Designed, Manufactured, and Supported in the USA

System Features:

▶ **Full Redundancy:**
Dual GPS Reference
Dual Power Inputs

▶ **8 I/O Module Slots:**
200+ Hot-Swappable
Option Modules

▶ **Dual GPS Receivers:**
Civil C/A-Code(L1)
and/or SAASM GB-GRAM Military C/A-P
(Y)-Codes (L1,L2)

▶ **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

CommSync II-D®

CommSync II-D Model 407

The CommSync II®-D can provide a wide variety of time and frequency output signals with 8 I/O Module slots and 200+ available Option Modules. Utilized as a Primary Reference Source (PRS), the CommSync II-D provides either Standard Positioning Service (SPS) or the very latest in GPS military technology; SAASM Precision Positioning Service (PPS) (for authorized users only).

The CommSync II-D delivers all the performance and functionality of the CommSync II in a 2U chassis. The heart of the CommSync II-D is the GPS Time and Frequency (GTF) Module. The GTF is a hot-swappable, front panel plug-in module (two slots available for redundancy). It is a self-contained module with Quartz Crystal (OCXO) or Rubidium Atomic oscillator options, as well as Civil or Military GPS receiver options. Dual Power Supplies and Reference Modules provide redundancy with uninterrupted automatic switchover.

Additional I/O slots can be utilized by configuring a slaved CommSync II-D with Distribution Time and Frequency (DTF) Modules.

Rear Panel View

8 Input/Output
Hot-Swappable Option Module Slots

Power Supply
AC or DC
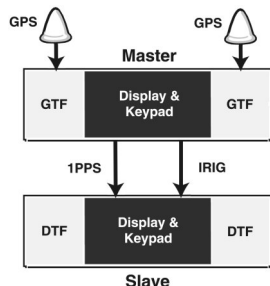
Optional Expansion Configuration

CommSync II®-D 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	< -105 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, which include single or dual Power Supply Modules (for redundancy), 115/230 VAC 50/60 Hz, 24 VDC, 48 VDC, or a combination of AC *and* DC Power Input modules.

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

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:	Warm Start: < 2 minutes Hot/Cold Start: see note (f)
Keyload Interface:	DS-102 (Red/Black-key capable)

Chassis Dimensions

Height:	87 mm (3.50") (2U)
Width:	438 mm (17.25") (19" EIA Rack)
Depth:	419 mm (16.0") including connectors
Weight:	27 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

Notes:

(a) After 24 hours of GPS locked operation, fixed antenna location, antenna delays entered.

(b) After 48 hours of continuous operation.

(c) 2σ (95.5% probability).

(d) Detailed specifications for various output modules: See "Option Module User's Manual 385-8003".

(e) The sale of SAASM receivers is restricted to users authorized by the U.S. Department of Defense.

(f) Dependent on the accuracy of initialization parameters from PLGR or DAGR handheld military GPS receivers, or other initialization devices.

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