

Justification for professional installation

Marketing and Application

The WaveLink 4500 system has been designed and is intended for use as an alternative to traditional wireline methods of providing DS3 and High-Speed Ethernet connectivity. As such the end user of this system will be enterprise businesses, local telephone companies or utility companies. The actual customer for, and operator of WaveLink 4500 networks will be Service Providers such as ISP's, Competitive Access Providers (CAP's) or the local telco's themselves. This places the use of the system decidedly in the industrial/commercial application arena.

Furthermore, many of the aforementioned target customers are already involved in wireless communications technologies and have on staff professional RF installation crews. For those Service Providers who do not to date have in-house talent for the RF installation of the WaveLink 4500 system, e.g. ISP's, they will be directed to a network of third party providers (largely from the cellular/PCS arena) who specialize in microwave equipment installations. Examples of some of these support shops are Valcom in the mid-west, and Netcom International based in Atlanta.

Technical Requirements

There are several steps involved in the setup and installation of the system that require tool's and skills not found in the average technically inclined person's skill set. Some of these are:

- **Physical Installation** - these units are designed and intended for outdoor installation. The units will be located on towers on tall buildings typical for microwave equipment sites. Access to these locations is typically restricted to those with authorization, which restricts access from the average lay person. Furthermore, when installing the systems weather sealing of connectors is required, an additional somewhat specialized task.
- **Antenna Alignment** – in order to align the antennas of the system, it is necessary for the installer to adjust the antenna based upon an RSSI (Received Signal Strength Indicator) voltage measured at a test point on the radio unit
- **Power Requirements** – The WaveLink 4500 radio requires a DC voltage from 21 to 60 VDC to operate. As this is outside the normal household appliance voltage, the user must seek AC to DC or Battery systems which unique to systems requiring professional expertise or installation.