MultiView/X Help Contents

Select a topic below.

Overview

MultiView/X for Windows combines the power of the X Window System ("X") and Microsoft Windows. This enables you to run network-based UNIX programs ("X programs" or "clients") side-by-side with Windows applications on your personal computer. With MultiView/X, you can share programs and computing resources with host computers connected to your PC over a network.

MultiView/X includes a control panel, an X server, and a variety of utilities and additional resources.

Control Panel

The starting point for using MultiView/X is the Control Panel, which provides a central location for performing all MultiView/X tasks. These tasks include creating X program entries, starting X programs, and customizing the X server by modifying configuration options. You can also launch MultiView/X utilities and access online resources from the Control Panel.

The Control Panel is accessible through an icon in the MultiView/X program group.

See Control Panel for complete details on MultiView/X Control Panel operation.

X Server

To allow X programs to run, the MultiView/X X Server must be up and running on your PC. If the server is not already running, it is launched automatically whenever an X program is started. You can also start the X server on its own from the Utilities menu of the Control Panel or by selecting the X Server icon in the program group.

The X server provides an interface for running X programs from a host computer over a network. The server controls the X "display," which comprises a bitmapped screen, keyboard, and mouse. X programs communicate with the server over a network using the X Window System protocol.

See X Server for details on operation of the MultiView/X X Server.

Utilities and Other Resources

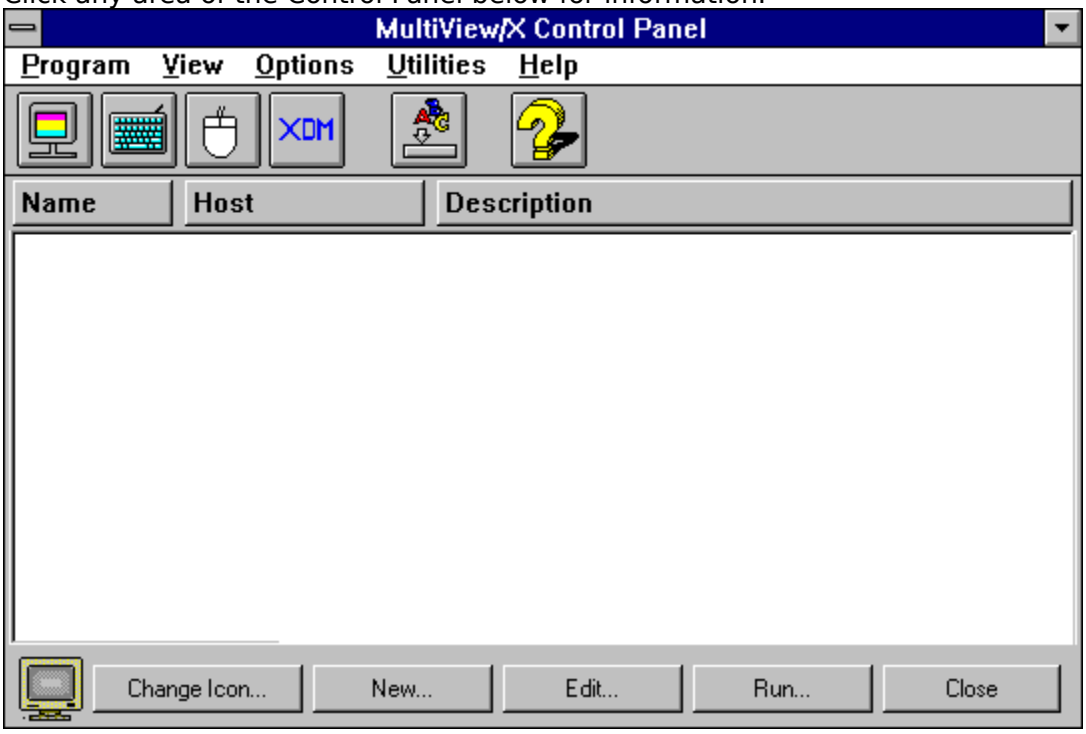
MultiView/X includes the following utilities, tools, and online documents. See Server, Utilities, and Tools for details on these resources.

- **Font Manager** allows you to convert and install custom fonts or delete fonts without reconfiguring your system.
- **Reconfigure** enables X fonts and MultiView/X utilities to be added or removed without having to reinstall the product from scratch.
- **X Protocol Trace** is an advanced diagnostic tool that monitors connection activity between the X server and X programs.
- **Log File Browser** offers a convenient means of viewing the MultiView/X log file, which contains information on the current X server session.

- **Help** is a complete context-sensitive online reference for all MultiView/X features, functions, and utilities. You are using online help now.

Control Panel

The MultiView/X Control Panel serves as the starting point for most MultiView/X tasks, including program startup, configuration, and the launching of the X server and utilities. Click any area of the Control Panel below for information.



Program Menu

This menu is used to manage program entries and exit the Control Panel.
See Program Menu for more information.

View Menu

This menu is used to manage display of various Control Panel elements and to determine whether the panel will be minimized when other programs are started.
See View Menu for more information.

Options Menu

This menu is used to configure the MultiView/X X server and X program windows.
See Options Menu for more information.

Utilities Menu

This menu is used to start MultiView/X utilities and the X server.
See Utilities Menu for more information.

Help Menu

This menu is used to access online resources and to view information about the Control Panel.

See Help Menu for more information.

Window Management Icon

This icon brings up the Window Management dialog box, which allows you to configure the window mode, mouse panning, and other elements relating to the look and feel of your X program windows.

See Window Management Dialog Box for more information.

Keyboard Preferences Icon

This icon brings up the Keyboard Preferences dialog box, which allows you to select how special keys are reserved and determine the type of key mapping the X server will use. See Keyboard Preferences Dialog Box for more information.

Mouse Preferences Icon

This icon brings up the Mouse Preferences dialog box, which allows you to enable or disable middle-button emulation with a two-button mouse.

See Mouse Preferences Dialog Box for more information.

XDM Icon

This icon brings up the X Display Manager dialog box, which allows you to configure XDM as an alternate means of starting X programs.
See X Display Manager Dialog Box for more information.

Program Entry Name Label
This is not used in this release.

Program Entry Host Label

This is not used in this release.

Program Entry Description Label
This is not used in this release.

Program Startup Area

This is not used in this release.

Program Icon

This is not used in this release.

Change Icon Button
This button is not used in this release.

New Button
This button is not used in this release.

Edit Button
This button is not used in this release.

Run Button

This button is not used in this release.

Close Button
This button closes the control panel window.

Font Manager Icon

This icon brings up the Font Manager dialog box, which allows you to install X fonts onto the windows system for use with the Xserver.
See Font Manager for more details.

Server, Utilities, and Tools

Click any of the following topics for information.

X Server

Font Manager

Reconfigure

X Protocol Trace

Keymap Editor

Log File Browser

X Server

The MultiView/X X Server is the application that enables X programs to run. Hence, it must be running on your system before X programs can start.

If the server is not already running, it is launched automatically whenever an X program is started. You can also start the X server on its own from the Control Panel's Utilities menu.

When the X server is running, its icon appears at the bottom of the desktop if it is configured in multiple-window mode. In single-window mode, the MultiView/X root window appears as soon as the server is started.

In either mode, the X server includes a main menu. This menu is accessed by clicking the desktop icon once in multiple-window mode, or by opening the control menu in single-window mode.

Several options are available through the X server's main menu. Click any menu option at right for information.

Restore

Returns the MultiView/X root window to its normal size. (Available when MultiView/X is configured in single-window mode only.)

Move

Allows the MultiView/X X Server desktop icon to follow your mouse or keyboard cursor movements. Click the left mouse button or press ENTER to establish a new location for the icon. (Not available in single-window mode if the MultiView/X window is maximized.)

Size

Allows you to resize the MultiView/X root window with your mouse or keyboard cursors. Click the left mouse button or press ENTER to establish a new window size. (Available when MultiView/X is configured in single-window mode only.)

Minimize

Reduces the MultiView/X root window to a desktop icon. (Available when MultiView/X is configured in single-window mode only.)

Maximize

Displays the MultiView/X root window at the full size of your screen. (This option is available when MultiView/X is configured in single-window mode only.)

Close

Terminates active X programs and ends your MultiView/X X Server session.

Switch To...

Opens the Windows Task List, which presents a list of all active applications. (When MultiView/X is configured in multiple-window mode, individual X programs also appear in the list.) You can use the Task List to close an application, switch to an application, or arrange program windows or icons.

Control Panel

Displays the MultiView/X Control Panel.

Copy Area

Allows you to define an area on your display screen and copy it to the Microsoft Windows Clipboard. You can then paste the Clipboard directly into other Windows applications, or view the Clipboard by selecting Clipboard Viewer from the Program Manager's Main program group.

One use of this option is to bring graphics created by an X program into a Windows application.

Select Copy Area and a cross-hair cursor (+) will immediately appear. Move your cursor to the upper left point of the area you wish to copy, then click and hold the mouse button down as you move the mouse down and to the right to enclose the area. Release the mouse button and the defined area will be copied to the Clipboard.

X Protocol Trace

Select this option to cause two additional menu options to appear: Enable Trace and Trace Control Panel.

When checked, Enable Trace begins a trace according to the parameters defined in the X Protocol Trace utility's control panel. You can later disable the trace by selecting Enable Trace a second time, since this option works as a toggle.

Trace Control Panel causes the X Protocol Trace Control Panel to appear but does not activate a trace.

For details, see X Protocol Trace.

Help

Opens MultiView/X online help.

About

Displays the MultiView/X X Server version number and copyright information.

Font Manager

MultiView/X Font Manager allows custom X fonts to be converted to the format required by Microsoft Windows. It also manages font database files, allows viewing of these files, and includes a font preview feature. Font Manager is available as a utility option during MultiView/X installation. If it is installed, its icon appears in the MultiView/X program group and on the button bar of the control panel. You can launch Font Manager from the icon or through the control panel. If you did not originally install this utility but now wish to do so, use the Reconfigure utility.

For more information, click on any of the following topics:

Reconfigure

MultiView/X Reconfigure allows you to add or remove MultiView/X fonts or utilities any time after initial installation, without having to reinstall the product from scratch.

You can launch Reconfigure from its icon in the MultiView/X program group.

For complete information on using this utility, launch Reconfigure from the MultiView/X program group and click Help from the Installation Summary.

X Protocol Trace

X Protocol Trace is a diagnostic utility that monitors connection activity between the MultiView/X X Server and one or more X programs.

X Protocol Trace captures the X protocol communication data in binary format, then translates the data to an ASCII text file that can be examined for debugging purposes. Such detailed X protocol information is often useful for diagnosing and correcting problems with X programs.

Click any of the following topics for details on using this utility.

How X Protocol Trace Works

The trace process can be considered as two steps:

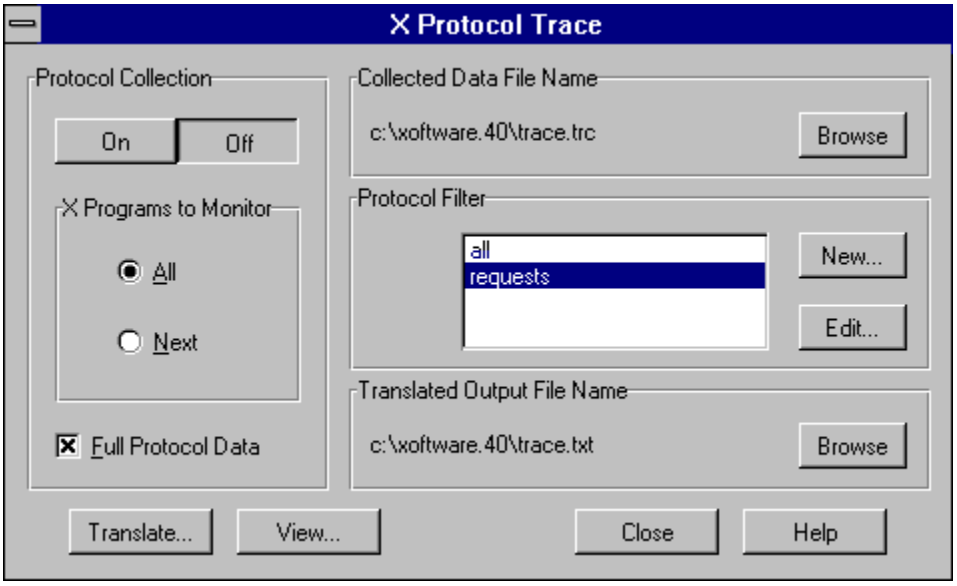
- First, set up and turn on the trace to monitor the connection and capture binary data to a file.
- Second, translate the data into readable ASCII format, using message filter options of your choice.

Once the first step has been performed, the second step can be repeated to manipulate the data as many times as you wish.

Launch X Protocol Trace by double-clicking its icon in the MultiView/X program group or by selecting it from the MultiView/X Control Panel's Utilities menu.

Setting Up a Trace

All trace parameters are configured through the X Protocol Trace Control Panel. Click any area of the control panel below for information.



Protocol Collection

Allows activation/deactivation of a trace, specification of which X programs to monitor, and choice of basic or full protocol data capture.

See Protocol Collection for details.

Collected Data File Name

Determines the file that will store the raw trace data.

See Collected Data File Name for details.

Protocol Filter

Determines the protocol functions you wish to view and the format level of the translated data capture.

See Protocol Filter for details.

Translated Output File Name

Determines the file that will store the readable translation of the trace data.

See Translated Output File Name for details.

Translate Button

Applies the filters specified in the Protocol Filter area to the raw trace data, yielding a readable trace output file.

See Translating and Viewing Output for details.

View Button

Opens the translated trace output file in Microsoft Write.

See Translating and Viewing Output for details.

Close Button

Closes the X Protocol Trace Control Panel, retaining any changes made to the trace configuration parameters.

Protocol Collection

The buttons at the top of the Protocol Collection section of the control panel allow you to turn data capture on or off. Before activating a data capture, be sure to set up all appropriate trace parameters.

The X Programs to Monitor options can be found in the middle of the Protocol Collection section. Here you can choose All to capture protocol information on all X programs started after the trace is begun, or choose Next to monitor only the first X program started after activating the trace.

At the bottom of the Protocol Collection section is the Full Protocol Data option. Disable this option to capture basic X protocol messages only, or enable the option to collect more detailed information associated with some X protocols, in addition to basic protocol messages.

Collected Data File Name

This section of the X Protocol Trace Control Panel displays the full name and path of the file in which the raw binary data collected during the trace will be stored. The default file name is TRACE.TRC, located in the MultiView/X directory (C:\XOFTWARE, by default).

To change this name, click the Browse button to bring up the standard Windows Open dialog box, then type in a new file name of up to eight characters. (The file extension .TRC will be added automatically; do not enter a different extension.) To specify a location other than the MultiView/X directory for this file, use the browser to navigate to the new directory, or type in a full path in front of the file name.

Protocol Filter

This section of the X Protocol Trace Control Panel allows you to specify the protocol functions you wish to view and the format level of the translated data capture for each of the four categories of X protocol messages.

All previously defined filters appear in the list box in this section. This includes the default filter ("all"), which specifies full data capture of all messages in all four protocol message categories.

To select a filter, click its name within the list box.

To specify a different set of filter parameters, click the New button. This will cause the New Filter dialog box to appear. Enter a filter name of up to eight alphanumeric characters and click OK to accept the name.

The Protocol Filter dialog box will then appear, allowing you to specify the X protocol functions to be monitored when this filter is selected. Select functions and format levels for each message category, then click OK to save the filter, which will appear in the protocol filter list box. See Protocol Filter dialog box for details.

To modify a previously defined protocol filter (other than "all," which is fixed and cannot be modified), select the filter name in the protocol filter list box and click Edit, or double-click the entry. The Protocol Filter dialog box will appear, from which you can change the functions to be monitored or the format level of any protocol message category.

New Filter Dialog Box

This dialog box allows you to specify the name of a new protocol filter.

Click any area of the dialog box below for information.

{bmc newfiltr.shg}

See also...

Protocol Filter

Protocol Filter Dialog Box

Filter Name Field

Enter an alphanumeric name of no more than eight characters to represent the new protocol filter. This name will appear in the protocol filter list box within the X Protocol Trace Control Panel.

OK Button

Accepts the new filter name entered above.

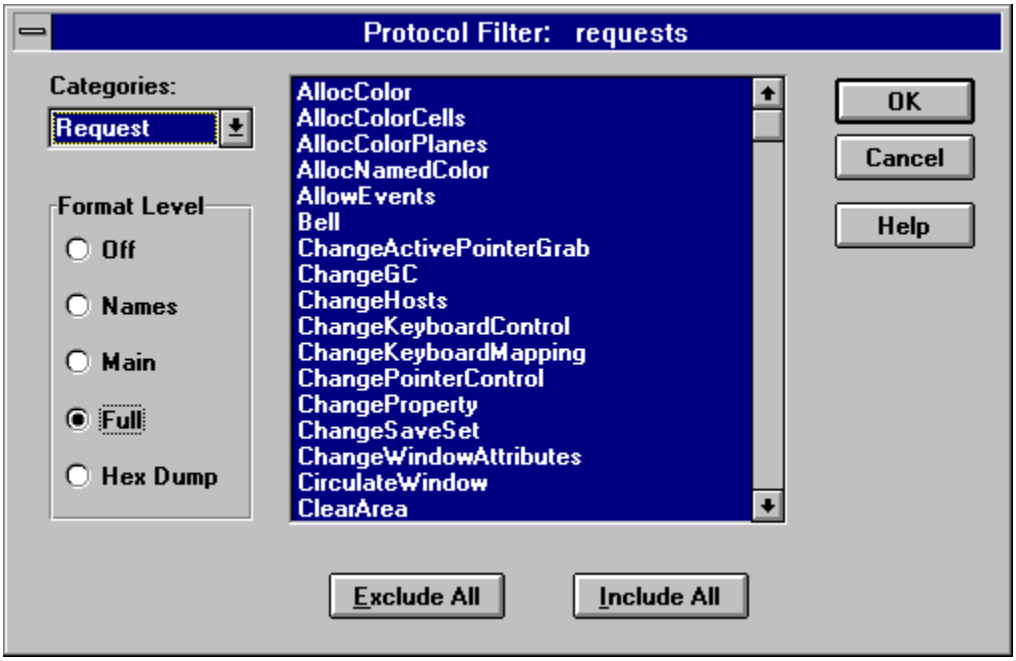
Cancel Button

Voids the new filter name entered above.

