

Quad E&M Voice Card (type A) for HX9800



Features

- Five E&M signaling types are supported: Type I, Type II, Type III, Type IV, and Type V
- Jumpers selectable for Type I, II, III, IV, V or Tx only
- TO (Transmit Only) supported
- A-side and B-side supported: A-side is exchange side; B-side is carrier side
- User programmable A-law or μ -law coding
- User programmable loss adjustment
- User programmable balance 600/900 ohm impedance
- CAS signaling convention
- Jumper selectable: 2/4 WIRE, A/B SIDE
- Support diagnostic functions, including:
 - off hook test
 - loopback test
- LED display bit for signaling monitoring
- Intended for use with ± 48 Vac powered main units

Description

CXR's QE&MA plug-in card is designed for the HX9800. E&M provides user selectable A-law or μ -law coding.

The QE&MA card requires an external cable to support 4-RJ45 ports for connecting to PBX tie lines, carrier facilities, or 4-wire modems. Each RJ45 port has 8 pins supporting the following signaling and transmission pairs: E/M, SG/SB, T/R, and T1/R1.

The card can configure different types, A/B side and 2/4 wire options by jump location. Users can utilize additional jumpers enclosed in the package for Type I, II, III, IV, V and TO (Transmit Only) signaling options. Type TO provides dedicated 4-wire transmit and receive paths to lease-line modem equipment. There are choices of two side: Using A side mode, the card can operate as switching equipment. Using B side mode, the card can operate as channel equipment. There are 3 diagnostic functions supported: off hook test, loopback test, and LED display bit for signaling monitoring. Moreover, users could have LEDs provide channel setting and channel status indicators.

Ordering Information

Note 1: RoHS compliant units are identified by the letter **G** appearing at the end of ordering code.

Note 2: Before purchasing, please check the HX9800 main brochure to see if the following models are supported by the controller to be used with.

Model	Description	Note
HX9800-SQEMA- wr-m-Tn-x-G	Jumper selectable: 2/4 WIRE; A/B side Quad E&M voice card, complied with IEEE1613 standard.	- For wr, m, n and x option, please refer to the table below for detail information. - Includes a 0.6 meter conversion cable (CXR-ACC-CAB-DB44M-60-4RJ45M-G)
Accessories		
Conversion Cables (All conversion cables are RoHS compliant)		
Model	Description	Note
CXR-ACC-CAB-DB44M-60-4RJ45M- G	DSUB-44pin/Male to four RJ45 Male (8P8C) conversion cable. Length: 60 cm	Used with QEMA plug-in card.

■ where **wr** is used to select wire type:

wr	Description	Notes
2w	2 wire	
4w	4 wire	

■ where **m** is used to select version type:

m	Description	Notes
B	B (carrier side) connects to A side.	
A	A (exchange side) connects to B side. A side M lead to B side M lead, A side E lead to B side E lead.	

■ where **n** is used to select version type:

n	Description	Notes
O	For voice transmission only.	Circuit type does not matter.
1	Type I (original) E&M signaling circuit	M lead provides discharge for the A side.
2	Type II circuit. This design attempts to reduce ground noise by adding two leads: SB (signal to battery) and SG (signal to ground).	Reduced ground noise. Ground current is eliminated at the cost of two more wires per circuit.
3	Type III circuit. The SG lead serves as a discharge for the M lead. Reduces delay caused by combination of (a) low current electronic detectors, and (b) long runs of the E and M leads.	Type III is area because ground currents on the E return would cause noise.
4	Type IV circuit. Based on the type II circuit. This E&M circuit provides symmetry.	
5	Type V circuit. For applications where ground noise is not an issue. Based on the type II circuit.	

■ where **x** is used to select version type:

x	Description	Notes
E	Follows ETSI signaling bits	Jumper selectable for all channels.
A	Follows ANSI signaling bits	
S	Follows customer's special bits assignment	

Note: For S (customer's special bit), please contact your nearest Loop sales representative.

