

Quadro[®]E1/T1

THE VOICE OVER IP GATEWAY



QuadroE1/T1: The Voice over IP Gateway

The QuadroE1/T1 is the complete PSTN/VoIP gateway for growing small businesses that want to establish for example a corporate telephone network.

Connected over an E1/T1 voice trunk for up to 24 (T1) or 30 (E1) concurrent calls to a PBX or directly to the local PSTN and via Ethernet to the Internet, the QuadroE1/T1 seamlessly combines the cost reducing benefits of IP technology with the ubiquity of the PSTN, which opens a multitude of scenarios for free phone calls all over the world.

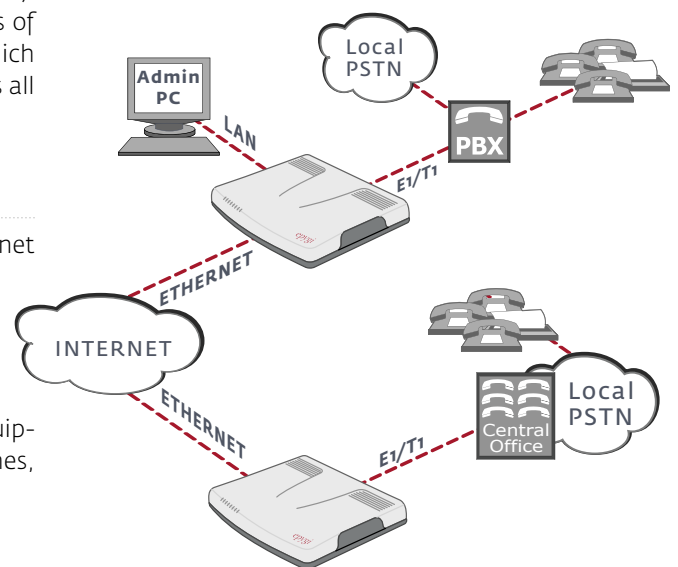
Integrated Internet Access

The QuadroE1/T1 VoIP Gateway allows voice Internet access with firewall security, including NAT, policy and service based filtering .

The QuadroE1/T1 shapes network traffic by prioritizing voice over data to ensure optimal voice quality at all times and is compatible with legacy equipment configurations like off-the-shelf telephones, standard PBXs and routers.

Broad Mangement Features

The included RADIUS Billing functionality gives detailed information about every call and allows both accurate and easy billing. Further, statistic information about the current and former IP traffic is provided.



Telephony

Voice Features

Voice Coding G.711, G.723 (5.3, 6.3 kbit/s), G.726 (16, 24, 32, 40 Kbps),
G.729, iLBC (13.33 kbit/s, 15.2 kbit/s);
(RFC 3951, ITU-T: G.711, G.723.1 Annex A, G.726,
G.729 Annex A; IETF;
ITU-T Q.23, Q.24, Bellcore GR.506, GR.181; ITU-T
G.168-2000, 2002; ETS_300659_1, 2, 3;
A-law, μ -law coding)
NAT traversal (both manually and STUN)
VAD, CNQ, G.168 echo cancellation

PBX Features

Call statistics
Call routing
Auto Attendant
T.38 fax, fax relay and clear channel fax

Call Signaling

SIP on the WAN and LAN side (RFCs: 3261, 3263,
3265, 3311, 3428, 3515, 3842, 3856, 3891, 3892,
3581, draft-ietf-sip-session-timer-15, draft-ietf-
sipping-dialog-package-05;
Presence: RFCs: 3842, 3856, 3863, draft-ietf-
sipping-dialog-package-05)
SDP (RFC 2327)
RTP (RFCs: 1889, 1890, 2833, 3389, 3550, 3551,
3555,
draft-ietf-avt-rfc2833bis-05, draft-ietf-avt-
rtcp-ilbc-05)
H.323 (optional) (ITU-T: H.225.0, H.235,
H.245, H.323, H.450.x, Q.931, Q.932)
Fax over IP (ITU-T: T.4, T.30, T.38, V17, V21, V27 ter,
V29)

POTS Signaling

Loop start

ISDN Signaling

ITU-T: Q.921, Q.931 (DSS1), Q.951; ETSI ETS300 102
(NET5); ECMA-143 (QSIG); SR-NWT-002120 (NI2)
NTT INS1500 for Japan

E1/T1 Signaling

E1-CAS (MELCAS, ITU, ITU-T2, IUT-T: Q.400, Q.411,
Q.421, Q.422, Q.440-Q.442, Q.450-Q.452,
Q.454, Q.455, Q.457, Q.458, Q.460-Q.468,
Q.470-Q.476
Types: Loop Start, Ground Start;
E&M Delay Dial, E&M Wink Start, E&M Im-
mediate Start,
R2 DTMF, R2 compelled, R2 non-compelled,
R2 compelled with ANI, R2 non-compelled
with ANI; R2 Parameters for Brazil, Guatemala
and Mexico)
T1-CAS (Loop Start, Ground Start, E&M Delay
Dial, E&M Wink Start, E&M Immediate Start;
ANSI T1.403.02-199, T1.403.02a-2001
PRI switch types: DSS1, NET5, QSIG, sESS,
NTT ins1500 DMS 100

DTMF

Caller ID support
FSK and DTMF Caller ID support
In band and out of band signaling support

Connectivity

Premise Connections

1 short-loop FXS port (RJ11)
1 Ethernet 10/100BASE-T port to connect a PC for
configuration purposes (RJ45)

Uplink Connection

1 E1/T1 port to the Central Office (RJ45)
1 Ethernet 10BASE-T (RJ45)

Billing

Radius Client (RFCs: 2865, 2866)

Internet

NAT address translation
STUN/NAT traversal (RFC 3489)
Firewall security via:
NAT (Network Address Translation)
Policy and service-based filtering
DHCP server on the LAN side
DHCP client on the WAN side
DNS server with forwarding functionality
SNTP (Simple Network Time Protocol) server/cli-
ent for computer clock synchronization
PPPoE connection to the ISP with PAP/(MS)CHAP
authentication
IP DIFFSERV for QoS
DNS support
Port forwarding
Port translation

System

Management

WEB interface accessible from LAN and WAN
(HTTP/HTTPS), the WAN management access can
be switched off
Password control
Remote diagnostics and software upgrade
Download/restore configuration
Reset button with factory reset option

Diagnostics/Testing

LEDs: Busy, Info, Fault, LAN, WAN, Line 1, Line 2
E1/T1 diagnostics, Loop settings
Remote testing
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)
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
Output 12.0 VDC; 1.5 A

Regulatory Compliance

Safety: UL 60950; CSA 22;
EMC: FCC Part 68, FCC Part 15 Class B;
EN55022, EN55024;
Telecom: TBR12, TBR13

Certification:

For Australia, Brazil, Canada, European Com-
munity, Mexico, USA

