GPS/GLONASS receiver

TYPES

GPS 1104
GPS 2104
GPS/GLONASS 1104
GPS/GLONASS 2104

GPS and GPS/GLONASS receivers for DVB broadcasting applications is specially designed to provide cost effective and reliable SFN synchronisation.

DVB-T/H and DVB-T2 SFN network requires frequency and time synchronisation of equipment in same SFN cell. One of the most widely used solutions are GPS and GLONASS receivers with 10 MHz and 1 PPS signal outputs. Elti GPS and GPS/GLONASS receiver provides excellent frequency stability, long holdover time and multiple 10 MHz and 1 PPS outputs. Unit can be used as standalone product or in combination with ECOS 3000 or ECOS 3000 LC, ASI selector and ASI distributor for redundancy systems (Dual Drive and N+1 system).

Following the need for synchronisation of redundancy systems in DVB networks, Elti round up complete solution with stand alone units of GPS receiver and advanced combination GPS/GLONASS receiver.

Specifications

	GPS receiver	GPS/GLONASS Receiver
INPUTS on rear panel		
Number of inputs	1	1
Signal type Antenna supply Input sensitivity	GPS (1575,42 MHz) +5V -130 dBm Acquisition sensitivity -138 dBm Tracking sensitivity (Fixed Position)	GPS (1575,42 MHz), GLONASS (1602 MHz) +5V -130 dBm Acquisition sensitivity -138 dBm Tracking sensitivity (Fixed Position)
Connector	TNC	TNC
Impedance	50 ohms	50 ohms
10 MHz OUTPUTS on rear panel		
Number of outputs	4 outputs (GPS 1104) 8 outputs (GPS 2104)	4 outputs (GPS/GLONASS 1104) 8 outputs (GPS/GLONASS 2104)
Signal type	10 MHz	10 MHz
Connector	BNC	BNC
Impedance	50 ohms	50 ohms
Signal wave form	Sinus	Sinus
Signal amplitude	10 dBm ± 20%	Min. 0,8 Vrms
Harmonics	≤ -40 dB	≤ -40 dB
Non-harmonics	≤ -70 dB	≤ -70 dB
10 MHz Stability		
Tracked mode, fixed position mode	ADEV <= 1 x 10^{-12}@ 20.000 s	ADEV <= 1 x 10^{-12}@ 20.000 s
Stability in holdover mode, at constant temperature (after 30 days of continuous operation)	1 x 10^{-10} / Day after 30 days of continuous operation	1 x 10^{-10} / Day after 30 days of continuous operation
Stability in holdover mode, over temperature range (after 48 hours of continuous operation)	<= 6 x 10^{-10} peak to peak	<= 6 x 10^{-10} peak to peak
1 PPS OUTPUTS on rear panel		
Number of outputs	4 outputs (GPS 1104) 8 outputs (GPS 2104)	4 outputs (GPS/GLONASS 1104) 8 outputs (GPS/GLONASS 2104)
Signal type	1 PPS	1 PPS
Connector	BNC	BNC
Impedance	50 ohms	50 ohms
Signal wave form	Square	Square
Signal amplitude	2,5 ± 20%	1,8V ± 20%
Timing reference	Rising edge	Rising edge
PPS Duration	20 µs	200ms
PPS Stability		
Tracked mode, during position averaging	150 ns max, peak to peak	150 ns max, peak to peak
Tracked mode, fixed position mode	100 ns max, peak to peak	100 ns max, peak to peak
Holdover mode, over temperature range (after 48 hours of continuous operation)	Typical PPS Drift after 8 hours: T = 25°C < 1 µs T = 25°C ± 5°C < 2,2 µs T = 25°C ± 20°C < 6 µs	Typical PPS Drift after 8 hours: T = 25°C < 1 µs T = 25°C ± 5°C < 2,2 µs T = 25°C ± 20°C < 6 µs
Fixed position mode		
Condition for transition to Fixed position mode	14.400 seconds (4 hours) after entering in tracked mode	14.400 seconds (4 hours) after entering in tracked mode
Condition for transition to Averaging position mode	Power-up	Power-up
FRONT PANEL		
Indication of status	7x LEDs	5x LEDs
REMOTE MONITORING		
RS232, TTL (3,3V)	DB9 Female	DB9 Female
Communication protocol	ASCII	ASCII
OTHER SPECIFICATIONS		
Power Supply	85 - 264 V AC, 47 - 60 Hz	85 - 264 V AC, 47 - 60 Hz
Consumption	< 15 VA	< 15 VA
Cabinet	19" rack, 1U, 180 mm depth, ~ 2,5 kg	19" rack, 1U, 180 mm depth, ~ 2,5 kg