

TDM

Network Solutions

STM1/E1 Access Multiplexer
E1 Access Unit/Multiplexer
Ethernet Bridge

VDSL2 IP DSLAM
VDSL2 Bridge/Router
EFM LAN Extender

E1 TDM over IP
Ethernet Serial Server





iSAP5100

STM1/E1, Data, Ethernet, Voice Managed Multiplexer (4.5U)

The iSAP5100 is a 5U 19" 20 slots rack type STM1 / E1 Time Division Multiplexer for fractional E1 network access, which is designed for non-stop operation. There are 18 slots available for hot-swappable iSAP5100 I/O cards. Two slots are provided for CPU Controller cards and two slots are provided for power supplies. Uplink supports STM1 fiber and E1 copper, two types of connection, maximum up to 144x E1 cross connect for Voice and Data. The iSAP5100 accommodates up to two separate power supplies, which may derive power from AC (110/220) or DC (-36~72V) power sources. When two power supplies are installed, the modules provide complete power redundancy and are hot swappable even during the E1 cards' transmission. The iSAP5100 provides STM1 fiber and E1 copper uplink with a the maximum E1 support of up to 96 E1 channels with cross connection for Voice and Data or interface including RS232, V.35, G64K, FXS, FXO, ET100 and E&M.

Interface Cards

- Control card: 5100-MS-DM-96, 5100-MS-DM-155
- E1 card: 5100-8E1, 5100-16E1
- Power modules: 5100-AC240, 5100-DC240
- I/O cards: 5100-RS232, 5100-RS232/C, 5100-G64K, 5100-V35, 5100-ET100, 5100-E&M, 5100-FXS, 5100-FXO

Feature

- Supports MAX. 96x E1 with full cross-connect, Supports DS0 cross-connect
- Supports 16 channel Main E1 LTU card
- Supports E1 time slot broadcast function
- Modular design for Voice I/O card, the voice I/O card has two sub-module, each sub-module supports 4-port FXO/FXS
- All modules and cards support hot-swapping
- DCE card types included N x 64K, RS232(Sync/Async), G703-64K, ET100, E&M, FXO, FXS...etc.
- Supports Console, Telnet, SNMP and GUI management
- Available types of power built-in : AC+AC, AC+DC, DC+DC
- Modular design, 5U 19", 18-slot for I/O cards

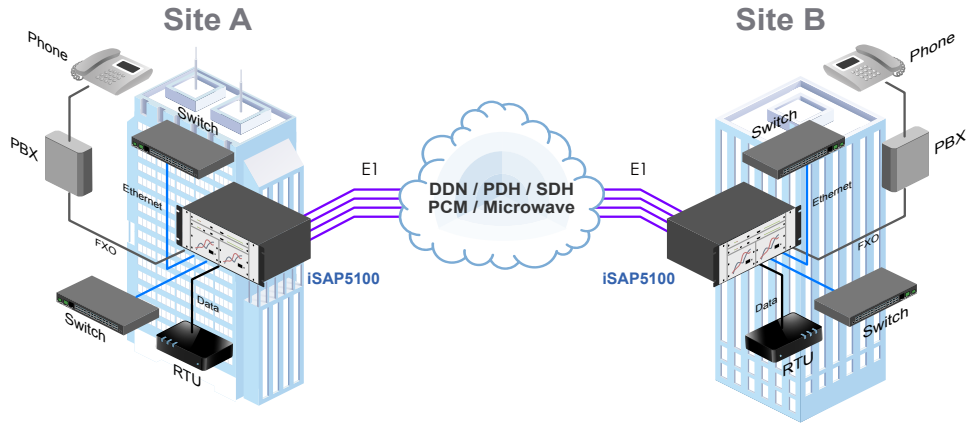
Specifications

5100-MS-DM-96	
Interface	10/100Base-TX Ethernet RJ45 port
Console	RS232
E1 Cross Connect	144xE1 Transparent cross connect , Supports E1 time slot mapping / broadcast function
CAS Cross Connect	Supports 16 time slot CAS follow voice time cross connect
5100-MS-DM-155	
Interface	Supports 1-port STM-1 155M SFP Slot on CPU card, CPU redundancy (1+1)
NMS	10/100Base-TX
Console	RS232
E1 Cross Connect	155M fiber to 63E1 and 144xE1 cross connect, supports E1 /time slot mapping/broadcast function
CAS Cross Connect	Supports time slot 16 CAS follow voice time cross connect
STM-1/E1 Drop / Insert	Supports STM-1 63E1 x 32TS to E1/IO slot 128E1 x 32TS connection
5100-8E1 / 5100-16E1	
Interface	Supports 8E1/16E1 interface
Line Impedance	120 / 75 ohms
Frame format	CAS (PCM30)/CCS (PCM31)
Connector	RJ45
5100-RS232	
Data rate	≤38.4kbps Async or 64/128kbps Sync
Ports	6-port
Interface	RS232
5100-V35	
Interface types	V.35
Connector	HD68F (female) with cable adapter
Line code	NRZ
Data rate	Nx64kbps
5100-RS232/C	
Data rate	9600bps, 19.2Kbps Sync/Async
Ports	6-port
Interface	RS232
5100-G64K	
Data rate	64Kbps, Co-directional/Contra-directional and Centra-directional
Ports	4-port
Connector	RJ45
5100-ET100	
Standards	IEEE 802.3, 802.3u
MDI/MDIX	Auto
Data rate	10/100Mbps
Encapsulation	HDLC
Ports	4-port
Connector	RJ45
5100-E&M	
Loop current	25 mA, maximum 70mA
Ports	8-port
Connector	RJ45
5100-FXS	
ITU-T Standard	G.712/G.713/G.714
Line resistance	600Ω
Off-hook current	25mA
Line distance	2km
Ports	8-port
On-hook current	10mA+/-3mA
Effective Ring	Frequency: 25Hz, Voltage: 75V, peak to peak110V MAX line resistance: 1500Ω
Connector	RJ45
Electrical & Mechanical	
Dimensions	350 × 440 × 187 mm (D x W x H)
Environmental	Operating: 0~60°C Storage:-25~70°C Humidity: 10~90%, non-condensing
Power	AC 220V : 165~265V, 50~60Hz, DC -48V:-36~-76VDC
Power Consumption	< 90W

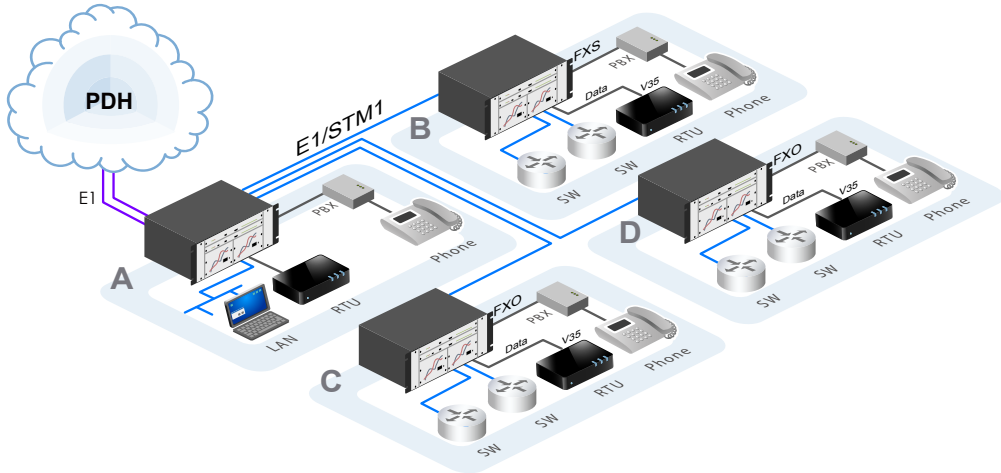
STM1/E1 Managed Multiplexer

Application

Point to Multi-points 16E1 aggregation



Point to Multi-points 63E1 aggregation over STM-1



Ordering Information

Model Name	Type	Description
iSAP5100-CH	Chassis	5U 19" 20 slot Chassis, power modules not included (18-slot for I/O cards, 2-slot for CPU card)
iSAP5100/AC	Power	AC Power plug-in module (165 to 265 VAC)
iSAP5100/DC	Power	DC Power plug-in module (±36 to ±76 VDC)
iSAP-EMS	Software	EverLink2000 EMS software for iSAP5100 and iSAP2000
iSAP5100-8E1R	Main E1 card	8 channels Main-E1 LTU card: Fractional E1 RJ45
iSAP5100-16E1R	Main E1 card	16 channels Main-E1 LTU card: Fractional E1 RJ45
iSAP5100-CAB-RJ45/4BNC	Cable	2ch E1 RJ45 to 4BNC cable (1.5 meter)
iSAP5100-MS-DM-96	CPU-card	CPU card with console, SNMP management port
iSAP5100-MS-DM-155	CPU-card	CPU card with console, SNMP management port and STM1 fiber port
iSAP5100-FXO	Voice Card	8 channels FXO interface card
iSAP5100-FXS	Voice Card	8 channels FXS interface card
iSAP5100-E&M	Voice Card	8 channels 2/4 wires E&M voice interface card
iSAP5100-RS232	RS-232 card	6 channels RS-232 interface card (V4.0), Low speed: 128kbps 19.2kbps Async
iSAP5100-RS232C	RS-232 card	6 channels RS-232 (V.24) interface card, Low speed: 128kbps, 19.2kbps Async with Multi-Clock function
CAB-DB62DB25F6-232-LS	Cable	RS-232 adapter cable for low speed: DB62 Male to 6x DB25 Female, 1M
iSAP5100-ET100	FE Card	4 channels 10/100Base-TX Ethernet Bridge card
iSAP5100-DATA	Data card	4 channels V.35/X.21/RS530/RS449 cards
CAB-HP68MB34F4-V35	Cable	V35 adapter cable for High speed: HP68 Male to 4x MB34 Female, 1M
CAB-HP68DB25F4-530	Cable	RS530 adapter cable for High Speed: HP68 Male to 4x DB25 Female, 1M
CAB-HP68DB15F4-X.21	Cable	X21 adapter cable for High speed: HP68 Male to 4x DB15 Female, 1M
CAB-HP68DB37F4-449	Cable	RS449 adapter cable for High Speed: HP68 Male to 4x DB37 Female, 1M
iSAP5100-G64K	64K co-directional Card	4 channels G.703 64kbps co-directional card

