

# VoIP Router

## SP200+ Series

Protocol: SIP (RFC3261) / MGCP (RFC2705)

Model: 2FXS, 1FXS1FXO

Ethernet: 1WAN 1LAN

Telephony Interface: RJ-11 connectors

Options: ■ TR069 / 104

■ SIP over TLS



### GENERAL FEATURES AND SPECIFICATIONS

#### Voice Features

- G.711 a/μ-law, G.723.1, G.726, G.729A/B
- DTMF Detection and Generation
- Silence Suppression & Detection
- Comfort Noise Generation (CNG)
- Voice Activity Detection (VAD)
- Echo Cancellation (G.165/G.168)
- Adaptive (Dynamic) Jitter Buffer
- Call Progress Tone Generation
- Programmable Gain Control
- Inbuilt Local Mixer

#### SIP Call Features

- Peer to Peer Call
- Call Hold / Retrieve
- Call Waiting
- Call Pick Up
- Call Park / Retrieve (SIP Server Required)
- Call Forward - unconditional, busy, no answer
- Call Transfer - attended, unattended
- Do Not Disturb
- Speed Dialing
- Repeat Dialing
- Three-way Calling
- MWI (RFC-3842)
- Hot Line and Warm Line

#### Telephony Specifications

- In-Band DTMF, Out-of-Band DTMF Relay (RFC2833 or SIP INFO)
- DTMF / PULSE Dial Support
- Caller ID Generation / Detection:
  - DTMF
  - FSK-Bellcore Type 1 & 2
  - FSK-ETSI Type 1 & 2
  - FSK: Calling Name, Number, Date and Time, vMWI
- Polarity Reversal Detection (FXO) and Generation (FXS)
- T.30 FAX Bypass to G.711, T.38 Real Time FAX Relay
- Failsafe mechanism: Network, Service, Power Failure (FXS relay to FXO)
- Recordable Greeting Message (FXO)
- Emergency Number Table (FXO)
- Modem over IP Up to 14,400bps
- PSTN Call Tone Detection (FXO) and Generation (FXS)
- ROH Tone (Receiver Off-Hook Tone @ 480 Hz)
- Loop Current Suppression

#### SIP Call Management

- Support Outbound Proxy
- Register up to three SIP servers
- SIP Registration Failover Mechanism
- Group Hunting
- Privacy Mechanism / Private Extensions to SIP
- Session Timers (Update / Re-invite)
- DNS SRV Support
- Call Types: Voice / Modem / FAX
- Call Routing by Prefix Number
- User Programmable Dial Plan Support
- Toll-Free Support (FXO)
- Automatic Calling Number Manipulation (VoIP & FXO)
- CDR Client
- Phone Book Manager Client
- Manual Peer Table (for P2P calls)
- E.164 Numbering, ENUM support
- Symmetric RTP

#### SIP Account Management

- By port registration
- By device registration (share account)
- Mixed mode (Hunt number for inbound, by port number for outbound)
- Invite with Challenge
- Register by SIP Server IP Address or Domain Name
- Support RFC3986 SIP URI format

#### SIP Method Support

ACK, BYE, CANCEL, INFO, INVITE, MESSAGE, NOTIFY, OPTIONS, PING, PRACK, PUBLISH, REFER, REGISTER, SUBSCRIBE, UPDATE

#### LED Indicators

Power / Alarm, VoIP, Phone1 / Line, Phone2, WAN, LAN



# VoIP Router

## Ordering Information

Model	Description			
	WAN	LAN	FXS	FXO
SP200DS+	1	1	2	
SP200SO+	1	1	1	1

## General Information

- Dimensions: W 9.6cm x H 3.8cm x D 13.5cm
- Maximum weight: 160g
- Power Adaptor: AC 100~240V 50/60Hz input, DC 12V/1A output
- Operating temperature: 0°C ~ 45°C
- Storage temperature: -25°C ~ 75°C
- Operation Humidity: Up to 90% RH, non-condensing

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\* Specifications, availability and terms of offers may change without notice.



## NETWORK FEATURES AND MANAGEMENT

### IP Network Specifications

- WAN: Static IP, PPPoE, DHCP, PPTP
- Network Protocol Support:
  - IP, TCP, UDP, TFTP, FTP, RTP, RTCP, ARP, RARP, ICMP, NTP, SNTP, SNMP v1/v2, HTTP, HTTPS, DNS, DNS SRV, Telnet, DHCP Server, DHCP Client, STUN Client, UPnP, IGMP
- NAT Functions
  - Support up to 255 Clients
  - Port Forwarding (Virtual Servers)
  - DMZ
  - Port Triggering
- QoS Support:
  - WAN: DiffServ, IP Precedence
  - Priority Queue
  - Rate Control
  - 802.1Q (VLAN Tagging), 802.1p (Priority Tag)
  - LAN: Rate Limit
- DDNS Support
  - Dyndns.org (Dynamic and Custom)

