

QX3430 ACCESS DCS-MUX



Introduction

The QX3430 is an economical, cost effective Access DCS-MUXs that combine various digital access interfaces into T1/E1 or FOM lines for convenient transport and switching. Through T1/E1 or FOM uplinks, the QX3430 provides access for voice and data communication over the network.

This unit is a full cross-connect and can act as a mini DACS: one or more of the WAN ports can be used as a Drop & Insert function with fractional T1/E1 line, which can be muxed into a full E1/T1 line.

On the network side, the QX3430 has T1/ E1 or FOM ports supporting 1+1 protection.

The QX3430 supports local control and diagnostics by using a VT-100 terminal connected to the console port. There are LED indications for all tributary interface modules. The QX3430 also supports Ethernet, Telnet, and SNMP, so that it can be controlled and diagnosed from remote locations. An in-band management channel is also available.

- 1U height Shelf , 19 inch
- DS0 DACS (Digital Access Cross-Connect System) with full cross-connection
- Supports 2*FOM E1 or 4*E1 on board
- Supports 4*hot-pluggable tributary slots
- Hot pluggable tributary interface modules including:
 - 4 ports E&M
 - 2 ports Ethernet Bridge
 - 4 port RS485
 - 8 ports RS232 Async.
 - 4 ports RS232 Sync.
 - 8 ports FXS
 - 8 ports FXO
 - 2 ports C37.94
 - 1 port V35
 - 1 port X21
 - 4 port CD (G.703 64K Co-dir)
 - 8 ports DTE (4 RS232-A + 4 RS485)
- Hot swappable power Modules, dual power modules for redundancy
 - DC power -48 Vdc (-36 to -75 Vdc)
 - AC power (100 to 240 Vac)
- Protection
 - E1 1+1 protection
 - FOM 1+1 protection
- Management
 - Console port with VT-100 menus
 - Telnet
 - SNMP v1
 - Inband mnagement through DS0 (64K)

Specifications

Network Line Interface - E1

Line Rate	2.048 Mbps \pm 50 ppm	Framing	ITU G.704
Line Code	AMI or HDB3	Connector	RJ48C
Input Signal	ITU G.703	Electrical	75 ohm Coax/120 ohm twisted pair
Output Signal	ITU G.703	Jitter	ITU G.823

Network Line Interface – FOM

Source	Laser	Line Code	Scrambled NRZ
Wavelength	1310 \pm 50 nm, 1550 \pm 40 nm	Optical Line Rate	38.88Mbps
Connector	SFP housing with LC type	Protection	Optional 1+1 APS
Reach	2~240 Km		

Ethernet Interface

Number of ports	2 LAN ports
Physical Interface	10/100 BaseT
Connector	RJ45
Data Rates	Channelized N x 64 Kbps up to T1/E1 capacity
Supporting Protocols	HDLC, GFP
Temperature**	-10°C to +65°C (operating), -30°C to 70°C (storage)

DCE Interface (RS232/RS485)

Data Port	8-port RS232 or 4-port RS485 card
Async Data Rate	200, 300, 600, 1.2K, 2.4K, 4.8K, 9.6K, 19.2K
Connector	RJ48C
Interface	DCE
Loopback func-	DTE to DTE loopback DTE to Line loopback

DCE Interface (4RS232Sa)

Data Port	4-port RS232 Sync card
Data Mode	X.50, Through CLK
X.50 Sync Data Rate	600, 1.2K, 2.4K, 4.8K, 9.6K, 19.2K, 38.4K, 48K, 64K
Through CLK Data Rate	600, 1.2K, 2.4K, 4.8K, 9.6K, 19.2K, 38.4K
Connector	RJ48C
Interface	DCE
Loopback function	DTE to DTE loopback DTE to Line loopback



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Specifications

DCE Interface (V.35)

Data Port	1-port V.35 card
Data Rate	Nx64 Kbps, n = 1 to 32
Connector	DB25S (optional conversion cable CXR-ACC-CAB-DB25-30-1M34F can be ordered (DB25S to M34))

DCE Interface (X.21)

Data Port	1-port X.21 card
Data Rate	Nx64 Kbps, n = 1 to 32
Connector	DB15

Voice Card (Q2EM, Q4EM)