Example: iSAP5100 – CH Example: iSAP5100 – 8E1R
 Example: iSAP5100 – CH Example: iSAP5100 – 8E1R



iSAP2000

E1, Data, Ethernet, Voice Managed Multiplexer (2U)

The iSAP2000 is a 2U 19" 6 slots rack type E1 Time Division Multiplexer for fractional E1 network across, which is designed for non-stop operation. There are 6 slots available for hot-swappable I/O cards and two slots are provided for power supplies. Uplink supports E1 copper connection, maximum up to 96x E1 cross connect for Voice and Data. The iSAP2000 optionally accommodates up to two separate power supplies, which may derive power from AC (110/220) or DC (-36~72V) power sources. When two power supplies are installed, the modules provide complete power redundancy and are hot swappable even during the E1 cards' transmission. The iSAP2000 provides E1 copper uplink, the maximum E1 supports up to 96 E1 channels with cross connection for Voice and Data, the interface included RS232, RS485, G64K, V35, FXS, FXO, ET100 & E&M.

Interface Cards

- E1 card: 5100-8E1, 5100-16E1
- Power modules: 2000-AC240, 2000-DC48
- I/O cards: 5100-RS232, 5100-RS232/C, 5100-N*64K/V35, 5100-G64K, 5100-ET100, 5100-E&M, 5100-FXS, 5100-FXO, 5100-RS485

Feature

- Supports MAX. 96xE1 with full cross-connect, Supports DS0 cross-connect
- Supports 16 channel Main E1 LTU card
- Supports E1 time slot broadcast function
- Modular design for Voice IO card, the voice IO card has two sub-module, each sub-module supports 4-port FXO/FXS
- All modules and cards support hot-swapping
- DCE card types included N*64K, RS232(Sync/Async), G703-64K, ET100, E&M, FXO, FXS...etc.
- Supports Console, Telnet, SNMP and GUI management
- Available types of power built-in : AC+AC, AC+DC, DC+DC
- Modular design, 2U 19", 6-slot for I/O cards

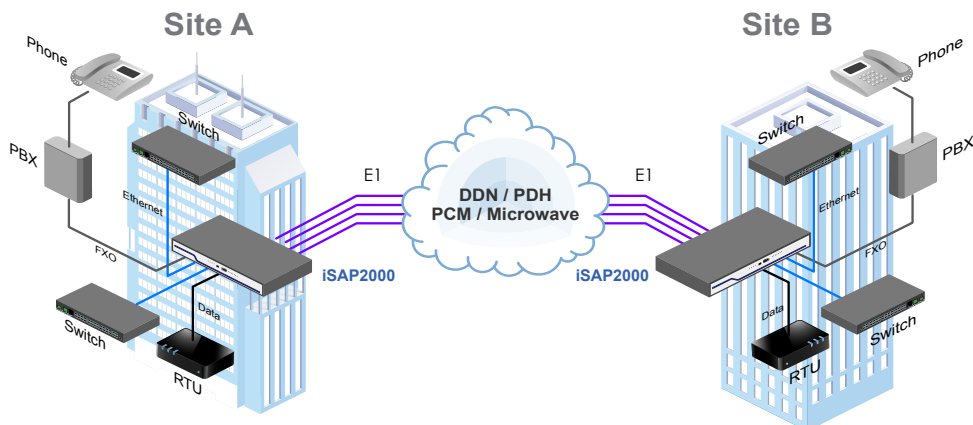
Specifications

Management	
NMS	10/100Base-TX
Console	RS232
5100-8E1, 5100-16E1	
Interface	Supports 8E1, 16E1 two types interface
E1 Cross connect	96xE1 transparent cross connect, supports E1, time slot
CAS cross connect	Supports 16 time slot CAS follow voice time cross connect
Line Impedance	120 / 75 ohms
Frame format	CAS(PCM30)/CCS(PCM31)
Connector	RJ45
5100-RS232	
Data rate	≤38.4kbps Async or 64/128kbps Sync
Ports	6-port
Interface	RS232
5100-RS232/C	
Data rate	9600bps, 19.2Kbps Sync/Async
Ports	6-port
Interface	RS232
5100-N*64K/V35	
Data rate	Nx64kbps(N=1~30 or 31)
Ports	4-port
Connector	V35 Interface
5100-G64K	
Data rate	64Kbps, Co-directional, Contra-directional and Contra-directional
Ports	4-port
Connector	RJ45
5100-ET100	
Standards	IEEE 802.3, 802.3u
MDI/MDIX	Auto
Data rate	10/100Mbps
Ports	4-port
Connector	RJ45

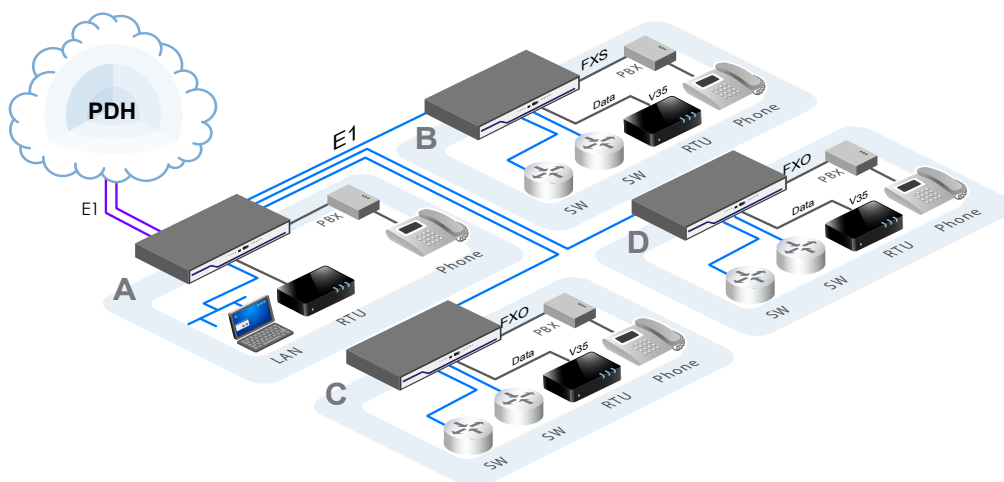
5100-E&M	
Loop current	5~30 mA, maximum 70mA
Ports	8-port
Connector	RJ45
5100-FXS	
ITU-T Standard	G.712, G.713, G.714
Line resistance	600Ω
Off-hook current	25mA
Line distance	2km
Ports	8-port
On-hook current	10mA+/-3mA
Effective Ring	Frequency: 25Hz Voltage: 75V, peak to peak110V MAX line resistance: 1500Ω
Connector	RJ45
5100-FXO	
ITU-T Standard	G.712, G.713, G.714
Line resistance	600Ω
Line distance	2km
Ports	8-port
Caller ID	Supports DTMF, FSK Standard
Connector	RJ45
Electrical & Mechanical	
Dimensions(WxDxH)	440mmx300mmx88mm
Environmental	Operating: 0~60°C Storage: -25~70°C Humidity:10~90%, non-condensing
Power	AC 220V: 165~265V, 50~60Hz DC -48V:-36~-76VDC
Power Consumption	< 40W

Application

Connection with PBX (Private Branch Exchange)



The extension and expansion of DDN (Distributed Data)



Ordering Information

Model Name	Type	Description
iSAP2000-CH	Chassis	2U 19" 6 slots Chassis with built-in CPU card, power modules not included
iSAP2000/AC	Power	AC power plug-in module (165 to 265 VAC)
iSAP2000/DC	Power	DC power plug-in module (± 36 to ± 76 VDC)
iSAP-EMS	Software	EverLink2000 EMS software for iSAP5100 and iSAP2000
iSAP5100-8E1R	Main E1 card	8 channels Main-E1 LRU card: Fractional E1 RJ45
iSAP5100-16E1R	Main E1 card	16 channels Main-E1 LRU card: Fractional E1 RJ45
iSAP5100-CAB-RJ45/4BNC	Cable	2ch E1 RJ45 to 4BNC cable (1.5 meter)
iSAP5100-FXO	Voice Card	8 channels FXO interface card
iSAP5100-FXS	Voice Card	8 channels FXS interface card
iSAP5100-E&M	Voice Card	8 channels 2/4 wires E&M voice interface card
iSAP5100-RS232	RS-232 card	6 channels RS-232 interface card (V4.0), Low speed: 128kbps 19.2kbps Async
iSAP5100-RS232C	RS-232 card	6 channels RS-232 (V.24) interface card, Low speed: 128kbps, 19.2kbps Async with Multi-Clock function
CAB-DB62DB25F6-232-LS	Cable	RS-232 adapter cable for low speed: DB62 Male to 6x DB25 Female, 1M
iSAP5100-ET100	FE Card	4 channels 10/100Base-TX Ethernet Bridge card
iSAP5100-DATA	Data card	4 channels V.35/X.21/RS530/RS449 cards
CAB-HP68MB34F4-V35	Cable	V35 adapter cable for High speed: HP68 Male to 4x MB34 Female, 1M
CAB-HP68DB25F4-530	Cable	RS530 adapter cable for High Speed: HP68 Male to 4x DB25 Female, 1M
CAB-HP68DB15F4-X.21	Cable	X21 adapter cable for High speed: HP68 Male to 4x DB15 Female, 1M
CAB-HP68DB37F4-449	Cable	RS449 adapter cable for High Speed: HP68 Male to 4x DB37 Female, 1M
iSAP5100-G64K	64K co-directional Card	4 channels G.703 64kbps co-directional card