Protocol Filter Dialog Box

This dialog box allows you to specify protocol functions and format levels to be monitored whenever a selected filter is chosen.

Click any area of the dialog box below for information.



See also...

Protocol Filter

New Filter Dialog Box

Category

Specifies the four X protocol function message categories: Requests, Events, Replies, and Errors. By selecting a category you will see the protocol functions to be monitored within the category and the format level at which they will be monitored.

To modify the protocol functions to be monitored, select each of the four categories sequentially, choosing protocol functions and a format level for each.

In this example, all functions within the Requests category have been selected (that is, they are highlighted in the protocol functions list box), and the format level at which these functions will be monitored is full.

Format Level

Specifies the format level at which the functions specified in the protocol function list box will be monitored. You can set a different format level for each message category, if you wish. Five format levels are available:

- **Off** -- No data translation is performed on the message category.
- **Names** -- Only the names of the selected functions are translated within the message category.
- **Main** -- In addition to names, the most important protocol message fields are also translated for selected functions within the message category.
- **Full** -- All protocol message fields are translated for selected functions within the message category.
- **Hex Dump** -- All protocol message fields, plus associated hexadecimal values, are translated for selected functions within the message category.

Protocol Functions List Box

Protocol functions within the category specified at left appear here. You may modify this list by clicking Exclude All to select no functions or Include All to select all functions. You may also click individual functions to select or deselect them. (Selected entries are highlighted.)

In this example, all functions within the Requests category are highlighted and thus selected.

Exclude All Button

Selects (highlights) all functions within the specified X protocol message category. This will be reflected in the protocol functions list box above.

Include All Button

Deselects all functions within the specified X protocol message category. This will be reflected in the protocol functions list box above.

Translated Output File Name

This section of the X Protocol Trace Control Panel displays the full name and path of the file in which the readable translation of the trace data will be stored. The default file name is TRACE.TXT, located in the MultiView/X directory (C:\XOFTWARE, by default).

To change this name, click the Browse button to bring up the standard Windows Open dialog box, then type in a new file name of up to eight characters. (The file extension .TXT will be added automatically; do not enter a different extension.) To specify a location other than the MultiView/X directory for this file, use the browser to navigate to the new directory, or type in a full path in front of the file name.

Initiating a Trace

Once you have specified the captured data file name and determined whether to monitor all X programs or only the next program started, you are ready to begin the trace data collection process. Click the On button to activate the trace.

If the MultiView/X X Server is not running when you click On, you will be asked if you wish to start it. Click Yes to launch the server or No to cancel the trace activation.

If an X program is running when you click On, the trace will monitor that program immediately. If no X program is active, the trace will begin as soon as a new X program is started.

After activating a trace, the X Protocol Trace Control Panel may block a program window that you wish to access. If it does, press ALT-TAB or use your mouse to return to the program window.

Note: If you have selected All under X Programs to Monitor, remember that the trace will continue until you turn it off. If you have selected Next, the trace will continue either until you turn it off or terminate the program. **Allowing Trace to run for a long time may result in very large data capture files.**

Translating and Viewing Output

After performing a trace data capture, selecting protocol filters, and defining a translated output file name, you are ready to translate and view the trace data.

Begin by clicking Translate to take the binary data file resulting from the trace and apply the protocol filters to produce a readable ASCII file for analysis. This process is automatic. The Translation status box will appear briefly during the translation.

Next, click View to read the data file using Microsoft Write. A dialog box will appear to allow you to convert the file if you wish. Choose Convert to apply Microsoft Write formatting to the file. If you will want to use another text editor to open the file at a later time, choose No Conversion or Cancel and the text will remain in ASCII format.

Log File Browser

The MultiView/X X Server automatically creates a new log file at the start of every session. This log file is updated throughout the session to record any error messages or warnings that might occur. This file can thus be opened to gain diagnostic information concerning any X program that might fail to run properly.

Log File Browser provides an easy means of viewing the log file. You can also use this tool to print the log file, search for text within the file, or copy text from the file to the Clipboard. Note that you cannot edit the actual text of the log file, since it is read-only.

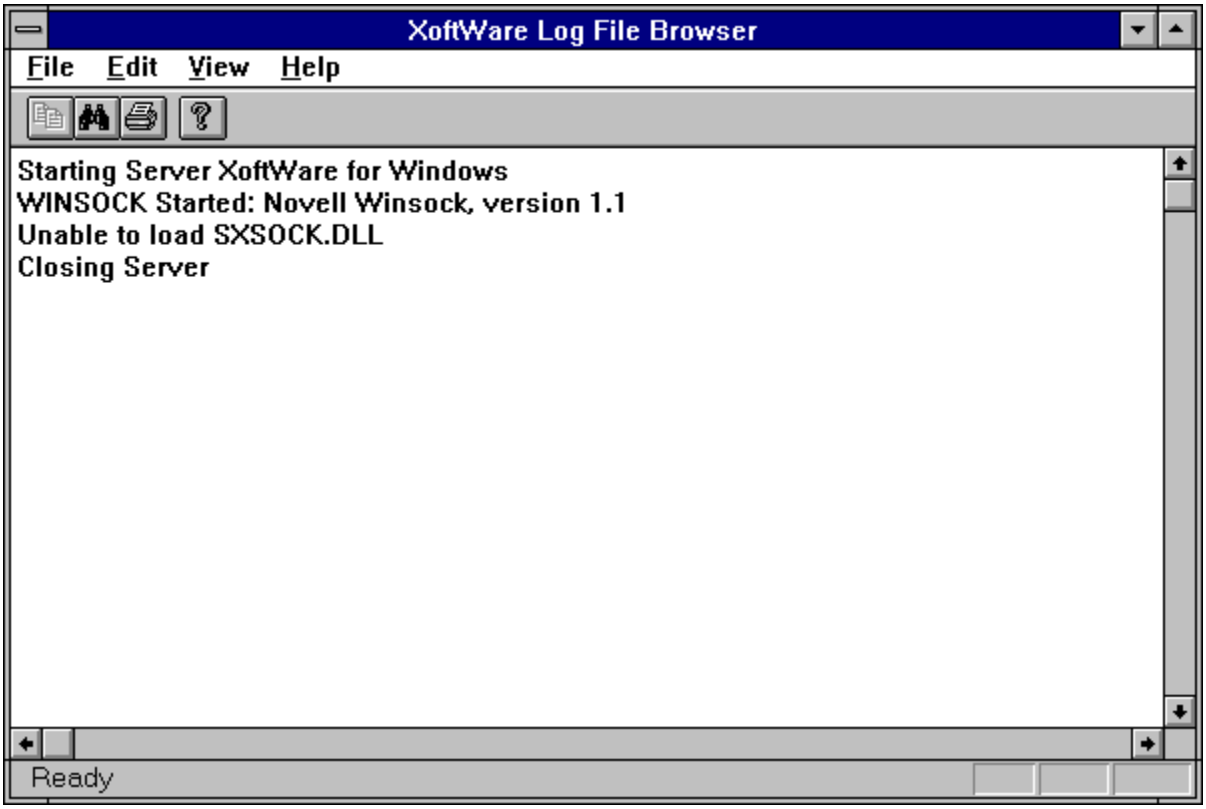
To launch Log File Browser, double-click its icon in the MultiView/X program group. This will open the Log File Browser window, shown below.

To print the log file, select Print from the File menu, or click the icon in the toolbar.

To copy any portion of the text, highlight it with the mouse and select Copy from the Edit menu, or click the icon in the toolbar. The text will be copied to the Microsoft Windows Clipboard. You can then copy it to any Windows or X program.

To search for text within the file, select Find from the Edit menu or press ALT-F3.

For more information, click any part of the window below.



File Menu

- **Print** -- Brings up the Windows Print dialog box, allowing you to print all or any portion of the log file. You can also select a printer and define other print options through this dialog box.

- **Print Setup** -- Brings up the Windows Print Setup dialog box, allowing you to select a printer and define other print options, such as page orientation, paper size and source, and graphics mode.

- **Exit** -- Closes the Log File Browser.

Edit Menu

- **Copy** -- Copies the highlighted log file text to the Clipboard. This option is available only if text is highlighted in the log file text area.

- **Find** -- Brings up the Windows Find dialog box, allowing you to search for any text string within the log file. You can define the search to match case or to search forward or backward.

View Menu

- **Toolbar** -- Displays or hides the toolbar. This option works as a toggle.
- **Status Bar** -- Displays or hides the status bar. This option works as a toggle.

Help Menu

- **Contents** -- Accesses this online help file.
- **How To Use Help** -- Accesses general information on using online help.
- **About Log File Browser** -- Displays copyright and program information, including the version number.

Copy Button

Copies the highlighted text to the Microsoft Windows Clipboard. You can then copy it to any Windows or X program.

This option is available only if text is highlighted in the log file text area.

Find Button

Brings up the Windows Find dialog box, which allows you to search for any text string within the log file. You can define the search to match case or to search forward or backward.

Print Button

Brings up the Windows Print dialog box, allowing you to print all or any portion of the log file. You can also select a printer and define other print options through this dialog box.

Help Button

Accesses this online help file.

Log File Text Area

Displays the contents of the MultiView/X X Server log file. This file is updated throughout the server session to record any error messages or warnings that might occur.

Status Bar

Displays information on the selected menu command or toolbar button.

Technical Support

Europe, Middle East, Asia

JSB Computer Systems Ltd
Riverside
Mountbatten Way
Congleton
Cheshire
CW12 1DY
UK

Telephone:	+44 (0) 1260 296200
Facsimile:	+44 (0) 1260 296201
Technical Support:	+44 (0) 1260 296299

USA, Pacific Rim including Australia and New Zealand
JSB Corporation
108 Whispering Pines Drive
Suite 115
Scotts Valley, CA 95066
USA

Telephone:	+1 408 438 8300
Facsimile:	+1 408 438 8360
Technical Support:	+1 408 438 8300

The following services are also available to find out up-to-the-minute information on JSB products and new releases.

World Wide Web	**FTP Server**	**Bulletin Board Service**
http://www.jsb.com	ftp.jsb.com	+44 (0) 1260 296267

To access the JSB FTP site, use anonymous as the Login name and your email address as the Password, for example: fred@jsb.co.uk.

How To...

Access online help for utilities

Add scroll bars to the root window in single-window mode

Add MultiView/X fonts or utilities

Allow certain R3 programs to run

Change a program icon

Change an X program icon

Change the keyboard focus policy

Change the RGB value of white from 255 to 1

Change the X cut buffer to which the Clipboard is linked

Change window mode

Choose the amount of resources devoted to the server

Choose the color model (screen visual) to be used by the server

Configure keyboard preferences

Configure mouse preferences

Configure the X Display Manager (XDM)

Configure window management preferences

Configure MultiView/X

Convert custom fonts for use with the X server

Create a new keymap

Create an X program entry

Create X program entries

Define a display number

Define a middle-button mouse emulation speed

Define how ALT keys and the F10 key will be interpreted by X programs

Define new key mappings

Delete X program entries

Diagnose problems with X programs

Display all X programs within one root window

Display each X program in a separate window

Emulate a three-button mouse with a two-button mouse

Enable X programs to run if they require access to 256 colors

Enable/disable a virtual screen

Enable/disable automatic server exit after the last X program is closed

Enable/disable backing store

Enable/disable cascading of new X windows

Enable/disable concurrent window managers

Enable/disable exclusive control of the display by the server

Enable/disable fast line drawing

Enable/disable fitting of X windows to no more than the display size

Enable/disable forcing of X windows onto the display

Enable/disable management of the Clipboard by the X server

Enable/disable matching of font requests to the closest Windows font

Enable/disable Motif properties

Enable/disable mouse panning (scrolling)

Enable/disable prompts for each X program closure

Enable/disable R3 bug compatibility

Enable/disable save unders

Enable/disable server exit prompt

Enable/disable server restarts

Enable/disable the X Display Manager (XDM)

Enable/disable three-button mouse emulation

Enable/disable use of an X window manager

Enable/disable use of plane masks

Enable/disable X root background

Fit X windows to be no larger than the display

Force X windows to appear on the display

Hide the status bar from the Control Panel

Hide the toolbar from the Control Panel

Launch an X program

Link the Clipboard to an X cut buffer

Match font requests to the closest Windows font

Minimize the Control Panel after an X program has been run

Modify color cursors if they are hard to view

Modify the screen dimensions reported to the server

Modify X program entries

Monitor X protocol communication

Perform a diagnostic trace on X programs

Prevent X programs from accessing colors in the Windows color palette

Reconfigure MultiView/X

Reconfigure MultiView/X fonts and utilities

Report access to 256 colors

Reserve special keys for Windows or X

Restrict access to Windows system colors

Run a MultiView/X utility

Run an X program

Run an X protocol trace

Run the X server

Select a keyboard style

Select a network type

Select an icon for an X program

Select an X Display Manager (XDM) mode

Select the screen visual

Specify a temporary font path

Specify an IPX/SPX name

Specify the font path

Specify the font that X programs can use by default

Specify the name and path of the color database file

Specify virtual screen dimensions

Start an X program

Trace X protocol communication

Use the X Display Manager (XDM) to start X programs

Program Startup

MultiView/X's primary function is to start X programs. For information on program startup, click one of the following topics:

Program Entries

Running Programs

Note that besides using the standard X program startup methods, you can also start programs through the X Display Manager (XDM), accessible from the Control Panel's Options menu.

To run a program, you must create a program entry for it. A program entry represents all information required to run a specified X program. Program entries appear in the Control Panel's program startup area directly under the Name, Host, and Description labels.

You can create as many program entries as you wish, representing different X programs on any host computer to which you have access over a network.

The first time you run the Control Panel, no program entries are present and a dialog prompts you to create a new program entry.

To create a new program entry, click once on the model entry, then click the New button (you can also select New from the Program menu or press CTRL-N). The Program Properties dialog box will then appear, allowing to enter required program information.

Three dialog boxes affect program entry data. Click any of the following for more information:

Program Properties Dialog Box

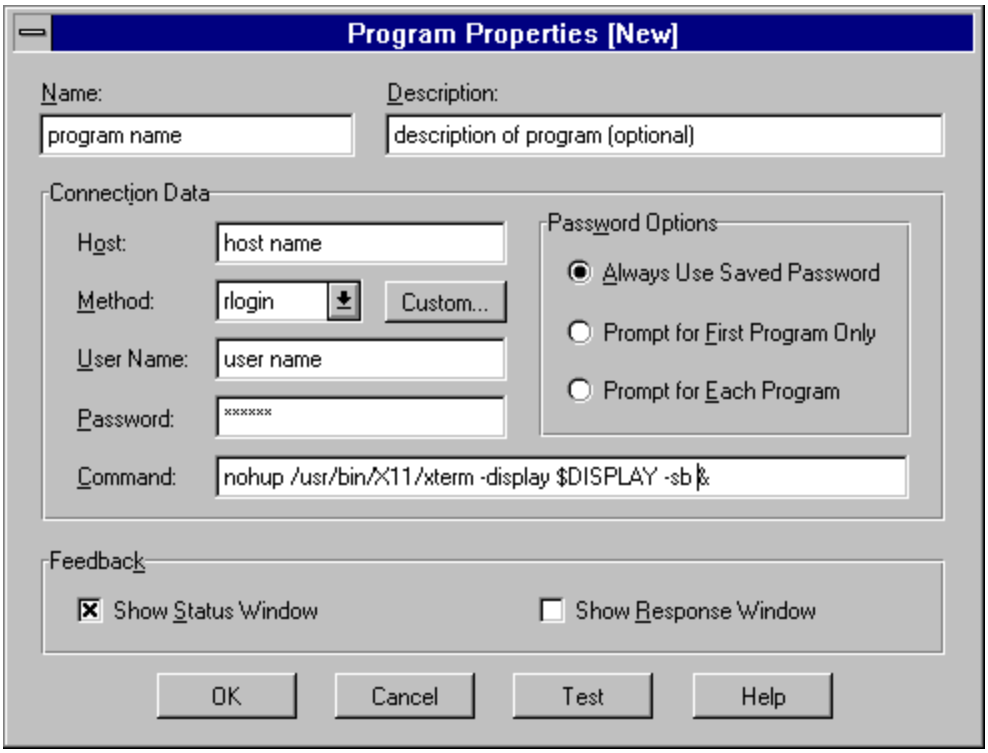
Custom Startup Data Dialog Box

Change Icon Dialog Box

Program Properties Dialog Box

This dialog box allows entry of the data required to run X programs.

Click any area of this dialog box for information.



Name

Enter a unique name to represent the X program.

The name will appear in the Control Panel as well as below the icon created in the MultiView/X program group.

Description

Enter a description of this program entry. This field is optional but useful for further identifying each program entry.

Host

Enter the name of the host computer on which the X program resides. This data is case-sensitive (upper- and lowercase letters must be typed exactly).

Method

Click the down arrow to select one of the four startup methods: rexec, rlogin, telnet, and rsh.

All methods yield similar results during startup. Your choice depends on your host computer and personal configuration preferences. Your system administrator can recommend the method to use for your installation. For most users, rexec and rlogin are the best choices.

User Name

Enter the user name for your account on the host computer, as you would during any session with this X program. This data is case-sensitive (upper- and lowercase letters must be typed exactly). If you need assistance, consult your system administrator.

Note that if you leave this field blank, you will be prompted to enter your user name each time you start the program. This protects against unauthorized use of the program through your account.

Password

Enter the password for your account on the host computer, as you would during any session with this X program. This data is case-sensitive (upper- and lowercase letters must be typed exactly).If you need assistance, consult your system administrator.

Note that if you leave this field blank, you may be prompted to enter your password each time you start the program, depending on the password options you select. This protects against unauthorized use of the program through your account.

Password Options

Select the type of password security you require.

- Choose **Always Use Saved Password** (default) to use the password you have provided every time you run the program.
- Choose **Prompt for First Program Only** to require a password to be entered for the first X program run during a MultiView/X X Server session, but not for subsequent programs run during the same session. This level of security is often sufficient and does not require a password to be entered for each program.
- Choose **Prompt for Each Program** to require a password to be entered for every X program. This provides maximum security.

Command

Enter the X program command string to be executed on the host computer. This data is case-sensitive (upper- and lowercase letters must be typed exactly).