Connector	4 RJ45 connectors.
Power	-48Vdc / +48Vdc
Alarm Conditioning	CGA busy after 2.5 seconds of LOS, LOF
Encoding	A-law or m-law, user selectable together for all
Impedance	600ohm
Gain Adjustment (Per-port setting)	-21 to +14 dB / 0.1dB step for transmit (D/A) gain -21 to +10 dB / 0.1dB step for receive (A/D) gain
I/O Power Range	A/D Analog input level: -50 dBm (0.00031 Vrms) ~ + 3 dBm (1.09 Vrms) D/A Analog output level: -50 dBm (0.00031 Vrms) ~ + 4 dBm (1.22 Vrms)
Gain Variation	± 0.5 dB at 0 dBm0 input
Frequency Response	± 0.5 dB at 0 dBm0 input
Total Distortion	> 35 dB at 0 dBm0 input
Idle Channel Noise	< -65 dBm0p
Carrier Connection	Side A (exchange side) and Side B (carrier side)
Wire Mode	2 wire and 4 wire
Signaling	Type 1, Type 2, Type 3, Type 4, Type 5, Transmit Only (by jump)

Co-directional Interface

Interface	ITU G.703 64 Kbps co-directional interface
Connector	120ohm, RJ48
Line Distance	Up to 500 meters
Loopback	To Line Loopback, To tributary Loopback



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Specifications

Voice Card (8FXS, 8FXO)

8-ports FXS voice card (8 FXS per plug-in)

8-ports FXO voice card (8 FXO per plug-in)

Connector	4 RJ11 connectors, 2 ports per RJ11	
Alarm Conditioning	CGA busy after 2.5 seconds of LOS, LOF	
Encoding	A-law or m-law, user selectable together for all	
AC impedance	600 ohm	
Gain Adjustment	FXS: -21 to +9 dB / 0.1dB step transmit & receive FXO: -21 to +9 dB / 0.1dB step transmit & receive	
Signal/ Distortion	> 25dB with 1004 Hz, 0dBm input	
Frequency Response	- 0.25 to -1 dB from 300 to 3400 Hz, coincide with ITU-T G.712	
Idle Channel Noise	Max. -65 dBm0p	
Variation of Gain	±0.5dB	
FXS Loop Feed	-48Vdc with 38mA current limit per port 38mA	
FXO	Ringing REN	0.5B (AC)
	Detectable Ringing	25 Vrms
	Loop Resistance	≤ 1800 ohm
	DC impedance (ON-HOOK)	>100k ohm
	DC impedance (OFF-HOOK)	300 ohm @ 35mA feed
FXS Signaling	Normal / PLAR: Private Line Auto Ring down	
FXS Ringing	1 REN at 5K meters per port 32Hz 60Vrms 2 sec on 4 sec off, or 1 sec on 2 sec off optional for PLAR	
FXS Tone	450Hz/-10dBm 450Hz/-10dBm	
FXS Functions	Basic functions: Loop Start, PLAR Optional functions: PLAR ON	
Signaling Bit A,B,C,D	Programable bit	

Clock Source

Internal, E1/T1 Line, External

Alarm Relay

Max. Current: 1A for 24VDC, 0.625A for 48VDC

Fuse alarm, performance alarm

Management

Console	RS232 electrical interface with RJ45 connector
	Menu driven VT-100 User Interface
SNMP	10/100 Base T, SNMPv1/Telnet
Inband Management	Inband DS0 (64K) with HDLC/PPP



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Specifications

Physical /Electrical

Dimensions	438 mm x 44 mm x 226 mm (W`H`D)
Power	DC: -48 Vdc: -36 to -75 Vdc AC: 100~240Vac
Temperature	-20°C - 65°C (Ethernet Card: -10°C ~ 65°C)
Humidity	0-95%RH (non-condensing)
Mounting	Desk-top stackable, 19" /23" rack mountable

Standards Compliance

ITU	G.703, G.704, G.706, G.732, G.736, G.823, G.826, G.711, G.712, G.775, G.7041, G.8040, Y.1303
IEEE	802.3, 802.3x (flow control)
IETF	RFC2236 (IGMP Snooping), RFC1213 (SNMPv1)

Certification

EMC	EN55032, EN55035, EN61000-3-2, EN61000-3-3, FCC Part 15B Class A
Safety	EN62368-1



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Ordering information

Notes: Units are RoHS compliant.

