

Initia AccessSwitch Family WAN Access and Switching

Providing reliable and scalable solutions for global, hybrid networks.

Increasingly organizations must compete within a fast-paced, global arena. Real-time video communication has become a critical business tool. How can your organization take full advantage of the latest technology and maintain the integrity of its network infrastructure? How can you grow capabilities economically as demand for new user groups and services evolve? And how do you insure that technology you implement today will offer a clear growth path?

Madge Networks, world leader in networking solutions, has helped leading companies address questions like these through the use of advanced networking technology since 1985. Designed for the rigors of videoconferencing applications such as remote meetings, distance learning and telemedicine, Madge AccessSwitch products are deployed in some of the largest public and private networks worldwide. The Madge family of AccessSwitch products provides a comprehensive suite of solutions to meet the voice, video and data communication demands of today and tomorrow.

COMMUNICATIONS PARADIGM

In today's fast-paced world of global commerce, real-time communications is critical to the success of businesses both large and small. The need for high-speed, reliable

communications is creating a major paradigm shift in the deployment of services. Madge Networks can help businesses meet these challenges of building a network architecture with its family of products. The AccessSwitch product family provides businesses with the tools to cost-effectively integrate voice, video and data on a single network infrastructure.

Collaboration with customers, partners, and suppliers are key to maintaining a competitive edge. Videoconferencing has moved into the mainstream of business operations for real-time information exchange to key individuals. This demand for more face-to-face collaborative communications has placed high demands for increased telecommunication services to businesses. Through the use of advanced networking architectures, businesses now have a cost-effective solution with the Madge AccessSwitch. Businesses can deploy and expand networks to meet the increase in telecommunication traffic while decreasing their overall expenditures. The Madge family of products permit the aggregation and management of voice, video and data traffic over the most economical circuit. Not only does this reduce telecommunications and management costs; it allows an organization to add videoconferencing services cost-effectively.



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BUILD YOUR NETWORK TO SCALE

With the Initia AccessSwitch™, network managers can build a scalable video network around the world, extend them to customers, suppliers, and partners, and apply them to critical applications— no matter how much bandwidth they demand. And with least-cost routing across public and private networks, the AccessSwitch can help you expand video usage, while maintaining control over access costs. The Initia products provide high-capacity, high-performance network access and switching to meet the needs of varying sizes of multi-service networks for video, data, and voice applications.

ACCESSSWITCH PRODUCT FAMILY

Initia leads the industry with a family of renowned WAN Access Switch products that incorporate multiple access configurations, provide scalability for growth, and easily integrate components and features supporting video such as multipoint control units.



MODEL 20

A stand alone network access and switching unit, the AccessSwitch Model 20 has a small footprint and is available in several pre-configured versions. The AccessSwitch 20 is ideal for distributed networks at remote locations, such as branch offices, or separate floors of multi-story buildings. The model 20 can be configured with 1 to 3 T1 interfaces, up to 16 ISDN Basic Rate S/T interfaces and up to 4 V.35/RS449 ports with 4 RS366 dialing ports. All model 20 systems include Inverse Multiplexing and are available in a non-switching, inverse multiplexing-only configuration.

MODELS 60, 200

The Initia AccessSwitch Model 200 and Model 60 are chassis-based systems that provide 19 and 5 slots respectively, for expansion of network interfaces, depending upon configuration application requirements. This modular design, allows users to add interface modules and tailor each configuration according to application and bandwidth requirements. Modules include digital network interface modules for T1, ISDN Primary Rate, and E1 Primary Rate; high-speed synchronous data modules with inverse multiplexing; ISDN Basic Rate interface modules; and Multipoint Control Unit (MCU) modules for multipoint videoconferencing applications. The AccessSwitch architecture provides several levels of redundancy, including a hot-swappable module, to minimize down time and single points of failure in the network.

POWERFUL OPERATING SYSTEM

At the heart of the AccessSwitch is Initia's powerful operating system software, AccessWare™. Through AccessWare's extensive dial plan and call handling capability, it allows flexible network access to switched and dedicated networks, while offering a wide range of protocol and service conversions. This allows network connections to be established on a call-by-call basis over the most economical routes. AccessWare also provides multipoint control functionality for cost effective deployment of multiparty videoconferencing, using the optional MCU interface.

