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Camera Technologies

Exwave HAD™
SSC-DC50AP/DC54AP/DC58AP  
SSC-DC393P/DC398P/M383CE/M388CE  
SNC-Z20P/CS3P

In monitoring and surveillance applications, camera sensitivity is one of the most important factors in obtaining a clear image in low light conditions.

Exwave Sensitivity

Exwave HAD technology is well over twice that of cameras using the Sony Hyper HAD™ technology. The Hyper HAD sensor structure has an OCL (on chip lens) located over each pixel. This results in light being concentrated on the photosensor areas and the sensitivity of the camera is improved. Exwave HAD technology takes the Hyper HAD technology a giant step further. The OCL of the Exwave HAD is a nearly gapless structure, eliminating the ineffective areas between the microlenses. This enables the hole accumulated layer to receive the maximum amount of light.

In addition, the smear level of the Exwave HAD technology is reduced to 1/50th that of the Hyper HAD technology. This leakage is dramatically reduced because the improvement of the unit cell structure minimizes the unnecessary reflection of the light onto the CCD surface.

Smart Control™
SSC-DC50AP/DC54AP/DC58AP

Strong backlighting can often cause the subject of an image to be cast into shadow. To overcome this problem, the Smart Control function achieves the optimum balance between Iris and Gain settings in a unified digital signal processing circuit. As a result, clear colour images can be obtained even under severe or varying lighting conditions. Smart Control also works intelligently as it employs average light metering to detect the position of the major subject, and Fuzzy Logic to calculate the proper exposure.

Backlight Compensation

Monitor Technology

Trinitron® CRT

Sony incorporates Trinitron CRTs in all of its surveillance colour monitors. Sony’s Trinitron technology allows for high resolution and the best possible picture reproduction. With its completely flat and straight vertical surface, the Trinitron CRT provides the lowest purity imperfection available in CRT technology today. Moreover, Sony manufactures its own CRTs to assure quality performance in all of its monitors.
Time-lapse Recording Technologies

Hybrid Recording (HSR-2P)

Sony's HSR-2P digital time-lapse recorder uses both a hard disk drive (HDD) and a DV (digital video) tape drive for storage. The image data is first recorded onto the HDD and is then transferred to DV tape. This "hybrid" approach to recording has two major advantages. The first advantage is reduced maintenance. Since the DV tape drive works only while recording the image data being transferred from the HDD, the tape transport and heads are stationary most of the time. This significantly reduces the need for head maintenance. The second advantage is multiple protection. In the unlikely event that the DV tape drive fails, recording continues onto the HDD. Conversely, if the HDD fails, recording continues on the DV tape.

Digital Recording With Large Capacity HDD (HSR-X Series)

Sony HSR-X Series of digital hard disk time-lapse recorders deliver superb quality images, outstanding reliability and greater flexibility to your surveillance systems. With each of these recorders, you get all the benefits associated with a digital format - clear, crisp, undistorted images and quick access to images.

The HSR-X200P is a Single Channel Recorder with an 80 GB HDD (Hard Disk Drive).

The HSR-X209P and HSR-X216P are high quality, Multi Channel Recorders that combine the functions of a recorder and a multiplexer into one compact unit. Using the built-in multiplexing capability, up to 9 (HSR-X209P)/16 (HSR-X216P) camera pictures can be recorded and monitored independently. Incorporating the larger capacity 320 GB HDD, these recorders can dramatically extend recording times.

RealAction Recording (SVT-RA96P)

The Sony time lapse VCR features RealAction high density recording. For example, conventional time lapse VCRs record only 5.5 fields per second in 24 hour recording mode. However, Sony RealAction technology allows recording of 16.6 fields per second - that's three times as much information. This recording density ensures smooth, natural recording of even fast moving objects.
CAMERAS

**Network Cameras - Remote Monitoring Via the Internet**

**SNC-Z20P**

- Fixed IP network colour camera with integrated zoom lens
- Remote monitoring from PCs using Microsoft® Internet Explorer or Sony’s IMZ-RS Series Intelligent Monitoring Software or a PDA
- 100Base-TX/10Base-T Ethernet
- Power over Ethernet (PoE)
- Simultaneous access up to 50 users
- Easy GUI based operation
- Built-in 18x auto-focus zoom lens (216x with digital zoom)
- High picture quality - 1/4 type 440,000 pixels IT CCD with Exwave HAD technology
- High sensitivity - 0.7 lx (colour)/0.01 lx (B/W) at F1.4
- JPEG compression
- Up to 25 fps with VGA quality (640 x 480)
- Four selectable image sizes (including 736 x 544)
- Analogue composite video output for local analogue viewing or recording
- Image transfer using FTP or SMTP
- One PC card slot* - supports “Memory Stick™”, Flash ATA memory card and ATA HDD card
- Wireless connection capability*
- Activity detection and alarm trigger functions
- RS-232C transparency interface for control and operation of external equipment
- Day/Night mode - allows images to be viewed even in low light conditions
- AC 24 V or DC 12 V external power capability

* Please contact a local sony sales office or authorized dealer for compatible PC and wireless cards.

**SNC-CS3P**

- Fixed IP network colour camera with CS-mount auto iris vari-focal lens
- Remote monitoring from PCs using Microsoft Internet Explorer or Sony’s IMZ-RS Series Intelligent Monitoring Software or a PDA
- Easy GUI based operation
- Simultaneous access up to 50 users
- 100Base-TX/10Base-T Ethernet
- Auto-iris vari-focal lens (f=3.0 to 8.0 mm, F1.0)
- High picture quality - 1/3 type 440,000 pixels IT CCD with Exwave HAD technology
- High sensitivity - 0.5 lx at F1.0
- JPEG compression
- Up to 25 fps with VGA quality (640 x 480)
- Four selectable image sizes (including 736 x 544)
- Analogue composite video output for local analogue viewing or recording
- Image transfer using FTP or SMTP
- Activity detection and alarm trigger functions
- RS-232C transparency interface for control and operation of external equipment
- Selectable power supply - automatically detects AC 24 V or DC 12 V for proper operation
**SNC-RZ30P**

- IP network colour camera with integrated pan/tilt/zoom
- Remote monitoring from PCs using Microsoft Internet Explorer or Sony’s IMZ-RS Series Intelligent Monitoring Software or a PDA
- 100Base-TX/10Base-T Ethernet
- Simultaneous access up to 50 users
- Easy GUI based operation
- High-speed and quiet pan/tilt mechanism
- Integral 25x auto-focus zoom lens covers a wide range of viewing angles
- High picture quality - 1/6 type 800,000 pixel IT Super HAD CCD™ with a DSP
- High sensitivity - 3.0 lx (colour)
- JPEG compression
- Up to 25 fps with VGA quality (640 x 480)
- Four selectable image sizes (including 736 x 544)
- Analogue composite video output for local analogue viewing or recording
- Image transfer using FTP or SMTP
- Activity detection and alarm trigger functions
- 16 position presets
- Day/Night mode - allows images to be viewed even in low light conditions
- Image stabilizer
- RS-232C/485 transparency interface for control and operation of external equipment
- Two Type II PC card slots*1 - supports Memory Stick, Flash ATA memory card and ATA HDD card
- Wireless connection capability*1
- Ceiling mount operation or desk top*2

*1 Please contact a local Sony sales office or authorized dealer for compatible PC and wireless cards.
*2 When the SNC-RZ30P is desk mounted, the video generated from the analogue composite signal will be inverted.

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**SNC-VL10P**

- Fixed IP network colour camera for the broadband era
- Remote monitoring from PCs using Microsoft Internet Explorer, Netscape® Navigator, Java Applet-enabled browser or Sony’s IMZ-RS Series Intelligent Monitoring Software
- Simultaneous access up to 100 users
- Easy GUI based operation
- Various network-connection capabilities (10Base-T Ethernet and USB modem support)
- Easy installation and set-up
- Wavelet image compression format - ideal for network transmission
- Five selectable image sizes per PC - adjust for individual network bandwidth
- Focus-area setting - user can view picture detail without losing the whole image
- Alarm functions including activity detection, one sensor input and two sensor outputs
- High picture quality - 1/3 type IT Super HAD CCD with colour DSP technology
- High sensitivity - 2.0 lx at F1.4 (50 IRE)
- Horizontal resolution - 480 TV lines
- Built-in 2.3x vari-focal lens covers a wide range of viewing angles
- Built-in web server - no special viewer software required
- Analogue composite video output - PAL
- RS-232C/485 transparency interface for control & operation of external equipment
- CS-mount
- Accepts DC servo lens
- CCD IRISTM
CAMERAS
Colour CCD Cameras

SSC-DC393P/DC398P

• Ideal for low light applications
• 1/3 type IT CCD with Exwave HAD technology
• Horizontal resolution - 480 TV lines
• Extremely high sensitivity - 0.7 lx at F1.2 (50 IRE)
• Compact and stylish design
• Built-in tripod screw holes for easy installation
• Digital Signal Processing (DSP)
• Sync system
  SSC-DC393P: Internal/AC Line Lock
  SSC-DC398P: AC Line Lock
• Backlight compensation: BLC ON/OFF switchable
• Turbo AGC: ON/OFF switchable
• Wide range CCD IRIS (ON/OFF switchable, 1/50 to 1/100,000 s)
• CCD IRIS function allows for the use of low cost manual iris lenses
• Wide range Auto Tracing White balance (ATW)
• Accepts video or DC auto iris lenses
• CS-mount
• Variety of power requirements
  SSC-DC393P: automatically selects AC 24 V or DC 12 V for proper operation
  SSC-DC398P: AC 220 to 240 V operation

SSC-DC193P/DC198P

• Ideal for low light applications
• 1/3 type IT Super HAD CCD
• Horizontal resolution - 330 TV lines
• High sensitivity - 0.6 lx at F1.2 (50 IRE)
• Compact and stylish design
• Built-in tripod screw holes for easy installation
• Digital Signal Processing (DSP)
• Sync system
  SSC-DC193P: Internal/AC Line Lock
  SSC-DC198P: AC Line Lock
• Backlight compensation: BLC ON/OFF switchable
• Turbo AGC: ON/OFF switchable
• Wide range CCD IRIS (ON/OFF switchable, 1/50 to 1/100,000 s)
• CCD IRIS function allows for the use of low cost manual iris lenses
• Wide range Auto Tracing White balance (ATW)
• Accepts video or DC auto iris lenses
• CS-mount
• Variety of power requirements
  SSC-DC193P: automatically selects AC 24 V or DC 12 V for proper operation
  SSC-DC198P: AC 220 to 240 V operation
SSC-DC593P/DC598P

- Ideal for Day/Night surveillance applications
- 1/3 type IT CCD with DynaView™ technology
- Wide dynamic range with DynaView technology - ideal for obtaining clear colour images under severe highlight or backlight conditions
- Day/Night mode - increases the camera's sensitivity and allows for use with IR illuminators (Night mode)
- Horizontal resolution - 480 TV lines
- High sensitivity - Colour: 0.8 lx (F1.4, 50 IRE), B/W (Day/Night mode): 0.07 lx (F1.4, 50 IRE)
- Backlight compensation: DYNAVIEW/SPOT/WEIGHT/OFF switchable
- White balance: ATW PRO/ATW/3200K/5600K/MANUAL/DUAL WB switchable
- Dual white balance mode - high quality colour reproduction of indoor and outdoor scenes under different colour temperatures
- Wide range CCD IRIS (1/50 to 1/100,000 s)
- Sync system: Internal/AC Line Lock
- Built-in activity detection and alarm trigger functions
- Privacy Zone Masking function
- Two preset memories for camera setting
- RS-485 interface for control
- CS-mount
- Accepts video or DC auto iris lenses
- Variety of power requirements

SSC-DC593P: automatically selects AC 24 V or DC 12 V for proper operation
SSC-DC598P: AC 220 to 240 V operation

SSC-DC50AP/DC54AP/DC58AP

- Especially designed for surveillance applications
- 1/2 type IT CCD with Exwave HAD technology
- Horizontal resolution - 470 TV lines
- Extremely high sensitivity - 0.8 lx at F1.2 (50 IRE)
- Low smear level (-120 dB)
- Backlight compensation by Smart Control for faster backlight compensation
- Preset Auto Exposure (AE) settings
- Turbo AGC: TURBO/NORMAL/OFF switchable
- Aperture/Sharp Mode: SHARP/NORMAL switchable
- ATW PRO/ATW/AWB/Preset colour temperature settings
- Accepts video or DC auto iris lenses
- C/CS-mount
- SSC-DC50AP provides single cable operation (video/sync/power triple multiplex transmission) for easy installation with the optional YS-W170PW270P camera adaptor (Mode A)
- SSC-DC50AP provides monitor out function for on-the-spot camera positioning (Mode B)
- Alternative power source operation: DC 12 V for SSC-DC50AP, AC 24 V for SSC-DC54AP, AC 220 to 240 V for SSC-DC58AP
CAMERAS

B/W CCD Cameras

SSC-M383CE/M388CE

- Ideal for low light applications
- 1/3 type IT CCD with Exwave HAD technology
- Horizontal resolution - 570 TV lines
- Extremely high sensitivity - 0.07 lx at F1.2 (50 IRE)
- Compact and stylish design
- Built-in tripod screw holes for easy installation
- Sync system
  SSC-M383CE: Internal/AC Line Lock
  SSC-M388CE: AC Line Lock
- Backlight compensation: BLC ON/OFF switchable (when CCD IRIS is ON)
- Turbo AGC (up to 24 dB): ON/OFF switchable
- Wide range CCD IRIS (ON/OFF switchable, 1/50 to 1/100,000 s)
- CCD IRIS function allows for the use of low cost manual iris lenses
- Accepts video or DC auto iris lenses
- CS-mount
- Variety of power requirements
  SSC-M383CE: automatically selects AC 24 V or DC 12 V for proper operation
  SSC-M388CE: AC 220 to 240 V operation

