

- **PBX functionality**
- **high quality Voice**
- **current and voltage port protection**
- **enables to provide testing measurement of line characteristics**
- **maximum length of line – 6 km**



TAU-72.IP

**Multiport Access VoIP-gateways TAU series** are designed and suitable for voice and facsimile information transmission via the IP-network. Gateways provide customers with high-quality Telephone Communications with Value Added Services Support: call-forward, call waiting, 3-way conference, pick up, group call, call line identification presentation etc.

**High quality Voice**

High performance hardware platform based on Mindspeed modern chipset, 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, as well as traffic prioritization mechanism (QoS) provide high quality of voice data.



TAU-36.IP

**IMS Ready**

Support of IMS extensions allows using TAU with different IMS platforms.



TAU-32M.IP

**Ease of use**

The user-friendly control interface as well as supporting means of group-type automated control on the basis of TR-069 and DHCP (DHCP-autoprovision) protocols ensure subscriber's line physical parameters measurement capabilities and ease of using unlimited number of TAU gateways on the operator's network.

Supports capability to measure following subscriber's line parameters :

- extraneous voltage on the wires a and b
- subscriber's line voltage
- ringing voltage
- resistance between wires a and b, cable a and ground, cable b and ground
- capacitance between wires a and b, cable a and ground, cable b and ground



TAU-24.IP

**Eltex.EMS management system**

For gateways mass exploitation on network Eltex offers unified monitoring and control system Eltex.EMS. The system provides gateways group centralized management with the ability of ports monitoring via unified web-interface.

Technical features of VoIP Access Gateways TAU Series

	TAU-72.IP	TAU-36.IP	TAU-32M.IP	TAU-24.IP	TAU-16.IP
<b>Interfaces</b>					
FXS ports	72	36	up to 32	24	16
FXO ports	up to 32				
Connector type	CENTRONICS-36			TELCO-50	
Ethernet 10/100/1000Base-T (RJ-45) ports	3			2	
1000Base-X (SFP-module slots) ports	2			1	

<b>VoIP</b>					
VoIP protocols	SIP, H.323, H.248				
Faxing	T.38, G.711 pass through				
WAN connection types	Static, DCHP, PPPoE				

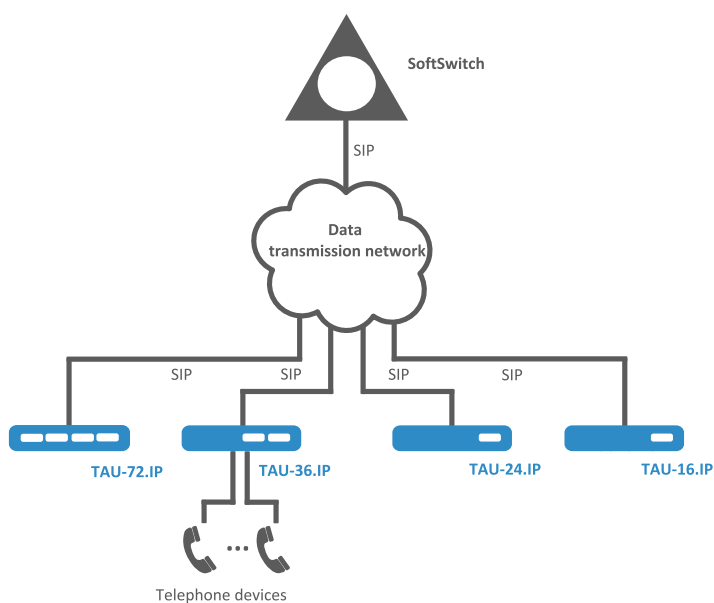
**Physical and environmental parameters**

Power supply	220V AC or 48V DC				
Power consumption at 0.2 Erl	≤ 55W	≤ 45W	≤ 45W	≤ 45W	≤ 45W
Power consumption at 1 Erl	≤ 135 W	≤ 85W	≤ 85W	≤ 85W	≤ 85W
Dimensions, mm	420x45x240	420x45x240	430x45x191	430x45x134	430x45x134
Operating temperature	from -100 to +450 C				
Operating humidity	≤ 80%				

**Application diagrams**

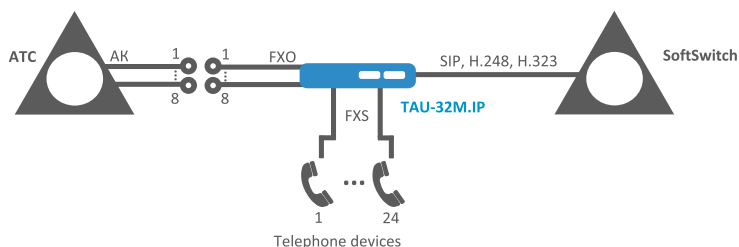
**Distributed mini PBX mode**

In case disconnection between gateway and superior IP-PBX, possibility of local commutation for gateway subscribers is fully preserved.



