

CXR QX3440-E

MULTIPLEXEUR IP/TDM



Caractéristiques

Capacité de commutation (Cross-connect)

- Matrice de commutation non-bloquante entre interfaces TDM et pseudowires TDMoE
- Convient aux applications DACS (Digital Access Cross-Connect System) et ADCB (Add / Drop Channel Bank)
- Conversion automatique loi-A/Loi-μ

Interface Ethernet

- 2 x Combo GbE (SFP 100/1000BaseFX et 10/100/1000BaseT)
- Agrégation lien Ethernet IEEE 802.3ad*

Pseudowires

- Jusqu'à 64 pseudowires simultanées
- Encapsulation format
 - SAToP(CCPA T1 SAToP*)
 - CESoPSN
 - MEF-8 (CESoETH)
- QOS et VLAN configurables
- Packet Delay Variation configurable jusqu'à 256 ms

Source d'horloge

- Choix entre Interne, Externe ou lien E1/T1 avec SSM
- Mode récupération Manuel ou Automatique
- Récupération d'horloge adaptative pour les pseudowires
- Gigue et dérapage conformes aux normes G.823/824 pour les interfaces de données.
- SyncE

Administration

- Interface d'administration Ethernet RJ45
- Compatible SNMPv1/v3 et supporté par CXR-iNET et CXR-iNMS *
- Telnet et SSH v2
- Configuration Web*
- Port console DB9F et USB avec menus VT-100
- Management In-band 64K
- Supporte les Access Control List (ACL)

Mécanique et Alimentation

- Châssis 19"-1U pour rack ANSI.
- Jusqu'à 7 mini-slots pour modules QX3440.
- Cartes redondantes et enfichables à chaud
- Alimentation continue ±48Vdc ou alternatives 100 ~ 240 Vac enfichables à chaud
- Alimentations redondantes et partage de charge.
- Gamme de température range de -20° à 65°C
- Conforme RoHS

Modèle	QX3440-E
Chassis	1U
Nb de Mini-slots	5
Nb de HS-slots	2 <small>Note</small>
Nb de ports E1 max.	28
Nb de ports T1 max.	28
Capacité de commutation	184Mbps

Note : Supporte modules Mini-slot via adaptateurs HS-Slot

*Option future

Description

Le QX3440-E est le dernier produit de la série CXR Access DCS-MUX qui combine diverses interfaces d'accès et de transport sur des liaisons GbE ou E1. Le QX3440-E prend en charge les protocoles SAToP (CCPA T1 SAToP*) / CESoPSN / MEF8 pour transporter des flux de données TDM avec des informations de synchronisation sur un réseau à commutation de paquets.

Le QX3440-E fournit une matrice de connexion non bloquante jusqu'à 28 ports E1 / T1 + 64 tunnels TDMoE. La gestion entre les interfaces TDM et les Pseudowires offre flexibilité et efficacité, et font du QX3440-E une solution idéale pour les applications DACS (Digital Access Cross-Connect System) et ADCB (Add / Drop Channel Bank). Avec une conception de mini-slots modulaires et enfichables à chaud, le QX3440-E permet d'accéder aux interfaces E1, T1, FOM, FXS, FXO, E&M, Magneto*, C37.94, RS232, X.21, EIA530 et V.35. Ces interfaces sont compatibles avec d'autres produits CXR.

Tableau des modules compatibles avec le QX3440-E

Modules Mini-Slot	Description	Supporté par QX3440-E
1T1	1-channel T1 interface card	✓
1E1(E75)	1-channel E1 plug-in card with 75ohm	✓
1E1(E120)	1-channel E1 plug-in card with 120ohm	✓
4E1(M4E75)	Mini Quad E1 plug-in card with 75ohm	✓
4E1(M4E120)	Mini Quad E1 plug-in card with 120ohm	✓
M3794	1-channel C37.94 mini plug-in card	✓
1X.21 (1X21)	1-channel X.21 plug-in card	✓
Router-A	2-LAN ports/64WAN port router/bridge plug-in card	✓
FOM	Fiber Optical Module	✓
1V.35 (1V35)	1-channel V.35 plug-in card	✓
1EIA530 (1E530)	1-channel EIA530 plug-in card	✓
1RS232 (1RS232)	1-channel RS232 plug-in card	✓
QEMA	4-channel E&M voice plug-in card	✓
QFXSA	4-channel FXS voice plug-in card	✓
QFXO	4-channel FXO voice plug-in card	✓
QMAGA	4-channel Magneto voice plug-in card	*
ECA	Echo Cancellation plug-in card	✓
ABRA	Analog Bridging plug-in card	✓
GbE	GbE Module for HS slots	*
PoE+	GbE Module with PoE+ for HS slots	*

