

## Voice Adapter with 2 FXS and 2 Ethernet Ports

## PRODUCT DATA

# Ready Voice Adapter Solution for VoIP



### Toll Quality Voice and Carrier-Grade Feature Support

The SPA2102 delivers clear, high-quality voice communication in a variety of network conditions. Excellent voice quality in challenging, changeable IP network environments is made possible via our advanced implementation of standard voice coding algorithms. The SPA2102 is interoperable with common telephony equipment like facsimile, voicemail, PBX/KTS and interactive voice response systems.

### Large-Scale Deployment and Management

The SPA2102 offers all the key features and capabilities with which service providers can provide customized services to their subscribers. The SPA2102 can be remotely provisioned and supports dynamic, in-service software upgrades. A secure profile upload saves providers the time, expense and hassle of managing and pre-configuring or re-configuring customer premises equipment (CPE) for deployment.

### Ironclad Security

The SPA2102 supports secure, encryption-based methods for communication, provisioning and servicing.

# PRODUCT DATA

Model No. **SPA2102**

## Features

- ### Telephony
- Two voice ports (RJ11) for analog phones or Fax machines
  - Impedance Agnostics - 8 Configurable Settings
  - Call Waiting, Cancel Call Waiting, Call Waiting Caller ID
  - Caller ID with Name/Number (Multi-national Variants)
  - Caller ID Blocking
  - Call Forwarding: No answer, Busy, All
  - Do Not Disturb
  - Call Transfer
  - Three-way Conference Calling with Local Mixing
  - Message Waiting Indication - Visual and Tone Based
  - Call Return
  - Call Back on Busy
  - Call Blocking with Toll Restriction
  - Delayed Disconnect
  - Distinctive Ringing - Calling and Called Number
  - Off-hook Warning Tone
  - Selective/Anonymous Call Rejection
  - Hot line and Warm Line Calling
  - Speed Dialing of 8 Numbers/Addresses
  - Music on Hold
  - Fax: G.711 Pass Through or Real Time Fax over IP via T.38

- 1 - SPA2102 Phone Adapter Unit
- 1 - 5v Power Adapter
- 1 - RJ45 Ethernet Cable
- 1 - Quick Installation Guide

## Package Contents

## Specifications

Model	SPA-2102 * Note: Many specifications are programmable within a defined range or list of options. Please see the SPA Administration Guide for details. The configuration profile is uploaded to the SPA2102 at the time of provisioning.
Data Networking	MAC Address (IEEE 802.3) IPv4 - Internet Protocol v4 (RFC 791) upgradeable to v6 (RFC 1883) ARP - Address Resolution Protocol DNS - A Record (RFC 1706), SRV Record (RFC 2782) DHCP Client - Dynamic Host Configuration Protocol (RFC 2131) DHCP Server - Dynamic Host Configuration Protocol (RFC 2131) ICMP - Internet Control Message Protocol (RFC792) TCP - Transmission Control Protocol (RFC793) UDP - User Datagram Protocol (RFC768) RTP - Real Time Protocol (RFC 1889) (RFC 1890) RTCP - Real Time Control Protocol (RFC 1889) DiffServ (RFC 2475), Type of Service - TOS (RFC 791/1349) SNTP - Simple Network Time Protocol (RFC 2030) Upload Data Rate Limiting - Static and Automatic QoS - Voice Packet Prioritization over Other Packet Types Router or Bridge Mode of Operation MAC Address Cloning Port Forwarding
Voice Gateway	SIPv2: Session Initiation Protocol v2 (RFC 3261, 3262, 3263, 3264) SIP Proxy Redundancy - Dynamic via DNS SRV, A Records Re-registration with Primary SIP Proxy Server SIP Support in Network Address Translation Networks - NAT (incl. STUN) Secure (Encrypted) Calling via Pre-Standard Implementation of Secure RTP Codec Name Assignment
Voice Algorithms	G.711 (A-law and $\mu$ -law) G.726 (16/24/32/40 kbps) G.729 A G.723.1 (6.3 kbps, 5.3 kbps) Dynamic Payload
Fax Capability	Adjustable Audio Frames per Packet Fax Tone Detection Pass-Through Fax Pass-Through - Using G.711

