

Features

- Supports four cameras
- Acquire multi-megapixel still images and high-definition video
- Data recording, pre-processing, compression, and playback handled by DVR
- Supports pre-programmed command sequencing
- JPEG and Huffman lossless compression
- JPEG2000, JPEG-LS, or H.264 compression available as custom add-on
- Automatic gain/exposure control
- 8, 16, or 32GB non-volatile image buffer
- 128 MB volatile buffer
- Redundant LVDS or RS-422 serial data interfaces
- Supports custom data interface protocols
- Custom post-processing functions available
- Link multiple DVR4 to operate additional cameras with a single spacecraft data interface
- Radiation-tolerant design

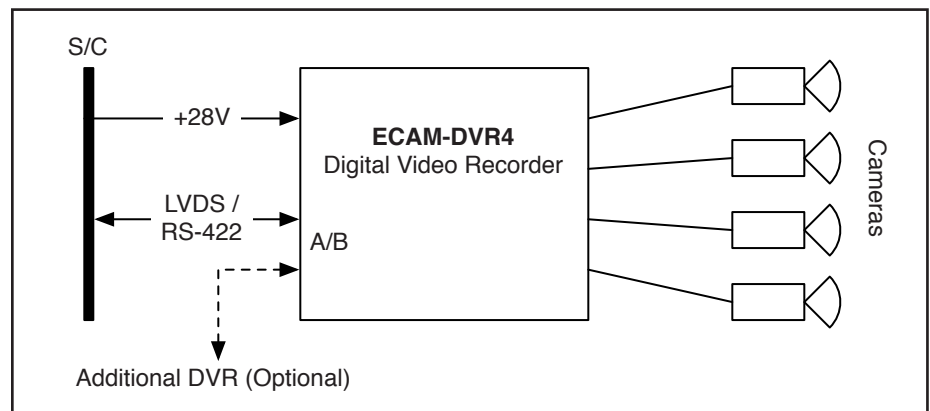
ECAM-DVR4

Digital Video Recorder, 4-Port



ECAM-DVR4

The 4-Port Digital Video Recorder (DVR4) provides command sequencing, image processing, compression, and storage. Each DVR4 supports up to four ECAM cameras, and multiple DVR4s may be linked to support additional cameras without requiring additional spacecraft data interfaces.



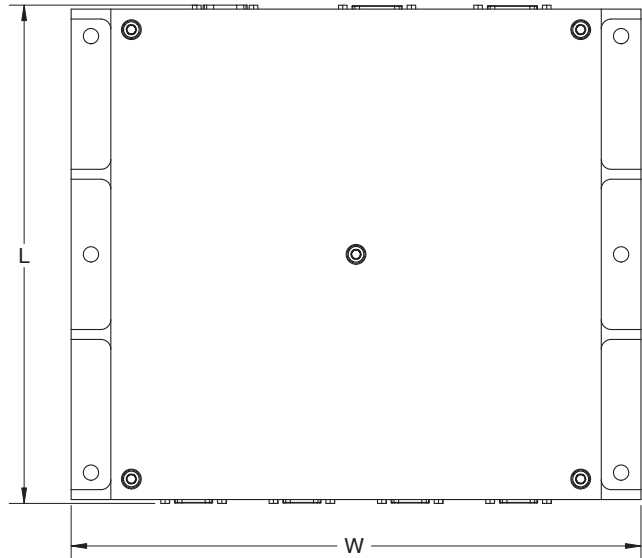
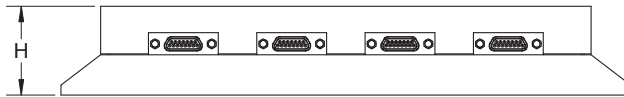
ECAM-DVR4 Application

The spacecraft commands the DVR4 to record snapshots or video from the attached camera at a specified time. The DVR4 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 DVR4 can playback 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 DVR4 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 RS-422 or LVDS signals in each direction.

The DVR4 hardware is an advanced derivative of the heritage DVR1, utilizing some of the most sophisticated radiation-tolerant processing and memory technology available. All components are hi-reliability and radiation tolerant.



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

Version: 20130506
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Parameter	ECAM-DVR4
Mass	1110 g
Dimensions	183(W) x 157(L) x 32(H) mm
Power Consumption	9.75 W (idle), 13.5 W (imaging)
Imaging Modes	Monochrome, Color (RGB or YCbCr 4:2:0)
Pixel Rate	20 Mpixel/s
Buffer Size	8, 16, or 32GB Non-Volatile, 128 MB Volatile
Preprocessing	RGB Bayer Pattern to YCbCr Interpolation
Compression	JPEG (Lossy), Huffman (Lossless) JPEG2000, JPEG-LS, or H.264 Available Custom
Data Interface	LVDS/Spacewire or RS-422
Supply Voltage	28 V
Design Life	Nominal 10 year (radiation determined)
Radiation Dose	5 years (GEO)
Recommended Operating Temperature	-45°C to 60°C