(1.0.5)

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Initial Start-up

X-Win starts up the first time with:

- three demo sessions created
- no sessions set to Auto Start-up or XDMCP
- the window mode set to use MS Windows as the window manager
- the Xhost table empty
- the network selection set to Automatic
- Debug turned off

These settings are contained in the file MXWIN.INI which is in your WINDOWS directory.

Several items will need to be considered for starting X-Win.

1. Is XDMCP to be used?

X-Win installs with XDMCP disabled. XDMCP can be enabled by selecting it when setting up a session. Only one XDMCP session at a time may be set to "Auto Start-up". If the host name does not work in Query or Indirect, try using the I.P. address. If the session gets no further than the login window, then try using the F1 key instead of ENTER for terminating the "password" entry. This will give an xterm window if the failsafe mode is enabled. If this is the case, then there is a problem with the .Xsession file. Refer to the troubleshooting section to correct the XDMCP problem.

If XDMCP is not to be used, then sessions will have to be started using the RSH or REXEC session selection. These sessions can be created and saved using the "Edit Sessions" feature.

2. Is a remote window manager to be used?

X-Win installs with the Single Window Mode (Virtual Root) disabled. This mode uses the Microsoft window manager to manage the X windows. A remote window manager (olwm, motif, twm, ...) may not be run while in this mode.

If you wish to use a remote window manager, the Virtual Root Mode (single window mode) will have to be enabled using "Options", then "Window mode...", and then selecting "Single Window Mode". If you are running on a Sun using Open Windows 3.0 and olwm, then be sure that "Enable screen :0.1" is not selected during Virtual Root mode operation. If "Enable screen :0.1" is enabled, then olwm should be started using the form "olwm -single &".

3. Will I need an entry in the Xhost file?

This is determined by Host Access. When an X client attempts to open an X display, the server checks to see if that client is authorized to connect before it allows the connection.

Auto Start-up

1. XDMCP mode

Only one Session may have "Auto Start-up" and XDMCP selected. A Session which has an XDMCP selection of Query or Indirect enabled and "Auto Start-up" selected will cause an xdmcp login window to automatically appear when X-Win is started. If "Broadcast" has beenselected, then a "XDMCP Selector" screen will allow the user to selectfrom available hosts running XDMCP. XDMCP works with PC-NFS, PC/TCP, and WinSock version 1.1 or later. X-Win has not implemented XDMCP with previous versions of WinSock.

2. Non-XDMCP mode

If the remote host is running an X11R3 xdm, no sessions need to have "Auto Start-up" selected, the login window will automatically appear.

Under Sessions, if a session has "Auto Start-up" enabled, it will automatically be run when X-Win is started. Multiple sessions may be started this way.

Manually Starting Clients

Clients (Sessions) may be started manually by:

1. selection of an existing Session.
2. using Rsh... or Rexec...

X-Win Window

Selection	Pull-Down	Description
Sessions	Edit Sessions	Editing of sessions using REXEC, RSH or XDMCP.
Sessions	Rsh... Rexec...	rsh/rexec cmd to be executed on the remote host.
Sessions	sun	Sessions entered using the Edit Sessions option.
Options	Window Mode...	Controls selection of panning and MSW or virtual root windows mode.
Options	Xhosts...	Table of hosts allowed to access this server without passing the "magic cookie".
Options	Network...	A selection of the supported network transports.
Options	Debug	Reports X requests being processed.

Sessions

Sessions allows the user to:

1. Create an rsh or rexec command for this loading of X-Win.
   Rsh...
   Rexec...

2. Create and save an rexec or rsh command.
   Edit Sessons->

3. Create and save an XDMCP command.
   Edit Sessons->

4. Execute a named Session.
   Session_Name

5. Exit X-Win.
   Exit

Edit Sessions

Edit Sessions allows the user to:

1. Create a New session with a name.
2. Edit an existing session.

New Session

New session allows the user to name the session. This name will be used to select that session for future running or editing.

