

Quadro[®]4xi

THE GLOBAL PHONE NETWORK IN A BOX



Quadro4xi: The IP PBX with 3 ISDN Ports, 4 FXS Ports and up to 62 IP Phones

The Quadro4xi is the fully-featured ISDN IP PBX for small businesses. Connected by three ISDN lines to the PSTN and over 10Base-T Ethernet to the Internet, the Quadro4x allows a business to make up to 20 calls in parallel.

Besides four FXS phones, up to 62 fully-featured SIP phones may be attached to Quadro4xi's LAN port. In addition, all extensions assigned to a line may be mirrored and act as remote IP extensions. Wherever you are, calls will reach you, and you will be able to make calls as if you were in your office.

VPN functionality with DES, 3DES and AES encryption makes an additional contribution to data security.

VoIP Carriers

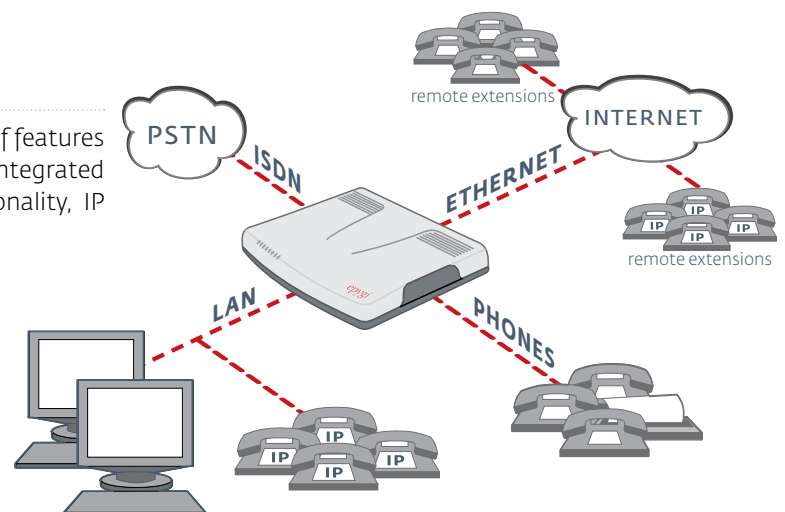
The Quadro4xi IP PBX is easily applicable for VoIP Carriers as well as small businesses. For VoIP carriers, a special wizard has been implemented that facilitates the configuration of the Quadros to work according to individual requirements.

Fully-Featured IP PBX

The Quadro4xi offers the same multitude of features as Quadro4x: extensive PBX functionality, integrated voicemail, cost saving call routing functionality, IP routing, SIP call signaling and much more.

Integrated Internet Access Router

The Quadro4xi IP PBX embodies a fully-fledged Internet access router with firewall security, including IDS, NAT, policy and service based filtering as well as stateful inspection. An extensive IPSec



Telephony

Voice Features

Voice Coding G.711, G.726 (16, 24, 32, 40 Kbps), G.729A, iLBC (13.3 kbit/s, 15.2 kbit/s);
(ITU-T: G.711, G.726, G.729 Annex A; RFC 3951; iLBC;
IETF: ITU-T Q.23, Q.24, Bellcore GR.506, GR.181; ITU-T
G.168-2000, 2002; ETS_300659_1,2,3)
NAT traversal (both manually and STUN)
VAD, CNG, G.168 echo cancellation

Bandwidth Requirements

Per call WAN bandwidth requirements for the following codecs (non-encrypted/VPN encrypted):

G.711a/G.711u	20 msec	84 kbps/105 kbps
G.726-16	20 msec	37 kbps/59 kbps
G.726-24	20 msec	45 kbps/65 kbps
G.726-32	20 msec	52 kbps/74 kbps
G.726-40	20 msec	60 kbps/80 kbps
G.729a	20 msec	29 kbps/49 kbps
iLBC	30 msec	27 kbps/41 kbps