**TAU-32M.IP recovery scheme**

TAU-32M.IP device module construction enables gradual increase of required interfaces number (FXS / FXO).



## Functional capabilities

### VoIP protocols

- SIP
- SIP-T
- H.323
- H.248

### Voice codecs

- G.729 (A, B)
- G.711 (a-law,  $\mu$ -law)
- G.723.1 (6,3/5,3 Cbps)
- G.726

### Fax support

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

### Voice standards

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

### Functional features

- SIP-server authentication with common username and password for all subscribers
- SIP-server authentication with individual username and password for every subscriber
- Direct routing to unregistered devices on SIP-servers
- Internal connections commutation in case connection with SIP-server loss
- Supplementary self- service processing (Distributed mini PBX mode)
- Regular expressions in Dialplan
- Concurrent connections limitation
- CPC (Calling Party Control): disconnect signal by circuit disruption
- Signal generation handset unhooked
- Supplementary service management with telephone
- Settings using without rebooting
- IMS (3GPP TS 24.623) Call Hold, Call Waiting, 3-Way Conference, Hotline services management
- Redundant SIP-servers support
- DHCP option 82 generation, Agent client circuit suboptions ID, Agent remote ID

### Quality of Service (QoS)

- 4 priority queues
- Packages distribution for queues on the basis of 802.1p priority and/or DSCP
- Diffserv and 802.1p priority assignment for packets SIP и RTP

### Value Added Services

- Caller ID
- Caller name and time of call identification in FSK mode
- Calling Line Identification Restriction
- Call Transfer
- Call Pick-Up
- 3-way conference
- Hotline/Warmline
- Call Waiting
- Redirection (CFU, CFB, CFNR, CFOOS)
- Call Group
- Call Hold
- Music on hold
- Message-waiting indicator (MWI)

### Network Functions

- 802.1Q support
- SNTP support
- Local and external DNS
- Ability to use different VLAN for indication, RTP and management
- STP support
- LLDP support
- Redundancy support (dual homing)

### Types of connections

- Static IP-address
- DHCP-client
- PPPoE-client

### Configuration

- HTTP/HTTPS, FTP/FTPS
- TFTP (software and configuration auto-update)
- Telnet, SSH, Console port RS-232
- SIP settings configuration by SNMP
- Eltex.EMS management system
- WEB-interface

### Remote monitoring

- HTTP/HTTPS
- SNMP
- TR-069

### Diagnostics

- Syslog
- Subscriber's line physical parameters testing






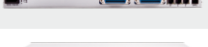
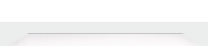
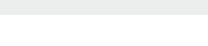

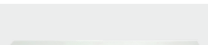










### Statistics

- Ports detailed statistics
- Call history


### Security

- Username and password verification
- Access rights delimitation: admin / user
- Configuration file encryption

