



## Overview

The Advanced VSAT Solutions portfolio provides high-performance satellite-based communication solutions for a diverse range of applications, including mobile backhaul with RAN optimization, IP trunking and backhaul, maritime and offshore networks, corporate and enterprise networks, emergency and disaster recovery. Incorporating advanced technologies developed by Comtech EF Data, AHA Products Group, Memotec and Stampede, the solutions provide unmatched performance, industry-leading bandwidth efficiencies and network optimization – while minimizing Total Cost of Ownership.

The CXU-810 RAN Optimizer is a modular mobile backhaul platform that delivers 2G/3G Radio Access Network (RAN) aggregation and traffic optimization. Designed to interoperate with the CDM-840 Remote Router with integrated RAN optimization, the CXU-810 can be deployed at the BSC/RNC locations and other aggregation points across the RAN. The Advanced VSAT Solutions enable mobile operators to optimize and aggregate traffic, and free up capacity for quick deployment of new services over their existing networks at lower costs.

The CXU-810 is available in four models:

CXU-810-16E	Up to 16 E1
CXU-810-32E	Up to 32 E1
CXU-810-32S	Up to 32 E1, STM-1 Interface
CXU-810-63S	Up to 63 E1, STM-1 Interface

## Typical Users

- Mobile Operators
- Satellite Service Providers

## Common Applications

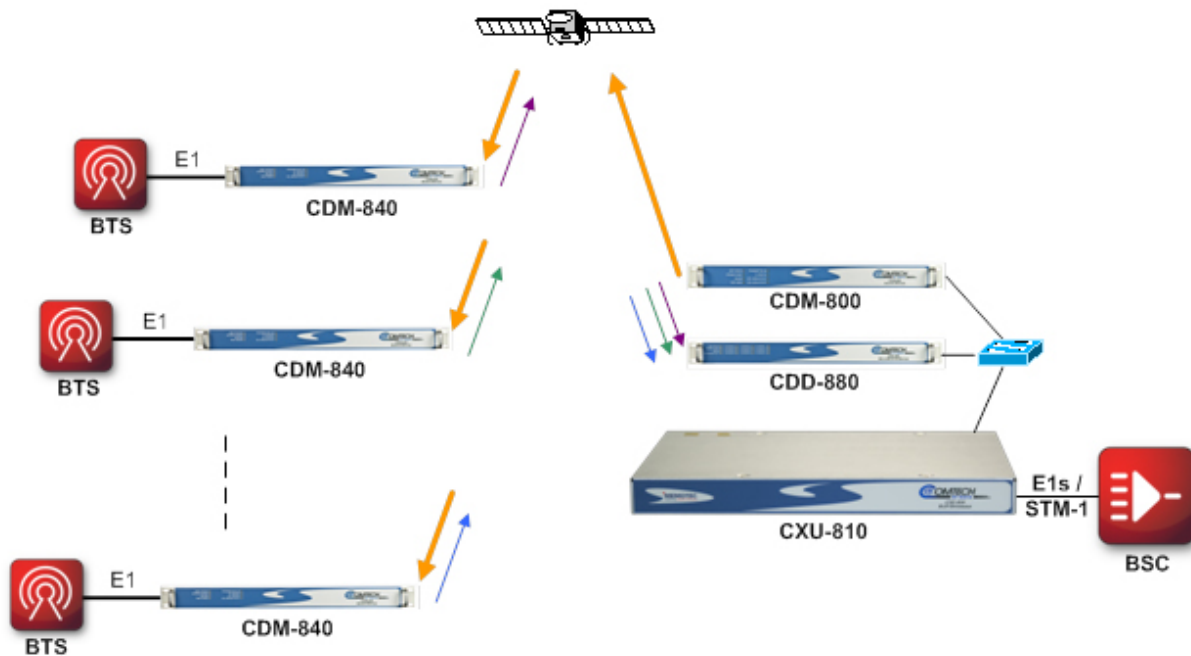
- Mobile Backhaul with RAN Optimization
- 2G/3G aggregation
- Congestion management to safeguard signaling and critical mobile applications
- Transparent Compressed Pseudowire (cPWE) over satellite backhaul
- Disaster recovery over satellite

## Features

- E1 aggregation
- Abis optimization
- TDM compression
- Transparent Pseudowire (cPWE) Compression
- Wide range of redundancy options



CXU-810-16E Back Panel



**Mobile Backhaul Using Advanced VSAT**

**Specifications**

Model	E1 Ports	STM-1	E1 Licenses
CXU-810-16E	16	-	Up to 16
CXU-810-32E	32	-	Up to 32
CXU-810-32S	-	2+2	Up to 32
CXU-810-63S	-	2+2	Up to 63

**Interfaces**

Digital E1	Fractional, channelized TDM HDB3, AMI, NRZ or NRZi Encoding E1 Balanced 120 Ohms or unbalanced 75 Ohms with adaptation cables (VHDCI connector) AIS Relay
Synchronous Ethernet	10/100/1000Base-T Ethernet (RJ-45) or SFP plug-in module
STM-1	STM-1 SDH channelized VC12 interface with APS 1+1 protection

**IP/Ethernet**

Electrical and optical Synchronous Ethernet
IP Static Routing
DSCP marking for different streams

**Multi-service Compressed Pseudowire (cPWE)**

ATM E1/VC12 pseudowire (with support for IMA)
HDLC pseudowire
VLAN pseudowire
TDM compressed pseudowire (proprietary CESoP)

**Abis**

Supports GSM FR, EFR, HR and AMR codecs
Transparent GSM codec speech frame forwarding
IDLE and silence suppression
HDLC signaling frame extraction and forwarding
Dynamic Abis map interface auto-configuration
TRX channels usage real-time monitoring
Signaling/Voice/Data traffic prioritization

