SANYO

Digital Video Recorder with Built-in Multiplexer

DSR-3506P 6-channel PAL

DIGITAL NETWORK SOLUTIONS

- An HDD recorder with a complete 6-ch multiplexer
- A clear picture with horizontal resolution of 520 TV lines
- Simultaneous recording and playback at 50 fields/sec
- Live picture monitoring at 25 FPS for each channel
- Remote monitoring with networking capability

Made in Japan

The product introduced here is manufactured in Japan utilizing advanced technologies and quality control.

Built-in 6-channel Multiplexer

DSR-3506P incorporates a 6-channel multiplexer and a hard disk drive. It offers a compact, space-saving solution.

Select HDD Capacity Depending on Need

Best suited for small scale operations, the DSR-3506P comes with four sizes of HDD* — select 80 GB or 160 GB for economy, or 250 GB or 300 GB for versatility. Extensive recording of images from six cameras is possible without degradation of picture quality, and digitalisation enables the construction of a system effective for every application.
*As of May 2004

Approximate recording time for 80 GB and 300 GB HDD

50 fps 80 GB HDD / 300 GB HDD   80 GB HDD   300 GB HDD

	80 GB HDD	300 GB HDD
Basic	24 hours	93 hours
Normal	17 hours	66 hours
Enhanced	13 hours	49 hours
Fine	9 hours	36 hours
Super Fine	8 hours	30 hours

* Recording time also depends on video contents and environmental conditions.

Expandable to 600 GB

DSR-3506P unit has an expansion bay; longer time recording is possible by adding a hard disk drive. Setting up mirror recording* is also possible. For further details about HDD expansion, contact the place of purchase.

*Mirror Recording

Each DSR-3506P comes with two HDD bays. By adding an slave HDD with the same capacity as the master HDD, it is possible to record the same video on two HDDs, treating one as a backup unit.

Audio Recording Available

Audio recording is available for recording speeds from 50 fields/sec to 1 field/sec.

Horizontal Resolution of 520 TV Lines

Digital recording with Motion JPEG video compression makes it possible to achieve high picture quality of more than 520 TV lines horizontal resolution and 48dB S/N ratio. This eliminates smears, vertical divergence, and jitters commonly seen in analogue recordings, offering clear and crisp pictures.

An All New 6-ch Model Now Available in SANYO's Popular DVR Series The Best Choice for Small Scale Operations

High picture quality, long recording time, max. capacity of 600 GB, and networking capability.

DSR-3506P 6-channel PAL

DIGITAL
NETWORK SOLUTIONS

300 GB DSR-3506P Recording Time — After expansion to 300 GB (100%-usage)

Recording Speed		Picture Quality					Audio Recording
fields/sec	Recording Interval (sec.)	Basic	Normal VHS (EP)	Enhanced VHS (SP)	Fine S-VHS	Super Fine S-VHS +	
		Recording Time				(unit: hour)	
50.00	0.02	93	66	49	36	30	
25.00	0.03	187	133	99	72	61	
16.67	0.05	281	199	149	108	92	
12.50	0.07	375	266	199	145	122	
8.33	0.10	563	399	299	217	184	
6.25	0.13	751	532	399	290	245	
5.00	0.17	939	665	498	362	307	
4.17	0.20	1,126	798	598	435	368	
3.57	0.23	1,314	931	698	507	429	Available
3.13	0.27	1,502	1,054	798	580	491	
2.78	0.30	1,690	1,197	898	653	552	
2.50	0.33	1,878	1,330	997	725	614	
2.27	0.37	2,066	1,463	1,097	798	675	
1.92	0.43	2,441	1,729	1,297	943	798	
1.67	0.50	2,817	1,995	1,496	1,088	921	
1.47	0.60	3,193	2,261	1,696	1,233	1,043	
1.32	0.70	3,568	2,527	1,895	1,378	1,166	
1.19	0.80	3,944	2,793	2,095	1,523	1,289	
1.09	0.90	4,320	3,060	2,295	1,669	1,412	
1.00	1	4,695	3,326	2,494	1,814	1,535	
0.50	2	9,391	6,652	4,989	3,628	3,070	
0.33	3	14,087	9,978	7,483	5,442	4,605	
0.25	4	18,782	13,304	9,978	7,256	6,140	
0.20	5	23,478	16,630	12,472	9,071	7,675	Not available
0.10	10	46,956	33,261	24,945	18,142	15,351	
0.05	20	93,913	66,522	49,891	36,284	30,702	
0.03	30	140,870	99,783	74,837	54,427	46,053	

