

SV6044E

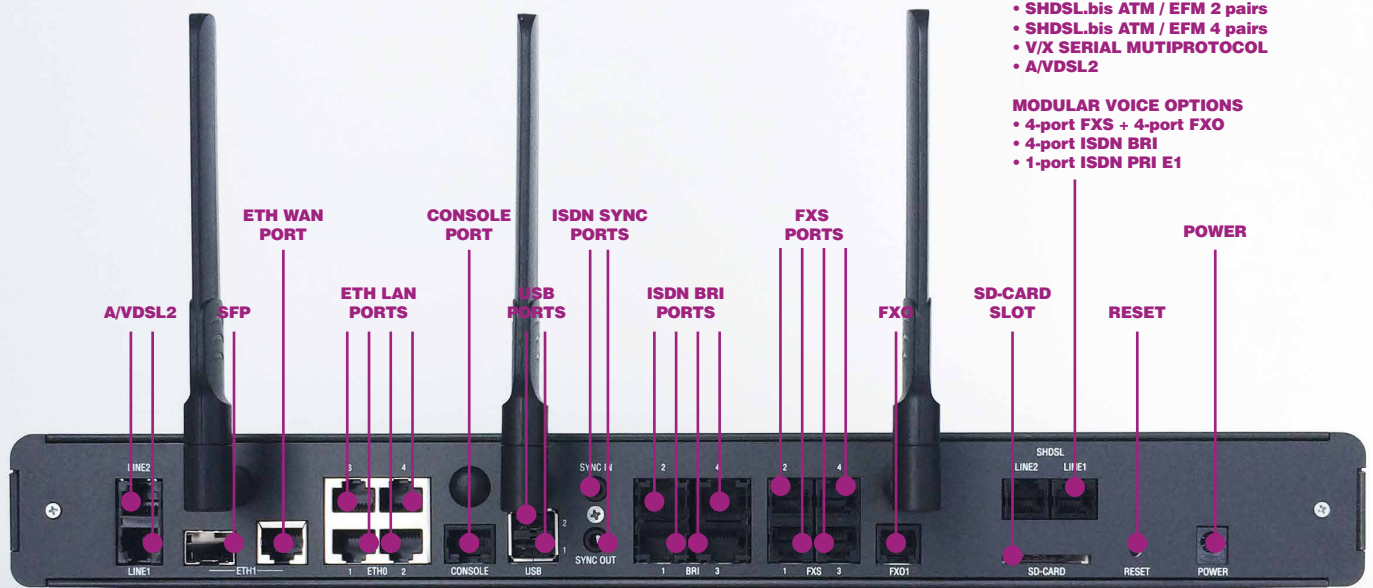
INTEGRATED ACCESS DEVICES

MODULAR WAN OPTIONS

- SHDSL.bis ATM / EFM 2 pairs
- SHDSL.bis ATM / EFM 4 pairs
- V/X SERIAL MUTIPROTOCOL
- A/VDSL2

MODULAR VOICE OPTIONS

- 4-port FXS + 4-port FXO
- 4-port ISDN BRI
- 1-port ISDN PRI E1



ADVANCED LAYER 2 AND 3 FEATURES

Extensive IP routing and ethernet functionalities with advanced QoS. Data protection with IPSEC encryption and firewall security.

NEXT GENERATION NETWORKS INTRODUCTION

Ideal solution integrating high-quality voice and data services over IP networks. Up to 42 simultaneous voice calls on FXS, FXO, ISDN BRI and PRI.

FLEXIBLE CONFIGURATION AND DEPLOYMENT

Total deployment flexibility in any scenario, with VDSL2 vectoring/bonding, fiber, SHDSL.bis ATM/EFM and VX interfaces.

