



SECURE DATA RECORDER (SDR)



SECURE DATA STORE (SDS)



KEY STORAGE UNIT (KSU)

BASED ON VIASAT'S ACCREDITED ECLYPT® TECHNOLOGY

SECURING YOUR MISSION CRITICAL DATA

The Viasat Secure Data Recorder (SDR) product family, co-developed by Viasat and General Dynamics UK, provides multi-channel secure data recording for manned and unmanned platforms operating in air, land, and maritime environments. The SDR ensures that data is safely stored throughout mission operations as well as during the transfer of data on and off all types of platforms. Typical transfers include the uploading of mission data and digital map data, along with the extraction of recorded data such as electro-optical sensor video, voice communications, and tactical mission data.

There are three SDR models available:

SDR-100 Data-Only Recorder >>>>

Stores large amounts of mission data (video is not always required with the advancement in replay simulation)

SDR-200 Standard-Definition Video Recorder >>>>

Records up to eight channels of standard-definition video; ideal for retrofit applications

SDR-300 High-Definition Video Recorder >>>>

Records up to four channels of high-definition video

ABOUT ECLYPT

Viasat's Eclipt technology integrates accredited authentication with entire disk encryption techniques and data storage, in tamper-resistant internal or portable hardware, to safeguard your data. This provides instant data protection without noticeable adverse effects on computer performance.



SIMPLE INTEGRATION—COCKPIT EXAMPLE

SECURE RECORDING

The protection of recorded mission data and intelligence is a growing concern for defence operations. With the increase of secure data sourced from tactical data links, communication systems, and sensors, the traditional approach of non-secure storage of this data is no longer tangible or sustainable.

The SDR is based on the certified Viasat Eclipt® 600 encrypted hard drive and has been adapted for harsh operating environments in the air, land, and sea domains. This technology is field-proven on the UK Future Lynx Wildcat helicopter program. The SDR provides a low-risk approach, leveraging existing certified Viasat encryption and flexible data interface options with large storage capacity. As a result, all data generated during deployment is protected.



K5G—BASED ON CAPS APPROVED TECHNOLOGY

SECURE DATA RECORDER AT-A-GLANCE

Rugged, Reliable Recording

- » Up to 8 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 debrief and intelligence exploitation
- » Industry-standard storage formats
- » Instant secure purge facility
- » Fast data extraction up to 300 MB per second
- » Hot-swapping for crew handover
- » 512 GB to 2 TB (future) encrypted memory capacity
- » Standard control functions: record, play, fast forward, rewind, pause, stop, and marker insertion
- » Based on accredited security technology
- » Optimized user access for fast hardware 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)

Autonomous Keying for Ease-of-Use

- » No password entry on the platform is required, reducing user error
- » Includes easy-to-use control panel HMI and operator training
- » Power outage resilience such as ground power switchover
- » Instant secure non-destructive purge
- » Upon power removal or extraction of the data hardware, there is a two protective marking security level drop, e.g. Secret down to Restricted, reducing the cost through easier handling procedures

Supports a Variety of Input Data Types

- » MIL-STD 1553
- » ARINC 439
- » Ethernet and gigabit Ethernet
- » RS242/422
- » Video over IP
- » PAL and NTSC video
- » Standard and high-definition video



SDR WITH ACCESS PANEL OPEN, REVEALING THE KSU AND SDS



GROUND SUPPORT SYSTEM (GSS)

END-TO-END SYSTEM

The SDR includes a stand-alone control panel and ground support system (GSS), co-developed with RDDS. For integrated platforms, the digital control interface enables you to build a recorder interface into the existing display system. For non-integrated platforms or retrofit programs, the stand-alone panel serves as a DZUS-mounted, lightweight, rugged control system.

All data is stored using industry-standard formats such as JPEG and MPEG. For greater exploitation and debrief capability, the GSS offers mission data loading, encryption key loading, multi-channel concurrent playback, metadata extraction, and fast-forward/rewind to markers.



GSS CONTROL PANEL

Viasat Secure Data Recorder

SPECIFICATIONS

	SDR-100	SDR-200	SDR-300
Technical Parameters	Data-Only Recorder	Standard-Definition Video Recorder	High-Definition Video Recorder
Video Input	N/A	Composite NTSC/PAL/RS-170	Analogue HD (YPbPr, VGA, RGB), digital HD (DVI, HDMI)
Video Compression	N/A	H.264 encoded, MPEG-4, NTSC D1 (720 x 480) at 30 fps, PAL D1 (720 x 576) at 25 fps	H.264 encoded, MPEG-4, Up to 4 channels of HD at 1080p30, Up to 2 channels of HD at 1080p60
Dimensions (H x W x D)	122 x 159 x 165 mm		
Weight	3.75 to 3.95 Kg		
Power Supply	28 VDC supply		
Power Dissipation	20.6 to 30 (typically 25) W		
Encrypted Memory Capacity	512 GB to 2 TB (future)		
Maintenance Data Memory	Up to 1 GB		
Primary Control Interface	MIL-STD-1553 and/or ARINC429 (dual option available)		
Erase	Dedicated discrete and manual purge button (<100 ms)		
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		
Operating Temperature	-40° to +70° C		
Storage Temperature	-55° 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 Variation	Section 5		
Waterproofness	Section 10		
EMC	Section 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			



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