Session Entry/Edit

Auto Start-up
If this box is checked, this session will be automatically started when the server is started. Multiple non XDMCP sessions may have this box checked. Selecting "Auto Start-up" on an XDMCP session will cause allother "Auto Start-up" flags to be cleared.

rsh/rexec
You have the choice of using REXEC, RSH, or XDMCP. If "New Session" was selected, the fields will be blank. If a session was selected, those entries will be shown. The Session may be saved (Accept) or removed (Delete). "Cancel" will clear the current screen entries and exit.

XDMCP
This selection configures the XDMCP mode of the X server. You may have to contact your network administrator to see if XDMCP is being used. The following chart gives a quick guide:

Query	X-Win sends an XDMCP query to "Host Name".
Indirect	X-Win queries "Host Name" to get another "Host Name".
Broadcast	X-Win sends a broadcast XDMCP query onto the network. In effect, it says "I am here, manage me".

Fields to be entered for rsh or rexec sessions are:

Host Name	192.1.1.1
Login	dick
Command	Xstart 192.1.1.13:0

A window will request the "Password" for Rexec after that session has been started. This will happen even if the session is marked Auto Start-up. Some caution should be used here. If multiple Rexec sessions have been marked Auto Start-up there is no guarantee of the order that those sessions will start. Thus, if different passwords are required, the user may fail to start some sessions.

Host Name

"Host Name" is the IP address or name of the remote host. Note that some TCP/IP stacks (or some early versions) do not support host name resolution, which means that the IP address must be used. Some TCP/IP stacks have a "HOSTS" list into which the user must manually enter the host names and corresponding I.P. addresses. This would allow the user to use host names entered into this list. Forms of this entry may look as follows:

192.1.1.1 or unix1

Login

"Login" is the users login name to the selected "Host Name".

dick or user1

If this field is left empty, the user will be forced to enter a login into a window when that session is selected. If the type of session is rexec, then a password will also be required.

Command

"Command" is the script file or command to be executed on the remote host. The command may be only one line which starts an xterm window on the X server. The following example would bring up an xterm window.

```
/path/xterm -ls -n WindowName -display xpc:0 &
```

The following example will run the script file "Xstart" on the remote host passing the parameter "xpc:0" or "192.1.1.23:0".

```
Xstart xpc:0     or   Xstart 192.1.1.23:0
```

The command line in our example, 'Xstart xpc:0' contains not only the script name on the remote host ('Xstart' in this case) but an additional argument, the name of the 'display'. In X parlance, from the user's perspective, every X server has a display name in this form:

```
hostname:displaynumber.screennumber
```

X client programs use this information to decide how best to connect to the X server and which screen should be used by default (on X displays with multiple monitors).

What this means is that the display name which has been given in the example command line is composed of the name of the PC running X-SERVER (in this case, a machine called 'xpc') followed by a ':0'.As is the case with the rest of the example, this is site-specific and you should substitute your X-SERVER machine name for 'xpc'.

Options

Options allows the user to:

1. Set the Window mode.
   Virtual Root Mode (Single Window)
   MS Windows (normal mode)
   Turn on/off panning of MS controlled X windows

2. Create or modify the Xhost table.

3. Select the tcp/ip network.
   Automatic Selection
   Winsock
   PC/TCP
   PC-NFS

4. Turn on Debug to get a list of X requests.

rsh/rexec

Rsh and rexec are both de-facto protocols created with BSD4.1 (TCP/IP code from Berkeley). Both protocols function identically once the connection is established. The difference in the two commands is the information required at startup to authenticate the user.

Rexec requires a "Login" and a "Password".

Rsh only requires a "Login". The user is authenticated by having an entry in the ".rhosts" file in his home directory. The entry contains the name of the local host (the pc) and optionally a user name. This will give permission for that USER on the local HOST to RSH to the remote HOST.

.rhosts

```
------------------------------
pc01
pc02            dick
------------------------------
```

Sample Start-up Script

The user may wish to use a script start-up file in conjunction with the RSH or REXEC commands. This start-up script file would reside on the remote host in the users login directory. This would allow the user to create his own X environment each time the X session is started. The following example will set the display and then provide an xterm, an xclock, and an xlogo each time this file is run.

