

ENTA-II - ENHANCED NETWORK TIME APPLIANCE



**GPS / IRIG Referenced Master Clock
with Multi-Port NTP and Standard
Time Code Outputs**



NENA Compliant



AS9100D Certificate Number : C0210021-AS3



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Product Overview

The ENTA-II Enhanced Network Time Appliance is a full function NENA Compliant GPS & IRIG referenced Master Clock that provides a clear UTC or local time display along with a broad suite of precision time outputs that include :-



NTP v3, IRIG B, IRIG E, Have Quick, 1PPS and 10MHz.

The ENTA includes both a built in GPS receiver and an IRIG B decoder, accommodating multiple time reference inputs for high availability. This is supplemented by a built in disciplined oven controlled crystal oscillator that provides continuous holdover timekeeping accuracy in the event that GPS or IRIG reference signals are lost.

A built in SNTP web-server provides a secure user friendly interface for configuring the unit while internal signal level monitors, continually check all outputs to enable rapid fault detection and isolation.

These units are typically specified for secure high integrity installations and are readily integrated as fully dual redundant systems using standard signal distribution units. The standard ENTA-II is NENA compliant and is available both as a standard commercial product or as a qualified product in some military applications.

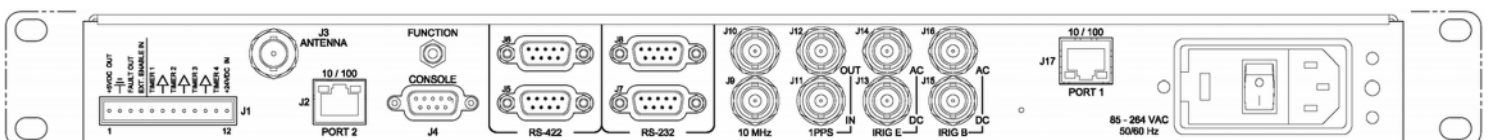
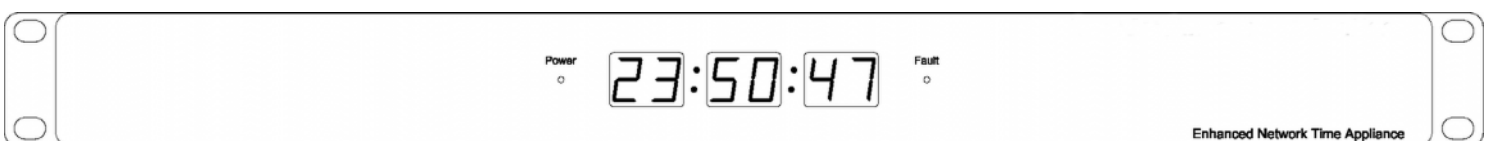
Key Feature Summary

Timing & Interfaces

- Dual time reference inputs - GPS and IRIG-B
- Multiple Time Code Outputs, IRIG B, IRIG E, Have Quick
- Dual port NTP Network Interface 10/100BaseT (NTPv3 [RFC 1305])
- High stability disciplined OCXO as standard
- Automatic signal fault monitoring and detection with relay contact and SNTP Trap alarms
- Compact 1U Rack Mount
- Holdover accuracy < 1µs / hour
- 10MHz & 1PPS
- AC or DC power options

Outputs

- 1 x 1PPS + 1 x 10 MHz
- 2 x NTP Network ports
- 1 x IRIG B + 1 x IRIG B / IRIG E + 2 x RS-232 & 2 x RS-422 user definable serial time codes



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Specifications



Specifications - ENTA-II	
Inputs - GPS	Details
GPS Receiver	C/A 1.023 Mhz - BNC connector with active antenna - 5VDC @ 80mA pre-amp (Centre conductor)
Receiver Type	Parallel 12 Channel : All in view satellites tracked continuously and simultaneously
Warm Start	< 20 seconds (Open Sky)
Autonomous Start	< 50 Seconds Cold Start (Open Sky)
Cold Start Requirement	Automatic : No input of time or position required
Inputs - IRIG B reader	
Format	IRIG B122 and B123 per IRIG 215.98
Electrical	2.0 to 5.0 V pk-pk via BNC connector
Inputs - 1 PPS	
Format	Rising edge signal with minimum pulse of 5µs
Electrical	TTL : 2V min to 5V max via BNC with 50 ohm impedance
Timing Accuracy	
GPS	+/- 100ns absolute UTC Std deviation 15ns
IRIG B	< 10µs
1PPS	< 30ns
Holdover Mode (Precision OCXO)	+/- 5°C : < 24µsec/day : < 5x10 ⁻¹⁰ per month when free running : TempCo : ± 2x10 ⁻⁹ ; -20°C to +50°C
Outputs - Reference frequency	
Reference	10MHz at TTL levels via BNC - 50 ohm output impedance
Outputs - Timecodes	
Timecode - IRIG B + IRIG E	IRIG B Modulated, DC Level shift, IRIG E DC Level Shift, : IRIG B120 IRIG B 000 DCLS, IRIG E 111 IRIG E 001
Electrical	3:1 Modulation ratio (3V pk-pk into 600 Ohms modulated), (TTL into 50 Ohm DC Level shift)
HaveQuick	Have Quick (option replaces IRIG E001)
Outputs - 1 PPS	
Amplitude	0 - 5V logic compatible : VOH > 2.4 V & VOL < 0.55 V : Output 50 ohm,
On time	Pulse width 10µs, rising edge
Phase relationship to 10 MHz	When synchronized there are always 10x10 ⁶ cycles between each 1 PPS rising edge
Network Interfaces	
Physical	2 ports : 10/100 Base T via 2 off RJ45 connectors
Protocols	NTP Version 3 [RFC 1305], Telnet (RFC 854) , SNTP compatible (RFC 2030) SNMP, IEEE802.3, UDP/IP, ICMP
Serial Interfaces	
Physical	4 x 9 way D type Socket : 2 x RS232 + 2 x RS422
Protocols	Time code output and configuration port - 9600,N,8,1 (Available but not implemented as standard)
Displays	
Time	Minutes/Hours/Seconds – UTC or Local time
Status LEDs	Power and Fault status
Environmental	
Temperature	Instrument : -20°C + 50°C / Antenna -40°C to + 85°C
Humidity	95 % non condensing
Power	85VAC - 265VAC 50/60Hz
Physical	19" Rack 1U 1.75" (H) x 9" (D) x 17" (W) [4.4 cm(H) x 23 cm (D) x 43.2 cm (W)] : Weight : 3.5 lb (1.6 Kg)
Compliance	CE Approved - EMC Emissions to EN55022 as EN55024 - FCC Part 15B, Class A EMC Immunity to EN50082-1 as EN61000-4-2 ESD, IEC801-3 HF Field & IEC 801-4

Satisfied customers include..

ABB Singapore Airbus Defence & Space ASM Technologies Ltd Atkins Babcock International BAE Systems BBC BP CMC Engineering Malaysia	EDF Energy Indian Navy Jakarta Metro Leonardo Electronics Defence And Security London Stock Exchange London Underground MBDA Ltd MTRC Hong Kong National Air Traffic Services	NASA NEC Network Rail Northrop Grumman Park Air Systems Ltd Qinetiq Ltd Raytheon Systems Ltd Rockwell Automation SBS Transit Singapore Siemens Transportation	Singapore Stock Exchange Telent Technology Services Limited Teligent Thales UK Transport For London Viacom
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