

Application Report IPR400 VoIP Interface

Customer Profile

- Emergency service with radio dispatch to remote repeater sites.

Application

- To provide a backup path to a critical radio repeater site using IP.

Business Benefits

- Builds redundancy into the communications network.
- Simple to implement and use.
- Provides flexibility and control at the repeater site.
- Cost savings by eliminating additional backup radio infrastructure.

Products Used

- IPR100.
- IPR400.

Omnitronics International

Ground Floor
301 Coronation Drive
Milton Qld 4064
Phone +61 7 3369 5733
Fax +61 7 3369 5799

Email
sales@omnitronics.com.au

Web Page
www.omnitronics.com.au



PATH DIVERSITY TO A REPEATER SITE USING IP

→ Customer Overview

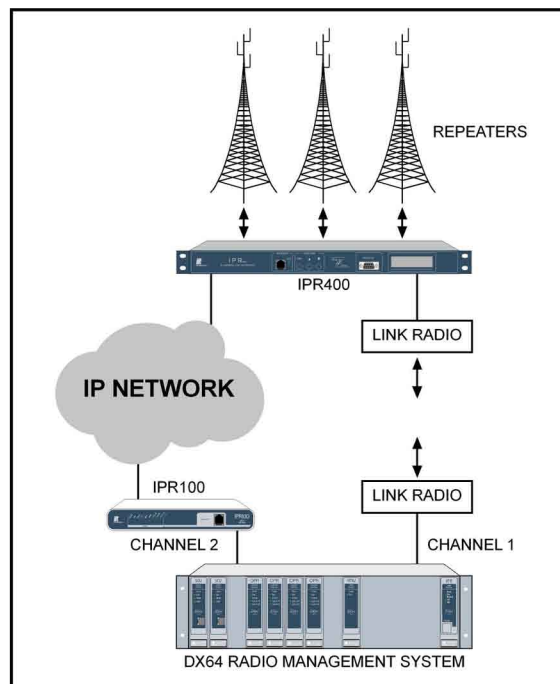
The customer is an Ambulance Service which operates a radio network for a communications centre. Operators at the centre select specific channels of a Radio Dispatch System (RDS) to communicate via selected sub networks. Each channel selected connects to a repeater site via a series of radio links, the link then keys-up a number of repeaters at the repeater site.

→ The Challenge

To provide a backup path to each repeater site using the organisation's private LAN to connect to a repeater site in the case of a breakdown in the link, and the backup path should be invoked using a simple action by the operator at the RDS. However, since many of the repeater sites control several repeaters, the solution must provide seamless audio bridging without operator intervention.

→ Solution

An IPR400 four-channel VoIP adaptor was installed at each repeater site. With four analog channels available, one was allocated to the trigger link at the base and the three remaining channels were connected to the repeaters. The IPR400 was configured to bridge all the repeater channels to the link and to the IP port. All audio received from the repeater network would be routed to both the link port and the IP port. Similarly, audio from the link port or from the IP port would be routed to all repeaters. The organisation uses a DX64 RDS at each communication centre and at the DX64 location the client added an IPR100 for each backup path. These IPR100 devices were connected as extra channels on the DX64 RDS allowing operators to switch between the main and the backup paths by simply selecting alternate channels on the RDS.



→ Conclusion

The IPR400 makes it a very easy task to provide path diversity to repeater sites using Internet Protocol. The ability of the IPR400 to bridge up to four channels in the analog domain, with multiple IP streams, allows our clients to configure audio linking on local repeater radios and to access them over IP. When used with a Radio Dispatch System, the backup functionality can be made easy to understand and to implement.