SONY®

Time Lapse Videocassette Recorder

SVT-S480ES

R² REALITY REGENERATOR

SONY SECURITY SYSTEMS

S-Video Recording and Playback— for Those Critical Moments

S-VHS ET (Expansion Technology) Format

Sony S-VHS ET (Expansion Technology) Format allows recording and playback of high resolution (430 TV lines) S-VHS images even when using conventional VHS tapes. The SVT-S480ES automatically detects the recording format of a tape and adopts S-VHS ET format during playback accordingly.

Real Action

The SVT-S480ES has RealAction (EP: Extended Play) mode in addition to the general time lapse recording (SP: Standard Play) mode. Thanks to RealAction recording technology, the SVT-S480ES achieves high quality time lapse recording. For example, while only 5 fields per second are recorded in general 24-hour time lapse recording mode, Sony RealAction technology allows recording of 20 fields per second - four times as much information. This recording density ensures smooth, natural recording even of fast moving objects.

RealAction recording 20 fields/second

General time lapse recording 5 fields/second

Reality Regenerator (R²)

The Reality Regenerator improves upon the conventional sharpness control function. While sharpness control makes outlines sharper in the reproduced picture, a side effect of this feature is that it artificially enhances outline edges and increases noise. The result is an unnatural, noisy picture. Reality Regenerator minimizes these side effects by reproducing a video signal very similar to the original. This is achieved by first detecting the edge of the playback signal, separating it into three parts (right, left and center), and then adding the new signal to the playback signal. The result is very little noise and more accurate picture reproduction during playback.

APC (Adaptive Picture Control)

To provide maximum quality recording at all times, the APC feature automatically detects the condition of the recording head and the videocassette tape, and then sets the optimum recording head current. This feature enables clear images to be recorded even after a long period of use.

Maximum Recording Times

When using T-120 (T-160) tape in general recording (SP) mode

Recording Speed	Maximum recording time		Interval	Audio Recording	Tape Motion
2 (2)	SP Mode	2	1/60	Possible	Continuous
12 (16)	Time Lapse Mode	14 (18)	0.12	Possible	Continuous
24 (32)		26 (34)	0.22	Possible	Continuous
48 (64)		50 (66)	0.42	Impossible	Intermittent
72 (96)		74 (98)	0.62	Impossible	Intermittent
96 (128)		98 (130)	0.82	Impossible	Intermittent
120 (160)		122 (162)	1.02	Impossible	Intermittent
168 (224)		170 (226)	1.42	Impossible	Intermittent
240 (320)		242 (322)	2.02	Impossible	Intermittent
360 (480)		362 (482)	3.02	Impossible	Intermittent
480 (640)		482 (642)	4.02	Impossible	Intermittent
*000	1-shot	7200-21600	1,2,3		

NOTE: In time lapse mode, it is possible to record additionally 2 hours longer than the displayed recording time.

When using T-120 (T-160) tape in general recording (EP) mode

Recording Speed	Maximum recording time		Interval	Audio Recording	Tape Motion
6 (8)	EP Mode	6 (8)	1/60	Possible	Continuous
18 (24)	Time Lapse Mode	18 (24)	1/20	Possible	Continuous
30 (40)		30 (40)	1/12	Possible	Continuous
48 (64)		54 (72)	0.15	Impossible	Intermittent
72 (96)		78 (104)	0.22	Impossible	Intermittent
96 (128)		102 (134)	0.28	Impossible	Intermittent
120 (160)		126 (168)	0.35	Impossible	Intermittent
168 (224)		174 (232)	0.48	Impossible	Intermittent
240 (320)		246 (328)	0.68	Impossible	Intermittent
360 (480)		366 (488)	1.02	Impossible	Intermittent
480 (640)		486 (648)	1.35	Impossible	Intermittent
*000	1-shot	21600-64800	1,2,3		

NOTE: When using a T-120 tape in 48-480 H modes, it is possible to record additionally 6 hours longer than the displayed recording time.
When using a T-160 tape in 64-640 H modes, it is possible to record additionally 8 hours longer than the displayed recording time.

Variety of Recording Modes

Auto Repeat

Automatically rewinds the tape when it reaches the tape end, and re-starts recording. It allows virtually continuous, non-attended operation using a single tape. Auto Repeat can be automatically disabled in Alarm Recording mode to prevent recording over an alarm event.

Timer Recording

A built-in timer allows the recording time and the desired recording mode to be set in advance. Timer Recording can be preset to either weekly or daily. Holiday and daylight settings are also available.

■ TIMER SET				
WEEK	START	STOP	SPEED	
SUN	--:--	--:--	---	OFF
MON	--:--	--:--	---	OFF
TUES	--:--	--:--	---	OFF
WED	--:--	--:--	---	OFF
THU	--:--	--:--	---	OFF
FRI	--:--	--:--	---	OFF
SAT	--:--	--:--	---	OFF
MON-SUN	--:--	--:--	---	OFF
EXT	--:--	--:--	---	OFF
	< NEXT PUSH ► >			
SELECT: ▼ / ►	DATE SET: +/-		RETURN: MENU	

External timer recording is available via the EXT TIMER IN terminal. Even in Standby mode, if an alarm occurs, the unit initiates recording as required.

