SV1242 & SV1204

VoIP IAD, 8 simultaneous voice calls
FXS and ISDN BRI mix
ADSL2/2+, WiFi & V/X

Next Generation Networks introduction
Ideal solution for integrating high-quality voice and data services over IP networks for SOHO and SME customers at superior cost savings

Flexible
Mixed voice ports configuration and multiple WAN connectivity options allow Operators to optimise their offer

A TLC Integrated Access Devices (IADs) enables Network Operators and ISPs to effectively deploy Next Generation Networks based on Voice over IP technology offering to Small and Medium Businesses integrated broadband data and carrier-class voice services over a single copper pair on ADSL2/2+.

Fast Integration and "Five-9s" Service Availability
The SV family guarantee seamless installation and the highest degree of compatibility with every type and brand of legacy telephony devices (faxes, phone sets, answering machines, modems). An optional fully managed back-up battery unit is also available for service continuity in case of mains faults. Moreover, an additional FXO port is available on SV1242F model guaranteeing basic call capabilities in case of IP connectivity break down.

Full IP Services
The SV IADs provide advanced routing and bridging capabilities also offering firewall functionality to prevent unauthorized hosts from externally accessing the internal LAN.
A variety of VPNs is supported to protect data exchanged over a public IP network among branch offices and the corporate headquarters.

Wireless Option
The wireless factory option is compliant to 802.11b/g standards. Using 802.11g, the device data transmission reaches up to 54Mbps. Wireless security protocols include Wired Equivalent Privacy (WEP), Wi-Fi Protected Access (WPA1 and WPA2) and IEEE 802.1x authentication.

SV1242 & SV1204

Technical Specifications

LED Indicators
- PWR
- Ready (Fail)
- EMERG.
- ISDN (2 or 4)
- POTS (none or 4)
- LAN (1-4)
- Wi-Fi
- Internet
- Line

Physical Interfaces
- 4 FXS ports with RJ-11 and spring connectors (SV1242 models)
- 1 FXO port with RJ-11 and spring connectors (SV1242F model)
- 2 or 4 ISDN-BRI ports with RJ-45 connectors
- 4 switched 10/100bT Ethernet ports with RJ-45 connectors
- Sync IN/OUT ports with 2 Stereo Jack 3,5 mm connectors
- 1 serial port V35 / RS-449 (V.36) / V.11 DTE up to 2 Mbps (factory setup)
- 1 console port with MiniDIN 8P connector

ADSL Network Interfaces
- ADSL2/2+ interface
- ITU-T G.992.1 (g.dmt), G.992.2 (g.lite)
- ITU-T G.992.3 (ADSL2 or g.dmt.bis)
- ITU-T G.992.4 (g.lite.bis)
- ITU-T G.992.5 (ADSL2+)
- Downstream line rate: up to 24 Mbps
- Upstream line rate: up to 1 Mbps, up to 3.5 Mbps with Annex M

WiFi Interface (Factory Setup)
- IEEE 802.11b/g
- WEP encryption (64/128-bit)
- WPA1 and WPA2
- IEEE 802.1x authentication
- MAC filtering

Voice Interfaces
- FXS, FXO
  - Compliant to Q.552 requirements
  - Port impedance: real 600ø or complex Euro values
  - Low distortion ringing voltages
  - Diagnostic features
  - One of the FXS is associated to the FXO port
- ISDN-BRI
  - Fully compliant to L1 standards (ETSI ETS 300 012)
  - PP and PMP configuration

Voice Processing
- Voice Codes
  - ITU-T G.711 (A-law, μ-law)
  - ITU-T G.729a (Factory Setup Option)
  - ITU-T G.726 (VoATM mode only)
  - Transparent pass-through
- ITU-T G.165/G.168 echo cancelation
- Voice Activity Detection and Comfort Noise Generation
- RTP/RTCP (RFC 1889)
- 8 Voice Channels VoIP

Signalling
- Euro ISDN EDSS-1 / ETSI BRI/NET3
- ETS 300 125 (ITU-T Q.921)
- ETS 300 102-1 (ITU-T Q.931)
- Q-SIG (PSS-1)
- SIP 2.0 according to RFC 3261 (TCP or UDP transport)
- En-block and Overlap sending
- ISDN speech, audio and data (Fax Gr 4, UDI 64, RDI 64)
- DTMF detection and carrying (RFC2833), DTMF info
- Local Generation of:
  - Dial tone
  - Ring back tone (180 Ringing reply)
  - Call Waiting tone
  - Busy tone
  - Fast Busy tone

Fax and Modem Support
- T.38 fax relay
- Automatic G.711 Fax and Modem Pass-Through