SSC-M183CE/M188CE

- Ideal for low light applications
- 1/3 type IT Super HAD CCD
- Horizontal resolution - 380 TV lines
- Extremely high sensitivity - 0.06 lx at F1.2 (50 IRE)
- Compact and stylish design
- Built-in tripod screw holes for easy installation
- Sync system
  SSC-M183CE: Internal/AC Line Lock
  SSC-M188CE: AC Line Lock
- Backlight compensation: BLC ON/OFF switchable (when CCD IRIS is ON)
- Turbo AGC (up to 24 dB): ON/OFF switchable
- Wide range CCD IRIS (ON/OFF switchable, 1/50 to 1/100,000 s)
- CCD IRIS function allows for the use of low cost manual iris lenses
- Accepts video or DC auto iris lenses
- CS-mount
- Variety of power requirements
  SSC-M183CE: automatically selects AC 24 V or DC 12 V for proper operation
  SSC-M188CE: AC 220 to 240 V operation
Vari-focal Lens Cameras

SSC-CX13VP/CX18VP/MX13VCE/MX18VCE

- Built-in auto iris vari-focal lens covers a wide range of viewing areas
- 1/4 type IT Super HAD CCD with colour DSP technology (SSC-CX13VP/CX18VP)
- 1/4 type IT B/W CCD with Super HAD technology (SSC-MX13VCE/MX18VCE)
- High resolution and picture quality: 480 TV lines (SSC-CX13VP/CX18VP), 570 TV lines (SSC-MX13VCE/MX18VCE)
- High sensitivity - 1.8 lx (SSC-CX13VP/CX18VP) or 0.3 lx (SSC-MX13VCE/MX18VCE) at F1.4 (50 IRE, AGC ON)
- Compact and stylish design
- Tripod screw holes for easy installation
- AC Line Lock capability for AC operation
- Turbo AGC (6 dB more gain than conventional gain): TURBO/NORMAL/OFF switchable
- Backlight compensation: BLC ON/OFF switchable
- Wide range Auto Tracing White balance (ATW) (SSC-CX13VP/CX18VP)
- Variety of power requirements
  SSC-CX13VP/MX13VCE: automatically selects AC 24 V or DC 12 V for proper operation
  SSC-CX18VP/MX18VCE: AC 220 to 240 V operation

SSC-CX13VP/MX13VCE Rear  SSC-CX18VP/MX18VCE Rear
CAMERAS

Fixed Mini Dome Cameras

SSC-CD73VP  NEW

- Built-in CS-mount auto iris vari-focal lens covers a wide range of viewing angles (f=3.0 to 8.0 mm)
- 1/4 type IT Super HAD CCD
- High resolution - 480 TV lines
- High sensitivity - 0.9 lx (colour mode)/0.2 lx (B/W mode) at F1.0 (50 IRE, AGC On)
- Rugged design - IP66 rated
- Day/Night mode - automatically senses lighting changes and switches camera mode from colour to B/W or via an external trigger
- BNC type analogue composite video output
- Designed for easy mounting and installation
- AC Line Lock capability for AC operation
- Turbo AGC (up to 24 dB): ON/OFF switchable
- Backlight compensation: BLC ON/OFF switchable
- Wide range Auto Tracing White balance (ATW)
- CS-mount
- Dual power capability - automatically selects AC 24 V or DC 12 V for proper operation

Optional accessory: In ceiling bracket (YT-ICB73V)

SSC-CD43VP  NEW

- Built-in CS-mount auto iris vari-focal lens covers a wide range of viewing angles (f=3.0 to 8.0 mm)
- 1/4 type IT Super HAD CCD
- High resolution - 480 TV lines
- High sensitivity - 0.8 lx at F1.0 (50 IRE, AGC On)
- BNC type analogue composite video output
- Designed for easy mounting and installation
- AC Line Lock capability for AC operation
- Turbo AGC (up to 24 dB): ON/OFF switchable
- Backlight compensation: BLC ON/OFF switchable
- Wide range Auto Tracing White balance (ATW)
- CS-mount
- Dual power capability - automatically selects AC 24 V or DC 12 V for proper operation

Optional accessory: In ceiling bracket (YT-ICB43V)
**SSC-MD53VCE**

- Built-in auto iris vari-focal lens covers a wide range of viewing angles
- 1/4 type IT Super HAD CCD
- High resolution - 570 TV lines
- High sensitivity - 0.4 lx at F1.4 (50 IRE, AGC ON, clear cover)
- Rugged design - IP66 rated
- Designed for easy mounting and installation
- AC Line Lock capability for AC operation
- Turbo AGC (up to 24dB): TURBO/NORMAL/OFF switchable
- Backlight compensation: BLC ON/OFF switchable
- Dual power capability - automatically selects AC 24 V or DC 12 V for proper operation

Optional accessories: Clear dome cover (YT-LDC53V)
In-ceiling bracket (YT-ICB53V)

**SSC-MD33VCE**

- Built-in auto iris vari-focal lens covers a wide range of viewing angles
- 1/4 type IT Super HAD CCD
- High resolution - 570 TV lines
- High sensitivity - 0.4 lx at F1.4 (50 IRE, AGC ON, clear cover)
- Designed for easy mounting and installation
- AC Line Lock capability for AC operation
- Turbo AGC (up to 24dB): TURBO/NORMAL/OFF switchable
- Backlight compensation: BLC ON/OFF switchable
- Dual power capability - automatically selects AC 24 V or DC 12 V for proper operation

Optional accessories: Clear dome cover (YT-LDC53V)
In-ceiling bracket (YT-ICB53V)

**Camera Adaptors**

**YS-W270P**

- Camera adaptor for SSC-DC50AP colour CCD camera
- Provides DC power and video/sync signal between the adaptor and SSC-DC50AP camera over a single coaxial cable
- Up to four SSC-DC50AP cameras can be connected
- Internal or external synchronisation with MPX-VS or MPX-VD
- Maximum cable length: 600 m with RG-11A/U (7C-2V) coaxial cable

**YS-W170P**

- Camera adaptor for SSC-DC50AP colour CCD camera
- Provides DC power and video/sync signal between the adaptor and SSC-DC50AP camera over a single coaxial cable
- Internal or external synchronisation with MPX-VS or MPX-VD
- Maximum cable length: 600 m with RG-11A/U (7C-2V) coaxial cable
NETWORK MONITORING SOFTWARE

Intelligent Monitoring Software

IMZ-RS104/RS109/RS116/RS132   NEW

• Remote control, monitoring and recording of up to 32 video cameras
  IMZ-RS104: Control PC software for 4 network video sources
  IMZ-RS109: Control PC software for 9 network video sources
  IMZ-RS116: Control PC software for 16 network video sources
  IMZ-RS132: Control PC software for 32 network video sources
• "Layout Editor" creates customised site layout
• Manual/Scheduled/Alarm/Pre-alarm recording capability
• Search Recording GUI makes it quick and easy to retrieve a specific recording
• Playback during recording
• Up to 25 fps with VGA quality (640 x 480)
• Camera Pan/Tilt/Zoom control capability
• 16 preset positions

VIDEO NETWORK STATION

SNT-V304

• Ideal for video monitoring over networks
• Enables up to four video surveillance cameras to be remotely monitored and
  controlled over existing networks (LAN, WAN, telephone lines)
• GUI based monitoring and control using networked PCs utilizing standard web
  browser
• Easy to install, expand and maintain
• Multi-user access and password protection
• High refresh rates provide near-motion pictures
• S-Video input or video input 1
• Remote camera or HSR-2P recorder control
• Alarm image buffering allows for storage of pre-alarm and post-alarm images
• When an alarm occurs, a JPEG file showing the alarm event can be sent to a
  pre-determined e-mail address or server
• Alternative viewing modes
• TCP/IP, 100Base-TX/10Base-T interface
• Image update to FTP server
• Relay out control

SNT-V304 Rear
MONITORS

Colour Monitors

SSM-20L1 NEW

• 20-inch Trinitron colour monitor
• Horizontal resolution - 600 TV lines
• Accepts PAL and NTSC
• Automatic beam current feedback circuit for stable white balance
• Loop-through Composite and Loop-through Y/C inputs with 75 Ω automatic termination
• On-screen menu operation available in six languages
• EIA standard rack mount capability with optional SLR-103C
• Metal cabinet for high immunity to external electrical and magnetic interference
• Built-in speaker for audio monitoring

SSM-14L1 NEW

• 14-inch Trinitron colour monitor
• Horizontal resolution - 600 TV lines
• Accepts PAL and NTSC
• Automatic beam current feedback circuit for stable white balance
• Loop-through Composite and Loop-through Y/C inputs with 75 Ω automatic termination
• On-screen menu operation available in six languages
• EIA standard rack mount capability with optional MB-502C and SLR-102
• Metal cabinet for high immunity to external electrical and magnetic interference
• Built-in speaker for audio monitoring

Colour Monitor Optional Accessories

• MB-502C Rack mount bracket for 14-inch monitor
• SLR-102 Slide rail kit for 14-inch monitor
• SLR-103C Slide rail kit for 20-inch monitor
**SURVEILLANCE VIDEO RECORDERS**

*Digital Hard Disk Video Recorders*

**HSR-X200P**

- Single channel digital hard disk recorder
- 80 GB HDD (ATA/ATAPI-5 standard) - expandable to 240 GB
- Recording time of 671 hours at 1 fps
- Compatible with YS-DX516P/DX416CE/DX504P and most other existing multiplexers
- Real time OS (operating system) for increased reliability
- High-resolution & high picture quality recording and playback (Field & Frame recording)
- Motion-JPEG compression
- Network capability with optional LAN card
- Data backup function with optional SCSI card and DDS
- Image and audio transfer to Memory Stick, CompactFlash™ or MicroDrives with a PC card adaptor
- Activity detection sensor/search - recognizes changes in luminance
- Digital zoom function (2x zoom)
- Easy operation with Jog/Shuttle and independent operation buttons
- RS-232C/485 interface for PC control
- HDD mirroring function
- Audio single channel recording and playback
- Series recording capability
- Various languages (English/French/Spanish/German)

Optional accessories: Expansion board

HSBK-X201 (80 GB)
HSBK-X201/16 (160 GB)

**HSR-X209P**

- Built-in 9 channel multiplexer
- Pre-installed 320 GB large capacity HDD (160 GB x 2, ATA/ATAPI-5 standard)
- Recording time of 2686 hours (high mode, 1 fps)
- High-resolution & high picture quality recording and playback
- Motion-JPEG compression
- Network capability with optional LAN card
- Data backup function with optional SCSI card and DDS
- Image and audio transfer to Memory Stick, CompactFlash or MicroDrives with a PC card adaptor
- Multi-point activity detection sensor/search - recognizes changes in luminance
- Digital zoom function (2x zoom)
- Easy operation with Jog/Shuttle and independent operation buttons
- RS-232C/485 interface for PC control
- HDD mirroring function
- Audio single channel recording and playback
- Various languages (English/French/Spanish/German)
**HSR-X216P**

- Built-in 16 channel multiplexer
- Pre-installed 320 GB large capacity HDD (160 GB x 2, ATA/ATAPI-5 standard)
- Recording time of 2686 hours (high mode, 1 fps)
- High-resolution & high picture quality recording and playback
- Motion-JPEG compression
- Network capability with optional LAN card
- Data backup function with optional SCSI card and DDS
- Image and audio transfer to Memory Stick, CompactFlash or MicroDrives with a PC card adaptor
- Multi-point activity detection sensor/search - recognizes changes in luminance
- Digital zoom function (2x zoom)
- Easy operation with Jog/Shuttle and independent operation buttons
- RS-232C/485 interface for PC control
- HDD mirroring function
- Audio single channel recording and playback
- Various languages (English/French/Spanish/German)

**HSR-2P**

- Hybrid digital recorder for high performance digital video recording and archiving
- Playback during recording offers greater flexibility in providing access to the information without stopping the recording
- 60 GB HDD offers high storage capacity for immediate access to the information recorded onto the HDD
- High resolution - over 500 TV lines (Super mode)
- Excellent S/N ratio - 48 dB
- Large storage capacity - 60 GB using DV 270MEM2 tape
- High reliability and low maintenance utilizing hybrid configuration of HDD and DV tape drive
- Built-in 4 input multiplexer board - field upgrade capable to 16 inputs using 3 additional 4 input cards, HSRA-11
- Time/date and alarm event search capabilities
- Excellent backup features - writes to DV in case of HDD failure or vice versa
- Continuous recording function without breaks even while changing or rewinding tapes
- High refresh rate recording of each camera
- Two monitoring outputs for simultaneous playback on the first monitor and monitoring on the second monitor
- RS-232C interface for PC control
- Pre-alarm recording capability for event recording
- Full control of HSR-2P over a network when used with Sony's SNT-V304 Video Network Station
SURVEILLANCE VIDEO RECORDER

Analogue Time Lapse Video Recorders

**SVT-RA96P**

- Quality recording and playback for those critical moments
- Incorporates Sony’s ‘RealAction’ technology for high density recording of 16.6 fields per second (24-hour mode)
- Maximum 96-hour time lapse recording is available with an E-180 tape
- Maximum 128-hour time lapse recording is available with an E-240 tape
- Five different time lapse recording/playback modes
- Adaptive Picture Control (APC) records clear images even after long periods of use
- Audio recording and playback in 6/18/30 (E-180) or 8/24/40 (E-240) hour modes
- Rapid fast-forward and rewind: 100 seconds with an entire E-180 tape
- RS-232C/485 interface with the optional SVT-RS100 interface board
- Built-in time/date generator, 30-day battery backup
- Multiple recording modes such as Auto Repeat Recording, Timer Recording, Alarm Recording and Series Recording
- Record check, alarm data list, alarm scan/recall/search capabilities
- Camera switcher/multiplexer interface
- Field advance/reverse playback capability
- Tape before-end signal output capability
- Warning signal output capability
- Video loss alarm capability
- Remote control capability of basic operational functions through φ 3.5 mm mini jack

Optional accessories:
Remote control unit SVT-RM10
RS-232C/485 interface board SVT-RS100

**SVT-N72P**

- Quality recording and playback for those critical moments
- Maximum 72-hour time lapse recording is available with an E-180 tape
- Four different time lapse recording/playback modes
- Adaptive Picture Control (APC) records clear images even after long periods of use
- Audio recording and playback in 3/12/24 hour modes
- Rapid fast-forward and rewind: 100 seconds with an entire E-180 tape
- RS-232C/485 interface with the optional SVT-RS100 interface board
- Built-in time/date generator, 30-day battery backup
- Multiple recording modes such as Auto Repeat Recording, Timer Recording, Alarm Recording and Series Recording
- Record check, alarm data list, alarm scan/recall/search capabilities
- Field advance/reverse playback capability
- Tape before-end signal output capability
- Warning signal output capability
- Video loss alarm capability
- Remote control capability of basic operational functions through φ 3.5 mm mini jack

