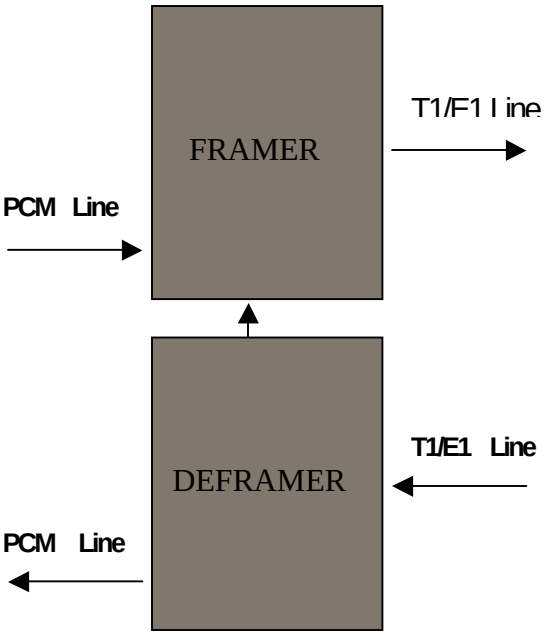
Configurable T1/E1 Framer/Deframer

PRODUCT BRIEF

Overview

The T1/E1 framer multiplexes the PCM data, signaling data and data link data onto the T1/E1 line. The deframer de-assembles the PCM data, signaling data and data link data from the serial data received on the T1/E1 line. Alarms are generated at the de-assembler in accordance with the ITU-T

T1/E1 Reference model



Features

- Conforms to ITU-T recommendations, G.704, G.706 and G.775
- Fully independent framer and de-framer with feedback to framer from de-framer.
- T1 framer supports SF and ESF framing formats.
- Supports ABCD signaling in T1-ESF mode, AB signaling in T1-SF mode and channel associated signaling in E1 mode.
- Provides two frame/four frame controlled slip buffers with parameterized threshold for repeating and deleting frames.
- Fully synchronous design using multiple clocks, with asynchronous reset synchronized for different clocks.
- Supports CRC in T1-ESF and E1 framer/de-framer.
- Provides detection of Blue Alarm (AIS) and Red Alarm (Loss of synchronization by de-framer)
- Indicates occurrence of CRC errors, framing bit errors and controlled slips.
- Automatic internetworking between CRC-4 and non CRC-4 interfaces for E1 framer and de-framer as specified in ITU-T G.706

Configurable T1/E1 Framer/Deframer

Configurable features

Hardware configurable features

- The core can be configured as either T1 or E1
- Slip buffer can be configured as two frame slip buffer or four frame slip b

Software configurable features

- Robbed bit signaling (can be enabled or disabled).
- SF and ESF modes in T1

Specifications

Design Attributes

- Modular and Parameterized Design
- Fully synchronous, technology independent design

Status: Complete

Availability: Now

Language: Verilog HDL

Synthesis: Ambit

Simulation: Verilog-XL

Technology: 0.18u Standard cell

Product Package

- RTL code
- Detailed design document
- Verification environment
- Test cases
- Synthesis environment guide

Documentation

- User Guide
- Verification guide
- Synthesis Guide