid model that is capable of connecting and controlling network cameras simultaneously.

IP cameras

Up to 8 network cameras

Via Ethernet

Up to 16 analog cameras
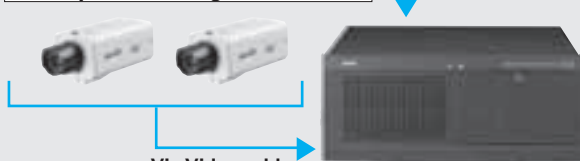
Via Video cable

16ch Hybrid DVR DSR-HB8000
See page 49 for details.

Network Software
SANYO presents network surveillance system solutions with VMS and VA-SW3050S/C.
The software enables the user to record the video feed from a camera on a PC, or access a camera or DVR* from a PC, to monitor a live image or control the device.
* Only VA-SW60 is supported.

Network cameras

HD Network cameras

Software
VA-SW50 (Advanced)
VA-SW60 (Enterprise)
VA-SW3050S (for server)
VA-SW3050C (for client)

Video Management Software (VMS)
VA-SW50 (Advanced) **/ VA-SW60** (Enterprise)
See page 17 for details.

VA-SW3050S (for server) / **VA-SW3050C** (for client)
See page 18 for details.

Category	H.264/JPEG				JPEG	
	VCC-HD4000P	VCC-N6695P	VCC-XZN600P	VCC-ZMN600P	VDC-DPN9585P	VCC-PN9575P
Lens	10x AF Zoom lens	CS Mount	30x AF Zoom lens		2.6x AF Zoom lens	
Color or Day/Night	Day/Night				Day/Night	Color
Image stabilizer	——————		✓		——————	
Image compression	H.264/JPEG (simultaneous transmission available)				JPEG	
Resolution	**<H.264>16:9 HD** 1920 x 1080p **HD** 1280 x 720p, 960 x 540P, 640 x 360p, 320 x 180p **4:3** 1080 x 864p, 720 x 576p, 360 x 288p **<JPEG>16:9 HD** 1920 x 1080, **HD** 1280 x 720, 1024 x 576, 640 x 360 **4:3 4M** 2288 x 1712, **2M** 1600 x 1200, 1280 x 960, 1024 x 768, 800 x 600, 640 x 480, 320 x 240	**<H.264>** 720 x 576, 352 x 288, 176 x 144 **<JPEG>** 720 x 576, 720 x 288, 640 x 480, 360 x 288, 176 x 144			**<JPEG>** 720 x 286, 640 x 480, 360 x 286, 180 x 143	
Picture quality	Super Fine, Fine, Enhanced, Normal, Basic					
Frame rate	Max.25IPS (1920 x 1080)	Max.25IPS (720 x 576)				
Microphone input	——————				–62 to –32 dB (monaural microphone) 3.5 ø mini jack	
Audio output	——————				LINE OUT monaural voice output Maximum -8 dBs 3.5 ø mini jack	
Bandwidth	128, 256, 512 Kbps, 1, 2, 3, 4, 5, 6 Mbps, no limitation	128, 256, 512 Kbps, 1, 2, 3, 4 Mbps, no limitation				
PoE (Power over Ethernet)	Compliant with IEEE802.3af					
Audio	——————				Bi-directional audio G.711 (192 Kbps) 16 bit 12 KHz	
DDNS	✓					
Alarm buffer	32 MB	8 MB				
Interface	10BASE-T / 100BASE-TX (RJ-45 connector)					
Protocols	RTP*, RTSP*, TCP/IP, UDP, HTTP, HTTPS, SMTP, NTP, DHCP, FTP, UPnP, DDNS	TCP/IP, UDP, HTTP, HTTPS, SMTP, NTP, DHCP, FTP, UPnP, DDNS				
Simultaneous access capacity	Image: Max. 16, Audio: Max. 16 (admin: 1)					
Security	BASIC authentication (ID/password), SSL supported (image only)					
Bundled software	VA-SW3050LITE HDC Downloder DL Viewer	VA-SW3050LITE				
Page	7	10	11	11	13	13

*Available for CGI commend only

Network Board (sold separately)

Category	H.264/JPEG				JPEG
Model No.	Network board VA-82LAN	Network board VA-80LAN	Network board VA-51LAN	Network board VA-50LAN	Network board VA-20LAN
Applicable models	VCC-9800P E series VCC-9700P E series VCC-9600P E series VCC-9500P E series		VDC-DP7585P / VCC-P7575PA		VCC-XZ200P
Image compression	H.264/JPEG (simultaneous transmission available)	JPEG			
Resolution	**<H.264>** 720 x 576, 352 x 288, 176 x 144 **<JPEG>** 720 x 576, 720 x 288, 640 x 480, 360 x 288, 176 x 144	**<JPEG>** 720 x 572, 720 x 286, 640 x 480, 360 x 286, 176 x 143	**<JPEG>** 720 x 286, 640 x 480, 360 x 286, 180 x 143		
Picture quality	Super Fine, Fine, Enhanced, Normal, Basic				
Frame rate	Max.25IPS (720 x 576)	Max.25IPS (720 x 286)			
Microphone input	–62 to –32 dB (monaural microphone) 3.5 ø mini jack			——————	
Audio output	LINE OUT monaural voice output Maximum -8 dBs 3.5 ø mini jack			——————	
Bandwidth	128, 256, 512 Kbps, 1, 2, 3, 4 Mbps, no limitation				
PoE (Power over Ethernet)	——————	Compliant with IEEE802.3af		——————	
Audio	Bi-directional audio G.711 (192 Kbps) 16 bit 12 KHz			——————	
DDNS	✓				
Alarm buffer	8 MB				
Interface	10BASE-T / 100BASE-TX (RJ-45 connector)				
Protocols	TCP/IP, UDP, HTTP, HTTPS, SMTP, NTP, DHCP, FTP, UPnP, DDNS				
Simultaneous access capacity	Image: Max. 16, Audio: Max. 16 (admin: 1)			Image: Max. 16	
Security	BASIC authentication (ID/password), SSL supported (image only)				
Bundled software	VA-SW3050LITE				
Page	21, 22		33		30

Technical Note	**SDK, CGI:** SANYO provides technical materials to help the user not only connect SANYO Network Cameras to a network, but also to incorporate them into the user's unique environment. **For more information, contact the nearest SANYO Sales Company.**

CMOS Full HD Network 10x AF Zoom Camera

VCC-HD4000P

10x
Optical Zoom

DAY NIGHT

Megapixel

VAC-70 Control

Full HD	4 M Pixels	H.264	JPEG	Multi-spot / Center-zone BLC
ATW AWC Manual	25 IPS (1920 x 1080)	24 V AC 12 V to 15 V DC	PoE	HDMI

Dual Codec for H.264 and JPEG
Monitoring can be conducted simultaneously in H.264 and JPEG formats by minimizing network traffic.
• H.264 ActiveX Plug-in required (bundled).

A new level of security with smooth, 25 IPS video in 1920x1080p (full HD) resolution
SANYO's expertise in video cameras has brought 25 IPS full HD video to the security world. This whole new level of finesse makes it possible to capture small objects that could have been overlooked in the past.

4M (2288 x 1712)

FULL HD (1920 x 1080)

VGA (640 x 480)
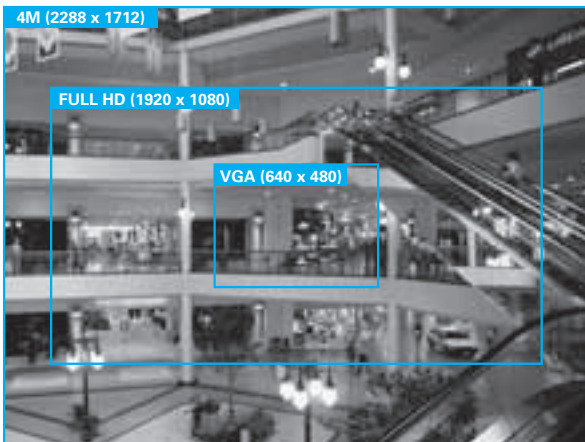
4 Megapixels resolution
With conventional cameras, picture quality must be sacrificed for a wide angle picture, as maximum resolution is limited to 720x480p (D1). With the higher resolution (2288x1712 pixels (4M)) of VCC-HD4000P, however, it is possible to capture a wide area without distortion or loss of quality – down to the very edge of the picture. The camera comes with a mega-pixel-compatible AF zoom lens that eliminates cumbersome focus adjustment and reduces time and cost of installation.

Current Megapixel camera

SANYO VCC-HD4000P

*Images used may differ slightly from actually recorded scenes.

Comes with a 10x optical zoom lens supporting 4 megapixels resolution
The camera has a built-in optical zoom lens that matches the resolution of a 4 megapixels CMOS. This offers the capability to zoom in on a subject without losing detail. In addition, the high resolution makes it possible to further enlarge the picture through the digital zoom function and still maintain excellent picture quality. The combination of optical and digital zooming offers maximum zooming of 160x.

Advanced codec H.264 has high compression technology compared with JPEG.
Our H.264 codec can save about 1/10 size compared with JPEG*.
*Under the same setting.
Low bandwidth makes it possible to increase the size of the recording area or length of recording.

Face Detection
All new face detection function
This detection function offers two different benefits.
The camera can recognize the faces of up to 32 people and applies two types of compensation function. If a size of a human's face is 120x120 pixels or more, the compensation function is optimized so that the face is displayed clearly.

Detects faces and applies optimum backlight compensation
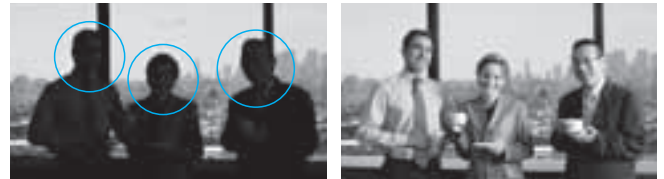
Before detection   After detection

Detects faces and applies optimum focus compensation
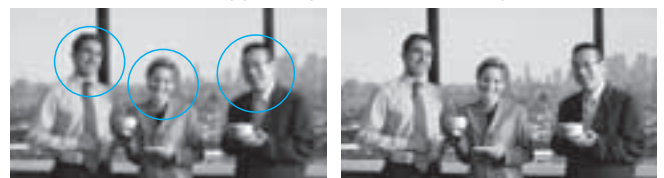
Before detection   After detection

Clipping Function
This feature makes it possible for the user to clip up to four different areas of a screen. Clipping is made in the VGA size and transmitted sequentially to an SD (Composite output) monitor. The user can monitor the entire screen and enlarged displays of four different locations at the same time. This feature makes the camera extremely versatile.

Sequence

System Chart

IP Camera

Specialty Camera

Pan-focus Camera

Camera • Lens

DVR

SSP System

Monitor

Example System
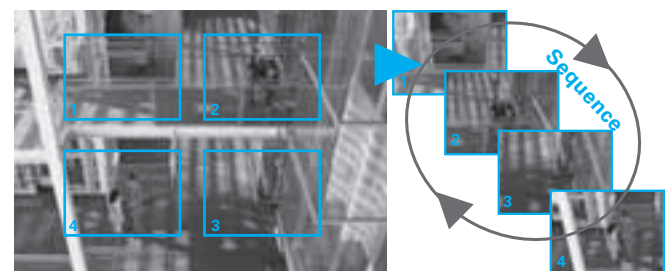
Four Alarm Functions

The camera features alarm recording, external alarm recording, motion sensor recording, and emergency recording (pushbutton). Emergency recording is a new feature that enables manual recording by pushing a button.

HDMI Connection

The HDMI signal transfers the high definition video directly to an HD monitor. Using the VCC-HD4000P and an HDMI cable enables non-compressed data transfer that is free of degradation.

HD Monitor

HDMI cable

HIGH-DEFINITION MULTIMEDIA INTERFACE
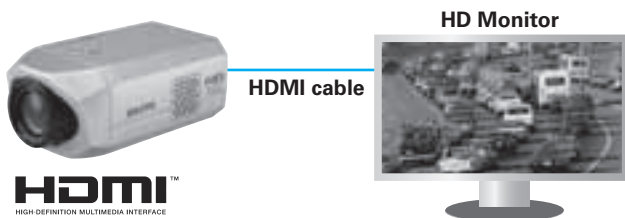
* The monitor / HDMI cable are sold separately.

HD image recording on SD Memory Card or External 2.5" HDD

The camera comes with an SD memory card slot allows the user to record easily by using an optional SD memory card[*1]. With the use of an HDD and an HDD case, which are sold separately, it is possible to make a prolonged local recording comparable to a DVR. Combining the local recording capability with network failure detection[*2], the surveillance video can be stored locally in case of an emergency.

[*1] Requires use of optional SD memory card, HDD, or HDD case recommended by SANYO.

[*2] Backup for Interruption of Network recording
Configure these settings to record video with the camera for backup purposes, if communication with the camera is interrupted due to a network failure or other cause when you record video with the optional software. "VA-SW3050Server / Client" (or other recording software).

SD memory card

External HDD

Privacy Masking

When there is a house, or even an object as small as a window, within the camera frame, to protect other people's privacy it is possible to mask that area so that it will not appear on the monitor screen. Up to 5 rectangular masks of any desired size can be set per screen. Masking patterns are easily set with drag and drop.

True Day/Night

24-hour surveillance is now possible with just a single camera that works as a color camera during the day and a high-sensitivity B/W camera during the night. The mode of operation is automatically switched by replacing the optical filter. The use of an optical filter in the color mode also allows video recording in true colors.

Alteration Detection

VCC-HD4000P verifies by itself whether or not an electronic alteration was made to original image.

Smearless

Conventional CCD units are known to generate vertical noises (smears) associated with bright spots. The new sensor diminishes these smears and offers a clear and bright picture.

Conventional cameras   VCC-HD4000P

3 types of Power Source

The VCC-HD4000P can operate on three different types of power supply — 12 V DC, 24 V AC and PoE.

PC for Monitoring

By simply using Internet Explorer (ver. 6.0 or higher) on a personal computer, the user has access to full color video images from the camera. Saving JPEG images on a PC is also possible by using VA-SW3050S server software.

Setup through a Web Browser

A standard web browser, such as Internet Explorer (ver. 6.0 or higher), can be used to view the video image from VCC-HD4000P and change settings. Security is provided by the use of SSL.

Transmission using 2 types of codecs (H.264 and JPEG) is possible.

For video compression, H.264, optimized for transmission of moving images over a network with low bit transfer rates, is used to enable real-time high image quality monitoring. For still images JPEG is used to offer high image quality in a common format. Monitoring can be performed according to the user's application, so that no important scene is missed.

Alarm Buffering Function

This function saves the video images recorded during an alarm recording internally, or to an SD memory card, before streaming them. This prevents the loss of data even if an image transmission delay occurs due to bandwidth limitations or network traffic conditions.

HDC Downloader (bundled)

Video data recorded on an SD memory card or HDD can be downloaded to a PC.
- Select JPEG or H.264
- Search by date and time for video data to be downloaded.
- Connect SD memory card or HDD to PC directly to copy video data.

DL Viewer (bundled)

This is used to play back downloaded video or recorded data on an SD memory card or HDD.
- JPEG or H.264 can be played back.
- Images can be saved and printed.

System Chart

IP Camera

Specialty Camera

Pan-focus Camera

Camera • Lens

DVR

SSP System

Monitor

Example System

System Chart

IP Camera

Specialty Camera

Pan-focus Camera

Camera • Lens

DVR

SSP System

Monitor

Example System

Full HD monitor

HDMI cable

SD card

External HDD

Alarm in
Alarm out

Network

PC

SANYO Software Development Kits (SDK)

SANYO now offers two types of SDKs to help the user develop applications suitable for particular needs, or for more compatibility with network devices and software from different vendors.

* For further information on the SDK, please contact the nearest SANYO representative.

Other Features

- Power-over-Ethernet (PoE)
- Multi-cast
- Backup for interruption of network recording
- Internal log files: up to 100 access logs & up to 200 system information
- E-mail function
- SSL-compatible (JPEG only)

Connection
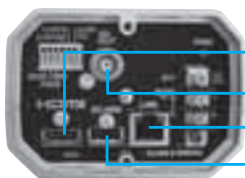
1) HD Output (HDMI)
2) SD output (Composite)
3) LAN I/F (RJ-45)
4) USB I/F (External HDD)

Bundled software

- H.264 Active-X Plug-in (attached): Allows user to view surveillance video in H.264 video format.
- HDC Downloader (attached): Downloads video recording data from the camera to a PC.
- DLViewer (attached): Replays downloaded video data.
- VA-SW3050Lite (attached): Allows user to view images from multiple cameras on a split screen.
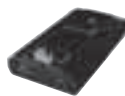
Option (sold separately)

Wide Conversion Lens   VCP-L07W
Together with VCP-L07W, which is sold separately, this lens offers a wider angle view.

Hard Disk Case   VA-HDC4000
This case for a 2.5″ Hard Disk Drive has a protection circuit for important data. Recommended SD memory card and HDD is available. Please visit "sanyosecurity.com" for than date.

Camera Control Unit   VAC-70
(sold separately) See page 42 for details.

VA-HD2120
120 GB 2.5″ HDD

VA-SD004
4 GB SD Memory Card

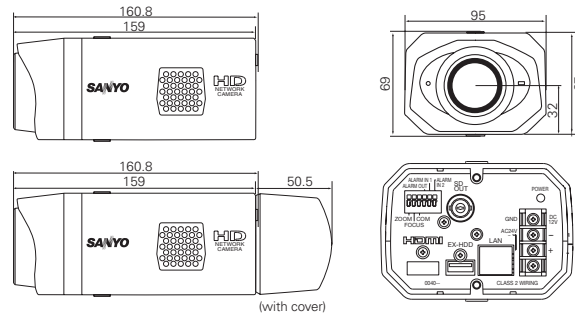**Video Management Software (VMS)**
VA-SW50 (Advanced) **/ VA-SW60** (Enterprise)
See page 17 for details.

Network Recorder   VA-SW3050S / VA-SW3050C
See page 18 for details.

VCC-HD4000P

160.8
159

95

69

67

32

160.8
159

50.5

(with cover)

(Unit: mm)

Model		VCC-HD4000P
Image sensor		1/2.5" CMOS sensor
Effective picture elements		2320(H) x 1728(V) approx. 4.Megapixels
Recording picture elements		2288(H) x 1712(V) approx. 3.92 Megapixels
Lens		Focal length f=6.3 to 63.0mm Optical 10x, F number F1.8 to 2.5, Digital zoom 16x
Image compression		H.264 / JPEG
H.264	16:9 HD	1920 x 1080p 25ips
	HD	1280 x 720p 25ips, 960 x 540P 25ips, 640 x 360p 25ips, 320 x 180p 25ips
	4:3	1080 x 864p, 720 x 576p 25ips, 360 x 288p 25ips
JPEG	16:9 HD	1920 x 1080
	HD	1280 x 720, 1024 x 576, 640 x 360
	4:3	**4M** 2288 x 1712, **2M** 1600 x 1200, 1280 x 960, 1024 x 768, 800 x 600, 640 x 480, 320 x 240
Synchronizing system		Internal sync.
Minimum illumination		2.0 lx (at.F1.8, GAIN: HI, at color mode) / 0.1 lx (at F1.8, GAIN: HI, at B/W mode)
Video S/N ratio		50dB AGC OFF
Day/Night		Auto / Color / B/W
Focus		AUTO / MANUAL / ONE-PUSH: Selectable focus area
White balance		ATW / AWC / MWB / Outdoor / Indoor / Fluorescent Adjustable R and B signals in MWB mode
Backlight compensation		Multi-spot potometry / Center-zone potometry / OFF mask settings possible / Face
Electronic shutter		1/25, 1/50, 1/120, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000 x1, x2, x4, x8, x16, x32
Iris control		AUTO / MANUAL, Selectable electronic shutter in manual mode
Gain control		Normal / Middle / High / Off, Adjustable gain control in Off mode
Gamma		0.45 / 1, other settings available
Aperture compensation		ON / OFF
Electronic sensitive boost		AUTO / OFF, Max. 32x
Privacy masking		ON / OFF, Max. 5 masks
Motion detector		ON / OFF, Selectable area detection, Selectable sensitivity level, Motion alarm zoom function: Selectable magnified ratio and duration time, Human face detection *Available in preset positions
Menu language		English / Spanish / German / French / Japanese
Camera Title		16 characters
Image quality		Selectable (5 levels)
Recording rate		Selectable (Max. 25 IPS)
Recording mode		Alarm recording Pre / Post setting (Selectable recording rate) / Suspicion recording (Selectable recording rate)
SD card slot		1 (SDHC supported)
USB port		Supported HDD *Require optional HDD case
Video output		HD output HDMI port, SD output composite (BNC terminal, NTSC or PAL)
Network		RJ-45 port (10BASE-T / 100BASE-TX)
Alarm input		2 NO / NC setting, This output is also used for day/night control of color, B/W and auto mode.
Alarm output		1 Selectable NO/NC; open collector
External lens control		Zoom / Focus / Common (Voltage control: ±6 to ±12 V)
Operation button		SET button and Cursor buttons (These are used for MENU and Zoom / Focus.)
Picture quality		Selectable
Bandwidth		No limitation and selectable bandwidth limitation
DDNS		✓
Interface		10BASE-T / 100BASE-TX (PoE compatible)
Protocols		RTP*, RTSP*, TCP/IP, UDP, HTTP, HTTPS, SMTP, NTP, DHCP, FTP, UPnP, DDNS
Simultaneous access		16
Security		BASIC authentication ID/password, SSL supported
Environmental conditions		Temperature: −10°C to +50°C (+14°F to +122°F), Humidity: within 90% RH
Power requirement		24 V AC ±10%, 50 Hz / 12 V to 15 V DC / PoE (compliant with IEEE 802.3af)
Power consumption		12.3 W
Dimensions		95(W) x 67(H) x 159(D) mm [3.7(W) x 2.6(H) x 6.3(D) in.]
Weight		710 g [25.0 oz.]

*Available for CGI commend only   NOTE: Specifications subject to change without notice

High-resolution E-Day/night Network Camera

VCC-N6695P

E-DAY NIGHT
Electronic Day/Night functio

Shown with optional lens

H.264	JPEG	Minimum illumination **0.25** lx	Multi-spot / Center-zone **BLC**	**ATW** **Manual**
25 IPS (720 x 576)	Alarm IN x 1 Alarm OUT x 1	24 V AC 12 V to 15 V DC	**PoE**	

Dual Codec for H.264 and JPEG

Monitoring can be conducted simultaneously in H.264 and JPEG formats by minimizing network traffic.
• H.264 ActiveX Plug-in required (bundled).

Electronic Day/Night Function

The new E-Day/Night function allows an automatic changeover from color mode to B/W mode. This makes it possible to achieve 24-hour high quality in light and dark conditions.

Image from conventional camera   Image from E-Day/Night camera

High Sensitivity

Sensitivity has significantly increased by about 3dB compared to conventional models. A newly-developed CCD sensor partners with SANYO's advanced technologies to enable the camera to clearly capture objects even in dark conditions.

E-mail Function

A setting for automatic sending of mail (up to 5 addresses can be set) is provided. By using this setting, an alarm notification e-mail can be set when an alarm is detected. Or, e-mails can be sent at regular intervals. In either case, an image can be attached to the e-mail.

Power-over-Ethernet (PoE)

VCC-N6695P supports the IEEE 802.3af standard for Power-over-Ethernet (PoE) applications to allow power supplied over LAN cabling. In addition to making installation easier, this allows camera installation in places where it would otherwise be difficult to secure a power source.

Video Management Software (VMS)
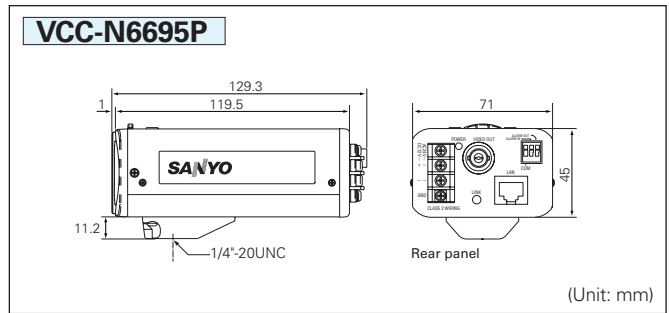**VA-SW50** (Advanced) / **VA-SW60** (Enterprise)

Network Recorder (sold separately)
VA-SW3050S (for server) / **VA-SW3050C** (for client)

Camera Mount VA-VCT31 (sold separately)

VCC-N6695P

129.3
119.5
71
1
11.2
1/4"-20UNC   Rear panel

(Unit: mm)

MODEL		VCC-N6695P
Scanning system		PAL standard 625 lines, 50 fields/sec.
Image sensor		1/3" (approx. 4.8 mm x 3.6 mm) interline transfer method CCD
Picture elements		Total: 795(H) x 596(V), Effective: 752(H) x 582(V)
Horizontal resolution		540 TV lines (typical)
Minimum illumination (approx.)	50IRE	0.35 lx (at F1.2, at color mode), 0.25 lx (at F1.2, GAIN on, at B/W mode)
	20IRE	0.14 lx (at F1.2, at color mode), 0.1 lx (at F1.2, GAIN on, at B/W mode)
Video output level		1.0 V (p-p) (75 Ω, composite)
Video S/N ratio		More than 50 dB (AGC OFF)
Backlight compensation		ON / OFF — Slide SW (side) / IE menu ON = Multi-spot photometry [2-mode (Normal/High)] / Center-zone photometry system — Slide SW (side) (activated when auto iris level is used)
Day/Night		ON/OFF – SW (ON: Electronic-Day/Night / OFF: Color)
White-balance		ATW (Auto) / MWB (Manual) — Slide SW (side) IE menu MWB: Adjustable R & B-Gain
Motion detector		Detect / Mask / OFF, - IE menu
Light control		Optical auto iris lens / Electronic iris (indoor use)
Lens mount		CS mount (C mount: using C-mount adaptor supplied)
Flange back		12.5 mm ±0.5 mm adjustment
Auto iris lens		DC type (Variable DC level)
Auto iris output		DC: Drive coil (+, -), Brake (Damp) coil (+, -) — Slide SW (side) / IE menu
Lens iris level		LEVEL: L to H —— VR (side)
Aperture correction		High/Normal — Slide SW (side) / IE menu
Electronic iris range		0.35 to 50,000 lx (with F1.2 lens) at Color 0.25 to 50,000 lx (with F1.2 lens) at B/W
Alarm		Input (1) / Output (1), NO / NC switch - IE menu
Synchronizing system		Internal sync
Sockets	Video signal	VIDEO OUT —— BNC (rear)
	Auto iris lens	LENS —— 4-pin (side)
	Power supply	24 V AC, GND ——3-pin terminal (rear) 12 V DC, GND ——2-pin terminal (rear)
	LAN	RJ45
	Alarm	3-pin terminal (rear)
Operating conditions	Operating	Temperature: –10°C to 50°C (14°F to 122°F), Humidity: within 90% RH
	Storage	Temperature: -20°C to 70°C [-4°F to 158°F], Humidity: within 70% RH
Power requirement		24V AC, 50 Hz / 12 to 15V DC / PoE (compliant with IEEE 802.3af)
Power consumption (approx.)		7.1 W
Camera mount		1/4"–20 UNC (top / bottom selectable)
Dimensions (approx.)		71(W) x 45(H) x 120.5(D) mm [2.8(W) x 1.8(H) x 4.7(D) in.]
Weight (approx.)		350g (12.3 oz.) (without lens)

NOTE: Specifications subject to change without notice

Network Specifications

MODEL		VCC-N6695P
Image compression		H.264 / JPEG
Resolution	H.264	720 x 576, 352 x 288, 176 x 144
	JPEG	720 x 576, 720 x 288, 640 x 480, 360 x 288, 176 x 144
Picture quality		5 levels
Frame rate	H.264	Max. 25 IPS (720 x 576)
	JPEG	Max. 25 IPS (720 x 576)
Bandwidth		128, 256, 512 Kbps, 1,2,3,4 Mbps, no limitation
DDNS		✓
Alarm buffer		Up to 8 MB; configurable
Interface		10BASE-T/100BASE-TX, PoE (IEEE802.3af) compatible
Protocols		TCP/IP, UDP, HTTP, HTTPS, SMTP, NTP, DHCP, FTP, UPnP, DDNS
Simultaneous access capacity		Image: Maximum 16 (admin: 1)
Security		BASIC authentication (ID/password), SSL supported (image only)
Accessories		CD-ROM (VA-SW3050LITE, Active X, Manual)

System Chart

IP Camera

Specialty Camera

Pan-focus Camera

Camera • Lens

DVR

SSP System

Monitor

Example System

High-resolution Weatherproof AF Zoom Network Camera
VCC-XZN600P

30x Optical Zoom

DAY NIGHT

IP66

VAC-70 Control

H.264	JPEG	Minimum illumination **0.04** lx	Multi-spot / Center-zone **BLC**	ATW AWC Manual
25 IPS (720 x 576)	Alarm IN x 2 Alarm OUT x 1	24 V AC 12 V to 15 V DC	PoE	Image Stabilizer

High-resolution AF Zoom Network Camera
VCC-ZMN600P

30x Optical Zoom

DAY NIGHT

VAC-70 Control

H.264	JPEG	Minimum illumination **0.04** lx	Multi-spot / Center-zone **BLC**	ATW AWC Manual
25 IPS (720 x 576)	Alarm IN x 2 Alarm OUT x 1	24 V AC 12 V to 15 V DC	PoE	Image Stabilizer

The two Independent CODECS of H.264 and JPEG
The H.264, which optimizes the network video streams at a low transfer rate, is ideal for monitoring real-time video images. On the other hand, the commonly used JPEG format is suitable for monitoring and recording without losing quality. The presence of the two codecs gives the user the option to choose whichever is suitable for obtaining critical information.

Power-over-Ethernet (PoE)
Both VCC-XZN600P / VCC-ZMN600P support the IEEE 802.3af standard for Power-over-Ethernet (PoE) applications to enable power supplied over LAN cabling. In addition to making installation easier, this allows camera installation in places where it would otherwise be difficult to secure a power source.

PoE SW
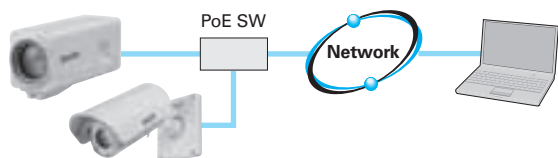
Network

DDNS (Dynamic DNS)
The VCC-XZN600P / VCC-ZMN600P can be accessed with a fixed host name (e.g. sanyovcczmn600p), which makes the network easy to remember, always available, and secure.

E-mail Function
A setting for automatic sending of mail (up to 5 addresses can be set) is provided. By using this setting, an alarm notification e-mail can be set when an alarm is detected. Or, e-mails can be sent at regular intervals. In either case, an image can be attached to the e-mail.

Schedule setting
Timer sending or alarm notification can be performed during a specified time period. The following 5 functions are provided: TIMER (SMTP) for timer sending of e-mail, TIMER (FTP) for timer sending of images via FTP mode, ALARM (SMTP) for e-mail notification of an alarm, ALARM (FTP) for sending of alarm images via FTP mode, and REMOTE ALARM "ACTIVE" for enabling camera alarm output 2 by remote operation.

IP66 Rated Enclosure   VCC-XZN600P
VCC-XZN600P is designed to fight off dust and water. The IP66 compliant package is suitable for outdoor installation at locations exposed to wind and rain.
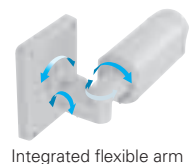
Adjustable Arm   VCC-XZN600P
The angle of the arm is adjustable in all directions. Since the flexible joint is secured by screws, the arm maintains its position without sagging over time. In addition, a safety wire is included to prevent accidents. Installation on a ceiling or wall is easy without any additional parts. The wires are securely protected inside the arm.

Integrated flexible arm

32X Sensitivity Boost for Minimum Illumination of 0.00125 Lx
While achieving 0.04 lx minimum subject illumination at maximum gain, sensitivity can be further heightened 32X for 0.00125 lx minimum illumination when the sensitivity boost function is activated at 50 IRE (F1.4). [B/W mode], 0.0005 lx minimum illumination when the sensitivity boost function is activated at 20 IRE (F1.4). [B/W mode]

Built-in Intelligent Digital Motion Detector and Zoom Detector
The Intelligent Digital Motion Detector enables reliable and accurate motion detection by analyzing the magnitude of movement and the size of object from changes in picture brightness. When a moving object is detected, VCC-XZN600P / VCC-ZMN600P can send an alarm signal to external units and/or automatically switch to the optical zoom mode, according to the user's preference. Furthermore, an external alarm input terminal makes it possible, when an alarm signal is received, to automatically zoom in to the site of activity, according to a preset zooming operation.

Registering a view setting file (CAMERA VIEW)
To support shooting in various surveillance conditions like when the surveillance location is bright (or dark), the CAMERA VIEW screen allows you to register up to 2 patterns of shooting settings as camera view setting files.

Image Stabilizer
A gyro-sensor picks up camera vibration in the 5 to 15 Hz range, which is then suppressed electronically. This feature offers a clear image even in a strong wind or when the camera is installed near a highway with heavy traffic.

Without image stabilization

With image stabilization

Privacy Masking

When there is a house, or even an object as small as a window, within the camera frame, to protect other people's privacy it is possible to mask the area so that it will not appear on the monitor screen. Up to 4 rectangular masks of any desired size can be set per screen.

Operation Buttons

VCC-ZMN600P

The camera comes with function buttons on its side, which can be used to manually adjust the focus and magnification of a live image. The buttons can also be used to change settings.
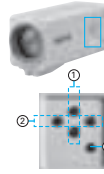
Operations during live monitoring
① Set the focus
② Zoom out/into (Magnification: x1 to x30)
③ Auto focus operation

Operations on the menu screen
① Menu select
② Adjust or choose the value for the selected item
③ Set the value you adjusted or chose for the selected item, or switch to the sub-menu

13 Mode Electronic Shutter Speeds

2x, 4x, 8x, 16x, 32x, 1/50, 1/120, 1/250, 1/500, 1/1000, 1/2000, 1/4000, and 1/10000 sec.

Other features

• High Resolution of 540 TV Lines • Adjustable gamma correction and aperture settings • Display of assignable camera ID and titles (16 characters max.) • Mirror function

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Video Management Software (VMS)
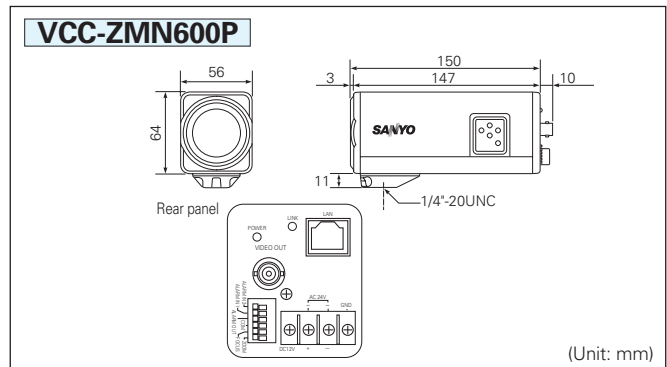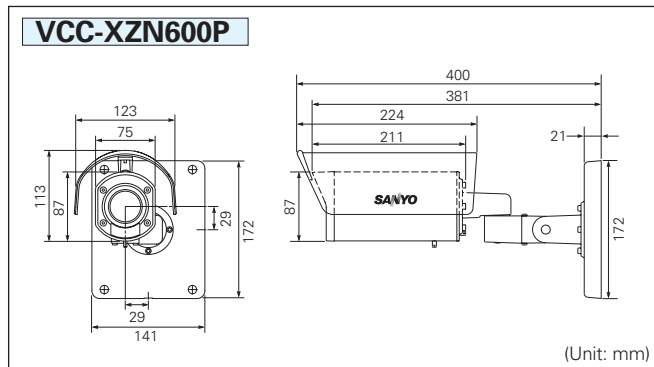**VA-SW50** (Advanced) / **VA-SW60** (Enterprise)
See page 17 for details.

Network Recorder (sold separately)
VA-SW3050S (for server) / **VA-SW3050C** (for client)
See page 18 for details.

Camera Control Unit VAC-70
(sold separately) See page 42 for details.

VCC-XZN600P

VCC-ZMN600P

(Unit: mm)

Rear panel

1/4"-20UNC

(Unit: mm)

MODEL		VCC-XZN600P	VCC-ZMN600P
Scanning system		PAL standard 625 lines, 50 fields/sec.	
Image sensor		1/4" (approx. 3.6 mm x 2.7 mm) interline transfer method CCD	
Picture elements		Total: 795(H) x 596(V), Effective: 752(H) x 582(V)	
Horizontal resolution		540 TV lines (typical)	
Minimum illumination (approx.)	50IRE	0.8 lx (at F1.4, GAIN: HIGH, color mode), 0.04 lx (at F1.4, GAIN: HIGH, B/W mode)	
	20IRE	0.32 lx (at F1.4, GAIN: HIGH, color mode), 0.016 lx (at F1.4, GAIN: HIGH, B/W mode)	
Electronic sensitivity boost		AUTO (interlocked with auto iris), up to 32x / OFF	
Video output level		1.0 V (p-p) (75 Ω, composite)	
Video S/N ratio		More than 50 dB (AGC OFF)	
Backlight compensation		ON / OFF, ON = Multi-spot photometry / Center-zone photometry / Multi-spot masking	
Day/Night		Color / BW switching function (color mode) Color / BW settings (3-level adjustment) and burst off/on setting function (B/W mode) can be used via alarm input	
White-balance		ATW / AWC / Manual / Outdoor / Indoor / Fluorescent / R/B adjustment possible when using MWB	
Gain control		ON (Low / Normal / Middle / High) / OFF (Gain adjustment possible)	
Motion detector		ON (individual setting possible) / OFF, Motion zoom function (individual setting possible)	
Privacy masking		ON / OFF, max. of 4 masked locations (Wide view screen)	
Electronic shutter		High-speed mode:1/50, 1/120, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000 sec. Low-speed mode: 1/25, 1/12, 1/6, 1/5, 1/1.5	
Lens		f = 3.5 to 105mm F1.4 to 3.7 auto focus	
Synchronizing system		Internal sync. / Line lock	
Aperture	Horzontal	56 to 2.0°	
	Vertical	43 to 1.5°	
	Diagonal	68 to 2.5°	
V phase adjustment		LINE PHASE	
Optical zoom		30x	
Electronic zoom		16x	
Alarm input		External inputs: 2, NO / NC switch, Day/night switch	
Alarm output		External outputs: 1, NO / NC switch, open corrector	
Mirroring function		OFF / HV / H / V	
Environmental conditions		Temperature: -10°C to 50°C [+14°F to 122°F], Humidity: within 35 to 90% RH	
Power requirement		24 V AC ± 10%, 50 Hz / 12 V to 15 V DC / PoE (compliant with IEEE 802.3af)	
Power consumption (approx.)		7.3 W	
Dimensions (approx.)		141(W) x 172(H) x 400(D) mm [5.6(W) x 6.8(H) x 15.7(D) in.]	56(W) x 64(H) x 150(D) mm [2.2(W) x 2.5(H) x 5.9(D) in.]
Weight (approx.)		1.82 kg [64.2 oz.]	600 g [21.2 oz.]

NOTE: Specifications subject to change without notice

Network Specifications

MODEL		VCC-XZN600P / VCC-ZMN600P
Image compression		H.264 / JPEG
Resolution	H.264	720 x 576, 352 x 288, 176 x 144
	JPEG	720 x 576, 720 x 288, 640 x 480, 360 x 288, 176 x 144
Picture quality		5 levels
Frame rate	H.264	Max. 25 IPS (720 x 576)
	JPEG	Max. 25 IPS (720 x 576)
Bandwidth		128, 256, 512 Kbps, 1,2,3,4 Mbps, no limitation
DDNS		✓
Alarm buffer		Up to 8 MB; configurable
Interface		10BASE-T/100BASE-TX (RJ45 connector)
Protocols		TCP/IP, UDP, HTTP, HTTPS, SMTP, NTP, DHCP, FTP, UPnP, DDNS
Simultaneous access capacity		Image: Maximum 16 (admin: 1)
Security		BASIC authentication (ID/password), SSL supported (image only)
System requirements		PC IE: CPU: Pentium® 4, 2.0 GHz or higher, Memory: 512 MB, SW3050: CPU 3.0 GHz, Memory: 1 GB or more, Recommended graphics chip: GEFORCE6000 series or higher, OS: Windows® XP
Accessories		CD-ROM (VA-SW3050LITE, Active X, Manual)

System Chart

IP Camera

Specialty Camera

Pan-focus Camera

Camera • Lens

DVR

SSP System

Monitor

Example System

High-resolution Vandal-resistant PTZ Network Dome Camera
VDC-DPN9585P

PAN-F⊙CUS
Technology in Perspective
2.6x
Pan-Focus Lens

DAY NIGHT

((Audio))
Communication

IP66

VAC-70 Control

JPEG	**Minimum illumination** **0.06** lx	**Multi-spot / Center-zone** **BLC**	**PT mechanism**	720x286,640x480 360x286,176x143
25 IPS (720 x 286)	**Alarm IN x 2** **Alarm OUT x 1**	**24 V AC** **12 V to** **15 V DC**	**PoE**	

SANYO proposes the 2.6x pan-focus lens for a focused view of a broader area

With a vari-focal lens, objects that are in front of or behind the focus point are blurred. To eliminate this problem, a new technology was developed to increase the depth of field so that everything in the field of view is in focus at the same time. SANYO has been one of the leaders in the development of this technology and has successfully commercialized the 2.6x pan-focus lens that offers an image with greater depth of field. The new lens makes it possible to capture a clear image of objects in the background.
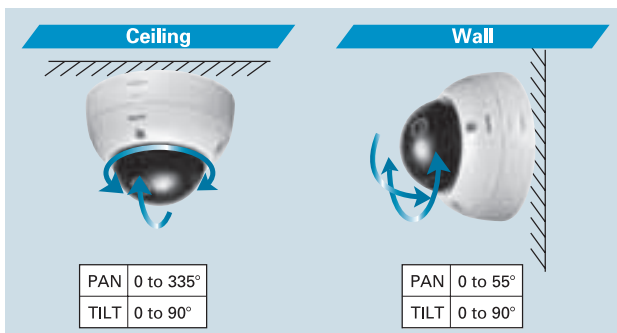
Privacy Masking

When there is a house or even an object as small as a window within the camera frame, to protect other's privacy it is possible to mask the area so that it will not appear on the monitor screen. Up to 8 rectangular masks of any desired size can be set. These masking areas may be protected with a (max.) 4-digit password.
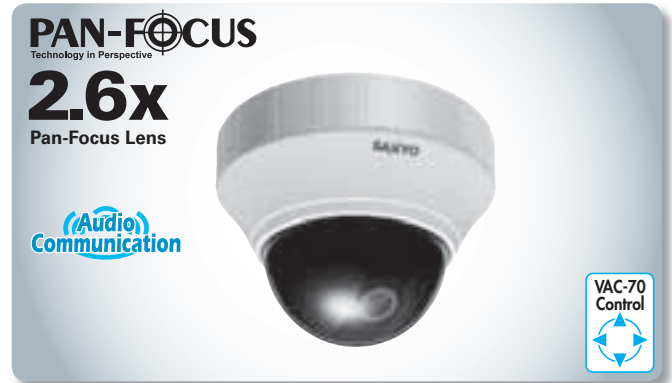
PTZ Operations

VDC-DPN9585P / VCC-PN9575P comes with a PT mechanism and allow panning of 335 degrees (55 degrees*) and tilting of 90 degrees (90 degrees*) to reduce blind spots in the surveillance area. When particular angles are preset on the camera (up to sixteen points), it moves to each position quickly at the speed of 120 deg/sec max. For both panning and tilting. Combining these features with the motion detector, it is possible to catch all actions taking place in the area.
* For wall-mounted cameras

Ceiling

Wall

PAN	0 to 335°
TILT	0 to 90°

PAN	0 to 55°
TILT	0 to 90°

High-resolution Indoor mini PTZ Network Dome Camera
VCC-PN9575P

PAN-F⊙CUS
Technology in Perspective
2.6x
Pan-Focus Lens

((Audio))
Communication

VAC-70 Control

JPEG	**Minimum illuminat1.** **1.9** lx	**Multi-spot / Center-zone** **BLC**	**PT mechanism**	720x286,640x480 360x286,176x143
25 IPS (720 x 286)	**Alarm IN x 2** **Alarm OUT x 1**	**24 V AC** **12 V to** **15 V DC**	**PoE**	

Flexible Motion Detector

The Flexible Motion Detector enables reliable and accurate motion detection by analyzing the magnitude of movement and the size of object from changes in picture brightness. When a moving object is detected, VDC-DPN9585P / VCC-PN9575P can send an alarm signal to external units and/ or switch to the optical zoom mode that can be preset either to 1.0x, 1.4x, 2.0x, or 2.6x zoom.