Optional accessories:
Remote control unit SVT-RM10
RS-232C/485 interface board SVT-RS100
SVT-N24P

- Quality recording and playback for those critical moments
- Maximum 24-hour time lapse recording is available with an E-180 tape
- Compact size - only 240 mm (9 1/2 inches) in width
- Two different time lapse recording/playback modes
- Adaptive Picture Control (APC) records clear images even after long periods of use
- Audio recording and playback in time-lapse mode
- Rapid fast-forward and rewind: 100 seconds with an entire E-180 tape
- Built-in time/date generator, 30-day battery backup
- Multiple recording modes such as Auto Repeat Recording, Timer Recording, Alarm Recording and Series Recording
- Record check, alarm data list, alarm scan/recall/search capabilities
- Field advance/reverse playback capability
- Tape before-end signal output capability
- Warning signal output capability
- Video loss alarm capability
- Remote control capability of basic operational functions through ø 3.5 mm mini jack

Optional accessory:
Remote control unit SVT-RM10

SVT-N24P Rear
MULTIPLEXERS

YS-DX516P/DX416CE

- Full duplex video multiplexer that supports up to 16 camera inputs
  YS-DX516P: Colour
  YS-DX416CE: B/W
- Multiplex recording to one VCR while switching between each camera by a field for precise surveillance of multiple points
- Live pictures can be displayed in full screen, sequence, quad and multi-screen (4/9/13/16) while simultaneously recording
- Playback can be reviewed in full screen, sequence, and multi-screen (4/9/13/16)
- Individual sequence dwell time
- Activity detection
- Video loss alarm
- Alarm duration: The alarm duration of each video camera can be programmed individually
- Monitor masking for specific cameras
- RS-232C/485 compatible
- Menu: English/French/German

YS-DX504P

- Half duplex colour video multiplexer that supports up to 4 cameras
- Multiplexing recording to one VCR while switching between each camera by a field for precise surveillance of multiple points
- Live images can be displayed in full screen, sequence and quad while simultaneously recording
- Playback can be reviewed in full screen, sequence and quad
- Zoom and freeze functions are available in full screen and quad
- Activity detection
- Video loss alarm
- Alarm duration: The alarm duration of each video camera can be set individually
- RS-232C compatible
- Menu: English/French/German
**PRINTERS**

*Colour Video Printers*

**UP-51MD**  NEW

- High-resolution of approx. 300 dpi
- A5 size colour print in approx. 22 seconds*
- 2, 4, 8 or 16-split/duplicate image prints mode
- RGB, Y/C, and composite video inputs
- Wired and wireless remote controls with the optional RM-5500 Remote Commander
- External control via RS-232C interface
- Eight frame memories capability
- Optional RM-91 Remote Commander for easy printer control

* When measured at high-speed mode using the UPC-510 Colour Printing Pack

**UP-20**  NEW

- Photo-realistic quality prints with Sony dye sublimation printing technology
- Near A6 size dye sublimation colour printer
- High-resolution of approx. 400 dpi
- Near A6 size print in approx. 17 seconds*
- Compact design enables the UP-20 to fit into a limited space and be rack-mounted on a medical cart side by side with other equipment
- Front-loading operation allows easy maintenance and flexible set up
- RS-232C port for remote control operation
- 2 or 4-split image prints mode
- Four frame memory
- Worldwide AC power supply: AC 100 to 120 V, AC 220 to 240 V
- Convenient remote control with the optional RM-91/RM-5500 Remote Commander
- Monitor loop through for system saving power
- Y/C and analogue composite inputs

* Measured in high-speed mode with the UPC-21S Colour Printing Pack (does not include data-transfer time)

**UP-21MD**  NEW

- Photo-realistic quality prints with Sony dye sublimation printing technology
- High resolution of 403 dpi
- A6 size colour print in approx. 17 seconds*
- Easy-to-use colour adjustment function
- Compact design
- 2 or 4-split prints mode
- Four frame memories capability
- Front-loading operation allows easy maintenance and flexible set up
- Accepts and outputs an analogue RGB, S-Video (Y/C) or composite video signal
- RS-232C port for remote control operation
- Convenient remote control with the optional RM-91/RM-5500 Remote Commander
- Worldwide AC power supply: AC 100 to 120 V, AC 220 to 240 V

* Measured in high-speed mode with the UPC-21S Colour Printing Pack
Digital Colour Printer

UP-D23MD   NEW

- Photo-realistic quality prints with Sony dye sublimation printing technology
- High resolution of 403 dpi
- A6 size colour print in approx. 19 seconds*1
- Compact design enables the UP-D23MD to fit into the limited space and to be rack mounted on a medical cart side by side with other equipment
- Front-loading operation allows for easy maintenance and flexible set up
- USB interface (Rev. 2.0, Hi-speed)
- Resize-to-fit feature allows users to enlarge images of VGA (640 x 480 dots), SVGA (800 x 600 dots) and XGA(1024 x 768 dots) to the approx. 1,520x1,144 dots size image*2 or approx. 2,000 x 1,520 dots size image*3
- Grey balance adjustment capability
- Image spooling function (Two frame memories)
- Worldwide AC power supply: AC 100 to 120 V, AC 220 to 240 V

*1 Measured in high-speed mode with the UPC-21S (does not include data-transfer time)
*2 When using the UPC-21S
*3 When using the UPC-21L

B/W Video Graphic Printers

UP-960CE

- Thermal video graphic printer with 256 steps of gradation grey level
- Large print size of 190 x 142 mm in standard mode
- High speed printing of approx. 12 seconds in standard mode
- Approx. 126 prints out of UPP-210HD/210SE (25 m)
- Frame/Field memory selectable
- Printing direction selectable: Standard/Side/Reverse
- Positive/Negative printing
- Normal/Wide 1/Wide 2 scan selectable
- 4:3/1:1 aspect ratio selectable
- CCIR/EIA automatic selection
- Multiple copy function

UP-895CE

- Thermal video graphic printer with 256 steps of gradation grey level
- High speed printing of approx. 3.9 seconds*
- Wide scanning function (Normal/Wide 1/Wide 2 selectable)
- 2 x zoom for either half of picture in either Standard or Side mode
- Approx. 203 prints out of UPP-110HG (18 m)
- Frame/Field memory selectable
- Printing direction selectable: Standard/Side/Reverse
- Positive/Negative printing
- 4:3/1:1 aspect ratio selectable
- CCIR/EIA automatic selection
- Multiple copy function

* When smoothing feature is turned off and printer is set to standard print mode

B/W Digital Graphic Printer

UP-D895   NEW

- Parallel (IEEE 1284) and USB (version. 1.0) interfaces
- Resize-to-fit feature to enlarge images for printing
- Resolution of 325 dpi and 256 steps of grey level for high picture quality
- High-speed printing of approx. 3.8 seconds*
- Multiple print modes available for a variety of applications
- 8 MB picture memory for panoramic-size prints
- Compact, space-saving design
- Worldwide AC power supply: AC 100 to 120 V, AC 220 to 240 V

* Does not include data-transfer time
## SPECIFICATIONS

### Network Cameras

<table>
<thead>
<tr>
<th>Parameter</th>
<th>SNC-Z20P</th>
<th>SNC-CS3P</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CPU</strong></td>
<td>32-bit RISC processor</td>
<td>32-bit RISC processor</td>
</tr>
<tr>
<td><strong>Flash memory</strong></td>
<td>8 MB</td>
<td>8 MB</td>
</tr>
<tr>
<td><strong>RAM</strong></td>
<td>32 MB</td>
<td>32 MB</td>
</tr>
<tr>
<td><strong>Web browser</strong></td>
<td>Microsoft Internet Explorer version 5.5 or 6.0</td>
<td>Microsoft Internet Explorer version 5.5 or 6.0</td>
</tr>
<tr>
<td><strong>Protocols</strong></td>
<td>TCP/IP, HTTP, ARP, ICMP, DHCP, FTP, SMTP, DNS, NTP, SNMP</td>
<td>TCP/IP, HTTP, ARP, ICMP, DHCP, FTP, SMTP, DNS, NTP, SNMP</td>
</tr>
<tr>
<td><strong>Image compression</strong></td>
<td>Algorithm: JPEG</td>
<td>Rate: 1/5 to 1/60 (10 steps)</td>
</tr>
<tr>
<td><strong>Performance</strong></td>
<td>Frame rate: 25 fps (640 x 480)</td>
<td>Frame rate: 25 fps (640 x 480)</td>
</tr>
<tr>
<td><strong>Security</strong></td>
<td>Password protection</td>
<td>IP-filtering</td>
</tr>
<tr>
<td><strong>Pickup device</strong></td>
<td>1/4 type Interline Transfer CCD with Exwave HAD technology</td>
<td>1/3 type Interline Transfer CCD with Exwave HAD technology</td>
</tr>
<tr>
<td><strong>Image size (HxV)</strong></td>
<td>768 x 582</td>
<td>768 x 582</td>
</tr>
<tr>
<td><strong>Built-in lens</strong></td>
<td>18x zoom (focal length: 4.1 to 73.8 mm)</td>
<td>Vari-focal (focal length: 3.0 to 8.0 mm)</td>
</tr>
<tr>
<td><strong>View angle</strong></td>
<td>48° (wide) to 7.4° (tele)</td>
<td>90° (wide) to 36° (tele)</td>
</tr>
<tr>
<td><strong>Iris</strong></td>
<td>Auto/Manual</td>
<td>Auto/Manual</td>
</tr>
<tr>
<td><strong>Minimum object distance</strong></td>
<td>W=10 mm, T=800 mm</td>
<td>200 mm</td>
</tr>
<tr>
<td><strong>Lens mount</strong></td>
<td>-</td>
<td>CS</td>
</tr>
<tr>
<td><strong>Focus</strong></td>
<td>Auto/Manual (Near, Far, One-push autofocus)</td>
<td>Manual</td>
</tr>
<tr>
<td><strong>Electronic shutter</strong></td>
<td>1 to 1/10,000 s</td>
<td>1/60 to 1/10,000 s</td>
</tr>
<tr>
<td><strong>Gain</strong></td>
<td>Auto/Manual (-3 dB to +28 dB)</td>
<td>Auto/Manual</td>
</tr>
<tr>
<td><strong>Exposure</strong></td>
<td>Auto/Shutter-priority/Iris-priority/Manual</td>
<td>Auto/CCD iris/Manual</td>
</tr>
<tr>
<td><strong>EV compensation</strong></td>
<td>-1.75 to +1.75 (15 steps)</td>
<td>-1.75 to +1.75 (15 steps)</td>
</tr>
<tr>
<td><strong>Pan angle</strong></td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Tilt angle</strong></td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Analogue video output</strong></td>
<td>Signal system: PAL</td>
<td>Signal system: PAL</td>
</tr>
<tr>
<td><strong>Sync system</strong></td>
<td>Internal</td>
<td>Internal</td>
</tr>
<tr>
<td><strong>Horizontal resolution</strong></td>
<td>460 TV lines</td>
<td>480 TV lines</td>
</tr>
<tr>
<td><strong>S/N ratio</strong></td>
<td>Better than 50 dB</td>
<td>Better than 50 dB</td>
</tr>
<tr>
<td><strong>Minimum illumination</strong></td>
<td>0.7 lx (colour)/0.1 lx (B/W)</td>
<td>0.5 lx</td>
</tr>
<tr>
<td><strong>I/F and I/O</strong></td>
<td>Analogue composite video out (BNC x 1) 100Base-TX/10Base-T Ethernet (RJ-45 x 1) PCLCMICA Type II (1) Sensor in (1), Alarm out (2) RS-232C (for transparency only x 1)</td>
<td>Analogue composite video out (BNC x 1) 100Base-TX/10Base-T Ethernet (RJ-45 x 1) Sensor in (1), Alarm out (2) RS-232C (for transparency only x1)</td>
</tr>
<tr>
<td><strong>Operating temperature</strong></td>
<td>0 to 40 °C (32 to 104 °F)</td>
<td>-10 to 50 °C (14 to 122 °F)</td>
</tr>
<tr>
<td><strong>Storage temperature</strong></td>
<td>-20 to +60 °C (-4 to 140 °F)</td>
<td>-20 to +60 °C (-4 to 140 °F)</td>
</tr>
<tr>
<td><strong>Power requirements</strong></td>
<td>AC 24 V, 50 Hz/DC 12 V/PoE</td>
<td>AC 24 V, 50 Hz/DC 12 V</td>
</tr>
<tr>
<td><strong>Power consumption</strong></td>
<td>9 W</td>
<td>8 W</td>
</tr>
<tr>
<td><strong>Mass</strong></td>
<td>800 g (1 lb 12 oz)</td>
<td>697 g (1 lb 9 oz)</td>
</tr>
<tr>
<td><strong>Dimension (WxHxD)</strong></td>
<td>80 x 77 x 177 mm (3 1/4 x 3 1/8 x 7 inches)</td>
<td>70 x 57 x 199 mm (2 3/4 x 2 1/4 x 7 3/4 inches)</td>
</tr>
</tbody>
</table>
## Network Cameras

