

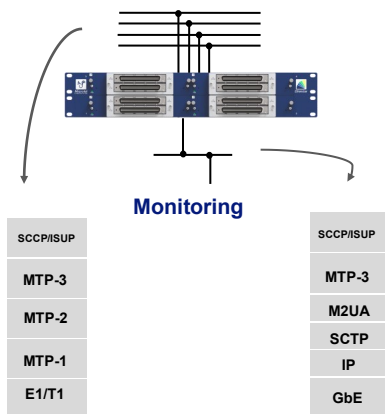
BENEFITS

- Save money:** fewer monitoring tools
- Save investment:** smooth transition from TDM to IP
- Simplify monitoring:** using IP probes only
- Maintain high Service Level Agreement:** reducing the overall number of devices and connections

FEATURES

- Ethernizer E-613 & E-313 series converts SS7 Signalling in Sigtran (M2UA)
- Interfaces with TDM systems (E1 HSL & LSL or STM-1 links) at physical level
- Performs signalling translation to IP format, gives output messages to 1/10 Gbps interfaces to connect to IP monitoring tools (IP probes)

SS7 Signalling on E1 links

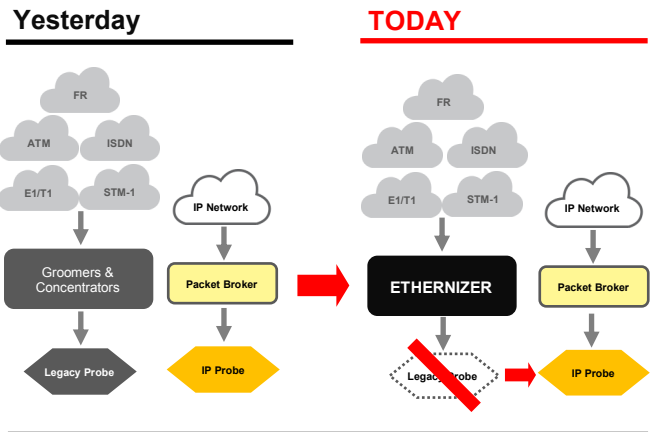


Ethernizer E series includes the following models:

Model	Input Physical Interface	Output Physical Interface
E-613A	up to 128 E1	2x1G+2x10G Ethernet
E-313A	up to 32 E1	2x1G Ethernet
E-613B	up to 16 STM-1	2x1G+2x10G Ethernet
E-313B	up to 4 STM-1	2x1G Ethernet

E-613 models are modular and can be equipped with up to 4 modules, each of which manages 32 E1/T1 (E-613A) or 4 STM-1 (E-613B).

Ethernizer bridges the transition from TDM to IP



Ethernizer E-613 A

The spreading of Internet and of mobile phones has dramatically pushed up the demand for new broadband services, such as VOIP, video conferencing, chat, photos, videos and music download.

To deliver them efficiently, Telecom operators have been gradually replacing the traditional and reliable TDM (Time Division Multiplexing) infrastructure with IP-based components, which are significantly more cost-effective and versatile than their legacy TDM counterparts.

As this migration is not so fast and easy, due to technical and budget constraints, operators are currently handling a mixed architecture TDM & IP, both for links and monitoring probes.

Microtel's **Ethernizer** enables them to monitor the whole infrastructure using IP probes, saving money in future investment and optimizing the whole monitoring system.

Achievable legacy protocol conversions:

Legacy Protocol	Protocol Conversion
SS7 Signalling	SIGTRAN (M2UA)
Frame Relay	UDP/IP
ATM (AAL5)	SCTP/IP
HDLC	IP

Upon these protocols, several network interfaces can be converted. Examples are:

- Interface A, B, C, D, E, F, H, IN, Gb, Gc, Gd, Ge for mobile networks
- Interfaces around the STP nodes, in fixed networks
- IMS MGW/SGW interworking interfaces towards PSTN networks.

Technical specification

E-613A front view with RJ45



E-613A front view with micro ribbon



E-613A rear view



E-313A front view with RJ45



E-313A front view with micro ribbon

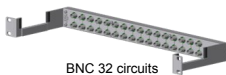


E-313A rear view



E-613A & E-313A can be connected to the lines directly, through the RJ45 front panel connectors or, to optimize cabling, using **micro ribbon panel**, through **wire-wrap, connector panel** or **resistor panel** (which inserts 20 db attenuation). Output Ethernet ports are available on the rear.

