



# Next generation high capacity multi-service switch

## NIMBRA 680

The Nimbra 680 is a breakthrough next generation switch from Net Insight. It implements up to 80 Gbps fully non-blocking connectivity between all ports, and combined with a state-of-the-art switching architecture, provides the industry's lowest cost-per-bit switching.

The Nimbra 680 is specifically aimed at meeting the rigorous 100% QoS and availability demands of the professional media industry, as well as the IPTV and CATV networks. This switch typically forms the high-capacity backbone layer of a Nimbra network, aggregating and switching traffic from Nimbra 300 series or Nimbra One access nodes.

The compact 19" and ETSI rack compatible 6 RU frame features:

- 40 or 80 Gbps redundant switch planes
- > 1 Terabit per second switching capacity per rack
- 12 slots for plug-in units
- Up to 112 OC-192/STM-64 interfaces per rack
- Up to 448 OC-48/STM-16 interfaces per rack

The automatic optical control plane enables powerful end-to-end provisioning and easy network expansion. Multiple failure resilience mechanisms with service granularity ensure integrity of the data transport under all circumstances. The Nimbra 680 switch is NEBS level 3 compliant with full HW redundancy for switch planes, power supplies, node controllers, and control paths.

The Nimbra 680 is the only high-capacity switch on the market with sub Mbps granularity for all services including Ethernet. By supporting standard SDH/SONET and IP interfaces, services may be extended across the network, achieving unparalleled bandwidth utilization and maximum flexibility. Nimbra 680 is fully interoperable with the Nimbra One/300 series of multiservice edge and access switches, and provides operators with a set of network switching options to meet their unique needs. Existing Nimbra platform users can take advantage of Nimbra 680 to economically scale their networks.



*Carrier class performance in a super compact outline: the nimbra 680 from Net Insight*

"Industry's lowest cost-per-bit switching with guaranteed quality of service"



# NIMBRA 680

## KEY FEATURES

**High switching capacity.** The high capacity chassis can be equipped in various switch configurations including redundant 40 or 80 Gbps bi-directional switch planes.

**Unsurpassed switching granularity.** The Nimbra 680 is the only high-capacity switch on the market with channelized sub bps granularity for all connections. Ethernet and ASI services are mapped and switched in steps of 512 kbps bandwidth.

**End-to-end provisioning and restoration.** The integrated optical control plane enables services, both unicast and multicast, to be provisioned in a simple one-step process. Services are automatically rerouted in case of failures.

**Carrier class.** The Nimbra 680 is designed to meet demanding operator requirements on availability and ease of handling. It features redundant node controllers, redundant switch planes, redundant power supplies, and in service upgrading.

**Full topology support.** The Nimbra 680 can be deployed in any network topology, such as point-to-point, ring and mesh, enabling cost-effective solutions and easy upgrades.

**Unique multicast support.** The Nimbra 680 has dedicated point-to-multipoint hardware on switch boards that supports any level of forking with full QoS – and without affecting point-to-point connections.

**High-density Ethernet.** The 8-port Gigabit Ethernet module supports channelization of connections down to N x 0.5 Mbps at full 8 x 1 G wirespeed. Features include 802.1Q VLAN separation, 802.1p and IP diffserv user priorities, and Metro Ethernet Forum E-Line, E-LAN and E-Tree support.

**Extensive management options.** The Nimbra 680 can easily be managed by CLI, Web GUI, optional Nimbra Vision™ or 3rd party NMS through SNMP.

## TECHNICAL SPECIFICATIONS

**Dimensions (HxWxD)** 267mm(10.5") x 445mm(17.5") x 240mm(9.4")  
ETSI 300 119 compatible

**Number of slots:** 8 for traffic boards, 2 for control modules, 2 for switch planes, 1 for alarm+aux interfaces, 2 for redundant power modules

**Switch Capacity:** 40 + 40 or 80 + 80 Gbps, non-blocking in redundant configuration)

**Interface Modules:** 1 x OC-192/STM-64 Trunk  
4 x OC-48/STM-16 Trunk  
4 x OC-12/STM-4 Trunk  
4 x OC-3/STM-1 Trunk  
6 x IP/Ethernet Trunk  
8 x Gigabit Ethernet Access  
8 x Video  
8 x 3 Gbps Video  
8 x AES/EBU Access

**Synchronization:**  
Input: 2.048 or 1.544 MHz, G.703.13  
Output: 2.048 MHz, G.703.13

**Software:**  
Basic SW NimOS  
Element Manager  
Dynamic Routing  
Ethernet Multicast  
Native Video Multicast  
HD-SDI support  
Ethernet Switching  
SDI Frame Store

SW options

### Environmental conditions:

Operating temperature 5 to 40 °C (41 to 104 °F)  
(short term) -5 to 55 °C (23 to 131 °F)  
Storage temperature -40 to 70 °C (-40 to 156 °F)  
Relative humidity 10% to 90% (non-condensing)

### Power:

Voltage 115/230VAC or -48VDC  
Dissipation <480W fully equipped

### Regulatory compliance:

Safety UL60950-1  
EN60950-1  
Laser safety CFR 21 1040.10/11  
EMC FCC 15 Class A  
EN 300 386  
CE marking 9 3/68/EE

### Management:

Element Mgmt Command Line Interface (CLI)  
Web GUI  
Network Mgmt Nimbra Vision™  
3rd party NMS over SNMP v1/v2c/v3  
Maintenance: Hot-swap (all modules)  
Remote software and firmware download

### Ordering Information:

NPQ0009-DW01 Nimbra 680 Base Unit DC  
NPQ0009-AW02 Nimbra 680 Base Unit AC, 600W  
NPS0024-6512 Node Control Module  
NPS0023-6481 Switch Module 40 Gbps  
NPS0032-6861 Switch Module 80 Gbps