ENTA-R

Rugged GPS Time Distribution System

The GPS Time Distribution System (ENTA-R) is a high-availability time-distribution qualified for shipboard use. It receives time from two external GPS receivers as 1PPS and Have Quick, and it uses this over-determined time solution to both remove a faulty input reference and disciplines an internal time base oscillator. The internal time base is used to re-generate multiple 1PPS and Have Quick signals to support other systems.

The ENTA-R has redundant, removable power supplies and dual Ethernet ports to support SNMP v1 and NTP time protocol. The unit has been qualified for shipboard use in the areas of EMI, shock and vibration.

A unique feature of the ENTA-R is the ability to provide delay compensation to bother the inputs and the outputs by entry of a measured or calculated delay through the web user interface or via SNMP.

FEATURES

- **Versatile GPS Master Clock with Dual External GPS reference inputs**
- **Dual 10/100BaseT Network interface with Network Time Protocol (NTP)**
- **Multiple Have Quick Time Code Outputs (single ended and differential)**
- **Multiple 1PPS outputs (single ended and differential)**
- **High Stability Ovenized oscillator is standard**
- **Ruggedized for Shipboard Usage**
- **Hot-swappable Dual Redundant Power-Supplies**

Applications

- Shipboard Timing Sync
- Field Portable SatCom stations
- Satellite Ground Stations
- Oil & Gas Platforms

Key Benefits

- Low Cost Standalone NTP & IRIG Server
- IRIG B, IRIG E, Have Quick TOD Outputs

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Specifications

Inputs

Reference inputs:	1PPS/Have Quick:
Format:	per ICD-GPS-060
Electrical:	Single-Ended or User-selectable RS422
Have Quick Connector:	SMA (SE) DB15M (Differential)
1PPS:	SMA (SE) DB15M (Differential)

Control and Display Functions

Dual independent 10/100 Base-T Ethernet ports with Integrated web server control

SNMP V1 control
HTTP web server

Display

Front panel display of HH:MM:SS (LED colons indicate GPS lock status)
Holdover
Fault LED
GPS1 selected
GPS2 selected

Accuracy

Time accuracy:	GPS 1PPS < 30 ns
Holdover	< 1 us / hour(std)
	<1us/day (optional) Rb Oscillator

Physical

Size:	19” rack-mount 1U high (1.75”) 9” deep
Weight:	5lbs nominal

Compliances and Interface Standards

NTP Version 3 [RFC 1305]
SNTP compatible (RFC 2030)
SNMP
Ethernet / IEEE802.3
UDP/IP
ICMP

Outputs

All outputs include activity monitor

Single-Ended Output

No. of outputs:	4
Connector:	SMA

User-Selectable 1PPS or Have Quick output

1PPS characteristics

5V or 10V into 50 ohm, user-selectable
Pulse width 20 microseconds

Have quick characteristics

5V or 2.5V into 50 ohm, user-selectable
Format per ICD-GPS-060

RS422 outputs

No of outputs:	12
Connector Type:	DB9 F

User-Selectable 1PPS or Have Quick output

Alarm output

Form C relay to indicate unit fault.
Link settings for 5V active hi or active low.

Connector:	Terminal block

Power

Input	85-264VAC (50/60Hz) 40W max MS3102A-10SL-3P connector with switch and fuse Fuse 1A 250V

Environmental

Temperature	Operational: -20 to +50 deg C Storage: -55 to +85 deg C
Humidity	Non-condensing: 95% RH
Altitude	20,000 ft.
EMC	MIL-STD-461F CE101 CE102 CS114 CS116 RE101 RE102 RS101 RS103

Reliability

MTBF:	3,964,600 per MIL-HBK 217C

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