QX50

The QX50 IP PBX is designed for offices with as many as 50 users. The QX50 can support up to 48 IP phones and 16 concurrent calls. In addition, this system has two FXO analog PSTN connections and two FXS analog station ports. SIP trunking allows for the QX50 to connect directly to an ITSP with no additional equipment. The QX50 includes a firewall and SIP Intrusion Detection for optimal security. Additional E1, T1, FXO, ISDN BRI and FXS ports can easily be provided using the Epygi QX Gateways. When rack-mounted and paired with an Epygi QX Gateway, power redundancy provides added protection.

Analog phones	2
IP phones	16
Additional IP phones with keys	32
Total phones	50
Concurrent calls	16
FXO PSTN ports	2
Ethernet LAN ports	1
Ethernet WAN ports	1
Audio In port	1
Audio Out port	1
SD slot	1

Interconnection with QX Gateways

GATEWAYS	Recommended Number (max)
QXFXO4	4
QXISDN4	2
QXE1T1	1
QXFXS24	2

FEATURES

Telephony

PBX Features
- Multi-level Auto Attendant with Interactive Voice Response (IVR) and VoiceXMLv2 support
- Call Blocking, Forwarding, Hold, Transfer, Call Relay and Call Waiting
- Caller ID Detection and Hiding Caller ID
- Voicemail system
- Voicemail notification via SMS/email
- Caller ID-based voicemail profile
- Call Park, Call Pickup, Paging, Intercom
- Distinctive ringing
- Speed dialing
- Many Extension Ringing
- Receptionist
- Call Hunting
- Automated Call Back from Auto Attendant
- Hold music
- Call Detail Records
- Do Not Disturb
- Global speed dial
- Find Me/Follow Me
- Unified Messaging
- Three-Way Conferencing
- Hotline service
- G3 fax support: T.38 and clear channel fax
- Unified Fax Messaging
- Busy auto-redial
- Directory assistance
- Dial plans (call routing), time of day routing
- Class of Service
- Call Queue
- Redundancy
- Automatic Call Distribution*
- Call Recording (12 ports)*- It is advisable to use an SD memory card to expand the system memory.
- Barge-In*
- Audio (16 ports) / Video (8 ports)
- Conference Server*
- Mobile Toggling*

Licensable PC-Based Applications
- Desktop Communication Console (DCC)*
- Auto Dialer*

*Requires a software license key

Voice and Video Features

Voice Coding:
G.711, G.726 (16, 24, 32, 40 Kbps), G.729A, iLBC (13,33 kbit/s, 15,2 kbit/s); VAD, CNG, G.168 echo cancellation G.722 pass-through point-to-point HD call

Video Coding:
H.263 and H.264 pass-through point-to-point video call

VoIP Encryption:
SRTP

VoIP Signaling:
SIP, SIP/TLS

DTMF:
In band & out of band signaling support

VoIP Data and Signaling Protocols
- ITU-T G.711, G.726, G.729 Annex A, G.168-2000, 2002, Q.23, Q.24;
- IETF RFC 3951- iLBC;
- Telcordia (Bellcore) GR.506, GR.181;
- ETS_300 659_1,2,3;
- SIP, SIPS/TLS (RFCs: 2246, 3261, 3263, 3265, 3311, 3323, 3324, 3325, 3428, 3515, 3578, 3581, 3725, 3842, 3856, 3863, 3891, 3892, 4028, 4235)
- SDP (RFC: 2327, 4568)
- RTP/SRTP (RFCs: 1889, 1890, 2833, 3389, 3550, 3551, 3555, 3711, 4733, 3952)
- Fax over IP (ITU-T: T4, T30, T38, V17, V21, V27 ter, V29)

POTS Signaling
- Loop start
- FSK and DTMF caller ID support
- FSK message waiting indicator support

Connectivity

Physical interfaces

Premise connections:
2 FXS short-loop FXS ports (RJ-11)
1 LAN Ethernet 10/100 BASE-T port (RJ-45)

Uplink connections:
2 FXO ports to the central office (RJ11)
1 WAN Ethernet 10/100 BASE-T (RJ45)

Audio port connections:
Line-in/line-out (line-in signal level - 0.5V RMS, Line-out R_{load} - 600Ohm to 10K Ohm)

Phones

IP phones:
- 16 SIP phones by default
- 32 additional SIP phones may be added with feature keys
- All SIP phones can be connected both from LAN or WAN side
- Plug-and-Play (PnP) with select IP Phone manufacturers

Analog phones:
2 analog phones (or other analog devices) to connect via FXS ports

Auto Attendants and Virtual Extensions

Auto Attendants:
Up to 200 standard and custom Auto Attendants can be registered

Virtual Extensions:
Up to 200 Virtual Extensions can be registered**

**The total number of extensions used for IP phones, analog phones, Auto Attendants and Virtual Extensions can not exceed 200.

System Capacity
- Up to 16 simultaneous VoIP calls with external parties
- Unlimited station-to-station calling for IP phones
- Unlimited station-to-station calling for analog phones
- Two analog PSTN calls with external parties

Memory Storage
- SD card

Network

- STUN/Network Address Translation (NAT) traversal (RFC 3489)
- IPSec VPN with DES, 3DES and AES encryption in tunnel mode (RFCs: 2402, 2406, 2409),
- Automatic Internet Key Exchange (IKE) keying support
- PPTP VPN, L2TP VPN
- Firewall security via:
  - Intrusion Detection System (IDS)
  - Network Address Translation (NAT)
  - Policy and service-based filtering Stateful inspection firewall
- SIP Intrusion Detection System (SIP IDS)
- DHCP server on the LAN side
- DHCP client on the WAN side
- DNS server with forwarding functionality
- Simple Network Time Protocol (SNTP) server/client for computer clock synchronization
- PPPoE connection to the ISP with PAP/MS CHAP authentication
- IP DIFFSERV for QoS
- SIP tunneling
- Virtual LAN (VLAN/IEEE 802.1Q)
- Mail client to send voice and fax messages as email attachments (.wav and .tif respectively) and system notifications
- DNS (DYNDNS) support with third party
- NAT/router with port forwarding and port translation

System

Management
- Multilingual web interface accessible from LAN and WAN (HTTP/HTTPS)
- Password control
- User rights management
- Remote diagnostics and software upgrade
- VoIP Carrier Wizard
- Download/restore configuration
- Legible and editable configuration files
- Auto configuration of IP phones via TFTP and HTTP
- SNMP monitoring and configuration
- Third Party Call Control (3PCC) XML RPC*
- Reset button with factory reset option
- Extension status watching (with DCC)
- Custom Language Pack
- System event notification via SMS/email
- Emergency recovery

Diagnostics/Testing
- System status LED
- Remote testing
- FXO and network diagnostics
- Security diagnostics
- System logs, SIP IDS logs
- Call capture

Billing and Statistics
Radius Client (RFCS: 2865, 2866), CDRs

Environmental

Physical Dimensions
Rack-mountable devices:

Measurements:
8.0” x 4.0” x 1.6” (20.5 x 10.5 x 4.0 cm)

Weight:
1.26 lbs. (570 g)

Conditions

Operating temperature:
41°F - 104°F (5°C - 40°C)

Storage temperature:
41°F - 140°F (5°C - 60°C)

Non-condensing humidity:
5% - 90%

Power Supply
- Input: 85-264VAC, 47-63Hz, AC 0.4A/115VAC, 0.2A/230VAC;
- Auxiliary output power: 12.0VDC, 0.6A (max)

TD-QX50-Let-03

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