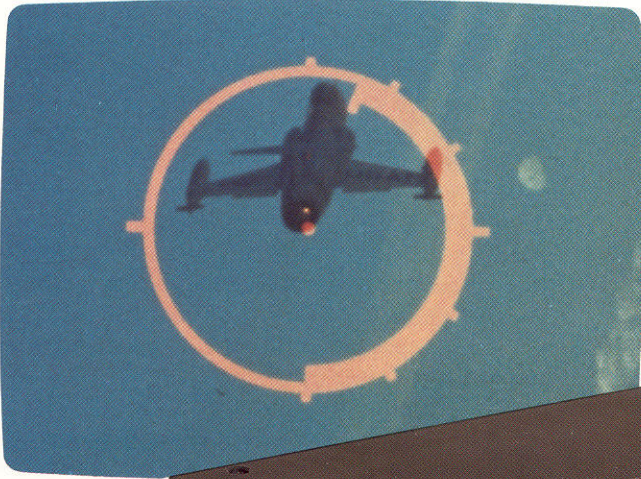
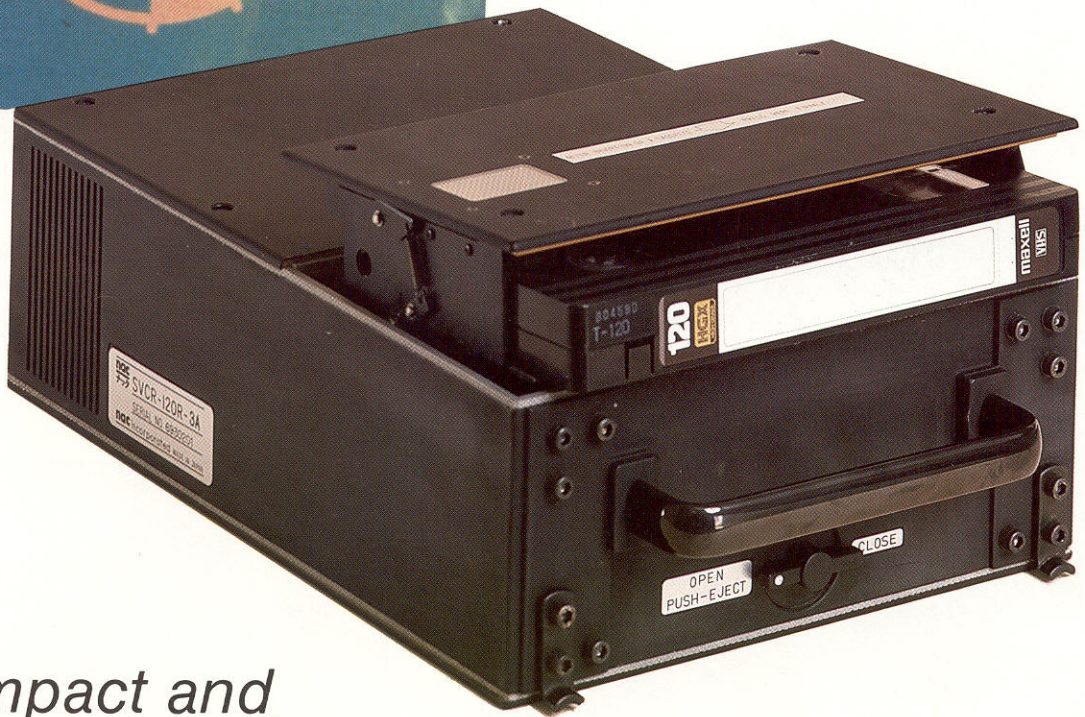


# SVCR

## *Airborne Video Cassette Recorder*



*Military Designation  
RO-548/AXQ*

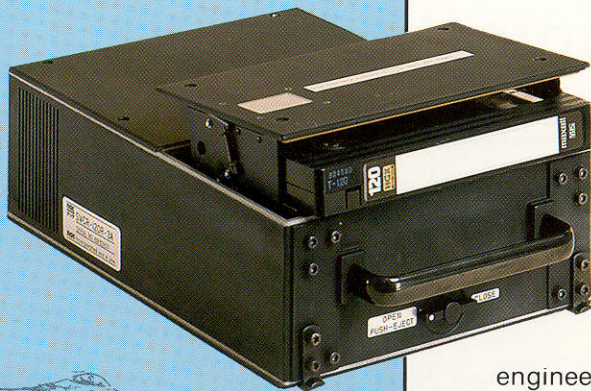


*A compact and  
lightweight video recorder for  
rugged airborne military applications*



*the compact VHS video system*

# **nac** Airborne



The SVCR-120R series recorder is engineered and manufactured exclusively for airborne video and PCM recording. The SVCR-120R uses only proven components that are tested to withstand the humidity, vibration and temperature common to the flight test or battlefield environment.