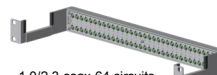
3 models of Connector / Resistor Panels



BNC 32 circuits



IDC 64 circuits



1.0/2.3 coax 64 circuits

- 75 ohm BNC connectors
- 120 ohm IDC termination
- 75 ohm 1.0/2.3 coax connectors
- 32 circuits
- 64 circuits
- 64 circuits

Model	E-613A	E-313A
Front view		
Input modules (RJ-45 or micro ribbon connections)	Up to 4 input modules with 32 E1 each, up to 128 E1	1 input module with max 32 E1
Power status led	ON/OFF for each input module	ON/OFF
Rear view		
Output ports (to be equipped with SFP or SFP+)	2x1G + 2x10G Ethernet ports,	2x1G Ethernet ports
Console port	1 USB	1 USB
Management/Network LAN port	1x10/100 Mbps with RJ45 connector	1x10/100 Mbps with RJ45 connector
ON/OFF switch	One for each power supply AC/DC (2), with power status led	One for each power supply AC/DC (2)
Output transceiver type (SFP / SFP+)		
Copper (SFP)	1000 Base T	1000 Base T
Singlemode fiber (SFP/SFP+)	1000 Base LX (1310 nm) / 10 GE Base LR (1310 nm)	1000 Base LX (1310 nm) / 10 GE Base LR (1310 nm)
Multimode fiber (SFP/SFP+)	1000 Base SX (850 nm) / 10 GE Base SR (850 nm)	1000 Base SX (850nm) / 10 GE Base SR (850 nm)
Part number		
Chassis equipped with: 1 input module with 16 E1 links (32 Rx) enabled and (2x1G) Ethernet rear ports		E-313A-B1-16E-2G/J - E-313A-B1-16E-2G/M (*)
Chassis equipped with: 1 input module with 32 E1 links (64 Rx) and (2x1G + 2 x10G) or (2x1G) Ethernet rear ports	E-613A-B2-32E-2G2H/J - E-613A-B2-32E-2G2H/M (*) (2x1G + 2 x10G) output ports	E-313A-B1-32E-2G/J - E-313A-B1-32E-2G/M (*) (2x1G) output ports
Chassis equipped with: 2 input module with 64 E1 links (128 Rx) and (2x1G + 2 x10G) Ethernet rear ports	E-613A-B2-64E-2G2H/J - E-613A-B2-64E-2G2H/M (*)	
Chassis equipped with: 3 input module with 96 E1 links (192 Rx) and (2x1G + 2 x10G) Ethernet rear ports	E-613A-B2-96E-2G2H/J - E-613A-B2-96E-2G2H/M (*)	
Chassis equipped with: 4 input module with 128 E1 links (256 Rx) and (2x1G + 2 x10G) Ethernet rear ports	E-613A-B2-128E-2G2H/J - E-613A-B2-128E-2G2H/M (*)	
Additional module including 32 E1 input links (64 Rx)	E-613A-IG-32E/J - E-613A-IG-32E/M (*)	
Capacity licence to enable 16 E1		E-313A-L16E
Redundant power supply AC or DC	PS2-3/460-AC or PS2-5/460-DC	PS1-3/160-AC or PS1-5/160-DC
(*) J = RJ45 connectors, M = micro ribbon connectors		

Management

- Configuration GUI
- Management interface
 - 1 USB
 - 1 Ethernet LAN port

Operating

- Operating temperature: 0°C to 45°C
- Storage temperature: -20°C to 70 °C
- Relative humidity: up to 90% not condensing

Power

- 220-110 Vac 50-60 Hz hot swap power module
- 48 Vdc hot swap power module
- Default redundancy
- Max consumption: (fully equipped) 300 W (E-613A) -150 W (E-313A)

Dimensions (E-613A)

- Chassis 2U surface or 19" rack mount 482,6 mm W, 453 mm D, 88 mm H
- Weight: (fully equipped) 8 kg (17.6 lbs)

Dimensions (E-313A)

- Chassis 1U surface or 19" rack mount 482,6 mm W, 453 mm D, 44 mm H
- Weight: (fully equipped) 4 kg (8.8 lbs)



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