## VoIP-Gateways TAU Series ordering Information

Product name	Description	Image
<b>TAU-72.IP</b>		
<b>TAU-72.IP-DC-S</b>	VoIP-gateway TAU-72.IP: 72xFXS, 3xRJ45-10/100/1000, 2 slots for SFP, SIP/H.323, 1U, DC 48V	
<b>TAU-72.IP-DC-M</b>	VoIP-gateway TAU-72.IP: 72xFXS, 3xRJ45-10/100/1000, 2 slots for SFP, H.248, 1U, DC 48V	
<b>TAU-72.IP-AC-S</b>	VoIP-gateway TAU-72.IP: 72xFXS, 3xRJ45-10/100/1000, 2 slots for SFP, SIP/H.323, 1U, AC 220V	
<b>TAU-72.IP-AC-M</b>	VoIP-gateway TAU-72.IP: 72xFXS, 3xRJ45-10/100/1000, 2 slots for SFP, H.248, 1U, AC 220V	
<b>TAU-36.IP</b>		
<b>TAU-36.IP-DC-S</b>	VoIP-gateway TAU-36.IP: 36xFXS, 3xRJ45-10/100/1000, 2 slots for SFP, SIP/H.323, 1U, DC 48V	
<b>TAU-36.IP-DC-M</b>	VoIP-gateway TAU-36.IP: 36xFXS, 3xRJ45-10/100/1000, 2 slots for SFP, H.248, 1U, DC 48V	
<b>TAU-36.IP-AC-S</b>	VoIP-gateway TAU-36.IP: 36xFXS, 3xRJ45-10/100/1000, 2 slots for SFP, SIP/H.323, 1U, AC 220V	
<b>TAU-36.IP-AC-M</b>	VoIP-gateway TAU-36.IP: 36xFXS, 3xRJ45-10/100/1000, 2 slots for SFP, H.248, 1U, AC 220V	
<b>TAU-32M.IP</b>		
<b>TAU-32M.IP-S</b>	Access VoIP-gateway TAU-32M.IP chassis : 4 slots for submodules TAU32M-M8S или TAU32M-M8O, 3xRJ-45 (LAN), 2 chassis for SFP, slot for power supply PM150-220/12 or PM75-48/12, 1U, SIP	
<b>TAU-32M.IP-M</b>	Access VoIP-gateway TAU-32M.IP chassis : 4 slots for submodules TAU32M-M8S or TAU32M-M8O, 3xRJ-45 (LAN), 2 chassis for SFP, 1 slot for power supply PM150-220/12 or PM75-48/12, 1U, SIP	
<b>TAU32M-M8S</b>	TAU32M-M8S subscriber's line equipment sub module (installed in chassis TAU-32M.IP): analog subscribers ports (FXS)	
<b>TAU32M-M8O</b>	TAU32M-M8O subscriber's PBX line sub module (installed in chassis TAU-32M.IP): 8 analog ports (FXO)	
<b>PM160-220/12</b>	Power module PM160-220/12, 220V AC, 160W	
<b>PM75-48/12</b>	Power module PM75-48/12, 48V DC, 75W	
<b>TAU-24.IP</b>		
<b>TAU-24.IP-AC-S</b>	VoIP-gateway TAU-24.IP: 24xFXS, 2xRJ45-10/100/1000, SIP/H.323, 1U, AC 220V	
<b>TAU-24.IP-AC-M</b>	VoIP-gateway TAU-24.IP: 24xFXS, 2xRJ45-10/100/1000, H.248, 1U, AC 220V	
<b>TAU-24.IP-DC-S</b>	VoIP-gateway TAU-24.IP: 24xFXS, 2xRJ45-10/100/1000, SIP/H.323, 1U, DC 48V	
<b>TAU-24.IP-DC-M</b>	VoIP-gatewayTAU-24.IP: 24xFXS, 2xRJ45-10/100/1000, H.248, 1U, DC 48V	
<b>TAU-16.IP</b>		
<b>TAU-16.IP-S</b>	VoIP-gateway TAU-16.IP: 16xFXS, 2xRJ45-10/100/1000, SIP/H.323, 1U, AC 220V	
<b>TAU-16.IP-M</b>	VoIP-gateway TAU-16.IP: 16xFXS, 2xRJ45-10/100/1000, H.248, 1U, AC 220V	

### VoIP-Gateways TAU Series Ordering Information (continuation)

Product name	Description	Image
<b>Cabels</b>		
<b>UTP-18-X</b>	UTP-18-X: Cabel X length meters 18-pair cable , terminated with connectors CENTRONICS-36 (X=4, 6, 12, 20, 30 meters)	
<b>UTP-25-X</b>	UTP-25-X: Cabel X length meters 25-pair cable , terminated with connectors TELCO-50 (X=4, 6, 12, 20, 30 meters)	
<b>Management system</b>		
<b>EMS-TAU</b>	EMS-TAU option of Eltex system .EMS for Eltex network elements control and monitoring. 1 network element TAU-72.IP /TAU-36.IP /TAU-32M.IP/TAU-24.IP/ TAU-16.IP	

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#### About EltexAlatau

**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.