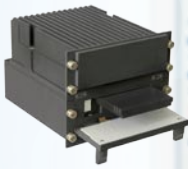


# MVDR

SES Multi-Channel Video  
and Data Recorder



Product Design Hardware Design Software Design Mechanical Design Electronic Design

Hardware Design Software Design Mechanical Design Electronic Design Product Design

Software Design Mechanical Design Electronic Design Product Design Hardware Design

# MVDR



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# Multi-Channel Video Data Recorder

The MVDR is a customisation of the S3DR-BE data recorder, designed to record up to six full resolution channels of video, audio and data. It has been designed to meet challenging environments, such as those found in fast jet aircraft. Data is recorded on a data cartridge, which is then removed and processed with SES REVEAL software to provide synchronised playback of all recorded video channels.



## Standard Configuration

- Up to six channels of video which can be configured as Stanag 3350 B/C RGB, CVBS or Composite. All video channels can be encoded as full resolution in MPEG2/ MPEG4/H263
- 2x channels of isolated audio (300Hz – 3000Hz), recorded as left and right stereo on all video channels
- 10/100 Ethernet
- 16-character, sunlight readable NVIS compatible display, shows mode and recording time remaining
- Downloadable BIT History
- RS422 serial interface for recording time and other data
- 5x discrete inputs and 2x discrete outputs
- Remote Control using discrete inputs
- Elapsed Time Indicator function

## Optional Configurations

- 2x channels of Dual Redundant 1553 BM
- 4x Arinc429 Rx Channels
- 2x High Speed Synchronous IRIG106 PCM Channels
- IRIG B (12x) Time Code input or output
- 1x Gigabit Ethernet or 2x 10/100 Ethernet
- Composite Video Output
- Microphone Input
- Audio (Speaker) Output
- 2x RS232/422/485 asynchronous serial interfaces
- Event button
- Ergonomic front panel mode selector function
- 4x Additional audio input channels
- 3x Additional discrete inputs and 1x Additional discrete output
- Remote Control using high speed serial link.

## Data Cartridge

The SES Data Cartridge is a rugged solid state disk with excellent read and write performance provided by a SATA interface.



- Capacity: From 32GB to 256GB
- Read/Write Speed Up to 480/320 Mb per second
- MTBF >2Million Hours

### Recordable Hours of Video per Cartridge

	2ch	4ch	6ch
32GB	10	5	3.3
64GB	20	10	6.7
128GB	40	20	13.3
256GB	80	40	26.7

## Data Cartridge Reader

The SES cartridge reader allows data to be read from the SES data cartridge and when used with REVEAL allows the cartridge to be prepared for future use in an S3DR. It uses a native SATA interface and supports data transfer to a host pc at the maximum speed of the selected interface.



- The following four optional configurations of the reader are available.
- External Reader with power and SATA interface from Host PC.
- External Reader with external power and SATA interface from Host PC.
- External Reader with power and data transfer through two USB ports.
- Internal Reader mounted in 5.25" drive bay using internal SATA interface.

Note - Data transfer through a SATA interface has a maximum performance of 150 MBytes per second. Data transfer through the USB interface has a maximum transfer speed of 29Mbytes per second.

## REVEAL

REVEAL is a partner product to the S3DR data recorder families. It allows the user to extract and manipulate data from a removable memory cartridge and prepare the cartridge for reuse by the S3DR-recorder. REVEAL is an application for Microsoft Windows that provides a wealth of features for extracting, interpreting, visualising, analysing and managing data captured using an SES data recorder. Key features of the tool include:



- Convert data to a variety of formats to allow analysis with domain specific tools
- Interpret data to demultiplex or decommutate a data stream into its constituent parameters
- Visualisation of data to allow visual analysis within REVEAL using a framework that supports real-time and high-speed playback where suitable hardware is available
- Analysis of data to identify when defined conditions are met
- Archive data to hard disk, CD or DVD for later analysis or long term storage
- Declassification of S3DR data storage media

