Speed Dome Cameras

VCC-9500/9600/9700/9800 series

SANYO Electric Co., Ltd.
Division/ Title

05. October, 2007

Development Concept

1 **Industry-leading levels of mechanism**

2 **Easy installation & easy set-up**

**3** **Customer-oriented functions & to meet the various application**

- **Higher optical lens adoption**
- **Optimum AF (Auto Focus) performance**
- **Wide range of line-ups**
- **Wide variety of options**

Development Concept

1 | **Industry-leading levels of mechanism**

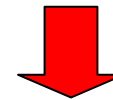**2** | **Easy installation & easy set-up**

3 | **Customer-oriented functions & to meet the various application**
- Higher optical lens adoption
- Optimum AF (Auto Focus) performance
- Wide range of line-ups
- Wide variety of options

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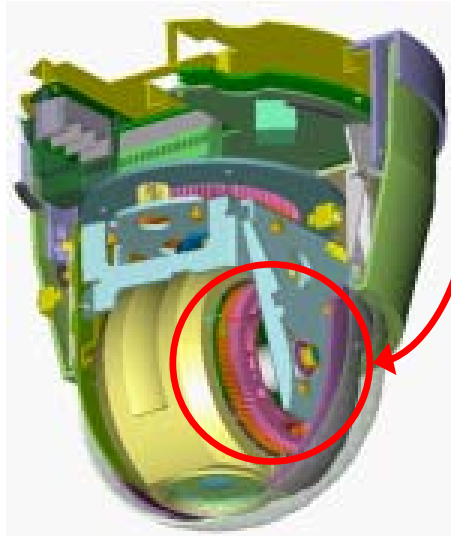
-**Scissors gear for control accuracy**

-**High performance of stepping motor**

	Previous motor	New motor
One step move angle	0.025 deg	0.009 deg

➤ **Smooth movements**

Rotation speed	Panning: Max. 435 deg/sec Tilting: Max. 400 deg/sec Manual: 0.1 – 120 deg/sec

Preset accuracy	+/- 0.014 deg

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Preset accuracy: +/- 0.014 deg

Original preset position

(VCC-9300/9400 series)
+/- 0.2 deg accuracy

(VCC-9800 series)
+/- 0.014 deg accuracy

The preset accuracy will be improved
at higher lens magnification.

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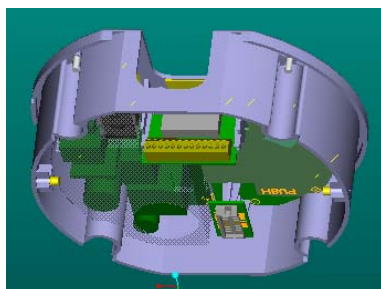- Wide variety of options

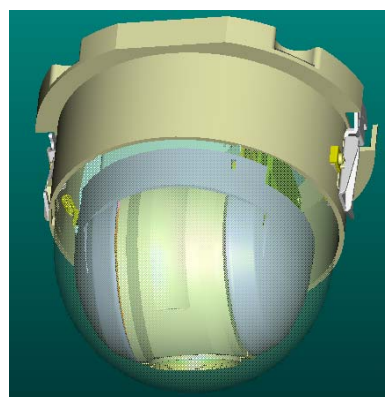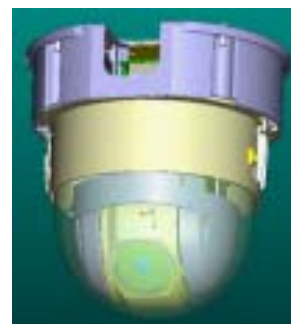Think GAIA
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1-2-3 installation

1. Fixing the power basement

2. Incorporating the camera unit

3. Turning the cover counter-clockwise to fix

Finish!

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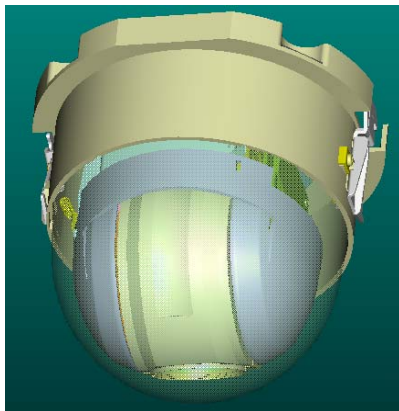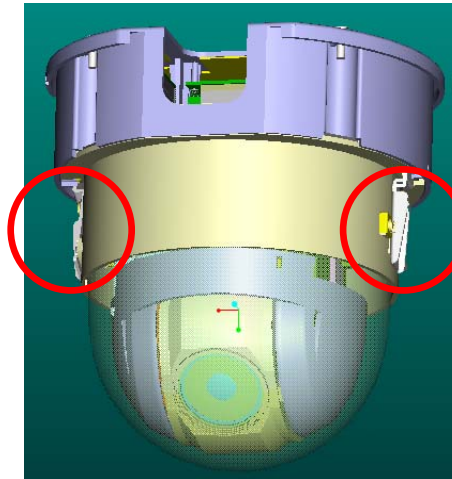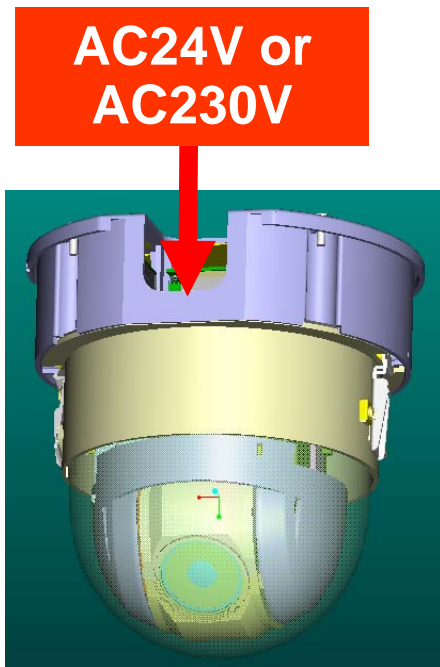For Life and the Earth

Snap-in camera unit

Easy installation & Easy maintenance
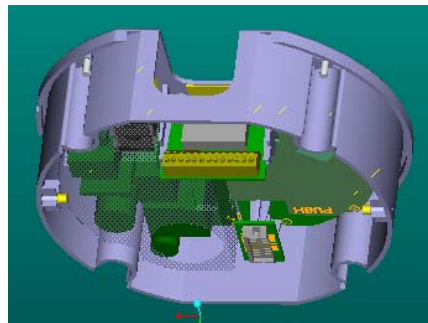
Detachable camera unit without any tools

