

VME GPS CCA

General Description

The Convection Cooled VME GPS CCA functions as a VME host adapter carrier for both the Rockwell Collins GEM V and GEM VI, and the Trimble Force 524D military-qualified 24-satellite channel GPS SAASM receivers. The VME GPS CCA provides transparent access for VME single-board computers to the real-time GPS messages stored in the receiver's dual-port RAM. The VME GPS board is a drop-in replacement for Engility's previous version, the VME GEM.



The VME GPS CCA performs A24/A32, D16 slave transactions over the VME backplane, also generating VME interrupts for dual-port RAM message availability, time mark, and 1 pulse per second notification from the GPS receiver. In addition, the GPS SAASM receivers' serial communication interface is available in either RS422 or RS232 through the board's VME P2 connector.

The VME GPS CCA's PowerPC 405 processor and two 802.3-compliant Ethernet ports provide a full-featured navigation solution in a single VME card slot. The entire dual-port RAM GPS message set is transparently accessible over either Ethernet port, using either TCP/IP or UDP protocol.

User software applications for the PowerPC 405 are uploaded over the Ethernet and stored in on-board flash memory. The VME GPS CCA has a total of 16 MB of flash memory and 32 MB of SDRAM.

The VME GPS CCA comes with a full 1-year warranty.

Environmental Specifications	Range	Standard
Operating Temperature Range	(-)40 to (+)85 degrees C	MIL-STD-810
Storage Temperature Range	(-)55 to (+)95 degrees C	MIL-STD-810
Relative Humidity Range	5% to 95%, non-condensing	MIL-STD-810
Operational Shock	35 g, half-sine, 3 msec	MIL-STD-810
Operational Vibration	2 Hz to 2 kHz	MIL-STD-810

Physical Specifications	
Dimensions	Form factor: VME 6U (160 mm x 233 mm)
Weight	12 oz. w/o receiver
Connectors	<ul style="list-style-type: none"> Two 96 position VME bus connectors One SMA coax connector for the GPS Satellite RF Input Signal One RJ45 for Ethernet One RJ45 for Crypto-Key

Typical Power (without GPS Receiver)	Less than 6 watts
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VME Host Adapter for Military-Qualified 12/24-Satellite Channel GPS Receiver with Selective Availability Anti-Spoofing Module (SAASM)

Ordering Information	Available Part No.		
VME GPS CCA	510000-	W	1 Z

Z	Front Panel Options
0	No Front Panel
1	Standard VME 1987
2	Standard VME 1987 Isolated
3	Standard VME 64 ERGO
4	Standard VME 64 ERGO Isolated

W	GPS Receiver Options
1	No Receiver
2	Trimble Force 5GS
3	Trimble Force 524D
5	Rockwell Collins GEM V
6	Rockwell Collins GEM VI

Other Engility GPS Products and Accessories

VME GPS Breakout Board (VGBB):

The VGBB provides front-panel accessibility to all VME P2 interfaces of the Conduction Cooled VME GPS CCA (RS232/RS422 GPS data channels). Long-life lithium batteries can be installed into Engility's VGBB to provide auxiliary power to the GPS receiver to maintain crypto variables within the receiver while main power is off.

Serial Test Interface Program (STIP):

The STIP is a Windows-based program for use with the Engility VME GPS CCA. STIP offers the ability to monitor GPS data and to test the Engility VME GPS CCA with either the Trimble or the Rockwell Collins GPS SAASM. The STIP program provides control and monitoring of the GPS receiver by way of serial communication between the VME GPS CCA and a Windows PC.

Ethernet Test Interface Program

(ETIP): ETIP is a Windows-based program for use with Engility's VME GPS CCA. ETIP offers the ability to monitor GPS data and to test the Engility VME GPS CCA with either the Trimble or the Rockwell Collins GPS SAASM. The ETIP program provides control and monitoring of the GPS receiver by way of 100 Mbyte/second IEEE 802.3 Ethernet communications between the VME GPS CCA and a Windows PC. The message protocol

used between ETIP and the VMS GPS is message-based in accordance with Engility's GPS-Ethernet Interface Control Documents (ICDs).

VME GB-GRAM CCA: The VME GB-GRAM CCA functions as a VME host adapter carrier for both the industry standard military-qualified 12-satellite channel GB-GRAM SAASM receivers. The VME GB-GRAM CCA allows full access to all GB-GRAM GPS message data via dual-port RAM over the VME backplane. In addition, the VME GB-GRAM CCA provides transparent access for VME single-board computers to the real-time GPS messages over its native RS232 and RS422 communication channels through the board's VME P2 connector.

The VME GB-GRAM CCA's PowerPC 405 processor and two 802.3-compliant Ethernet ports provide a full-featured navigation solution in a single VME card slot. The entire dual-port RAM GPS message set is transparently accessible over either Ethernet port, using either TCP/IP or UDP protocol.

Conduction Cooled VME GPS CCA:

This circuit card is a Conduction Cooled version of the VME GPS CCA with identical performance.

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For more than 20 years, Engility has worked extensively with the Department of Defense Global Positioning Systems Directorate at the Los Angeles Air Force Base to provide innovative GPS products and solutions that satisfy security standards, policies, and procedures.