Note: ✓ = Supporté * = Option future


Références de commande

To specify options, choose from the list below:

Chassis multiplexeur		
Model	Description	Note
CXR-QX3440-EA	1U high Wideband Main Unit with fixed controller, and cross-connect onboard. <ul style="list-style-type: none"> Supports SyncE 	<ul style="list-style-type: none"> QX3440-EA type chassis with CPU. Please order SFP modules separately from SFP optical modules brochure. Includes two High Speed Slot Adapters for mini plug-in cards to be used in H1 and H2 slots.
CXR-QX3440-ESWA	1U high Wideband Main Unit with fixed controller, and cross-connect onboard. <ul style="list-style-type: none"> Supports SyncE 	<ul style="list-style-type: none"> QX3440-EA type chassis with CPU. Switch function (4 SFP Giga) Please order SFP modules separately from SFP optical modules brochure. Includes two High Speed Slot Adapters for mini plug-in cards to be used in H1 and H2 slots.

Licence		
Model	Description	Note
CXR-QX3440-E-LCT	<ul style="list-style-type: none"> Feature activation license for QX3440-E CPU card to support LCT Graphical Configuration software 	<ul style="list-style-type: none"> License based on serial number. Supports GUI graphic PDH/DS0 cross connect. Free Windows installation software.

Mini Plug-in Module (Select 1 to 7 cards from list below)		
CXR-QX34DD-T1	1-channel T1 interface card	
CXR-QX34DD-E1-BNC	1-channel of E1 plug-in card w/ 75 ohm	
CXR-QX34DD-E1	1-channel of E1 plug-in card w/ 120 ohm	
CXR-QX34DD-MQE1-BNC	Mini Quad E1 plug-in card with 75 ohm	Includes a three meter conversion cable (3m cable 8 BNC M / DB25)
CXR-QX34DD-MQE1	Mini Quad E1 plug-in card with 120 ohm	Includes a three meter conversion cable (3m cable 8 RJ45 / DB25).
CXR-QX34DD-M3794-LSFOM	1- channel C37.94 plug-in mini card	For LSFOM option, please refer to the table below for detail information.
CXR-QX34DD-RTA	2-LAN ports/64 WAN port router/bridge plug-in card	
CXR-QX34DD-4E1FO-opt	Fiber Optical plug-in card	For opt option, please refer to the table below for detail information
CXR-QX34DD-V35	1-channel V.35 plug-in card	
CXR-QX34DD-E530	1-channel EIA530 plug-in card	
CXR-QX34DD-X21	1-channel X.21 plug-in card	
CXR-QX34DD-V24	1-channel RS232 plug-in card	
CXR-QX34DD-QEM-xx	Jumper selectable: 2/4 WIRE; A/B side Quad E&M voice card, complied with IEEE1613 standard.	<ul style="list-style-type: none"> For -48 Vdc and AC (100 to 240 Vac) power supply only. For xx option, please indicate Tn for Type.
CXR-QX34DD-QFXO	Quad FXO voice plug-in card used with 4 RJ11	<ul style="list-style-type: none"> GS = Ground Start MP = Metering Pulse Receive 12/16 KHz For -48 Vdc and AC (100 to 240 Vac) power supply only.
CXR-QX34DD-QFXO-GS	Quad FXO with GS plug-in card used with 4 RJ11	
CXR-QX34DD-QFXO-GM	Quad FXO with GS and MP 16 KHz voice plug-in card used with 4 RJ11	
CXR-QX34DD-QFXS-A	Quad FXSA voice plug-in card	<ul style="list-style-type: none"> Jumper setting options: Loop Start, Ground Start (GS), Metering Pulse Transmit 12/16 KHz (MP).
CXR-QX34DD-QFXS-A-GS	Quad FXSA with GS plug-in card	
CXR-QX34DD-QMAGA	Quad channel magneto plug-in card	
CXR-QX34DD-ECHO-CANC	Echo canceller card	

