

Digital Series

The Mediatrix® Digital Series VoIP Gateways and IP Routers allow enterprises to lower communications costs over any IP link. The units feature ISDN BRI or T1/E1 PRI interfaces and provide an ideal solution for enterprise voice applications or for connecting to a service provider's broadband access over DSL, WLL or cable.

VoIP Gateways and IP Routers



Key Features:

- Up to 60 simultaneous calls
- ISDN BRI and T1/E1 PRI interface ports
- Transparent ISDN/QSIG tunneling
- VPN QoS router with two Ethernet ports *
- Built-in V.35/X.21 router with PPP or Frame Relay *
- PPPoE, DHCP server and NAT/Firewall *
- User programmable call handling
- Deployable in SIP or H.323 VoIP networks
- CLI, SNMP, Telnet and TFTP for configuration and management
- RS-232 console port for configuration
- Fax over IP support, including T.38
- Multiple codec support
- Multiple LEDs for status indication at a glance
- Universal 100-240VAC power supply

Product Overview

Designed specifically for enterprise applications, the Mediatrix digital gateways and routers make use of existing broadband access equipment to connect to any standards-based VoIP network.

The Mediatrix digital gateways and routers meet the requirements of enterprises that want to connect their ISDN equipment, such as ISDN phones and PBXs, through a BRI or PRI interface to an IP network.

Mediatrix digital gateways, the 1400, 1500 and 1600 series, are able to provide transparent ISDN port extensions over an IP network. The remote ISDN terminals can be managed centrally and benefit from PBX services such as calling groups, least cost routing and voice mail.

With an internal router, the Mediatrix 2400, 2500 and 2600 series units allow remote or local sites to access public IP services or private data VPNs. Mediatrix digital routers connect a LAN to the existing broadband connection and provide the QoS and security necessary for voice, fax and data transmissions. Additionally, secure Frame Relay access is provided through a serial V.35/X.21 port.

The Mediatrix digital gateways and routers also support transparent ISDN and QSIG tunneling. Consequently, PBXs can be networked using IP while still retaining complete functionality to private voice networking.

Mediatrix VoIP Gateways



1400 Series

BRI VoIP Gateways

- 4 or 8 simultaneous calls
- ISDN BRI ports configurable as NT or TE



1500 Series

T1 PRI VoIP Gateways

- 23 or 46 simultaneous calls
- One or two ISDN PRI ports



1600 Series

E1 PRI VoIP Gateways

- 30 or 60 simultaneous calls
- One or two ISDN PRI ports



VoIP Gateway Applications

The Mediatrix digital VoIP gateways are intelligent gateways combining cost-effectiveness and flexibility with high functionality and performance. They provide up to 60 simultaneous calls from the IP network or the PSTN.

The Mediatrix digital VoIP gateways allow any office to use an existing IP network for lower-cost voice communications. The Mediatrix units link any standard ISDN BRI or T1/E1 PRI connection to the IP network and deliver the clarity of toll-quality voice for a comprehensive VoIP solution. The Mediatrix digital gateways tunnel ISDN/QSIG call signaling messages for full-featured PBX networking over IP.

T.38 FoIP, fax bypass, and modem bypass capabilities ensure that the Mediatrix digital gateways seamlessly transport voice and data services. With SIP, H.323 and multiple codec support, the Mediatrix digital gateways offer flexibility and scalability for VoIP network integration and low bandwidth voice.

With configurable NT/TE BRI/PRI ports, call-switching and user programmable call routing (including caller/called ID), Mediatrix digital gateways integrate smoothly into existing PBX and PSTN networks.

Mediatrix IP Routers



2400 Series BRI IP Routers

- VPN QoS router with two Ethernet ports
- 4 or 8 simultaneous calls



2500 Series T1 PRI IP Routers

- VPN QoS router with two Ethernet ports
- 23 or 46 simultaneous calls



2600 Series E1 PRI IP Routers

- VPN QoS router with two Ethernet ports
- 30 or 60 simultaneous calls

IP Router Applications

The Mediatrix digital BRI and T1/E1 PRI IP routers offer the intelligence and flexibility enabling real-time QoS IP routing, VPN services and ISDN telephony over IP.

Equipped with two Ethernet ports and a serial V.35/X.21 port, the Mediatrix digital routers connect a LAN to a WAN over any Ethernet broadband access. With NAT, DHCP server, PPPoE and ACL/Firewall, they provide complete LAN network access control. The Mediatrix IP routers allow any office to use an existing IP network for lower-cost voice communications. The units link any standard ISDN BRI or T1/E1 PRI connection to the IP network and deliver the clarity of toll-quality voice for a comprehensive IP solution.

The Mediatrix digital routers bring superior voice quality and network security by combining advanced prioritization and traffic management with IPSec VPN and VoIP features. ISDN and QSIG tunneling enable full-featured PBX networking over IP.

T.38 FoIP, fax bypass, and modem bypass capabilities ensure that the Mediatrix digital series routers seamlessly transport all voice and data services. With SIP, H.323 and multiple codec support, the Mediatrix digital routers offer flexibility and scalability for VoIP network integration and low bandwidth voice. With configurable NT/TE BRI/PRI ports, call-switching and user programmable call routing (including caller/called ID), Mediatrix digital routers integrate smoothly into existing PBX and PSTN networks.

