ADV-21

Compact Solid State Video Recorder

Features

- Extremely light and compact
- Records one video and two audio channels
- Low power consumption
- NTSC and PAL compatible
- Motion JPG compression
- Selectable compression ratio
- Dual CF card interfaces for removable media
- Discrete and serial remote control interfaces
- Input for time and date stamping

General Description

The Sekai ADVSR is a compact and rugged solid state video recorder for airborne applications where excellent video quality and ease to use is prioritized. Two audio channels can be recorded together with either Composite or Y/C video. The recorder accepts both PAL and NTSC video formats. Motion JPEG recording with scalable compression offers the best picture quality available with maximum flexibility, the compression ratio is user selectable from 4:1 to 20:1. The ADVSR operates directly on 28VDC vehicle power and requires only 5W, the lowest power consumption in the industry.
Playback is made easy with the removable CF media; use an off-the-shelf adapter to plug these modules right into any modern PC or Macintosh computer.

ADVSR Applications

- Police Helicopters
- Law Enforcement Agencies
- Broadcast Applications
- Flight test applications
- All terrain vehicles
- Aerial Scientific Research Applications
- UAV's

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SEKAI®

ADV-21

Compact Solid State Video Recorder

General

Recording Media	Compact Flash, CF
Video format	NTSC and PAL
Analog Resolution	550TVL (at 5:1 compression)
Power Requirement	28VDC, Mil-Std-704D
Power Consumption	<5W
Dimensions	1.6”H X 5.84”W X 5.27”D
Weight	1.9 lbs (850g)
Connectors	MIL-C-38999 Series III

Control Interfaces

Digital Serial	RS-232 (optional -422)
Commands	All typical VCR modes
Status	All typical VCR status
Discrete	Switch closures
Commands	Basic operation modes
Status	Basic operation status

Video

Signal Standards	RS-170A, NTSC CCIR, PAL
S-Video Input	Y: 1.0Vp-p, C:0.3Vp-p
S-Video Output	Y:1.0Vp-p, C:0.3Vp-p
Composite Video Input	1.0Vp-p
Composite Video Output	1.0Vp-p

Video Encoding

Recording Format	Digital 4:2:2 YCrCb
Digital Color Space	YUV
Sampling	13.5MHz
Pixel Resolution	720 X 486 pixels (525/60) 720 X 576 pixels (625/50)
S/N Ratio	50 dB
Bandwidth	7MHz (-3dB)
Compression Method	Motion JPEG
Compression ratio	1:4 to 1:20 variable pre-set

Audio

Channels	2 in, 2 out
Analog Input	1.0 VRMS, nominal
Analog Output	1.0 VRMS
Input Impedance	35K Ohms
Output Impedance	10K Ohms
Resolution	16 bits
Sampling Rate	48kHz
Dynamic Range	90dB

All information subject to change without notice

Recording Media

Type	Compact Flash (CF)
Supported Media	Multi-word DMA mode 2
Maximum Compact Flash	2 cards
Maximum Data Rate	16.6 MB/sec
Recommended Media:	

Delkin Devices		
Part Number	Size	Temp. Range
CE08TFNHK-XX000-D	8GB	-40°C to +85°C
CE16TFPHK-XX000-D	16GB	-40°C to +85°C

SMART Technologies		
Part Number	Size	Temp. Range
SG9CF8GHYCB	8GB	0°C to +70°C
SG9CF8GHYCBI	8GB	-40°C to +85°C
SG9CF16GHYCB	16GB	0°C to +70°C
SG9CF16GHYCBI	16GB	-40°C to +85°C

Environmental Specifications

High Temperature	MIL-STD810E, Method 501.3 Procedure I: Storage: +86°C** Procedure II: Operational: Continuous: +55°C Intermittent (30 min): +70°C
Low Temperature	MIL-STD-810E, Method 502.3 Procedure I: Storage: -54°C** Procedure II: Operational: -40°C
Acceleration	MIL-STD-810E, Method 513.4 Procedure II, 15G’s, all axes
Vibration	MIL-STD-810E, Method 514.4 (Jet Aircraft & Helicopter profiles)
Shock	MIL-STD-810E, Method 516.4 Procedure I, 40G’s 6-9msec Procedure IV, 122cm** Procedure V, 40G’s 6-9msec
Altitude	MIL-STD-810E, Method 500.3 Procedure II, -15,000ft** to 60,000ft
Humidity	MIL-STD-810E, Method 507.3 Procedure III**
Salt Fog	MIL-STD-810E, Method 509.3**
Sand and Dust	MIL-STD-810E, Method 510.3 Blowing Dust (para II-1.1.1)**
Explosive Atmosphere	MIL-STD-810E, Method 511.3 Procedure I
EMI	MIL-STD-461D / 462D RE-102 CE-102

***Design Goals. Other tests have been performed and passed.*

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