<table>
<thead>
<tr>
<th>Feature</th>
<th>SNC-RZ30N</th>
<th>SNC-VL10N</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CPU</strong></td>
<td>32-bit RISC processor</td>
<td>32-bit RISC-Embedded processor</td>
</tr>
<tr>
<td><strong>Flash memory</strong></td>
<td>8 MB</td>
<td>8 MB (Default home page area: 4.5 MB)</td>
</tr>
<tr>
<td><strong>RAM</strong></td>
<td>32 MB (includes 8 MB alarm buffer)</td>
<td>16 MB (Free area 6 MB)</td>
</tr>
<tr>
<td><strong>Web browser</strong></td>
<td>Microsoft Internet Explorer version 5.5 or 6.0</td>
<td>Microsoft Internet Explorer version 5.0, 5.5 or 6.0, Netscape Navigator version 4.7 or 6.0, Java Applet-enabled browser</td>
</tr>
<tr>
<td><strong>Protocols</strong></td>
<td>TCP/IP, HTTP, ARP, ICMP, DHCP, SMTP, DNS, NTP, SNMP</td>
<td>TCP/IP, HTTP, ARP, RARP, ICMP, DHCP, PPP, PPPoE, FTP, SMTP, and SNMP</td>
</tr>
<tr>
<td><strong>Image compression</strong></td>
<td>JPEG</td>
<td>Wavelet</td>
</tr>
<tr>
<td><strong>Rate</strong></td>
<td>1/5 to 1/60 (10 steps)</td>
<td>1/10 to 1/1200 (10 steps)</td>
</tr>
<tr>
<td><strong>Performance</strong></td>
<td>Frame rate</td>
<td></td>
</tr>
<tr>
<td><strong>Local compression rate</strong></td>
<td>-</td>
<td>Max. 25 fps (640 x 480)</td>
</tr>
<tr>
<td><strong>Security</strong></td>
<td>Password protection</td>
<td>Password-based user authentication</td>
</tr>
<tr>
<td><strong>Pickup device</strong></td>
<td>1/6 type Interline Transfer Super HAD CCD</td>
<td>1/3 type Interline Transfer Super HAD CCD</td>
</tr>
<tr>
<td><strong>Image size (HxV)</strong></td>
<td>736 x 544, 640 x 480, 320 x 240, 160 x 120</td>
<td>720 x 576, 720 x 288, 360 x 288, 180 x 144, 90 x 72</td>
</tr>
<tr>
<td><strong>Built-in lens</strong></td>
<td>25x zoom (focal length: 2.4 to 60 mm)</td>
<td>Vari-focal (focal length: 3.5 to 8.0 mm)</td>
</tr>
<tr>
<td><strong>View angle</strong></td>
<td>W=45° (H) T=22° (H)</td>
<td>W=73.9° (H), 56.3° (V) T=33.8° (H), 25.8° (V)</td>
</tr>
<tr>
<td><strong>Iris</strong></td>
<td>Auto/Manual (F1.6 to close)</td>
<td>Manual (F1.4 to close)</td>
</tr>
<tr>
<td><strong>Minimum object distance</strong></td>
<td>W=30 mm, T=800 mm</td>
<td>0.5 m</td>
</tr>
<tr>
<td><strong>Lens mount</strong></td>
<td>-</td>
<td>CS</td>
</tr>
<tr>
<td><strong>White balance</strong></td>
<td>Auto, ATW, Indoor, Outdoor, One push WB, Manual ATW</td>
<td></td>
</tr>
<tr>
<td><strong>Focus</strong></td>
<td>Auto/Manual (Near, Far, One-push autofocus)</td>
<td>Manual</td>
</tr>
<tr>
<td><strong>Electronic shutter</strong></td>
<td>1/3 s to 1/10,000 s</td>
<td>1/50 to 1/100,000 s (CCD IRIS)</td>
</tr>
<tr>
<td><strong>Gain</strong></td>
<td>Auto/Manual (-3 dB to +28 dB)</td>
<td>Auto</td>
</tr>
<tr>
<td><strong>Exposure</strong></td>
<td>Auto/Shutter-priority/Iris-priority/Manual</td>
<td>Full Auto</td>
</tr>
<tr>
<td><strong>EV compensation</strong></td>
<td>-1.75 to +1.75 (15 steps)</td>
<td>-</td>
</tr>
<tr>
<td><strong>Pan angle</strong></td>
<td>-170° to +170°</td>
<td>-</td>
</tr>
<tr>
<td><strong>Tilt angle</strong></td>
<td>-90° to +25°</td>
<td>-</td>
</tr>
<tr>
<td><strong>Analogue video output</strong></td>
<td>Signal system: PAL</td>
<td>Signal system: PAL</td>
</tr>
<tr>
<td><strong>I/F and I/O</strong></td>
<td>Analogue composite video out (BNC x 1) 100Base-TX/10Base-T Ethernet (RJ-45 x 1) PCMCIA Type II (2) Sensor in (3), Alarm out (2), RS-232C/485 (transparency only, x1)</td>
<td>Analogue composite video out (BNC x 1) 10Base-T Ethernet USB modem RS-232C/485 (transparency only) Sensor I/O Volume for video level Lens (DC servo)</td>
</tr>
<tr>
<td><strong>Horizontal resolution</strong></td>
<td>480 TV lines</td>
<td>480 TV lines</td>
</tr>
<tr>
<td><strong>S/N ratio</strong></td>
<td>Better than 48 dB</td>
<td>Better than 50 dB</td>
</tr>
<tr>
<td><strong>Minimum illumination</strong></td>
<td>3.0 lx (colour)</td>
<td>2.0 lx</td>
</tr>
<tr>
<td><strong>Operating temperature</strong></td>
<td>0 to 40 °C (32 to 104 °F)</td>
<td>-10 to +50 °C (14 to 122 °F)</td>
</tr>
<tr>
<td><strong>Storage temperature</strong></td>
<td>-20 to +60 °C (-4 to +140 °F)</td>
<td>-40 to +60 °C (-40 to 140 °F)</td>
</tr>
<tr>
<td><strong>Power requirements</strong></td>
<td>DC 12 V via AC adaptor (100 V to 240 V)</td>
<td>DC 12 V via AC adaptor (100 to 240 V) Ethernet Hub/Switching equipment for in-line power, IEEE 802.3af</td>
</tr>
<tr>
<td><strong>Power consumption</strong></td>
<td>21.6 W (with ATA HDD card)</td>
<td>6.8 W (DC 12 V)</td>
</tr>
<tr>
<td><strong>Mass</strong></td>
<td>1.2 kg (2 lb 10 oz)</td>
<td>350 g (12 oz)</td>
</tr>
<tr>
<td><strong>Dimension (WxHxD)</strong></td>
<td>140 x 175 x 144 mm (5 ⅞ x 7 x 5 ½ inches)</td>
<td>96 x 63 x 186 mm (3 ⅞ x 2 ⅜ x 7 ⅛ inches)</td>
</tr>
</tbody>
</table>
## Colour CCD Cameras

<table>
<thead>
<tr>
<th></th>
<th>SSC-DC393P</th>
<th>SSC-DC398P</th>
<th>SSC-DC193P</th>
<th>SSC-DC198P</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pickup device</strong></td>
<td>1/3 type Interline Transfer with Exwave HAD technology</td>
<td>1/3 type Interline Transfer with Exwave HAD technology</td>
<td>1/3 type Interline Transfer Super HAD CCD</td>
<td>1/3 type Interline Transfer Super HAD CCD</td>
</tr>
<tr>
<td><strong>Picture elements (HxV)</strong></td>
<td>752 x 582</td>
<td>752 x 582</td>
<td>500 x 582</td>
<td>500 x 582</td>
</tr>
<tr>
<td><strong>Lens mount</strong></td>
<td>CS</td>
<td>CS</td>
<td>CS</td>
<td>CS</td>
</tr>
<tr>
<td><strong>Signal system</strong></td>
<td>PAL</td>
<td>PAL</td>
<td>PAL</td>
<td>PAL</td>
</tr>
<tr>
<td><strong>White balance</strong></td>
<td>ATW</td>
<td>ATW</td>
<td>ATW</td>
<td>ATW</td>
</tr>
<tr>
<td><strong>Sync system</strong></td>
<td>Internal/External</td>
<td>External</td>
<td>Internal/External</td>
<td>External</td>
</tr>
<tr>
<td><strong>External sync</strong></td>
<td>AC Line Lock (for AC 24 V)</td>
<td>AC Line Lock (for AC 220 to 240 V)</td>
<td>AC Line Lock (for AC 24 V)</td>
<td>AC Line Lock (for AC 220 to 240 V)</td>
</tr>
<tr>
<td><strong>V-phase control</strong></td>
<td>±90°</td>
<td>±90°</td>
<td>±90°</td>
<td>±90°</td>
</tr>
<tr>
<td><strong>H-Phase control</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Horizontal resolution</strong></td>
<td>480 TV lines</td>
<td>480 TV lines</td>
<td>330 TV lines</td>
<td>330 TV lines</td>
</tr>
<tr>
<td><strong>S/N ratio</strong> (AGC OFF, Weight ON)</td>
<td>Better than 50 dB</td>
<td>Better than 50 dB</td>
<td>Better than 50 dB</td>
<td>Better than 50 dB</td>
</tr>
<tr>
<td><strong>Min. illumination</strong></td>
<td>0.35 lx at F1.2 (30 IRE)</td>
<td>0.35 lx at F1.2 (30 IRE)</td>
<td>0.3 lx at F1.2 (30 IRE)</td>
<td>0.3 lx at F1.2 (30 IRE)</td>
</tr>
<tr>
<td></td>
<td>0.7 lx at F1.2 (50 IRE)</td>
<td>0.7 lx at F1.2 (50 IRE)</td>
<td>0.6 lx at F1.2 (50 IRE)</td>
<td>0.6 lx at F1.2 (50 IRE)</td>
</tr>
<tr>
<td></td>
<td>3.5 lx at F1.2 (100 IRE)</td>
<td>3.5 lx at F1.2 (100 IRE)</td>
<td>3.0 lx at F1.2 (100 IRE)</td>
<td>3.0 lx at F1.2 (100 IRE)</td>
</tr>
<tr>
<td><strong>Backlight compensation</strong></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Day/night mode</strong></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Video output</strong></td>
<td>Composite, BNC (1)</td>
<td>Composite, BNC (1)</td>
<td>Composite, BNC (1)</td>
<td>Composite, BNC (1)</td>
</tr>
<tr>
<td><strong>Operating temperature</strong></td>
<td>-10 to 50 °C (14 to 122 °F)</td>
<td>-10 to 50 °C (14 to 122 °F)</td>
<td>-10 to 50 °C (14 to 122 °F)</td>
<td>-10 to 50 °C (14 to 122 °F)</td>
</tr>
<tr>
<td><strong>Storage temperature</strong></td>
<td>-40 to 60 °C (-40 to 140 °F)</td>
<td>-40 to 60 °C (-40 to 140 °F)</td>
<td>-40 to 60 °C (-40 to 140 °F)</td>
<td>-40 to 60 °C (-40 to 140 °F)</td>
</tr>
<tr>
<td><strong>Power requirements</strong></td>
<td>AC 24 V, 50 Hz/DC 12 V</td>
<td>AC 220 to 240 V, 50Hz</td>
<td>AC 24 V, 50 Hz/DC 12 V</td>
<td>AC 220 to 240 V, 50Hz</td>
</tr>
<tr>
<td><strong>Power consumption</strong></td>
<td>3.7 W</td>
<td>4.2 W</td>
<td>3.5 W</td>
<td>3.7 W</td>
</tr>
<tr>
<td><strong>Mass</strong></td>
<td>360 g (13 oz)</td>
<td>390 g (14 oz)</td>
<td>360 g (13 oz)</td>
<td>390 g (14 oz)</td>
</tr>
<tr>
<td><strong>Dimensions (WxHxD)</strong></td>
<td>60 x 54 x 120 mm (2 7/8 x 2 1/4 x 4 3/4 inches)</td>
<td>60 x 54 x 120 mm (2 7/8 x 2 1/4 x 4 3/4 inches)</td>
<td>60 x 54 x 120 mm (2 7/8 x 2 1/4 x 4 3/4 inches)</td>
<td>60 x 54 x 120 mm (2 7/8 x 2 1/4 x 4 3/4 inches)</td>
</tr>
</tbody>
</table>
## Specifications

### Colour CCD Cameras

<table>
<thead>
<tr>
<th>Specification</th>
<th>SSC-DC593P</th>
<th>SSC-DC598P</th>
<th>SSC-DC50AP</th>
<th>SSC-DC54AP</th>
<th>SSC-DC58AP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pickup device</td>
<td>1/3 type Int. Transfer CCD with DynaView technology</td>
<td>1/3 type Int. Transfer CCD with DynaView technology</td>
<td>1/2 type Int. Transfer CCD with Exwave HAD technology</td>
<td>1/2 type Int. Transfer CCD with Exwave HAD technology</td>
<td>1/2 type Int. Transfer CCD with Exwave HAD technology</td>
</tr>
<tr>
<td>Lens mount</td>
<td>CS</td>
<td>CS</td>
<td>C/CS adjustable</td>
<td>C/CS adjustable</td>
<td>C/CS adjustable</td>
</tr>
<tr>
<td>External sync</td>
<td>AC Line Lock (for AC 24 V)</td>
<td>VS and VBS/M PX VS</td>
<td>AC Line Lock (for AC 220 to 240 V)</td>
<td>AC Line Lock (for AC 220 to 240 V)</td>
<td>AC Line Lock (for AC 220 to 240 V)</td>
</tr>
<tr>
<td>V-phase control</td>
<td>±90°</td>
<td>±90°</td>
<td>–</td>
<td>±90°</td>
<td>±90°</td>
</tr>
<tr>
<td>H-phase control</td>
<td>–</td>
<td>–</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Horizontal resolution</td>
<td>480 TV lines</td>
<td>480 TV lines</td>
<td>470 TV lines</td>
<td>470 TV lines</td>
<td>470 TV lines</td>
</tr>
<tr>
<td>S/N ratio</td>
<td>Better than 50 dB</td>
<td>Better than 50 dB</td>
<td>Better than 50 dB</td>
<td>Better than 50 dB</td>
<td>Better than 50 dB</td>
</tr>
<tr>
<td>Min. illumination (Turbo AGC ON)</td>
<td>Colour: 0.8 lx at F1.4 (50 IRE) B/W: 0.07 lx at F1.4 (50 IRE)</td>
<td>Colour: 0.8 lx at F1.4 (50 IRE) B/W: 0.07 lx at F1.4 (50 IRE)</td>
<td>0.4 lx at F1.2 (30 IRE) B/W: 0.8 lx at F1.2 (50 IRE)</td>
<td>0.4 lx at F1.2 (30 IRE) B/W: 0.8 lx at F1.2 (50 IRE)</td>
<td>0.4 lx at F1.2 (30 IRE) B/W: 0.8 lx at F1.2 (50 IRE)</td>
</tr>
<tr>
<td>Backlight compensation</td>
<td>DYNAVIEW/SPOT/WEIGHT/OFF switchable</td>
<td>DYNAVIEW/SPOT/WEIGHT/OFF switchable</td>
<td>ON/OFF switchable</td>
<td>ON/OFF switchable</td>
<td>ON/OFF switchable</td>
</tr>
<tr>
<td>Video output</td>
<td>Composite, BNC (1)</td>
<td>Composite, BNC (1)</td>
<td>Composite, BNC (1) Y/C, Mini-Din (1)</td>
<td>Composite, BNC (1) Y/C, Mini-Din (1)</td>
<td>Composite, BNC (1) Y/C, Mini-Din (1)</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>-10 to 50 °C (14 to 122 °F)</td>
<td>-10 to 50 °C (14 to 122 °F)</td>
<td>-10 to 50 °C (14 to 122 °F)</td>
<td>-10 to 50 °C (14 to 122 °F)</td>
<td>-10 to 50 °C (14 to 122 °F)</td>
</tr>
<tr>
<td>Storage temperature</td>
<td>-40 to 60 °C (140 °F)</td>
<td>-40 to 60 °C (140 °F)</td>
<td>-40 to 60 °C (140 °F)</td>
<td>-40 to 60 °C (140 °F)</td>
<td>-40 to 60 °C (140 °F)</td>
</tr>
<tr>
<td>Power requirements</td>
<td>AC 24 V, 50 Hz/DC 12 V</td>
<td>AC 220 to 240 V, 50 Hz</td>
<td>AC 220 to 240 V, 50 Hz</td>
<td>AC 24 V, 50 Hz</td>
<td>AC 220 to 240 V, 50 Hz</td>
</tr>
<tr>
<td>Power consumption</td>
<td>5.8 W</td>
<td>5.6 W</td>
<td>1) 5.5 W supplied from YS-W170P/W270P 2) 4.5 W at DC 12 V</td>
<td>6.0 W</td>
<td>5.5 W</td>
</tr>
<tr>
<td>Mass</td>
<td>500 g (1 lb 2 oz)</td>
<td>500 g (1 lb 2 oz)</td>
<td>600 g (1 lb 5 oz)</td>
<td>600 g (1 lb 5 oz)</td>
<td>900 g (2 lb)</td>
</tr>
<tr>
<td>Dimensions (WxHxD)</td>
<td>70 x 57 x 129 mm (2 ½ x 2 ¼ x 5 ½ inches)</td>
<td>70 x 57 x 129 mm (2 ½ x 2 ¼ x 5 ½ inches)</td>
<td>64 x 57 x 137 mm (2 ½ x 2 ¼ x 5 ½ inches)</td>
<td>64 x 57 x 137 mm (2 ½ x 2 ¼ x 5 ½ inches)</td>
<td>64 x 57 x 162 mm (2 ½ x 2 ¼ x 6 ½ inches)</td>
</tr>
</tbody>
</table>
### B/W CCD Cameras