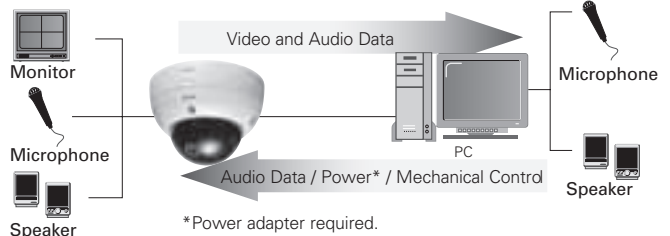### SANYO Security Systems for the Creation of a Full-fledged LAN or Internet

Video captured by camera can be viewed using the bundled VA-SW3050LITE viewer software.
Use of the VA-SW3050S/C archiving software (sold separately) allows simultaneous monitoring of streams from up to 128 cameras as well as recording of live audio and video data.

*Use of the VDC-DPN9585P's or the VCC-PN9575P's built-in networking features allows viewing of video from a single camera with a generic web browser (Internet Explorer).

Power-over-Ethernet (PoE)

Both VDC-DPN9585P / VCC-PN9575P support the IEEE 802.3af standard for Power-over-Ethernet (PoE) applications to enable power supplied over LAN cabling. In addition to making installation easier, this allows camera installation in places where it would otherwise be difficult to secure a power source.

Surveillance-Point Monitoring with Video and Audio Data

The VDC-DPN9585P / VCC-PN9575P are equipped to enable two-way voice communications via audio signals sent between cameras and PCs. Transmission of crystal clear images together with audio offers those overseeing surveillance as a sense of being right there at the scene.

Monitor

Video and Audio Data

Microphone

Microphone

PC

Audio Data / Power* / Mechanical Control

Speaker

Speaker

*Power adapter required.

System Chart

IP Camera

Specialty Camera

Pan-focus Camera

Camera • Lens

DVR

SSP System

Monitor

Example System

Easy Setup with an On-screen Menu

The VDC-DPN9585P / VCC-PN9575P offers an on-screen menu for setting up the camera any desired way.

## Operation on PoE, AC or DC Power Sources

The VDC-DPN9585P / VCC-PN9575P can operate on PoE, 12 V DC (12 V to 15 V DC) or 24 V AC (60 Hz, and even at a tolerance of ±10%). Switching to the correct mode occurs automatically when power is supplied.

Dual Power Source of 24 V AC and 12 to 15 V DC

These models support dual power supply to allow a flexible operation in diverse circumstances.

Other Features

- 16 Preset Positioning and Sequential Monitoring Functions
- Display of assignable camera ID and titles (16 characters max.)
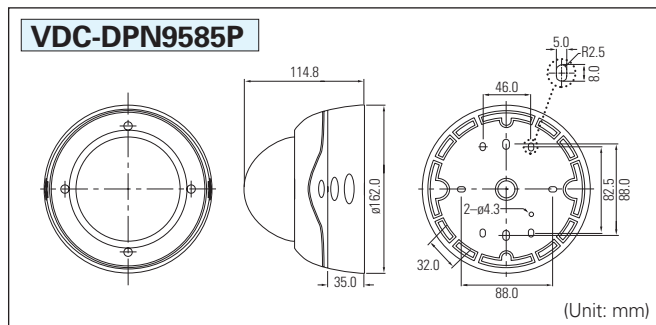
Video Management Software (VMS)
VA-SW50 (Advanced) / **VA-SW60** (Enterprise)
See page 17 for details.

Network Recorder (sold separately)
VA-SW3050S (for server) / **VA-SW3050C** (for client)
See page 18 for details.

Heater Board VA-50H (sold separately)
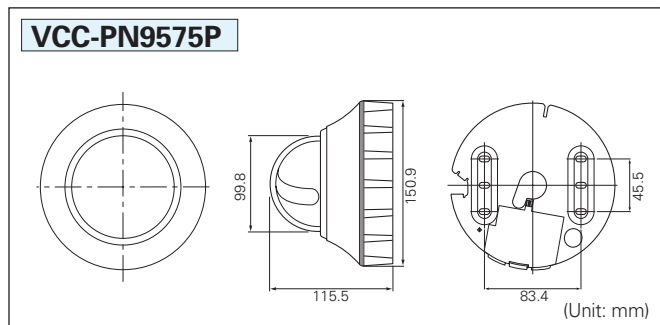See page 34 for details for VCC-DPN9585P (24 V AC only)

Camera Control Unit VAC-70
(sold separately) See page 42 for details.

Smoked Cover VCZ-50 (sold separately)
See page 34 for details for VCC-PN9575P

Half-Mirror Cover VCZ-51
See page 34 for details for VCC-PN9575P

VDC-DPN9585P

(Unit: mm)

VCC-PN9575P

(Unit: mm)

MODEL		VCC-DPN9585P	VCC-PN9575P
Scanning system		PAL standard 625 lines, 50 fields/sec.	
Image sensor		1/4" (approx. 3.6 mm x 2.7 mm) interline transfer method CCD	
Picture elements		Total: 795(H) x 596(V), Effective: 752(H) x 582(V)	
Horizontal resolution		520 TV lines (Analog video signal)	
Minimum illumination (approx.)	50IRE	0.06 lx at max. AGC, with F1.9 lens, B/W mode 1.2 lx at max. AGC, with F1.9 lens, Color mode	1.9 lx at max. AGC, with F1.9 lens, Color mode
	20IRE	0.024 lx at max. AGC, with F1.9 lens, B/W mode 0.48 lx at max. AGC, with F1.9 lens, Color mode	0.76 lx at max. AGC, with F1.9 lens, Color mode
Video output level		1.0 V (p-p) (75 Ω, composite)	
Video S/N ratio		More than 50 dB (AGC OFF)	
Backlight compensation		ON / OFF, ON = Multi-spot photometry (64-section) / Center-zone photometry	
Day/Night		Auto (High/Low) / Color / B/W	-----------------------
White-balance		ATW / AWC / Manual (MWB) / Outdoor (3200) / Indoor (5600) / Fluorescent (FLUO)	
Gain control		High / Normal / OFF	
Motion detector		ON / OFF, Motion zoom function	
Privacy masking		ON / OFF 8 masking	
Electronic shutter		1/50, 1/120, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000 sec.	
Lens		Built-in 2.6x motorized zoom pan-focus auto iris lens, f = 2.8 to 7.3mm (2.6x), F1.9 to 3.0	
Depth of field		Focus range: 1 m to ∞	
Synchronizing system		Internal sync. / Line lock	
Aperture		HIGH PLUS / HIGH / NORMAL / OFF	
Auto mode		Sequential pan / Auto pan	
Rotation range	Ceiling	Panning: max. 0 to 335 deg, Tilting: 0 to 90 deg.	
	Wall	Panning: ±55 deg, Tilting: 0 to 90 deg	
Rotation speed	Preset	Panning: max. 120 deg / second (preset)	
	Manual	50 to 100 deg / second (preset)	
Preset position setting		16	
Communications		Simplified controller (VAC-70: separately ordered) supported	
Audio compression method		G. 711(192 Kbps), full duplex	
Microphone input		-62 to -32 dB (monaural microphone) 3.5mm mini jack	
Alarm input		External x 2, NO / NC selectable, Alarm preset function, Alarm zoom function	
Alarm output		External x 1, NO / NC selectable	
Environmental conditions		Temperature: -10°C to 50°C [+14°F to 122°F], -30°C to 50°C [-22°F to 122°F] When heater (VA-50H: option board) is used with power source connected Humidity: within 90% RH	Temperature: -10°C to 40°C [+14°F to 104°F] Humidity: within 90% RH
Power requirement		24 V AC ±10%, 50 Hz / 12 V to 15 V DC / PoE (compliant with IEEE 802.3af)	
Power consumption (approx.)		10 W Max. 15.5 W When heater (VA-50H: option board) turned on	10 W
Dimensions (approx.)		ø162 x 114.8 mm [ø6.4 x 4.5 in.]	ø150.9 x 115.5 mm [ø6.0 x 4.6 in.]
Weight (approx.)		1.5 kg [52.9 oz.]	650g [22.9 oz.]

NOTE: Specifications subject to change without notice

Network Specifications

MODEL		VDC-DPN9585P	VCC-PN9575P
Image compression		JPEG	
Resolution		720 x 286, 640 x 480 (disabled during voice communications), 360 x 286, 180 x 143	
Picture quality		5 levels	
Frame rate		Max. 25 IPS (720 x 286)	
Audio compression method		G.711 (192 Kbps), full duplex	
Microphone	Input	-62 to -32 dB (monaural microphone) 3.5mm mini jack	
	External		
	Internal	——	Internal or external selected
Audio output		LINE OUT monaural audio output, maximum -8 dB, 3.5mm mini jack	
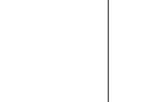
MODEL	VDC-DPN9585P	VCC-PN9575P
Bandwidth	128, 256, 512 Kbps, 1, 2, 3, 4 Mbps, no limitation	
DDNS	✓	
Alarm buffer	Up to 8 MB; configurable	
Interface	10BASE-T/100BASE-TX (RJ45 connector)	
PoE support	Compliant with IEEE 802.3af	
Protocols	TCP/IP, UDP, HTTP, HTTPS, SMTP, NTP, DHCP, FTP, UPnP, DDNS	
Simultaneous access capacity	Image: Maximum 16, Voice: Maximum 16 (admin: 1)	
Security	BASIC authentication (ID/password), SSL supported (image only)	
Bundled software	VA-SW3050LITE	

System Chart
IP Camera
Specialty Camera
Pan-focus Camera
Camera • Lens
DVR
SSP System
Monitor
Example System

System Chart
IP Camera
Specialty Camera
Pan-focus Camera
Camera・Lens
DVR
SSP System
Monitor
Example System

Network Board

The built-in network interface and the expansion board for network connection enables SANYO color CCD cameras to connect to a network.
The user can operate a network connected camera using a web browser (Internet Explorer) and network surveillance software.

Cameras that support the expansion boards

VA-82LAN / VA-80LAN				VA-51LAN / VA-50LAN		VA-20LAN
VCC-9800P E	VCC-9700P E	VCC-9600P E	VCC-9500P E	VDC-DP7585P	VCC-P7575PA	VCC-XZ200P
See page 21, 22 for details				See page 33 for details		See page 30 for details

| Category	H.264 / JPEG					JPEG			
Model No.	Built-in Network Interface VCC-HD4000P	Built-in Network Interface VCC-XZN600P VCC-ZMN600P	Built-in Network Interface VCC-N6695P	Network Board VA-82LAN (sold separately)	Network Board VA-80LAN (sold separately)	Built-in Network Interface VDC-DPN9585P VCC-PN9575P	Network Board VA-51LAN (sold separately)	Network Board VA-50LAN (sold separately)	Network Board VA-20LAN (sold separately)
Applicable models				VCC-9800P E / VCC-9700P E VCC-9600P E / VCC-9500P E			VDC-DP7585P / VCC-P7575PA		VCC-XZ200P
Image compression	H.264/JPEG (simultaneous transmission available)					JPEG			
Resolution	<H.264> 16:9 HD 1920 x 1080p HD 1280 x 720p, 960 x 540P, 640 x 360p, 320 x 180p 4:3 1080 x 864p, 720 x 576p, 360 x 288p <JPEG> 16:9 HD 1920 x 1080, HD 1280 x 720, 1024 x 576, 640 x 360 4:3 4M 2288 x 1712, 2M 1600 x 1200, 1280 x 960, 1024 x 768, 800 x 600, 640 x 480, 320 x 240	<H.264> 720 x 576, 352 x 288, 176 x 144 <JPEG> 720 x 576, 720 x 288, 640 x 480, 360 x 288, 176 x 144			<JPEG> 720 x 572, 720 x 286, 640 x 480, 360 x 286, 176 x 143	<JPEG> 720 x 286, 640 x 480, 360 x 286, 180 x 143		
Picture quality	Super Fine, Fine, Enhanced, Normal, Basic								
Frame Rate	Max.25IPS (1920 x 1080)	Max.25IPS (720 x 576)				Max.25IPS (720 x 286)			
Microphone input	–––––––––			–62 to –32 dB (monaural microphone) 3.5 ø mini jack				–––––––––	
Audio output	–––––––––		LINE OUT monaural voice output Maximum -8 dBs 3.5 ø mini jack					–––––––––	
Bandwidth	128, 256, 512 Kbps, 1, 2, 3, 4, 5, 6 Mbps, no limitation	128, 256, 512 Kbps, 1, 2, 3, 4 Mbps, no limitation							
PoE (Power over Ethernet)	Compliant with IEEE802.3af				–––––––––	Compliant with IEEE802.3af			–––––––––
Audio	–––––––––		Bi-directional audio G.711 (192 Kbps) 16 bit 12 KHz					–––––––––	
DDNS	✓								
Alarm buffer	32 MB	8 MB							
Interface	10BASE-T / 100BASE-TX (RJ-45 connector)								
Protocols	RTP*, RTSP*, TCP/IP, UDP, HTTP, HTTPS, SMTP, NTP, DHCP, FTP, UPnP, DDNS	TCP/IP, UDP, HTTP, HTTPS, SMTP, NTP, DHCP, FTP, UPnP, DDNS							
Simultaneous access capacity	Image: Max. 16			Image: Max. 16, Voice: Max. 16 (admin: 1)				Image: Max. 16	
Security	BASIC authentication (ID/password), SSL supported (image only)								
Bundled software	VA-SW3050LITE HDC Downloader DL Viewer	VA-SW3050LITE							
Page	7	11	10	22	22	13	33	33	30

*Available for CGI commend only

The two Independent CODECS of H.264 and JPEG

The H.264, which optimizes the network video streams at a low transfer rate, is ideal for monitoring real-time video images. On the other hand, the commonly used JPEG format is suitable for monitoring and recording without losing quality. The presence of two codecs gives the user the option to choose whichever is suitable to obtain optimum picture quality in any given environment. This ensures that critical information will not be overlooked.
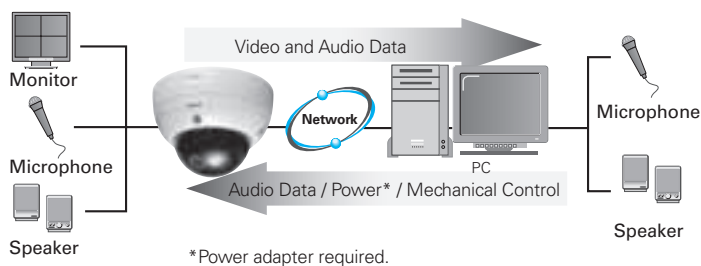
H.264
Internet
JPEG
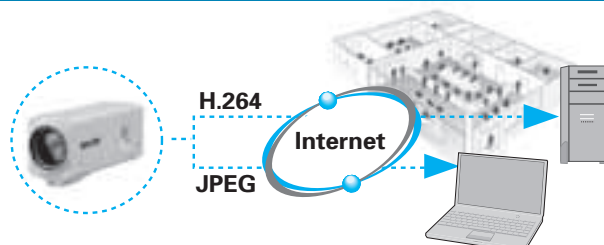
Network Software

SANYO's network software is available in the forms of VMS, VA-SW3050S or VA-SW3050C, depending on the scale of the surveillance system. For a large-scale surveillance system for a hospital or bank to a smaller system for a school or store, you will find the right software package with SANYO.

Surveillance-Point Monitoring with Video and Audio Data

Monitor

Microphone

Speaker

Network

Video and Audio Data

Audio Data / Power* / Mechanical Control

PC

*Power adapter required.

Microphone

Speaker

Bi-directional audio communication and remote camera control make it possible to monitor any place regardless of local conditions. Monitoring the ambient sound adds a new dimension to the surveillance.
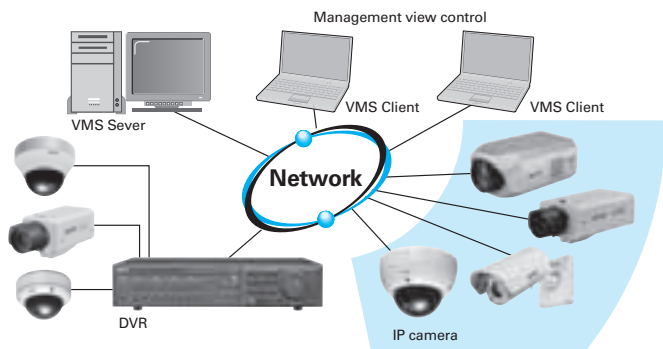* Except for VA-50LAN / VA-20LAN / VCC-XZN600P / VCC-ZMN600P.

PoE (Power over Ethernet)

Microphone

Speaker
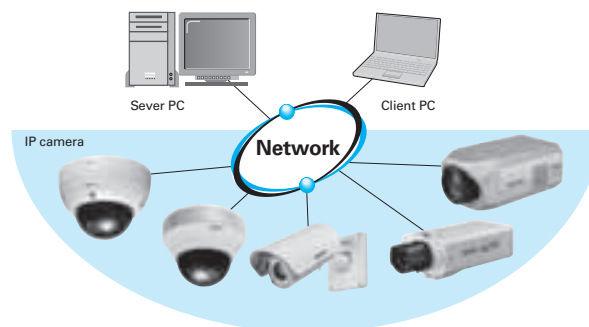
PoE SW

Network

Speaker

Microphone
Bi-directional audio
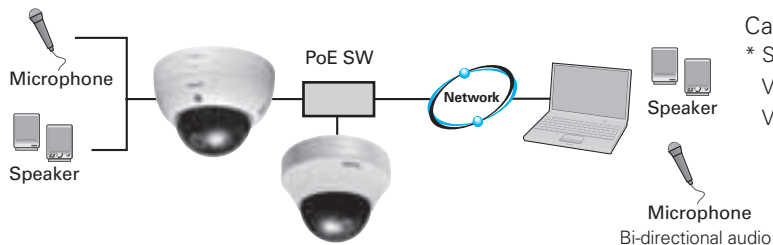
Camera expansion becomes easy with the use of PoE.
* Supported by VCC-XZN600P / VCC-ZMN600P / VCC-PN9575P / VDC-DPN9585P / VCC-HD4000P / VCC-N6695P / VA-82LAN / VA-51LAN.

Video Management Software (VMS)

Management view control

VMS Sever

VMS Client

VMS Client

Network

DVR

IP camera

Network Recorder VA-SW3050S / VA-SW3050C

Sever PC

Client PC

IP camera

Network

Video Management Software Supports the Following SANYO Devices

Camera	Expansion Board
VCC-HD4000P	
VCC-N6695P	
VCC-XZN600P	
VCC-ZMN600P	
VCC-9800P E / VCC-9700P E VCC-9600P E / VCC-9500P E	+ VA-82LAN or VA-80LAN
VDC-DPN9585P / VCC-PN9575P / VDC-DP7585P / VCC-P7575PA	+ VA-50LAN or VA-51LAN
VCC-XZ200P	+ VA-20LAN
DVR	
DSR-3709PA	
DSR-3716PA	
DSR-5709P	
DSR-5716P	

Network Recorder Software Supports the Following SANYO Devices

Camera	Expansion Board
VCC-HD4000P	
VCC-N6695P	
VCC-XZN600P	
VCC-ZMN600P	
VCC-9800P E / VCC-9700P E VCC-9600P E / VCC-9500P E	+ VA-82LAN or VA-80LAN
VDC-DPN9585P / VCC-PN9575P / VDC-DP7585P / VCC-P7575PA	+ VA-50LAN or VA-51LAN
VCC-XZ200P	+ VA-20LAN

System Chart

IP Camera

Specialty Camera

Pan-focus Camera

Camera • Lens

DVR

SSP System

Monitor

Example System

SANYO Video Management Software (VMS) VA-SW50 (Advanced) / VA-SW60 (Enterprise)

SANYO Video Management Software is a software management platform for SANYO's IP and megapixel cameras, most of the industry's standard IP and megapixel cameras and encorders, and SANYO's embedded DVRs. Video Management Software is an NVR, PC DVR and embedded DVR control platform with total integration all under one software application.

Video Management Software (VMS) VA-SW50 (Advanced Edition) / VA-SW60 (Enterprise Edition)

VA-SW50 (Advanced Edition)
Up to 16 camera connection, control, recording, and management of SANYO IP cameras, and other brands standard IP cameras. [Maximum: 5 clients]
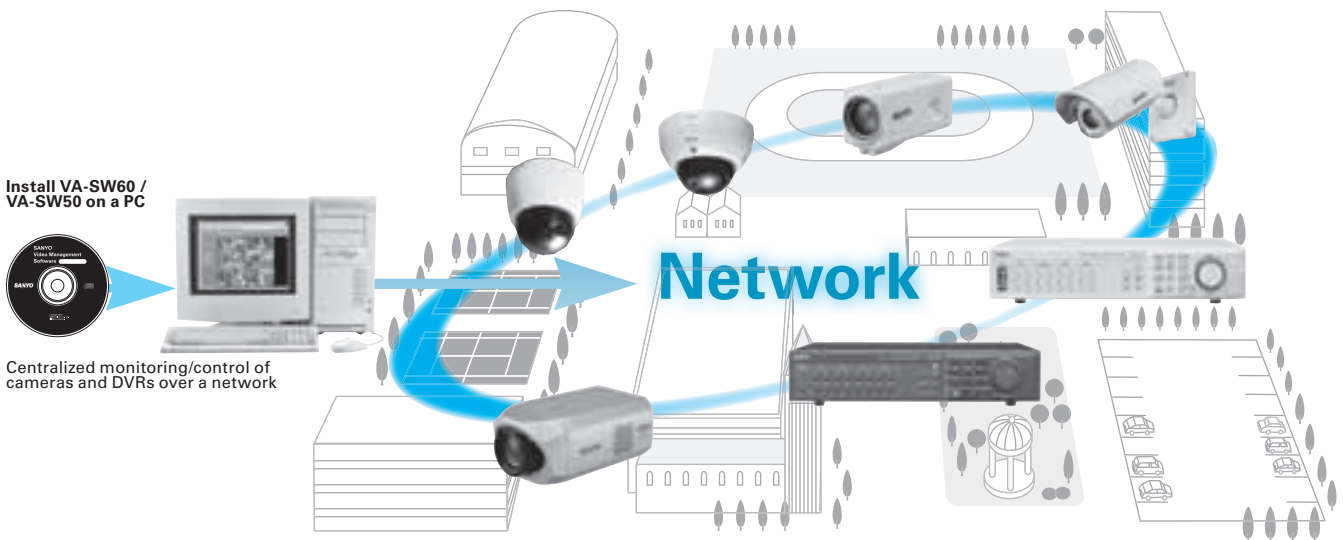
VA-SW60 (Enterprise Edition)
Unlimited camera connection, control, recording, and management of SANYO's DVRs*, SANYO IP cameras, other brands standard IP cameras, and other brands megapixel cameras. [Unlimited clients]

VA-SW50 (Advanced Edition) / VA-SW60 (Enterprise Edition) Features

- Easy-to-navigate GUI with:
  - File tree architecture
  - Multi-screen configurations
  - Drag and Drop camera placement
  - Easy tool bar for major functions
  - Motion Detection
  - Digital Pan, Tilt, Zoom

- Multifunctional file tree:
  - Define IP cameras / IP video encoders
  - Define cameras connected to DVRs*
  - Define whether cameras are live view as well as archived
  - Define remote servers
  - Drag and drop any camera on the tree to the viewing screen
  - Archives can also be accessed directly

- Allows PTZ Control of Network PTZ Camera

- Supports SANYO's PTZs through connected DVRs*

- Permissions can be assigned at the individual, group, and server levels

- Time Date Search is easily accomplished through a scalable scroll bar

- Provides user-friendly wizards and comprehensive user management

- Supports from one to an unlimited number of cameras per server (version dependent)

- Multiple clients can be connected to a single server

- Client can be connected to multiple servers

*Please contact your dealer for supported DVRs.

Install VA-SW60 / VA-SW50 on a PC

Network

Centralized monitoring/control of cameras and DVRs over a network

Feature Comparison

Versions	Advanced Edition	Enterprise Edition
Model No.	VA-SW50	VA-SW60
Number of cameras supported	16	unlimited
Number of Clients	5	unlimited
Camera Control	✓	✓
Video Recording	✓	✓
Playback	✓	✓
Video Search	✓	✓
Download from PC	✓	✓
SANYO DVR Connection	—	✓

Minimum System Requirements (for VMS server)

PC	IBM PC/AT and compatibles	
OS	Windows® XP Professional SP2/SP3, Windows® Vista, Windows® Server 2003, Windows® Server 2008	
CPU	Intel Pentium IV, 3.0 GHz	Core2Duo 3.16 GHz or higher
Memory	512 MB or more	1.5 GB or more
Network Interface	100 Base-TX	1000 Base-Tx

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Note: • Specifications and product design are subject to change without notice.
      • Screen images are simulated

Network Recorder VA-SW3050S / VA-SW3050C

Surveillance via network is possible from a PC
by installing VA-SW3050S (for server) or VA-SW3050C (for client).
Recordings are made in JPEG format and managed exclusively
by VA-SW3050S (for the server).

Network Recorder VA-SW3050S / VA-SW3050C (sold separately)

The network recorder VA-SW3050S / VA-SW3050C is an application program that extends the network operation of the camera. By installing this software, it is possible to monitor images from multiple cameras on a split screen and access and operate up to 128 cameras over a network.

VA-SW3050S further offers the convenience of recording live images and alarm/timer functions. The VA-SW3050C allows the user to play videos recorded with the VA-SW3050S. It is an exclusive software package for cameras .

Server
VA-SW3050S x 1

Client
Client
VA-SW3050C x10
Max.10
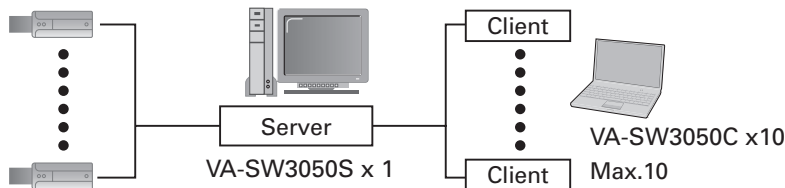
(NOTE) One software package is necessary for each PC.

VA-SW3050S (for server) / VA-SW3050C (for client) Features & VA-SW3050LITE (Bundled) for Viewing

- Accessible to up to 128 cameras.
- Up to ten users can be registered for each computer, and the operational authorization level can be set differently for each camera.
- There are a variety of other optional functions to facilitate monitoring operation.
  (VA-SW3050LITE / VA-SW3050C)
- Can split the display into one, four or sixteen screens.
  (VA-SW3050LITE / VA-SW3050C)

- Image searching function can search through recorded images for a playback. (VA-SW3050C)
- Images on the monitoring display can be printed and saved.
  (VA-SW3050C)
- Changes camera settings, and controls cameras remotely.
  (VA-SW3050LITE / VA-SW3050C)
- Recording can be set to start automatically by timer or by alarm. (VA-SW3050S)

VA-SW3050S / VA-SW3050C / VA-SW3050LITE (Bundled) Feature Comparison

			Bundled	Sold separately	
		Internet Explorer	VA-SW3050 LITE	VA-SW3050S	VA-SW3050C
			LITE	Server	Client
Number of cameras supported		Only 1	Max. 128		
Search camera		——	✓	✓	——
Live monitor		✓	✓	——	✓
Multi-screen display		——	✓ (4, 16)	——	✓ (4, 16)
Camera Control	PTZ, etc.	✓	✓	——	✓
	Menu	✓	✓	✓	✓
Video recording		——	——	✓	——
Playback		——	——	——	✓
Video search		——	——	——	✓
Backup		——	——	✓	——
Download		——	——	——	✓
Print		——	✓	——	✓

System Requirements (for VA-SW3050S / VA-SW3050C / VA-SW3050LITE)

PC	IBM PC/AT and compatibles			
OS	Windows® XP Professional SP2, Windows® Vista, Windows® 2003 Server SP2 (VA-SW3050S only)			
CPU	Core2Duo E6700, 2.66GHz or higher	Core2Duo E6700, 2.66GHz or higher*[1] Core2Duo E8500, 3.16GHz or higher*[2]	Pentium IV, 3.0GHz or higher	Core2Duo E6700, 2.66GHz or higher*[1] Core2Duo E8500, 3.16GHz or higher*[2]
Memory	1GB (Windows® XP) 2GB (Windows® Vista)	1GB (Windows® XP) 2GB (Windows® Vista)*[1] 2GB or more	1GB or more	1GB (Windows® XP) 2GB (Windows® Vista)*[1] 2GB or more
Network interface	100BASE-TX			
Display card	1920 x 1200 pixels or higher		1024 x 768 pixels or higher, 16milion colors or higher	1920 x 1200 pixels or higher
Graphics chip	ATI: Radeon X1000 series or higher nVidia: GeForce 6000 series or higher Quadro4 series or higher			
Audio	——	Sound card with 100% Direct-X compatibility and speakers*[3]		

*[1] When the number of cameras connected is 4 or fewer
*[2] When the number of cameras connected is between 5 and 16
*[3] The camera main unit is not equipped with audio functions.
• Ver. 6.0 or higher
• For Full-HD display

Note: Depending on your computer's performance or network environment, the system may enter the busy state if the PC is connected to many H.264 video channels. If a warning message appears in the dialog box, decrease the number of the connected H.264 video channels.

System Chart

IP Camera

Specialty Camera

Pan-focus Camera

Camera • Lens

DVR

SSP System

Monitor

Example System

Camera

A Comprehensive Line-up of Multi-functional High Resolution Cameras Solves a Variety of Surveillance Needs

550 TV Lines

Horizontal Resolution

All cameras from SANYO offer exceptional picture resolution. By improving the optical filter and maximizing the performance of the CCD with a proprietary algorithm, it produces sharp outlines and natural color with no blurring.

PAN-FOCUS Technology in Perspective

Pan-focus lens can bring a broad area into focus, enabling the camera system to visualize everything in the field of view clearly at the same time. The lens also has a 2.6x zooming function. As a result, it allows a surveillance camera to capture a clear video image offering details of background objects.
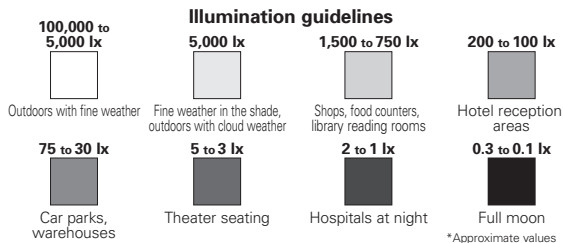
DAY NIGHT

24-hour surveillance is now possible with just a single camera that works as a color camera during the day and a high-sensitivity B/W camera during the night. The mode of operation is automatically switched by replacing the optical filter. The use of an optical filter in the color mode also allows video recording in true colors.

Minimum illumination 0.03 lx

Minimum subject illumination

The minimum illumination required for recognizing a subject is generally 2 to 6 lx for color cameras, and 0.03 lx for B/W cameras. Minimum subject illumination changes according to the F value of combined lenses. When F1.2 lenses and F1.4 lenses are combined with an F1.2 lens, minimum subject illumination is reduced, making monitoring possible in dark locations.

Illumination guidelines

100,000 to 5,000 lx	5,000 lx	1,500 to 750 lx	200 to 100 lx
Outdoors with fine weather	Fine weather in the shade, outdoors with cloud weather	Shops, food counters, library reading rooms	Hotel reception areas

75 to 30 lx	5 to 3 lx	2 to 1 lx	0.3 to 0.1 lx
Car parks, warehouses	Theater seating	Hospitals at night	Full moon

*Approximate values

Multi-spot / Center-zone BLC

Backlight compensation

When filming in directions with backlighting such as entrance ways or windows where the backlighting causes the subject to appear as a silhouette, this function automatically adjusts to the most appropriate aperture.

Without backlight compensation Subject appears as a silhouette against bright background.

With backlight compensation Subject appears clear and sharp.

SANYO CCD cameras use four systems: center-zone photometry system, 5-section photometry mode setting, multi-spot photometry (48 / 64-section) systems and multi-spot masking.

With the **center-zone photometry** system, the brightness of the light measuring area is measured, and by automatic adjustment of the lens aperture, a clear and sharp image is possible even when the subject is backlit.

With this system, the light measuring area is in the center of the screen for an optimal image of the subject.

With the **5-section photometry** system, the screen is divided into 5 sections to which the user will assign

15-scale weights. The brightness of the picture will be kept at optimum by giving priority to the area with the higher weight. (A DC type auto-iris lens is required to enable this mode.)

With the **multi-spot photometry (48/64-section)** system, the screen is divided into 48 / 64 areas on which luminous intensity is measured separately to determine the lighting/backlight conditions of all objects. This makes it possible to apply optimum backlight compensation even for peripheral and moving objects.

With the **multi-spot masking (48-section)** system, certain areas can be eliminated from the photometric measurement using a 48-section grid. The light intensity for the remaining area is measured and the image brightness is adjusted accordingly.

ATW AWC Manual

White-balance

Sometimes the color of clothes seen under lighting inside a shop appears different when viewed in sunlight outside. This is due to variation in the color temperature of the light source. The human eye is highly adaptable to variation in the color temperature of light sources so that even when the light source changes, white appears as white. But CCD adaptability is poor, and to reproduce unbalanced white when the light source changes, correction of the image signal is necessary.

All SANYO color CCD cameras have TTL (Through The Lens) auto tracing white-balance, so even in a location with significant variation in color temperature of the light sources, such as next to a window, the image is automatically adjusted to achieve the best color.

Internal sync. External sync. Line lock

Synchronizing System

This is the timing used by the security camera when filming (synchronizing). There are sync systems that synchronize with the internal sync signal circuit (internal sync.), or that synchronize with a sync signal input to the security camera from outside (external sync.), or those that use the cycle of the camera's AC power to synchronize (line lock). When switching between several security cameras for surveillance using one monitor, synchronizing the cameras is necessary. For this, the line lock and external sync systems are used.

Electronic shutter

Electronic Shutter

The camera can be used in a variety of situations by adjusting the shutter speed.

Image Stabilizer

Image Stabilizer

A gyro-sensor picks up camera vibration in the 5 to 15 Hz range, which is then suppressed electronically. This feature offers a clear image even in a strong wind or when the camera is installed near a highway with heavy traffic.

SSP Pelco-C/D Support

SSP (RS-485) compatible

By using SSP (SANYO Security Serial Protocol), cameras and DVRs can be controlled with just one controller over a daisy chain connection up to a maximum of 254 devices. The maximum cable length (total length of the daisy chain path) is 1200 m (4000 feet).

24 V AC 12 V to 15 V DC **220 V to 230 V AC**

Power Sources

The power sources for driving the camera.

System Chart

IP Camera

Specialty Camera

Pan-focus Camera

Camera • Lens

DVR

SSP System

Monitor

Example System

Category	Speed Dome				Weatherproof Zoom		Zoom		IR Dome Camera Vandal-resistant
Serial No.	VCC-9800P E	VCC-9700P E	VCC-9600P E	VCC-9500P E	VCC-XZ600P	VCC-XZ200P	VCC-ZM600P	VCC-ZM500P	VDC-D1785IRVP
Lens	36x AF Zoom lens	36x AF Zoom lens	30x AF Zoom lens	30x AF Zoom lens	30x AF Zoom lens	2.6x Pan-Focus lens	30x AF Zoom lens	30x AF Zoom lens	3.2x Vari-focal lens
f (mm)	3.4 to 122.4	3.4 to 122.4	3.5 to 105.0	3.5 to 105.0	3.6 to 79.2	2.8 to 7.3	4.0 to 88	4.0 to 88	3.7 to 12
Color or D/N	Day/Night	Color	Day/Night	Color	Day/Night	Day/Night	Day/Night	Color	Day/Night
Sensor	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/3"
Horizontal resolution	540 TVL	540 TVL	540 TVL	540 TVL	540 TVL	520 TVL	540 TVL	540 TVL	540 TVL
Minimum illumination 50IRE	Color 1.0 lx B/W 0.05 lx	1.0 lx	Color 0.8 lx B/W 0.04 lx	0.8 lx	Color 0.8 lx B/W 0.04 lx	Color 1.2 lx B/W 0.06 lx	Color 0.8 lx B/W 0.04 lx	Color 0.8 lx	Color 0.7 lx B/W 0.0 lx
Minimum illumination 20IRE	Color 0.4 lx B/W 0.02 lx	0.4 lx	Color 0.32 lx B/W 0.016 lx	0.32 lx	Color 0.32 lx B/W 0.016 lx	Color 0.48 lx B/W 0.024 lx	Color 0.32 lx B/W 0.016 lx	Color 0.32 lx	Color 0.3 lx B/W 0.0 lx
F	F1.6	F1.6	F1.4	F1.4	F1.4	F1.9	F1.4	F1.4	F1.4
Backlight compensation	Multi-spot 5-section	Multi-spot 5-section	Multi-spot 5-section	Multi-spot 5-section	Multi-spot Center-zone	Multi-spot Center-zone	Multi-spot Center-zone	Multi-spot Center-zone	ON/OFF
White-balance	ATW / AWC Indoor / Outdoor Fluorescent / Manual	ATW / AWC Indoor / Outdoor Fluorescent / Manual	ATW / AWC Indoor / Outdoor Fluorescent / Manual	ATW / AWC Indoor / Outdoor Fluorescent / Manual	ATW / AWC Indoor / Outdoor Fluorescent / Manual	ATW / AWC Manual	ATW / AWC Indoor / Outdoor Fluorescent / Manual	ATW / AWC Manual	ATW
Sync	Internal sync. Line lock	Internal sync. Line lock	Internal sync. Line lock	Internal sync. Line lock	Internal sync. Line lock	Internal sync. Line lock	Internal sync. Line lock	Internal sync. Line lock	Internal sync.
Power supply	24 V AC ±10% 230 V AC ±10%	24 V AC ±10% 230 V AC ±10%	24 V AC ±10% 230 V AC ±10%	24 V AC ±10% 230 V AC ±10%	24 V AC ±10% 12 V to 15 V DC	24 V AC ±10% 12 V to 15 V DC	24 V AC ±10% 12 V to 15 V DC	24 V AC ±10% 12 V to 15 V DC	24 V DC ±10% 12 V DC ±10%
Page	21	21	22	22	25	30	25	26	27

Category	Dome Camera Vandal-resistant			PTZ Dome Camera		Dome Camera		Advanced WDR	
Serial No.	VDC-W1595VP	VDC-D1585VP	VDC-C1575VP	VDC-DP9585P	VCC-P9575P	VDC-DP7585P	VCC-P7575PA	VCC-WD8875P	VCC-WD8870P
Lens	2.3x Vari-focal lens	2.3X Vari-focal lens	2.3X Vari-focal lens	2.6x Pan-Focus lens	2.6x Pan-Focus lens	2.6x Pan-Focus lens	2.6x Pan-Focus lens	CS mount	CS mount
f (mm)	2.6 to 6.0	2.6 to 6.0	2.6 to 6.0	2.8 to 7.3	2.8 to 7.3	2.8 to 7.3	2.8 to 7.3	—	—
Color or D/N	Color	Day/Night	Color	Day/Night	Color	Day/Night	Color	Day/Night	Day/Night
Sensor	1/3"	1/3"	1/3"	1/4"	1/4"	1/4"	1/4"	1/3"	1/3"
Horizontal resolution	480 TVL	520 TVL	520 TVL	520 TVL	520 TVL	520 TVL	520 TVL	550 TVL	550 TVL
Minimum illumination 50IRE	1.0 lx	Color 1.0 lx B/W 0.05 lx	1.0 lx	Color 1.2 lx B/W 0.06 lx	1.9 lx	Color 1.2 lx B/W 0.06 lx	1.9 lx	Color 0.8 lx B/W 0.08 lx	Color 0.8 lx B/W 0.08 lx
Minimum illumination 20IRE	0.4 lx	Color 0.4 lx B/W 0.02 lx	0.4 lx	Color 0.48 lx B/W 0.024 lx	0.76 lx	Color 0.48 lx B/W 0.024 lx	0.76 lx	Color 0.32 lx B/W 0.032 lx	Color 0.32 lx B/W 0.032 lx
F	F1.4	F1.4	F1.4	F1.9	F1.9	F1.9	F1.9	F1.2	F1.2
Backlight compensation	Wide Dynamic Range	ON / OFF	ON / OFF	Multi-spot Center-zone	Multi-spot Center-zone	Multi-spot Center-zone	Multi-spot Center-zone	Wide Dynamic Range	Wide Dynamic Range
White-balance	ATW ATW-A	ATW ATW-A	ATW ATW-A	ATW AWC Manual	ATW AWC Manual	ATW AWC Manual	ATW AWC Manual	ATW Manual	ATW Manual
Sync	Internal sync. Line lock (AC 24 V user)	Internal sync. Line lock (AC 24 V user)	Internal sync. Line lock (AC 24 V user)	Internal sync. Line lock	Internal sync. Line lock	Internal sync. Line lock	Internal sync. Line lock	Internal sync. Line lock	Internal sync. Line lock
Power supply	24 V AC ±10% 12 V to 15 V DC	24 V AC ±10% 12 V to 15 V DC	24 V AC ±10% 12 V to 15 V DC	24 V AC ±10% 12 V to 15 V DC	24 V AC ±10% 12 V to 15 V DC	24 V AC ±10% 12 V to 15 V DC	24 V AC ±10% 12 V to 15 V DC	24 V AC ±10% 12 V to 15 V DC	220 V to 230 V AC
Page	28	28	28	31	31	33	33	37	37

Category	Advanced WDR		Mini Dome Camera	Box				
Serial No.	VCC-W8775P	VCC-W8770P	VCC-9685VP	VCC-4795P E	VCC-4790P E	VCC-6695P	VCC-6690P	VCC-5995P
Lens	CS mount	CS mount	2.9x Vari-focal lens	CS mount	CS mount	CS mount	CS mount	CS mount
f (mm)	—	—	2.8 to 8.0	—	—	—	—	—
Color or D/N	Color	Color	Color	Day/Night	Day/Night	E-Day/Night	E-Day/Night	Color
Sensor	1/3"	1/3"	1/4"	1/3"	1/3"	1/3"	1/3"	1/3"
Horizontal resolution	550 TVL	550 TVL	540 TVL	540 TVL	540 TVL	540 TVL	540 TVL	540 TVL
Minimum illumination 50IRE	0.8 lx	0.8 lx	0.5 lx	Color 0.45 lx B/W 0.01 lx	Color 0.45 lx B/W 0.01 lx	Color 0.35 lx B/W 0.25 lx	Color 0.35 lx B/W 0.25 lx	0.5 lx
Minimum illumination 20IRE	0.32 lx	0.32 lx	0.2 lx	Color 0.18 lx B/W 0.004 lx	Color 0.18 lx B/W 0.004 lx	Color 0.14 lx B/W 0.1 lx	Color 0.14 lx B/W 0.1 lx	0.2 lx
F	F1.2	F1.2	F0.95	F1.2	F1.2	F1.2	F1.2	F1.2
Backlight compensation	Wide Dynamic Range	Wide Dynamic Range	Multi-spot Center-zone	Multi-spot Center-zone	Multi-spot Center-zone	Multi-spot Center-zone	Multi-spot Center-zone	Center-zone
White-balance	ATW Manual	ATW Manual	ATW Manual	ATW Manual	ATW Manual	ATW Manual	ATW Manual	ATW
Sync	Internal sync. Line lock	Internal sync. Line lock	Internal sync. Line lock	Internal sync. Line lock	Internal sync. Line lock	Internal sync. Line lock	Internal sync. Line lock	Internal sync. Line lock
Power supply	24 V AC ±10% 12 V to 15 V DC	220 V to 230 V AC	24 V AC ±10% 12 V to 15 V DC	24 V AC ±10% 12 V to 15 V DC	220 V to 230 V AC	24 V AC ±10% 12 V to 15 V DC	220 V to 230 V AC	24 V AC ±10% 12 V to 15 V DC
Page	38	38	39	40	40	41	41	41

High-resolution AF Speed Dome Camera
VCC-9800P E series

36x
Optical Zoom

DAY NIGHT

VAC-70 Control

540 TV Lines	Minimum illumination 0.05 lx	Multi-spot/ 5-section BLC	ATW AWC Manual	Internal sync. Line lock
Electronic shutter	SSP Pelco-C/D Support	24 V AC or 230 V	Image Stabilizer	Auto Tracking

High-speed Panning of 435°/sec
The camera makes it possible to capture the image of exact points of surveillance with high-speed panning of 435°/sec between preset positions. This accurate mechanism is capable of capturing quickly moving objects and objects approaching the camera when it is zoomed in.