CXR-QX34DD-ABRA	Analog Bridge Card	*Future Option
Accessories		
Power Module		
CXR-QX3440-E-PWAC	Single AC plug-in power supply (100 to 240 Vac, 50/60 Hz)	<ul style="list-style-type: none"> For AC, choose an appropriate power cord. Order two DC or two AC or (one DC and one AC) power modules for redundancy.
CXR-QX3440-E-PW48	Single -48 Vdc (-36 to -72 Vdc) Power Module	
HS-SLOT ADAPTER		
CXR-QX3440E-ACC-HSADT	Mechanical adapter for HS-Slot.	
Mounting Ear		
19"/23" ear mounts	A pair of 19"/23" ear mounts is supplied as part of standard package. Note: For other sizes, please contact your nearest CXR sales representative.	
Conversion Cables (All conversion cables are RoHS compliant)		
CXR-ACC-CAB-HDB15M-100-RJ48M	One HD-sub 15 pin/Male connector to one RJ48/Male connector; Length: 100 cm	For external clock interface connection
CXR-QX34DD-ACC-CAB-DB25M-300-8BNM	DB25/Male to eight BNC/Male cable; Length: 300 cm	Used in CXR-QX3440-M4E75- G
CXR-QX34DD-ACC-CAB-DB25M-300-4RJ48M	DB25/Male to four RJ48C/Male cable; Length: 300 cm	Used in CXR-QX3440-M4E120- G and CXR-QX3440-M4T1- G plug-in card
CXR-QX34DD-ACC-CAB-DB25M-30-1M34F	DSUB-25pin/Male to M34/Female V.35 Conversion cable Length: 30 cm	Used in CXR-QX3440-1V35- G plug-in card
Blank Panels (All blank panels are RoHS compliant)		
CXR-QX3440E-PAN-PW	Blank Panel for Power Supply Slot (flat)	
CXR-QX3440E-MSLOT	Blank Panel for mini Slot A-E (flat)	
CXR-QX3440E-HSLOT	Blank Panel for H1 and H2 slot (flat)	

For mini LS Optical module (mini C37.94):

■ Where **LSFOM** is to select **LS-Fiber Optical Module** option, each module has 5 letters.

LSFOM	Description									
	Mode		Data Rate		Wave Length		Distance		Connector	
Code	Code	Description	Code	Description	Code	Description	Code	Description	Code	Description
ZHHT	Z	Multi-mode	H	155 M	H	820nm	T	2km	T	ST connector
QHATT	Q	Multi-mode	H	155 M	A	850nm	T	2km	T	ST connector
NFB3T	N	Single mode	F	125 M	B	1310nm	3	30km	T	ST connector
QFBTT	Q	Multi-mode	F	125 M	B	1310nm	T	2km	T	ST connector
NHC2S	N	Single mode	H	155 M	C	1550nm	2	20km	S	SC connector

For FOM card

■ Where **opt** is used to select optical module type (All optical modules are RoHS compliant):

opt =	Description	Note
SM30-SC	Single optical module with dual uni-directional fiber, 1310 nm, SC optical connector, 30 km	Use dual fiber Units delivered ITU-T G.957 application code
SM50-SC	Single optical module with dual uni-directional fiber, 1310 nm, SC optical connector, 50 km	
SM30-FC	Single optical module with dual uni-directional fiber, 1310 nm, FC optical connector, 30 km	
SM205SC	Single optical module with dual uni-directional fiber, 1550 nm, SC optical connector, 20 km	
SM100SC	Single optical module with dual uni-directional fiber, 1550 nm, SC optical connector, 100 km	
SM30W13	Single optical module with single bi-directional fiber (master), 1310 nm transmit and 1550 receive, SC optical connector, 30 km	1310 nm from master to slave Order SM30W13 to use with SM30W15 Use 1 fiber ITU-T G.957 application code
SM30W15	Single optical module with single bi-directional fiber (slave), 1310 nm receive and 1550 transmit, SC optical connector, 30 km	1550 nm from slave to master Order SM30W15 to use with SM30W13 Use 1 fiber ITU-T G.957 application code

Note: For other special optical modules, please contact your nearest CXR sales representative.

