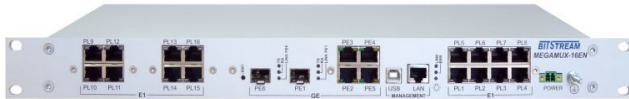# MEGAMUX-16EN
## GigabitEthernet over 16xE1 Inverse Multiplexer / Concentrator

MEGAMUX-16EN

- Point-to-point working mode: Connection of two GigabitEthernet LANs over up to sixteen E1 lines (32,768 Mbit/s)
- Point-to-multipoint working mode: As concentrator, collect traffic from different LANs connected by E1 lines
- Built-in 6-port Gigabit Ethernet switch (4 electrical ports and 2 SFP ports) IEEE 802.1q, 802.1QinQ, 802.1p and DSCP/ToS QoS support
- Automatic E1 channel failure detection
- Management: SNMP, WWW, TELNET
- Optional power supply redundancy

MEGAMUX-16EN device is an Ethernet inverse multiplexer with 16 x E1 (G.703 2048kbit/s) interfaces. It allows connection of Ethernet network using one to sixteen E1 channels aggregating their band. Joining of E1 streams into a common transmission channel is based on inverse multiplexation with in-built mechanisms adapting differences in times of transferring packages in separate lines. By using 16 E1 channels, it is possible to obtain the maximum throughput of 32.768 Mbit/s for Ethernet packages.

The malfunction of a single E1 channel, regardless of a direction, causes its automatic switch off and no loss of packages. In case the line is back in operation, such a condition is automatically detected by the device and the transmission in the channel is restored.

A standard application is presented in the drawing below :
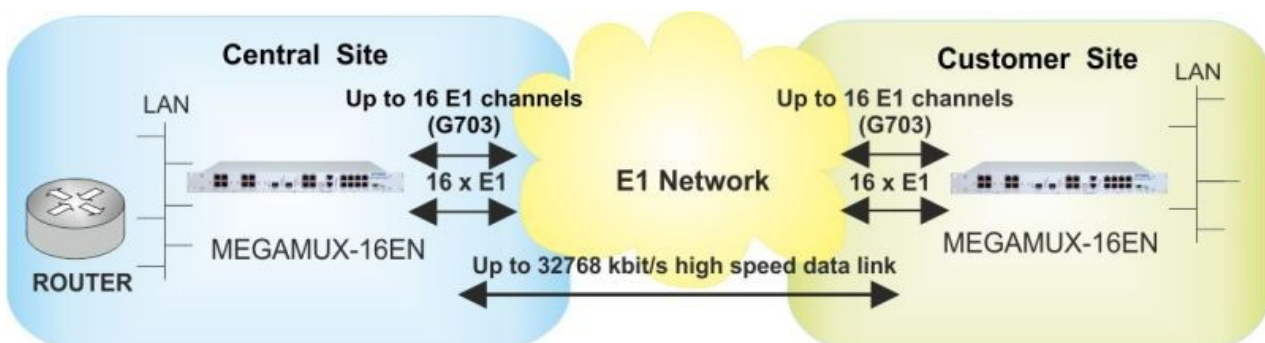
CONCENTRATOR WORKING MODE:

MEGAMUX-16EN can be also used to collect traffic from different LANs connected by nxE1 lines (n from 1 to 16). This is an efficient and economic solution to distribute Internet access over TDM network. MEGAMUX-16EN working as a concentrator can distribute traffic according to VLAN IDs. MEGAMUX-16EN can be used as concentrator with BitStream (ANYMUX-E1, MEGAMUX-4EN, MEGAMUX-8EN, TRYTON) and other vendor's devices (Eth./1xE1) .
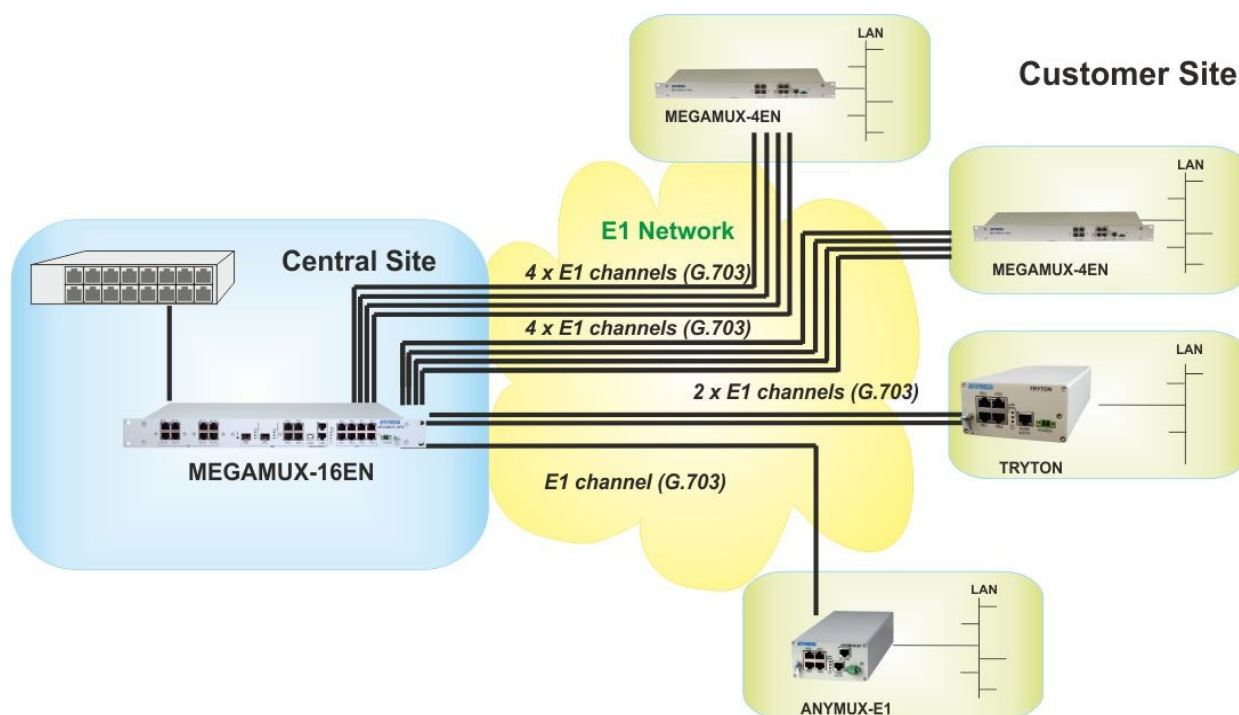
Ethernet transmission channel may be set as transparent or divided into independent transmission channels through the virtual VLAN mechanism. Up to 64 independent VLANs are supported. MEGAMUX-16EN supports advanced Ethernet interface features like VLAN stacking (QinQ, IEEE802.1ad), jumbo frame size (10K bytes), programmable rate limiting and port priority setting (depending on default port priority, VLAN priority, IP DSCP/TOS field or MAC destnation/source address).

Embedded HTTP server, TELNET server and SNMP agent allows free configuration of the device performance by standard Web browser and continuous monitoring from any management platforms equipped with SNMP client. In addition, built-in SMTP service daemon allows to notify the operator in case of system failure. Devices' management is carried out out-of-band using dedicated Ethernet port. Remote software update is supported to allow further functionality improving.

MEGAMUX-16EN provides wide range of diagnostic options, including: local and remote E1 loops, E1 and Ethernet transmission statistics, ES, SES, UAS thresholds according to G.826.

MEGAMUX-16EN multiplexer is powered from DC voltage from 36 to 60V power supply or from an external adapter in case of AC voltage. Total power consumption does not exceed 17W. Device can be optionally equipped with redundant power supply module.

PARAMETERS

Multiplexing

- Number of E1 channels - 16
- Maximum delay difference between E1 channels of up to 50 ms
- Minimum loss of band in E1 channels for Ethernet frames of 1500 bytes < 1%

Management

- SNMP
- HTTP protocol and web browser as management application
- SMTP -send e-mail message in case of failure
- Out of band, by dedicated Ethernet port

Line interface 2048 kbit/s

- 2048 kbit/s ± 50 ppm binary throughput
- 120 Ohm E1 impedance
- Line code HDB-3
- Types of connectors: 16 x RJ-45
- Local and remote loopbacks

Ethernet ports

- 10/100/1000 Mbit/s transmission speed (1000 Mbit/s for SFP ports)
- Flow control function
- Autocrossover function "MDI, MDI-X
- Support for VLAN, IEEE 802.1q, 802.1QinQ
- QoS support
- Connection state signalling
- 4xRJ-45 connector, 2xSFP module

Dimensions

- Housing 483 x 170 x 44 mm, 19"
- Weight < 1,7 kg
- Suitable for mounting in rack shelf (19" housing)

Power supply

- Supply voltage range 36 to 60V DC
- External power supply included, 230VAC/48VDC
- Optional power supply redundancy
- Up to 17W power consumption