

Introduction:

The **VCL-2156-Ext, NTP Extension (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-2156-Ext operates as NTP Receiver / NTP Client with multiple interface option. Our solution simultaneously supports IRIG-B (Modulated / Unmodulated), NMEA 0183, 1PPS (Pulse per Second), and optical 1PPS port.



Features and Highlights:

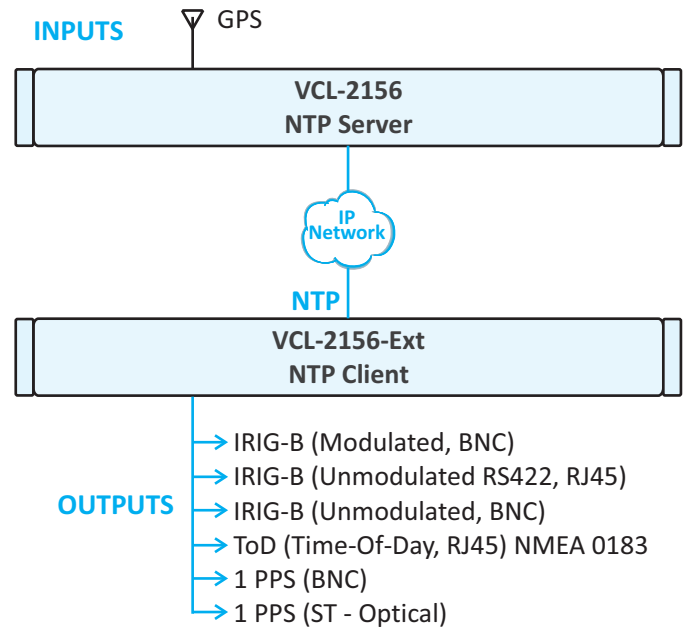
- Multi service platform - User selectable output modules
- Up to 6 User selectable output modules (Add any 4 output cards, in any combination, Please specify in order)
 - Up to 16 x IRIG-B Un-Modulated outputs (RS422, RS232)
 - Up to 16 x IRIG-B Un-Modulated outputs (BNC)
 - Up to 16 x IRIG-B Modulated 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, 850nm, MM)
- High accuracy clock
- Leap Second Correction Support
- DC or AC Power Supply options.

Technical Specification

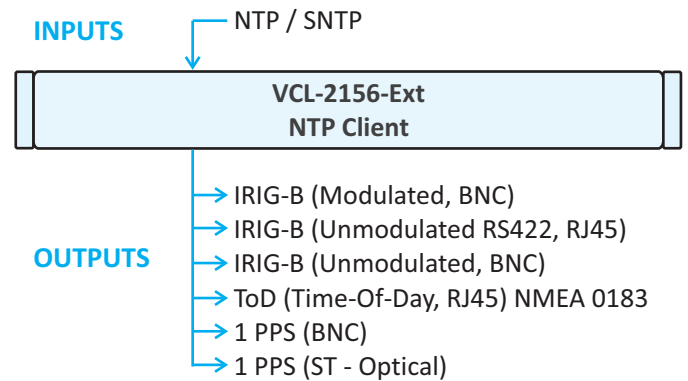
Core unit / Chassis

Core Unit	Number of Interfaces	Connector
NTP Extension	1	RJ45
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	–

Application Diagram



Block Diagram



PPS + NMEA output interface

PPS + NMEA Outputs	Number of interface	Connector
PPS	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 Format

IRIG-B	Format
Un-Modulated	B004
Modulated	B124

Technical Specification**PPS Output Interface**

PPS Output interface	Number of Outputs	Connector
1PPS	4 outputs Per card	BNC
Maximum cards	Up to 4 cards per chassis	
Maximum outputs	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	

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, 850nm, Multi-Mode
Maximum cards	Up to 4 cards per chassis	4xST, 850nm, Multi-Mode
Maximum outputs	Up to 4 outputs per Chassis	4xST, 850nm Multi-Mode

Synchronization Inputs:

- NTP/SNTP

U.K.
Valiant Communications (UK) Ltd
Central House Rear Office
124 High Street, Hampton Hill
Middlesex, TW12 1NS, U.K.
E-mail: gb@valiantcom.com

U.S.A.
Valcomm Technologies Inc.
4000 Ponce de Leon Blvd.,
Suite 470, Coral Gables,
FL 33146, U.S.A.
E-mail: us@valiantcom.com

INDIA
Valiant Communications Limited
71/1, Shivaji Marg,
New Delhi - 110015,
India
E-mail: mail@valiantcom.com

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 (24V DC, 48V DC, 110V DC 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 x W x D	90 x 480 x 250 (mm)
Weight	3.0 Kg
Rack Mount	19" rack mounting options

Ordering Information (Base Unit):

Part No.:	Description
VCL-2156-Ext	VCL-2156 Extension Unit (NTP Client /NTP Slave) 19-Inch, Rack mountable [supports upto 4 Cards] Input: 1 x NTP Port [10/100BaseT, RJ45 (F)] Add Output Interface, Add Power Supply Supports : - USB Serial Port, Graphical User Interface (GUI) - Installation Kit: System Core Cables, Mounting Hardware, 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: (Any One Option)

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