Engage Communication

IP•Tube T3



T3 Circuit Extension Over IP



T3 CIRCUIT EXTENSION OVER ETHERNET

T3 Voice, Video and Data Over IP

The **IP•Tube T3** encapsulates DS3 circuits into IP Ethernet packets. The conversion of T3 circuits into packets enables organizations to dramatically reduce leased line costs by exploiting the efficiency of Ethernet networks. T3 Toll charges assessed by long distance and local carriers are eliminated or dramatically reduced for:

• Competitive Local Exchanges	• Multi-Site Enterprises
• Internet Service Providers	• Cellular Service Providers
• Education: K-12 and Universities	• Government and Municipalities

Transparent Protocol and Signaling

The **IP•Tube T3's** transparent operation maintains the proprietary signaling required to support call conferencing, call forwarding, caller ID and SS7. Transparent support for Modem, Fax, or Data circuits. Preserves toll-quality voice across the network.

The **IP•Tube's** low latency T3 Over IP connection provides for the transparent interconnection of Private Branch Exchanges, Mobile Switching Centers, Telecom Switches and T3 based communication systems via:

LANs, WANs, MANs, IP Satellite and Wireless Ethernet



LANs

The most compelling option for the interconnection of T3 based systems is when it can be accomplished over a Local Area Network. Fiber based LANS such as Gigabit Ethernet, provide organizations with high performance and high quality bandwidth that is especially well suited for the interconnection of a DS3 formatted digital signal at 44.736 megabits per second.

Metropolitan Area Networks

MANs provide a major savings for transport of T3 circuits that are Interlata. T3 circuits incur long distance service costs when the connection is between two local exchange carriers in different regions. MAN's geopgraphical coverage spans Local Access and Transport Areas with flat fee monthly service fees that are a fraction of DS3 leased circuits.

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IP•Tube T3

Standard Features

Service Quality Packet Prioritizing

The **IP•Tube T3** uses the Type of Service byte in the IP packets to prioritize the encapsulated T3 frames. The setting of the TOS byte can be used to ensure that the real time TDM data from the **IP•Tube T3** is ensured high priority. Additionally 802.1p/q VLAN tagging provides layer 2 prioritization.

Management Interface

Management of the **IP•Tube T3** is accomplished with a Command Line Interface that is accessed through a Console or Telnet connection. Templates of the most common configuration provide for an Edit and Paste configuration. *SNMP* MIB I and II support, with traps, is a standard feature.

Optional Features

Protector OPTION -PRO

The protector option utilizes the second LAN interface as a redundant path for the interconnection of the IP encapsulated T3 data. The extension of the T3 circuit has a fault tolerant link that is configured to always on, or with switch over criteria.

Alternator Option -ALT

The **IP•Tube T3-ALT** Alternator option alternatively sends the IP packetized T3 frames on LAN 1 and LAN 2. The Alternator option enables the bandwidth required to transport T3 circuits to be split over two WAN connections.

Technical Specifications

LAN Network Interface:
- Two 10/100BaseT Full/Half Ethernet
- Autonegotiation or Configured Speed/Duplex

LAN Network Protocols Supported:
- IP, TCP, UDP, ICMP

T3 Specifications:
- One DS3 Interfaces
- Framing - unFramed Full T3

T3 Over IP Protocol:
- TDM Over IP
- Circuit Extension Services Over IP
- Low Latency: less than 500 micro seconds

Quality of Service Support:
- IP Type of Service (TOS) CLI configured
- IANA Registered UDP Port 3175
- 802.1p/q VLAN tagging provides layer 2 prioritization

Management:
- Telnet support with Edit and Paste Template Files
- Console Port for Out of Band Management
- SNMP support (MIB I, MIB II) with configured traps
- Remote config., monitoring, & reset
- Telco Diagnostics: Local Loop, Remote Loop

TFTP Online Upgrade Capable
- IPTube is fully operational during upgrade

Regulatory:
- CE • Safety -IEC60950 • EMC - CFR 47 Part 15 Sub Part B:2002, EN55022:1994+A1&A2, EN55024, ICES-003 1997, CISPR 22 Level A
- Telecom Part68

Rear Panel/Power:
- 12-30 VDC, 1.0A.
- Screw Locking Connector
- Universal Adapter 100/240 VAC 50/60 Hz
- Optional -48V 0.25 Amp • Hot Standby
- Dimensions: 9" (L) x 7.3" (W) x 1.50" (H)



How to Order — IP•Tube T3

Part No.	Description	Notes
046-4500-01	IP-Tube T3 - Full DS3 over IP	Standalone with Single DS3
CH-046-4500-01	IP-Tube T3 - Full DS3 over IP for CHASSIS	CHUB-E Slot Card Version with Single DS3
-PRO	Protector Option	Fault Tolerant Network Interconnect
-ALT	Alternator Load Balancing Option	Load Balancing Inverse Mux
Power Options		Specify as suffix
094-0930	Cable Kit for wiring DC input	9V-30VDC input - 10 Feet with Lugs
-N48VDC	Power Supply Module Negative 48 Volt DC	Isolated Negative 48 Volt Power
Rack Mount Option		Specify as suffix
-RACKMNT	Rack Mount Kit for Enclosure	Enclosure Nut Serts Installed
095-1000	19/23" Rack Mount Bracket	Requires -RACKMNT Option

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