Pan / Tilt speed	Pan	Max. 435°/sec.
	Tilt	Max. 400°/sec.
	Manual pan /tilt	0.1 to 120°/sec.

Preset Accuracy to ±0.014 (typical) of a Degree
In the case of a speed dome camera, the motorized drive's performance is vital in order to capture numerous points of surveillance during lens movement and zoom-ratio changes. SANYO's new series of speed dome cameras keeps the accuracy of the camera's return to preset points to within 0.014 (typical) of a degree for precision capture of images from surveillance.
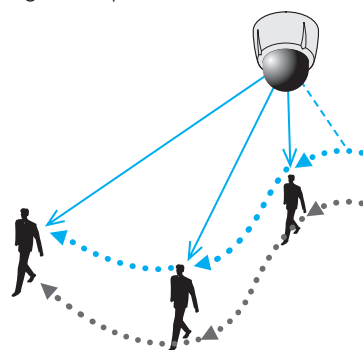
Designated point set using preset position function

Image from conventional camera with error margin as large as 0.2°

Error margin of designated point is a mere 0.014° (typical)

Auto Tracking VCC-9800P E / VCC-9700P E
The camera comes with an image processing algorithm that is capable of detecting moving objects on the screen and tracing an object automatically. When there are multiple movements, an object with the biggest move will be traced. Further settings are available according to the pattern of movement. The auto return mode provides an added feature that forces the camera to its Preset Position when no movement is detected for a preset duration.

High-resolution AF Speed Dome Camera
VCC-9700P E series

36x
Optical Zoom

VAC-70 Control

540 TV Lines	Minimum illumination 1.0 lx	Multi-spot/ 5-section BLC	ATW AWC Manual	Internal sync. Line lock
Electronic shutter	SSP Pelco-C/D Support	24 V AC or 230 V	Image Stabilizer	Auto Tracking

Image Stabilizer VCC-9800P E / VCC-9700P E
A gyro-sensor picks up camera vibration in the 5 to 15 Hz range, which is then suppressed electronically. This feature offers a clear image even in a strong wind or when the camera is installed near a highway with heavy traffic.

Shaking due to strong wind or traffic vibration

Without image stabilization

With image stabilization
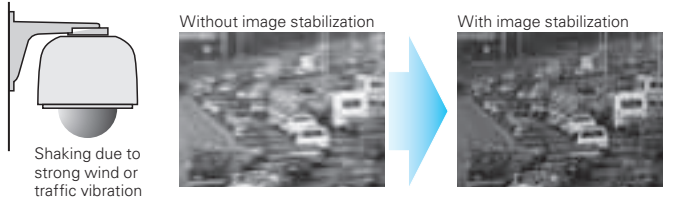
Maximum 576x Zoom Function 36x Optical Zoom and 16x Digital Zoom VCC-9800P E / VCC-9700P E
The 36x optical zoom and 16x digital zoom can be combined for a close-up of 576x. This allows even distant subjects to be checked in detail, allowing one camera to monitor a wide area.

36x optical zoom **16x** digital zoom **576x**

Up to 256 Preset Positions VCC-9800P E / VCC-9700P E
The user can set up to 256 preset positions with VCC-9800P E / VCC-9700P E and up to 128 preset positions with VCC-9600P E / VCC-9500P E. Preset positions can be set to any angle from pointing directly below the camera to looking horizontal. The adjustable range of the lens focus any direction to offer the capability to fully capture any surveillance area. When manually operated, the lens can be moved at the speed of 0.1 °/sec to 120°/sec for accurate tracking of moving objects.

Display floor example Camera Entrance

Display floor Reception Display floor
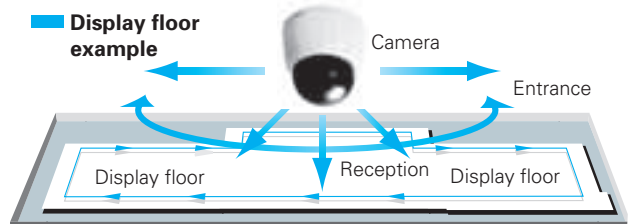
Four Types of Auto Mode Setting
Sequence, Tour, Auto Pan and Auto Return modes are available.

System Chart

IP Camera

Specialty Camera

Pan-focus Camera

Camera • Lens

DVR

SSP System

Monitor

Example System

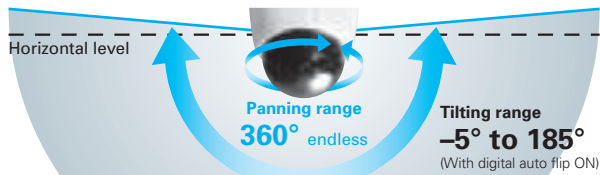System Chart

IP Camera

Specialty Camera

Pan-focus Camera

Camera • Lens

DVR

SSP System

Monitor

Example System

High-resolution AF Speed Dome Camera
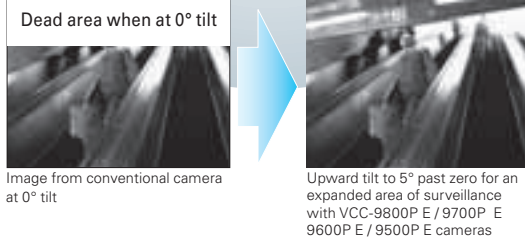# VCC-9600P E series

30x Optical Zoom

DAY NIGHT

VAC-70 Control

540 TV Lines	**Minimum illumination** **0.04** lx	**Multi-spot/ 5-section** **BLC**	**ATW AWC** **Manual**	**Internal sync.** **Line lock**
Electronic shutter	**SSP** Pelco-C/D Support	**24 V AC or 230 V**		

Upward Surveillance Enabled PTZ Operation
In addition to endless 360°/sec panning, the camera's lens section enables 185°/sec tilting in the vertical plane for an area of surveillance expanded by 5° (indoor applications only) compared to previous models.

Horizontal level

Panning range
360° endless

Tilting range
–5° to 185°
(With digital auto flip ON)

No dead areas with new speed dome cameras

Dead area when at 0° tilt

Image from conventional camera at 0° tilt

Upward tilt to 5° past zero for an expanded area of surveillance with VCC-9800P E / 9700P E 9600P E / 9500P E cameras

Available in Three Forms, Outdoor Type, Surface Type or In ceiling Type
The camera is available in three different styles. Assemble them with different fittings and covers to make a camera most suitable for your surveillance needs.

All around Privacy Masking
When there is a house, or even a window, within the camera frame, to protect other people's privacy it is possible to mask the area so that it will not appear on the monitor screen . Up to 24 rectangular masks of any desired size can be set.
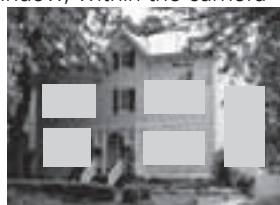
SSP (RS-485) Compatible
By using SSP (SANYO Security Serial Protocol), cameras and DVRs can be controlled with just one controller over a daisy chain connection up to a maximum of 254 devices. The maximum cable length (total length of the daisy chain path) is 1200 m (4000 feet).

Coaxial Control or RS-485
Coaxial control: SSP / H-SSP / PELCO-C
RS-485: SSP / H-SSP / PELCO-D / PELCO-P / Kalatel / AD / BBV / Ultrack / Bosch

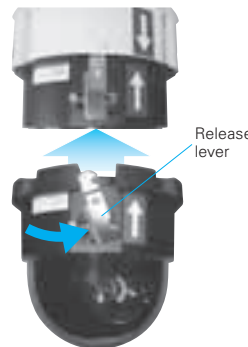## High-resolution AF Speed Dome Camera
VCC-9500P E series

30x Optical Zoom

VAC-70 Control

540 TV Lines	**Minimum illumination** **0.8** lx	**Multi-spot/ 5-section** **BLC**	**ATW AWC** **Manual**	**Internal sync.** **Line lock**
Electronic shutter	**SSP** Pelco-C/D Support	**24 V AC or 230 V**		

Easy-to-Manage Installation, Setup and Adjustment
Enclosed within the housing are an integrated lens, a motor and a pan/tilt mechanism. Attachment to the power supply base by simply sliding the release levers simplifies installation at the point of surveillance. The settings circuit board is detachable for access to protocol, address and other switch settings.

Detachable without disconnecting power cable

Detachable Settings Circuit Board

Basic camera settings can be made while holding the settings circuit board in hand, as the board is detachable from the power supply base. The I/O side of the board features 8 input and 2 output terminals for alarm signals.

Release lever

Slide the camera unit's two release levers and lock the power supply base into position. No special tools required for camera unit installation or removal.

Terminal side (Side-A)	**DIP switch side (Side-B)**
Alarm inputs (8) Alarm outputs (2) RS-485A/RS-485B	Address setting Baud rate setting RS-485/Coax setting SSP/Pelco setting Termination setting

JPEG Network board VA-80LAN (sold separately)
H.264 / JPEG Network board VA-82LAN (sold separately)
Audio Communication
See page 15 for details.
This expansion board for network connection enables SANYO VCC-9800P E / VCC-9700P E / VCC-9600P E / VCC-9500P E to connect to a network. The user can operate a network connected camera using a web browser (Internet Explorer).
It comes with the VA-SW3050LITE viewer software.

Video Management Software (VMS)
VA-SW50 (Advanced) / **VA-SW60** (Enterprise)
See page 17 for details.

Network Recorder (sold separately)
VA-SW3050S (for server) / **VA-SW3050C** (for client)
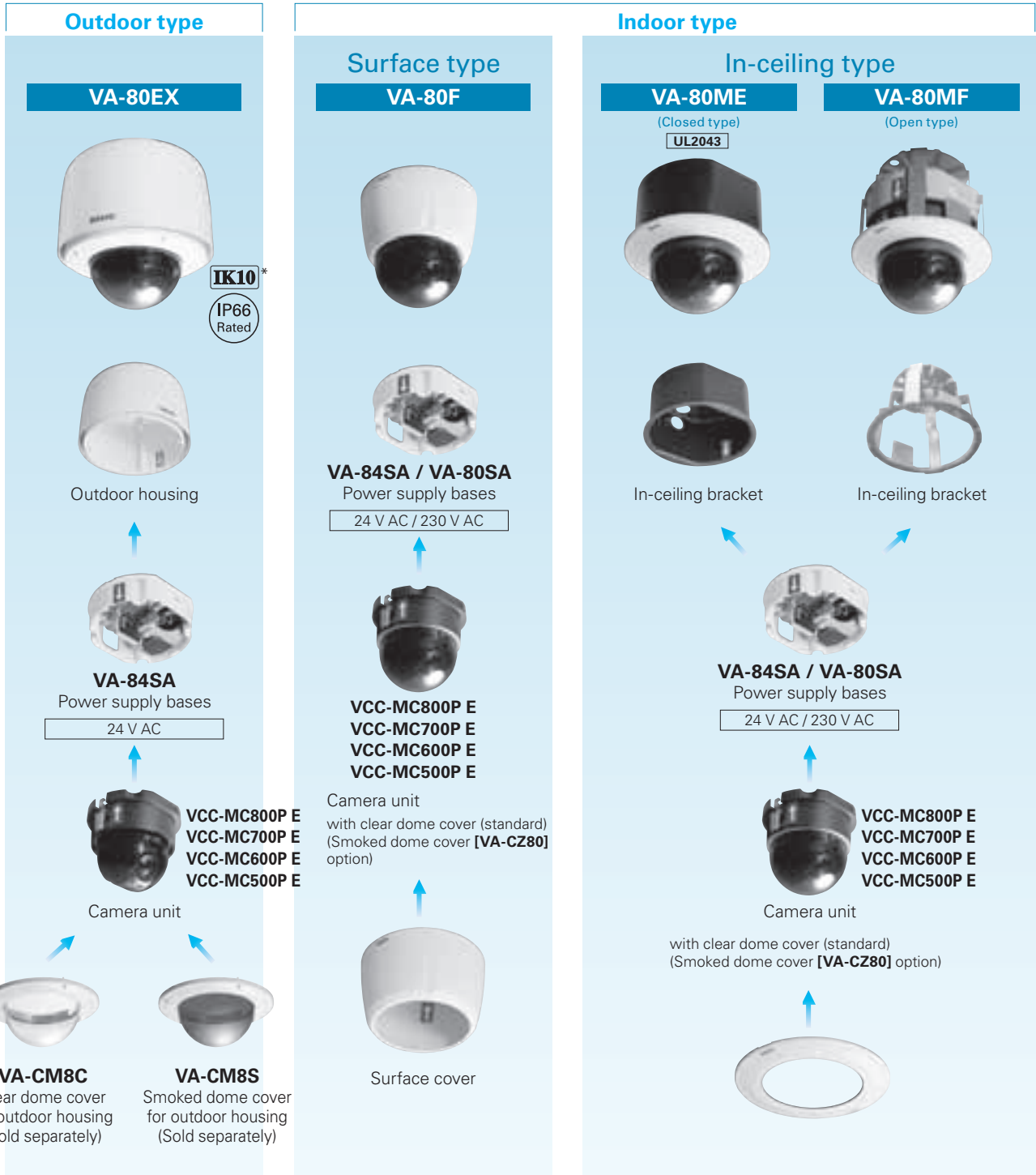See page 18 for details.

Camera Control Unit VAC-70
(sold separately) See page 42 for details.

SSP Control Unit
VSP-9000 / VSP-8500 / VSP-3000 (sold separately)
See page 57, 58, 59 for details.

Available in Three Different Packages

Outdoor, Surface, or In-ceiling — Select a combination that matches your needs!
The combination of camera units and options allows the user to create tailor-made solutions. It also simplifies the installation.

Outdoor type

VA-80EX

IK10 *
IP66 Rated

Outdoor housing

VA-84SA
Power supply bases
24 V AC

VCC-MC800P E
VCC-MC700P E
VCC-MC600P E
VCC-MC500P E

Camera unit

VA-CM8C
Clear dome cover
for outdoor housing
(Sold separately)

VA-CM8S
Smoked dome cover
for outdoor housing
(Sold separately)

Indoor type

Surface type

VA-80F

VA-84SA / VA-80SA
Power supply bases
24 V AC / 230 V AC

VCC-MC800P E
VCC-MC700P E
VCC-MC600P E
VCC-MC500P E

Camera unit
with clear dome cover (standard)
(Smoked dome cover **[VA-CZ80]** option)

Surface cover

In-ceiling type

VA-80ME
(Closed type)
UL2043

VA-80MF
(Open type)

In-ceiling bracket

In-ceiling bracket

VA-84SA / VA-80SA
Power supply bases
24 V AC / 230 V AC

VCC-MC800P E
VCC-MC700P E
VCC-MC600P E
VCC-MC500P E

Camera unit

with clear dome cover (standard)
(Smoked dome cover **[VA-CZ80]** option)

*Protection class of an impact for IK10: It supports "a protection class for the mechanical shock" of EN50102 of the European standard.

Model number codes

Model configurations example

Model name	Camera unit	+	Power basement	+	Housing	+	Dome cover
VCC-9800EXCP E	VCC-MC800P E	+	VA-84SA	+	VA-80EX	+	VA-CM8C
VCC-9530EFCP E	VCC-MC500P E	+	VA-80SA	+	VA-80MF		
VCC-9700INSP E	VCC-MC700P E	+	VA-84SA	+	VA-80F	+	VA-CZ80

Camera type

36x, Day/night	8
36x, Color	7
30x, Day/night	6
30x, Color	5

Housing type

I	N	Surface cover
E	M	In-ceiling (closed)
E	F	In-ceiling (open)
E	X	Outdoor housing

VCC-9 ☐☐☐☐☐ **P** **E** Enhanced resolution to 540TVL

P — PAL

Power

AC230V **3 0**

AC24V **0 0**

Dome cover

C Clear cover
S Smoked cover

System Chart
IP Camera
Specialty Camera
Pan-focus Camera
Camera • Lens
DVR
SSP System
Monitor
Example System

Dimensions [Unit: mm (inch)]

Camera Unit/Power Supply Base

VA-84SA
VA-80SA
0.48kg
(17.0oz.)
4-ø4.5
P.D ø168
ø186
107.2
57.3
191.5
ø136
ø137.4
ø147.5

Housings (Sold separately)

VA-80EX 24 V AC
Outdoor Housing
2.5kg (88.2oz.)
6
182
192
265.1
ø146
ø224
ø248
Dome Cover

VA-CZ80
Smoked dome cover for indoor housing

VA-CM8C
Clear dome cover for outdoor housing
0.45kg (15.9oz.)

VA-CM8S
Smoked dome cover for outdoor housing
0.45kg (15.9oz.)

VA-80F
Surface Cover
0.2kg (7.1oz.)
ø192
ø110

VA-80ME
In-Ceiling Bracket
(closed type)
1.1kg (38.8oz.) UL2043
ø190.2
ø28.5
101.1
111.5
ø216

VA-80MF
In-Ceiling Bracket (open type) 0.6kg (21.2oz.)
51.3
152
162.5
ø216

Mounting Brackets (Sold separately)

VA-80BP
Pendant Mounting Bracket
0.6kg (21.2oz.)
ø130
4-ø8.5
P.D ø101.6
45°
290
331.5
ø96

VA-80BW
Wall Mounting Bracket
0.75kg (26.5oz.)
234
192
ø97
191

VA-80A
Attachment
0.35kg (12.3oz.)
45
ø194(7.6)

VA-80AB
Adaptor Bracket
0.11kg (3.9oz.)
G1 1/2"
ø96

VA-80AC
Corner Mounting Adaptor
2.4kg (84.7oz.)
90°
100
172.8
119(4.7)
75
170
193
260.4

VA-80AP
Pole Mounting Adaptor
1.0kg (35.3oz.)
ø80–ø160
50
75
170
193
127

MODEL	VCC-9800P E series	VCC-9700P E series	VCC-9600P E series	VCC-9500P E series
Scanning system	PAL standard 625 lines, 50 fields/sec.			
Image sensor	1/4" (approx. 3.6 mm x 2.7 mm) interline transfer method CCD			
Picture elements	Total: 795(H) x 596(V), Effective: 752(H) x 582(V)			
Horizontal resolution	540 TV lines (typical)			
Minimum illumination (approx.) **50 IRE**	1.0 lx (at F1.6 GAIN: HIGH color mode) 0.05 lx, (at F1.6 B/W mode)	1.0 lx (at F1.6 GAIN: HIGH color mode)	0.8 lx (at F1.4 GAIN: HIGH color mode) 0.04 lx, (at F1.4 B/W mode)	0.8 lx (at F1.4 GAIN: HIGH color mode)
Minimum illumination (approx.) **20 IRE**	0.4 lx (at F1.6 GAIN: HIGH color mode) 0.02 lx, (at F1.6 B/W mode)	0.4 lx (at F1.6 GAIN: HIGH color mode)	0.32 lx (at F1.4 GAIN: HIGH color mode) 0.016 lx, (at F1.4 B/W mode)	0.32 lx (at F1.4 GAIN: HIGH color mode)
Electronic sensitivity boost	Auto (interlocked with auto iris), up to 32x / OFF			
Video S/N ratio	More than 50 dB (AGC OFF)			
Backlight compensation	ON / OFF –– ON = Multi-spot photometry (48-section) / 5-section photometry / Multi-spot masking (48-section)			
White-balance	ATW / AWC / Manual / Outdoor / Indoor / Fluorescent			
Gain control	Low / Normal / Middle / High / Off			
Electronic shutter	High-speed mode: 8 steps: 1/50, 1/120, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000 Low-speed mode: 5 steps: 2x, 4x, 8x, 16x, 32x (1/25, 1/12, 1/6, 1/3, 1/1.5)			
Zoom lens	36x optical zoom, f = 3.4 to 122.4 mm, (F1.6 to 4.5) ON / OFF, up to 16x electronic zoom (Max. 560x combined with optical zoom)		30x optical zoom, f = 3.5 to 105 mm, (F1.4 to 3.7) ON / OFF, up to 16x electronic zoom (Max. 480x combined with optical zoom)	
Movement range **Panning**	360° endless			
Movement range **Tilting**	-5 to 185° (Digital auto flip ON)			
Movement speed **Panning**	Preset: 435°/sec, Manual: 0.1 to 120°/sec			
Movement speed **Tilting**	Preset: 400°/sec, Manual: 0.1 to 120°/sec			
Motion detector	On (PRESET, ZONE) / Off: Motion zoom function			
Privacy masking	On / Off: Max. 24 masked locations (Wide view screen; 1 screen max. 4 masks) All-around privacy masking			
Synchronizing system	Internal sync. / Line lock (LINE PHASE)			
V phase adjustment	LINE PHASE			
Communication	RS-485 / Coaxial control			
Protocols	SANYO (SSP / H-SSP), Pelco-C / D / P, Kalatel, AD, BBV, Ultrack, Bosch			
Environmental conditions **Temperature**	-10°C to 50°C [+14°F to 122°F], -30°C to 50°C [-22°F to 122°F] when the outdoor housing, VA-80EX is used			
Environmental conditions **Humidity**	30% to 90% RH			
Power requirement	24 V AC ±10% 50Hz or 230 V AC, 50Hz			
Power consumption (approx.) **Camera unit + Power supply base**	21 W: VCC-MC800P E + VA-84SA 22 W: VCC-MC800P E + VA-80SA	21 W: VCC-MC700P E + VA-84SA 22 W: VCC-MC700P E + VA-80SA	21 W: VCC-MC600P E + VA-84SA 22 W: VCC-MC600P E + VA-80SA	21 W: VCC-MC500P E + VA-84SA 22 W: VCC-MC500P E + VA-80SA
Power consumption (approx.) **Outdoor housing**	35 W: VA-80EX			
Weight (approx.) **Outdoor type**	5.1kg=VCC-9800EXCP E/9800EXSP E VCC-9830EXCP E/9830EXSP E	5.1kg=VCC-9700EXCP E/9700EXSP E VCC-9730EXCP E/9730EXSP E	5.1kg=VCC-9600EXCP E/9600EXSP E VCC-9630EXCP E/9630EXSP E	5.1kg=VCC-9500EXCP E/9600EXSP E VCC-9530EXCP E/9630EXSP E
Weight (approx.) **Surface type**	2.4kg=VCC-9800INP E VCC-9830INP E	2.4kg=VCC-9700INP E VCC-9730INP E	2.4kg=VCC-9600INP E VCC-9630INP E	2.4kg=VCC-9500INP E VCC-9530INP E
Weight (approx.) **In-ceiling type**	3.4kg=VCC-9800EMP E VCC-9830EMP E 2.7kg=VCC-9800EFP E VCC-9830EFP E	3.4kg=VCC-9700EMP E VCC-9730EMP E 2.7kg=VCC-9700EFP E VCC-9730EFP E	3.4kg=VCC-9600EMP E VCC-9630EMP E 2.7kg=VCC-9600EFP E VCC-9630EFP E	3.4kg=VCC-9500EMP E VCC-9530EMP E 2.7kg=VCC-9500EFP E VCC-9530EFP E

NOTE: Specifications subject to change without notice

High-resolution Weatherproof AF Zoom Camera

VCC-XZ600P

30x
Optical Zoom

DAY NIGHT

IP66 NVT

VAC-70 Control

540 TV Lines	Minimum illumination 0.04 lx	Multi-spot / Center-zone BLC	ATW AWC Manual	Internal sync. Line lock
Electronic shutter	SSP Pelco-C/D Support	24 V AC 12 V to 15 V DC	Image Stabilizer	NVT UTP video

High Resolution of 540 TV Lines
SANYO has improved the horizontal resolution to 540 TV lines by developing the full capability of CCD and using an IR cut filter with enhanced performance. The result is a better picture quality, which even a conventional high resolution camera cannot match.

32X Sensitivity Boost for Minimum Illumination of 0.00125 Lx
While achieving 0.04 lx minimum subject illumination at maximum gain, sensitivity can be further heightened 32X for 0.00125 lx minimum illumination when the sensitivity boost function is activated at 50 IRE (F1.4). [B/W mode], 0.0005 lx minimum illumination when the sensitivity boost function is activated at 20 IRE (F1.4). [B/W mode]

Built-in Intelligent Digital Motion Detector and Zoom Detector
The Intelligent Digital Motion Detector enables reliable and accurate motion detection by analyzing the magnitude of movement and the size of object from changes in picture brightness. When a moving object is detected, VCC-XZ600P / VCC-ZM600P / VCC-ZM500P can send an alarm signal to external units and/or automatically switch to the optical zoom mode, according to the user's preference. Furthermore, an external alarm input terminal makes it possible, when an alarm signal is received, to automatically zoom in to the site of activity, according to a preset zooming operation.

Registering a view setting file (CAMERA VIEW)
To support shooting in various surveillance conditions like when the surveillance location is bright (or dark), the CAMERA VIEW screen allows you to register up to 2 patterns of shooting settings as camera view setting files.

High-resolution AF Zoom Camera

VCC-ZM600P

30x
Optical Zoom

DAY NIGHT

NVT

VAC-70 Control

540 TV Lines	Minimum illumination 0.04 lx	Multi-spot / Center-zone BLC	ATW AWC Manual	Internal sync. Line lock
Electronic shutter	SSP Pelco-C/D Support	24 V AC 12 V to 15 V DC	Image Stabilizer	NVT UTP video

IP66 Compliant Enclosure & Adjustable Arm   VCC-XZ600P
The angle of the arm is adjustable in all directions. Since the flexible joint is secured by screws, the arm maintains its position without sagging over time. In addition, a safety wire is included to prevent accidents. Installation on a ceiling or wall is easy without any additional parts. The wires are securely protected inside the arm.

Image Stabilizer
A gyro-sensor picks up camera vibration in the 5 to 15 Hz range, which is then suppressed electronically. This feature offers a clear image even in a strong wind or when the camera is installed near the heavy traffic highway.

Without image stabilization   With image stabilization

13 Mode Electronic Shutter Speeds
2x, 4x, 8x, 16x, 32x, 1/50, 1/120, 1/250, 1/500, 1/1000, 1/2000, 1/4000, and 1/10000 sec.

Built-in Communication Board
SSP + Twisted pair board
Communication protocol:
Coaxial control: SSP / H-SSP / PELCO-C
RS485: SSP / H-SSP / PELCO-D
Twisted pair terminal (CAT 5) for video signal:
NVT built-in UTP video

Maximum 480x zoom
The 30x optical zoom and 16x digital zoom can be combined for close-ups at a magnification power of 480x. This allows even distant subjects to be observed in detail, enabling one camera to monitor a wider area.

30x optical zoom   16x digital zoom   480x

System Chart
IP Camera
Specialty Camera
Pan-focus Camera
Camera • Lens
DVR
SSP System
Monitor
Example System

High-resolution AF Zoom Camera

VCC-ZM500P

30x
Optical Zoom

VAC-70 Control

540 TV Lines	Minimum illumination 0.8 lx	Multi-spot / Center-zone BLC	ATW AWC Manual	Internal sync. Line lock
Electronic shutter	SSP Pelco-C/D Support	24 V AC 12 V to 15 V DC		

Privacy Masking

When there is a house, or even an object as small as a window within the camera frame, it is possible to mask the area so that it will not appear on the monitor screen to protect other people's privacy. Up to 4 rectangular masks of arbitrary size can be set per screen.

Other features

- Adjustable gamma correction and aperture settings
- Display of assignable camera ID and titles (16 characters max.)
- Mirror function

Camera Control Unit VAC-70
(sold separately) .

VCC-XZ600P

(Unit: mm)

VCC-ZM600P / VCC-ZM500P

VCC-ZM600P Rear panel

VCC-ZM500P Rear panel

1/4"-20UNC

(Unit: mm)
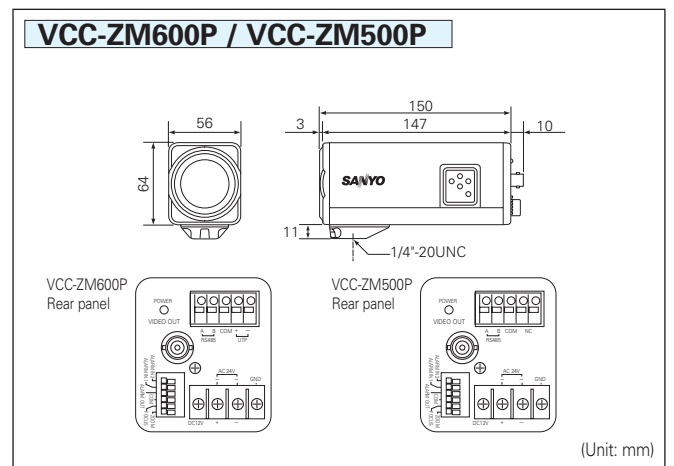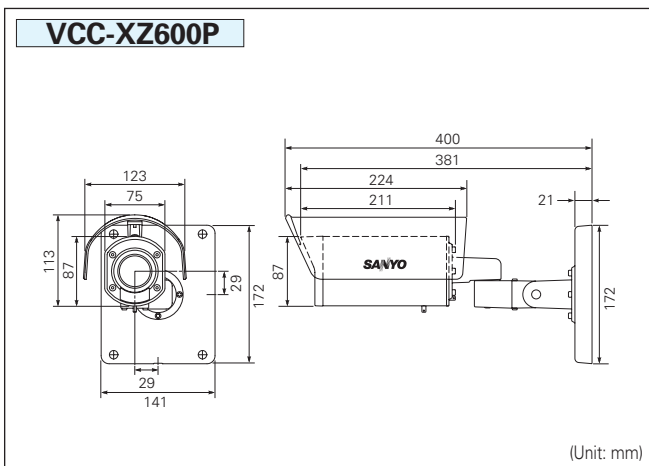
MODEL		VCC-XZ600P	VCC-ZM600P	VCC-ZM500P
Scanning system		PAL standard 625 lines, 50 fields/sec.		
Image sensor		1/4" (approx. 3.6 mm x 2.7 mm) interline transfer method CCD		
Picture elements		Total: 795(H) x 596(V), Effective: 752(H) x 582(V)		
Horizontal resolution		540 TV lines (typical)		
Minimum illumination (approx.)	50IRE	0.8 lx (at F1.4, GAIN: HIGH, color mode), 0.04 lx (at F1.4, GAIN: HIGH, B/W mode)		0.8 lx (F1.4) at max. AGC gain, 0.025 lx (F1.4) at 32x electronic sensitivity boost
	20IRE	0.32 lx (at F1.4, GAIN: HIGH, color mode), 0.016 lx (at F1.4, GAIN: HIGH, B/W mode)		0.32 lx (F1.4) at max. AGC gain, 0.01 lx (F1.4) at 32x electronic sensitivity boost
Electronic sensitivity boost		AUTO (interlocked with auto iris), up to 32x / OFF		
Video output level		1.0 V (p-p) (75 Ω, composite)		
Video S/N ratio		More than 50 dB (AGC OFF)		
Backlight compensation		ON / OFF, ON = Multi-spot photometry / Center-zone photometry / Multi-spot masking		
Day/Night		Color / BW switching function (color mode) Color / BW settings (3-level adjustment)and burst off/on setting function (B/W mode) can be used via alarm input		_____
White-balance		ATW / AWC / Manual / Outdoor / Indoor / Fluorescent / R/B adjustment possible when using MWB		
Gain control		ON (Low / Normal / Middle / High) / OFF (Gain adjustment possible)		
Motion detector		ON (individual setting possible) / OFF, Motion zoom function (individual setting possible)		
Privacy masking		ON / OFF, max. of 4 masked locations (Wide view screen)		
Electronic shutter		High-speed mode:1/50, 1/120, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000 sec. Low-speed mode: 1/25, 1/12, 1/6, 1/5, 1/1.5		
Lens		f = 3.5 to 105mm F1.4 to 3.7 auto focus		
Synchronizing system		Internal sync. / Line lock		
Aperture	Horizontal	56 to 2.0°		
	Vertical	43 to 1.5°		
	Diagonal	68 to 2.5°		
V phase adjustment		LINE PHASE		
Optical zoom		30x		
Electronic zoom		16x		
Communication method		System connection terminals (RS485/Coaxial), support of camera control unit (VAC-70))		
Alarm input		External inputs: 2, NO / NC switch, Day/night switch		External inputs: 2, NO / NC switch
Alarm output		External outputs: 1, NO / NC switch, open corrector		
Mirroring function		OFF / HV / H / V		
Environmental conditions		Temperature: -10°C to 50°C [+14°F to 122°F], Humidity: within 35 to 90% RH		
Power requirement		24 V AC ± 10%, 50 Hz or 12 V to 15 V DC		
Power consumption (approx.)		4.9 W		4.5 W
Dimensions (approx.)		141(W) x 172(H) x 400(D) mm [5.6(W) x 6.8(H) x 15.7(D) in.]	56(W) x 64(H) x 150(D) mm [2.2(W) x 2.5(H) x 5.9(D) in.]	
Weight (approx.)		1.77 kg [62.4 oz.]	540 g [19.0 oz.]	

NOTE: Specifications subject to change without notice

System Chart

IP Camera

Specialty Camera

Pan-focus Camera

Camera • Lens

DVR

SSP System

Monitor

Example System

High-resolution Vandal-resistant IR Dome Camera

VDC-D1785IRVP

DAY **NIGHT**

3.2x
Vari-focal lens

IP67

540 TV Lines	Minimum illumination 0.0 lx	BLC	In-ceiling Surface	Vandal-resistant
24 V AC 12 V DC	Vari-focal IR lens	IR LED	UTP video	

High Resolution of 540 TV Lines

SANYO has improved the horizontal resolution to 540 TV lines by developing the full capability of CCD and using an IR cut filter with enhanced performance. The result is a better picture quality, which even a conventional high resolution camera cannot match.

3.2x Vari-focal IR Lens

The 3.2x vari-focal IR lens (3.7 mm to 12 mm) is capable of providing wide angle pictures in addition to standard pictures.

IR LED

There is no need to prepare a separate light source. The camera comes with an infrared LED and, therefore, all you need to do is install the camera. The built-in LED makes it possible to capture images of an intruder even in complete darkness without alerting the person.

Conventional Camera

SANYO IR LED Camera

Day/Night

24-hour surveillance is now possible with just a single camera that works as a color camera during the day and a high-sensitivity B/W camera during the night. The mode of operation is automatically switched by replacing the optical filter. In addition to the IR sensing and high-sensitivity (BW) modes, the IR LED further expands the feasibility of surveillance, even in complete darkness.

IP67

VDC-D1785IRVP is designed to fight off dust and water. The IP67 compliant package makes it suitable for outdoor installation at locations exposed to wind and rain. Of course, this does not preclude its use for indoor applications.

Vandal-resistant Dome Camera

Vandal-resistant camera casing does not break even when hit with a hammer. Eliminates concern about the camera being damaged.

Suitable for a variety of applications

In addition to the basic flush-mount casing for the ceiling, a surface-mount adaptor is included for increased versatility.

Three-axis adjustment

The three-axis mechanism makes it easy to adjust the field of view. It increases freedom in installation.

TRIPLE Video Output (BNC/UTP/ADJ)

A UTP output has been added to the conventional composite video output. It makes wiring easier and less expensive. The camera also has an added terminal for adjustment for the convenience of modifying the field of view and focus at the time of installation.

AC / DC Power Source Compatibility

VDC-D1785IRVP comes with power supply terminals of 24 V AC and 12 V DC. Select an appropriate source, depending on the location.

VDC-D1785IRVP

Surface-mount **In-ceiling-mount**

(Unit: mm)
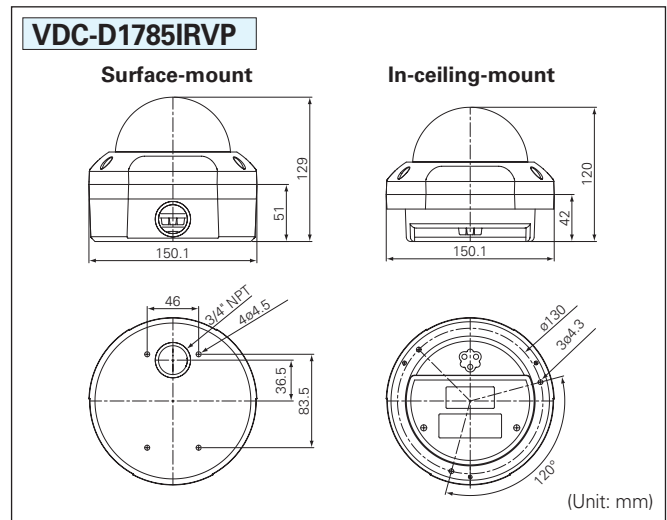
MODEL		VDC-D1785IRVP
Scanning system		PAL standard 625 lines, 50 fields/sec.
Image sensor		1/3" (approx. 4.8 mm x 3.6 mm) interline transfer method CCD
Picture elements		Total: 795(H) x 596(V), Effective: 752(H) x 582(V)
Horizontal resolution		540 TV lines
Minimum illumination	50IRE	0.7 lx (color at F 1.4, IR LED: OFF), 0.0 lx (B/W, F 1.4, IR LED: ON)
	20IRE	0.3 lx (color at F 1.4, IR LED: OFF), 0.0 lx (B/W, F 1.4 IR LED: ON)
Video output level		1.0 V (p-p) (75 Ω, composite)
Video S/N ratio		More than 48 dB
Backlight compensation		ON / OFF
White-balance		Auto
Flicker Less		ON / OFF
Gain control		ON / OFF
Gamma		0.45
Day/Night		True-Day/Night (Auto)
Iris control		Optical auto iris lens
Lens		Built in vari-focal IR lens f=3.7 to 12 mm
Angle of view	Horizontal	76.92 to 22.73°
	Vertical	56.89 to 17.07°
Camera of IR LED		18pcs
IR distance		20m
IR wavelength		850nm
Synchronizing system		Internal sync.
Operating conditions	Operating	Temperature: -10°C to 50°C [+14F° to 122°F], Humidity: within 90% RH
	Storage	Temperature: -20°C to 60°C [– 4F° to 140°F], Humidity: within 70% RH
Power requirement		24 V AC ± 10%, 50 Hz or 12 V DC ± 10%
Power consumption (approx.)		7.0 W
Waterproof standard		IP67
Dimensions (approx.)		150(ø) x 129(H) mm [5.9(ø) x 5.1(H) in.]
Weight (approx.)		0.95 kg [33.5 oz.] Inceiling / 1,2 kg [43.7 oz.] Suface

NOTE: Specifications subject to change without notice

High-resolution WDR Vandal-resistant Dome Camera
VDC-W1595VP

High-resolution Vandal-resistant Dome Camera
VDC-D1585VP

High-resolution Vandal-resistant Dome Camera
VDC-C1575VP

DAY NIGHT

IP66 | IP66 | IP66

VDC-W1595VP:
| 480 TV Lines | Minimum illumination 1.0 lx | WDR Wide Dynamic range | ATW-A ATW |
| Internal sync. Line lock (24 V AC user) | 24 V AC 12 V to 15 V DC | Vari-focal lens | |

VDC-D1585VP:
| 520 TV Lines | Minimum illumination 0.05 lx | BLC | ATW-A ATW |
| Internal sync. Line lock (24 V AC user) | 24 V AC 12 V to 15 V DC | Vari-focal lens | |

VDC-C1575VP:
| 520 TV Lines | Minimum illumination 1.0 lx | BLC | ATW-A ATW |
| Internal sync. Line lock (24 V AC user) | 24 V AC 12 V to 15 V DC | Vari-focal lens | |

3 variations

Wide Dynamic Range, Day/Night camera, or color High-resolution camera available. 2.3x vari-focal lens is ideal for interior. Weatherproof construction also makes it suitable for outdoor use. (IP66 rated)

IP66

VDC-W1595VP, VDC-D1585VP, and VDC-C1575VP are all designed to fight off dust and water. The IP66 compliant package makes them suitable for outdoor installation at locations exposed to wind and rain. Of course, this does not preclude its use for indoor applications.

2.3x Vari-focal Lens

The 2.3x vari-focal lens (2.6 mm to 6 mm) is capable of providing wide angle pictures in addition to standard pictures. The camera allows its user to manually adjust the pan and tilt angles in the range of 360° and 120° respectively.

Vandal-resistant Dome Camera

Vandal-resistant camera casing does not break even when hit with a hammer. Eliminates concern about the camera being damaged.