The session entries may look as follows:

```
|       unixhost
|       dick                    (not needed for PC-NFS)
|       Xwin xpc:0              (using the nickname of the PC)
|       or
|       Xwin 192.1.1.23:0       (using the IP address of the PC)
```

The start-up script file, which resides on the remote host, may be as follows:

Xstart (unix version)

```
|       #!/bin/sh
|       if [ "$1" ]; then       (Set the display to the value passed from
RSH/REXEC)
|       DISPLAY=$1
|       export DISPLAY
|       fi
|       /usr/bin/X11/xterm -n Login -ls &
|       /usr/bin/X11/twm &      (Use only if Single Window Mode)
|       /usr/bin/X11/xlogo &
```

for Sun Sparc's the path may be: /usr/openwin/bin/xterm

@Xstart (VMS version - Note the "@" sign)

```
| $!Xstart
| $!start the detached process
| $!
| $run -
|                   /detached -
|                   /input=xtest.com -
|                   /output=xtest.log -
|                   /error=xtest.err -
|                   sys$system:loginout
```

xtest.com

```
 ------------------------------------------------------------------------------
| $!xtest.com
| $!This routine starts the various applications on the X Client
| $!
| $WAIT 00:00:10.00
| $SET DISPLAY/CREATE/NODE=xpc/TRANSPORT=TCPIP/SERVER=0
| $SPAWN/NOWAIT RUN SYS$SYSTEM:DECW$SESSION
| $SPAWN/NOWAIT RUN SYS$SYSTEM:VUE$MASTER
| $SPAWN/NOWAIT RUN SYS$SYSTEM:DEW$BOOKREADER
| $CREATE/TERMINAL=DECTERM/DETACHED
| $RUN SYS$SYSTEM:DECW$WINMGR
 ------------------------------------------------------------------------------
```

hostname:displaynumber.screennumber

X client programs use this information to decide how best to connect to the X server and which screen should be used by default (on X displays with multiple monitors). This can be confusing at first. The parts of the display name are:

hostname - which machine the X display is physically connected to. If the host name is not given, the X client program assumes that it is to connect to a server on the same machine, which will never be the case with a X-SERVER based X server.

displaynumber - in X, the word "display" is normally used to refer to collections of monitors that share a common keyboard and mouse. Most PC compatible machines tend to have only one keyboard, and therefore only one display. A larger, multiuser system may have more than one display, so that more than one person could be using X simultaneously, To avoid confusion, each display on a machine is assigned a display number (starting at 0) when the X server for that display is started. On a computer running X-SERVER,the display number will always be 0. The display number must always be given in a display name.

screennumber - some displays share a single keyboard and mouse among two or more monitors. Since each monitor has its own set of windows, each monitor, or screen, is assigned a screen number (beginning at 0) when the X server for that display is started. This part of the display name is not required; if it is not given, then screen 0 will be used.

Panning
The panning function will allow a selected window that is partially off-screen to be panned on-screen. Moving the cursor to the edge of the screen in the selected X window activates the panning.

Single Window Mode (Virtual Root)
Selecting the Single Window mode will bring up a Virtual Root window the next time the server is started. X windows being created for screen zero on the PC (":0.0") will be created inside the Virtual Root window. The Virtual Root window will be the size of the screen (minus borders), if the width and height are not set

A remote window manager (such as twm, open look, motif, ...) may be run in the Virtual Root window. It is still possible, while in single window mode, to have X windows managed by the Microsoft window manager by selecting "Enable Screen :0.1". These window screens would be defined as:

```
application -display xpc:0.1
```

The 1st screen for xpc is ":0.0", the 2nd screen for xpc is ":0.1".

XDMCP

X-Win uses the standard protocol specified by the X Consortium for use with X terminals, the X Display Manager Control Protocol, or XDMCP. XDMCP is used by X terminals to control the xdm program on a host on the network, The X terminal sends a request to the xdm host, the host and the X terminal send a few XDMCP messages between themselves, and then the xdm program brings up a login window on the X terminal. XDMCP is a part of revision 4 of X version 11 and is available from Sun as part of SunOS 4.1 or from DEC as part of Ultrix 4.2. If you have a host on your network with these versions or later, you should run X-Win in one of the XDMCP modes if you want to use xdm to manage your X server.

xdm goals

A major goal of providing a display manager program is to integrate the X terminal completely into a networked environment. As nearly as possible the "log-in window" should automatically appear after the X server is started.