<table>
<thead>
<tr>
<th>SSC-M383CE</th>
<th>SSC-M388CE</th>
<th>SSC-M183CE</th>
<th>SSC-M188CE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pickup device</strong></td>
<td>1/3 type Interline Transfer with Exwave HAD technology</td>
<td>1/3 type Interline Transfer with Exwave HAD technology</td>
<td>1/3 type Interline Transfer Super HAD CCD</td>
</tr>
<tr>
<td><strong>Picture Elements (HxV)</strong></td>
<td>752 x 582</td>
<td>752 x 582</td>
<td>500 x 582</td>
</tr>
<tr>
<td><strong>Lens mount</strong></td>
<td>CS</td>
<td>CS</td>
<td>CS</td>
</tr>
<tr>
<td><strong>Signal system</strong></td>
<td>CCIR</td>
<td>CCIR</td>
<td>CCIR</td>
</tr>
<tr>
<td><strong>Sync system</strong></td>
<td>Internal/External</td>
<td>External</td>
<td>Internal/External</td>
</tr>
<tr>
<td><strong>External sync</strong></td>
<td>AC Line Lock (for AC 24 V)</td>
<td>AC Line Lock (for AC 220 to 240 V)</td>
<td>AC Line Lock (for AC 24 V)</td>
</tr>
<tr>
<td><strong>V-phase control</strong></td>
<td>±90°</td>
<td>±90°</td>
<td>±90°</td>
</tr>
<tr>
<td><strong>Horizontal resolution</strong></td>
<td>570 TV lines</td>
<td>570 TV lines</td>
<td>380 TV lines</td>
</tr>
<tr>
<td><strong>Min. illumination</strong></td>
<td>0.04 lx at F1.2 (30 IRE)</td>
<td>0.04 lx at F1.2 (30 IRE)</td>
<td>0.06 lx at F1.2 (50 IRE)</td>
</tr>
<tr>
<td><strong>Backlight compensation</strong></td>
<td>ON/OFF switchable</td>
<td>ON/OFF switchable</td>
<td>ON/OFF switchable</td>
</tr>
<tr>
<td><strong>Video output</strong></td>
<td>Composite, BNC (1)</td>
<td>Composite, BNC (1)</td>
<td>Composite, BNC (1)</td>
</tr>
<tr>
<td><strong>Operating temperature</strong></td>
<td>-10 to 50 °C (14 to 122 °F)</td>
<td>-10 to 50 °C (14 to 122 °F)</td>
<td>-10 to 50 °C (14 to 122 °F)</td>
</tr>
<tr>
<td><strong>Storage temperature</strong></td>
<td>-40 to 60 °C (-40 to 140 °F)</td>
<td>-40 to 60 °C (-40 to 140 °F)</td>
<td>-40 to 60 °C (-40 to 140 °F)</td>
</tr>
<tr>
<td><strong>Power requirements</strong></td>
<td>AC 24 V, 50 Hz/DC 12 V</td>
<td>AC 24 V, 50 Hz/DC 12 V</td>
<td>AC 24 V, 50 Hz/DC 12 V</td>
</tr>
<tr>
<td><strong>Dimensions (WxHxD)</strong></td>
<td>60 x 54 x 120 mm (2 3/8 x 2 1/4 x 4 3/4 inches)</td>
<td>60 x 54 x 120 mm (2 3/8 x 2 1/4 x 4 3/4 inches)</td>
<td>60 x 54 x 120 mm (2 3/8 x 2 1/4 x 4 3/4 inches)</td>
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</tbody>
</table>

### Vari-focal Lens Cameras

<table>
<thead>
<tr>
<th>SSC-CX13VP</th>
<th>SSC-CX18VP</th>
<th>SSC-MX13VCE</th>
<th>SSC-MX18VCE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pickup device</strong></td>
<td>1/4 type Interline Transfer Super HAD CCD</td>
<td>1/4 type Interline Transfer Super HAD CCD</td>
<td>1/4 type Interline Transfer Super HAD CCD</td>
</tr>
<tr>
<td><strong>Picture elements (HiV)</strong></td>
<td>752 x 582</td>
<td>752 x 582</td>
<td>752 x 582</td>
</tr>
<tr>
<td><strong>Built-In lens</strong></td>
<td>Var-focal lens, FL 4.9 mm, f=2.8 to 5.8 mm</td>
<td>Var-focal lens, FL 4.9 mm, f=2.8 to 5.8 mm</td>
<td>Var-focal lens, FL 4.9 mm, f=2.8 to 5.8 mm</td>
</tr>
<tr>
<td><strong>View angle</strong></td>
<td>W=95.7° (D), 75.9° (H), 56.4° (V)</td>
<td>W=95.7° (D), 75.9° (H), 56.4° (V)</td>
<td>W=95.7° (D), 75.9° (H), 56.4° (V)</td>
</tr>
<tr>
<td><strong>Minimum object distance</strong></td>
<td>0.2 m</td>
<td>0.2 m</td>
<td>0.2 m</td>
</tr>
<tr>
<td><strong>White balance</strong></td>
<td>ATW</td>
<td>ATW</td>
<td>ATW</td>
</tr>
<tr>
<td><strong>Signal system</strong></td>
<td>PAL</td>
<td>PAL</td>
<td>PAL</td>
</tr>
<tr>
<td><strong>Sync system</strong></td>
<td>Internal/External</td>
<td>Internal/External</td>
<td>Internal/External</td>
</tr>
<tr>
<td><strong>External sync</strong></td>
<td>AC Line Lock (for AC 24 V)</td>
<td>AC Line Lock (for AC 220 to 240 V)</td>
<td>AC Line Lock (for AC 24 V)</td>
</tr>
<tr>
<td><strong>V-phase control</strong></td>
<td>±90°</td>
<td>±90°</td>
<td>±90°</td>
</tr>
<tr>
<td><strong>Horizontal resolution</strong></td>
<td>480 TV lines</td>
<td>480 TV lines</td>
<td>570 TV lines</td>
</tr>
<tr>
<td><strong>Max. illumination</strong></td>
<td>1.1 lx at F1.2 (30 IRE)</td>
<td>1.1 lx at F1.2 (30 IRE)</td>
<td>0.3 lx at F1.2 (50 IRE)</td>
</tr>
<tr>
<td><strong>Min. illumination</strong></td>
<td>0.2 lx at F1.2 (50 IRE)</td>
<td>0.2 lx at F1.2 (50 IRE)</td>
<td>0.1 lx at F1.4 (50 IRE)</td>
</tr>
<tr>
<td><strong>AGC</strong></td>
<td>Turbo AGC (up to 24 dB)</td>
<td>Turbo AGC (up to 24 dB)</td>
<td>Turbo AGC (up to 24 dB)</td>
</tr>
<tr>
<td><strong>Iris control mode</strong></td>
<td>Auto iris lens</td>
<td>Auto iris lens</td>
<td>Auto iris lens</td>
</tr>
<tr>
<td><strong>Video output</strong></td>
<td>Composite, BNC (1)</td>
<td>Composite, BNC (1)</td>
<td>Composite, BNC (1)</td>
</tr>
<tr>
<td><strong>Operating temperature</strong></td>
<td>-10 to 50 °C (14 to 122 °F)</td>
<td>-10 to 50 °C (14 to 122 °F)</td>
<td>-10 to 50 °C (14 to 122 °F)</td>
</tr>
<tr>
<td><strong>Power requirements</strong></td>
<td>AC 24 V, 50 Hz/DC 12 V</td>
<td>AC 24 V, 50 Hz/DC 12 V</td>
<td>AC 24 V, 50 Hz/DC 12 V</td>
</tr>
<tr>
<td><strong>Mass</strong></td>
<td>Approx 250 g (8.2 oz)</td>
<td>Approx 250 g (8.2 oz)</td>
<td>Approx 250 g (8.2 oz)</td>
</tr>
<tr>
<td><strong>Dimensions (WxHxD)</strong></td>
<td>58 x 54 x 133 mm (2 1/8 x 2 1/4 x 5 1/4 inches)</td>
<td>58 x 54 x 133 mm (2 1/8 x 2 1/4 x 5 1/4 inches)</td>
<td>58 x 54 x 133 mm (2 1/8 x 2 1/4 x 5 1/4 inches)</td>
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### Fixed Mini Dome Cameras

<table>
<thead>
<tr>
<th></th>
<th>SSC-CD73VP</th>
<th>SSC-CD43VP</th>
<th>SSC-MD53VCE</th>
<th>SSC-MD33VCE</th>
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</thead>
<tbody>
<tr>
<td><strong>Pickup device</strong></td>
<td>1/4 type Interline Transfer Super HAD CCD</td>
<td>1/4 type Interline Transfer Super HAD CCD</td>
<td>1/4 type Interline Transfer Super HAD CCD</td>
<td>1/4 type Interline Transfer Super HAD CCD</td>
</tr>
<tr>
<td><strong>Picture elements (HxV)</strong></td>
<td>752 x 582</td>
<td>752 x 582</td>
<td>752 x 582</td>
<td>752 x 582</td>
</tr>
<tr>
<td><strong>Built-in lens</strong></td>
<td>C5-mount, Vari-focal lens f=3.0 to 8 mm, F1.0 Auto iris</td>
<td>C5-mount, Vari-focal lens f=3.0 to 8 mm, F1.0 Auto iris</td>
<td>Vari-focal lens f=2.8 to 5.8 mm, F1.4 Auto iris</td>
<td>Vari-focal lens f=2.8 to 5.8 mm, F1.4 Auto iris</td>
</tr>
<tr>
<td><strong>View angle</strong></td>
<td>W=84.6° (D), 66.6° (H), 49.3° (V)</td>
<td>W=84.7° (D), 66.6° (H), 49.3° (V)</td>
<td>W=95.7° (D), 75.9° (H), 56.4° (V)</td>
<td>W=95.7° (D), 75.9° (H), 56.4° (V)</td>
</tr>
<tr>
<td><strong>Minimum object distance</strong></td>
<td>0.2 m</td>
<td>0.2 m</td>
<td>0.2 m</td>
<td>0.2 m</td>
</tr>
<tr>
<td><strong>Signal system</strong></td>
<td>PAL</td>
<td>PAL</td>
<td>CCIR</td>
<td>CCIR</td>
</tr>
<tr>
<td><strong>White balance</strong></td>
<td>ATW</td>
<td>ATW</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Sync system</strong></td>
<td>Internal/External</td>
<td>Internal/External</td>
<td>Internal/External</td>
<td>Internal/External</td>
</tr>
<tr>
<td><strong>External sync</strong></td>
<td>AC Line Lock (for AC 24 V)</td>
<td>AC Line Lock (for AC 24 V)</td>
<td>AC Line Lock (for AC 24 V)</td>
<td>AC Line Lock (for AC 24 V)</td>
</tr>
<tr>
<td><strong>V-phase control</strong></td>
<td>±90°</td>
<td>±90°</td>
<td>±90°</td>
<td>±90°</td>
</tr>
<tr>
<td><strong>Horizontal resolution</strong></td>
<td>480 TV lines</td>
<td>480 TV lines</td>
<td>570 TV lines</td>
<td>570 TV lines</td>
</tr>
<tr>
<td><strong>S/N ratio</strong></td>
<td>Better than 50 dB</td>
<td>Better than 50 dB</td>
<td>Better than 50 dB</td>
<td>Better than 50 dB</td>
</tr>
<tr>
<td><strong>Min. illumination</strong></td>
<td>0.9 lx (colour)/0.2 lx (B/W) at F1.0 (50 IRE)</td>
<td>0.8 lx at F1.0 (50 IRE)</td>
<td>0.2 lx at F1.4 (30 IRE)</td>
<td>0.2 lx at F1.4 (30 IRE)</td>
</tr>
<tr>
<td><strong>AGC</strong></td>
<td>TURBO AGC (up to 24 dB)/OFF switchable</td>
<td>TURBO AGC (up to 24 dB)/OFF switchable</td>
<td>Turbo AGC (up to 24 dB)/Normal AGC (up to 18 dB) switchable</td>
<td>Turbo AGC (up to 24 dB)/Normal AGC (up to 18 dB) switchable</td>
</tr>
<tr>
<td><strong>Iris control mode</strong></td>
<td>Auto iris lens</td>
<td>Auto iris lens</td>
<td>Auto iris lens</td>
<td>Auto iris lens</td>
</tr>
<tr>
<td><strong>Video output</strong></td>
<td>Composite, BNC (1)</td>
<td>Composite, BNC (1)</td>
<td>Composite, BNC (1)</td>
<td>Composite, BNC (1)</td>
</tr>
<tr>
<td><strong>Weather proof</strong></td>
<td>IP66</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Operating temperature</strong></td>
<td>-20 °C to +50 °C (-4 °F to +122 °F)</td>
<td>-20 °C to +50 °C (-4 °F to +122 °F)</td>
<td>-20 °C to +50 °C (-4 °F to +122 °F)</td>
<td>-20 °C to +50 °C (-4 °F to +122 °F)</td>
</tr>
<tr>
<td><strong>Operating humidity</strong></td>
<td>20% to 80% (non condensing)</td>
<td>20% to 80% (non condensing)</td>
<td>20% to 80% (non condensing)</td>
<td>20% to 80% (non condensing)</td>
</tr>
<tr>
<td><strong>Power requirements</strong></td>
<td>AC 24 V/DC 12 V</td>
<td>AC 24 V/DC 12 V</td>
<td>AC 24 V/DC 12 V</td>
<td>AC 24 V/DC 12 V</td>
</tr>
<tr>
<td><strong>Power consumption</strong></td>
<td>3.6 W</td>
<td>3.3 W</td>
<td>2.3 W</td>
<td>2.3 W</td>
</tr>
<tr>
<td><strong>Mass</strong></td>
<td>1.2 kg (2 lb 10 oz)</td>
<td>440 g (16 oz)</td>
<td>Approx 870 g (1lb 14 oz)</td>
<td>Approx 320 g (11 oz)</td>
</tr>
<tr>
<td><strong>Dimensions (WxHxD)</strong></td>
<td>147 x 111 x 148 mm (5 ¾ x 4 ¼ x 5 ½ inches)</td>
<td>121 x 106 x 123 mm (4 ½ x 4 ¼ x 5 ½ inches)</td>
<td>137 x 105 x 138 mm (5 ½ x 4 ¼ x 5 ½ inches)</td>
<td>117 x 95 x 118 mm (4 ¼ x 3 ¾ x 4 ¼ inches)</td>
</tr>
</tbody>
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### Camera Adaptors