Model	Description	Notes
Main Unit		
QX3430-4E75	QX3430 DCS MUX Main Unit, with 4 x E1-75ohm with RJ48C connector on board, 4 x hot swappable tributary slots.	Four RJ48 to BNC conversion cables for E75 interface included (CAB-RJ48M-28-2BNCF).
QX3430-4E120	QX3430 DCS MUX Main Unit, with 4 x E1-120ohm with RJ48C connector on board, 4 x hot swappable tributary slots.	
QX3430-4E75-FOM	QX3430 DCS MUX Main Unit, with 2 x FOM E1 and 4 x E1-75ohm with RJ48C connector on board, 4 x hot swappable tributary slots. Without SFP (mini-GBIC) optical modules	Four RJ48 to BNC conversion cables included for E75 interface (CAB-RJ48M-28-2BNCF). Please order SFP optical modules separately from table below Order at least one SFP optical module from the supportive fiber optical module list. Order two for dual optical 1+1 protection
QX3430-4E120-FOM	QX3430 DCS MUX Main Unit, with 2 x FOM E1 and 4 x E1-120ohm with RJ48C connector on board, 4 x hot swappable tributary slots. Without SFP (mini-GBIC) optical modules	Please order SFP optical modules separately from table below Order at least one SFP optical module from the supportive fiber optical module list. Order two for dual optical 1+1 protection

Plug-in Modules (Select 1 to 4 cards from list below)

Model	Description	Notes
QX3430-Q2EM	2 WIRE Quad E&M voice card.	
QX3430-Q4EM	4 WIRE Quad E&M voice card.	
QX3430-2ETHBRA	2-channel 10/100Base-T Ethernet Bridge Interface Card with 2 RJ45 connector.	Temperature: -10 to +65°C (operating), -30 to +70°C (storage)
QX3430-4RS485	4-channel RS485 Interface Card with RJ48 connector.	
QX3430-4RS232SA	4-channel RS232 plug-in card. Used with 4 RJ48 connectors for 4 RS232 Sync ports.	
QX3430-8RS232	8-channel RS232 plug-in card. Used with 4 RJ48 connectors for 8 RS232 Async ports, 2 ports per connector.	
QX3430-8FXS	8-channel FXS plug-in card with 600 impedance. Used with 4 RJ11, 2 ports per connector.	
QX3430-8FXO	8-channel FXO plug-in card with 600 impedance. Used with 4 RJ11 connectors, 2 ports per connector.	
QX3430-2C37	2-channel C37.94 plug-in mini card.	
QX3430-1V35	1-channel V.35 plug-in card with DB25S connector via conversion cable to M34 (2M bits per channel)	
QX3430-1X21	1-channel X.21 plug-in card	
QX3430-4DTE	4-port RS232 (Async) and 4-port RS485 with RJ48 connector.	
QX3430-4CD	4-channel G.703 Interface at 64 Kbps data rate.	



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Accessories		
Power Module		
QX3430-SDA	Single -48 Vdc (-36 to -75 Vdc, 1.65A input, 40W output) Power Module	Support AC and DC power module combination, e.g. order one DC power module and one AC power module. Order two power modules for redundancy purpose For AC, please choose an appropriate power cord
QX3430-SAA	Single AC plug-in power supply (100 to 240 Vac, 50/60 Hz, 1.2A rms, 50W)	
Conversion Cables (All conversion cables are RoHS compliant)		
CAB-DB25-30-1M34F	DSUB-25pin/Male to M34/Female V.35 Conversion cable. Length: 30 cm	Used in QX3430-1V35 plug-in card
CAB-RJ48M-28-2BNCF	RJ48C Male to two BNC Female Conversion cable for E1 75ohm module. Length: 28 cm	Used in QX3430-4E75-FOM plug-in card
Mounting Ear		
19"/23" ear mounts	A pair of 19"/23" ear mounts is supplied as part of standard package.	



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Version 5 , August 2021