SV6044E	WAN	LAN	WiFi	FXS/BRI/PRI	FXO	G.729 ch.	3G/4G ⁵	USB
SV6044EMV2W	2x A/VDSL2 ³ GbE SFP 100/1000	4 x GbE	802.11b/g/n, 2.4 / 5 GHz, WEP WPA1/2, WPS (802.11ac factory option)	4 / 4 / 0 (BRI VOICE: 4 NT/TE) (BRI DATA: 2 TE)	1	8 ⁴	✓	2
SV6044EVXW	VX GbE SFP	4 x GbE	802.11b/g/n, 2.4 / 5 GHz, WEP WPA1/2, WPS (802.11ac factory option)	4 / 4 / 0 (BRI VOICE: 4 NT/TE) (BRI DATA: 2 TE)	1	8 ⁴	✓	2
SV6044ES2W	2x SHDSL.bis ¹ GbE SFP	4 x GbE	802.11b/g/n, 2.4 / 5 GHz, WEP WPA1/2, WPS (802.11ac factory option)	4 / 4 / 0 (BRI VOICE: 4 NT/TE) (BRI DATA: 2 TE)	1	8 ⁴	✓	2
SV6044ES4W	4x SHDSL.bis ¹ GbE SFP	4 x GbE	802.11b/g/n, 2.4 / 5 GHz, WEP WPA1/2, WPS (802.11ac factory option)	4 / 4 / 0 (BRI VOICE: 4 NT/TE) (BRI DATA: 2 TE)	1	8 ⁴	✓	2
SV6044EMV2VW	2x A/VDSL2 ³ 1x A/VDSL2 GbE SFP 100/1000	4 x GbE	802.11b/g/n, 2.4 / 5 GHz, WEP WPA1/2, WPS (802.11ac factory option)	4 / 4 / 0 (BRI VOICE: 4 NT/TE) (BRI DATA: 2 TE)	1	8 ⁴	✓	2
SV6044EMV2VXW	2x A/VDSL2 ³ VX GbE SFP 100/1000	4 x GbE	802.11b/g/n, 2.4 / 5 GHz, WEP WPA1/2, WPS (802.11ac factory option)	4 / 4 / 0 (BRI VOICE: 4 NT/TE) (BRI DATA: 2 TE)	1	8 ⁴	✓	2
SV6044EMV2S2W	2x A/VDSL2 ³ 2x SHDSL.bis ¹ GbE SFP 100/1000	4 x GbE	802.11b/g/n, 2.4 / 5 GHz, WEP WPA1/2, WPS (802.11ac factory option)	4 / 4 / 0 (BRI VOICE: 4 NT/TE) (BRI DATA: 2 TE)	1	8 ⁴	✓	2
SV6044EMV2S4W	2x A/VDSL2 ³ 4x SHDSL.bis ¹ GbE SFP 100/1000	4 x GbE	802.11b/g/n, 2.4 / 5 GHz, WEP WPA1/2, WPS (802.11ac factory option)	4 / 4 / 0 (BRI VOICE: 4 NT/TE) (BRI DATA: 2 TE)	1	8 ⁴	✓	2
SV6044EMV2P1W	2x A/VDSL2 ³ GbE SFP 100/1000	4 x GbE	802.11b/g/n, 2.4 / 5 GHz, WEP WPA1/2, WPS (802.11ac factory option)	4 / 4 / 1 (BRI VOICE: 4 NT/TE) (BRI DATA: 2 TE) (PRI: NT/TE)	1	8 ⁴ (FXS / BRI) 30 (PRI)	✓	2
SV6044EMP1W	GbE SFP 100/1000	4 x GbE	802.11b/g/n, 2.4 / 5 GHz, WEP WPA1/2, WPS (802.11ac factory option)	4 / 4 / 1 (BRI VOICE: 4 NT/TE) (BRI DATA: 2 TE) (PRI: NT/TE)	1	8 ⁴ (FXS / BRI) 30 (PRI)	✓	2
SV6044EMV2F44W	2x A/VDSL2 ³ GbE SFP 100/1000	4 x GbE	802.11b/g/n, 2.4 / 5 GHz, WEP WPA1/2, WPS (802.11ac factory option)	4+4 / 4 / 0 (BRI VOICE: 4 NT/TE) (BRI DATA: 2 TE)	1+4	16 (FXS / BRI)	✓	2
SV6044EMV2B4W	2x A/VDSL2 ³ GbE SFP 100/1000	4 x GbE	802.11b/g/n, 2.4 / 5 GHz, WEP WPA1/2, WPS (802.11ac factory option)	4 / 4+4 / 0 (BRI VOICE: 8 NT/TE) (BRI DATA: 2 TE)	1	16 (FXS / BRI)	✓	2