<table>
<thead>
<tr>
<th></th>
<th>YS-W270P</th>
<th>YS-W170P</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Video output</strong></td>
<td>BNC (8), composite video</td>
<td>BNC (2), composite video</td>
</tr>
<tr>
<td><strong>Video input</strong></td>
<td>Camera In, BNC (4)</td>
<td>Camera In, BNC (1)</td>
</tr>
<tr>
<td><strong>External sync</strong></td>
<td>VS or VD-W</td>
<td>VS or VD-W</td>
</tr>
<tr>
<td><strong>Internal sync</strong></td>
<td>MPX-VS or MPX-VD-W</td>
<td>MPX-VS or MPX-VD-W</td>
</tr>
<tr>
<td><strong>Max. cable length</strong></td>
<td>300 m using RG-59B/U</td>
<td>300 m using RG-59B/U</td>
</tr>
<tr>
<td></td>
<td>500 m using RG-6A/U</td>
<td>500 m using RG-6A/U</td>
</tr>
<tr>
<td></td>
<td>600 m using RG-11A/U</td>
<td>600 m using RG-11A/U</td>
</tr>
<tr>
<td><strong>Cable compensation</strong></td>
<td>3-Position</td>
<td>3-Position</td>
</tr>
<tr>
<td><strong>Power requirements</strong></td>
<td>AC 220 to 240 V, 50 Hz</td>
<td>AC 220 to 240 V, 50 Hz</td>
</tr>
<tr>
<td><strong>Power consumption</strong></td>
<td>49.5 W</td>
<td>15 W</td>
</tr>
<tr>
<td><strong>Mass</strong></td>
<td>3.6 kg (7 lb 15 oz)</td>
<td>1.9 kg (4 lb 3 oz)</td>
</tr>
<tr>
<td><strong>Dimensions (WxHxD)</strong></td>
<td>424 x 52 x 345 mm (16 ¼ x 2 ½ x 13 ½ inches)</td>
<td>212 x 52 x 345 mm (8 ¼ x 2 ¼ x 13 ¼ inches)</td>
</tr>
</tbody>
</table>
**Video Network Station**

**SNT-V304**

**Video inputs**
- VBS/VS, BNC type (4), Auto sensitivity for NTSC or PAL
- 75 Ω termination on/off dip-switch
- S-video, 5 terminal connector (1)
- Alternative VIDEO 1

**Serial port**
- RS-232C, D-sub 9 pin (2)
- COM 1: EVI-D30/D31, camera control
- HSR-2P digital recorder control
- COM 2: EVI-D30/D31, camera control
- Modem port

**Alarm inputs**
- Terminal connector (4), positive ON/negative ON

**Alarm outputs**
- Terminal connector (1), Relay out

**Ethernet connector**
- RJ45 (1), 100Base-TX/10Base-T Ethernet

**Compression method**
- JPEG

**Maximum performance**
- NTSC: 30 fps (352 x 240 resolution), 3 fps (704 x 480 resolution), 25 fps (352 x 288 resolution), 2 fps (704 x 576 resolution)
- PAL: 30 fps (352 x 240 resolution), 3 fps (704 x 480 resolution), 25 fps (352 x 288 resolution), 2 fps (704 x 576 resolution)

**Bandwidth control**
- 0.1 to 2.0 Mbps or Unlimited

**Camera view modes**
- Full size (352 x 240/NTSC, 352 x 288/PAL)
- Huge size (704 x 480/NTSC, 704 x 576/PAL)

**Sequence dwell time**
- 5 to 30 seconds, 1 second steps

**Alarm Activation**
- Relay out, e-mail (SMTP) or forward to server (FTP)

**Alarm dwell time**
- 1 to 30 seconds or manual reset

**Alarm image size**
- Full size (352 x 240/NTSC, 352 x 288/PAL)

**Buffering interval time**
- 10, 5, 4, 3, 2, 1, 1/2, 1/3, 1/4, 1/5 s

**Power requirements**
- AC 12 V, 5.5 W (with supplied AC adaptor)
- AC 12 V, 5.5 W (with supplied AC adaptor)
- 0.8 kg (1 lb 12 oz) (not including AC adaptor)

**Dimensions (WxHxD)**
- 146 x 41.5 x 223.5 mm
- (5 3/4 x 1 11/16 x 8 7/8 inches)

---

**Colour Monitors**

**SSM-20L1**

**SSM-14L1**

<table>
<thead>
<tr>
<th><strong>CRT type</strong></th>
<th>20-inch Trinitron</th>
<th>14-inch Trinitron</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AG pitch</strong></td>
<td>0.4 mm</td>
<td>0.25 mm</td>
</tr>
<tr>
<td><strong>Colour system</strong></td>
<td>NTSC, PAL</td>
<td>NTSC, PAL</td>
</tr>
<tr>
<td><strong>Horizontal resolution</strong></td>
<td>600 TV lines</td>
<td>600 TV lines</td>
</tr>
<tr>
<td><strong>Video input</strong></td>
<td>Analogue composite (BNC x 2), Y/C (Mini DIN 4-pin x 2)</td>
<td>Analogue composite (BNC x 2), Y/C (Mini DIN 4-pin x 2)</td>
</tr>
<tr>
<td><strong>Video output</strong></td>
<td>Analogue composite (BNC x 1), Y/C (Mini DIN 4-pin x 1)</td>
<td>Analogue composite (BNC x 1), Y/C (Mini DIN 4-pin x 1)</td>
</tr>
<tr>
<td><strong>Audio input</strong></td>
<td>Phono x 2</td>
<td>Phono x 2</td>
</tr>
<tr>
<td><strong>Audio output</strong></td>
<td>Phono x 1</td>
<td>Phono x 1</td>
</tr>
<tr>
<td><strong>Built-in speaker</strong></td>
<td>Yes (0.5 W)</td>
<td>Yes (0.5 W)</td>
</tr>
<tr>
<td><strong>Power requirements</strong></td>
<td>AC 100 V to 240 V, 50/60 Hz</td>
<td>AC 100 V to 240 V, 50/60 Hz</td>
</tr>
<tr>
<td><strong>Power consumption</strong></td>
<td>75 W (typical)</td>
<td>68 W (typical)</td>
</tr>
<tr>
<td><strong>Mass</strong></td>
<td>Approx. 28 kg (61 lb 12 oz)</td>
<td>Approx. 15 kg (33 lb 1 oz)</td>
</tr>
<tr>
<td><strong>Dimensions (WxHxD)</strong></td>
<td>Approx. 449 x 441 x 502 mm (17 3/8 x 17 3/8 x 19 1/16 inches)</td>
<td>Approx. 346 x 340 x 414 mm (13 3/4 x 13 1/2 x 16 11/16 inches)</td>
</tr>
</tbody>
</table>
### SPECIFICATIONS

#### Digital Hard Disk Video Recorders

<table>
<thead>
<tr>
<th>Model</th>
<th>HSR-X200P</th>
<th>HSR-X209P</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HDD capacity</strong></td>
<td>80 GB HDD unit (up to 240 GB)</td>
<td>320 GB HDD unit</td>
</tr>
<tr>
<td><strong>Playback during recording</strong></td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Video signal</strong></td>
<td>CCIR standard, PAL colour</td>
<td>CCIR standard, PAL colour</td>
</tr>
<tr>
<td><strong>Sampling frequency</strong></td>
<td>13.5 M Hz (4:2:2 components)</td>
<td>13.5 M Hz (4:2:2 components)</td>
</tr>
<tr>
<td><strong>Recording/playback time</strong></td>
<td>Max. 671 hours (Approx. 28 days) in High mode, 1 fps</td>
<td>Max. 2686 hours (Approx. 112 days) in High mode, 1 fps</td>
</tr>
<tr>
<td><strong>Video input</strong></td>
<td>VBS VS (BNC type): 1.0 Vp-p, 75 Ω, unbalanced S-VIDEO (DIN 4-pin)</td>
<td>VBS VS (BNC type x 9): 1.0 Vp-p, 75 Ω, unbalanced</td>
</tr>
<tr>
<td><strong>Video output</strong></td>
<td>VBS VS (BNC type): 1.0 Vp-p, 75 Ω, unbalanced S-VIDEO (DIN 4-pin)</td>
<td>VBS VS (BNC type x 9): 1.0 Vp-p, 75 Ω, unbalanced</td>
</tr>
<tr>
<td><strong>Split screen display</strong></td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td><strong>Quality mode</strong></td>
<td>Hyper, Super, High, Middle and Low modes (selectable)</td>
<td>Hyper, Super, High, Middle and Low modes (selectable)</td>
</tr>
<tr>
<td><strong>Horizontal resolution</strong></td>
<td>More than 500 TV lines (Hyper mode)</td>
<td>More than 500 TV lines (Hyper mode)</td>
</tr>
<tr>
<td><strong>S/N ratio</strong></td>
<td>48 dB (typical)</td>
<td>48 dB (typical)</td>
</tr>
<tr>
<td><strong>Mass</strong></td>
<td>5.5 kg (12 lb 2 oz)</td>
<td>7.0 kg (15 lb 7 oz)</td>
</tr>
<tr>
<td><strong>Dimensions (W x H x D)</strong></td>
<td>420 x 96 x 376 mm (16 5/8 x 3 7/8 x 14 7/8 inches)</td>
<td>420 x 96 x 376 mm (16 5/8 x 3 7/8 x 14 7/8 inches)</td>
</tr>
<tr>
<td><strong>Power requirements</strong></td>
<td>AC 220 to 240 V (50/60 Hz)</td>
<td>AC 220 to 240 V (50/60 Hz)</td>
</tr>
<tr>
<td><strong>Power consumption</strong></td>
<td>30 W</td>
<td>37 W</td>
</tr>
<tr>
<td><strong>Operating temperature</strong></td>
<td>5 to 40 °C (41 to 104 °F)</td>
<td>5 to 40 °C (41 to 104 °F)</td>
</tr>
<tr>
<td><strong>Parallel input/output connectors</strong></td>
<td>D-SUB 9-pin (1) 11 terminals (Alarm terminals) 11 terminals (Control terminals)</td>
<td>D-SUB 9-pin (1) 11 terminals (Alarm terminals) 11 terminals (Control terminals)</td>
</tr>
<tr>
<td><strong>Control S connector</strong></td>
<td>Stereo mini (1)</td>
<td>Stereo mini (1)</td>
</tr>
</tbody>
</table>