The use of standard VHS cassettes allows recording of HUD cameras, infrared sensors and multi-function displays for 2 full hours in color or black and white.

The SVCR-120R has been environmentally qualified and complies with MIL-STD-810C with tests performed by the U.S. Government and independent laboratories. Further evidence of its proven reliability has been verified by its selection for use as standard equipment on the U.S. Marine OV-10D aircraft and the TGM I.R. Imaging Maverick Captive Trainer. The SVCR-120R is now available for color recording (designated SVCR-120RC-A). This capability is available for existing black and white recorders which can be converted to color by exchanging plug-in circuit cards.

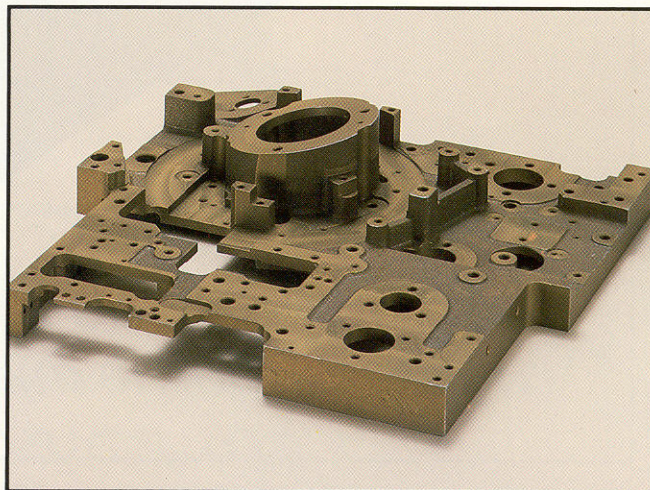
Configuration is controlled in accordance with MIL-STD-483 to insure maintainability and consistent environmental capabilities.

The photo below of the SVCR-120R mainframe is an example of its basic rugged design. This precisely tooled frame helps insure the system's complete product integrity.

In summary, the SVCR-120R has been designed and proven for its particular role in flight test and HUD camera recording, infrared sensors, and multi-functional display recording.

## **Hundreds of Flight Test Applications Including:**

- B-1 Strategic Bomber
- Shuttle Orbiter Vehicle
- F-16 Fighter Aircraft
- A-10 Close Support Aircraft
- F-111 Bomber
- Maverick Missile System
- FLIR Pod
- F-18 Fighter Aircraft
- OV-10D Marine Corps
- SH-16F CV (ASWW)



*Rugged Mainframe*



system for military flight test recording

# e Video Cassette Recorder **VHS**

## Configurations

Model	P/N	Standard	Video Input	Audio Input
SVCR-120R-A	91-2001	EIA B&W	0.5V-2.0V p-p, 75 ohms	0.5V p-p, 30 Kilohms
SVCR-120R-2A*	92-2003	EIA B&W	0.5V-2.0V p-p, 75 ohms	8.0V p-p, 30 Kilohms
SVCR-120R-3A*	91-2005	EIA B&W	1.6V-6.4V p-p, 95 ohms	0.5V p-p, 30 Kilohms
SVCR-120R-EA*	91-2007	CCIR/Mono	0.5V-2.0V p-p, 75 ohms	0.5V p-p, 30 Kilohms
SVCR-120R-C*	91-2009	NTSC Color	0.5V-2.0V p-p, 75 ohms	0.5V p-p, 30 Kilohms
SVCR-120R-C-EA*	91-2010	PAL Color	0.5V-2.0V p-p, 75 ohms	0.5V p-p, 30 Kilohms

\*Considered by the manufacturer to be qualified to the SVCR-120R-A on the basis of similarity to the SVCR-120R-A.

