

GPS Receiver: Time Distribution Unit

Introduction:

The **VCL-2486-G, 16 x 1 PPS + NMEA, GPS Receiver, Time Distribution Unit** is designed to provide up to 16 outputs of Pulse and / or NMEA-0183 and / or IRIG-B (mix and match) that is locked to a GPS / GNSS Reference to provide time synchronization to private networks such as Railways and Metro (ticketing and platforms) networks, Airports and Air-Traffic Control facilities, Electric Sub-Stations, Power Distribution and Transmission companies, Oil and Gas Utilities, ISPs and Cable TV networks as well as to Campus networks.

The VCL-2486-G is a compact and cost-effective solution to provide up to 16 outputs of 1PPS or NMEA-0183 or IRIG-B.



Features and Highlights:

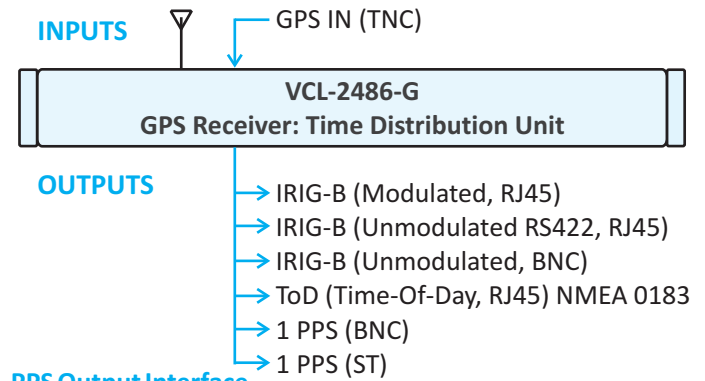
- Multi service platform - User selectable output modules
- Up to 6 User selectable output modules (Add any 4 output cards, in any combination Please specify in order)
 - Up to 16 x IRIG-B Un-Modulated outputs (RS422, RJ45)
 - Up to 16 x IRIG-B Un-Modulated outputs (BNC)
 - Up to 8 x IRIG-B Modulated outputs (RJ45)
 - Up to 8 x NMEA-0183 outputs (RJ45)
 - Up to 16 x 1 PPS outputs (BNC)
 - Up to 4 x 1 PPS outputs (ST)
- <100ns Accuracy when locked with GNSS (GPS/GLONASS)
- Leap Second Correction Support
- DC or AC Power Supply options

Technical Specification

Core unit / Chassis

Core Unit	Number of Interfaces	Connector
GPS or GNSS (GPS + GLONASS)	1	TNC
Input Power Supply DC (24V / 48V / 110 to 220)	1	2 PIN DC Power Connector
AC (100V AC to 240V AC, 50/60 Hz)	1	3 Pin AC Power Connector IEC60320
Output interface cards	Up to 4	–

Block Diagram



PPS Output Interface

PPS Output interface	Number of Outputs	Connector
1PPS, phase-locked to GPS / GNSS	4 outputs per card	BNC
Maximum cards	Up to 4 cards per chassis	BNC
Maximum outputs	16 outputs per chassis	BNC

PPS + NMEA output interface

PPS + NMEA Outputs	Number of interface	Connector
PPS, phase-locked to GPS / GNSS	2 outputs per card	BNC
NMEA-0183	2 outputs per Card	RJ45
Maximum cards	Up to 4 outputs cards per Chassis	8 x BNC 8 x RJ45
Maximum outputs	8 x PPS outputs & 8 x NMEA Outputs	8 x BNC 8 x RJ45

IRIG-B (Modulated) output interfaces

IRIG-B (Modulated) Output interface	Number of Outputs	Connector
IRIG-B (Modulated) Outputs	2 outputs per card	RJ45
Maximum cards	Up to 4 cards per chassis	8 x RJ45
Maximum outputs	Up to 8 outputs per Chassis	8 x RJ45