### Network Security Specifications

- PPTP Client
- Port Filtering
- IP Filtering
- MAC Filtering
- Virtual Server
- URL Filter
- DIGEST Authentication
- MD5 Encryption
- DoS Protection

### Management

- Web Based Configuration
- Auto-provisioning (HTTP / HTTPS / TFTP)
- Telnet
- IVR
- FTP / TFTP / HTTP Remote Software Upgrade
- Configuration Backup and Restore
- Reset to Default Button
- TR-069/104 (Option)

## STANDARD COMPLIANCE

### SIP, Voice and FAX Related Standard

- RFC1889 RTP: A Transport Protocol for Real-Time Applications.
- RFC2543 SIP: Session Initiation Protocol
- RFC2833 RTP Payload for DTMF Digits, Telephony Tones and Telephony Signals
- RFC2880 Internet Fax T.30 Feature Mapping
- RFC2976 The SIP INFO Method
- RFC3261 SIP: Session Initiation Protocol
- RFC3262 Reliability of Provisional Responses in Session Initiation Protocol (SIP)
- RFC3263 Session Initiation Protocol (SIP): Locating SIP Servers
- RFC3264 An Offer/Answer Model with Session Description Protocol (SDP)
- RFC3265 Session Initiation Protocol (SIP) - Specific Event Notification
- RFC3311 The Session Initiation Protocol (SIP) UPDATE Method
- RFC3323 A Privacy Mechanism for the Session Initiation Protocol (SIP)
- RFC3325 Private Extensions to the Session Initiation Protocol (SIP) for Asserted Identity within Trusted Networks
- RFC3362 Real-time Facsimile (T.38) - image/t38 MIME Sub-type Registration
- RFC3515 The Session Initiation Protocol (SIP) Refer Method
- RFC3550 RTP: A Transport Protocol for Real-Time Applications. July 2003
- RFC3665 Session Initiation Protocol (SIP) Basic Call Flow Examples
- RFC3824 Using E.164 numbers with the Session Initiation Protocol (SIP)
- RFC3841 Caller Preferences for the Session Initiation Protocol (SIP)
- RFC3842 A Message Summary and Message Waiting Indication Event Package for the Session Initiation Protocol (SIP)
- RFC3891 The Session Initiation Protocol (SIP) "Replaces" Header
- RFC3892 The Session Initiation Protocol (SIP) Referred-By Mechanism
- RFC3960 Early Media and Ringing Tone Generation in the Session Initiation Protocol (SIP)
- RFC3986 Uniform Resource Identifier (URI): Generic Syntax
- RFC4028 Session Timers in the Session Initiation Protocol (SIP)
- Draft-ietf-sipping-service-examples-08 for call features

### Network Related Standard

- RFC318 Telnet Protocols
- RFC791 Internet Protocol
- RFC792 Internet Control Message Protocol
- RFC793 Transmission Control Protocol
- RFC768 User Datagram Protocol
- RFC826 Ethernet Address Resolution Protocol
- RFC959 File Transfer Protocol
- RFC1034 Domain Names - concepts and facilities
- RFC1035 Domain Names - implementation and specification
- RFC1058 Routing Information Protocol
- RFC1157 Simple Network Management Protocol (SNMP)
- RFC1305 Network Time Protocol (NTP)
- RFC1321 The MD5 Message-Digest Algorithm
- RFC1349 Type of Service in the Internet Protocol Suite
- RFC1350 The TFTP Protocol (Revision 2)
- RFC1661 The Point-to-Point Protocol (PPP)
- RFC1738 Uniform Resource Locators (URL)
- RFC2854 The 'text/html' Media Type
- RFC2131 Dynamic Host Configuration Protocol
- RFC2136 Dynamic Updates in the Domain Name System (DNS UPDATE)
- RFC2327 SDP: Session Description Protocol
- RFC2474 Definition of the Differentiated Services Field (DS Field)
- RFC2516 A Method for Transmitting PPP Over Ethernet
- RFC2616 Hypertext Transfer Protocol - HTTP/1.1
- RFC2617 HTTP Authentication: Basic and Digest Access Authentication
- RFC2637 Point-to-Point Tunneling Protocol
- RFC2766 Network Address Translation - Protocol Translation (NAT-PT)
- RFC2782 A DNS RR for Specifying the location of Services (DNS SRV)
- RFC2818 HTTP Over TLS (HTTPS)
- RFC2916 E.164 Number and DNS
- RFC3022 Traditional IP Network Address Translator
- RFC3489 STUN - Simple Traversal of User Datagram Protocol (UDP) Through Network Address Translators (NATs)
- UPnP Device Architecture Version 1.0