Supplementary Services[1]
- Locally managed[2] or Softswitch-based
  - Call hold
  - Consultation call
  - Call waiting
  - Call Forwarding
  - Caller Identity Presentation (CLIP), DTMF and FSK based
  - Identity restriction
  - Call transfer
  - 3party conference (FXS only)
  - MSN

DDI Bundle
- GNR Management
- Multi-port to one number association and vice versa
- Multi-port to multi-number range association

IP Functions
- IP Routing
  - RIP v1/v1c/v2, BGP, OSPF
  - Enhanced Network Address and Port Translation (NAPT) engine, with multiple ALGs (including SIP, TFTP and H.323)
  - DHCP Server/Client/Relay, DHCP Learning
  - Multicast IGMP v1/v2/v3, PIM-SM[3], Static
- Routing Filtering Redistribution
- Firewalling
  - Extended Access Lists
  - Stateful Packet Inspection including Denial of Service attacks
- IP Services
  - DNS proxy
  - VPN (GRE, IP, PPTP server/client)
  - IPSec with DES, 3DES and AES
  - ICMP, IGMP snooping, Telnet, TFTP
  - Layer 3 QoS according to DiffServ model (RFC2474, RFC2475)
  - Priority based queuing (Absolute Priority, WFQ, RED)
  - Extensive monitoring, tracing and troubleshooting facilities

Ethernet Services
- Self Learning Bridge with up to 1k MAC addresses and automatic ageing
- Full-Duplex IEEE 802.3x
- Half-Duplex back pressure flow control
- Automatic MDI/MDI-X crossover
- Broadcast/Multicast storm protection
- VLANs (802.1Q and 802.1p) port based management
  - Tag/Re-Tag/Untag
  - Trunking (VLAN multiplexing)
  - Priority based queuing

Frame Relay on V/X (Factory Setup)
- QoS Management
- FRF.12
- LMI: Q.933a, T1.617
- Multiprotocol over Frame Relay (RFC1490)
- DLCI bundling

ATM
- Services
  - Up to 8 VCCs
  - Class of Services (CBR, VRB-rt, VBR-nrt, UBR+, UBR)
  - Voice and Data packets over different VCCs (VC bundling)
  - Selective CLP marking
  - F4/F5 OAM cells, AIS and RDI
  - ATM: ITU T-I.361, ITU T-I363.5, ITU T-I432, ITU TI610, ITU T-I731
- Access protocols
  - IP over AAL-5, Ethernet over AAL-5 (RFC2684)
  - PPP over AAL-5 (RFC2364)
  - PPP over Ethernet (RFC2516)
  - LLC/SNAP and VC encapsulation

Authentication
- PAP/CHAP/MS-CHAPv1 and v2 authentication
- Basic and Digest schemes (RFC2617)

Service Resiliency
- ISDN backup
- VRRP (RFC2338)
- Dial on Demand Routing

Management & Configuration
- Password Protected Access
  - 2 login levels
  - AAA and local authentication
- Local Management
  - Console port
  - Extensive CLI
  - Windows® based wizard for configuration and firmware download
- Remote Management
  - CLI (internal Telnet Server)
  - HTTP (embedded WEB Server)
  - SNMP Agent (v1, v2c)
  - SSH
  - Syslog
  - Network Performance Monitor
  - Ping MIB
  - TR-069[3]
- Firmware upgrades: Local and Remote (TFTP client embedded)

Environment
- Operating Temperature: -5° ÷ 45°C (23° ÷ 113°F)
- Non-Operating Temperature: -40° ÷ 70°C (-40° ÷ 158°F)
- Operating Humidity: 10 ÷ 93% (non-condensing)

Compliance & Approvals
- Storage: ETSI EN 300 019-2-1 T 1.3
- Transportation: ETS 300 019-2-2, T 2.3
- Operating Conditions: ETS 300 019-2-3, T 3.2
- EMC: EN 55022, EN 55024, EN 61000-3-2, EN 61000-3-3
- Protection: ITU-T K.21
- Safety: EN 60950-1

Power
- External power supply
- AC input voltage: 100 to 240 Vac
- AC input frequency: 50 to 60 Hz
- AC input current: 0.2 to 0.38 A
- Power Backup Unit (PBU)

Models

	Data & Voice IFCs					
	V/X	WiFi	ISDN NT	ISDN TE	FXS	FXO
SV1242	opt	opt	2	0	4	0
SV1242F	opt	opt	2	0	4	1
SV1242-VX	x	opt	2	1	4	0
SV1204	opt	opt	4	3	0	0

Notes
[1] *Supplementary Services management is not yet fully standardised by international bodies and their implementation could be subject to revisions*

[2] *Depending on the specific service, a common implementation between the IAD and the Softswitch needs to be agreed*

[3] *Feature availability depends on model*

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