VDC-W1595VP / VDC-D1585VP / VDC-C1575VP

ø140.2 — 46.2 — 91.5 — 30.0

88.0 / 46.0 / 88.0 / 82.5 / 5.0 / 8.0

VIDEO (yellow)
BNC JACK
DC 12 V or AC 24 V — RED
5mm TWIST SOLDERING — BLACK
(Unit: mm)
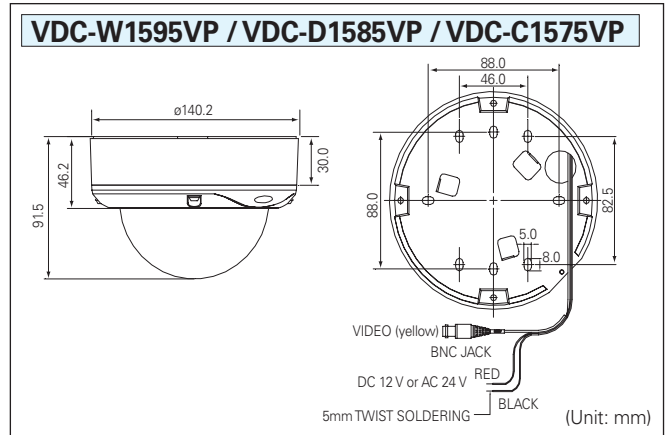
Wall Mounting Bracket VA-50BW (sold separately) See page 34 for details

Pendant Mounting Bracket VA-50BPL (long) / **VA-50BPS** (short) (sold separately) See page 34 for details

In-Ceiling Bracket VA-DK02 (sold separately) See page 34 for details

Attachment VA-50AM (sold separately) See page 34 for details

MODEL		VDC-W1595VP	VDC-D1585VP	VDC-C1575VP
Scanning system		PAL standard 625 lines, 50 fields/sec.		
Image sensor		1/3" (approx. 4.8 mm x 3.6 mm) interline transfer method CCD		
Picture elements		Total: 795(H) x 596(V), Effective: 752(H) x 582(V)		
Horizontal resolution		480 TV lines	520 TV lines	
Minimum illumination	50IRE	1.0 lx (at F 1.4)	1.0 lx (at F 1.4, color mode) 0.05 lx (at F 1.4 lens, B/W mode)	1.0 lx (at F 1.4)
	20IRE	0.4 lx (at F 1.4)	0.4 lx (at F 1.4, color mode) 0.02 lx (at F 1.4 lens, B/W mode)	0.4 lx (at F 1.4)
Video output level		1.0 V (p-p) (75 Ω, composite)		
Video S/N ratio		More than 50 dB (AGC OFF)		
Backlight compensation		——————	ON / OFF —— Slide SW	
Wide dynamic range		ON / OFF (54 dB typical)	——————	
White-balance		ATW-A / ATW		
Gain control		ON / OFF		
Gamma		0.45		
Iris control		Optical auto iris lens		
Lens		Built in vari-focal lens f=2.6 to 6.0 mm		
Manual pan and tilt angles	Horizontal	0 to 360°		
	Vertical	0 to 120°		
Synchronizing system		Internal sync. / Line lock (24 V AC user)		
Sockets	Video signal	VIDEO OUT —— BNC		
	Power supply	24 V AC, GND, 12 V DC		
Operating conditions	Operating	Temperature: -10°C to 40°C [+14F° to 104°F], Humidity: within 90% RH	Temperature: -10°C to 50°C [+14F° to 122°F], Humidity: within 90% RH	
	Storage	Temperature: -20°C to 70°C [− 4F° to 158°F], Humidity: within 70% RH		
Power requirement		24 V AC ± 10%, 50 Hz or 12 V to 15 V DC		
Power consumption (approx.)		4.0 W	2.6 W	
Waterproof standard		IP66		
Dimensions (approx.)		140.2(ø) x 91.5(H) mm [5.6(ø) x 3.6(H) in.]		
Weight (approx.)		850 g [13.9 oz.]		

NOTE: Specifications subject to change without notice

System Chart | IP Camera | Specialty Camera | Pan-focus Camera | Camera • Lens | DVR | SSP System | Monitor | Example System

System Chart

IP Camera

Specialty Camera

Pan-focus Camera

Camera • Lens

DVR

SSP System

Monitor

Example System

Pan-focus Camera

By adopting Cutting-edge Technology, SANYO has Developed a Pan-focus lens camera which offers better functionality with a clearer image for a broader area.

PAN-F◉CUS
Technology in Perspective

520 TVL
Horizontal-resolution

The SANYO pan-focus camera delivers 520 TV lines. The DSP (Digital Signal Processor) with a proprietary algorithm produces sharp outlines and natural color with no color smudges.

Built-in Intelligent Motion Detector and Intelligent Zoom Detector

The Intelligent Motion Detector enables reliable and accurate motion detection by analyzing the magnitude of movement and the size of object from changes in picture brightness. When a moving object is detected, SANYO's camera can send an alarm signal via SSP or network and/or switch to the optical zoom mode that can be preset either to 1.0x, 1.4x, 2.0x, or 2.6x zoom.

2.6x zoom

SANYO offers the 2.6x pan-focus lens for a focused view of a broader area

With a vari-focal lens, objects that are in front of or behind the focus point are blurred. To eliminate this problem, a cutting-edge technology was developed to increase the depth of field so that everything in the field of view is in focus at the same time. SANYO has been one of the leaders in the development of this technology and has successfully commercialized the 2.6x pan-focus lens that offers an image with greater depth of field. The new lens makes it possible to capture a clear image of objects in the background.

Image with a pan-focus lens
• Clear focusing on all shooting area with great depth of field (D.O.F.)
• No focus adjustments
• Remote zoom adjustment by camera control unit, VAC-70

Image with a vari-focal lens
• Clear focusing to a specific area
• Manual focus adjustments
• Manual view angle adjustments

Category	Network Dome Camera with PT mechanism		Dome Camera with PT mechanism		Weatherproof Camera	Dome Camera	
Model No.	VDC-DPN9585P	VCC-PN9575P	VDC-DP9585P	VCC-P9575P	VCC-XZ200P	VDC-DP7585P	VCC-P7575PA
Weatherproof, IP66	✓	——	✓	——	✓	✓	——
PT mechanism	✓	✓	✓	✓	——	——	——
Vandal Resistant Camera	✓	——	✓	——	——	✓	——
Network	✓ (VA-51LAN Built-in)	✓ (VA-51LAN Built-in)	——	——	Option (VA-20LAN)	Option (VA-50LAN or VA-51LAN)	Option (VA-50LAN or VA-51LAN)
PoE (Power over Ethernet)	✓	✓	——	——	——	Option (VA-51LAN)	Option (VA-51LAN)
Audio	✓	✓	——	——	——	Option (VA-51LAN)	Option (VA-51LAN)
Day/Night	✓	——	✓	——	✓	✓	——
Minimum illumination (F1.9) 50IRE	Color 1.2 lx B/W 0.06 lx	1.9 lx	Color 1.2 lx B/W 0.06 lx	1.9 lx	Color 1.2 lx B/W 0.06 lx	Color 1.2 lx B/W 0.06 lx	1.9 lx
Minimum illumination (F1.9) 20IRE	Color 0.48 lx B/W 0.024 lx	0.76 lx	Color 0.48 lx B/W 0.024 lx	0.76 lx	Color 0.48 lx B/W 0.024 lx	Color 0.48 lx B/W 0.024 lx	0.76 lx
Option Network board	VA-51LAN Built-in	VA-51LAN Built-in	——	——	VA-20LAN	VA-50LAN VA-51LAN	VA-50LAN VA-51LAN
Option SSP+Twisted pair board	——	——	VA-50ST Built-in	VA-50ST Built-in	VA-20ST	VA-50ST	VA-50ST
Option Heater board	VA-50H	——	VA-50H	——	VA-50H	VA-50H	——
Option Smoked Cover	——	VCZ-50	——	VCZ-50	——	——	VCZ-50
Option Half-Mirror Cover	——	VCZ-51	——	VCZ-51	——	——	VCZ-51
Page	13	13	31	31	30	33	33

High-resolution Weatherproof Camera
VCC-XZ200P

PAN-FOCUS
Technology in Perspective

2.6x
Pan-Focus Lens

DAY NIGHT

IP66

VAC-70 Control

520 TV Lines	**Minimum illumination** **0.06** lx	**Multi-spot / Center-zone** **BLC**	**ATW AWC Manual**	**Internal sync.** **Line lock**
Electronic shutter	**SSP** Pelco-C/D Support (option VA-20ST)	**24 V AC 12 V to 15 V DC**		

IP66 Rated Enclosure
VCC-XZ200P is designed to fight off dust and water. The IP66 compliant package makes it suitable for outdoor installation at locations exposed to wind and rain.

Adjustable Arm
The angle of the arm is adjustable in all directions. Since the flexible joint is secured by screws, the arm maintains its position without sagging over time. In addition, a safety wire is included to prevent accidents. Installation on a ceiling or wall is easy without any additional parts. The wires are securely protected inside the arm.

Intelligent switching from Color to B/W
Selecting Color or B/W mode can be done automatically by the camera, or else manually. In addition, the user is allowed to change the switchover point from 1 to 10 lx (nominal) using the on-screen menu. The integration of Color and high sensitivity B/W modes in one camera makes it a versatile tool for any surveillance need. It is truly an all-in-one camera.

Flexible Motion Detector
The Flexible Motion Detector enables reliable and accurate motion detection by analyzing the magnitude of movement and the size of object from changes in picture brightness. When a moving object is detected, VCC-XZ200P can send an alarm signal* to external units and/or switch to the optical zoom mode that can be preset either to 1.0x, 1.4x, 2.0x, or 2.6x zoom.
*Only when using VA-20LAN or VA-20ST board option

Network Board VA-20LAN (sold separately)
See page 15 for details
This expansion board for network connection enables SANYO color CCD cameras to connect to a network. The user can operate a network connected camera using a web browser (Internet Explorer).
It comes with the VA-SW3050LITE viewer software.

Network Recorder (sold separately)
VA-SW3050S (for server) / VA-SW3050C (for client)
See page 18 for details.

SSP+Twisted Pair Board VA-20ST (sold separately)
Coaxial control : SSP / H-SSP / PELCO-C
RS-485: SSP / PELCO-D
Twisted pair terminal (CAT5) for video signal: NVT built-in UTP video
NOTE: The VA-20LAN and the VA-20ST cannot be used concurrently.

Heater Board VA-50H (sold separately)
The heater board protects the camera from cold weather. It allows the camera to operate at temperatures as low as -30°C. (24 V AC only)

Camera Control Unit VAC-70
(sold separately) See page 42 for details.

Privacy Masking
When there is a house or even an object as small as a window within the camera frame, to protect other people's privacy it is possible to mask the area so that it will not appear on the monitor screen. Up to 4 rectangular masks of any desired size can be set per screen. These masking areas may be protected with a 4-digit (max.) password.

Easy Setup with an On-screen Menu
The VCC-XZ200P offers an on-screen menu for setting up the camera any desired way.

Other Features
• Display of assignable camera ID and title (16 characters max.)

VCC-XZ200P

With Sunshade
123
74.6
86.6
28.9
150
172
28.8
110
141
400
224.3
172
182

Without Sunshade
74.6
86.6
28.9
150
172
28.8
110
141
360.6
191.4
86.6
21.2
172

(Unit: mm)
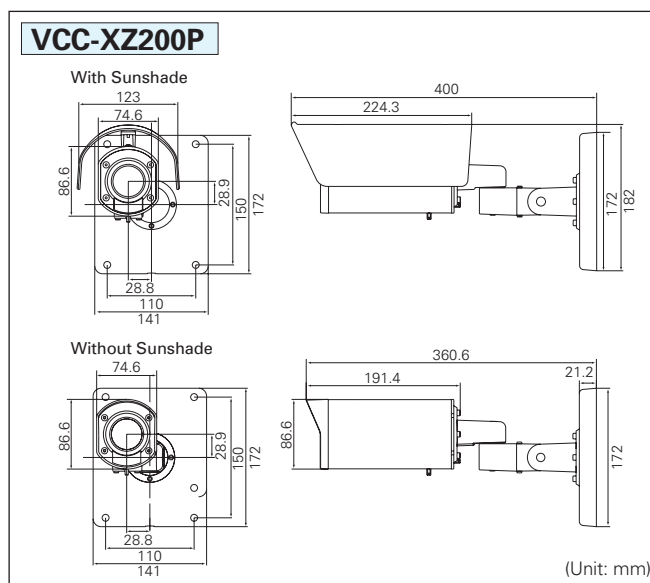
MODEL	VCC-XZ200P
Scanning system	PAL standard 625 lines, 50 fields/sec.
Image sensor	1/4" (approx. 3.6 mm x 2.7 mm) interline transfer method CCD
Picture elements	Total: 795(H) x 596(V), Effective: 752(H) x 582(V)
Horizontal resolution	More than 520 TV lines
Minimum illumination (approx.) 50IRE	1.2 lx (F1.9, Gain High, Color mode) / 0.06 lx (F1.9, Gain High, B/W mode)
Minimum illumination (approx.) 20IRE	0.48 lx (F1.9, Gain High, Color mode) / 0.024 lx (F1.9, Gain High, B/W mode)
Video output level	1.0 V (p-p) (75 Ω, composite)
Video S/N ratio	More than 50 dB (AGC OFF)
Backlight compensation	ON (Multi-spot photometry [High/Normal], Center-zone photometry) / OFF
Day/Night	Auto (High/Low) / Color / B/W: External control
White-balance	ATW / AWC / Manual (MWB) / Outdoor (3200) / Indoor (5600) / Fluorescent (FLUO)
Gain control	High / Normal / Off
Gamma	0.45 / 1
Motion detector	On / Off: Motion zoom function
Privacy masking	ON / OFF, max. 4 masked locations
Electronic shutter	1/50, 1/120, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000 sec.
Lens	Built-in motorized zoom pan-focus auto iris lens, f=2.8 to 7.3 mm (2.6x), F1.9 to 3.0
Synchronizing system	Internal sync. / Line lock
V phase adjustment	LINE PHASE
Optical zoom	2.6x
Alarm input	1 (NO / NC), with alarm zoom function
Character display	On / Off, Camera ID max. 16 characters, adjusting position
Aperture compensation	High plus / High / Normal / Off
Environmental conditions Operating	Temperature: –10°C to +50°C (+14°F to +122°F), Humidity: within 90% RH
Environmental conditions Storage	Temperature: –20°C to +70°C (–4°F to +158°F), Humidity: within 70% RH
Power requirement	24 V AC ± 10%, 50 Hz or 12 V to 15 V DC
Power consumption (approx.)	3.5 W (without options), 6.0 W (with options), 13.0 W (with heater)
Dimensions (approx.)	141(W) x 172(H) x 400(D) mm [5.6(W) x 6.8(H) x 15.7(D) in.]
Weight (approx.)	1.56 kg [55.0 oz.] (without sunshade) 1.76 kg [62.1 oz.] (with sunshade)

NOTE: Specifications subject to change without notice

System Chart

IP Camera

Specialty Camera

Pan-focus Camera

Camera • Lens

DVR

SSP System

Monitor

Example System

High-resolution Vandal-resistant PTZ Dome Camera
VDC-DP9585P

PAN-F◉CUS
Technology in Perspective

2.6x
Pan-Focus Lens

DAY NIGHT

IP66 NVT

VAC-70 Control
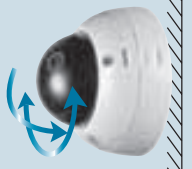
520 TV Lines	**Minimum illumination** **0.06** lx	**Multi-spot / Center-zone** **BLC**	**PT mechanism**	**Internal sync.** Line lock
Electronic shutter	**SSP** Pelco-C/D Support	**24 V AC 12 V to 15 V DC**	**NVT UTP video**	

PTZ Operations
VDC-DP9585P / VCC-P9575P comes with a PT mechanism and allows panning of 335 degrees (55 degrees*) and tilting of 90 degrees (90 degrees*) to reduce blind spots in the surveillance area. When particular angles are preset on the camera (up to sixteen points), it moves to each position quickly at the speed of 120 deg/sec max. For both panning and tilting. Combining these features with the motion detector, it is possible to catch all actions taking place in the area.
* For wall-mounted cameras

Ceiling	Wall
PAN 0 to 335°	PAN 0 to 55°
TILT 0 to 90°	TILT 0 to 90°

Operation protocol	Coaxial Control: SSP / H-SSP / PELCO-C
	RS-485: SSP / PELCO-D

16 Preset Positioning and Sequential Monitoring Functions
Up to 16 preset positions (with different settings for pan, tilt, and zoom) can be registered for a single VDC-DP9585P / VCC-P9575P. A simple key entry to a controller allows you to easily switch to the scene you want to monitor. Auto-pan monitoring can be also be programmed by designating two end points on a horizontal plane.

High-resolution Indoor mini PTZ Dome Camera
VCC-P9575P

PAN-F◉CUS
Technology in Perspective

2.6x
Pan-Focus Lens

NVT

VAC-70 Control

520 TV Lines	**Minimum illumination** **1.9** lx	**Multi-spot / Center-zone** **BLC**	**PT mechanism**	**Internal sync.** Line lock
Electronic shutter	**SSP** Pelco-C/D Support	**24 V AC 12 V to 15 V DC**	**NVT UTP video**	

High sensitivity minimum required illumination
Minimum required illumination is an impressive 0.06 lx at F1.9 in B/W mode and 1.2 lx at F1.9 in color mode.

Privacy Masking
When there is a house or even an object as small as a window within the camera frame, to protect other's privacy it is possible to mask the area so that it will not appear on the monitor screen. Up to 8 rectangular masks of any desired size can be set. These masking areas may be protected with a 4-digit (max.) password.

Twisted pair terminal (CAT5)
Twisted pair terminal (CAT5) for video signal:
NVT built-in UTP video NVT

Tough, Impact-resistant Body   VDC-DP9585P
The IP66 compliant weatherproof enclosure can resist tampering by intruders. The drip-proof finishing makes it suitable for outdoor installations.

Built-in Electronic Shutter
A high-speed electronic shutter that is internally switchable for eight modes using a DIP switch allows adjustment increments from 1/50 to 1/10000 sec.

AC / DC Power Source Compatibility
VDC-DP9585P / VCC-P9575P come with power supply terminals of 24 V AC and 12 V to 15 V DC. Select an appropriate source, depending on the location.

System Chart
IP Camera
Specialty Camera
Pan-focus Camera
Camera • Lens
DVR
SSP System
Monitor
Example System

Easy interior access and setup

The camera unit and bottom cover can be detached very simply. Moreover, easy attachment and detachment of the bottom cover to and from the base plate for installation to a ceiling or wall simplifies setup and camera angle adjustment at the point of surveillance.

Push

Backside

Easy access & setup

Bottom cover

Base plate

Ceiling

Easy access & setup
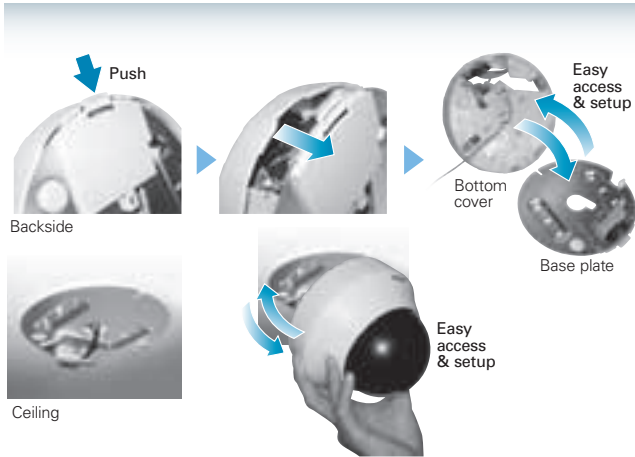
Other Features

• Includes intelligent motion detector
• Display of assignable camera ID and titles (16 characters max.)

Heater Board VA-50H (sold separately)
See page 34 for details for VCC-DP9585P

The heater board protects the camera from cold weather. It allows the camera to operate at temperatures as low as -30°C. (24 V AC only)

Camera Control Unit VAC-70
(sold separately) See page 42 for details.

Smoked Cover VCZ-50 (sold separately)
See page 34 for details for VCC-P9575P

Half-Mirror Cover VCZ-51
See page 34 for details for VCC-P9575P

SSP Control Unit
VSP-9000 / VSP-8500 / VSP-3000 (sold separately)
See page 57, 58, 59 for details for details

VDC-DP9585P

114.8
5.0 R2.5
8.0
46.0
ø162.0
82.5
88.0
2–ø4.3
35.0
32.0
88.0

(Unit: mm)

VCC-P9575P

99.8
150.9
45.5
115.5
83.4

(Unit: mm)

System Chart

IP Camera

Specialty Camera

Pan-focus Camera

Camera • Lens

DVR

SSP System

Monitor

Example System
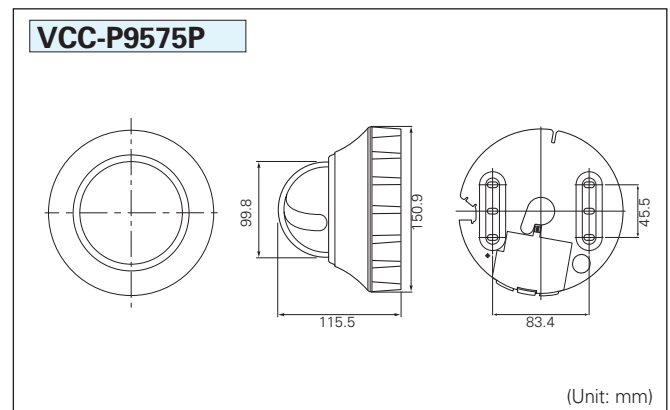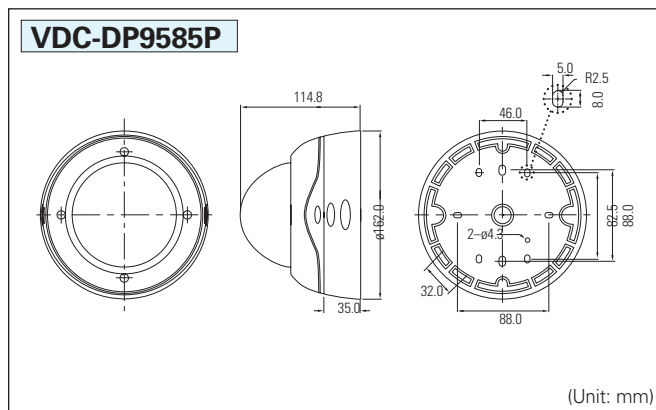
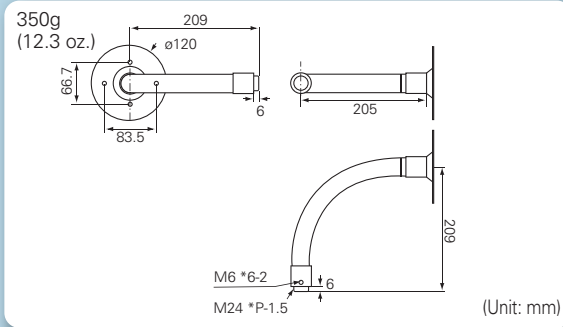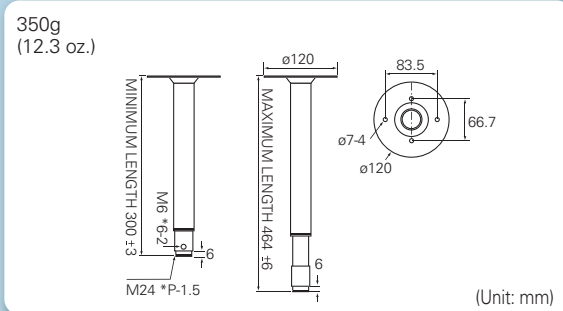| MODEL	VDC-DP9585P		VCC-P9575P
Scanning system	PAL standard 625 lines, 50 fields/sec.		
Image sensor	1/4" (approx. 3.6 mm x 2.7 mm) interline transfer method CCD		
Picture elements	Total: 795(H) x 596(V), Effective: 752(H) x 582(V)		
Horizontal resolution	520 TV lines		
Minimum illumination (approx.) — 50IRE	0.06 lx at max. AGC, with F1.9 lens, B/W mode 1.2 lx at max. AGC, with F1.9 lens, Color mode		1.9 lx at max. AGC, with F1.9 lens, Color mode
Minimum illumination (approx.) — 20IRE	0.024 lx at max. AGC, with F1.9 lens, B/W mode 0.48 lx at max. AGC, with F1.9 lens, Color mode		0.76 lx at max. AGC, with F1.9 lens, Color mode
Video output level	1.0 V (p-p) (75 Ω, composite)		
Video S/N ratio	More than 50 dB (AGC OFF)		
Backlight compensation	ON / OFF, ON = Multi-spot photometry (64-section) / Center-zone photometry		
Day/Night	Auto (High/Low) / Color / B/W: External control		————
White-balance	ATW / AWC / Manual (MWB) / Outdoor (3200) / Indoor (5600) / Fluorescent (FLUO)		
Gain control	High / Normal / OFF		
Motion detector	ON / OFF, Motion zoom function		
Privacy masking	ON / OFF 8 masking		
Electronic shutter	1/50, 1/120, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000 sec.		
Lens	Built-in 2.6x motorized zoom pan-focus auto iris lens, f = 2.8 to 7.3mm (2.6x), F1.9 to 3.0		
Synchronizing system	Internal sync. / Line lock		
Aperture	HIGH PLUS / HIGH / NORMAL / OFF		
Auto mode	Sequential pan / Auto pan		
Rotation range	Panning: max. 0 to 335 deg, Tilting: 0 to 90 deg.		
Rotation speed	Panning: max. 120 deg / second (preset) Tilting: max. 120 deg / second (preset)		
Preset position setting	16		
Communications	Coaxial Control: (SSP / H-SSP / PELCO-C) RS-485: (SSP, H-SSP / PELCO-D)		
Environmental conditions	Temperature: -10°C to 50°C [+14°F to 122°F] Humidity: within 90% RH		Temperature: -10°C to 40°C [+14°F to 104°F] Humidity: within 90% RH
Enclosure rating	IP66		————
Power requirement	24 V AC ±10%, 50 Hz or 12 V to 15 V DC		
Power consumption (approx.)	7.0 W (without heater), 14.0 W (with heater)		7.0 W
Dimensions (approx.)	ø162 x 114.8 mm [ø6.4 x 4.5 in.]		ø150.9 x 115.5 mm [ø6.0 x 4.6 in.]
Weight (approx.)	1.5 kg [52.9 oz.] [without options]		640g [22.6 oz.] [without options]

NOTE: Specifications subject to change without notice

Pan-focus camera

High-resolution Vandal-resistant Dome Camera
VDC-DP7585P

PAN-FOCUS Technology in Perspective
2.6x
Pan-Focus Lens

DAY NIGHT

IP66

VAC-70 Control

520 TV Lines	Minimum illumination 0.06 lx	Multi-spot / Center-zone BLC	ATW AWC Manual	Internal sync. Line lock
Electronic shutter	SSP Network (Option)	24 V AC 12 V to 15 V DC		

High-resolution Indoor mini Dome Camera
VCC-P7575PA

PAN-FOCUS Technology in Perspective
2.6x
Pan-Focus Lens

VAC-70 Control

520 TV Lines	Minimum illumination 1.9 lx	Multi-spot / Center-zone BLC	ATW AWC Manual	Internal sync. Line lock
Electronic shutter	SSP Network (Option)	24 V AC 12 V to 15 V DC		

Network Board VA-50LAN* / VA-51LAN*
(sold separately) See page 15 for details.
*It comes with the VA-SW3050LITE viewer software.

Audio Communication | PoE compatible

Video Management Software (VMS)
VA-SW50 (Advanced) / **VA-SW60** (Enterprise)
See page 17 for details.

Network Recorder (sold separately)
VA-SW3050S (for server) / **VA-SW3050C** (for client)
See page 18 for details.

Camera Control Unit VAC-70
(sold separately) See page 42 for details.

SSP+Twisted Pair Board VA-50ST (sold separately)
for VDC-DP7585P / VCC-P7575PA
Coaxial control : SSP / H-SSP / PELCO-C, RS-485: SSP / PELCO-D
Twisted pair terminal (CAT5) for video signal: NVT built-in UTP video
NOTE: The VA-50LAN, VA-51LAN and the VA-50ST cannot be used concurrently.

Heater Board VA-50H (sold separately) for VCC-DP9585P
The heater board protects the camera from cold weather. It allows the camera to operate at temperatures as low as -30°C. (24 V AC only)

Smoked Cover VCZ-50 (sold separately)
See page 34 for details for VCC-P7575PA

Half-Mirror Cover VCZ-51
See page 34 for details for VCC-P7575PA

VDC-DP7585P

114.8 | ø162.0 | 46.0 | 5.0 R2.5 8.0 | 82.5 | 88.0 | 2-ø4.3 | 35.0 | 32.0 | 88.0

(Unit: mm)

VCC-P7575PA

99.8 | 150.9 | 45.5 | 115.5 | 83.4

(Unit: mm)
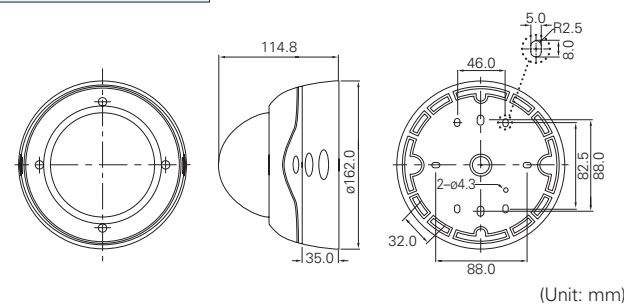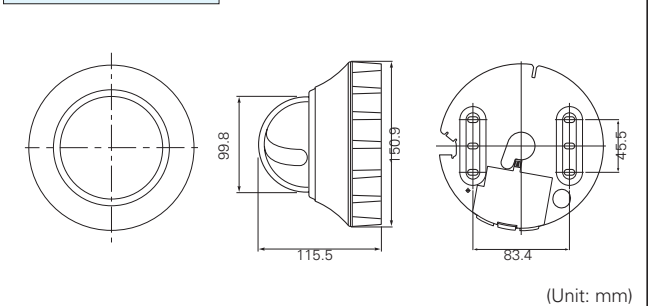
MODEL	VDC-DP7585P	VCC-P7575PA
Scanning system	PAL standard 625 lines, 50 fields/sec.	
Image sensor	1/4" (approx. 3.6 mm x 2.7 mm) interline transfer method CCD	
Picture elements	Total: 795(H) x 596(V), Effective: 752(H) x 582(V)	
Horizontal resolution	520 TV lines	
Minimum illumination (approx.) — 50IRE	1.2 lx (F1.9, Gain High, color mode) / 0.06 lx (F1.9, Gain High, B/W mode)	1.9 lx at max. AGC, with F1.9 lens
Minimum illumination (approx.) — 20IRE	0.48 lx (F1.9, Gain High, color mode) / 0.024 lx (F1.9, Gain High, B/W mode)	0.76 lx at max. AGC, with F1.9 lens
Video output level	1.0 V (p-p) (75 Ω, composite)	
Video S/N ratio	More than 50 dB (AGC OFF)	
Backlight compensation	ON (Multi-spot photometry [High/Normal], Center-zone photometry) / OFF	
Day/Night	Auto (High/Low) / Color / B/W: External control	
White-balance	ATW / AWC / Manual (MWB) / Outdoor (3200) / Indoor (5600) / Fluorescent (FLUO)	
Gain control	High / Normal / OFF	
Gamma	0.45 / 1	
Motion detector	ON / OFF, Motion zoom function	
Privacy masking	ON / OFF: Max. 4 masked locations	
Electronic shutter	1/50, 1/120, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000 sec.	
Lens	Built-in 2.6x motorized zoom pan-focus auto iris lens, f = 2.8 to 7.3mm (2.6x), F1.9 to 3.0	
Synchronizing system	Internal sync. / Line lock	
Alarm input	1 (NO / NC), with alarm zoom function	
Character display	On / Off, Camera ID max. 16 characters, adjusting position	
Aperture	HIGH PLUS / High / NORMAL / OFF	
Environmental conditions — Operating	Temperature: -10°C to 50°C [+14°F to 122°F] Humidity: within 90% RH	Temperature: -10°C to 40°C [+14°F to 104°F] Humidity: within 90% RH
Environmental conditions — Storage	Temperature: −20°C to +70°C (−4°F to +158°F), Humidity: within 70% RH	
Power requirement	24 V AC ±10%, 50 Hz or 12 V to 15 V DC	
Power consumption (approx.)	3.5 W [without options], 9.5 W [with options], 23.0 W (with heater)	3.5 W [without options], 9.5 W [with options]
Dimensions (approx.)	ø162 x 114.8 mm [ø6.4 x 4.5 in.]	ø150.9 x 115.5 mm [ø6.0 x 4.6 in.]
Weight (approx.)	1.5 kg (52.9 oz.) [without options]	600 g (21.2 oz.) [without options]

NOTE: Specifications subject to change without notice

Wall Mounting Bracket
VA-50BW for VA-50AL / VA-50AM / VA-50AS

350g
(12.3 oz.)

209
ø120
66.7
83.5
6
205
209

M6 *6-2
M24 *P-1.5

(Unit: mm)

Pendant Mounting Bracket (short)
VA-50BPS for VA-50AL / VA-50AM / VA-50AS

350g
(12.3 oz.)

MINIMUM LENGTH 300 ±3
MAXIMUM LENGTH 464 ±6
ø120
83.5
66.7
ø7-4
ø120
M6 *6-2
6
6
M24 *P-1.5

(Unit: mm)

Attachment
VA-50AS for VCC-PN9595P / VCC-P9575P VCC-P7575PA / VCC-9685VP

220g
(7.8 oz.)

22.4
0.5 4.5
ø150
41.7
22.8
22.8
45.5
83.4

(Unit: mm)
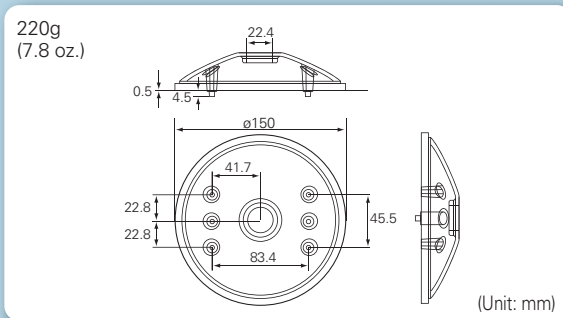
Attachment
VA-50AM for VDC-W1595VP / VDC-D1585VP VDC-C1575VP

200g
(7.1 oz.)

ø142
88
M24x P1.5
32.3
36.8

(Unit: mm)
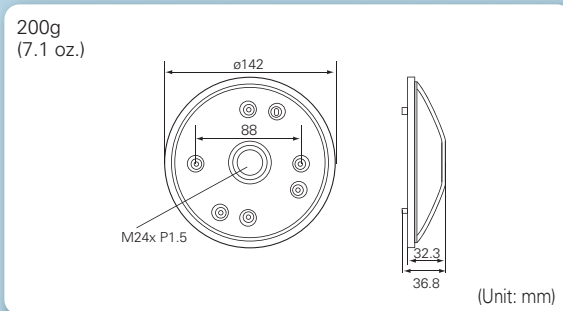
Attachment
VA-50AL for VDC-DPN9585P / VDC-DP9585P VDC-DP7585P

275g
(9.7 oz.)

22.4
8.0
42.0
3.4
M4 8 4
93°
R154.9
R151.9
82.5
R18.7
46.0
<M25 15>
167.3
162.8
0.3

(Unit: mm)
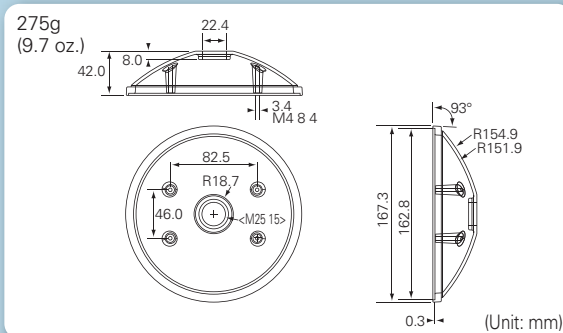
Pendant Mounting Bracket (long)
VA-50BPL for VA-50AL / VA-50AM / VA-50AS

550g
(19.4 oz.)

ø120
ø120
MAXIMUM LENGTH 1020 ±6
MINIMUM LENGTH 440 ±3
M6 *6-2
6
M24 *P-1.5
6
83.5
66.7
ø7-4
ø120

(Unit: mm)
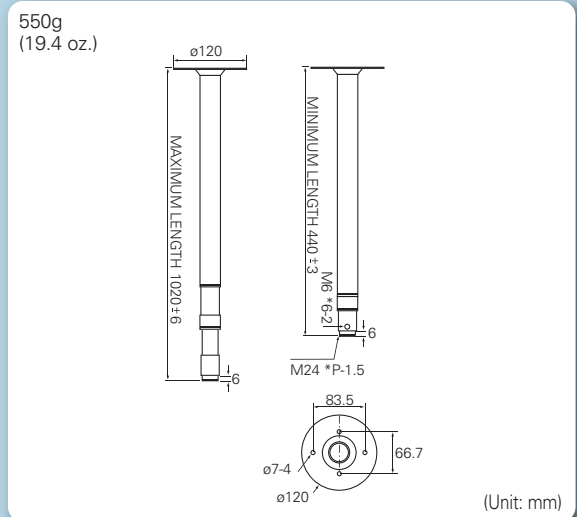
Smoked Cover
VCZ-50
for VCC-PN9575P / VCC-P9575P VCC-P7575PA / VCC-9685VP

38.5g
(1.4 oz.)
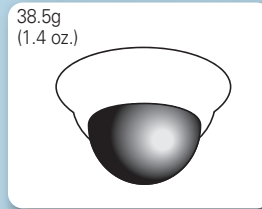
Half-Mirror Cover
VCZ-51
for VCC-PN9575P / VCC-P9575P VCC-P7575PA / VCC-9685VP

38.5g
(1.4 oz.)
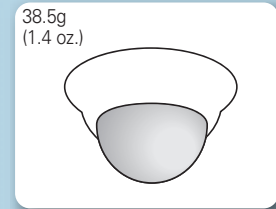
Heater Board
VA-50H for VCC-XZ200P / VDC-DPN9585P VDC-DP9585P / VDC-DP7585P

The heater board protects the camera from cold weather. It allows the camera to operate at temperatures as low as -30°C. (24 V AC only)

In-Ceiling Bracket
VA-DK02 for VDC-DPN9585P / VCC-PN9575P VDC-DP9585P / VCC-P9575P VDC-DP7585P / VCC-P7575PA
VDC-W1595VP / VDC-D1585VP / VDC-C1575VP / VCC-9685VP

ø200
ø230
40
103
8.4

(Unit: mm)
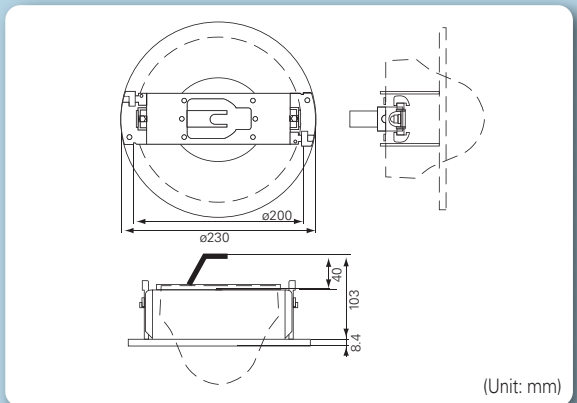
Model name		Installation	Attachment	+	Brackets
VDC-DPN9585P	P.13	Wall mounting	VA-50AL	+	VA-50BW
VDC-DP9585P	P.31	Short Pendant mounting	VA-50AL	+	VA-50BPS
VDC-DP7585P	P.33	Long Pendant mounting	VA-50AL	+	VA-50BPL

Model name		Installation	Attachment	+	Brackets
VDC-W1595VP		Wall mounting	VA-50AM	+	VA-50BW
VDC-D1585VP	P.28	Short Pendant mounting	VA-50AM	+	VA-50BPS
VDC-C1575VP		Long Pendant mounting	VA-50AM	+	VA-50BPL

Model name		Installation	Attachment	+	Brackets
VCC-PN9575P	P.13	Wall mounting	VA-50AS	+	VA-50BW
VCC-P9575P	P.31	Short Pendant mounting	VA-50AS	+	VA-50BPS
VCC-P7575PA	P.33	Long Pendant mounting	VA-50AS	+	VA-50BPL
VCC-9685VP	P.39				

System Chart
IP Camera
Specialty Camera
Pan-focus Camera
Camera • Lens
DVR
SSP System
Monitor
Example System

New Advanced Wide Dynamic Range Camera

VCC-WD8875P
VCC-WD8870P
VCC-W8775P
VCC-W8770P

Advanced WDR Image Processing System

High Gain Signal

New CMOS Sensor

Low

A/D Convertor

SANYO Advanced Image Processing Engine

Pixel-by-Pixel Optimum Processing

Real-Time Dynamic Range Correction

RGB Interpolation Processing

High Resolution Processing
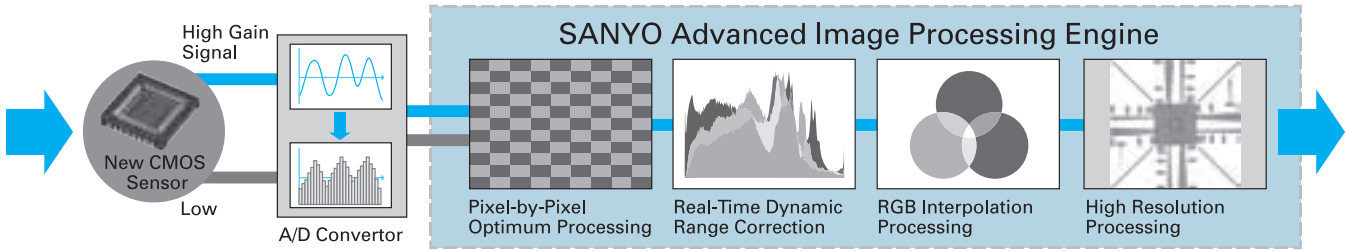
A new WDR method and a newly developed CMOS sensor produce new technology

A new CMOS sensor and SANYO's advanced technology have made it possible to capture the surveillance subject with an image processing technique that is closer to human vision, to produce a true-color, high-resolution video picture regardless of light source. The new engine generates a linear output of low and high illumination areas without a time-lag, leading to a natural image with a dynamic range a great deal wider than that of conventional products. The sensor generates a smear-less output distinctive of a CMOS element, but with a sensitivity equivalent to CCD, to offer an image much brighter than ordinary CCD cameras. This is, indeed, a camera with a human eye.

Conventional Camera

SANYO WDR Camera

Progressive Scan Format

SANYO's new WDR camera uses the simultaneous read method for the image received by the sensor. Compared to the conventional multi-sampling method, the camera has no delay in signal, making it possible to depict edges more clearly when tracking a moving object. It also eliminates flickering of blinking light sources and offers video images more friendly to the human eye.

Sanyo's New CMOS Sensor

An enhanced CMOS sensor has made it possible to pick up additional information electrons that have been left out in the past. This increase in information density results in an accurate reproduction of images closer to reality.

Conventional Camera

SANYO WDR Camera

Conventional CCD

Incident light

Electrons

Photodiode

Leaked electrons

Leaked electrons that leak out from the photodiode are left as is, reducing the dynamic range.

Structure of WDR CMOS Sensor

Incident light

Leaked electrons

Electrons

Photodiode

Capacitor

The built-in capacitor collects the electrons that leak out, boosting the signal per unit area to generate an image with a wider dynamic range.

The horizontal resolution of 550 TVL (typical) leads the industry.

The combination of superior picture with a horizontal resolution of 550 TVL and WDR makes it possible to capture the surveillance subject's image more vividly.

550 TV lines

480 TV lines
Conventional high-resolution camera
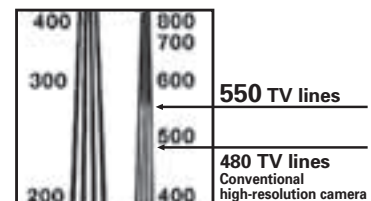
Retina-Morphic processing

The retina replication algorithm, a new technology made possible by iridix®* and SANYO, has made it possible to make real-time dynamic range correction. SANYO's WDR cameras utilize this technology to reproduce contrast that exceeds the capability of human eyes, and to deliver true colors even in an environment where the brightness changes rapidly.

Conventional Camera

SANYO WDR Camera

Pure and natural color reproduction with the Bayer RGB filter

An RGB filter is a filter used to extract the three primary colors of light. The use of an enhanced filter results in the generation of faithful and natural colors.

Super Dynamic Range of 65dB

SANYO's Advanced WDR camera has achieved super dynamic range of 65dB in the industry top class by combining with the new WDR CMOS sensor and SANYO's Advanced Image Processing Engine. (Advanced WDR Image Processing System)

An enhancement of the DNR (Digital Noise Reduction)

function enables unprecedented low -noise levels
A high-performance DNR function suppresses S/N ratio deterioration associated with the enhancement of darker areas. As a result, almost noise-free image processing is now possible to produce images that are free of jumps in contrast.
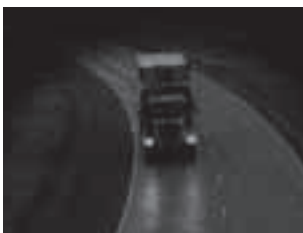
DNR OFF

DNR ON

The Minimum Illumination of 0.8 lux

Although CMOS sensors were considered poor at handling scenes with low illumination, SANYO's advance technology has solved the problem. The sensitivity is now as good as CCD.

