



Z H O N E

4 Port T1 Network Extender

TNE1544-S, TNE1544-P, TNE1544-KIT

Four Port Loop Bonding T1 Network Extender

- ✓ *Enables providers to deliver Ethernet to anywhere that can be served by T1 or Fractional T1 circuits*
- ✓ *Configuration-free operation ensures simplicity and cost-effective Ethernet over WAN connections without truck rolls*
- ✓ *Automatic load balancing and fail-over on bonded ports for optimum throughput and redundancy*
- ✓ *Metro Ethernet Forum (MEF 9/14) Certified for EVPL and E-LAN services*
- ✓ *Environmentally hardened and NEBS Level 1 Certified*
- ✓ *Full support for Multimedia Traffic Management, providing sophisticated IP QoS and application-aware traffic control*
- ✓ *CLI, SNMP, and Web-based Management*



Part of Zhone's EtherXtend product family, the TNE1544 allows Carriers, ISPs and PTTs to deliver Ethernet services to virtually anywhere, using standard T1 or Fractional T1 circuits. The TNE1544 offers up to 6Mbps of extremely reliable and efficient Ethernet service over the WAN, delivering the bandwidth required to support a sophisticated new generation of small and medium business customers.

Because the TNE1544 uses standard T1, it can go almost anywhere, and because it uses Ethernet instead of ATM or Frame Relay, it's ready to support 100% of the high-demand IP applications—including video conferencing, digital video surveillance, IP telephony and more. It uses Ethernet for all data transport, and is optimized for the delivery of Internet Protocol (IP) traffic.

The TNE1544 features four (4) T1 ports, each capable of up to 1.5 Mbps bandwidth, and an integrated 4-port 10/100 Ethernet Switch. When used with a compatible product, one, two, three or four ports may be used to deliver high-speed bandwidth at any given distance. The loop bonding technology used is automatic, efficient and resilient, providing configuration-free deployment and a greater total throughput than traditional T1 circuits.

The TNE1544 can be used in conjunction with any other Zhone Ethernet T1 product, including T1 Network Extenders, the MALC multi-service BLC, and the 12000/4000 series of IP DSLAMs. Either way, the TNE1544 supports important Ethernet features such as 802.1Q VLANs, Built-in security features, and the advanced QoS and traffic control features that come with Zhone's Multimedia Traffic Management.

Technical Specifications

Dimensions

- 1.25" x 8.5" x 4.75" (HxWxD)
- 3.2cm x 21.6cm x 12.1cm (HxWxD)

Weight

- 1.0 lbs (0.45 kg)

Power

- DC Input:
 - 11 Watts
 - 0.2A @ -48VDC
- AC Supply (optional):
 - 100-240VAC, 50/60Hz
 - 48VDC, 0.42A

Interfaces

- 4 x T1 RJ48C 8-position jack
- 4 x 10/100 Ethernet RJ45

Standards Support

- NEBS Level 1
- MEF 9/14 (EVPL and E-LAN)
- GR-063-CORE
- GR-1089-CORE
- IEEE 802.3 Ethernet
- IEEE 802.1p Priorities
- IEEE 802.1Q VLAN
- IEEE 802.1p QoS, DiffServ, TOS

Protocol Support

- Transparent 802.1D Bridging
- T1 Frame Type: ESF, SF
- T1 Line Code: B8ZS, AMI
- Internet Protocol
- Loop Bonding

Management

- SNMP
- CLI
- Web Based Management

Bandwidth/Distance

- Up to 1.5 Mbps per T1 port
- Up to 4-T1 Bonded circuits (up to 6 Mbps)
- Selectable FT1 Support: 192, 384, 576, 768, 960, 1152, 1344, 1536Kbps
- Unlimited Distances (using clear-channel, T1 repeaters)

Regulatory Compliance

- EMC: FCC Part 15; ICES-003; EN 300 386-2
- Safety: UL1950, CSA C22.2 No. 950; EN60950; IEC950; CE Marking

Operating Requirements

- Temperature: -40°F to 158°F (-40°C to 70°C)
- Non-operating: -40°F to 158°F (-40°C to 70°C)
- Humidity: 5% to 95%, non-condensing
- Altitude: -200ft to 16,500ft (-60m to 5,000m)

Ordering Information

4-Port T1 Network Extenders - Single Units

TNE1544-S-DC	4-Port T1 Network Extender Subscriber Unit for -48VDC
TNE1544-S-AC	4-Port T1 Network Extender Subscriber Unit with North American Power Supply
TNE1544-P-DC	4-Port T1 Network Extender Provider Unit for -48VDC
TNE1544-P-AC	4-Port T1 Network Extender Provider Unit with North American Power Supply

4-Port T1 Network Extender Kits

TNE1544-KIT-DC	4-Port T1 Kit Includes (1) TNE1544-S and (1) TNE1544-P Unit for -48VDC power
TNE1544-KIT-AC	4-Port T1 Kit Includes (1) TNE1544-S and (1) TNE1544-P with North American Power Supplies

Optional 19/23-inch Rack Mount Kit

NETEXT-RMT-KIT	Net Ext, Rack Mount Tray, TNE15X4/ENE20X4, ETHX22X4/ETHX21XX, SNE2040G
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