* The recording time may vary slightly depending on the complexity of the images and the presence of an audio signal.
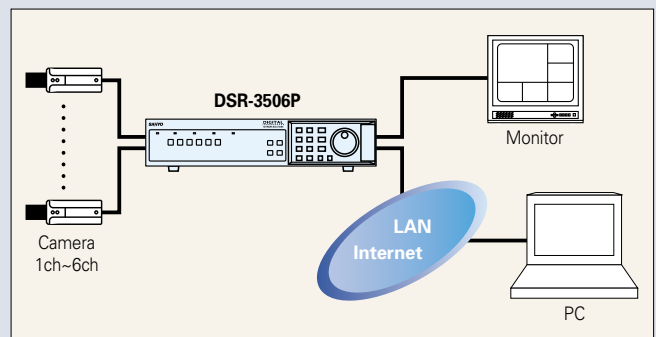* The table above lists the picture quality vs. recording time for field recording using the normal recording area of the 300 GB HD. The recording time will change depending on the settings for the storage area, the use of frame recording, and the availability of an optional HDD. Contact the place of purchase for details on increasing the capacity by adding a HDD.

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

Networking Capability

Remote Control by a PC

The built-in LAN terminal enables remote control of the DSR-3506P through a PC that is connected to the network (using Internet Explorer Version 5.0 or higher). It is also possible to monitor the live video, play back recorded pictures, and download video / audio recordings to the PC.

DSR-3506P
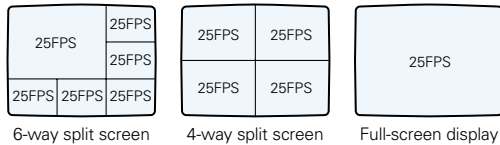
Monitor

Camera 1ch~6ch

LAN Internet

PC

- Multiplex recording with one-field switching
- Three storage areas
- Video loss alarm
- Two-level password security lock (admin / user)
- 30-day memory back-up
- Resume function
- End-of-medium alarm
- Jog shuttle
- On-screen mode setting, menu languages built in: English / French / German / Spanish
- Built-in time date generator
- Timer recording
- Auto repeat recording

Recording & Playback of Real-time Image

Live Picture Monitoring at 25 FPS
The capability to display live images on a 6-way or 4-way split screen, or a single screen display, depending on the situation. Live images can be monitored at 25 frames/sec even if multiple cameras are connected.

25FPS / 25FPS 25FPS / 25FPS 25FPS 25FPS	25FPS 25FPS / 25FPS 25FPS	25FPS
6-way split screen	4-way split screen	Full-screen display

Simultaneous Recording and Playback (up to 50 fields/sec)
SANYO's exclusive digital technology allows recording and playback at the same time at 50 fields/sec (maximum). Smooth images can be reproduced and every incident in the monitored areas is successfully recorded.

Quick Retrieval of Recorded Video
DSR-3506P features five different search functions: Time / date Search, Alarm Search, Alarm Thumbnail Search, Archive Area Search, and Motion Detection Search. Since all data is recorded on a hard disk drive, the target image is brought up instantly despite the disk's ability to store a large amount of data. This eliminates the time wasted winding / rewinding tapes on a conventional time-lapse VCR. In addition, with digital recording technology, the user can view a noise-free picture in a fast-forward or fast-rewind search.
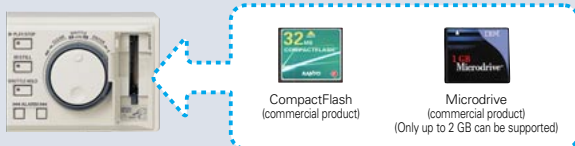
Warning Functions
Using the built-in motion sensor and external sensors, the following warning functions are available.
(1) Monitor display switching
(2) Buzzer and indicator lamp warnings

CF Type II Expansion Slot
The user can copy recorded data onto CompactFlash or a Microdrive, which allows data to be easily transferred to a PC. Also the user can upload / download menu items and the same settings can be easily copied on other DSR-3506Ps.

