

» Network Termination Unit STU4 «

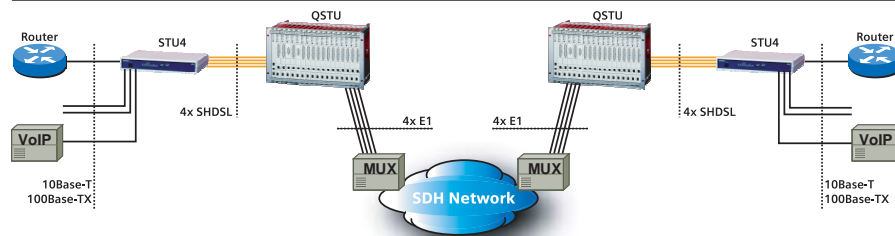
Product Overview

The STU4 is an Ethernet Network Termination Unit for the ULAF+ SHDSL product family designed to transmit broadband traffic over multiple copper wire-pairs.

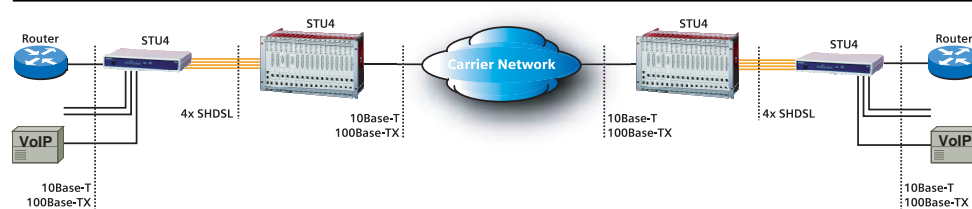
The STU4 helps network operators bridging the existing bandwidth gap between E1 and E3/STM1 services by bundling up to 4 E1 channels, over legacy SDH/TDM networks. In campus back-to-back applications, the STU4 transmits up to 22,8 Mbit/s.



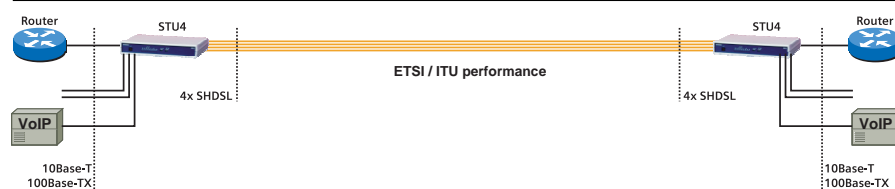
Typical application - 8 Mbit/s Ethernet Leased Lines over SDH/TDM Networks



Typical application - 22,8 Mbit/s Ethernet over Carrier Ethernet Networks



Typical application - 22,8 Mbit/s Ethernet Access/Campus Networks



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As bandwidth demands of telecom operators for data transmission services continually rise, the STU4 extends the existing ULAF+ product portfolio with a broadband Ethernet transmission solution. The ULAF+ family now features both legacy TDM as well as promising Ethernet solutions in a single system environment.

Since the STU4 is fully integrated into ULAF+, it is configured and managed just like any other ULAF+ product: either with the LCT (Local Craft Terminal) software or ULAF+'s network management software.

More bandwidth - more efficiency

With its patent-pending technology the STU4 bundles up to four SHDSL links in order to transmit Ethernet traffic from its 10BaseT/100BaseTX ports. Together with ULAF+'s QSTU the STU4 provides 2, 4, 6 or 8Mbit/s services across legacy SDH/TDM networks. In back-to-back operation mode the STU4 provides up to 22,8 Mbit/s over four wire-pairs.

Its channel bundling algorithm combines bandwidth efficiency and link resiliency: the STU4 dynamically adjusts the bundling algorithm in case of one or more failures of E1 or SHDSL links. Even with three links down, the STU4 link doesn't fail.

Compared to other bundling algorithms, the STU4's bandwidth efficiency is unmatched: while IMA (Inverse Multiplexing over ATM) reaches an approx. 79% of payload efficiency, STU4 boasts an average of 96%.

Fast Ethernet Managed Switch

The STU4 incorporates a 4-port, self-learning Layer-2 switch with VLAN transparency.

Carrier Ethernet Certification

The STU4 has been certified by the Metro Ethernet Forum (MEF). It meets the standards MEF 9 and MEF 14 for EPL Ethernet private line services.

Technical data

Power supply

Input voltage	
Plug-in version	40 VDC to 72 VDC
Desktop version	40 VDC to 72 VDC
	95 VAC to 260 VAC
Remote Power Supply	
Voltage	120 VDC
Current	50 / 60 mA
Power consumption (max.)	<9 W
providing remote power 4x 120V/50mA	<37 W
providing remote power 4x 120V/60mA	<45 W

Interfaces

Connector	4x RJ45
10Base-T/100Base-TX ports	IEEE 802.3
Full / Half Duplex, Flow Control, Auto negotiation,	
	Auto crossover
Switch	self learning (1024 MAC addresses)
	VLAN transparent

Local Craft Terminal (LCT)

Serial V.24 interface	1x RJ45 (ISO 8877)
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Transmission

SHDSL over UTP copper	1 RJ45 (ISO 8877)
Line code	TC-PAM 16/32
Technology	ETSI TS 101 524, ITU-T G.991.2
Bitrates	1 to 4 wire-pairs
	192 kbit/s to 5696 kbit/s per wire-pair

Physical and environment

Plug-in version	Double Eurocard size
Desktop version (W x H x D)	272 x 47,5 175 mm
	(wall-mounting possible)
Temperature (in operation)	-5° – +55°
	at 5 – 95% rel. humidity

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Engineering and Innovative Products
Albisriederstrasse 245
CH-8047 Zürich

Fax: +41 585 585 414
eMail: international.sales.ch@siemens.com

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