



X Display Station User's Guide

VISUAL
T E C H N O L O G Y



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FCC notice

The equipment described in this manual generates, uses, and can radiate radio frequency energy. If not installed and used in accordance with this manual, this equipment may cause interference with radio communications. The Visual X Display Station has been tested and found to comply with the FCC limits set for a Class A computing device, pursuant to Subpart J of Part 15 of FCC rules. These rules are designed to protect against such interference when operating in a commercial environment.

Operation of this equipment in a residential area is likely to cause interference with radio communications. If interference occurs, the user must, at his or her own expense, take whatever measures are appropriate to correct the interference.

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This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus, set out in the Radio Interference Regulations of the Canadian Department of Communication.

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To the Reader

About the Visual X Display Station Family

Each member of the Visual family of X Display Station™ (XDS™) terminals is a full Version 11 implementation of the X Window System server. As an X server, the XDS receives your keyboard and mouse input and sends it over communications lines to applications running on host computers. In turn, the XDS receives input from applications and displays their execution on its screen.

You can connect to multiple hosts with different operating systems and run a number of applications at the same time. The XDS displays the applications in a hierarchy of windows, which overlap on the screen like papers on a desktop. In effect, the XDS brings the resources of multiple systems right to your terminal, allowing you to move from host to host and application to application merely by moving your mouse.

In general, there are two ways that you can connect to hosts when you use the XDS:

- You can connect to hosts manually, using the facilities provided by the XDS.
- You can use the XDS with an auto-connection program that connects you to a host when you start up the X server.

Connecting to hosts manually

When you connect to a host manually, you use a built-in facility--the Connection Window--to connect to hosts and start a terminal emulation program.¹

You may prefer to use the XDS without an auto-connection program: you're guaranteed to connect to your host (as long as it is responding) and you don't need to port software to host machines. The steps for connecting are easy and take very little time. These steps are outlined in Chapter 1, "Installing the XDS."

If you're using the XDS without an auto-connection program, you may still be able to use a font server program that connects you to a font host, handles requests for fonts, searches for them, and

X Display Station and XDS are trademarks of Visual Technology Incorporated.

X Window System is a trademark of the Massachusetts Institute of Technology.

¹ Throughout this manual, you'll see the phrase "using the XDS without an auto-connection program," which refers to using the XDS without software that automatically connects you to a host.

delivers them to the XDS. If your system supports the Network File System (NFS), or the Trivial File Transfer Protocol (TFTP), you can use one as a font server program. If you do not use a font server program, you may use only the local fonts.

Connecting to hosts with an auto-connection program

Alternatively, you can use the XDS with an auto-connection program that automatically connects you to your host and starts an X Windows session. You can write your own program to perform these tasks, or you can use the XDS Host Software (please contact your sales representative) from Visual Technology. The XDS Host Software contains a sample auto connection program, which you may install on or modify for your system.²

For instructions on selecting an auto-connection program, see "The Auto-Connection menu," in Chapter 3.

You can get a copy of the XDS Host Software from Visual Technology.

The XDS auto-connection feature is based on a precursor to the MIT X.V11R4 XDMCP protocol and cannot currently work automatically with the R4 *xdm* program. This issue will be addressed in a future release of the software program.

The XDS Host Software also contains the Font Daemon--the XDS Font Server Program--which handles requests for fonts and downloads them to the XDS. If you're using the XDS Host Software, you may choose to use NFS, or TFTP (if your system supports them) as the font server program--or you may choose to work without a font server program and use only the local fonts.

For instructions on selecting a font server program, see "The Font Management menu," in Chapter 3.

² The Network File System (NFS) is a trademark of SUN Microsystems. Throughout this manual, you'll see the phrase "using the XDS with an auto-connection program," which refers to using the XDS with either the XDS Host Software or another auto connection program.

How to use this manual

This manual is divided into two sections. Section 1, "Installing and Setting Up the XDS," includes basic instructions for installing and setting up the XDS and connecting to a host, and a complete reference to all the Setup options. Section 2, "Using the XDS," includes more advanced instructions for connecting to hosts.

To the user

You can install and set up the XDS easily, no matter what your level of experience. In Chapter 1, "Installing the XDS," you'll find instructions for verifying that you have received all the XDS parts and for connecting the XDS properly.

