

# Nimbra 680

High density multiservice Media Switch Router

## NIMBRA 680



Carrier class performance in a high density outline: the Nimbra 680 from Net Insight

The Nimbra 680 is a carrier class multiservice MSR from Net Insight. It implements up to 80 Gbps fully non-blocking connectivity between all ports and combines unique lossless routing with a state-of-the-art switching architecture. It ensures uncompromised QoS and content integrity in media networks around the globe.

The Nimbra 680 is specifically aimed at meeting the rigorous 100% QoS and content integrity demands of the professional media industry and IPTV and CATV network providers. This MSR typically forms the high-capacity backbone layer in a Service Aware Media Network, aggregating and switching traffic from for instance Nimbra 300 series access nodes. The modularity and low entry level cost of Nimbra 680 also makes it configurable for high end access and edge applications.

### Lossless routing

The Nimbra 680 is an MSR from Net Insight, and as such it performs lossless routing. Thanks to dedicated QoS allocation per service and Net Insight's unique time synchronization mechanisms, not a single packet is lost going through the Nimbra 680. What goes in to the MSR comes out of the MSR in perfect shape.

### QoS enhanced links

The Nimbra 680 performs Forward Error Correction, traffic shaping and resynchronization, not only at the endpoints, but at each MSR link in the network. This efficiently compensates for traffic impairments injected between the Nimbra MSR nodes as the traffic traverses for instance a core IP network.

### Unprecedented scalability and availability

The Nimbra 680 houses 40 or 80 Gbps redundant switch planes, redundant node control units and redundant power feeding together with 8 slots for traffic interface modules. It is NEBS level 3 compliant and features multiple failure resilience mechanisms with service granularity to ensure integrity of the data transport under all circumstances. The Nimbra MSRs have the unique ability to treat each service individually - making the network truly aware of each service.

### Flexible interfaces

Available service interfaces include Gigabit Ethernet, 3G/HD/SD-SDI with optional built in JPEG2000 compression, ASI, AES/EBU and MADI. These services can be aggregated and switched with sub-Mbps granularity onto IP (1 or 10 GbE) or SDH/Sonet network interfaces.



# KEY FEATURES

## Service aware media networks.

A Nimbra MSR network is capable of looking at each individual media service within the core network without any grouping into service classes - to make the network truly aware of each individual service.

## Lossless routing.

From ingress port to egress port, a Nimbra MSR never loses a single packet. Lossless routing is possible thanks to dedicated QoS allocation per service, together with Net Insight's unique time synchronization.

## QoS enhanced links.

At each hop, the Nimbra MSR performs specific tasks to improve the QoS of the underlying IP network. This functionality consists of Forward Error Correction to reduce packet loss, traffic shaping to facilitate resource allocation and resynchronization to reduce jitter and wander.

## Service-centric network management.

In a Nimbra MSR network, each service can be provisioned, monitored and protected individually, on demand and on an end-to-end basis.

## 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 access module supports a service granularity of 0.5 Mbps at full 8 x 1 Gbps 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.

## 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 upgrade.

## 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

<b>Dimensions: (HxWxD):</b>	267mm (10.5") x 445mm (17.5") x 240mm (9.4") ETSI 300 119 compatible
<b>Number of slots:</b>	8 for traffic boards, 2 for control modules, 2 for switch planes, 1 for alarm+aux interfaces, 2 for redundant power modules
<b>Switch Capacity:</b>	80 + 80 Gbps (unicast), 45 + 45 Gbps (multicast) in redundant configuration
<b>Interface Modules:</b>	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 10 GE Trunk 6 x IP/Ethernet Trunk 8 x Gigabit Ethernet Access 8 x Video Access 8 x 3 Gbps Video Access JPEG2000 Video Access 8 x ASI/AES Access
<b>Synchronization:</b>	Input: 2.048 or 1.544 MHz, G.703.13 Output: 2.048 MHz, G.703.13
<b>Software:</b>	Basic SW: NimOS Element Manager
SW options:	Dynamic Routing Ethernet Multicast Native Video Multicast HD-SDI support Ethernet Switching SDI Frame Store

<b>Environmental conditions:</b>	Operating Temp: 5 to 40 °C (41 to 104°F) (short term): -5 to 55 °C (23 to 131 °F) Storage Temp: -40 to 70 °C (-40 to 156 °F) Relative humidity: 10% to 90% (non-condensing)
<b>Power:</b>	Voltage: 115/230VAC or -48VDC Dissipation: <480W fully equipped
<b>Regulatory compliance:</b>	Safety: UL60950-1 EN60950-1 CFR 21 104.0.10/11 EMC: FCC 15 Class A EN 300 386 CE marking 9: 3/68/EE
<b>Management:</b>	Element Mgmt: Command Line Interface (CLI) Web GUI Nimbra Vision™ Network Mgmt: 3rd party NMS over SNMP v1/v2c/v3 Maintenance: Hot-swap (all modules) Remote software and firmware download
<b>Ordering Information:</b>	NPQ0009-XW01 Nimbra 680 Base Unit NPK0004-XW01 Nimbra 680 Starter Kit NPK0002-XW01 Nimbra 680 Starter Kit, redundant NPS0032-6861 Switch Module 80 Gbps, 8/16-slot NPS0034-6001 Node Control Module, N602 NPA0036-6001 PSU 100-260 VAC/600W for Nimbra 680 NPA0039-1501 PCU -48 VDC / 15 A for Nimbra 680

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