

### **iConverter T3/E3**

#### **T3/E3 Managed Media Converter**

The *iConverter* T3/E3 media converter provides standard T3 (44.736Mbps) or E3 (34.368Mbps) coax to fiber conversion and can be used to connect to devices such as PBXs, multiplexers, routers and video servers via fiber. T3/E3 media converters operate in pairs, extending distances over fiber, which improves noise immunity, quality of service, intrusion protection and network security.

The T3/E3 supports fixed fiber and Small Form Pluggable (SFP) transceivers, enabling adaptability to different fiber types, distances and wavelengths, providing maximum flexibility across a variety of network architectures and topologies. Support for SFP transceivers increases the bandwidth capacity of fiber access infrastructure by incorporating Coarse Wave Division Multiplexing (CWDM) technology. CWDM SFPs provide wavelength conversion enabling multiplexing of up to 16 wavelengths on the same fiber pair. The same media converter can utilize a variety of SFPs for different wavelengths and distances, reducing costs and simplifying inventories.

The T3/E3 also supports a variety of fixed fiber connectors for multimode, single-mode and single-mode single-fiber.

Individual coax and fiber port access can be controlled, providing the network administrator with an easy mechanism for controlling usage and access to the network when installed in a chassis with network management.

The T3/E3 features extensive local and remote loopback user-selectable diagnostic modes. Local loopback facilitates individual coax or fiber loopback operations. Remote loopback facilitates setting a remote T3/E3 converter to loopback mode, in order to test the integrity of the fiber and the remote converter, eliminating the cost of external hardware or support personnel at each end of the link.

Additional diagnostic features include forcing of all 1s data patterns, Alarm Indication Signal (AIS), to the coax or fiber interfaces and generating and monitoring a Pseudo Random Bit Sequence (PRBS) per ITU O.151 specification. These diagnostic features combined with the informative and easy-to-read LED display facilitate quick installation, fault detection, isolation and correction.

The *iConverter* T3/E3 is available as a compact, unmanaged standalone unit or as a chassis managed plug-in module. The hot-swappable plug-in module can be mounted in a 19-Module (2U high) or 5-Module (1U high) rack-mountable chassis. It can also be mounted in a 2-Module or 1-Module powered chassis. As a standalone unit, the T3/E3 is available as a wall-mount unit. The wall-mount models are DC powered and are available with an external AC/DC power adapter or a terminal connector for DC power.



### **KEY FEATURES**

- T3 (DS3) or E3 Coax to fiber media converter
- Supports B3ZS for T3 (DS3) and HDB3 for E3 codes
- Framing independent; supports framed or unframed and channelized or fractional unchannelized data
- Supports dual fiber and single-fiber with distances of up to 120km and 40km respectively
- Supports Small Form Pluggable (SFP) transceivers with standard and CWDM wavelengths
- Supports SFP Digital Diagnostic Monitoring Interface (DDMI) bus
- Supports multimode and single-mode fiber with ST, SC and LC connectors
- Supports RG-59 75 ohms coax interface with short-haul and long-haul build-out options
- Features user-selectable local and remote loopback modes and Force 1s (AIS) to Coax and Fiber
- SNMP management via *NetOutlook*® provides real-time port and module information, remote parameter configuration and trap notification
- Management is available with the addition of a management module to the chassis
- Modules are hot-swappable and can be used in the 19-Module, 5-Module, 2-Module or 1-Module iConverter chassis
- LED displays for immediate visual status of each port
- Lifetime Warranty and free 24/7 Technical Support

Management of the plug-in module is accomplished by using a Management Module<sup>1</sup> (such as an *iConverter* NMM2 or 10/100M2) that provides monitoring, configuration and trap notification. The management module can be accessed via SNMP, Telnet, or serial port. The SNMP-based management is accomplished via Omnitron's intuitive, graphic-oriented NetOutlook management software or third party SNMP management software, while the Telnet and the serial interfaces have an easy-to-use, menu-driven interface.

