Integrated networking solutions

- **Office PBX functionality**
- **High-quality sound**
- **Current and voltage port protection**
- **Measurement of subscriber line physical parameters**
- **The maximum length of lines – 6 km**

TAU-16.IP

TAU-series multiport subscriber VoIP gateways are designed for voice and fax data transmission through IP networks. The gateways provide subscribers with high-quality phone connection with support for isolated office PBX operation mode and wide range of supplementary services.

TAU-24.IP

High-quality sound

The high quality of sound is ensured by the use of the high-performance hardware, support for main audio codecs used in VoIP networks (G.711, G.723.1, G.726, G.729), echo cancellation function, use of silence detector, comfort noise generation, DTMF signals reception and generation and prioritization mechanisms (QoS).

TAU-32M.IP

Redundancy

In case of the loss of main SIP server connection, TAU switches to the redundant SIP server automatically with monitoring of service capability of the main one. If there is a connection loss with both servers, local switching among gateway subscribers is saved.

TAU-36.IP

Usability

A friendly multilingual management interface and support for group management means based on TR-069 and DHCP (DHCP autoprovisioning) enable easy exploitation of unlimited number of TAU on an operator's network.

Eltex.EMS management system

Eltex.EMS is a unified management system for monitoring and control of a large number of gateways on a network. The system provides centralized management of a gateway group and its ports monitoring via the unified web interface.

TAU-72.IP

Integrated networking solutions

Features and capabilities

VoIP protocols
– SIP
– SIP-T
– H.323

Voice codecs
– G.729 (A, B)
– G.711 (a-law, µ-law)
– G.723.1 (6.3/5.3 Kbps)
– G.726 (32 Kbps)

Fax
– T.38 UDP Real-Time Fax
– G.711 (a-law, µ-law) pass-through

Voice standards
– VAD (voice activity detector)
– CNG (comfort noise generation)
– AEC (echo cancellation in accordance with ITU-T G.168)
– AGC (automatic gain control)
– PLC (packet loss concealment)

Features
– SIP server authentication with common username and password for all subscribers
– SIP server authentication with individual username and password for each subscriber
– Support for redundant SIP servers
– Support for Outbound SIP servers from DHCP Option 120
– Direct routing to the unregistered devices on a SIP server
– Internal switching is saved in case of SIP server connection loss
– Locally Supplementary Services' processing (distributed mini PBX mode)
– Regular expressions in Dialplan
– Caller and called numbers modifications
– Distinctive ring service
– User tone signals
– Limitation of simultaneous connections
– CPC (Calling Party Control): disconnect signal by circuit disruption
– Support for pay phone
– Support for operation behind NAT (STUN, PublicIP)
– Signal generation when a handset is off-hooked
– Supplementary Services management via phone added codes
– Applying of settings without reboot
– Forming of DHCP Option 82, Agent client circuit ID, Agent remote ID suboptions

Quality of service (QoS)
– 4 priority queues
– Packet distribution to queues based on 802.1p and/or DSCP
– Assigning of DSCP and 802.1p priorities for SIP and RTP packets

Value Added Services
– Caller line identity presentation (CLIP)
– Issuing of a caller name and time of a call in FSK mode
– Calling line identification restriction (CLIR)
– Call Transfer
– Call Pickup
– 3-Way Conference
– Hotline/Warmline
– Call Waiting
– Call Forward (CFU, CFB, CFNR, CFOOS)
– Call Group
– Call Hold
– Music on Hold (MOH)
– Message-waiting indicator (MWI)
– Do not Disturb (DND)
– IMS (3GPP TS 24.623) for Call Hold, Call Waiting, 3-Way Conference, Hotline, Call Transfer

Network functions
– 802.1Q
– Possibility to use different VLAN for signalling, RTP and management
– SNTP
– Local and external DNS
– STP
– LLDP
– Dual homing redundancy
– IPSec
– Firewall

Types of connections
– Static IP address
– DHCP client
– PPPoE client
– PPTP client

Remote monitoring
– HTTP/HTTPS
– SNMP
– TR-069

Firmware version 2.21.0

ELTEX Integrated networking solutions

Features and capabilities (continued)

Configuring
– HTTP/HTTPS, FTP/FTPS, TFTP
– Auto update of the firmware and configuration (DHCP options 43, 66 and 67)
– Command line interface (CLI) via Telnet, SSH, Console port RS-232
– Parameters configuring via SNMP (Eltex.EMS management system)
– Parameters configuring via TR-069

Diagnostics
– Syslog
– Subscriber lines parameters testing
– Checking for a phone available on the line

Statistics
– Detailed statistics per port
– Call history

Security
– Username and password control
– Access rights differentiation: admin/user
– Configuration file encryption
– Access to WEB via RADIUS authentication
– Access to WEB only via HTTPS