The following example is a command for the popular X terminal emulation program *xterm*:

```
nohup /usr/bin/X11/xterm -display taylor:0 &
```

where

nohup is the UNIX command that prevents client termination;

/usr/bin/X11/xterm is the full path to the *xterm* program (you may omit the path if it is included in your PATH environment variable on the host computer);

-display indicates that the next string is the destination display;

taylor:0 directs output to the first monitor (screen 0) on the PC "taylor" (replace "taylor" with your PC's Internet name);

& executes the program in background mode, generally the preferred operation mode.

If the DISPLAY environment variable on your host computer specifies your PC's Internet name, you may use the string "$DISPLAY" in place of "taylor:0" (for example, nohup xterm display $DISPLAY &).

Show Status Window Option

Displays a window showing the progress of the startup method you have selected. This option is enabled by default.

Show Response Window

Displays a window showing the connection response during program startup. The window includes startup information, such as job number and process number. This option is disabled by default.

OK Button

Saves the data in this dialog box. The program startup area of the Control Panel will reflect the new program entry data.

Cancel Button

Voids any new or modified data entered in this dialog box.

Test Button

Runs the X program as specified in this dialog box. This feature allows you to verify that the program runs correctly before you click OK to save the program entry.

You may wish to enable both feedback options (Show Status Window and Show Response Window) before clicking Test. This will provide maximum information on how the program is being run.

Once the program has started successfully, you may close the program window, disable any feedback options you do not wish to use each time the program is started, and click OK to save the entry.

Custom

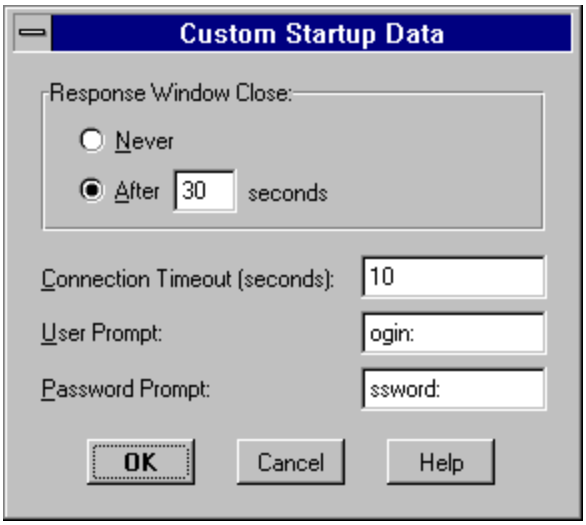
Click this button to access one of the advanced options in the Custom Startup Data dialog box. These options relate to automatic closure of the response window, connection timeout interval, and prompt strings for the password and user name.

See Custom Startup Data Dialog Box for details.

Custom Startup Data Dialog Box

This dialog allows customization of advanced program startup options.

Click any area of this dialog box for information.



Response Window Close

When enabled, the connection response window will normally remain open until closed by the user. This is its behavior when the default Response Window Close setting (Never) is selected.

If you wish the window to close automatically after a set interval, select the After option and enter the number of seconds it should remain open.

Connection Timeout

The interval (in seconds) during which the X server will attempt to connect to the host. If no connection is established during that interval, the server will return a message indicating a timeout error.

The default interval of 10 seconds will suffice in most situations, but you may change the value to any number between 1 and 600.

User Prompt

When the telnet startup method is used, the MultiView/X X Server will wait for this prompt before sending the user name. The default ("ogin:") consists of the last four letters of "login" plus the colon.

Do not modify this unless telnet will not function because the prompt cannot be found.

Password Prompt

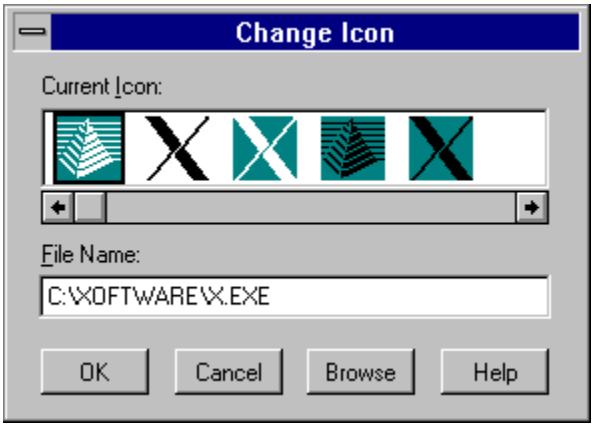
When the rlogin or telnet startup methods are used, the MultiView/X X Server will wait for this prompt before sending the password. The default ("ssword:") consists of the last six letters of "password" plus the colon.

Do not modify this unless rlogin or telnet will not function because the prompt cannot be found.

Change Icon Dialog Box

This dialog box allows browsing and modification of icons representing X program entries.

Click any area of this dialog box for information.



Current Icon

By default, icons provided with the MultiView/X X Server appear in this area. Any currently selected cursor is indicated by a black border. In this example the first pyramid is the current icon.

Scroll through the icons and select one by clicking it. You can also access additional icons by entering a different source file in the File Name field, or by clicking Browse to locate such a file.

Once you have selected an icon, click OK. The icon will appear in the Control Panel and also in the MultiView/X program group.

File Name

This field indicates the source file containing icons that appear in the Current Icon area. By default, this file is the MultiView/X X Server program.

To access additional icons, enter the full path and name of a different file, or click Browse to locate such a file.

Browse Button

Opens the Microsoft Windows Browse dialog box, allowing you to select any file containing icons (for example, MORICONS.DLL in the Windows directory). These icons will then appear in the Current Icon area.

Running Programs

Once you have created a program entry, you can run it from the Control Panel by:

- double-clicking the entry
- clicking the entry once and pressing ENTER
- clicking the entry once and clicking the Run button
- clicking the entry once and selecting Run from the Program menu

You can also run the program directly from the Windows Program Manager by double-clicking the program icon in the MultiView/X program group. You do not need to open the Control Panel before doing so.

MultiView/X also allows you to start multiple clients simultaneously. Click the entries you want while holding down the Shift key. When all clients you want to run are highlighted, click the Run button.

Configuration

MultiView/X includes a variety of configuration options that allow you to customize the performance and behavior of your X server. These options are accessible through the Control Panel.

For details, click any of the topics below:

Window Management Dialog Box

Keyboard Preferences Dialog Box

Mouse Preferences Dialog Box

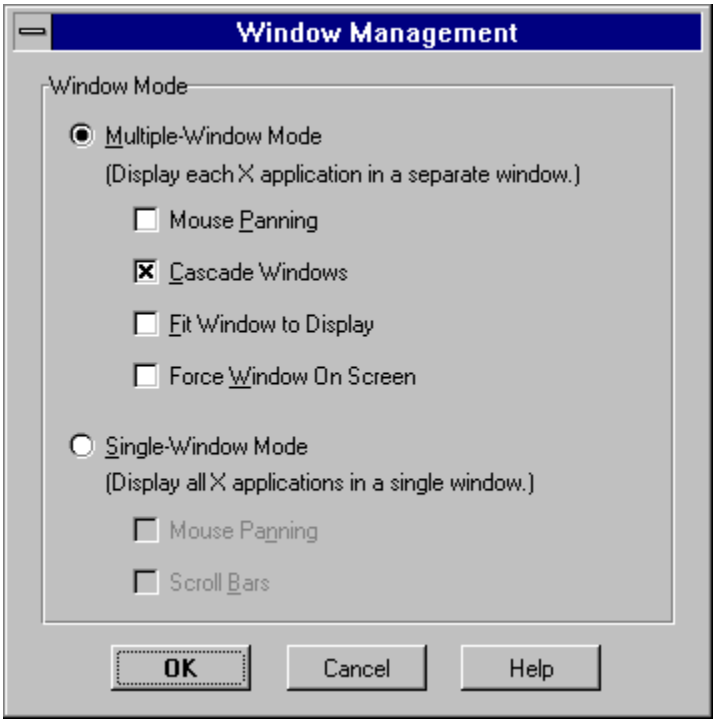
X Display Manager Dialog Box

Configuration Dialog Box

Window Management Dialog Box

This dialog box allows you to configure the window mode, mouse panning, and other elements relating to the look and feel of your X program windows.

Click any area of the dialog box below for information.



Multiple-Window Mode

In multiple-window mode (the default), each X program is displayed in its own window. These windows are managed either by Microsoft Windows or by any X window manager that is invoked. In this mode, X windows can be handled individually, just like standard Windows application windows.

In multiple-window mode, closing an X window does not necessarily end the X server session, unless Exit After Last Program has been enabled.

See single-window mode for comparison.

Mouse Panning

This option allows automatic panning (scrolling) of X windows in multiple-window mode. If an edge of an X window does not appear on screen, this option enables you to bring it into view by moving your mouse toward the invisible edge. This will slide the window in the opposite direction until the edge appears.

This option is disabled by default.

Note: The Keyboard Focus Policy option must be set to MS Windows for panning to function. Also, a window will not pan if it is not the active window or if a mouse key is depressed while the mouse is moved.

Cascade Windows

Positions new X windows automatically such that they will not completely obscure existing windows.

This option is enabled by default.

Note: Some X programs proscribe specific display locations in their startup files. This information is overridden when Cascade Windows is enabled.

Fit Window to Display

Restricts the size of each X window to your maximum screen size. Disable this option to allow X windows to be wider and taller than your screen.

This option is disabled by default.

Force Window On Screen

Forces all X program windows to appear on your display, even when they would normally appear off screen. Disable this option to maintain the original position of new X windows.

This option is disabled by default.

Single-Window Mode

In single-window mode, all X programs are displayed within one window, called the root window. An X window manager must be invoked to manage the X windows within the root window. This functionality is similar to that of standard X terminals.

In this mode, the X server's main menu is accessed through the root window's control menu (at far left of title bar).

In single-window mode, closing the MultiView/X root window automatically closes all X programs and terminates the X server session.

See multiple-window mode for comparison.

Mouse Panning

Allows automatic panning (scrolling) of the MultiView/X root window. This enables you to navigate throughout a root window that is larger than your display by moving your mouse toward any edge of the window. The window will pan whenever the mouse is within a narrow strip inside each edge or below the title bar. (Panning will not occur if a mouse key is depressed while the mouse is moved.)

This option is disabled by default. In this example, this option is not available because single-window mode is not selected.

Scroll Bars

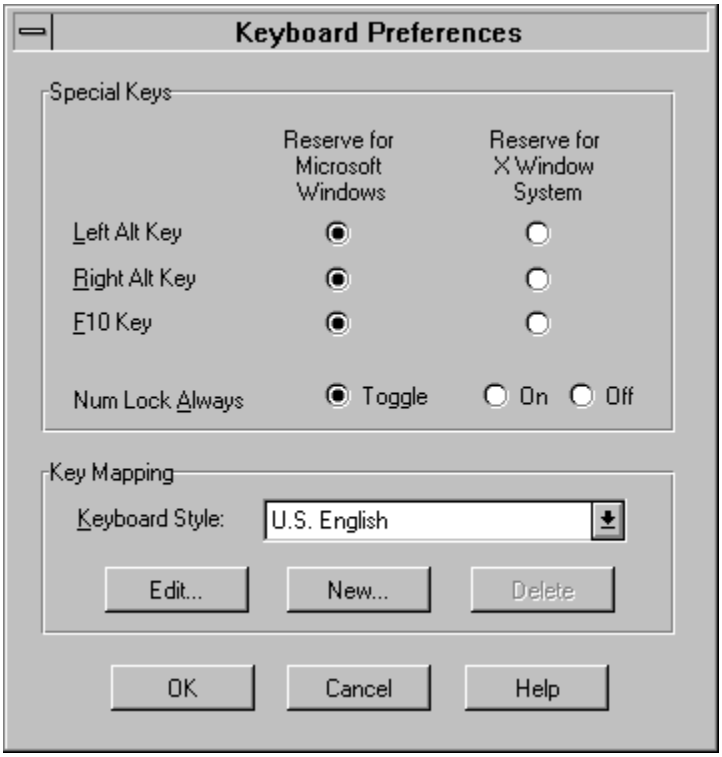
Causes scroll bars to appear along the right and bottom edges of the screen. This provides a clear indicator of your current location relative to the X root window at all times. This feature is especially useful when the Mouse Panning or Virtual Screen options are in effect.

This option is disabled by default. In this example, this option is not available because single-window mode is not selected.

Keyboard Preferences Dialog Box

This dialog box allows you to select how special keys are reserved and determine the type of key mapping the X server will use.

Click any area of the dialog box below for information.



Special Keys

Microsoft Windows typically reserves the two ALT keys and the F10 key to access the menu bar or control menu (at far left of title bar). However, some X programs use these keys for other purposes.

You can determine how these special keys are managed by selecting "Reserve for Microsoft Windows" or "Reserve for X Window System" for each. In this example, left ALT key will retain its standard Windows functionality, while the function of the right ALT key and the F10 key will be determined by each X program.

By default, all three keys are reserved for Microsoft Windows.

Keyboard Style

A wide variety of keyboard configurations are in use. The most common configuration is the U.S. English style. Since this is the default selection, most users will not need to change the Keyboard Style selection.

Users with a different keyboard configuration, such as a DEC or international keyboard, can select an alternate keyboard style from the drop-down menu. The following keyboard styles are available:

Belgian	German	Swedish
British	Icelandic	SwissFrench
Danish	Italian	SwissGerman
Dutch	Latin American	US
Finnish	Norwegian	US Dvorak
French	Portuguese	USDEC 1
French-Canadian	Spanish	USDEC 2

The final two keymaps support two different DEC computer keyboards. Test the functionality of the PAGE UP, PAGE DOWN, INSERT, and DELETE keys to determine which to choose.

Be sure to restart MultiView/X after changing the keyboard style.

Edit Button

Opens the Keymap Editor dialog box, allowing you to modify an existing keymap by customizing how keys are interpreted by the X server.

See Keymap Editor for details.

New Button

Opens the Keymap Editor dialog box, allowing you to create a new keymap by customizing how keys are interpreted by the X server.

See Keymap Editor for details.

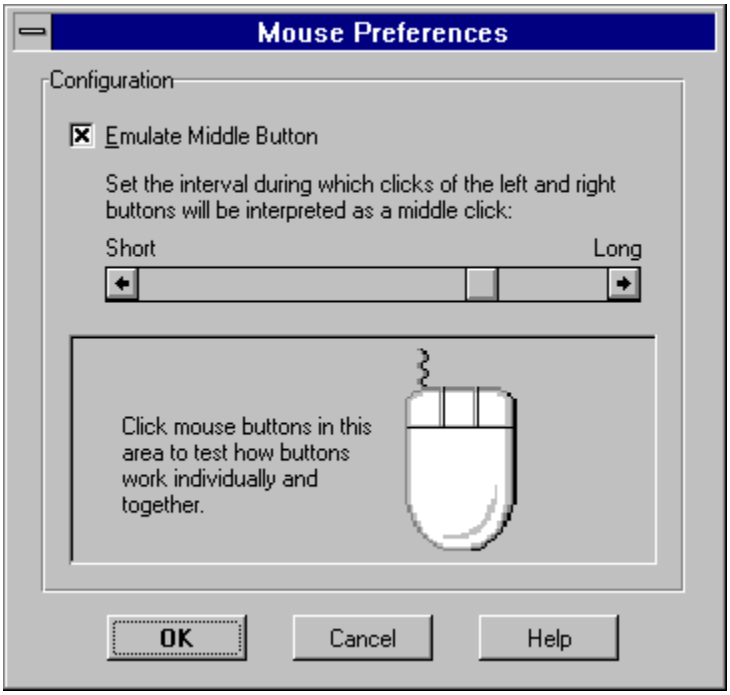
Delete Button

Deletes a keymap. It is advisable not to delete one of the standard keymaps included with MultiView/X.

Mouse Preferences Dialog Box

This dialog box allows you to enable or disable middle-button emulation with a two-button mouse.

Click any area of the dialog box below for information.



Middle-Button Emulation

Select this option to enable middle-button emulation. Since many users have a two-button mouse, and since many X programs require the middle button of a three-button mouse, this feature will save many users from having to purchase a new mouse to use certain X programs.

With this option selected, you can click the left and right buttons simultaneously to create the effect of a middle-button click.

You can also customize the interval during which clicks of the left and right buttons will be interpreted as a middle-button click. See Emulation Interval for details.

This option is enabled by default. Unless your X program requires simultaneous left and right mouse button clicks, you will probably not need to disable this option.

Emulation Interval

You can customize the interval during which clicks of the left and right buttons will be interpreted as a middle-button click. Move the button along the slider bar between its shortest value (.001 second) and its longest (1 second).

By making the interval very short, you will need to click the buttons at almost exactly the same time to achieve a middle-button click; if you do not click both buttons within the interval, the two clicks will be interpreted individually.

By lengthening the interval, you will extend the window of time during which the clicks will be interpreted as a single middle click. However, all mouse clicks will require more time to take effect.

You can test these changes by clicking the left and right mouse buttons separately and together within the test area. The effect of your actions will be reflected on the test mouse.

The default emulation interval is three-quarters of a second.

Mouse Test Area

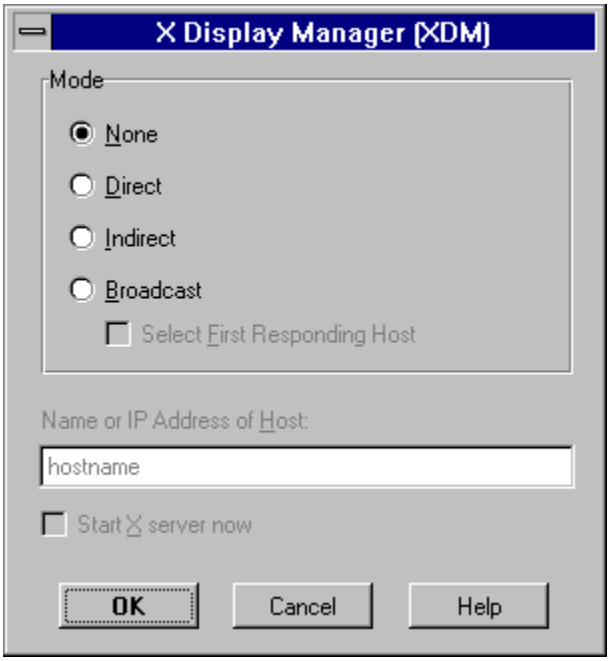
Test the functionality of your mouse buttons by clicking them individually or together anywhere within this area. The buttons on the test mouse will be highlighted accordingly.

