The EST-9600 and Ethernet Networks
Replace Synchronous Modem Connections

A Solution For Motorola AstroTac And Quantar Installations

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Many of our government customers use Motorola AstroTAC and Quantar radios with synchronous V.24 connections between remote sites. Like others, they are faced with the "disappearing E&M line blues" as telephone companies withdraw their leased E&M line offerings from the marketplace.   Their communications providers are replacing leased line connections with digital lines, typically T1 or packet switched networks (basically ethernet) and in some cases all TDM networks are being replaced with packet switched networks. It's sometimes convenient to use a wireless connection to replace that old leased line, and this option provides the ability to have a mobile repeater connected in the existing radio network.

The Data Comm for Business EST-9600 is a serial tunnel that allows synchronous devices to communicate through ethernet connections, The EST-9600 connects any HDLC based synchronous protocol serial device through a LAN and between LANs via routers. It functions independently of the device protocol, allowing HDLC protocols to be carried with no configuration changes.

These features make the EST ideal for your Motorola repeater interconnections. Motorola uses an esoteric protocol and synchronous connections. Those combine to make replacing their obsolete synchronous wire line modems rather difficult.   Not so with the EST-9600.   You can now connect the repeaters using any ethernet connection, even wireless, by replacing the wire-line modems with EST-9600 tunnels.   And, they also work in point-to-multipoint mode, allowing multiple connections, just like those modems of old. While not recommended for raw installation on the Internet, the connection tunnel is protected with AES encryption.

Specifically, the Motorola repeater controllers intercommunicate using 9600 bps synchronous connections. In the past, this was easily accomplished by using Motorola or third party synchronous wire-line modems. Now that wire-lines are becoming a thing of the past, being replaced with packet switched ethernet networks, that connection method is no longer viable. The EST allows replacing the sync modems and wire-line connection with a pair of ESTs and the ethernet connection of your choice.

That ethernet connection is frequently via the Internet, but sometimes direct in-house networks are used; and for mobile command post units, a wireless wifi or even LTE link is suitable. After all, the bandwidth requirements are rather modest at 9600 bps for the raw data feed.

Installation is fairly simple. You need to configure the ethernet parameters for the network you are using and wire an appropriate cable to the Motorola equipment. DCB has helped others do this and has an example wiring table available.

EST-9600

A little history

This product was first developed back in 2006 and was quickly applied to solve a similar problem… transferring synchronous serial information between NATO radar sites that had only ethernet connections available. It wasn't until 2013 that a sharp engineer working for the Federal government discovered that they could use the EST to tie multiple Motorola repeaters together and worked with us to fine tune the design for this application. These allowed his agency to extend the life of their radio system for years, saving millions of dollars. Since then, many other federal, state, and local public safety agencies have used them.

About the EST-9600

The EST-9600 synchronous tunnel is available from Data Comm for Business, Inc (DCB) either directly or through resellers such as Graybar or Anixter. At only $889, and with a small footprint, it's easy to deploy.

Read the EST-9600 data sheet at https://www.dcbnet.com/datasheet/est9600ds.html

Data Comm for Business manufactures many other communications products that fill both niche and common application markets. More information is available at https://www.dcbnet.com