Technical Specification

IRIG-B (Un-modulated) output interfaces

IRIG-B (Un-modulated) Output interface	Number of Outputs	Connector
IRIG-B (Un-modulated) Outputs	4 outputs per Card	BNC
Maximum cards	Up to 4 cards per chassis	16 x BNC
Maximum outputs	Up to 16 outputs per chassis	16 x BNC

IRIG-B (Un-modulated RS422) output interfaces

IRIG-B (Un-modulated) Output interface	Number of interface	Connector
IRIG-B (Un-modulated) Outputs RS422 Protocol	4 outputs per card	RJ45
Maximum cards	Up to 4 cards per chassis	16 x RJ45
Maximum outputs	Up to 16 outputs per Chassis	16 x RJ45

Optical Pulse card

Optical Pulse Output interface	Number of Outputs	Connector
Optical Output	1 outputs per Card	ST
Maximum cards	Up to 4 cards per chassis	4 x ST
Maximum outputs	Up to 4 outputs per Chassis	4 x ST

GPS/GNSS Receiver Specifications:

- 50 Channel GPS Receiver/ 72 Channel GNSS Receiver
- GPS L1 frequency, C/A Code Receiver
- Tracks up to 12 / 24 satellites in GPS / GNSS mode
- Synchronizing Time: Hot Start (1 sec.), Warm Start (28 sec.) and Cold Start (28 sec.)
- GPS Signal: Tracking and Navigation: -162 dBm
- Accuracy of Time-Pulse Signal referenced to GPS: +/-30ns
- Accuracy of Time-Pulse Signal referenced to GNSS: +/-20ns
- Accuracy of Time-Pulse Signal referenced to GPS/GNSS: +/-15ns (compensated)

Antenna Specifications:

- Antenna Type: Active
Frequency Band: 1575.42 MHz 10 Mhz
- Amplifier Gain: 40dB
- VSWR: <2.0 Max, 1.0 Typical
- Operating temperature: -20C to +65C
- Reverse Polarity Protection

Synchronization Inputs:

- 1 x GPS (TNC)

Power Consumption:

- < 10W at ambient (steady state 24°C)

Management and Monitoring

- USB serial port
- English Text CLI commands

Power Supply Options:

- AC (100V AC to 240V AC, 50/60 Hz)
- DC (24 VDC, 48 VDC, 110 VDC to 220 VDC)

Environmental (Equipment):

Operational	-10°C to +60°C (Typical: +25°C)
Cold start	0°C
Storage	-20°C to +70°C
Humidity	95% non-condensing
Cooling	Convention Cooled. No cooling fans are required.

Mechanical Specifications:

H x W x D	90 x 480 x 250 (mm)
Weight	3.0 Kg
Rack Mounts	19" rack mounting options

Ordering Information (Base Unit):

Part No.:	Description
VCL-2486-G	VCL-2486-G 16 x IRIG-B GPS Receiver 19-Inch, Rackmountable [supports upto 4 Cards] Supports : - Management: SNMP/Telnet Port (RJ45 (F)), Serial Port (USB, DB-9 COM), Serial Port, EMS, Graphical User Interface (GUI) - Installation Kit: System Core Cables, Mounting Hardware, Documentation, User Manual

Add Interface:

2485-MOD	2 x Modulated IRIG-B interface (RJ45)
-IRIGB	Card (4 Cards (Max) per Chassis)
2485-1PPS	2 x 1PPS (2xBNC) + 2 x NMEA (RJ45) interface
-NMEA	Card (4 Cards (Max) per Chassis)
2488-UNMOD	4 x Un-modulated IRIG-B interface
-IRIGB	(BNC) Card (4 Cards (Max) per Chassis)
XXXX-IRIGB	4 x IRIG-B (RS422) Interface (RJ45)
-RS422	Card (4 Cards (Max) per Chassis)
YYYY-1PPS	4 x 1PPS Interface (BNC) Card (4 Cards (Max) per Chassis)
OPTL-PPS	1xPPS Optical (ST)

Add Power Supply:

AC220	1 x 110-240V AC Power Supply Input
DC048	1 x 48V DC Power Supply Input

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