If you have enabled middle-button emulation, you will be able achieve a middle-button press by clicking the left and right buttons within the emulation interval you have set.

X Display Manager Dialog Box

This dialog box allows you to configure XDM as an alternate means of starting X programs.

Click any area of the dialog box below for information.



None

Select this option (the default) to disable XDM as a means of starting X programs.

Direct Mode

Select this option to enable XDM in direct mode. In this mode the MultiView/X X server sends an XDM request to a specific host computer. Enter the host's Internet name or IP address at the bottom of the dialog box.

Indirect Mode

Select this option to enable XDM in indirect mode. In this mode the X server sends an XDM request to a single intermediate host, with the expectation that this host will forward the request to a number of secondary managers on different hosts. XDM will then run on the first secondary host to respond. The intermediate host may also accept the request.

Enter the intermediate host's Internet name or IP address at the bottom of the dialog box.

Note: This mode may require special host configuration. Consult your system administrator for assistance.

Broadcast Mode

Select this option to enable XDM in broadcast mode. In this mode the X server sends an XDM request to all hosts on the network. Some hosts will respond, while those that do not wish to service the request will ignore the broadcast.

To run XDM on the first host that responds, enable the Select First Responding Host option. Otherwise, you will be presented with a list of all responding hosts. You may then select the host on which to run XDM.

Select First Responding Host

Select this option to enable XDM to run on the first host that responds to an XDM broadcast request sent out by the X server.

This option is disabled by default. In this example, this option is not available because broadcast mode is not selected.

Name or IP Address of Host

When XDM is enabled in direct mode or indirect mode, you must enter the Internet name or Internet Protocol (IP) address of a host computer in this field. In direct mode, this specifies the host on which XDM will run. In indirect mode, this specifies the initial host that will receive and forward the XDM request.

If you enter a name, it must be included in the hosts file on your PC. Note that host names are case-sensitive (upper- and lowercase letters must be typed exactly).

If you enter an address, it must be in standard dotted notation (for example, 142.30.200.6).

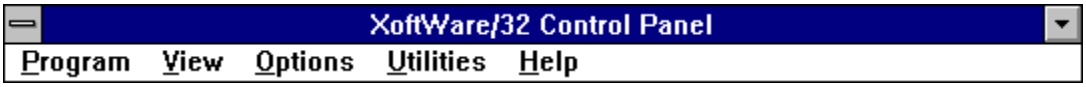
In this example, this field is not available because XDM is not configured in direct or indirect mode.

Start X Server Now

Select this option to launch the X Server as soon as you close the XDM dialog box. This enables you to begin an XDM session immediately.

Menu Commands

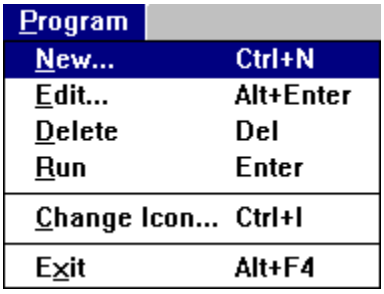
Click any of the menu titles below for information.



Menu Popups

Program Menu

Click any menu option below for information.



New...

Opens the Program Properties dialog box, allowing you to create a new program entry based on the entry highlighted in the Control Panel's program startup area.

Edit...

Opens the Program Properties dialog box, allowing you to modify the program entry highlighted in the Control Panel's program startup area.

Delete...

Deletes the program entry highlighted in the Control Panel's program startup area. You will be asked to confirm this action.

Run

Starts the X program represented by the program entry highlighted in the Control Panel's program startup area.

Change Icon...

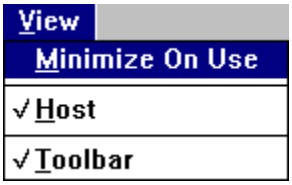
Opens the Change Icon dialog box, allowing you to select a new icon for the program entry highlighted in the Control Panel's program startup area.

Exit

Closes the MultiView/X Control Panel.

View Menu

Click any menu option below for information.



Minimize On Use

When checked, collapses the Control Panel to a desktop icon whenever an X program or MultiView/X utility is launched. This option functions as a toggle.

Host

Displays or hides the Host column in the program startup area. This option functions as a toggle.

Toolbar

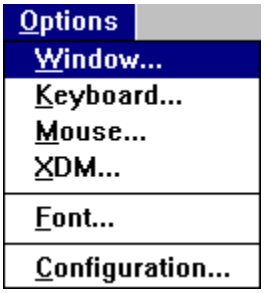
Displays or hides the toolbar below the menu options in the Control Panel. This option functions as a toggle.

Status Bar

Displays or hides the status bar at the bottom of the Control Panel. This option functions as a toggle.

Options Menu

Click any menu option below for information on customizing the operation of the X server and clients.



Window...

Opens the Window Management dialog box, allowing you to customize commonly used X window management options.

Keyboard...

Opens the Keyboard Preferences dialog box, allowing you to customize special key usage and key mapping.

Mouse...

Opens the Mouse Preferences dialog box, allowing you to enable and customize three-button mouse emulation.

XDM...

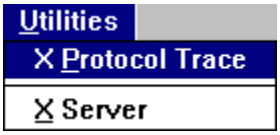
Opens the X Display Manager dialog box, allowing you to enable and configure XDM to launch X programs.

Configuration...

Opens the Configuration dialog box, allowing you to customize MultiView/X configuration options not found in the Window Management, Keyboard Preferences, Mouse Preferences, or XDM dialog boxes.

Utilities Menu

Click any menu option below for information.



X Protocol Trace

Launches the MultiView/X X Protocol Trace utility, an advanced tool used to monitor communication between the X server and X programs.

For more information, see X Protocol Trace.

X Server

Launches the MultiView/X X server. Note that the server is launched automatically whenever an X program is run.

Help Menu

Click any menu option below for information.

Contents

Displays the index of this help file.

How To Use Help

Displays general information on using online help.

About MultiView/X...

Displays the Control Panel version number and copyright information.

Fonts

Opens the Font dialog box, allowing you to select a different font and point size for the display of the program entry name label, host label, and description in the Program Startup Area.

OK Button

Saves any modifications made in this dialog box.

Cancel Button

Voids any modifications made in this dialog box.

Help Button

Accesses online help.

Using Help

This online documentation includes a main help window plus an outline window that provides a graphical view of all topics. The outline window opens automatically and remains open until you close it. Buttons and icons used in this documentation are described below:

Pressing this button will always return you to the openning screen that contains the table of contents.

To search for a particular topic, click on the **Search** button to open the Search dialog box. Type or select any search phrase.

The **Back** and **History** buttons allow you to return to previously selected topics.

The **Browse** buttons allow you to proceed forward or backward, page by page, through the documentation. This is often the most convenient way to view information.

The **Glossary** button provides access to definitions of terms used throughout this documentation.

For more general information on online help, press F1.

Topic Jump

By clicking a solid-underlined topic, you will jump out of the original help topic and into a new topic.

(Click the Back button above to return to the previous help topic.)

By clicking a broken-underlined topic, you will view a short topic definition or explanation in a pop-up box displayed on top of your original help topic.

Click anywhere after reading the definition to remove the pop-up box.

Configuration Dialog Box

All configuration options not accessible through the Window Management, Keyboard Preferences, Mouse Preferences, and XDM dialog boxes are available through this dialog box.

Click a tab at the top of the Configuration dialog box to view options within a category. You can then click an option to view its current setting or value. Modify the setting if necessary, then continue viewing and modifying options within the same category or different categories as needed.

When finished, click OK to accept all modifications, or click Cancel to ignore all changes made since the dialog box was opened.

For information on specific options, click a category below:

Window

Server

Graphics

Fonts

Performance

General

Options Pane

Configuration options within each category are listed in the Options pane. Once an option is clicked, its setting or value will appear in the Settings pane at right, and configuration information will appear in the Notes field below.

Settings Pane

The setting or value of a configuration option will appear in this pane once the option is selected in the Options pane at left.

Notes Field

Information on each option will appear in this field once the option is selected in the Options pane above.

OK Button

Saves all changes made since this dialog box was opened.

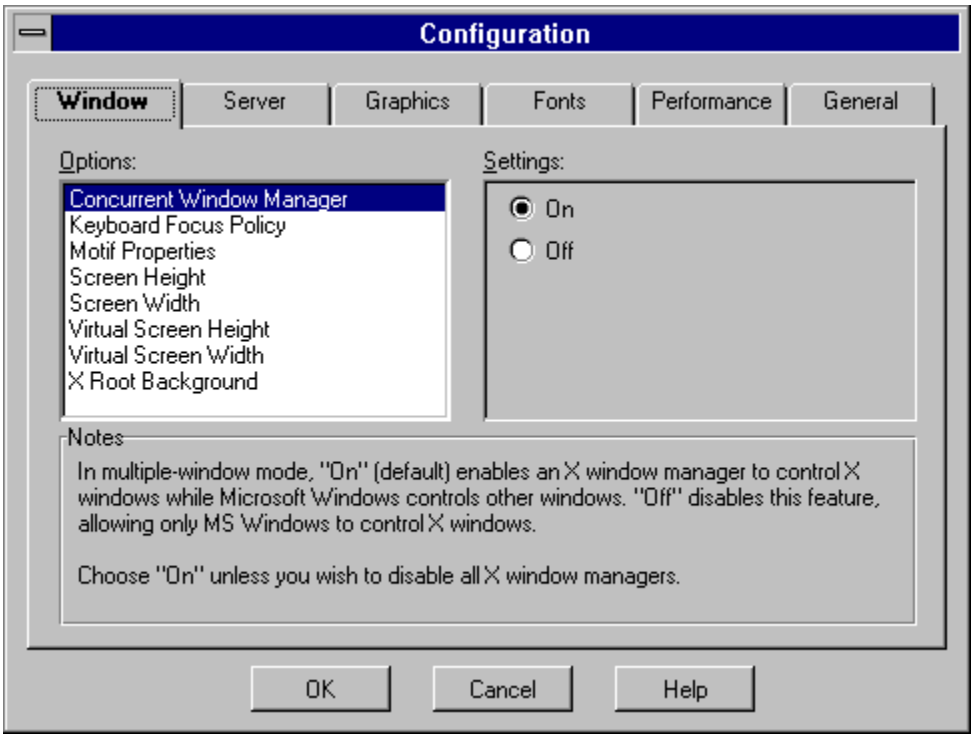
Cancel Button

Voids all changes made since this dialog box was opened.

Window Configuration Options

All configuration options relating to the look and feel of X windows that are not found in the Window Management dialog box are included in this category.

For details on any option, click it on the picture below, or scroll through the information below the picture. For information on options within another category, click the appropriate tab. For general information on this dialog box, click Overview.



Concurrent Window Manager

"On" (default) enables an X window manager to control X windows while Microsoft Windows controls other windows. "Off" disables this feature, allowing only Microsoft Windows to control X windows.

Generally, this option should be enabled so that an X window manager can operate concurrently with Microsoft Windows in multiple-window mode. However, in some situations you may wish to disable this feature so that no X window manager can be started.

This option applies to multiple-window mode only.

Return to top

Keyboard Focus Policy

Choose "MS Windows" (default) to allow keystrokes to be directed only to the active window, per the standard Microsoft Windows mode of operation. Choose "X" to allow keystrokes to be directed to the window under the cursor, regardless of which X window is active, per the standard X Window System mode of operation.

This option applies to multiple-window mode only.

Return to top

Motif Properties

In multiple-window mode, "On" mimics Motif Window Manager properties (hints) when Microsoft Windows is controlling all windows (that is, when no X window manager is running). "Off" (default) disables this feature.

Return to top

Screen Height/Width

MultiView/X receives display size information from your PC's video driver. If you find that your X windows are either too large or too small, use these options to enter your display dimensions (in millimeters). This will accurately inform the MultiView/X X Server of your display capabilities.

Return to top

Virtual Screen Height/Width

In single-window mode, X programs that require a display resolution higher than that allowed by your display hardware can take advantage of the virtual screen feature.

Using these options, you can define the resolution of the root window to exceed the physical resolution of your display device, up to a maximum of 32,767 x 32,767 pixels. This "virtual" screen capability lets you run X programs that require screen sizes greater than your display size. Scroll bars, if required, are automatically added to the X root window to allow you to scroll to areas of the virtual screen that would not otherwise be accessible on your display.

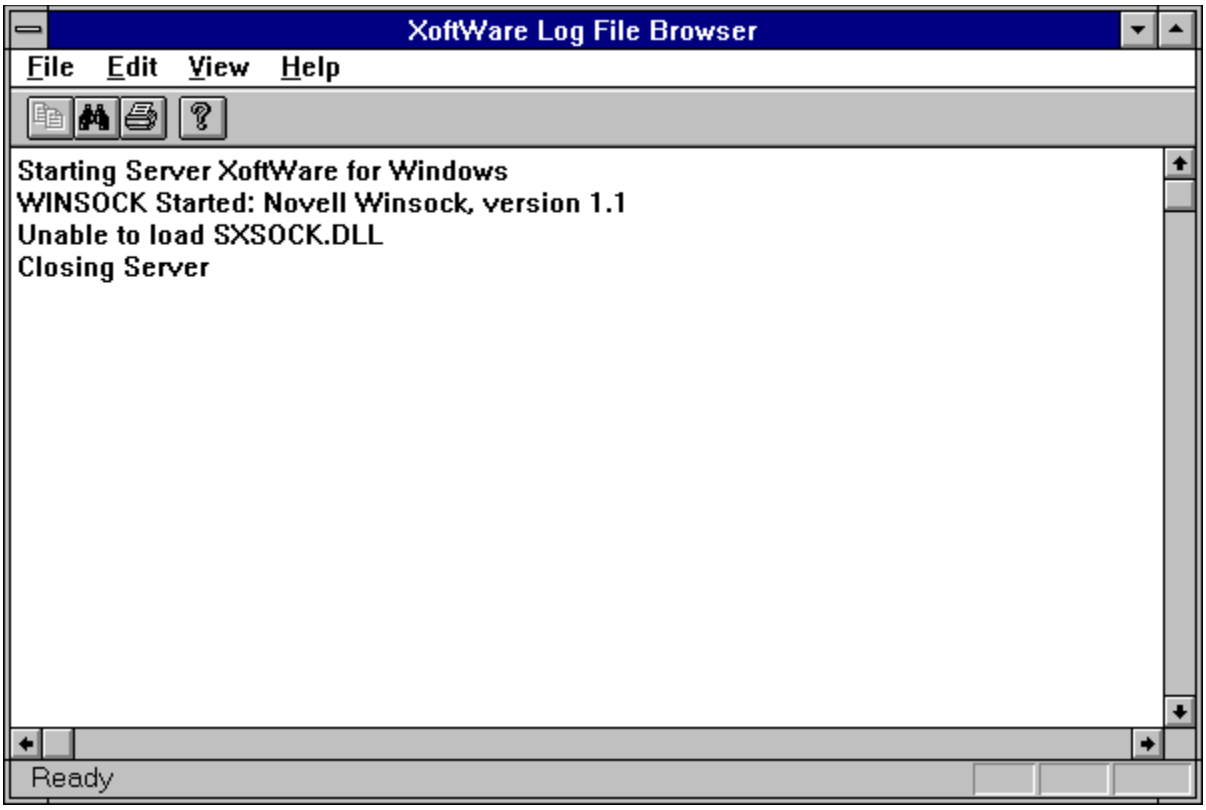
To use these options, enter a virtual screen height and width in pixels (up to 32,767 each).

Return to top

X Root Background

In multiple-window mode, "On" changes your display background to the standard X root window background. X programs can then send information directly to this background. "Off" (default) disables this feature.

With this option enabled, you can use the X command **xsetroot** to write to the root window. For complete details, type **man xsetroot** on your host system to read the man page entry for the **xsetroot** command.



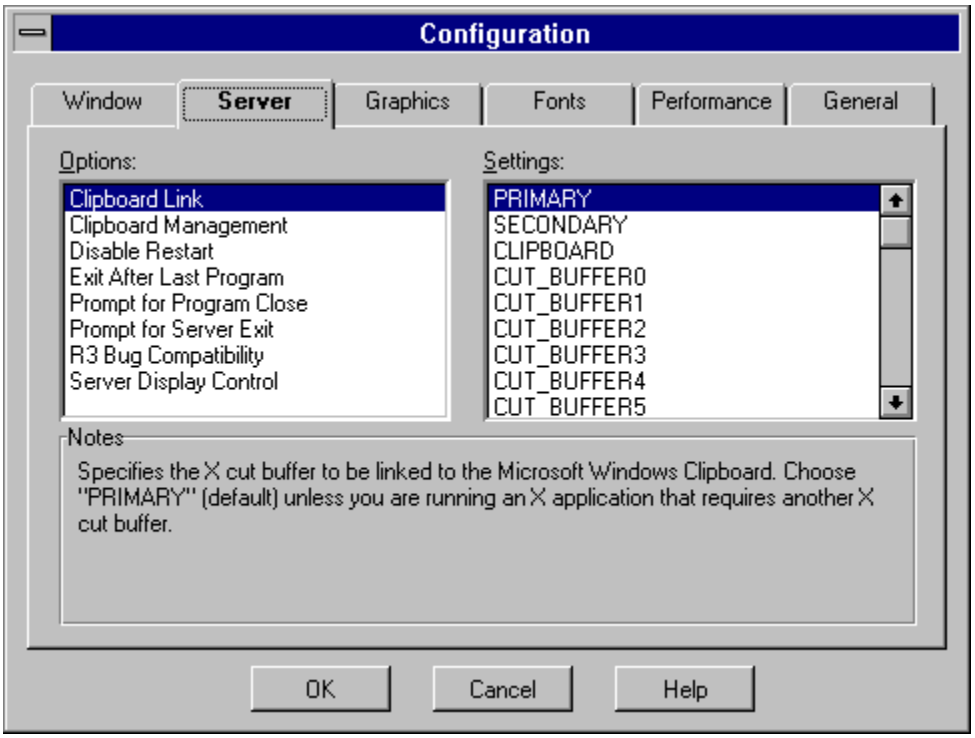
Note: Before selecting this option, turn off the Microsoft Windows desktop patterns (choose Control Panel from the Main program group, double-click on Desktop, then select **(None)** in the Pattern and Wallpaper fields). Failure to do so will result in poor performance.

Return to top

Server Configuration Options

All configuration options relating exclusively to operation of the MultiView/X X Server are included in this category.

