

RT30A, RT960A

High Density Video Cassette Recorder



Security Systems



- Up to 30 hr 'Real-Time' and 960 hr Time-Lapse Recording
- High Density Recorder Providing High Quality Images
- Recording Check
- On-screen Menus in 8 Languages
- Auto Record After Power Failure
- Audio Recording and Playback
- Alarm and Power Fail Review

When a VCR is required for backup to your observation and monitoring practices, you no longer have to worry about missing a thing. With the RT30A and RT960A Series 30hr and 960hr High Density Video Cassette Recorders you have superior video and audio quality with the versatility to best suit your application needs.

The high density RT30A and RT960A feature gives you double (PAL) or three times (NTSC) the number of picture updates per second than conventional VCRs, ensuring you do not miss an incident, yet keeping the high quality picture. Highly developed compact mechanical components ensure long lasting reliability. The RT30A gives the option of recording events with 6, 18 or 30 hrs of real-time video. The RT960A provides the same real-time video plus up to 960 hrs of time-lapse video. Audio recording and playback is also available in the 6, 18 and 30 hour modes.

Special features like the superimposed on-screen menu in 8 languages provide easy setup. Other features include built-in time/date generator, a built-in back-up battery that provides time/date/settings backup during power

loss for up to 4 weeks, jog/shuttle for instant picture retrieval, tape remaining indication and automatic recording after power failure. The list is endless, ensuring that these VCRs can meet your required application specification.

Technically the RT30A and RT960A are the most advanced Real-Time video recorders available. V-Sync selection, "video-through", security-lock, video-loss, Vext-pulse and V-Lock functions are just a few features that will enhance the functions that need special attention. Alarm detection is operational from the recording or ready modes and will turn on the alarm indicator and "Alarm" output. It also inserts an Alarm-Code in the on-screen display for easy location during later alarm search. The selected alarm recording speed can be programmed to continue for a period of 30 seconds, 1, 5, 10 minutes, level or until tape end.

Whatever your needs are for recording and monitoring, the RT30A and RT960A will provide you with a trouble free, easy-to-use advanced real-time video recording for your specific application area.

2 | High Density Video Cassette Recorder

Electrical			
Model	Rated	Voltage	Power at
No.	Voltage	Range	Min. Voltage
RT30A/51	230 Vac, 50 Hz	90 to 240	17 W
RT960A/51	230 Vac, 50 Hz	90 to 240	17 W
RT30A/61	120 Vac, 60 Hz	90 to 240	17 W
RT960A/61	120 Vac, 60 Hz	90 to 240	17 W
Tape Format:		Standard 12.7 mm (0.5 inch)	
		VHS tape.	
Video Recording System:		VHS	
Rotary Heads:		Four head helical scan azimuth system.	
Luminance:		FM recording.	
Color:		Converted subcarrier, direct recording.	
Selectable Speeds (Recording & playback):			
RT30A/51:		6, 18, and 30 hours on E-180 tape.	
RT960A/51:		6, 18, 30, 48, 72, 120, 168, 240, 480 and 960 hours on E-180 tape.	
RT30A/61:		6, 18, and 30 hours on T-120 tape.	
RT960A/61:		6, 18, 30, 48, 72, 120, 168, 240, 480 and 960 hours on T-120 tape.	
Tapes recorded on a conventional time-lapse recorder can be reviewed only in 6 hours for -/51 models and 6 hours for -/61 models.			
Alarm Record Speeds:			
-/51:		6, 18, and 30 hour modes.	
-/61:		6, 18, and 30 hour modes.	
High Speed Video Scan:			
-/51:		13 x 6-hour speed.	
-/61:		13 x 6-hour speed.	
Rewind/Fast Forward Time:		Less than 140 seconds (E-180 or T-120 tape).	
Alarm Command:			
From the Recording or Ready Mode:			
Turns on Alarm Indicator and "Alarm" output. Inserts Alarm-Code in on-screen display for easy location during later visual search.			
The selected alarm recording speed can be programmed to continue for a period of 30 seconds, 1, 5, 10 minutes level or until tape end.			
Typical Delay Time Before Alarm Recording:			
From STOP Mode:		Approx. 3 sec.	
From RECORD Mode:		Less than 1 sec.	
Video:			
RT30A/51 & RT960A/51:		PAL color/ CCIR monochrome.	
RT30A/61 & RT960A/61:		NTSC color/EIA monochrome.	
Input:		1.0 Vp-p, 75 ohm, unbalanced.	
Output:		1.0 Vp-p, 75 ohm, unbalanced.	
Horizontal Resolution:		/51 version /61 version	
monochrome:		310 TV lines 320 TV lines	
color:		250 TV lines. 280 TV lines.	
Signal-to-Noise:		better than 40 dB (6-hour mode).	