Some of the real-time T3/E3 parameters that can be monitored include power, port link and data receive status, module operating modes, module type and model number, hardware and software revisions levels and serial numbers.

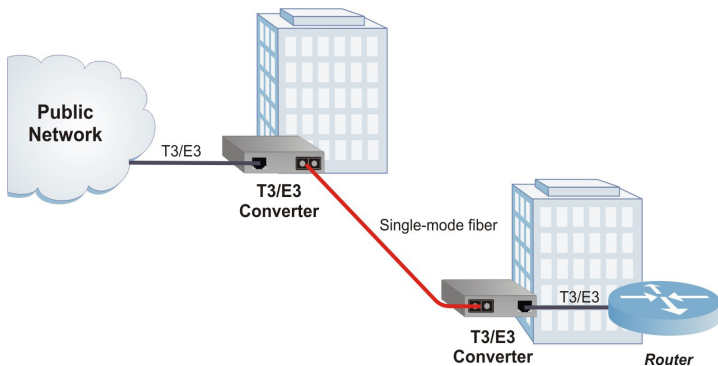
All of the T3/E3 hardware DIP-switch functions can be remotely configured via the software including protocol selection (T3/E3), line build-out options, port enable/disable control and all local and remote loopback and data patterns.

The T3/E3 module generates a wide variety of user-defined traps on port state changes, including link-up and link-down, AIS and PRBS data received, and upon entering and exiting the remote loopback mode. Monitoring of specific traps can be selectively enabled or disabled.

<sup>1</sup> For complete management support, use a M2 series module (NMM2, GX/TM2, 2GXM2, 10/100M2, 2FXM2) or higher.

## APPLICATION DIAGRAM

T3/E3 media converter provides a cost-effective solution for extending telecom demarcation points. A pair of T3/E3 converters is used to extend the demarcation between buildings via fiber. Multimode or single-mode fiber can be used, and fiber links can be extended up to 120km using single-mode fiber.



| Model Type                   | T3/E3   |  |
|------------------------------|---|--|
| Protocols                    | ANSI: T1.102, T1.107, T1.404, T1-404a (T3)<br>ITU: G.703, (E3), G.751, O.151<br>ETSI: EN 300 689, 300 686, 300 687  |  |
| UTP Connectors               | RG-59 Coax, 75 ohm, BNC<br>DS3: 380m<br>E3: 440m  |  |
| Fiber Connectors             | SFP:  | LC   |
|                              | Dual Fiber:   | SC, ST, LC                                   |
|                              | Single-Fiber:   | SC   |
| Controls                     | T3/E3 Select, Coax Build-Out, Coax Enable/Disable, Fiber Enable/Disable, AIS to Fiber, AIS to Coax, PRBS to Coax, Loop-Back Coax, Loop-Back Fiber, Loop-Back Remote |  |
| LED Displays                 | Power, Fiber Act, Coax Act, Fiber AIS Det, Coax AIS Det, Coax PRBS Det, Fiber Test, Fiber Loop-Bk, Coax Loop-Bk   |  |
| DC Power                     | Plug-in:  | 0.7A @ 3.3VDC (typical)                      |
|                              | Standalone:   | Voltage Range: 5 - 32VDC<br>0.3A @ 9VDC      |
| DC Power Connector           | Plug-in:  | Power supplied by backplane                  |
|                              | Standalone:   | 2.5mm Barrel Connector or Terminal Connector |
| AC Power Adapter [US]        | Plug-in:  | N/A  |
|                              | Standalone:   | 120VAC/60Hz<br>0.05A @ 120VAC                |
| AC Power Adapter [Universal] | Plug-in:  | N/A  |
|                              | Standalone:   | 100-240VAC/50 to 60Hz<br>0.05A @ 120VAC      |
| Dimensions                   | Plug-in:  | W:0.85" x D:4.5" x H:2.8"                    |
|                              | Standalone:   | W:3.8" x D:4.8" x H:1.0"                     |
| Weight                       | Plug-in:  | 8 oz   |
|                              | Standalone:   | 1 lb   |
| Compliance                   | UL, CE, FCC Class A   |  |
| Temperature                  | Standard:   | 0 to 50° C                                   |
|                              | Wide:   | - 40 to 60° C                                |
|                              | Extended:   | - 40 to 75° C                                |
|                              | Storage:  | - 40 to 80° C                                |
| Humidity                     | 5 to 95% (non-condensing)   |  |
| Altitude                     | - 100m to 4000m   |  |
| MTBF (hrs)                   | Plug-in:  | 480,000                                      |
|                              | Standalone without power adapter:   | 490,000                                      |
|                              | Standalone with US power adapter:   | 250,000                                      |
|                              | Standalone with Universal adapter:  | 100,000                                      |

