Vibicom Communications Inc.

VB-623

Managed E1 and Fractional E1 Access Unit

Managed TDM multiplexers for access to full or fractional E1 services

- E1 main link and sublink support both framed and unframed signals
- One data port with selectable sync data rates of n × 64 kbps
- Optional sub-E1 drop-and-insert port

VB-623 is a managed access unit that can convert rates and interfaces for E1 and fractional E1 services.

VB-623 supports a single serial port with n × 64 kbps data user interfaces.

The unit interconnects with VB-6030, VB-6008 or any 3d party standard E1 equipment, to support multilink star applications such as access to SDH networks.

The E1 interface is compatible with virtually all carrier-provided E1 services and meets ITU recommendations G.703, G.704, G.706, G.732, G.823, and G.826.

It supports both 2 and 16 frames per multiframe, with or without CRC-4. The E1 interface also accepts a 2048-kbps data stream that it converts to an ITU-T Rec. G.703 unframed signal for transport over the E1 main link and sublink. Line code is HDB3/AMI. The integral LTU ensures a range of up to 2 km (1.2 miles) and is software selectable.

The optional sub-E1 port can be configured to work without CRC-4, while the E1 main link is working with CRC-4. This enables connection of E1 equipment not supporting CRC-4, over an E1 network that is working with CRC-4.

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The unit can be programmed to assign data automatically from the data port into consecutive timeslots or the user can assign timeslots manually.

Multiple clock source selection ensures maximum flexibility for supporting different applications. Timing for the E1 main link and sublink may come from the recovered receive clock, an internal oscillator, or the data port.

Front panel LEDs indicate power, alarms, and diagnostic loopback operation. Rear panel LEDs on the E1 interfaces indicate local and remote sync loss.

VB-623 is a compact standalone unit. A rack mount adapter kit enables installation of one or two (side-by-side) units in a 19-inch rack. (see *Ordering*).

USER INTERFACE

VB-623 features a V.35 serial data interface.

The synchronous data port operates in the following clock modes:

- DCE: VB-623 units provide both transmit and receive clocks to the user equipment, with optional sampling of the incoming data with an inverted clock.
- DTE1: VB-623 units provide the transmit clock. The attached user equipment provides the receive clock.
- DTE2: Attached user equipment provides both transmit and receive clocks.

MANAGEMENT AND MAINTENANCE

Status and diagnostic information is defined, configured, and monitored using any of the following methods:

- Menu-driven management using the front panel LCD with three pushbuttons
- ASCII terminal connected to the async control port
- Telnet

Up to 2048 time-stamped alarms can be retrieved through the supervision terminal.

Maintenance capabilities include user-activated local and remote loopbacks on the E1 main link, sublink, and data port. The user can activate a BER test on the main link or sublink.

E1 network statistics are stored in memory, according to RFC 2495. Statistical information can be retrieved locally through the control port.

Specifications

E1 MAIN LINK AND SUBLINK

Framing
256N (no MF, CCS)
256N (no MF, CCS) with CRC-4
256S (TS16 MF, CAS)
256S (TS16 MF, CAS) with CRC-4
Unframed

Bit Rate
2.048 Mbps

Line Code
AMI/HDB3

Zero Suppression
HDB3

Line Impedance
120Ω, balanced
75Ω, unbalanced

Transmit Timing
Locked to the system clock

Signal Level
Receive:
0 to –10 dB without LTU
0 to –36 dB with LTU

Transmit:
±3V (±10%), balanced
±2.37V (±10%), unbalanced

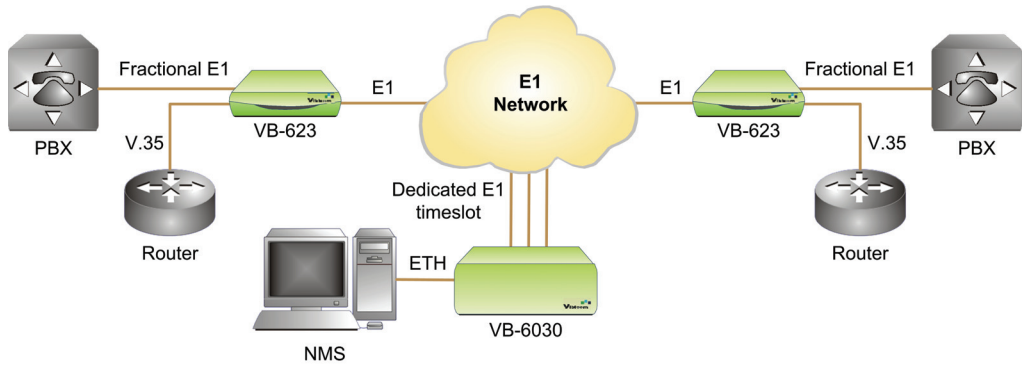

Figure 1. Managed E1 or Fractional E1 Access Unit with V.35

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Managed E1 and Fractional E1 Access Unit