CompactFlash (commercial product)

Microdrive (commercial product) (Only up to 2 GB can be supported)

Print Directly from a CF Card or a Microdrive
By using SANYO digital photo printer DVP-P1, it is possible to print images directly from a CF card or a Microdrive. SANYO does not assume responsibility when other printers are used.

SSP Compatible
DSR-3506P is compatible with SSP (SANYO Security Serial Protocol) signal, the bi-directional communication protocol for security equipment proposed by SANYO. By using SSP, it is possible to control cameras, recorders, and other peripheral devices (up to 255 units in total) from a single controller.

- Alarm counter
- Auto delete
- Trigger shot recording
- Forward / reverse field advance
- Automatic summer time adjustment
- Lifetime counter
- Buzzer

- Through output of video
- Position adjustable camera titles (10-character)
- One push adjustable clock
- Push-lock terminals for easy installation (refer to photo of rear panel)
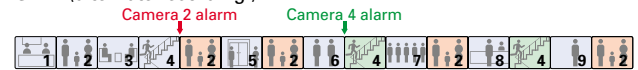
Multiple Options in Recording

Three Recording Modes for Flawless Recording
DSR-3506P has three recording modes; Alarm, Timer, and Program. The three modes can operate individually or in any combination.

Alarm Recording
A full range of settings for picture quality, recording speed, and audio recording are possible. Alarm recording is triggered by an alarm signal from the built-in motion sensor or an external sensor. There are two operating modes in alarm recording — alternate recording and continuous recording.
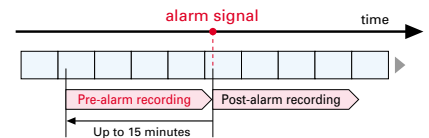
SW 1 (alternate recording)

Camera 2 alarm   Camera 4 alarm

ONLY 2 (continuous recording)

Camera 2 alarm   Camera 4 alarm   Camera 2 alarm cancelled

Pre-alarm Recording
The pre-alarm recording mode allows the user to save up to 15 minutes of video prior to an alarm input, offering a great advantage when analysing the situation.

alarm signal   time

Pre-alarm recording   Post-alarm recording

Up to 15 minutes

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

Programmed Recording
For each of four available programmes (P1 to P4), the user can specify particular cameras for recording. In addition, different recording speeds can be set for each programme. These programmes can also be used when making a timer recording.

Useful Functions

Motion Sensor for Catching All Activities
DRS-3506P comes with a motion sensor function that splits the screen into 140 sections and catches all questionable movements at the precise locations that need to be monitored. The sensor function can be set up independently for all six cameras and starts recording upon detection of any movement. DSR-3506P also allows the user to instantaneously locate the suspicious incidents and play them back.

Easy Recording with Minimal Setup
If you choose to bypass the detailed settings for recording, there is also a Simplified Recording Mode. Only two types of settings are required — the recording day setting, with which the number of days and time slots for recording are set, and the recording rate setting, with which the video speed is controlled.
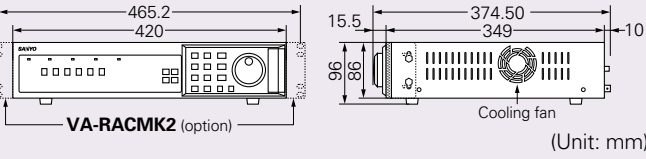
Setting time periods
By dividing a day into four time periods T1, T2, T3, and T4, you can set up an independent setting in each time period, for each of the following functions.
(1) Motion Sensor
(2) Monitor Masking
(3) Display Interval for Full-screen Sequential Display

DSR-3506P

465.2
420
374.50
349
15.5
10
96
86

VA-RACMK2 (option)

Cooling fan

(Unit: mm)

