



QX50

The QX50 IP PBX is designed for offices with as many as 50 users. The QX50 can support up to 48 IP devices 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 VoiceXML v2 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 dial
- Many Extension Ringing
- Receptionist
- Call hunting
- Automated call back from Auto Attendant
- Hold music
- Call history
- 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
- Universal Extension Recordings
- Busy auto redial
- Directory assistance
- Dial plans (call routing), time of day routing
- Class of Service
- Call queue
- Redundancy*
- Automatic Call Distribution (ACD)*
- 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 and G.722.1 pass-through
point-to-point HD call
Video Coding:
H.263, H.263+ and H.264 pass-through
point-to-point video call
VoIP Encryption:
SRTP
VoIP Signaling:
SIP v2, SIP/TLS
DTME:
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, SIP/TLS (RFCs: 2246, 3261, 3263,
3265, 3311, 3323, 3428, 3515, 3578,
3581, 3842, 3856, 3863, 3891, 3892,
4028, 4235)

SDP (RFC: 2327, 4568)
RTP/SRTP (RFCs: 1889, 1890, 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 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/.pdf
respectively) and system notifications
DNS (DYN DNS) 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), Call Detail
Records (CDR)

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
Auxiliary output power: 12.0VDC,
0.6A (max)

Power Consumption

2.7 (idle), 6.5W (max)