Chassis
iSAP2000 –
 Example: iSAP2000 – CH

Card Type
iSAP2000 –
 Example: iSAP2000 – 8E1R



iSAP1000

STM1/E1 Access Multiplexer

iSAP1000 is 1U 19" rack type STM-1/E1 terminal multiplexer which delivers traditional PDH services over SDH networks. iSAP1000 provides connectivity for up to 16E1. The product complies with SDH standards and interfaces with existing SDH backbones through a single or 1+1 protection STM-1 interface. iSAP1000 supports a variety of management access over console, and SNMP. iSAP1000 provides two Gigabit Combo ports (2-port 10/100/1000Base-T and 2-port 1000Base-X SFP slot) with 16x E1 or 2x STM-1 fiber interfaces. The two GE combo ports support Link aggregation, port based VLAN and 802.1Q VLAN function.

Feature

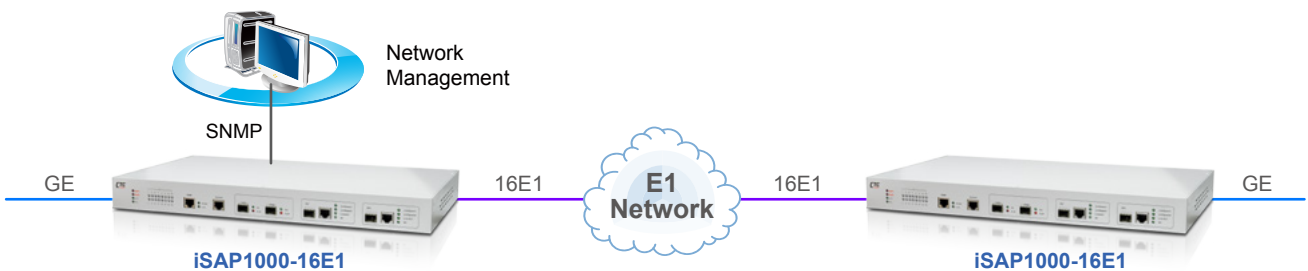
- Provides 2-port STM-1 fiber with 1+1 protection.
- Supports Internal clock and recovery clock modes
- Supports Single E1 fractional and unframed E1 service; Multiple E1, fractional E1
- Supports PCM31, FAS+CRC4, CRC self-test
- Supports HDLC/GFP bridge operation, 16x VCG with total 16 remote device, 16E1 Per VCG, MAX 63E1 non-blocking matrix
- Supports 16E1 balanced RJ45 or unbalanced BNC connectors
- Maximum 220ms delay variance between E1 links
- Supports 2x GbE Combo ports
- Supports IEEE 802.1Q VLAN and QinQ, Link aggregation
- Fiber port support ALS(Auto Laser Shutdown) function
- Built-in BERT for performing local and remote loopback
- Supports Console, GUI and SNMP management
- Supports local and remote FTP/TFTP f/w upgrade
- Support for LCAS according G.7042
- Support according to G.7043 VCAT
- Hot Standby mode for power supply
- E1 ports faults statistics monitoring
- Complies with ITU-T G.8040 standard
- Supports MTU 1522 bytes

Specifications

Ethernet Interface	Supports 2x GE combo ports Auto Negotiation, AUTO-MIDX, 10M/100M/1000M, Full/Half Duplex Connector : RJ45	Management port	One console port with RJ45 connector One SNMP Ethernet port with RJ45 connector
Optical Interface	Supports 802.3x flow control 1000FX, SFP Connector : LC	LED Indicators	SYS, PWR, PWR1, PWR2, GE(LNK/ACT, SD), E1(LOS, SYNC)
E1 Interface	Up to 16x E1(ITU-T G.703) Line Impedance : 75ΩBNC or 120ΩRJ45 Bit rate : 2048kbps±50ppm Line code : HDB3	Standards	IEEE802.3 Ethernet, IEEE802.3u, IEEE802.3Z, IEEE802.3X, IEEE802.1Q, IEEE802.1ad, SNMPv1/v2c/v3, ITU-T G.703, ITU-T G.704, ITU-T G.823
STM-1 Interface	Supports 2x STM-1 optical fiber port with SFP slot Supports 1+1 optical fiber protection	Dimensions	310 x 440 x 44mm (D x W x H)
		Power	AC: 90-265V, DC: -48V, Supports AC+AC, DC+DC, AC+DC
		Power Consumption	<24W
		Temperature	Operating: -5 ~ 50°C Humidity : ≤90% non-condensing