MODEL	DSR-3506P	
General	Hard disk Capacity	80GB, 160GB, 250GB or 300GB in one bay
	Picture resolution	720 x 288 (Field)
	Compression	M-JPEG
	Picture quality	5 levels (Basic, Normal, Enhanced, Fine, Super Fine)
	Recording type	Field recording
	Recording speed	27 levels. (50.00 to 0.03 fps.)
	Recording area	Normal Recording Area / Alarm Recording Area / Archive Area
	Number of cameras	6
	Magnification	x2 digital zoom (in playback mode only)
	Menu language	English / French / German / Spanish
	Clock setup	Month, day, year (last two digits), hour, minute, second
Search Mode	Time/date search	Search by time and date
	Alarm search	Search by alarm event list
	Alarm thumbnail search	Search by alarm event thumbnails
	Archive area search	Search Archive Area with event list
	Motion detection search	Search by specifying a motion sensor
Video	Signal format	PAL standard (colour) / EIA standard (B/W) auto select, 625 lines, 50 fields/sec
	Video input	VBS / VS, 1.0 V (p-p), 75 Ω, BNC x 6
	Video output	VBS / VS, 1.0 V (p-p), 75 Ω, BNC x 6
	Main monitor output	VBS 1.0V (p-p), 75 Ω, BNC x1
	Monitor 2 output	VBS / VS 1.0V (p-p), 75 Ω, BNC x 1
Audio	Audio input	-8 dBs 27 kΩ unbalanced, RCA x 1
	Audio output	-8 dBs 600 Ω unbalanced, RCA x 1
	Microphone input	-60 dBs 10 kΩ unbalanced, 3.5 mm mini jack x 1
Interface	CompactFlash slot	CF type II (Front)
	LAN	10BASE-T / 100BASE-TX (RJ-45)
	RS-485	RJ-11 x 2
Control signal	Remote control in	Push-lock terminal x 2, Push-lock terminal x 1 (GND)
	Alarm in	No-volt contacts (100ms or more) x 6
	Alarm out	Open collector Level low active x 1
	Alarm reset	No-volt contacts (100ms or more) x 1
	Sensor alarm output	Open collector (25mA) Level low active x 6
	NON Rec out	Normal 5 V DC, Low level active x 1
	Clock adjust input	No-volt contacts (100ms or more) x 1
	Clock adjust output	Normal 5 V DC, Low level active x 1
	Warning out	Normal 5 V DC, Low level active x 1
	Disk full out	Normal 5 V DC, Low level active x 1
	Alarm full out	Normal 5 V DC, Low level active x 1
	External timer input	No-volt contacts (1sec or more) x 1
Electrical	Power source	120 to 240 V AC, 50 / 60 Hz
	Power consumption	32 W, 480 to 300 mA
	Operating conditions	Temperature: 5°C to 40°C [41°F to 104°F], Humidity: 80% or less
Physical	Dimensions (W x H x D)	420 x 86 x 364.5 mm
	Weight (Approx.)	6.3 kg [13.9 lbs.]

*Specifications subject to change without notice

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

* "Microsoft" and "Internet Explorer" are registered trademarks or trademarks of Microsoft Corporation in the United
  States and/or other countries.
* All other company and product names are registered trademarks and/or trademarks of their respective owners.

Horizontal resolution 520 TV Lines of compatible devices

Camera

Standard
1/3" Colour CCD DSP
High-resolution Camera
VCC-6572P (12V DC type)
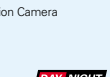**VCC-6574P** (24V AC type)

Line-operate
1/3" Colour CCD DSP
High-resolution Camera
VCC-6570P
(220 to 230V AC type)

High-sensitivity
1/3" Colour CCD DSP High-resolution Camera
VCC-6592P (12V DC type)
VCC-6594P (24V AC type)
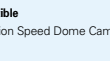
Day/Night _DAY NIGHT_
1/3" CCD DSP High-resolution
Day/Night Camera (Colour + B/W)
VCC-4592P (12V DC type)
VCC-4594P (24V AC type)

Pan Tilt Zoom
SSP coaxial camera control compatible
1/4" Colour CCD DSP High-resolution Speed Dome Camera
VCC-9300P (24V AC type)

Weatherproof
1/4" Colour CCD High-resolution Weatherproof Day/Night
Auto Focus Zoom Camera (Colour + B/W)
VCC-XZ400P _DAY NIGHT_
(12V DC / 24 V AC dual type)

