Radio Over IP Gateway
ROIP-300

Features and Specifications

Radio over Internet Protocol uses standard techniques to transfer the analog audio signals used by Land Mobile Radio/Repeater Systems, digitally over the LAN (or Internet). In addition to voice, RoIP also transfers signals that are specific to LMR applications, such as PTT and COR Control lines. ROIP provides secure wide area connectivity between Radio Systems at different locations connected using Static/Dynamic IP. It also has additional feature of Automatic Connectivity on power/link reset. Multiple PC consoles can be operated without the high cost of installing fixed consoles.

Radio over IP Gateway was developed to extend the range of radio base stations of few kms. ROIP-300 connects two base station (which are not in each other’s radio range) together over the IP Backbone. As the backbone is IP, the range of base station gets unlimited. All the handsets/ walkie-talkie can communicate with the handsets of both the base stations.

IP BACKBONE:
ROIPs can be connected together over IP Backbone, which can be:

- Internet Connectivity
- LAN Connectivity
- WIFI Connectivity
- VSAT Connectivity
- Canopy Connectivity

ROIP only needs IP (Ethernet) at both the locations which are to be connected together. If each IP can be accessed from the other IP’s location, then ROIP can be connected together.
APPLICATIONS/ CONFIGURATIONS

1. SINGLE POINT-TO-POINT CONFIGURATION

In Single Point-to-Point Connectivity, two different radio wireless networks at different locations can be connected with each other using ROIP over the IP Backbone. ROIP will be connected to both Radio Base Station and IP. Whenever, any person speaks from his handset, it will also be transmitted over the IP using ROIP at the other location and vice versa. Thus, all the handsets at both the locations will communicate with each other as if they are in the same radio wireless network. Both the ROIP will be connected to each other directly using Static IP Address without the use of any fixed Server/PC Console. The schematic diagram of Single Point-to-Point Configuration is shown below:

2. MONITORING CONFIGURATION

If you are far away from your office/ radio wireless range and still want to communicate with that wireless network or want to monitor what is happening in that location, you can use the Monitoring Configuration. You just need one ROIP unit at your radio wireless location connected with any base station and with Internet (Static IP Address). All the communication at that radio wireless will work as before. Now whenever you are away from that wireless range or are sitting in your office, you can connect to that ROIP using a ROIP PC Software from your laptop/PC. You just need Internet connection on you laptop/PC and headphones, microphone. The schematic diagram of Monitoring Configuration is shown below:
3. MULTI POINT CONFIGURATION

For connecting more than two radio wireless networks with each other, you can use Multi Point Configuration. In this configuration you need ROIP at each location connected with the base station and having Internet Connectivity. Also an additional Computer will be required at any one location having Internet (with Static IP Address, ROIP don’t require Static IP Address in this configuration). A customized ROIP Server Console Software will be required and will be installed on the Computer. All the ROIPs will be connected to this Computer. Whenever any handset transmits, Server Console will receive that audio and will transmit to all the other ROIPs as per the configuration done in the Server Console. Thus you can connect all the locations or only few locations at a time together over the IP. The schematic diagram of Multi Point Configuration is shown below:
Features and Specifications

SPECIFICATIONS

Network Requirements
- Device Payload: 1kbps idle, 64kbps active.
- Network Loading: Minimum 128kbps Network Bandwidth
- Packet Loss: <1%
- Packet Delay: <400ms
- Network Type: Fully switched Ethernet, full duplex.

General
- Dimensions: 1.75 x 5.9 x 4.3 inches (H x W x D)
- Weight: 360g
- Operation Temperature Range: -10 to +55 Celsius
- Power: 9V DC, 500mA
- Network Connection: 10/100 Base-T Ethernet connection using RJ-45

Radio Signals Used
- PTT
- Carrier
- Receive
- Transmit

OTHER FEATURES
- Wide Area Network Connectivity.
- Remote PC connectivity to a known radio channel. (Optional)
- Auto-Connection on link or power reset.
- User Programmable IP Configuration.
- Flexible Port Address Configurability.
- Secured Communication by using Authentication Packets.
- Connection between Static IP Network and a Static/Dynamic IP Network.

TECHNICAL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT OBLIGATION OR NOTICE

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