QX3440-E Controller on-board Combo Gigabit Ethernet (GbE) Interface for TDMoE Services

Number of Ports	2
Speed	10/100/1000M bps
Connector	RJ45 for twisted pair GbE, LC for optical GbE, auto detection
<u>Ethernet Function</u>	
Basic Features	MDI/MDIX for 10/100/1000M BaseT auto-sensing Ping function contained ARP
<u>Pseudowire</u>	
Concurrent PW	Up to 64
Encapsulation Format	SAToP(CCPA T1 SAToP*), CESoPSN, MEF-8 (CESoETH)
QoS	User configurable 802.1p CoS, ToS in out-going IP frame
<u>Clock Source</u>	Internal, Line Interface, External (E1/T1/2048 KHz), Adaptive Clock Recovery for Pseudowires, SyncE
<u>Alarm Relay</u>	Max. Current: 1A for 24VDC, 0.625A for 48VDC Fuse alarm, performance alarm
<u>Management</u>	
Console	Micro USB Connector User Interface: Menu driven VT-100
Ethernet	2 Combo GE port, Connector: RJ45 & SFP SNMPv1/v3, Telnet/SSH, support Radius client function
Inband Management	Inband 64 Kbps, support HDLC/PPP
<u>System Configuration Parameters</u>	Active Configuration, Stored Configuration, and Default Configuration (Stored in Non-volatile Memory)
<u>Performance Monitor</u>	
Performance Registers	Last 24 hours performance in 15 minute intervals and last 7 days in 24 hour summaries
Separate Registers	Network, user, and remote site
Performance Reports	Reports include E1 Bursty Errored Second, Severe Errored Second, Degraded Minutes. Also available in Statistics (%)
Alarm Queue	To record the latest alarm type, location, date and time
Threshold	Bursty Seconds, Severely Errored Second, Degraded Minutes
<u>Diagnostics</u>	
Loopback	E1/T1 interface (Line Loopback, Payload Loopback, Local Loopback), DTE Loopback (DTE-to-DTE, DTE to Line)
Test Pattern	For Controller: 2 ²⁰ -1, 2 ¹⁵ -1, 2 ¹¹ -1, 2 ⁹ -1, and 4-byte user define pattern
<u>Front Panel</u>	
Controller LED Indicators	Power, ACTIVE, ALARM

Physical /Electrical

Dimensions	442 x 44 x 297 mm (W×H×D)	
Power	Single/ Dual -48 Vdc (-36 to -72 Vdc) Single/ Dual AC plug-in power supply (100 to 240 Vac, 50/60 Hz)	
Temperature	Operating	Storage
	-20 to 65°C	-30 to 70°C
Weight	Net Weight	Max. Weight
	5.5 Kg (12.13lbs)	7.5 Kg (16.53lbs)
Humidity	0-95%RH (non-condensing)	
Mounting	Desk-top stackable, 19" /23" rack mountable	
Power Consumption	Max 30 Watts	

Certification

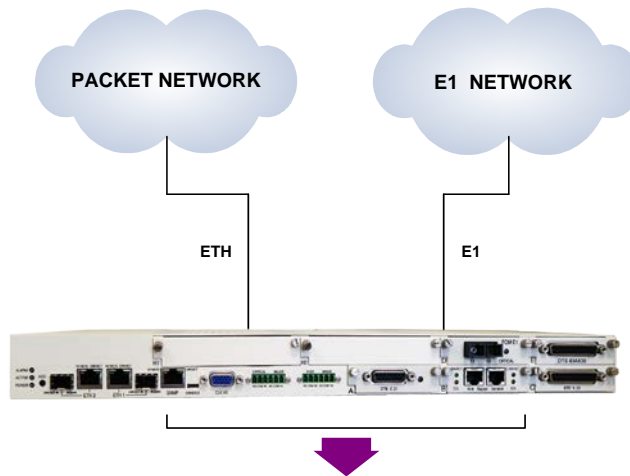
EN55032 Class A, EN50024, FCC Part 15 Class A, EN62368-1

Compliance

ITU G.703, G.704, G.706, G.732, G.736, G.823, G.826, G.711, G.712, G.775, O.151, V.11, V.28, V.54
IETF SNMP v.3 (RFC2571~2575), ITU-T Rec.G.821, ITU-T Rec.G.827



Application Illustration



Mini Slot Plug-in Cards

- 1-channel T1 interface card
- 1-channel E1 plug-in card with 75ohm
- 1-channel E1 plug-in card with 120ohm
- Mini Quad E1 plug-in card with 75ohm
- Mini Quad E1 plug-in card with 120ohm
- Mini Quad T1 plug-in card
- 1-channel C37.94 mini plug-in card
- 1-channel X.21 plug-in card
- 2-LAN ports/64WAN port router/bridge plug-in card
- Fiber Optical Module
- 1-channel V.35 plug-in card
- 1-channel EIA530 plug-in card
- 1-channel RS232 plug-in card
- 4-channel E&M voice plug-in card
- 4-channel FXS voice plug-in card
- 4-channel FXO voice plug-in card
- Echo Cancellation plug-in card
- Analog Bridging plug-in card