

**SONY**<sup>®</sup>

EIA / NTSC



# **SURVEILLANCE VCR**

**General Catalog**

*In the fields of security and surveillance, video monitoring systems never sleep - running 24 hours a day, 365 days a year. Keeping a permanent record of events and alarms requires specialized VCRs, and the expanding range of Sony surveillance products now includes eleven models.*

*The Sony family of surveillance VCRs can be divided into three categories: analog time-lapse, digital time-lapse, and standard (non-time-lapse) VCRs. First, Sony's analog SVT Series time-lapse VCRs include eight different models, each with unique features to provide reliable, long-term recording. Second, Sony's digital time-lapse VCR, the*



Analog time-lapse VCR (SVT-L400)



Digital time-lapse VCR (HSR-1)

*HSR-1, is an extremely versatile and high quality surveillance recorder offering various benefits that*

*only digital format can provide. Third, Sony offers two standard VCRs ideal for surveillance applications that require continuous real time recording.*

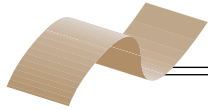


Standard VCR (SVO-1330)

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*Sony surveillance VCRs cover a wide range of applications. Together with other Sony surveillance products, these VCRs will help you to meet all your needs for surveillance recording.*



## **Surveillance applications**



Office / Facility Management



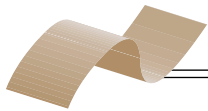
Banks / Financial Institutions



Retail / Convenience Stores

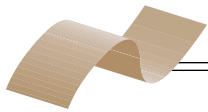


Central Monitoring Stations



## **The Total Surveillance System Solution from Sony**





## Analog time-lapse recorders

Sony offers an extensive line-up of analog time-lapse VCRs, allowing you to choose the VCR to best fit the application at hand. Available on the SVT- DL224/L200/LC300/L400 is RealAction high density recording which allows for faster refresh rates compared to conventional SP based time-lapse VCRs such as the SVT-124. The SVT-S3100 offers S-VHS format for extremely high quality pictures. For applications requiring a DC powered VCR there is the SVT-DL224, and for long term time-lapse recording the SVT-5050 can record up to 960 hours on a single T-120 tape.

All Sony SVT Series time-lapse VCRs offer many recording and alarm features including auto repeat, timer recording and alarm recording. Many built-in protective features such as recording check and power failure protection maximize reliability. Moreover, all SVT Series VCRs can be remotely controlled using the SVT-RM10 remote control unit. No matter what your needs, the Sony SVT time-lapse VCRs can help meet them in a cost effective way.

### Why time-lapse recording?

#### How time-lapse VCRs work

Conventional VCRs record 60 fields per second. However, time-lapse VCRs record fewer fields per second, enabling longer recording on a single tape. The

number of fields recorded per second depends on the hour setting. The longer the recording time, the fewer the number of pictures recorded per second on the tape.

#### Why time-lapse VCRs are used in surveillance

By recording fewer fields per second time-lapse VCRs conserve more tape. Tape changes and maintenance is greatly reduced because an entire day, week, or even month can be recorded on a single 120-minute or 160-minute tape. To avoid missing any critical information

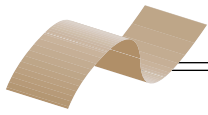
between recorded fields, time-lapse VCRs are able to switch to different recording modes when necessary. For example if an alarm is detected, the time-lapse VCR can switch to a faster recording mode that captures more fields per second.

### SVT Series time-lapse VCR features at a glance

	RealAction	Compact (240 mm width)	RS-232C IF (optional)	S-Video	DC operation
SVT-DL224	✓	✓			✓
SVT-L200	✓		✓		
SVT-LC300	✓	✓			
SVT-L400	✓		✓		
SVT-124		✓			
SVT-S3100			✓	✓	
SVT-3050			✓		
SVT-5050			✓		

### Maximum recording time of SVT Series time-lapse VCRs

	T-120 tape	T-160 tape
SVT-DL224	18 hrs.	24 hrs.
SVT-L200	30 hrs.	40 hrs.
SVT-LC300	96 hrs.	126 hrs.
SVT-L400	168 hrs.	224 hrs.
SVT-124	24 hrs.	32 hrs.
SVT-S3100	168 hrs.	224 hrs.
SVT-3050	168 hrs.	224 hrs.
SVT-5050	960 hrs.	1280 hrs.