#### HSR-X216P

<table>
<thead>
<tr>
<th>Model</th>
<th>HSR-X216P</th>
<th>HSR-2P</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HDD capacity</strong></td>
<td>320 GB HDD unit</td>
<td>More than 60 GB</td>
</tr>
<tr>
<td><strong>Playback during recording</strong></td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Video signal</strong></td>
<td>CCIR standard, PAL colour</td>
<td>CCIR standard, PAL colour</td>
</tr>
<tr>
<td><strong>Recording system</strong></td>
<td>Rotary two-head helical scanning system</td>
<td>–</td>
</tr>
<tr>
<td><strong>Sampling frequency</strong></td>
<td>13.5 M Hz (4:2:0 components)</td>
<td>13.5 M Hz (4:2:2 components)</td>
</tr>
<tr>
<td><strong>Recording/playback time</strong></td>
<td>Max. 2686 hours (Approx. 112 days) in High mode, 1 fps</td>
<td>Max. 9999 hours (Approx. 400 days)</td>
</tr>
<tr>
<td><strong>Fast forward/rewind time</strong></td>
<td>Less than 3 min. (with a 270-minute tape)</td>
<td>–</td>
</tr>
<tr>
<td><strong>Video input</strong></td>
<td>VBS VS (BNC type x 16): 1.0 Vp-p, 75 Ω, unbalanced S-VIDEO (DIN 4-pin)</td>
<td>VBS VS (BNC type): 1.0 Vp-p, 75 Ω, unbalanced</td>
</tr>
<tr>
<td><strong>Video output</strong></td>
<td>VBS VS (BNC type x 16): 1.0 Vp-p, 75 Ω, unbalanced S-VIDEO (DIN 4-pin)</td>
<td>VBS VS (BNC type): 1.0 Vp-p, 75 Ω, unbalanced</td>
</tr>
<tr>
<td><strong>Split screen display</strong></td>
<td>6 patterns</td>
<td>9 patterns</td>
</tr>
<tr>
<td><strong>Quality mode</strong></td>
<td>Hyper, Super, High, Middle and Low modes (selectable)</td>
<td>Super, High, Middle and Low modes (selectable)</td>
</tr>
<tr>
<td><strong>Horizontal resolution</strong></td>
<td>More than 500 TV lines (Hyper mode)</td>
<td>More than 500 TV lines (Hyper and Super modes) 360 TV lines (High mode)</td>
</tr>
<tr>
<td><strong>S/N ratio</strong></td>
<td>48 dB (typical)</td>
<td>48 dB (typical)</td>
</tr>
<tr>
<td><strong>Mass</strong></td>
<td>7.0 kg (15 lb 7 oz)</td>
<td>10 kg (22 lb 1 oz)</td>
</tr>
<tr>
<td><strong>Dimensions (W x H x D)</strong></td>
<td>420 x 96 x 376 mm (16 5/8 x 3 7/8 x 14 7/8 inches)</td>
<td>355 x 125 x 410 mm (14 x 5 x 16 1/4 inches)</td>
</tr>
<tr>
<td><strong>Power requirements</strong></td>
<td>AC 220 to 240 V (50/60 Hz)</td>
<td>AC 220 to 240 V (50/60 Hz)</td>
</tr>
<tr>
<td><strong>Power consumption</strong></td>
<td>38 W</td>
<td>58 W (without options), 78 W (with full options)</td>
</tr>
<tr>
<td><strong>Operating temperature</strong></td>
<td>5 to 40 °C (41 to 104 °F)</td>
<td>5 to 40 °C (41 to 104 °F)</td>
</tr>
<tr>
<td><strong>Recording/back-up media</strong></td>
<td>–</td>
<td>DV or DVCAM cassette tape (standard size, mini size)</td>
</tr>
<tr>
<td><strong>Parallel input/output connectors</strong></td>
<td>D-SUB 9-pin (1) 17 terminals (Alarm terminals) 17 terminals (Control terminals)</td>
<td>D-SUB 37-pin (1) 24 terminals (Input), 8 terminals (Output) to be freely assigned (Alarm, Rec. Tally, Clock set, Series rec. etc.) Power output: +12 V (max. 100 mA)</td>
</tr>
<tr>
<td><strong>Control S connector</strong></td>
<td>Stereo mini (1)</td>
<td>Stereo mini (1)</td>
</tr>
</tbody>
</table>
### Analogue Time Lapse Video Recorders

<table>
<thead>
<tr>
<th>Feature</th>
<th>SVT-RA96P</th>
<th>SVT-N72P</th>
<th>SVT-N24P</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Tape format</strong></td>
<td>VHS</td>
<td>VHS</td>
<td>VHS</td>
</tr>
<tr>
<td><strong>Tape speed</strong></td>
<td>11.70 mm/s (6 or 8-hour mode)</td>
<td>23.39 mm/s (3-hour mode)</td>
<td>23.39 mm/s (3-hour mode)</td>
</tr>
<tr>
<td><strong>Fast forward/rewind time</strong></td>
<td>Approx. 100 seconds with an E-180 tape</td>
<td>Approx. 100 seconds (with an E-180 tape)</td>
<td>Approx. 100 seconds (with an E-180 tape)</td>
</tr>
<tr>
<td><strong>Recording system</strong></td>
<td>Rotary four-head helical scanning system</td>
<td>Rotary four-head helical scanning system</td>
<td>Rotary four-head helical scanning system</td>
</tr>
<tr>
<td><strong>Video input</strong></td>
<td>BNC: 1.0 Vp-p, 75 Ω, unbalanced</td>
<td>BNC: 1.0 Vp-p, 75 Ω, unbalanced</td>
<td>BNC: 1.0 Vp-p, 75 Ω, unbalanced</td>
</tr>
<tr>
<td><strong>Video output</strong></td>
<td>BNC: 1.0 Vp-p, 75 Ω, unbalanced</td>
<td>BNC: 1.0 Vp-p, 75 Ω, unbalanced</td>
<td>BNC: 1.0 Vp-p, 75 Ω, unbalanced</td>
</tr>
<tr>
<td><strong>Recording modes</strong></td>
<td>6 to 96 hours (with an E-180 tape)</td>
<td>3 to 72 hours (with an E-180 tape)</td>
<td>3, 12, 24 hours (with an E-180 tape)</td>
</tr>
<tr>
<td><strong>Record interval (Approx.)</strong></td>
<td>1/50 to 0.34 s</td>
<td>1/50 to 0.5 s</td>
<td>1/50 to 0.18 s</td>
</tr>
<tr>
<td><strong>Mic input</strong></td>
<td>φ 3.5 mm Mini-jack, -60 dB, 600 Ω</td>
<td>φ 3.5 mm Mini-jack, -60 dB, 600 Ω</td>
<td>φ 3.5 mm Mini-jack, -60 dB, 10 kΩ</td>
</tr>
<tr>
<td><strong>Audio recording</strong></td>
<td>6 (8), 18, 24, 30, 40 (40) hour mode</td>
<td>3, 12, 24 hour mode</td>
<td>3, 12, 24 hour mode</td>
</tr>
<tr>
<td><strong>Audio input</strong></td>
<td>-8 dB, 27 kΩ (phone jack)</td>
<td>-8 dB, 27 kΩ (phone jack)</td>
<td>-8 dB, 27 kΩ (phone jack)</td>
</tr>
<tr>
<td><strong>Audio output</strong></td>
<td>-8 dB, 600 Ω (phone jack)</td>
<td>-8 dB, 600 Ω (phone jack)</td>
<td>-8 dB, 600 Ω (phone jack)</td>
</tr>
<tr>
<td><strong>Audio S/N ratio</strong></td>
<td>40 db</td>
<td>43 db</td>
<td>40 db</td>
</tr>
<tr>
<td><strong>Horizontal resolution</strong></td>
<td>350 TV lines (B/W), 240 TV lines (Colour)</td>
<td>350 TV lines (B/W), 240 TV lines (Colour)</td>
<td>350 TV lines (B/W), 240 TV lines (Colour)</td>
</tr>
<tr>
<td><strong>S/N ratio</strong></td>
<td>42 db</td>
<td>44 db</td>
<td>44 db</td>
</tr>
<tr>
<td><strong>Remote control interface</strong></td>
<td>φ 3.5 mm Mini-jack, RS-232C/485 interface (option)</td>
<td>φ 3.5 mm Mini-jack, RS-232C/485 interface (option)</td>
<td>φ 3.5 mm Mini-jack</td>
</tr>
<tr>
<td><strong>Time/date</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Built-in timer</strong></td>
<td>7-Day/8-Event</td>
<td>7-Day/8-Event</td>
<td>7-Day/8-Event</td>
</tr>
<tr>
<td><strong>Alarm input</strong></td>
<td>Low level</td>
<td>Low level</td>
<td>Low level</td>
</tr>
<tr>
<td><strong>Alarm output</strong></td>
<td>+5 V, 5.7 kΩ (Low active)</td>
<td>+5 V, 5.7 kΩ (Low active)</td>
<td>+5 V, 5.7 kΩ (Low active)</td>
</tr>
<tr>
<td><strong>Alarm REC. speed</strong></td>
<td>6, 18, 30 hours or No change (E-180 tape)</td>
<td>3, 12, 24 hours or No change</td>
<td>3, 12, 24 hours or No change</td>
</tr>
<tr>
<td><strong>Alarm search</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Alarm scan</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Alarm data list</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Video loss alert</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Operating temperature</strong></td>
<td>5 to 40 °C (41 to 104 °F)</td>
<td>5 to 40 °C (41 to 104 °F)</td>
<td>5 to 40 °C (41 to 104 °F)</td>
</tr>
<tr>
<td><strong>Power requirements</strong></td>
<td>AC 220 to 240 V, 50 Hz</td>
<td>AC 220 to 240 V, 50 Hz</td>
<td>AC 220 to 240 V, 50 Hz</td>
</tr>
<tr>
<td><strong>Power consumption</strong></td>
<td>16 W</td>
<td>14 W</td>
<td>14 W</td>
</tr>
<tr>
<td><strong>Mass</strong></td>
<td>4.1 kg (9 lb)</td>
<td>4.1 kg (9 lb)</td>
<td>3.8 kg (8 lb 6 oz)</td>
</tr>
<tr>
<td><strong>Dimensions (WxHxD)</strong></td>
<td>420 x 100 x 300 mm (16 1/4 x 4 x 11 3/4 inches)</td>
<td>420 x 100 x 300 mm (16 1/4 x 4 x 11 3/4 inches)</td>
<td>240 x 100 x 335 mm (9 1/2 x 4 x 13 1/4 inches)</td>
</tr>
</tbody>
</table>
## Multiplexers

<table>
<thead>
<tr>
<th></th>
<th>YS-DX516P</th>
<th>YS-DX416CE</th>
<th>YS-DX504P</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Multiplexer type</strong></td>
<td>Duplex colour</td>
<td>Duplex B/W</td>
<td>Half Duplex Colour</td>
</tr>
<tr>
<td><strong>No. of video inputs</strong></td>
<td>16</td>
<td>16</td>
<td>4</td>
</tr>
<tr>
<td><strong>Video signal</strong></td>
<td>PAL colour</td>
<td>CCIR B/W</td>
<td>PAL colour</td>
</tr>
<tr>
<td><strong>Video input</strong></td>
<td>BNC (16) composite video</td>
<td>BNC (16) composite video</td>
<td>BNC (4) composite video</td>
</tr>
<tr>
<td><strong>VCR input</strong></td>
<td>BNC (1) composite video 4-pin Mini DIN (1), Y/C</td>
<td>BNC (1) composite video</td>
<td>BNC (1) composite video 4-pin Mini DIN (1), Y/C</td>
</tr>
<tr>
<td><strong>VCR output</strong></td>
<td>BNC (1) composite video 4-pin Mini DIN (2), Y/C</td>
<td>BNC (1) composite video</td>
<td>BNC (1) composite video 4-pin Mini DIN (1), Y/C</td>
</tr>
<tr>
<td><strong>Resolution</strong></td>
<td>720 (H) x 564 (V) pixels</td>
<td>720 (H) x 564 (V) pixels</td>
<td>720 (H) x 564 (V) pixels</td>
</tr>
<tr>
<td><strong>Monitor outputs</strong></td>
<td>BNC (1) composite video</td>
<td>BNC (2), composite video</td>
<td>BNC (2), composite video</td>
</tr>
<tr>
<td><strong>Digital still/zoom</strong></td>
<td>Yes, 2x zoom</td>
<td>Yes, 2x zoom</td>
<td>Yes, 2x zoom</td>
</tr>
<tr>
<td><strong>Alarm input</strong></td>
<td>16</td>
<td>16</td>
<td>4</td>
</tr>
<tr>
<td><strong>External alarm output</strong></td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Sensor alarm output</strong></td>
<td>16</td>
<td>16</td>
<td>4</td>
</tr>
<tr>
<td><strong>Video loss alert</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Battery backup</strong></td>
<td>30 days</td>
<td>30 days</td>
<td>30 days</td>
</tr>
<tr>
<td><strong>Power requirements</strong></td>
<td>AC 220 to 240 V, 50 Hz</td>
<td>AC 220 to 240 V, 50 Hz</td>
<td>AC 220 to 240 V, 50 Hz</td>
</tr>
<tr>
<td><strong>Power consumption</strong></td>
<td>21 W</td>
<td>18 W</td>
<td>19 W</td>
</tr>
<tr>
<td><strong>Operating temperature</strong></td>
<td>5 to 40 °C (37 to 104 °F)</td>
<td>5 to 40 °C (37 to 104 °F)</td>
<td>5 to 40 °C (37 to 104 °F)</td>
</tr>
<tr>
<td><strong>Mass</strong></td>
<td>4.1 kg (9 lb 4 oz)</td>
<td>4.1 kg (9 lb 4 oz)</td>
<td>3.4 kg (7 lb 8 oz)</td>
</tr>
<tr>
<td><strong>Dimensions (WxHxD)</strong></td>
<td>420 x 86 x 325 mm (16 5/8 x 3 1/2 x 12 7/8 inches)</td>
<td>420 x 86 x 325 mm (16 5/8 x 3 1/2 x 12 7/8 inches)</td>
<td>420 x 44 x 325 mm (16 5/8 x 1 3/4 x 12 7/8 inches)</td>
</tr>
</tbody>
</table>
## Colour Video Printers

