Smart solutions for smart networks

Version 8

QUAD FXSA VOICE CARD

FOR CXR QX3440

For QX3440 and QX3440C

For QX3440E

Features

- 4 telephone connections
- PLAR supported
- 3 options supported: Loop Start, Ground Start, Metering Pulse
- Metering Pulse support 12KHz/16KHz
- User programmable signaling Bit A, B, C, D
- User programmable A-law or m-law coding
- User programmable gain adjustment
- User programmable balance 600/900 ohm impedance
- Signaling and voice tests
- Status monitoring
- Intended for use with ±48, ±125Vdc, or 100-240Vac powered main units.
- Provides ±24Vdc powered manufacture option

Description

The QFXSA plug-in cards are designed for the QX3440, allowing voice frequency interfaces to be multiplexed as a 64 kbps DS0 signal onto a digital network. QFXSA provides connections to four telephones, and it also provides user programmable A-law or m-law coding. Most popular signaling conventions are supported, including PLAR (Private Line Automatic Ring down). The QFXSA supports signaling and voice tests, including ring test, battery reverse test, channel swap, metering pulse test, and tip open test. Moreover, it supports status monitoring: line, signaling bit, and jump setting.

NOTE

The QFXSA card has to work with QX3440 controller firmware **v8.38.01** or up to support below new functions:

a) Firmware upgrade
b) FPGA reset
c) 0.1dB step gain adjustment
d) Signaling bits programmable
e) Diagnostic
f) Signaling tests
g) Status monitoring

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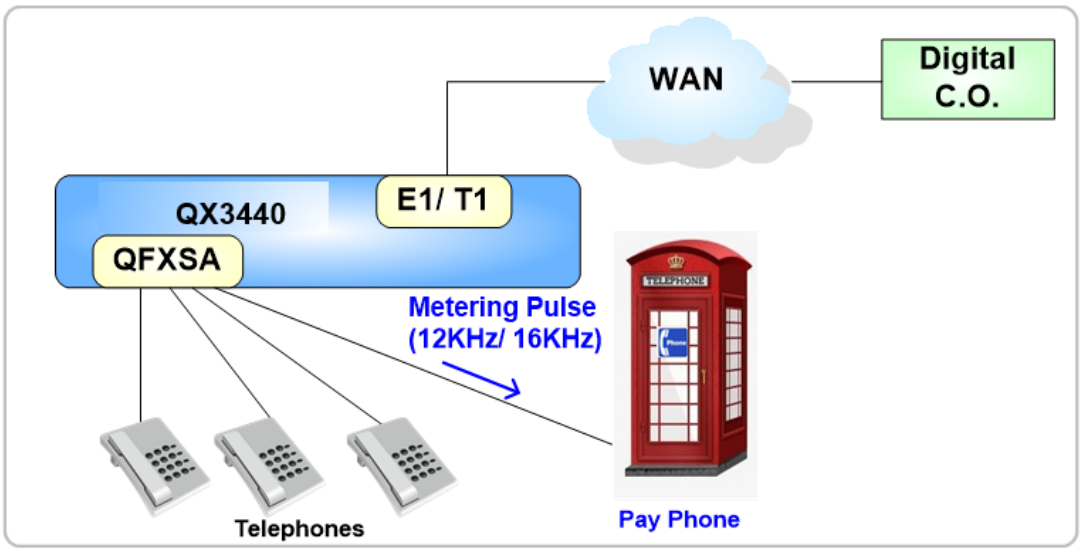
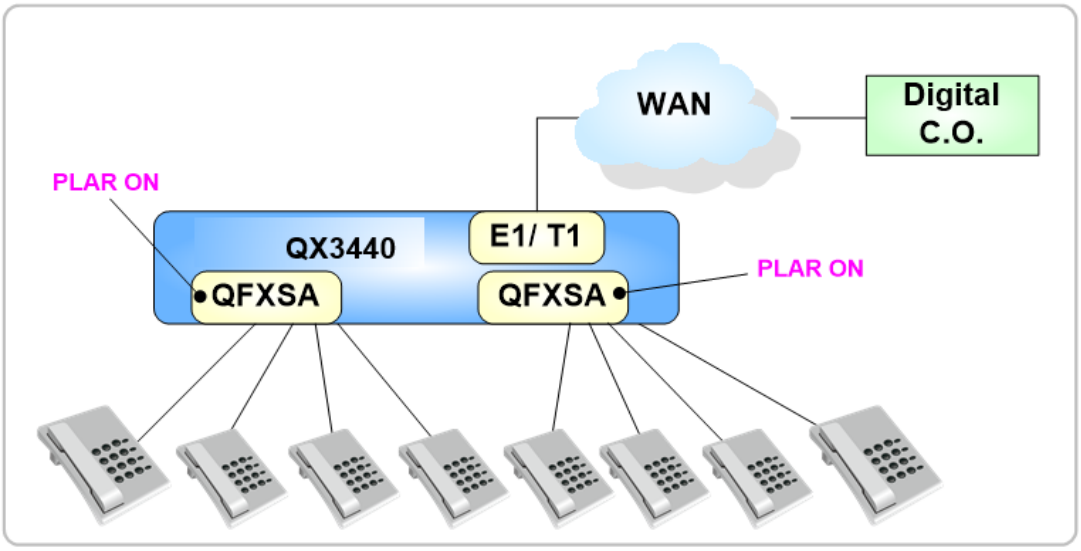
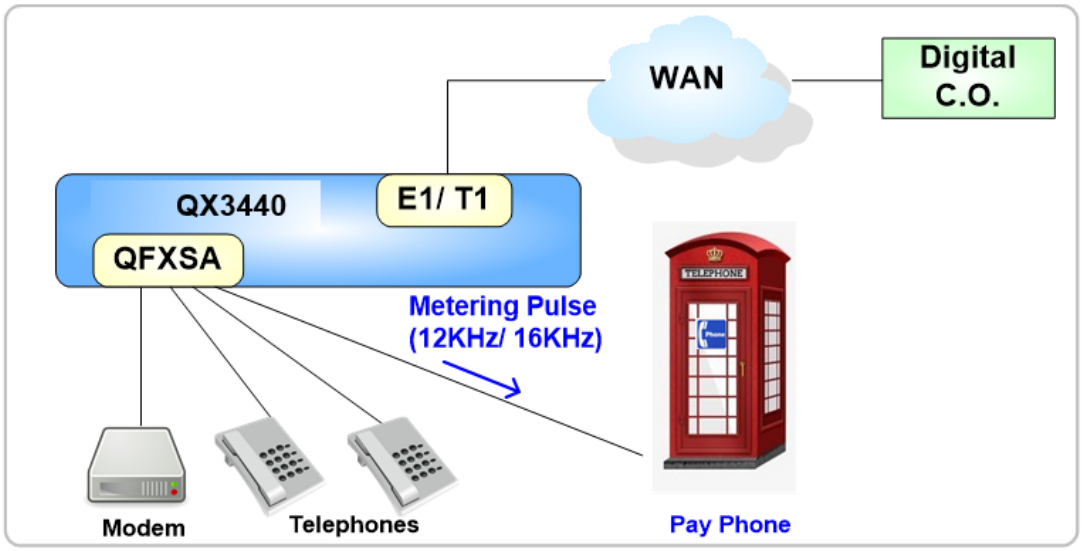
Application







