



Bittium Tough VoIP Network Extender is a multi-purpose field deployable unit combining network switch and SHDSL modem for tough military conditions.

Through the Bittium Tough VoIP Network Extender's SHDSL connectivity, an IP network can be extended over long distances using conventional field wire. The Network Extender unit supports Ethernet transport over single or dual SHDSL channels. SHDSL interfaces also support enhanced bit rates of G.SHDSL.bis, giving data rates up to 5.69 Mbps for one pair connection and 11.38 Mbps for two pair connection. With the optional battery-tray accessory, the unit can be operated without AC or DC power source for up to 20 hours.

The Network Extender also charges the attached battery tray accessory automatically both in ON and OFF states if AC power is available. The Bittium Tough VoIP Network Extender is a self-healing and self-configuring unit, which automatically and transparently adapts to available network services. This solution is not dependent on the availability of network services, such as DHCP, enabling access to voice and data services regardless of the network service status.

Benefits

- › Combines network switch and SHDSL modem in a single rugged device
- › Extends IP network over long distances
- › Automatically and transparently adapts to available network services
- › Natively supports intelligent backup power supply for preventing network outages
- › Can provide PoE power supply for external device

FOR MORE INFORMATION, PLEASE CONTACT:

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Bittium Tough VoIP Network Extender™

Specifications

Features

- › Connecting Network Extenders through SHDSL using field wires (e.g. WD-1A/TT, WF-16/U)
- › Ethernet and SHDSL connections to the external networks and devices
- › Both AC/DC power input and battery operation
- › Protective frame construction offers high robustness. Available also without the framing for more integrated semi-fixed or vehicular installations and wall mountings.
- › Seamless L2 switching between SHDSL and Ethernet
- › Battery back-up operation up to 20 hours
- › On/Off switch, battery charging enabled in both modes

Interfaces

- › Industrial-grade connectors
- › 5 × Ethernet (10/100BaseTX) of which 2 support PoE
 - › 1 port 13 W
 - › 2 ports total 20 W
- › 4 SHDSL channels using one pair connections or 2 SHDSL using two pair connections
- › Power supply:
 - › AC (115 V/230 V, 50/60 Hz)
 - › DC (12 – 24 V)
- › Battery back-up mode through DC connection
- › Interfaces with tri-colour LED status indicators

Technical specifications

- › Fully integrated solution for Ethernet transport with 4 SHDSL channels
- › **SHDSL in compliance with**
ITU G.shdsl (ITU-T G.991.2)
ITU G.shdsl.bis (ITU-T G.991.2 (2004))
- › **SHDSL modes**
STU-C, STU-R, STU-C/R
- › **SHDSL data rates**
1 pair connection from 192kbps up to 5.69 Mbps (G.shdsl.bis)
2 pair connection up to 11.38 Mbps (G.shdsl.bis)
- › **SHDSL connection distances**
more than 10 km,
depending on line quality
- › **Standard networking support**
IPv4, TCP, UDP, ICMP, ARP
- › **Management and control**
Web-based management
- › **Remote SW update**
Manual software upgrade through
Web-based management
- › **Environmental and EMC standards**
MIL-STD 461E
EN 60950-1 for safety
- › **Ingress protection**
IP65
- › **Operating temperature range**
-40 °C/+55 °C,
including accessory cables
- › **Dimensions**
W 337 x D 303 x H 311 (with frame)
W 249 x D 178 x H 200 (without frame)
- › **Weight**
7.7 kg (with frame)
- › **Quality standards**
ISO9001
AQAP 2110
- › **Declaration of conformity**
CE

Accessories

- › External battery accessory with charging functionality (takes a set of two commercial batteries)
- › Wide range of heavy duty cables for Ethernet, SHDSL and other connectivity available with different lengths and connector types