Incorporates Premium Bayer Mosaic RGB Filter

The Advanced WDR camera also makes use of the acclaimed Bayer Mosaic RGB filter which extracts light's three primary colors (red, green and blue) from the CMOS sensor to deliver highly realistic and vivid colors that allow extremely accurate color reproduction.

White Balance

White balancing is an important and fundamental feature in surveillance systems. Backed by its 40 years of experience, SANYO has developed a pure white balance function to achieve faithful color reproduction.

Conventional Camera

SANYO WDR Camera

Smearless

Conventional CCD units are known to generate vertical noises (smears) associated with bright spots. The new sensor diminishes these smears and offers a clear and bright picture.

Conventional cameras

SANYO WDR Camera

Day/Night   VCC-WD8875P / VCC-WD8870P

24-hour surveillance is now possible with just a single camera that works as a color camera during the day and a high-sensitivity B/W camera during the night. The mode of operation is automatically switched by replacing the optical filter. The use of an optical filter in the color mode also allows video recording in true colors.

Day (color image)

Night (black & white image)

Dual Power Source of 24 V AC and 12 to 15 V DC
VCC-W8775P / VCC-WD8875P

These models supports dual power supply to allow flexible operation in diverse circumstances.

Power Source of 230 V AC   VCC-W8770P / VCC-WD8870P

The AC power source is for 120 to 240 V.

* Iridix technology is provided by Apical Limited, UK.

Images used may differ slightly from actually recorded scenes.

System Chart

IP Camera

Specialty Camera

Pan-focus Camera

Camera • Lens

DVR

SSP System

Monitor

Example System

High-resolution WDR Day/night Camera
VCC-WD8875P

AIP Engine
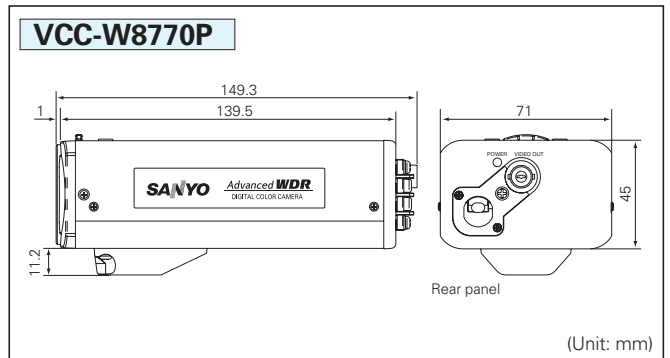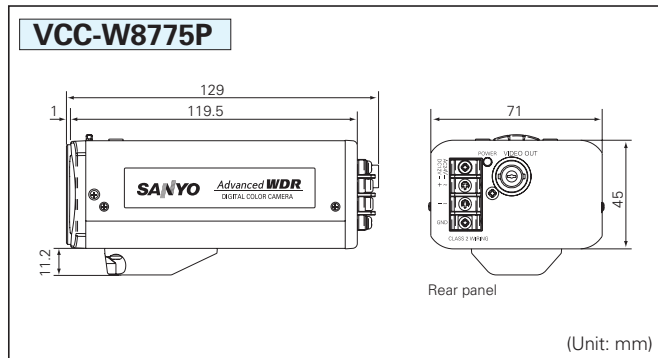*(SANYO Advanced Image Processing Engine)*

DAY NIGHT

Iridix®

Shown with optional lens

550 TV Lines	Minimum illumination 0.08 lx	WDR Wide Dynamic range	65dB AIP Engine	Internal sync. Line lock
Electronic shutter	DNR	24 V AC 12 V to 15 V DC		

High-resolution WDR Day/night Camera
VCC-WD8870P

AIP Engine
(SANYO Advanced Image Processing Engine)

DAY NIGHT

Iridix®

Shown with optional lens

550 TV Lines	Minimum illumination 0.08 lx	WDR Wide Dynamic range	65dB AIP Engine	Internal sync. Line lock
Electronic shutter	DNR	24 V or 230 V AC		

Camera Mount VA-VAT31 (sold separately)

VCC-WD8875P
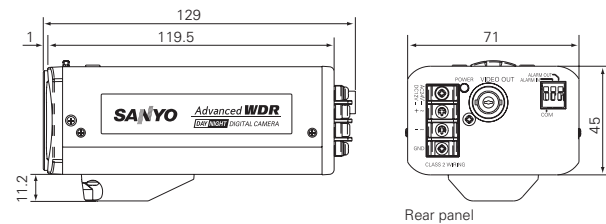
129
119.5
1
71
45
11.2
Rear panel
(Unit: mm)

VCC-WD8870P
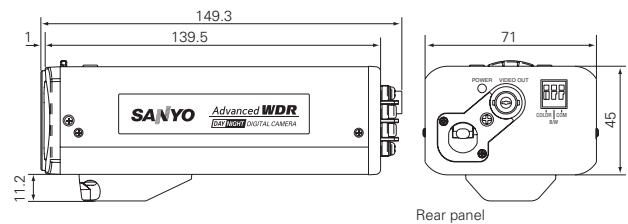
149.3
139.5
1
71
45
11.2
Rear panel
(Unit: mm)

MODEL		VCC-WD8875P	VCC-WD8870P
Scanning system		PAL standard 625 lines, 50 fields/sec.	
Image sensor		1/3" (approx. 4.5 mm x 3.38 mm) Progressive scan method CCD	
Picture elements		800(H) x 600(V) effective picture elements	
Horizontal resolution		550 TV lines (Typical)	
Minimum illumination (approx.)	50IRE	0.8 lx (at F1.2 color mode) / 0.08 lx (at F1.2 B/W mode)	
	20IRE	0.32 lx (at F1.2 color mode) / 0.032 lx (at F1.2 B/W mode)	
Video output level		1.0 V (p-p) (75 Ω, composite)	
Video S/N ratio		More than 50 dB (AGC OFF)	
Backlight compensation		ON / OFF	
Wide Dynamic		ON/OFF, adjusting level etc. D-range: 65dB	
Day/Night		Auto / Color / B/W: supported external control	
White-balance		ATW / Manual	
Light control		Optical auto iris lens / Electronic iris	
Electronic iris		ON / OFF, 1 / 50 to 1 / 36,000sec	
Electronic shutter		1/50, 1/120, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000 sec.	
Lens iris level		level: L to H	
Lens mount		CS mount	
Auto iris output		DC type	
AGC gain		HIGH / NORMAL / OFF	
Synchronizing system		Internal sync. / Line lock	
Aperture		HIGH / NORMAL / LOW / OFF	
Menu		OSD, title setting: 16charactors	
Environmental conditions	Operating	Temperature: -10°C to 50°C [+14°F to 122°F] Humidity: within 90% RH	
	Storage	Temperature: -20°C to 70°C [-4°F to 158°F] Humidity: within 70% RH	
Power requirement		24 V AC ±10%, 50 Hz or 12 V to 15 V DC	220 V to 230 V AC, 50 Hz
Power consumption (approx.)		6.9 W	6.5 W
Camera mount		1/4" - 20 UND (top / buttom selectable)	
Dimensions (approx.)		71.0 (W) x 45.0 (H) x 120.5 (D) mm [2.8 (W) x 1.8 (H) x 4.7 (D) inch]	71.0 (W) x 45.0 (H) x 140.5 (D) mm [2.8 (W) x 1.8 (H) x 5.5 (D) inch]
Weight (approx.)		330 g [11.6 oz.]	550 g [19.4 oz.]

NOTE: Specifications subject to change without notice

System Chart · IP Camera · Specialty Camera · Pan-focus Camera · Camera • Lens · DVR · SSP System · Monitor · Example System

High-resolution WDR Color Camera
VCC-W8775P

AIP Engine
(SANYO Advanced Image Processing Engine)

Iridix®

Shown with optional lens

550 TV Lines	Minimum illumination 0.8 lx	WDR Wide Dynamic range	65dB AIP Engine	Internal sync. Line lock
Electronic shutter	DNR	24 V AC 12 V to 15 V DC		

High-resolution WDR Color Camera
VCC-W8770P

AIP Engine
(SANYO Advanced Image Processing Engine)

Iridix®

Shown with optional lens

550 TV Lines	Minimum illumination 0.8 lx	WDR Wide Dynamic range	65dB AIP Engine	Internal sync. Line lock
Electronic shutter	DNR	24 V to 230 V AC		

Camera Mount VA-VAT31 (sold separately)
See page 42 for details.

VCC-W8775P

129
119.5
71
45
11.2

POWER VIDEO OUT
GND
CLASS 2 WIRING

Rear panel

(Unit: mm)

VCC-W8770P

149.3
139.5
71
45
11.2

POWER VIDEO OUT

Rear panel

(Unit: mm)

MODEL	VCC-W8775P	VCC-W8770P
Scanning system	PAL standard 625 lines, 50 fields/sec.	
Image sensor	1/3" (approx. 4.5 mm x 3.38 mm) Progressive scan method CCD	
Picture elements	800(H) x 600(V) effective picture elements	
Horizontal resolution	550 TV lines (Typical)	
Minimum illumination (approx.) — 50IRE	0.8 lx (at F1.2)	
Minimum illumination (approx.) — 20IRE	0.32 lx (at F1.2)	
Video output level	1.0 V (p-p) (75 Ω, composite)	
Video S/N ratio	More than 50 dB (AGC OFF)	
Backlight compensation	ON / OFF	
Wide Dynamic	ON/OFF, adjusting level etc. D-range: 65dB	
Day/Night	————	
White-balance	ATW / Manual	
Light control	Optical auto iris lens / Electronic iris	
Electronic iris	ON / OFF, 1 / 50 to 1 / 36,000sec	
Electronic shutter	1/50, 1/120, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000 sec.	
Lens iris level	level: L to H	
Lens mount	CS mount	
Auto iris output	DC type	
AGC gain	HIGH / NORMAL / OFF	
Synchronizing system	Internal sync. / Line lock	
Aperture	HIGH / NORMAL / LOW / OFF	
Menu	OSD, title setting: 16charactors	
Environmental conditions — Operating	Temperature: -10°C to 50°C [+14°F to 122°F] Humidity: within 90% RH	
Environmental conditions — Storage	Temperature: -20°C to 70°C [-4°F to 158°F] Humidity: within 70% RH	
Power requirement	24 V AC ±10%, 50 Hz or 12 V to 15 V DC	220 V to 230 V AC, 50 Hz
Power consumption (approx.)	6.9 W	6.5 W
Camera mount	1/4" - 20 UND (top / buttom selectable)	
Dimensions (approx.)	71.0 (W) x 45.0 (H) x 120.5 (D) mm [2.8 (W) x 1.8 (H) x 4.7 (D) inch]	71.0 (W) x 45.0 (H) x 140.5 (D) mm [2.8 (W) x 1.8 (H) x 5.5 (D) inch]
Weight (approx.)	320 g [11.3 oz.]	540 g [19.0 oz.]

NOTE: Specifications subject to change without notice

High-resolution Indoor mini Dome Camera with Vari-focal Lens

VCC-9685VP

2.9x
Vari-focal Lens

Optional

NVT

540 TV Lines	Minimum illumination 0.5 lx	Multi-spot / Center-zone BLC	ATW Manual	Internal sync. Line lock
Electronic shutter		24 V AC 12 V to 15 V DC	Vari-focal Lens	

Entry model in mini-dome cameras

The indoor mini dome camera VCC-9685VP is a highly sensitive model with a vari-focal lens that offers a superior picture quality of 540TVL and enables the user to capture natural images by combination with a backlight compensation feature.

Easy interior access and setup

The camera unit and bottom cover can be detached very simply. Moreover, easy attachment and detachment of the bottom cover to and from the base plate for installation to a ceiling or wall simplifies setup and camera angle adjustment at the point of surveillance.

Push

Backside

Easy access & setup

Bottom cover

Base plate

Ceiling

Easy access & setup

Ceiling		Wall	
PAN	200 deg (+/- 100 deg)	PAN	180 deg (+/- 90 deg)
TILT	0 to 90 deg	TILT	0 to 90 deg
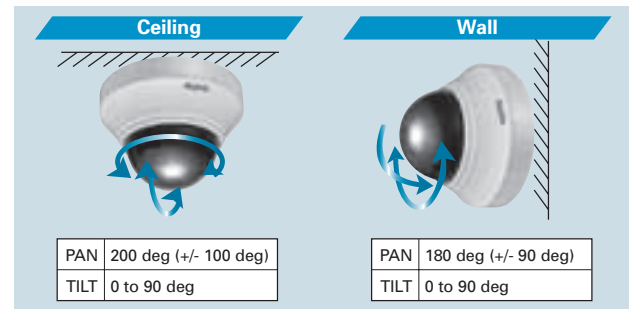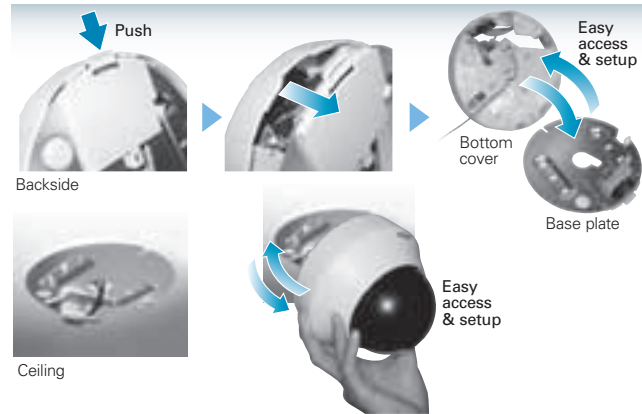
2.9x Vari-focal Lens

The 2.9x vari-focal lens (2.8 mm to 8 mm) is capable of providing wide angle pictures in addition to standard pictures.

AC / DC Power Source Compatibility

VCC-9685VP comes with power input terminals of 24 V AC and 12 V to 15 V DC. Select an appropriate source, depending on the location.

Built-in Electronic Shutter

A high-speed electronic shutter that is internally switchable for eight modes using a DIP switch allows adjustment increments from 1/50 to 1/2000 sec.

LSB	ON	OFF	ON	OFF
MSB	ON	ON	OFF	OFF
Speed	1/2000	1/1000	1/120	1/50

Simplified Settings

Hardware switch		ON	OFF
White balance switch		MWB	ATW
Aperture compensation setting		SHARP	NORMAL
Backlight compensation mode setting		MULTI	OFF
		CENT	OFF
Synchronizing system setting		Line Lock	Internal
Electronic shutter	LSB	ON	OFF
	MSB	ON	OFF

Twisted pair board VA-10T (sold separately)
Twisted pair terminal (CAT5) for video signal:
NVT built-in UTP video

Smoked Cover VCZ-50 (sold separately)
See page 34 for details for VCC-PN9575P

Half-Mirror Cover VCZ-51
See page 34 for details for VCC-PN9575P

In-Ceiling Bracket VA-DK02 (sold separately)
See page 34 for details

• **Other brackets** See page 34

VCC-9685VP

99.8
150.9
45.5
103.5
83.4

(Unit: mm)
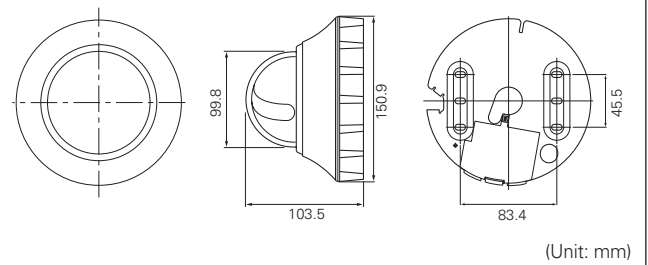
MODEL	VCC-9685VP	
Scanning system	PAL standard 625 lines, 50 fields/sec.	
Image sensor	1/4" (approx. 3.6 mm x 2.7 mm) interline transfer method CCD	
Picture elements	Total: 795(H) x 596(V), Effective: 752(H) x 582(V)	
Horizontal resolution	540 TV lines (typical)	
Minimum illumination (approx.)	**50IRE**	0.5 lx (at F 0.95, color mode)
	20IRE	0.2 lx (at F 0.95, color mode)
Video output level	1.0 V (p-p) (75 Ω, composite)	
Video S/N ratio	More than 50 dB (AGC OFF)	
Backlight compensation	ON (Multi-spot photometry [High/Normal], Center-zone photometry) / OFF	
White-balance	ATW / MWB Adjustable R/B control at MWB	
Gain control	ON	
Gamma	0.45	
Electronic shutter	1/50, 1/120, 1/1000, 1/2000 sec.	
Aperture compensation	NORMAL / SHARP	
Iris control	Optical auto iris lens	
Lens	Built in vari-focal lens f=2.8 to 8.0 mm F0.95 to 1.7 - Adjustable iris level, L to H - VR	
Panning range	Ceiling	200 deg (+/- 100 deg).
	Wall	180 deg (+/- 90 deg)
Tilting range	Ceiling	0 to 90 deg
	Wall	0 to 90 deg
Synchronizing system	Internal sync. / Line lock Adjustable V-phase control	
Sockets	Video signal	VIDEO OUT —— BNC
	Power supply	24 V AC, GND, 12 V DC
Operating conditions	Operating	Temperature: –10°C to +50°C (+14°F to +122°F), Humidity: within 90% RH
	Storage	Temperature: –20°C to +70°C (–4°F to +158°F), Humidity: within 70% RH
Power requirement	24 V AC ± 10%, 50 Hz or 12 V to 15 V DC	
Power consumption (approx.)	2.4 W	
Dimensions (approx.)	ø150.6 x 103.5(H) mm [ø5.9 x 4.1(H) in.]	
Weight (approx.)	500 g [17.6 oz]	

NOTE: Specifications subject to change without notice

System Chart

IP Camera

Specialty Camera

Pan-focus Camera

Camera • Lens

DVR

SSP System

Monitor

Example System

High-resolution Camera
VCC-4795P E

DAY NIGHT

Shown with optional lens

540 TV Lines	Minimum illumination 0.01 lx	Multi-spot / Center-zone BLC	ATW Manual	Internal sync. Line lock
Electronic shutter	DC auto iris lens	24 V AC 12 V to 15 V DC		

VCC-4795P E

136
1 127 9.5

LENS 4PIN

15.4
24.4
11
1/4"–20UNC

Flange-back adjustment lever

67
3
54
28

Rear panel

(Unit: mm)

High-resolution Camera
VCC-4790P E

DAY NIGHT

Shown with optional lens

540 TV Lines	Minimum illumination 0.01 lx	Multi-spot / Center-zone BLC	ATW Manual	Internal sync. Line lock
Electronic shutter	DC auto iris lens	220 V to 230 V AC		

VCC-4790P E

136
1 127 9.5

LENS 4PIN

15.4
24.4
11
1/4"–20UNC

Flange-back adjustment lever

67
3
54
28

Rear panel

(Unit: mm)

MODEL		VCC-4795P E	VCC-4790P E
Scanning system		PAL standard 625 lines, 50 fields/sec.	
Image sensor		1/3" (approx. 4.8 mm x 3.6 mm) interline transfer method CCD	
Picture elements		Total: 795(H) x 596(V), Effective: 752(H) x 582(V)	
Horizontal resolution		540 TV lines (typical)	
Minimum illumination (approx.)	50IRE	0.01 lx (F1.2, Gain High, B/W mode) 0.45 lx (F1.2, Gain High color mode)	
	20IRE	0.004 lx (F1.2, Gain High, B/W mode) 0.18 lx (F1.2, Gain High, color mode)	
Video output level		1.0 V (p-p) (75 Ω, composite)	
Video S/N ratio		More than 50 dB (AGC OFF)	
Backlight compensation		ON / OFF —— Slide SW, ON = Multi-spot photometry (64-section) / Center-zone photometry —— (activated when auto iris lens used)	
Day/Night		Auto (High/Low) / Color / B/W: External control	
White-balance		ATW / Manual —— Slide SW	
Gain control		High / Normal —— Slide SW	
Gamma		0.45	
Light control		Optical auto iris lens / Electronic iris (indoor use)	
Lens mount		CS mount	
Flange back		12.5 mm ±0.5 mm adjustment	
Auto iris lens		DC	
Auto iris output		DC: Drive coil (+, -), Brake (Damp) coil (+, -)	
Lens iris level		LEVEL: L to H —— VR (side)	
Electronic shutter		1/50, 1/120, 1/500, 1/1000, 1/2000, 1/4000, 1/10000 sec.	
Electronic iris		ON / OFF —— Slide SW	
Aperture compensation		Sharp / Normal	
Electronic iris range		0.6 lx to 30,000 lx (F 1.2 lens: color mode), 0.9 lx to 45,000 lx (F 1.4 lens: color mode)	
Synchronizing system		Internal sync. / Line lock	
Sockets	Video signal	VIDEO OUT —— BNC	
	Auto iris lens	LENS —— 4-pin (side)	
	Power supply	24 V AC, GND ——3-pin terminal (rear) 12 V DC, NC ——3-pin terminal (rear)	220 V to 230 V AC, 50Hz
Operating conditions	Operating	Temperature: -10°C to 50°C [14°F to 122°F], Humidity: within 90% RH	
	Storage	Temperature: -20°C to 70°C [-4°F to 158°F], Humidity: within 70% RH	
Power requirement		24 V AC ±10%, 50 Hz or 12 V to 15 V DC	220 V to 230 V AC, 50Hz
Power consumption (approx.)		3.7 W	3.6 W
Camera mount		1/4"–20 UNC (top / bottom selectable)	
Dimensions (approx.)		67(W) x 54(H) x 128(D) mm [2.6(W) x 2.1(H) x 6.0(D) in.]	
Weight (approx.)		400 g [14.1 oz.] (without lens)	600 g [21.2 oz] (without lens)

NOTE: Specifications subject to change without notice

System Chart

IP Camera

Specialty Camera

Pan-focus Camera

Camera • Lens

DVR

SSP System

Monitor

Example System

E-Day/night High-resolution Camera
VCC-6695P

E-DAY NIGHT
Electronic Day/Night functio

Shown with optional lens

E-Day/night High-resolution Camera
VCC-6690P

E-DAY NIGHT
Electronic Day/Night functio

Shown with optional lens

High-resolution sensitivity Camera
VCC-5995P

Shown with optional lens

| **540** TV Lines | Minimum illumination **0.25** lx | E-Day/Night | ATW Manual |
| Internal sync. Line lock | | DC auto iris lens | 24 V AC 12 V to 15 V DC |

| **540** TV Lines | Minimum illumination **0.25** lx | E-Day/Night | ATW Manual |
| Internal sync. Line lock | | Electronic shutter | DC auto iris lens | 220 V to 230 V AC |

| **540** TV Lines | Minimum illumination **0.5** lx | | ATW |
| Internal sync. Line lock | | DC auto iris lens | 24 V AC 12 V to 15 V DC |

VCC-6695P

108 / 1.4 / 99 / 9 / 16 / 25 / 11 / LENS 4-pin / 1/4"–20UNC threaded hole (top / bottom selectable) / Rear panel / 56 / 45 / 28

VIDEO OUT / POWER / GND / AC24V / DC12V

(Unit: mm)

VCC-6690P

136 / 1.1 / 127 / 9 / 13 / 22 / 11 / LENS 4-pin / 1/4"–20UNC threaded hole (top / bottom selectable) / Rear panel / 67 / 54 / 28

VIDEO OUT / LINE PHASE

(Unit: mm)

VCC-5995P

1/4"–20 UNC threaded hole / LINE PHASE / LEVEL / LENS / 1/4"–20 UNC threaded hole / (1) / 51 / DIGITAL / Flange-back lock screw / Flange-back adjustment screw / Rear panel / 63 / 68 / VIDEO OUT / AC24V DC12V

(Unit: mm)

MODEL		VCC-6695P	VCC-6690P	VCC-5995P
Scanning system		PAL standard 625 lines, 50 fields/sec.		
Image sensor		1/3" (approx. 4.8 mm x 3.6 mm) interline transfer method CCD		
Picture elements		Total: 795(H) x 596(V), Effective: 752(H) x 582(V)		
Horizontal resolution		540 TV lines (typical)		
Minimum illumination	50IRE	0.35 lx (at F 1.2, GAIN HI color mode), 0.25 lx (at F 1.2 lens, GAIN HI B/W mode)		0.5 lx (at F 1.2, AGC on)
	20IRE	0.14 lx (at F 1.2, GAIN HI color mode), 0.1 lx (at F 1.2 lens, GAIN HI B/W mode)		0.2 lx (at F 1.2, AGC on)
Video output level		1.0 V (p-p) (75 Ω, composite)		
Video S/N ratio		More than 50 dB (AGC OFF)		
Backlight compensation		ON / OFF ⸺ Slide SW (Side) ON = Multi-spot photometry (2-mode) / Center-zone photometry (activated when auto iris lens used)		ON / OFF ⸺ Slide SW ON = Center-zone photometry (activated when auto iris lens used)
E-Day/Night		ON / OFF ⸺ Slide SW		⸺⸺
White-balance		ATW / Manual ⸺ Slide SW (side)		ATW
Gain control		⸺⸺⸺		AGC ON/OFF
Gamma		0.45		
Electronic shutter		⸺⸺⸺	8-mode: 1/50, 1/120,1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000 sec. ⸺ Dip SW (side)	⸺⸺⸺
Light control		Auto iris / Electronic iris	⸺⸺⸺	
Lens mount		CS mount		
Flange back		12.5 mm ±0.5 mm adjustment		
Auto iris lens		DC type		
Auto iris output		DC: Drive coil (+, -), Brake (Damp) coil (+, -)		
Lens iris level		LEVEL: L to H ⸺ VR (side)		
Electronic iris		ON / OFF ⸺ Slide SW		
Aperture		Sharp	Sharp / Normal	Sharp
Electronic iris range		0.35 to 50,000 lx (at F1.2, GAIN HI Color mode), 0.35 to 50,000 lx (at F1.2, GAIN HI B/W mode)		1/50 to 1/100000 sec. ⸺ Slide SW (side)
Synchronizing system		Internal sync. / Line lock ⸺ Slide SW (side)		
V phase adjustment		LINE PHASE ⸺ VR (rear)		
Sockets	Video signal	VIDEO OUT ⸺ BNC (rear)		
	Auto iris lens	LENS ⸺ 4-pin (side)		
	Power supply	24V AC, GND — 3-pin terminal (rear), 12 V to 15 V DC — 2-pin terminal (rear)	⸺⸺⸺	24V AC, GND — Pushlock terminal x3 (rear), 12 V to 15 V DC — Pushlock terminal x2 (rear)
Operating conditions	Operating	Temperature: -10°C to 50°C [+14F° to 122°F], Humidity: within 90% RH		
	Storage	Temperature: -20°C to 70°C [– 4F° to 158°F], Humidity: within 70% RH		
Power requirement		24 V AC ± 10%, 50 Hz or 12 V to 15 V DC	220 to 230 V AC ± 10%, 50 Hz	24 V AC ± 10%, 50 Hz or 12 V to 15 V DC
Power consumption (approx.)		3.6 W	3.7 W	3.6 W
Camera mount		1/4"–20 UNC (top / bottom selectable)		
Dimensions (approx.)		56(W) x 45(H) x 100.4(D) mm [2.2(W) x 1.8(H) x 4.0(D) in.]	67(W) x 54(H) x 128.1(D) mm [2.6(W) x 2.1(H) x 5.0(D) in.]	63(W) x 68(H) x 52(D) mm [2.5(W) x 2.7(H) x 2.0(D) in.]
Weight (approx.)		260 g [9.17 oz.] (without lens)	600 g [21.16 oz.] (without lens)	160 g [5.64 oz.] (without lens)

NOTE: Specifications subject to change without notice

Side tabs: System Chart / IP Camera / Specialty Camera / Pan-focus Camera / Camera • Lens / DVR / SSP System / Monitor / Example System

Dummy Camera
VC-0410

- Ideal for a location requiring many cameras.
- Simply installing dummy cameras helps prevent crime.

VC-0410

108
99
1.3
9
11
16
25.8
LENS 4-pin
1/4"–20UNC threaded hole (top / bottom selectable)
56
45
28
Rear panel
VIDEO OUT   POWER
GND   AC24V
CLASS 2 WIRING
DC12V

(Unit: mm)
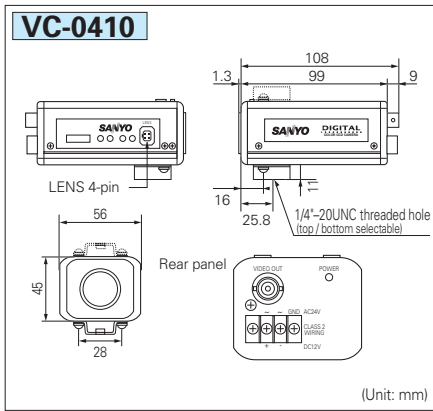
Dummy Camera
VC-0450

- A dome-shaped dummy camera that can be installed without spoiling the appearance of the building.
- Simply installing dummy cameras helps prevent crime.

VC-0450

99.8
150.9
45.5
115.5
83.4

(Unit: mm)
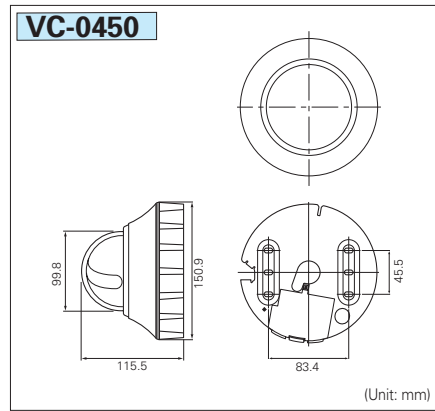
Camera Mount
VA-VCT31

- Possible to guide cable through pipe
- Maximum turning angle 360° horizontally and 105° vertically
- Maximum bearing weight 4 kg

VA-VCT31

66.7
4-ø7
83.5
ø120
11.6
36
15
130
ø25
1/4"–20UNC
27
380 approx.
ø36

(Unit: mm)
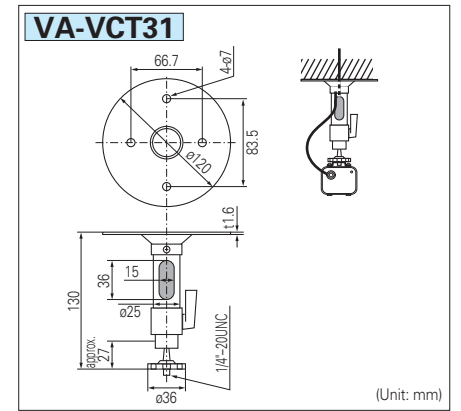
Camera Control Unit
VAC-70

Optional Accessory

The control unit allows the user to control* and change camera settings.
*Limited models

VCC-9500P E
VCC-9600P E
VCC-9700P E
VCC-9800P E

VCC-P7575PA / VCC-P9575P
VCC-PN9575P

VDC-DP7585P / VDC-DP9585P
VDC-DPN9585P

VCC-XZ200P
VCC-XZ600P
VCC-XZN600P

VCC-W8770P
VCC-W8775P
VCC-WD8870P
VCC-WD8875P

VCC-ZM500P
VCC-ZM600P
VCC-ZMN600P

Monito

VAC-70 rear panel
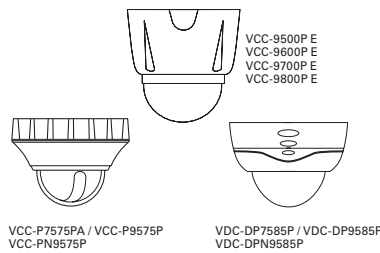
VAC-70

MODEL	VAC-70
Video output terminal	BNC x 1
Camera input terminal	BNC x 1
Environmental conditions	Temperature: -10°C to 50°C [14°F to 122°F], Humidity: 10 to 80%
Power requirement	3 V DC, 2 AA / LR6 / 1.5 V batteries
Dimensions	80(W) x 40(H) x 140(D) mm [3.2(W) x 1.6(H) x 5.5(D) in.]
Weight (approx.)	230 g [8.1 oz.] (without batteries)

*Specifications subject to change without notice

Applicable models

VCC-9500P E series	P.22	VCC-WD8875P	P.37
VCC-9600P E series	P.22	VCC-XZ200P	P.30
VCC-9700P E series	P.21	VCC-XZ600P	P.25
VCC-9800P E series	P.21	VCC-XZN600P	P.11
VCC-P7575PA	P.33	VCC-ZM500P	P.26
VCC-P9575P	P.31	VCC-ZM600P	P.25
VCC-PN9575P	P.13	VCC-ZMN600P	P.11
VCC-W8770P	P.38	VDC-DP7585P	P.33
VCC-W8775P	P.38	VDC-DP9585P	P.31
VCC-WD8870P	P.37	VDC-DPN9585P	P.13

Dome Camera Housing
VA-CDH60 (Smoked cover)
VA-CDH60C (Clear cover)

VA-CDH60 / VA-CDH60C

141
222
86
? ø208

(Unit: mm)
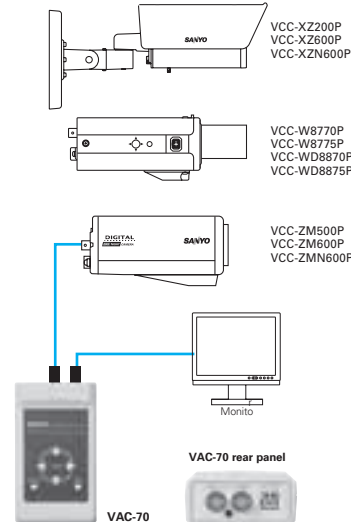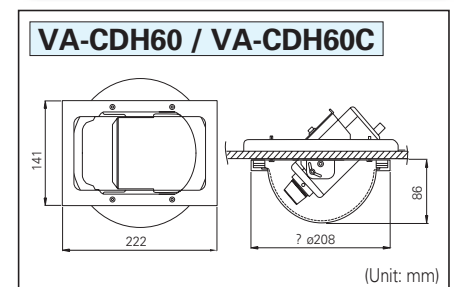
MODEL	VA-CDH60 / VA-CDH60C
Materials	Zinc plated metal and ABS plastic
Environmental condition	Temperature: -10°C to 50°C [14°F to 122°F], Humidity: within 90% RH
Dimensions	approx ø208 x 86 (H) mm
Weight (approx.)	900 g [31.7 oz.]
Accessories	M3 x 30 mm bolt (4) 1/4" -20 UNC x 12 mm(1)

*Specifications subject to change without notice

System Chart
IP Camera
Specialty Camera
Pan-focus Camera
Camera • Lens
DVR
SSP System
Monitor
Example System

	Standard Vari-focal IR Lens for 1/3" CCD Camera **VA-13VG2811ASIR**	Standard Vari-focal IR Lens for 1/3" CCD Camera **VA-13VG308ASIR**	Tele Vari-focal Lens for 1/3" CCD Camera **VA-13VG550T-LY**	Standard Vari-focal Lens for 1/3" CCD Camera **VA-13VG308AS**
Application	1/3" CCD camera	1/3" CCD camera	1/3" CCD camera	1/3" CCD camera
Mounting system	CS mount	CS mount	CS mount	CS mount
EE AMP	not equipped	not equipped	not equipped	not equipped
Focal length	f = 2.8 to 11 mm	f = 3.0 to 8 mm	f = 5 to 50 mm	f = 3.0 to 8 mm
Max. caliber rate	F1.4 to 2.6	F1.2	F1.4 to 2.0	F1.2
Horizontal shooting angle	1/3" = 97.4° to 26.2°, 1/4"= 72.4° to 19.7°	34.8°	66.8°	34.8°
Vertical shooting angle	1/3" = 72.4° to 19.7°, 1/4"= 54.0° to 14.7°	26.0°	40.3°	26.0°
Nearest distance	0.3 m	0.3 m	Tele 1.0 m Wide 0.3 m	0.3 m
Iris connecting plug	4-pin	4-pin	4-pin	4-pin
External dimensions	52.5(W) x 64.6(H) x 40(D) mm	55.6(W) x 44.2(H) x 49.3(D) mm	41.0(W) x 53.7(H) x 59.2(D) mm	55.6(W) x 44.2(H) x 49.3(D) mm
Weight (approx.)	79 g [2.8 oz.]	67 g [2.4 oz.]	95 g [3.4 oz.]	67 g [2.4 oz.]

Technical Notes

Formula for determining the minimum subject illumination for different F value

The amount of light passed through a lens is expressed by a value called "aperture value" (F value or F number). When the aperture is fully open (maximum aperture), the maximum amount of light is passed through the lens. This is the lens' brightness and is expressed by the "maximum aperture F value". The maximum aperture F value is obtained by dividing the focal length with the lens diameter (D). The capital letter "F" is used to distinguish it from "f", which means the focal length.

$$F = \frac{f}{D}$$

SANYO defines the minimum subject illumination to be the level that produces the signal **level of 50 IRE** in measuring camera performance.

$$\text{Standard minimum subject illumination} \ \times \ \left(\frac{\text{Target F value}}{\text{Lens F value used for measurement}} \right)^2$$

Example:

For a lens of F1.2, use the value of 1.0 lx which is obtained by actual measurement.

When using a lens of F1.4:
$$1.0 \times \left(\frac{1.4}{1.2} \right)^2 = 1.4 \ \text{lx}$$

When using a lens of F1.6:
$$1.0 \times \left(\frac{1.6}{1.2} \right)^2 = 1.8 \ \text{lx}$$

For a comparison of minimum subject illumination:

Always confirm the F value and the IRE level used in the measurement. If the F value and the IRE level do not match, then convert the values in camera specifications using the following method.

F1.2, 50IRE
1.0 lx

F1.2, 20IRE
$1.0 \times \frac{20}{50} = 0.4 \ \text{lx}$

F1.4, 50IRE
$1.0 \times \left(\frac{1.4}{1.2} \right)^2 = 1.4 \ \text{lx}$

F1.4, 20IRE
$1.4 \times \frac{20}{50} = 0.56 \ \text{lx}$

F1.6, 50IRE
$1.0 \times \left(\frac{1.6}{1.2} \right)^2 = 1.8 \ \text{lx}$

F1.6, 20IRE
$1.8 \times \frac{20}{50} = 0.56 \ \text{lx}$

Measurement Circuit:

100IRE
50IRE
H sync
2m
halogen light
test chart (reflection coefficient 83%) 320 x 290 mm
camera
oscilloscope or wave monitor
monitor (75Ω termination)
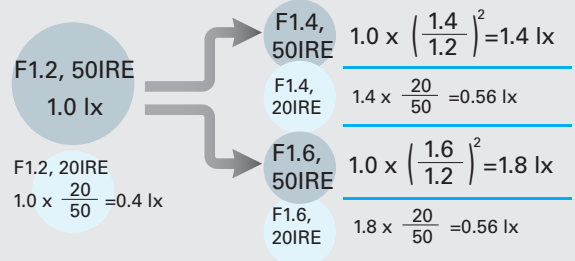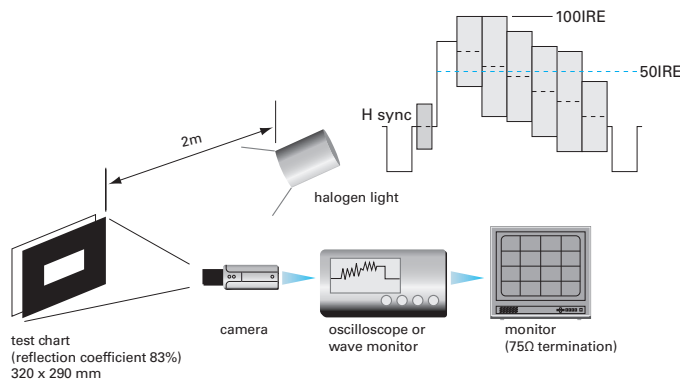
A full-screen shot of the test chart

▼

Adjust the level so that the white portion in the middle of the test chart is set to 100 IRE.

▼

Reduce the light until the signal of the white portion drops to 50 IRE and measure the luminous intensity.

Image Range Formula

Combination of 1/4" CCD camera and lens
- Width (m) of subject that can be shot = $\dfrac{3.6 \times L}{f}$
- Height (m) of subject that can be shot = $\dfrac{2.7 \times L}{f}$

Combination of 1/3" CCD camera and lens
- Width (m) of subject that can be shot = $\dfrac{4.8 \times L}{f}$
- Height (m) of subject that can be shot = $\dfrac{3.6 \times L}{f}$

L : Distance between lens and subject (m)
f : Lens focal length (mm)
W : Width of subject (m)
H : Height of subject (m)

W
H
L
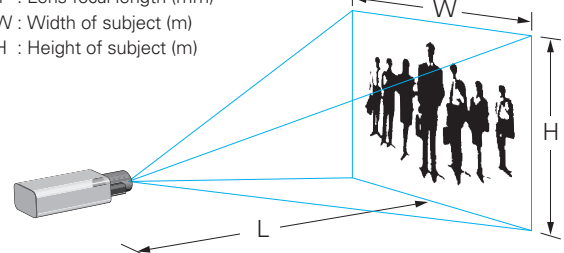
*Actual shooting range may be smaller due to TV over scanning.

System Chart
IP Camera
Specialty Camera
Pan-focus Camera
Camera • Lens
DVR
SSP System
Monitor
Example System

lens for 1/4" CCD camera

Image Range at a Glance

Models:
- VA-13VG2811ASIR
- VA-13VG550T-LY *Nearest distance: 1.0 m Wide 0.3 m
- VA-13VG308AS
- VA-13VG308ASIR

Distance between lens and subject

Distance	Super wide angle f = 2.8 mm	Wide angle f = 4 mm	Wide angle f = 6 mm	Standard f = 8 mm	Telephotographic f = 38 mm	f = 58 mm
1m	W 1.3m H 1.0m	W 0.9m H 0.7m	W 0.6m H 0.45m	W 0.45m H 0.34m	W 0.09m H 0.07m	W 0.06m H 0.04m
3m	W 3.9m H 2.9m	W 2.7m H 2.0m	W 1.8m H 1.35m	W 1.4m H 1.0m	W 0.28m H 0.21m	W 0.19m H 0.13m
5m	W 6.4m H 4.8m	W 4.5m H 3.4m	W 3m H 2.25m	W 3m H 2.25m	W 0.47m H 0.35m	W 0.31m H 0.23m
8m	W 10m H 8m	W 7.2m H 5.4m	W 4.8m H 3.6m	W 3.6m H 2.7m	W 0.76m H 0.56m	W 0.50m H 0.37m
10m	W 13m H 10m	W 9m H 7m	W 6m H 4.5m	W 4.5m H 3m	W 0.95m 0.71m	W 0.62m 0.46m
20m	W 26m H 19m	W 18m H 14m	W 12m H 9m	W 9m H 7m	W 1.9m 1.4m	W 1.2m 0.93m
30m	W 39m H 29m	W 27m H 20m	W 18m H 13.5m	W 14m H 10m	W 2.8m 2.1m	W 1.9m 1.4m
50m	W 64m H 48m	W 45m H 34m	W 30m H 22.5m	W 23m H 17m	W 4.7m 3.5m	W 3.1m 2.3m
100m	W 171m H 129m	W 120m H 90m	W 60m H 45m	W 60m H 45m	W 9.5m 7.1m	W 6.2m 4.7m

lens for 1/3" CCD camera

Image Range at a Glance

Models:
- VA-13VG2811ASIR
- VA-13VG550T-LY *Nearest distance: 1.0 m Wide 0.3 m
- VA-13VG308AS
- VA-13VG308ASIR

Distance between lens and subject

Distance	Super wide angle f = 2.8 mm	Wide angle f = 4 mm	Wide angle f = 6 mm	Standard f = 8 mm	Telephotographic f = 38 mm	f = 58 mm
1m	W 1.7m H 1.3m	W 1.2m H 0.90m	W 0.8m H 0.6m	W 0.6m H 0.45m	W 0.13m H 0.09m	W 0.08m H 0.06m
3m	W 5.1m H 3.9m	W 3.6m H 2.7m	W 2.4m H 1.8m	W 1.8m H 1.4m	W 0.38m H 0.28m	W 0.25m H 0.19m
5m	W 8.6m H 6.4m	W 6.0m H 4.5m	W 4.0m H 3.0m	W 3.0m H 2.3m	W 0.63m H 0.47m	W 0.41m H 0.31m
8m	W 14m H 10m	W 9.6m H 7.2m	W 6.4m H 4.8m	W 4.8m H 3.6m	W 1.01m H 0.76m	W 0.66m H 0.50m
10m	W 17m H 13m	W 12m H 9m	W 8m H 6m	W 6m H 4.5m	W 1.26m 0.95m	W 0.83m 0.62m
20m	W 34m H 26m	W 24m H 18m	W 16m H 12m	W 12m H 9m	W 2.5m 1.9m	W 1.7m 1.2m
30m	W 51m H 39m	W 36m H 27m	W 24m H 18m	W 18m H 14m	W 3.8m 2.8m	W 2.5m 1.9m
50m	W 86m H 64m	W 60m H 45m	W 40m H 30m	W 30m H 23m	W 6.3m 4.7m	W 4.1m 3.1m
100m	W 171m H 129m	W 120m H 90m	W 80m H 60m	W 60m H 45m	W 12.6m 9.5m	W 8.3m 6.2m

*Images produced by the camera may differ slightly from above images

System Chart

IP Camera

Specialty Camera

Pan-focus Camera

Camera • Lens

DVR

SSP System

Monitor

Example System

Digital Video Recorder
Digital Technology Offers Multi-functional Recording with Superior Picture Quality Networking for Remote and Round-the-Clock Surveillance

Quality Digital Recording

The DSR series utilizes JPEG2000, M-JPEG, and MPEG-4 video compression methods to offer clear and sharp crispy video recording. Simultaneous recording and playback is now possible with elegantly smooth motion.

