802 GLOBAL
Special Projects Group

Rapid Deploy Command Control Communications & Security Solutions

Samix RDMN-3

In complex and fast changing emergency environments, getting the full picture of an incident ground operation can seem an impossible task. Now 802 Global can offer a fully integrated wireless solution providing an incident-wide video, voice and data capable network which is robust and instantly deployable - suitable for any major incident response team.

The 802 Global Samix RDMN-3 enables real-time communication and video exchange between field responders, command vehicles and remote locations such as Silver and Gold Command, allowing front line and headquarters personnel to exchange vital information for full situational awareness.

A Samix RDMN-3 network is a true wireless mesh - every node is intelligent and does not rely on a central controller that represents a single point of failure. Using a mix of vehicle and tripod mounted nodes the mesh can be extended to all areas as required.

With the addition of mobile satellite backhaul, incident imaging and other information can be exchanged not just within the incident environment but also with HQ or other locations. This gives front line personnel access to remote information such as hazardous chemical data or building layout diagrams. They also can have a secure live video, voice and data connection to an expert anywhere in the world.

The Samix RDMN-3 in action

Northern Ireland Fire & Rescue Service has equipped a Command Support Unit (CSU) vehicle with a set of RDMN-3 units to provide full fireground coverage. This includes vehicle mount, tripod mount and aerial lift platform units. Real time feeds from several cameras (including body worn sets) are aggregated onto a network video recording system in the CSU from where they can be redistributed as required. A satellite antenna on the roof of the CSU allows the HQ command suite and other remote users to access any camera feed. The satellite link also provides telephone access for secure voice over IP wireless handsets located anywhere on the fireground.

Typical Applications

Optical and thermal cameras relay real-time incident imaging to command and control personnel or to other in-field devices such as Mobile Data Terminals, PDAs and dual mode smartphones.

Networked devices can connect seamlessly to allow data exchange, whiteboarding and even video conferencing.

Instant messaging and incident-wide broadcast of alerts and bulletins ensure that the incident team is kept fully aware in real time.

The Samix RDMN-3 can be deployed on aerial ladder platforms (ALPs) to connect to overview and thermal imaging cameras and provide extended Wi-Fi coverage.

The Samix RDMN-3 is housed in a dust, water and chemical resistant enclosure suitable for even the harshest environment. Using military grade batteries the unit can operate autonomously for extended periods.

The open architecture design of the RDMN-3 supports multiple build options, ensuring the equipment is well suited to the specific work practices of different organisations.

At the heart of the RDMN-3 is a dual radio node from Firetide, the world leaders in wireless mesh technology.

Single and dual video encoders can be included to support virtually any analogue camera including thermal imaging, handheld and COFDM units, for the exchange of real-time video information with command and control.

External Ethernet connectors permit the direct connection of a wide range of equipment including IP cameras, chemical and gas analysers, perimeter security radars and rugged computing devices. The RDMN-3 can be fitted with connectors to provide power to external equipment.

A further option is the inclusion of a Wi-Fi access point to enable connection of laptops, PDAs, Mobile Data Terminals and dual mode Wi-Fi/GSM mobile phones.

Field deployable nodes i.e. those that are not built into a vehicle or incorporated with other equipment, can be tripod mounted with a quick release plate. This facilitates convenient storage and transport while ensuring easy placement exactly where required.

Product Features

STANDARD

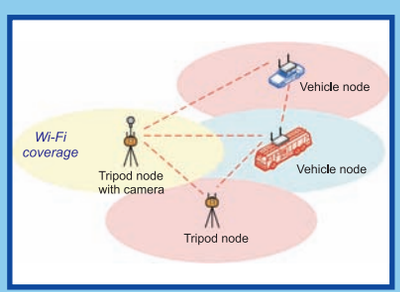
- Rapidly deployable instant communication system
- Supports high quality video, data and voice
- Built in video encoder supports a wide range of cameras, including thermal imaging with full PTZ control, handheld and COFDM units
- 256 bit AES encryption from port to port and digital certificate exchange ensure all transmissions are secure
- Dust and water proof, chemical resistant, rugged enclosures are suitable for harsh environments
- Military technology batteries are high capacity, light weight and compact for long operating times and portability
- Dual radio mesh nodes which operate concurrently in 2.4 & 5 GHz ranges provide a robust high capacity network with non-line of sight capability
- Automatic meshing radio technology means any node can link to any other node and network can self heal
- Single power switch and three status indicator lights for quick and easy operation

OPTIONS

- Access Point to support WiFi devices including MDTs (Mobile Data Terminal)
- Tripod mounted nodes for coverage extension
- Aerial Lift Platform compatible units are fitted with brackets for direct mount to the ALP cage

How does a mesh work?

The Samix RDMN-3 utilises technology originally developed by the U.S. Department of Defense for an instantaneous battlefield communications network.



Each node can wirelessly link together with other nodes in any topology to cover a wide area. Minimal management control is required to deploy the network since nodes automatically discover each other to form the wireless mesh. This same capability also enables the mesh network to heal itself automatically whenever any node is taken out of service or fails, or if any path between nodes is blocked. The self-healing architecture of the mesh network, with redundant paths among mesh nodes, makes the solution remarkably resilient and reliable. Designed to support multiple concurrent applications such as high resolution real time video, voice and data, the RDMN-3 is a high bandwidth solution ensuring maximum throughput and low latency in a fully wireless environment.

Summary Specification

External Dimensions: (exc. antennas)	339mm(L) x 295mm(W) x 152mm(H)
Weight:	6.5kg (option dependent)
Environmental rating:	IP67
Operating frequencies and powers:	
5.15-5.35 GHz	100mW EIRP
5.47-5.725 GHz	1 Watt EIRP

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