

## DS3/STS-1/E3 Line Interface Unit

The TE3-LIU (former PUCINI; PEB 3452) is a DS3 / STS-1 / E3 Line Interface Unit. It interfaces DS3 / STS-1 / E3 framer device to the analog transmission line. It fulfills the relevant standards for DS3 (44.736 Mbit/s), STS-1 (51.840 Mbit/s) and E3 (34.368 Mbit/s) systems. The TE3-LIU is a low power 3.3 V device and provides an integrated jitter attenuator for transmit direction.

It includes an integrated pulse shaper to drive any line length within the range of up to 1100 ft without the need for external length selection. The hardware configuration mode allows low cost systems with flexible device setting without the need for a microprocessor. An optional microprocessor mode allows the connection to a standard microprocessor bus to control hardware settings.



### Applications

Channelized or unchannelized DS-3 (T3), E3 and STS-1 linecards.

- Routers
- Remote Access Systems
- WAN Access
- WAN Switches
- Public Transmission Systems

### Features

- Single chip analog interface for all DS3/STS-1/E3 applications
- No external components required for clock and data recovery and receive equalizer
- Integrated receive equalization network
- Integrated noise and crosstalk filter
- DSX receive line monitor (additional 20 dB gain according to ANSI T1.102)

- Transmit pulse shaper to fulfill requirements of ANSI T1.404, Bellcore GR-499-CORE, ANSI T1.102 and ITU-T G.703 (E3)
- Maximum line length up to 1100 ft (using standard coaxial cable AT&T 728A/734A)
- No external line length select required
- Jitter specifications of GR-499-CORE and ITU-T G.823 are met
- Integrated jitter attenuator is included in the transmit direction to meet CBR/TBR-24 and E3/T3 loop timing requirements
- Selectable line codes (HDB3 (E3), B3ZS (DS3/STS-1), AMI)

### Programming Modes

- Hardware interface mode
  - Stand-alone operation

- Microprocessor interface mode
  - Programmable from  $\mu\text{P}$
  - Hardware control lines directly accessible

### General

- P-MQFP-44-2 package (body size 10 mm x 10 mm, lead pitch 0.8 mm)
- Single power supply: 3.3 V  $\pm 5\%$
- 5 V - tolerant digital input lines
- Temperature range of -40 °C to +85 °C

