

IRIG 106 CHAPTER 10 RECORDER

Multi-channel PCM recorder

RS-422 and UDP output

IRIG-B precision timing for recording and playback

FEATURES

DATA INTEGRITY AND RELIABILITY:

Built-in error detection and correction mechanisms to identify and correct any errors or anomalies in the recorded data. Each channel also provides realtime data quality indicators for Dead Clock, Data Transition Density, Frame Sync Lock Status.

DATA RETRIEVAL AND ANALYSIS:

Efficient and user-friendly methods for retrieving and analyzing the recorded data. Software tools and interfaces that allow users to easily access and extract the recorded data for further analysis and processing.

WHY RECORDERS ARE ESSENTIAL

Enabling engineers to optimize performance, diagnose issues, ensure reliability, and enhance the overall success of satellite missions:

DATA COLLECTION:

Satellite vehicles generate a vast amount of telemetry data during their operations. This data includes information about the vehicle's performance, health, and environmental conditions. Data recorders capture and store this information, allowing engineers and scientists to analyze it later for various purposes.

SAFETY AND RELIABILITY:

Satellite vehicles operate in harsh and challenging environments, including extreme temperatures, radiation, and vacuum conditions. Data recorders allow engineers to monitor and assess the vehicle's health and safety parameters. By analyzing the recorded telemetry data, they can ensure the reliability and integrity of the vehicle's systems, minimizing the risk of failures or accidents.

PERFORMANCE ANALYSIS:

By recording telemetry data, engineers can analyze the performance of satellite vehicles during different phases of their missions. This analysis helps identify any anomalies, deviations, or inefficiencies in the vehicle's systems. It enables engineers to make improvements, optimize performance, and enhance the overall mission success rate.

PERFORMANCE VALIDATION:

Data recorders are also useful for validating the performance of satellite vehicles against design specifications and requirements. By comparing the recorded telemetry data with the expected values, engineers can verify if the vehicle is operating within the desired parameters. This validation process ensures that the satellite vehicle meets the performance standards set for its mission.

TROUBLESHOOTING AND DIAGNOSTICS:

In the event of a malfunction or anomaly, data recorders play a crucial role in troubleshooting and diagnostics. Engineers can review the recorded telemetry data to identify the root cause of the issue and develop appropriate solutions. This process helps in minimizing downtime and maximizing the operational efficiency of satellite vehicles.

THE POWER OF SOFTLINK®

All of our systems are built on SOFTLINK, ARKA's flexible and configurable software-defined architecture. SOFTLINK leverages a vetted library of modular, scalable software applications (Apps) and services to tailor and evolve system capabilities with minimal risk and cost. SOFTLINK's open architecture and open API enable Apps to be truly "platform agnostic," meaning Apps can run on premise (our hardware or yours), on Virtual Machines (VMs), in containers, or natively in the Cloud.

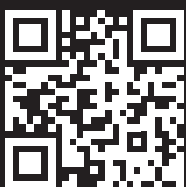


SPECIFICATIONS

IRIG 106 DATA	SPECIFICATIONS
UDP Transmission	10.3.9.1 10.3.9.1.1 10.3.9.1.2 10.3.9.1.3
Setup Record	Computer Generated Data Format 1 ASCII IRIG 106 Chapter 9
Time Data	10.6.3.2 Time Data Format 1 Day, Month and Year Format
PCM Data	10.6.1.1H PCM Data Format 1 11.2.2.2 Intra-Packet Header 11.2.2.2 G, E 16 Bit
Video Data	Video Packet Format 2 - 11.2.10.3 ISO/IEC 13818-7 (AAC) Baseline Profile H.264
Ethernet Data	Ethernet Data Packet Format 0 11.2.15.1 Ethernet Data Packet Format 1 11.2.15.2 (UDP)

FUNCTIONAL	SPECIFICATIONS
Serial Telemetry	Data/Clock
IRIG Time Resolution	10 ns
IRIG Accuracy	100 μs
User Interface	Browser
Monitor and Control	GEMS
System Setup	Linux

INTERFACES	SPECIFICATIONS
Serial Inputs	Multiple
Serial Outputs	Multiple
Electrical Interface	RS-422 (optional TTL I/O Panel)
Clock/Data Polarity	Configurable
Ethernet Ports	Multiple
UDP Clients	Multiple
UDP Transmitters	Multiple
IRIG	AM IRIG-B
Video (SD or 3G SDI)	Up to 4 (Half-duplex) Two embedded audio channels each



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