Snap-in

Release lever

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AC24V or AC230V

AC24V or AC230V

No electric activity
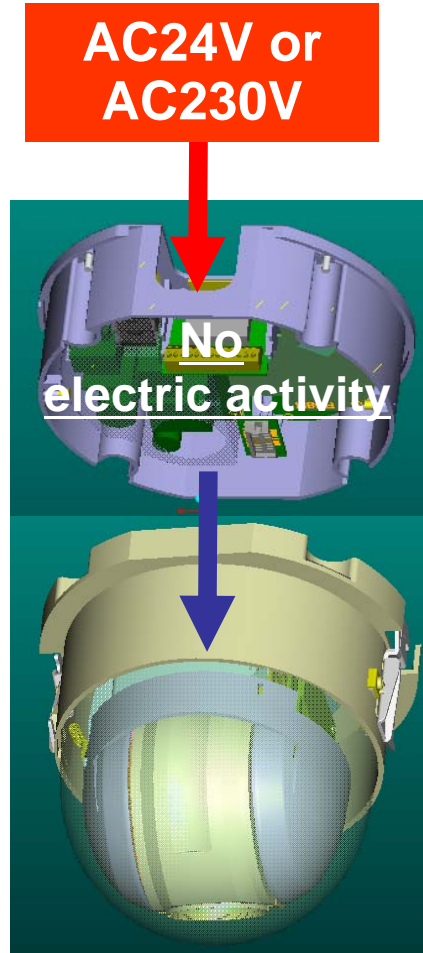
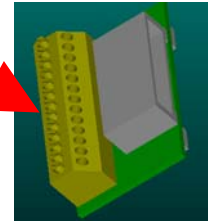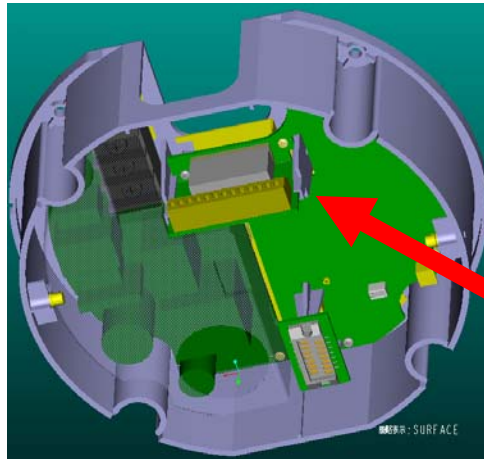*Easy maintenance*

When the camera unit is released from the power basement, electric activity in the power basement will stop automatically.

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Detachable setting board

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Easy set-up

Terminal side (Side-A)
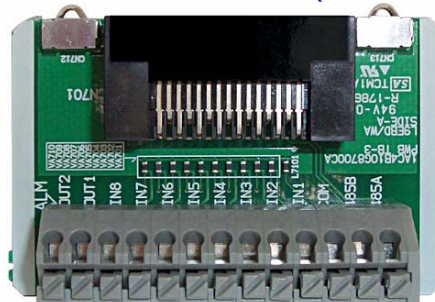
**Alarm inputs(8)
Alarm outputs(2)
RS485A/RS485B**

DIP switch side (Side-B)

**Address setting
Baud rate setting
RS485/COAX setting
SSP/PELCO setting
TERMINATION setting**

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Save/Load mode of camera settings

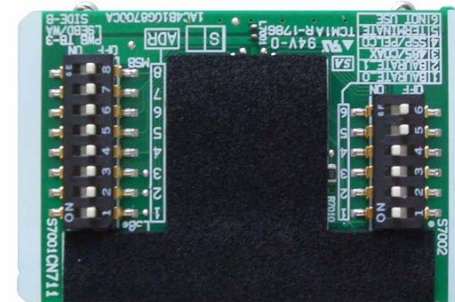## When the maintenance of camera unit Is needed,

1. Save the camera settings into the basement before maintenance

Settings

Save
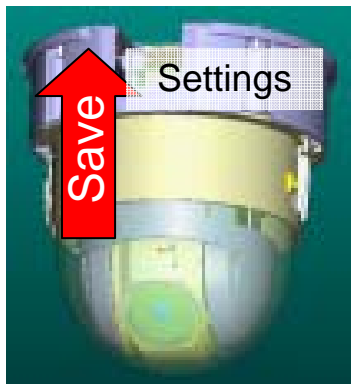
2. Remove the camera unit from the basement

Settings

3. Camera maintenance (e.g.) Exchange module
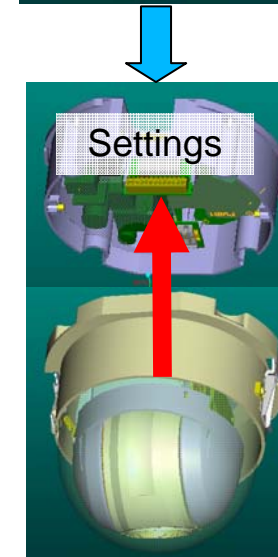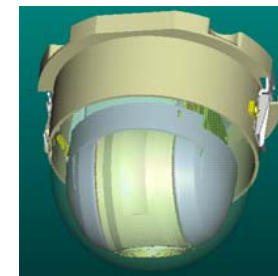
Settings

5. Load the camera settings into the camera unit after maintenance

Load
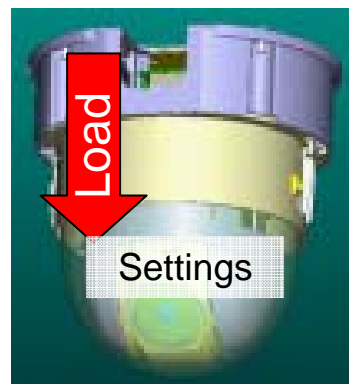
Settings

4. Incorporate the camera unit

Easy maintenance

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Simplified operation with VAC-70

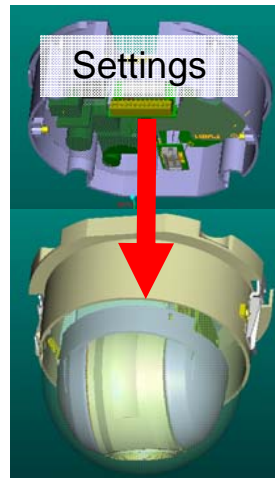- **- View angle adjustment**
- **- Camera settings via on-screen display menu**
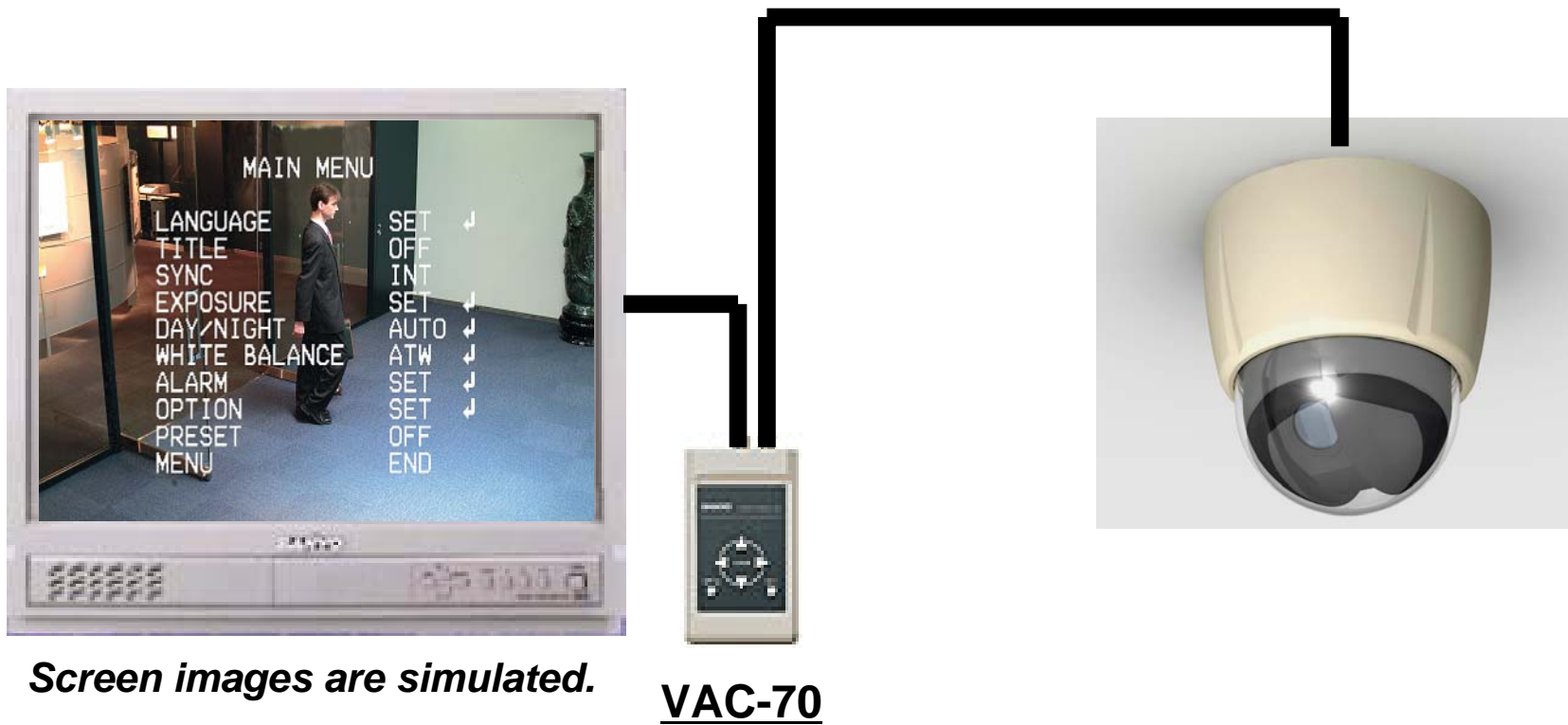
MAIN MENU

