



# Loop-IP6700 TDMoEthernet

## *Description*

Loop-IP6700 TDMoEthernet is designed to transport E1/T1/DTE/E3/DS3 signal with timing plus Ethernet traffic over IP network, electrical or optical. This is a cost effective way of migrating to IP network from existing voice and data network using existing TDM based equipment.

TDMoEthernet is a system that could be used to transport multiple E1, T1, DTE, E3, DS3, and 10/100BT Ethernet traffic through 10/100BT Ethernet. The number of E1/T1/DTE/DS3 interfaces can be factory optioned from 1 to 4 (4 T1/ 4 E1/ 2 DTEs / 1 E3 / 1 DS3 Max.). TDMoEthernet has built-in AC or DC power, console port, Ethernet port, and SNMP port with inband management for remote.

## *Features*

- Support- E1 / T1 on the main board
  - E1 / T1 / V.35 / E3 / DS3 on the daughter board
- E1/T1 interfaces: 1 to 4 framed or unframed with BNC/RJ connectors
- LAN interface: one 10/100 BT Ethernet
- WAN interface: 10/100 Base-Tx UTP or standard open Fiber slot for SFP Transceiver
- Each port timing source can be chosen from:
  - (a) Internal
  - (b) External (for low speed card only)
  - (c) from its own or other's line/ WAN
- Alarm relay
- Console port, Ethernet, SNMP
- Inband management: through any time slot of the transported E1
- Support VLAN packet transparency i.e. up to Max 1536 bytes
- Multi-color LED indicators
- LCD/Keypad (future option)



## Ordering Information

To specify options, choose from list below:

**Note:** RoHS compliant units are identified by the letter **G** appearing immediately at the end of ordering code.

Model (non RoHS compliant)	Model (RoHS compliant)	Description
Loop-IP6700-EH-pp-add	Loop-IP6700-EH-pp-add-G	IP6700 with an electrical Ethernet uplink, a SNMP port, one DS3/E3 high speed interface and one LAN interface*
Loop-IP6700-EL-aa-bb-cc-dd-pp-add	Loop-IP6700-EL-aa-bb-cc-dd-pp-add-G	IP6700 with an electrical Ethernet uplink, a SNMP port, low speed interfaces described below and one LAN interface *
Loop-IP6700-OH-pp-add	Loop-IP6700-OH-pp-add-G	IP6700 with an optical FX uplink, a SNMP port, one DS3/E3 high speed interface and one LAN interface*. SFP optical module is not included.
Loop-IP6700-OL-aa-bb-cc-dd-pp-add	Loop-IP6700-OL-aa-bb-cc-dd-pp-add-G	IP6700 with an optical FX uplink, a SNMP port, low speed interfaces described below and one LAN interface*. SFP optical module is not included.
<b>Accessories</b>		
<b>User's Manual (All User's Manuals are RoHS compliant)</b>		
Loop-IP6700-UM	Loop-IP6700-UM	User's Manual (paper hard copy-optional). A CD version of the manual is already included as standard equipment.
<b>Power Cord (All power cords are RoHS compliant)</b>		
Loop-ACC-PC-USA	Loop-ACC-PC-USA	AC power cord for Taiwan/America
Loop-ACC-PC-EU	Loop-ACC-PC-EU	AC power cord for Europe
Loop-ACC-PC-UK	Loop-ACC-PC-UK	AC power cord for UK
Loop-ACC-PC-AUS	Loop-ACC-PC-AUS	AC power cord for Australia
Loop-ACC-PC-CH	Loop-ACC-PC-CH	AC power cord for China

- NOTE** 1. \*High Speed for DS3 / E3 only (E3/DS3 software programmable)  
2. \*Low Speed for T1, E1 and DTE

Where aa, bb =

- select from list below or leave this area blank
- E75 for 75 ohm BNC E1 interface port
- E120 for 120 ohm Twisted Pair RJ48C E1 interface port
- T1 for T1 interface port

Where cc and dd are optional =

- select from list below or leave this area blank
- E75 for 75 ohm BNC E1 interface port
- E120 for 120 ohm Twisted Pair RJ48C E1 interface port
- T1 for T1 interface port
- 22 for V.35 DTE interface with DB25 connector
- 33 for EIA530 DTE interface with DB25 connector
- 44 for X.21 DTE interface via DB25P to DB15S (1-foot) conversion cable
- 66 for V.36 / RS449 DTE interface via DB25P to DB37S (1-foot) conversion cable
- 77 for RS422 / V.11 DTE interface with DB25 connector

pp =

- DC for 20-72 Vdc power source
- AC for 100-240 Vac power source (For AC choose an appropriate power cord)

add=

- LCD front panel / Keypad (future option)

