

PHAST-3P

STM-1/STS-3c SONET/SDH
Overhead Terminator/Processor
for Cell and Packet Applications

A Complete Overhead Termination Solution for STM-1/STS-3c Data over SONET.

The PHAST-3P provides STM-1/STS-3c section, line and path overhead termination and processing functions while supporting cell or packet extraction and processing for multi-service applications. This integrated solution features flexible interfaces, broad functionality and field-proven technology, all of which can reduce your design costs and improve your time-to-market for a broad set of applications:

- Digital subscriber loop access multiplexers
- ATM internetworking equipment
- ATM, IP frame relay switches
- Broadband switching systems
- Multi-service access systems
- SONET/SDH add/drop and terminal multiplexers

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Integration for design.

With the PHAST-3P, TranSwitch brings you the industry's most flexible and comprehensive VLSI device for terminating 155Mb/s SONET/SDH STS-3c, and STM-1 data transmission signals. This highly integrated device provides payload mappings for either ATM cells (CDB - Cell Delineation Block operations) or IP packets (PPP - Point to Point Protocol operations). In addition to complete section, line and path overhead byte processing, the PHAST-3P effectively integrates an extensive array of interface and management functions that allow you to quickly and easily develop designs that support cell or packet data. Complete with clock recovery and synthesis, synchronization, and extensive test capabilities, the PHAST-3P is your single chip cell or packet over SONET/SDH solution.

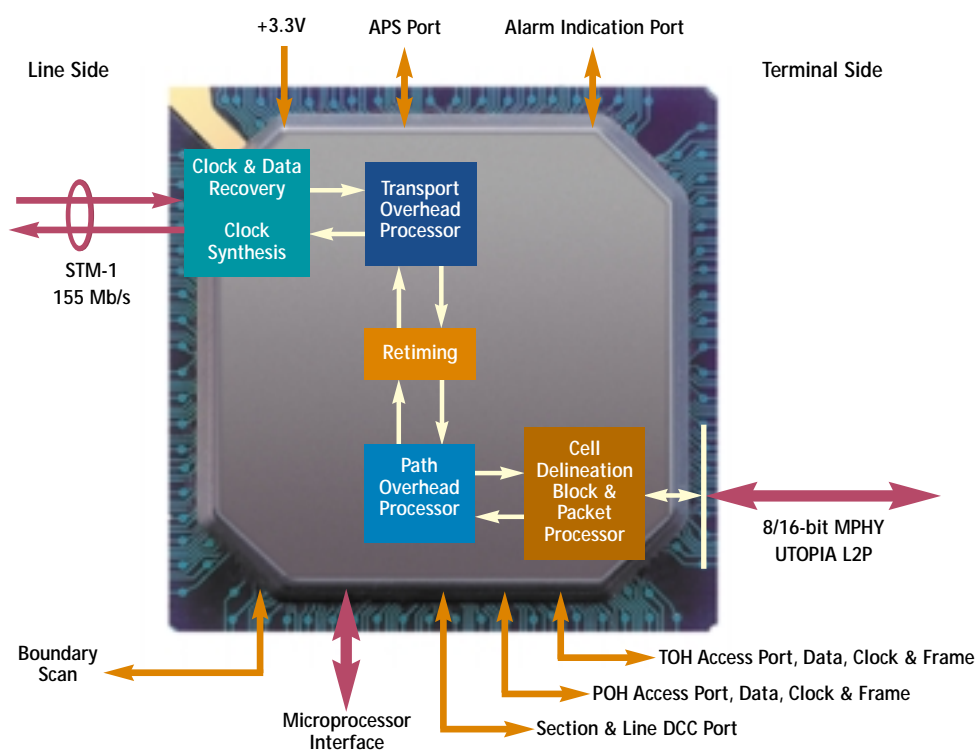
Full access. Absolute control.

The PHAST-3P provides full access to all section, line, and path overhead bytes - required support for designing standards compliant systems. It also allows section, line and path overhead bytes to be inserted from the serial overhead interfaces, terminal interface, ring interface, the receive side, and directly from RAM.

