



# CHAPTER 15

## Octal Optical S-1.1 Module

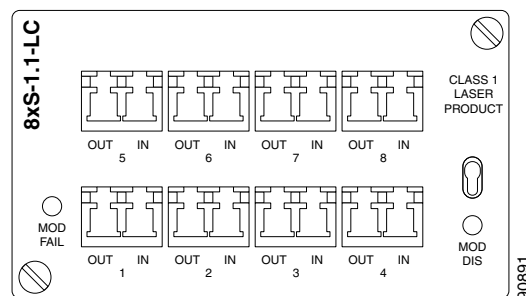
### 15.1 Functional Description of Module

The S1.1-8-LC module contains eight optical STM-1 interfaces that meet the S-1.1 specification in ITU-T G.957. The physical connector is an LC connector.

The module also contains 8 mapper circuits and an IP switch, allowing concentration of IP traffic mapped into a VC-12 container. Because the mapper circuits are connected to the matrix, the mapper circuits are global resources which means that the traffic to be terminated can come from other modules in the system.

As shown in [Figure 15-1](#), the module is especially made for termination of traffic from a large number of ONS 15302 and ONS 15305 devices.

**Figure 15-1** Octal Optical S-1.1 Module, 8xS-1-LC Front View



### 15.2 Power Consumption

The power consumption of the S1.1-8-LC is 25 W.

## 15.3 External STM-1 Interface

### 15.3.1 Description

The eight optical STM-1 interfaces use dual fiber interface, LC style connector, one fiber in each direction, 1310nm wavelength and use single mode fiber of type 10/125 um. The optical interfaces is compatible with ITU-T 957 for S-1.1.

The interface is an optical STM-1 short haul interface, according to clause 5 ITU-T G.957 The definitions of optical parameters and reference points S and R refer to ITU-T G.957. Reference point S means transmit direction while R is the receive direction of the fibre.

### 15.3.2 Connector Type

The physical connector is an LC connector.

### 15.3.3 Optical Budget

Table 15-1 describes the optical parameters.

**Table 15-1**      *Optical Budget S-1.1 Interface*

Parameter	Value
Modulation rate on optical line	155 520 kbps
Wavelength range	1261 - 1360 nm
<b>Transmitter at reference point S</b>	
Source type	MLM
Spectral characteristics (max. RMS width)	7.7 nm
Mean launched power (max.)	-8 dBm
Mean launched power (min.)	-15 dBm
Min. extinction ratio	8.2 dB
<b>Optical path between S and R</b>	
Attenuation range	0 - 12 dB
Max. tolerable dispersion	96 ps/nm
Min. optical return loss	NA
Max. discrete reflectance between S and R	NA
<b>Receiver at reference point R</b>	
Min. sensitivity (BER < 1 in 10 <sup>10</sup> )	-28 dBm
Min. overload	-8 dBm
Max. optical path penalty	1 db
Max. reflectance at R	NA