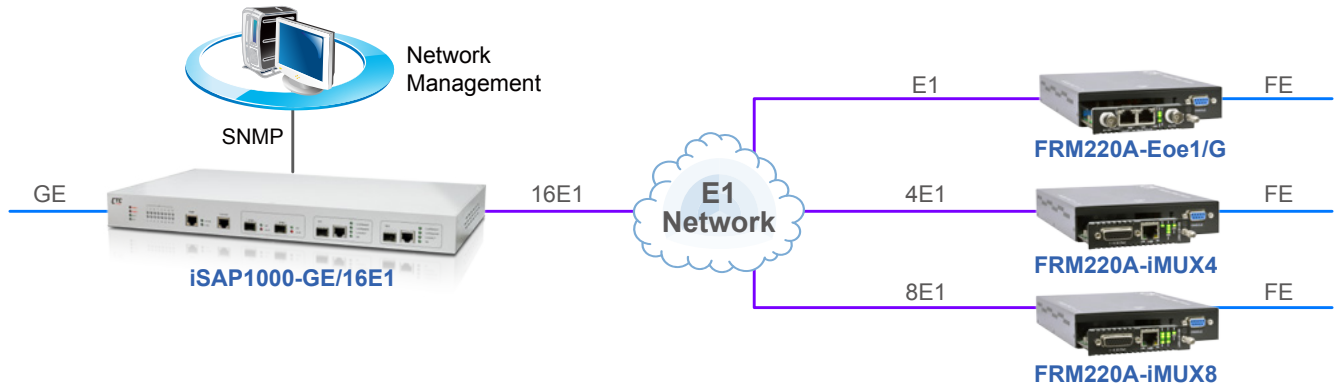
Application

P to P, GE over 16E1 application

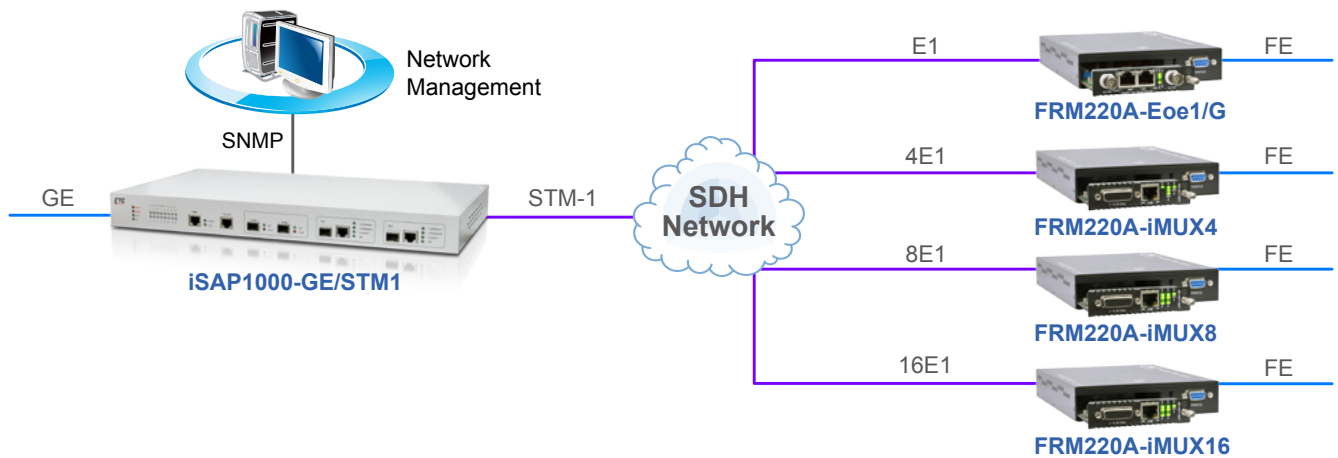


STM1/E1 Access Multiplexer

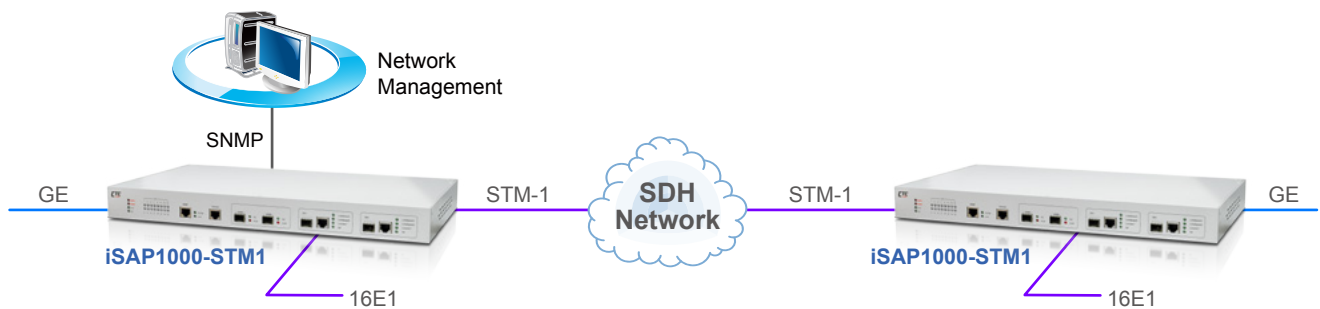
Point to Multi-points 16E1 aggregation



Point to Multi-points 63E1 aggregation over STM-1



GE + 16E1 over STM-1 Application



Ordering Information

Model Name	Description
iSAP1000-16E1B-AD	2x GbE Combo over 16E1 BNC, P to P, 1U 19" Rack, AC+DC power
iSAP1000-16E1R-AD	2x GbE Combo over 16E1 RJ45, P to P, 1U 19" Rack, AC+DC power
iSAP1000-GE/16E1B-AD	2x GbE Combo over 16E1 BNC, P to M, 1U 19" Rack, AC+DC power
iSAP1000-GE/16E1R-AD	2x GbE Combo over 16E1 RJ45, P to M, 1U 19" Rack, AC+DC power
iSAP1000-GE/STM1-AD	2x GbE Combo over STM1, P to M, 1U 19" Rack, AC+DC power
iSAP1000-STM1B-AD	2x GbE Combo + 16E1 BNC over STM1, P to P, 1U 19" Rack, AC+DC power
iSAP1000-STM1R-AD	2x GbE Combo + 16E1 RJ45 over STM1, P to P, 1U 19" Rack, AC+DC power

Example: iSAP 1000 – –
Connector Power Type



ERM-MUX-Plus

4x E1 Multiplexer

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TDM Series

The ERM-Mux-plus is a 4U 19(23)" 14-slot rack type E1 Time Division Multiplexer for Fractional E1 network access which is designed for non-stop operation. There are 10 slots available for hot-swappable ERM-Mux-plus-I/O cards. Two slots are provided for Mux-E1 cards, which may be configured for redundant 1+1 operation of the E1 lines, safe guarding against expensive network down time. Two slots are also available for CPU cards, with the second CPU card acting as a hot standby in case of primary card failure. Each Mux-E1 card may be linked to another ERM-Mux-plus Rack to provide a point-to-point variety of datacom, Ethernet & voice over E1 network services. The ERM-Mux-plus optionally accommodates up to two separate power supplies, which may derive power from AC (110/220) or DC (-48V) power sources. When two power supplies are installed, the modules provide complete power redundancy and are hot swappable even during the E1 cards' transmission. The ERM-Mux-plus provides all interface connections on the front panel. BNC and RJ-45 are used for E1 Line interface connections, RJ-45 connections are used for all voice (FXO, FXS, E&M), for 10/100 Ethernet Bridge and G.703-64K co-directional / contra-directional / center. Optional cable adapters are used to convert the DB-62F DCE ports of the I/O cards to 6xRS-232, HP68F DCE port of I/O card to 4x V.35, RS-232, RS-530, RS-449, RS-422 and X.21 or 5x X.50 channels.

Feature

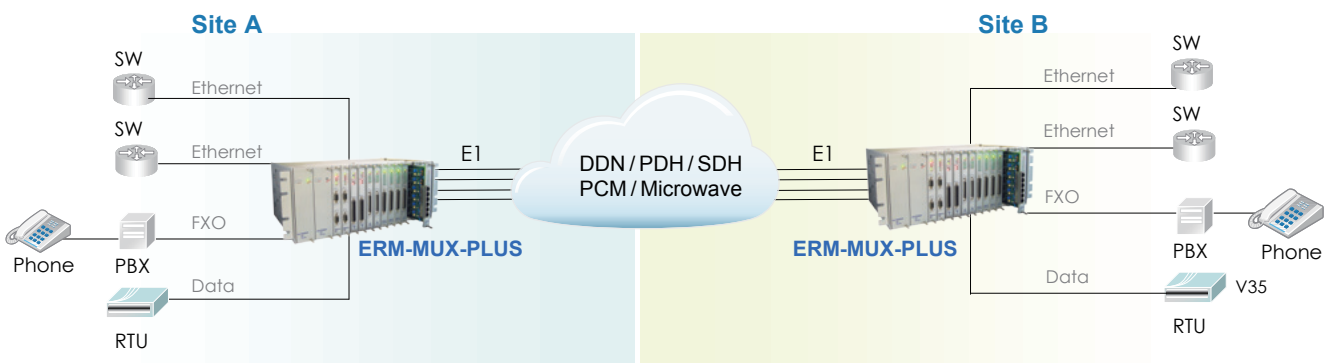
- CPU redundancy (1+1)
- E1 redundancy (1+1) and E1 card redundancy
- Power redundancy (1+1) [2AC, 2DC, AC+DC]
- Drop & Insert function
- Console, NMP, SNMP, management
- DCE hot swappable card types
 - 6ch FXS voice
 - 6ch FXO voice
 - 6ch E&M voice
 - 6ch RS232
 - 4ch V.35 (nx64K)
 - 4ch G.703 64K co-directional /contra-directional / center mode
 - 2ch Ethernet bridge

Specifications

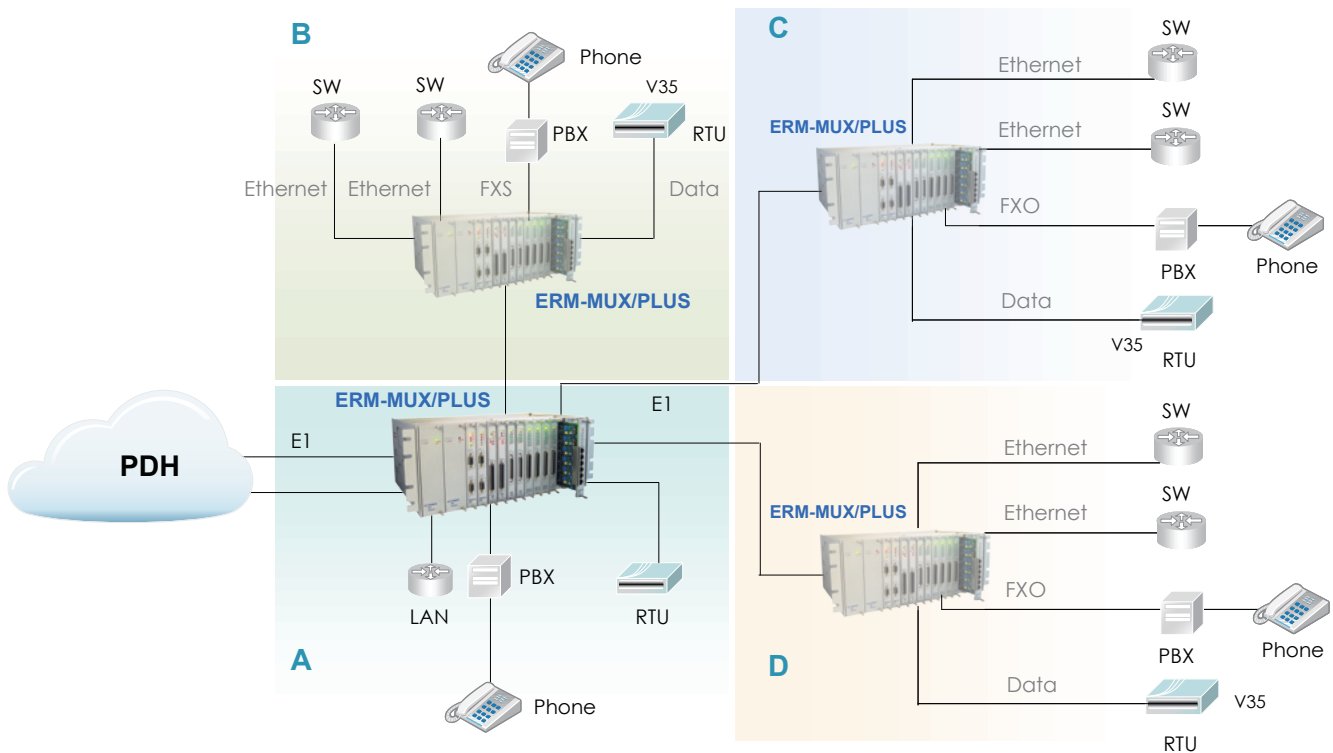
Connectors	Console port (RJ45, RS232C)	Environmental	Operating 0°C ~ 60°C
Physical	WAN port RJ45 Jack (2-wire, 4-wire)	Specifications	Storage 0°C ~ 70°C Relative humidity 0% ~ 90% non-condensing Predicted MTBF : 65,000 hrs (25°C)
Specifications	Dimensions: 350 x 438 x 176mm (W x D x H)	Certification	CE
Power Characteristics	Weight: 8kg (chassis+dual power+8 I/O cards) 0.45kg per card		

