Aurora's Cell Tower Backhaul Solution

For more information, please contact:

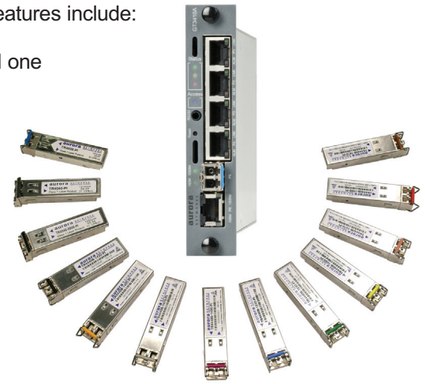
aurora NETWORKS

www.aurora.com
5400 Betsy Ross Drive
Santa Clara, CA 95054
Voice: 408.235.7000
Fax: 408.845.9045

GT3410A T1/E1 Access Module

Aurora's GT3410A provides the inter-working functionality between TDM and metro Ethernet networks that enables cable operators to offer cellular backhaul services. Features include:

- Five local ports (four T1/E1 TDM interfaces with RJ48C connectors, and one auto-negotiating 10/100/1000Base-T with RJ45 connector)
- One network optical port (software programmable for operation at 100 or 1000 Mbps) using SFP plug-in transceivers
- Implementation of industry-standard Circuit Emulation Services over Ethernet protocol to packetize TDM data
- MEF-9, MEF-14, and MEF-18 certification
- Compatibility with Aurora's Fiber on Demand™ and SMART Media Converter™ solutions for node-based Ethernet backhaul



CH3000 Chassis

Aurora's CH3000 chassis houses the GT3410A T1/E1 access module for deployment in cable operator hubs and head-ends. The advanced mid-plane, 3 RU chassis design provides maximum flexibility, high packaging density and simplicity of operation. CH3000 features include:

- Stackable 3 RU design with no spacer requirement
- Identical slots that support any combination of modules
- Mid-plane that provides the DC power bus and the universal communications bus to support local and SNMP management
- Up to 12 active full-depth modules and redundant power supply
- High-performance AC/DC power supply that support 1:1 redundancy and integrated chassis management functions

CH1301 Chassis for CPE

Aurora's CH1301 chassis houses the GT3410A module for deployment at the customer premises. The wall-, desk-, or 1 RU rack-mountable chassis hosts any Aurora Networks single-slot, half-depth 3 RU modules. CH1301 features include:

- External switching power supply that provides 12V DC powering to module from 100-240V AC power source
- Support for redundant (load sharing) 12V DC powering with optional second power supply
- Front loading slide-in module design for easy access and upgrade
- Support for power source monitoring and "dying gasp"

M09-002 04/09 Rev A

Cell Tower Backhaul

Generate New Revenues with T1/E1 Access Solutions

aurora NETWORKS

A whole new light, growing brighter!

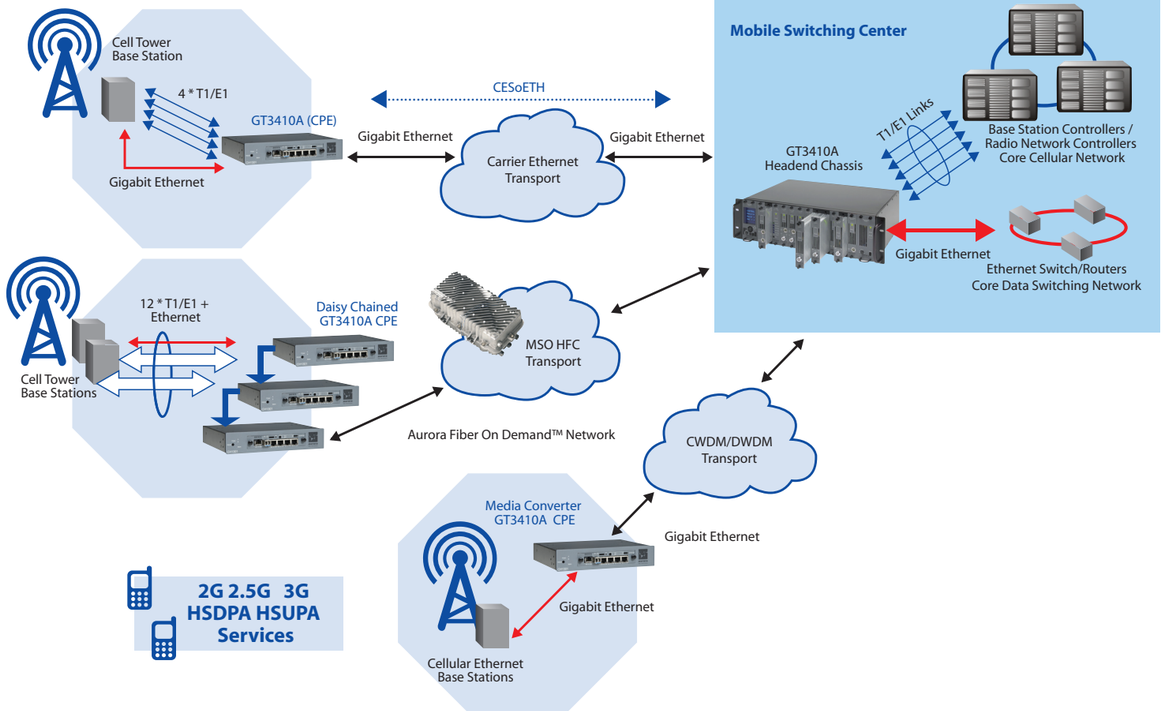
Aurora Readies Cable for Demanding Cellular Backhaul Market

