

**qBRIDGE-401** is a high performance and low cost converter/bridge/inverse multiplexer. It's suitable for connecting distant LAN segments using standard E1 channels. It provides inverse multiplexing to transmit a single high-speed data channel over up to four E1 links. qBRIDGE-401 has embedded four port Ethernet switch and four E1 interfaces and can be used as a standard Ethernet to 4xE1 converter.

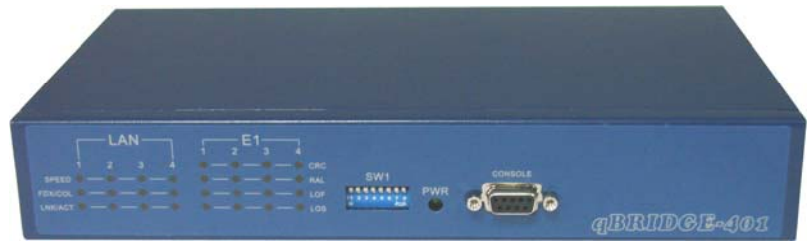
Device provides Data rates from 1.92 Mbps to 7.68 Mbps with automatic rate fallback. Therefore data rate of high speed channel used to transmit user's Ethernet traffic is calculated as  $N \times 1.92$  Mbps where N is a number of available E1 channels. By adopting inverse-multiplexing technology, qBRIDGE-401 binds several E1 links to achieve a broadband Ethernet remote bridge, with 8ms tolerance of transfer delay difference among E1 links. The E1 transmit clock can be derived from the internal oscillator or from one of the E1 receive clocks.

The automatic rate fallback feature ensures that the logical channel used for Ethernet traffic remains open even if individual E1 links fail, by automatically dropping to the next lower rate. When failed links are recovered, qBRIDGE-401 automatically returns to the original rate.

qBRIDGE-401 can be ordered either with unmanaged or managed embedded Ethernet switch. Modification with unmanaged switch is functioning in "Bridge connection" mode and provides IEEE 802.1q VLAN pass-through operation. All configuration for this modification is done using DIP-switches. Modification with managed embedded Ethernet switch provides enhanced VLAN and QoS support and is configured through console port.

qBRIDGE-401 expands qBRIDGE series of low cost access devices that are suitable for connecting distant LAN segments using different technologies of data transmission over copper lines. This series is characterized by easy configuring, high performance and low cost.

The product supports both AC and DC power supply and can be used as a standalone unit in iron enclosures. 19" rack mount brackets are provided.



### **Technical specifications:**

#### **Ethernet interface**

- Embedded Ethernet switch
- 2 modifications:
  - with managed Ethernet switch
  - with unmanaged Ethernet switch
- 4 Ethernet 10/100Base-TX ports
- IEEE 802.3/802.3u/802.3x flow control
- Auto-Negotiation 10/100M; Auto-MDIX
- Half/Full duplex (10/100-20/200M)
- Ethernet to HDLC encapsulation
- Maximum frame length up to 1536 bytes
- Connectors: Shielded 4xRJ-45

#### **Ethernet: "Bridge connection" mode**

- Enhanced VLAN and QoS support for model with managed Ethernet switch
- IEEE 802.1q VLAN pass-through for model with unmanaged Ethernet switch
- VPN pass-through
- Bridging:
  - Transparent MAC Bridging
  - Spanning Tree (802.1d)
- 2x1024 MAC table; 4Mbit Frame Buffer

#### **WAN (4xE1framed)**

- Four E1 ports
- ITU-T G.703
- Broadband channel rate of  $(1..4) \times 1.92$  Mbps full duplex
- Automatic rate fallback
- Transfer delay difference among E1 links up to 8ms
- HDB3 coding; Impedance: 120 Ohm
- Jitter performance: ITU-T G.823
- Receive equalizer gain up to -43 dB
- Clock modes: Internal or Recovered
- Automatic alarm generation
- Remote loopback mode
- Connectors: 4xRJ-45

#### **General**

- Configuration: DIP-switches or console
- Various Diagnostic LED Indicators
- Power supply: 100~240VAC/36~72VDC
- Power consumption: 4 W
- Size: 261 x 151 x 45 mm
- Weight : 2,5 Kg
- Temperature: 0 – 45 °C
- 19" rack mount brackets