

# SATRAD HARMONY

*Device agnostic, seamless Interoperable Communications with Radio over IP (RoIP). Modular & custom configured RoIP solutions to meet your mission critical communication requirements.*

## Overview

Bridge the Mission Critical Communications PTT gap between terrestrial, radio, cellular and satellite networks.

Regardless of the device – Smartphone app, Two-way radio, Satphone or PC, with Radio over IP, your organization can communicate seamlessly between existing legacy systems and next generation solutions.

Network Innovations' "SATRAD HARMONY" Solution utilizing Radio-over-IP-over-LTE (FirstNet) and Satcom, is a device agnostic platform that can interconnect existing legacy or new technology solutions within a dispatch center, mobile command vehicle, transportable kits, and handheld devices.

This device agnostic approach allows Mission Critical PTT (MCPTT) users to access multiple technologies based upon their specific mission requirements. This capability simultaneously enables continuous interoperable communications with up to four LMR devices over multiple protocols including:

- P25-Phase I and II, conventional & trunked
- DMR Tier II / III
- TETRA
- HF/VHF/UHF, 7-800MHz, and HF

Our SATRAD Product Family includes both LTE and satellite as a backup to your existing LMR network.

And with our SATRAD HARMONY RoIP Interoperability Hub, you have the ability to interconnect various talk groups from disparate platforms and for a comprehensive device agnostic interoperable mission critical communications solution.



## Applications

- Emergency / Disaster Communications
- Multi-Agency Interoperability
- Incident Command

## Supported WAN Connections

<b>Cellular</b>	AT&T (FirstNet), Verizon, T-Mobile, Bell, Rogers, Telus
<b>LMR</b>	Multiple two-way radio vendors
<b>Satellite</b>	VSAT, BGAN, Iridium, Inmarsat, Government, and others

## Interfaces

<b>LMR 4x Max</b>	(Digital or Analog) D-sub Micro-D 15-Way RS232, 4-Wire E&M
<b>Satellite</b>	2x 10/100 RJ45
<b>Cellular</b>	2x SMA Female
<b>WiFi/Bluetooth</b>	1x SMA Male
<b>GPS</b>	1x SMA Female
<b>Serial</b>	1x USB

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## Key Features & Benefits

### Network Resiliency

We maintain a robust and secure satellite network datacenter and associated 24/7/365 Satellite Network Operations Center (S-NOC). Network Innovations works with you to operate an open or closed Radio-over-IP network environment thus housing transcoding, compression and other RoIP server infrastructure to support your Mission Critical PTT and data requirements.

### Anomaly and Fault Isolation

As a managed satellite service provider, we maintain a S-NOC that is staffed 24/7/365. We pride ourselves on best-in-the-industry technical staff, as well as the use of our proprietary software that's designed for satcom fault detection, isolation, and recovery (FDIR).

### Best-in-Class Surge Management

We understand the unique requirements of our public safety/emergency responder customers and purposefully architect services and solutions to address surge requirements. Our satellite networks and integrated solutions are built with surge capacity and backup bandwidth for critical infrastructure customers in mind. We use both satellite and LTE (FirstNet) for multi-medium diverse path WAN connectivity in our mission critical PTT solutions.

### Technical and Troubleshooting Support

Our Satellite Network Operations Center (S-NOC) is dedicated to helping end-users in the field. Our 24/7/365 S-NOC will always be answered by one of our technical professionals ready to help and ensure the correct resources are dispatched to solve any operational need.

### Certified FirstNet Reseller

Network Innovations is an authorized FirstNet Dealer/integrator & is a tier 1 distributor and/or reseller of MSAT G2, Iridium (voice, Certus data & PTT), Inmarsat (voice & BGAN), as well as "MAVERICK" – our own VSAT satellite network. As part of our device agnostic approach, we also sell a wide range of hardware to include RoIP gateways, two-way radios, and satcom devices. Lastly, we can integrate our RoIP Interop with multiple smartphone applications and desktop PC's. Our wide range of partnership arrangements ensures our ability to optimally manage our supply chain viability.

## Specifications

Dimensions 559mm x 356mm x 229mm (22in x 14in x 9in)

Weight < 50 Lbs

## Electrical

10.8v - 32v DC

110v AC

## Supported Call Types

Individual, Group, Broadcast, Emergency

Encryption, Man-down / Duress, Location Services, PSTN

## Security

DES

AES-256 ECB, OFB, CBC

## Interfaces

Front 3x RJ45 (2x Ethernet, 1x Microphone)

Available Ports 3x Digital LMR / RS232  
1x D-sub 4-Wire E&M / Balanced Audio  
3x D-sub SMA Female (2x Cellular, 1x GPS)  
1x SMA Male (WiFi / Bluetooth)  
1x USB-C 2.0  
1x DC Power 2.5mm x 5.5mm Female Barrel

RF WiFi (802.11b/g/n) - 2.4GHz  
Bluetooth (v4.2) - 2.4GHz  
GPS - 1.2GHz, 1.5GHz  
700-800 MHz - UHF, VHF, HF

## Cellular Bands

Present 3G B1,5,8

Future 3G B1,2,4,5,6,8,9,19

Present 4G B2,4,5,12,13,14,17,66

Future 4G B1,2,3,4,5,7,8,9,12,13,14,18,19,20,26,29,30,32,41,43,46,48,66