Application

Connection with PBX (Private Branch Exchange)



The extension and expansion of DDN (Distributed Data)



Ordering Information

Model Name	Type	Description
ERM-MUX-PLUS/AA-CH	Chassis	4U 19" 14 slot Chassis for AC+AC power
ERM-MUX-PLUS/DD-CH	Chassis	4U 19" 14 slot Chassis for DC+DC power
ERM-MUX-PLUS/AD-CH	Chassis	4U 19" 14 slot Chassis for AC+DC power
ERM-MUX/AC	Power	AC Power plug-in module (90 to 250 VAC)
ERM-MUX/ACV	Power	AC Power plug-in module (90 to 250 VAC) with Voice support
ERM-MUX/DC	Power	DC Power plug-in module (±36 to ±76 VDC)
ERM-MUX/DCV	Power	DC Power plug-in module (±36 to ±72 VDC) with Voice support
ERM-MUX-PLUS/GUI	Management	GUI for ERM; support Windows 95, 98, 2000, XP
ERM-MUX-PLUS-2E1R	Card	2-Ch Main-E1 LTU card(V1.2); w/DB37M to 2xRJ45 cable
ERM-MUX-PLUS-2E1B	Card	2-Ch Main-E1 LTU card(V1.2); w/DB37M to 2xBNC cable
ERM-MUX-PLUS-8E1R	Card	8-Ch Main-E1 LTU card(V1.2); w/DB37M to 8xRJ45 cable
ERM-MUX-PLUS-8E1B	Card	8-Ch Main-E1 LTU card(V1.2); w/DB37M to 8xBNC cable
ERM-MUX-PLUS-CPU	Card	CPU card (V4.3) for NMP management
ERM-MUX-PLUS-SNMP	Card	SNMP card (V2.2) for NMP management
ERM-MUX-PLUS-FXO	Card	6-Ch FXO interface card(V2.1)
ERM-MUX-PLUS-FXS	Card	6-Ch FXS interface card(V4.1)
ERM-MUX-PLUS-E&M	Card	6-Ch 2/4 wires E&M voice interface card (V4.1) (Tx/Rx range -20dB ~ +8dB)
ERM-MUX-PLUS-E&M+	Card	6-Ch 2/4 wires E&M voice interface card (V4.1) (Tx range -12dB ~ +16dB, Rx range -20dB ~ +8dB)
ERM-MUX-PLUS-RS-232	Card	6-Ch RS-232 interface card, 64k/128kbps(Sync), 19.2k/38.4kbps(Async)
ERM-MUX-PLUS-ASYNC	Card	6-Ch RS-232 interface card, 9.6k/19.2kbps(Sync), 19.2k/38.4kbps(Async) with multi rate clock function.
ERM-MUX-PLUS-G64K	Card	4-Ch G.703 64k interface card (V4.0)
ERM-MUX-PLUS-HS-SERIAL	Card	4-Ch V.35/X.21/RS-449/RS-530 interface card
ERM-MUX-PLUS-RS485	Card	6-Ch RS-485 / RS-422 Interface card
ERM-MUX-PLUS-ET100	Card	2-Ch Ethernet(10/100Base-TX) interface card (V4.0)

Card Type
ERM – MUX– PLUS –
 Example: ERM – MUX– PLUS – 2E1R



ETU02-MUX

E1 Multiplexer

The ETU02-MUX is a 1U 19(23)" 4 slot rack mountable multiplexing solution for Fractional E1 network services. Up to four DTE devices may be linked to this model at data rates of 64Kbps to 2048Kbps. There is also provision for one optional E1 sub-link which will perform drop & insert with user-defined timeslot connections from a PABX or other E1 equipment to E1 network services. The Fractional E1 2 or 4 port multiplexer supports local control and diagnostics via an LCD display and LED status indicators located on the front panel or via a serial console port. These features enable users to easily configure the unit, execute the in-service diagnostics and monitor the network status. The ETU02-MUX provides for optional SNMP Network Management System, which allow the user to remotely control and manage the system via SNMP protocol. This model fully meets all of the E1 specifications including ITU-T G.703, G.704, G.706, G.732, and G.823.

Feature

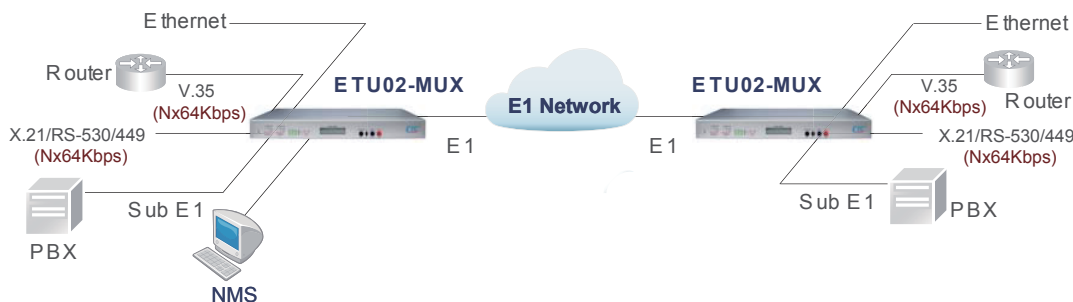
- Provides 4 slots, removable interfaces: V35, X21, RS530, RS449, RS232, G.703 Co-directional, NRZ, Ethernet Bridge and Router.
- Optional drop and insert E1 port (Sub E1)
- Built-in BERT with V.54 diagnostic capabilities for performing local and remote loopback
- Setup and Control via front Panel with LCD display or RS-232 terminal
- Multiple clock source selection (Internal or External: E1 recovery, DTE or DCE)
- Optional SNMP management

Specifications

E1 and Sub-E1	Framing: Unframed / Framed CCS(PCM31) Framed: CAS(PCM30) Bit rate: 2.048Mbps±0 ppm Line code: AMI / HDB3 Line impedance: 75 ohm (BNC) / 120 ohm (DB-15, RJ-45)
Transmitter level	Relative receive level: 0 to -43dB Pulse: Nominal 2.37V ±10% for 75ohm Amplitude: Nominal 3.00V ±10% for 120ohm Zero amplitude: ±0.1V Transmit frequency: Internal timing±100 ppm Tracking: Recovery timing±100 ppm External timing: ±100 ppm Jitter performance: According to ITU-T G.823 Return loss: 12dB for 51 ~ 102KHz 18dB for 102 ~ 2048KHz 14dB for 2048 ~ 3072KHz Interface connector: 15-pin D-type F, BNC
User Data Channel	Data rate: Nx56Kbps or Nx64Kbps Control signals: CTS constantly on DSR constantly on, except during test loops DCD constantly on or follows RTS, except during signal loss Loopback: Line, Payload, local, DTE loopback

User Data Channel	BERT Test Patterns: 511, 2047, 2e15-1, 2e20-1, QRSS, 2e23-1, All 1, All 0, Alt, 0011, 3 in 24, 1 in 16, 1 in 8, 1 in 4 test pattern.
Clock modes	Clock mode 0 (DCE1) Receive and transmit clock (recovered) to the sync DTE Clock mode 0 (DCE2) Receive and transmit clock (internal oscillator) to the sync DTE Clock mode 0 (DCE3) Receive and transmit clock from the sync DCE (from ETC and ERC pin) Clock mode 0 (DCE4) Receive and transmit clock from the sync DCE (all from ETC pin)
Key Pad	4 operation keys
LCD	16 x 2 character backlit LCD
Indications	Signal loss, Sync loss, Alarm (AIS, MRAI, RAI), TD, RD, Error, Test
Standard	ITU-T G.703/G.704/G.706, G.732 & G823
Power Input	AC: 90 ~250V, DC24: -18 ~-36VDC, DC48: -36 ~-72VDC
Power Consumption	10W
Dimensions / Weight	235 x 438 x 45mm (D x W x H) / 2.9kg
Temperature	0~50°C (Operating), -10~70°C (Storage)
Humidity	10~90% non-condensing
Certification	CE, FCC
MTBF	57,000 hrs

Application



Ordering Information

Model Name	Type	Description
ETU02-Mux4-AC	Power	E1 Mux with 4 data ports, AC power
ETU02-Mux4-DC	Power	E1 Mux with 4 data ports, DC power
ETU02-Mux4-AD	Power	E1 Mux with 4 data ports, AC+DC power
ETU02-Mux2-AC	Power	E1 Mux with 2 data ports, AC power

ETU02-Mux2-DC	Power	E1 Mux with 2 data ports, DC power
ETU02-Mux2-AD	Power	E1 Mux with 2 data ports, AC+DC power

Example: ETU02 - MUX4 - AC



ETU01A

Single Modular Port E1 CSU/DSU w/ LCD and SNMP

The ETU01A single port stand-alone CSU/DSU provides our best digital access solution for E1 and Fractional E1 network services termination. A DTE device may be linked to an ETU01A at data rates of 56Kbps to 2048Kbps. The ETU01A features user replaceable dataport modules for a number of interface standards; including Ethernet bridge, router, V.35, X.21, RS-530, RS-449, RS-232, G.703 Co-directional and RS-232. The ETU01A supports local control and diagnostics via LCD display, keypad and LED status indicators located on the front panel as well as via a menu driven RS-232 console port in conjunction with a standard terminal.