**TDM**

Non-blocking VC12 drop and insert support between E1 and STM-1 interfaces
APS 1+1 on STM-1 SDH interfaces
E1 alarms: red, yellow, near/far end LOS, LOF, AIS, RDI
E1 interface test loop (L1, L2, L3)

**Management**

Operator GUI Node Manager (EMS), with configuration, alarm status and real time performance monitoring;
CLI interface with ASCII script file generation;
Open standard SNMP NMS platform, including: <ul style="list-style-type: none"> <li>SNMP alarms trap forwarding (Northbound interface)</li> <li>Network map status display</li> <li>Alarm management</li> <li>24 hours /15mn bucket performance monitoring graphical display with up to 30 days history</li> </ul>
Abis and Bearer interfaces detailed alarms and dedicated performance monitoring KPIs
Secured in-band node management (IP-based)
Secured remote software upgrade with fallback mode

**Synchronization**

ETSI PDH ITU-T G.823/G.824 and ETSI SDH SEC / ITU-T G.813/G.825 clock synchronization compliant
Nx8 KHz, 10 MHz, 2.048 MHz, and 2.048 Mbps G.703 external clock reference input
8 KHz, 2.048 MHz, and 2.048 Mbps G.703 clock reference output
Line synchronization (STM-1 or E1 interface and Ethernet SynchE), multiple input choice with automatic protection and up to 3 clock domains (model dependant)

## Connectors

### CXU-810-16E

2 x VHDCI	E1 (Abis or lub)
6 x RJ-45	10/100/1000Base-T Ethernet
2 x SFP	Gigabit Ethernet (optical)
1 x RJ-45	EIA-232 console port
2 x BNC	External clock in/out
1 x DB-15	Alarms port

### CXU-810-32E

3 x VHDCI	E1 (Abis or lub)
6 x RJ-45	10/100/1000Base-T Ethernet
2 x SFP	Gigabit Ethernet (optical)
1 x RJ-45	EIA-232 console port
2 x BNC	External clock in/out
1 x DB-15	Alarms port

### CXU-810-32S

2 x STM-1	Optical STM-1
6 x RJ-45	10/100/1000Base-T Ethernet
2 x SFP	Gigabit Ethernet (optical)
1 x RJ-45	EIA-232 console port
2 x BNC	External clock in/out
1 x DB-15	Alarms port

### CXU-810-63S

2 x STM-1	Optical STM-1
6 x RJ-45	10/100/1000Base-T Ethernet
2 x SFP	Gigabit Ethernet (optical)
1 x RJ-45	EIA-232 console port
2 x BNC	External clock in/out
1 x DB-15	Alarms port

## Available Options

Option	Type
E1 license	FAST
-48 VDC, Single Power Supply, Dual Feed	Hardware
-48 VDC, Redundant Power Supply, Dual Feed	Hardware
Gigabit Ethernet Multi Mode SFP	Hardware
Gigabit Ethernet Single Mode SFP	Hardware

## Physical, Power & Environmental

Dimensions (1RU) (height x width x depth)	1.7" x 17.0" x 12.1" (4.32 x 43.2 x 30.7 cm) approximate
Power Supply	90-264 VAC, 47-63 Hz -40 to -60 VDC (HW option)
Operating Temperature	0° to 50°C
Storage temperature	-40° to 80°C
Humidity	95% maximum, non-condensing

## Power Consumption

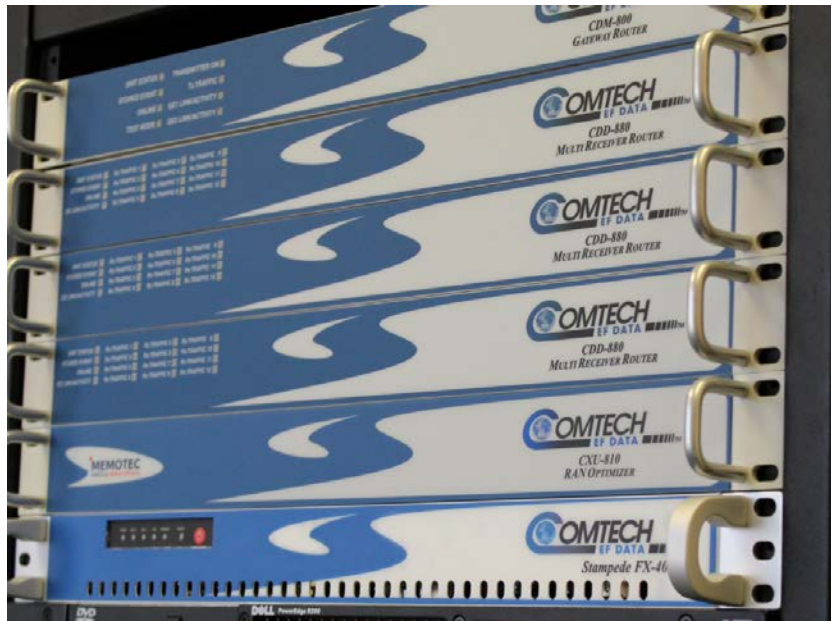
Model	Typical	Max
CXU-810-16E	34 W	46 W
CXU-810-32E	38 W	50 W
CXU-810-32S	42 W	50 W
CXU-810-63S	42 W	50 W

## Accessories

1:1 Redundancy Kits  
AC and DC Accessory Kits  
Adapter Cables

## Regulatory

Safety	EN60950-1 (2006) and A11
EMC	EN55022 (2006) and A1 EN55024 (1998) and A1, A2



Advanced VSAT Solution installation with CXU-810



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