

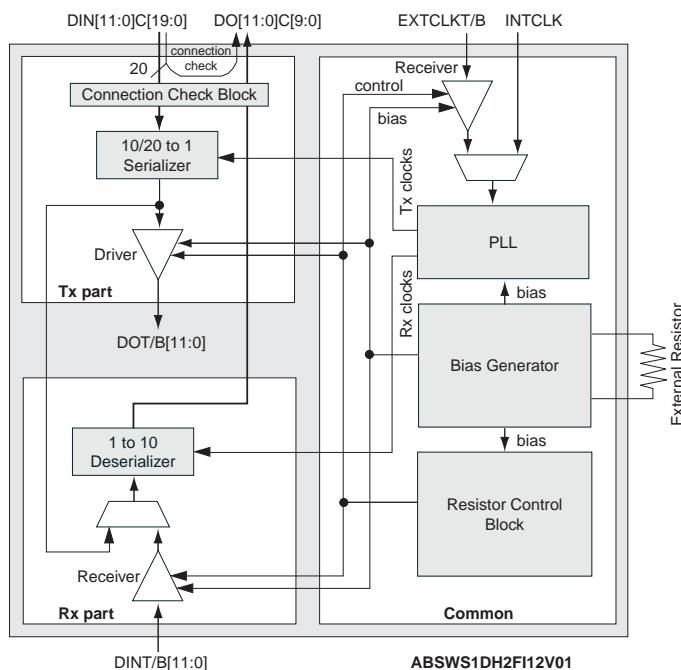
Description

With the internal nick-name LINUS, NEC Electronics has developed a high speed interface SerDes macro for NEC's advanced CB-130 ASIC technology. It achieves data transfer rates of between 600 Mbps and 3.2 Gbps. The macro includes all blocks needed for SerDes functionality: multiple transmit units with a parallel to serial (P/S) converter, driver and multiple receive units consisting of clock and data recovery (CDR), serial to parallel converter (S/P) and receiver. A common unit integrates the PLL, bias generator and test logic and controls up to 16 channels simultaneously. The output buffers are compatible to Infiniband (DC, AC coupled), to XAUI (AC coupled) and to LVDS specifications. The transmission characteristic can be optimized using a programmable pre-emphasis. An equalizer is integrated on the receiver side. The 8-bit/10-bit coders and decoders needed in many applications, are available as soft macros.

Applications

The LINUS SerDes macro can be used in many different applications. These include optical transmission and switching systems, as well as backplane communication in all kinds of networks. Transmission rates and buffer characteristics comply with recently published specifications for OBSAI (Open Base Station Architecture Initiative) and CPRI (Common Public Radio Interface) groups for use in mobile base stations.

Block Diagram

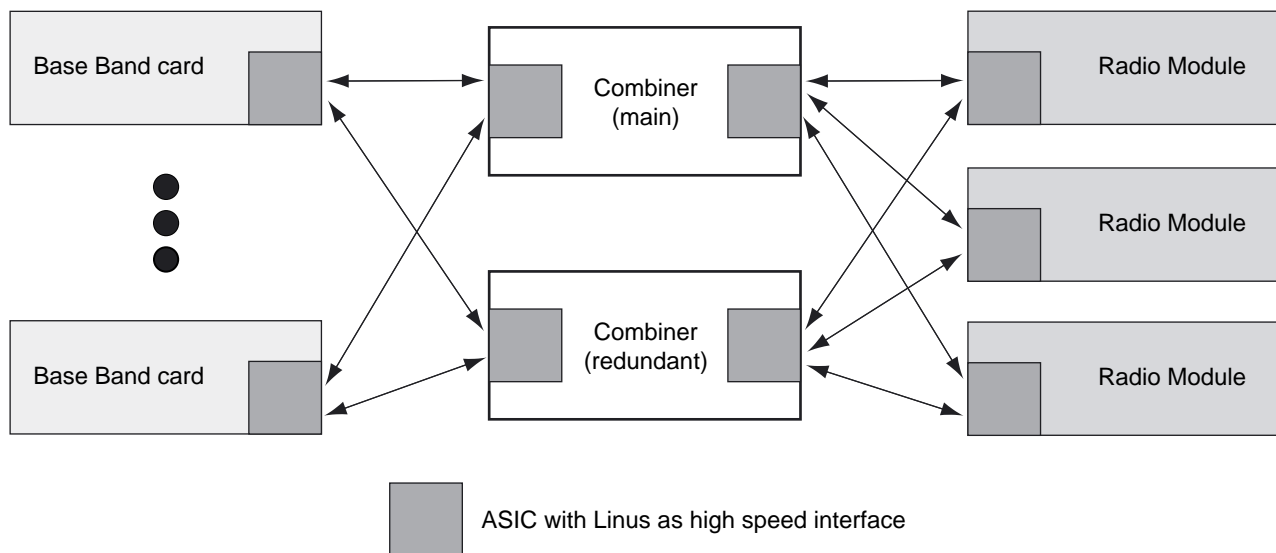


Features

- SerDes Macro for CB-130 ASIC technology (95 nm drawn gate length)
- Data transfer rates from 600 Mbps to 3.2 Gbps
- Programmable pre-emphasis, integrated equalizers
- Scalable number of I/O channels (up to 16 per macro)
- Output buffers compatible to Infiniband and XAUI specifications
- Compatible to OBSAI and CPRI specifications
- 8-bit/10-bit coder and decoder macros
- Design manual

Application Example

UMTS base station with optional combiner unit and redundancy



For further information on NEC's technologies and controllers visit our European website at www.ee.nec.de

NEC Offices

NEC Electronics (Europe) GmbH

Arcadiastr. 10, 40472 Düsseldorf, Germany
Tel. 0211 65030, Fax 0211 6503-1327

- Podbielskistr. 164, 30177 Hannover, Germany
Tel. 0511 33402-0, Fax 0511 33402-34

- Arabellastr. 17, 81925 München, Germany
Tel. 089 921003-0, Fax 089 921 03-15

- Industriestr. 3, 70565 Stuttgart, Germany
Tel. 0711 99010-0, Fax 0711 99010-19

- Sucursal en España

Juan Esplandiú 15, 28007 Madrid, Spain
Tel. 091 504-2787, Fax 091 504-2860

- Succursale Française

9, rue Paul Dautier, B.P. 52,
78142 Vélizy-Villacoublay Cédex, France
Tel. 01 306758-00, Fax 01 306758-99

- Filiale Italiana

Via Fabio Filzi, 25A, 20124 Milano, Italy
Tel. 02 66754-1, Fax 02 66754-299

- Branch The Netherlands

Boschdijk 187a, 5612 HB Eindhoven,
The Netherlands
Tel. 040 244-5845, Fax 040 244-4580

- Tyskland Filial

Täby Centrum, Entrance S (7th floor),
18322 Täby, Sweden

Tel. 08 6380-820, Fax 08 6380-388

- United Kingdom Branch

Cygnus House, Sunrise Parkway,
Linford Wood, Milton Keynes,
MK14 6NP, United Kingdom
Tel. 01908 691133, Fax 01908 670290

NEC Electronics America, Inc.

2880 Scott Boulevard
Santa Clara, CA 95050
Tel. 408 588-6000, Fax 408 588-6130