LANGUAGE	SET
TITLE	OFF
SYNC	INT
EXPOSURE	SET
DAY/NIGHT	AUTO
WHITE BALANCE	ATW
ALARM	SET
OPTION	SET
PRESET	OFF
MENU	END

Screen images are simulated.

VAC-70

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x36, x30 optical zoom lens

L : Distance between lens and subject (m)
f : Lens focal length (mm)
W : Width of subject (m)
H : Height of subject (m)
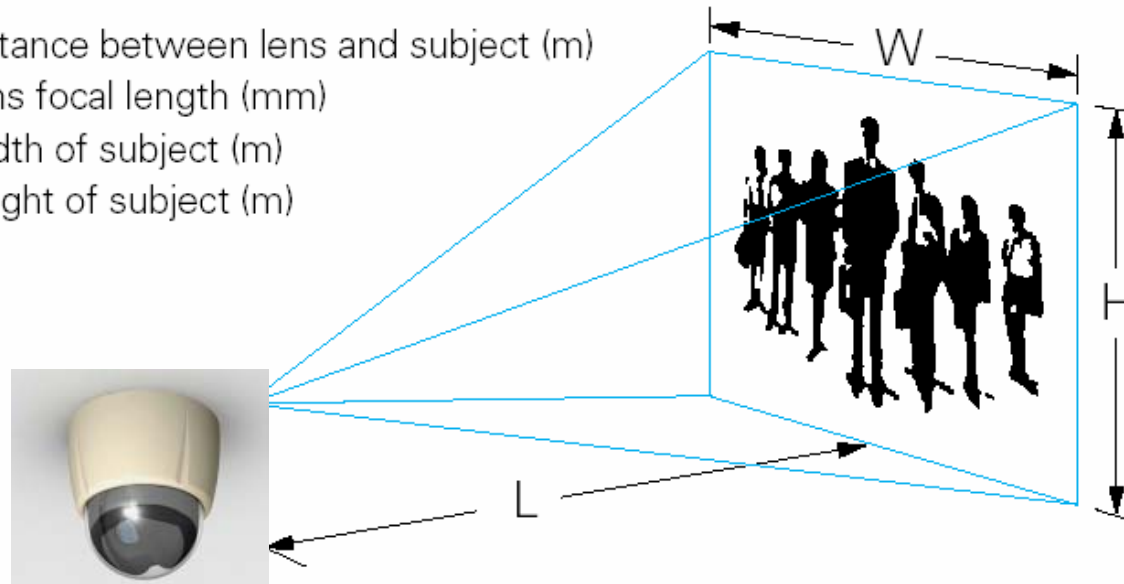
*Actual shooting range may be smaller due to TV over scanning.

	Wide end		Tele end	
	W [m]	H [m]	W [cm]	H [cm]
x36	10.6	7.9	29	22
x30	10.3	7.7	34	26
x22 (Day/night)	10.0	7.5	45	34

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Optimum AF (Auto Focus) performance

- Quick AF adjustment

- No bouncing in AF operation

- Optimum AF function
                    even during pan/tilt operations
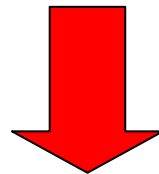
Always focusing images
                    with AF function

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Line-up

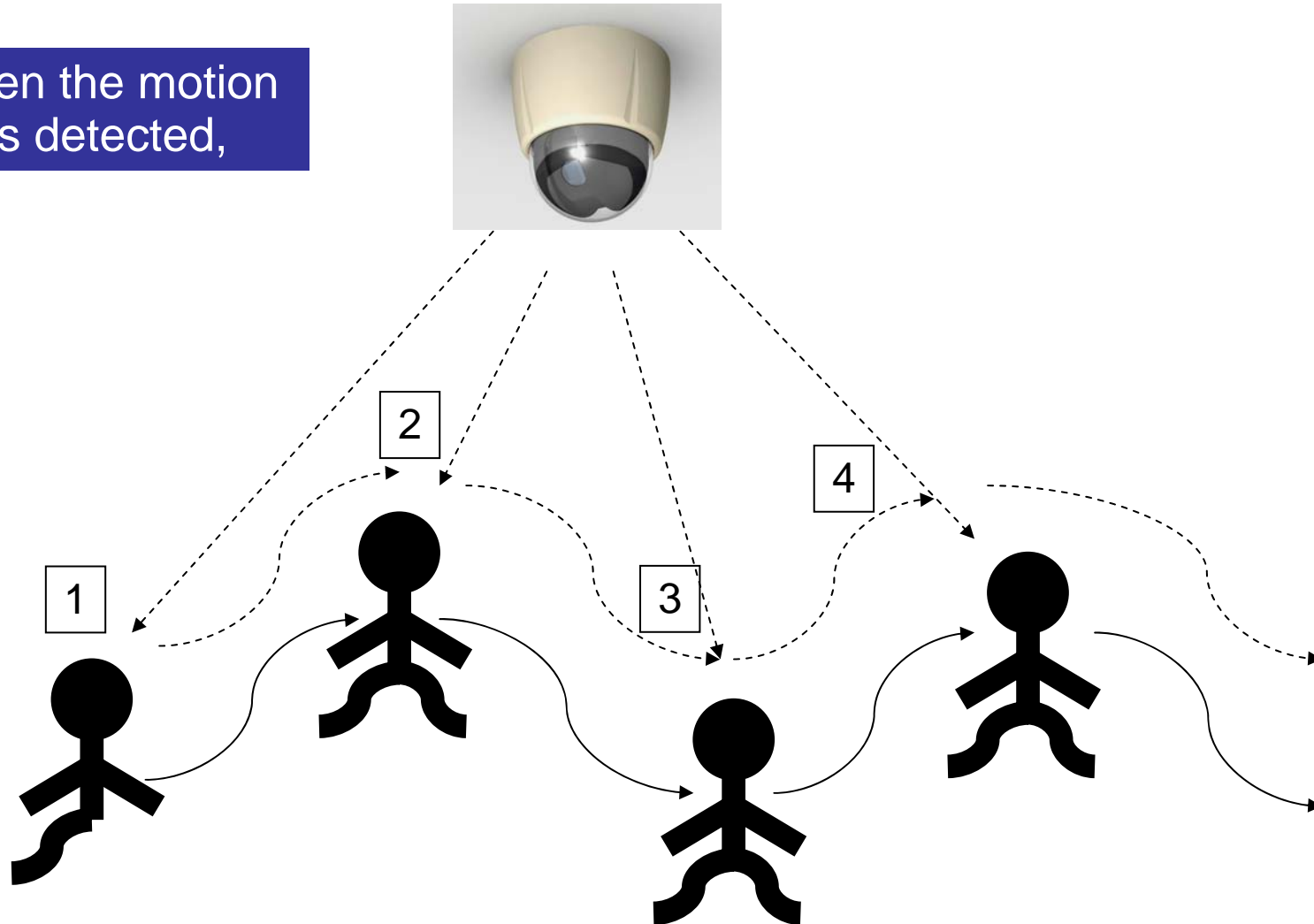| (PAL)	VCC-9800P	VCC-9700P	VCC-9600P	VCC-9500P
	Day/Night	Color	Day/Night	Color
Optical lens	x36, f=3.4-122.4mm, F1.6-4.5		x30, f=3.5-105mm, F1.4-3.7	
Min. Illumination	1.0 lx (F1.6, Color, gain: max)	1.0 lx (F1.6, Color, gain: max)	0.8 lx (F1.4, Color, gain: max)	0.8 lx (F1.4, Color, gain: max)
	0.05 lx (F1.6, B/W, gain: max)	-------	0.04 lx (F1.4, B/W, gain: max)	-------
Day/Night function	Auto/Color/ BW/External	-------	Auto/Color/ BW/External	-------
Preset positions	256		128	
Automatic tracking	On/Off		-------	
Image stabilizer	On/Off		-------	

