

# Quadro<sup>®</sup>M8L



## QuadroM8L: Small Business IP PBX Solution

Small business customers demand feature-rich and price-competitive IP PBX solutions. The QuadroM8L answers that demand with increased IP ports and enhanced features for medium-sized offices. Now offering eight (8) FXO lines and up to 96 IP phone users, the QuadroM8L allows for large growth for maturing companies. Also added to the QuadroM8L are audio input and output ports for music on hold and paging speaker connections. Additional storage options include a compact flash slot or an external FTP server for recorded calls or system backups.

The QuadroM8L can support up to 45 concurrent calls for 98 users and further enhancing the quality of experience with advanced features. These features include Automatic Call Distribution (ACD) for call centers, audio conferencing, call recording and barge-in features. Advanced features are purchasable items, so customers can choose what they pay for instead of being locked into a one-size-fits-all solution. Even though the QuadroM8L is designed for medium-size offices, the new owner can be comfortable knowing they are using an enterprise-grade solution backed by Epygi's support and guaranteed reliability.

### Enterprise Features for Small Office

This solution is intended for small to medium offices that demand features and reliability that is normally reserved for very large enterprise customers. The QuadroM8L can cost effectively provide that enterprise-grade product at a small business price.

### Future Proof Solution

The QuadroM8L currently supports a number of the latest features on the market today. But as feature demands change, so can this solution with free upgrades. If customers invest in an Epygi solution, they invest in their company's future as well.

## What are Your VoIP BENEFITS?

- Low Initial Investment
- Future Proof
- Enterprise Grade
- Hybrid Support

## Telephony

### Voice Features

Voice Coding G.711, G.726 (16, 24, 32, 40 Kbps), G.729A, iLBC (13,33 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, Bell core 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.

### Video Features:

H.263 and H.264 Pass-through  
Point-to-point video call

### Bandwidth Requirements

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

G.711	20 msec	84 kbps
G.726-16	20 msec	37 kbps
G.726-24	20 msec	45 kbps
G.726-32	20 msec	52 kbps
G.726-40	20 msec	60 kbps
G.729a	20 msec	29 kbps
iLBC	30 msec	27 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  
Global speed dial  
Find me/Follow me  
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  
Voice Mail profile  
Automatic Call Distribution  
Conference Server  
Call Recording  
Barge-in

### VoIP Data and Signaling Protocols

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 (RFCs: 1889, 1890, 2833, 3389, 3550, 3551, 3555, 3711, draft-ietf-avt-rfc2833bis-05, draft-ietf-avt-rtp-ilbc-05),  
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

### DTMF

In band & out of band signaling 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:

8 FXO ports to the Central Office (RJ11)  
1 WAN Ethernet 10/100 BASE-T (RJ45)

#### Audio port connections:

Line-in/Line-out

### Phones

#### IP phones:

32 SIP phones by default  
64 additional SIP phones may be added with feature keys  
All SIP phones can be connected both from LAN or WAN side  
Plug-and-Play with select IP Phone manufactures

#### 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 AA can be registered

#### Virtual Extensions:

Up to 200 Virtual Extensions can be registered\*

### System Capacity

Up to 45 simultaneous VoIP calls with external parties  
Unlimited station to station calling for IP phones  
Unlimited station to station calling for analog phones  
8 analog PSTN calls with external parties

\*The total number of extensions used for IP phones, Analog phones, AA and virtual extensions can not exceed 200 extensions.

### External Storage

Compact Flash

## 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 configurations  
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

### Billing

Radius Client (RFCs: 2865, 2866)

### Diagnostics/Testing

LEDs: Busy, Info, Fault, LAN, WAN, Loop settings  
Remote testing

## 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  
Virtual LAN (VLAN/IEEE 802.1Q)  
Mail client to send voice and fax messages as e-mail attachments (.wav and .tif) and system notifications  
DNS (DYNDNS) support with third party NAT/Router with port forwarding and port translation.

## Environmental

### Physical Dimensions

#### Rack-mountable devices:

Measurements: 19" x 7.56" x 1.77"  
(48.0 x 19.2 x 4.5 cm)

Weight: 2.47 lbs.(1090 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

### Regulatory Compliance

Telecom: TBR12/TBR13; AS/ACIF



Epygi Distributor for  
Australia • New Zealand • U.S.A.

**Australia & NZ**      **U.S.A - AlloyCP**

**Phone**                    +61 3 8562 9000                    +1 408 873 7350

**Toll Free**                1800 817 807                        888 895 8256

**Email**                    sales@alloy.com.au                sales@alloycp.com

**Web**                        www.alloy.com.au                    www.alloycp.com

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please contact