

AOI

Product Brochure

QuantumLink

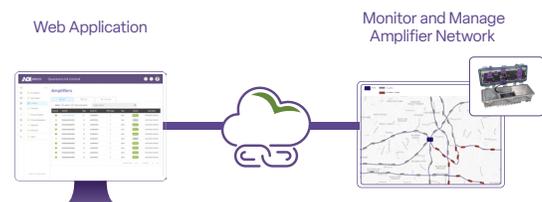
Remote and Local HFC Network Management

QuantumLink Central is a software-defined, cloud-native platform that enables MSOs to take full control of their hybrid fiber-coaxial networks. From firmware orchestration and ingress tracking to AI-driven optimization, it gives you unmatched visibility, reliability, and scale...all without leaving the NOC.

QuantumLink Central Cloud-Native Remote Management

QuantumLink Central delivers real-time visibility and full-scope control across your amplifier network. The platform supports secure firmware updates, automated AI-based alerts, telemetry ingestion, asset management, and analytics—scaling across thousands to millions of devices. Standards-compliant with SCTE 279, QuantumLink Central minimizes downtime while optimizing performance and OpEx.

QuantumLink™ Central



QuantumLink Bridge Node-Level Control and Data Intelligence

QuantumLink Bridge adds a new layer of visibility and control at the node. Installed via the RF port, it manages communication with downstream amplifiers, collects real-time telemetry, and enables remote execution of configuration changes—including firmware updates, ALSC control, RF alignment, and snapshot-based fault analysis.

QuantumLink™ Bridge



QuantumLink Local Field-Level Amplifier Control

Equips field teams with direct access to amplifier and node settings—whether wirelessly via Bluetooth or through a wired connection. Using a secure mobile app, technicians can validate and manage smart amplifier configurations, provision amplifiers, access diagnostics, and manage firmware updates, even in offline environments. Designed for field efficiency, QuantumLink Local supports fast setup and troubleshooting, especially during DOCSIS 4.0 upgrades and routine maintenance alike.

QuantumLink™ Local



BENEFITS



Built to Scale

Handle growth without adding complexity.

Monitor and manage millions of amplifiers while maintaining responsiveness and operational clarity.



Simplified Technician Workflows

Equip your team with instant visibility.

Provide field-access tools for real-time diagnostics, configuration, and logging—on-site or remote.



Reduced Downtime

Keep the plant online.

Fewer outages and quicker recovery through intelligent alerting, predictive analytics, and automation.



Lower Operating Costs

Save time, trucks, and trouble.

AI-driven RCA and remote device management reduce field visits and streamline routine updates.



Secure and Standards-Driven

Deploy with confidence.

AES-128 encryption, SCTE-compliant split handling, and secured open interfaces enable trusted, future-proof integration.



Smarter Operations

Make better decisions, faster.

AI-enhanced telemetry provides actionable insights that help prioritize maintenance and optimize network performance.

FEATURES

Telemetry-Driven Oversight: Real-time monitoring of amplifier health, ingress, power levels, and pilot levels activity enables proactive diagnostics and decision-making.

Secure, Open Architecture: Built on LoRaWAN with AES-128 encryption. Built using open-source, cloud-native technologies with open APIs to ensure scalability and reliability across both cloud-agnostic and on-premises environments.

Remote Firmware and Configuration Management: Push configuration updates and firmware images from the cloud—no site visits required. Supports automatic and manual power level setting and monitoring. Also provides temperature and power supply voltage monitoring.

Wireless Field Access: QuantumLink Local enables technicians to access devices via Bluetooth or Wi-Fi—ideal for offline diagnostics and initial provisioning.

AI-Driven Operations: Predictive modules correlate multi-source telemetry to flag probable faults, reduce outages, and automate response via intelligent alerting.

Scalable Throughput and Performance: Each device delivers ~1 kbps of telemetry; up to 192 devices supported per node over 5 FSK channels—ensuring capacity at scale.