

OC-3 / STM-1 ACCESS MODULE FOR SERVICE MIGRATION IN METRO NETWORKS

OC-3/STM-1 Access Module

for the Nimbra One multi-service switch provides seamless service integration and migration for metro networks. The module offers 4 channelized interfaces for transport of any OC-3 / STM-1 compatible services (PDH, POS, ATM etc).

Since OC-3 / STM-1 is the de facto universal optical access interface in the operator community the usability of the Access Module is very general. Examples are

- ◆ DSLAM backhaul
- ◆ POS router interconnect
- ◆ Voice exchange interconnect
- ◆ Interconnect of ATM switches
- ◆ Bridging between SDH / SONET networks
- ◆ Distributed cross-connect functionality

The combination of both STM-1 and Gigabit Ethernet accesses in the same Nimbra One box provides for both a broad service spectrum and for a migration path between telecom and datacom centric carrier strategies and can handle both ATM and IP access over the same infrastructure, both with guaranteed QoS.

The module features 4 independent bi-directional ports, using modular Small Form-factor Pluggable (SFP) optics that can be provisioned for different media and distances.

The module also supports QoS multicast of OC-3 / STM-1 streams for e.g. media distribution.

The OC-3 / STM-1 Access Module terminates transport overhead and have extensive fault and performance monitoring options. It supports in-service hot swap for higher availability. It is easily managed by means of CLI, Web GUI and SNMP.



OC-3 / STM-1 ACCESS MODULE FOR SEAMLESS SERVICE MIGRATION



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KEY FEATURES*

The most important characteristics of the OC-3 / STM-1 Access Module are:

- > **Standards compliant.** The ports comply to applicable SONET / SDH / DTM standards.
- > **4 or 12 independent channels.** 4 (STS-3c SPE / VC-4) or 12 (STS-1 SPE) independent bi-directional channels that can be directed to different end destinations.
- > **Pluggable optics.** Each of the 4 OC-3 / STM-1 ports is equipped with a Small Form-factor Pluggable (SFP) housing that can be fitted with SFP modules for different distances and fiber media.
- > **1+1 protection.** Support for 1+1 protection through network, with <50ms switching time.
- > **Multicast support.** An OC-3 / STM-1 stream can be multicasted in a point-to-multipoint fashion for e.g. media distribution services.
- > **Bandwidth effective.** Each stream uses only about 150 Mbps of network capacity
- > **Performance monitoring.** Standard performance metrics with G.826 style presentation of performance.
- > **Hot swap.** Supports in-service swapping of the module for low un-availability.
- > **Ease of handling.** Managed by CLI, Web GUI or SNMP. Can also be managed by Nimbra Vision™ NMS.

*) Note that some functionality may be sold separately.

TECHNICAL SPECIFICATIONS:

Laser options:

Small Form-factor Pluggable (SFP)	STM-1 I-1.1 / OC-3 SR-1 (MM,1310nm) STM-1 S-1.1 / OC-3 IR-1 (SM,1310nm) STM-1 L-1.1 / OC-3 LR-1 (SM,1310nm) STM-1 L-1.2 / OC-3 LR-2 (SM,1550nm)
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Framing:

OC-3	STS-3c, ANSI T1.105
STM-1	STM-1; ITU-T Rec G.707

Mapping:

SONET	STS-3c SPE / 3 x STS-1 SPE
SDH	VC-4

Fault management:

SONET/SDH	LOS, LOF, LOP, SF, AIS, RDI (LED and Element Manager)
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Performance management:

ITU-T G.826 based

Maintenance:

Hot swap	
Loopback	Line side, System side

Power consumption:

<15W

Network Management:

SNMP	v1/v2c/v3
Element Manager	Web GUI, CLI

Timing modes:

Loop-timing	Slaved to SDH/SONET network
Source-timing	Slaved to on-board oscillator:
Standard option	SMC/G.813 option 2
Stratum option	Stratum 3/ G.813 option 1

Environmental conditions:

Operating temp.	0 to 50°C (32 to 122 °F)
Storage temp.	-30 to 65°C (-22 to 149 °F)
Relative humid.	10% to 90% (non-condensing)

Regulatory compliance:

Safety	UL60950 EN60950
Laser safety	CFR 21 1040.10/11
EMC	FCC 15 Class A EN 300 386
CE marking	93/68/EEC

Ordering information:

NPS0020-X001	OC-3/STM-1 Access Module, standard timing - packed unit
NPS0020-XS31	OC-3/STM-1 Access Module, stratum timing - packed unit
NPA0016-SS11	SFP-module OC-3/STM-1 SR
NPA0016-LJ11	SFP-module OC-3/STM-1 IR
NPA0016-LL11	SFP-module OC-3/STM-1 LR1
NPA0016-VL21	SFP-module OC-3/STM-1 LR2

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