

VCL-2786

NTP TO 16* IRIG-B CONVERTER



Introduction

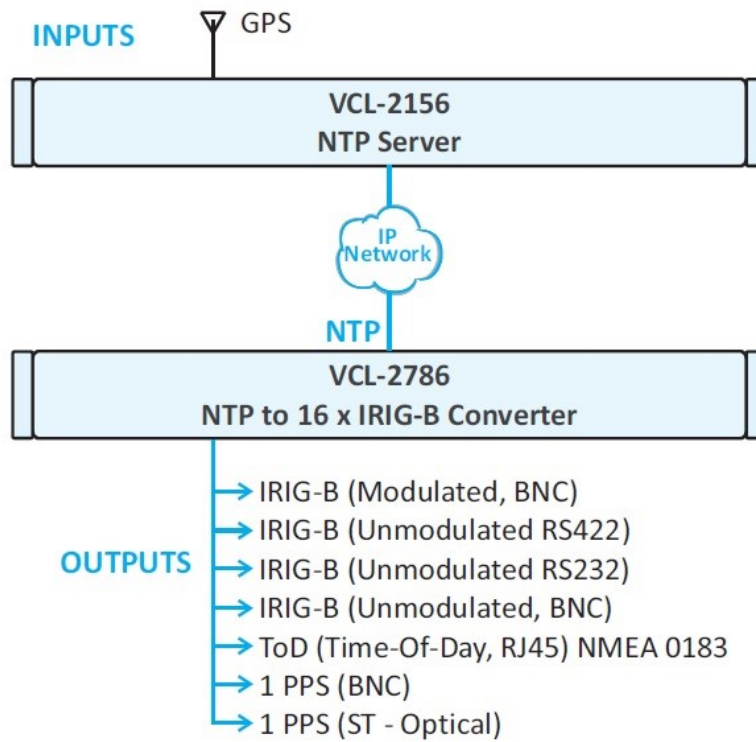
The VCL-2786, NTP to 16 x IRIG-B Converter (NTP Client), Time Distribution Unit is designed to provide up to 16 IRIG-B outputs and / or 16 IRIG-B and / or 1PPS (Pulse per second) and / or NMEA-0183 (mix and match) that is synchronized from a NTP Server to provide time synchronization to private networks such as Electric Sub- Stations, Railways and Metro (ticketing and platforms) networks, Airports and Air-Traffic Control facilities, Power Distribution and Transmission companies, Oil and Gas Utilities, ISPs and Cable TV networks as well as to Campus networks.

The VCL-2786 operates as NTP Receiver / NTP Client with multiple interface option. Our solution simultaneously supports IRIG-B (Modulated/Unmodulated), NMEA 0183, 1PPS (Pulse par Second), and optical 1PPS port.

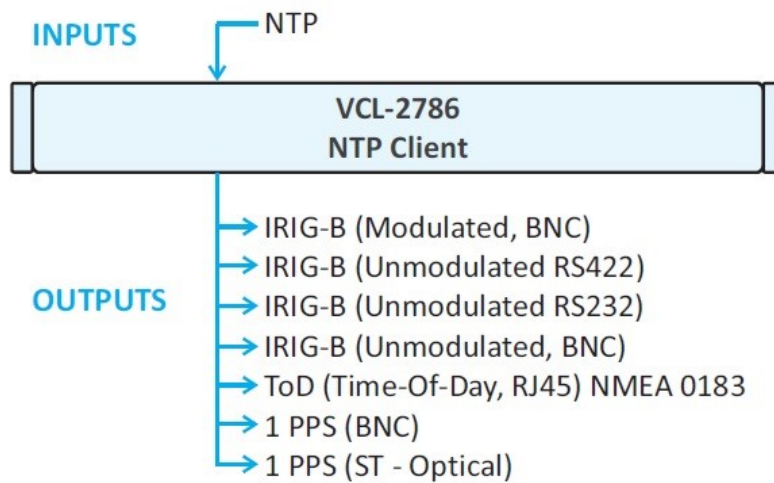
Features of IEEE 1588v2 PTP Switch & clock Synchronization

- 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)
 - ⇒ Up to 16 x IRIG-B Un-Modulated outputs (RS232)
 - ⇒ Up to 16 x IRIG-B Un-Modulated outputs (BNC)
 - ⇒ Up to 16 x IRIG-B Modulated outputs (BNC)
 - ⇒ Up to 8 x NMEA-0183 outputs (RJ45)
 - ⇒ Up to 16 x 1 PPS outputs (BNC)
 - ⇒ Up to 4 x 1 PPS outputs (ST)
- High accuracy clock
- 1 PPS accuracy to NTP Input: $\pm 20\mu\text{s}$ (microseconds)
- Leap Second Correction Support
- DC or AC Power Supply options.
- Un-Modulated IRIG-B Format: B000, B002, B003, B004
- Modulated IRIG-B Format: B120, B122, B123, B124.

