SMARTNODE 4110 SERIES

The SmartNode 4110 VoIP Media Gateway supports up to eight telephone connections integrating PSTN, PBX, and standard phones for voice and fax over any IP network. Now the corporate, small, or remote office can use voice-over-packet services to eliminate toll charges, access local PSTN calling, and secure voice traffic end-to-end.

FXS/FXO VoIP Media Gateway

SmartNode 4110 Telephony over IP Access Device

The SmartNode 4110 VoIP Media Gateway supports up to eight transparent phone calls while leveraging VoIP for lower-cost carrier and corporate access. Connecting to any analog phone, fax, or PBX, the SN4110 is an effective and flexible solution for toll-bypass, remote/branch office voice connectivity, and enhanced carrier services.

The SN4110 series is the perfect choice for phone-to-IP connectivity supporting up to 8 FXS ports or a combination of 4 FXS and 2 or 4 FXO ports. With its FXS analog ports the SN4110 connects to any legacy telephone or PBX and provides dial-tone, ringing, and caller-ID. When equipped with FXO ports, the local PSTN can be accessed enabling local calling *and* enhanced toll-bypass applications while using a <u>single</u> connected telephone. Flexible call integration allows per-port telephone numbers, programmable call progress tones, and distinctive ringing. With Telephony-over-IP (ToIP) call switching, calls can automatically select the least-cost-route while providing flexible numbering plans and end-to-end feature transparency. PPPoE, DHCP, and VLAN offers universal IP connectivity and optional IPSEC VPN with AES/3DES guarantees secure voice over the public network.

Patton's SmartNode 4110 delivers the legacy phone interfaces, service transparency, and flexible PSTN integration for true converged packet voice. For more information, visit us at www.patton.com.

Octal Voice and FAX Call Support

Up to eight simultaneous calls from the phone, PSTN or, IP. Use any CODEC or FAX on any port, any time.

2,4,6 or 8 FXS and 2,4 FXO Ports

Up to 8 FXS ports connect to your standard telephone with programmable tones, ringing, and call routing. 2 or 4 FXO ports allow local PSTN connection. Programmable call routing switches between local or remote connections.

Toll Quality CODECs & T.38 FAX

Use standard G.711 or G.726 Codecs for toll-quality or G.723.1 or G.728ab for low-bandwidth applications. T.38 FAX and FAX Bypass features allow high-quality FoIP.

H.323v4, SIP Signaling

Deploy into any multimedia, interactive, or softswitch network with the leading call and session signalling protocols. Maximizing Interoperability, services can be created to combine telephony, messaging, and web.

IPSEC VPN, Encryption, & VLAN

Connect your telephone for IP access and secure your voice with optional IPSEC. Choose DES/3DES or AES for encryption and IKE/manual key negotiation. VLAN tagging/stripping allows interfacing into your existing network today.

Full ToIP™ Call Switching

Enhanced circuit-switched call routing allows user programmable and adaptive call handling based on hunt groups, caller/called ID, and time of day.
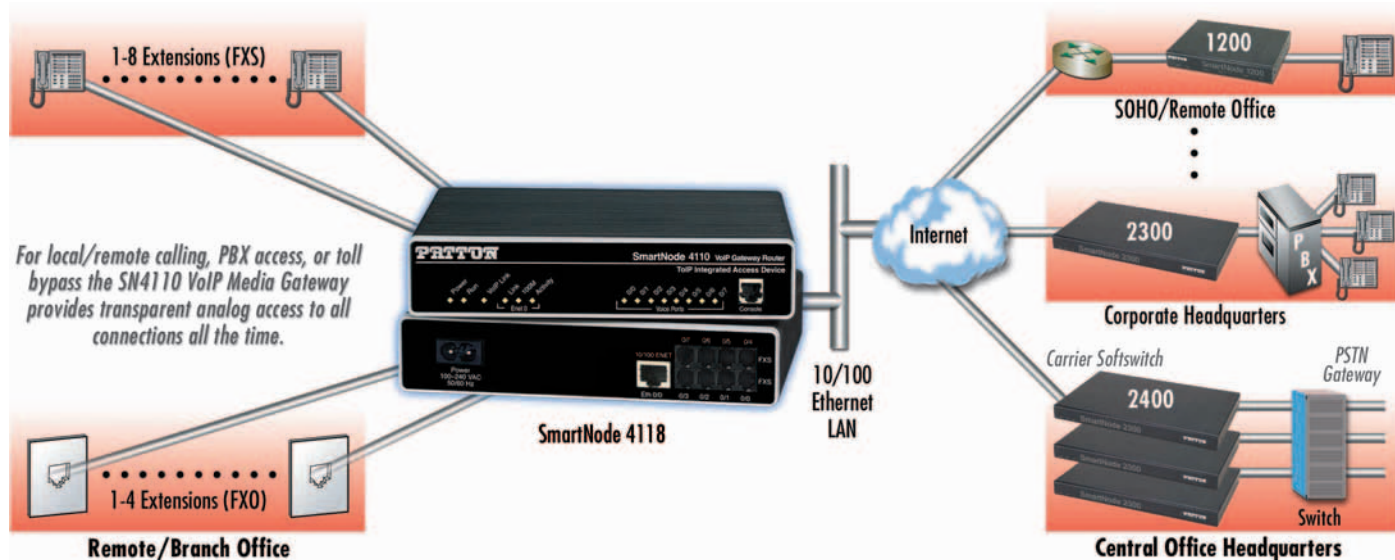

