



## Remtron Technical Note

### *PosiLink*

PosiLink™ is the Remtron's trademark name for its advanced Command Pro communications protocol. PosiLink™ was specifically designed for industrial and commercial equipment needing secure wireless real-time control. It employs a unique combination of time, frequency and code diversification techniques to provide dependable and safe commanding of equipment.

In developing our unique protocol, Remtron found that existing protocols were not ideal for remote commanding in an industrial environment. Commanding industrial equipment requires:

- Quick, responsive control with no dropouts
- Immediate acquisition of signals
- Safety against false commands
- Ability to operate in any signal environment

Existing protocols were either too simple and lack the necessary protection or too complex and not suitable for quick-response commanding. Complex protocols such as frequency hop, spread spectrum techniques involved long synchronization routines and unnecessary complexity. They are primarily suited for data communications that can afford the inherent time delays and processing complexity of the technique.

PosiLink™ achieves the industrial command goals by using a combination of time, frequency and code diversification techniques. The frequency diversification employs a special hardware design that allows wide band frequency modulated data linking and a design that insures immunity to outside interference. The wide band design allows fast transmission of the data enabling short packet data transfer protocols. The packets are transmitted at different data rates depending on the mode and requirements for the system. Fast data rates for fast response. The data packets are kept reasonably short, unburdened by unnecessary information so that the chance of encountering in-band interference is kept low. For time diversification, a repetition of the data is used which insures commands are received even if some interference is encountered.

Remtron developed very unique encoding algorithm for the receiver that is solely for controlling equipment and for the reception of the Remtron specially formatted signals in an industrial environment. It is this post reception processing that allows the Command Pro systems to work as though signals are hardwired, even in electrically noisy environments where one would expect signal dropouts to occur. Each command or packet is subjected to error checking using Cyclic Redundancy Codes (CRC) to prevent false commands. More than 5 million unique identifiers provide code diversification and insures that there is never a chance that a transmitter can inadvertently command another receiver as can happen with systems that use repetitive security codes.

PosiLink™ is a field proven communications protocol that is in use by thousands of systems daily, moving giant critical loads to controlling simple pumps. It was designed to do a specific job and has proven that it does it well. Whether your system needs to operate in a remote environment or a signal busy airport, PosiLink™ is the best you can get.