## RealAction Recording

Four SVT time lapse VCRs feature RealAction high density recording. For example, conventional time-lapse VCRs record only 5 fields per second in 24-hour recording mode. However, Sony RealAction technology allows

recording of 20 fields per second – four times as much information. This recording density provides smooth, natural recording even of fast moving objects.

**RealAction recording** 20 fields/sec.



**Normal time-lapse recording** 5 fields/sec.



## EP (RealAction) based time-lapse VCRs vs. SP based time-lapse VCRs

The choice between EP (RealAction) and SP based time-lapse VCRs often depends on the user's preference between high density recording and higher picture quality. While EP allows for faster refresh rates than SP, the picture

quality of SP is better than EP. Sony offers four EP (RealAction) and four SP based time-lapse VCRs, maximizing your choice.

## APC (Adaptive Picture Control)

All Sony SVT time-lapse VCRs have an Adaptive Picture Control (APC) function which automatically detects the condition of the recording head and the video cassette tape. The optimum record head current is then set. The recording head of the VCR becomes worn after extended use, as shown in (Figure 1). Ideally, the recording current should be adjusted depending on the thickness of the recording head.

The relationship between the recording current without APC and time of usage is shown in (Figure 2). The ideal current is shown as (\*1). With conventional recorders, the current needs to be preset at a constant current shown as (\*2). This results in over-modulation, which occurs when an excessive current affects both the tape and recording head, deteriorating the picture quality. Over-modulation is shown as (A).

APC technology prevents over-modulation by maintaining the recording current at an ideal level. The relationship between the recording current with APC and the ideal recording level is shown in (Figure 3). With APC the recording current (\*3) is maintained near the ideal level (\*1). This allows clear, high quality images to be recorded even after long periods of use.

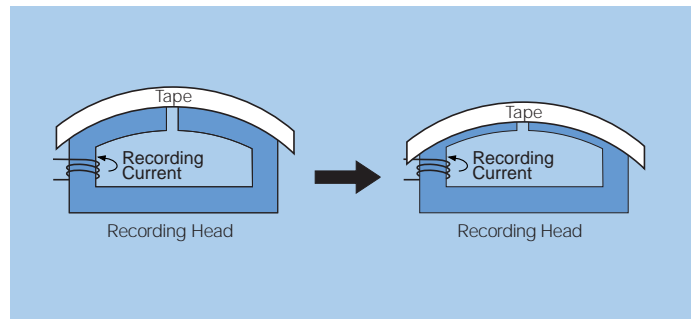


Fig.1

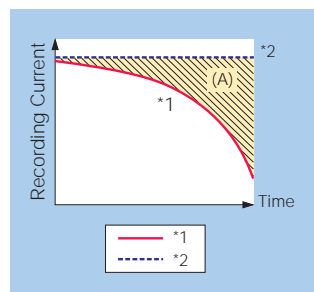


Fig.2

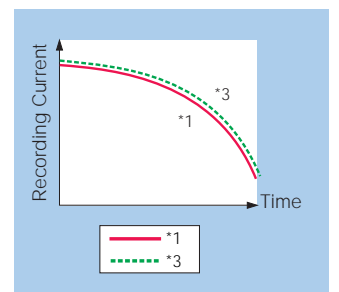


Fig.3



## SVT-DL224



- DC 12 V power operation
- Compact and lightweight
- Sony RealAction technology allows high density recording
- 24-hour time-lapse recording mode is available in addition to the standard 8-hour time mode with a 160-minute tape

TIME MODE (h)	8	24
INTERVAL (s)	1/60	1/20

- Audio recording and playback are available in 8 and 24-hour modes
- Clog detection