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MANAGEMENT AND CONTROL

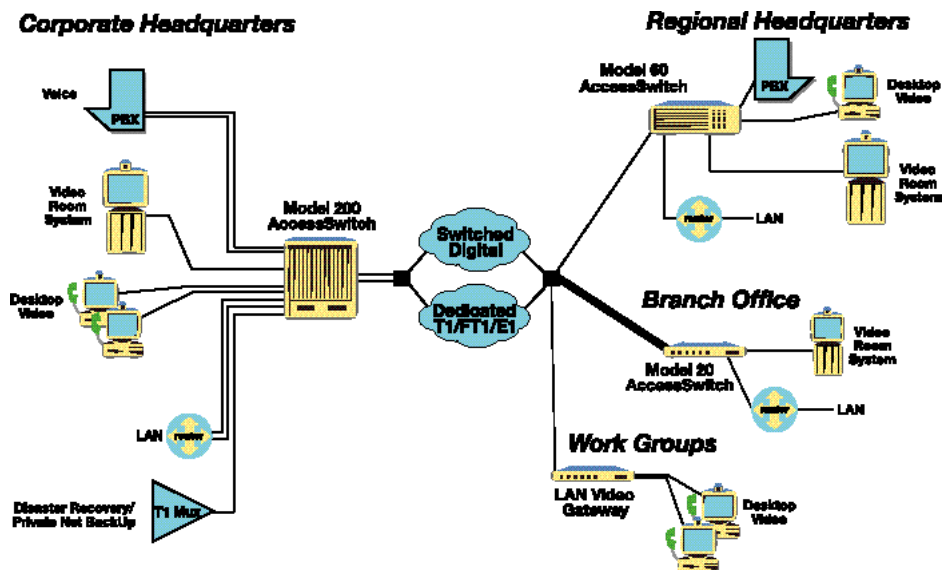
The AccessSwitch may be configured in a centralized or distributed environment, either locally or remotely through Initia's Management Console application. The Network Management Console (NMC/IP) application can be run either stand alone or under HP OpenView™. The NMC/IP management application provides an intuitive interface to configure, reconfigure, and allocate network resources as well as monitor all network operations. NMC/IP also collects call detail records for departmental billing, and alarm condition data for troubleshooting and problem resolution.

NMC/IP runs under Windows™ NT 3.51 or later, Windows 95 or 98, and Solaris™ 2.4 or later.

INITIA ENABLES MAINSTREAM VIDEOCONFERENCING

Initia leads the videoconferencing industry with a family of renowned WAN Access switches that incorporate multiple access configurations, provide scalability for growth, and easily integrate components and features supporting video such as multipoint control units. The Initia family of Access Switch systems enhances the LAN Video Gateway by providing inverse multiplexing to support high bandwidth LAN/WAN calls, multipoint conferencing capabilities and access to T1/E1 and ISDN primary rate. These two powerful product families combined allow scalable hybrid LAN-WAN video networks that ensure connectivity to existing video systems and multipoint conferencing units.

The Initia AccessSwitch combines a modular WAN access and switching architecture to aggregate video, data, and voice—minimizing lifecycle network access costs.



AccessWare Features

- Dynamic, call-by-call switching between any and all network trunks and ports
- Dynamic, call-by-call routing by: dialed digits, number translation, dialed digit substitution, network service type, trunk groups, auto retry, min/max bandwidth management, and automatic number identification (ANI)

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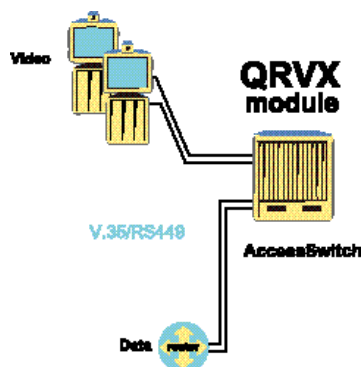
- Dynamic call-by-call dial private to public, public to private, on-net to off-net, off-net to on-net
- Dynamic signal translation: Inbound: PRI to T1, PRI to BRI, BRI to T1, BRI to PRI. Outbound: PRI to T1, PRI to BRI, BRI to T1, BRI to PRI, RS366 to T1, RS366 TO PRI, RS366 to BRI, V25 bis to T1, V25 bis to PRI, V25 bis to BRI
- Simultaneous support of multiple carriers: AT&T, MCI, Sprint, LEC PRI/BRI
- Signaling protocols supported: AT&T 5ESS, AT&T 4ESS, NTI DMS100, NTI DMS250, T1 A/B robbed bit dial pulse and DTMF, NTT INS Net 64, NTT INS Net 1500, Euro ISDN iCTR3 (BRI), Euro ISDN NET5(PRI), Switched 56/64, Switched 384/1536, AT&T SDN/SDDN, Accunet Spectrum digital, MCI Virtual Network, MCI VPDS, Sprint VPN, Sprint Dial 1 digital, National ISDN-1, IDFN Multirate H0
- Support for up to 32 ports for multipoint videoconference control
- Inverse multiplexing and BONDING Mode 1 for all high-speed synchronous data ports and ISDN basic rate ports

INTERFACE & MODULES

Initia Networks provides a wide range of network interface modules for the Model 60 and Model 200 AccessSwitches. These modules provide support for synchronous devices, network access, and port distribution.

