

VCL-2145-PTP-NTP-PRC

GPS PRC PTP/NTP & SSU SERVER



TIMING

PTP NTP
IRIG-B NMEA

SYNCHRO

1PPS 1PPM
1/5/10 MHz
2.048 Mbps / MHz
E1 / T1

GPS PRC

G.811

OCXO

RUBIDIUM

G.812 holdover

2U COMPACT

Cost effective

Introduction

VCL-2145 is a GPS PRC server with both PTP IEEE 1588 / NTP timing and G.811 synchronization reference services to Telecoms and Mobile network Operator, Utility substation, transportation networks.

VCL-2145 provides a complete set of synchronization interfaces including 1x PTP Grandmaster port, 4x NTP ports, industry standard 10MHz / 1PPS / IRIG-B / ToD / 1PPM-PPH ports, and synchronization distribution outputs - 8x E1/T1 and 8x 2.048 MHz ports.

VCL-2145 delivers a G.811 PRC synchronization accuracy when locked on GPS and G.812 holdover thanks to its high stability OCXO oscillator that keeps better than 0.5⁻⁹ accuracy over 24 hours.

VCL-2145 integrated and compact design makes it a cost effective and easy to operate synchronization equipment. Its fan-less design for wide operating temperature range and redundant power supply modules provide high reliability and resilience that are required by mission critical applications.

VCL-2145-LC model is a cost effective G.811 PRC and SSU

VCL-2145 model is a G.811 PRC and SSU with NTP server

VCL-2145-D model is a G.811 PRC and SSU with both NTP server and PTP Grand Master

Applications

VCL-2145 provides clock synchronization to various applications : telecoms and mobile networks, electricity automation networks, public transportation networks, air traffic control, video broadcasting, and many other.

CVL-2145-D : PRC, NTP & PTP, SSU

CVL-2145 : PRC, NTP, SSU

CVL-2145-LC : PRC, SSU

Synchronization inputs

GPS
1x 10MHz
1x 2.048 Mbps
1x 2.048 MHz



Synchronization outputs

NTP, PTP
6x IRIG-B, 1x NMEA
1xPPS, 1x 1/5/10 MHz
8x 2.028 MHz
8x 2,048 Mbps E1

Specifications

SYNCHRONIZATION INPUTS	
GPS receiver	TNC F connector 50 channel GPS receiver Tracks up to 12 GPS satellites -150/-160 dBm sensibility Accuracy +/-15nS
2.048 MHz	75 Ohms, BNC
2.048 Mbps	75 Ohms, BNC
10 MHz	50 Ohms, BNC
OCXO	0.5ppb (10 ⁻⁹)per day accuracy 50 ppb per year accuracy
Rubidium	6x10 ⁻¹¹ per month accuracy 6x10 ⁻¹⁰ frequency stability
Clock accuracy	PRC G.811 when locked on GPS G.812 on holdover
TIMING OUTPUTS	
PTP IEE 1588	IEEE 1588 v2 Grand Master Up to 128 PTP Clients 1-step or 2-step L2 Ethernet or L3 UDP Telecom Profile G.8265.1 / G.8275.1 Power Profile IEC.61850-9-3, C37.328
NTP	4x NTP ports NTP v2 / v3 / v4, SNTP v4 MD5 authentication Unicast, Multicast, broadcast Support of 5K requests per second
IRIG-B	6x BNC
NMEA Time Of Day	1x RS232, DB9, NMEA.0183
SYNCHRONIZATION OUTPUTS	
2,048 Mbps	8x RJ45, 120 Ohms, E1 / T1
2,048 MHz	8x BNC, 75 Ohms
1 / 5 / 10 MHz	1x BNC, 50 Ohms
1PPS	1x BNC
1PPM	3 pin connector

Management	
Protocols	Telnet, ftp, SSH, sftp, scp HTTP/HTTPS, Syslog SNMP v2/v3 Radius CLI, GUI
Power supply	
Redundancy	2x AC or DC power inputs and converters
110-230 Vac	100 to 240 Vac, IEC connector 2x redundant AC converters
48 Vdc	40 to 60 Vdc, screw bloc 2x redundant DC converters
Power consumption	25 W max during startup 18 W typical at 25°C
GPS Antenna	
Format	Active, wall mounting
Frequency band	1575.42 MHz, +/- 10MHz
Amplifier gain	40 dB +/-4dB
Operating temperature	-40 to + 85 °C
Lightning protection	EN61000-4-5, Level 4
Environmental	
Size (WxDxH)	480 x 225 x 44 mm
Weight	2,3 kg
Operating temperature	-10 to +60 °C
Cold start temperature	0 to + 60 °C
Hygrometry	5 to 95%, non condensing
Compliance	CE, ROHS, EN55022, EN55024
MTBF	210,000 Hours, Telcordia SSR332, 40°C

Ordering information

Reference	Description
CVL-2144-D	GPS G.811 PRC and SSU with PTP Grand Master and NTP server, no power supply
VCL-2145	GPS G.811 PRC and SSU with NTP server, no power supply
CVL-2144-LC	GPS G.811 PRC and synchronization Supply Unit, no power supply
-OCXO	OCXO oscillator option for VCL-2145 clock system
-RBXO	Rubidium oscillator option for VCL-2145 clock system
CVL-2156-AC220	110-230 Vac power supply module
CVL-2156-DC048	48 Vdc power supply module
CVL-GPS-ANT	GPS antenna, 30dB, N-Type (F) connector
CVL-GPS-COAX-03M	N-Type (M) to TNC (M) cable, 3 meters
CVL-GPS-COAX-30M	N-Type (M) to N-Type (F) cable, 30 meters
CVL-GPS-COAX-60M	N-Type (M) to N-Type (F) cable, 60 meters
CVL-GPS-PROTEC	GPS lightning protection kit, 50 Ohms, N-Type (M) to N-Type (F)



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