## PERFORMANCE SPECIFICATIONS

**Format:** VHS

**Video Recording System:** Rotary two-head helical scan

**Recording Head:** Video = 2, Audio = 2, Erase = 1, Control = 1

**Video Signal System:** 30 frames/second 525 lines or any other lines

**Input Video Level:** See configurations

**Input Audio Level:** See configurations

**Power Sources:** 28 V DC +4V -8V, 115 V AC, 400 cycles, 1 phase

**Power Consumption:** 28 V DC operation 25 Watts,  
115 V AC heaters only 100 Watts

**Power Requirements:** MIL-STD-704B, per T&E Task Assignment  
8-2-23S/2 Naval Avionics Center

**Horizontal Resolution:** More than 300 lines (B&W);  
240 lines (NTSC) color

**Signal-to-Noise Ratio:** Better than 42 dB (B&W);  
40 dB (NTSC) color

**Record Time:** 2 hours (T-120)

**Tape Speed:** 33.4mm/sec. (1.37 inch/sec.)

**Tape Width:** 12.7mm (1/2 inch)

## ENVIRONMENTAL (MIL-STD-810C)

**Operating Temperature:** -40°C (with heaters) +55°C Continuous  
+71°C Intermittent

**Stowage Temperature:** -62°C to +85°C

**Temperature Shock:** Method 503.1

**Atmospheric Pressure:** 50,000 ft.

**Explosion-Proof:** to 50,000 ft. Method 511.1, Procedure 1

**Humidity:** 10 days Method 507.1, Procedure 1

**Salt Fog:** 48 hours 5% salt solution, Method 509.1, Procedure 1

**Vibration:** Random Functional 5.3 G's RMS  
Endurance 15.0 G's RMS

Gunfire 4000 to 6000 rounds per minute rate

**Acceleration:** Operational 9.0 G's, Structural 13.5 G's

**Shock:** Operational 15.0 G's 11 msec.

Crash Safety 40.0 G's 11 msec.

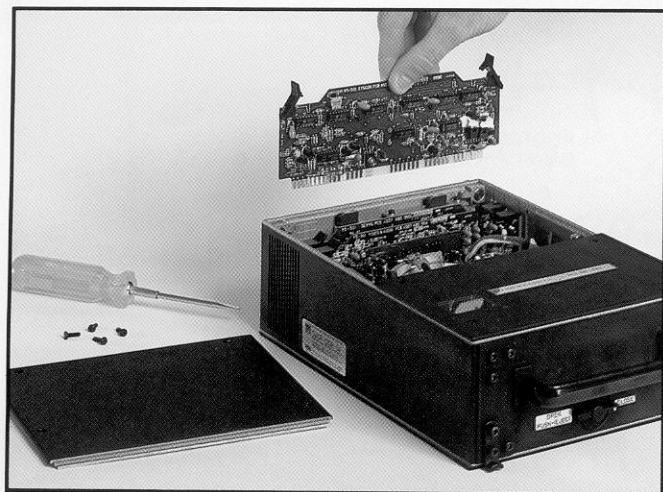
**EMI:** MIL-STD-461A/CE01, CE02, CE03, CE04, RE01, RE02,

CS01, CS02, CS06, RS01, RS02, RS03, RS04

Including 200 MHz 110 msec. PW, 10% duty cycle at 100 V/M

1.2 GHz, 5.6 and 2 msec. PW, 1 KHz PRR

9.1 GHz at 100 V/M



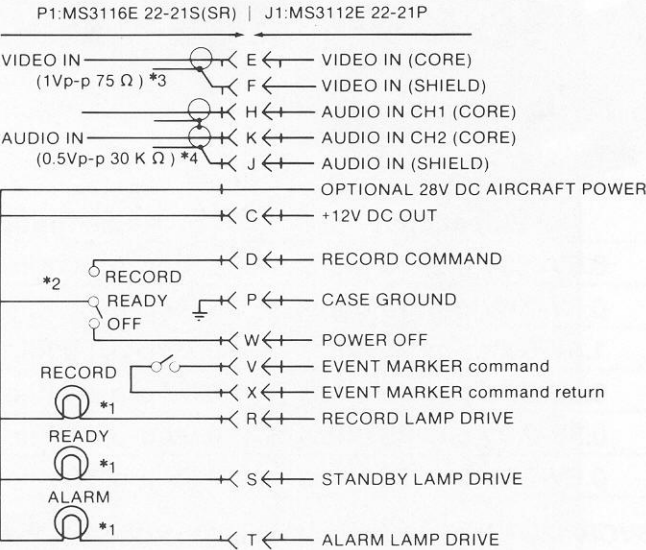
Simplified Maintenance



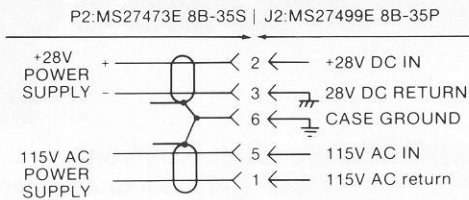
Optional Shock Mount Tray

# Pin Function Diagrams

## Remote Control Circuit †



## Power Supply Connection



- \*1 LAMP: 28 or 12V DC 0.15A max or LED
- \*2 SWITCH: SPDT (ON-OFF-ON)
- \*3 SVCR-120R-3A 3.2Vp-p, 95  $\Omega$
- \*4 SVCR-120R-2A 8.0Vp-p, 30K  $\Omega$

† OPTIONAL CONTROL BOXES TO SUIT SPECIFIC REQUIREMENTS ARE AVAILABLE ON REQUEST.

# Outline Configuration

