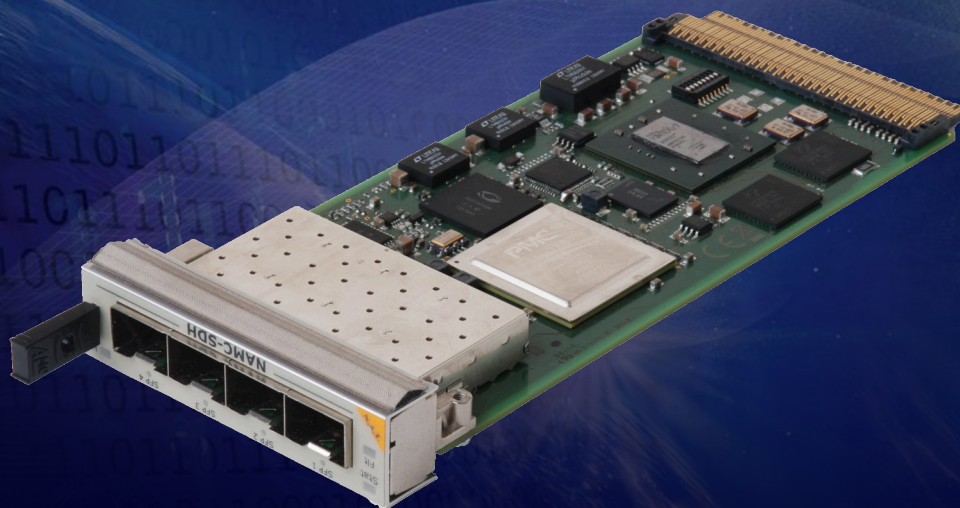




NAT-AMC-SDH

The **NAT-AMC-SDH** is a telecommunication interface board for applications dealing with SDH/SONET (referred to as 'SDH' in the following). Due to its flexible line interface connectivity, it offers various data paths available over Ethernet from which the user can select the one best matching his application needs.

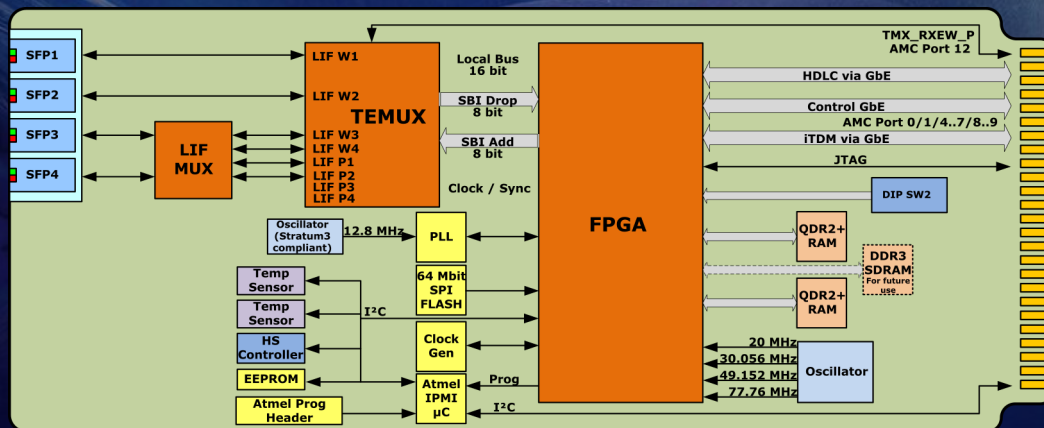
The board offers multiplexing and de-multiplexing of the SDH-signal down to DS0-level (64 kbit/s – ISDN-channel).

Moreover, it features bi-directional data exchange between classic TDM traffic per SDH/SONET network and packet-orientated traffic per Ethernet. On Ethernet-side, the **NAT-AMC-SDH** can transport traffic via RTP, ITDM, and custom Layer-2 Ethernet Packets.

The HDLC-Controller implemented in the FPGA supports bi-directional exchange of HDLC-Traffic in any channel between SDH- and system-side.

Combining these three basic functionalities, the **NAT-AMC-SDH** offers the platform to build up the core of a media-gateway-system, such as conversion from legacy PSTN to VoIP and vice versa, and handling of time-critical PSTN-signalling.

The **NAMC-SDH** features various options for monitoring traffic (listen-only), such as content-filtering, signalling-filtering, or any combination of both. These applications are just typical examples; the board's actual features are not limited to the described signals and standards.



Key Features

Processing Resources

- XILINX Kintex-7: XC7K325T or XC7K160T
- Optionally featuring:
 - SDH-Interface
 - Time-Slot-Interchanger (TSI)
 - iTDM-Controller
 - HDLC-Controller (optional)

Memory

- External memory for FPGA:
 - 2Gbit DDR3 SRAM (default) or
 - 2x 72Mbit QDR2+ SRAM

Miscellaneous

- Single, full-size AMC form factor
- 8x Microchip KSZ8061MNG Ethernet PHY
- SI5338 Differential Clock Generator PLL
- Compliance to AMC.0 R2.0, SFP.0, SFP.1, HPM.0, IPMI v2.0 Rev. 1.0, MTCA.0

Order Codes

NAT-AMC-SDH- [Option F]	F: type of Kintex-FPGA
NAT-AMC-SDH- [Option M]	M: External Memory
NAT-AMC-SDH- [Option S]	S: Type of transceiver (SDH Level)
NAT-AMC-SDH- [Option N]	N: Number of transceivers

MUX, E1/T1, SDH Interface

- PMC TEMUX336
- 252 E1 or 336 T1 Framers
- 4 OC-3/STM-1 or 2 OC-12/STM-4 Interfaces
- Access possible down to single DS0 level

Front Panel Connectivity

- 4x SFP connectors to host:
 - 4x OC-3/STM-1 transceivers or
 - 2x OC-12/STM-4 transceivers
- 4x bi-colour link LEDs
- Standard AMC LEDs for Status, Fault, Hot-Swap

Backplane Connectivity

- AMC Ports 0/1: GbE
- AMC Ports 4..7: optional FatPipe
- AMC Ports 12: ESSI for redundant
- AMC Ports 0/1/4/8: iTDM via GbE