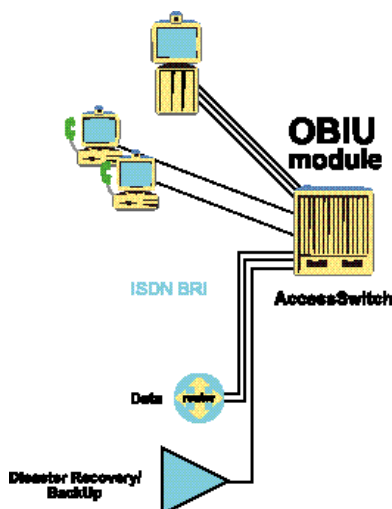
HIGH-SPEED SYNCHRONOUS DATA MODULE INTERFACE

The Initia QRVX module provides four synchronous interface ports for input/output connections between external synchronous devices and any other modules installed in the AccessSwitch chassis. Modules can be used in any combination to provide powerful call switching capabilities including: T1, ISDN Basic or Primary Rate, or E1 Primary Rate trunking, and RS449/V.35 synchronous interfaces with RS366, V.25bis, or X.21 dialing. Standard data rates supported include single B channel (56/64 Kbps), HO (384 Kbps), and H10 (1,472 Mbps). The modules can also support the H11 (1,536 Mbps) data rate using Non-Facility Associated Signaling (NFAS). Optional inverse multiplexing (IMUX) software allows the use of multiple B channels to support a wide range of data rates.



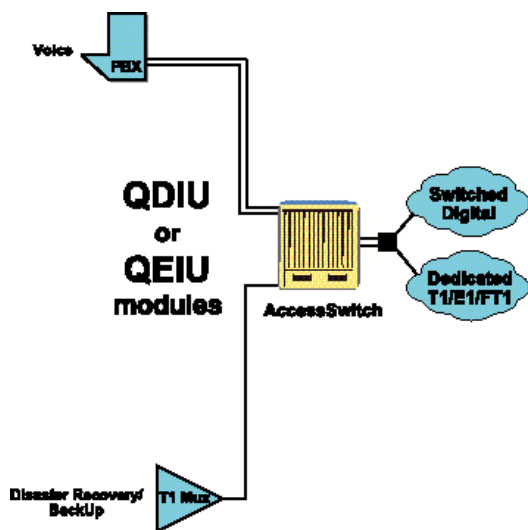
BASIC RATE INTERFACE MODULES

The Initia Octal Basic Rate ISDN interface unit (OBIU) consists of a single eight-port module that can be inserted into either the Initia AccessSwitch 200 (20 slot) or the AccessSwitch 60 (six slot) chassis. The OBIU modules can be used in any combination to provide powerful call switching capabilities among T1, ISDN Basic or Primary Rate, or E1 Primary Rate trunking, and V.35/RS449 high-speed synchronous interfaces.



Each port of the OBIU interface module provides S or T network termination using four wire twisted pair connections over distances up to 3,000 feet. The OBIU-U modules provide network side LT termination of the U reference interface using two wire twisted pair connections over distances up to 18,000 feet. Each OBIU module supports eight individual BRI interface connections. Each BRI interface supports two 64 kilobit

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per second B channels, and one 16 kilobit per second D channel, for an aggregate data rate of 128 kilobits per second full duplex connection. Full multimedia capability is supported enabling voice, video and data communication over BRI networks.

HIGH-SPEED DIGITAL NETWORK INTERFACE MODULES

The Quad Digital Interface Units, QDIU and QEIU are plug-in modules for the AccessSwitch Model 60 and 200 systems. Modules can be used in any combination to provide powerful call switching capabilities among T1, ISDN Basic or Primary Rate, or E1 Primary Rate trunking, and V.35/RS449 high-speed synchronous interfaces.

The QDIU and QEIU modules each provide four high-speed digital interface ports. Each input/output channel can be configured as either a T1 (QDIU) or ISDN Primary Rate, and E1 ISDN Primary Rate (QEIU) port. For the QDIU module, channel configurations can be any combination on each module. Each QEIU port features standard Euro ISDN B channel (56/64 Kbps) data rates. In addition, GloBanD data rates supported include single B channel (56/64 Kbps), H0 (384 Kbps), H10 (1,472 Kbps), H11 (1,536 Kbps), and H12 (1,920 Kbps). Standard data rates supported by each QDIU/DDIU port include single B channel (56/64 Kbps), H0 (384 Kbps), and H10 (1,472 Mbps). An entire T1 or E1 Primary Rate span (24 channels) can be used as switched bearer channels with out-of band signaling provided by a D channel on another PRI connected to the AccessSwitch.