<b>Optional Accessories:</b>	Remote control unit SVT-RM10 TLV parts kit TPK-952
<b>Mass:</b>	3.8 kg (8 lb 6 oz)
<b>Dimensions:</b>	240(W) x 96.5 (H) x 333 (D) mm (9 1/2 x 3 7/8 x 13 1/8 inches)
<b>Power consumption:</b>	18 W

## SVT-L200



- Sony RealAction technology allows high density recording
- Two different time-lapse recording and playback modes are available in addition to the standard 8 hour mode with 160-minute tape

TIME MODE (h)	8	24	40
INTERVAL (s)	1/60	1/20	1/12

- Audio recording and playback are available in 8, 24, 40-hour modes
- External control capability via an optional RS-232C interface

<b>Optional Accessories:</b>	RS-232C interface board SVT-RS1A Remote control unit SVT-RM10 TLV parts kit TPK-884
<b>Mass:</b>	5.5 kg (12 lb 2 oz)
<b>Dimensions:</b>	420 (W) x 100 (H) x 349 (D) mm (16 5/8 x 4 x 13 3/4 inches)
<b>Power consumption</b>	17 W

## SVT-LC300



- Compact and lightweight
- Sony RealAction technology allows high density recording
- Five different time-lapse modes in addition to the standard 8-hour time mode with 160-minute tape

TIME MODE (h)	8	24	40	64	96	126
INTERVAL (s)	1/60	1/20	1/12	0.15	0.22	0.28

- Audio recording and playback are available in 8, 24, 40-hour modes
- Clog detection

<b>Optional Accessories:</b>	Remote control unit SVT-RM10 TLV parts kit TPK-952
<b>Mass:</b>	3.8 kg (8 lb 6 oz)
<b>Dimensions:</b>	240(W) x 96.5 (H) x 333 (D) mm (9 1/2 x 3 7/8 x 13 1/8 inches)
<b>Power consumption:</b>	18 W

## SVT-L400



- Sony RealAction technology allows high density recording
- Seven different time-lapse modes in addition to the standard 8-hour time mode with 160-minute tape

TIME MODE (h)	8	24	40	64	96	126	160	224
INTERVAL (s)	1/60	1/20	1/12	0.15	0.2	0.28	0.35	0.48

- Audio recording and playback are available in 8, 24, and 40-hour modes
- External control capability via an optional RS-232C interface
- Clog detection

<b>Optional Accessories:</b>	RS-232C interface board SVT-RS1A Remote control unit SVT-RM10 TLV parts kit TPK-884
<b>Mass:</b>	5.8 kg (12 lb 13 oz)
<b>Dimensions:</b>	420 (W) x 100 (H) x 349 (D) mm (16 5/8 x 4 x 13 3/4 inches)
<b>Power consumption:</b>	17 W

## SVT-124



- Compact and lightweight
- 2 different time-lapse recording and playback modes are available in addition to the standard 2H40M mode with a 160-minute tape

TIME MODE (h)	2H40M	16	32
INTERVAL (s)	1/60	0.1	0.2

- Audio recording and playback are available in 2H40M, 16, 32-hour modes
- Clog detection

<b>Optional Accessories:</b>	Remote control unit SVT-RM10 TLV parts kit TPK-951
<b>Mass:</b>	3.8 kg (8 lb 6 oz)
<b>Dimensions:</b>	240(W) x 96.5 (H) x 333 (D) mm (9 1/2 x 3 7/8 x 13 1/8 inches)
<b>Power consumption:</b>	18 W

## SVT-S3100



- S-VHS format with a high resolution of 400 TV lines
- Excellent signal to noise ratio of 45 dB
- Seven different time-lapse modes in addition to the standard 2H40M time mode with 160-minute tape

TIME MODE (h)	2H40M	16	32	64	98	128	160	224
INTERVAL (s)	1/60	0.1	0.2	0.4	0.6	0.8	1.0	1.4

- Audio recording and playback are possible in 2H40M, 16, 32-hour modes
- External control capability via an optional RS-232C interface

