



**aurora**  
NETWORKS

*Defining the Evolution*

# Aurora Optical Node Platforms

HFC and Fiber Deep Architectures

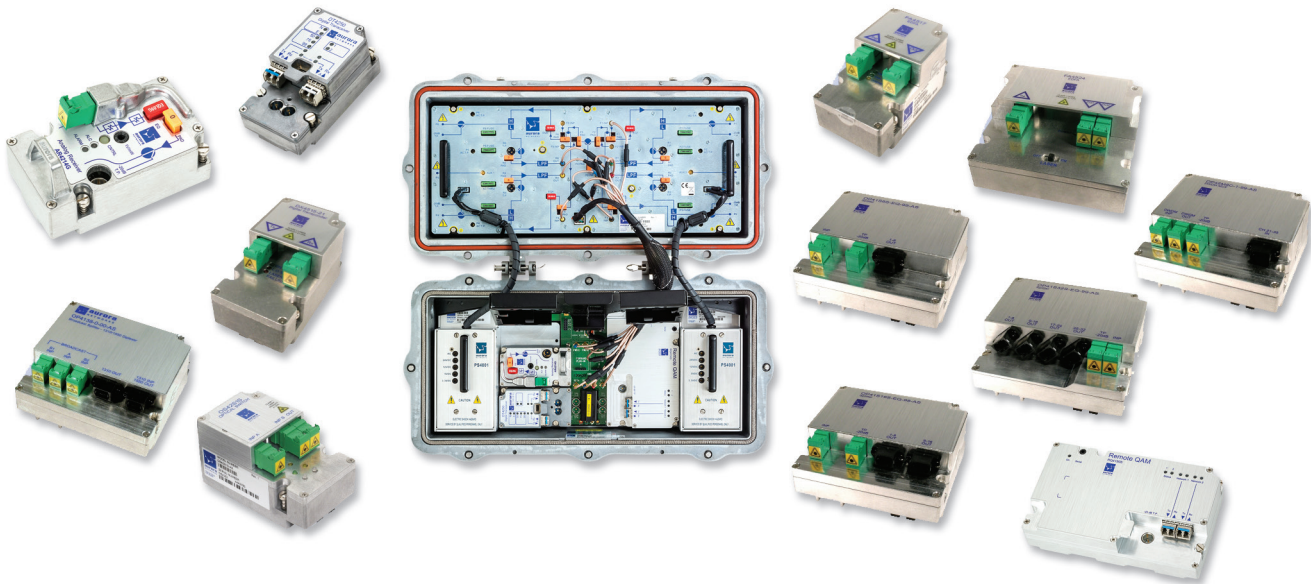


# Introducing Cable's Silver Bullet

Aurora's landmark optical node platforms integrate numerous technical innovations to provide the utmost flexibility and adaptability in an optical node platform, ensuring support for evolving network architectures while protecting your investment in the cable plant. The technical advantages of these platforms include an extensive offering of plug-in node modules and Aurora's plug-and-play digital return technology.

## Designed for Superior Flexibility and Adaptability

- Support for Aurora's "best fit" architectural solutions
- Easy migration from HFC to Fiber Deep to FTTP architectures
- Multiple options for both forward and return paths
- Highly scalable with multiple expansion slots to allow easy "scale-to-revenue" deployments



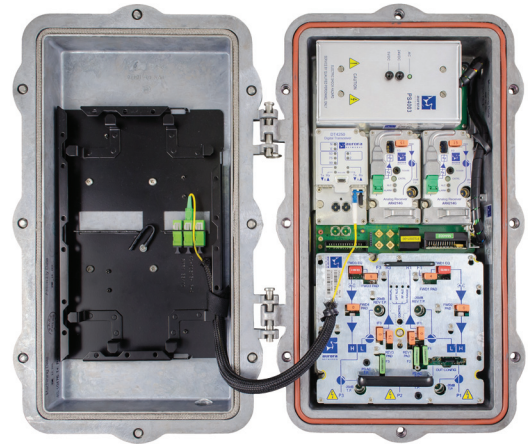
## Benefits of an Extensive, User-Friendly Module Offering

- All modules are hot-swappable without splicing
- High-speed, remote-controllable optical switches support voice applications over alternate routing
- Cable operators can add data services capability by plugging in PON or Ethernet transport modules
- Monitoring is provided with an integrated network management plug-in without the added cost of a third-party status-monitoring transponder
- Forward paths can be configured for redundant, segmented, or BC/NC operation
- Video/security camera loop (local channel insertion) can be deployed
- The nodes can be populated with the industry's widest range of field optical passives families: couplers, splitters, filters and muxes/demuxes