NOTES

¹ATM and EFM support

²separate A/VDSL2 WAN for backup

³VDSL2 full vectoring and bonding support up to profile 30a

⁴12 channels with additional license

⁵factory option

Modular WAN options and 3G / LTE with integrated SIM holder.

The onboard combo GE WAN interface can be complemented with one modular WAN interfaces for fixed access and internal 3G / LTE module.



Modular voice options.

Analog FXS and FXO, ISDN BRI and ISDN PRI modules are available for the most flexible voice configurations.



TECHNICAL SPECIFICATIONS

LED Indicators

- POWER
- MODULE
- FXS (1-4)
- ISDN (1-4)
- USB (1-2)
- ETH0 (1-4)
- ETH1
- Wi-Fi
- INTERNET
- LINE

Physical Interfaces

- 2-port VDSL2 with RJ-11 connectors
- 1-port GbE with RJ-45 and SFP connectors (Eth1)
- 4-port GbE switch with RJ-45 connectors (Eth0)
- 1-port console with RJ45 connector
- 2-host USB
- Sync IN/OUT ports with 2 Stereo Jack 3,5 mm connectors
- 4-port ISDN-BRI with RJ-45 connectors
- 4-port FXS with RJ-11 connectors
- 1-port FXO with RJ-11 connector
- 1-port SD Card
- 1-MODULE
- 2-4-port SHDSL with RJ-11 connectors
- 1-port VX with DB26 connector
- 1-port A/VDSL2 with RJ-11 connector
- 1-port ISDN-PRI with RJ-45 connector
- 4-port ISDN-BRI with RJ-45 connectors
- 4-port FXS + 4-port FXO with RJ-11 connectors

VDSL2/ADSL2+ Network Interface

- VDSL2 backward compatible with ADSL2/2+ interface
- VDSL2 interface
- ITU-T G.993.2
- Profiles: 8a, 8b, 8c, 8d, 12a, 12b, 17a, 30a
- Full Vectoring
- Profile 17a&30a 2-pair bonding
- DELT
- ADSL2/2+ interface
- ITU-T G.992.1 Annex A, B**
- ITU-T G.992.3 Annex A, B**, J**, L, M
- ITU-T G.992.5 Annex A, B**, J**, L, M
- T1.413
- Downstream line rate: up to 24 Mbps
- Upstream line rate: up to 1 Mbps, up to 3.5 Mbps with Annex M

3G/LTE

- LTE (FDD) B1/B2/B3/B5/B7/B8/B20
- DC-HSPA+/HSPA+/HSPA/UMTS dual-band B1/B2/B5/B8
- EDGE/ GPRS/ GSM quad-band 850/900/1800/1900 MHz
- Data Transfer Rate
- DC-HSPA+ :Downlink:42 Mbps, Uplink: 5.76 Mbps
- LTE FDD: Downlink:100 Mbps, Uplink: 50 Mbps @Bandwidth 20M (CAT3)

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 T1610, 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
- Multiprotocol Interconnect over Frame Relay (RFC1490 Bridged, RFC1490 Routed)

WiFi Interface

- IEEE 802.11b/g/n
- IEEE 802.11ac (factory option)
- WEP encryption
- WPA1 and WPA2
- IEEE 802.1x authentication
- MAC filtering

Voice Interfaces

- FXS
- Compliant to Q.552 requirements
- Port impedance: real 600Ω or complex Euro values
- Low distortion ringing voltages
- Diagnostic features
- FXO
- Compliant to ETSI TBR 21 requirements
- ISDN-BRI
- 4-port NT/TE VOICE (2-port TE DATA)
- Fully compliant to L1 standards (ETSI ETS 300 012)
- PP and PMP configuration
- ISDN-PRI
- 1-port NT/TE with RJ-45 connector

