



ORION TELECOM NETWORKS INC.

VCL-CB,TM iDSL DSLAM

Product Brochure & Data Sheet

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Product Overview

iDSL access solution provides up to 15 iDSL (ISDN, Digital Subscriber Line) ports, each port supporting data @ 64/128Kbps on a single twisted pair - terminating at the customer premises on a ISDN "U" interface or V.35 interface @ 128 kbps, 10/100 BaseT routers . The transmission range is up to 5 Km. on a 0.4 (26AWG) twisted copper pair. These pairs are multiplexed at the ISP / Telco to a 2Mbps, G.703, G.704 E1 link. The iDSL lines uses ISDN "U" interface technology with 2B1Q encoding for transmission on twisted pairs.

At the Central Office / ISP Premises, the iDSL interface card will plug directly into the VCL-CB chassis (common equipment) to deliver 128Kbps, 2 wire data from the customer premises into a channelized E1. Time-slot selection and management is available.

The VCL-CB™, E1 (Common Equipment) consisting of the following components:

- E1, Control Cards ,
- 19" Shelf 3U High (sub-rack)
- Connectorized Backplane (3 U High) and
- 48VDC Input Power Supply Card



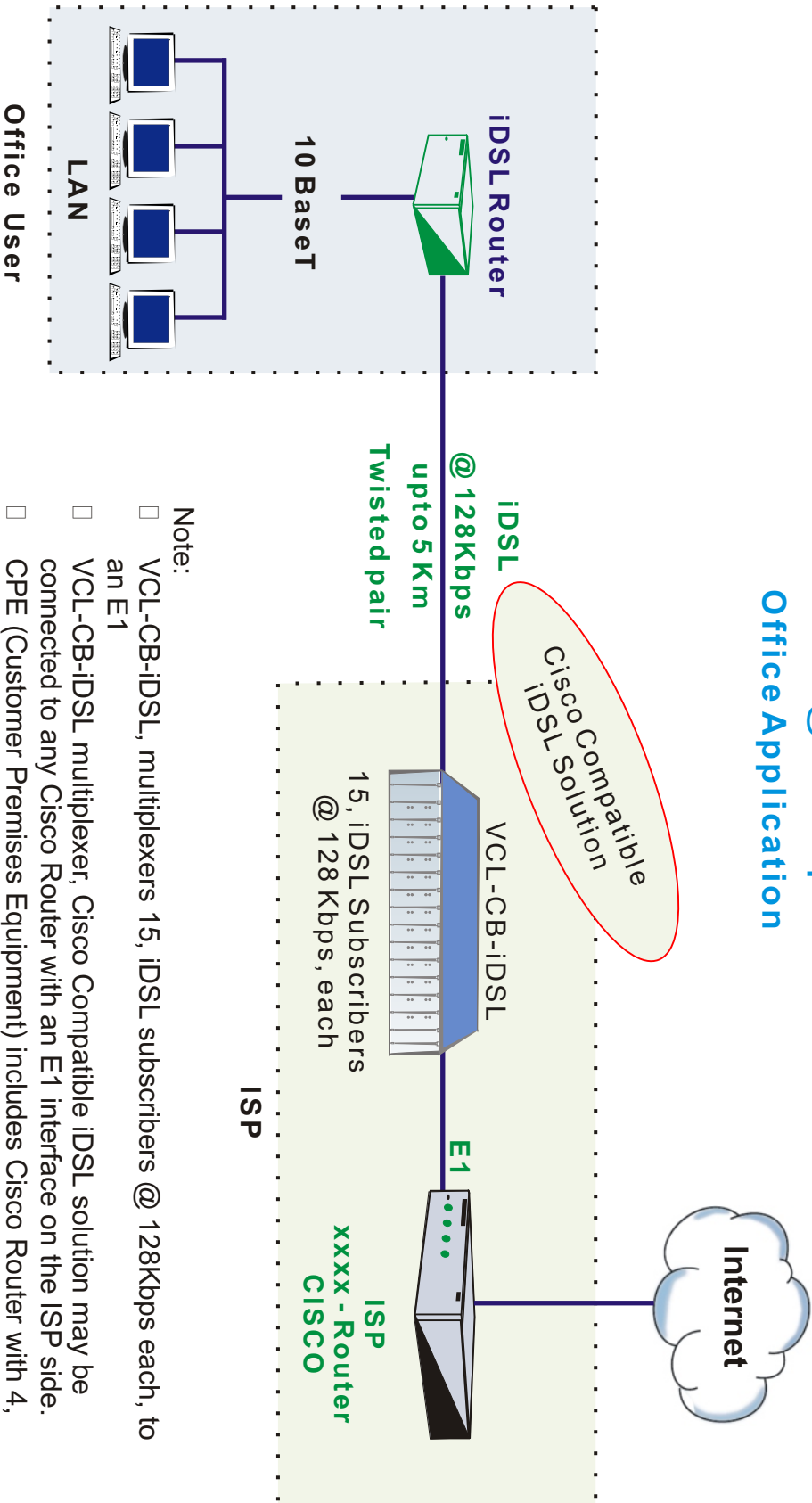
The Central Office / ISP Premises interface equipment includes the following cards:

Central Office / ISP premises iDSL modem card - part number VCL-CB-080 (used with the VCL-CB Common Equipment) can be used to deliver data @ 128 Kbps to a customer premises up to a distance of 5 Km. , on a ordinary 0.5 mm twister copper pair.

Sr. #	Part #	Product Description of the Use Configurable Units	Qty.
1.	VCL-CB-080	iDSL Modem Card, Central Office / ISP Multiplexer Side - transports 128Kbps on a single twisted copper pair upto 5Km.	1 to 15

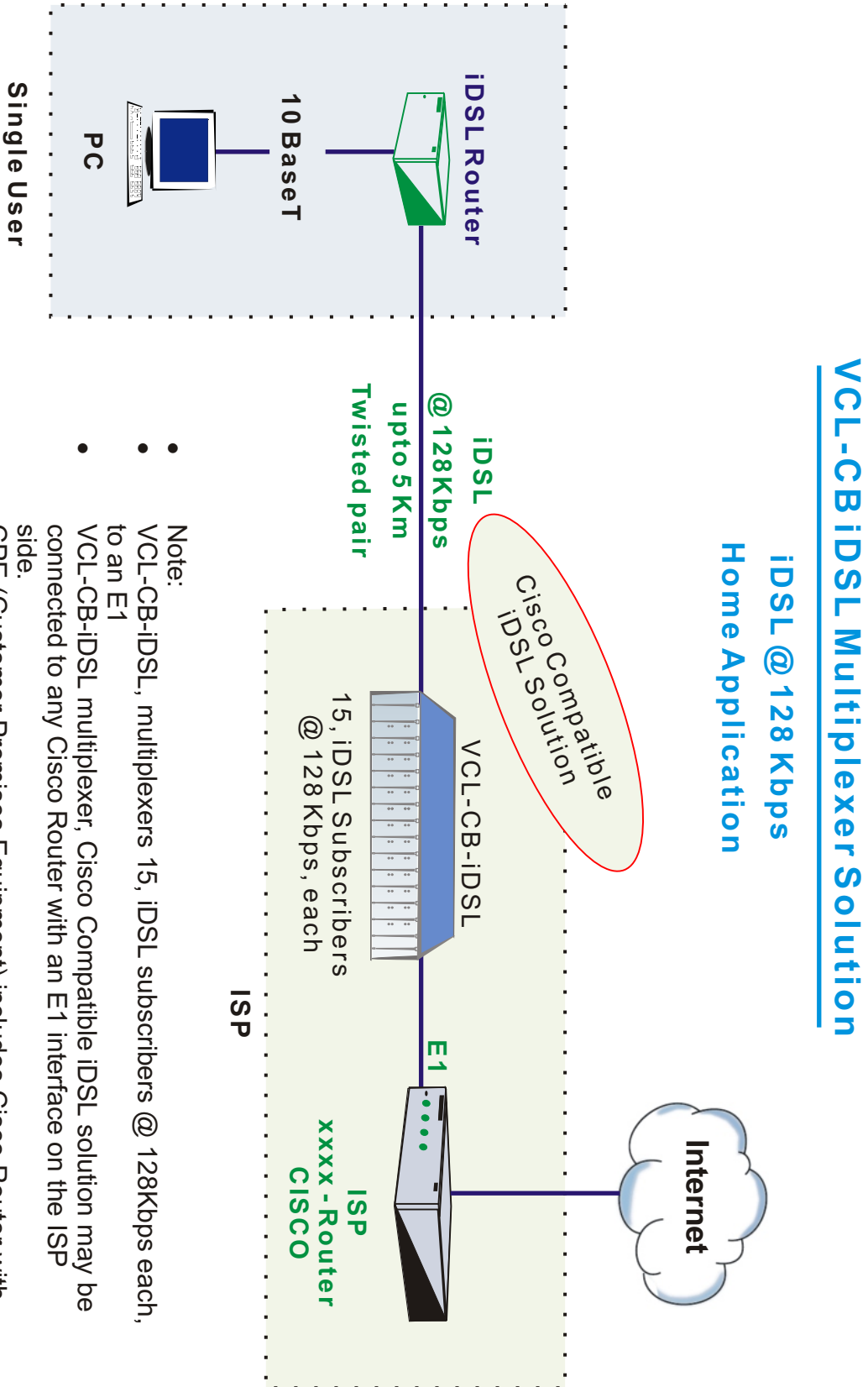
VCL-CB iDSL Multiplexer Solution

**iDSL @ 128 Kbps
Office Application**



Note:

- VCL-CB-iDSL, multiplexers 15, iDSL subscribers @ 128Kbps each, to an E1
- VCL-CB-iDSL multiplexer, Cisco Compatible iDSL solution may be connected to any Cisco Router with an E1 interface on the ISP side.
- CPE (Customer Premises Equipment) includes Cisco Router with 4, 10base interfaces for PC/LAN connectivity in VCL-CB-iDSL Package



VCL-CB iDSL Multiplexer Solution

**iDSL @ 128 Kbps
Home Application**

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iDSL - ISDN DSL Specifications

"U" Interface	Meets ANSI T1.601-1992 requirements
Line Rate	160 Kbits/s
Frame Format	2B as per CCITT Rec.1.430
Line Code	2B1Q as per CCITT Rec.G.961
Accepted Line Attenuation	42dB at 40 Khz
Pulse Shape	As per CCITT Rec.G.961
Multiplexer Emulation	LT Emulation
Customer Premises Equipment	NT Emulation
Impedance	135 Ohms at 40KHz

Customer Premises Desktop User Interfaces:

Customer Premises Desktop Interfaces - Option # 1: (V.35 interface @ 128Kbps)

Our CO / ISP side iDSL Modem cards - part # VCL-CB-080 may be used with our V.35, baseband modem - Part # VCL-CB-090 (customer premises desk top equipment with V.35 Interface @ 128Kbps).

Customer Side / Remote / Side Desk-Top Equipment: Provides 128Kbps data transmission rate on a twisted pair upto 5KM from the VCL-CB, Installation Site: Customer Interface - V.35 data interface @ 128Kbps

Power Supply 110VAC-220VAC, 50Hz/60Hz, UL and CE Approved.

Ordering Information: Part # VCL-CB-090 (desk-top customer premises equipment with V.35 interface @ 128Kbps).

Optional Accessories:

V.35 Data Interface Cable (with male / female M34 connector)

Customer Premises Desktop Interfaces - Option # 2: (10BaseT Ethernet - with IP Protocol Routing Functionality)

Our CO / ISP side iDSL Modem cards - part # VCL-CB-080 may be used with our customer premises equipment with a 10BaseT Interface. Part # VCL-CB-095 - customer premises desk top equipment with 10BaseT Interface - IP Protocol Routing Functionality. (Firewall Protection - Optional).

Customer Side / Remote / Side Desk-Top Equipment: Provides 128Kbps data transmission rate on a twisted pair upto 5KM from the VCL-CB, Installation Site: Customer Interface - 10BaseT Ethernet Interface with IP Protocol Routing Functionality. The 10BaseT Interface may be directly connected to a 10BaseT Network Interface Card installed on a PC, or to to a HUB to connect a complete customer LAN to the network.

Power Supply 110VAC-220VAC, 50Hz/60Hz, UL and CE Approved.

Ordering Information: Part # VCL-CB-095 (desk-top customer premises equipment with 10BaseT interface).

Maximum Distance : 5KM (4 miles) on 0.5 mm twisted Pan. Distance may vary with cable gauge

For distance using various cable guages please refer to chart below.

Distance in Kms. (Miles)				
Data Rate (Kbps)	Wire Gauge (AWG/mm)			
	19 (.9mm)	22 (.6mm)	24 (.5mm)	26 (.4mm)
128	17.4 (10.8)	11.6 (7.2)	8.1 (5.0)	5.5 (3.4)

PROTECTION

Central Office Terminal and Remote Terminal are protected against power surges and transients occurring from lightning and electric induction as per CCITT Rec. Table I/K-20 towards line side

Clock Synchronization

Synchronization Sources	Internal Clock or timing derived From the E1 HDB3 link (Loop-Timed)
External Clock Input	As per ITU (CCITT) Rec G.703
Default Option	Internal Clock

Power Supply

Input DC voltage	-48V DC (nominal)
Range of Input	-40V to -60V DC
Input Voltage Reversal Protection	Provided

Environmental

Cooling	Natural, Convection cooling
Temperature	0°C to 50°C, Ambient

Mechanical Specification

Rack Mounting	Standard 19 inch DIN rack
Height	3U (133.33 mm)
Depth	292 mm
Width	483 mm
Weight	7.50 Kgs.

Notes : _____

Technical specification are subject to change without notice.
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