# Best Fit Now, With Room to Grow

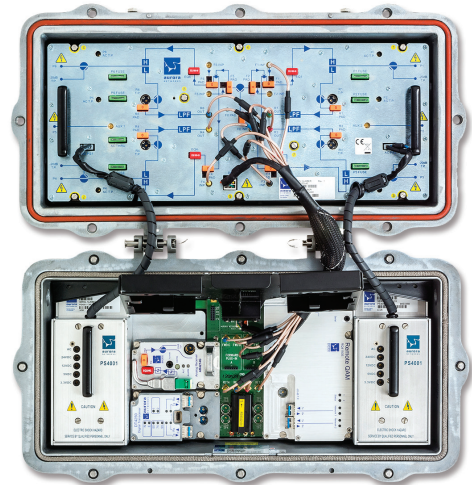
## Fiber Deep and HFC NC2000

- 2 active ports
- 1 free configuration slot



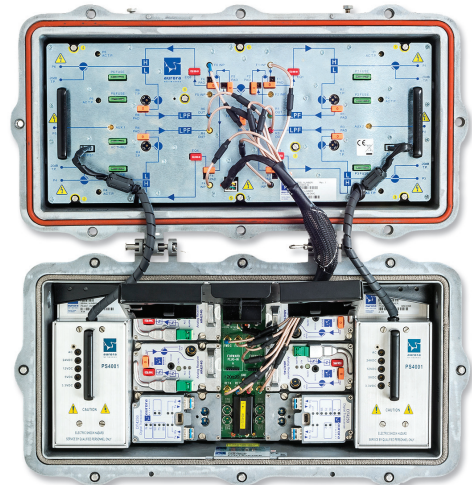
## Fiber Deep NC4000HG

- 4 active ports - up to 57.5 dBmV
- Up to 4 free configuration slots



## HFC NC4000SG

- 4 active ports - up to 53 dBmV
- Up to 4x4 configurable
- Up to 4 free configuration slots



## Fiber Deep and HFC NC4000S3

- 4 active ports - up to 60 dBmV
- Up to 4x4 configurable
- Up to 4 free configuration slots

## Imagine the Possibilities

- BitCoax™ (EPoC), Node QAM
- RFoG, RFPON
- Fiber on Demand™, Node PON™
- Hub functionality, including optical amplification, broadcast and narrowcast combining, and splitting

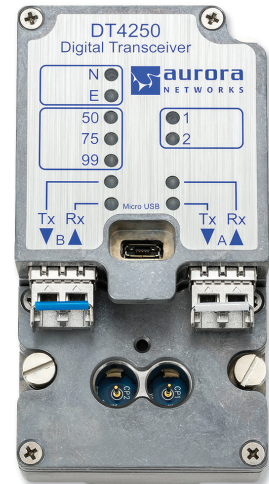
# Benefits of Aurora Networks' Universal Digital Return Platform

It's no secret that much of the current growth in the cable industry is driven by data-centric applications. Services like high-speed data and IP video are consuming ever-increasing amounts of network resources. The demand for higher modulation schemes — from 64-QAM, to 256-QAM and eventually 1024-QAM — combined with the need to support DOCSIS 3.0's channel bonding, requires that upstream performance improve or networks will fail and subscribers will churn.

## Improved Upstream Performance

Aurora Networks' digital return solves the performance challenges surrounding analog RF upstream links. With digital return, performance does not degrade regardless of link length nor does it change with fluctuations in channel loading or temperature changes. Digital return also offers:

- User selectable bandwidth 50, 75, 100
- Greatest dynamic range
- Higher levels of ingress resistance, even for full return path loading
- Very high return link budget that can support route redundancy
- Increased reach, up to 200 km without regeneration (but with optical amplification if needed)



## Simplified Operations

Digital return systems are also easier to install, maintain, and monitor. Installation is plug-and-play, with all node return paths set up the same given the constant gain from the node input to the return receiver output. Additional benefits include:

- No need for return path generators and link setup and balancing
- Simplified alternate routing design and setup
- Integrated status monitoring that eliminates transponder cost
- Reduced ongoing maintenance costs, resulting from "set-it-and-forget-it" platform



## Flexibility for the Future

Aurora Networks' Universal Digital Return Platform™ also has the advantage of supporting today's 64-QAM upstream channels as well as future rollouts of 256-QAM or even 1024-QAM; something that will "crush" analog transmitters. Cable operators can gain further upstream capacity enhancements by segmenting the return with Aurora Networks' "1-fer," "2-fer" and "dual" solutions, making the Universal Digital Return Platform truly future-proof and the best choice in upstream technology options.