Product Specifications

Voice Card (QFXSA)

Quad FXSA voice card (4 FXS per plug-in)

Connector	1, 2, 3, or 4 FXS per RJ11 connector
Alarm Conditioning	CGA busy after 2.5 seconds of LOS, LOF
Encoding	A-law or m-law, user selectable
AC impedance	Balanced 600 or 900 ohms (user selectable)
Longitudinal Rejection	55 dB
Gain Adjustment	-21 to +3 dB / 0.1 dB step for transmit (D/A) & receive (A/D) gain
Signal/ Distortion	> 46dB with 1004 Hz, 0dBm input
Frequency Response	± 0.5 dB from 300 to 3400 Hz, coincide with ITU-T G.712
Loop Feed	±48Vdc with 25mA current limit per port Jumper Selectable: 25mA, 30mA, 35mA
Ringing	Support 2 REN per port (1 REN = 6930W + 8 mF)
	16.7Hz, 20Hz, 25 Hz, 50Hz (user programmable)
	64 / 78 Vrms by jumper setting (Default is 78 Vrms)
	2 sec on 4 sec off, or 1 sec on 2 sec off optional for PLAR (user programmable)
Metering Pulse	12KHz/ 16KHz (2.4Vrm/1Vrm user programmable)
Signaling	Loop Start (Metering Pulse, DTMF, Dialing Pulse, PLAR), GND-Start (Tip Open, Ring GND), OOS Alarm, Battery Reverse

- 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

Reference Table for QFXSA Signaling Bits

Item	Tx/Rx	Signaling Bit ABCD (J1 Jump)									
		PIN	N/A	P14_P23	P15_P22	P16_P21	P17_P20	P18_P19	P16_P21 + P18_P19	P17_P20 + P18_P19	P17_P20 + P16_P21
		Name	ETSI (Default)	ETSI	ANSI	SB3	SB4	SB1	SB3.1	SB4.1	SB4.3
ON-HOOK	TX	0101		0101		1101				1111	
OFF-HOOK	Tx	1101		1101	1111	1101	0101	0101	1101	1111	0000
RING ON	Rx	00**		0001	0000	1011	0001	0101	1011	0000	
OFF-HOOK [@PLAR-ON]	Tx	1111		1111			0101		1111	0000	
RING ON [@PLAR-ON]	Rx	1111		1111			0101		1111	0000	1111
BATTERY REVERSE	Rx	0100		0100				0001	0110	0100	
Pulse ON [Metering Pulse]	Rx	0111		0111		0000	0111		0000	0111	
TIP-OPEN [GND-Start]	Rx	1111		1111							
RING-GND [GND-Start]	Tx	0001		0001		0000	0001	1111	0000	0001	
OOS ALARM	Rx	****		1010							

NOTES:		
	1.	* for don't care.
	2.	[GND-Start] and [Metering Pulse] are available only when these two options are selected.
	3.	For the controller version v8.38.01, after changing the signaling bit settings, if you pull out the QFXSA card and then plug it into the chassis again, signaling bit settings remain the same. If you want to change the configuration by jumpers back to which as specified in the table above, you need to perform the "Return to Default" (**Path: Y -> Card Load Default Config**).

Ordering information

To specify options, choose from list below:

Note 1: All units are RoHS compliant.

Note 2: Before purchasing, please check the QX3440 main brochure to see if the following models are supported by the controller to be used with.

Model	Description	Note
QX3440-QFXS-A	Quad FXSA voice card	For QX3440 ands QX3440C Jumper setting options: Loop Start, Ground Start (GS), Metering Pulse Transmit 12/16 KHz (MP)
QX3440-QFXS-AM16	Quad FXSA with MP 16KHz voice card	
QX3440-QFXS-AM12	Quad FXSA with MP 12KHz voice card	
QX3440-QFXS-GS	Quad FXSA with GS	
QX34DD-QFXS-A	Quad FXSA voice plug-in card	For QX3440E Jumper setting options: Loop Start, Ground Start (GS), Metering Pulse Transmit 12/16 KHz (MP)
QX34DD-QFXS-A-GS	Quad FXSA with GS plug-in card	

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