<b>Optional Accessories:</b>	RS-232C interface board SVT-RS1A Remote control unit SVT-RM10 TLV parts kit TPK-S881
<b>Mass:</b>	5.8 kg (12 lb 13 oz)
<b>Dimensions:</b>	420 (W) x 100 (H) x 349 (D) mm (16 5/8 x 4 x 13 3/4 inches)
<b>Power consumption:</b>	22 W

## SVT-3050



- Seven different time-lapse modes in addition to the standard 2H40M time mode with 160 minute tape
- Audio recording and playback are available in 2H40M, 16, 32-hour modes
- External control capability via an optional RS-232C interface

TIME MODE (h)	2H40M	16	32	64	96	128	160	224
INTERVAL (s)	1/60	0.1	0.2	0.4	0.6	0.8	1.0	1.4

<b>Optional Accessories:</b>	RS-232C interface board SVT-RS1A Remote control unit SVT-RM10 TLV parts kit TPK-883
<b>Mass:</b>	5.5 kg (12 lb 2 oz)
<b>Dimensions:</b>	420 (W) x 100 (H) x 349 (D) mm (16 5/8 x 4 x 13 3/4 inches)
<b>Power consumption:</b>	17 W

## SVT-5050

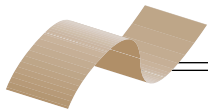


- 12 different time lapse modes in addition to the standard 2H40M time mode with 160-minute tape

TIME MODE (h)	2H40M	16	32	64	96	128	160
INTERVAL (s)	1/60	0.1	0.2	0.4	0.6	0.8	1.0
TIME MODE (h)	224	320	480	640	960	1280	
INTERVAL (s)	1.4	2.0	3.0	4.0	6.0	8.0	

- Audio recording and playback are available in 2H40M, 16, 32 -hour modes
- External control capability via an optional RS-232C interface

<b>Optional Accessories:</b>	RS-232C interface board SVT-RS1A Remote control unit SVT-RM10 TLV parts kit TPK-883
<b>Mass:</b>	5.5 kg (12 lb 2 oz)
<b>Dimensions:</b>	420 (W) x 100 (H) x 349 (D) mm (16 5/8 x 4 x 13 3/4 inches)
<b>Power consumption:</b>	17 W



## HSR-1 Digital time-lapse recorder

The advantages of digital recording over analog recording include high picture quality due to a consistently high signal to noise ratio (48 dB for the HSR-1) and higher refresh rates which results in more shots recorded. The Sony HSR-1 offers all of these advantages plus a unique Hybrid recording system. The HSR-1 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 the DV tape.

This "hybrid" approach to recording has two major

advantages. The first advantage is reduced maintenance. Because 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.

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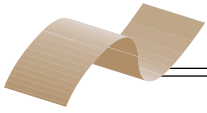
### Features

- Hybrid configuration of HDD and DV tape drive
- Four alternative quality modes: Super, High, Middle and Low
- Excellent picture quality of more than 500 TV lines (Super mode)
- Large storage capacity (more than 60 GB) and long recording time by using the supplied DV cassette tape (270-min.) as a storage medium
- High refresh rate for the recording of each camera
- Up to 16 camera inputs available when three optional input boards, each having four inputs, are installed (The HSR-1 has one input board pre-installed)
- Built-in duplex multiplexing capability allowing independent recording and monitoring of up to 16 camera inputs.
- RS-232C interface for PC control
- Freely configurable 37-pin parallel port
- Continuous recording function, even while changing or rewinding the tape
- Water mark
- Intelligent search functions: time/date search, alarm search, specific user data search via PC control and noiseless picture search
- Pre Alarm recording capability for event recording



<b>Optional Accessories:</b>	HSRA-11 (Input Board) SVRM-100A (Remote Control Unit)
<b>Mass:</b>	10 kg (22 lb 1 oz)
<b>Dimensions:</b>	355 (W) x 125 (H) x 410 (D) mm (14 x 5 x 16 1/4 inches)
<b>Power consumption:</b>	80 W (without options) 115 W (with full options)





## Analog Videocassette recorders

Certain applications require continuous real time recording of events. Sony offers two VCRs specifically designed for surveillance applications: the SVO-1330 and EVO-250. The

SVO-1330 is ideal for casino surveillance, where constant real time monitoring is required. The EVO-250 is a tiny Hi8™ VCR suitable for covert applications.



