AX/4000
ATM 25.6 Interface

Overview

This combination port interface and faceplate provides twisted-pair physical connections for AX/4000 Generator, Generator/Analyzer and ATM Network Impairment Emulator test modules. This electrical interface operates with 4B/5B NRZ coding at 25.6 Mbps.

AX/4000 Installation

The port interface plugs directly into mating connectors on the AX/4000 test module. Two screws attach the faceplate to the front of a mainframe or portable chassis. The test module provides power to the port interface.

Transmit and Receive Connectors

The RJ-48 jack accepts cables with RJ-45 or RJ-48 plugs. A single cable carries both transmit and receive signals.

Transmit Clock Source

The port interface can receive its transmit timing from a built-in crystal oscillator (INT), from the clock recovered from received data (LOOP) or from an external source via the EXT CLOCK IN connector (EXT).

External Clock In Connector

The BNC connector labeled EXT CLOCK IN is for an external 32 MHz, 50% duty, TTL level transmit timing signal. The impedance is 75 ohms.
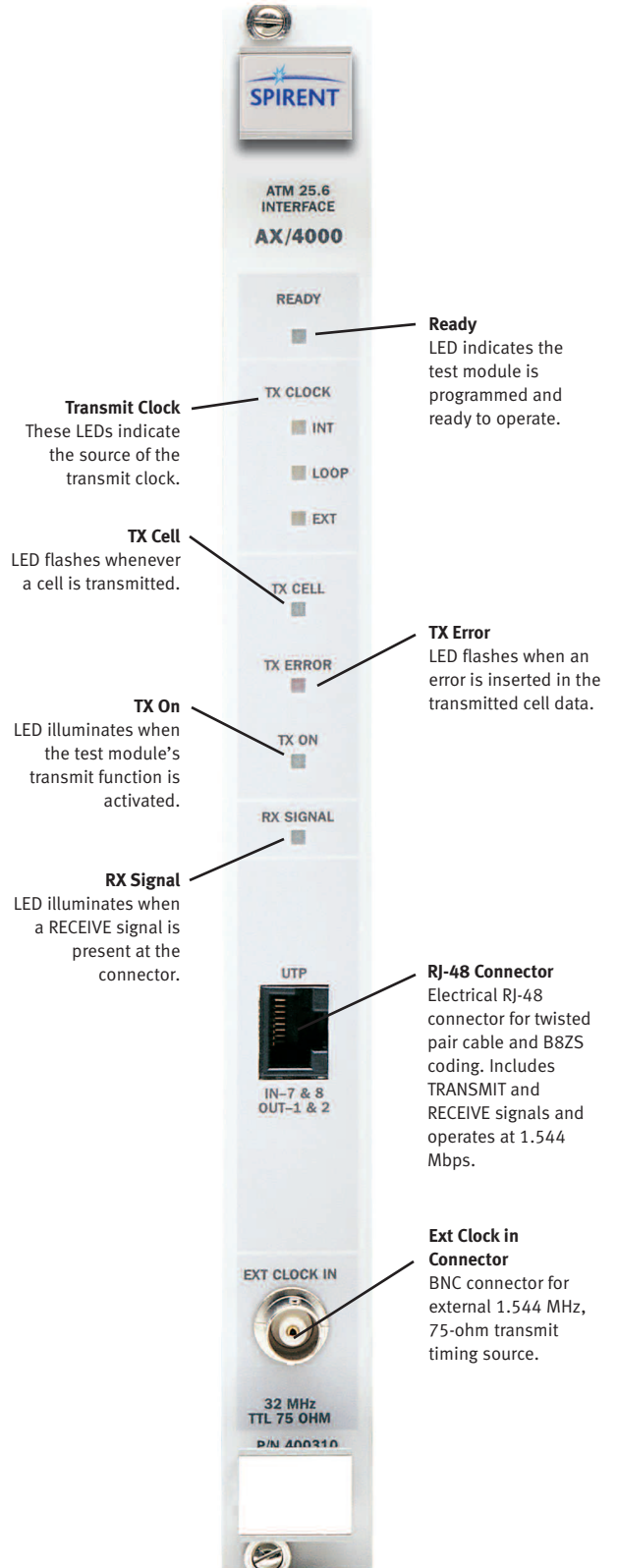
LED Indicators

The faceplate has eight LED indicators. Refer to the faceplate photo for a description of each LED function.

