



# QX200

With the ability to support 64 concurrent calls, the QX200 IP PBX is designed for offices with up to 200 employees. The system has four FXO ports in order to connect to the PSTN and two FXS ports for analog phones and fax machines. SIP trunking allows for the QX200 to connect directly to an ITSP with no additional equipment. The QX200 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	24
Additional IP phones with keys	176
Total phones	202
Concurrent calls	64
FXO PSTN ports	4
Ethernet LAN ports	1
Ethernet WAN ports	1
Audio In port	1
Audio Out port	1
SD slot	1



<b>GATEWAYS</b>	Recommended Number (max)
<b>QXFXO4</b>	16
<b>QXISDN4</b>	8
<b>QXE1T1</b>	2 (E1 mode), 3 (T1 mode)
<b>QXFXS24</b>	8

## 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 (20 ports)\*- It is advisable to use an SD memory card to expand the system memory.  
Barge-In\*  
Audio (32 ports) / Video (10 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:

4 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:

24 SIP phones by default  
176 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 400 standard and custom Auto  
Attendants can be registered

#### Virtual Extensions:

Up to 400 Virtual Extensions can be  
registered\*\*

\*\*The total number of extensions used for IP  
phones, analog phones, Auto Attendants and  
Virtual Extensions can not exceed 400.

### System Capacity

Up to 64 simultaneous VoIP calls with  
external parties  
Unlimited station-to-station calling for  
IP phones  
Unlimited station-to-station calling for  
analog phones  
Four 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 (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), 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:

1.28 lbs. (580 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)