Application Diagram



Block Diagram



Technical Specifications

Core unit / Chassis		
Core Unit	Nber of Interfaces	Connector
NTP Client (NTP Slave)	1	RJ45
Input Power Supply DC (24V/48V/110 to 220V)	1	2 PIN DC Power Connector
AC (100VAC to 240 V AC, 50/60Hz)	1	3 Pin AC Power Connector IEC60320
Output interface cards	Up to 4	-

PPS Output Interface		
PPS Output interface	Number of Outputs	Connector
1PPS	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 (2485-I)		
PPS + NMEA Outputs	Number of interface	Connector
PPS	4 outputs per card	BNC
Modulated IRIG-B	4 outputs per card	BNC
Maximum cards	Up to 4 outputs cards per chassis	8*BNC 8*RJ45
Maximum outputs	8*PPS outputs & 8*Modulated IRIG-B	8*BNC 8*BNC

PPS + NMEA output interface (2485-N)		
PPS + NMEA Outputs	Number of interface	Connector
PPS	4 outputs per card	BNC
NMEA-0183 Maximum cards	2 outputs par card Up to 4 outputs cards per chassis	RJ45 8*BNC 8*RJ45
Maximum outputs	8*PPS outputs & 8*NMEA outputs	8*BNC 8*RJ45

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*BNC
Maximum outputs	Up to 16 outputs per chassis	16*BNC

IRIG-B (Un-modulated RS422/RS485/RS232) output interfaces		
IRIG-B (Un-modulated) Output interface	Number of Outputs	Connector
IRIG-B (Un-modulated) Outputs	4 outputs per card	Terminal
Maximum cards	Up to 4 cards per chassis	
Maximum outputs	Up to 16 outputs per chassis	

IRIG-B (Modulated) output interfaces		
IRIG-B (Modulated) Output interface	Number of Outputs	Connector
IRIG-B (Modulated) Outputs	4 outputs per card	BNC
Maximum cards	Up to 4 cards per chassis	
Maximum outputs	Up to 16 outputs per chassis	

Optical Pulse card		
Optical Pulse Output interface	Number of Outputs	Connector
Optical Outputs	1 output per card	ST 850nm, Multi-mode
Maximum cards	Up to 4 cards per chassis	4*ST, 850nm, Multi-mode
Maximum outputs	Up to 4 outputs per chassis	4*ST, 850nm, Multi-mode

Technical Specifications

Synchronization Inputs
<ul style="list-style-type: none"> NTP
Power Consumption
<ul style="list-style-type: none"> <10W at ambient (steady state 24°C)
Management and Monitoring
<ul style="list-style-type: none"> USB serial port English Text CLI commands
Power Supply Options
<ul style="list-style-type: none"> AC (100V to 240 V AC, 50/60Hz) DC (24 VDC, 48 VDC, 110V to 220V DC)

Environmental (Equipment)	
Operational	-10°C to +60°C (Typical : +25°C)
Cold Start	0°C
Storage	-40°C to +85°C
Humidity	95% non-condensing
Cooling	Convention Cooled. No cooling fans are required

Mechanical Specifications	
H*W*D	44*485*276 (mm)
Weight	2.2Kg
Rack Mount	19" rack mounting options

Ordering information

Reference	Description
VCL-2786	VCL-2786, NTP to IRIG-B Converter 19-Inch, Rack mountable (supports up to 4 Cards) Supports: Input: 1*NTP Port (10/100Base-T, RJ45-F) Add Output Interface, Add Power Supply USB Serial, Graphical User Interface (GUI) Installation Kit: System Core Cables, Mounting Hrdware, User Manuals

Add Output Interface	
2444-485	4 x Unmodulated IRIG-B Ports [RS485 / RS422] (8X2 M Terminal Block) (4 Cards (Max) per Chassis)
2447-232	4 x Unmodulated IRIG-B Ports [RS232] (8X2 M Terminal Block) (4 Cards (Max) per Chassis)
2480	4 x Modulated IRIG-B Ports (BNC F Connector) (4 Cards (Max) per Chassis)
2482-P	4 x 1PPS (TTL) Ports (BNC F connector) (4 Cards (Max) per Chassis)
2485-I	2 x Modulated IRIG-B Ports (RJ45 F Connector) and 2 x 1PPS (BNC F Connector) Ports (4 Cards (Max) per Chassis)
2485-N	2 x NMEA Ports (RJ45 F Connector) 2 x 1PPS Ports (BNC F Connector)
2488	4 x Unmodulated IRIG-B Ports (BNC F Connector) (4 Cards (Max) per Chassis)
2727-I	1 x IRIG-B Port (Optical, Transmitter 820nm, ST, Tx) (4 Cards (Max) per Chassis)
2727-P	1 x 1PPS Port (Optical, Transmitter, 820nm, ST, Tx) (4 Cards (Max) per Chassis)

Add Power Supply	
AC220	1*110~240V AC, 50/60Hz, Power Supply Input
DC048	1*48V DC Power Supply Input
DC220	1*110~220V DC Power Supply Input



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