Once you log in, an automatic initialization procedure should run to bring up applications and position their windows as specified in your personal session "profile" script. After you log out of the X session, all connections should be closed, the terminal should be reset to a known state, and a new log-in window should appear, ready for the next user. This scenario can be achieved by having the X server communicate with a display manager program between user sessions.

If you are running X11R4, you do not need to make any additions to the host. However, if your are running X11R3, you may need to add a line to the "Xservers" file on the host in the directory /usr/lib/X11/xdm. The line you must add is "PC:0 foreign PC" where PC is the name of your personal computer.

Xhost...

The Xhost table is a list of systems (hosts) that are allowed to access the local server (X-Win). This file can be edited so that it contains the list of systems you want to allow access to your server on a regular basis. Depending upon the tcp/ip stack in use, host names or I.P. address will be used. Specifying a system name or an I.P. address with an optional plus sign (+) allows the host to modify the Host Access List.

Host Access

When an X client attempts to open an X display, the server checks to see if that client is authorized to connect before it allows the connection. If the client is not authorized, it gives a message such as:

```
Xlib:   Connection to "server:0.0" refused by server
Xlib:   Server is not authorized to connect to host
Error:  Can't open display
```

Clients are granted access if:

XDMCP

1. the client passes the correct MIT-MAGIC-COOKIE-1.
   or
2. the client resides on a host whose IP address is in the Host Access List or the Xhost table.

Non-XDMCP

1. there are no entries in the Xhost table.
   or
2. the client resides on a host whose IP address is in the Xhost table.

A client can change the Host Access List (residing in local RAM memory) if its entry in the Xhost table is preceded by a plus sign (+).

X11R3 (old style clients)
The X11R3 release gave only one method of authorizing clients to connect. That method is giving access based on the IP address of the host on which the client runs, also known as "xhost". The disadvantage of this method is that when you give access to a host, call it "host1", everyone who has an account on "host1" can access your display. Once they have access, they can move or delete windows, or even worse.

X11R4-5-6
X11R4 introduced a new method of authorizing clients, called X authorization, or MIT-MAGIC-COOKIE-1. When you log in using X11, revision 4, xdm creates a file named ".Xauthority" in your home directory. In this file is a 16-byte key, or cookie, that is sent to the server as part of the connection setup information by X11R4 clients. If your client is running on a host that is not in the "xhost" list, but the client sends the correct cookie, then it will still be allowed to connect. Thus, when using an X11R4 xdm, your "xhost" access list will typically be empty but clients will still be able to connect.

X-Win obtains the "magic cookie" from xdm using XDMCP. The cookie is generated by

a random generator in xdm. If X-Win is started this way, the initial "xhost" access list is empty, and access is restricted. If it is not started with XDMCP, then access control is disabled (any client is allowed to connect).

If you use an X11R4 xdm to get your login window, and want to bring up older (R3) clients on your display, you need to add the hosts on which those clients run to your access list. To do this, simply add the host using the xhost command before bringing up the window. You can make a permanent list of hosts that are in the access list of X-Win by adding those hosts to the Xhost table under the Options selection. You may want to do this in two cases:

1. You use X-Win in the non-XDMCP mode (any client can connect), and want to limit the access list to "trusted" hosts.

2. You use it in the XDMCP mode (only R4 clients with correct cookie allowed) and want to allow R3 clients from specific host(s) to connect to your server.

To make this permanent list, change the Xhost table. On each line of this list put an IP address (such as "192.1.1.1").

Granting Host Access

Clients are granted access to X-Win if:

XDMCP

1. the client passes the correct MIT-MAGIC-COOKIE-1.
   or
2. the client resides on a host whose IP address is in the Host Access List.

Non-XDMCP

1. there are no entries in the Xhost table.
   or
2. the client resides on a host whose IP address is in the Xhost table.

A client can change the Host Access List (residing in local RAM memory) if its entry in the Xhost table is preceded by a plus sign (+).

