

TIME & REFERENCE SYES GNSS RECEIVER



GNSS Receiver



GNSS
(GPS, GLONASS, BEIDU, GALILEO)



The GNSS receiver is a professional High precision GPS/GLONASS/GALILEO/BEIDOU receiver designed by Syes for broadcasting purpose.

It is designed to give an elevate number of time and reference signals (12x5/10MHz and 12x1PPs) with the possibility of full redundancy in all sensible hot-plug modules (dual radio receiver, dual oscillator and dual power supply).

In each GNSS radio receiver module is mounted a very high stability and very low drift OCXO which guarantees very precise output in case of loss of the reference signal.

The internal GNSS radio receiver is high quality and has high tracking capability. It is able to receive up to 72 parallel channels in standard precision

MAIN FEATURES

- ☐ GPS, GLONASS, GALILEO, BEIDOU receiver
- ☐ Compact design: dual radio GNSS receivers with dual power supply in 1 RU 19" standard
- ☐ Fully redundant: two independent, hot swappable radio receivers
- ☐ Fully redundant: two independent, hot swappable power supplies, wide range
- ☐ Fully redundant: two independent ultra-stable and high quality OCXO oscillator, providing excellent holdover performance and signal quality
- ☐ High selectivity input filter on radio receivers
- ☐ Independent GNSS antenna power supply from radio chipset for high degree of insulation and protection
- ☐ High tracking capability: standard 50 Channels, ultra-precise up to 18 channels in parallel
- ☐ 12 x PPS Pulse Per Second outputs with dedicated output buffer
- ☐ 12 x 10MHz low phase noise sinewave outputs with dedicated output buffer
- ☐ Management remote LAN: Web interface / SNMP
- ☐ NTP server (opt)
- ☐ PPS compare measurement with graphical display (opt)
- ☐ SNR measurement for each satellite with graphical Polar view
- ☐ Dual cooling fans on front panel (opt)
- ☐ Display on front panel (opt)
- ☐ Management front panel LAN (opt)

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TECHNICAL FEATURES			
GENERAL			
Number of antenna inputs	2 or 1 combined, customer selectable		
RF input Impedance	50 ohm		
RF input Connector	N (female) or TNC (female)		
Number of redundant power supply	2		
Power supply input	2x IEEE connector		
Number of frequency reference output	12 x10MHz BNC connectors on back panel		
Number of time reference output	12 x1pps BNC connectors on back panel		
Timing Accuracy 1PPS	30n second		
Remote control/ management	RS 232/ TLS/ SNMP/ WEB pages		
Polar view	Yes with measure of SNR for each satellite		
INPUT FEATURES			
Input Impedance	50 Ohm		
DC Power Supply output	5V, 80mA		
Number of Input	2 independent or 1 combined		
1PPS in e 10 MHz measurement	PPS compare with warning		
Lightening protection and surge arrestor	Available		
Number of channels each input	Up to 72 parallel channels		
RECEIVING FREQUENCIES			
GPS	L1 (1575,42 MHz) - L2 (1227,6 MHz)		
GLONASS	L1OF (1602 MHz) - L2 (1245 to 1251 MHz)		
BEIDOU	B1(1 575,42 MHz)		
GALILEO	E1 (1559-1591 MHz)		
RECEIVING SENSITIVITY			
	Reacquisition	Cold start	Hot start
GPS, GLONASS, BEIDOU, GALILEO	-160 dBm	-148 dBm	-157 dBm
EXT REF INPUT			
Frequency	10 MHz IN		
Time	1 PPS IN		
1PPS in e 10 MHz measurement	PPS compare with warning		
PHASE NOISE [dBc/Hz]			
Offset [Hz]	ISOTEMP	ROX 52542-T2	MAC SA53 Rubidium Atomic Clock
1	- 94	- 115	- 65
10	- 125	- 140	- 85
100	- 145	- 155	- 112
1000	- 152	- 160	- 130
10000	- 154	- 162	- 140

*Specifications and features are subject to change without notice



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TV TRANSMITTER

OUTPUT SPECIFICATIONS (10 MHz)			
Impedance	50 Ohm		
Power Level	-2dBm to 13 dBm p.p.		
Return loss	Better than 30 dB		
Harmonics	Below 60 dBc		
Spurious	- 85 dBc		
Frequency (free run 1 day) [Hz]	ISOTEMP ±0,5x10-10	ROX ±5x10-11	MAC ±2,5x10-11
Frequency (free run 1 year) [Hz]	ISOTEMP ±1x10-7	ROX ±8x10-9	MAC ±1,5x10-9
Stability (T= 1 sec)	±5x10-12		
Stability	ISOTEMP 1,5 µs \ 6 Hours 22 µs \ 24 Hours 1 ms \ 7 days	ROX 0,25 µs \ 6 Hours 2,3 µs \ 24 Hours 50 µs \ 7 days	MAC 0,19 µs \ 6 Hours 1,27 µs \ 24 Hours 35 µs \ 7 days
OUTPUT SPECIFICATIONS (1 PPS)			
Impedance	50 Ohm		
Output type	TTL 1.5 to 5V		
Impulse Width	100us +-10 us		
Return loss	Better than 30 dB		
ELECTRICAL			
AC Input Power	90-264 VAC 50/60 HZ single phase		
AC Apparent Power Consumption	55VA max		
Cos 0	> 0.98		
Cooling	Convection/Fans		
ENVIRONMENTAL			
Operating temperature	-5°C to +50°C		
Max Operating Altitude	4000 m a.s.l.		
Relative Humidity Range	0 to 90%		
PHYSICAL DIMENSION			
Mounting	Standard 19" 1RU		
Size	W x 600 mm. D x 450 mm. H x 44 mm		
Weight	~ 5Kg		

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