- Balanced E1 G.703/G.704
- Fully compliant to L1 standards (ITU-T I.413, ETSI ETS 300 011)
- Euro ISDN EDSS-1
- ETS 300 125 (ITU-T Q.921)
- ETS 300 102-1 (ITU-T Q.931)

Voice Processing

- Voice Codes
- ITU-T G.711 (A-law, μ-law)
- ITU-T G.729a (Factory Setup Option)
- Transparent pass-through
- ITU-T G.165/G.168 echo cancellation
- Voice Activity Detection and Comfort Noise Generation
- RTP/RTCP (RFC1889)
- Up to 12 Voice Channels VoIP + 30 (PRI Module)

Signalling

- Euro ISDN EDSS-1
- ETS 300 125 (ITU-T Q.921)
- ETS 300 102-1 (ITU-T Q.931)
- SIP 2.0 according to RFC 3261 (TCP or UDP transport)
- En-block and Overlap sending
- ISDN speech, audio and data (Fax Gr 2/3)
- 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, Static
- Routing Filtering Redistribution
- Firewalling
- Extended Access Lists
- Stateful Packet Inspection including Denial of Service attacks
- IP Services
- DNS proxy
- DDNS client
- 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

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 + configurable privilege access right
- AAA and local authentication
- TACACS+
- Local Management
- Console port
- Extensive CLI
- Remote Management
- CLI (internal Telnet Server)
- HTTP (embedded WEB Server)
- HTTPS (embedded Secure HTTP WEB Server)
- SNMP Agent (v1, v2c, v3)
- SSH
- Syslog
- Network Performance Monitor
- Ping MIB
- TR-069⁽³⁾
- Firmware upgrades: Local and Remote (TFTP & FTP client embedded)

Ethernet OAM functionality

- Link Layer OAM (IEEE 802.3ah OAM)
- Service Layer OAM (IEEE 802.1ag Connectivity Fault Management)
- ITU-T Y.1731 Performance Monitoring
- SAM according to ITU-T Y.1564

ADDITIONAL MODULES FOR FACTORY CONFIGURATION

ShDSL Network Interfaces

- 2-4-pair ShDSL.bis interface, ATM/EFM support
- ETSI TS 101 524,
- ITU G.991.2 Annex A
- ITU G.991.2 Annex B
- ITU G.991.2 Annex F
- ITU G.991.2 Annex G
- IEEE 802.3ah EFM
- Line rate up from 72 kbps to 22800 kbps

Frame Relay on V/X

- QoS Management
- FRF.12
- LMI: Q.933a, T1.617
- Multiprotocol over Frame Relay (RFC1490)
- DLCI bundling

VDSL2/ADSL2+ additional Interface

- VDSL2 backward compatible with ADSL2/2+ interface
- VDSL2 interface
- ITU-T G.993.2
- Profiles: 8a, 8b, 8c, 8d, 12a, 12b, 17a, 30a
- Full Vectoring
- DELT
- ADSL2/2+ interface
- ITU-T G.992.1 Annex A, B⁽⁴⁾
- ITU-T G.992.3 Annex A, B, J, L, M⁽⁴⁾
- ITU-T G.992.5 Annex A, B, J, L, M⁽⁴⁾
- T1.413
- Downstream line rate: up to 24 Mbps
- Upstream line rate: up to 1 Mbps, up to 3.5 Mbps with Annex M

Environment

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

Compliance & Approvals

- Storage: ETSI EN 300 019-2-1 T 1.3
- Transportation: ETSI EN 300 019-2-2 T 2.3
- Operating Conditions: ETSI EN 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: 100-240 Vac
- AC input frequency: 50/60 Hz
- AC input current: max 1,5A

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⁾ TR-069 available under license

⁽⁴⁾ For Annex B and Annex J support please contact your sales representative

DISCLAIMER

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