Aurora's T1/E1 Innovations

- Carrier Ethernet implementation
- MEF-18, MEF-14, and MEF-9 certifications
- Tightly engineered frame delay, variance, wander and jitter parameters
- Adaptive clock recovery for end-to-end TDM clock synchronization
- Sub 5 msec fiber path protection option

Cell tower backhaul represents an enormous business opportunity for cable operators. Consumer hunger for media-rich mobile communications is relentlessly driving wireless operators to increase bandwidth at their cell sites to accommodate the dynamic growth of data, video and voice traffic generated by bandwidth-hungry applications. Aurora Networks' GT3410A T1/E1 access module can help cable operators capture a share of this lucrative market, estimated to be worth more than $15 billion by 2011.

Cable operators are well positioned to offer cellular backhaul services. Their fiber-rich networks can accommodate the exploding bandwidth needs while their residential concentration gives them close proximity to most of the nation's cell tower sites. However, wireless networks have demanding requirements. Operators pursing this market need scalable, reliable and cost-effective equipment that is engineered to meet the stringent performance needs of today's wireless carriers. Aurora's GT3410A meets them all.



Aurora's T1/E1 Solution

Aurora's T1/E1 access solution enables wireless operators to migrate their backhaul links to Carrier Ethernet without the need to replace the TDM equipment already deployed at base stations. The GT3410A T1/E1 access module leverages Carrier Ethernet strengths such as scalability, reliability and cost-effectiveness to provide significant advantages over the TDM-based backhaul technologies currently deployed. The GT3410A functions as an inter-working agent, and:

- Connects the wireless operator's T1/E1 links to the cable operator's metro Ethernet network
- Aggregates the T1/E1 links from base stations
- Transports the T1/E1 links using GigE uplinks over long backhaul distances
- Supports 10/100/1000 Mbps native Ethernet interface

The GT3410A features four T1/E1 interfaces, one GigE pluggable optics interface and one 10/100/1000 copper interface. Aurora packages the module in both 3 RU (CH3000 chassis) and 1 RU (CH1301) platforms for headend and customer premises deployments. Designed for high density, a single 3 RU platform can aggregate up to 80 T1 ports in the headend. At the premises, cable operators can daisy chain the 1 RU units to maximize fiber efficiency.

Stringent Engineering Requirements

Wireless carriers are demanding customers. Cable operators providing cell tower backhaul services must meet very rigorous performance metrics related to frame delay, frame delay variation, and jitter. Aurora's GT3410A delivers this superior performance by implementing several innovations, including:

- **MEF-18 certification:** The Metro Ethernet Forum (MEF) certified that the GT3410A complies with its Circuit Emulation Services over Ethernet specification, which includes stringent jitter and wander requirements.
- **Superior network engineering:** Aurora designed the GT3410A for delay sensitive traffic with very low latency and jitter requirements. Both frame delay and frame delay variance parameters meet the guidelines specified by the MEF.
- **Timing and clock synchronization:** The GT3410A employs in-band adaptive clocking to achieve timing synchronization across the metro GigE network.

Aurora Networks is vigilant in its quest for high-performing products. It is the only vendor to achieve three MEF certifications — MEF-9, MEF-14, and MEF-18 — for both its T1 and E1 solutions.

By deploying Aurora's GT3410A T1/E1 access module, cable operators can position themselves to generate revenues from the $15 billion dollar cellular backhaul market.

CARRIER ETHERNET
MEF
Certified Compliant

Aurora's T1/E1 Advantages

- Improved reliability, scaleability, and cost effectiveness
- Generation of new revenues
- Pluggable CWDM and DWDM optics for short and long (over 100 km) backhaul distances
- Ethernet OAM with comprehensive fault, performance and network management