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Automatic tracking (x36 model only)

When the motion
is detected,

1

2

3

4

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Image stabilizer (x36 model only)

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Useful feature when installed in places that subject to shaking
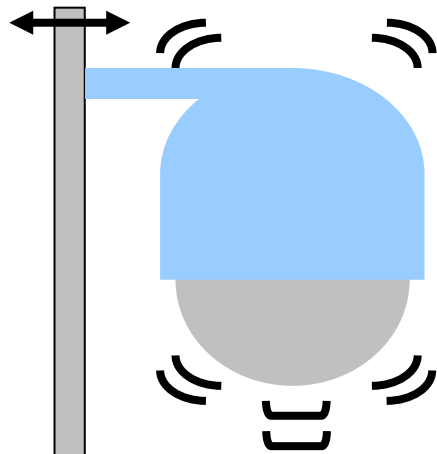
Due to strong wind or traffic vibration

No Image stabilizer

Image stabilizer

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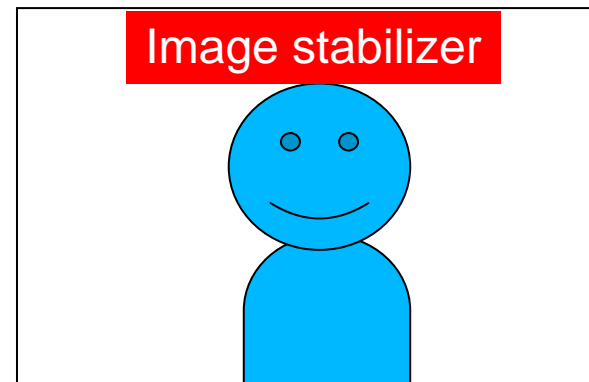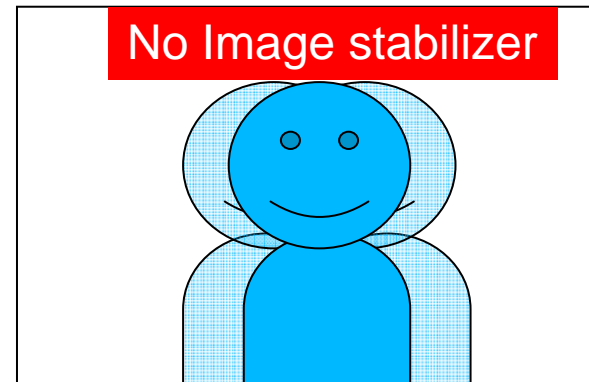
Camera common features (1)

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➤ Image sensor ¼" interline transfer CCD

➤ Number of pixels 795x596, Effective 752x582

➤ Video S/N ratio More than 50dB (AGC Off)

➤ Digital zoom x16

➤ Sync. system Internal/Line-lock

➤ Backlight compensation Multi/Center/Off

➤ Electronic shutter Fast (8 modes), Slow (6 modes)

➤ Electronic sensitivity Auto/Off, max 32 times

(All around)

➤ Privacy masking On/Off, max 24 zones

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+ 5 deg   **+ 5 deg**

Horizontal level
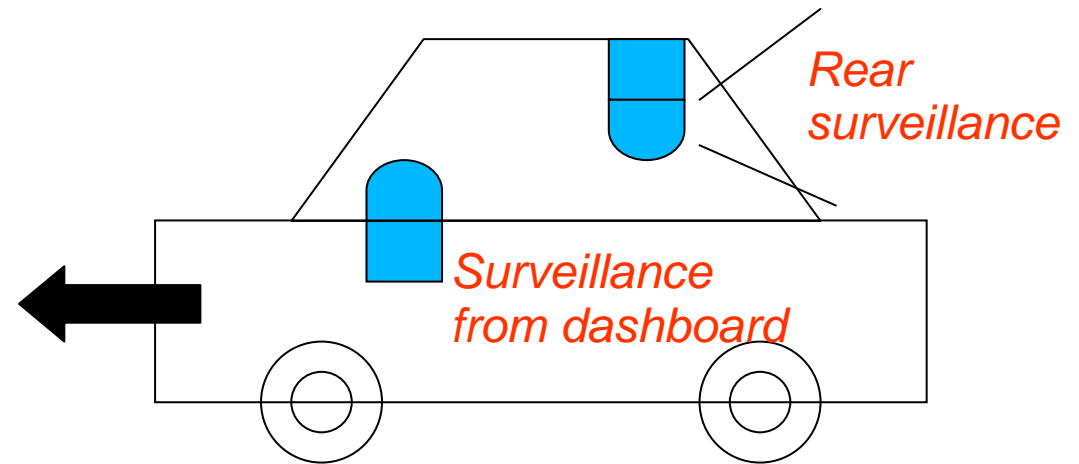
Previous model's masking area

