

# Lantiq™ OCTALFALC™

## Eight-channel E1/T1/J1 Framer and LIU PEF 22558 E

### Frame Aligners

- ITU-T G.704 frame alignment/ synthesis for 2048/1544 kbit/s
- Programmable frame formats include:  
E 1 - double and CRC4 multi-frame  
T1 - F4, F12 (D4) ext. super frame (ESF), F72 (SLC96)
- Detects and generates LOS, AIS and RAI alarms
- CRC-4 performance monitoring
- PRBS generation and monitoring
- Scalable system bus data rate
- from 1.544 MHz up to 16 MHz

### HDLC Controllers

- 24 HDLC controllers (three per channel)
- including 128-byte FIFO buffers
- CAS controller with microprocessor or system interface serial access
- Supports signaling system #7
- ANSI T1.403 bit-oriented messages (BOM), generates periodical performance reports

### General Features

- QUADFALC™ compatibility mode
- Meets Japanese standards including JT G.703, 704, 706, I.431
- Intel® or Motorola® type 8/16-bit microcontroller interface
- Serial SPI bus and serial SCI bus
- Low power (150 mW per channel)
- Dual voltage 1.8 V/3.3 V power supply
- 17 x 17 mm PG-LBGA-256 package with 1.0 mm ball pitch
- Operating range from -40°C to 85°C

The OCTALFALC™ is the latest addition to Lantiq's market-leading FALC™ family of sophisticated E1/T1/J1 transceivers.

As an eight port E1/T1/J1 framer and Line Interface Unit (LIU), the OCTALFALC is optimized for all kinds of network equipment including Radio Network Controllers, Node B line cards, and PBX or SDH/SONET add/drop multiplexers.

The OCTALFALC features a unique clock generation unit that accepts any reference clock between 1.02 and 20 MHz, as well as a very compact 17 x 17 mm PG-LBGA-256 package.

Using the industry-leading OCTALFALC reference design support tools, system developers can shorten design cycles while creating a wide range of highly flexible, low BOM E1/T1/J1 line cards. The OCTALFALC is highly suited for wireless networks, as well as ISDN PRI, LAN/WAN and Internet access networks.

### Applications

- Wireless Base Stations
- Routers
- Multi-service Access Platforms
- Digital Loop Carriers
- Remote access servers/concentrators
- SONET/SDH Add/Drop Multiplexers

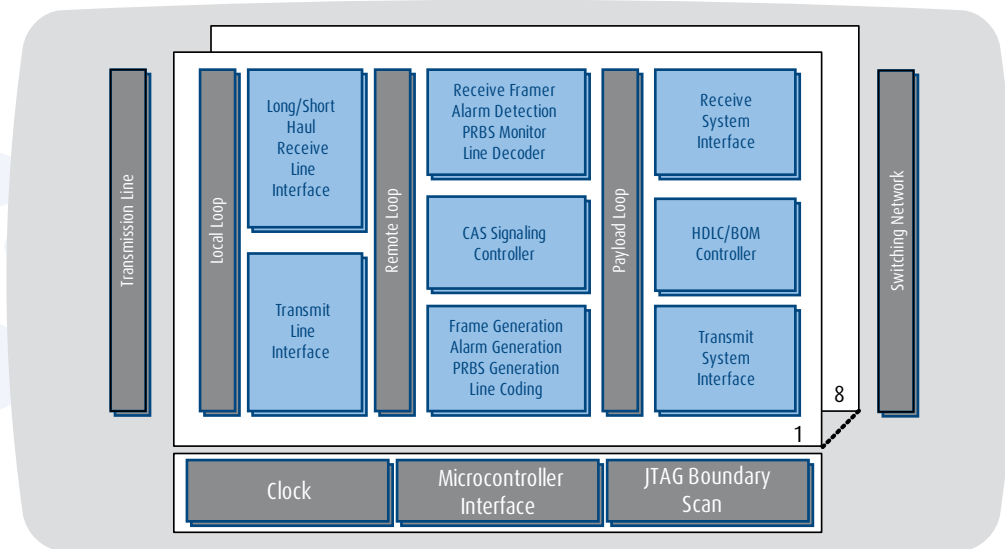
### Analog Line Interfaces

- Eight independent E1/T1/J1 long haul / short haul LIUs
- Software programmable T1/E1/J1
- Integrated analog switch for impedance matching or protection switching
- Crystal-less wander and jitter attenuation/compensation according to:
  - TR 62411
  - ETS-TBR 12/13
- Clock generation unit accepts any reference clock from 1.02 MHz to 20 MHz
- Programmable transmit pulse shape for flexible pulse generation
- Receiver sensitivity values exceed -36 dB at 772 kHz, or -43 dB at 1024 kHz

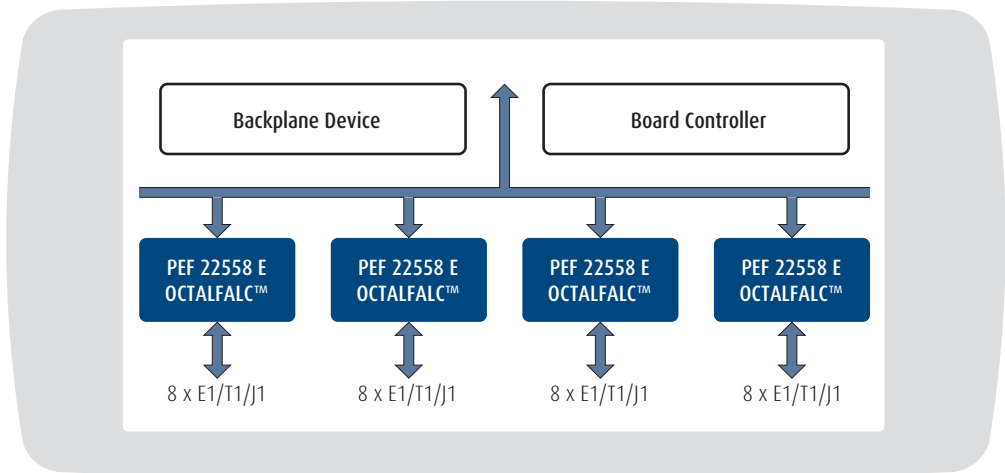
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### Block Diagram OCTALFALC™



### Application Example 32-channel E1/T1/J1 Line Card with OCTALFALC™



### Product Summary

Product	Sales Code	Application	Package
OCTALFALC™ IC	PEF 22558 E	OCTALFALC eight-channel E1/T1/J1 Framer and Line Interface Unit	PG-LBGA-256
OCTALFALC™ Reference Design System	EASY 22558	OCTALFALC reference design system	One board, software, and documentation

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Order Number: PB-e-0009-v1