Physical parameters

	TAU-16.IP	TAU-24.IP	TAU-32M.IP	TAU-36.IP	TAU-72.IP
Interfaces					
FXS ports	16	24	up to 32	36	72
FXO ports	up to 32				
Type of FXS/FXO port connector	TELCO-50	TELCO-50	CENTRONICS-36	CENTRONICS-36	CENTRONICS-36
Ethernet 10/100/1000BASE-T ports (RJ-45)	2	2	3	3	3
Ethernet 1000BASE-X ports (SFP)	1	1	2	2	2
RS-232 console port	1				
Type of RS-232 console port connector	RJ-45	RJ-45	DB-9	DB-9	DB-9
VoIP					
VoIP protocols	SIP, SIP-T, H.323				
Fax transmission	T.38, G.711 pass through				
WAN connections types	Static, DCHP, PPPoE/PPTP				
Physical features and ambient conditions					
Power supply	220 V AC or 48/60 V DC				
Power consumption at 0.2 Erl	≤ 30 W	≤ 30 W	≤ 40 W	≤ 45 W	≤ 55 W
Power consumption at 1 Erl	≤ 35 W	≤ 35 W	≤ 50 W	≤ 85 W	≤ 135 W
Dimensions (W×H×D), mm	430×45×134	430×45×134	430×45×191	420×45×240	420×45×240
Operating temperature	from 0 to +40 °C				
Weight	3 kg	3 kg	3.2 kg	3.2 kg	3.2 kg
Form factor	19", 1U				
Operating humidity	up to 80 %				