These features enable users to easily configure the unit, execute the in-service diagnostics and monitor the network status. The ETU01A provides optional SNMP (Simple Network Management Protocol), which allows the user to remotely control, diagnose and monitor the system using industry standard SNMP protocol, our proprietary MIB and any network management software.

Feature

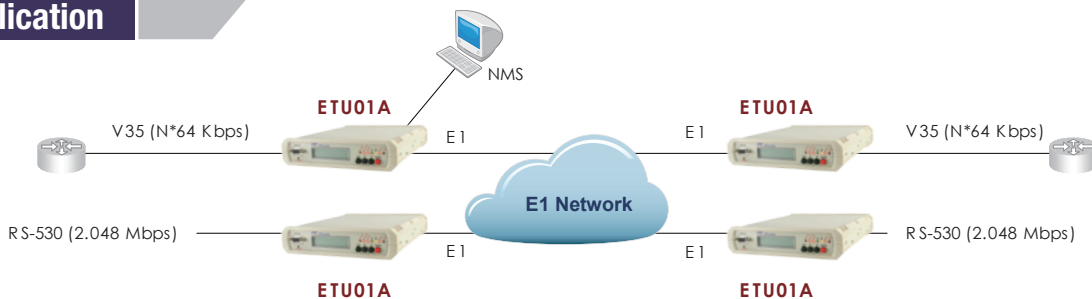
- Supports Fractional E1 and Unframed E1 service with EOC control
- Removable interfaces, support V.35, X.21, RS-530, RS-449, RS-232, G.703 Co-directional, NRZ, Ethernet Bridge and Router
- I/O connectors on rear panel
- Multiple clock source selection (Internal or External: E1 recovery, DTE or DCE)
- Supports Console, Telnet and SNMP management
- Menu keys and LCD display
- SNMP V1, V2C, V3 supported
- Supported by Smart View EMS
- Built-in BERT with V.54 diagnostic capabilities for performing local and remote loopback

Specifications

G.703 E1	Framing	Framed CCS (PCM31) CAS (PCM30) / Unframed CRC4 on/off
	Line Code	AMI/ HDB3
	LCD display	16 x 2 character LCD with backlight
	Bit rate	N x 56K or N x 64Kbps, where N=1~31 in CCS or 1~30 in CAS
	Relative receive level	0 to -43dB
	Transmit level:	
	Pulse	Nominal 2.37V ±10% for 75ohm
	Amplitude	Nominal 3.00V ±10% for 120ohm Zero amplitude ±0.1V
	Jitter performance	According to ITU-T G.823
	Connectors	BNC(unbalanced), RJ-48(balanced)
	Clock modes:	
	Clock mode 0	Receive & transmit clock (DCE1) (recovered) to the sync DTE
	Clock mode 1	Receive & transmit clock (DCE2) (internal oscillator) to the sync DTE

G.703 E1	Clock mode 2	Receive clock to the sync and transmit (DTE1) clock from the sync device
	Clock mode 3	Receive and transmit clock from the (DTE2) sync DCE (from ETC and ERC pin)
	Clock mode 4	Receive and transmit clock from the (DTE3) sync DCE (all from ETC pin)
Diagnostics	local loopback, Digital remote loopback, Test pattern	
Indicators	LEDs (Power, TD, RD, Signal loss, Sync loss, Error and test)	
Standards	ITU-T G.703/G.704/G.706 & G.732	
Power Input	AC: 90-250VAC, DC: 18-72 VCD	
Power Consumption	10W	
Dimensions	250 x 195 x 45 mm (D x W x H)	
Weight	1.5kg	
Temperature	0 ~ 50°C (Operating), -1 ~ 70°C (Storage)	
Humidity	10 ~ 90% non-condensing	
Certification	CE, FCC	
MTBF	65,000 hrs	

Application



Ordering Information

Model Name	Type	Description
ETU01A/AC	Power	1U, 19/2", Data port to framed E1 with 100 ~240VAC
ETU01A/DC	Power	1U, 19/2", Data port to framed E1 with -48VDC
Interface Module	Description	
ETU/TTU-V35	V.35 interface module	
ETU/TTU-X21	X.21 interface module	
ETU/TTU-530	RS-530 interface module	

ETU/TTU-449	RS-449 interface module
ETU/TTU-232	RS-232 ASYN/SYNC interface module
ETU/TTU-G64	G.703 64Kbps co-directional interface module
ETU/TTU-NRZ	NRZ interface module (4 * BNC)
ETU/TTU-ET100	10/100 Base-Tx Ethernet E1 Bridge interface module
ETU/TTU-ET100R	10/100 Base-Tx Ethernet Routing interface module

Power Type
ETU01A/□□
 Example: ETU01A/AC



ETU011

Single Modular Port E1 CSU/DSU

The ETU011 stand-alone DSU/CSU is a digital access unit for Unframed E1, Fractional E1, or Fractional cascaded E1 service. The ETU011 data channel supports user-selectable transmission rates via randomly selected E1 timeslots, which provides integral multiples of 64kbps, up to a maximum 2.048Mbps (unframed), for a line attenuation of up to 43 dB on twisted pair or coax cable. This provides an approximate operating range up to 2km (using 22AWG). The ETU011 packs the data channels into the E1 link in user-selected time slots. The unused time slots can insert IDLE code (in frame mode). The ETU011 front panel sports status LEDs for monitoring both the CSU and DSU conditions and push button switches for initiating local and remote loopback with integral BERT.

Feature

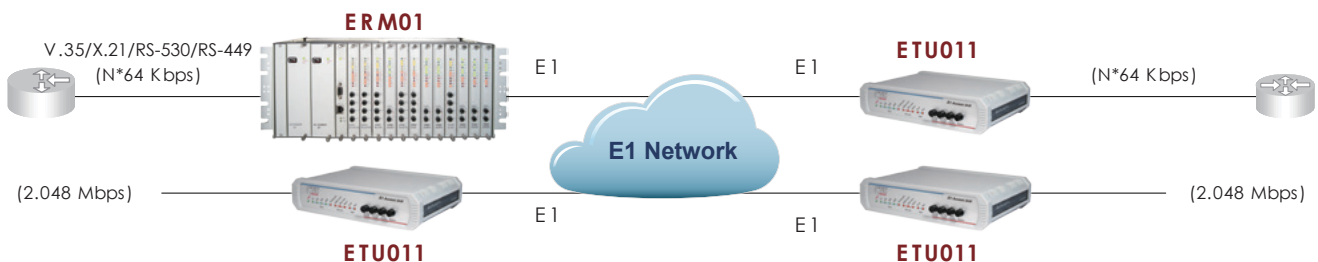
- Supports Fractional E1 and Unframed E1 service
- Removable interfaces, support V.35, X21, RS-530, RS-449, RS-232, G.703 Co-directional, NRZ, Ethernet Bridge and Router
- I/O connectors on rear panel
- Multiple clock source selection
- (Internal or External: E1 recovery, DTE or DCE)
- Built-in BERT with V.54 diagnostic capabilities for performing local and remote loopback

Specifications

G.703 E1	Framing	Framed CCS (PCM31) CAS (PCM30)/ Unframed CRC4 on/off
	Line Code	AMI/ HDB3
	Bit rate	N x 56K or N x 64Kbps, where N=1~31 in CCS or N equal 1~30 in CAS
	Relative receive level	-43dB
	Transmit level:	
	Pulse Amplitude	Nominal 2.37V ±10% for 75 ohm Nominal 3.00V ±10% for 120 ohm Zero amplitude ±0.1V
	Jitter performance	According to ITU-T G.823
	Connectors	BNC(unbalanced), RJ-48(balanced)
	Clock modes:	
	Clock mode 0	Receive & transmit clock (DCE1) (recovered) to the sync DTE
	Clock mode 1	Receive & transmit clock (DCE2) (internal oscillator) to the sync DTE

G.703 E1	Clock mode 2	Receive clock to the sync. and transmit (DTE1) clock from the sync device
	Clock mode 3	Receive and transmit clock from the (DTE2) sync DCE (from ETC and ERC pin)
	Clock mode 4	Receive and transmit clock from the (DTE3) sync DCE (all from ETC pin)
	Indicators	LEDs (Power, TD, RD, RTS, DCD, Signal loss, Sync loss, Alarm)
Standards	ITU-T G.703/G.704/G.706 & G.732	
Power Input	AC: 90-250VAC, DC: -18 ~ -75VDC	
Power Consumption	10W	
Dimensions	250 x 195 x 45 mm (D x W x H)	
Weight	0.51kg	
Temperature	0°C ~ 50°C (Operating), -10°C ~ 70°C (Storage)	
Humidity	10 ~ 90% non-condensing	
Certification	CE, FCC	
MTBF	57,000 hrs	

Application



Ordering Information

Power Type
ETU011 -
 Example: ETU011 - AC

Model Name	Description
ETU/TTU-V35	V35 interface module
ETU/TTU-X21	X21 interface module
ETU/TTU-530	RS-530 interface module
ETU/TTU-449	RS-449 interface module
ETU/TTU-232	RS-232 ASYN/SYNC interface module
ETU/TTU-G64	G.703 64Kbps co-directional interface module
ETU/TTU-NRZ	NRZ interface module (4 * BNC)
ETU/TTU-ET100	10/100 Base-TX Ethernet E1 Bridge interface module
ETU/TTU-ET100R	10/100 Base-TX Ethernet Routing interface module