SmartNode 4118

✔ 10/100 Full-Duplex Auto-Sensing Ethernet

✔ 14 LEDs for System, Ethernet, and Call status

✔ Universal 100–240VAC or 48VDC Power

✔ Configuration and Management with CLI, Telnet, SNMP, and Java applications.

Application—Remote Office/Branch Office Voice Extension and Access

In enterprise networks, transparent access to PBX features while using existing equipment is key to low-cost operations. Now, instead of installing a separate PBX at the remote office, the SmartNode 4110 is able to provide transparent extension while simultaneously connecting multiple locations. The extensions can be managed centrally and benefit from PBX services such as calling groups, least cost routing, and call forwarding. PSTN access allows local calls to be processed without using corporate remote PBX resources. Additionally, the corporate PBX can break-out and bypass any long distance charges by using the remote office for the local gateway.

Specifications

Voice Connectivity
- 2-wire Loopstart, RJ-11/12
- Short haul loop 1.1 km @3REN
- EuroPOTS (ETSI EG201 188)
- Programmable AC impedance, feeding, and ring voltage; On-Hook Voltage 29VDC
- Caller-ID Type-1/2 FSK and ITU V.23/Bell 202 generation

Connectivity
- 10/100 Full Duplex/Autosensing Ethernet RJ-45

Voice Processing (signalling dependent)
- Voice codes
  - G.711 A-Law/μ-Law (64kbps)
  - G.726 (ADPCM 40, 32, 24, 16 kpbs)
  - G.723.1 (5.3 or 6.3 kbps)
  - G.729ab (8kbps)
  - Transparent pass through
- G.168 echo cancellation
- 8 parallel voice connections
- 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
- G.711 transparent FAX
- Fax over IP (FoIP)
- T.38 Fax relay (9.6 k, 14.4 k)

Voice Signalling
- H.323v4
  - RAS, H.225, H.245
  - Fast-connect, early H.245
  - Gatekeeper autodiscovery
  - Alias registration
  - Overlap sending
  - Empty capability set (call transfer, hold)
  - H.323v1 call transfer, hold
- ISDN over IP (ISoIP)
  - H.323 GW and GK compatible
  - H.323 Annex M3
  - ISDN/Q-SIG feature tunneling
  - ISDN speech, audio and data (Fax Gr 4, UDI 64, RDI 64)

Voice Routing—Session Router™
- Local switching; Interface huntgroups
- 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

IP Services
- IPv4 router; RIPv1, v2 (RFC 1058 and 2453)
- Programmable static routes
- ICMP redirect (RFC 792); Packet fragmentation
- DiffServe/ToS set or queue per header bits
- Pocket Policing discards excess traffic
- 802.1p VLAN tagging
- IPSEC AH & ESP Modes
- Manual Key; IKE optional
- AES/DES/3DES Encryption

Management
- Industry standard CLI with local console

(CRJ-45, RS-232) and remote Telnet access
- TFTP configuration & firmware loading
- SNMP v1 agent (MIB II and private MIB)
- Built-in diagnostic tools (trace, debug)
- Java™ Applet; HPOV Integration with NNM

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

System
- CPU Motorola MPC859 @ 50 MHz
- Memory 32MB SDRAM/4MB Flash
- Power: 100–240 VAC (50/60 Hz)
- Power dissipation: 4-12W model dependent

Compliance
- EMC compliance: EN55022 and EN55024
- Safety compliance: EN 50950
- CE compliance
- FCC Part 15 Class A

Specifications, features, and product availability subject to change without notice at any time. Call Factory for availability, details, & application assistance.

Model Information

SN4112/JS/UI	2 Port FXS VoIP Media Gateway, 100-240VAC internal PS.
SN4114/JS/UI	4 Port FXS VoIP Media Gateway, 100-240VAC internal PS.
SN4116/JS/EUI	6 Port FXS VoIP Media Gateway, 100-240VAC external PS.
SN4118/JS/EUI	8 Port FXS VoIP Media Gateway, 100-240VAC external PS.
SN4114/2JS2JO/UI	2 Port FXS, 2 Port FXO VoIP Media Gateway, 100-240VAC internal PS.
SN4118/4JS4JO/EUI	4 Port FXS, 4 Port FXO VoIP Media Gateway, 100-240VAC external PS.

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