

Extending the feature-rich i-Series PBX to branch offices, teleworkers, remote call center agents and mobile workers over traditional and next-generation networks.

The i-Series Gateway is a high performance unit that resides at the corporate voice system and terminates up to twelve remote users from any combination of NEC remote voice solutions including:

i-Series Branch Extender

i-Series Single IP Extender

The i-Series Gateway operates in Remote Voice Protocol over IP (RVPOIP)[™] mode to an IP network or serial Remote Voice Protocol (RVP)[™] mode over a traditional network.



PRODUCT OVERVIEW

With NEC's i-Series Gateway, your remote workers can now enjoy all the features of your corporate PBX, wherever they are located. That's because the i-Series Gateway extends all the capabilities of your KTS/PBX to remote employees over circuit or packet networks.

The i-Series Gateway can be configured to operate in either a managed IP packet network or a point-to-point synchronous WAN environment over traditional networks. In a traditional WAN environment, up to two i-Series Branch Extenders can connect into the i-Series Gateway with Remote Voice Protocol (RVP)[™] using voice signal encapsulation in HDLC packets over a serial port connection.

REMOTE VOICE PROTOCOL OVER IP (RVPOIP)[™]

To extend remote voice capability over a managed IP network, simply install an i-Series Gateway at your corporate site and then choose a combination of remote IP client units to meet your needs. Up to 12 ports can be terminated at the i-Series Gateway. Branch offices, teleworkers and remote call center agents can be connected using standard IP network termination devices such as IP routers and DSL or cable modems.

As long as the IP network can be managed to ensure sufficient bandwidth and Quality of Service (QoS), the NEC solution will deliver high quality voice.

You can extend full corporate PBX capabilities over IP networks making voice and data convergence a reality.

A Remote Voice Protocol converts digital voice and phone signals into highly efficient data packets. Sophisticated software features include G-165 compliant echo canceller enhanced with robust double-talk performance, manufacturer provided PBX protocols and a range of industry standard voice compression options.

MANAGEMENT FEATURES

NEC's business voice solutions have been designed for operational simplicity. All of the systems configuration, management and administrative and diagnostic functions may be managed from the i-Series Gateway using a serial connection, Telnet or an inband network connection from a remote client. This flexibility allows you to maximize your company's system administration resources and lower the operating costs.



i-Series Gateway

i-Series Gateway

KEY BENEFITS

• Flexibility

Mix and match Extender modules for a total of up to 12 ports. This i-Series Gateway supports up to two i-Series Branch Extender modules for branch offices. Configure the i-Series Gateway to operate in managed IP network (Layer 3) or in traditional circuit switched and frame relay (Layer 2) environments.

• Increased Productivity

Remote employees are able to use the same full featured digital telephones and have access to corporate PBX functions, like voice mail, call accounting system, unified messaging and ACD systems.

• Network Efficiency

A choice of network topologies and variable compression rates minimize communications cost. Leverage IP data network infrastructure for both voice and data traffic.

• Ease-of-Use

Simple installation process. Easy-to-use configuration tools enable management of remote units from a central location.

• Investment Protection

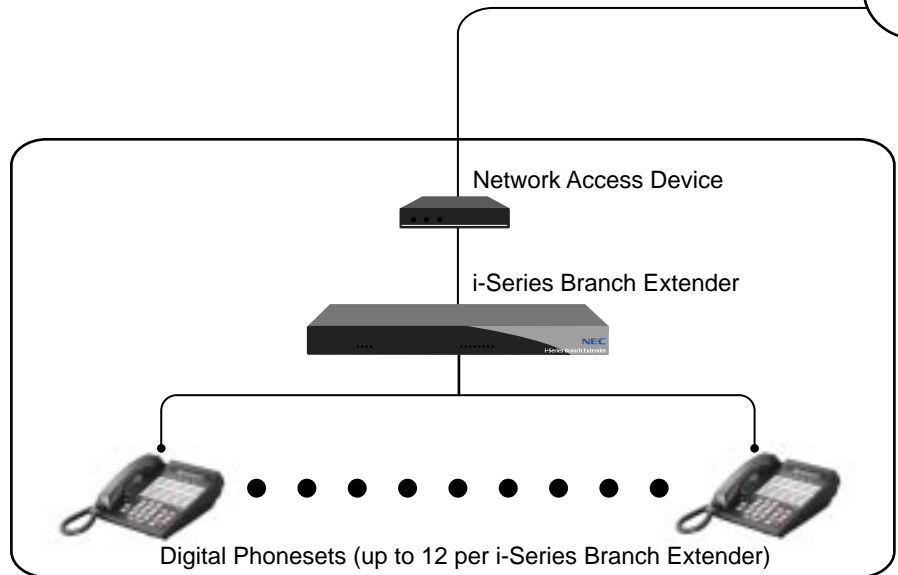
NEC is committed to providing you with flexible product solutions for today's and tomorrow's communication needs.



