



FEI-Zyfer

GPS Time and Frequency Systems



Designed, Manufactured,
and Supported in the USA

CommSync II[®]



CommSync II Model 385

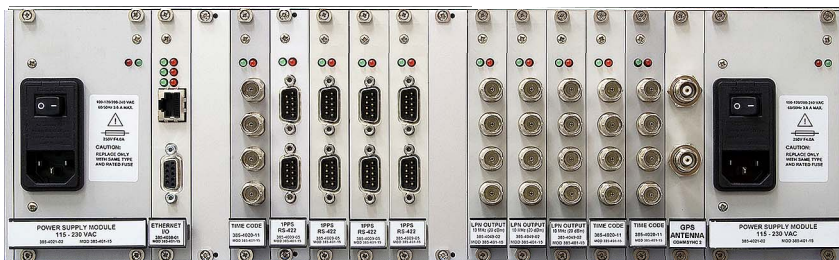
CommSync II[®] is a fully-redundant modular time and frequency system, combining dual GPS receivers, oscillators, and up to 13 output option modules in a single 3U chassis. The heart of the CommSync II is the GPS Time and Frequency (GTF) Module. It is self-contained, with Quartz Crystal (OCXO) or Rubidium Atomic oscillator options, as well as Civil or Military GPS receiver options. The GTF is a hot-swappable, front panel plug-in module (two slots available for redundancy).

Utilized as a Primary Reference Source (PRS), the CommSync II provides either Standard Positioning Service (SPS) or the very latest in GPS military technology - SAASM Precision Positioning Service (PPS) receivers (for authorized users only).

System Features:

- ▶ **Full Redundancy:**
Dual GPS Reference
Dual Power Inputs
- ▶ **13 I/O Module Slots:**
200+ Hot-Swappable
Option Modules
- ▶ **Dual GPS Receivers:**
Civil C/A and/or
Military SAASM
- ▶ **User Interface:**
Standard RS-232
Optional Ethernet I/O
(Telnet, SNMP, NTP)
Keypad, LCD display
- ▶ **Windows GUI:**
Zyfer Monitor™
- ▶ **Standard Outputs:**
1PPS, 10MHz
- ▶ **Reliability:**
Automatic switchover

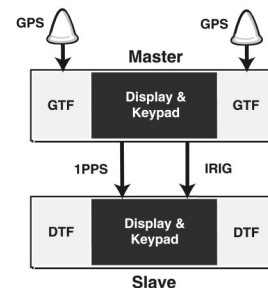
Rear Panel View



Power Supply
AC or DC

13 Input/Output
Hot-Swappable Option Module Slots

Power Supply
AC or DC



Optional Expansion Configuration

CommSync II® Specifications

Output Specifications (a)

Frequency Accuracy:

24 Hour Average	Rubidium Osc.	Quartz Osc.
Locked to GPS	< 1E-12	< 1E-12
Holdover (b)	< 5E-11	< 1E-10

Time Accuracy: to UTC, for calibrated units.

	Rubidium Osc.	Quartz Osc.
Locked to GPS	< 50ns Peak	< 50ns Peak
Holdover (b)	< 3µs	< 7µs

Short-Term Stability (d) typical:

Allan Deviation	Rubidium Osc.	Quartz Osc.
1 sec	< 3E-11	< 1E-11
10 sec	< 1E-11	< 1E-11
100 sec	< 3E-12	< 1E-10

Phase Noise (d) typical:

	Standard	Low Noise 5MHz
1Hz	< -90 dBc/Hz	< -100 dBc/Hz
10Hz	< -105 dBc/Hz	< -130 dBc/Hz
100Hz	< -125 dBc/Hz	< -150 dBc/Hz
1kHz	< -135 dBc/Hz	< -158 dBc/Hz

Power Options

Several Power Input options are available, including 115/230 VAC (nominal) 50/60Hz or 12, 24, and 48 VDC.

Input/Output GTF Front Panel (All Models)

1PPS, 50Ω, TTL level, SMA, Ext. Sync Input
RS-232 I/O connector
10MHz, 50Ω, TTL level, SMA connector
1PPS, 50Ω, TTL level, SMA connector

Notes:

- After 2 hours of GPS locked operation, fixed antenna location, antenna delays entered.
- After 48 hours of continuous operation.
- 2σ (95.5% probability).
- Detailed specifications for various output modules: See "Option Module User's Manual 385-8003".
- The sale of SAASM receivers is restricted to users authorized by the U.S. Department of Defense.
- Dependent on the accuracy of initialization parameters from PLGR or DAGR handheld military GPS receivers, or other initialization devices.

GPS Receiver Options

Standard GPS Receiver - Civil C/A Code

Type:	8 - 12 channel, independent tracking
Frequency:	1575.42MHz (L1)
Code:	C/A only
Acquisition Time:	Warm Start: < 2 minutes Cold Start: < 20 minutes

SAASM GPS Receiver (e) - Military P(Y) Code

Type:	12 channel, independent tracking
Frequency:	1575.42MHz & 1227.60MHz (L1 & L2)
Code:	C/A and P(Y)
Acquisition Time: (c)	Warm Start: < 2 minutes Hot/Cold Start: see note (f)
Keyload Interface:	DS-102 (Red/Black key)

Chassis Dimensions

Height:	134 mm (5.25") (3U)
Width:	448 mm (17.65) (19" EIA Rack)
Depth:	381 mm (15.0") including connectors
Weight:	25 lbs. (max.)

Environmental

Operating Temperature:	0°C to 50°C
Rate of Change:	10°C / Hour
Storage Temperature:	-40°C to +85°C
Relative Humidity:	5% to 95%, non-condensing
Altitude, Operating:	-60m to 4000m
Altitude, Storage:	-60m to 9000m

Input/Output GTF Front Panel (SAASM only)

Keyload Interface - DS-102 (Red/Black key)
Hot Start connector
Zeroize Button



FEI-Zyfer, Inc. is an ISO 9001 certified company.

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