For details on any option, click it on the picture below, or scroll through the information below the picture. For information on options within another category, click the appropriate tab. For general information on this dialog box, click Overview.



Clipboard Link

Specifies the X cut buffer to be linked to the Microsoft Windows Clipboard. Choose "PRIMARY" (default) unless you are running an X program that requires another X cut buffer.

An advantage of running applications under Microsoft Windows is the ability to cut and paste information from one application to another. The Clipboard is a temporary storage location that can always be used to transfer information during a Windows session.

The X Window System offers even more comprehensive clipboard functions. MultiView/X extends the capability of the Windows Clipboard to allow X programs to deposit and retrieve both text and bitmapped graphics. You can cut or copy information from a Windows or X program to the Clipboard and then transfer the data to any application.

To examine the contents of the Clipboard, double-click the Clipboard Viewer icon from the Program Manager's Main program group. Note that once you copy an item to the Clipboard, previously stored items are overwritten. To allow later retrieval of Clipboard items, save each item to a file. (Choose Help from the Clipboard Viewer for detailed information.)

Return to top

Clipboard Management

"On" (default) allows only the server to manage the X clipboard. "Off" allows an X program to manage the X clipboard instead.

Choose "On" unless you are running a program to manage the X clipboard.

Return to top

Disable Restart

"On" prevents recycling of the X server, even when recycling is required to complete a configuration change. "Off" (default) allows the server to be recycled. Choose "Off" in most situations.

Return to top

Exit After Last Program

"On" exits the X server once the last X program has closed. "Off" (default) keeps the server running after all programs have closed.

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Prompt for Program Close

"On" (default) directs the X server to display a confirmation dialog box whenever you close an X program window. The dialog box gives you the option to confirm the action, thereby terminating the X program, or cancel and return to the X program. (This dialog box may not appear if the X program performs its own close.)

"Off" disables this feature.

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Prompt for Server Exit

"On" (default) enables a dialog box to be presented should you attempt to end your MultiView/X X server session while an X program is still running. You may then choose to cancel the operation and close the active program normally. You should close programs as documented before shutting down the X server to prevent random processes from lingering on the host and to save data properly before closing system files.

"Off" disables this feature, thereby closing all X programs automatically if they are still running when you exit the server.

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R3 Bug Compatibility

"On" (default) enables certain X11R3 programs to run with MultiView/X. This allows certain minor errors to be self-correcting or ignored, thereby permitting X11R3 applications to function correctly.

Choose "On" unless you are running an X11R3 program that requires this compatibility to be disabled.

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Server Display Control

"On" prevents all X and Windows applications from interrupting an X program that requires control of the display. This ensures that the X program has access to the full resources of both the X Window System and Microsoft Windows. Select this option to prevent display-intensive applications from being interrupted by system message dialogs.

"Off" (default) disables this feature. Choose "Off" unless you are running an X program that requires complete display control.

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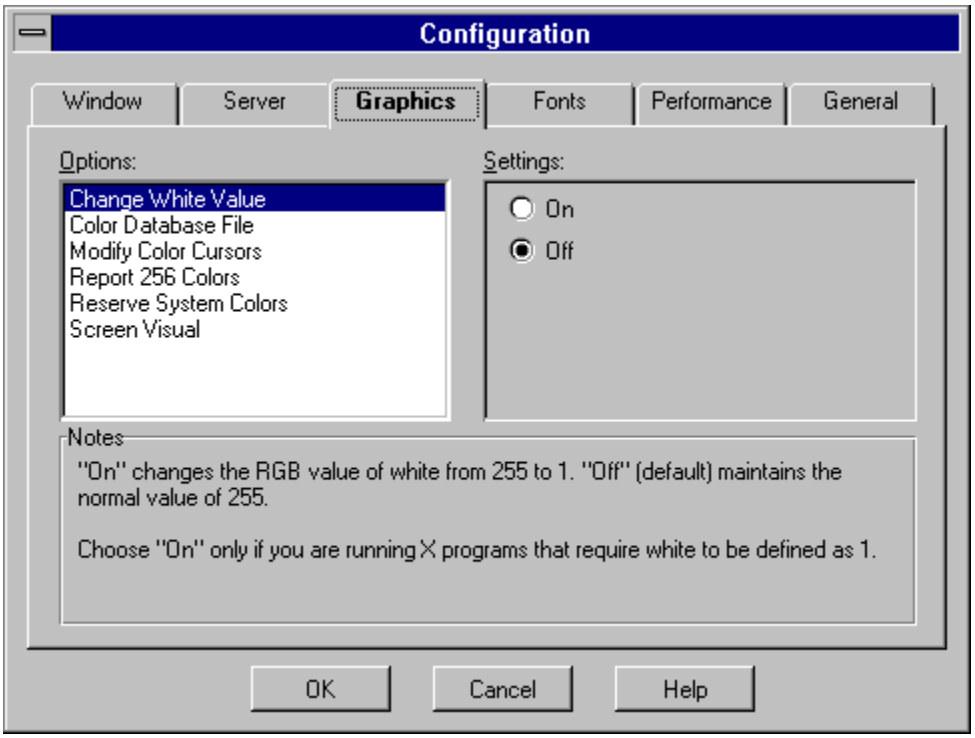
Graphics Configuration Options

All configuration options relating to screen colors and other aspects of how graphics are displayed in X windows are included in this category.

For details on any option, click it on the picture below, or scroll through the information below the picture. For information on options within another category, click the appropriate tab. For general information on this dialog box, click Overview.



Change White Pixel

"On" changes the RGB value of white from 255 to 1. "Off" (default) maintains the normal value of 255.

Choose "On" only if you are running X programs that require white to be defined as 1.

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Color Database File

Specifies the full path and name of this file. The default file name is RGB.TXT, located in the MultiView/X directory (C:\XOFTWARE, by default). If no path is indicated, the MultiView/X directory is assumed.

The color database file is used by the X Window System to simplify color specification and promote color sharing.

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Modify Color Cursors

Some cursors may not be visible on certain backgrounds. Choose "On" to make such cursors visible in these situations. Note that this will change the appearance of all color cursors, so this feature should be enabled only in special circumstances.

"Off" (default) causes cursors to appear normally.

This option goes into effect after the next program is launched.

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Report 256 Colors

"On" informs X programs that they have access to 256 colors, even though some of these colors cannot actually be used. "Off" (default) accurately reports the number of accessible colors.

Normally on a 256-color display, MultiView/X provides X programs with access to only 236 or 254 colors, depending on whether the Reserve System Colors option is enabled. This is usually not a problem, since most X programs do not require the 2 or 20 restricted colors that are unavailable.

However, some X programs will refuse to run unless they believe they have access to the full 256-color spectrum. Enable this option to run such programs. Since the fact remains that X programs cannot change the colors reserved by Microsoft Windows, some of the colors used by these programs may not appear correctly. Nevertheless, the program will run properly with this option enabled.

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Reserve System Colors

"On" (default) enables MultiView/X's Color Map Reservation System (CMRS™) to protect 18 of the 20 static colors of the default Microsoft Windows color palette. This protects the ability of Microsoft Windows to match color requests, leaving X programs with access to 236 (rather than 254) colors.

"Off" disables this protection, making the 18 Windows system palette colors available to X programs, thereby giving them access to 254 colors. This leaves Windows with only two static colors with which to match color requests.

This option is enabled by default and should remain enabled unless you are running an X program that requires access to the 18 static colors. If your display hardware or selected screen visual does not support Microsoft Windows palettes, this option is not available.

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Screen Visual

MultiView/X supports four colormap options (TrueColor, PseudoColor, GrayScale, and StaticGray) in addition to the X Window System StaticColor model. This option enables you to choose the color model your monitor will use. Only the color models supported by your display hardware will be presented.

The five color models available are:

- **TrueColor --** This screen visual class is supported only on displays with 16- or 24-bit color capability. With this option selected, X applications can select 32,768 colors for 16-bit cards, 16.8 million colors for 24-bit cards.

- **PseudoColor --** This is the most versatile screen visual class and is supported on displays with changeable hardware colormaps (color displays that support Microsoft Windows palettes). With this option selected, X applications can define and select the maximum number of colors supported by the display (256 for a screen depth of 8 bits).

- **GrayScale --** Like PseudoColor, GrayScale requires a display device with a changeable hardware colormap. With this option selected, X applications will attempt to map colors into shades of gray that provide adequate contrast. (The number of shades that can be displayed simultaneously depends on your display hardware.)

- **StaticColor --** This screen visual is used for displays with an unchangeable hardware colormap, such as standard VGA monitors. With this option selected, X applications will map each color request to the closest available color.

- **StaticGray --** StaticGray is used for displays with an unchangeable hardware colormap, such as black-and-white monochrome monitors. These displays feature a single-plane screen with a two-element read-only colormap. With this option selected, X applications will map each color request to either black or white.

If you are not sure which option to select, choose the default selection.

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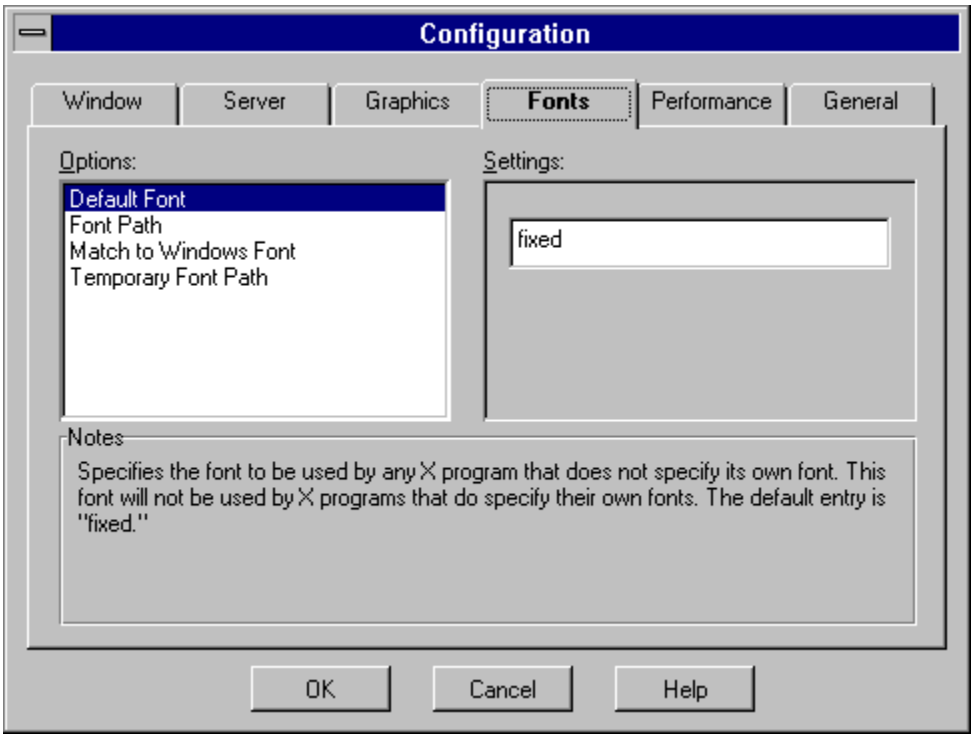
32-bit TrueColor Images

On ensures display of X Server graphic information between X clients and the server at 32-bits per pixel. This information is exchanged and displayed regardless of the pixel depth of your PCs display configuration. Toggling this option On ensures the correct display of Common Desktop Environments (CDE) such as Solaris, HP, and others. If your display appears normal without this option, you may save some system overhead by toggling it Off (default).

Fonts Configuration Options

All configuration options relating to fonts used by the MultiView/X X Server are included in this category.

For details on any option, click it on the picture below, or scroll through the information below the picture. For information on options within another category, click the appropriate tab. For general information on this dialog box, click Overview.



Default Font

Specifies the font to be used by any X program that does not specify its own font. This font will not be used by X programs that do specify their own fonts. The default entry is "fixed," which represents the 6X13.FON font file.

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Font Path

Specifies all directories in which X fonts are located. By default this is set to the font directories within the MultiView/X directory.

You may add or delete directories as needed. Include the full path to each directory. Use commas to separate entries.

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Alternate Font Path

Specifies font directories in addition to the standard Font Path. This path is searched if fonts can not be located in the standard Font Path.

Match to Windows Font

"On" matches an X program font request with the most similar Microsoft Windows font available, if the requested font cannot be found. This ensures that all font requests are satisfied.

"Off" disables this feature, causing an error to be returned if a requested X font cannot be found.

Choose "On" (default) in most situations.

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Font Server

MultiView/X supports font access through the X11R6 font server. Font server access allows one or more hosts on the network to serve as central storage areas for all X Window System fonts. This eliminates the need for each PC to store the large set of fonts locally. It also provides access to a greater variety of fonts, since the font server supports transparent conversion of Speedo, PCF, BDF, and Type 1 fonts to Xcompatible format.

To access fonts through the font server, you must add information to the font path. From the MultiView/X Control Panel, select Configuration from the Options menu, then click the Fonts tab. Select the Font Path option to display the current setting.

In the text entry field, enter a string similar to the following:

```
tcp/hostname:port_id/catalog
```

where `tcp` indicates that the font server will be accessed over the network, *`hostname`* is the internet name of the font server machine, *`port_id`* is the default port number, and *`catalog`* is the full path to the directory containing the fonts you want to use. Separate multiple paths with commas.

Temporary Font Path

This option is used in conjunction with the font server capability. If you are using fonts from a network font server, the most recently used fonts are downloaded and stored in the location specified by this option for quick access without constant network traffic.

The default entry is a subdirectory of the MultiView/X fonts directory. The name of this subdirectory is "00000000" or your PC's IP address in hexadecimal format (for example, C009C818).

To change this location, enter a full path name to a directory in which font server fonts will be stored, as in the following example:

C:\USR\MYNAME\TEMPFONT

The directory specified will automatically be created if it did not previously exist.

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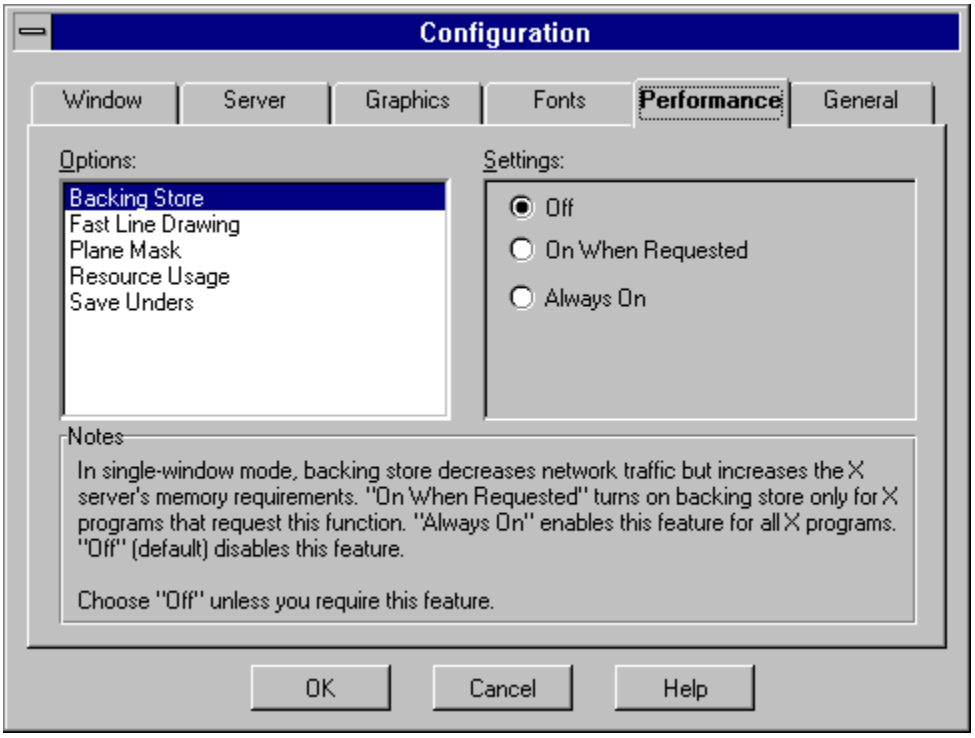
Performance Configuration Options

All configuration options relating to X server performance are included in this category.

For details on any option, click it on the picture below, or scroll through the information below the picture. For information on options within another category, click the appropriate tab. For general information on this dialog box, click Overview.



Backing Store

Backing store is the ability of an X server to retain the contents of unmapped windows and windows that are partially or totally obscured by other windows. By redrawing the contents of such windows, MultiView/X avoids expose events and thus avoids generating the network traffic required to send information to repaint the window. However, because the backing store increases the amount of memory required by the server, this option is not recommended for users with a limited amount of memory.

The three Backing Store options are:

- **Off** (default) -- Disables backing store.
- **On When Requested** -- Enables backing store only for X programs that request it.
- **Always On** -- Forces backing store to be used for all X programs.

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Fast Line Drawing

"On" (default) allows the server to draw width-one lines and certain dashed lines using Microsoft Windows drawing algorithms. These algorithms allow faster performance but

do not meet X drawing specifications.

Disable this option if you require pixel-perfect drawing.

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Plane Mask

"On" (default) allows plane masks to be used by X programs. "Off" disables this feature.

The color of each screen pixel is represented by a certain number of bits (for example, eight), each of which may have the value 0 or 1. X applications may allow graphics operations to be configured to ignore (mask) information in one or more of these eight bits. If a plane mask is established on bit 8, for example, then only information in bits 1 through 7 will be transferred from source to destination during a graphics operation, leaving bit 8 with its original value on the destination.

Most X programs that use plane masks in graphics operations do so correctly. For these applications, enabling the Plane Mask option yields the best results.

However, some X programs may use the plane mask incorrectly, resulting in unusual screen colors when this option is enabled. If you are running such an X program, disable this option to prevent the program's use of the plane mask. This may result in faster operation.