Example:

Loop-IP6700-EL E75-E75-22-22-AC

is a unit with low speed Ethernet, two E75 ports, two V.35 DTE ports, and 100 -240 Vac power.

aa-bb-cc-dd

Where the 4 options, aa,bb,cc,dd can be equipped with 2 E1, or 2 DTE cards and the remainder all E1 or all T1

Loop-IP6700-EH-AC

is a unit with high speed Ethernet, DS3 and 100 -240 Vac power.

## **Loop-IP6700 TDMoEthernet Product Specification**

### **Network Interface (E1):**

Line rate	2.048 Mbps ± 50ppm	Input signal	ITU G.703
Framing	ITU G.704	Output signal	ITU G.703
Line code	AMI/HDB3	Jitter	ITU G.823
Connector	BNC and RJ48C	Electrical	75 ohm coax/120 ohm twisted pair

### **Network Line Interface (T1):**

Line rate	1.544 Mbps ± 32 ppm	Input signal	DS-1 from 0 dB to -26 dB w/ALBO
Framing	D4/ ESF/ ESF&T1.403/ NONE (Clear Channel)	Output signal	DSX-1, DS-1
Line code	AMI / B8ZS	Surge Protection	FCC Part 68 Sub-Part D
Connector	RJ48C	Pulse Template	Per AT&T TR 62411

### **NOTE:**

Large configurable jitter buffers, on a per bundle basis, that compensate for the delay variation introduced by the IP/MPLS network, with the following maximal depths:

For E1:	up to 256 ms	For framed T1:	up to 256 ms
For unframed T1:	up to 340 ms	For framed T1 with CAS:	up to 192 ms

### **Ethernet (WAN)**

Connector	RJ45
Speed	10/100 Base T

### **Optical (WAN)**

Connector	SFP 3.3V
Speed	10/100 Base-FX

### **DTE Interface (V.35)**

Data Rate	n x 56 (n= 1 to 31)
Data Rate	64 Kbps (n= 1 to 32)
Connector	DB25S for V.35
Standard	

### **Ethernet (LAN)**

Connector	RJ45
Speed	10/100 Base T

### **Alarm Relay**

Alarm Relay	Fuse alarm, performance alarm
Connector	3 pin terminal block

### **External Clock**

Input signal	ITU G.703
Connector	BNC

Input signal

### **Network Management**

#### **Console Port**

Connector	DB9 at Front Panel
Electrical	RS232 interface
Protocol	Menu driven VT-100 terminal

#### **SNMP Port**

Connector	RJ45 at front panel
Protocol	Telnet (VT100) and Embedded SNMP

### **Inband Management**

Any 64 Kbps DS0 can be assigned for management  
HDLC Management Protocol

### **Performance monitor(T1,E1)**

Performance store	The last 24 hours performance in 15-minute intervals
Monitor registers	Line, user and remote site
Performance reports	Date & Time, Error second, Degraded minutes, Unavailable second, Bursty error second, severe error second, controlled slip second, and loss of frame count
Alarm history	Date & time, alarm type(i.e. master clock loss, RAI, AIS, LOS, BPV, ES, CSS)
Threshold	Second, degrade minutes

### **Diagnostics test(T1, E1)**

Loopback	Line loopback, payload loopback and local loopback
Remote loopback	Line loopback and payload loopback

### **Front Panel**

Keypad / LCD (future option)