Network

Each unit in the DSR series features a Network terminal. Monitoring live video, playing back and reviewing recordings, starting a new recording, searching for recorded images, camera control, camera setup — all operations are possible from a PC with a network connection (using Internet Explorer version 5.0 or newer or Utility Software). It also enables the user to download recorded video and audio onto the PC.

The DSR series models use either JPEG2000, Motion JPEG or MPEG-4 format, each of which has its own characteristics and advantages, so please select the DSR series model most suitable for your requirements.

Characteristics of Video Compression

Model	Compression	Characteristics
DSR-5709P DSR-5716P	JPEG2000	A high compression rate is achieved while eliminating block noise and pixelation associated with the JPEG format.
DSR-3709PA DSR-3716PA	Motion JPEG	Motion pictures are produced by successive decompression-reproduction of frames recorded in JPEG format. Compared to MPEG, the compression rate is lower and the picture quality is higher.
DSR-2004 DSR-2016 DSR-HB8000	MPEG-4	The MPEG-4 standard was designed to reproduce a wide range of moving pictures from those on a low speed communication line to those with high-definition TV picture quality.

Recorder Function Explanation

■ Legends
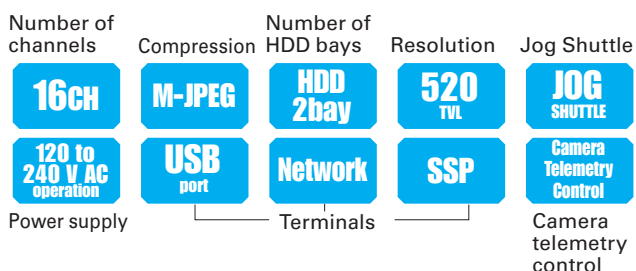
Number of channels	Compression	Number of HDD bays	Resolution	Jog Shuttle
16CH	**M-JPEG**	**HDD 2bay**	**520 TVL**	**JOG SHUTTLE**
120 to 240 V AC operation	**USB port**	**Network**	**SSP**	**Camera Telemetry Control**
Power supply		Terminals		Camera telemetry control

Multi-screen Display

16CH

For both live picture monitoring (during multiplex recording) and playback of recorded pictures, the user can select from 16-screen display, 9-screen display, 4-screen display, and full-screen display.
- 4-screen display • Full-screen display
- Screen position assignment* • Monitor masking
* Does not apply to the DSR-20xx series.

Jog Shuttle
(* Also used to select menu options.)

JOG SHUTTLE

Jog Dial

Simply by turning the Jog Dial with your finger to the left or right, the monitored images can be made to run forward or backwards for easy checking.

Shuttle Ring

Simply by turning the Shuttle Ring to the left or right, you can switch from playback to forward or reverse playback, or forward or reverse search. From pause, you can switch to forward or reverse slow-motion playback, normal speed playback, or search. Operation of these functions is easy, allowing very efficient searching.

❶ Built-in Motion Sensor

DSR series comes with a built-in motion sensor. Different settings can be made for each camera image independently. The sensor can detect moving objects within the screen by picking up changes in brightness. The user can use this feature to trigger an alarm recording.

❷ Mirror Recording

With two HDD's of the same capacity installed, it is possible to record the same video on both of them, thus allowing for a backup.
* Does not apply to DSR-20xx series

❸ Timer Recording

Uniform daily programming or independent programming for each day of the week are both available. Further, holidays* can be entered by specifying the date and the month for which Sunday programming should be applied.
* The DSR-20xx series does not support the holiday setting.

❹ Alarm Recording

When an alarm signal is received from an external sensor, the recorder will automatically start recording in a mode predetermined by the user.

⑤ Alarm Counter
This feature allows the user to keep and display records of the date and time of alarms.

⑥ Video Loss Alarm
When the video signal feed is lost due to one of the following reasons, a buzzer sounds and the word "VIDEO LOSS" is displayed on the screen.
1. Wire breakdown
2. Disconnection of video terminal
3. Loss of power on a camera or other intermediary equipment

⑦ Disc Full Alarm
During a recording, an alarm can be set to give off a buzzer sound, along with a message on the display.

⑧ Fan Error / Disc Error
A beep will sound when an error occurs on the fan or the disc.

⑨ Time / Date Search
Searching recorded pictures is available by specifying the time and date.

⑩ Alarm Search
A list of up to 8 stored recordings (alarm number, recording date and time) along with a preview window offers the user an easy way of searching and playing back a particular event. You can easily switch to a full screen display and display a still picture, or perform a fast-forward search simply by turning the shuttle or jog dial or key button.

⑪ Alarm Thumbnail Search
It is possible to display up to 9 thumbnails for video recordings in the alarm area along with their respective alarm numbers. This feature allows the user to search for a particular event without playing back each recording.

⑫ Alarm Log Search
A search is narrowed using a log file by selecting the time, minute, month, and the day of the week on a GUI, and then the desired scene can be selected.
*Does not apply to DSR-37xx series

⑬ Motion Detection Search
By setting a motion sensor on the screen, any scene with motion in the specified area will be brought up for further review.
*Does not apply to DSR-20xx series

⑭ Archive Area Search
A list of up to 8 stored recordings (copied to archive area, recording date and time), along with a preview window, offers the user an easy way of searching and playing back a particular event. You can easily switch to a full screen display and show a still picture, or perform a fast-forward search simply by turning the shuttle or jog dial.
*Does not apply to DSR-2004, DSR-2016 and DSR-HB8000

Camera Telemetry Control **Camera Telemetry**
The DVR can be used to control connected cameras.

⑮ Security Lock
To prevent unauthorized manipulation or accidental operation while recording, the user can lock the functionality of the operation buttons, the jog dial, and the shuttle ring. There are two types of security lock: a quick method security lock and a 4 digit security lock.

⑯ Auto Delete Function
The allows the user to specify the storage period for each video clip, from one day up to 99 days.
When the specified period expires, the data will be automatically deleted.

⑰ 30-day Memory Back-up
A built-in lithium battery is used to protect various DVR settings for 30 days.

⑱ Lifetime Counter
The monitor screen displays "used-time" counter (total power-on time.)

⑲ Buzzer
An alarm is indicated by a beep.

⑳ SMTP
An alarm can trigger an e-mail message sent to a preset address.
*Does not apply to DSR-37xx series

VGA output **VGA Output**
Provides an analog RGB component video signal output for a monitor.
*Does not apply to DSR-37xx series

4 USB port **USB Terminal**
Useful in connecting an external disk writer and/or USB Memory device.

㉑ Local Back-up / Copy
Increases data portability Video downloading and MENU uploading / downloading by allowing the use of a compact flash memory.

Network **Network Terminal**
There is a built-in 100BASE-TX / 10-BASE-T LAN terminal, allowing remote surveillance / control from PC via network.

SSP **SSP (RS-485/422) Compatible**
By using SSP (SANYO Security Serial Protocol), cameras, multiplexers, DVRs and VCRs in a daisy chain over a distance of up to 1200m (4000 feet) can be controlled centrally with just one controller.

㉒ RS-232C Compatible
With RS-232C compatible recorders various operations are possible from an external computer.
*Only DSR-HB8000

System Chart

IP Camera

Specialty Camera

Pan-focus Camera

Camera • Lens

DVR

SSP System

Monitor

Example System

| Type	Hibrid DVR	High-end DVR		M-JPEG		MPEG-4	
DVR Model							
	DSR-HB8000	**DSR-5716P**	**DSR-5709P**	**DSR-3716PA**	**DSR-3709PA**	**DSR-2016**	**DSR-2004**
		Max HDD Capacity (Technically) per one bay				**Max HDD Capacity**	
Hard Disk Capacity	2TB	2TB	2TB	1TB	1TB	2TB	2TB
520 Horizontal Resolution	520 TVL	520 TVL	520 TVL	520 TVL	520 TVL	500 TVL	250 TVL
Recording Speed (IPS)	400	100	100	50	50	200	100
MPEG-4 Compression	MPEG-4 MPEG-4+	JPEG2000	JPEG2000	M-JPEG	M-JPEG	MPEG-4	MPEG-4
Pixel	720 x 576 720 x 288 360 x 288	720 x 288	720 x 288	720 x 288	720 x 288	704 x 576 704 x 288 352 x 288	704 x 576 352 x 288
16ch Multi-screen Display	4 / 9 / 16 -screen, Plus display	4 / 9 / 16 -screen, Plus display	4 / 9-screen, Plus display	4 / 9 / 16 -screen, Plus display	4 / 9-screen, Plus display	4 / 9 / 16 -screen,	4-screen
JOG Jog Shuttle	———— (Mause opertion)	✓	✓	✓	✓	———	———
❶ Built-in Motion Sensor	✓	✓	✓	✓	✓	✓	✓
❷ Mirror Recording	✓	✓	✓	✓	✓	———	———
❸ Timer Recording	✓	✓	✓	✓	✓	✓	✓
❹ Alarm Recording	✓	✓	✓	✓	✓	✓	✓
❺ Alarm Counter	———	✓	✓	✓	✓	———	———
❻ Video Loss Alarm	✓	✓	✓	✓	✓	✓	✓
❼ Disk Full Alarm	✓	✓	✓	✓	✓	———	———
❽ Fan Error / Disc Error	✓	✓	✓	✓	✓	———/✓	———/✓
❾ Time / Date Search	✓	✓	✓	✓	✓	✓	✓
❿ Alarm Search	✓	✓	✓	✓	✓	✓	✓
⓫ Alarm Thumbnail Search	✓	✓	✓	✓	✓	———	———
⓬ Alarm Log Search	✓	✓	✓	———	———	✓	✓
⓭ Motion Detection Search	✓	✓	✓	✓	✓	———	———
⓮ Archive Area Search	———	✓	✓	✓	✓	———	———
Camera Telemetry	✓	✓	✓	✓	✓	✓	✓
⓯ Security Lock	✓	✓	✓	✓	✓	✓	✓
⓰ Auto Delete Function	✓	✓	✓	✓	✓	✓	———
⓱ 30-day Memory Back-up	✓	✓	✓	✓	✓	✓	✓
⓲ Lifetime Counter	✓	✓	✓	✓	✓	———	———
⓳ Buzzer	✓	✓	✓	✓	✓	✓	✓
⓴ SMTP	✓	✓	✓	———	———	✓	✓
VGA VGA Output	✓	———	———	———	———	✓	✓
USB USB Terminal	✓	✓	✓	✓	✓	✓	✓
㉑ Local Back-up / Copy	USB / CD / DVD	USB	USB	CF / USB	CF / USB	USB / CD	USB
Network Network Terminal	✓	✓	✓	✓	✓	✓	✓
SSP SSP (RS-485) Compatible	✓	✓	✓	✓	✓	✓	———
㉒ RS-232C Compatible	✓	———	———	———	———	———	———
Software	CMS / DVR Utility	VA-SW5000 (packaged)	VA-SW5000 (packaged)	VA-SW5000 (packaged)	VA-SW5000 (packaged)	DVR Utility 2000S (packaged)	DVR Utility 2000S (packaged)
Power Source	100 V to 240 V AC, 50/60 Hz	120 V to 240 V AC, 50/60 Hz	120 V to 240 V AC, 50/60 Hz	120 V to 240 V AC, 50/60 Hz	120 V to 240 V AC, 50/60 Hz	Input 100 V to 127 V AC, 4A 200 V to 240 V AC, 2A 50/60 Hz	Input 100 V to 240 V AC, 50/60 Hz Output 12 V DC
Power Consumption	8A (AC100 V) 4A (AC240 V)	720 mA	720 mA	800 mA	800 mA	100 to 127 V 4A 200 to 240 V 2A	25 w /12 V
Dimensions (W x H x D) mm	431 x 177 x 458	420 x 96 x 365	420 x 96 x 365	420 x 96 x 365	420 x 96 x 365	432 x 89 x 349	350 x 65 x 260
Page	49	51	51	53	53	55	55

Refer to "Recorder Function Explanation"

Table of recording rate and times

DSR-5716P / DSR-5709P — 750 GB

Recording Speed		Picture Quality					Audio Recording
IPS	Recording Interval (sec.)	Basic 12 kB	Normal 16 kB VHS (EP)	Enhanced 24 kB VHS (SP)	Fine 32 kB S-VHS	Super Fine 40 kB S-VHS+	
		Recording Time (unit: hour)					
100.00	0.01	130	102	71	53	42	Available
50.00	0.02	260	206	140	108	86	
25.00	0.04	518	413	281	213	10	
16.67	0.06	778	618	420	318	258	
12.50	0.08	1,038	825	560	425	342	
8.33	0.12	1,558	1,238	840	638	513	
6.25	0.16	2,077	1,647	1,121	851	683	
5.00	0.20	2,595	2,060	1,403	1,062	855	
4.17	0.24	3,112	2,471	1,680	1,272	1,025	
3.57	0.28	3,635	2,885	1,962	1,488	1,197	
3.13	0.32	4,145	3,293	2,238	1,695	1,365	
2.78	0.36	4,667	3,596	2,520	1,910	1,538	
2.50	0.40	5,190	4,122	2,802	2,123	1,710	
2.27	0.44	5,715	4,541	3,087	2,337	1,883	
1.92	0.52	6,758	5,367	3,650	2,765	2,225	
1.67	0.60	7,770	6,170	4,196	3,177	2,558	
1.47	0.68	8,827	7,010	4,767	3,611	2,907	
1.32	0.76	9,830	7,805	5,307	4,020	3,,237	
1.19	0.84	10,903	8,658	5,888	4,460	3,590	
1.09	0.92	11,903	9,453	6,428	4,871	3,920	
1.00	1	12,975	10,302	7,008	5,307	4,272	
0.50	2	25,950	20,607	14,013	10,616	8,546	Not available
0.33	3	39,317	31,223	21,233	16,085	12,945	
0.25	4	51,898	41,216	28,025	21,233	17,088	
0.20	5	64,873	51,518	35,033	26,540	21,360	
0.10	10	129,747	103,035	70,062	53,078	42,723	
0.05	20	259,493	206,067	140,127	106,158	85,443	
0.03	30	432,490	343,448	233,546	176,928	142,406	

Reference: 24H = 1 day, 168H = 1 week, 720H = 1 month, 8760H = 1 year

DSR-3716PA / DSR-3709PA — 750 GB

Recording Speed		Picture Quality					Audio Recording
IPS	Recording Interval (sec.)	Basic 15 kB	Normal 22 kB VHS (EP)	Enhanced 30 kB VHS (SP)	Fine 42 kB S-VHS	Super Fine 50 kB S-VHS+	
		Recording Time (unit: hour)					
50.00	0.02	233	165	123	90	75	Available
25.00	0.03	468	333	248	180	153	
16.67	0.05	702	498	372	270	230	
12.50	0.07	938	665	498	363	305	
8.33	0.10	937	664	497	361	306	
6.25	0.13	1,878	1,331	998	725	612	
5.00	0.17	2,348	1,662	1,245	905	768	
4.17	0.20	2,816	1,995	1,496	1088	920	
3.57	0.23	3,285	2,328	1,745	1268	1,073	
3.13	0.27	3,755	2,636	1,995	1,451	1,227	
2.78	0.30	4,226	2,993	2,246	1632	1,380	
2.50	0.33	4,695	3,326	2,493	1812	1,535	
2.27	0.37	5,165	3,657	2,742	1995	1,688	
1.92	0.43	6,102	4,323	3,243	2358	1,995	
1.67	0.50	7,043	4,988	3,740	2720	2,303	
1.47	0.60	7,983	5,652	4,241	3083	2,607	
1.32	0.70	8,921	6,318	4,737	3446	2,915	
1.19	0.80	9,860	6,983	5,238	3807	3,222	
1.09	0.90	10,800	7,650	5,738	4173	3,530	
1.00	1	11,738	8,315	6,236	4535	3,837	
0.50	2	23,478	16,631	12,473	9071	7,676	Not available
0.33	3	35,217	24,945	18,708	13605	11,513	
0.25	4	46,955	33,260	24,945	18140	15,350	
0.20	5	58,695	41,576	31,184	22677	19,188	
0.10	10	117,390	83,153	62,363	45356	38,378	
0.05	20	234,783	166,305	124,728	90710	76,755	
0.03	30	352,175	249,458	187,092	136068	115,133	

* The recording time may vary slightly depending on the complexity of the images and the presence of an audio signal.
* The recording time will change depending on the settings for the storage area, and the availability of an optional HDD. Contact the place of purchase for details on increasing the capacity by adding a HDD.

Optional External Unit (sold separately)

Optional units for the expansion of the DSR series, depending on the main unit used.

External HDD unit VA-EXH
The VA-EXH is an expansion unit that employs four HDD bays and enables further extension of recording time.
for DSR-5716P / DSR-5709P * Requires VZU-SATB1.

Disc writer VA-EXD1 B
This external DVD / CD-Writer is a perfect match for DSR-5716P / DSR-5709P.

Disc writer VA-EXD1 W
This external CD-Writer is a perfect match for DSR-3716PA / DSR-3709PA.
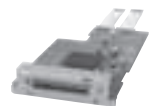

Optional Accessories (sold separately)

S-ATA Board VZU-SATB1 for VA-EXH
The VZU-SATB1 enables the connection to an external HDD unit.

SCSI Board VZU-SCB1
The VZU-SCB1 enables the connection to an external RAID system. For further details on compatible devices, please contact the place of purchase.
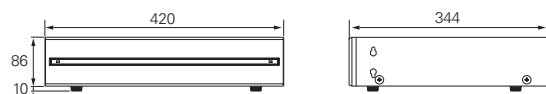
Rack Mount Bracket VA-RACMK1 for VA-EXD B / VA-EXD W

Rack Mount Bracket VA-RACMK2 for DSR-5716P / DSR-5709P / DSR-3716PA / DSR-3709PA

Rack Mount Bracket VA-RACMK3 for DSR2016

VA-EXH
420 · 344 · 86 · 10

VA-EXD1 B, VA-EXD1 W
420 · 329.5 · 44 · 10

(Unit: mm)

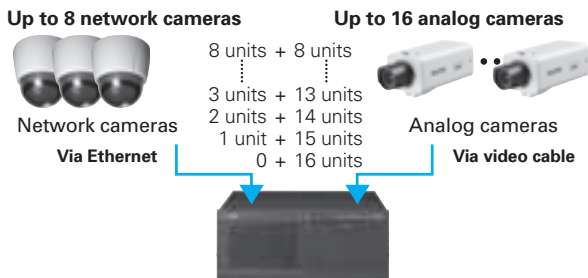## 16ch Digital Video Recorder

DSR-HB8000

| 16CH | MPEG-4 | HDD 3bay+ 2bay W/S-ATA card | 520 TVL | 120 to 240 V AC operation |
| VGA output | 4 USB port | Network | SSP | Camera Telemetry Control |

MPEG-4

The MPEG (Moving Picture Experts Group) -4 standard was designed to reproduce a wide range of moving pictures from those on a low speed communication line to those with high-definition TV picture quality. Also available is SANYO's proprietary format, the MPEG-4+ mode, which requires fewer resources. It is more advantageous in networks, enabling smooth video reproduction with a special playback operation.

Digital security system is composed of analog and network cameras in a system

The DSR-HB8000 is a hybrid model that is capable of connecting and controlling network cameras* and conventional analog cameras simultaneously. *Supported by JPEG only

Up to 8 network cameras   **Up to 16 analog cameras**

Network cameras

Via Ethernet

```
8 units  +  8 units
3 units  +  13 units
2 units  +  14 units
1 unit   +  15 units
0        +  16 units
```

Analog cameras

Via video cable

**Simultaneous Recording and Playback
(Max. 720 x 576 pixels per channel)**

Camera Telemetry Control

DSR-HB8000 is capable of controlling PTZ dome cameras and zoom cameras through coaxial cables or RS-485. It also allows this control from a network PC or a controller. The unit also supports protocols of other major brands.

Full-motion, Multiple Screen Display of Live Video Images

The monitor can display different video images from 4ch up to 16ch simultaneously, in addition to displaying a single channel in full-screen mode.

Add Text Information on the Surveillance Video

Recorded images can be looked up using the text data in the electronic journal. The AVE Interface provides access to the journal data containing information on a POS system or ATM terminals. For example, a transaction record on such systems can identify the operator, the time and date, the terminal, or the customer for any deposit, withdrawal, or exchange. This will serve as a valuable tool in enhancing the security system.

Extensive Search Functions

One Channel Search: Searches for recorded video on a specific channel and plays it back.

Time/Date Search: Playback recorded video by specifying date and time.

Thumbnail Search: Displays a list of up to 24 images from the checked video in panorama mode.

Motion Search: Using motion detection, searches for video containing moving objects.

Time Bar Search: Displays a data mapping of recorded video on all channels and playback multiple video in multi-screen.

Text Search: Searches for texts and video using keywords in a POS (Point of Sales System) recording data.

Alarm Log Search: Searches for video from an event list.

Monitor Plus

By connecting four DSR-HB8000 units via a network, this feature offers a capability to view all 80 camera images on the main DSR-HB8000 unit.
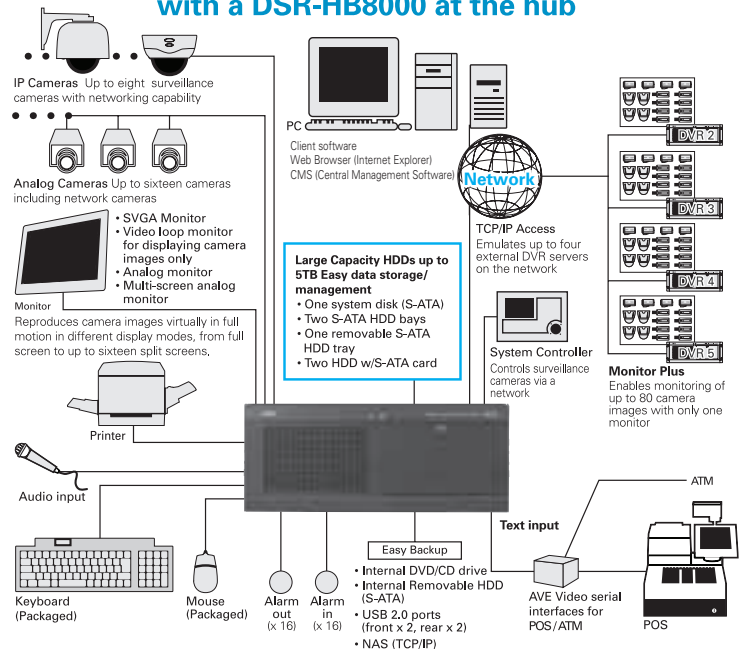
DVR1

DVR2

Network

DVR3

Monitor

DVR5   DVR4
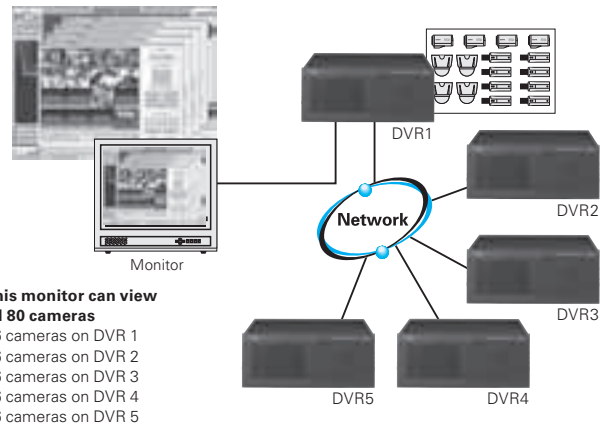
This monitor can view all 80 cameras
16 cameras on DVR 1
16 cameras on DVR 2
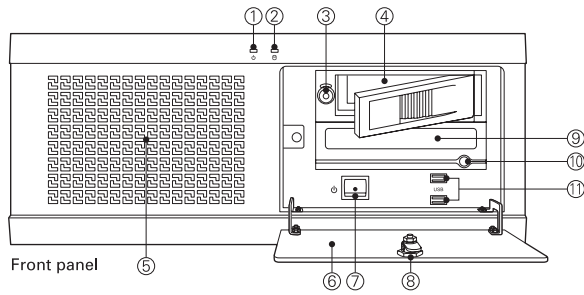16 cameras on DVR 3
16 cameras on DVR 4
16 cameras on DVR 5

Easy and Secure Backup

With the DSR-HB8000, the user can simply click on the Data Back-up icon on the Surveillance screen to store and manage a large amount of information on the network. In addition to the built-in HDD, a CD-R, CD-RW, or DVD on the integrated CD / DVD drive or a memory stick on the USB port can be selected as a backup destination.

Conceptual diagram for a network with a DSR-HB8000 at the hub

IP Cameras Up to eight surveillance cameras with networking capability

Analog Cameras Up to sixteen cameras including network cameras

• SVGA Monitor
• Video loop monitor for displaying camera images only
• Analog monitor
• Multi-screen analog monitor

Monitor
Reproduces camera images virtually in full motion in different display modes, from full screen to up to sixteen split screens.

Printer

Audio input

Keyboard (Packaged)

Mouse (Packaged)

Alarm out (x 16)

Alarm in (x 16)

PC
Client software
Web Browser (Internet Explorer)
CMS (Central Management Software)

Network

Large Capacity HDDs up to 5TB Easy data storage/ management
• One system disk (S-ATA)
• Two S-ATA HDD bays
• One removable S-ATA HDD tray
• Two HDD w/S-ATA card

TCP/IP Access
Emulates up to four external DVR servers on the network

System Controller
Controls surveillance cameras via a network

DVR 2

DVR 3

DVR 4

DVR 5

Monitor Plus
Enables monitoring of up to 80 camera images with only one monitor

Easy Backup
• Internal DVD/CD drive
• Internal Removable HDD (S-ATA)
• USB 2.0 ports (front x 2, rear x 2)
• NAS (TCP/IP)

Text input

ATM

AVE Video serial interfaces for POS/ATM

POS

Sidebar: System Chart | IP Camera | Specialty Camera | Pan-focus Camera | Camera • Lens | DVR | SSP System | Monitor | Example System

Locations of Controls

Front panel   ⑤

① Power indicator
② HDD access indicator
③ Removable HDD lock
④ Removable HDD
⑤ Ventilating hole
⑥ Front panel cover

⑦ POWER button
⑧ Front panel lock
⑨ DVD-R/RW / CD drive
⑩ DVD / CD open/close button
⑪ USB 2.0 ports

Rear panel
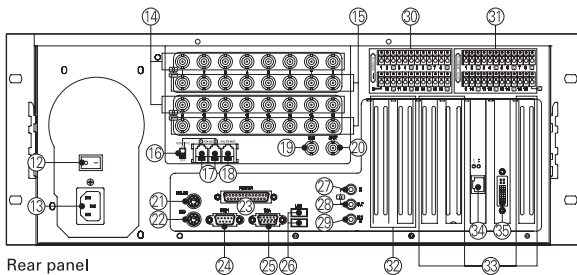
⑫ Power switch
⑬ Power socket (AC IN)
⑭ Video input terminals
⑮ Video throughout terminals
⑯ RS-485 termination switch
⑰ RS-485 ports
⑱ RS-485 (2nd port)
⑲ Monitor outputs (MON 1)
⑳ Monitor outputs (MON 2)

㉑ Mouse port
㉒ Keyboard port
㉓ Parallel port
㉔ RS-232C port
㉕ VGA port
㉖ USB 2.0 ports
㉗ Audio line input
㉘ Audio line output
㉙ Mic input

㉚ Alarm inputs
㉛ Alarm outputs (D/O)
㉜ PCI express slots
㉝ PCI slots
㉞ LAN (Gigabit)
㉟ Audio 16 inputs
  (for camera)

Supports NAS   Firmware version. No.:1.1.1 or later

A NAS* (Network Attached Storage) is a single-purpose server (server appliance) that consists of a hard disk drive, network interface, OS, and management utilities. Since a NAS serves as an independent file server that allows network file sharing, DSR-HB8000 allows the user to store backup files on three different NAS systems. The built-in file system and network communication capability makes it easy to configure a system or make an addition to existing systems.

* DSR-HB8000 DVR Utility software allows access to backup data enabling the user to replay stored video or extract data.

*NAS:
NAS is a general term referring to storage that is accessible by the use of LAN (Ethernet, FDDI, etc.) connected file systems, such as a NFS (Network File System) or a CIFS (Common Internet File System).

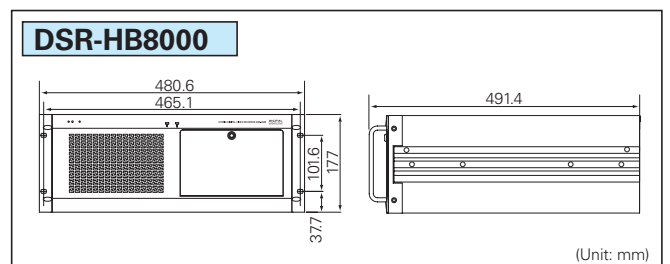| MODEL		DSR-HB8000
General	Hard disk capacity	One System Disk (S-ATA) + Two S-ATA HDD Bays + One Removable S-ATA HDD Tray + Two HDD w/S-ATA card (option) x 2 Max. HDD Capacity 5TB
	CPU	Intel Pentium® 4 3.00GHz
	Operating system	Microsoft Windows® XP Embedded
	Picture resolution (pixels)	720 x 576, 720 x 288, 360 x 288
	Video codec	MPEG-4, MPEG-4+
	Audio codec	G.721, 8kHz sampling rate
	Picture quality	5 levels (Basic, Normal, Enhanced, Fine, Super Fine)
	Recording speed	400IPS/16ch (CIF), 200IPS/8ch (Half D1), 100IPS/4ch (D1)
	Still image capture (BMP/JPEG)	720 x 576, 720 x 288, 360 x 288
	Number of cameras	16 (IP camera: 8 units max.)
	Menu language	English / French / Spanish / German / Italian
	Telemetry Control Protocol	COAX: SANYO (H-SSP) / PELCO-C, BBV RS-485: SANYO (SSP) / PELCO-D / VICON / ULTRAK KALATEL / VCL / BBV / AMERICAN DYNAMICS
Search mode		One Channel Search, Time/Date Search, Thumbnail Search, Motion Search, Time Bar Search, Alarm Log Search Text Search
Video	Signal format	PAL standard (Color) / CCIR standard (B/W) auto select, 625 lines, 400IPS
	Video input	VBS / VS 1.0 V (p-p) 75 Ω, BNC x 16
	Video output	BNC x 16 (Loop through), VGA x 1*¹
	Main monitor output	VS 1.0 V (p-p) 75 Ω BNC x 1*¹
	Monitor 2 output	VBS / VS 1.0 V (p-p) 75 Ω BNC x 1
Audio	Audio input	16ch: MicroCross connector x1 (rear)
	Audio output	-8 dBs 600 Ω unbalanced mini jack x 1 (rear)
Display	Speed (Live)	Max. 400IPS (16 screen split)
	Emulation	Monitor Plus (Up to total 5 DVRs display)
	Screen split	1, 4, 7, 8, 9, 10, 13, 16
Backup storage support		Internal DVD / CD drive, Internal Removable HDD (S-ATA), USB 2.0 x 4 (front x 2, rear x 2), NAS (TCP/IP)
Network	Interface	ADSL, LAN / DDNS
	LAN	RJ-45 x 1, LAN: 10/100/1000BASE-TX) Compatible protocol: UDP, TCP/IP, HTTP, DHCP, SMTP, NTP, PPP server
Control Signal	RS-485	RJ-11 x 2, (With a termination switch)
	RS-485 (2ND)	PTZ port x 1
	RS-232C	D-sub 9-pin x 1
	USB	USB 2.0 x 4 (Front x 2, Rear x 2)
	Sensor alarm input (Push lock)	No-volt contacts, (100ms or more) x 16
	Alarm output (Push lock)	Open collector, Low level active (Max. 25 mA) x 16, Relay output
	Mouse control input	PS / 2 x 1
	Keyboard input	PS / 2 x 1
Expansion slot		PCI x 5 (PCI-express x 2, PCI x 3)
Electrical	Power source	100 V to 240 V AC, 50 / 60Hz
	Power current	8A (100 V AC), 4A (240 V AC)
	Operating conditions	Temperature: 5°C to 40°C (41°F to 104°F) Humidity: 30 to 80%RH (non-condensing)
	Storage temperature	-5°C to 60°C (23°F to 140°F)
Physical	Dimensions	431(W) x 177(H) x 458(D) mm [17.0(W) x 7.0(H) x 18.0(D) in] —mountable as 4U rack unit
	Net weight (approx.)	21.8 kg (44.1 lbs.) (HDD x 4, DVD-R/W x 1)
Standard accessories		Keyboard x 1, Mouse x 1, AC power cord (European x 1, North American x 1), S-ATA cable x 2, Audio conversion cable, Rack mounting kit (1 set), Removable HDD key x 2, Front panel key x 2 DVD-ROM x1 (Recover disc:Windows XP), CD-ROM x1 (Application disc: Operation / programming manual)
Option		S-ATA*² card (Support add S-ATA HDD x 4), POS/ATM

NOTE: Specifications subject to change without notice

*¹ Either the video output or VGA output can be enabled at any one time.
*² For the detail contact the place of purchase.

Warnings regarding HDDs
• Do not attempt to install or replace a HDD on your own. You cannot use these HDDs on PCs.
• The unit may be damaged if it is exposed to an impact or vibration, or the power plug is disconnected during operation.
• Sanyo will not be held liable for any data loss due to an HDD error or a failure during recording.
• "Microsoft" is registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.
• All other company and product names are registered trademarks and/or trademarks of their respective owners.

DSR-HB8000

480.6
465.1
491.4
101.6
177
377

(Unit: mm)

Sidebar (left margin, vertical): System Chart | IP Camera | Specialty Camera | Pan-focus Camera | Camera • Lens | DVR | SSP System | Monitor | Example System

16ch Digital Video Recorder
DSR-5716P

Made in Japan

16CH	JPEG 2000	HDD 2bay	520 TVL	JOG SHUTTLE
VGA output	USB port	Network	H-SSP only	Camera Telemetry Control

A High-end Recorder Offering 100 IPS in JPEG2000 Enables extended recording in superior picture quality. It's an advanced model with new network features.

An all-in-one Unit with Superior Expandability that Also Serves as a System Hub
The DSR-5716P / DSR-5709P processes a variety of signals — digital, SSP, network — and can play the role of a system hub. It offers clear picture recording and split-screen surveillance and comes with USB ports. Its video terminals enable multi-screen real-time monitoring at 800 IPS for DSR-5716P and 450 IPS for DSR-5709P. And it comes with a telemetry function that offers control over PTZ / zoom cameras, including those supplied by other manufacturers. It is an all-new unit that is capable of accommodating even the most sophisticated surveillance need.

Extended Recording Time
JPEG2000 improves picture quality without increasing the size of the data file, or maintains current quality with a reduced file size. This means you get more recording time from the same HDD capacity.

Simultaneous Recording and Playback at 100 IPS (720 x 288 pixels)
SANYO's expertise in the field has made it possible to record and playback simultaneously at a maximum speed of 100 IPS.

Exclusive Extension Units
The VA-EXH, an external HDD unit for further extending recording time, and the VA-EXD1 B, a disc writer for backing-up or copying data to portable media, are both available for the DSR-5716P / DSR-5709P.
(Note) The S-ATA board VZU-SATB1 is needed when connected to the external HDD unit, VA-EXH.

ROI (Region of Interest)
ROI is one of the advanced features included in the JPEG2000 compression method. By setting ROI, it is possible to apply better picture quality for particular areas preset on the screen. The ROI area setting is up to the user.

ROI: OFF BASIC mode (12KB)
Use the same amount of data ...

ROI: MAX Static ROI recording (12KB)
for enhancing the picture quality of regions of interest

9ch Digital Video Recorder
DSR-5709P

Made in Japan

| 9CH	JPEG 2000	HDD 2bay	520 TVL	JOG SHUTTLE
VGA output	USB port	Network	H-SSP only	Camera Telemetry Control

Camera Telemetry Control
The DSR-5716P / DSR-5709P are capable of controlling PTZ dome cameras and zoom cameras through coaxial cables or RS-485. It also allows this control from a network PC or a controller. The unit also supports protocols of other major brands.

Camera control (PTZ cameras & zoom cameras only) available from the front panel, PC or a controller

PTZ Camera
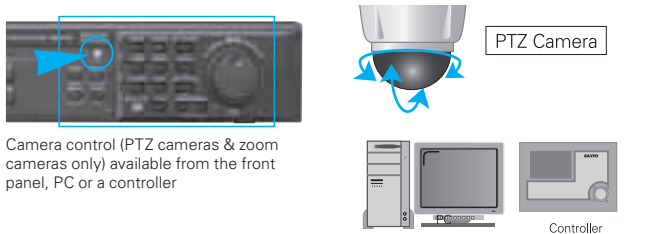
Controller

Camera with no Alarm Input Controlled by an External Alarm
Through this unit, an external alarm can prompt PTZ cameras such as VCC-9500P E / VCC-9600 E / VCC-9700P E / VCC-9800P E to return to preset positions and perform other operations. There are four operations available — PRESET, TOUR, AUTO PAN and SEQUENCE.
*This control is activated only when the setting of alarm recording is ON and the setting of alarm trigger is the external alarm.

2ch Alarm sensor   6ch Alarm sensor
2ch PTZ Camera   6ch PTZ Camera
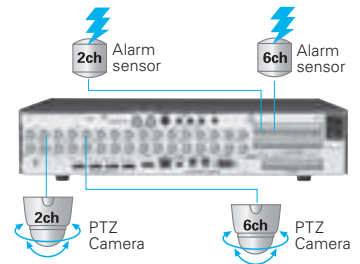
Built-in VGA (1024 x 768 pixels) Terminal
The VGA terminal allows direct connection to a PC monitor, which can then be used to monitor surveillance video. It also enables remote terminals to replay video with VGA quality, thus improving the thoroughness of monitoring.

Supports up to 2TB HDD par one bay
The unit has two HDD bays, each supporting up to 2TB HDD to make the unit the right choice in today's trend for bigger drives. Selecting a drive of the same capacity will allow the use of the mirroring* function for data backup.
For the latest available range of optional drives, contact the place of purchase.

* Mirror Recording
DSR-5716P / DSR-5709P each comes with two HDD bays. With two HDDs of the same capacity installed, it is possible to record the same video on two HDDs, thus allowing for a backup.

Alarm Log Search

Recordings made during a particular period are shown in a user-friendly GUI. By designating the hour, minute, month, or day of the week of alarm events, a search is performed on a log file to narrow the search and bring up the desired scene.

Multi Alarm Events Copy

Now it is possible to copy recorded video and audio directly to external media without the use of the archive area. This allows the user to retrieve desired video quickly.

CD-R/RW, DVD+R/+RW

The unit comes with two USB ports located on both the front and rear panels. Using one of these terminals, it is possible to backup data to CD-R/RW discs (Max. 640MB), DVD+R/+RW (Max. 4.6GB). The use of discs ensures secure storage of necessary video and audio data.
*Recommended products only

USB Ports

The DSR-5716P and DSR-5709P come with two USB ports, one each on the front and rear panel. The front USB port is handy for using USB memories, for features such as Downloading and Uploading in the setup menu, newly added firmware update, and downloading images. The rear port can be used to connect VA-EXD1B, which enables the downloading of images to a CD or DVD.
*When the front and rear USB ports are used simultaneously, the front port is always given priority.

Independent Alarm Recording Rate for Each Channel

The unit lets the user set different rates of recording for each camera for recordings activated by the motion sensor or an alarm input. Within the preset time frame, the user has freedom to change the recording rate for each camera according to needs.

Optional accessories (sold separately)

External HDD unit VA-EXH
VA-EXH up to four HDDs enables a drastic increase in recording capacity.

Disc writer VA-EXD1 B
Backup important data on DVD+R/RW discs or CD-R/RW discs with the USB connection.

S-ATA Board VZU-SATB1 for VA-EXH
The VZU-SATB1 enables the connection to an external HDD unit.

SCSI Board VZU-SCB1
The VZU-SCB1 enables the connection to an external RAID system. For further details on compatible devices, please contact the place of purchase.

Rack Mount Bracket VA-RACMK2
for DSR-5716P / DSR-5709P / VA-EXH

Rack Mount Bracket VA-RACMK1
for VA-EXD1 B

Choosing Live Picture Resolution at Remote Terminals

When the main unit is set to record video at basic quality, you can still choose enhanced quality for monitoring live video on a remote PC. It is also possible to record super-fine quality pictures on the main unit and monitor the basic quality video on a terminal to reduce network load. In short, the unit allows the user to choose the quality of live video independently, regardless of its recording mode. *This does not apply when the recording is done at the maximum rate of 100IPS.