Model Name	Description
Stand Alone Types	
ETU011-AC	Single port to fractional E1 unit with built-in AC 90 ~ 250V
ETU011-DC	Single port to fractional E1 unit with built-in DC -18 ~ -72V
Rack Mount Types	
ETU011-R-AC	Single port to fractional E1 Rack Mount unit with built-in AC 90 ~ 250V
ETU011-R-DC	Single port to fractional E1 Rack Mount unit with built-in DC -18 ~ -72V

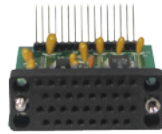
Interface Module for ETU01A & ETU011

ETU/TTU-V35

V.35 Interface

Features :

- Compliant with ITU-T V.35 standards
- Winchester type 34-pin MB34 M-Block female connector
- Synchronous data rate at Nx64 (where N=1 to 32)
- Data Communications Equipment interface electrically compatible to ITU-T V.11 (RS-422)

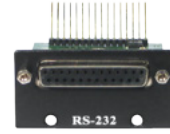


ETU/TTU-232

RS-232 Interface

Features :

- Compliant with EIA RS-232-C (Unbalanced)
- Compatible to ITU-T V.24 25-pin D Sub female connector
- Synchronous data rate at 64 or 128Kb/s Asynchronous (transparent) at up to 19.2K or 38.4K Data Communications Equipment interface



ETU/TTU-X21

X.21 Interface

Features :

- Compliant with ITU-T X.21 standard (Balanced)
- 15-pin D Sub female connector
- Synchronous data rate at Nx64 (where N=1 to 32)
- Data Communications Equipment interface electrically compatible to V.11



ETU/TTU-530

RS-530 Interface

Features :

- Compliant with Category 1 EIA-530 (Balanced) 25-pin D Sub female connector
- Synchronous data rate at Nx64 (where N=1 to 32)
- Data Communications Equipment interface electrically compatible to RS-422



ETU/TTU-NRZ

Non-Return to Zero Interface

Features :

- 4 BNC connectors: TxD, TxC, RxD and RxC (Data&Clock)
- NRZ line coding Logic "1" 0V +/- 0.3V Logic "0" -1.5V +/- 0.3V
- Synchronous data rate Nx64 (where N=1 to 32)



ETU/TTU-449

RS-449(V.36) Interface

Features :

- Compliant with EIA/TIA-530-A (Balanced)
- 37-pin D Sub female connector
- Synchronous data rate at Nx64 (where N=1 to 32)
- Data Communications Equipment interface electrically compatible to RS-422



ETU/TTU-G64

G.703 64K Co-directional Interface

Features :

- Pulse shape compliant with ITU-T G.703
- Clock frequency: 64KHz
- Pulse Amplitude: 1.0V
- Zero Amplitude: 0V
- Impedance: 120 Ohms
- 15-Pin D Sub connector
- Range: up to 800m with 24AWG

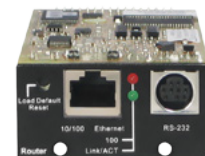


ETU/TTU-ET100R

10/100 Base-TX Ethernet Router

Features :

- Ethernet port IP Address/subnet mask
- Dynamic Routing RIP I & II, Send or Receive on Ethernet or WAN
- PPP, HDLC and Cisco® HDLC WAN protocol encapsulation



ETU/TTU-ET100

10/100 Base-TX Ethernet Bridge

Features :

- High performance bridge for 10Base-T or 100Base-TX Ethernet extension
- Transparent half / Full duplex support on WAN / LAN interface
- Provides Ethernet over E1 economically



Ordering Information

Model Name	Description
ETU/TTU-V35	V.35 interface module
ETU/TTU-X21	X.21 interface module
ETU/TTU-530	RS-530 interface module
ETU/TTU-449	RS-449 interface module

Model Name	Description
ETU/TTU-232	RS-232 ASYN/SYNC interface module
ETU/TTU-G64	G.703 64Kbps co-directional interface module
ETU/TTU-NRZ	NRZ interface module (4 * BNC)
ETU/TTU-ET100	10/100Base-TX Ethernet E1 Bridge interface module
ETU/TTU-ET100R	10/100Base-TX Ethernet Routing interface module

Interface
ETU/TTU - □□□□
 Example: ETU/TTU - V35



ETU01-Plus

Single V.35 Port E1 CSU/DSU

The ETU01-Plus stand-alone CSU/DSU is a digital access unit for Unframed E1 or Fractional E1 service. The ETU01-Plus data channel supports user-selectable transmission rates via randomly selected E1 timeslots, which provides integral multiples of 64kbps, up to a maximum 2.048Mbps (unframed), for a line attenuation of up to 43 dB on twisted pair or coax cable. This provides an approximate operating range up to 2km (using 22AWG). The ETU01-Plus packs the data channels into the E1 link in user-selected time slots. The ETU01-Plus front panel sports status LEDs for monitoring the CSU and DSU conditions and pushbutton switches for initiating local and remote loopback with integral BERT. The ETU01-Plus features a fixed on-board V.35 interface.

Feature

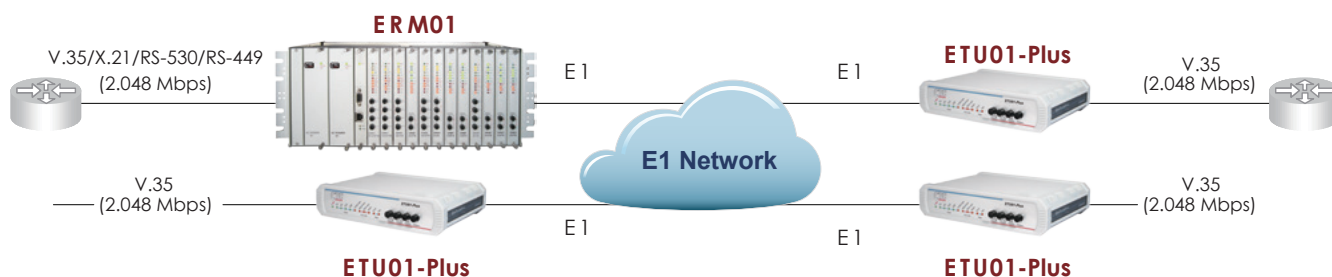
- Supports Fractional E1 and Unframed E1 service with EOC control
- Model with fixed V.35 interface for price critical applications
- Multiple clock source selection (Internal or External: E1 recovery, DTE or DCE)
- Built-in BERT with V.54 diagnostic capabilities for performing local and remote loopback
- Fixed V.35 port with MB34F connector
- I/O connectors all located on rear panel

Specifications

G.703 E1	Framing	Framed CCS (PCM31) CAS (PCM30)/ Unframed CRC4 on/off
	Line Code	AMI/ HDB3
	Data rate	N x 56K or N x 64Kbps, where N=1~31 in CCS or N equal 1~30 in CAS
	Relative receive level	-43dB
	Transmit level:	
	Pulse Amplitude	Nominal 2.37V ±10% for 75 ohm Nominal 3.00V ±10% for 120 ohm Zero amplitude ±0.1V
	Jitter performance	According to ITU-T G.823
	Connectors	BNC(unbalanced), RJ-48(balanced)
	Clock modes:	
	Clock mode 0	Receive & transmit clock (DCE1) (recovered) to the sync DTE
	Clock mode 1	Receive & transmit clock (DCE2) (internal oscillator) to the sync DTE

G.703 E1	Clock mode 2	Receive clock to the sync. and transmit (DTE1) clock from the sync device
	Clock mode 3	Receive and transmit clock from the (DTE2) sync DCE (from ETC and ERC pin)
	Clock mode 4	Receive and transmit clock from the (DTE3) sync DCE (all from ETC pin)
Indications	LEDs (Power, TD, RD, RTS, DCD, Signal loss, Sync loss, Alarm)	
Standards	ITU-T G.703/G.704/G.706 & G.732	
Power Input	AC: 90-250VAC , DC: -18 ~ -75 VDC	
Power Consumption	10W	
Dimensions	195 x 160 x 45 mm (D x W x H)	
Weight	0.51kg	
Temperature	0°C ~ 50°C (Operating), -10°C ~ 70°C (Storage)	
Humidity	10 ~ 90% non-condensing	
Certification	CE, FCC	
MTBF	55,000 hrs	

Application



Ordering Information

Model Name	Description
Stand Alone Types	
ETU01/Plus-AC	V.35/MB34F port, fractional E1 unit with built-in AC 90 ~ 250 VAC
ETU01/Plus-DC	V.35/MB34F port, fractional E1 unit with built-in DC -18 ~ -75 V
Rack Mount Types	
ETU01/Plus-R-AC	V.35/MB34F port, fractional E1 Rack Mount type unit w/ built-in AC 90 ~ 250 VAC
ETU01/Plus-R-DC	V.35/MB34F port, fractional E1 Rack Mount type unit w/ built-in DC -18 ~ -75 V

Power Type
ETU01/Plus -
 Example: ETU01/Plus - AC



Eoe1A

Ethernet over E1 with SNMP Management

The Eoe1A is a Channel Service Unit for unframed ITU-T G.703 E1 that features a built-in Ethernet bridge. The CSU has a built-in Network Terminating Unit (NTU) and may connect to either 75 Ohm unbalanced, BNC connectors or to 120 Ohm balanced, unframed E1 via twisted pairs and a shielded RJ-45 connector. The Eoe1A Ethernet Bridge uses HDLC encapsulation to transport Ethernet packets across the WAN and supports 10/100 auto-negotiation or manual settings for 10M, 100M, Full or Half Duplex Ethernet. The Ethernet port also supports a standard auto-MDIX feature that will completely eliminate Ethernet cross-over cables or the guessing that is sometimes involved in choosing a cable when connecting to a HUB or a PC. The Eoe1A is very easy to configure by a menu driven serial console interface. SNMP and proprietary MIB add the ability to manage the Eoe1A centrally through third party network management software or via CTC Union's EMS management system.

