

RTG-510 - UNIVERSAL GPS & TIMECODE PROCESSOR



**Fully Programmable Universal Timecode Processor
with built in GPS, NTP and Network Connectivity**



AS9100D Certificate Number : C0210021-AS3



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Product Overview

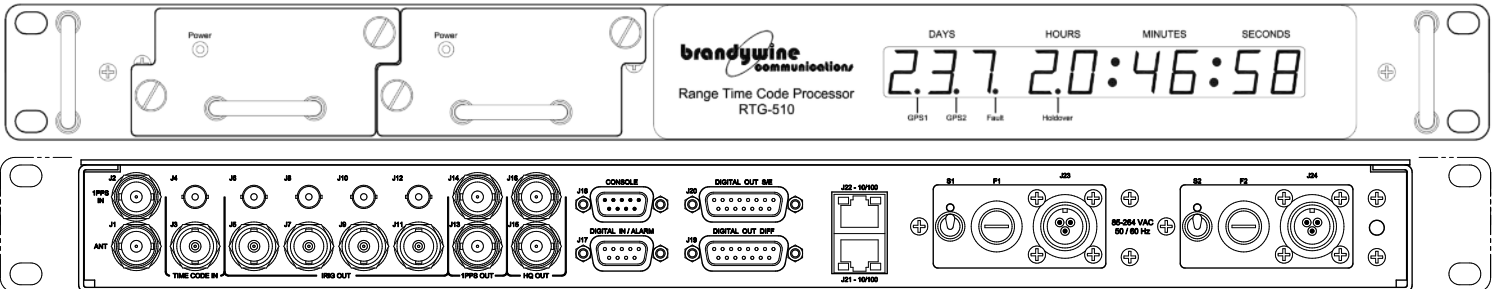
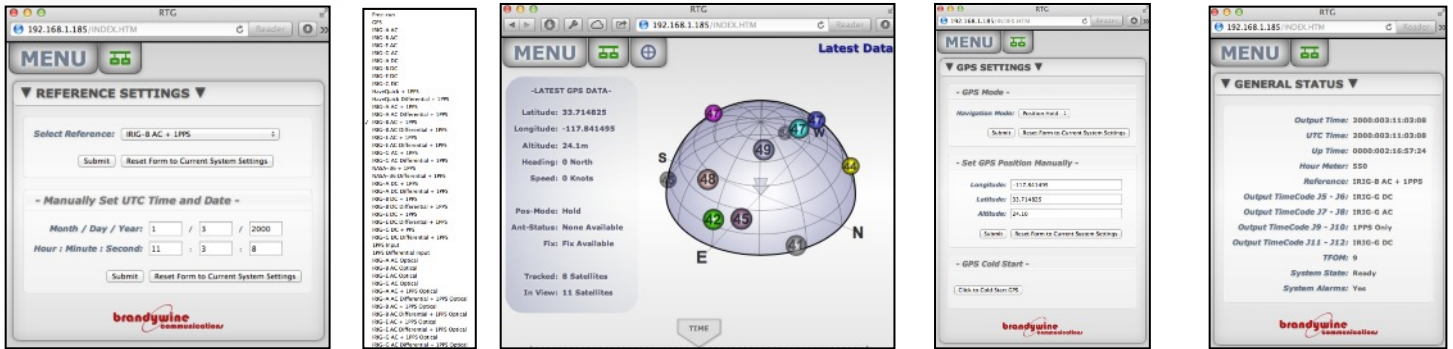


The RTG-510 is a highly versatile, remotely controlled dual redundant master clock that will synchronize to almost any timing input reference signal, including GPS, IRIG A, B, E, G, Have Quick, NASA36, and simultaneously output IRIG A, B, E, G, H, HaveQuick, 1PPS, dual NTP and RS232 to your system.

The unit has a built-in GPS receiver and high visibility 9-digit time display as well as Dual hot swappable dual redundant power supplies. Units are supplied with an active GPS antenna and 100ft (30m) of cable.

The unit can be configured with either TCXO, OCXO (std) or rubidium oscillators to specifically suit the application, the RTG-510 has the ability to track incoming time code over +/- 200ppm to allow time code conversion from legacy tape playback systems.

An intuitive, easy to use web browser interface allows intuitive and secure configuration of the RTG-510 from any network connected computer, tablet or smart phone.