### SVO-1330 VCR

- Ideal for casino surveillance applications where a number of VCRs are used for continuous recording
- HQ circuitry and Double Azimuth PRO 4-head design for high resolution and excellent color reproduction
- APC II (Adaptive Picture Control II) optimizes both recording and playback
- Control-S IN/OUT terminals for remote operation of multiple VCRs with the optional RM-V200 remote control unit
- Eject terminals allow videocassettes of multiple VCRs to be ejected simultaneously
- Timer, Series and SP/EP recording



<b>Optional accessories:</b>	Remote Control Unit SVT-RM10 Remote Control Unit RM-V200
<b>Dimensions:</b>	360 (W) x 98 (H) x 295 (D) mm (14 1/4 x 3 7/8 x 11 5/6 inches)
<b>Power consumption:</b>	14 W (max.)
<b>Mass:</b>	Aprox. 4 kg ( 8 lb 13 oz)

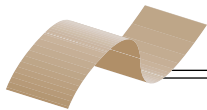


### EVO-250 Video Hi8 recorder/player

- Suitable for security and covert applications
- Hi8 format provides high picture quality
- Compact and lightweight; 650 g (1 lb 7 oz) without battery
- Long battery life thanks to adoption of Lithium ION battery system
- Direct attachment interface with the optional PGV-250 alarm recording adapter for time/date superimposition on video and alarm trigger recording
- Three power sources: AC power with the optional AC-V700 adapter, DC power with the DC-V700 car battery adapter, or Lithium ION battery pack
- LASER LINK™ system for wireless transmission of infrared video/audio signals
- Supplied car batter adapter/charger



<b>Optional Accessories:</b>	PGV-250 Alarm recording adapter NP-F530/F550/F750/F930/F950 Battery pack AC-V700 AC Adapter/battery charger IFT-R10 AV Cordless IR receiver RFU-95UC RF modulator
<b>Mass:</b>	650 g (1 lb 7 oz) without battery
<b>Dimensions:</b>	148 x 48 x 135 mm (5 7/8 x 1 15/16 x 5 3/6 inches)
<b>Power consumption:</b>	2.9 W



## Surveillance VCR optional accessories

### SVT-RM10



#### Remote control unit

- Works with all SVT Series time-lapse VCRs
- Provides wired remote control operation of SVO-1330

### SVT-RS1A



#### RS-232C interface board

- When installed in the SVT-L200/L400/S3100/3050/5050, this board allows these VCRs to be remotely controlled from computers
- Connectable with common RS-232C cable (male type)

### TLV parts kit

- Parts kit for all SVT Series time-lapse VCRs
- A total of 19 parts including VCR cylinder and brake assembly

SVT- Series VCR	TLV Parts Kit
SVT-DL224	TPK-952
SVT-L200	TPK-884
SVT-LC300	TPK-952
SVT-L400	TPK-884
SVT-124	TPK-951
SVT-S3100	TPK-S881
SVT-3050	TPK-883
SVT-5050	TPK-883

### SVRM-100A Remote Control Unit



- Provides wired remote control operation for HSR-1
- STOP/REC/PAUSE/REW/PLAY/FFWD/JOG/SHUTTLE operation

### HSRA-11 Input Board



- When installed in the HSR-1, this board enables signals from the camera to be input to the unit
- Up to 16 camera inputs available when three optional input boards, each having four inputs, are installed (The HSR-1 has one input board pre-installed)

### RM-V200 Remote Control Unit



- Provides remote control of multiple SVO-1330's simultaneously

### PGV-250 Alarm recording adaptor



- Alarm recording adaptor for EVO-250
- Time/Date Generator
- Program Recording: Alarm recording, continuous recording and timer recorder
- DC operation with EVO-250

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