

Specification

Secure Data Recorder

Secure video, audio and data recording solution

Technical parameters	Options		
	Data Only Recorder	Standard Definition Video Recorder	High Definition Video Recorder
Video inputs	N/A	Composite NTSC/PAL/RS-170 video input	Analogue HD input (YPbPr, VGA, RGB) Digital HD input (DVI,HDMI)
Video compression	N/A	H.264 Encoded Compression MPEG-4 Compression NTSC D1 (720x480) at 30fps PAL D1 (720x576) at 25fp	H.264 Encoded Compression MPEG-4 Compression Up to 4 channels of HD at 1080p30 Up to 2 channels of HD at 1080p60
Dimensions HxWxD (mm)	122 x 159 x 165		
Weight (Kg)	3.75 to 3.95		
Power supply	28v DC supply		
Power dissipation (W)	20.6 to 30 (typically 25)		
Encrypted memory capacity	Currently 128GB Planned to 1TB		
Maintenance data memory	Up to 1GB		
Primary control interface	MIL-STD-1553 and/or ARINC429 (dual option available)		
Erase	Dedicated discrete and manual purge button (< 100ms)		
Generic interfaces	MIL-STD-1553B ARINC 429 Gigabit Ethernet RS 232/422 Configurable Discretes		
Available features	Operational control via MIL-STD-1553, Ethernet, Serial, Discrete, or ARINC429 Recording of data from MIL-STD-1553, Serial, Discrete, Ethernet, Video over Ethernet, or ARINC429 Event marking of recorded data User definable compression rates Video pre-capture		
Cooling requirements	Radiation and conduction cooling through case and fixings		
Operating temperature	-40°C to +70°C		
Storage temperature	-55°C to +85°C		
Environmental testing			
Qualification	RTCA DO-160		
Vibration limits	Section 8		
Shock limits	Section 7		
Acceleration	Section 7		
Temperature and altitude	Section 4		
Temperature, humidity and solar	Section 4 and 6		
Sand and dust	Section 12		
Temperature variaton	Section 5		
Waterproofness	Section 10		
EMC	Sections 15 to 22		
Software certification	RTCA DO-178C – Certifiable up to level D		
Hardware certification	RTCA DO-254 – Certifiable up to level D		
Additional qualification	DEF-STAN 00-35, DEF-STAN 59-411, MIL-STD 704		

General Dynamics UK has more than 30 years experience of providing solid state digital data recording solutions for land based and avionic systems. To address the ever increasing need for security of the data recorded, General Dynamics UK has developed a family of multi-channel secure data recorders based on their security accredited airborne solid state recording system.

The Secure Data Recorder (SDR) provides an accreditable security solution allowing the user to operate in unfriendly environments with the confidence that data is safely stored. The SDR has been qualified for both manned and unmanned platforms operating in the air, land and maritime environments.

The SDR is suitable for the transfer of data on and off all types of platforms through the use of the easily inserted data brick. Typical transfers includes the uploading of mission data and digital map data along with the extraction of recorded data such as EO sensor video, voice communications and tactical mission data. A low risk affordable security option is available for all family variants.

The SDR product family provides a core hardware unit that can be configured to support an array of different input data types including:

- Mil Std 1553
- ARINC 429
- Ethernet and Gigabit Ethernet
- RS242/422
- Video over IP
- PAL & NTSC video
- Standard and High Definition video



Castleham Road, St Leonards-on-Sea,
East Sussex TN38 9NJ, United Kingdom

Tel: +44 (0)1424 853481 Fax: +44 (0)1424 798009

Email: info@gd-ms.uk

www.gd-ms.uk

© October 2015 General Dynamics United Kingdom Limited

The information contained in this publication is supplied by General Dynamics UK Limited (GDUK). It does not form part of any contract for the purchase of any product or service described in this publication. Although GDUK makes every effort to verify the accuracy of the information contained in this publication, the Company accepts no responsibility for any defect or error in this publication, or in the information supplied; nor shall GDUK be liable for any change or loss caused as a result of reliance upon such information.

GDUK2985 10/15

GENERAL DYNAMICS
Mission Systems

www.gd-ms.uk

Secure video, voice and data recorder

Multiple data interfaces, large data capacity, accredited solution

Rugged, reliable recording

All variants of the recorder family offer:

- Up to eight independent recording channels
- User selectable compression ratios
- Concurrent playback of one channel
- Metadata recorded on each channel to enhance the playback capabilities of the Ground Support System (GSS) for de-brief and intelligence exploitation
- Industry standard storage formats
- Instant secure purge facility
- Fast data extraction up to 300MB per second
- Hot swapping for crew handover
- Up to 1TB with growth capability
- Standard control functions: Record, Play, Fast Forward, Rewind, Pause, Stop and Marker insertion
- Security accredited solution available
- Optimised user access for fast data brick insertion and removal
- Low Size, Weight and Power (SWaP)
- Designed for maximum installation flexibility for platform integrators
- Built in Test (BIT) and maintenance port for access to the BIT log
- Elapsed Time Indicator (ETI).



End-to-end solution

To complement the recorder solution, General Dynamics UK has teamed with RDDS to provide a full 'end-to-end' system including a complementary control panel and ground support system (GSS). RDDS has an excellent pedigree providing displays and control panels particularly for retrofit fixed and rotary wing platforms. For fully integrated platforms, the SDR digital control interface provides a means for the integrator to build a recorder HMI into the existing display system. For a non integrated platform or retrofit programme, the standalone control panel provides a flexible, DZUS mounted, lightweight, rugged solution.

As important as the recording media, is the ground support system. All data is stored in an industry standard file system using formats such as JPEG and MPEG. To provide greater exploitation and de-brief capability, the GSS offers

- Mission data loading including digital maps
- Encryption key loading for the secure version
- Multiple channel concurrent playback
- Integrated 2D/3D digital map with overlays to show sensor coverage
- Metadata extraction
- Fast forward/rewind to markers.



Scalable – Adaptable – Secure – Affordable



Secure recording

The security of recorded sensitive mission data and intelligence is becoming a major concern for UK and international markets. With the increase of secure data sourced from tactical data links, communication systems and the sensitivity of intelligence derived from the multitude of platform sensors, the traditional approach to the non secure storage of this data is no longer tangible or sustainable:

- National security agencies are no longer willing to provide waivers for platforms lacking secure recording as secure solutions are now available
- The management of removable data bricks containing sensitive data is driving up the life cycle costs due to archiving and disposal
- Increasing man power resources to handle the data bricks once removed from the platform
- Approved/accredited safe fast erase for large data stores.

General Dynamics UK has teamed with ViaSat to develop a low risk secure solution that is International Traffic in Arms Regulations (ITAR) free. ViaSat has a long pedigree for providing 'Secure Data at Rest' solutions. The SDR solution is based on the ViaSat security accredited Eclipt 600 product range, adapted by General Dynamics UK for harsh operating environments as experienced in the air, land and sea domains. Already proven on the UK Lynx Wildcat helicopter and SCOUT Specialist Vehicle programmes, General Dynamics UK and ViaSat are able to provide a low risk solution due to existing security accredited, flexible data interface options and large storage capacity (up to 1TB) to cater for all data generated during the extremes of operational deployment.

Autonomous keying on application of power ensures ease of use for platform operators and maintainers due to:

- No password entry on the platform is required reducing user error
- Reduced complexity of the control panel HMI and operator training
- Power outage resilience such as ground power switch over
- Instant secure non destructive purge
- Upon power removal or extraction of the data brick, there is a two Protective Marking (PM) security level drop, eg SECRET down to RESTRICTED, reducing the cost through easier handling procedures.

