



Ethernet Data Recorder *Model 3500*

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 has been 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 1U 19 inch rack mount unit. The unit provides two 10 Gigabit Ethernet interfaces configurable as optical (e.g. 10GBase-SR) or copper (10GBase-T, 10GBase-CX, and capable of auto-negotiation down to gigabit Ethernet) plus two 1Gigabit Ethernet interfaces (1000Base-T), as well as expansion capability for 40-GigE, 100-GigE and even WiFi networking. These 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 your challenging requirements. It provides for up to 16 high-capacity, high-performance, removable Solid State Devices, with total capacity up to 32TB today and higher tomorrow as drive technology evolves. The Model 3500 offers raw record and playback performance in excess of 1Gigabyte/second sustained, providing a recording duration of more than eight hours, even at the maximum operational rate.

Open System, Trusted Environments

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

The system runs an approved COTS operating system, Red Hat Enterprise Linux, to ensure that connectivity with sensitive networks is straightforward and that information assurance and cybersecurity policies are consistent with use in government and aerospace environments.

The SSDs support 256 bit AES encryption, and some configurations are available with FIPS 140-2 certification. The system uses components sourced through U.S. supply chains.

Standards Compliance and Interoperability

In addition to supporting GDP's enhanced protocols, the Model 3500 also 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 future systems.

The front panel display and keys provide an easy-to-use local interface. Web browser control provides extensive setup, configuration, record and playback control. Integration with the GDP TRMS provides system level integration with other range equipment.

Features

- **Greater than 1GB/s sustained payload recording rate**
- **Seperable Management and Data Network Interfaces**
- **Standard Dual 10 Gigabit and Dual 1 Gigabit Ethernet Interfaces**
- **Storage Capacities to 32TB**
- **AES Encryption**
- **Built for High Reliability and Availability 24/7 operation**
- **Options for Additional I/O**



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 Interface	Two 10 Gigabit SFP+ Ethernet ports plus two 1000Base-T Gigabit Ethernet
Fixed Storage	Separate Firmware/OS Device (can be write-protected) Plus optional separate Configuration/Logging Device
Removable Storage	16 Removable Solid State Drives
Network Protocols	NFSv4, NFSv3, CIFS/SMB, FTP, TCP, UDP
Data Protocols	IRIG 218, IRIG 106 Chapter 10/11, MISB Xon2
Control Protocols	HTTP, Command Line, TRMS, all optionally with SSL encryption
Operating System	Red Hat Enterprise Linux 7 (DISA STIG compliant)
Encryption	Advanced Encryption Standard (AES), 256 bit keys

Performance

Payload Data Rate 1 Gbytes/sec (sustained)

Power

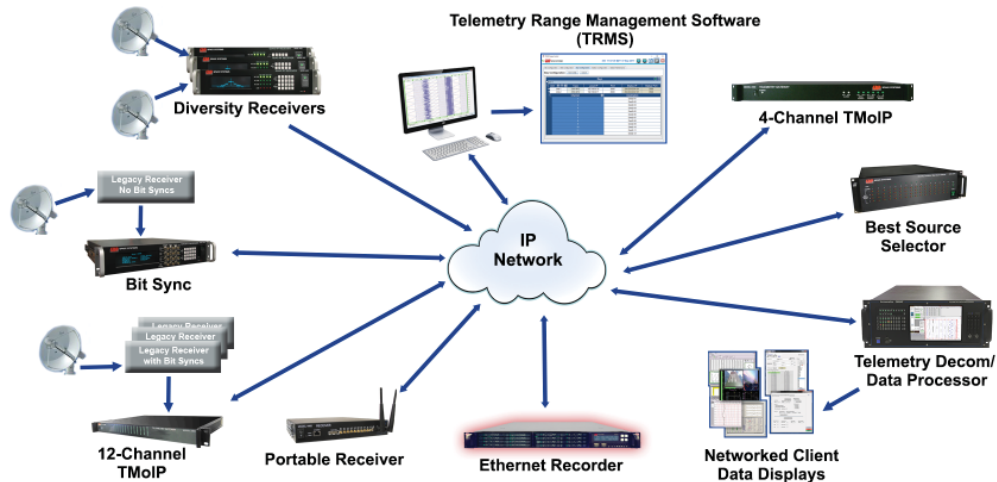
Voltage 120/240V 50/60 Hz AC
 Dissipation (Full Load) 130W

Mechanical

Dimensions Standard 19 inch 1U Rackmount Chassis, 20.6 inches deep;
 1.75" (42.8mm) H x 17.1" (434mm) W x 20.6" (523mm) D
 Mounting Mounting ears, optional chassis slides or tray
 Weight (System) 20lbs (9.1Kg)

Environmental

Temperature Operating 0° C to +45° C
 Non-operating -10° C to 60° C
 Humidity 25% to 75% RH
 Vibration 0.25 grms (active 5 - 350Hz)
 Shock 20g (half sine, 2ms, calculated)



Model 3500 is part of our Network Centric Product Line