Host Access List

X-Win maintains a Host Access List in local RAM of the systems (hosts) which will be granted access to X-Win. The xhost client can be used to give (or deny) systems access to the server interactively. The xhost client must be run from a window running on the server that wishes to grant access. It cannot be run from a remote window.

Specifying a host name with an optional leading plus sign (+) allows the host to access X-Win. Specifying a host name with a leading minus sign (-) prevents a previously allowed host from accessing the server. Running xhost without any arguments prints the current hosts that are allowed access to your X-Win.

Networks

The Network selection offers the user the choice of having X-Win automatically search for and select the supported TCP/IP transport or of selecting a particular supported network transport. If the "Automatic" selection is made (initial setting) X-Win will search for a tcp/ip stack inthe order listed below. If none are found, the user will be notified. The current supported networks are:

Selection	Manufacturer
Automatic	(below)
Windows Sockets	Various
PC/TCP	FTP Software
PC-NFS	Sun Microsystems

Copy & Paste Text

Text can be cut and pasted to/from MS Windows and the remote host.

From MS Windows to Remote host

The user will use the standard MS Windows command sequence to cut & paste to the MS clipboard. The user may then place the contents of the clipboard into an X window using the middle (or simultaneous left/right) button.

From Remote host to MS Windows

The user will use the standard sequence (normally holding the left button down and moving the mouse) to cut text from the X window which will be placed into the MS clipboard. The data in the clipboard can be pasted using standard Microsoft paste procedures.

Copy Graphics

From Remote host to MS Windows Clipboard

Graphics can be copied from an X window into the MS Clipboard. In the selected X window, hold the ALT key down and then the left mouse button to highlight the area to be copied. Releasing the left mouse button causes that area to be copied to the MS Clipboard.

Transports

The supported transports should already be configured to run under Microsoft Windows. If you suspect that the transport is the problem, then check that transport.

WinSock	Various
PC/TCP	Ftp Software
PC-NFS	Sun
TCPOpen	Lanera

PC/TCP

PC/TCP should be run in the 386 enhanced mode.The following options should be used with the kernel startup:

```
ethdrv -t 15 -p 26

(-t 15     TCP connections =15)
(-p 26     packet buffers =26)
```

On newer PC/TCP packages, the PCTCP.INI file contains the operational parameters. The "tcp-connections = xx" line controls the number of connections.

The following may need to be added to SYSTEM.INI under [386Enh].

```
device=C:/ftp/vpctcp.386
UniqueDOSPSP=TRUE
PSPIncrement=5
```

PC-NFS

The following may need to be added to SYSTEM.INI under [386Enh].

```
InDOSPolling=on
UniqueDOSPSP=true
PSPIncrement=5
TimerCriticalSection=1000
```

TCPOpen

The following lines may need to be added to the file PROGMAN.INI in the WINDOWS subdirectory for the TCPOpen group to appear under MS Windows.

GroupX=C:/TCPOPEN/BIN/TCP-KERN.GRP

IP Address Error
It the error "I don't know my IP Address" appears while trying to start-up in any mode, then the IP Address and Name of the PC should be entered into TCPOpen using TCPSETUP under the DATABASE option into HOSTS.

WinSock

Implementations and revisions of WinSock vary. The X server needs to know the IP address of the PC. The above "IP Address Error" may appear. It may be necessary for the user to either have:

1. the domain name server specified
   (if the transport does host name resolution)

   or

2. put an entry into the local HOSTS table for the PC.
   (The entry should have the PC's name and IP address.
   This file will usually look like the /etc/hosts file)

No X Window(s)

Exits after XDMCP login window

Cannot open display

Client not authorized to connect to server

Connection Closed

Connection Refused - Host Name not known

Connection Refused - My IP Address not known

LD:SO libXt.so.4 not found

PC-NFS old version

Permission Denied - rsh

Permission Denied - file

xlock

No X Window(s)

The X-Win icon was selected, and the X-Win window came up, but no X windows automatically appeared.

