OC-12-4s IR Plug-In Card

DESCRIPTION

Provides 4 SONET intermediate reach (1310nm) OC-12 interfaces that can be configured to work as inter-terminal transport, subscriber service interfaces, or network interfaces. The OC12-4s IR supports STS-mapped traffic in STS-1, STS-3c, or STS-12c increments. Each STS-n can carry any payload type (TDM, ATM, Ethernet, IP/MPLS).

The OC12-4s IR can be plugged into any of the 20 universal slots within the Calix C7 shelf. Physical access to each OC-12 interface is provided through standard LC optical connectors mounted on the front of the plug-in card.

KEY ATTRIBUTES

GR-253-CORE SONET COMPLIANT: Standard SONET compliance enables a network of Calix C7 systems to seamlessly and transparently co-exist with currently deployed SONET networks from other vendors. It also enables service providers to continue using existing SONET test equipment and procedures.

INTERFACE DENSITY: The Calix C7 14" high shelf can be equipped with up to 20 OC12-4s IR plug-in cards (80 OC-12 interfaces per shelf). This allows termination of multiple subtended rings from one shelf and the delivery of high-density OC-12 service to subscribers. Service providers can subtend up to forty redundant OC-12 rings from a single Calix C7 shelf.

ENVIRONMENTALLY HARDENED: The OC12-4s IR plug-in card is environmentally hardened. This enables service providers to deploy OC-12 interfaces from non-controlled environments. For example, a Calix outdoor cabinet can be used to deliver optical services to businesses and to subtend additional cabinets. For deployment in outdoor cabinets, Calix offers a complete line of simplified services cabinets that address CSA designs ranging between 96 and 2,880 subscribers.

END-TO-END SERVICE AUTO PROVISIONING: The user specifies the two end points, traffic characteristics, and protection requirements of a particular service. The system then provisions the path and bandwidth between those two ends. The criteria used by the system for path selection is programmable, and the user always has the option of overriding the automatic selection and provisioning services manually.

PLUG AND PLAY: New OC12-4s IR plug-in cards can be added to the system with ease and minimum user intervention, allowing quick and easy turn up of new services. There are no power or bandwidth deployment restrictions, significantly easing service planning and forecasting activities.



SPECIFICATIONS OC-12-4s IR Plug-in Card

PORTS

4 OC-12 ports per card 20 cards per shelf 80 OC-12 ports per shelf 400 OC-12 ports per 7-foot rack (5 shelves)

DATA RATE

622.08 Mbps

TRANSMITTER WAVELENGTH1274–1356 nm, nominal 1310 nm

RECEIVER INPUT WAVELENGTH

TRANSMIT POWER

Maximum -8 dBm Minimum -15 dBm

RECEIVER INPUT

Maximum -3 dBm Minimum -28 dBm

DISPERSION PENALTY

1 dB

LINK LOSS BUDGET 12 dB

FIBER TYPE Single Mode (SMF-28)

CONNECTOR TYPE LC mounted on card faceplate

SONET

GR-253-CORE Issue 3, September 2000. Meets IR-1 specifications per table 4-10.

STATUS INDICATORS

FAIL [RED]: Card has failed ACTIVE [GREEN]: One or more of the optical ports are provisioned STBY [YELLOW]: Card is in standby mode for protection NE [RED]: Near-end failure on at least one interface FE [YELLOW]: Far-end failure on at least one interface

POWER DISSIPATION

20 watts per card

PROTECTION

PATH: Unidirectional path switched ring (UPSR, STS traffic) LINE: 1 + 1 automatic protection switching (1+1 APS), uni- or bidirectional LINE: 1:1 automatic protection switching (1:1 APS), uni- or bidirectional

PHYSICAL DIMENSIONS 9.3"H x 0.7"W x 9.0"D

OPERATING ENVIRONMENT

TEMPERATURE: -40C to +65C HUMIDITY: 5 to 90% non-condensing ALTITUDE: to 13,125 feet

STORAGE TEMPERATURE

NEBS LEVEL 3 COMPLIANCE

Telcordia GR-63-CORE: Network Equipment-Building System (NEBS) Requirements, Issue 1, October 1995. Telcordia GR-1089-CORE: Electromagnetic Compatibility and Electrical Safety, Issue 2, December 1997 with revision 1, February 1999.

SAFETY

NTRL-UL 1950

EMI/RFI

FCC Part 15 Class A

STANDARDS SUPPORT

Telcordia, GR-253-CORE: Synchronous Optical Network (SONET) Transport Systems: Common Generic Criteria, Issue 3, September 2000. Telcordia, GR-499-CORE: Transport Systems Generic Requirements (TSGR): Common Requirements, Issue 2, December 1998. Telcordia, GR-496: SONET Add-**Drop Multiplex Equipment (SONET** ADM) Generic Criteria, Issue 1, December 1998. Telcordia, GR-1244-CORE: Clocks for the Synchronized Network: Common Generic Criteria, Issue 2, December 2000. Telcordia, GR-1400-CORE: SONET **Dual-Fed Unidirectional Path** Switched Ring (UPSR) Equipment Generic Criteria, Issue 2, January 1999. ANSI T1.405-1995: SONET-Payload Mappings. ANSI T1.105: Synchronous Optical Network (SONET) - Automatic Protection. ANSI T1.107 - 1995: Digital Hierarchy-Formats Specifications.



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