

VB-604

Four E1 Channel Multiplexer



Features

- Multiplexes four E1 channels over a single E2 link
- Transmission over fiber optic cable
- Operates with various fiber interfaces: multimode, single mode, single fiber (WDM), single fiber/single wavelength
- Range up to 120 km (74 miles)
- Conforms to ITU G.703, G.742, G.823, G.955
- Management via ASCII terminal or SNMP management station
- Remote management using inband channel
- Compact size ½ 19" 1U high

Description

- VB-604 is a multiplexer that combines up to four E1 channels over a single fiber optic link. A pair of VB-604 units offers simple and low-cost connectivity of four E1 channels at distances of up to 120 km (74 miles) (see Figure 2).
- Various optical interfaces are available:
 - 850 nm VCSEL (Vertical Cavity Surface Emitting Laser) for multimode fiber
 - 1310 nm laser and 1550 nm laser diode or long haul laser for extended range over single mode fiber
 - Single fiber (SF1, SF2) using a 1310/1550 nm laser diode with WDM (Wavelength Division Multiplexing) technology, which enables the laser to transmit the signal at a different wavelength than the receive signal
 - Single fiber (SF3) using SC/APC (Angle Polished Connector) technology with a 1310 nm laser diode for single wavelength operation
- VB-604 transmits each of the E1 channels independently, so that the clock of each E1 channel is independent of the clock of any other E1 channel.
- The E1 interface can be 75Ω unbalanced or 120Ω balanced (see Ordering).
- To facilitate system diagnostics, VB-604 features LED status indicators, AIS alarm generation, recognition, and dry contact closure upon link failure.
- Configuration, monitoring and maintenance can be performed using an ASCII terminal, Ethernet ports, or Telnet.
- VB-604 is available as a compact 1U high ½ 19" unit, which can be mounted in a 19" rack.

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Specifications

E1 CHANNELS

- Number of Channels
4
- Data Rate
2048 kbps
- Line Code
HDB-3 or AMI
- Impedance
120 Ω , balanced
75 Ω , unbalanced
- Connectors
Balanced: RJ-45
Unbalanced: pair of BNC

OPTICAL E2 LINK

- Connectors
See *Table 1*
- Interface Characteristics
See *Table 1*

GENERAL

- Physical
Height: 43.7 mm (1.7 in)
Width: 217 mm (8.54 in)
Depth: 170 mm (6.70 in)
Weight: 0.6 kg (1.3 lb)
- Power
AC: 100–240 VAC;
DC: -48 VDC (-40 to -60 VDC)
- Power Consumption
AC: 10 VA
DC: 10W
- Environment
Temperature: 0–50°C (32–122°F)
Humidity: Up to 90%,
non-condensing

Application

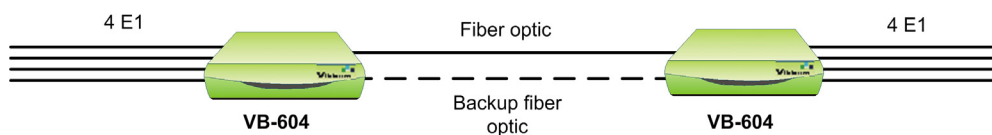


Table 1. Fiber Optic Interface Characteristics

Wavelength	Fiber Type	Transmitter Type	Power Coupled Into Fiber	Receiver Sensitivity	Typical Maximum Range		Connector Types
[nm]	[μm]		[dBm]	[dBm]	[km]	[miles]	
850	62.5/125 multimode	VCSEL	-15	-34	4.5	2.8	ST, SC, FC/PC
1310	9/125 single mode	Laser	-12	-34	47	29.2	ST, SC, FC/PC
1310	9/125 single mode	Laser (long haul)	-2	-34	72	44.7	ST, SC, FC/PC
1550	9/125 single mode	Laser	-12	-34	76	47.2	ST, SC, FC/PC
1550	9/125 single mode	Laser (long haul)	-1	-34	120	74.5	ST, SC, FC/PC
1310-Tx 1550-Rx	9/125 single mode	Laser WDM (SF1)	-12	-34	47	29.2	SC
1550-Tx 1310-Rx	9/125 single mode	Laser WDM (SF2)	-12	-34	47	29.2	SC
1310-Rx/Tx	9/125 single mode	Laser (SF3)	-12	-27	20	12.4	SC/APC

Note: The ranges specified above were calculated according to the following typical attenuation rates (with a 3 dB margin):

3.5 dB/km for 850 nm multimode

0.4 dB/km for 1310 nm single mode

0.25 dB/km for 1550 nm single mode

Ordering

VB-604/^/*/#+

Four E1 channel multiplexer

- ^** Specify E1 connector type:
B for balanced
U for unbalanced

- *** Specify R for second redundant power supply. Default is one power supply.

Note: The default built-in power supply is a wide-range AC/DC power supply. The unit can be connected to either an AC power source (100 to 240 VAC), or to a DC power source (48 VDC).

- #** Specify link interface connector type:
ST for ST type connector (not available with SF1, SF2 or SF3 options)
FC for FC/PC type connector (not available with SF1, SF2 or SF3 options)
SC for SC type connector

- +** Specify link interface optical wavelength:

85 for 850 nm, multimode, VCSEL

13L for 1310 nm, single mode, laser diode

13LH for 1310 nm, single mode, long haul laser diode

15L for 1550 nm, single mode, laser diode

15LH for 1550 nm single mode, long haul laser diode

SF1 for WDM laser, transmit 1310 nm, receive 1550 nm

SF2 for WDM laser, transmit 1550 nm, receive 1310 nm

SF3 for laser diode, transmit and receive at 1310 nm

Note: For single fiber connection (WDM) when one of the units is ordered with SF1, the other must be ordered with SF2.

VB-604-M/#+

Additional uplink module

SUPPLIED ACCESSORIES

AC power cord (with AC power supply only)

DC adapter plug (with DC power supply only)

CBL-SP-9

Control port cable

RM-33-2

Kit for mounting 1 or 2 units in a 19" rack



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