## Specifications

	DTMF: In-band & Out-of-band (RFC 2833) (SIP Info)
	Flexible Dial Plan Support with Interdigit Timers and IP Dialing
	Call Progress Tone Generation
	Jitter Buffer - Adaptive
	Frame Loss Concealment
	Full Duplex Audio
	Echo Cancellation (G.165/G.168)
	VAD - Voice Activity Detection with Silence Suppression
	Attenuation / Gain Adjustments
	Flash Hook Timer
	MWI - Message Waiting Indicator Tones
	VMWI - Visual Message Waiting Indicator via FSK
	Polarity Control
	Hook Flash Event Signaling
	Caller ID Generation (Name & Number) - Bellcore, DTMF, ETSI
	Music on Hold Client
	Streaming Audio Server - up to 10 sessions
Security	Password Protected System Reset to Factory Default
	Password Protected Admin and User Access Authority
	Provisioning/Configuration/Authentication:
	HTTPS with Factory Installed Client Certificate
	HTTP Digest - Encrypted Authentication via MD5 (RFC 1321)
	Up to 256-bit AES Encryption
Provisioning, Administration & Maintenance:	Web Browser Administration & Configuration via Integral Web Server
	Telephone Key Pad Configuration with Interactive Voice Prompts
	Automated Provisioning & Upgrade via HTTPS, HTTP, TFTP
	Asynchronous Notification of Upgrade Availability via NOTIFY
	Non-intrusive, In-Service Upgrades
	Report Generation & Event Logging
	Stats in BYE Message
	Syslog & Debug Server Records - Per Line Configurable
	Per Line and Purpose Configurable Syslog and Debug Options
Physical Interfaces:	2 100baseT RJ-45 Ethernet Port (IEEE 802.3)
	2 RJ-11 FXS Phone Ports - For Analog Circuit Telephone Device (Tip/Ring)
Subscriber Line Interface Circuit (SLIC):	Ring Voltage: 40-55 VRMS Configurable *
	Ring Frequency: 10 Hz - 40 Hz *
	Ring Waveform: Trapezoidal and Sinusoidal *
	Maximum Ringer Load: 3 REN
	On-hook/off-hook Characteristics:
	On-hook voltage (tip/ring): -50 V NOMINAL
	Off-hook current: 25 mA min
	Terminating Impedance: 8 Configurable Settings including
Regulatory Compliance:	North America 600 ohms, European CTR21
	FCC (Part 15, Class B) , CE, ICES-003
Power Supply:	Switching Type (100-240v) Automatic
	DC Input Voltage: +5 VDC at 2.0 A Max.
	Power Consumption: 5 Watts
	Power Adapter: 100-240v - 50-60Hz (26-34VA) AC Input, 1.8m cord
Indicator Lights/LED:	Power, Internet, Phone 1, Phone 2
Documentation:	Quick Installation, User, and Configuration Guides are downloaded from <a href="http://www.linksys.com">www.linksys.com</a>
	Administration Guide - Service Providers Only
	Provisioning Guide - Service Providers Only
Dimensions	3.98 x 3.98. x 1.10 in (101 x 101 x 28 mm) W x H x D
Unit Weight	5.29 oz (0.15 kg)
Operating Temp.	32°~113°F (0°~45°C)
Storage Temp.	-13°~185°F (-25°~85°C)
Operating Humidity	10~90% Non-condensing
Storage Humidity	10~90% Non-Condensing

## Environmental

Inexpensive, easy to install and simple-to-use, the SPA2102 connects a standard telephone or fax machine to IP-based data networks. VoIP service providers can offer residential and business users traditional and enhanced communication services via the customer's broadband connection to the Internet.

The SPA2102 features two POTS (Plain Old Telephone Service) ports to connect existing analog phones, fax machines, or to a PBX system. The SPA2102 includes 2 100BaseT RJ45 Ethernet interfaces (LAN-WAN) to connect to a home or office LAN, as well as an Ethernet connection to a broadband modem or router (WAN). Each SPA2102 service line can be independently configured via software controlled by the service provider or the end user.

With the SPA2102, users are able to protect and extend their investment in telephones, conference speakerphones, and fax machines as well as control their migration to IP with an extremely affordable, reliable solution.

Installed by the end user and remotely provisioned, configured and maintained by the service provider, each SPA2102 converts voice traffic into data packets for transmission over an IP network. Compact in design, the SPA2102 can be used in consumer and business VoIP service offerings including a full-featured IP Centrex environment. The SPA2102 uses international standards for voice and data networking for reliable voice and fax operation.

### Linksys Phone Adapter Comparison Chart

SPA Model	Service Lines	Active Calls	3-Way Conferences	PSTN (FXO) Connection
SPA1001	2	2	1	0
SPA2002	2	4	2	0
SPA2100/2102	2	4	2	0
SPA3100/3102	2	3	1	1
SPA3000	2	3	1	1

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