Previous model's masking area

45 deg   **45 deg**
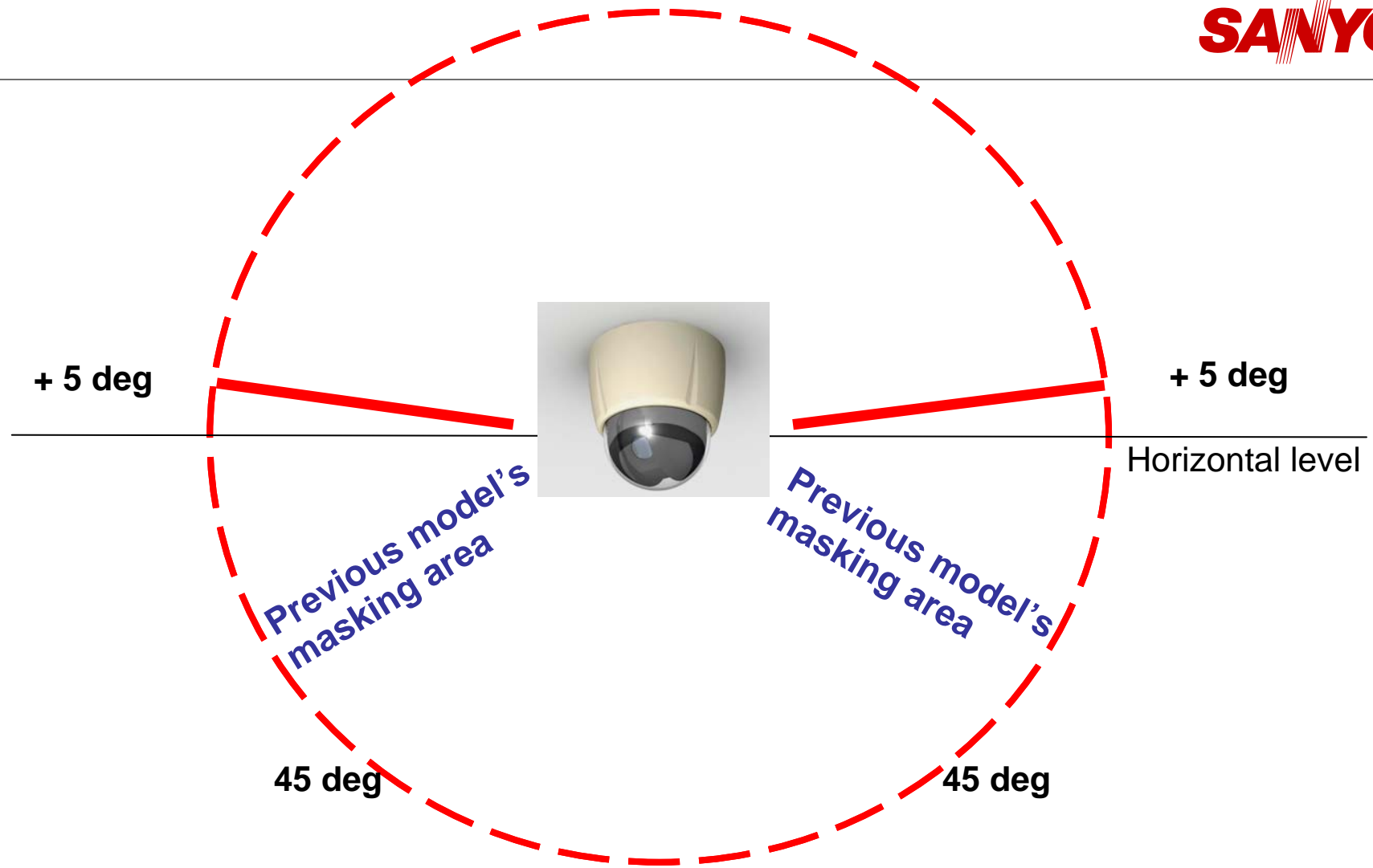
No prohibited areas on new speed dome cameras

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➤ Mirror image effect   H/V/HV/Off

➤ Image freeze   On/Off

➤ Motion detection   On/Off, with motion zoom function

➤ White balance   ATW/AWC/Manual/Outdoor/ Indoor/Fluorescent

➤ Aperture compensation On/Off

➤ AGC   Normal/High/Off

➤ Operating temperature -10 deg C - 50 deg C

(14 to 122 F)

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Stadium or Gymnasium
surveillance from ground

Rear
surveillance

Surveillance
from dashboard

Tilt range from -5 deg

Horizontal level

Tilt range: -5 to 185 deg

Dead area in case of
tilt range, 0 deg

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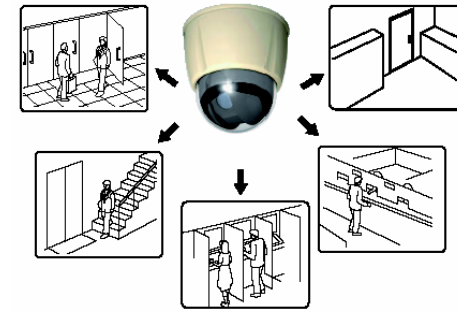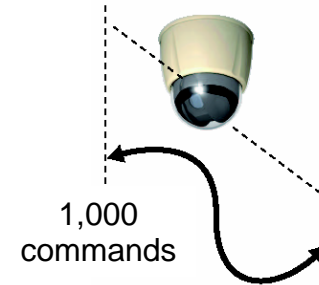
- Sequence: 4 groups; 256 preset positions

  (128 preset positions for x30 models)

- Auto pan: 4 patterns
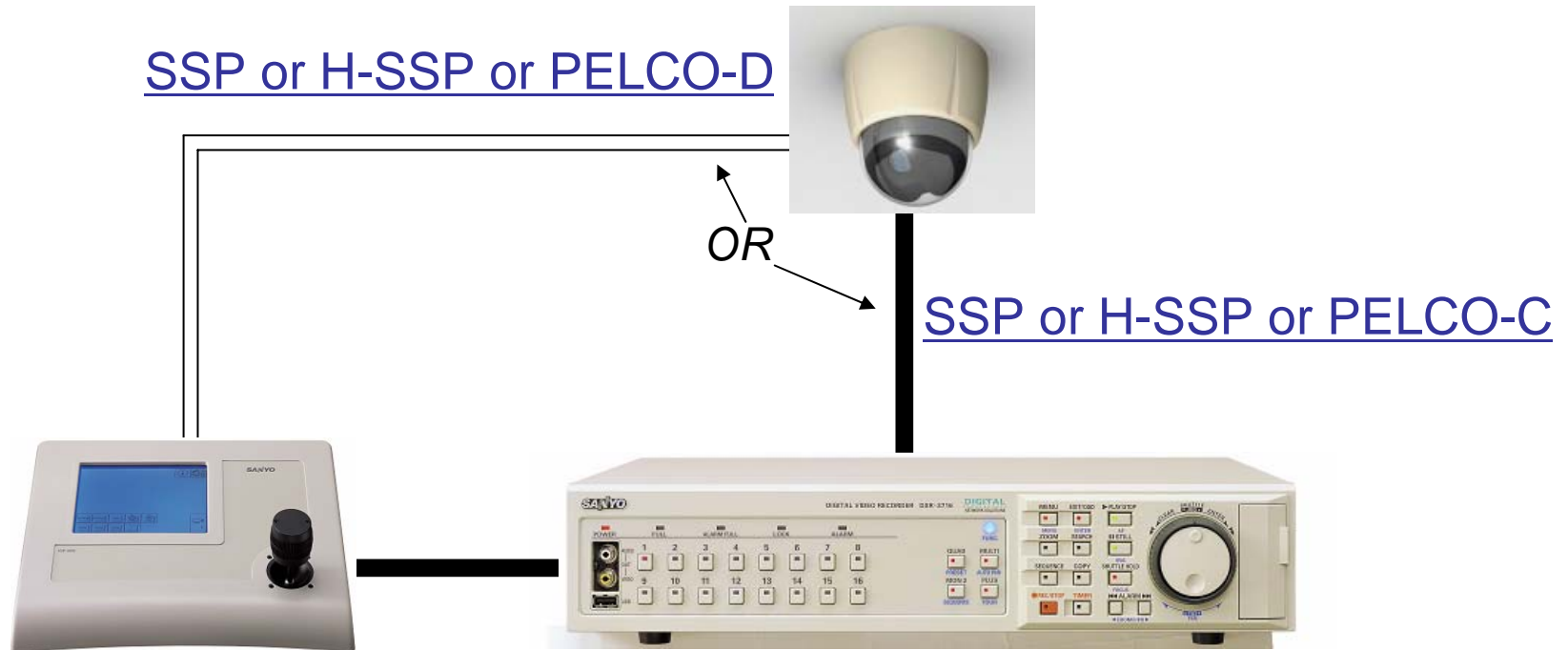
- Tour: 4 patterns,   1,000
commands/pattern

- Auto return

Starting point   End point

1,000
commands

```
        AUTO MODE

SEQUENCE        A     ↓
AUTO PAN        1     ↓
TOUR            1     ↓
AUTO RETURN    SEQ A
 TIME           1M


PRESET         OFF
MENU           BACK
```

