

Features

- Acquire multi-megapixel still images and high-definition video
- Data recording, pre-processing, compression, and playback
- Supports pre-programmed command sequencing
- JPEG and Huffman lossless compression
- Automatic gain/exposure control
- 8GB non-volatile image buffer
- 128 MB volatile buffer
- Redundant LVDS serial data interfaces
- Supports custom data interface protocols
- Custom post-processing functions available
- Link multiple DVR1 to operate additional cameras with a single spacecraft data interface

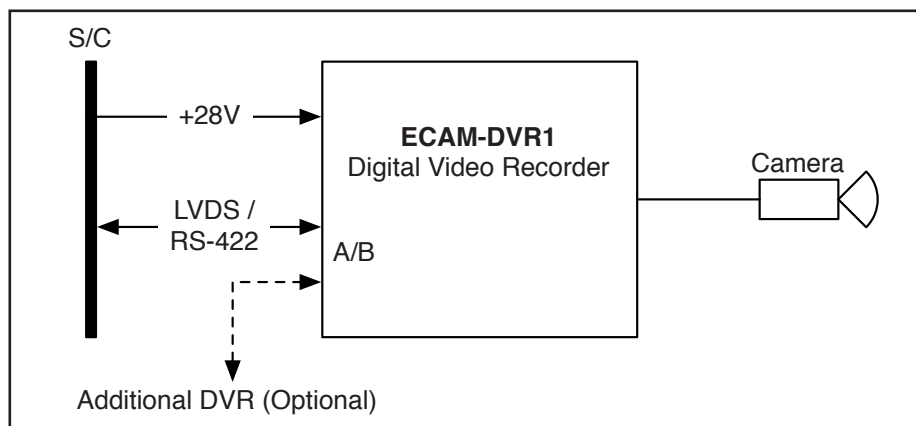
ECAM-DVR1

Digital Video Recorder, 1-Port



ECAM-DVR1

The 1-Port Digital Video Recorder (DVR1) provides command sequencing, image processing, compression, and storage. Each DVR1 supports any one of the ECAM family of cameras, and multiple DVR1s may be linked to support additional cameras without requiring additional spacecraft data interfaces.



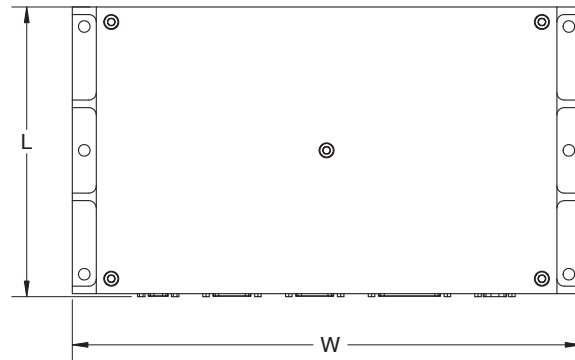
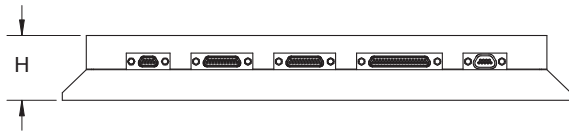
ECAM-DVR1 Application

The spacecraft commands the DVR1 to record snapshots or video from the attached camera at a specified time. The DVR1 then commands the selected camera, pre-processes and compresses the data, and stores the data to an 8 Gigabyte non-volatile memory buffer. A 128 Megabyte volatile buffer supports custom post-processing functions and serves as a redundant back-up to the non-volatile memory.

The DVR1 can play back recorded images and video upon command. Simple command sequences can also be pre-programmed for automatic execution when power is applied, reducing spacecraft overhead and allowing the DVR1 to operate in a stand-alone mode.

The spacecraft data interface may be configured for Spacewire or any custom serial interface definition, synchronous or asynchronous, that utilizes up to eight LVDS signals in each direction.

The DVR1 hardware derives its heritage from the Digital Electronics Assembly (DEA) designed to support the MARDI, MAHLI, and MASTCAM science instruments on the NASA-JPL Mars Science Laboratory rover. All components are hi-reliability and radiation tolerant and the system has undergone a robust qualification program, including thermal-cycle, vibration, shock, thermal-vacuum, and EMC/EMI testing.



MSSS FACTS

Headquarters: **San Diego**
 Type: **Small Business**
 Quality: **ISO9001:2008 Compliant**
 DUNS Number: **62-680-9032**
 CAGE Code: **OR9V5**
 NAICS Codes: 333316, 336419, 541512, 541690, 541712, 927110

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Parameter	ECAM-DVR1
Mass	892 g
Dimensions	218(W) x 122(L) x 31(H) mm
Power Consumption	4.2 W (idle), 5.7 W (imaging)
Imaging Modes	Monochrome, Color (RGB or YCbCr 4:2:0)
Pixel Rate	10 Mpixel/s
Buffer Size	8GB Non-Volatile/ 128 MB Volatile
Preprocessing	RGB Bayer Pattern to YCbCr Interpolation
Compression	JPEG (Lossy), Huffman (Lossless)
Data Interface	LVDS, 4-Signal Synchronous Signal
Supply Voltage	28 V
Design Life	Nominal 10 year (radiation determined)
Radiation Dose	5 years (GEO)
Recommended Operating Temperature	-45°C to 60°C