Zoom
SSP coaxial camera control compatible
1/4" Colour CCD DSP
High-resolution Auto Focus Zoom Camera
VCC-ZM300P (12V DC / 24 V AC dual type)

1/4" Colour CCD DSP High-resolution
Day/Night Auto Focus Zoom Camera
(Colour + B/W)
VCC-ZM400P _DAY NIGHT_
(12V DC / 24 V AC dual type)

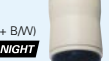**Vandal Resistant Dome Camera**
1/4" Colour CCD DSP High-resolution
Day/Night Vandal Resistant Dome Camera
(Colour + B/W)
VDC-D1185VP _DAY NIGHT_
(12V DC / 24 V AC dual type)

1/4" Colour CCD DSP High-resolution
Day/Night Vandal Resistant Dome Camera
(Colour + B/W)
VDC-D2185VP _DAY NIGHT_
(12V DC / 24 V AC dual type)

1/4" Colour CCD DSP High-resolution
Day/Night Speed Dome Camera (Colour + B/W)
VCC-9400P (24V AC type) _DAY NIGHT_

Recorder

16ch Digital Video Recorder
DSR-3016P

9ch Digital Video Recorder **DSR-3009P**

1ch Digital Video Recorder **DSR-300P**

Digital Real Time VCR **DTL-4800P**

Monitor

19" High-resolution Colour Video Monitor
VMC-8619PA

15" High-resolution Colour Video Monitor
VMC-8615FP

15" High-resolution Colour Video Monitor
VMC-8415FP

SSP compatible devices

SSP System Unit

SSP System Controller
VSP-8000

SSP Signal Converter
VSP-CB10

SSP Signal Receiver
VSP-RV200

Recorder

1ch Digital Video Recorder **DSR-M800PA**

1ch Digital Video Recorder **DSR-M810P**

4ch Digital Video Recorder **DSR-M804P**

1ch Digital Video Recorder **DSR-300P**

9ch Digital Video Recorder **DSR-3009P**

16ch Digital Video Recorder **DSR-3016P**

Digital Real Time VCR **DTL-4800P**

960-hour Recording + Real Time VCR
*The optional VZU-485/232C board is required **SRT-8960P**

40-hour Recording + Real Time VCR
*The optional VZU-485/232C board is required **SRT-8040P**

960-hour Recording S-VHS/VHS
Time Lapse VCR **TLS-S8000P**

960-hour Recording Time Lapse VCR
*The optional VZU-485/232C board is required **TLS-1960P**

24-hour Recording Time Lapse VCR
The optional VZU-485/232C board is required **TLS-9924P**

24-hour Recording Time Lapse VCR
The optional board is required **TLS-4024P**

Camera

1/4" Colour CCD DSP High-resolution
Speed Dome Camera (Colour + B/W)
VCC-9300P

1/4" Colour CCD DSP High-resolution
Day/Night Speed Dome Camera (Colour + B/W)
VCC-9400P _DAY NIGHT_

1/4" Colour CCD DSP High-resolution
Auto Focus Zoom Camera
VCC-ZM300P

1/4" Colour CCD DSP High-resolution
Day/Night Auto Focus Zoom Camera (Colour + B/W)
VCC-ZM400P _DAY NIGHT_

Multiplexer

9-channel Duplex Multiplexer
(Colour) **MPX-CD92P**

9-channel Digital Transport
Multiplexer (Colour) **MPX-CD93P**

16-channel Duplex Multiplexer
(Colour) **MPX-CD162P**

16-channel Duplex Multiplexer
(B/W) **MPX-MD162P**

16-channel Digital Transport
Multiplexer (Colour)
MPX-CD163P

Network Product

Network Video Server
VSP-SV2000P

NEXUSAGE

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*Caution: please consult the instruction manual to ensure safe and proper operation of the product.

CE ISO 9001 DNV MGMT.SYS. RvA C024 ISO 9001 REGISTERED FIRM DNV Certification B.V., THE NETHERLANDS JAB EMS Accreditation RE 009 ISO 14001 JACO UKAS ENVIRONMENTAL MANAGEMENT 051

DI Solutions Company of SANYO Electric Co., Ltd. obtained
Quality Management System ISO9001 and Environmental
Management System ISO14001 certifications.

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