POLLING PROTOCOL & BANDWIDTH

OVERVIEW

DSX IP Communications occur between the Comm Server PC and Master Controller using a DSX-LAN-D appliance.

- The DSX-LAN-D is an appliance not a Network Card or PC.
- It is assigned a static TCP/IP Address and a UDP Port number between 4000 and 5000.
- This is the IP Address and UDP Port the Comm Server is communicating to for that Location.

DSX-LAN-D Functions

- Listens for communications from the Comm Server PC directed at the mutually agreed UDP port number.
- Breaks down the packet from the Comm Server and sends the DSX proprietary protocol packet to the Master Controller.
- If the Master Controllers address is correct, along with other qualifying factors, the Controller replies to the LAN-D module. The LAN-D module then sends the reply from the Controller to the Comm Server.
- The proprietary DSX protocol has its own error checking and retry logic built in.
- The module speaks UDP and should only answer to polls from the Comm Server directed to the Port agreed upon.

DSX-LAN-D Security

Data exchanges between the Comm Server and Controller do not contain names, titles or other pertinent information that can be read in the data exchange. For higher security application AES-256 encryption can be implemented. The DSX-LAN-D is protocol independent and can successfully pass the encryption without an upgrade.

In a similar fashion, DSX Workstation polls the Comm Server. Workstation uses the TCP protocol and requests an available port from Windows. It then directs a poll to port 22223 at the Comm Server IP Address. The Comm Server replies to the poll. When the Comm Server program replies to Workstation, "Primary Online" will appear in green in the bottom right corner of Workstation.

BANDWIDTH

Communication connections between the WinDSX Comm Server and a Location Master Controller use approximately 4800 bits per second of bandwidth. Size of Database is not relevant.

Poll Frequency

The Poll Frequency adjusts how often the PC will poll the Master Controller through this port connection.

Timing can be adjusted to best suit the method of communication and bandwidth usage. This can be especially useful for LAN/WAN - TCP/IP communications and for RF or radio link to the Master Controller.

Starting with Versions 3.7.133 \ 4.8.92 the Poll Frequency sets how often the Comm Server sends an empty poll or one that does not contain payload data. When there is data to be uploaded or downloaded the Comm Server will poll as fast as possible. When there is no data to be sent in either direction the communication supervision polls will be sent according to the poll frequency. This is set in milliseconds.

Timing

Time adjustments are made in milliseconds. The Default is 500

0 = poll as fast as possible, 500 = twice a second, 1000 = poll once a second, 5000 = poll once every 5 seconds.

For Direct and Dial-up Modem communications set the Poll Frequency to 0.

For LAN (TCP/IP) Communications set the Poll Frequency to 500.

Packet Size

Data packets between the PC and the Master Controller vary in size. The majority of the packets are empty polls and are only 18 bytes long. The longest packet is 200 bytes long.