FRONT VIEW

DB-9 console port for easy system management.

DSL, Cable, ISDN, T1, E1, KiloStream, DDS, Frame Relay (Public Network)



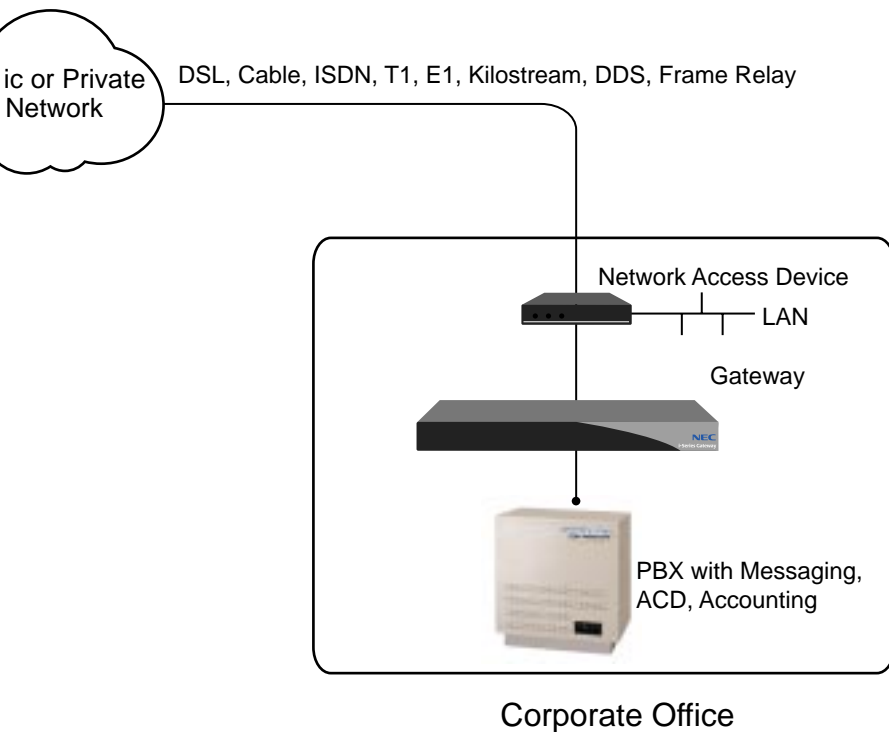
Branch Office

KEY FEATURES

- Synchronous Transmission.
- Support for Asynchronous ISDN TA Adapters.
- Encrypted Username and Password Allocated by the System Administrator to Each Port.
- Network Down Recovery (Serial RVP™ Mode only).
- Call Suspend Mode Saves on Toll and Usage Charges.
- Support for IP Precedence and DiffServ Quality of Service (QoS) Mechanisms.

GENERAL SETUP GUIDELINES

- The i-Series Gateway is deployed within 500 feet from the KTS/PBX at the corporate office.
- The i-Series Gateway can be configured to run on IP transport, traditional circuit switched or frame relay networks.
- When running RVPoIP™, the i-Series Gateway connects to a network access device via the 10Base-T LAN port.
- When running serial RVP™, the i-Series Gateway connects to a network access device via the DB-25 WAN port(s) and up to two i-Series Branch Extenders can be connected to the i-Series Gateway.
- i-Series Branch Extender is the remote client that supports both serial RVP™ in point-to-point mode and RVPoIP™ mode.
- Remote clients that support RVPoIP™ are the i-Series Branch Extender and the i-Series Single IP Extender.



