

SWITCHED, UNCOMPRESSED HD-SDI IN A MULTI-SERVICE INTEGRATED ACCESS DEVICE

Nimbra 340-HD

is a super-charged multi-service access and switching device for demanding video and data applications.

Nimbra 340-HD features fixed ports for Gigabit Ethernet and uncompressed HD-SDI transport, and a wide selection of optional plug-in units for other services, or for transport over different media.

Applications range from studio production and contribution to event networking and collection of HD/SD-TV feeds from large sports arenas. These applications are typically covered by the GbE and HD-SDI services complemented with either the SD-SDI or the DVB-ASI access module for other video formats. A Nimbra 340-HD complemented with the 2-port OC-48/STM-16 X-ADM Module gives a configuration that offers a switched uncompressed HD-SDI service with link protection capability. On these links there will be more than 850 Mbps free capacity for use by other applications such as Ethernet, SD-SDI or DVB-ASI. The Nimbra 340-HD is fully interoperable with the larger Nimbra One or Nimbra 600 series of products for central office applications. Like the other Nimbra switches it supports automated end-to-end provisioning (uni/multicast) and re-routing resilience against network faults.

The functionality is housed in a slim 2 RU device that can be installed in either a standard 19" rack or stand-alone. Redundant -48 VDC direct feeding or 115/230 VAC power supplies ensures reliable and trouble-free operation.

Nimbra 340-HD represents a quantum-leap in advanced video/data functionality housed in a small outline for media networking applications.



Nimbra 340-HD provides built-in, protected bi-directional HD-SDI and Gigabit Ethernet feeds. Two plug-in slots are available for the OC-48/STM-16 trunk module and another optional access or trunk module.



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KEY FEATURES

The most important characteristics of the Nimbra 340-HD are:

- > **Multiservice.** The Nimbra 340-HD can combine the built-in HD-SDI and Gigabit Ethernet ports with SD-SDI, DVB-ASI, AES/EBU, GbE/Fast Ethernet, E1/T1 and Sonet/SDH interfaces on the same platform.
- > **Bandwidth management.** The Nimbra 340-HD handles bandwidth for services with unsurpassed flexibility. Services such as Ethernet and DVB-ASI can have bandwidth allocated with strict quality-of-service in increments of 0.5 Mbps. The BW management feature gives highest possible fiber utilization.
- > **Guaranteed QoS.** Services enjoy guaranteed quality of service, independent of network load. This translates into much higher utilization of the infrastructure, without loss of QoS.
- > **Switching capability.** The Nimbra 340-HD supports switching and can thus be configured in any network topology, such as point-to-point, rings or mesh. They can be networked by themselves or together with switches from the Nimbra One or Nimbra 600 series.
- > **Enhanced Ethernet functionality.** Nimbra 340-HD supports the Ethernet Transport Service that channelizes the Gigabit Ethernet interface into a configurable number of independent channels, each with strict bandwidth management and guaranteed QoS. Each channel can be independently destined to any node in the network.
- > **Carrier class.** The Nimbra 340-HD is designed to meet demanding operator requirements on availability and ease of handling. It has flexible options for protection switching, extensive fault and performance monitoring and hot swap of interfaces.
- > **Multicast support.** The Nimbra 340-HD supports point-to-multipoint distribution of video, audio, data and voice in a simple and topology independent manner with guaranteed QoS. Multicasting allows for up to 4 copies of the output HD stream per chassis.
- > **Extensive management options.** The Nimbra 340-HD can easily be managed by CLI, Web GUI or optional Nimbra Vision™ or 3rd party NMS.

TECHNICAL SPECIFICATIONS:

Dimensions (HxWxD)	88mm(3.5")x445mm(17.5")x240mm(9.4") ETSI EN 300 119 compatible
Number of slots:	2, can be fitted freely with the plug-in modules specified below
Fixed accesses:	
Gigabit Ethernet	1 x SFP port, channelized with QoS BW mgmt, 802.1Q/1p support, QoS multicast support.
1 in + 1 out HD-SDI (2 in + 2 out + 2 monitor BNC)	HD-SDI according to SMPTE 292M, in or out signal monitoring, near/far end loop-back, QoS multicast support. Configurable from the EM which BNC ports to use for HD-SDI streams.
Switch capacity:	5 Gbps
Power:	
Voltage	-48 VDC with built-in redundancy 115/230 VAC with external converter
Dissipation	< 80 W fully equipped
Synchronization:	
Input:	2.048 or 1.544 MHz, ITU-T G 703.13
Output:	2.048 MHz, sinus, ITU-T G 703.13
Software:	
Basic SW	NimOS
SW options	Value Added Services
Management:	
Element Mgmt	Web GUI, Command Line Interface (CLI)
Network Mgmt	SNMP v1/v2c/v3 Nimbra Vision™ or 3 rd party NMS

Environmental conditions:

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 humid.	10% to 90% (non-condensing)

Regulatory compliance:

Safety	UL60950-1 EN60950-1
Laser safety	CFR 21 1040.10/11
EMC	FCC 15 Class A ETSI EN 300 386
CE marking	93/68/EE

Available plug-in units:

<u>Trunk:</u>	<u>Access:</u>
2 x OC-48c/STM-16c (SFP)	2 x 2 x SDI Video (BNC)
(Required for HD-SDI transport)	8 x ASI Transport (BNC)
	8 x AES/EBU Audio (BNC)
	1 x Gigabit Ethernet (SFP)
1 x OC-12c/STM-4c (SFP)	8 x Fast Ethernet (RJ-45)
4 x OC-3c/STM-1 (SFP)	4 x OC-3/STM-1 (SFP)
4 x DS3/E3 (BNC)	8 x PDH E1 (RJ-48c)
1 x 1 Gbps Optical (LC)	8 x PDH T1 (RJ-48c)

HD-SDI specifications:

Connector	BNC, 75 Ohm
Cable length	> 90 m (Belden 1694A)
Return loss	> 15 dB up to 1.5 GHz
Bit rate modes	1.485 or 1.485/1.001 Gbps
Input bit rate tolerance	±10 ppm

Ordering information:

NPQ0011-DWH1	Nimbra 340-HD Base Unit
NPA0031-3401	AC/DC Converter

NET INSIGHT - FOR SCALABLE MULTISERVICE NETWORK SOLUTIONS

Net Insight delivers the world's most efficient and scaleable optical transport solution for Broadcast and Media, Digital Terrestrial TV, Mobile TV and IPTV/CATV networks.

Net Insight products truly deliver 100 percent Quality of Service with three times improvement in utilization of bandwidth for a converged transport infrastructure. Net Insight's Nimbra™ platform is the industry solution for video, voice and data, reducing operational costs by 50 percent and enhancing competitiveness in delivery of existing and new media services.

World class customers run mission critical video services over Net Insight products for more than 100 million people in more than 20 countries. Net Insight is quoted on the OMX Nordic Exchange Stockholm. For more information, visit: www.netinsight.net

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