MODEL		DSR-5716P	DSR-5709P
General	Hard disk capacity	Max HDD Capacity (Technically) per one bay 2TB	
	Picture resolution	720 x 288 (pixels)	
	Compression	JPEG2000	
	Picture quality	5 levels (Basic, Normal, Enhanced, Fine, Super Fine)	
	Recording speed	28 levels. (100 to 0.033 FPS)	
	Recording area	Recording area / Archive area	
	Number of cameras	16	9
	Menu language	English / French / German / Spanish	
	Date / Clock setup	Day / Month / Year (last two digits) / Hour / Minute / Second	
	Magnification	2x digital zoom using the [ZOOM] button	
Search mode		Alarm Log Search, Alarm Search, Alarm Thumbnail Search, Time/Date Search, Archive Area Search, Motion detection Search, Bookmark Search	
Memory backup		Approximately 30 days (for 48 hours of electrification)	
Video	Signal format	PAL standard (Color) / CCIR standard (B/W) auto select, 625 lines, 50 IPS	
	Video input	VBS / VS 1.0 V (p-p) 75 Ω, BNC x 16	VBS / VS 1.0 V (p-p) 75 Ω, BNC x 9
	Video output	BNC x 16	BNC x 9
	Main monitor output	VS 1.0 V (p-p) 75 Ω BNC x 1, VGA x 1	
	Monitor 2 output	VBS / VS 1.0 V (p-p) 75 Ω BNC x 1	
	VGA output	Dsub-15 pin	
Audio	Audio input	-8 dBs 27 kΩ unbalanced RCA x 1	
	Audio output	-8 dBs 600 Ω unbalanced RCA x 1	
Control Signal	LAN	10BASE-T / 100BASE-TX, RJ-45 x 1 Compatible protocol: UDP, TCP/IP, HTTP server, NTP, SMTP, DHCP	
	RS-485 / 422	RJ-11 x 2, (With a termination switch)	
	USB	USB2.0 Series terminal x 2 (Front x 1, Rear x 1)	
	Alarm input	No-volt contacts (100ms or more) x 16	No-volt contacts (100ms or more) x 9
	Alarm output	Relay (DC24 V Max. 1A / AC125 V Max. 0.3 A)	
	Sensor alarm output	Open collector, Low level active (Max. 25 mA) x 16	Open collector, Low level active (Max. 25 mA) x 9
	Remote control input	Two-wire voltage control x 2	
	Non rec out	Normal 5 V DC, Low level active x1	
	Clock set input	No-volt contacts (100ms or more) x 1	
	Clock set output	Active low, Open collector Max. 25mA x 1	
	Alarm reset	No-volt contacts (100ms or more) x 1	
	Warning output	Normal DC 5 V Low level active x 1	
	Disk full output	Normal DC 5 V Low level active x 1	
	Output 1 / Output 2	Normal DC 5 V Low level active x 1	
	External timer input	No-volt contacts (100 ms or more) x1	
Protocols		SANYO, Pelco, GE, AD, BBV	
Expansion slot		Option SCSI board (Ultra 160 SCSI), Option S-ATA board	
Electrical	Power source	120 V to 240 V AC, 50 / 60 Hz	
	Power consumption	720mA	
	Operating conditions	Temperature: 5°C to 40°C [41°F to 104°F], Humidity: 80% or less	
Physical	Dimensions	420(W) x 96(H) x 365(D) mm [16.5(W) x 3.8(D) x 14.4(D) in]	
	Weight (Approx.)	6.1 kg [13.5 lbs.] (without HDD), 6.6 kg [14.6 lbs.] (with one HDD) 7.2 kg [15.9 lbs.] (with two HDDs)	

NOTE: Specifications subject to change without notice

Warnings regarding HDDs
• Do not attempt to install or replace a HDD on your own. You cannot use these HDDs on PCs.
• The unit may be damaged if it is exposed to an impact or vibration, or the power plug is disconnected during operation.
• Sanyo will not be held liable for any data loss due to an HDD error or a failure during recording.
• "Microsoft" is registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.
• All other company and product names are registered trademarks and/or trademarks of their respective owners.

DSR-5716P, DSR-5709P

VA-RACMK2 (option)

Cooling fan

Option
Rack Mount Bracket
VA-RACMK2

(Unit: mm)

System Chart
IP Camera
Specialty Camera
Pan-focus Camera
Camera • Lens
DVR
SSP System
Monitor
Example System

System Chart

IP Camera

Specialty Camera

Pan-focus Camera

Camera • Lens

DVR

SSP System

Monitor

Example System

16ch Digital Video Recorder

DSR-3716PA

Made in Japan

16CH	M-JPEG	HDD 2bay	520 TVL	JOG SHUTTLE
120 to 240 V AC operation	USB port	Network	SSP	Camera Telemetry Control

9ch Digital Video Recorder

DSR-3709PA

Made in Japan

9CH	M-JPEG	HDD 2bay	520 TVL	JOG SHUTTLE
120 to 240 V AC operation	USB port	Network	SSP	Camera Telemetry Control

DSR-3716PA / DSR-3709PA function as a system hub that connects different devices such as cameras and monitors. They offer added benefits of 520 TVL high picture quality, real time (50 IPS/screen) multiple screen monitoring, and USB ports to output data to a CD-R/RW disc.

Simultaneous Recording and Playback at 50 IPS
The simultaneous recording and playback function makes it possible for the user to review recorded images without interrupting the recording in progress.

Full-motion, Multiple Screen Display of Live Video Images
Multiple live video images can be viewed simultaneously in 16, 9, or 4 split-screen display at the speed of 50 IPS/channel. Full-screen display is also available. Select the desired display mode without worrying about the update speed.
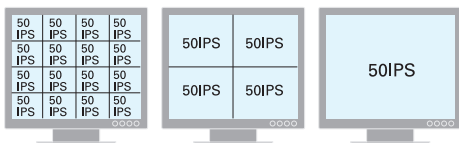
The maximum number of cameras for DSR-3709PA is nine respectively.

Audio Recording Available
Audio recording is available for recording speeds from 50 IPS to 1 IPS. (Audio input must be a single channel.)

Supports up to 1TB HDD per one bay
The unit has two HDD bays.

*Mirror Recording
DSR-3716PA / DSR-3709PA each comes with two HDD bays. With two HDD's of the same capacity installed, it is possible to record the same video on two HDDs, thus allowing for a backup.

Five Different Picture Qualities and 27 Recording Speeds Enable Flexible Settings
The picture quality is selectable from BASIC, NORMAL, ENHANCED, FINE and SUPER FINE.

Three Recording Modes for Flawless Recording
DSR-3716PA / DSR-3709PA has three recording modes; Alarm, Timer, and Program. The three modes can operate individually or in any combination.

Pre-alarm Recording / Alarm Recording / Timer Recording
The timer recording mode allows the user to set eight different settings. Different settings for each day of the week and multiple settings for the same day are possible. It is also possible to specify the start / stop time or use a different recording speed.

Main Monitor   Monitor2   PC

VCR, DVD recorder, Monitor or TV

NETWORK

CD-Writer   SSP System Controller   Camera   PTZ Camera   CF
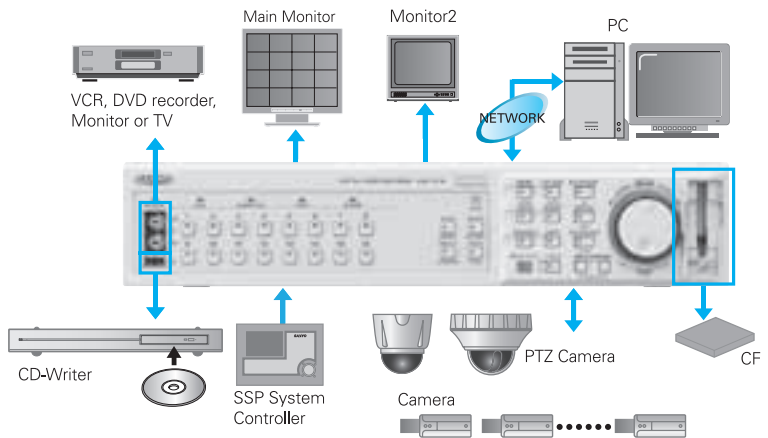
Programmed Recording
For each of four available programs (P1 to P4), the user can specify particular cameras for recording. In addition, different recording speeds can be set for each program. These programs can also be used when making a timer recording or a pre-alarm recording.

Extensive Display Options
For both live picture monitoring (during multiplex recording) and replay of pictures, the user can select from 16-screen, 13-screen, 9-screen, 6-screen, 4-screen display, and full-screen (1-screen) display.
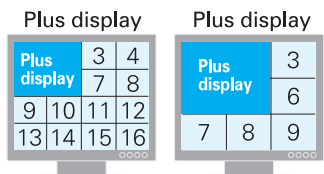
• Plus display
• Screen position assignment
• Monitor masking

Plus display

Plus display	3	4
	7	8
9	10 11	12
13	14 15	16

Plus display

Plus display		3
		6
7	8	9

The maximum number of cameras for DSR-3709PA is nine.

AV Output Terminal on the Front Panel
This terminal can be used for supplying signals to a consumer VCR or DVD recorder, thus enabling the use of analog video tapes and DVD discs as recording media. When a TV monitor is connected, the same video signal as on the main monitor can be supplied to it, including the menu screen.

Camera Telemetry Control

The buttons on the DSR-3716PA / DSR-3709PA front panel allow the user to control PTZ / zoom cameras. The unit transmits SSP* signals by overlaying them on to the video signal through a coaxial cable. This makes it possible to control cameras that support coaxial SSP transmission, without any additional device other than a video cable, not only from the front panel, but also from a SANYO controller or via a network. In addition, BBV and PELCO cameras can also be controlled if they support coaxial signal transmission.
* SSP (SANYO Security Serial Protocol) is a communication protocol for security devices developed by SANYO.

Camera control (PTZ & zoom only) available from the front panel
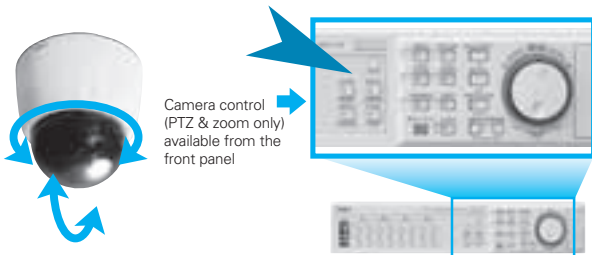
A Camera with No Alarm Input Controlled by an External Alarm

Through this unit, an external alarm can prompt PTZ cameras such as VCC-9500P E / VCC-9600P E / VCC-9700P E / VCC-9800P E series to return to preset positions and perform other operations. There are five operations available — PRESET, TOUR, AUTO PAN, SEQUENCE, and AUTO FOCUS.

Multiple Backup Methods Depending on Data Size CD-R/RW

Through USB ports located both on the front and rear panels, it is possible to backup data in the HDD archiving area to CD-R/RW discs. The use of discs assures secure storage of necessary video and audio data. (The two USB ports cannot be used simultaneously; the front USB terminal has the higher priority.)

One Touch Multi-Channel Copy

Multiple channels can be copied to various media with a single operation. Use the Camera Select buttons on the front panel to select desired cameras and start recording. Pressing the MULTI button will select all cameras simultaneously.

```
COPY TO     :  DISC WRITER
HOW MANY :  1 PICTURES
CHANNEL       01 02 03 04 05 06 07 08
              09 10 11 12 13 14 15 16
PRESS CAMERA SELECT BUTTON
START          ⬦

FORMAT    :  COMPACT FLASH
   FORMAT START  ⬦

CHANGE : JOG   SET:SHUTTLE
```

Multi-screen Display for Network PCs

DVR Viewer2 software allows the user to select from full-screen, Quad, Multi-9, and Multi-16 displays on any PC on the network. DVR Viewer2 software is automatically downloaded

by copying an image. It is also available for download on our website.
*The maximum number of cameras for DSR-3709PA is nine.

Print Directly from a CF Card

For recommended products, visit our website **www.sanyosecurity.com** or contact the place of purchase.

Network Features

The DVR is operable from a PC via network by using Internet Explorer.

MODEL		DSR-3716PA	DSR-3709PA
General	Hard disk capacity	Max HDD Capacity (Technically) per one bay 1TB	
	Picture resolution	720 x 288 (pixels)	
	Compression	M-JPEG	
	Picture quality	5 levels (Basic, Normal, Enhanced, Fine, Super Fine)	
	Recording speed	27 levels.	
	Recording area	Normal Recording Area / Alarm Recording Area / Archive Area	
	Number of cameras	16	9
	Menu language	English / French / German / Spanish	
	Date / Clock setup	Day / Month / Year / Hour / Minute / Second	
	Magnification	2x digital zoom using the [ZOOM] button	
Search mode		Alarm Search, Alarm Thumbnail Search, Time/Date Search, Archive Area Search, Motion detection Search	
Memory backup		Approximately 30 days (for 48 hours of electrification)	
Video	Signal format	PAL standard (Color) / CCIR standard (B/W) auto select, 625 lines, 50 IPS	
	Video input	VBS / VS 1.0 V (p-p) 75 Ω, BNC x 16	VBS / VS 1.0 V (p-p) 75 Ω, BNC x 9
	Video output	BNC x 16	BNC x 9
	Main monitor output	VS 1.0 V (p-p) 75 Ω BNC x 1	
	Monitor 2 output	VBS / VS 1.0 V (p-p) 75 Ω BNC x 1	
Audio	Audio input	-8 dBs 27 kΩ unbalanced RCA x 1	
	Audio output	-8 dBs 600 Ω unbalanced RCA x 1	
	Microphone input	-60 dBs 10 kΩ unbalanced 3.5 mm mini jack x 1	
Front AV	Video output	1.0 V (p-p) 75 Ω unbalanced RCA x 1	
	Audio output	-8 dBs 600 Ω unbalanced RCA x 1	
Interface	CompactFlash slot	CF type II	
Control Signal	LAN	10BASE-T / 100BASE-TX, RJ-45 x 1 Compatible protocol: UDP, TCP/IP, HTTP server	
	RS-485	RJ-11 x 2, (With a termination switch)	
	USB	USB1.1 Series terminal x 2 (Front x 1, Rear x 1)	
	Alarm input	No-volt contacts (100ms or more) x 16	No-volt contacts (100ms or more) x 9
	Alarm output	Active low, Open collector Max. 500 mA x 1	
	Sensor alarm output	Open collector, Low level active (Max. 25 mA) x 16	Open collector, Low level active (Max. 25 mA) x 9
	Remote control input	Two-wire voltage control x 2	
	Non rec out	Normal 5 V DC, Low level active x1	
	Clock set input	No-volt contacts (100ms or more) x 1	
	Clock set output	Normal OPEN Low level active x 1	
	Alarm reset	No-volt contacts (100ms or more) x 1	
	Warning output	Normal DC 5 V Low level active x 1	
	Disk full output	Normal DC 5 V Low level active x 1	
	Alarm full output	Normal DC 5 V Low level active x 1	
	Series input	Normal DC 5 V Low level active x 1	
	Series output	Normal OPEN Low level active x 1	
	External timer input	No-volt contacts (1 second or more) x 1	
Electrical	Power source	120 V to 240 V AC, 50 / 60 Hz	
	Power consumption	800mA	
	Operating conditions	Temperature: 5°C to 40°C [41°F to 104°F], Humidity: 80% or less	
Physical	Dimensions	420(W) x 96(H) x 365(D) mm [16.5(W) x 3.8(D) x 14.4(D) in]	
	Weight (Approx.)	6.3 kg [13.9 lbs.] (with one HDD unit)	

NOTE: Specifications subject to change without notice

Warnings regarding HDDs
• Do not attempt to install or replace a HDD on your own. You cannot use these HDDs on PCs.
• The unit may be damaged if it is exposed to an impact or vibration, or the power plug is disconnected during operation.
• Sanyo will not be held liable for any data loss due to an HDD error or a failure during recording.

Optional accessories (sold separately)

Disc writer VA-EXD1 W
Backup important data on DVD+R/RW discs or CD-R/RW discs with the USB connection.

Rack Mount Bracket VA-RACMK2
for DSR-3716PA / DSR-3709PA

Rack Mount Bracket VA-RACMK1
for VA-EXD1 W

DSR-3716PA, DSR-3709PA

465.2
420
375
349
10
96
86
VA-RACMK2 (option)
Cooling fan

Option
Rack Mount Bracket
VA-RACMK2
22.6
76.2
50
88
30.1
(Unit: mm)

System Chart
IP Camera
Specialty Camera
Pan-focus Camera
Camera • Lens
DVR
SSP System
Monitor
Example System

16ch Digital Video Recorder
DSR-2016

4ch Digital Video Recorder
DSR-2004

| 16CH | MPEG-4 | HDD 2bay | 500 TVL | VGA output |
| USB port | Network | SSP | Built-in CD-R/RW | Camera Telemetry Control |

| 4CH | MPEG-4 | HDD 1bay | 250 TVL | VGA output |
| USB port | Network | | | Camera Telemetry Control |
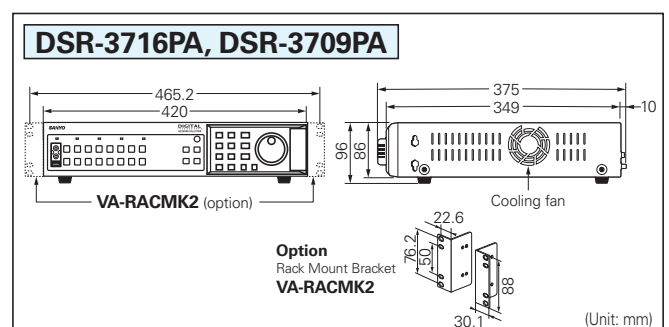
16-4ch Monitoring with Quality Picture of MPEG-4 and Full Motion Picture of 200 IPS* *Only DSR-2016

Low Rate but High Quality
Since MPEG-4 offers quality pictures at a low bit-rate, it is possible to record pictures for a considerably longer time compared to JPEG.

MPEG-4
The MPEG (Moving Picture Experts Group) 4 standard was designed to reproduce a wide range of moving pictures, from those on a low speed communication line to those with high-definition TV picture quality. It is especially effective for application on low speed networks. While conventional MPEG1/2 encodes only portions of the picture that have changed from the key frames, MPEG-4 employs a new technique to disassemble a frame into objects. Simply put, it disassembles a picture into elements such as backgrounds, persons, buildings, etc. and records differentials or each object. The method is similar to that of M-JPEG recording format; MPEG-4 objects are not limited to physical ones, but include audio as well.

Network
DSR-2016 / DSR-2004 offers network connectivity with LAN and WAN. MPEG is an international standard for highly efficient digital encoding (compression) of video and audio signal and is indispensable for video signal compression and transmission over a network. Compared to conventional systems, DSR-2016 / DSR-2004 offers improved surveillance video transmission — clear pictures at low bit-rate — by the adoption of MPEG-4.

Simultaneous Recording/Playback at 200 IPS   DSR-2016
The DSR-2016 offers the capability to smoothly record and playback movement at a maximum rate of 200IPS. It also features two HDD bays, enabling expansion of storage capacity up to 1TB.

Auto-recording with Optimum File Size
DSR-2016 / DSR-2004 automatically selects an optimum file size depending on the input signal to make recordings with the same picture quality. The recording time changes depending on the input signal.

Built-in Motion Sensor
DSR-2016 / DSR-2004 comes with a built-in motion sensor. Different settings can be made for each channel image independently. The sensor can detect moving objects within the screen by picking up changes in brightness. The user can use this feature to trigger an alarm recording.

Easy Backup
Supports the use of USB memory sticks. This makes it easy to backup not only still images, but also videos in AVI format.

Triplex Function
The Triplex function of DSR-2016 / DSR-2004 makes it possible to perform three functions simultaneously, i.e. recording, playback, and network monitoring.

Recording

Network

PC

VGA or Video Out   Playback   Network monitoring
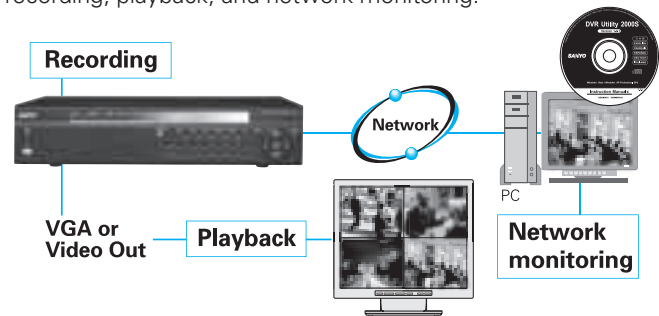
Standard Configuration Includes a CD-R/RW Drive   DSR-2016
The DSR-2016 comes with a CD-R/RW drive and does not require additional devices for backing up images and settings.

Compact Size of 350 mm Width   DSR-2004
Digital recording is now available in a compact package of 350 mm in width. It is an ideal solution for the limited spaces of convenience stores and retails chains, where a large number of DVRs are needed.

350mm
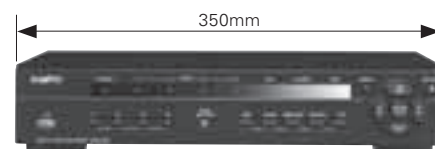
Search Functions
The three search functions — "Event Search", "Time / Date Search" and "Time Line Search" — call up desired images instantly. "Book Mark Search"

Audio Recording Available
DSR-2004 comes with 4ch input and 1ch output terminals to enable audio recording on each channel. Note that the 1 - 4 channels are not selectable with the DSR-2016.

Security Lock
Security lock — offers users the best option for security needs.

IR Remote Control

The IR remote controller allows the user to control up to 99 DVRs (when DSR-2016 is used. When DSR-2004 is used, up to nine).

Two-way Audio over a Network

During a remote surveillance, it is possible not only to receive audio, but also to send a warning message to the point of surveillance.

Video

Audio

PC
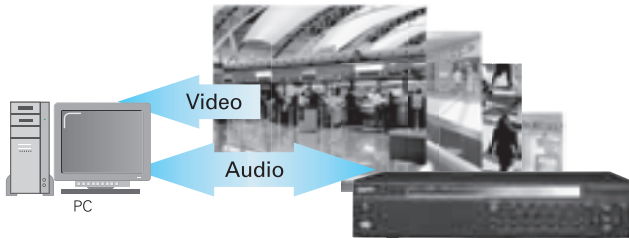
Rear Connectors for Essential Needs

Though it's compact, the rear panel provides terminals for essential devices, including a microphone and speakers.

DDNS (Dynamic DNS)

The DSR-2016 / DSR-2004 can be accessed with a fixed host name (e.g. sanyodsr2016p), which makes the network easy to remember, always available, and secure.

DSR-2016 / DSR-2004 supports up to four concurrent Digital Client users

1 Digital Client   2 Digital Client

Network

LAN / WAN / INTERNET

4 Digital Client   3 Digital Client
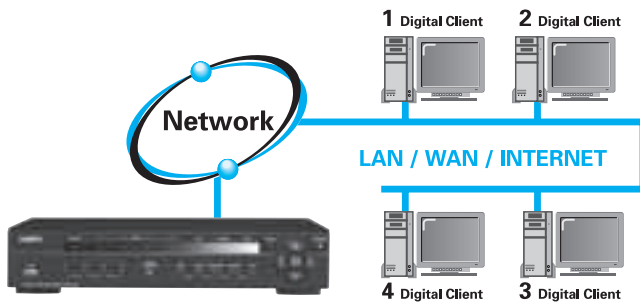
SANYO DVR Utility software

The combination of DSR-2016 / DSR-2004 and SANYO DVR Utility 2000S enables monitoring and DVR operation via a network for enhanced usability.

System environment

OS	Windows® XP Professional (SP2), Windows® XP Home DirectX® 8.1 or above
CPU	Intel Pentium® 4 - 1.2GHz or higher
MEMORY	Minimum 256 MB (512 MB or higher Recommended)
VGA	16 MB (64MB Recommended)
Resolution	1024 x 768
Disk capacity	10 MB (More than 2.1 GB when using Sanyo recording software)

Optional accessories (sold separately)

DVR Utility 2000S

Rack Mount Bracket VA-RACMK3
for DSR-2016

MODEL		DSR-2016	DSR-2004
General	Hard disk capacity	Max HDD Capacity per one bay 2TB	
	Picture resolution	704 x 576, 704 x 288, 352 x 288 (pixels)	704 x 576, 352 x 288 (pixels)
	Compression	MPEG-4	
	Picture quality	5 levels (Network, Economy, Basic, Normal, Fine)	3 levels (Basic, Normal, Fine)
	Recording speed	200IPS / 16ch (352 x 288/ch), 50 IPS / 16ch (704 x 576/ch)	100IPS / 4ch (352 x 288/ch), 25 IPS / 4ch (704 x 576/ch)
	Still image capture	704 x 576	
	Number of cameras	16	4
	Menu language	English / French / German / Spanish / Italian / Russian / Chinese / Polish / Czech / Swedish / Rumanian / Bulgarian / Serbian / Thai / Japanese	
	Telemetry control protocol	SANYO (SSP) / PELCO-D / KALATEL / VICON / SENSORMATIC / ELMO	SANYO (H-SSP) / PELCO-D / KALATEL / VICON / SENSORMATIC / ELMO
Search mode		Event Search, Time / Date Search, Time line Search, Book Mark	Event Search, Time / Date Search, Time line Search
Memory backup		Approximately 30 days	
Video	Signal format	PAL standard (Color) / CCIR standard (B/W) auto select, 625 lines, 50 IPS	
	Video input	VBS / VS 1.0 V (p-p) 75 Ω, BNC x 16	VBS / VS 1.0 V (p-p) 75 Ω, BNC x 4
	S-video output	x 1	———
	Main monitor output	VS 1.0 V (p-p) 75 Ω BNC x 1*[1]	
	Monitor 2 output	BNC x 1	———
	VGA output	VGA x1*[1]	
Audio	Audio input	-8 dBs 27 kΩ unbalanced RCA x 4	
	Audio output	-8 dBs 600 Ω unbalanced RCA x 1	
Network	Interface	ADSL, LAN / DDNS supported	
	LAN port	10BASE-T / 100BASE-TX	
Backup	USB	Still image & Video data	
	CD-R/RW	Built-in CD-R/RW	———
Control signa	Alarm output	x 4 (0.5 A 12.5 V AC, 1 A 30 V DC)	x 1 (0.5 A 12.5 V AC, 1 A 30 V DC)
		[Values in parentheses are the relay ratings inside the DSR-2016/DSR-2004.]	
	Sensor alarm input	x 16	x 4
Remote control		99 units	9 units
Electrical	Power source	Input: 100 V to 127 V AC, 4A 200 V to 240 V AC, 2A	Input: 100 V to 240 V AC, 50/60 Hz Output: 12 V DC
	Power consumption	HDD x 1+CD-RW Max. 80W	25 W / 12 V
	Operating conditions	Temperature: 5°C to 40°C [41°F to 104°F], Humidity: 80% or less	
Physical	Dimensions	432(W) x 89(H) x 349(D) mm [17 (W) x 3.5(H) x 13.7 (D) in]	350(W) x 65(H) x 260(D) mm [13.8 (W) x 2.6(H) x 10.2 (D) in]
	Weight (Approx.)	6.7kg [223.3.oz] (with one HDD unit)	3.2kg [112.9.oz] (with one HDD unit)

NOTE: Specifications subject to change without notice

*[1] Either the video output or VGA output can be enabled at any one time.
Warnings regarding HDDs
• Do not attempt to install or replace a HDD on your own. You cannot use these HDDs on PCs.
• The unit may be damaged if it is exposed to an impact or vibration, or the power plug is disconnected during operation.
• Sanyo will not be held liable for any data loss due to an HDD error or a failure during recording.
* "Microsoft" is registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.
* All other company and product names are registered trademarks and/or trademarks of their respective owners.

DSR-2016

432   349
89

Rack Mount Bracket
VA-RACMK3 (option)

(Unit: mm)

DSR-2004

350   260
65

(Unit: mm)

System Chart

IP Camera

Specialty Camera

Pan-focus Camera

Camera • Lens

DVR

SSP System

Monitor

Example System

System Chart

IP Camera

Specialty Camera

Pan-focus Camera

Camera • Lens

DVR

SSP System

Monitor

Example System
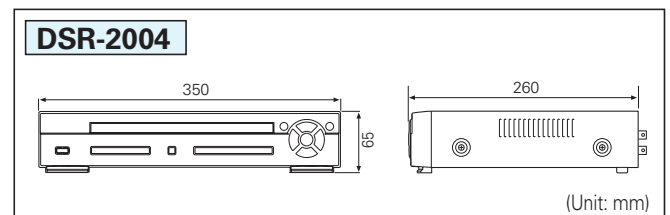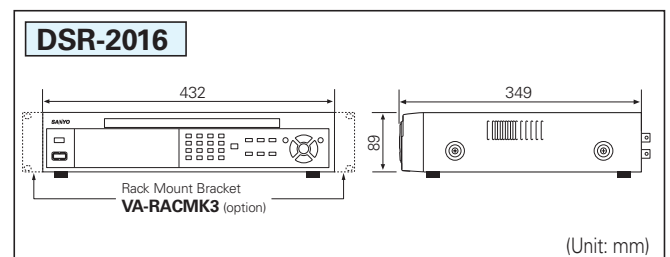
SSP Control
Control all surveillance devices from one location using SANYO's proprietary protocol (SSP)

VSP-9000

Model No.	VSP-9000	VSP-8500	VSP-3000
RS-485	✓	✓	✓
RS-422	✓	✓	——
D-SUB 9pin	✓	✓	✓
SANYO (SSP, H-SSP)	✓	✓	✓
Pelco-D	✓	✓	✓
Sensormatic	✓	✓	——
A.D.	✓	✓	——
VCL	✓	✓	——
Ernitec	✓	✓	——
Videotec (macro)	✓	✓	——
M.mercer	✓	✓	——
DVRs / Multiplexers: SANYO (SSP)	✓	✓	——
Videotec	✓	✓	——
Video matrix switchers : Videotec	✓	✓ (Only SM328S)	——
Total units in one system	256	256	256
Controllers	Max 5	Max 5	Max 5
DVRs	98	98	——
Cameras	127 A port, 127 B port	127 A port, 127 B port	255
Password	3 password levels	3 password levels	1 password levels
Page	57	58	59

SSP devices

■ Cameras

High-resolution AF Zoom Camera
VCC-ZM500P

High-resolution AF Zoom Camera
VCC-ZM600P DAY NIGHT

High-resolution Weatherproof AF Zoom Camera
VCC-XZ600P DAY NIGHT

High-resolution AF Speed Dome Camera
VCC-9800P E DAY NIGHT
VCC-9600P E DAY NIGHT
VCC-9700P E
VCC-9500P E

PAN-F⊙CUS
High-resolution Weatherproof Camera
VCC-XZ200P+VA-20ST
DAY NIGHT

High-resolution Indoor mini Dome Camera
VCC-P7575PA+VA-50ST

High-resolution Vandal-resistant Dome Camera
VDC-DP7585P+VA-50ST
DAY NIGHT

High-resolution Vandal-resistant PTZ Dome Camera
VDC-DP9585P DAY NIGHT

High-resolution Indoor mini PTZ Dome Camera
VCC-P9575P

■ Recorders

M-JPEG 9ch DVR	**DSR-3709PA**
M-JPEG 16ch DVR	**DSR-3716PA**
JPEG2000 9ch DVR	**DSR-5709P**
JPEG2000 16ch DVR	**DSR-5716P**
MPEG-4 16ch DVR	**DSR-2016**
MPEG-4 16ch DVR	**DSR-HB8000**

Realize enhanced effectiveness in your security environment

The SSP Control System forms a state-of-the-art security environment that utilizes existing surveillance cameras and recording devices by effectively combining into a function device VSP-9000 / VSP-8500 Controller SANYO Security Serial Protocol (SSP) for RS-485 communications. The system enables the user-friendly linking of cameras, DVR and other elements, and you can control with your fingertips up to 254 cameras, 98 digital video recorders and 1 matrix.

Control system supporting SSP telemetry devices and multiple protocols

It supports not only SSP (SANYO Security Serial Protocol), but also other major protocols such as Pelco-D, etc.

VSP-9000
Camera: SANYO (SSP, H-SSP), Pelco-D, Sensormatic, A.D., VCL, Ernitec, Videotec, (macro), M.mercer (Max.2 protocols within 1 system)
DVRs / Multiplexers : SANYO (SSP), Videotec
Video matrix switchers : Videotec

VSP-8500
Cameras: SANYO (SSP, H-SSP), Pelco-D, Sensormatic, A.D., VCL, Ernitec, Videotec, (macro), M.mercer (Max.2 protocols within 1 system)
DVR : SANYO (SSP)
Matrix SW : Videotec (SM328S; 32 inputs & 8 outputs)

Backlit LCD with a touch screen   VSP-9000

The 320 x 240 LCD screen installed on the front panel also serves as a touch panel. Settings, operation, and control of even a large-scale system can be done by touching the screen and displaying the menu. The touch panel offers easy access to otherwise complicated settings and operations.

Touch the buttons displayed on the screen

The display changes at each touch

•The menus and sub-menus can be set by pressing the keys represented by the icons

Simple keystrokes on the VSP-8500 control DVRs and PTZ cameras. The VSP-3000 is capable of controlling PTZ cameras.

VSP-8500

3 password levels
The VSP-9000 / VSP-8500 facilitates a multi-level security setting according to the access level of the user.

VSP-9000 / VSP-8500 rear panel

Power supply connector (12V DC)

RS-232C

DIP Switch (SW)

Camera Communication terminal (TELEMETRY A/B)

SW
Use this setting when using this unit as a system controller. (OFF)

These switches are used to set each terminal setting. ON or OFF (Terminal switch)

Use this setting when upgrading the system on this unit using a PC. (ON)

Video Communication terminal (VIDEO)

RJ-11 connector (x3) :
Video line: DVR, Matrix switcher / Telemetry line (A & B): Camera

Customization of up to 26 user maps **VSP-9000**
User maps can easily be designed by PC GUI and uploaded on the VSP-9000 through RS-232C
• The VSP-9000 LCD touch panel simplifies the operation of today's increasingly complex medium- to large-scale security systems.

40 free configurable macro-function keys for each map **VSP-9000**
Allows the operator to control individual devices by assigning an address to each device.

Telemetry control using 3-axis joystick (Pan/Tilt/Zoom)
To control digital video recorders, cameras, and other devices, the VSP-9000 / VSP-8500 (Camera control only) controller is equipped with a 3-axis joystick. The joystick guarantees easy operation from a remote location.

Best solution for small-to-medium-size system **VSP-8500**
The VSP-8500 allows the user to control various devices with simple key operations and is suitable for small to medium-size surveillance systems with some cameras, a DVR, and a matrix control.

Direct keys for Camera and DVR control

Keys for Camera control

Keys for CH select and DVR control

VSP-9000

67

225

280

94

(Unit: mm)

VSP-8500

280
115

101
43

225

94

(Unit: mm)

MODEL	VSP-9000	VSP-8500
Communication method	RS-485, RS-422	
Communication Speeds	2400, 4800, 9600, 19200 bps	
Control terminals	RJ-11 : VIDEO x 1, TELEMETRY x 2 D-SUB 9pin x 1 (RS-232C: for PC)	
Graphic display	320 x 240 pixels, backlit by white LED	4 lines backlit display
No. of connectable devices	Total: 256 units in one system Controllers : Max 5, DVRs / Multiplexers : Max 98 via VIDEO terminal Cameras : 127 via TELEMETRY A port, 127 via TELEMETRY B port	Total: 256 units in one system Controllers : Max 5, DVRs : Max 98 via VIDEO terminal Cameras : 127 via TELEMETRY A port, 127 via TELEMETRY B port Matrix switchers : (Videotec SM328S): Max. 1 unit via VIDEO terminal
No. of user maps	26 maps, 40 keys for each map	———
Protocol	Cameras : SANYO (SSP, H-SSP), Pelco-D, Sensormatic, A.D., VCL, Ernitec, Videotec, (macro), M.mercer (Max.2 protocols within 1 system) DVRs / Multiplexers : SANYO, Videotec Video matrix switchers : Videotec	Cameras : SANYO (SSP, H-SSP), Pelco-D, Sensormatic, A.D., VCL, Ernitec, Videotec, (macro), M.mercer (Max.2 protocols within 1 system) DVRs DVR : SANYO Matrix switcher : Videotec (SM328S: 32 inputs & 8 outputs)
Menu language	English / French / German / Italian (expandable to 12 languages using bundled software)	English / Spanish / French / German / Italian / Japanese
Operating conditions	Temperature: 5°C to 40°C [41°F to 104°F], Humidity 80% or less	
Power requirement (approx.)	12 V DC, 1A	
Dimensions	280(W) x 94(H) x 225(D) mm [11.0(W) x 3.7(H) x 8.9(D) in.] (w/ 3-axis proportional joystick) (Graphic display: 115 x 86 mm) [4.5 x 3.4 in.]	280(W) x 101(H) x 225(D) mm [11.0(W) x 4.0(H) x 8.9(D) in.] (w/ 3-axis proportional joystick)
Weight (approx.)	900 g [31.7 oz.]	
Accessories	AC adapter x 1, Power cable x 3 (for North America, UK, EU), RS-232C cable x 1, Modular cable x 6 (Cross Type : 150cm), Communication conversion connector (screw x 2, double faced tape x 1) x 6, Setup software (CD-ROM)	AC adapter x1, Power cable x 3 (for North America, UK, EU) Modular cable x 6 (Cross type: 150 cm) Communication conversion connector (screw x 2, double-faced tape x 1) x 6

NOTE: Specifications subject to change without notice

System Chart

IP Camera

Specialty Camera

Pan-focus Camera

Camera • Lens

DVR

SSP System

Monitor

Example System

VSP-3000

Centralized camera controls from a single controller

Protocols	Controllable number of cameras
SSP/H-SSP	1 to 127
Pelco-D	1 to 255

Telemetry control using 3-axis joystick (Pan/Tilt/Zoom)

To control cameras the VSP-3000 (Camera control only) controller is equipped with a 3-axis joystick. The joystick guarantees easy operation from a remote location.

2-line backlit menu display

The display on the front LCD is easy to understand.

Connection Example

Camera (sold separately)

Camera (sold separately)

Video input terminal

Video input terminal

Coaxial cable

Modular cable (accessory)

DVR (sold separately)

Monitor (sold separately)

Video input terminal

Program
Service use (for program update)

Power supply connector
DC 12V input

Conversion connector (accessory)

USB port
Universal serial bus port, USB mouse function (External equipment communication port)

3-axis joystick

Rear panel

RS-485
RS-485 communications
• TRx: 1 port (SSP)
• Tx: 3 port (H-SSP, PELCO-D)

Mouse function for PC-based DVR, DSR-HB8000

Mouse mode ON

USB cable (accessory)

DSR-HB8000 (sold separately)

Monitor (sold separately)

IRIS OPEN L R IRIS CLOSE

Left click — Right click
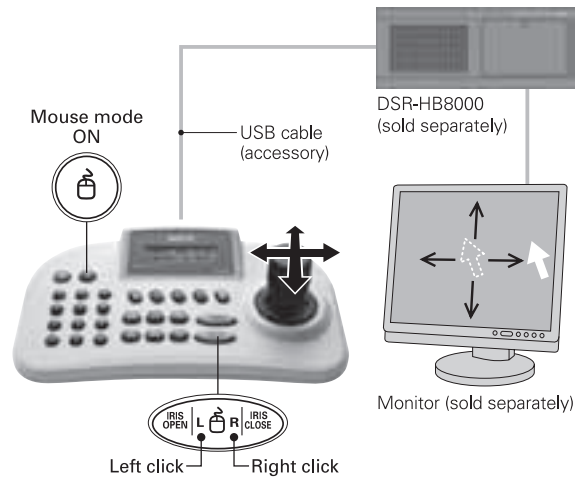
• Simple camera control and DVR display switch change available • Control system supporting SSP / H-SSP and Pelco-D protocols • Telemetry control (pan/tilt/zoom) via 3-axis joystick and direct keys • Max. 255 cameras connectable (Max. 127 for SSP)

VSP-3000

179.6
173.3

99.7
68.7

269.8

279.7

(Unit: mm)
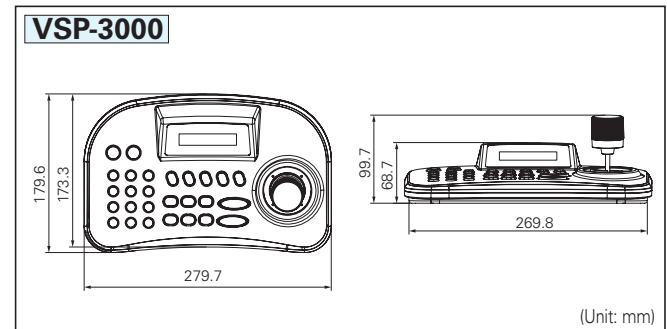
MODEL	VSP-3000
Communication method	RS-485
Communication speeds	2400, 4800, 9600, 19200, 38400, 57600 bps
Control communication terminal	TX1, TX2, TX3, TRx
Keyboard	29 keys
Joystick	3-axis joystick (pan/tilt/zoom)
USB mouse port	Compatible with DVRs with mouse function
No. of connectable devices	Total: 256 • Cameras: SSP/HSSP: 127, Pelco-D: 255 • Controllers: 5 • Digital video recorders: 99 (Channel switching only)
Protocol	SSP, H-SSP, Pelco-D
Operating environment	Temperature: 5°C to 40°C [41°F to 104°F], Humidity 80% or less
Power supply (AC adapter)	Input voltage: 100 to 240 V AC 50/60Hz Output voltage: 12 V DC
Storage environment	Temperature: -20°C to 60°C [-4°F to 140°F], Humidity 80% or lower
Current consumption	0.2A
Dimensions (W x H x D)	279.7(W) x 99.7(H) x 179.6(D) mm [11.2(W) x 4.0(H) x 7.2(D) in.]
Weight (approx.)	750 g [26.5 oz.]
Accessories	• AC adapter x1, power cord x 3 (for North America, UK, EU) • USB cable, Connector • Modular cable x 1 (Straight type: 300cm) Communication conversion connector x 1 Double-faced tape x 1

NOTE: Specifications subject to change without notice

VMC-L2019P

| 19" | Horizontal 500 TV Lines | 2 composite | S-VIDEO IN-OUT terminals | VGA input | MULTI PAL<->NTSC SYSTEM |

Flat panel displays
These SXGA grade monitors display clear and crisp pictures. The thin package makes them the ideal choice for applications with limited space.

Easy to access front panel switches
Ease of operation is the focus of this design. The user can switch the display, set the volume, and set the scan from switches on the front panel, or by using the remote controller.