- · **OFF**
- · **SEQ A-D**
- · **PAN 1-4**
- · **TOUR 1-4**
- · **PRESET 1-255**

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Communication protocol

- Coaxial control: SSP/ H-SSP/PELCO-C

- RS485: SSP/ H-SSP/PELCO-D

SSP or H-SSP or PELCO-D

OR

SSP or H-SSP or PELCO-C

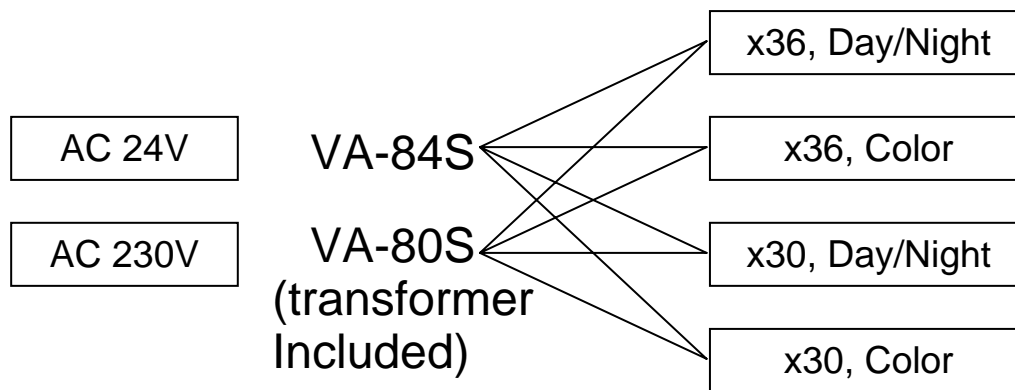|	
Image compression	JPEG / MPEG4 (VA-82LAN)
Resolution	720x572, 720x286, 640x480,360x286, 180x143 [PAL]
Picture quality	5 levels
Frame rate	Max. 25 IPS (720x286)
Audio compression	G.711 (192Kbps), full duplex
Microphone input	-62 to -32 dB (Monaural) 3.5 mm mini jack
Audio output	LINE OUT monaural, max. -8 dB, 3.5 mm mini jack
Bandwidth	128, 256, 512 Kbps, 1, 2, 3, 4, Mbps, no limitation
Alarm buffer	Up to 8 MB; configurable
Interface	10BASE-T/100BASE-TX (RJ45 connector)
Protocols	TCP, UDP, HTTP, HTTPS, SMTP,NTP,DHCP,FTP, UPnP
Simultaneous access	Image: max. 16, Voice: max. 16 (admin. 1)
Security	BASIC authentication (ID/password), SSL supported (image only)
Others	Bundled software, VA-SW3050LITE Recording software, VA-SW3050 (sold separately)

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Power basement

Camera unit (PAL)

AC 24V	VA-84S	x36, Day/Night	VCC-MC800P
AC 230V	VA-80S (transformer Included)	x36, Color	VCC-MC700P
		x30, Day/Night	VCC-MC600P
		x30, Color	VCC-MC500P

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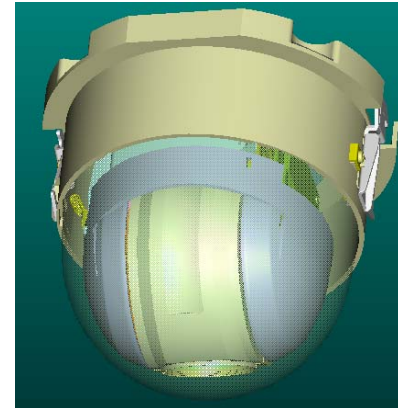
Indoor use

- Combination of housings, brackets etc.

VA-80F

VA-80A
VA-80F
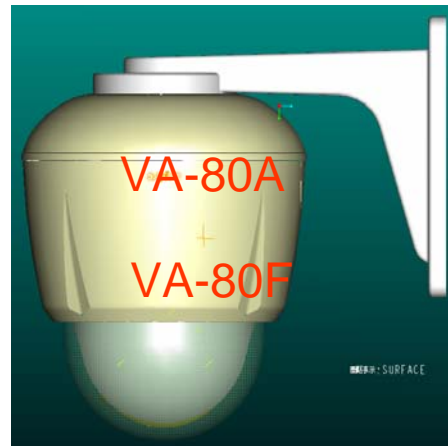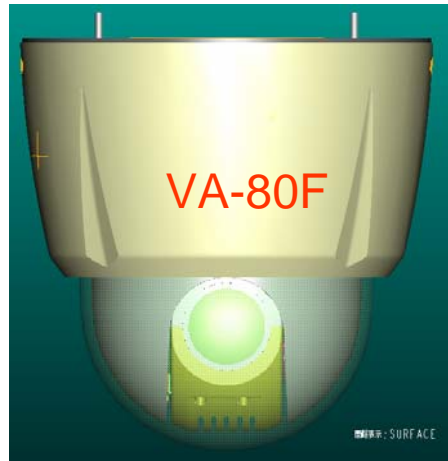
VA-80BW

VA-80BP

VA-80A
VA-80F

Smoked cover

VA-CZ80
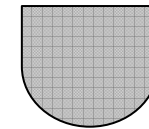
(Closed type)
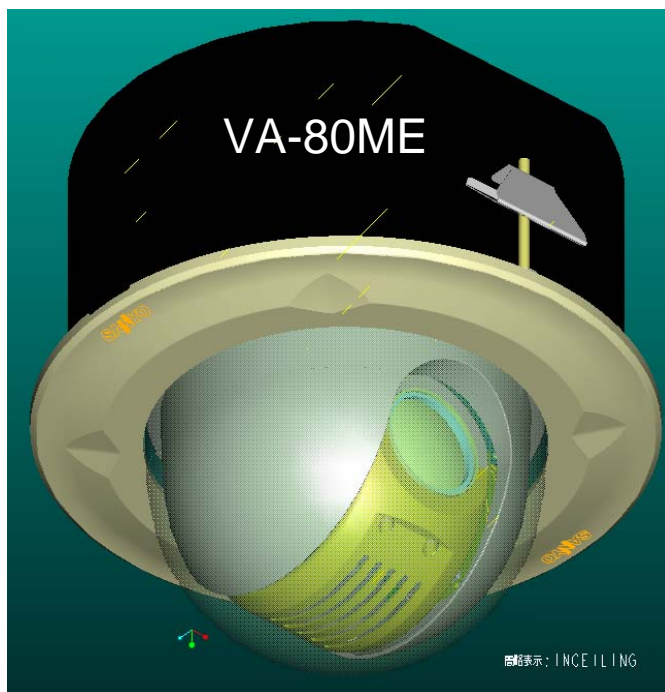
(Open type)

Outdoor use

- Combination of housings, brackets etc.