Jitter Performance
As per ITU G.823, ETSI TBR-12 and TBR-13

Connectors
RJ-45, 8-pin, balanced
Two BNC coaxial, unbalanced

Compliance
ITU G.703, G.704, G.706, G.732, G.823, G.826

Performance Monitoring
Local support of CRC-4
Full statistical diagnostics according to RFC-2495

DATA PORTS

Connectors
D-type, 25-pin, V.35, female

Data Rate
n × 64 kbps (n=1 to 32)

Clock Modes
DCE: Rx and Tx clock to user device
DTE1: Rx clock to user device Tx clock from user device
DTE2: Rx and Tx clock from user device

Control Signals
CTS follows RTS or constantly ON, soft-selectable
DSR constantly ON, unless in test mode
DCD constantly ON, unless in sync loss

DIAGNOSTICS

Main E1 link
Local loopback
Remote loopback
BER test

Sublink
Local loopback
Remote loopback
BER test

Data Port
Local loopback
Remote loopback

GENERAL

System Clock
Internal clock: ±32 ppm
Loopback timing: ±100 ppm
External timing from data port: ±100 ppm

Management Port
Interface: RS-232, 9-pin D-type, female
Format: asynchronous
Baud rate: 9.6–115.2 kbps,
Character: 8-bit no parity

Timeslot Allocation
Consecutive (bundled)
User-defined

Indicators
General:
PWR (green)
TST (yellow)
ALM (red)

Main/sub-E1:
LOC SYNC LOSS (red)
REM SYNC LOSS (red)

Physical
Height: 4.4 cm (1.7 in)
Width: 24.0 cm (9.4 in)
Depth: 17.0 cm (6.7 in)
Weight: 0.8 kg (1.8 lb)

Power
AC/DC: 100 to 240 VAC, –48 to –60 VDC, nominal
Power consumption: 5W max.

Environment
Temperature: 0° to 50°C (32° to 122°F)
Humidity: Up to 90%, non–condensing

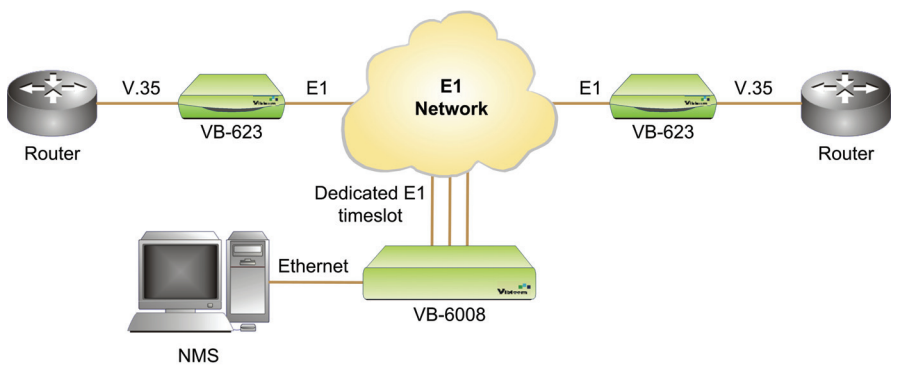

Figure 2. Managed V.35 to E1 Converter

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Managed E1 and Fractional E1 Access Unit

Ordering

VB-623/@/&/*/%

Legend

@ TDM interface type
- **1E1** 1 balanced E1 as uplink
- **1E1CX** 1 unbalanced E1 as uplink
- **2E1** Balanced E1 and sub E1
- **2E1CX** Unbalanced E1 and sub E1

& Data port interface type:
- **V35** V.35

***** Enclosure type:
- **L** Metal, with LCD

SUPPLIED ACCESSORIES

Power cord

AC/DC adapter plug

CBL-HS2/V/1 for 34-pin V.35

OPTIONAL ACCESSORIES

CBL-DB9F-DB9M-STR
Control port cable

CBL-RJ45/2BNC/E1
RJ-45 to BNC adaptor cable

RM-33-2
Hardware kit for mounting one or two VB-623 units into a 19-inch rack

CBL-HS2/*/#
Adaptor cables for DB-25 channel connectors, for operation in the DTE1 and DTE2 clock modes. Cable length is 2m (6 ft).

Legend

***** Interface, clock mode:
- **V/2** 34-pin V.35, DTE1
- **V/3** 34-pin V.35, DTE2

Cable connector type
- **F** female
- **M** male

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