

POWER | ETHERNET | RADIO

DigitalBRIDGE Plus+ is an innovative networking technology that offers high-speed data connectivity and voice communication in underground industrial environments using leaky feeder. By utilizing standard VHF leaky feeder systems, DigitalBRIDGE Plus+ enhances the functionality of these systems to support high-speed, high-bandwidth data transfer for Ethernet devices and equipment, all while maintaining excellent voice clarity with push-to-talk radios.

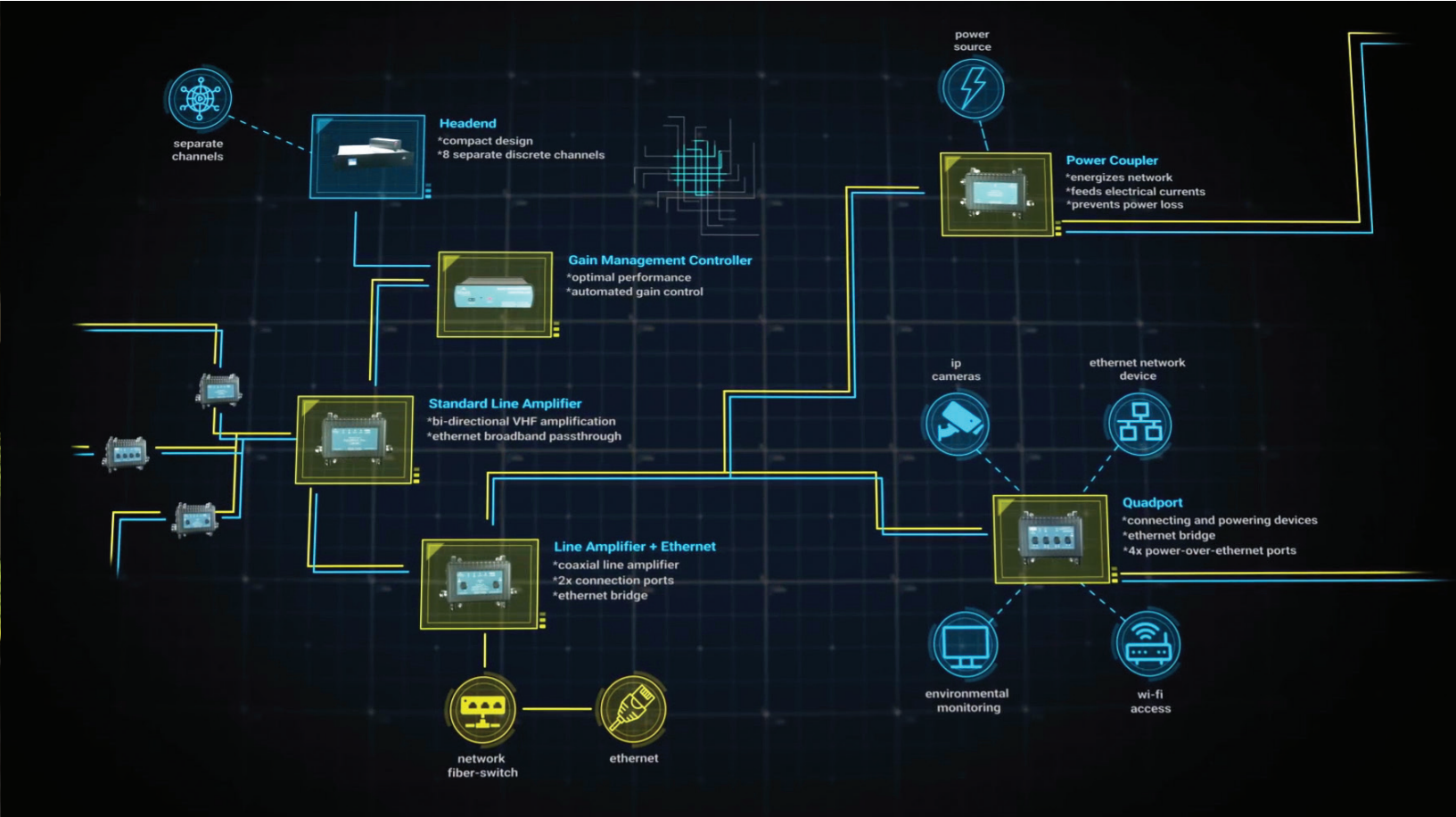
DigitalBRIDGE Plus+

Transforming Communication and Data Solutions using Leaky Feeder



KEY CAPABILITIES

- **Radio:** Low noise, clear voice quality push-to-talk radios
- **Telemetry:** Real-time collection and transmission of data from IoT and PoE devices including cameras, monitors, sensors, wireless networks, and Programmable Logic Controllers (PLCs)
- **Wireless Wi-Fi Data:** Inclusion of industrial-grade Strata Wi-Fi access points for reliable wireless connectivity. Compatible with any industry standards 802.11 b/g/n/ac/ax devices including Wi-Fi tracking systems
- **Voice-over-IP:** Integrate a PBX telephone system, fixed or mobile VoIP phones
- **Digital Mobile Radio (DMR):** DigitalBRIDGE Plus+ works with both standard Land Mobile Radio (LMR) and Digital Mobile Radio (DMR) leaky feeder.
- **Bluetooth® Tracking:** Bluetooth® readers connected to DigitalBRIDGE Plus+ components enable Bluetooth tracking for personnel and equipment
- **Power:** Power can be inserted into the leaky feeder cable at any point along the network, powering connected PoE devices through the system Quadports



UPGRADE OR BUILD FROM SCRATCH

Upgrade an Existing Infrastructure: Easily enhance your current VHF leaky feeder system by replacing line amplifiers with DigitalBRIDGE Plus+ bi-directional line amplifiers and other system components.

Isolate Sections of Existing Infrastructure: DigitalBRIDGE Plus+ line amplifiers are interoperable with third-party line amps, enabling the digitization of segments within an existing network. Connect to fiber optics at a fiber switch and utilize DigitalBRIDGE Plus+ components wherever Ethernet devices are required.

Start from Scratch: Let Strata install a complete digitized leaky feeder system, including required Ethernet devices, tailored to your specific operational needs.



REDUNDANCY

DigitalBRIDGE Plus+ delivers performance levels comparable to fiber optic networks, facilitating enhanced Big Data Analytics (BDA) and rapid transmission speeds. This solution serves as an ideal backup for primary fiber networks, ensuring uninterrupted operations.



