**DSX Access Systems, Inc.**

# DSX-LAN Communications Overview

DSX IP Communications take place between the Comm Server PC and Master Controller using a DSX-LAN appliance. This module is an appliance not a Network Card or PC. It is assigned a static TCP/IP Address and a Port number. The port number ranges between 4000 and 5000. This is the UDP Port that the Comm Server is sending to at the IP Address of the module.

The module is listening for communications from the Communications Server PC that are directed at the mutually agreed port number. When the module breaks down the packet from the Comm. Server it 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 module. The LAN module then sends the reply from the controller in a reply 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.

The DSX protocol has the error checking and retry logic. Nothing is ever sent in the clear in the data exchanges from the Comm. Server to the controller. There are no names, titles or other pertinent information that can be read in the data exchange. For higher security application AES-256 can be implemented between the Comm Server and the Controllers. The DSX-LAN is protocol independent and can successfully pass the encryption without an upgrade to it.

The Workstation program polls the Comm Server program in a similar fashion to the way the Comm Server program polls the Master Controllers. The 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.