XDMCP SELECTED
If one of the XDMCP modes was selected, you must make sure that xdm is running. This can be done by using the rsh/rexec function with the following command:

```
ps -ax | grep xdm
```

Look in the X-Win window for the results. If xdm is not running, check with you system administrator. If xdm is running, determine next if it is the XDMCP version:

```
netstat -an | grep 177
```

If XDMCP is running, the following line will appear in the X-Win window:

```
udp     0       0       *.177
```

XDMCP NOT SELECTED
If the XDMCP mode of "None" is selected, then there must be a session with "Auto Start-up" selected. If "Auto Start-up" is not selected in any of the sessions then one will have to be manually selected. This rsh/rexec session must be correct. Check the X-Win window for errors.

A session will have to be started by selecting one of the entered sessions. If there are not any entered sessions, then one, or more, will have to be configured. All entries under the Sessions list are started using either RSH or REXEC. The user should make sure that the hosts can accept these commands. RSH may require an entry in .rhosts in that users home directory.

Exits after XDMCP login window

After you log in to the XLOGIN window, xdm executes the script Xsession, which is usually in /usr/lib/X11/xdm. (Sun's may be in /usr/openwin/lib/xdm)

Note: If the login session is in failsafe mode (invoked by pressing the F1 key instead of Return after you type your password) Xsession simply runs an xterm.

If it is in normal mode, Xsession runs the file ".xsession" in your home directory. In all cases, when Xsession exits, because the xterm it runs exits or because the .xsession script exits, xdm will kill all the windows on your display and log you out.

PROBLEM:Setting up a .xsession file with everything running in the background causes .xsession to exit early.

For instance, if your .xsession file looks like this:

```
xrdb ~/.Xdefaults
twm &
sleep 4
xterm &
```

Then immediately after the xterm starts, .xsession will exit which will cause you to be logged out. This will almost always happen before xterm even has time to create a window.

Solution:
To fix this problem, change the last line to:

```
exec xterm
```

Problem:
Having a .xsession file in which the last program to be executed fails and exits.

This could be for several reasons:

1. Because the program is not in your search path when .xsession is run. To solve this problem make sure your path is set up correctly in .xsession itself. Don't depend on the program which calls .xsession to set it for you.

2. An X version incompatibility. In version 4 of the X protocol, two things were added. The first was XDMCP. Thus, if you are using XDMCP to get your XLOGIN window, you have at least an X11 R4 version of xdm. The second thing added was the MIT-MAGIC_COOKIE authorization. Under this scheme, a client, upon connecting to the X server, sends some authorization information. This is usually a 128-bit number that the

server has chosen and given to xdm using XDMCP. Xdm stores this number in a file called ".Xauthority" in your home directory.

3. If X-Win is not in the Virtual Root (Single Window Mode) and the last program is a window manager, then it will fail because X-WIN uses the Microsoft window manager, which will not allow an X window manager to run.

4. Virtual Root (Single Window Mode) is selected with the "Enable Screen :0.1" selected and olwm is running under Open Windows 3.0.

5. If you are using, for example, xterm from X11 R3 in the last line of your .xsession file. It will not know how to send this authorization information to the server. As a result, the server will refuse the connection, xterm will exit, causing .xsession to exit and your session will be terminated.

Solution:
(1 thru 4) To solve the first problems you can start the X server with XDMCP disabled, then log into your host system from a different terminal. Set the environment variable "DISPLAY" to your PC, set your PATH variable to the default (to trouble-shoot problems with the search path), then run your .xsession file by typing "./.xsession". If this terminates and you get the shell prompt again, then something is wrong. Any error messages should have appeared on your screen to help you trouble-shoot the problem.

(5) Use the "Xhost" option to add the IP address of your host to the table of hosts that can connect without authorization.

Cannot open display

Usually this error will occur if the display has not been properly defined. As an example, the form of a display statement in an xterm command is:

-d dispname or -display displayname:0.0

Specifies the display screen on which xterm displays its window. If the display option is not specified, xterm uses the display screen specified by your DISPLAY environment variable. The display option has the format hostname:number. Using two colons (::) instead of one (:) indicates that DECnet is to be used for transport.

-display dispname This option is the same as the -d option.

xterm -display 192.1.1.23:0
xterm -display davepc:0

Client not authorized to connect to server

This happens because the client does not have authorization to connect to this X server (X-Win). Use of the Xhost table or the Host Access List will give access to that client.