Feature

- Supports 10/100Base-TX Ethernet over Unframed E1
- Automatic address learning, aging and deletion after 5 minutes
- Auto padding of undersized packets to meet the minimum Ethernet packet size requirement
- Buffering modes can be selected according to the setting of WAN and LAN line speeds
- Forwarding and filtering rate at WAN speed with throughput latency of 1 frame
- Auto MDI / MDIX
- Real-time filtering with 256 MAC address table
- Supports Console, SNMP and Web management
- Adjustable pay load rates of: 10K, 32K, 64K, 128K, 256K, 512K, 1024K & 2048K

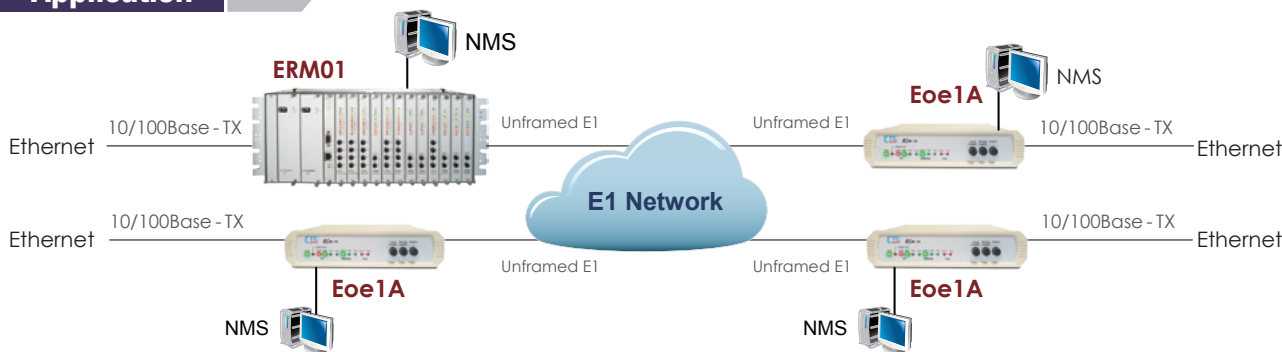
Specifications

G.703 E1 Specifications

Framing	Unframed
Line code	AMI/ HDB3
Bit rate	2.048Mbps (clear channel)
Relative receive level	0 to -43dB
Transmit level	Pulse Nominal 2.37V ±10% for 75ohm Amplitude Nominal 3.00V ±10% for 120ohm Zero amplitude ±0.1V
Jitter performance	According to ITU-T G.823
Connector	BNC(unbalanced), RJ-48(balanced)
Clock modes	Clock mode 0: Receive & transmit clock (DCE1)(recovered) to the sync DTE Clock mode 1: Receive & transmit clock (DCE2)(internal oscillator) to the sync DTE
Diagnostics	
Test Switches	Digital local loopback, Analog local loopback, Digital local and remote loopback, 2047 Test pattern
Ethernet Specifications	
Connector	RJ-45

Data Rate	10/100Mbps; Half Duplex / 20/ 200Mbps; Full duplex
Filtering & Forwarding	90,000 packets/sec
Delay	1 frame
Frame Buffer	340 frames
MAC Table	256 MAC address
Protocols	Synchronous HDLC
Indications	LEDs (Power, Signal Loss, Alarm, Link, TD, RD, 100, Full, Error, Error, Test)
Standards	ITU-T G.703, G.706 and G.732, IEEE 802.3/802.3u
Management	Console, Web, SNMP
Power Input	AC: 90-250VAC ; DC: 18-72 VCD
Power Consumption	20W
Dimensions	250 x 195 x 45mm (D x W x H)
Weight	1.5kg
Temperature	0°C ~ 50°C (Operating), -10°C ~ 70°C (Storage)
Humidity	10 ~ 90% non-condensing
Certification	CE, FCC
MTBF	57,000 hrs

Application



Ordering Information

Model Name	Description
Eoe1A/AC	1U half 19" Ethernet over unframed E1 SNMP with AC power (100 ~ 240V)
Eoe1A/DC	1U half 19" Ethernet over unframed E1 SNMP with DC power (18 ~ 75V)
Eoe1A/AD	1U half 19" Ethernet over unframed E1 SNMP with AC (100~240V) and DC (18 ~ 75V)

Power Type
Eoe1A -
 Example: Eoe1A - AD



ET100A (v2)

Ethernet to WAN (V.35/RS530/449/232/X.21) Bridge

The ET100A Network Bridge is a high performance remote, self-learning, Ethernet bridge. Its compact size and low cost makes it ideal for cost-sensitive bridging applications, or as a LAN extender or segmenter over bit stream type infrastructures. The built-in n x 64 (56)Kbps timing clock generator makes it easy to connect to other n x 64 (56)Kbps related data equipment. Several options of data interfaces, including V.35, RS-530, RS-449, RS-232, and X.21 make this unit's connection between 10Base-T or 100Base-TX LAN and various data port interfaces convenient.

Feature

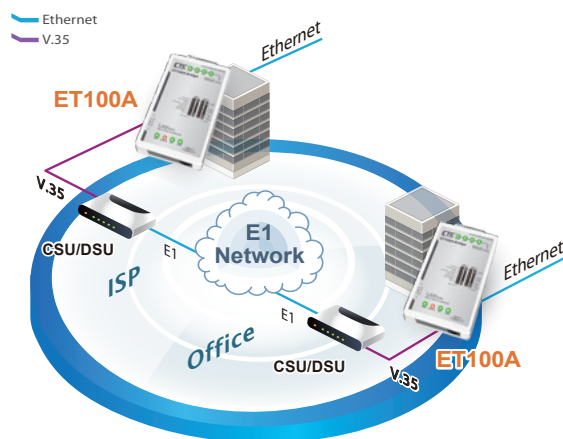
- Protocol : Synchronous HDLC (ISO 13239), PPP, CISCO® HDLC
- 10Base-T or 100Base-TX Ethernet bridge
- Auto MDI/MDIX
- Supports IEEE 802.3x flow control
- Selectable data port : V.35, RS-530, RS-449, RS-232, X.21
- Transparent half / Full duplex support on WAN, LAN interface
- Nx64, Nx56 timing clock generator for Sync WAN link
- LEDs indication for LAN, WAN status

Specifications

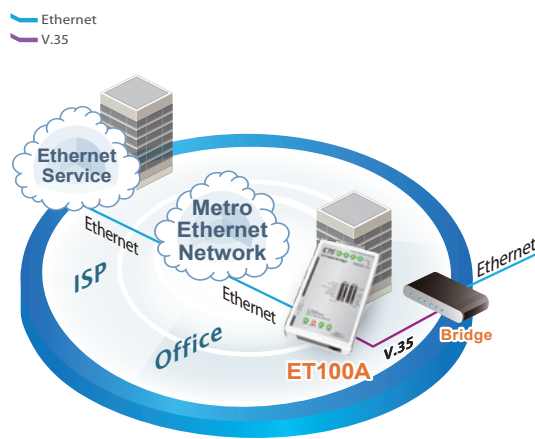
WAN	Interface:	Selectable RS-232(Sync), V.35, RS-530, RS-449, RS-232, X.21with Adapter Cable	LAN	Compliant with IEEE 802.3, 802.3u, 802.3x		
	Protocol:	Synchronous PPP, HDLC (ISO 13239), CISCO® HDLC		Connector: RJ-45		
	Connector:	DB25M		Speeds: 10/100Base-TX, Full/Half duplex		
	Type:	DTE		Frames: Support 64 ~ 2044 byte packet lengths		
	Configuration:	All Configuration by Dip switch (Protocol, interface, Clock mode, data rate)		Bridge Specifications	MAC Address learning, aging and deletion after 5 minutes	
	Data rate:	Nx56Kbps, Nx64Kbps RS-232 up to 128Kbps V.35, X21, RS-530, RS-449 up to 10Mbps		256 addresses MAC table, 1763 packet buffer	Power	12VDC
	Clock source:	Tx/Rx internal or external		Power Consumption	< 5 W	
	Handshake (DCD)	Follow CTS/RTS or Always On		Dimensions	135 x 79 x 25mm (D x W x H)	
	Indications	LEDs (PWR, WAN Rx/Tx, LAN Tx/Rx/Link/Err/Speed)		Weight	180g	
				Temperature	0°C ~ 50°C (Operating), -10°C ~ 70°C (Storage)	
		Humidity	10 ~ 90% non-condensing			
		Certification	CE, FCC			

Application

Ethernet over TDM, Point to Point



HDLC Bridge Application



Ordering Information

Model Name	Description
ET100A/V35M	Ethernet to V35 WAN Bridge with V.35 cable: DB25F to MB34M, 1 meter
ET100A/X21M	Ethernet to X21 WAN Bridge with X21 cable: DB25F to DB15M, 1 meter
ET100A/RS530M	Ethernet to RS530 WAN Bridge with RS530 cable: DB25F to DB25M, 1 meter
ET100A/RS449M	Ethernet to RS449 WAN Bridge with RS449 cable: DB25F to DB37M, 1 meter
ET100A/RS232M	Ethernet to RS232 WAN Bridge with RS232 cable: DB25F to DB25M, 1 meter