Personnel & Asset Bluetooth® Trackers

FEATURES AND BENEFITS

ONE CABLE FOR VOICE RADIO & HIGH-SPEED NETWORKING	<ul style="list-style-type: none">• Native Ethernet support• Proven high-speed data up to 800Mbps• Integrates with existing underground fiber networks
IMPROVED AUDIO QUALITY	<ul style="list-style-type: none">• Low noise figure operation:<ul style="list-style-type: none">- Quieter, highly linear amplifier- Gain of up to 25dB, enabling 500m spacing• Wide and flat passband
INCREASED RANGE FROM THE CABLE	<ul style="list-style-type: none">• High RF power output (OP1dB > +17dBm)• Consistent output power per channel, regardless of the number of simultaneous
LOW UP-FRONT INVESTMENT	<ul style="list-style-type: none">• Interoperability with existing third-party amplifiers and cabling• Upgrade existing radio networks to accomplish high-speed data• Start small and expand as results are delivered channels in use
LESS MAINTENANCE AND NO ONGOING TUNING	<ul style="list-style-type: none">• Self-adjusting gain management algorithm• In-built self-diagnostics processor• Simple cable terminations• Easy installation and maintenance by site electricians

INDIVIDUAL NETWORK COMPONENTS



DigitalBRIDGE Plus+ VHF Bi-Directional Amplifier

- Functions in all VHF band frequencies
- Unique Gain Control
- Passes Ethernet Signal
- Fully interoperable with 3rd party line amps
- Recommended placement every 1000 to 1600ft (350-500m)*

Strata Headend Unit

- Gain Management Controller to automatically tune all line amps in network
- Eight separate discrete channels
- Two RF ports
- One Surface Antenna
- One Leaky Feeder port
- Web-browser control and configuration for ease of setup and maintenance. Enables remote diagnostics.



DigitalBRIDGE Plus+ VHF Bi-Directional Amplifier with Ethernet

- Standard line amp with two Ethernet ports providing an uplink to existing fiber networks and/or data backhaul for industrial Ethernet devices.
 - Pumps
 - Fans
 - Sensors
 - Cameras
 - Wi-Fi Access
 - Electrical Switchgear



Quadport 2 POE & DC

The DigitalBRIDGE Plus+ Quadport 2 breaks out standards-compliant Ethernet ports right where they are needed, supplying power and data backhaul for any industrial Ethernet device, while also passing VHF voice radio communications.

SPECIFICATIONS:

- Digital: Up to 1 Gbps physical layer speed: typical end-to-end TCP throughput = 400-700Mbps
- Analog max gain > 25dB
- 25 MHz bandwidth in leaky feeder up and down link frequencies
- RF power output = +9dBm
- Direct Current (DC): 24 – 48 volts

* Distance dependent on PoE connections



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