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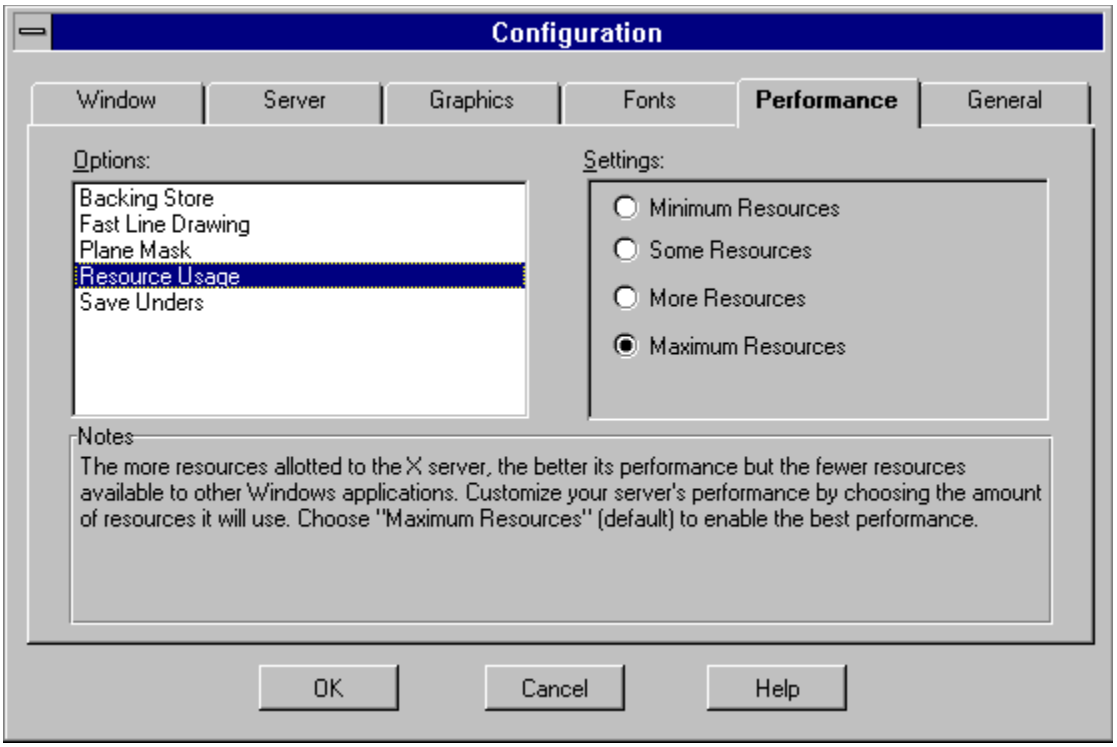
Resource Usage

The more resources allotted to the X server, the better its performance but the fewer resources available to other Windows applications. Customize your server's performance by choosing the amount of resources it will use. Choose from "Minimum Resources," "Some Resources," "More Resources," or "Maximum Resources" (default). The default setting enables the best performance.

To see how much of your system resources are being used at any time, choose About from the Microsoft Windows Program Manager's Help menu to display the following dialog box:



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Save Unders

This option is similar to Backing Store except that it saves only what is covered by a window or menu, rather than the contents of all partially or totally obscured windows. Save Unders is used primarily with pop-up menus to save the information covered temporarily by the menus. This decreases network traffic when windows are repositioned on the display.

This option applies only if Backing Store is set to "On When Requested" or "Always On."

Save Unders is disabled by default.

#Batch Request

On (default) allows the X server to combine multiple requests for faster performance when possible. Off disables this feature.

#Jump Scroll

On (default) allows the X server to combine scrolling operations for faster performance. Scrolling occurs when a terminal emulation program moves text up or down in a window. Off disables this feature.

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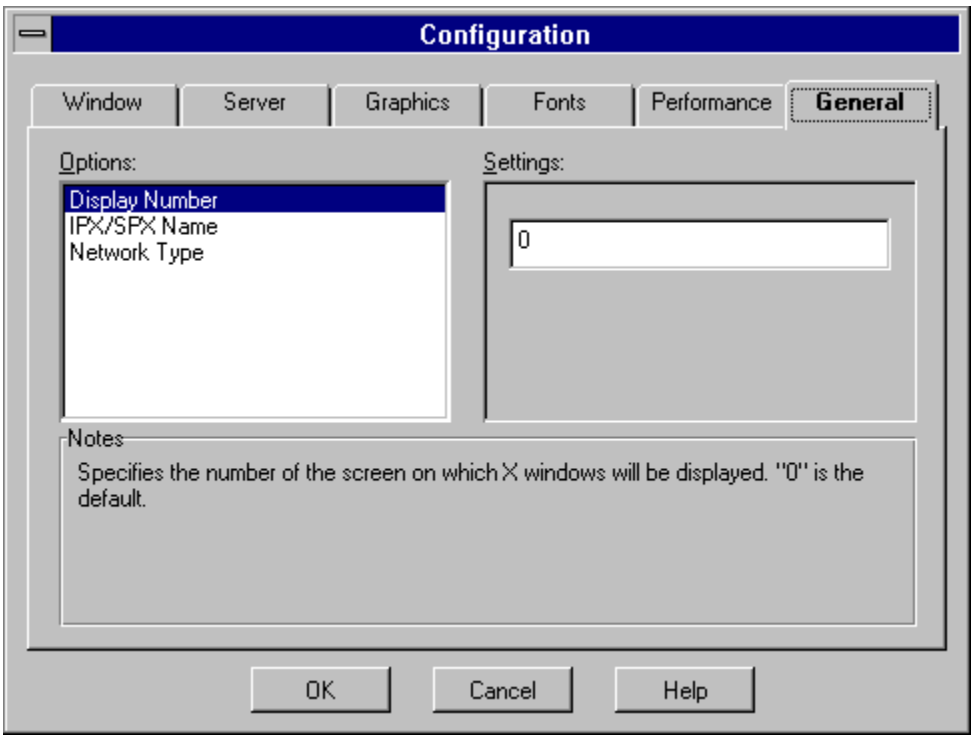
General Configuration Options

Miscellaneous configuration options can be found in this category.

For details on any option, click it on the picture below, or scroll through the information below the picture. For information on options within another category, click the appropriate tab. For general information on this dialog box, click Overview.



Display Number

This option allows you to change the default X server display port number, if required. Normal operation sets this value to 0. This is reflected in a startup command of the following format:

xterm -display *pc_name*:0

where *pc_name* is the Internet name (or IP address) of your PC. If for some reason your display number is other than 0, enter the valid display number to inform the MultiView/X X server.

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IPX/SPX Name

Specifies the Internet name of your PC for use with IPX/SPX network software.IPX (Internetwork Packet Exchange) and SPX (Sequenced Packet Exchange) are Novell communications protocols for sending and receiving data packets across a network.

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Network Type

Specifies the type of network you are using: Windows Socket Library (Winsock), IPX, or local socket. This is set during installation and generally should not be modified.

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#Local Host Access Control

You can control host access to your MultiView/X display locally through this mechanism. Local Host Access Control is either Enabled or Disabled. When Access Control is Disabled, all hosts on the network are able to send X programs to your display; there is no access control. If you do not want your display interrupted by network host messages or clients, you may Enable Access Control. When you select the Local Host Access Control option and Enable it for the first time, you will be prompted to edit the host file. Create this file by entering the network names of hosts you want the X server to accept connections from. Any network host not listed will not be able to contact your X server display. Name and save this file and it will automatically be given the .HST extension. The contents of this file will be written to the HOSTS file each time you Enable the Local Host Access Control option.

You may create multiple access control files containing different lists of hosts you allow to connect to your X server. The last .HST file you open is the active access control file. This files contents are written to the HOSTS file when you Enable the Local Host Access Control option.

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X Resource File

You can customize the appearance and operation of many X clients. X clients generally are supplied with a default set of variables that are contained in a file named Xresources or in some cases the Xdefaults file. These variables are defined and and can be modified by editing the Xresources file or by creating and using a local Xresources file. The X Resource File option lets you specify the location of your custom Xresources file on your local system. Simply enter the drive name, directory path, and filename of your Xresources file. The default Xresource file is named XRGB.TXT and is located in the MultiView/X installation directory.

The options and their formats are fully described in *The X Window Users Guide* by OReilly & Associates, Inc. Also UNIX style man pages located on the host machine may contain this information for specific X clients.

Load Local X Resource

This option has two states: Yes and No. If you toggle the Yes state, the local X resource file, if it exists and its path is specified, controls the appearance and operation of X clients. If you toggle the No state, the default options control X clients.

Glossary of Terms

expose event
extension
font
frame
graphical user interface (GUI)
highlighted
hint
host
icon
input only window
interprocess communications (IPC)
ISO
local area network (LAN)
mapping
maximize
minimize
Modifiers
Motif
Motif Window Manager (MWM)
MPSS
multiple window mode
network
network file system (NFS)
obscured
occluded
operating system
overlapping windows
parent window
passive
paste
path name
pixel
pixmap
point size
pointer
property
RAPID

reply
request
resource
rexec
root window
rsh
save under
screen
scroll bar
select
server
single window mode
TCP/IP
telnet
tiled windows
UNIX
vector
VEX
virtual screen
visible
wide area network (WAN)
window manager
X protocol
X server
X terminal
X Window System
XDM Broadcast
XDM Direct
XDM Indirect
XDMCP

active

The currently selected icon or window. Keyboard or mouse actions are directed to the active window or icon.

AFS™

Automatic Font Substitution, MultiView/X's capability to choose the closest available font whenever an X application requests a font that is not available.

ANSI

American National Standards Institute, the group responsible for implementing computer standards in the U.S.

application

A software program, such as a drawing package, word processor, or spreadsheet designed to help the user accomplish a task or project. X applications are often called clients.

application icon

A graphic that appears on your desktop after you start an application and then minimize it.

application window

A window that contains an application that is running.

atom

A unique number that X windows uses as an alias for a longer string name to save network traffic. The string name in turn represents some system resource such as a memory buffer.

background

Each window can have a background that is defined as a pixmap, or a solid color.

backing store

A feature in X that allows the server to save occluded window areas off-screen and return them, without client interaction, when the window is uncovered.

bit

Basic unit of computer information. A bit can have one of two values: 0 or 1; on or off; true or false.

bitmap

A memory area that represents an array of pixels. This array of pixels is represented on your display as objects such as icons, windows, and dialogs.

bitplane

A bitmap of pixel depth 1.

border

The area of equal thickness surrounding a window on all sides. Borders can vary in size, design, and color depending on how the window manager or user defines them.

CascadeX™

MultiView/X's system of positioning client windows. Takes advantage of Microsoft Windows' automatic window positioning scheme to cascade new windows without completely overlapping existing windows.

check box

A small square that appears in a dialog box, indicating that an option can be selected or cleared. When an option is selected, an X appears in its check box.

choose

To select an item or command by clicking on it or by using the appropriate key sequence. The item normally changes color or texture and comes to the top of other items on your display when selected.

class

A collection of programming objects with a similar function. Some examples of classes are: buttons, windows, and cursors.

click

To quickly press and release the mouse button. You click on a button, window, or other object to select it.

client

An application that runs under X and depends on services from the X server. In the development of X applications the client depends on the X server to display its requests.

clipboard

A temporary storage area for text and graphics transferred between windows. For example, there is a text clipboard between Microsoft windows and X windows.

clipping region

A rectangle used to restrict output to a specific region of a window. In graphics software, the clipping region is defined as a rectangle or rectangles into which the graphics program can draw.

CMSR™

Color Map Reservation System, MultiView/X's ability to protect 18 of the 20 static colors of the default palette. This protects the ability of Microsoft Windows to match color requests.

connection

The network connection path which allows your PC X server and the client host to exchange requests and services.

cursor

The visible shape of the pointer on the screen (often an arrow, but many shapes are supplied in various applications).

cut

To move an item from a document and put it into the clipboard.

default

Settings shipped with the software.

desktop

The screen on a display of a graphical computer interface. Usually includes icons, menus, and windows all controlled by a window manager.

desktop manager

A special X client that gives users control over the size, placement, and look of the elements that make up their desktop.

device driver

A software program that allows a device such as a disk drive to communicate with the computers CPU.

dialog box

A Popup box that appears in response to a menu command to provide or request information.

direction keys

Keys marked with arrows used to move the cursor up, down, left, and right.

double click

To click the mouse button twice in rapid succession. Usually this action is done with the cursor on a program icon and results in the program starting.

drag

To hold down the left mouse button while moving the mouse.This action is used to move an object from one area on the desktop to another. When you release the mouse button the object is dropped in its current location.

Ethernet

A high-speed LAN technology capable of transfer rates up to 10 million bits per second (mbps).

event

A message that informs a client of input or the effect of a request.

expose event

An event sent to inform a client when the contents of a window have been lost and need to be redrawn.

extension

A functional enhancement to the core X protocol that extends the system. Some recent extensions are the shape extension which allows rounded rather than square windows and the image extension that allows image manipulation on the server instead of the host.

font

A collection of characters and displayable items such as cursors. In X, fonts are treated as bitmap arrays with additional metric information that determines their spacing and other properties.

frame

The border that window managers typically put around windows.

graphical user interface (GUI)

A collection of graphical techniques and images that allows the user to control the computer. GUIs have varying appearances and interactivity techniques. GUIs are also referred to as the "look and feel" of a product.

highlighted

Selected, as said of objects or text. Highlighted items appear in reverse video on monochrome displays and in color on most color displays.

hint

A property associated with an X window that may be acted upon or ignored by the window manager. Hints are properties such as size and location of a window.

host

A computer and operating system upon which an X client runs.

icon

A small marker icon that indicates a larger main window, such as an application program, exists and is available.

input only window

A window that cannot be used for graphics output requests. Input-only windows are invisible and control cursors, input event generation, and other features. They cannot have windows as inferiors.

interprocess communications (IPC)

A communication path (such as TCP or a shared memory buffer) between processes.

ISO

International Standards Organization, a group founded in 1975 to create worldwide standards for the computer industry.

local area network (LAN)

A network that functions within the confines of one site or building.

mapping

The process by which a client makes a window eligible for display. A mapped window will be displayed if it is not obscured by another window. Unmapped windows are never viewable.

maximize

To expand a window to its maximum size, which is determined by the application running in the window.

minimize

To reduce a window to an icon without closing the application.

Modifiers

Keys that change the effect (or state) of other keys. The four standard categories of modifiers are Shift, Lock, Control, and Alt.

Motif

A graphical user interface specification and toolkit for X offered by the Open Software Foundation.

Motif Window Manager (MWM)

The window manager that adheres to the Motif look and feel. MWM was developed by the Open Software Foundation and is noted for its 3D appearance.

MPSS™

Multi-Process Startup System, MultiView/X's client startup method. Releases the cursor when starting an X client and allows the user to start another client concurrently.

multiple window mode

A display mode in which MultiView/X for Windows opens an individual Microsoft Windows window for each client.

network

Several computers connected together with the aid of special hardware and software rather than simple serial connections. The hardware consists of a card or chipset in each computer designed to run software that controls transmission and reception of data packets.

network file system (NFS)

A network file communication protocol developed by Sun Microsystems. NFS allows client workstations to perform transparent file access over the network. NFS can operate on a variety of servers and across a variety of operating systems.

obscured

Partially viewable. A window is obscured if it is only partially visible because another window or object is in front of it.

occluded

Not viewable. A window is occluded if it is completely covered by another window or object.

operating system

A program that controls the operation of computer hardware and presents an interface through which the user can work with application programs. Examples of operating systems include DOS, UNIX, VMS, and Windows 95.

overlapping windows

Windows that are placed on the screen so that each window covers part of another. Overlapping is the opposite of tiled.

parent window

A new window created with reference to an existing window.

passive

A method of starting a client in which the server is initialized with all configuration files loaded, but the client is started from another host on the network.

paste

To transfer the contents of the clipboard into an application.

path name

A description of the location of a directory or file. The path name's entries are separated by slashes. Backslashes are used in DOS and forward slashes are used in UNIX.

pixel

The smallest graphic unit on the display screen.

pixmap

A two-dimensional array of pixels.

point size

A unit of measure for a font. One point is equal to 1/72 of an inch.

pointer

The device attached to the cursor and tracked on the screen.

property

An object associated with an X window that has a name, type, data format, and some data. Properties are used for storing data and communicating between clients.

RAPID™

Resource and Performance Interactive Display system. Allows you to customize the performance of the MultiView/X X server.

reply

The server's response to an information request from a client.

request

A command to the server from a client.

resource

General term for windows, pixmaps, cursors, fonts, graphic contexts, etc.

rexec

A client startup method in which the server is initialized with all of the configuration files loaded. The rexec program executes a program on a remote machine that connects to the X server.

root window

The window that covers the background of the entire screen. All other windows are displayed on the root window.

rsh

A client startup method in which rsh (remote shell) executes a program on a remote machine that connects to the X server.

save under

A technique of saving the image on the screen under a window so that the image can be restored when the window is moved on the display or removed from the display.

screen

The display area of a monitor.

scroll bar

The bars at the bottom and right edge of a window whose contents are not entirely visible.

select

To highlight an item by clicking on it.

server

The program that serves as an interface between the display and the client programs. The MultiView/X for Windows server allows a computer capable of running Microsoft Windows to be used as an X display.

single window mode

A display mode in which MultiView/X for Windows opens one Microsoft Windows window, which is then accessed like an X root window. All X clients are displayed in this single MultiView/X window. An X window manager must be invoked to manipulate X clients in the window.

TCP/IP

Transmission Control Protocol/Internet Protocol, a communications protocol used in networks that follows the U.S. Department of Defense standards. Commonly used on Ethernet between technical UNIX workstations, X terminals, and X PCs.

telnet

A client startup method in which users can start an X application by remotely logging on to any machine on a network on which they have an account.

tiled windows

Windows that lie vertically or horizontally adjacent to each other on the screen, with no window covering any part of another. Tiled is the opposite of overlapping.

UNIX

A multi-tasking operating system originally developed by AT&T.

vector

A line or line segment.

VEX

Video Extensions to X, a proposal for including video capabilities in the X protocol.

virtual screen

A display option, available in single-window mode, that lets you create a virtual screen of up to 32K x 32K pixels for the X server application.

visible

A region of a window that is viewable and not occluded on the screen by the user.

wide area network (WAN)

A network which may span several sites or buildings.

window manager

A special application program that allows the user to perform common window system functions, such as opening, closing, moving, and resizing windows.

X protocol

The protocol used for communication between X clients and the server. The protocol is the same whether the client and server are running on the same system or on different computers linked by a network.

X server

The program that provides the basic windowing mechanism for X applications.

X terminal

A combination of hardware and software specifically designed to run the X Window System server.

X Window System

The graphics protocol developed by MIT that enables applications to run in a server-based, object-oriented, windowed environment.

XDM Broadcast

A startup method in which the X server sends a request to all hosts on the network. The hosts that do not wish to service the request ignore the broadcast.