For example:

HX9800-SQEMA-2w-B-T3-E-G = Jumper selectable Quad 2W E&M card, side B, Type III, follows ETSI signaling bits.

QEMA Voice Card for HX9800 Product Specifications

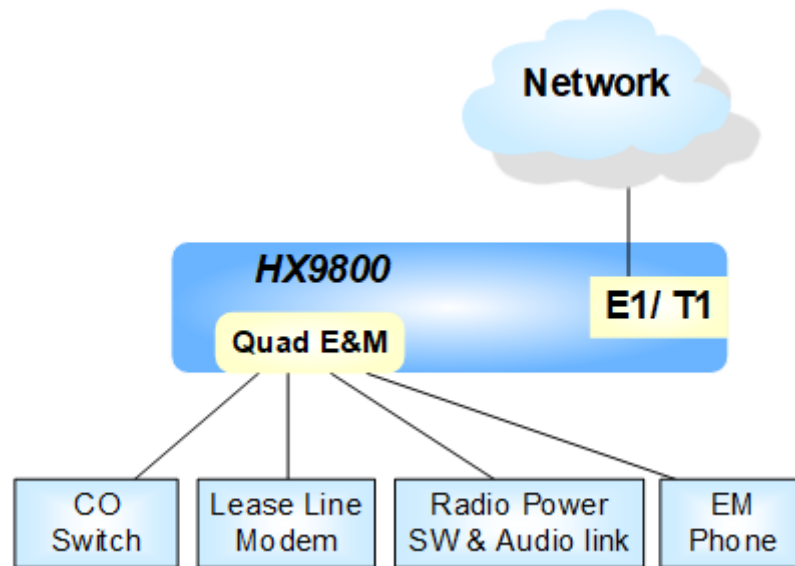
Voice Card (QEMA)

Connector	One 44-pin connector, adapter cable included for 4 RJ45 connectors.
Alarm Conditioning	CGA busy after 2.5 seconds of LOS, LOF
Encoding	A-law or μ -law, user selectable as a group
Impedance	Balanced 600 Ω or 900 Ω
Gain Adjustment (Per-port setting)	-10 to +7 dB / 0.1dB step for transmit (D/A) gain -10 to +14 dB / 0.1dB step for receive (A/D) gain
Gain Variation	± 0.5 dB at 0 dBm0 input
Frequency Response	± 0.5 dB from 300 to 3400 Hz, coincide with ITU-T G.712
I/O Power Range	A/D Analog input level: -66 dBm (0.00039 Vrms) ~ + 3 dBm (1.09 Vrms) D/A Analog output level: -66 dBm (0.00039 Vrms) ~ + 4 dBm (1.22 Vrms)
Longitudinal Balance	> 63dB
Longitudinal Conversion Loss	> 46dB
Total Distortion	> 35 dB at 0 dBm0 input
Idle Channel Noise	< -65 dBm0p
Wire Mode	2 wire and 4 wire
Signaling	Type I, Type II, Type III, Type IV, Type V, and also TO (Transmit Only)
M Lead Output Current	18 mA (maximum)
E Lead Sensor Current	0.3 mA (minimum)
EM Type Setting	Jump Selectable
Operational Temp.	0°C to +50°C
Relative Humidity	0% to 95%
Carrier Connection	Side A and side B setup by Jump
All in-band signaling tones are carried transparently by the digitizing process.	
Customer is responsible for in-band signaling compatibility between a telephone and a switch, or between a PBX and a switch.	

Compliance

FCC Part 68, CS-03 listed for connection to PSTN
 NRTL safety listed: UL1459, CSA
 ITU-T G.712

Application Illustrations



CXR 17 Rue de l'Ornette 28410 Abondant France
T +33 (0) 237 62 88 00 contact@cxr.com
www.cxr.com

Smart Solutions for Smart Networks

Information contained in this document is not contractual. CXR improves its products continuously. Specifications may change without notice.