

FEATURES

- Dual hot-swappable redundant time & frequency modules:
- GPS disciplined ovenized Quartz oscillators
- GPS receivers
- Power supplies
- Standard 1U high 19" rack mount unit
- Windows 95/NT™-based diagnostic software

AccuSync-R™

Model 377
 Redundant GSM Time & Frequency System

The **AccuSync-R** is a redundant GPS time & frequency system packaged into a 1U high rack mount chassis. The unit is optimized for synchronizing multiple sites to UTC time of day. It provides frequency outputs such as 5,10 or 13 MHz (order option) that are phase coherent to the 1PPS output.

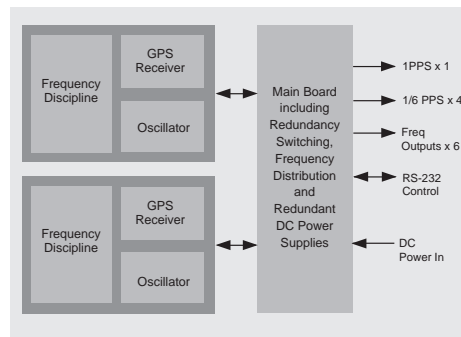
What makes this AccuSync-R unique is that it contains two time and frequency modules that contain the GPS receivers, oscillators, as well as a CPU. Each module is hot swappable and includes front panel status LED's for power, GPS lock, holdover and fault status. The oscillator on each module is a single oven OCXO which is disciplined by a FEI-Zyfer proprietary algorithm that has been developed over the last 6 years using our experience in synchronizing

CDMA base stations.

The AccuSync-R offers built-in distribution of six frequency outputs as well as four 1/6 PPS outputs and one 1 PPS output. The unit can be configured or remotely managed using a rear mounted RS-232 port. Windows diagnostics software is included for your convenience in learning the performance characteristics of the AccuSync-R.

Operation of the AccuSync-R is completely automatic and self-calibrating. No user programming is required for the system to become operational.

Controlling and performance monitoring are provided via an RS-232 interface.



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SPECIFICATIONS

ACCUSYNC-R™

Physical

Height	1.75" (44 mm)
Width	16.5" (420 mm) Mounts in 19" EIA rack with supplied mounting hardware
Depth	14.0" (355 mm)
Weight	9 lb. (4.1 kg)

Environmental

Temperature	
Operating	0° C to +55° C
Rate of Change	15° C/Hour
Storage	-40° C to +85° C
Humidity	5% to 95%, non-condensing
Operating Altitude	-60 m to 4000 m
Storage Altitude	-60 m to 9000 m

Input Power

Voltage/Power	+19 to 30 VDC 12 W Steady State
Input Isolation	500 volts
Connector	2 pin Molex Mini-Fit Jr. (supplied)

GPS Receiver

Type	8 Channel L1
Connector	TNC female

Frequency Output

Quantity	5, 10 or 13 MHz available
Connector	SMA
Accuracy*	
Time Locked	5E-11(one day average)
Coasting	1E-10 per day
Short Term Stability (Allan Deviation)	3E-11 (1 sec) 1E-11 (10 sec) 1E-10 (100 sec)
Wave Shape	Sinusoid
Amplitude	13 +1, -4 dBm into 50 Ω
Harmonics	-50 dBc
Spurious level	-60 dBc
Phase Noise (dBc/Hz)	
1 Hz	-80
10 Hz	-90
100 Hz	-110
1 kHz	-130
10 kHz to 100 kHz	-140

1 PPS Output

Quantity	1
Connector	SMA
Wave Shape	Pulse
Width	2 ms
Level	TTL into 50 Ω
Synchronization	Rising edge on-time
Accuracy*	
Time Locked	100 ns referenced to UTC
Coasting	7 μs per 24 hours
Output Jitter	1 ns

1/6 PPS Output

Quantity	4
Connector	SMA
Rate	1 pulse every 6 seconds
Wave Shape	Pulse
Level	TTL into 50 Ω
Width	2 ms
Synchronization	Rising edge on-time
Accuracy*	
Time Locked	100 ns referenced to UTC
Coasting	7 μs per day
Output Jitter	1 ns

Control Port

Signal Levels	RS-232C
Baud Rate	Factory default: 9600
Protocol	1 Start Bit, 8 Data Bits, 1 Stop Bit, No Parity

*At 95% probability. After three days of locked operation with a fixed antenna location, correct position and antenna cable delay entered, and at an ambient temperature change less than ± 10° C.

ACCUSYNC-R

ORDER OPTIONS

- 5 Mhz Frequency Output
- 10 Mhz Frequency Output
- 13 Mhz Frequency Output

SUPPLIED ACCESSORIES

- Rack-Mount Adapter

OPTIONAL ACCESSORIES

- L1 Antenna Kits (2 required)
- Antenna Cables
- Fiber Optic Antenna Link
- External AC Power Supply