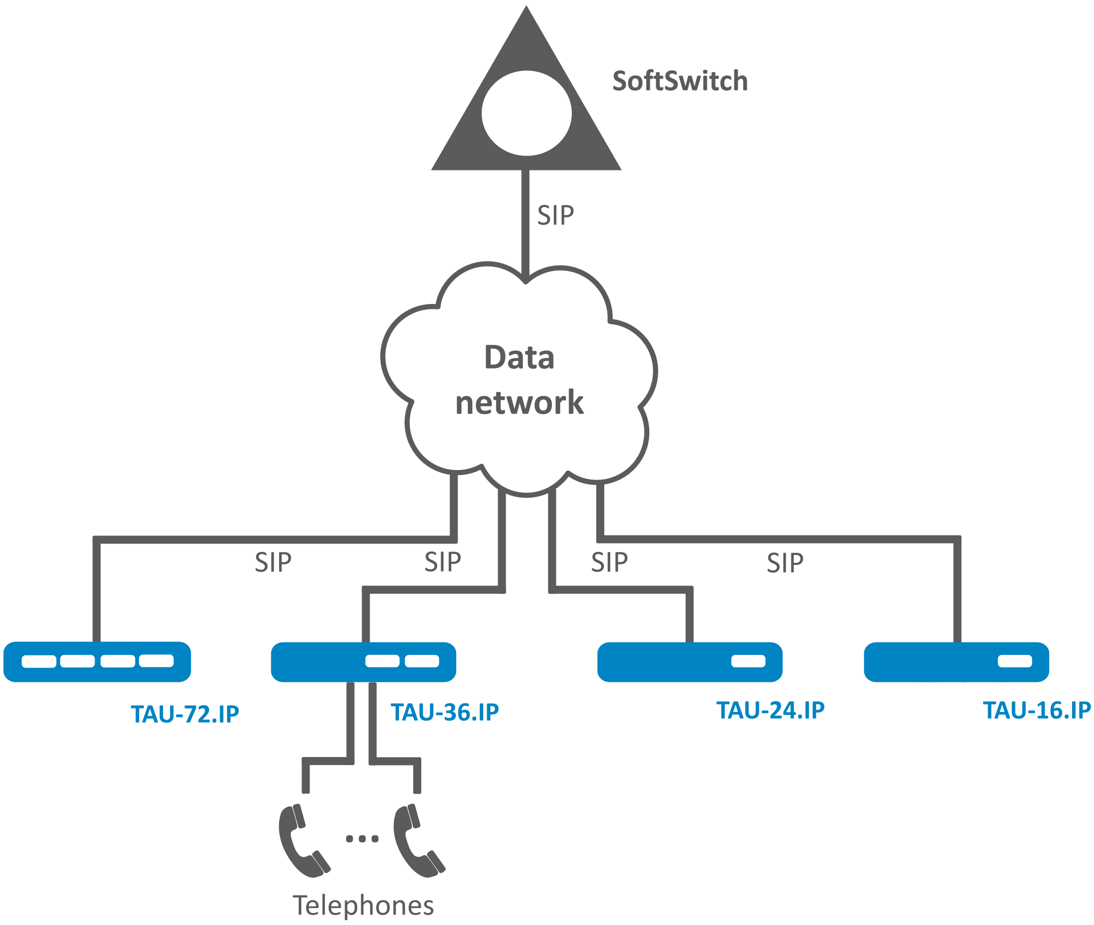
Firmware version 2.21.0

Integrated networking solutions

Use cases

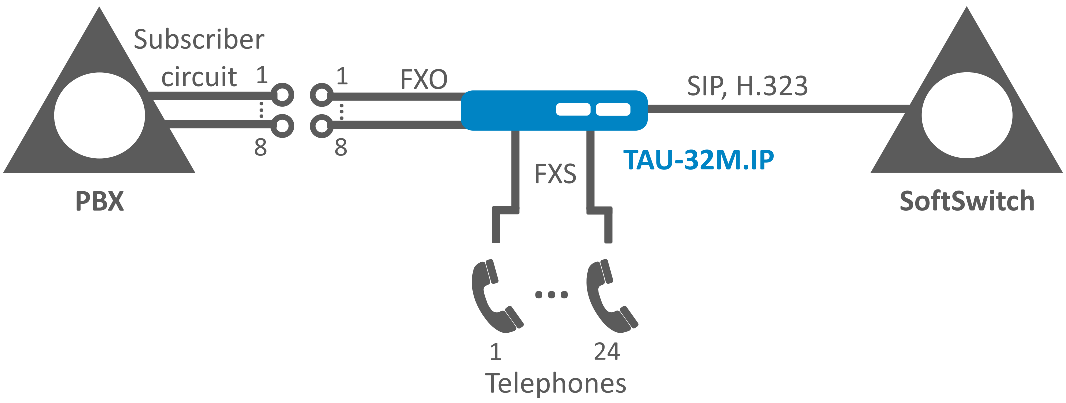
Distributed mini PBX mode

In case of disconnection with upper IP PBX, local switching is saved for gateway's subscribers.



TAU-32M.IP use case

Modular architecture of TAU-32M.IP provides opportunity to extend the quantity of FXS/FXO interfaces.



Ordering information

Name	Description
TAU-16.IP	
TAU-16.IP-S	VoIP gateway TAU-16.IP: 16×FXS, 2×RJ-45-10/100/1000, SIP/H.323, 1U, AC 220 V
TAU-24.IP	
TAU-24.IP-AC-S	VoIP gateway TAU-24.IP: 24×FXS, 2×RJ-45-10/100/1000, SIP/H.323, 1U, AC 220 V
TAU-24.IP-DC-S	VoIP gateway TAU-24.IP: 24×FXS, 2×RJ-45-10/100/1000, SIP/H.323, 1U, DC 48/60 V
TAU-36.IP	
TAU-36.IP-DC-S	VoIP gateway TAU-36.IP: 36×FXS, 3×RJ-45-10/100/1000, 2 slots for SFP, SIP/H.323, 1U, DC 48/60 V
TAU-36.IP-AC-S	VoIP gateway TAU-36.IP: 36×FXS, 3×RJ-45-10/100/1000, 2 slots for SFP, SIP/H.323, 1U, AC 220 V
TAU-72.IP	
TAU-72.IP-DC-S	VoIP gateway TAU-72.IP: 72×FXS, 3×RJ-45-10/100/1000, 2 slots for SFP, SIP/H.323, 1U, DC 48/60 V
TAU-72.IP-AC-S	VoIP gateway TAU-72.IP: 72×FXS, 3×RJ-45-10/100/1000, 2 slots for SFP, SIP/H.323, 1U, AC 220 V
TAU-32M.IP	
TAU-32M.IP-S	Chassis of subscriber VoIP gateway TAU-32M.IP: 4 slots for TAU32M-M8S or TAU32M-M8O submodules, 3×RJ-45 (LAN), 2 chassis for SFP, 1 slot for PM160-220/12 or PM100-48/12 power module, 1U, SIP
TAU32M-M8S	Calling equipment submodule TAU32M-M8S (installed to TAU-32M.IP chassis): 8 analog subscriber ports (FXS)
TAU32M-M8O	PBX calling equipment submodule TAU32M-M8O (installed to TAU-32M.IP chassis): 8 analog ports (FXO)
TAU32M-M4S4O-R	PBX calling equipment submodule TAU32M-M4S4O-R (installed to TAU-32M.IP): 4 analog ports (FXS) and 4 analog lines (FXO)
PM160-220/12	Power module PM160-220/12, 220 V AC, 160 W
PM100-48/12	Power module PM100-48/12, 48/60 V DC, 100 W
Cables	
UTP-18-X	UTP-18-X cable: 18-pair cable X meters length, CENTRONICS-36 connectors (X=4, 6, 12, 20, 30)
UTP-25-X	UTP-25-X cable: 25-pair cable X meters length, TELCO-50 connectors (X=4, 6, 12, 20, 30)
Management system	
EMS-TAU	EMS-TAU option of Eltex.EMS system for management and monitoring of network element made by Eltex: 1 network element TAU-72.IP/TAU-36.IP/TAU-32M.IP/TAU-24.IP/TAU-16.IP

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About Eltex

ELTEX Enterprise is a leading Russian developer and manufacturer of communications equipment with 30 years of history. Complete solutions and their seamless integrability into Customer's infrastructure are the priority growth areas of the company.