



SEMTECH®

Lyman Communications



Lyman Communications Leverages AirLink® XR60 for “Satellite Comms in a Box” Solution

Lyman Communications’ “Satellite in a Box” systems combine satellite and cellular technologies using AirLink® XR60 5G and RX55 4G routers. These rugged, self-contained communications hubs run on battery, solar, or generator power and offer rapid deployment and reliable connectivity. They provide critical support to wildland firefighters and remote first responders, enhancing safety and communication in demanding environments.

QUICKFACTS

Company

Lyman Communications
www.lymancom.com

Customer Profile

For over 35 years, Lyman Communications has specialized in temporary, emergency, and rapidly deployable communication services using cutting-edge satellite, cellular, and fiber optics technologies. Lyman Communications has worked with Federal Agencies including the U.S. Forest Service, the U.S. State Department, and the Federal Emergency Management Agency to provide high-speed Internet, cellular and VoIP phone services in remote areas.

Objectives

Lyman Communications required a ruggedized, compact, low-power, high-reliability cellular router that also connected to low-earth orbit (LEO) satellites to ensure connectivity in remote locations. These routers would be used in a rapidly deployable mobile solution powered by battery, solar, and generator.

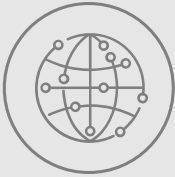
Results

Partnering with Semtech has enabled Lyman Communications to:

- Deliver high-speed internet and cellular phone connectivity in remote rugged locations.
- Quickly deploy a “solution in a box” to wildland firefighters and remote first responders.
- Connect to LEO satellite constellations such as Starlink and OneWeb to ensure connectivity in areas with weak or no cellular coverage.
- Operate on battery/solar/generator power with high reliability and extreme voltage resistance.
- Remotely monitor systems operation.
- Precisely map where cellular coverage exists and where satellite communication is required.

Products and Services

- AirLink XR60 5G and RX55 4G Routers
- AirLink Management Services (ALMS) through AirLink Services



“Monitoring our networks in remote locations is crucial to keeping all critical systems operational. Having a small, simple, and ready-to-deploy router saves time and eliminates headaches.”

Bill Landreth,
President of Lyman
Communications

INTRODUCTION

While most populated areas are covered by low-cost, high-speed cellular connectivity, there are still locations where cellular service is not readily available. The growth of low-earth orbit (LEO) satellite networks in recent years has provided lower-cost, higher-quality communications to remote areas compared to high-earth orbit (HEO) or geostationary (GEO) satellites. Companies including Starlink and OneWeb have launched satellite constellations that provide global coverage at competitive costs.

Lyman Communications has successfully integrated satellite and cellular communications in a unified ruggedized solution for use as temporary or semi-permanent communications hubs. These “Satellite in a Box” solutions are self-contained and run on battery/solar and generator power. They are fast and easy to deploy and have a low operational footprint.

CHALLENGE

Remote users such as wildland firefighters need network connectivity to communicate with each other and their base camps. Using LEO satellites as a backhaul and integrating this signal with a cellular router helps to maximize communication reliability and coverage.

Low power consumption was a key requirement due to battery/solar operation. The routers needed to be rugged, operating in a mobile environment and over wide temperature and voltage extremes. They need to be small to fit into small enclosures. They must also transmit high-resolution video feeds and monitor system power and performance.

Most of Lyman’s systems operate hundreds of miles from any repair facility. Lyman needed a reliable way to monitor communications and system status and remotely deliver any required system and security updates.

“ Having a small, simple, ready-to-deploy device saves time and reduces headaches. The ALMS platform is much easier to set up and use and more secure than traditional methods we have used. ”

Bill Landreth, *President of Lyman Communications*



SOLUTION

Lyman Communications has integrated the AirLink XR60 and RX55 cellular routers into their Lyman Communications/Emergency Cellular System (LC/ECS). The routers use satellite communications in remote locations, yet they can automatically switch to cellular connectivity when service is available. Cellular connectivity offers both lower cost and increased bandwidth versus satellite connectivity.

The AirLink router is paired with a LEO or GEO satellite system, which creates the basic network. The router is typically paired with a network extender to provide a localized cellular bubble in areas that don't have sufficient cellular infrastructure. Network switches, laptops, cellphones, and cameras can be connected to the routers via LAN connections or Wi-Fi generated by the AirLink router.

Lyman Communications uses AirLink Management Service (ALMS) as a monitoring platform and device management tool. ALMS enables Lyman to quickly register, configure, and deliver firmware updates in the field. Coverage mapping shows Lyman where cellular coverage is nonexistent and compares carrier coverage in marginal areas.

“Monitoring our networks in remote locations is crucial to keeping all critical systems operational. Having a small, simple, and ready-to-deploy router saves time and eliminates headaches”.

Bill Landreth – President of Lyman Communications

RESULTS

Partnering with Semtech has provided many benefits for Lyman Communications:

- AirLink compact routers have greatly reduced Lyman's need to deploy traditional bulky and heavy equipment.
- Low power consumption of the AirLink XR60 and RX55 works well with solar/battery operations. AirLink routers operate over wide voltage ranges and have robust power conditioning to filter out generator power spikes.
- The AirLink routers' ruggedness and reliability help ensure 24/7/365 operations.



- AirLink Services powered by ALMS enable Lyman to improve remote monitoring and network management.
- Lyman can use cellular networks to complement their primary satellite backhaul.
- The system works with all the major carriers including AT&T, Verizon, and T-Mobile in the U.S. It also works with first responder emergency priority networks.
- Advanced router technologies including 5G allow Lyman Communications to find new technology/market solutions.

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Bill Landreth – President of Lyman Communications

For more information on Semtech Solutions visit: www.sierrawireless.com/router-solutions

About Semtech

Semtech Corporation (Nasdaq: SMTC) is a high-performance semiconductor, IoT systems and cloud connectivity service provider dedicated to delivering high-quality technology solutions that enable a smarter, more connected and sustainable planet. Our global teams are committed to empowering solution architects and application developers to develop breakthrough products for the infrastructure, industrial and consumer markets.

To learn more about Semtech technology, visit us at Semtech.com or follow us on [LinkedIn](#) or [X](#).

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