XDM Direct

A startup method in which the X server sends a request to the X Display Manager program running on a specific host.

XDM Indirect

A startup method in which the X server sends a request to a single host, expecting that the request will be forwarded to a larger collection of secondary managers on different hosts. The first secondary host to respond will launch the initial clients. The initial host may also accept the request.

XDMCP

X Display Manager Control Protocol. Allows a network administrator to manage X terminal and workstations from a single host.

Keymap Editor

Keymap Editor

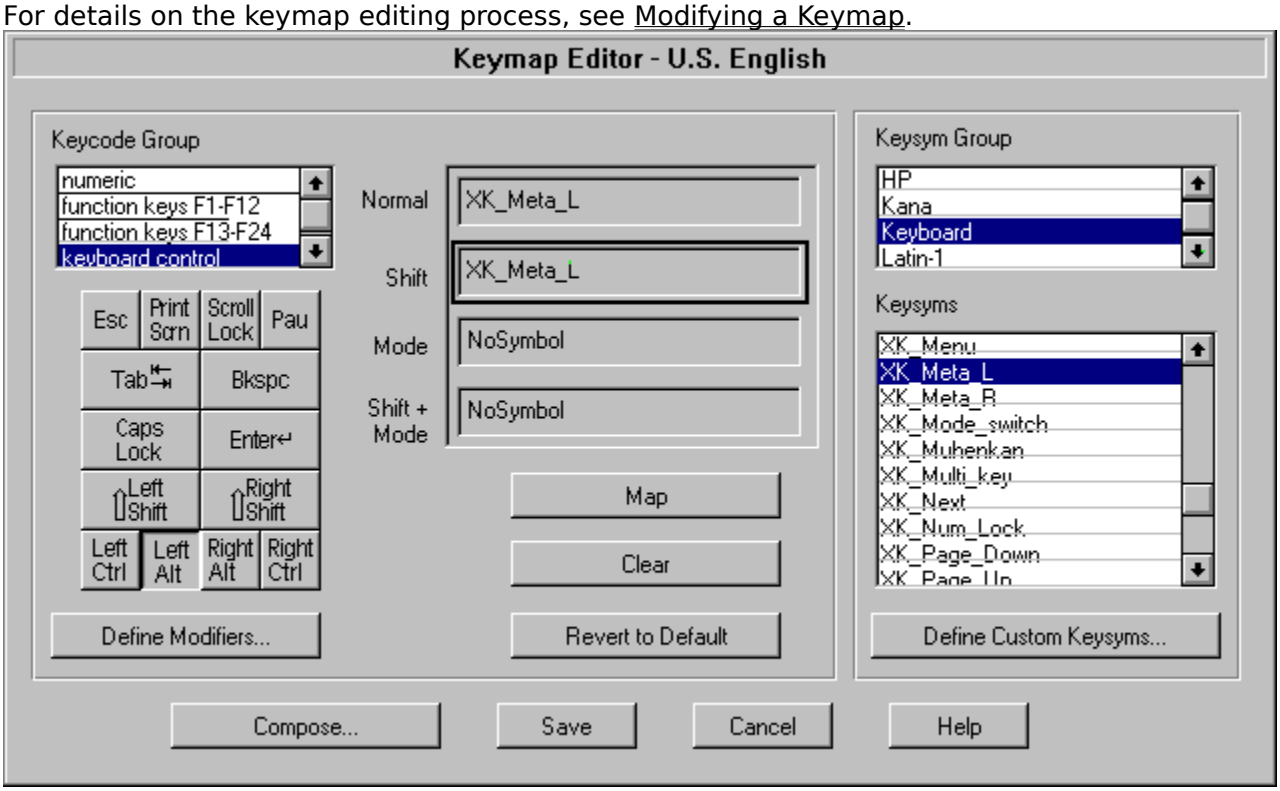
MultiView/X provides an easy-to-use graphical keymap editor to allow you to customize any keyboard for use with the MultiView/X X Server.
Using this tool, you can define (or "map") the X key code sent to X programs whenever you press any key. The file that stores the mappings of keys to these X key codes (or "keysyms") is called a keymap.
MultiView/X includes several predefined keymaps. Using the keymap editor, you can open an existing keymap and modify any or all of the key mappings it contains. When this keymap is selected through the MultiView/X Control Panel's Keyboard Preferences dialog box, your keyboard will be mapped exactly as you have specified.
Click any of the following topics for details on using the Keymap Editor:

Accessing the Keymap Editor

From the MultiView/X Control Panel, select Keyboard from the Options menu, or click the Keyboard icon in the toolbar. This will bring up the Keyboard Preferences dialog box.
In the Key Mapping section, select an existing keyboard style (keymap) to be modified or to serve as the starting point for a new keymap. Then click Edit to modify the keymap, or click New to create a new keymap. Either action will cause the Keymap Editor dialog box to appear.

Keymap Editor Dialog Box

This dialog box allows you to create or modify keymaps.
Click any area of the dialog box below for information.
For details on the keymap editing process, see Modifying a Keymap.



Keycode Group List Box

Displays all keycode groups. These groups contain all available keyboard codes.
To select a key, press it on your keyboard. The key buttons below this list box will reflect the key you have pressed, and the keycode group in which the key can be found will be highlighted in this list box.
You can also select a key by browsing through this list box. When you click a keycode group, the key buttons below will reflect the keycodes it contains. You can then click any key button to select a key.

Key Buttons

These buttons reflect the keys contained in the group selected in the Keycode Group list box. The button that is pressed (A, in this example) is the selected key.
Select any key by clicking the appropriate key button. You can also press any key on your keyboard to cause it to appear on these buttons.

Define Modifiers Button

Opens the Define Modifiers dialog box, allowing you to change which keys are defined as modifiers and how they are defined.
See Defining Modifiers for more information.

Key State Fields

These fields reflect the keysyms currently mapped to the key highlighted on the key buttons at left. Each key can have four states: normal, shift (any shift modifier in effect), mode (any mode key in effect), and shift + mode (both a shift modifier and a mode key in effect).
In this example, the keysym XK_a is mapped to the A key in its normal (unmodified) state, and XK_A is mapped to A in its shift state. No keysym is mapped to A in its mode or shift + mode states.
To map the keysym selected at right to one of the four states of the key highlighted at left, double-click the appropriate key state field. You can also click the Map button or double-click the keysym at right to map the keysym to the key in the state that is highlighted. To change the state that is highlighted, click once on the appropriate key state field.
For more information on key mapping, see Modifying a Keymap.

Map Button

Maps the keysym selected in the Keysyms list box at right to the key highlighted on the key buttons at left in the state highlighted in the key state fields above.
For example, to map XK_overbar to the shift state of the INSERT key, begin by pressing INSERT to highlight it on the key buttons at left. Click the shift state once in the key state fields above, then select XK_overbar in the Keysyms list box at right. Finally, click Map to complete the mapping.

Clear Button

Changes the mapping of the key highlighted at left in the state selected above to "NoSymbol," indicating that a press of the key in that state will have no effect.
For example, if the A key is highlighted at left and the Normal key state field is highlighted above, clicking Clear will cause "NoSymbol" to replace XK_a in the Normal field. If a keymap with this change were selected in the Keyboard Preferences dialog box, an unshifted, unmodified press of the A key within an X program would have no effect.

Revert to Default Button

Cancels any mappings performed since the highlighted key state field was selected, causing the field to reflect its value before the latest series of mappings was performed.
Note that this action will not take effect once another key state field has been highlighted, nor will it necessarily revert the mapping to its original value before the Keymap Editor was invoked.
As an example, consider that XK_a is originally mapped to A in its normal state. You then remap XK_overbar to A in its normal state, remap XK_a to A in its shift state, and return to the Normal field by clicking it once. In this case, you would not be able to revert the mapping of XK_a to A in its normal state by clicking Revert to Default, since you left the Normal key state field in the interim to perform a second mapping (the remapping of A in its shift state).

Keysym Group List Box

Displays all groups of X keysyms. Click a group to display the keysyms it contains in the Keysyms list box below.
Click the Custom group to display any custom keysyms that you have created. Double-click this entry to bring up the Custom Keysyms dialog box. This is equivalent to clicking the Define Custom Keysyms button below.

Keysyms List Box

Displays all X keysyms within the keysym group selected above.
Click a keysym once to select it, allowing it to be mapped to the key highlighted on the key buttons at far left. Double-click the keysym to map it directly to the key in the state indicated by the highlighted key state field.

Define Custom Keysyms

Opens the Custom Keysyms dialog box, allowing you to create new X keysyms or modify or delete existing ones.
See Defining New Keysyms for details.

Save Button

Accepts all modifications made within this dialog box. You may then be prompted to provide a name for this keymap.
See Saving and Using Keymap Files for more information.

Cancel Button

Voids all keymap modifications made within this dialog box. However, changes to custom keysyms will be saved.

Modifying a Keymap

The process of modifying the mapping of any key within a keymap involves selecting the key, choosing an X keysym to associate with the key, and linking the two together.
To clarify this process, we will follow the steps required to map the PAGE UP key to the keysym XK_Prior:

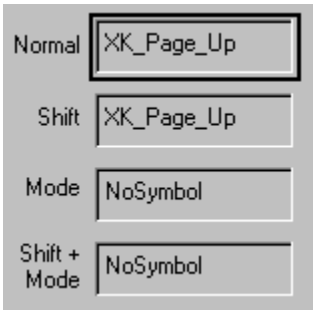
1. **Select the key.** You can do so simply by pressing the key on your keyboard. This will automatically highlight the key you have pressed on the key buttons below the Keycode Group list box.

   You can also select the key by choosing it from its keycode group. Keycodes are organized by function or location on a standard keyboard. The keycode groups are:

alpha A-P	punctuation	oem specific 2
alpha Q-Z	editing	unassigned1
numeric	keypad	unassigned2
function keys F1-F12	kanji	unassigned3
function keys F13-F24	undefined	unassigned4
keyboard control	oem specific 1	miscellaneous

   Click the appropriate keycode group and click the key to select it. In our example, the PAGE UP key can be found in the "editing" group, which includes all the keys to the immediate left of the numeric keypad. Click the Page Up button to select the key.

   Once you have selected a key, the X keysyms associated with the key will appear to the right of the keycode group list box.



In our example, clicking the "Page Up" button causes the figure at right to appear.

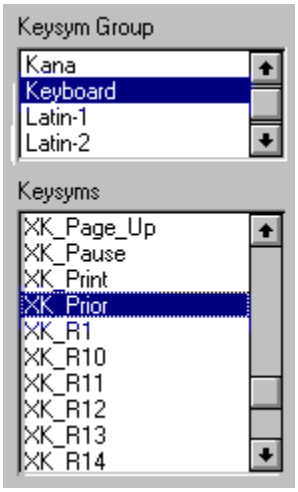
The four fields in this area reflect the keysyms for the key in four states: normal, shift (any shift modifier in effect), mode (any mode key in effect), and shift + mode (both a shift modifier and a mode key in effect). (See Defining Modifiers for details on shift modifiers and mode keys.)

In the figure above, PAGE UP is associated with the keysym XK_Page_Up in both its normal and shift states. The key is associated with no keysym when pressed with a mode key, as indicated by the keysym "NoSymbol" in the Mode and Shift + Mode fields.

2. **Locate the X keysym to associate with the key.** Keysyms are organized into standard X Window System groups. Click any group in the Keysym Group list box to display its keysyms. The keysym groups are:

APL	HP	Publish
Arabic	Kana	Special
Custom	Keyboard	Sun
Cyrillic	Latin-1	Technical
DEC	Latin-2	US
Greek	Latin-3	
Hebrew	Latin-4	

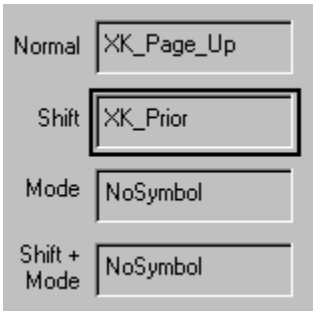
The most commonly used keysyms can be found in the "Keyboard" and "Latin-1" groups. You can also create your own keysyms (see Defining New Keysyms for details).



In our example, the XK_Prior keysym can be found by clicking the "Keyboard" group and searching through the alphabetical keysym listing, as shown at right.

3. **Map the keysym to the appropriate state(s) of the keycode.** Once you have clicked the key and selected the keysym to associate with it, you are ready to bind the two together.

   Click the key state field (Normal, Shift, Mode, or Shift + Mode) to highlight it, then click the Map button. Alternatively, you can double-click the key state field or double-click the keysym in the Keysyms list box. The keysym will appear under the appropriate key state field, indicating that you have mapped the keysym to the key in that state.

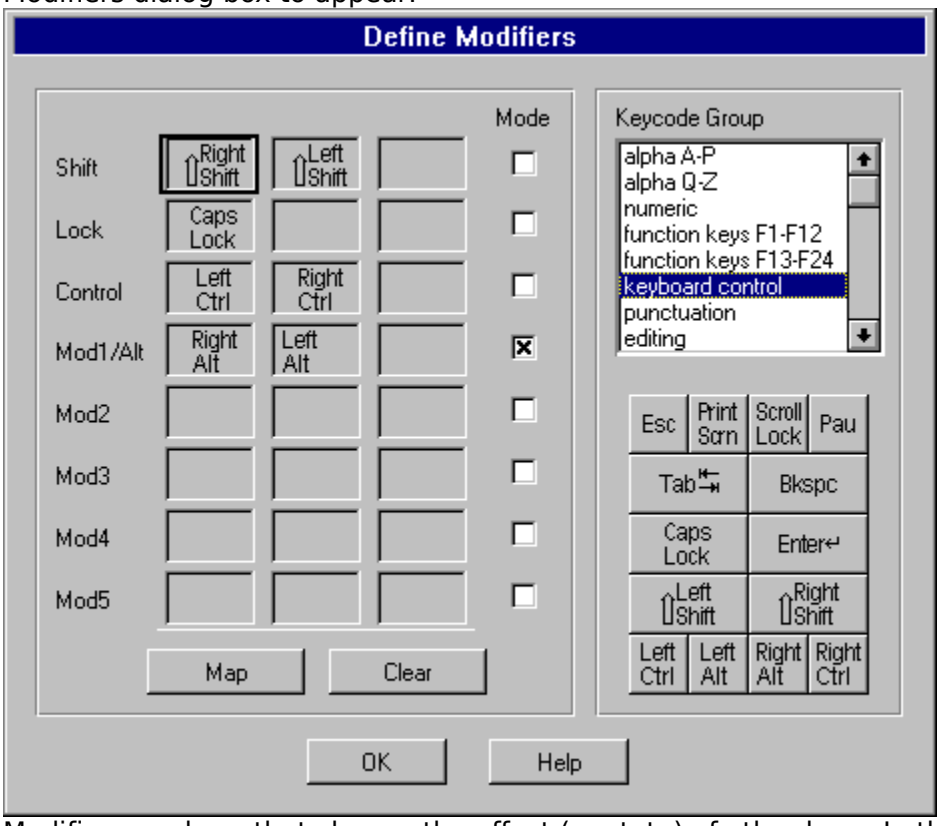


In our example, double-clicking the Shift state field representing the PAGE UP key causes the figure at right to appear.

To cause a key to have no action in a particular state, click the appropriate key state field once and click the Clear button. To cause the key mapping to revert to its previous setting, click the Revert to Default button before clicking another key state field.

Defining Modifiers

Click the Define Modifiers button from the Keymap Editor dialog box to cause the Define Modifiers dialog box to appear:

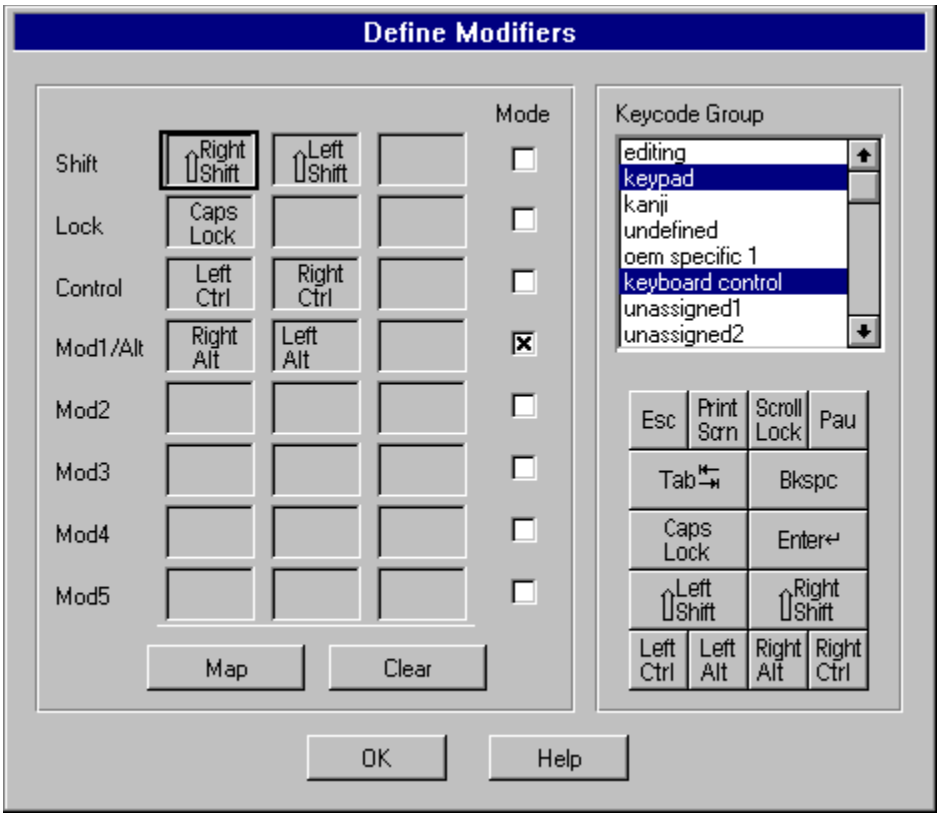


Modifiers are keys that change the effect (or state) of other keys. In the figure above, the left and right SHIFT keys have been defined as shift modifiers. When either of these keys is depressed, for example, a letter will change from lower to upper case.

The four standard categories of modifiers are Shift, Lock, Control, and Alt. Typically, the left and right SHIFT keys, the CAPS LOCK key, the left and right CTRL keys, and the left and right ALT keys are used as these modifiers; however, you can define any key as any of these modifiers.

