



### VoTELPBX-1E1/2E1/4E1

T1/E1 ports: 1/2/4

Max. concurrent calls: 120

BHCC: 40K

#### Features

- Supports SIP and IMS protocols
- Up to 500 routing and call number transformation rules
- Dual-redundant Ethernet ports
- Dual AC/DC power supplies (optional)
- Up to 512 SIP trunks
- TLS/SRTP
- Voice VLAN
- Remote access via New Rock Cloud
- Management with New Rock or third-party Equipment Management Systems (TR-069)
- Interoperability with popular SIP servers, such as Cisco Unified CallManager (CUCM), Broadsoft, Microsoft Skype for Business (Lync), Huawei IMS, and Asterisk/Elastix
- Class I lightning protection

The VoTELPBX-1E1/2E1/4E1 provides

signaling and media conversion between VoIP and ISDN networks. A typical application is to support enterprise PBX upgrades to IP when the WAN access is ISDN.

The supports 1/2/4 T1/E1 ports and up to 512 SIP trunks, to meet the requirement of large and medium-sized enterprises for VoIP services.

#### High Performance

The TI 'C5509 DSPs provide powerful voice processing capabilities. The DSP daughter card's 6000 MIPS processing capability enables the to provide voice signal processing (G.711, G.729A, and G.723.1), echo cancellation, and T.38 fax relay under full load conditions (120 calls).

#### High Security

To ensure security, supports SSH and HTTPS for remote access, and provides functions including signaling and media stream encryption, automatic password strength test, brute-force password cracking prevention, cipher text data storage, access whitelist, and system log backup.

#### High Reliability

The VoTELPBX-1E1/2E1/4E1 provides high availability features including 1+1 redundancy of Ethernet ports and AC/DC power supplies (optional), and SIP registration failover.

#### Remote Management and Maintainability

Real-time monitoring, alarm notification, remote packet capture and software upgrades can be performed with the New Rock or third-party Equipment Management Systems with TR-069.

#### Comprehensive Feature Set

As an intelligent gateway running on an embedded Linux operating system supports an advanced feature set such as number transformation for calling/called party, automatic routing, RADIUS billing interface, 2nd-stage dialing tone and ring-back tone, auto dialing, DTMF detection, call-progress analysis, and RTP proxy for NAT/firewall traversal.

## Specifications

Protocols	
<b>Call control</b>	SIP/UDP and SIP/TCP (RFC3261), IMS (3GPP),
<b>Network</b>	Telnet, SSH, HTTP, HTTPS, DHCP/PPPoE client, DNS (A/SRV record), STUN
Media Processing	
<b>Codecs</b>	G.711 (a/μ), G.729a, G.723.1, GSM, iLBC
<b>Fax over IP</b>	T.38, G.711 pass-through T.38 compliant Group 3 Fax Relay Maximum fax rate of 33,600 bps (pass-through)
<b>Voice-quality enhancement</b>	Echo cancellation (G.168-2004), Jitter buffer, Silence suppression (VAD, CNG), PLC
<b>Voice processing</b>	RTP proxy, Firewall traversal, NAT traversal
<b>Auth. &amp; Registration</b>	Up to 512 SIP trunks registration
<b>Others</b>	Number transformation, 500 routing rules, Digit map, RADIUS
QoS	
<b>QoS</b>	DiffServ, TOS, 802.1P/Q VLAN tagging
Signaling	
<b>PSTN access</b>	E1 ISDN PRI (30 B+D): ETSI EDSS1 T1 ISDN PRI (23 B+D): ANSI NI-2 Switch type: 5ESS Series, DMS Series
<b>DTMF</b>	In-band audio, RFC2833, SIP-INFO
Security	
<b>Protocol</b>	HTTPS, SSH, TLS, SRTP
<b>User-defined ports</b>	SIP port, RTP port, HTTP/HTTPS port
<b>Encryption</b>	Encryption on SIP signaling or/and media streams. Importing and exporting encrypted configuration file and password/PIN
<b>Intrusion prevention</b>	Access whitelist, Blocking ping response, SIP-allowed IP addresses
High Availability	
<b>Redundancy</b>	Dual Ethernet ports, Dual AC/DC power supplies (optional)
<b>PSTN failover</b>	SIP registration failover from primary server to standby server
Provisioning, Administration and Maintenance	
<b>Device management</b>	EMS, TR-069 management (TR-069, TR-104 and TR-106)
<b>Auto provisioning</b>	Download configuration file via TFTP/FTP/HTTP/HTTPS, Obtaining ACS address via DHCP option 66 or redirection

<b>Log management</b>	8-level logs, Syslog
<b>Data capture</b>	Port capture, Packet capture
<b>Status and statistic</b>	Call status and history, Device status monitoring and ISDN status monitoring
<b>ISDN maintenance</b>	BERT, Near and loop back, ISDN-D & ISDN-B channel
<b>Upgrade</b>	Firmware upgrade via Web GUI or Auto provisioning
Add-on Software	
<b>Finder</b>	Obtains IP addresses of devices in a LAN environment

## Hardware

<b>Ethernet port</b>	RJ-45, 4×10/100/1000 Base-T, self-adaptive
<b>T1/E1 ports</b>	1, 2, or 4 ISDN trunks, supporting up to 120 simultaneous VoIP calls
<b>SD card interface</b>	1
<b>CON interface</b>	1, RJ45
<b>RAM</b>	256 MB
<b>Flash</b>	32 MB
<b>CPU</b>	TI AM3352
<b>DSP</b>	TI C5509
<b>Size (H×W×D)</b>	44×440×300 mm (1U)
<b>Net weight</b>	3kg maximum
<b>Single/Dual AC power supplies</b>	100 - 240 VAC, 50/60 Hz, 1A maximum
<b>Single/Dual DC power supplies</b>	-36 to -72 VDC, 2.5A
<b>Power consumption</b>	18 W
<b>Mounting</b>	Rack
<b>Operating</b>	Temperature: 0 to 40°C, Humidity: 10% to 90% RH (non-condensing)
<b>Storage</b>	Temperature: -40 to 70°C, Humidity: 5% to 90% RH (non-condensing)

