

- up to 128 VoIP channels
- up to 4 E1 flows
- high quality voice
- carrier-class reliability
- desktop case



### Trunking Gateway

SMG platform can be used as a trunking gateway for converting signal and media flows of TDM and VoIP networks.

### Optimal Solution for Digital PBX

**SMG-2 и SMG-4** gateways make possible smooth transition from TDM infrastructure to advanced VoIP-networks providing full compatibility with existing Devices provides an excellent opportunity of digital PBX connection with NGN networks.

### Functional Compatibility

Strict compliance with requirements of modern protocols, recommendations and standards provides 100% SMG devices functional compatibility with a variety of equipment: digital PBX, IP-PBX, Softswitches etc.

### RADIUS-routing

Intellectual call routing based on billing system responses according to RADIUS protocol enables to create flexible methods of call processing .

### Unauthorized access protection

Intellectual protection against unauthorized call attempts via SIP (fail2ban, iptables, white/blacklists, etc.) has been implemented in SMG Trunking Gateway.

### Media Flows Transcoding

The hardware transcoding based on MediaCodecs Mindspeed Technologies helps coordinate media flows with different VoIP codecs.

### High Quality of Voice processing

Modern hardware platform, support of all basic audio codecs used in VoIP- networks (G.711, G.723.1, G.726, G.729), echo elimination functions, silence detector, comfort noise generator, DTMF signal reception and generation, and traffic prioritization mechanism (QoS) provide high quality of voice processing.

### Interfaces

**SMG-4** converter has 4 RJ-48 ports on board for E1 flows connection , 1 LAN 10/100/1000 Base-T (RJ-45) port to connect IP-network.

**SMG-2** converter in basic configuration supports one E1 (SS7, DSS-1) flow and 32 VoIP channels (SIP). Possibility of second E1 flow activation and number of VoIP channels increasing up to 64 by additional option activation.

### Application diagram



| Product Name | E1 flows number | E1 flows expansion | VoIP number of channels |
|--------------|-----------------|--------------------|-------------------------|
| SMG-2        | 1               | up to 2            | up to 64                |
| SMG-4        | 4               | -                  | 128                     |

## Functional capabilities

### Calls management

- Called party (CdPN) or calling party (CgPN) number routing
- Before and after routing number modification
- Use of multiple number plans
- Trunk-group cutoff
- Call Control via RADIUS<sup>1</sup>
- Trunk-groups direct connection
- Prefix for few Trunk-groups

### Voice codecs

- G.711 (a-law,  $\mu$ -law), G.729 (A/B), G.723.1, G.726 (32 Kbps)

### Fax support

- T.38 Real-Time Fax, G.711 (a-law,  $\mu$ -law) pass-through

### Voice standard

- VAD (Voice Activity Detection)
- CNG (Comfort Noise Generation)
- AEC (echo cancellation, G.168 recommendation)

### Quality of Service (QoS)

- Diffserv and 802.1p priority assignment for SIP and RTP
- Dynamic and static jitter buffer

### DTMF

- Outband (RFC 2833, SIP INFO)
- Inband (RFC 2833, SIP INFO)

### Billing

- RADIUS Accounting
- Different billing systems support: Hydra Billing, LAN Billing, Porta Billing, NetUP, BGBilling (integration with other systems is possible)
- Billing information recordering to CDR file and sending to FTP-remote server

### TDM protocols

- Ss7
- PRI (Q.931)

### VoIP protocols

- SIP, SIP-T/SIP-I

## Capacity and Performance

### SMG-2

- up to 64 VoIP channels
- up to 2 E1 flows (RJ-48)
- Maximum load intensity - 40 cps

### SMG-4

- 128 VoIP channels
- 4 E1 flows (RJ-48)
- Maximum load intensity - 40 cps

## Flexibility

- Single file download-upload of configuration
- Multiple network interfaces creating for (SIP, RTP) telephony with different IP-addresses
- Number plans multiple operating
- Signal channel SS7 redundancy
- Talking connection monitoring (by RTP or RTCP availability)
- Trunk registration of SIP-interfaces

## Control and monitoring

- Channel flows E1 and VoIP monitoring on web-interface
- Emergency logging with opportunity to save logs on syslog-server
- Emergency notification by SNMP