# ORDERING INFORMATION

8 7 xx - x - xx

SEE TABLE BELOW

|         |  |
|---------|--|
| <Blank> | Standard Operating Temperature Range Model |
| W       | Wide Operating Temperature Range Model     |
| Z       | Extended Operating Temperature Range Model |

|                     |  |
|---------------------|--|
| <Blank>             | Plug-In Module                                     |
| Standalone Versions |  |
| D                   | Wall-Mount with External US AC Power Supply        |
| E                   | Wall-Mount with External Universal AC Power Supply |
| F                   | Wall-Mount with DC Terminal Power                  |

| Model Type              | Fiber / Media Type | Distance | Connector Types |        |        |          | Tx Wavelength (nm) | Rx Wavelength (nm) | Min. Tx Power (dBm) | Max. Tx Power (dBm) | Min. Rx Sensitivity (dBm) | Max. Rx Sensitivity (dBm) | Link Budget (dB) |
|-------------------------|--------------------|----------|-----------------|--------|--------|----------|--------------------|--------------------|---------------------|---------------------|---------------------------|---------------------------|------------------|
|                         |                    |          | ST              | SC     | LC     | SFP      |                    |                    |                     |                     |                           |                           |                  |
| T3/E3 Coax Dual Fiber   | -                  | -        | -               | -      | -      | 8759-0** | -                  | -                  | -                   | -                   | -                         | -                         | -                |
|                         | MM                 | 5km      | 8740-0          | 8742-0 | 8746-0 |          | 1310               | 1310               | -23                 | -12                 | -31                       | -12                       | 8                |
|                         | SM                 | 30km     | 8741-1          | 8743-1 | 8747-1 |          | 1310               | 1310               | -15                 | -8                  | -31                       | -8                        | 16               |
|                         | SM                 | 60km     | 8741-2          | 8743-2 | 8747-2 |          | 1310               | 1310               | -5                  | 0                   | -31                       | -3*                       | 26               |
|                         | SM                 | 120km    | -               | 8743-3 | 8747-3 |          | 1550               | 1550               | -5                  | 0                   | -31                       | -3*                       | 26               |
| T3/E3 Coax Single-Fiber | SM                 | 20km     | -               | 8750-1 | -      |          | 1310               | 1550               | -15                 | -5                  | -30                       | -3                        | 15               |
|                         | SM                 | 40km     | -               | 8750-2 | -      |          | 1310               | 1550               | -8                  | 0                   | -30                       | -3*                       | 22               |
|                         | SM                 | 20km     | -               | 8751-1 | -      |          | 1550               | 1310               | -15                 | -5                  | -30                       | -3                        | 15               |
|                         | SM                 | 40km     | -               | 8751-2 | -      |          | 1550               | 1310               | -8                  | 0                   | -30                       | -3*                       | 22               |

For wide temperature (-40 to 60°C), add a "W" to the end of the model number. Consult factory for extended temperature (-40 to +75°C) models. When using single-fiber (SF) media converter models, the Tx wavelength on one end has to match the Rx wavelength on the other. Consult the factory for other fiber configurations.

\*A minimum of 3dB of attenuation is required for these models.

\*\* See SFP data sheet under Fast Ethernet for supported transceiver models.

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