

BENEFITS

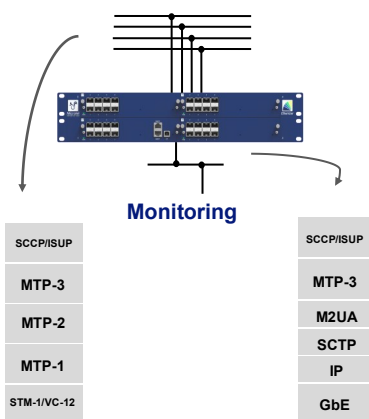
- Save money:** fewer monitoring tools
- Save investment:** smooth transition from TDM to IP
- Simplify monitoring:** using IP probes only

FEATURES

- Ethernizer E-613 & E-313 series converts SS7 Signalling (HDLC) in Sigtran (M2UA)**
- Interfaces with TDM systems (**STM-1 links or E1 HSL & LSL**) at physical level
- Performs signalling translation to IP format**, forwarding the produced IP packets to 1/10 Gbps output interfaces, which are connected to the monitoring tools (IP probes).
- Different source/destination IP addresses can be assigned to each Sigtran stream** (1024 streams for each input module), providing aid to IP probes for SS7 linksets identification.
- E-613B & E-313B models support Layer 1 and Layer 2 alarms** through SNMP traps:
 - * **STM-1 LOS** (Loss of Signal) & **LOF** (Loss of Frame)
 - * **VC-12/E1 LOF** (Loss of Frame), **AIS** (Alarm Indication Signal) & **RAI** (Remote Alarm Indication)
 - * **SS7 Link Activity Alarm**

An **embedded Graphic User Interface** is available for system configuration, management and alarms status monitoring. Import/export of "csv files" is supported for easy configuration

SS7 Signalling (HDLC) on STM-1

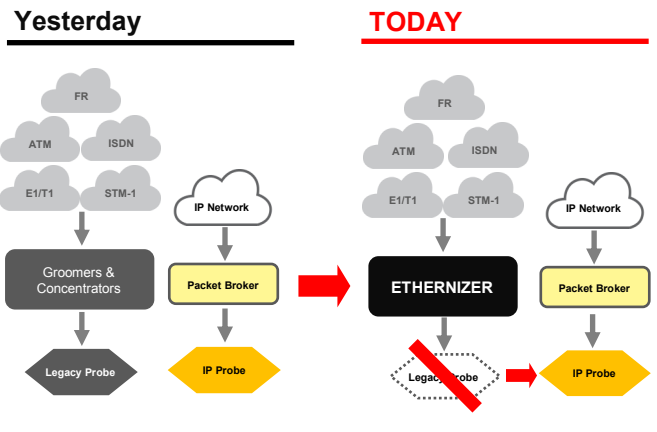


Ethernizer E series includes the following models:

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

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

Ethernizer bridges the transition from TDM to IP



Ethernizer E-613 B

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:

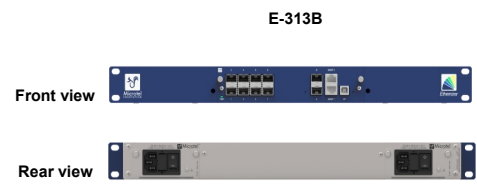
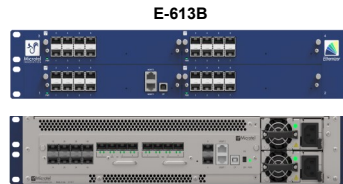
Legacy Protocol	Protocol Conversion
SS7 Signalling	SIGTRAN (M2UA)
Frame Relay	UDP/IP
ATM (AAL5)	SCTP/IP
HDLC	IP

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 specifications

Microtel T-20 optical splitter can be used to interface E-613B & E-313B to STM-1 links.



Model	E-613B	E-313B
Front view		
Up to 4 input modules (SFP included)	4 singlemode STM-1 (for each module) up to 16 STM-1	4 singlemode STM-1
Console port		1 USB
Management/Network LAN port		1x10/100 Mbps with RJ45 connector
Output ports (SFP connection)		2x1G Ethernet ports
Power status led	ON/OFF for each input module	ON/OFF
Rear view		
Output ports (SFP/SFP+ required)	2x1G + 2x10G Ethernet ports	
Console port	1 USB	
Management/Network LAN port	1x10/100 Mbps with RJ45 connector	
ON/OFF switch	One for each power supply AC/DC (2), with power status led	One or each power supply AC/DC (2)
Output transceiver type (SFP / SFP+)		
Copper	1000 Base T	
Singlemode	1000 Base LX (1310 nm) / 10 GE Base LR (1310 nm)	
Multimode	1000 Base SX (850 nm) / 10 GE Base SR (850 nm)	
Part number		
Chassis equipped with: 1 input module with 2 STM-1 links (4 Rx) and (2x1G) Ethernet ports		E-313B-B1-2AS-2G
Chassis equipped with: 1 input module with 4 STM-1 links (8 Rx) and (2x1G+2 x10G) or (2x1G) Ethernet ports	E-613B-B2-4AS-2G2H (2x1G+2 x10G) output ports	E-313B-B1-4AS-2G (2x1G) output ports
Chassis equipped with: 2 input module with 8 STM-1 links (16 Rx) and (2x1G+2 x10G) Ethernet ports	E-613B-B2-8AS-2G2H	
Chassis equipped with: 3 input module with 12 STM-1 links (24 Rx) and (2x1G+2 x10G) Ethernet ports	E-613B-B2-12AS-2G2H	
Chassis equipped with: 4 input module with 16 STM-1 links (32 Rx) and (2x1G+2 x10G) Ethernet ports	E-613B-B2-16AS-2G2H	
Additional module with: 4 STM-1 links (8 Rx)	IN-008-SB	
Capacity licence to enable 2 STM-1		E-313B-L-2AS
Redundant power supply AC or DC	PS2-3/460-AC or PS2-5/460-DC	PS1-3/160-AC or PS1-5/160-DC

Management <ul style="list-style-type: none"> Embedded configuration GUI Management interface <ul style="list-style-type: none"> 1 USB 1 Ethernet LAN port 	Operating <ul style="list-style-type: none"> Operating temperature: 0°C to 45°C Storage temperature: -20°C to 70 °C Relative humidity: up to 90% not condensing 	Power <ul style="list-style-type: none"> 220-110 Vac 50-60 Hz hot swap power module 48 Vdc hot swap power module Default redundancy Max consumption: (fully equipped) 350 W (E-613B) -150 W (E-313B) 	Dimensions (E-613B) <ul style="list-style-type: none"> Chassis 2U surface or 19" rack mount 482,6 mm W, 453 mm D, 88 mm H Weight: (fully equipped) 11 kg (24.2 lbs) 	Dimensions (E-313B) <ul style="list-style-type: none"> Chassis 1U surface or 19" rack mount 482,6 mm W, 453 mm D, 44 mm H Weight: (fully equipped) 5.5 kg (12.1 lbs)
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