Technical Specifications

Voice Connectivity

1400 Series

- 2 (Mediatrix 1402) or 4 (Mediatrix 1404) ISDN BRI/So (S/T), RJ-45
 - Ports configurable for TE or NT
 - 4 or 8 VoIP sessions
 - Configurable point-to-point, point-to-multipoint and connector pinout
 - Cut-through relay for emergency operation (bypass connection)

1500 Series

- 1 (Mediatrix 1531) or 2 (Mediatrix 1532) ISDN PRI (S/T), RJ-45
 - Ports configurable for TE or NT
 - 23 or 46 VoIP sessions

1600 Series

- 1 (Mediatrix 1631) or 2 (Mediatrix 1632) ISDN PRI (S/T), RJ-45
 - Ports configurable for TE or NT
 - 30 or 60 VoIP sessions

2400 Series

- 2 (Mediatrix 2402) or 4 (Mediatrix 2404) ISDN BRI/So (S/T), RJ-45
 - Ports configurable for TE or NT
 - 4 or 8 VoIP sessions
 - Configurable point-to-point, point-to-multipoint and connector pinout
 - Cut-through relay for emergency operation (bypass connection)

2500 Series

- 1 (Mediatrix 2531) or 2 (Mediatrix 2532) ISDN PRI (S/T), RJ-45
 - Ports configurable for TE or NT
 - 23 or 43 VoIP sessions

2600 Series

- 1 (Mediatrix 2631) or 2 (Mediatrix 2632) ISDN PRI (S/T), RJ-45
 - Ports configurable for TE or NT
 - 30 or 60 VoIP sessions

IP Gateway Data Connectivity

- 1 10Base-T Ethernet, RJ-45 - **1400 Series**
- 1 10/100Base-T Ethernet, RJ-45 OR 1 V.35/X.21 Serial PPP/Frame Relay, DB-25 - **1500 / 1600 Series**
- IPsec VPN feature (Optional)
 - DES/3DES/AES
 - Tunnel and transport mode

IP Router Data Connectivity

- 2 10Base-T Ethernet, RJ-45 - **2400 Series**
- 1 10Base-T Ethernet and 1 10/100Base-T Ethernet, RJ-45 - **2500 / 2600 Series**
- V.35, X.21 DTE
- IP unnumbered
- Packet fragmentation
- Frame Relay (Q.922, FRF.12)
- RFC 1490 IP over Frame Relay
- LMI (Q.933D, ANSI 617D, Gang of Four)

Voice Processing

- Vocoders: G.711 A-Law/ μ -Law, G.723.1, G.729a, transparent pass through
- G.168 echo cancellation
- DTMF detection and generation
- Carrier tone detection and generation
- Silence suppression and comfort noise
- Configurable dejitter buffer
- Configurable tones (dial, ringing, busy)
- Configurable transmit packet length
- RTP/RTCP (RFC 1889)

Fax and Modem Support

- Fax over IP
- T.38 Fax relay (9.6 k, 14.4 k)
- G.711 Fax and Modem Bypass

Voice Signaling

- Euro ISDN EDSS-1 / ETSI PRI/NET5 - **1400 / 1600 / 2400 / 2600 Series**
 - ETS 300 011 (ISDN PRI UNI)
 - ETS 300 012-1 (ITU-T I.430)
 - ETS 300 402-2 (ITU-T Q.921)

- ETS 300 403-1/2 (ITU-T Q.931)
- ETS 300 102-2 (ITU-T Q.931)
- ISDN NI-2 (US T1 PRI)
- Q-SIG (PSS-1) (Optional)
 - ECMA-143
 - ETSI and ISO/ECMA channel numbering
- SIP
- H.323v4
- ISDN over IP (ISoIP)
 - H.323 GW and GK compatible
 - H.323 Annex M3
 - ISDN/Q-SIG feature tunneling (Optional)
 - ISDN speech, audio and data (Fax Gr 4, UDI 64, RDI 64)

IP Routing - 2400 / 2500 / 2600 Series

- IPv4 router
- PPPoE
- IPsec VPN feature (Optional)
 - DES/3DES/AES
 - Tunnel and transport mode
- RIPv1, v2 (RFC 1058 and 2453)
- Programmable static routes
- ICMP redirect (RFC 792)
- Packet fragmentation
- DHCP client/server
- Static Firewall
- Dynamic and static NAT and NAPT (RFC 1631)
- Access control lists

Voice Routing

- Local switching - 1400 / 2400 Series and 1532, 1632, 2532, 2632
- Interface huntgroups
- ISDN broadcast message routing
- Routing Criteria
 - Interface
 - Calling/called party number
 - Time of day, day of week, date
 - ISDN bearer capability
- Number manipulation functions
 - Replace numbers
 - Add/remove digits
 - Multiple remote gateways
 - PLAR

QoS

- TOS/DiffServ
- IEEE 802.1p/Q
- WFQ/Fixed Rate/Priority Queuing/flow-split scheduler
- Traffic classification and shaping

Management

- Industry standard CLI
- Local console (RS-232) and remote Telnet access
- TFTP configuration down-and upload
- TFTP firmware download
- SNMP v1 agent (MIB II and private MIB)
- Built-in diagnostic tools
- HPOV Integration with NNM

Operating Environment

- Operating temperature: 0–40°C
- Operating humidity: 5–80% (non condensing)

System

- CPU Motorola MPC850 @ 50 MHz
- Memory 16MB SDRAM/4MB Flash
- Power: 100–240 VAC (50/60 Hz)
- Power dissipation 30W (fully loaded)

* Available on Mediatrix 2400, 2500 and 2600 Series

For additional information, contact your

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**Mediatrix**[®]
EMPOWERING THE EDGE OF THE IP NETWORK