<table>
<thead>
<tr>
<th>UP-51MD</th>
<th>UP-20</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Printing method</strong></td>
<td>Dye sublimation printing</td>
</tr>
<tr>
<td><strong>Resolution</strong></td>
<td>Approx. 300 dpi (2048 dots)</td>
</tr>
<tr>
<td><strong>Gradations</strong></td>
<td>256 gradations for Yellow, Magenta, Cyan Approx. 16.7 million colours per dot</td>
</tr>
<tr>
<td><strong>Effective print pixels</strong></td>
<td>1,176 x 1,920 dots</td>
</tr>
<tr>
<td><strong>Paper size</strong></td>
<td>A5 size 148 x 210 mm (5 7/8 x 8 3/8 inches)</td>
</tr>
<tr>
<td><strong>Print area</strong></td>
<td>124.8 x 165.1 mm (5 x 6 1/2 inches) — Full 117.0 x 170.9 mm (4 1/2 x 6 1/4 inches) — 2 Splits 126.9 x 167.1 mm (5 x 6 1/2 inches) — 4 Splits 139.9 x 170.9 mm (4 3/4 x 6 1/4 inches) — 8 Splits 127.4 x 165.1 mm (5 x 6 1/2 inches) — 16 Splits</td>
</tr>
<tr>
<td><strong>Printing time (High-speed mode)</strong></td>
<td>UPC-510 approx. 22 s UPC-540 approx. 33 s</td>
</tr>
<tr>
<td><strong>Picture memory</strong></td>
<td>Eight frame memories</td>
</tr>
<tr>
<td><strong>Inputs/Outputs</strong></td>
<td>Video, S-Video, RGB</td>
</tr>
<tr>
<td><strong>Control terminals</strong></td>
<td>Remote 1 (special mini) for optional RM-5500, RM-91 RS-232C interface port (D-sub 25-pin) for external computer</td>
</tr>
<tr>
<td><strong>Paper tray capacity</strong></td>
<td>Max. 100 sheets</td>
</tr>
<tr>
<td><strong>Power requirements</strong></td>
<td>AC 220 to 240 V, 50/60 Hz</td>
</tr>
<tr>
<td><strong>Power consumption</strong></td>
<td>Max. 1.2 A</td>
</tr>
<tr>
<td><strong>Mass</strong></td>
<td>Approx.14 kg (31 lb)</td>
</tr>
<tr>
<td><strong>Dimensions (WxHxD)</strong></td>
<td>370 x 125 x 475 mm (14 5/8 x 5 x 18 3/4 inches)</td>
</tr>
<tr>
<td><strong>Print paper</strong></td>
<td>UPC-510 Colour Printing Pack (for 200 prints) UPC-540 Self-laminating Colour Printing Pack (for 102 prints)</td>
</tr>
</tbody>
</table>

## UP-21MD

| **Printing method** | Dye sublimation printing |
| **Resolution** | 403 dpi (1664 dots) |
| **Gradations** | 256 gradations for Yellow, Magenta, Cyan Approx. 16.7 million colours per dot |
| **Effective print pixels** | S size 1,524 x 1,176 dots L size 1,458 dots |
| **Paper size** | A6 S size 100 x 90 mm (4 x 3 1/8 inches) A6 L size 144 x 100 mm (5 3/4 x 4 inches) |
| **Print area** | S size 95.8 x 72.7 mm (3 7/8 x 2 7/8 inches) — Full 68.3 x 47.7 mm (2 3/4 x 1 13/16 inches) — 2 Splits L size 126.9 x 91.9 mm (5 x 3 1/4 inches) — Full 87.7 x 63.4 mm (3 1/4 x 2 1/4 inches) — 2 Splits 63.5 x 45.9 mm (2 1/2 x 1 13/16 inches) — 4 Splits |
| **Printing time (High-speed mode)** | UPC-21S approx. 17 s UPC-21L approx. 25 s |
| **Picture memory** | Four frame memories |
| **Inputs/Outputs** | Video, S-Video, RGB |
| **Control terminal** | Remote 1 (special mini) for optional RM-5500 Remote 2 (stereo mini) for optional RM-91 RS-232C interface port (D-sub 25-pin) for external computer |
| **Paper tray capacity** | S size tray : Max. 80 sheets L size tray : Max. 50 sheets |
| **Power requirements** | AC 220 to 240 V, 50/60 Hz | AC 220 to 240 V, 50/60 Hz |
| **Power consumption** | 1.0 A |
| **Dimensions (WxHxD)** | 212 x 125 x 395 mm (8 3/8 x 5 x 15 5/8 inches) |
| **Mass** | Approx. 6.5 kg (14 lb 5 oz) |
| **Print paper** | UPC-21S Small Size Colour Print Pack (for 240 prints) UPC-21L Large Size Colour Print Pack (for 200 prints) |
### Digital Colour Printer

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<td><strong>Printing method</strong></td>
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<td><strong>Resolution</strong></td>
</tr>
<tr>
<td><strong>Gradations</strong></td>
</tr>
<tr>
<td><strong>Effective print pixels</strong></td>
</tr>
<tr>
<td><strong>Paper size</strong></td>
</tr>
<tr>
<td><strong>Print area</strong></td>
</tr>
<tr>
<td><strong>Printing time (High-speed mode)</strong></td>
</tr>
<tr>
<td><strong>Picture memory</strong></td>
</tr>
<tr>
<td><strong>Inputs/Outputs</strong></td>
</tr>
<tr>
<td><strong>Control terminal</strong></td>
</tr>
<tr>
<td><strong>Print Media capacity</strong></td>
</tr>
<tr>
<td><strong>Power requirements</strong></td>
</tr>
<tr>
<td><strong>Power consumption</strong></td>
</tr>
<tr>
<td><strong>Mass</strong></td>
</tr>
<tr>
<td><strong>Dimensions (WxHxD)</strong></td>
</tr>
<tr>
<td><strong>Print paper</strong></td>
</tr>
</tbody>
</table>

### B/W Video Graphic Printers

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<th><strong>UP-960CE</strong></th>
<th><strong>UP-895CE</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Printing method</strong></td>
<td>Direct thermal printing</td>
</tr>
<tr>
<td><strong>Thermal head</strong></td>
<td>162 dpi</td>
</tr>
<tr>
<td><strong>Gradation</strong></td>
<td>256 grey levels</td>
</tr>
<tr>
<td><strong>Effective print pixels</strong></td>
<td>(EIA) 1280 x 507 dots (CCIR) 1280 x 607 dots</td>
</tr>
<tr>
<td><strong>Print area</strong></td>
<td>(EIA) Standard mode: 190 x 144 mm (7 1/2 x 5 1/2 inches) Side mode: 184 x 243 mm (7 1/4 x 9 3/4 inches) (CCIR) Standard mode: 190 x 142 mm (7 1/2 x 5 1/2 inches) Side mode: 181 x 243 mm (7 1/4 x 9 3/4 inches)</td>
</tr>
<tr>
<td><strong>Printing time</strong></td>
<td>Approx. 12 seconds per screen</td>
</tr>
<tr>
<td><strong>Picture memory</strong></td>
<td>2048 x 1024 x 8 bit</td>
</tr>
<tr>
<td><strong>Control terminals</strong></td>
<td>Video</td>
</tr>
<tr>
<td><strong>Power requirements</strong></td>
<td>AC 220 to 240 V, 120 V, 50/60 Hz</td>
</tr>
<tr>
<td><strong>Power consumption</strong></td>
<td>8 kg (17 lb 10 oz)</td>
</tr>
<tr>
<td><strong>Dimensions (WxHxD)</strong></td>
<td>316 x 132 x 305 mm (12 1/2 x 5 1/4 x 12 1/8 inches)</td>
</tr>
<tr>
<td><strong>Print paper</strong></td>
<td>UPP-210HD Thermal Print Media (Type II: High Density) (210 x 25 m) UPP-210SE Thermal Print Media (Type I: High Quality) (210 x 25 m) RM-91 Remote Control Unit</td>
</tr>
</tbody>
</table>

All print quantity numbers are measured in default setting. All non-metric weights and measures are approximate.
### B/W Digital Graphic Printers

<table>
<thead>
<tr>
<th>Feature</th>
<th>UP-D895</th>
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<tbody>
<tr>
<td><strong>Printing method</strong></td>
<td>Direct thermal printing</td>
</tr>
<tr>
<td><strong>Resolution</strong></td>
<td>325 dpi</td>
</tr>
<tr>
<td><strong>Gradation</strong></td>
<td>256 gray levels</td>
</tr>
<tr>
<td><strong>Effective print pixels</strong></td>
<td>Max. 1280 x 4096 dots</td>
</tr>
<tr>
<td><strong>Paper size</strong></td>
<td>-</td>
</tr>
<tr>
<td><strong>Print area</strong></td>
<td>Max. 100 x 320 mm (4 x 12 1/8 inches)</td>
</tr>
</tbody>
</table>
| **Printing times**           | Approx. 3.9 s (1280 x 960 dots)  
Approx. 5.1 s (1280 x 1280 dots) |
| **Picture memory**           | 8 M B |
| **Inputs/Outputs**           | - |
| **Control terminal**         | Parallel (IEEE 1284)  
USB (version 1.0) |
| **Paper tray capacity**      | - |
| **Power requirements**       | AC 220 to 240 V, 50/60 Hz |
| **Power consumption**        | Approx. 120 W  
Approx. 20 W (stand-by mode) |
| **Dimensions (WxHxD)**       | 154 x 105 x 260 mm  
(6 1/8 x 4 1/4 x 10 1/4 inches) |
| **Mass**                     | Approx. 3.4 kg (7 lb 8 oz) |
| **Driver software**          | Parallel (IEEE 1284): Windows 95/98/ME/2000, Windows NT 4  
USB (version 1.0): Windows 98/ME/2000 |
| **Print paper**              | UPP-110HG Thermal Print Media (Type V:High Glossy) (110 mm x 18 m)  
UPP-110HD Thermal Print Media (Type VI:Superior Density) (110 mm x 20 m)  
UPP-110S Thermal Print Media (Type I:High Quality) (110 mm x 20 m) |
**SYSTEM EXAMPLES**

*Cameras: Typical System*

**SNC Series Operation**

Remote monitoring on LAN system (IMZ-RS Series installed)

**SNT-V304 Operation**

Remote monitoring on WAN system

Server for conversion of image format

Cameras: Typical System
1. Single camera operation
   (a) Mode A: Triple multiplexing operation

2. Multiple camera operation
SYSTEM EXAMPLES

Cameras: Typical System

SSC-DC54AP/DC393P/DC193P/DC593P/M383CE/M183CE/CX13VP/MX13VCE/CD73VP/CD43VP/MD53VCE/MD33VCE operation

1. Single camera operation

2. Multiple camera operation
1. Single camera operation

2. Multiple camera operation
Single YS-DX516P/DX416CE/DX504P* operation

*Up to 4 cameras can be connected
GLOSSARY

**Automatic Gain Control (AGC)**
Amplifies existing video to help camera reproduce a video signal at very low light levels.

**Analogue backlight compensation (BLC)**
Picture brightness is adjusted automatically depending on lighting conditions. Overcomes the problem of strong backlight which often causes the subject of the picture to be cast into shadow.

**Adaptive Picture Control (APC)**
Automatically detects the condition of the recording head and video cassette tape and then sets the optimum recording head current. Available on all SVT time lapse VCRs.

**Aperture/sharp mode**
Makes object outline in the picture appear sharper. Ideal for situations where an object merges into the scene with a similar shade of colour.

**Auto Tracing White Balance (ATW)**
Adjusts the white balance automatically in response to varying light conditions.

**ATW PRO**
Ideal for frequently changing light conditions and applications where the operator needs to see objects as they appear to the eye. Effective operational colour range is 2500 to 6000K.

**Auto iris**
Automatically adjusts the iris element as the light level changes.

**Auto White Balance (AWB)**
Automatically memorises adjusted white balance values.

**Backlight compensation**
See Smart Control (Digital)
See Analogue backlight compensation (Analogue)

**C mount**
Type of camera mount which measures 17.5 mm from the lens rear mounting surface to the camera’s CCD.

**CS mount**
Type of camera mount which measures 12.5 mm from the lens rear mounting surface to the camera’s CCD. CS mount lenses can be used with C mount cameras by adding a 5 mm spacer.

**DC servo auto iris lens**
Lens that relies on DC power from the camera to control the iris.

**Digital Signal Processing (DSP)**
Converts the analogue signal from a CCD image sensor into a digital signal through an internal A/D converter. The signal is then broken down into luminance and chrominance components for processing, adjustment and feature enhancement enabling many digital features such as backlight compensation.

**Duplex**
Type of multiplexer allowing simultaneous live monitoring or playback as images are being recorded.

**Exwave HAD Technology**
Sony’s technology with a nearly gap-less OCL (On-chip-lens) located over each pixel on the CCD resulting in more than twice the sensitivity and 1/50 the smear compared to the Hyper HAD technology. Used in SSC-DC50A/DC54A/DC393/M393 cameras.

**Hybrid recording**
Original Sony recording method of the HSR-2, which uses both a Hard Disk Drive and DV tape. Images are first recorded to HDD, then transferred to DV tape.

**Hyper HAD Technology**
Technology with an OCL (On-chip-lens) located over each pixel on the CCD which helps increase sensitivity and reduce smear.

**Real Action recording**
EP recording mode which achieves four times as many frames/s to be recorded in 24 H mode. (SVT-RA168/RA40 only)

**Sensitivity**
The amount of light falling on a scene measured in lx.

**Simplex**
Type of multiplexer which allows the user to choose between live monitoring, recording or playback.

**Smart Control**
Digital circuit within the camera providing automatic backlight compensation by automatically adjusting iris and gain. Also see DSP.

**Smear**
Vertical streaks above and below a brightly lit object or light source when observed on the monitor. Vertical lines on the screen are caused by the leakage of unwanted light onto the vertical shift register of the CCD.

**Super HAD Technology**
Improves drastically the sensitivity compared to the Hyper HAD technology by optimizing the shape of on-chip microlenses on the CCD in order to minimize the invalid area between microlenses of each pixel.

**Synchronisation**
Used in multi-camera installations where automatic switching is employed and allows roll-free switching from camera to camera.

**Trinitron CRT**
Sony CRT which allows for high resolution and the best possible picture reproduction. The completely flat, straight vertical surface of the Trinitron CRT provides very low purity imperfection.

**Triple multiplexing**
Video, sync and power transmitted over a single coaxial cable.

**Turbo AGC**
Powerful automatic gain control function. Increases range of video gain compared to conventional AGC resulting in greater sensitivity.

**Video servo auto iris lens**
Lens that relies on video input to control the iris opening. When the video level is high, the lens iris closes. When the video level is low, it opens.
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<th>Products</th>
<th>Features</th>
<th>Specifications</th>
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<td>28</td>
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<tr>
<td>HSR-X200P</td>
<td>14</td>
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<tr>
<td>HSR-X209P</td>
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<tr>
<td>HSR-X216P</td>
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<td>28</td>
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<td>IMZ-RS104/RS109/RS116/RS132</td>
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<td>-</td>
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<tr>
<td>SNC-C33P</td>
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<td>SNC-RZ30P</td>
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<td>SNC-VL10P</td>
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<td>SNC-Z20P</td>
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<td>SNT-V304</td>
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<td>SSC-CX13VP/CX18VP</td>
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<td>SSC-DC193P/DC198P</td>
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<td>YS-W270P</td>
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