Software Control

The AX/4000 Windows®-based controller software provides a graphical interface for setting up the port interface, triggering momentary and continuous errors and alarms, and for viewing port statistics. See the other side of this sheet for a list of software controlled functions.

Software functions to control the port interface are also available in the AX/4000 C Function Library. This library allows C programmers to create their own AX/4000 test applications on a variety of platforms.

Ready
LED indicates the test module is programmed and ready to operate.

Transmit Clock
These LEDs indicate the source of the transmit clock.

TX Cell
LED flashes whenever a cell is transmitted.

TX Error
LED flashes when an error is inserted in the transmitted cell data.

TX On
LED illuminates when the test module's transmit function is activated.

RX Signal
LED illuminates when a RECEIVE signal is present at the connector.

RJ-48 Connector
Electrical RJ-48 connector for twisted pair cable and B8ZS coding. Includes TRANSMIT and RECEIVE signals and operates at 1.544 Mbps.

Ext Clock in Connector
BNC connector for external 1.544 MHz, 75-ohm transmit timing source.

SPIRENT
Communications

Analyze | *Assure* | *Accelerate*™

Hardware Specifications

AX/4000 ATM Test Modules Supported

- 155.52 Mbps Version 2 Generator (P/N 401312)

- 155.52 Mbps Version 2 Generator/Analyzer (P/N 401311)

- 155.52 Mbps Version 2 Generator/Dual Analyzer (P/N 401314)

- mAX Generator (P/N 401401L)

- mAX Generator (P/N 401401H)

- mAX Generator/Analyzer (P/N 401400L)

- mAX Generator/Analyzer (P/N 401400H)

- mAX Generator/Dual Analyzer (P/N 401405L)

- Network Impairment Emulator (uni-direct) (P/N 400314)

- Network Impairment Emulator (bi-direct) (P/N 400315)

Note: For the Generator/Dual Analyzers, two identical interfaces are required.

Transmit and Receive Connector

- Connector type: RJ-48 electrical for category 3 or better unshielded, twisted-pair cable 100 meters or less.

- Bit rate: 25.6 Mbps

- Coding: NRZ

- Output voltage: Nominal 3.0 V peak-to-peak

- Input: Designed to receive signal through up to100 meters of Category 3 or better twisted-pair cable.

- Impedance: 100 or 120 ohms (selectable) across each pair

Pin Assignments:

- Pin 1: Transmit A

- Pin 2: Transmit B

- Pins 3-6: 50 ohms to ground

- Pin 7: Receive A

- Pin 8: Receive B

Data Description

Data is encoded per the ATM Forum specification for 25.6 Mbps over twisted-pair cable. A start-of-cell symbol is sent prior to each cell. A sync event symbol is sent at an 8 KHz rate.

- Line rate: 32 Mbaud

- Bit rate: 25.6 Mbps

- Line coding: 4B/5B NRZI

- Cell Scrambling: Cells are scrambled and descrambled using the polynomial $x^{10}+x^7+1$

External Timing Clock Signal Connector

- Connector type: BC

- Impedance: 75 ohms

- Frequency: 32 Mhz

- Duty cycle: 45%-55%

- Input voltage: TTL level

Software Control Functions

Setup Parameters

- Operation Mode
  - Normal, line monitor, or diagnostic loopback

- Transmit Clock Source
  - Internal, loop, or external

- RX Data Source
  - UTP termination (100 ohms)
  - UTP termination (120 ohms)

- Sync Event
  - Internal or loop

Indicators and Statistics

- RX Frame
  - LOS, HEC, Coding, and Length: Current and History indicators
  - HEC, Coding, and Length: Error Count and Error Rate statistics

Transmit Alarm Triggers

- TX Frame
  - LOS (Momentary)
  - LOS (Continuous)

Ordering Information

ATM 25.6 Interface (P/N 400310)

Spirent Global Services

Spirent Global Services provides a variety of professional services, support services and education services — all focused on helping customers meet their complex testing and service assurance requirements. For more information, visit the Global Services website at www.spirentcom.com/gs or contact your Spirent sales representative.

SPIRENT
Communications