Audio:	Audio Recording possible in 6, 18, 30 hours mode*
Input:	-8.8 dBm, 47 kohm, unbalanced.
Output:	-5.8 dBm, 1.0 kohm unbalanced.
Frequency Range:	100 Hz to 5 kHz. (6-hour mode)
Signal-to-Noise:	more than 40 dB (6-hour mode)
* recommend to record audio in 6 Hour mode.	
Time/Memory Power-Loss	
Backup:	4 weeks
Indicators:	VCR speed, Alarm, Series, Record Timer, Cassette, Index, Power failure Key lock, Repeat, Function (clock, tapecounter, error), VCR function
Controls:	Power, Record, Joggle Shuttle, Play Stop/Eject, Still, Clear, Clock, Menu Key lock, Tracking, V-lock
Connectors:	
VIDEO IN:	1; BNC.
VIDEO OUT:	1; BNC.
AUDIO IN:	RCA Phono jack.
AUDIO OUT:	RCA Phono jack.
EXTERNAL INTERFACE*:	9-pin terminal strip adapter.
* Alarm In/Out; Series In/Out; VEXT; Tape End Out; 1-Shot Record In.	

Mechanical	
Finish:	Mushroom
Dimensions (w x d x h):	360 x 270 x 94 mm (14.2" x 10.6" x 3.7")
Weight:	Approximately 3.8 kg (8.4lbs)

Environmental	
Temperature:	+5 °C to +40 °C (+41 °F to +105 °F).
Humidity:	Less than 80% RH

Electromagnetic Compatibility	
EMC Requirements:	
50 Hz Models:	89/336/EEC.
	Immunity: EN50130-4.
	Emission: EN55022 Class B.
	Harmonics: EN61000-3-2.
	Voltage Fluctuations: EN61000-3-3.
60 Hz Models:	U.S.A. and Canada.
	FCC Part 15, Class B.

Safety:	
50 Hz Models:	CE.
	LVD Requirements: 73/23/EEC; EN60065.
60 Hz Models:	UL & cUL.
	UL: UL 2044.
	CSA: CSA 22.2, No.1-98

Accessories (only -/61 NTSC models)**TC1350 Video Cassettes:** 10 pack VHS T-120.**TC1355 Video Cassettes:** 10 pack VHS T-160.**Recording Times: PAL models (-/51)**

Record Mode		Actual hrs		Tape Speed	Recording Fields	Drive	Audio
RT30A	RT960A	E-180	E-240				
6H	6H	6H	8H	11.69mm/sec.	50 fields/sec.	Continuous	Yes
18H	18H	18H	24H	3.90mm/sec.	16.67 fields/sec.	Continuous	Yes
30H	30H	30H	40H	2.34mm/sec.	10 fields/sec.	Continuous	Yes
	48H	54H	72H	1.46mm/sec.	5.56 fields/sec.	Intermittent	No
	72H	78H	104H	0.90mm/sec.	3.85 fields/sec.	Intermittent	No
	120H	126H	168H	0.56mm/sec.	2.38 fields/sec.	Intermittent	No
	168H	174H	232H	0.40mm/sec.	1.73 fields/sec.	Intermittent	No
	240H	246H	328H	0.29mm/sec.	1.22 fields/sec.	Intermittent	No
	480H	486H	648H	0.14mm/sec.	0.62 fields/sec.	Intermittent	No
	960H	966H	1288H	0.07mm/sec.	0.31 fields/sec.	Intermittent	No

Recording Times: NTSC models (-/61)

Record Mode		Actual hrs		Tape Speed	Recording Fields	Drive	Audio
RT30A	RT960A	T-120	T-160				
6H	6H	6H	8H	11.12mm/sec.	60 fields/sec.	Continuous	Yes
18H	18H	18H	24H	3.71mm/sec.	20 fields/sec.	Continuous	Yes
30H	30H	30H	40H	2.22mm/sec.	12 fields/sec.	Continuous	Yes
	48H	54H	72H	1.40mm/sec.	6.67 fields/sec.	Intermittent	No
	72H	78H	104H	0.93mm/sec.	5 fields/sec.	Intermittent	No
	120H	126H	168H	0.56mm/sec.	3 fields/sec.	Intermittent	No
	168H	174H	232H	0.40mm/sec.	2.14 fields/sec.	Intermittent	No
	240H	246H	328H	0.28mm/sec.	1.5 fields/sec.	Intermittent	No
	480H	486H	648H	0.14mm/sec.	0.75 fields/sec.	Intermittent	No
	960H	966H	1288H	0.07mm/sec.	0.38 fields/sec.	Intermittent	No

Bosch Security Systems B.V.
www.boschsecuritysystems.com

BOSCH