



# NETWORKING & SYSTEM OVERVIEW

## OVERVIEW

### **Multi-Location, Multi-User, Multi-Tasking Windows™ Access Control and Event Monitoring System.**

The WinDSX program is a real-time system monitoring and control application with an online data editor and a communication protocol that supports non-invasive incremental downloads.

- Open databases on the shared data resource (Database Path) contain the System Configuration, System Programming, and System History.
- PCs MUST meet the minimum PC Requirements and have sufficient bandwidth available to process events in real-time. The system is reading and writing into the Databases continuously while the programs are running.
- The network MUST be reliable enough for a real-time 24 x 7 system.
- Supports from 1 to 999 Workstations, up to 32,000 Operator Passwords and 32,000 Password Profiles.
- The Multi-Station capabilities are facilitated by Local and Wide Area Networks
- Local Area Network (LAN) compatible without software supplements or upgrades.
- Compatible with most networks.
- See PC Requirements doc for information on specific operating systems. [PC Requirements](#)

## DATABASE & WORKSTATION PROGRAMS

Can be run on any PC needed to monitor and control the system or change the system data.

### **Comm Server Program (CS.exe)**

- Run only on the PC designated as the Comm Server.
- Comm Server PC maintains the connections to the Location Master Controllers via USB and LAN.

### **DataBase Program**

- Used to administer System and Card holder data for the entire system.
- DataBase is where all system data is defined and where reports and Photo ID's are printed.
- DataBase also holds system utilities such as Backup and Restore depending on the version of Software.

### **Workstation Program**

- Real-time user interface that polls event data from the Comm Server PC using TCP/IP.
- Workstation screen displays events and provides for alarm monitoring and handling.
- Allows full monitoring and control of Inputs, Outputs, Devices (readers), Maps, and Cameras.

## SYSTEM PERFORMANCE

Dependent on the PC and LAN processing speeds. Each PC in the DSX System should meet the minimum requirements in the "PC Hardware Requirements" document. A faster processor and more memory will increase system performance. For maximum efficiency and stability, a 100Mbit LAN with a centralized hub for a star wiring configuration should be used. A 10Mbit LAN connection is the minimum speed required for WinDSX Workstations to operate.

\*The File Server, the Communications Server, the Client Workstations, and all related Switches and HUBs should have adequate UPS or back up power with ample surge protection on all phone lines, data circuits, and power connections.

## SYSTEM CONFIGURATION

WinDSX Software is installed on the local hard disk of each Workstation PC (Fat Client). Each Workstation runs the WinDSX program's executable files from its local hard disk but references the shared Database and History files on the File Server. This configuration is simplified with a Database Path which is set in the WinDSX program the first time it is loaded and run on each PC.

### File Server:

The File Server is used to store the shared database, Card Holder images, maps and history files. For maximum efficiency, a dedicated File Server is recommended but not required.

When more than 5 Workstations are needed, a dedicated File Server is strongly recommended. In small systems the Database can be kept on the Comm Server to be shared by additional Workstations (Client PC's).

### File Server Requirements:

If Database resides on Comm Server PC:

- Comm Server PC must be online so that other Workstations can access the Database.
- Comm Server PC must be running the software so other Workstations have access to Controller communications.

If Database resides on separate File Server PC:

- Comm Server PC is used for all controller communications.
- Both the File Server PC and the Comm Server PC must be online.
- The Comm Server can be configured to run as a Service.

## COMMUNICATIONS

- WinDSX requires the TCP/IP protocol on each PC that is to run the Workstation program even if it is a single PC System.
- The Comm Server PC is required to have a fixed (static) TCP/IP address (other PCs are not required).
- The PC designated as the Comm Server (the one that has the physical/logical connections to the DSX controllers) uses standard PC USB or IP Communications for controllers.
- The Comm Server can also use LAN connections to communicate to the Locations controllers using the DSX-LAN-D interfaces.
- WinDSX supports up to 32,000 Locations.
- The Comm Server MUST be online for other Workstations to have real-time communication abilities.
- The Comm Server's fixed TCP/IP address is entered in the WinDSX DataBase Program on the Comm Server.
- Workstations running WinDSX have a Database Path set to the shared Database resource where they find the TCP/IP address of the Comm Server PC.
- The Workstation PCs poll the Comm Server program for real-time events and control requests.

## WINDOWS™ PERMISSIONS

Each Workstation PC running WinDSX must have a Drive Mapped to the WinDSX Folder where the shared Database resides (File Server or Comm Server).

- A Mapped Drive or a UNC (Universal Naming Convention - ie \\FileServer\WinDSX ) can be used.
- The UNC is the preferred method.

All PCs running WinDSX must have full unrestricted permissions to:

1. The WinDSX folder where the database resides.
2. The local WinDSX folder where the software is being run from.
3. The Temp folders on the local PC.
4. Read Only permissions to the System32 subfolder in the Windows directory of the computer.

## REMOTE ACCESS

Remote Desktop, Terminal Services and Citrix as well as many others are suitable solutions for remote access to a Workstation on the WinDSX network.

## BACKUPS

**Backups should be performed on a regular basis.**

### WinDSX SQL Server Version

The SQL version of WinDSX does not have any built-in utilities for making Database and History backups. This is a function of the SQL Server and will be set up by your SQL Database Administrator.

### WinDSX Microsoft Access Version

The standard Microsoft Access version of WinDSX can be configured to automatically backup the Database, the History, or both once a day without taking the system down. It will perform a backup at midnight and place the backup on any logical drive specified. The system will make a rotation of 10 different backups and will then overwrite the oldest backup with the most recent. Manual backups can be made at any time.

### Other Methods

As previously stated, unless shut down, the system is reading and writing into open databases 24 hours a day 7 days a week. The shared resource (Access Version Database Path) cannot be backed up by a third-party program (ie. NTBackup) unless the WinDSX program is not running. It is possible to configure WinDSX to make backups to a network drive that is then backed up by the customer's conventional method.

## DSX SOFT KEY

When setting up the DSX Soft Key you must be in front of the PC, not at a Virtual Machine.

A Remote Desktop cannot be used to configure it.

The following steps executed in order are required to install.

1. Install the WinDSX software.
2. Run DB.exe.
3. Run Dsx\_Key\_Configure.exe and follow the prompts to create the DsxKeyData.xml file.

## IMPORTANT REMINDERS

- Current versions of WinDSX are not compatible with: Windows 95, Windows 98, Windows ME, Windows 2000, Windows XP, Windows 7, any Windows Home Edition, Linux, or the MAC operating systems.
- WinDSX-SQL is supported on the Standard or Enterprise Editions of SQL Server.
- DSX will not help setup or support your SQL Server. You must have a DBA perform these functions.
- Administrator Rights are required to properly install the WinDSX software.
- To run the programs, the User must have Full Control over:
  1. Full Control of the local folder where the WinDSX software is installed.
  2. Full Control of the shared resource (Database Path) folder.
  3. Full Control of the Temp folders.
  4. Read rights on the local System.
- The Comm Server must have a static TCP/IP address. The Workstations can be DHCP.
- On a single PC system, the Comm Server can be DHCP and the Comm Server address in Database can be set to 127.0.0.1 - the internal loopback address.
- If 127.0.0.1 is used as the address on the Comm Server tab in Database, the Workstation program on other Client PCs will display a Comm Loss message.
- When using Terminal Services, the WinDSX Comm Server cannot run from the same PC as the Windows Terminal Server.
- When using Terminal Services, DSX recommends multiple folders - one for each client.
- In versions 3.1.19 and higher Comm Server uses socket 22223. Make sure there is no other application using that socket.