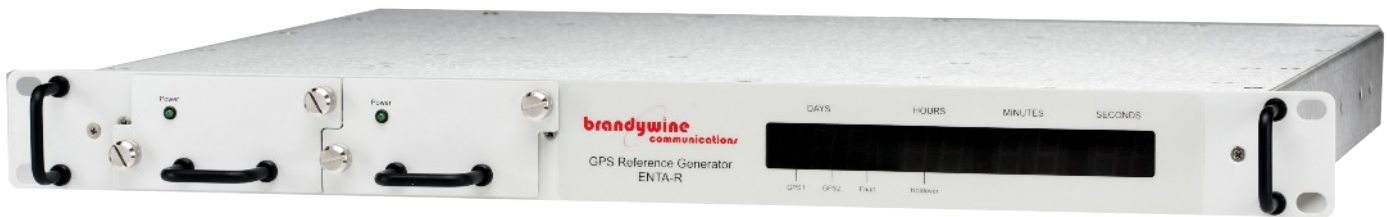


# ENTA-R - DUAL REDUNDANT ENHANCED NETWORK TIME APPLIANCE



**HaveQuick / 1PPS Referenced  
Dual Redundant Master Clock  
with Multi-Port NTP and HQ Signal Distribution**



**NENA Compliant**



AS9100D Certificate Number : C0210021-AS3



# ENTA-R - DUAL REDUNDANT ENHANCED NETWORK TIME APPLIANCE

## Product Overview



The ENTA-R is a ruggedised dual redundant full function Master Clock and NTP time server unit, capable of delivering a full suite of Have Quick time code and 1PPS outputs, as well as NTP, fully compliant with NENA requirements for a Master Clock.

Time reference to UTC is established via two dual redundant Have Quick and 1PPS input channels which are used to discipline a high precision oven controlled crystal oscillator (OCXO) that maintains time should input signals be lost.

In addition to two independent NTP network ports, the ENTA-R provides four single-ended outputs and 12 differential outputs at RS422 levels, all user configurable to output either Have Quick or 1PPS.

The unit uses dual hot-swappable power supplies for high-reliability operation. 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. The ENTA-R is NENA compliant and is qualified for ship board operation making it an ideal choice for NTP and HaveQuick distribution.

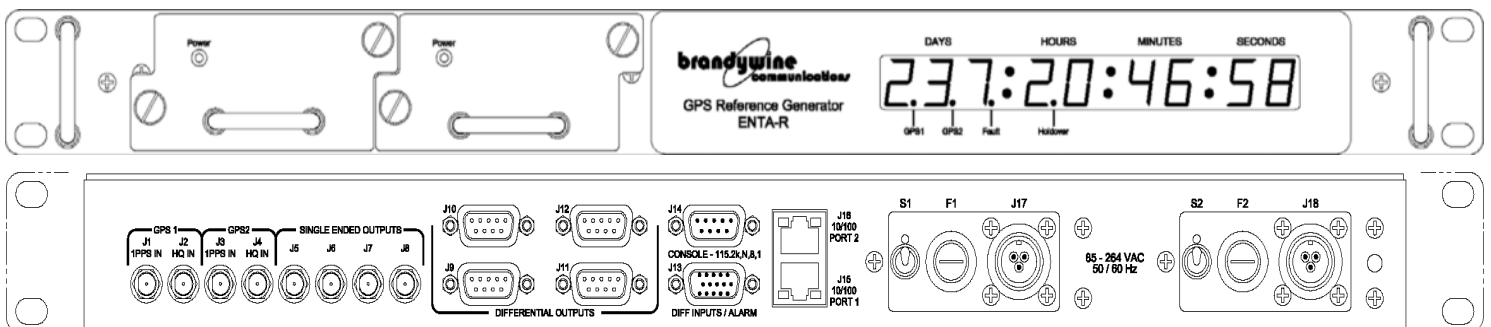
## Key Feature Summary

### Timing & Interfaces

- Dual time reference inputs - Have Quick & 1PPS
- 12 User Selectable Differential Outputs as Have Quick or 1PPS
- 4 User Selectable Single Ended Outputs as Have Quick or 1PPS
- 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
- Dual Redundant, Hot Swappable Power Supplies

### Outputs

- 4 x 1PPS or 4 x HQ - single ended - user selectable
- 12 x 1PPS or 4 x HQ - differential - user selectable
- 2 x NTP Network ports



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## Specifications



Specifications - ENTA-R	
<b>Inputs - 1 PPS &amp; HaveQuick</b>	<b>Details</b>
Connectors	4 x Single Ended - SMA + 4 x Differential @ RS422 levels - 15W D Type`
Have Quick Standard	ICD-GPS-060
1PPS Accuracy	per GPS < 30ns
<b>Outputs - 1 PPS &amp; HaveQuick</b>	
Connectors	4 x Single Ended - SMA + 12 x Differential @ RS422 levels - 4 x 9W D Type`
Single Ended - 1PPS	SMA connector - 5V or 10V into 50 ohm, user-selectable - Pulse width 20 microseconds
Electrical - HaveQuick	SMA connector - 2.5V or 5V into 50 ohm, user-selectable - per ICD-GPS-060
Differential - 1PPS / HQ	4 x 9W D-type connector - 1PPS or Have Quick user-selectable
<b>Timing Accuracy</b>	
1PPS	< 30ns based on GPS
Holdover Mode (Precision OCXO)	+/- 5°C : < 24µsec/day : < 5x10-10 per month when free running TempCo : ± 2x10-9 ; -20°C to +50°C
<b>Network Interfaces</b>	
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
<b>Displays</b>	1 x D type Socket + 1 x BNC : Have Quick per ICD-GPS-060 ( 0 - 5V )
Time	Minutes/Hours/Seconds – UTC or Local time. LED colons indicate GPS lock status
Status LEDs	Power and Fault status, GPS1 selected / GPS2 selected
<b>Environmental</b>	
Temperature	Operating : -20°C + 50°C Storage : -55°C + 85°C
Humidity	95 % non condensing
Power	85VAC - 265VAC 50/60Hz 40W Max : MS3102A-10SL-3P connector with switch and 1A fuse
<b>Physical</b>	19" Rack 1U 1.75" (H) x 9" (D) x 14" (W) [ 4.4 cm(H) x 23 cm (D) x 35 cm (W) ] Weight : 5 lb ( 2.3 ) Kg
<b>Compliance</b>	MIL-STD-461F, CE101, CE102, CS114, CS116, RE101, RE102, RS101, RS103
<b>Reliability</b>	3,964,600 hours per MIL-HBK 217C
<b>Altitude</b>	Operational to 20,000 ft

# 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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