Advanced VoIP Gateway

SP1700 Series

Protocol: SIP (RFC3261)

Model:	SP1700-16S	SP1700-32S
	SP1700-16O	SP1700-32O
	SP1700-8S8O	SP1700-16S16O
	SP1700-8S8P	SP1700-16S16P

Ethernet: 1WAN 1LAN

Telephony Interface: RJ-21 female connector

GENERAL FEATURES AND SPECIFICATIONS

Voice Features
- G.711a/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 detection (FXO) and generation (FXS)
- Auto or Programmable Gain Control
- ITU-T V.152 Voice-band Data over IP Networks

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

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-NTT
    FSK: Calling Name, Number, Date and Time, VMWI
- FXS metering pulse:
    Polarity Reversal
    12kHz calling tone
    16kHz calling tone
- T.30 FAX bypass to G.711, T.38 Real-Time FAX Relay
- FXS Line test and diagnostics with visual alarm indication
    Inward self-test:
        Loopback – codec
        Loopback – analogue
        SLIC DC power voltage
        Tip/ Ring DC feed
        Ringer
    Outward test (GR909 Standard):
        REN
        Phone Line disconnected
        H.F. DC Voltage (Hazardous and foreign DC Voltage)
        H.F. AC Voltage (Hazardous and foreign AC Voltage)
        Tip/ Ring Short
- Modem over IP up to 14,400bps
- Failsafe mechanism: FXS auto or manual relay to FXO/ PSTN through hardware relay or internal PCM Bus while Network, Service or power failure occurs
- ROH Tone (Receiver Off-Hook Tone @ 480Hz)
- Loop Current Suppression

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 Call Management
- Support Outbound Proxy
- Register up to three SIP servers
- SIP Registration Failover Mechanism
- Group Hunting
- Privacy Mechanism/ Private Extension 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
- Manual Peer Table (for P2P calls)
- E.164 Numbering, ENUM support

Physical Interface
- WAN: 1 x10/100 base-T Interface, auto cross-over, auto speed negotiation, RJ-45 connector
- LAN: 4 x 10/100 base-T Interface, auto cross-over, auto speed negotiation, RJ-45 connector
- 1 or 2 x RJ-21 female connectors for FXS/ PSTN line wiring
- AC/ DC power jack, power switch
- Reset button

LED Indicators
- Power, VoIP, Alarm, Run, WAN, LAN, Phone off-hook 1 ~ 32/ Phone Ch Alarm 1 ~ 32, Line 1 ~ 32

Accessories
- RJ21 to RJ11-mail cable
- RJ45 cable
- AC power cord
- Rack mount kit

FC CE

Advanced VoIP Gateway

Ordering Information

Model	Description				
	WAN	LAN	FXS	FXO	PSTN
SP1700-16S	1	1	16		
SP1700-32S	1	1	32		
SP1700-16O	1	1		16	
SP1700-32O	1	1		32	
SP1700-8S8O	1	1	8	8	
SP1700-16S16O	1	1	16	16	
SP1700-8S8P	1	1	8		8
SP1700-16S16P	1	1	16		16

General Information

Dimensions: W 44.5cm x D 33cm x H 4.5cm

Weight: 4.4 Kg

Power Source: AC 100~240V 50/60Hz input, DC 12V/2A output

Operating temperature: 0°C ~ 45 °C

Storage temperature: -25°C ~ 75 °C

Operating Humidity: Up to 90% RH, non-condensing

✲ Other trademarks and trade names may be used in this document to refer to either the entities claiming the marks and names or their products.

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

NETWORK FEATURES AND MANAGEMENT

IP Network Specifications

- Support IPv4, IPv6 future upgradeable
- 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, SNTU Client, UPnP
    RTSP ALG, SIP ALG, IPV4/ IPV6 (Option)
- QoS Support:
    WAN: DiffServ, IP Precedence
        Priority Queue
        Rate Control
        802.1Q (VLAN Tagging), 802.1P (Priority Tag)
- DDNS Support
    Dyndns.org (Dynamic and Custom)

Network Security Specifications

- PPTP Client
- DIGEST Authentication
- MD5 Encryption
- DoS Protection

Management

- Web Based Configuration
- Auto-provisioning (HTTP/ HTTPS/ TFTP)
- Telnet
- IVR
- FTP/ TFTP/ HTTP Software Upgrade
- Configuration Backup and Restore
- Reset to Default Button
- TR-069, TR104 (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 UPDATE)
- 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)