Where permitted, modules can establish signaling groups of up to four PRI trunks with a single D signaling channel using Non-Facility Associated Signaling (NFAS).

MULTIPOINT CONTROL UNIT MODULE

The Multipoint Control Unit module (MCU4) is a 4-site multipoint control unit module for the Model 60 and 200 AccessSwitch systems. It eliminates the need for an external, standalone MCU. Multiple modules can be used in the AccessSwitch base unit for multipoint videoconferencing control, up to 12 sites. Multipoint conferences are initiated either by users dialing into a port on the AccessSwitch and routed via AccessWare's call handling software to a port on the MCU module, or through AccessWare's MCU dial out feature, which automatically connects a MCU port to a remote user's site. When combined with Initia's VideoSwitch Exec software, the MCU provides a complete suite of integrated H.320 multipoint videoconference control features. Video Switch enables multipoint cascading and will allow users to create conference connections for up to 12 remote sites.

VIDEOSWITCH EXEC™

As businesses use videoconferencing to increase organizational efficiency, many have found the need to connect more than two locations within a single video call. Previously configuring and launching multiparty calls was a slow, frustrating activity. VideoSwitch Exec software is designed to streamline videoconferencing calls to multiple locations, eliminating

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complicated call set-up. Its straightforward, Windows-based interface and conferencing templates allow for easy organization of video meetings.

VideoSwitch Exec runs under windows 95, NT 3.51 or later, and connects to the MCU either locally via a serial cable or remotely over a modem link.

WARRANTY AND SERVICE

The AccessSwitch product line is backed by Initia's world-renowned expertise in networking. Each AccessSwitch system provides a 12 month return-to factory warranty and unlimited telephone support during this period. Initia's worldwide service and support organization continues to satisfy the needs of our worldwide installed base in the most demanding Global 1000 companies. A worldwide network of field service engineers provides a wide range of technical services including on-site technical support and software upgrades. The Initia AccessSwitch product line comes with a one-year warranty and a 30-day installation guarantee, which includes free technical hotline support and on-site assistance as required.

PRODUCT SPECIFICATIONS

PHYSICAL

Height:

AccessSwitch 200	635 mm	25.00 inches
AccessSwitch 60	159 mm	6.25 inches
AccessSwitch 20	51 mm	2.00 inches

Width:

AccessSwitch 200	483 mm	19.00 inches
AccessSwitch 60	445 mm	17.5 inches
AccessSwitch 20	441 mm	17.38 inches

Depth:

AccessSwitch 200	495 mm	19.50 inches
AccessSwitch 60	406 mm	16.0 inches
AccessSwitch 20	452 mm	17.81 inches

Weight:

AccessSwitch 200	55 kg nom.	120 lbs. nom.
AccessSwitch 60	18 kg nom.	40 lbs. nom.
AccessSwitch 20	11.5 kg nom.	25 lbs. nom.

Usable Expansion Slots:

AccessSwitch 200	18
AccessSwitch 60	6
AccessSwitch 20	none

ELECTRICAL

Voltage: 110/220 VAC

Frequency: 50/60 Hz

Current:

AccessSwitch 200	10A/110, 5A/220
AccessSwitch 60	2A/110, 1A/220
AccessSwitch 20	2A/110, 1A/220

WATTS/BTUs:

AccessSwitch 200	600W/2050BTU
AccessSwitch 60	250W/850BTU
AccessSwitch 20	40W/140BTU
VideoSwitch 20	65W/225BTU

ENVIRONMENTAL

Operating Temperature:

5 to 50 °C 40 to 130 °F

Operating Humidity:

20% to 80% Non-condensing

Operating Altitude:

-60 to 3,000 meters -200 to 10,000 feet

Safety and Emissions: Designed to meet all

relevant sections of UL 1950 (Third Edition) UI 1459, CSA 22.2 No. 950-95, FCC Part 15 Class A. Designed to meet all relevant sections of EN60950, EN41003, and European EMC Directive 89/336/EEC

Note 1: The Model 200 AccessSwitch system utilizes a 20 slot chassis of which a maximum of 18 slots may be configured for most applications. There are some instances whereby all 20 slots may be used based upon interface mix, application and bandwidth requirements. Any configuration that exceeds 18 slots must be reviewed and approved by a Initia Networks Representative.



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