

### Features

- Record and Playback Streaming Telemetry over Internet Protocol (TMoIP)
- Unicast or Multicast USP/IP Streams
- Playback to New Destination IP Address
- Simultaneous Record and Playback
- Separable Management and Data Network Interfaces
- Standard Dual 1 Gigabit and Dual 10 Gigabit Ethernet Interfaces
- Storage Capacities to 32TB
- Built for High Reliability and Availability 24/7 operation
- Options AES Encryption
- Optional Removable Hard Drive
- Optional IRIG Time Reader
- Options for Additional Network Interfaces

\* Option

### General Description



#### The Model 3500 Ethernet Data Recorder is a high data rate, large capacity streaming network recording system.

The Model 3500 utilizes mature and field-proven recording technology from Ampex Data Systems Corp. to deliver consistent, reliable recording and playback of streaming IP telemetry data. The Model 3500 is designed for Telemetry over IP (TMoIP), Voice over IP (VoIP) and Video over IP streaming data recording and reproduction applications. Additional operational modes are available for collecting Ethernet traffic for subsequent analysis by industry-standard tools such as "Wireshark".

#### Performance and Capacity

The Model 3500 is available in a standard 2U 19 inch rack mount unit. Two 1 Gigabit and two 10 Gigabit Ethernet interfaces are included. The two 10 Gigabit Ethernet interfaces are SFP+ ports configurable as optical (e.g. 10GBase-SR) or copper (10GBase-T, 10GBase-CX). The two 1Gigabit Ethernet interfaces (1000Base-T) are presented on RJ-45 connectors.

Support is present for network expansion to 40-GigE, 100-GigE and even WiFi networking. Any of the network interfaces can be configured for Management, Record Data, Playback Data or any combination. The unit leverages reliable COTS solid state drive and server technology with over 70 years of Ampex recording experience and expertise, to meet the most challenging requirements. Data storage space is provided for up to 16 high-capacity, high-performance, removable Solid State Devices, with total storage capacity up to 32TB. Greater capacity is possible as drive technology evolves. The Model 3500 offers raw record and playback performance, providing a recording duration of more than eight hours, at the maximum operational rate.

#### Open System, Trusted Environments

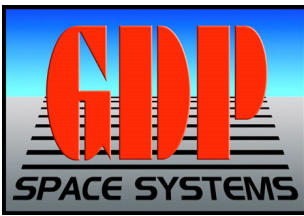
The system runs the approved COTS Red Hat Enterprise Linux operating system. Connectivity with sensitive networks is straightforward. Information assurance and cybersecurity policies are consistent with use in government and aerospace environments.

The Solid State Disk drives optionally support 256 bit AES encryption. Configurations are optionally available with FIPS 140-2 certification.

The Model 3500 can be integrated into the GDP Telemetry Range Management Software (TRMS) control architecture which provides complete range control of acquisition, distribution, recording and processing functions with an intuitive user interface.

#### Standards Compliance and Interoperability

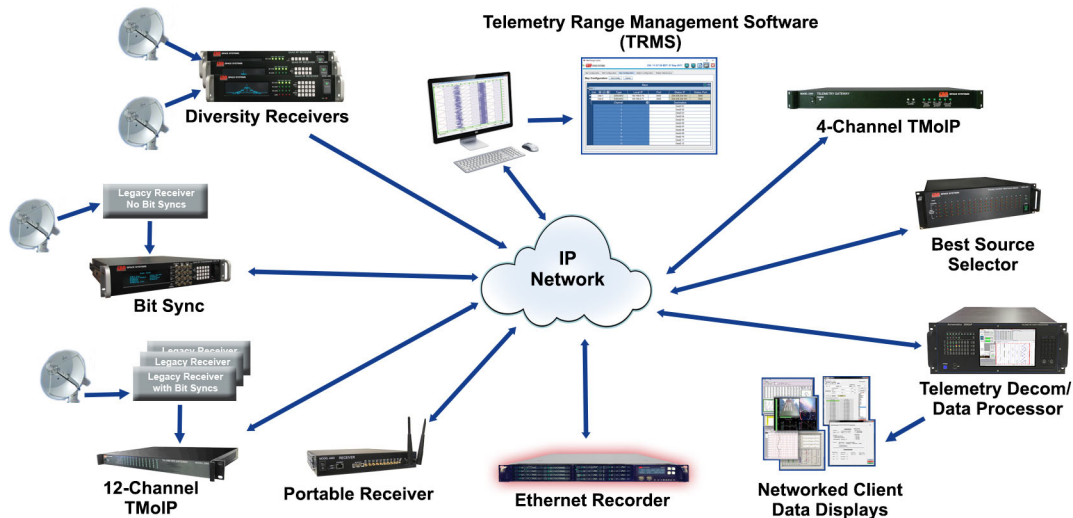
In addition to supporting GDP's enhanced protocols, the Model 3500 supports the standard IRIG 218 TMoIP, IRIG 106 Chapter 10/11, MISB MPEG-2 Transport Stream over UDP and other streaming data protocols. The Model 3500 is designed to be flexible and versatile. Optional post recording file conversion utilities can be used to provide the data file and output stream conversion necessary to support interoperability with legacy or special systems. Web browser control provides extensive setup, configuration, record and playback control. Integration with the GDP TRMS provides system level integration with other range equipment.



**Ethernet Data Recorder**

**Specifications**

CPU Subsystem	8 Core (16 thread) Xeon D-1537, 1.7GHz (2.3GHz boost), 12MB cache, 32GB, 2133MHz DDR4 with ECC, TPM 1.2
Network Interfaces	Two 10 Gigabit SFP+ Ethernet ports and two 1000Base-T Gigabit Ethernet Interfaces, others via optional PCIe modules
Fixed Storage	Separate Firmware/OS Device (can be write-protected)
Recorder Storage	16 removable Solid State Drives (up to 32 TBytes)
Removable Storage	Optional removable Hard-Drive or DVD Drive
Network Protocols	TCP, UDP, IP
Streaming Data Protocols	IRIG 218, IRIG 106 Chapter 10/11, MISB Xon2, Special
Control Protocols	HTTP, Command Line, TRMS
Time Input	NTP, Optional IRIG B or PTP
Operating System	Red Hat Enterprise Linux 7 (DISA STIG compliant)
Encryption	Advanced Encryption Standard (AES), 256 bit keys
<b>Performance</b>	
Payload Data Rate	1 Gigabytes/sec (sustained)
<b>Power</b>	
Voltage	120/240V 50/60 Hz AC
Power	130W (Full Load)
<b>Mechanical</b>	
Dimensions	Standard 19 inch 2U Rackmount Chassis 3.46" (87.90 mm) H x 16.81" (427.00 mm) W x 22.44" (570,00 mm)
Mounting	Mounting ears, optional chassis slides or tray
Weight (System)	29.5 lbs (13.38 Kg)
<b>Environmental</b>	
Temperature	Operating 0° C to +45° C Non-operating -10° C to +60° C
Relative Humidity	Non Condensing 25% to 95% RH



\* Recognizing that no standard product can meet all the needs of all users, GDP stands ready to provide units tailored to unique applications.  
 \* The statements in this data sheet are not intended to create any warranty, expressed or implied. Specifications are subject to change without notice.