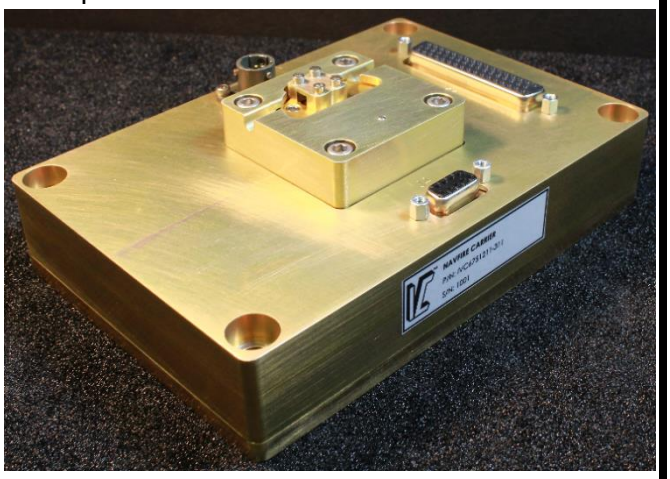
NavFire Carrier (NFC)

Robust mechanical enclosure, MIL-STD power, and signal conversion for NavFire™ GPS Receiver (GPSR)

INVOCON, INC. **0523**

Invocon's NavFire Carrier (NFC) hosts a BAE Systems NavFire™ GPSR enhancing its interface with nominal +28 Vdc MIL-STD power and RS422 signal conversion. NavFire™ signals are made available on the NFC's connectors configurable to suit several use cases such as direct connection to a Flight Computer or connection to both an SDN500 INS and Flight Computer.



Key NFC Features:

- The NFC provides the necessary mechanical mounting to carry/hold the GPSR while exposing its intefaces.
  - The bottom of the NFC has two recessed keys which are synched with the keying of the GPSR that are used for aligning to its mounting surface.
- Power is supplied from an external +28 Vdc nominal power source which is internally EMI filtered and converted to +5 Vdc for the hosted GPSR's use.
- The GPSR's auxiliary power (backup battery) interface is optionally available for use to maintain the NavFire™'s volatile RAM settings when the primary power is off.
- Depending on the configuration, the GPSR 3.3V CMOS signals are converted to RS422.
- The NFC replicates the 1PPS signal from the GPSR to five RS422 outputs as well as to one 3.3V CMOS output.
- Encryption keys can be loaded through the key loading interface provided via a DB9 connector port.
- The hosted GPSR unit can also interface to an externally connected Emcore (Systron-Donner) SDN500-xx76 in a tightly couple fashion which combines the GPSR information with its internal SDI500 IMU creating a blended INS solution.

Key Interface Specifications	
Input Voltage	9 – 60 Vdc
Input Current	Typical 140 mA continous at 28 Vdc
Connectors	PT02E-8-4P circular for power | DB-9 for key-loading | DB-50 for I/O
Size	6.25 x 4.25 x 1.961 inches (including GPS RF connector holdown bracket)
Weight	Nominal 2.3 lbs
Case Material	7075 aluminum Alodine coated
Operating Temperature	-24° to +61°C (Acceptance Levels)
GPS RF	The NFC directly exposes the NavFire™'s L1/L2 RF connectors providing a holdown bracket.
SDN500 Interface	Enable/Disable of the NavFire™'s SDN500-xx76 GPS/INS interface.
Battery Input	[Optional] NavFire™'s battery backup input (+3.45 ~ +5.0 Vdc with 50mVpp max ripple)
Time-Sync MST_CLK	[Optional] NavFire™'s 10.949297 MHz time synchronization signal output at 3.3V CMOS
Time-Sync T20	[Optional] NavFire™'s 50 Hz clock pulse output at 3.3V CMOS.
Spin Pulse	[Optional] NavFire™'s Spin Pulse feature (i.e., Advanced Spinning Vehicle Navigation) configurable as RS422 or GPSR's native CMOS.

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