Receive pointer tracking includes Alarm Indication Signal (AIS), Loss Of Pointer (LOP), New Data Flag (NDF) and false pointer detection. In addition, the PHAST-3P provides Automatic Protection Switching (APS) support for line and ring protection - thus streamlining the implementation of reliable SONET/SDH access systems.

Multiple interfaces. Multiple options.

The PHAST-3P provides flexible interface options for all of your multi-service applications. On the system side, PHAST-3P's complete, industry standard, multi-PHY UTOPIA level 2 interface integrates easily with other components, minimizing glue logic and saving development time and board space. This interface can be programmed to carry either 8 or 16-bit data. On the line side, the PHAST-3P provides either a serial interface with 155 Mb/s clock recovery and synthesis, or a parallel interface accepting 8-bit data at 19.44 Mbyte/s.





Field proven. Future-proof. Reliable.

The PHAST-3P integrates and extends the functionality found in TranSwitch's field-proven STS-3/STM-1 Overhead Terminator (SOT-3), 155 Mb/s Synchronizer Framer (SYN-155C) and ATM Cell Delineation Block (CDB) devices. Since the PHAST-3P is a processor-based device, firmware downloads allow for updates in the case of standards changes, virtually eliminating the need for board redesigns.

Reliable components are essential for successful system implementation. To support system validation and ensure error free systems operation, the PHAST-3P provides extensive test and maintenance features including: boundary scan, B2 and B3 byte BER measurements, programmable BIP error mask generation and line and terminal loopbacks. These extensive testing capabilities greatly aid in simplifying your own software development.

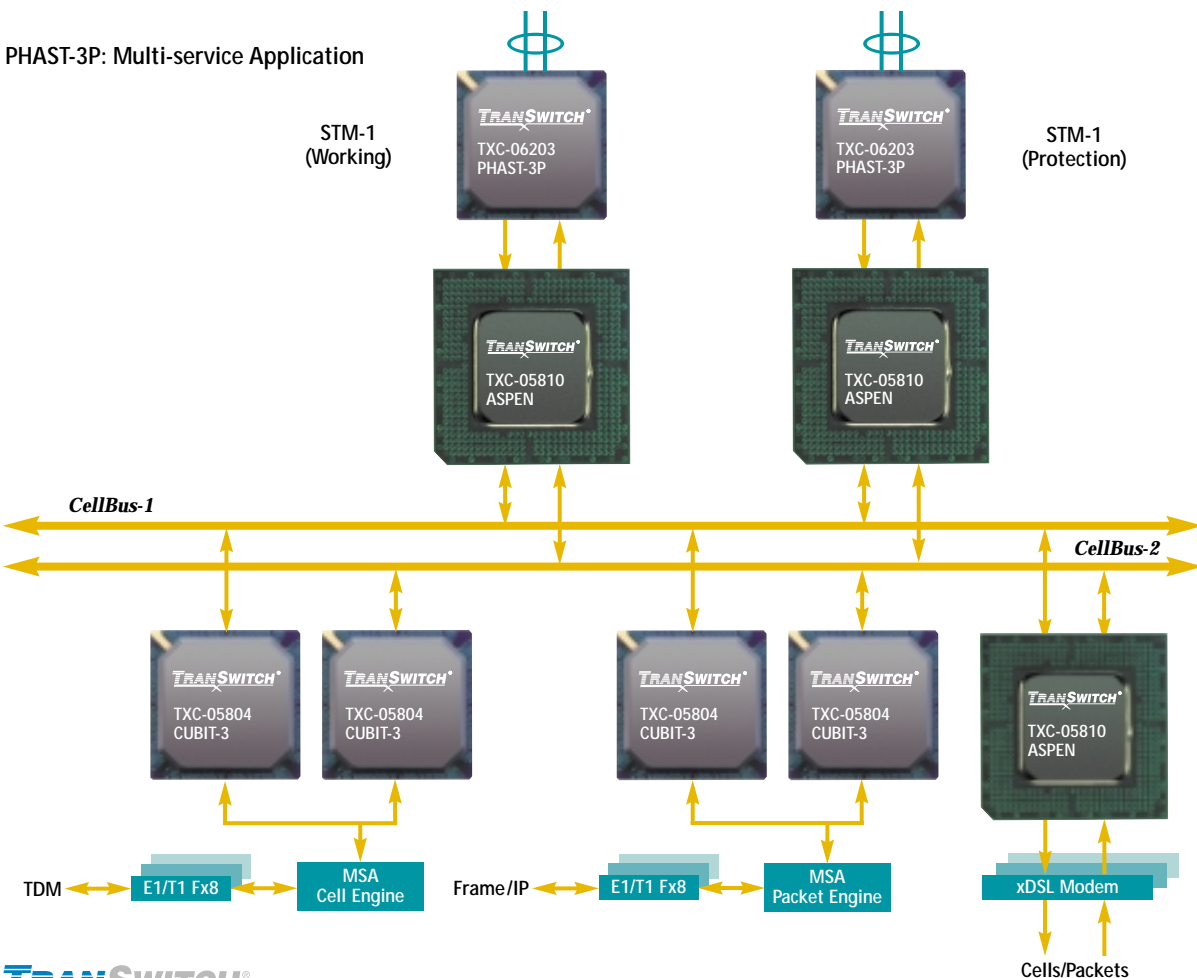
Application diversity.