Alarm Recording

When an alarm signal is received via ALARM IN terminal, the recorder automatically switches to Alarm Recording mode, even if it is in Stop or Power-off mode. Alarm Recording speed and duration can be set in advance.

Various functions such as Alarm Scan, Alarm Recall and Alarm Search are available to quickly locate and review recorded alarm segments.

Up to 100 Alarm data can be recorded* at the top of the tape. So, even if the tape is ejected, the data is retained on the tape and reviewed when necessary.

*This function can be disabled.

Series Recording

Several units can be cascaded to extend the total recording time. As soon as one unit finishes recording, the next unit is turned on and continues recording without interruption.

Reliable Safety Features

Quick Recording Check

If the REC CHECK button is pressed when recording in time lapse mode, the tape rewinds slightly and then plays back for about three seconds. The unit then returns to its original recording mode.

Power Failure Protection

In case of power failure, a built-in lithium battery supplies back-up power to retain the current time and setting modes in memory for up to 30 days.

Warning Signal Output

If recording is inadvertently stopped, a pulse signal is output via the WARNING OUT terminal.

Tape Use Frequency Check*

Records the number of times the tape has been used at the beginning of the tape for checking.

*This function can be disabled.

Automatic Head Cleaning

Thread Check

Clog Detection

Tape End Out

Security Lock Function

User-friendly Operation

- Fast forward and rewind: 100 seconds with an entire T-120 tape

- Quick start mechanism for smooth operation

- Improved Time/Date search accuracy: 10 minute increments

- Alarm list recording: At the tape end, if there were any alarms received during recording, the tape is rewound and the alarm list information is recorded onto the tape.

- Real-time display indicates real operating times in recording or stop modes

- On-screen display available in English, French, and German

- Built-in time and date generator

- Automatic clock adjust

- Remote control function with optional remote control unit

- Used time indicator

- Power saving mode

- Loop-through capability

- Camera switcher interface

- RS-232C/RS-485 interface

Specifications

SVT-S480ES

General	
Weight	Approx. 10 lb 2 oz (4.6 kg)
Dimensions	16 5/8 x 4 x 11 3/4 inches (420 (W) x 99.5 (H) x 295.5 (D) mm)
Power requirements	120 V, 60 Hz
Power consumption	22 W
Operating temperature	5 ˚C to 40 ˚C (41 ˚F to 104 ˚F)
Operating humidity	80% or less
Fast forward/rewind time	Approx. 100 seconds (when using T-120 tape)

System		
Video signal	EIA standard (monochrome) NTSC (color)	
Recording/Playback system	Rotary four-head helical scanning system	
Tape speed	SP Mode: 33.35 mm/sec EP Mode: 11.12 mm/sec	
Recording/Playback time	SP Mode T-120	2,12,24,48,72,96,120, 168,240,360,480 hours
	SP Mode T-160	2,16,32,64,96,128,160 224,320,480,640 hours
	EP Mode T-120	6,18,30,48,72,96,120, 168,240,360,480 hours
	EP Mode T-160	8,24,40,64,96,128,160, 224,320,480,640 hours
Horizontal resolution	S-VHS/S-VHS ET	430 TV lines or more
	VHS B/W	320 TV lines or more
	VHS Color	240 TV lines or more

Video Input/Output	
Input	BNC (1), 1 Vp-p, 75 Ω, unbalanced S-VIDEO: Mini DIN 4-pin, Y: 1.0 Vp-p, 75 Ω, sync negative C: 0.3 Vp-p, 75 Ω, at burst level, 75 Ω
Output	BNC (1), 1 Vp-p, 75 Ω, unbalanced S-VIDEO: Mini DIN 4-pin, Y: 1.0 Vp-p, 75 Ω, sync negative C: 0.3 Vp-p, 75 Ω, at burst level, 75 Ω
S/N ratio	SP Mode: 46 dB (S-VHS) EP Mode: 45 dB (S-VHS)

Audio Input/Output	
Audio recording system	Monaural
Input	Phono (1), -8 dBs, 47 kΩ, unbalanced
Output	Phono (1), -8 dBs, 600 Ω, unbalanced
Microphone input	Ø3.5 mm minijack (1), -60 dBs, 10k Ω
Distortion	Less than 4 %
Audio S/N ratio	SP Mode: 43 dB (S-VHS) EP Mode: 42 dB (S-VHS)

Others	
Alarm input	Low level, terminal trip (1)
Alarm output	+5 V, 5.7 kΩ (low active), terminal trip (1)
Switch output	+5 V, 5.7 kΩ (low active), terminal trip (1)
Tape end output	+5 V, 5.7 kΩ (low active), terminal trip (1)
Warning output	+5 V, 5.7 kΩ (low active), terminal trip (1)
External timer input	Low level, terminal trip (1)
Clock set output	+5 V, 5.7 kΩ (low active), terminal trip (1)
Clock set input	Low level, terminal trip (1)
Series output	+5 V, 5.7 kΩ (low active), terminal trip (1)
Series input	Low level, terminal trip (1)
1Shot input	Low level, terminal trip (1)
Alarm reset input	Low level, terminal trip (1)
Remote control input	Ø3.5 mm minijack (1)

Supplies Accessories	
	Operation manual (1) AC power cord (1)

Optional Accessories	
	SVT-RM10 Remote Control Unit

Front Panel (SVT-S480ES)

SVT-RM10

Rear Panel