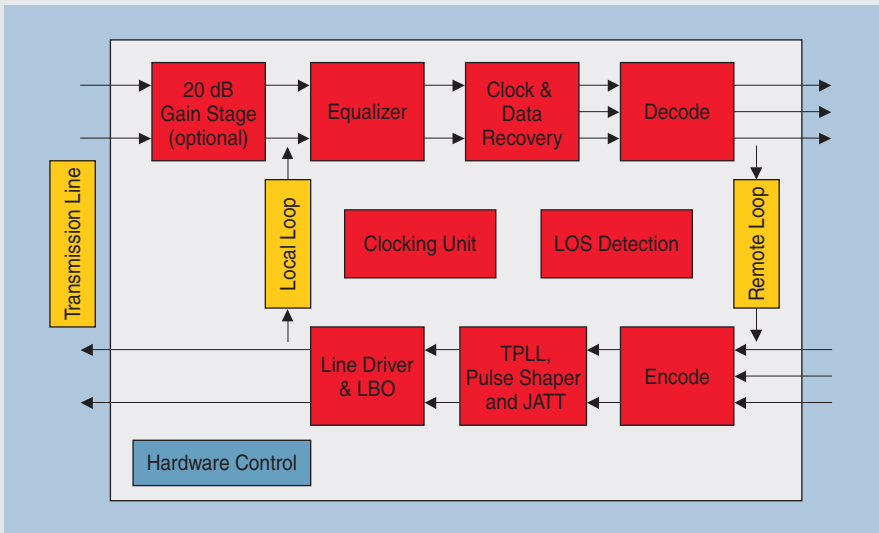
### Documentation and Support Package

- Product Overview
- Data Sheet
- Evaluation System EASY3452

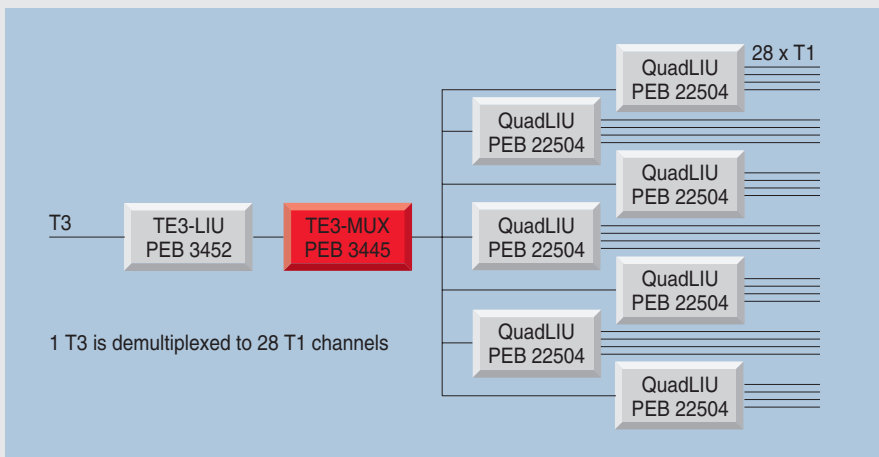
TE3 - LIU  
PEB 3452

www.infineon.com/t3

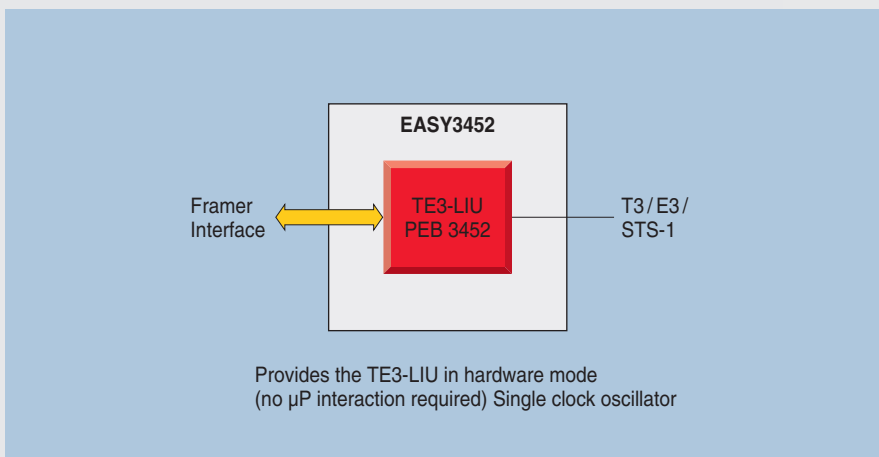




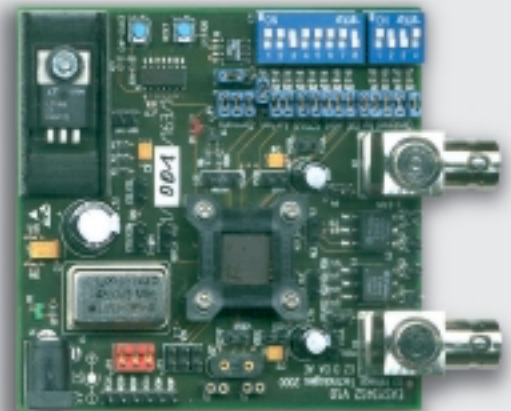
TE3-LIU PEB 3452  
Block Diagram



TE3-LIU PEB 3452  
Application Example  
T1 - T3 Multiplexer



Evaluation Board EASY3452



How to reach us:  
<http://www.infineon.com>

Published by  
Infineon Technologies AG,  
St.-Martin-Strasse 53,  
81541 München

© Infineon Technologies AG 2001. All Rights Reserved.

**Attention please!**

The information herein is given to describe certain components and shall not be considered as warranted characteristics.

Terms of delivery and rights to technical change reserved.

We hereby disclaim any and all warranties, including but not limited to warranties of non-infringement, regarding circuits, descriptions and charts stated herein.

Infineon Technologies is an approved CECC manufacturer.

**Information**

For further information on technology, delivery terms and conditions and prices please contact your nearest Infineon Technologies Office in Germany or our Infineon Technologies Representatives worldwide.

**Warnings**

Due to technical requirements components may contain dangerous substances. For information on the types in question please contact your nearest Infineon Technologies Office.

Infineon Technologies Components may only be used in life-support devices or systems with the express written approval of Infineon Technologies, if a failure of such components can reasonably be expected to cause the failure of that life-support device or system, or to affect the safety or effectiveness of that device or system, or to support and/or maintain and sustain and/or protect human life. If they fail, it is reasonable to assume that the health of the user or other persons may be endangered.