

# OC3-4s IR

## DESCRIPTION

Provides 4 SONET intermediate reach (1310 nm), GR-253 compliant, OC-3 interfaces that can be configured to work as inter-terminal transport, subscriber service interfaces, or network interfaces. The OC3-4s IR interface density allows unmatched flexibility and revenue-generating potential from one Calix C7 shelf. The OC3-4s IR supports STS-mapped traffic in STS-1 or STS-3c increments. Each STS-n can carry any payload type (TDM, ATM, Ethernet, IP/MPLS).

The OC3-4s IR can be plugged into any of the 20 universal slots within the Calix C7 shelf. Physical access to each OC-3 interface is 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-inch high shelf can be equipped with up to 20 OC3-4s IR plug-in cards (80 OC-3 interfaces per shelf). This allows termination of multiple subtended rings from one shelf and the delivery of high-density OC-3 service to subscribers. Service providers can subtend up to forty redundant OC-3 rings from a single Calix C7 shelf.

**ENVIRONMENTALLY HARDENED:** The OC3-4 IR plug-in card is environmentally hardened. This enables service providers to deploy OC-3 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 OC3-4 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

# OC3-4s IR

### ORDERING INFORMATION

Calix Part No. 100-00075

### PORTS

4 OC-3 ports per card  
20 cards per shelf  
80 OC-3 ports per shelf  
400 OC-3 ports per 7-foot rack (5 shelves)

### DATA RATE

155.52 Mbps

### TRANSMITTER WAVELENGTH

1261–1360 nm, nominal 1310 nm

### RECEIVER WAVELENGTH

1310nm or 1550 nm

### TRANSMIT POWER

Maximum –8 dB  
Minimum –15 dB

### RECEIVER INPUT

Maximum –3 dB  
Minimum –28 dB

### 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 4-9.

### STATUS INDICATORS

**FAIL:** Red – Card has failed  
**ACTIVE:** Green – One or more ports  
are active  
**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  
1:1 automatic protection switching  
(1:1 APS), uni- or bidirectional

### PHYSICAL DIMENSIONS

9.3 inches (height) x 0.7 inches  
(width) x 9.0 inches (depth)

### OPERATING ENVIRONMENT

Temperature: –40 C to +65 C  
(–40 F to +149 F)  
Humidity: 5 to 90% non-condensing  
Altitude: to 13,125 feet

### STORAGE TEMPERATURE

–40 C to +70 C (–40 F to +158 F)

### 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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