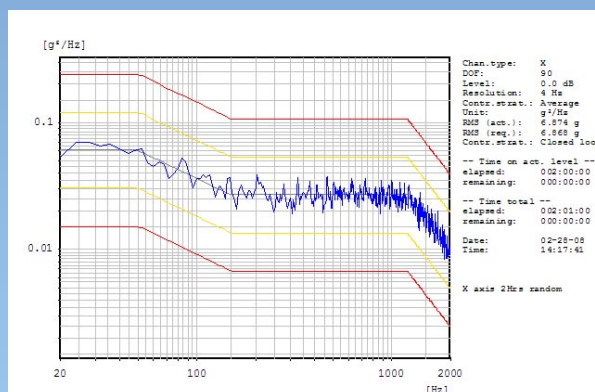
The architecture of the application allows for easy customisation of the application to suit specific requirements, for example introduction of a new plug-in to output data in a new format. Alternatively, the underlying components can be reused to provide a bespoke application to automate the extraction and processing of S3DR data storage media.

## Extreme Environmental Performance

The MVDR offers a qualified rugged solution to general purpose computing requirements. The MVDR is a solid state data processor that can be used in extreme land, naval and aerospace applications.

It has a wide operating temperature performance (-40°C to +70°C), as well as extreme resistance to shock, vibration and acceleration.

Built in a rugged aluminium enclosure, the MVDR is fitted with purpose specific connectors.



# MVDR Specification



Dimensions:	146mm(w) x 113mm(h) x 182mm(d)
Weight:	3.0kg
Standard Interfaces:	up to 6x MPEG Encoded Video, 2x Audio, 1x 10/100 Ethernet, 5 Discrete Inputs and 2 Discrete Outputs, 1x RS422 Serial Interface
Optional Interfaces:	1x Gigabit Ethernet or 2x 10/100 Ethernet 1x IRIG B (12x) Time Code input or output 2x Dual Redundant 1553 BM 4x Arinc429 Rx Channels, 2x High Speed Synchronous IRIG106 PCM Channels 1x Microphone Input, 1x Audio (Speaker) Output 1x Composite Video Output, 2x RS232/422/485 Serial Interface 4x Audio Input, 3x Discrete Input, 1x Discrete Output
Power Requirements:	28V nominal ,40W

## Environmental Specification

OPERATING TEMPERATURE:	MIL-STD-810E Method 501.3, -40°C to +70°C	DRIP:	MIL-STD-810E Method 506.3 (Rain, 45°)
STORAGE TEMPERATURE:	MIL-STD-810E Method 520.1 Temperature from -50°C to +90°C	HUMIDITY:	MIL-STD-810E 95%
SOLAR RADIATION:	MIL-STD-810E Method 505.3 (1120W/m <sup>2</sup> )	COMPASS SAFE DISTANCE:	BS3G3100 pt2 Section 2
DUST:	MIL-STD-810E (blowing 1750ft/min)	ALTITUDE:	up to 50,000ft
FLUID CONTAMINATION:	DEF-STAN 07-55 Method C4	EMC EMISSIONS:	MIL-STD-461E CE101 CE102 RE102
FUNGUS:	MIL-STD-810E Method 508.4	EMC SUSCEPTIBILITY:	MIL-STD-461E CS101 RS101
SALT FOG:	MIL-STD-810E Method 509.3	SHOCK:	MIL-STD-810E 516-4, functional, crash and bench handling
EXPLOSIVE ATMOSPHERE:	MIL-STD-810E Method 511.3 Proc 1	VIBRATION:	MIL-STD-810E 514.4 Cat 5, Functional and Endurance
EXPLOSIVE DECOMPRESSION:	MIL-STD-810E Method 511.3	ACCELERATION:	MIL-STD-810E 513.4, structural and operational up to 11.7g Crash acceleration up to 25g

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