

V301 Airborne VCR

Featuring:

[Super VHS Format](#)

- Rewind and Playback
- Over 2 full hours of recording
- High speed search (Forward and Reverse)
- Visual Event Marker

[Comprehensive Built-in Test \(BIT\)](#)

- Electronic Frame Indexing (VISS)

[Remote Control](#) via Serial and Parallel Interface.

- 3 Audio Channels
- High luminance FM carrier Frequency (5.4 to 7.0 MHz)
- 525, 875, & 1023 Line Scan Rates
- Proven track record on [major aircraft programs](#)

[Performance specs](#)

[Environmental specs](#)

The V301's Super VHS Format is not just an improvement to standard VHS... it's a distinctly different format providing significantly higher picture clarity with full 400 lines of horizontal resolution in both color and black & white recording - providing significant improvement in fine picture detail. The Super SVCR-V301 provides higher luminance and chrominance (Y/C) signals to minimize the degradation of image quality from cross color and dot interference. The signal-to-noise ratio in the V301 has been significantly improved by broadening the frequency deviation from 1.0 to 1.6MHz. Raising the carrier frequency also reduces interference with chrominance signal and substantially increases contrast range.

It is the answer to a long-standing need for HIGH RESOLUTION airborne video recording, with long record times from a single cassette. You no longer need to settle for marginal results when you need to record critical mission data.

The V301 (Military Designation RO-614A) is an advanced Super VHS system designed for high-resolution, direct recording from HUD cameras, infrared sensor and multi-function displays on board a variety of military aircraft. In addition, PCM and MIL-STD-1553 data can be recorded on the V301. This Super VHS V301 is also finding broad interest for ground vehicles, UAV and surface/subsurface applications. The V301 is light weight, compact, and qualified to MIL-STD-810D and 461C. It provides over 400 lines of resolution in both color and black & white recording and is backward compatible to VHS. It offers two hours of recording, rewind, and playback, three audio channels, high speed search, event marks, direct recording of multiple line scan rate, a comprehensive built-in test capability, and is compatible with both parallel and serial (RS422) interface.

V301 flight test aircraft include:

- F-16
- E-2C
- F/A-18C/D
- P-3C
- RF-4C
- AC-130U
- AH-1W
- AH-64D and others.

Operational programs include:

- Tornado GR4 (MLU)
- AH-1W Marine Upgrade
- F/A-18(FMS).

The V301 is also under consideration on a number of other advanced operational programs.

VHS/SUPER VHS

The V301 will record in both standard VHS and Super VHS formats. This allows the use of existing VHS ground playback equipment until it is replaced with higher resolution Super VHS equipment.

A host of full-function commercial ground playback equipment is currently available, all capable of playing cassettes recorded on the V301. Super VHS formatted tapes cannot be played on standard VHS systems; however, they can be transferred or edited down to 3/4" U-matic or the standard VHS format.

Built-in-test (BIT)

The V301's built-in-test (BIT) feature can be used to determine the functional status of the recorder before critical missions or for routine maintenance purposes.

When commanded, the V301 performs a self-test of the video, audio, and related tape threading and running. Approximately twenty-four (24) status messages are provided to a user through the remote control system and through on-screen displays that can be seen on a video monitor. These messages can be used to correct operator errors and help diagnose mechanical and electronic failures.

Remote control

Remote control of the V301 is provided via the built-in parallel and serial control interfaces. The recorder comes standard with both a simple discrete (parallel) interface for control status indications and a serial interface for control via system databus or remote computer.

The asynchronous serial interface is available in either a current loop configuration or using the RS-422-A standard interface. All control and status functions are available on a separate connector for convenience and separation from power, video, and audio connections.

The V301's low system cost, modular construction, excellent maintainability / reliability, low tape cost and comprehensive program support, including configuration control / technical data, make the V301 the best solution for improved resolution / image quality available.

Performance Specs,	Environmental Specs,
<p align="center">Super SVCR-V301-A</p> <p>Video Recording System: Rotary, two-head helical scan</p> <p>Video Cassettes:</p>	<p align="center">Super SVCR-V301-A</p> <p>The SVCR-V301-A Super VHS Video Cassette Recorder has been designed to comply with the Respective environmental requirements of Mil-Std-810D and has been satisfactorily tested to the</p>

S-VHS video cassette; VHS video cassette

Video Signal (input/output):

- Super VHS Separated Y/C color video signal (Y/C 358)
- NTSC standard color video signal(EIA RS-170-A); 525 lines/frame, 30 frames/sec, 60 fields/sec
- EIA standard B/W video signal (EIA RS-330, RS-343-A); 525-1023 lines/frame, 30 frames/sec, 60 fields/sec

Video Input Level:

1. VBS (Composite) and Y (VS) 1.0 Vp-p 75 ohm balanced.
2. C358 (3.58 MHz Chroma Signal) 0.143 -0.572 Vp-p (at burst level) 75 ohm balanced

Video Output Level:

1. VBS (Composite) and Y (VS) 1.0 Vp-p 75 ohm unbalanced.
2. C358 (3.58 MHz Chroma Signal) 0.286 Vp-p (at burst level) 75 ohm unbalanced

Horizontal Resolution:

Greater than 400 lines in S-VHS mode; Greater than 240 lines in VHS mode

Audio Recording System:

Hi-fi audio: Helical scan FM, Deep-layer recording, 80 Hz-20KHz. 2 Channels Normal audio: AC bias recording. 80Hz-8KHz 1 channel

Audio Input Level:

1.1 Vp-p 10K ohm balance for both hi-fi and normal audio

Audio Output Level:

1.1 Vp-p 600 ohm balances for both hi-fi and normal audio

Tape Speed:

1.315 in/sec (33.4mm/sec)
Recording Playback Time: 120 minutes (ST-120 cassette for S-VHS, T-120 cassette for VHS)

Power:

28VDC, less than 33 Watts

Heaters:

115VAC 400 Hz, 120 Watts, 28VDC, 60 Watts

following procedures:

Operating Temperature:

-40C (with heaters) Method 502.2 Procedure II
+55C Continuous, +71C Intermittent, Method 501.2

Storage Temperature:

-55C to +85C, Method 501.2 and Method 502.2, Procedure I

Temperature Shock:

-57C to +71C, Method 503.2

Altitude:

To 50,000 ft, Method 500.2, Procedure II

Explosion:

To 50,000 ft, Method 511.2, Procedure I

Humidity:

95%, 10 days, Method 507.2, Procedure III

Salt Fog:

48 Hours, 5% salt solution, Method 5093.2, Procedure I

Rain:

MIL-STD-810C, Method 510.1, Procedure I

Sand & Dust:

MIL-STD-810C, Method 510.1

Vibration:

Random Functional 5.3 G rms, Method 514.3, Category 5, Procedure I
Endurance 15.0 G rms, Method 514.3, Category 5, Procedure I
Gunfire 4000 & 6000 round s per minute, method 519.3

Acceleration:

Operational 9 G, Method 513.3 Procedure I
Structural 13.5 G, Method 513.3, Procedure I

Shock:

Operational 15G, 11 ms sawtooth, Method 516.3, Procedure I
Crash safety 40G, 11 ms sawtooth, Method 516.3, Procedure V

EMI:

MIL-STD-461C & 462 Notice 6

(Optional)

Remote Control Interface:

Parallel (Discrete) and Serial (RS-422-A optional)

Dimensions (including connectors, handle, etc.):

4.49"(H) x 8.35" (W) x 13.58" (D)

Weight:

Recorder:15.8 lb.'s;

Optional Shock Mount Tray: 1 lb.'s, 8 oz