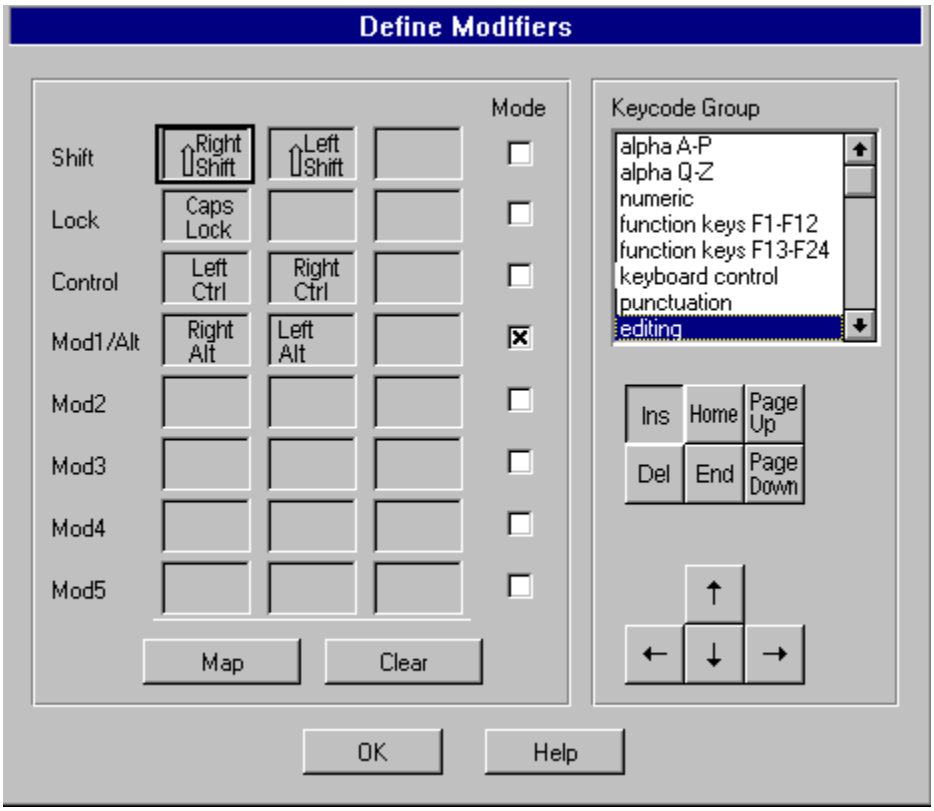
To do so, click the keycode group in which the key is located, click the button representing the key you wish to define as a modifier, and click one of the three fields to the right of the modifier category. You can now click the Map button, double-click the key button in the keycode area, or double-click the field to the right of the modifier category.

The figure below shows the result of defining the NUM LOCK key as a Lock modifier:



In addition, you can also define any key as a mode key by including it on a modifier row and checking the Mode checkbox to the right of the row. Besides having its normal effect, a mode key will cause other keys to switch to their Mode states.

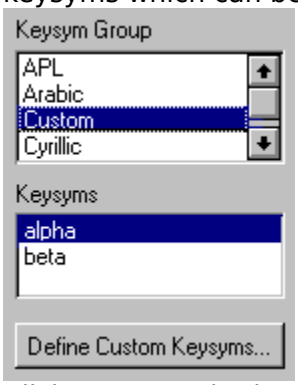
For example, to define the Insert key as a mode key, you could add the key to the Mod2 modifier row and check the appropriate Mode checkbox, as shown below:



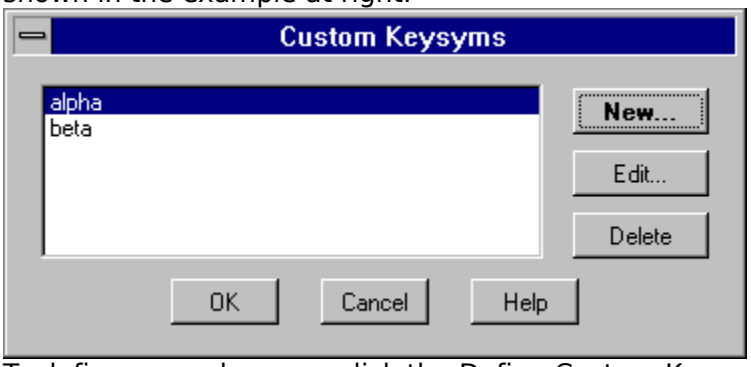
If the X server is using a keymap defined as in this example, a press of the INSERT key will still cause the keysym associated with that key (for example, XK_Insert) to be sent to X programs. In addition, however, any key pressed while the INSERT key is held down will have its mode-state (rather than normal-state) keysym sent. If both the INSERT key and a shift modifier key are held down, any key pressed will have the keysym in its shift + mode state sent.

Defining New Keysyms

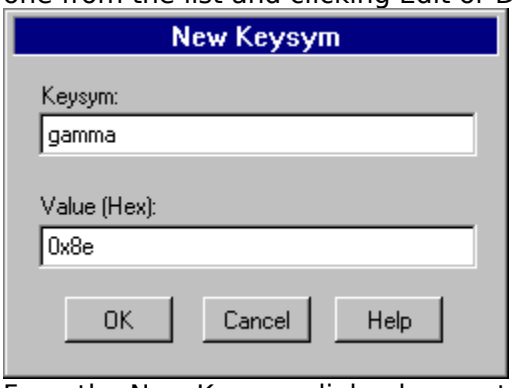
Besides choosing from the lists of predefined X keysyms, you can also create custom keysyms which can be mapped to keys.



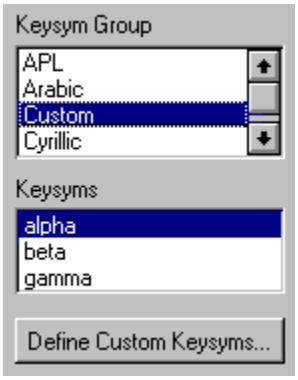
Click "Custom" in the Keysym Group list to display the contents of the Custom keysym group. Any keysyms you have previously defined will appear in the Keysyms list box, as shown in the example at right.



To define a new keysym, click the Define Custom Keysyms button, or double-click "Custom" in the Keysym Group list box. The Custom Keysyms dialog box will appear.
You can now create a new keysym by clicking the New button, causing the New Keysym dialog box to appear. You can also modify or delete a previously defined keysym by selecting one from the list and clicking Edit or Delete.



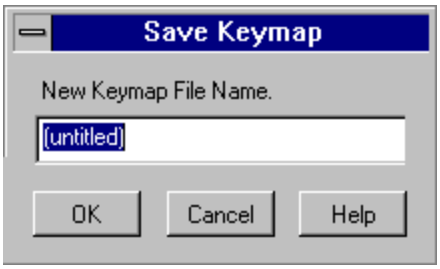
From the New Keysym dialog box, enter a name for the keysym and the hexadecimal value that it will represent. This hex value is the code that will actually be sent to X programs when a key mapped to this keysym is pressed. Click OK to accept the new keysym.



Click OK from the Custom Keysyms dialog box and the new keysym will appear in the Keysyms list box, as shown in the example at right.

You can map custom keysyms to keys just as you would map predefined keysyms.

Saving and Using Keymap Files



After modifying or creating a keymap through the Keymap Editor dialog box, click OK to save the changes, or click Cancel to ignore all changes. If you click OK, the Save Keymap dialog box will appear to allow you to choose a name for the modified keymap.

Whether you edit an existing keymap or create a new one, you will need to specify a new name for the modified keymap. This prevents overwriting of the standard MultiView/X keymaps.

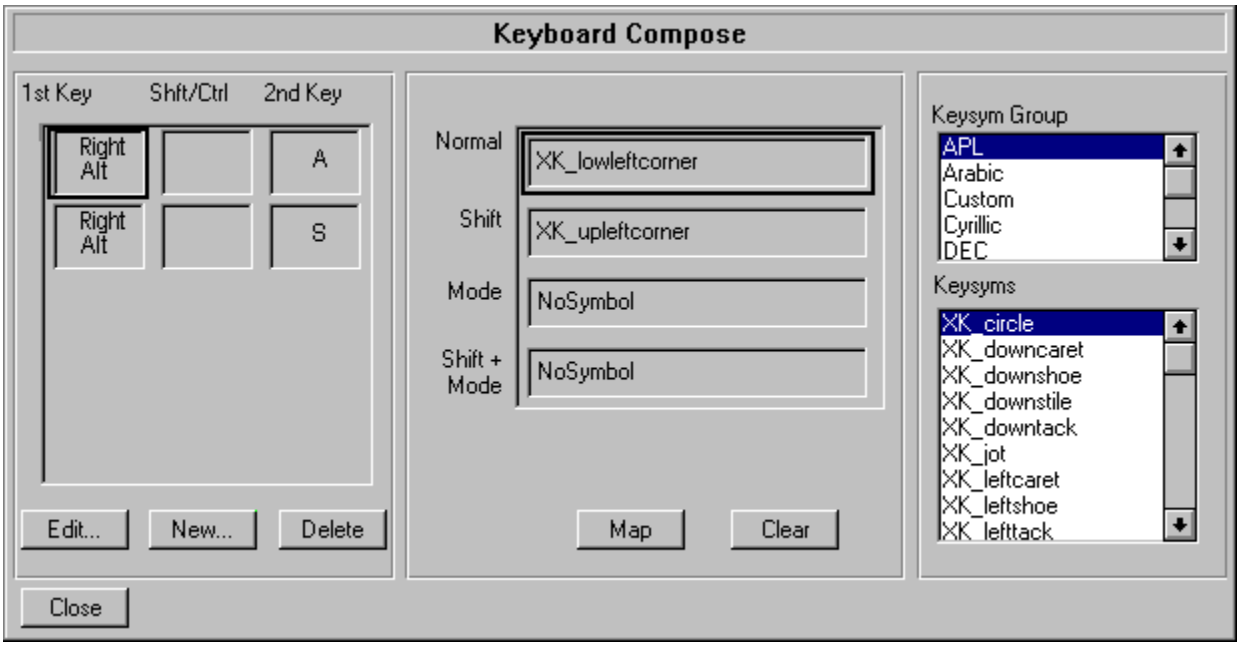
To load the new keymap, select it from the Keyboard Style drop-down menu in the Keyboard Preferences dialog box, then click OK. If X programs are running when you do so, you will be informed that a server restart is required to implement the change. If you allow the server to restart, your X programs will be closed and the new keymap will be loaded. Otherwise, the new keymap will be loaded only after you have closed all X programs.

Compose Key Definition

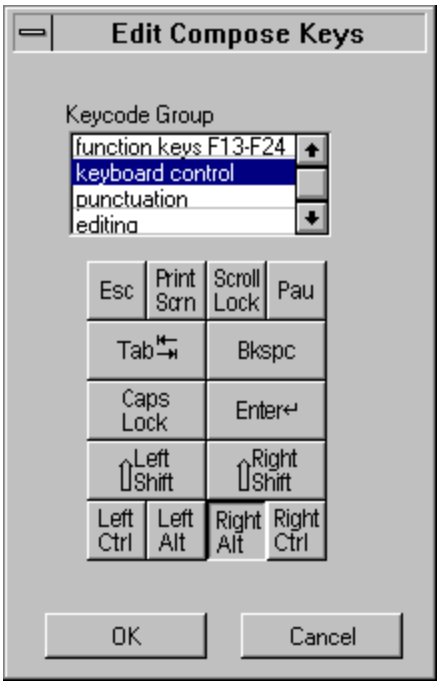
This selection allows you to define a sequence of keys to create a unique key. The unique definition supports keyboards that are used in the creation of special symbols such as **ã**. See Compose Key for more details.

Compose Key

Once you have selected the compose key operation, you can define a sequence of up to 3 keys to define a special key. The first key you select is the key that will invoke the composed key. The modifier key applies a modification to the first selected key. So if you wanted Alt on the right side of the keyboard modified with a shift, The first key would be Alt, the modifier key would be shift and the last key would be a unique key to finalize the compose key sequence.

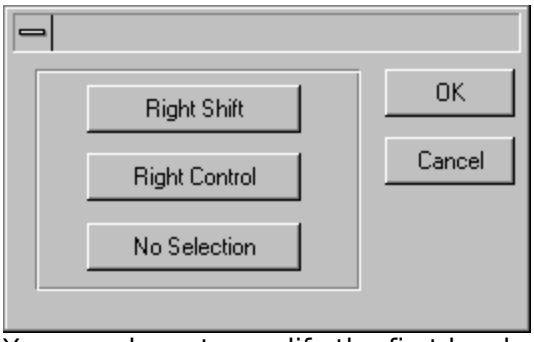


First key of Compose Sequence



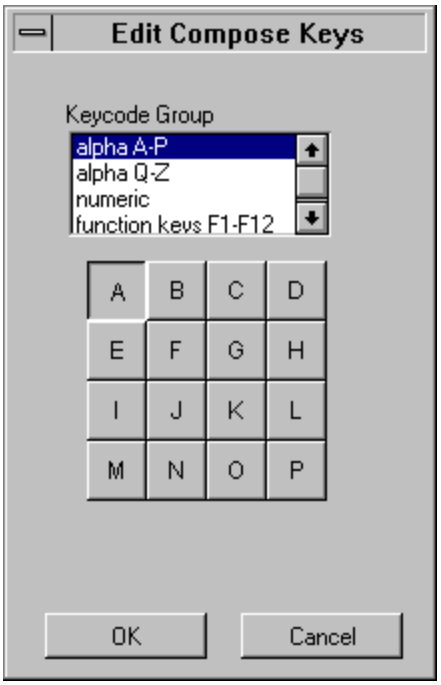
This is the key that will be pressed unmodified to start the compose sequence.

Modifier key of Compose Sequence



You can chose to modify the first key by selecting the shift or control key. If you don't want to modify the first key simply select the second key or select "No Selection" and then the second key.

Second key of Compose Sequence



The second key uniquely identifies the special symbol from other symbols that start with the same compose sequence.

Navigation

Font Manager opens with the contents of the MultiView/X installation directory (usually C:\XOFTWARE) displayed in both left and right windows. The current directory name is displayed above each window.

The .BDF/.PCF Directory window (left) displays the BDF or PCF fonts available for conversion to FON format. The .FON Directory (right) window contains the converted FON fonts. Font Manager commands appear in the center.

Navigate by double-clicking on a directory (indicated by brackets) to open it. Double-click on [..] to close a directory and move up to the previous directory level. Double-click on a drive name ([a:], [b:], [c:], etc.) to navigate to that drive.

The drop-down menu in the lower left corner of the Font Manager display allows you to select the font format you wish to view in the left window. These files will appear when you have opened a directory that contains files of the specified format. Similarly, the only files that will appear in the right window are files in the FON format.

Convert

This command converts BDF or PCF format font files appearing in the left column to FON format files that can be used by MultiView/X for Windows. Select the format type from the drop-down menu in the lower left corner of the display.

Navigate through the left window to locate BDF or PCF font files, then select the files you wish to convert by clicking on each. In the right window, open the directory in which the converted files should be placed. Click the Convert button to begin conversion.

The number of files successfully converted will be displayed and the newly converted FON format files will be listed in the right column. The Convert function automatically updates the file of the directory affected.

Select All/Deselect All

This command allows you to select or deselect all files in the directory window indicated by the double arrows (<< or >>). To change the focus of this command, click on a file in the desired directory window. (This action will work only with files, not with directories or drives.)

Delete

This button becomes active whenever a FON format file is selected. You may delete one or several FON files at a time. Choosing Delete presents a message allowing you to confirm or cancel your operation. The Delete function automatically updates the file of the directory affected.

Show Font

This command allows you to preview any FON font. Select a desired FON font from the right window and click on the Show Font button. The Show Font window will open displaying all of the font glyphs (characters) for the selected font set in the correct size and style. If the font glyphs are too large to be displayed within the window, scroll bars will be activated to allow you to view the entire font set.

The Show Font window includes the font's Logical Font Description (LFD), located immediately below the title bar. The LFD is the legally registered font name as listed in the file.

Note that you can preview only one font at a time, and only after previously opened Show Font windows have been closed. Only fonts converted with the MultiView/X for Windows conversion program may be previewed using Show Font.

Edit Font DB

This button opens the font database files FONTS.DIR and FONTS.ALI (if it exists) using the Microsoft Windows Notepad tool. You may then edit these files manually. (For online help in using Notepad, choose Help from the Notepad menu bar.)

These files should be edited only by experienced users or by users instructed to edit them by NetManage Technical Support staff. Unpredictable results may occur if incorrect information is entered in these files.

Build FONTS.DIR

If you have manually added fonts from an outside source, you must use this command to update the FONTS.DIR file. If you have used Font Manager to convert fonts to FON format, you do not need to use this command, since Font Manager updates the FONTS.DIR file automatically.

FONTS.DIR File

In addition to font files, each font directory must contain a file called FONTS.DIR. This file serves as the X server database of the fonts contained in the font directory. When the server searches directories in the default font path, it uses FONTS.DIR to locate the fonts it needs.

The FONTS.DIR file lists all fonts available in a font directory. Each entry associates a short font file name with its corresponding long file name in Logical Font Description (LFD) format. The LFD is the legally registered font name.

The FONTS.DIR file must be updated to include all fonts within the font directory. Font Manager provides such updates automatically. If you have manually added fonts from an outside source, you must edit the FONTS.DIR file accordingly. See Edit Font DB and Build FONTS.DIR for details.

FONTS.ALI File

The FONTS.ALI file allows you to specify aliases for fonts used by X clients. You can edit this file using the Edit Font DB command.

If a FONTS.ALI file does not already exist, you can create one. Use the Edit Font DB command to open the FONTS.DIR file in Microsoft Windows Notepad format, then select New from the Notepad's File menu to create a new file. Enter the following line at the top of the file:

```
FILE_NAMES_ALIASES
```

This entry allows you to identify a font either by its file name (without the FON extension) or by its full Logical Font Description (LFD) name. Each line of the file should include the name of a font followed by the name of the font you would like to have substituted. Save the file as FONTS.ALI in the directory that contains your fonts.

For example, suppose you are running an X client that uses a font named "times" by default for startup. To open the client with a font called "timb24.fon" instead, add the following line to the FONTS.ALI file:

```
times timb24
```

Additional font aliases can be added to subsequent lines of the FONTS.ALI file. Note that you do not have to include the FON extension.