Chapter 2, "Getting Started with the XDS," walks you through the Setup process, gives you instructions on how to use the XDS Setup menus to prepare the XDS software, and how to make a manual connection to a host.

Chapter 2 provides you with the most basic steps for setting up the XDS and connecting to a host. These steps work for the most common configurations--an XDS communicating over the Ethernet using ThickWire connections. Some configurations may require you to follow different steps. In that case, see Chapter 3, "Setting Up the XDS: Reference," and Section 2, "Using the XDS," for the information you need.

Section 2, "Using the XDS," provides instructions for using the XDS to run the X Window System server. Section 2 includes Chapter 4, "Working with Applications" which provides instructions for connecting to hosts and displaying X-based applications; and Chapter 5, "When Things Go Wrong," which gives instructions for diagnosing problems you may have with the XDS and for working around these problems.

If you will be using the XDS with the XDS Host Software, or with a similar auto-connection program, make sure that the software is installed on your system before you start working with the XDS.

Formatting conventions used in this manual

This manual uses certain formatting conventions to distinguish different text items from each other. These are explained below.

- Anything that you need to type in exactly as it is written follows the word "type" and is formatted in **bold**. For example, to insert a value in a list, you need to type the letter "i". The instructions for this are written:

Type **i**

- Anything that you need to type substituting a name of your own choosing, follows the word "type" and is formatted in *bold italic*. For example, the instructions for executing the Telnet command are written:

Type:

telnet *hostname*

--meaning that you need to substitute a host name of your own choosing for hostname. (Notice that telnet is bold but not italic, meaning that you type it exactly as it is written.)

- Any key that you need to press is written in ALL CAPS; for example, SETUP, CTRL, or RETURN.
- Options that you select on menus and in windows, and the menus and windows themselves, are formatted in bold, and presented as they appear on the XDS; for example, the **Connection Window**, and the option **Close All Connections (logout)**.
- Prompts and messages that you see on the screen are presented as they appear on the XDS and enclosed in quotation marks; for example, "Enter value:".

Other manuals you should know about

For detailed guides to programming for and using the X Window System, see:

X Window System C Library and Protocol Reference, by Robert Scheifler, James Gettys, and Ron Newman.

These publications, authored by the developers of the X Window System, are available from Digital Press.

Xlib Programming Manual, *Xlib Reference Manual*, and *X Window System User's Guide*, by Adrian Nye.

This three-volume set is a complete reference to programming for the X Window System. The manuals are published by O'Reilly and Associates, Inc., of Newton, MA.

X Window System Programming and Applications with Xt, by Douglas Young.

This reference to programming for the X Window System is available from Prentice Hall, of Englewood Cliffs, NJ.

If you are a system or network administrator, you should already have the documentation distributed with the X Window System software by the Massachusetts Institute of Technology. The documentation contains the most current information about the X Window System, Version 11, as well as guides to programming, and a reference to X Window System commands. You can get a copy of the documentation (as well as the X Window System software) from

MIT Microcomputer Center
MIT 11-209
77 Massachusetts Avenue
Cambridge, MA 02139

Where you can get help

Your system and/or network administrator can provide you with the Setup information you need. You can find the page references for all the Setup options and menus in the Index. The Index also lists major topics and commands. If you need to find detailed information about a topic discussed in the manual, look here to find out where else in the manual the topic is covered. In addition, Chapter 3, "Setting Up the XDS: Reference," contains explanations for all the Setup options, arranged according to the menus on which they appear.

If you are already in Setup and you need help understanding the menu, select **HELP** from the menu. The XDS shows you Help for that menu—a page of answers to the questions "most commonly asked" about using that menu.

If you are confused about the meaning of a term used in this manual, turn to the Glossary, which defines many of the terms this manual uses.

If something goes wrong, for example, if an option does not work as you expected, or if the connections are unsuccessful, turn to Chapter 5, "When Things Go Wrong." In this chapter, you'll find instructions for diagnosing problems you may have with the XDS and for working around these problems.

If you're having problems with something that the manual does not cover, or if you're absolutely stuck, call Visual Technology at 1-800-537-6004 (outside MA) or 1-800-345-8998 (inside MA). A member of the Technical Support staff will be glad to help you.

Section 1
Installing and Getting Started with the XDS