• 1280 x 1024 Resolution • 1000:1 High contrast ratio
• 2 composite and 1 S-VIDEO input (Loopthrough out, BNC type) • 1 VGA input • 2 audio input (RCA type)

VMC-L2019P / VMC-L2017P

440 [371]
378 [339]
303 [272]
361 [331]
398 [368]
37 [37]
69 [67]
220 [220]

(Unit: mm) [VMC-L2017P]
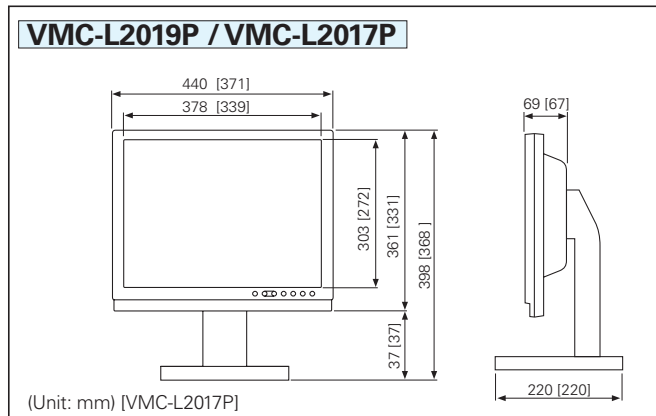
VMC-L2017P

| 17" | Horizontal 500 TV Lines | 2 composite | S-VIDEO IN-OUT terminals | VGA input | MULTI PAL<->NTSC SYSTEM |

• Multi-language OSD (11 languages) • Adjustable height
• Comes with a remote controller

Wall Mounting Bracket
VA-BWM2 (sold separately)
Applicable for
VMC-L2019P
VMC-L2017P

115, 100, 75, 75, 100, 115, 115, 90°, 90°
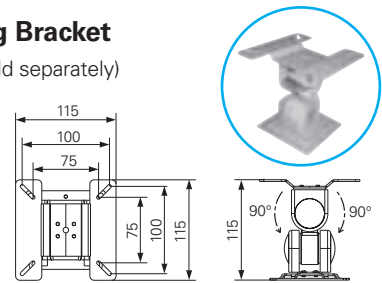
Arm Bracket
VA-AWM3 (sold separately)
Alpplicable for
VMC-L2019P
VMC-L2017P

7.5, 4.5, M4 (4x), 75, ø4.2 (4x), 3, 100, 115, 360°, 90°, 90°, 90°, 352, 90, 75, 75, 90, 360°

(Unit: mm)
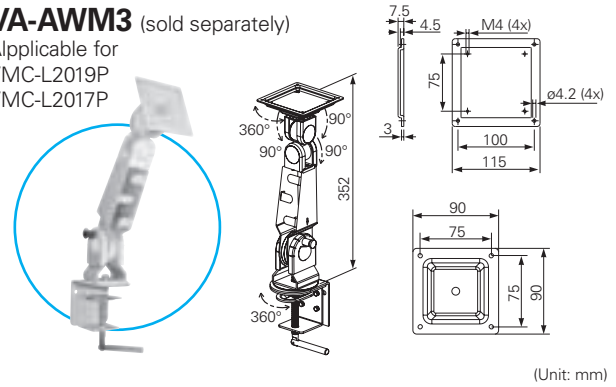
MODEL	VMC-L2019P	VMC-L2017P
LCD size	19" active matrix TFT LCD panel	17" active matrix TFT LCD panel
TV system	PAL / NTSC, Automatic detection	
Horizontal resolution	500 TV lines or more (Y/C input mode)	
Resolution (H x V)	1,280 x 1,024	
Brightness (cd/m2)	300 cd/m2	
Contrast ratio	1000:1	
Response	1.7 msec	1.3 msec
View Angle degree	Left / Right: 80°/ 80° Up / Down: 80° / 80°	
Active display area (H x V)	376 x 301 mm	338 x 270 mm
Pixel pitch	0.294 x 0.294 mm	0.264 x 0.264 mm
Scan system	Progressive only	
Color system	PAL / NTSC 3.58	
Screen mode	4 : 3	
Filter	2 D Comb	
Other functions	Noise reduction, PIP, Freeze, Underscan	
Composite	2 composite input (1.0 V (p-p) 75W terminated, Loopthrough out, BNC type)	
S-Video	1 Y/C input (Min-DIN connector)	
VGA	1 VGA input	
Audio	2 Audio inputs 2 W (1 W + 1 W stereo, RCA type)	
OSD Language	11 (English / Spanish / French / German / Italian / Russian / Swedish / Portuguese / Chinese / Korean / Japanese)	
Height adjustment	0 to 100 mm	
Tilt adjustment	-5° to +25 deg	
Angle adjustment	-165 to +165 deg.	
Dimensions (W x H x D)	440 x 220 x 398 mm [17.3 x 8.7 x 15.7 in]	371 x 220 x 368.6 mm [14.6 x 8.7 x 14.5 in]
Net weight	6.9 kg [243.4 lbs.]	6.0 kg [211.6 lbs.]
Power requirement	100 V to 240 V AC 50 /60 Hz	
Power consumption (approx.)	42 W	

NOTE: Specifications subject to change without notice

System Chart | IP Camera | Specialty Camera | Pan-focus Camera | Camera • Lens | DVR | SSP System | Monitor | Example System

Full IP System Suitable for Large Scale Surveillance

SANYO's IP camera and network software offers freedom in integrating systems — from large scale systems for airports and shopping malls to centralized surveillance systems that connect dispersed schools and stores.

Shopping malls
Educational facilities
Transportation monitoring
Airports

IP Camera and Networking

The use of SANYO network software, for example, makes it possible to monitor different locations from a central point over a network. Without the constraints in wiring, optimized camera placement ensures the security of each area.

Use a vandal-resistant PTZ camera for a crowded area like an entrance, or an HD Megapixel camera with recording function for a key surveillance point. Use a PTZ camera for a wide area to trace movements of a subject. For a parking lot or other outdoor facility, weatherproof zoom cameras and PTZ cameras are available. The WDR camera is a perfect solution for locations where intense backlight is expected. SANYO's product range includes a variety of IP cameras that offer the optimal choice for every situation. From large-scale application to small-scale surveillance needs, SANYO handles them all.

System configuration

Network Camera

Network

PC

Server PC

Client PC

Software
Video Management Software
VA-SW60 (Enterprise)
VA-SW50 (Advanced)
Network Recorder Software
VA-SW3050S (for server)
VA-SW3050C (for client)
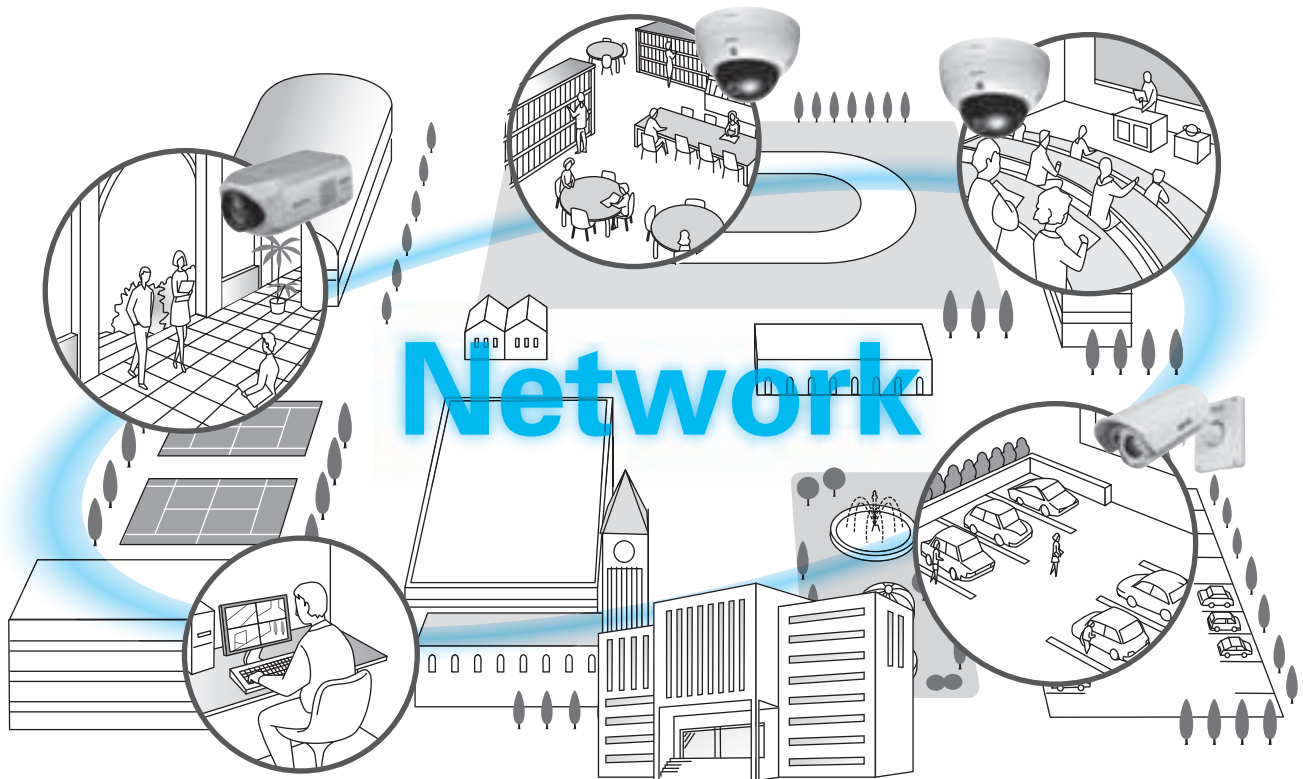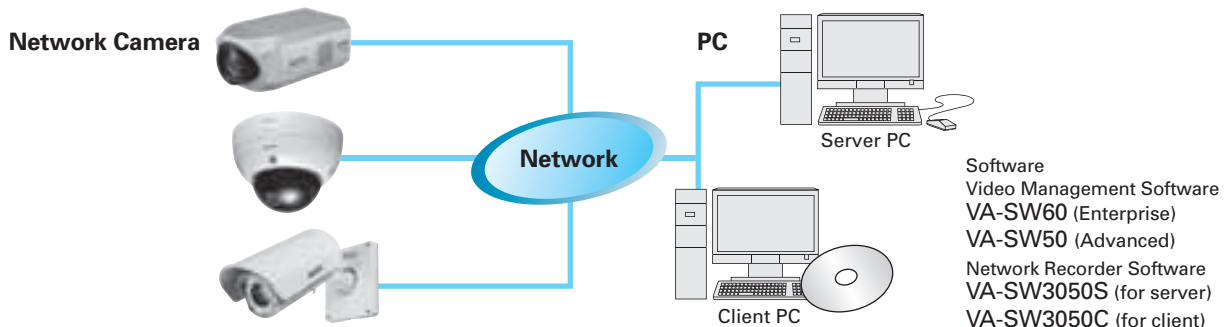
Choose from the Sanyo line up

Network Camera
VCC-HD4000P (D/N)
VCC-N6695P (D/N)
VCC-XZN600P (D/N)
VCC-ZMN600P (D/N)
VDC-DPN9585P (D/N)
VCC-PN9575P

Speed Dome Camera
VCC-9800P E (D/N)
  + VA-80LAN or VA-82LAN
VCC-9700P E
  + VA-80LAN or VA-82LAN
VCC-9600P E (D/N)
  + VA-80LAN or VA-82LAN
VCC-9500P E
  + VA-80LAN or VA-82LAN

Pan-focus Camera
VCC-XZ200P (D/N)
  +VA-20LAN
VDC-DP7585P (D/N)
  +VA-50LAN or VA-51LAN
VCC-P7575PA
  +VA-50LAN or VA-51LAN

DVR*
DSR-5716P
DSR-5709P
DSR-3716PA
DSR-3709PA

Network Software
VA-SW60 (Enterprise)
VA-SW50 (Advanced)
VA-SW3050S (for server)
VA-SW3050C (for client)

(*Supported by VMS only) (D/N: Day/Night Camera)

System Chart
IP Camera
Specialty Camera
Pan-focus Camera
Camera • Lens
DVR
SSP System
Monitor
Example System

Optimal Systems for Large to Medium Scale Applications

Connect shops and branch offices with a network for better management.
The DSR-HB8000 can manage up to 80 cameras with Monitor Plus function over the network.
Also multiple DSR-HB8000 can be connected with CMS via network.

Banks
Large supermarkets
Plants
Amusement parks
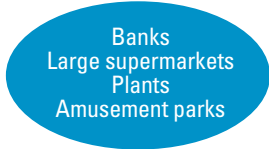
A Network Built Around a Hybrid DVR Provides The Best Solution for Remote Surveillance

In addition to normal surveillance and recording operations, including extensive video recording with MPEG-4 technology, the Hybrid DVR offers added features, such as building databases inter-connected with tenants' POS systems or ATM systems. The use of MPEG-4 improves the quality of remote surveillance over a network and expands the scope of applications.

WDR Camera

WDR Camera
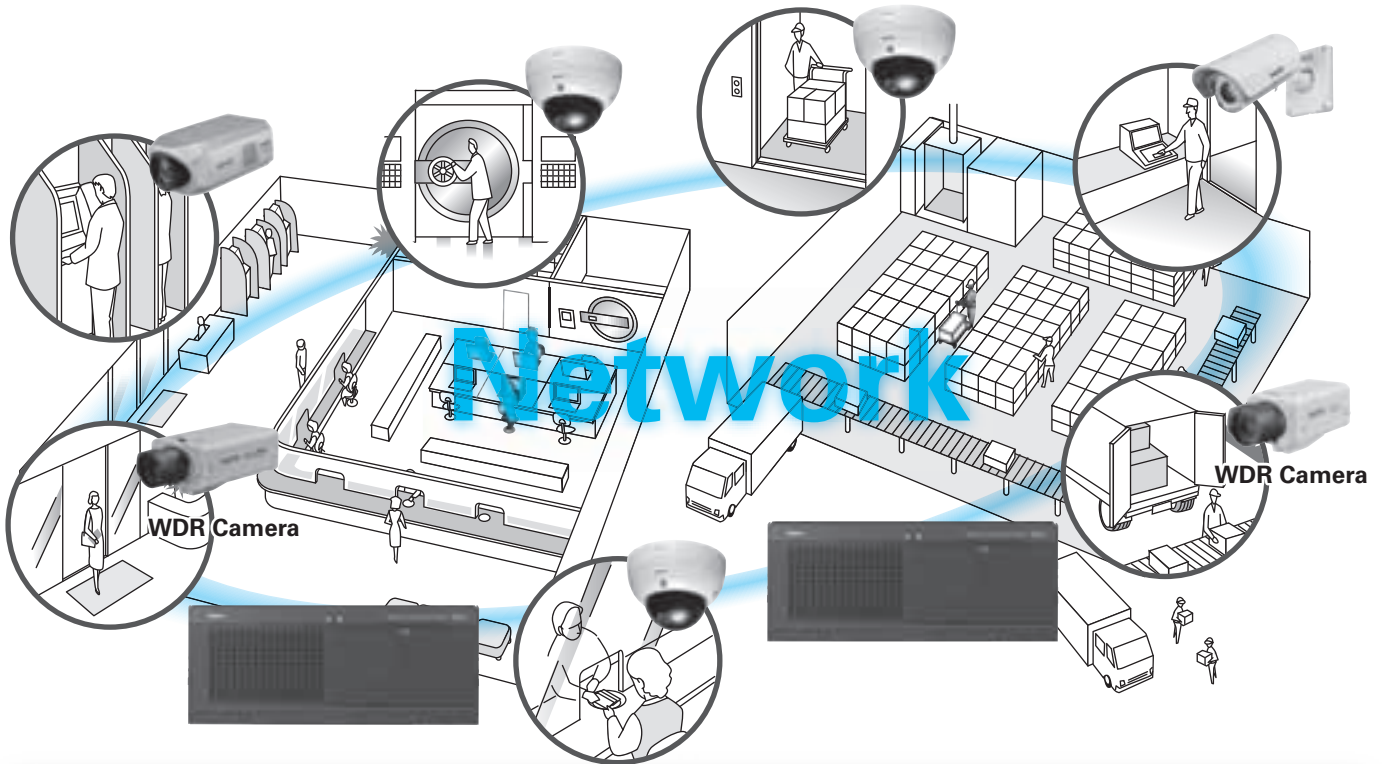
Network

System configuration

Camera (Network / Analog)

DVR1

DSR-HB8000

Monitor

DVR2

DVR5

Network

PC

Choose from the Sanyo line up

Network Camera
VCC-N6695P (D/N)
VCC-XZN600P (D/N)
VCC-ZMN600P (D/N)
VDC-DPN9585P (D/N)
VCC-PN9575P
VA-80LAN or VA-82LAN
 +VCC-9800P E (D/N) / VCC-9700P E /
 VCC-9600P E (D/N) / VCC-9500P E
VA-20LAN
 + VCC-XZ200P (D/N)
VA-50LAN or VA-51LAN
 + VDC-DP7585P (D/N)
VA-50LAN or VA-51LAN
 + VCC-P7575PA

Speed Dome Camera
VCC-9800P E (D/N)
VCC-9700P E
VCC-9600P E (D/N)
VCC-9500P E

Weatherproof AF Zoom Camera
VCC-XZ600P (D/N)

AF Zoom Camera
VCC-ZM600P (D/N)
VCC-ZM500P

Pan-focus Camera
VCC-XZ200P (D/N)
VDC-DP9585P (D/N)
VCC-P9575P
VDC-DP7585P (D/N)
VCC-P7575PA

Vandal Resistant Dome Camera
VDC-D1785IRVP (D/N)
VDC-W1595VP
VDC-D1585VP (D/N)
VDC-C1575VP

Mini Dome Camera
VCC-9685VP

Replaceable Lens Camera
VCC-WD8875P (D/N)
VCC-WD8870P (D/N)
VCC-W8775P
VCC-W8770P
VCC-4795P E (D/N)
VCC-4790P E (D/N)
VCC-6695P (E-D/N)
VCC-6690P (E-D/N)
VCC-5995P

DVR
DSR-HB8000

Monitor
VMC-L2019P
VMC-L2017P

Controller
VSP-9000
VSP-8500

(D/N: Day/Night Camera)

System Chart
IP Camera
Specialty Camera
Pan-focus Camera
Camera • Lens
DVR
SSP System
Monitor
Example System

MPEG-4 Adopted for Quality Video Transmission

Small to medium-scale surveillance systems suitable for remote operations

Offices
Stores
Retail shops
Petrol Stations

The Adaptation of DDNS Allows Stable Network Surveillance without a Fixed IP Address

The MPEG-4 format allows efficient video transmission and the construction of a system suitable for remote surveillance. For example, a small or medium-scale factory or store can be monitored at the head office via a network. A stress-free surveillance is possible, thanks to the superior picture quality of MPEG4.

WDR Camera

WDR Camera

Network

PC

System configuration

Camera   Recorder   PC

LAN

Internet

PC

Example of basic system

Controller
(for DSR-2016 only)   Main Monitor   Monitor   Spot Monitor
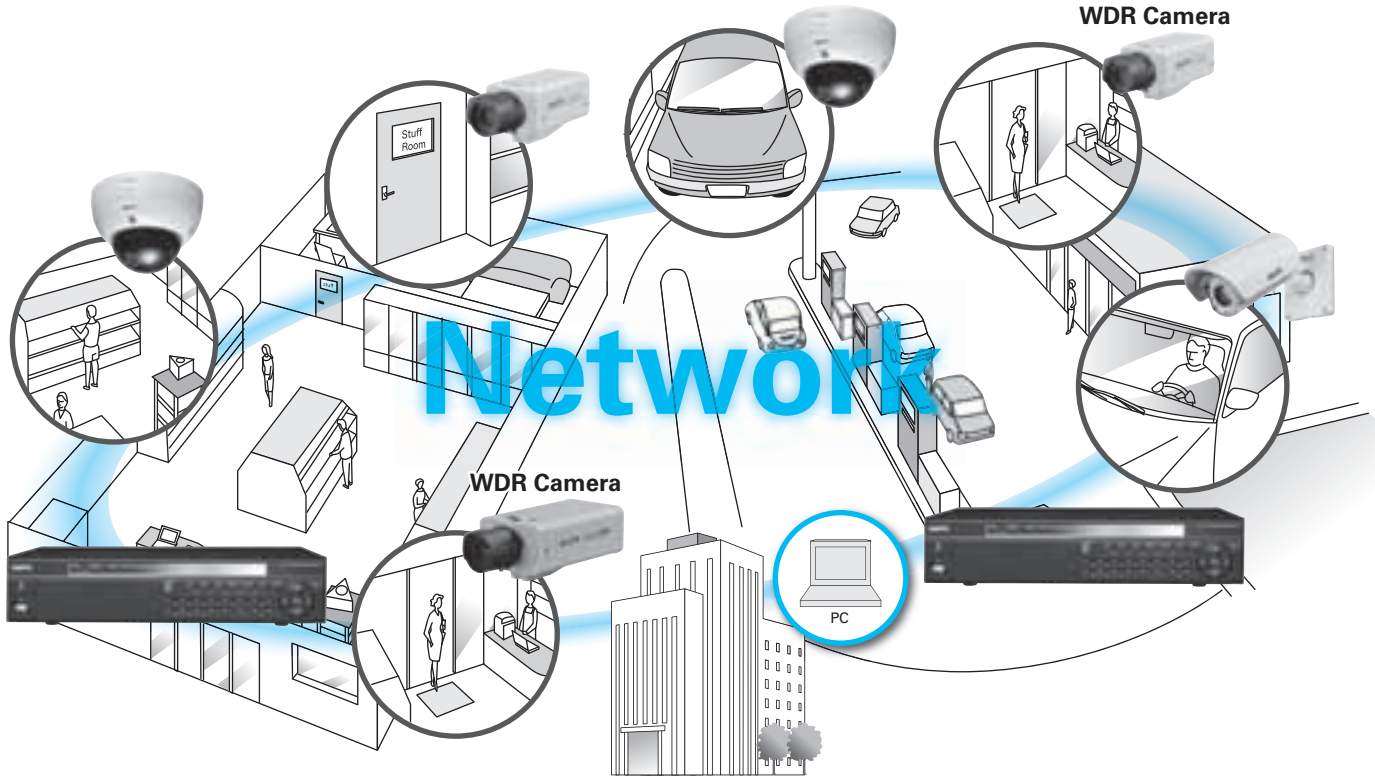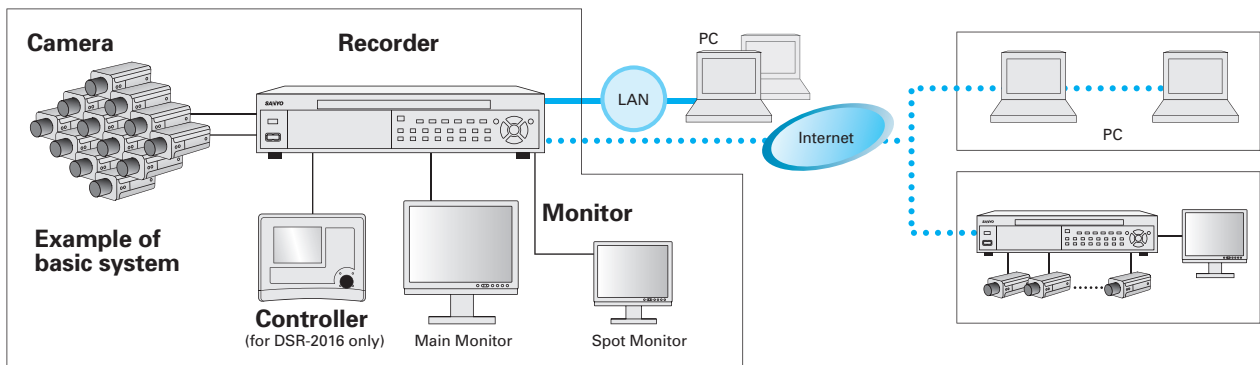
Choose from the Sanyo line up

Speed Dome Camera
VCC-9800P E (D/N)
VCC-9700P E
VCC-9600P E (D/N)
VCC-9500P E

Weatherproof AF Zoom Camera
VCC-XZ600P (D/N)

AF Zoom Camera
VCC-ZM600P (D/N)
VCC-ZM500P

Pan-focus Camera
VCC-XZ200P (D/N)
VDC-DP9585P (D/N)
VCC-P9575P
VDC-DP7585P (D/N)
VCC-P7575PA

Vandal Resistant Dome Camera
VDC-D1785IRVP (D/N)
VDC-W1595VP
VDC-D1585VP (D/N)
VDC-C1575VP

Mini Dome Camera
VCC-9685VP

Replaceable Lens Camera
VCC-WD8875P (D/N)
VCC-WD8870P (D/N)
VCC-W8775P
VCC-W8770P
VCC-4795P E (D/N)
VCC-4790P E (D/N)
VCC-6695P (E-D/N)
VCC-6690P (E-D/N)
VCC-5995P

DVR
DSR-HB8000
DSR-2016
DSR-2004

Monitor
VMC-L2019P
VMC-L2017P

Controller
VSP-9000*
VSP-8500*

(D/N: Day/Night Camera) * The DSR-2004 does not support connection.

System Chart

IP Camera

Specialty Camera

Pan-focus Camera

Camera • Lens

DVR

SSP System

Monitor

Example System

SANYO Products Line Up 2009 ————— Camera
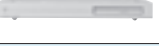
Category / Model No.	Lens	H.264	JPEG	Resolution	Frame rate	Bi-directional audio	Minimum illumination	Power supply
IP Camera								
CMOS Full HD Network 10x AF Zoom Camera **VCC-HD4000P** DAY NIGHT	Built-in **10x** AF Zoom lens	✓	✓	<H.264> **16:9 HD** 1920 x 1080p **HD** 1280 x 720p, 960 x 540P, 640 x 360p, 320 x 180p **4:3** 1080 x 864p, 720 x 576p, 360 x 288p <JPEG> **16:9 HD** 1920 x 1080p, **HD** 1280 x 720, 1024 x 576, 640 x 360 **4:3 4M** 2288 x 1712, **2M** 1600 x 1200, 1280 x 960, 1024 x 768, 800 x 600, 640 x 480, 320 x 240	Max.25IPS (1920 x 1080)	———	Color 2.0 lx B/W 0.1 lx (F1.8)	24 V AC ±10% / 12 V to 15 V DC / PoE (compliant with IEEE 802.3af)
1/3" Color CCD E-Day/night Box type H.264/JPEG Camera **VCC-N6695P** E- DAY NIGHT	CS mount replaceable	✓	✓	<H.264> 720 x 576, 352 x 288, 176 x 144 <JPEG> 720 x 576, 720 x 288, 640 x 480, 360 x 288, 176 x 144	Max. 25 IPS (720 x 576)	———	Color 0.35 lx B/W 0.25 lx (F1.2)	24 V AC ±10% / 12 V to 15 V DC / PoE (compliant with IEEE 802.3af)
Weatherproof AF Zoom Network Camera **VCC-XZN600P** DAY NIGHT	Built-in **30x** AF Zoom lens	✓	✓	<H.264> 720 x 576, 352 x 288, 176 x 144 <JPEG> 720 x 576, 720 x 288, 640 x 480, 360 x 288, 176 x 144	Max. 25 IPS (720 x 576)	———	Color 0.8 lx B/W 0.04 lx (F1.4)	24 V AC ±10% / 12 V to 15 V DC / PoE (compliant with IEEE 802.3af)
AF Zoom Network Camera **VCC-ZMN600P** DAY NIGHT	Built-in **30x** AF Zoom lens	✓	✓	<H.264> 720 x 576, 352 x 288, 176 x 144 <JPEG> 720 x 576, 720 x 288, 640 x 480, 360 x 288, 176 x 144	Max. 25 IPS (720 x 576)	———	Color 0.8 lx B/W 0.04 lx (F1.4)	24 V AC ±10% / 12 V to 15 V DC / PoE (compliant with IEEE 802.3af)
Vandal-resistant PTZ Network Dome Camera **VDC-DPN9585P** DAY NIGHT PAN-FOCUS	Built-in **2.6x** Pan-focus Zoom lens	—	✓	<JPEG> 720 x 286, 640 x 480, 360 x 286, 180 x 143	Max. 25 IPS (720 x 576)	Bi-directional audio G.711 (192 Kbps), 16 BIT 12KHz	Color 1.2 lx B/W 0.06 lx (F 1.9)	24 V AC ±10% / 12 V to 15 V DC / PoE (compliant with IEEE 802.3af)
Indoor mini PTZ Network Dome Camera **VCC-PN9575P** PAN-FOCUS	Built-in **2.6x** Pan-focus Zoom lens	—	✓	<JPEG> 720 x 286, 640 x 480, 360 x 286, 180 x 143	Max. 25 IPS (720 x 576)	Bi-directional audio G.711 (192 Kbps), 16 BIT 12KHz	Color 1.9 lx (F 1.9)	24 V AC ±10% / 12 V to 15 V DC / PoE (compliant with IEEE 802.3af)

Category / Model No.	Lens	Color or D/N	Sensor size	Horizontal resolution	Minimum illumination	Backlight compensation	White-balance	Power supply
Specialty Camera								
High-resolution 36x AF Speed Dome Camera **VCC-9800P E** DAY NIGHT	Built-in **36x** AF Zoom lens	Day/Night	1/4"	540 TVL	Color 1.0 lx B/W 0.05 lx (F1.6)	Multi-spot 5-section	ATW AWC Indoor Outdoor Fluorescent Manual	24 V AC ±10% or 230 V AC ±10%
High-resolution 36x AF Speed Dome Camera **VCC-9700P E**	Built-in **36x** AF Zoom lens	Color	1/4"	540 TVL	1.0 lx (F1.6)	Multi-spot 5-section	ATW AWC Indoor Outdoor Fluorescent Manual	24 V AC ±10% or 230 V AC ±10%
High-resolution 30x AF Speed Dome Camera **VCC-9600P E** DAY NIGHT	Built-in **30x** AF Zoom lens	Day/Night	1/4"	540 TVL	Color 0.8 lx B/W 0.04 lx (F1.4)	Multi-spot 5-section	ATW AWC Indoor Outdoor Fluorescent Manual	24 V AC ±10% or 230 V AC ±10%
High-resolution 30x AF Speed Dome Camera **VCC-9500P E**	Built-in **30x** AF Zoom lens	Color	1/4"	540 TVL	0.8 lx (F1.4)	Multi-spot 5-section	ATW AWC Indoor Outdoor Fluorescent Manual	24 V AC ±10% or 230 V AC ±10%
High-resolution Weatherproof AF Zoom Camera **VCC-XZ600P** DAY NIGHT	Built-in **30x** AF Zoom lens	Day/Night	1/4"	540 TVL	Color 0.8 lx B/W 0.04 lx (F1.4)	Multi-spot Center-zone	ATW AWC Indoor Outdoor Fluorescent Manual	24 V AC ±10% 12 V to 15 V DC
High-resolution AF Zoom Camera **VCC-ZM600P** DAY NIGHT	Built-in **30x** AF Zoom lens	Day/Night	1/4"	540 TVL	Color 0.8 lx B/W 0.04 lx (F1.4)	Multi-spot Center-zone	ATW AWC Indoor Outdoor Fluorescent Manual	24 V AC ±10% 12 V to 15 V DC
High-resolution AF Zoom Camera **VCC-ZM500P**	Built-in **30x** AF Zoom lens	Color	1/4"	540 TVL	0.8 lx (F1.4)	Multi-spot Center-zone	ATW AWC Indoor Outdoor Fluorescent Manual	24 V AC ±10% 12 V to 15 V DC
Vandal-resistant Camera								
High-resolution Vandal-resistant IR Dome Camera with IR LED **VDC-D1785IRVP** DAY NIGHT	Built-in **3.2x** (3.7 to 12.0mm) Vari-focal Zoom lens	Day/Night	1/3"	540 TVL	Color 0.7 lx B/W 0.0 lx (LED: ON) (F 1.4)	ON / OFF	ATW	24 V AC ± 10% 12 V DC ± 10%
High-resolution WDR Vandal-resistant Dome Camera **VDC-W1595VP**	Built-in **2.3x** (2.6 to 6.0mm) Vari-focal Zoom lens	Color	1/3"	480 TVL	1.0 lx (F1.4)	Wide Dynamic Range	ATW-A ATW	24 V AC ± 10% 12 V to 15 V DC
High-resolution Vandal-resistant Dome Camera **VDC-D1585VP** DAY NIGHT	Built-in **2.3x** (2.6 to 6.0mm) Vari-focal Zoom lens	Day/Night	1/3"	520 TVL	Color 1.0 lx B/W 0.05 lx (F1.4)	ON/OFF	ATW-A ATW	24 V AC ± 10% 12 V to 15 V DC

Category / Model No.	Lens	Color or D/N	Sensor size	Horizontal resolution	Minimum illumination	Backlight compensation	White-balance	Power supply
High-resolution Vandal-resistant Dome Camera **VDC-C1575VP**	Built-in **2.3x** (2.6 to 6.0mm) Vari-focal Zoom lens	Color	1/3"	520 TVL	1.0 lx (F1.4)	ON / OFF	ATW-A ATW	24 V AC ±10% 12 V to 15 V DC
Pan-focus Camera								
High-resolution Weatherproof Camera **VCC-XZ200P** DAY NIGHT	Built-in **2.6x** Pan-focus Zoom lens	Day/Night	1/4"	520 TVL	Color 1.2 lx B/W 0.06 lx (F1.9)	Multi-spot Center-zone	ATW AWC Manual	24 V AC ±10% 12 V to 15 V DC
High-resolution Vandal-resistant PTZ Dome Camera **VDC-DP9585P** DAY NIGHT	Built-in **2.6x** Pan-focus Zoom lens	Day/Night	1/4"	520 TVL	Color 1.2 lx B/W 0.06 lx (F1.9)	Multi-spot Center-zone	ATW AWC Manual	24 V AC ±10% 12 V to 15 V DC
High-resolution Indoor mini PTZ Dome Camera **VCC-P9575P**	Built-in **2.6x** Pan-focus Zoom lens	Color	1/4"	520 TVL	1.9 lx (F1.9)	Multi-spot Center-zone	ATW AWC Manual	24 V AC ±10% 12 V to 15 V DC
High-resolution Vandal-resistant Dome Camera **VDC-DP7585P** DAY NIGHT	Built-in **2.6x** Pan-focus Zoom lens	Day/Night	1/4"	520 TVL	Color 1.2 lx B/W 0.06 lx (F1.9)	Multi-spot Center-zone	ATW AWC Manual	24 V AC ±10% 12 V to 15 V DC
High-resolution Indoor mini Dome Camera **VCC-P7575PA**	Built-in **2.6x** Pan-focus Zoom lens	Color	1/4"	520 TVL	1.9 lx (F1.9)	Multi-spot Center-zone	ATW AWC Manual	24 V AC ±10% 12 V to 15 V DC
Color Camera								
1/3" CMOS High-resolution WDR Day/night Camera **VCC-WD8875P** DAY NIGHT	CS mount replaceable	Day/Night	1/3"	550 TVL	Color 0.8 lx B/W 0.08 lx (F1.2)	Wide Dynamic Range	ATW Manual	24 V AC ±10% 12 V to 15 V DC
1/3" CMOS High-resolution WDR Day/night Camera **VCC-WD8870P** DAY NIGHT	CS mount replaceable	Day/Night	1/3"	550 TVL	Color 0.8 lx B/W 0.08 lx (F1.2)	Wide Dynamic Range	ATW Manual	220 V to 230 V AC
1/3" CMOS High-resolution WDR Camera **VCC-W8775P**	CS mount replaceable	Color	1/3"	550 TVL	0.8 lx (F1.2)	Wide Dynamic Range	ATW Manual	24 V AC ±10% 12 V to 15 V DC
1/3" CMOS High-resolution WDR Camera **VCC-W8770P**	CS mount replaceable	Color	1/3"	550 TVL	0.8 lx (F1.2)	Wide Dynamic Range	ATW Manual	220 V to 230 V AC
Indoor mini Dome Camera **VCC-9685VP**	Built-in **2.9x** (2.8 to 8.0mm) Vari-focal Zoom lens	Color	1/4"	540 TVL	0.5 lx (F0.95)	Multi-spot Center-zone	ATW Manual	24 V AC ±10% 12 V to 15 V DC
1/3" Color CCD High-resolution Day/night Camera **VCC-4795P E** DAY NIGHT	CS mount replaceable	Day/Night	1/3"	540 TVL	Color 0.45 lx B/W 0.01 lx (F1.2)	Multi-spot Center-zone	ATW Manual	24 V AC ±10% 12 V to 15 V DC
1/3" Color CCD High-resolution Day/night Camera **VCC-4790P E** DAY NIGHT	CS mount replaceable	Day/Night	1/3"	540 TVL	Color 0.45 lx B/W 0.01 lx (F1.2)	Multi-spot Center-zone	ATW Manual	220 V to 230 V AC
1/3" Color CCD E-Day/night High-resolution Camera **VCC-6695P** E- DAY NIGHT Electronic Day/night function	CS mount replaceable	E-Day/Night	1/3"	540 TVL	Color 0.35 lx B/W 0.25 lx (F1.2)	Multi-spot Center-zone	ATW Manual	24 V AC ±10% 12 V to 15 V DC
1/3" Color CCD E-Day/night High-resolution Camera **VCC-6690P** E- DAY NIGHT Electronic Day/night function	CS mount replaceable	E-Day/Night	1/3"	540 TVL	Color 0.35 lx B/W 0.25 lx (F1.2)	Multi-spot Center-zone	ATW Manual	220 V to 230 V AC
1/3" Color CCD High-resolution Camera **VCC-5995P**	CS mount replaceable	Color	1/3"	540 TVL	0.5 lx (F1.2)	Center-zone	ATW	24 V AC ±10% 12 V to 15 V DC
Dummy Camera								
Dummy Camera **VC-0410**	with dummy lens	—	—	—	—	—	—	—
Dummy Camera **VC-0450**	with dummy lens	—	—	—	—	—	—	—

SANYO Products Line Up 2009 ———————— DVR

Category / Model No.	Max HDD Capacity (Technically) per one bay	Number of channels	Multi-screen display	Compression	Recording speed (IPS)	Max. resolution	SSP (RS-485) compatible	Telemetry control	Network terminal	Backup media	Power supply
16ch Hybrid DVR **DSR-HB8000**	2 TB	16 (Network camera max. 8 units)	4 / 9 / 16-screen, Plus display	MPEG-4	400IPS/16ch CIF, 200IPS/8ch Half D1, 100IPS/4ch D1	720 x 576	✓	✓	✓	Built-in DVD+R/RW CD-R/RW USB Flash memory	120 V to 240 V AC 50 / 60 Hz
16ch DVR **DSR-5716P**	2 TB	16	4 / 9 / 16-screen, Plus display	JPEG2000	100 IPS	720 x 288	✓	✓	✓	DVD+R/RW CD-R/RW with VA-EXD1B USB Flash memory	120 V to 240 V AC 50 / 60 Hz
9ch DVR **DSR-5709P**	2 TB	9	4 / 9-screen, Plus display	JPEG2000	100 IPS	720 x 288	✓	✓	✓	DVD+R/RW CD-R/RW with VA-EXD1B USB Flash memory	120 V to 240 V AC 50 / 60 Hz
16ch DVR **DSR-3716PA**	1 TB	16	4 / 9 / 16-screen, Plus display	M-JPEG	50 IPS	720 x 288	✓	✓	✓	CD-R/RW with VA-EXD1W CF USB Flash memory	120 V to 240 V AC 50 / 60 Hz
9ch DVR **DSR-3709PA**	1 TB	9	4 / 9-screen, Plus display	M-JPEG	50 IPS	720 x 288	✓	✓	✓	CD-R/RW with VA-EXD1W CF USB Flash memory	120 V to 240 V AC 50 / 60 Hz
16ch DVR **DSR-2016**	2TB	16	4 / 9 / 16-screen	MPEG-4	200 IPS	704 x 576	✓	✓	✓	Built-in CD-R/RW USB Flash memory	Input 100 V to 127 V AC,4A 200 V to 240 V AC,2A 50/60 Hz
4ch DVR **DSR-2004**	2TB	4	4-screen	MPEG-4	100 IPS	704 x 576	——	✓	✓	USB Flash memory	Input 100 V to 240 V AC, 50/60 Hz Output 12 V DC

Category / Model No.	Description
VA-EXH	The VA-EXH is an expansion unit that employs 4 HDD bays and enables further extension of recording time. for DSR-5716P / DSR-5709P with VZU-SATB1
VA-EXD1 B	This external DVD+R / +RW / CD-R/RW is a perfect match for DSR-5716P / DSR-5709P.
VA-EXD1 W	This external CD-R/RW is a perfect match for DSR-3716PA / DSR-3709PA.
VZU-SCB1	The VZU-SCB1 enables the connection to an external RAID system. For further details on compatible devices, please contact the place of purchase for DSR-5716P / DSR-5709P.
VZU-SATB1	The VZU-SATB1 enables the connection to an external S-ATA system, VA-EXH for DSR-5716P / DSR-5709P.

Category / Model No.	Description
VA-RACMK1	Rack mount bracket for VA-EXD1 B / VA-EXD1 W
VA-RACMK2	Rack mount bracket for DSR-5716P / DSR-5709P / DSR-3716PA / DSR-3709PA
VA-RACMK3	Rack mount bracket for DSR-2016

SANYO Products Line Up 2009 ———————— System

Category / Model No.	Communication method	Control terminals	Touch Panel	Menu language	No. of user maps	Protocol	Power requirement (approx.)	Dimensions	Weight (approx.)
SSP System Controller **VSP-9000**	RS-485, RS-422, RS-232C	RJ-11: 3 ports, D-SUB 9pin:1	320 x 240 pixels, backlit by white LED	English / French / German / Italian / Cutomisation	26 maps, 40 keys for each map	**Camera**: SANYO SSP, H-SSP, Mark Mercer, Videotec, Ernitec, Pelco-D, Macro Sensormatic, VCL **DVR / MPX**: SANYO, Videotec **Matrix switcher**: Videotec	12 V DC, 1A (AC adaptor)	280(W) x 94(H) x 225(D) mm (w / 3-axis proportional joystick)	900 g [31.7 oz.]
SSP System Controller **VSP-8500**	RS-485, RS-422, RS-232C	RJ-11: 3 ports, D-SUB 9pin:1	——	English / Spanish / French / German / Italian / Japanese	——	**Camera**: SANYO SSP, H-SSP, Mark Mercer, Videotec, Ernitec, Pelco-D, Macro, Sensormatic, VCL **DVR**: SANYO SSP **Matrix switcher**: Videotec (only SM328S)	12 V DC, 1A (AC adaptor)	280(W) x 101(H) x 225(D) mm (w / 3-axis proportional joystick)	900 g [31.7 oz.]
SSP System Controller **VSP-3000**	RS-485	Tx1 Tx2 Tx3 TR x	——	English only	——	**Camera**: SANYO SSP, H-SSP, Pelco-D	12 V DC, 1A (AC adaptor)	280(W) x 100(H) x 180(D) mm (w / 3-axis proportional joystick)	750 g [26.5 oz.]

SSP devices		
Camera	**Pan-focus Camera**	**DVR**
Weatherproof AF zoom Camera **VCC-XZ600P** DAY NIGHT AF Zoom Camera **VCC-ZM600P** DAY NIGHT AF Zoom Camera **VCC-ZM500P** AF Speed Dome Camera **VCC-9800P E** DAY NIGHT **VCC-9700P E** **VCC-9600P E** DAY NIGHT **VCC-9500P E**	Weatherproof Camera **VCC-XZ200P + VA-20ST** DAY NIGHT Vandal-resistant PTZ Dome Camera **VDC-DP9585P** DAY NIGHT PTZ Indoor mini Dome Camera **VCC-P9575P** Vandal-resistant Dome Camera **VDC-DP7585P + VA-50ST** DAY NIGHT Indoor mini Dome Camera **VCC-P7575PA + VA-50ST**	MPEG-4 16ch Hybrid DVR **DSR-HB8000** JPEG2000 16ch DVR **DSR-5716P** JPEG2000 9ch DVR **DSR-5709P** M-JPEG 16ch DVR **DSR-3716PA** M-JPEG 9ch DVR **DSR-3709PA** MPEG-4 16ch DVR **DSR-2016**

SANYO Products Line Up 2009 ———————— Monitor

Category / Model No.	Color	Horizontal resolution	Video input	S-VIDEO input	PAL / NTSC Multi-system	Scan	Speaker	Power supply	Menu language
19" High Performance Professional LCD Monitor **VMC-L2019P**	✔	500TVL	A / B	✔	✔	Over / Under	✔	100 V to 240 V AC 50 / 60 Hz	English / Spanish French / German Italian / Russian Swedish / Portuguese Chinese / Korean Japanese
17" High Performance Professional LCD Monitor **VMC-L2017P**	✔	500TVL	A / B	✔	✔	Over / Under	✔	100 V to 240 V AC 50 / 60 Hz	English / Spanish French / German Italian / Russian Swedish / Portuguese Chinese / Korean Japanese

2009
CCTV PRODUCTS CATALOG

www.sanyosecurity.com

*Caution: Please consult the instruction manual to ensure safe and proper operation of the product.

C€

ISO 14001
JACO
JAPAN AUDIT AND CERTIFICATION ORGANIZATION FOR ENVIRONMENT AND QUALITY
EC00J0303

UKAS ENVIRONMENTAL MANAGEMENT
051

ISO 9001

DNV

Digital System Company of SANYO Electric Co., Ltd. obtained Quality Management System ISO9001 and Environmental Management System ISO14001 certifications.

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