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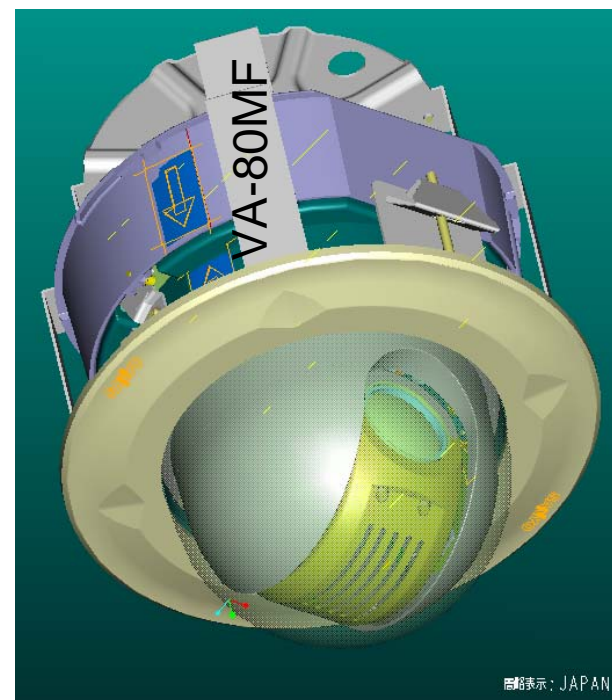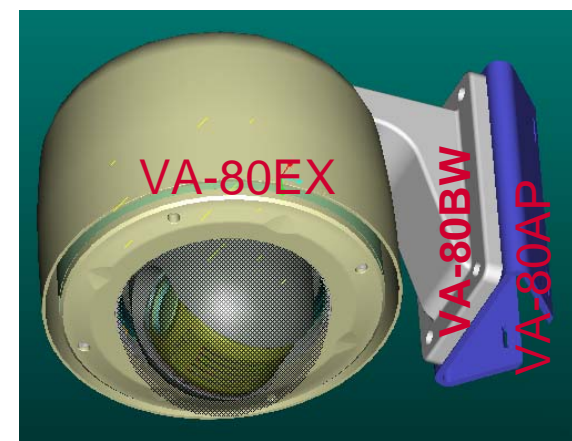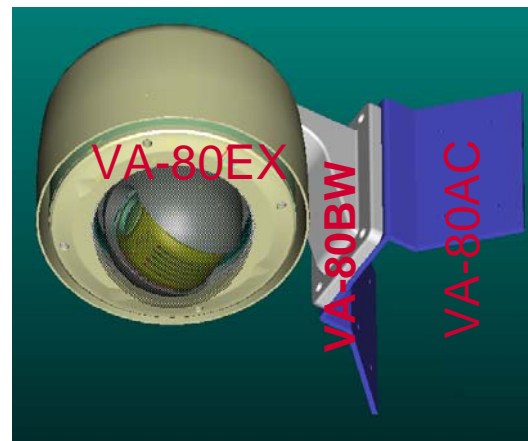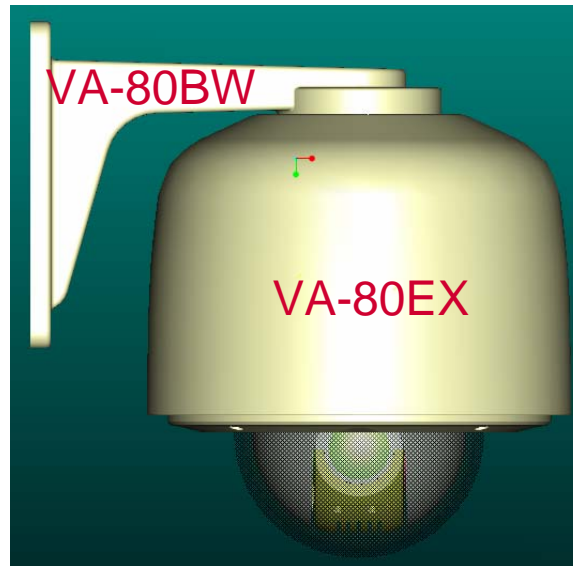
Wide variety of options (housings etc.)

Attachment
VA-80A
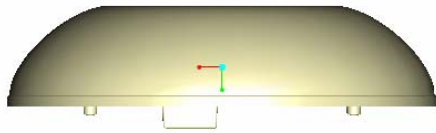
In-ceiling bracket
VA-80ME

In-ceiling bracket
VA-80MF

Surface cover
VA-80F

UL2043 application

Metallic
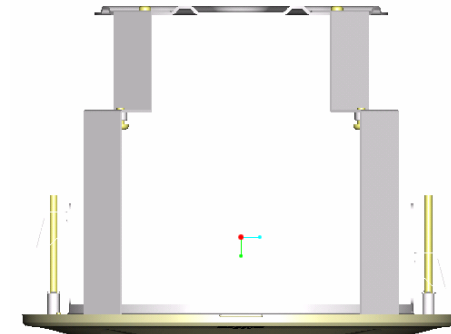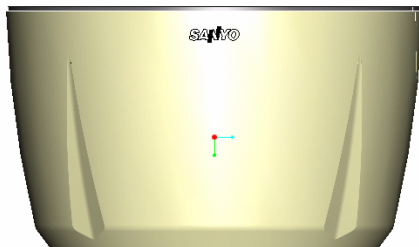
Outdoor housing
VA-80EX
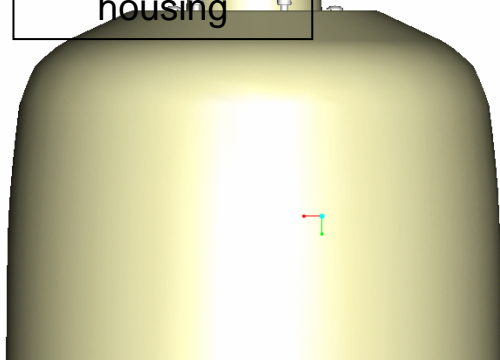
Clear dome cover for outdoor housing
VA-CM8C
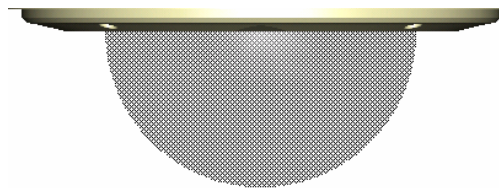
Smoked dome cover for outdoor housing
VA-CM8S

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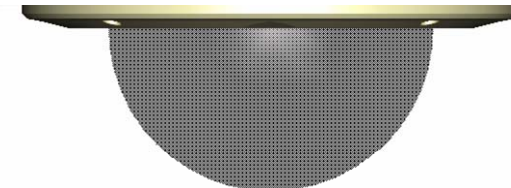
Wide variety of options (housings etc.)

Pendant mounting bracket	Wall mounting bracket	Corner mounting adapter	VA-80AC
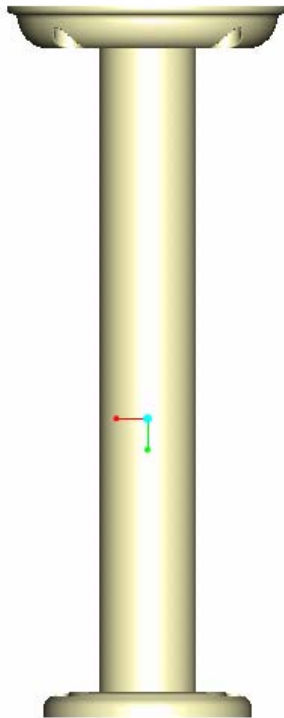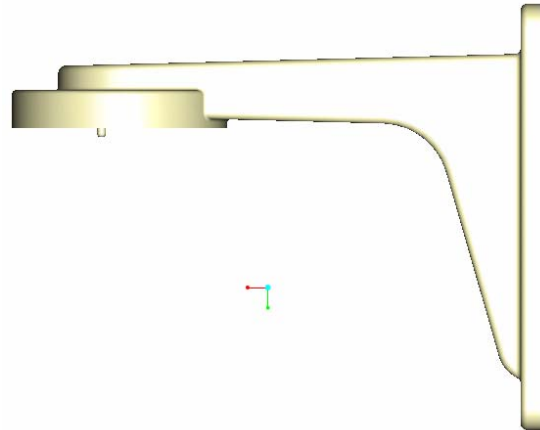
VA-80BP

VA-80BW

Pole mounting adapter	VA-80AP

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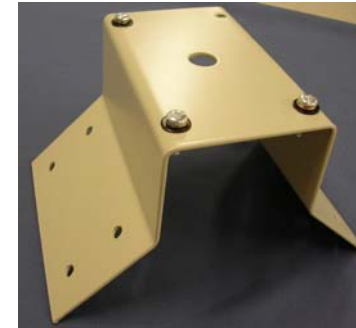
Available in Three Types: Outdoor, Surface or In-Ceiling

The cameras are available in three different styles. Assemble them with different fittings and covers for an optimal match to your surveillance needs.