LED

### **Physical**

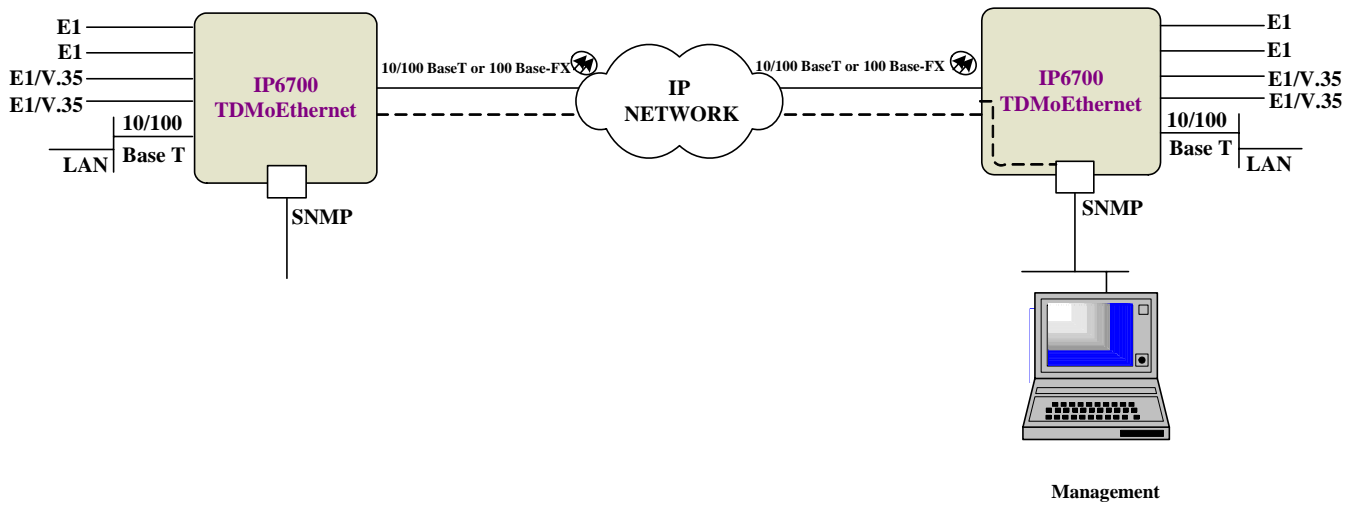
Dimensions	212.6 x 43.7 x 197 mm. (WxHxD)	Power	Single AC power or DC power.
Temperature	0 -50°C		DC: 20 to 72 Vdc
Humidity	0-95% RH (NON-CONDENSING)		AC: 100 to 240 Vac, 50/60Hz
Mounting	Desk-top stackable, wall mount		Power Consumption: 10W Max

### **Compliance Standard:**

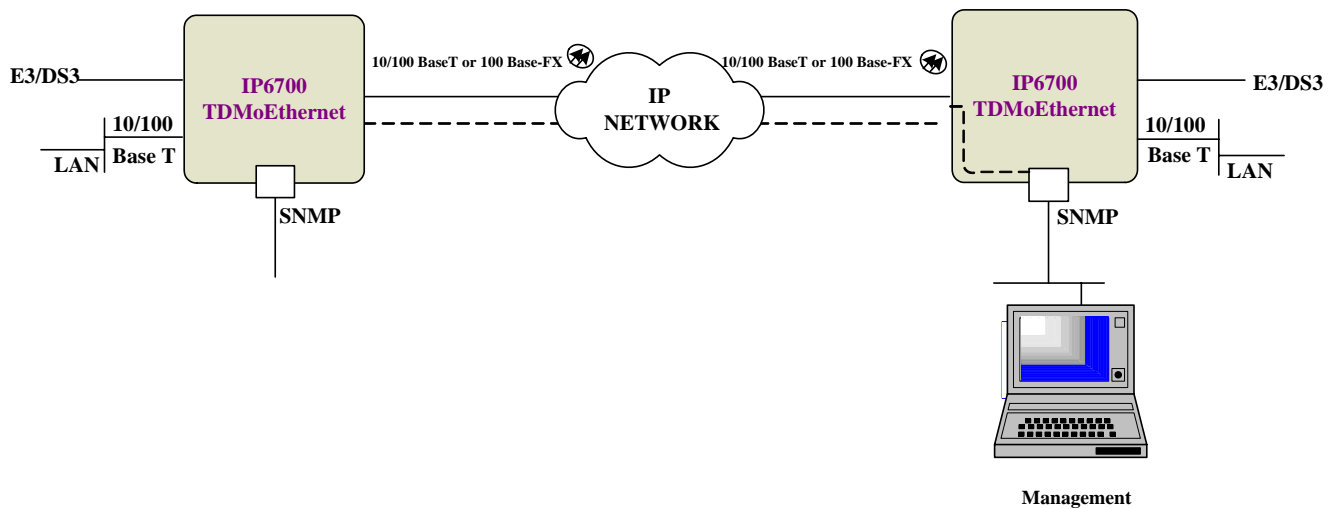
G.823/G.824, G.826, TDMoEthernet for structured traffic, SATOP for unstructured traffic

## Application Illustration

### For Low Speed



### For High Speed



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