- The i-Series Gateway can support both a serial RVP™ client and RVPoIP™ clients at the same time for up to 12 ports total.
- Network access devices should be configured to provide Quality of Service (QoS) support in order to guarantee voice quality.
- i-Series Gateway is available in 8-port and 12-port configurations.
- Minimal setup programming required is accomplished via Telnet, RS232 console interface or inband RVP™.

KTS/PBX COMPATIBILITY

NEC: i-Series 28i, 124i, 124ie, 384i and 704i

i-SERIES TELEPHONE COMPATIBILITY

- 92550 Digital Single Line
- 92750 22 Button Handsfree
- 92753 22 Button Handsfree Display
- 92760 28 Button Handsfree
- 92763 28 Button Handsfree Display
- 92773 34 Button Handsfree Super Display
- 92783 34 Button Handsfree Display

SOFTWARE SUPPORT

- TCP/IP protocol support for IP traffic and management access.
- RVPoIP™ uses UDP/IP protocol for voice transmission.
- Serial RVP™ uses HDLC encapsulation of voice transmission.

NETWORK MANAGEMENT

- Telnet, inband RVP™, RS-232 console interface, SNMP, HTML (monitor only), telephone display (limited features).

OPERATING SYSTEM & UPGRADE

- Wind River's VxWorks®
- Software upgradeable via LAN FTP, RS-232 serial port to PC, or inband connection between the i-Series Gateway and the i-Series Branch Extender.



BACK VIEW

CONNECTORS INCLUDED ON BACK OF UNIT:

- Internal power supply
- One Amphenol connector for 50-pin RJ-21 cable for interface with digital telephone sets
- Two DB-25 WAN ports for serial RVP™ connection. Redundant interfaces include V.35, RS-232 or RS-530
- One RJ-45 10Base-T Ethernet for RVPoIP™ and Telnet/HTML system management

VOICE PROTOCOLS

- Choice of voice compression standards:
 - G729a (8 kbps)
 - G726 (24 or 32 kbps ADPCM)
 - G711 (64 kbps PCM)
- G165 echo canceller software with proprietary double-talk detection enhancement
- Remote Voice Protocol (RVP™)
- Remote Voice Protocol over IP (RVPoIP™)
- IP voice packets tagged for network traffic prioritization using IP Precedence or DiffServ

HARDWARE

- Form factor: low profile, 1U rack mountable unit
- Internal Components:
 - Motorola 68MH360-33 processor
 - 4 MB flash memory
 - 512 kb ROM
 - 4 MB DRAM
 - DSP analog devices 2187 (52 MIPS)

POWER SUPPLY

- Internal
- Universal auto ranging power supply
- Line voltage: 100 – 240 V
- Frequency: 47 – 63 Hz
- Maximum power consumption: 1.4 Amps

DIMENSIONS

- Size: 17" x 8" x 1.75"
(432mm x 203mm x 44mm)
- Weight: 6 lbs 7 oz (3 kg)

OPERATING ENVIRONMENT

- Temperature: 32° – 130° F (0° – 55° C)
- Relative humidity: 5 to 95%
(non-condensing)

REGULATORY APPROVALS

- FCC Part 15 Class B, NTRL/CSA and CE Mark



Product specifications subject to change without notice.

NEC's IP-based products utilize Voice over IP (VoIP) technology to deliver remote voice solutions. The voice quality of these solutions is dependent on variables such as available bandwidth, network latency and Quality of Service (QoS) initiatives, all of which are controlled by the network and Internet service providers. Because these variables are not in NEC's control, it cannot guarantee the performance of the user's IP-based remote voice solution.

Certain features may be optional, not applicable to all systems or require additional equipment. The information contained herein is subject to change without notice at the sole discretion of NEC America.

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communications **without** compromise.