The PHAST-3P, in combination with TranSwitch's CUBIT®-3 and ASPEN® ATM switching and traffic management devices, provide the core functionality required for cost-effective ATM access concentrators and DSLAMs. Together these devices provide ATM QoS, policing, traffic shaping, switching and multiplexing along with fully standards compliant SONET/SDH transmission. The PHAST-3P also delivers SONET/SDH overhead processing for a broad range of frame relay and Internet Protocol (IP) switching, routing and aggregation applications.

Foundation for success.

To maximize the effectiveness of your development time and resources, TranSwitch provides an extensive array of design support for the PHAST-3P, including an easy-to-use API based device driver, reference designs, application notes, BSD file, and a comprehensive document set - all backed by TranSwitch's world-class customer engineering capabilities.

PHAST-3P: Multi-service Application





KEY FEATURES of the PHAST-3P TXC-06203

Interfaces

- Line: 155 Mb/s bit-serial or 19.44 Mbyte/s parallel
- Terminal: Multi-PHY UTOPIA 2P
- Control: Motorola and Intel compatible microprocessor interface
- Status: Ring port, Alarm Indication Port (AIP)
- Overhead: TOH port, POH port, section and line DCC port

SONET/SDH Overhead Processing

- Integrated clock recovery and synthesis
- Section, line, and path overhead processing
- Overhead byte access and insertion
- Receive and transmit pointer processing

Cell or Packet Processing

- Fully featured ATM cell delineation with cell filtering
- Complete HDLC controller with 16 or 32 bit CRC generation and checking
- Rate adaptation using idle or unassigned cells

Line and Ring Protection

- Alarm Indication Port (AIP) for line/path ring operation
- Line AIS, REI (FEBE) and RDI detection

Physical Characteristics

- Voltage: +3.3v with 5v I/O tolerance
- Size: Compact - 27 x 27 mm
- Package: 256-lead PBGA

TranSwitch Corporation is a leading innovator of VLSI solutions for multi-service access and transport applications. TranSwitch serves the Original Equipment Manufacturers (OEMs) who supply three fast-growing communications end markets: Multi-service Access Infrastructure (including Wireless), Broadband Internet Infrastructure, and Converged Public Networks. Our solutions span Asynchronous/PDH, SONET/SDH, and ATM/IP technologies, providing the core functionality for network elements including:

Multi-service Access Devices • DSLAMs • SONET/SDH Add/Drop Multiplexers • Access Concentrators

Edge Switches • Voice Gateways • ATM, IP, and Frame Relay Switches



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