## Security

- Access attempts to device output in syslog
- List of permitted IP addresses for device control access
- Access rights delimitation admin / user
- IP address control of RTP- counter flow source

## Interfaces

### SMG-2

- 1 x 10/100/1000 Base-T(RJ-45)
- 1 x E1 (RJ-48)
- 1x add-on port E1 (RJ-48)<sup>1</sup>
- 1 x Console (RJ-45)
- 1 x USB 2.0 port

### SMG-4

- 1 x 10/100/1000 Base-T(RJ-45)
- 4 x E1 (RJ-48) ports
- 1 x Console (RJ-45) port
- 1 x USB 2.0 port

## Physical characteristics

- Power: 220V AC
- Temperature range: +5°C to +40°C
- Humidity: up to 80%
- Dimensions: 187x124x31 mm

<sup>1</sup>Optional

Software current version 3.1.3

Application diagram

**Protocol converter**

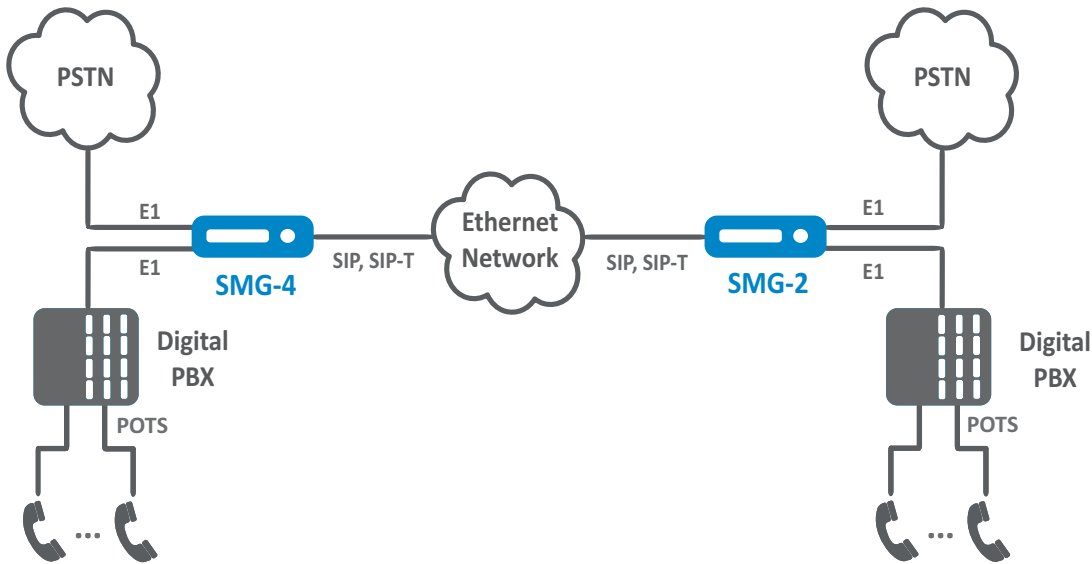
Wide range of TDM and VoIP protocols support allows to use SMG-4 for converting signal and media flows in different directions:

- VoIP <-> TDM
- TDM <-> VoIP
- TDM <-> TDM






**Trunk Gateway**

SMG-4 IP trunk Gateway is used for numbering capacity removal from digital PBX by IP and interfacing with PSTN.



Ordering Information

| Product Name | Description  | Figure  |
|--------------|--|---|
| SMG-2        | Digital gateway SMG-2: 1 E1 (RJ-48) port, 1 add-on E1 (optional)port, 64 VoIP-channels, 1 10/100/1000Base-T (RJ-45) port, 1 USB 2.0 port |  |
| SMG-ADD-E1   | SMG-ADD-E1 option for 1 E1 add-on port activation at SMG-2 digital gateway   |   |
| SMG-4        | Digital gateway SMG-4: 4xE1, 1x1GE, 128 VoIP-channels, 220V AC   |  |
| EMS-SMG-CPE  | EMS-SMG-CPE option of Eltex.EMS system for Eltex network elements control and monitoring. 1 SMG-2/SMG-4 network element                  |  |

Contact Us

About EltexAlatau

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EltexAlatau company is one of the first communication equipment manufacturers in Kazakhstan established in 2012. The main focus of the enterprise is a set of solutions and the opportunity of their seamless connection to the customer's infrastructure.