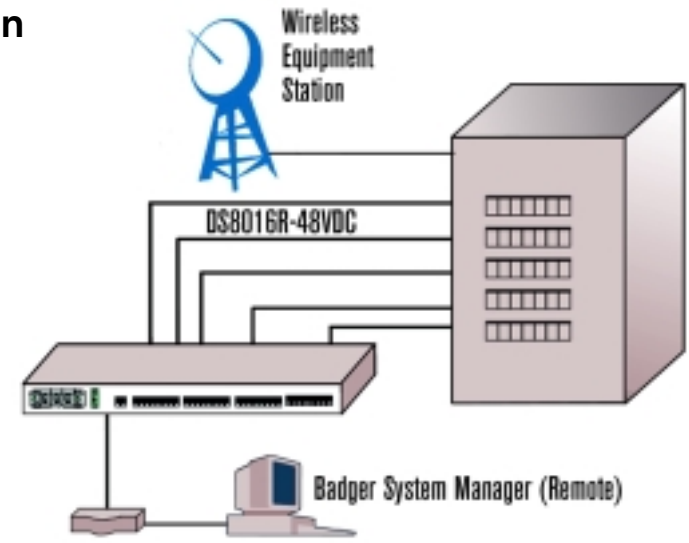
# A highly reliable Magnum LAN solution for Valley Telephone

**Microwave Relay Station**
**Network Management**




## Technology Today

Telecommunications companies are looking for ways to improve reliability in their networks and to reduce the cost of Ethernet-based data management applications. Most facilities operate with –48VDC power and can benefit from Carrier Class Ethernet LAN products for network management.

To provide remote monitoring and control of telecommunications services and operations, a robust and reliable Ethernet LAN, using high quality NEBS-compliant hubs and switches that link to the network management control center, is now a requirement.

## About Valley Telephone

Valley Telephone Cooperative is a rural telephone company located in Wilcox, Arizona. Valley Telephone offers PBX equipment, Internet access, business, and wireless services.

Due to the geographic area served being large and sparsely populated, many of the facilities are located in remote areas. Often, electrical storms and lightening can cause equipment problems, and the typically-used utility AC power is not always satisfactory. The maintenance and repair costs can be very high, therefore, it has become crucial for customers to have reliable cost-effective equipment. Remote management and robust Carrier Class equipment have become a necessity in these applications.

## The Problem

Previously, Valley Telephone had installed commodity-class AC-powered Ethernet hubs, used in LANs for managing 3GB wireless radios and other equipment in their wireless facilities.

In order to operate the commodity hubs, they had to be powered by an inverter, drawing power from the high-availability DC source in the building and converting it to AC. The usage of inverters required additional rack space, increasing the cost of the application and reducing reliability since the inverters themselves introduced additional points of failure. Valley Telephone needed a solution; they desired a Carrier Class hub that had a –48VDC power supply built-in to eliminate inverters and to increase network management reliability. In addition, based on the history of repair and maintenance costs, it was apparent that operating costs also needed to be significantly reduced.

## The Solution

GarrettCom's Magnum product line offered many excellent solutions for Valley Telephone's Ethernet network management application. Valley Telephone chose Magnum Model DS8016R-B-48VDC Hubs for its network management facilities. The rack-mountable Magnum DS8016R-B-48VDC hub provided sixteen 10/100Mb Ethernet ports for node connection flexibility. Furthermore, signal timing integrity is maintained because the Magnum DS8016R-B-48VDC does not introduce packet-buffer delays. It is a plug-and-play replacement for the commodity hubs previously used by Valley Telephone, except for the –48VDC power source.

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A dual-source DC input option (A and B) is available when needed.In addition, the "reverse" feature of the Magnum DS8016R-B-48VDC provides cable and power connectors in the rear and status LEDs in the front of the hub, enabling rack mounting with the cables in back. This improves cable routing, saves rack space, and allows a neat LAN networking installation in the facility.

The Magnum DS8016R-B-48VDC hubs are NEBS compliant and have a strong track record of reliability in Carrier Class applications. Using Telcordia (Bellcore) methods, MTBF is calculated at over 8 years, surpassing Valley Telephone's reliability expectations.

## The Result

The Magnum DS8016R-B-48VDC Hubs have established highly reliable Ethernet LAN connections for the management of Valley Telephone's wireless stations. Valley Telephone was able to reduce inverter costs and save rack space. More importantly though, the increased reliability improved customer service and reduced operating and repair service costs.

Installation and commissioning of the Magnum Hubs was readily accomplished and the units continue to work flawlessly. As a result, the effectiveness of the network management system has reached all-time peak levels.

## About Magnum DS8016 Hubs

The Magnum Model DS8016R-B-48VDC is NEBS compliant, having been installed and used in many telecommunications equipment systems that are NEBS tested and certified. Its robust construction and high quality have earned it a "preferred" reputation in Carrier Class Ethernet LAN applications.

Each unit provides 16 RJ-45 ports, each one auto-sensing for 10Mbs or 100Mbs. It comes with an internal switch that bridges the two traffic domains, filtering and selectively forwarding packets between the 10Mb and 100Mb domains. It comes in a reverse mount package to simplify cabling and ETSI or 23" rack-mount brackets are available. A built-in dual-source DC power option can be selected for factory configuration.

## About GarrettCom

GarrettCom is the leading supplier of Carrier Class Ethernet LAN products. GarrettCom designs, manufactures and markets a comprehensive line of ETSI and NEBS-certified hubs and switches for use in data and telecommunications systems worldwide. For more information on GarrettCom and its products, please visit www.garrettcom.com.



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**GarrettCom, Inc.**
47823 Westinghouse Drive • Fremont, CA 94539 • PH: (510) 438-9071 FAX (510) 438-9072
Email: mktg@garrettcom.com • Web: www.GarrettCom.com