PBX Features

Call blocking, Forwarding, Hold, Transfer
Call relay, Call waiting, Caller ID Detection
Voice mail
Call park, Pickup, Paging, Intercom
Multilevel auto attendant with Interactive Voice Response (IVR) and VoiceXMLv2 support
Voice mail with SMS notification
Distinctive ringing
Speed dialing
Many extension ringing
Receptionist
Call hunting, Hiding Caller ID
Automated Call back from Auto Attendant
Hold music
Call statistics
Do Not Disturb service
Unified messaging
3-way conferencing
Hotline service
T.38 fax, fax relay and clear channel fax
Unified Fax Messaging
Busy auto-redial
Directory assistance
Dial plans (call routing)
Time of day routing
Call Queue

Call Signaling

SIP on the WAN and LAN side (RFCs: 3261, 3263, 3265, 3311, 3323, 3324, 3325, 3428, 3515, 3578, 3581, 3725, 3891, 3892, 3842, 3856, 3863, 4028, 4235)
SDP (RFC 2327)
RTP (RFCs: 1889, 1890, 2833, 3389, 3550, 3551, 3555, draft-ietf-avt-rfc2833bis-05, draft-ietf-avt-rtp-ilbc-05),
in band and out of band signaling support
RTP Proxy
Fax over IP (ITU-T: T.4, T.30, T.38, V.17, V.21, V.27 ter, V.29)

POTS Signaling

Loop start
FSK and DTMF Caller ID support

ISDN Signaling

ITU-T: Q.921, Q.931, Q.951; ETSI ETS300102;
NTT INS64 for Japan

Connectivity

Extensions

Up to 90 extensions including FXS phones, IP Phones, remote and virtual extensions
All extensions can be registered on different SIP servers

LAN IP Phones

30 SIP phones by default
32 additional SIP phones may be added with feature keys
Remote IP extensions may be enabled for all SIP phones

System Capacity

20 simultaneous VoIP calls with external parties
Unlimited station to station calling for IP phones
Unlimited station to station calling for analog phones
2 simultaneous (optionally 6) ISDN calls with external parties
Up to 4 simultaneous calls through a VPN

Premise Connections

4 short-loop FXS ports (RJ11)
1 Ethernet 10/100BASE-T port (RJ45)
1 USB master connection

Uplink Connection

1 (optionally 3) ISDN port(s) to the Central Office (RJ45)
1 Ethernet 10BASE-T (RJ45)
(Other Quadro IP PBX models offer also FXO uplink connectivity. Please refer to the corresponding Technical Data Sheets.)

USB Expansion

USB memory sticks for additional voice mail storage

Billing

Radius Client (RFCs: 2865, 2866)

Internet

STUN/NAT traversal (RFC 3489)
IPSec/VPN with DES, 3DES and AES encryption in tunnel mode (RFCs: 2402, 2406, 2409). Manual and automatic IKE key support
PPTP/VPN
L2TP/VPN
Firewall security via:
Intrusion Detection System
NAT (Network Address Translation)
Policy and service-based filtering
Stateful inspection firewall
DHCP server on the LAN side
DHCP client on the WAN side
DNS server with forwarding functionality
SNTP (Simple Network Time Protocol) server/client for computer clock synchronization
PPPoE connection to the ISP with PAP/(MS)CHAP authentication
IP DIFFSERV for QoS
Mail client to send voice and fax messages (.wav and .tif) as e-mail attachments 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
Remote diagnostics and software upgrade
Auto-provisioning
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 XML RPC
Reset button with factory reset option
Custom Language Pack

Diagnostics/Testing

LEDs: Busy, Info, Fault, USB, LAN, WAN, Line 1, Line 2
IP Call Quality Rating
Remote testing and VoIP diagnostics
Power-up diagnostics

Environmental

Physical Dimensions

Desktop devices, wall-mountable:
Measurements: 10.04" x 8.27" x 1.77"
(25.5 x 21.0 x 4.5 cm)
Weight: 22.6 ounces (640 g)

Conditions

41°F - 104°F (5°C - 40°C) operating temperature
41°F - 140°F (5°C - 60°C) storage temperature
5% - 90% non-condensing humidity

Power Supply

Input 100 - 240 VAC; 50/60 Hz; 0.5 A
Output 12.0 VDC; 1.5 A

Regulatory Compliance

Safety: EN60950
EMC: EN55022 Class B, EN55024;
Telecom: TBR3 (ISDN)