Comparison

	9800	Bosch EnviroDome	Pelco Spectra III	AD Ultra VII	Pana. WV-CS950	Samsung SCC-C6407
Horizontal resolution	520	470(NTSC) 460(PAL)	470	470	520 (typ540)	480
Optical zoom	x36 f=3.4-122.4	x25 f=2.4-60	x23 f=3.6-82.8	x23 f=3.6-82.8	x30 f=3.8-114	x32 f=3.55-113
Digital zoom	x16	x12	x10	x10	x10	x10
M. Illumination [B/W]	0.05 lx	1.3 lx	0.43 lx	0.03 lx	0.04 lx	0.12 lx
M. Illumination [Color]	1.0 lx	3.3 lx	3.8 lx	1.3 lx	0.5 lx	0.3 lx
Privacy masking	Up to 24 (all around)	Up to 6	Up to 8	Up to 8	Up to 8	Up to 12
Panning speed (deg/s)	435	360	360	220	400	400
Manual speed (deg/s)	0.1-120	120	0.1-80	0.25-100	0.07-120	0.1-180
Preset accuracy	+/- 0.014deg	+/- 0.5deg	+/- 0.1deg	+/- 0.5deg		
Preset positions	256	99	80	96	256	128
Alarm input/output	8/2		7/2	4/4	4/2	8/4
Dimensions (Diameter x H)	193x192.5		193x220		154.5x233	159.5x176

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Speed dome solution!

Outdoor type   Surface type   In-ceiling type

1/4" Color CCD High-Resolution AF Speed Dome Cameras

36x Optical zoom	VCC-9800/9800P **DAY NIGHT**
	VCC-9700/9700P
30x Optical zoom	VCC-9600/9600P **DAY NIGHT**
	VCC-9500/9500P

Time-tested technology and know-how combine to provide both high-performance surveillance and ease of use.

Cameras that introduce an array of new technologies for surveillance with a motorized drive system for high-speed, 435°/sec panning and pinpoint accuracy, high-power magnification with a 36x optical*[1] and a 16x digital zoom, and a host of features that include image stabilization, automatic tracking*[1] and optimum auto focus.

Production of power supply bases and camera units—with integrated lens, motor and pan/tilt mechanism—starts and ends in Japan to ensure the highest build quality*[2], while release levers on camera housings make installation and on-site maintenance as simple as can be.

*[1] VCC-9800/9800P/9700/9700P cameras
*[2] Housings and mounting brackets are made in China.

Featuring industry-leading mechanisms newly developed for high performance.

High-Speed Panning at 435° per Second

The camera makes it possible to capture images at exact points during surveillance with high-speed panning at 435°/sec. between preset positions. The motor is several times more precise with movement in 0.009 of a degree increments. This precise mechanism allows capture of 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.

Image Stabilization (VCC-9800/9800P/9700/9700P)

Blurring due to vibration of the camera can be electronically removed. It is also possible to correct for blurring only while continuing camera movement such as pan and tilt.

Automatic Tracking (VCC-9800/9800P/9700/9700P)

Cameras feature an image processing algorithm that is capable of detecting moving objects on the screen and tracking an object automatically. When there are multiple movements, the object with the largest degree of movement is tracked. Further settings are available according to the pattern of movement.

Optimum Auto Focus

Further development of conventional auto-focus functions has resulted in not only shorter focus times, but also the added capability of remaining clearly focused on a targeted subject in front of the camera, even when other elements are passing in and out of the field of view. And with optimum focus, images remain in focus, even when the lens is in motion during pan/tilt operation.

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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, and the VAC-70 controller (sold separately) can be connected after installation to allow adjustment of PTZ control and other settings from an on-screen menu.

Detachable without disconnecting of power cable

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.

Safety Cable
Equipped with a safety cable that connects the housing and power supply base to prevent the camera unit from falling.

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.

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

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# VA-80LAN * VA-82LAN MPEG4 available 11/2007

SANYO

VA-80LAN Network Board with Newly Added Functions

The VA-80LAN optional network board for use in both PAL and NTSC versions of SANYO's VCC-9800, VCC-9700, VCC-9600 and VCC-9500 cameras now offers a number of new features, including scheduling of surveillance operations and Dynamic Field/Frame Conversion (DFFC) for blur-free images. As well as accommodating high-resolution modes, the VA-80LAN offers users the freedom to configure their own high-quality, easy-to-manage networks for surveillance.
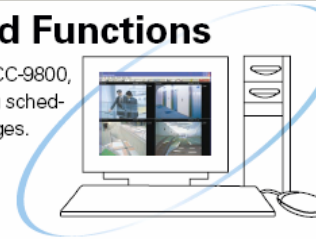
Accommodates Full D1 for High-Resolution

Allows verification in minute detail with images displayed in full D1 modes (720 x 480 in the case of NTSC). Two-way voice communication and VGA resolution (640 x 480) standard on PCs are also accommodated when using the VA-80LAN's high-resolution modes. Furthermore, up to 30 frames can be sent when an alarm is registered for smooth playback of the recorded event (when using VA-SW3050 network recording software).
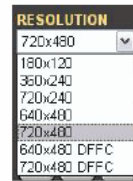
(NTSC)

DFFC Function

Alleviates jaggies around edges and blurring caused by the time difference in displaying two fields. With the DFFC modes, the DFFC function is automatically activated when motion is locally detected to allow surveillance images free of blurring even when the subject is in motion.
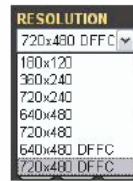
(NTSC)

Resolution

| NTSC | 720 x 480, 720 x 480DFFC*, 720 x 240, 640 x 480, 640 x 480DFFC*, 360 x 240, 180 x 120 |
| PAL | 720 x 572, 720 x 572DFFC*, 720 x 286, 640 x 480, 640 x 480DFFC*, 360 x 286, 180 x 143 |

*DFFC: Dynamic Field/Frame Conversion
Motion detection and field/frame conversion are performed to produce images with no movement and reduce blurring of moving objects in images with movement.

Standard mode   DFFC mode

Scheduling Function

Use of the newly added scheduling function enables automatic switching of camera surveillance modes. In addition to offering three auto modes, a remote alarm function and standard SMTP and FTP settings, operations can be minutely scheduled according to days of the week and month to enable monitoring effectively matched to the flow of people and things at surveillance points.
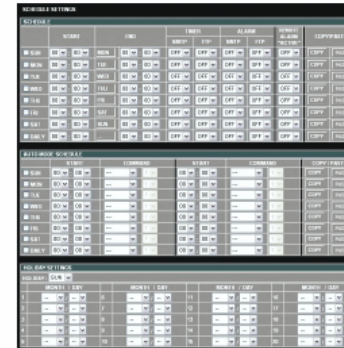
Improved Main Screen Operability

An easier to manage user interface has been realized through improvement of the main screen.

- One-push AF button for increased on-target focusing
- Redesigned layout with user-friendly operation buttons
- Capture button for convenient saving of individual frames
- Remote alarm button for off-site verification of alarms
- Sliding bar for easy adjustment of optical zoom magnification

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