Key Feature Summary

Options & Features

- Built in 12 channel GPS receiver with a choice of OCXO, TCXO or Rubidium disciplined oscillator
- Universal GPS, IRIG A, B, E, G, NASA36, and HaveQuick inputs
- 16 programmable outputs for time codes and pulse rates, including NTP, IRIG A, B, E, G, H, NASA36, HaveQuick, 1PPS
- Twin Independent Ethernet ports with built in web server interface and NTP time serving capability
- 9 Digit High Visibility Time Display
- 1U 19" rack mount
- Dual Redundant Hot Swap Power Supplies

Signals

- GPS, 1PPS, IRIG and HaveQuick Inputs
- 2 x 1PPS Outputs plus 2 x HaveQuick Outputs
- 4x Single ended modulated, 5x DCLS or Pulse s/w settable, 5x Differential DCLS or pulse @ RS422 levels

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Specifications

Specifications - RTG-510	
Reference Signal Inputs - 1PPS	Details
Characteristics	1PPS sync with manual time of year entry 1PPS Single Ended : Amplitude: 0-10Vp-p / 50 Ohms Connector: BNC Differential RS422 compliant Connector: DB9-F Countdown option : Run/Hold/Stop inputs
Amplitude - Input Impedance	0V to 5V - 50 Ohms
Reference Signal Inputs - GPS	
Connectors	1 x Rear panel BNC - Active sourcing current to 80mA @ 3.3V
Receiver Type	12 Channel Satellite Signal : GPS L1 1575.42 Mhz / Satellite Code : C/A code 1.023 MHz
Accuracy	Position Accuracy : <5 m, 1-sigma, <10 m, 2 sigma
Sensitivity	Sensitivity: -173dBw Acquisition, -185dBw Tracking
Time To First Fix (TTFF)	Hot (w/ current almanac, position, time and ephemeris) : <30 Sec Warm (w/ current almanac, position, time): <80 sec Cold (No stored information): <120 sec
Time Code Sync Inputs	
Formats	IRIG A00x, A13x, IRIG B02x, B12x, CF per IEEE-1344, IRIG E00x, E11x, IRIG G00x, G14x, IRIG H00x, NASA 36, Have Quick <i>(N.B. x denotes user programmable)</i>
Levels	DCLS : 0 - 5V BNC Connector Modulated Amplitude: 0.1Vpp – 8Vpp - Input Impedance: 50 Ohms, 600 Ohms s/w Selectable DC Level Shift (Differential) : RS422 : Connector DB9-F
Frequency Range	+/- 200ppm (for tape playback)
User Outputs	
1 PPS	2 Outputs : Amplitude: 2.5V or 5V into 50 Ohms, via link - BNC Connector Pulse width: 1us - 500ms : Software programmable
HaveQuick Timecode	2 Outputs : Amplitude: 2.5V or 5V into 50 Ohms, via link - BNC Connector Format HQII per ICD-GPS-060A/STANAG4430
Timecode Outputs (Total Outputs = 20)	4 x Single Ended Modulated via BNC Connector - Amplitude: 3Vp-p : Modulation Ratio: 10:3 5 x DCLS (or pulse) S/W selectable via DB-15 Connector - Single ended: Amplitude 2.5V and 5V into 50 Ohms. 5 x Differential DCLS (or pulse) S/W selectable @ RS422 levels + Optional 4 x Optical - Follows electrical port selection : Intensity Modulated AC code : Intensity Modulated DCLS code
Time Code Formats	IRIG A002, A006, A007, A132, A133, A134 IRIG B002, B006, B007, B122, B123, B124 IRIG E002, E006, E007, E122, E126, E127 IRIG G002, G006, G14, G142, G144 IRIG H001, H111 NASA 36 (Optional) 54 bit Parallel BCD
Network Interfaces	
Interface	2 x RJ45 - 10 BaseT
Protocols	10/100 BaseT : NTPv3, HTTP, SNMP V1
User Interface	
Display	Front Panel display of DDD:HH:MM:SS (LED colons indicate reference lock status)
Display Brightness	Software controlled
Status Indications	Power LED (2), Fault LED, Holdover LED
User Console Port	
Interface	9 Way D type socket 115K Baud - 115200, N, 8, 1
Environmental	
Temperature	Instrument : -10°C + 50°C / Antenna -40°C to + 85°C. <i>Temperature shock during operation without causing permanent damage: -20C to +70C at +/-3C / min per MIL-STD-810F - Method 503.4</i>
Humidity	95 % non condensing
Power	85VAC - 265VAC 50/60Hz or DC with hot swap dual redundancy < 25W
Altitude	Operational to 20,000 ft - transit not operational to 50,000 ft
Physical	
	19" Rack 1U 1.75" (H) x 8" (D) x 17" (W) [4.4 cm(H) x 20.3 cm (D) x 43.2 cm (W)] Weight : 11 lb (5.0 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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