Connection Closed

I.P. Address or Hostname: connection closed. You should contact your system administrator. A connection was made and the host closed the connection. This may occurr if:

1. you are trying to connect using rexec and rexecd or in.rexec will not allow the connection to continue.

2. your host is running Sun OS and /etc/inetd.conf is not correct or is trying to run something that does not exist.

Connection Refused - Host Name not known

The TCP/IP stack is responsible for resolving host names to IP addresses.

The Lanera TCPOpen will require that the host names and IP address be entered into its HOSTS file to use host names. This can be done by using the TCPSETUP program or by ftping a /etc/hosts file from a host that has a list of all the hosts that will be used.

The name and IP address of the local PC should be entered into this file also.

Connection Refused - My IP Address not known

The TCP/IP stack needs to tell the X server the IP address of the PC.

In TCPOpen this is entered into the HOSTS file under DATABASES using TCPSETUP.

LD:SO libXt.so.4 not found

This is the result of the host (Sun SPARC) system being shipped or installed with some files being place in a different directory. The solution is to place the following command into your home directory, into the .cshrc file:

```
setenv LD_LIBRARY_PATH /usr/lib:/usr/openwin/lib
```

The directory path and the location of this file should be verified on the host system prior to inserting the setenv line.

PC-NFS old version

If communication errors occur while trying to start-up X-Win , then the version of NFS may be the problem. The user should run the NFS UPDATE program.

UPDATE is found in the subdirectory under the X-Win directory. UPDATE should be run under the DOS environment. UPDATE will update the NFS DLL's if needed. The user will CD to this directory and then run UPDATE. UPDATE will search the current path looking for NFS files that need updating. The user will be given an option when a file is considered for update.

Permission Denied - Rsh

A user must have an account on the remote host. A .rhosts file entry allows a user who has an account on that host to log in from a remote node without supplying a password. The .rhosts file must be in the user's home directory. The format of a .rhosts file entry is:

hostname [username]

The hostname is the name of the local node (PC) from which the user wants to log into the remote host. The username is the user's login name on the PC. If you do not specify a user name, the user must have the same login name on both the remote host and PC.

Each remote machine may have a file named /etc/hosts.equiv containing a list of trusted hostnames with which it shares usernames. Users with the same username on both the local and remote machine may rsh from the machines listed in the remote machine's /etc/hosts file.

Permission denied - File

If a script file is being executed, it must have execution permission. Use:

```
chmod 775 scriptfilename
```

to allow execution and r/w permissions.

xlock

X-Win requires that the IP address of the host running xlock to be in the Xhost table. Use of the -remote option is also required.

Virutal Root

The Virtual Root Mode (sometimes refered to as the Single Window Mode) willallow the use of a remote window manager such as twm, mwm, olwm, or ... If the Width and Height settings are not manually entered, X-Win creates a Microsoft Windows window the size of the screen. It will have Microsoft controls at the top. The window will be gray tile. If an xterm is brought up without a window manager, the user will not be able to move or resize it.

The Width and Height may be manually set if the users wishes to make the window a specific size. If panning is turned on, the whole window can be panned on-screen.

MXWIN.INI

MXWIN.INI is a text file in the WINDOWS directory which controls the set-up of X-Win.

```
 ---------------------------------------------------------------------
|   [MicroX]
|   SaveUnder=yes
|   directory=c:/XWIN/lib
|   panning=1
|   debug=0
|   single=0
|   width=1016
|   height=732
|   screen1enable=0
|   network=winsock
|
|   [font]
|   fontpath=c:/XWIN/lib/fonts/misc,c:/XWIN/lib/fonts/75dpi,c:/lib/fonts/100dpi
|
|   [sessions]
|   sun=1:sun:demo::/usr/openwin/bin/xterm -ls -n sun/demo -display xpc:0 &
|   XDMCP -broadcast=4
|   XDMCP - query=4:192.1.1.1
|
|   [Xhost]
 ---------------------------------------------------------------------
```

SaveUnder=yes
The saveunder function is enabled.

directory=c:/XWIN/lib
This directs X-WIN to the subdirectory that contains the keyboard, rgb, and font files.

panning=1
One (1) = on and zero (0) = off.
Panning will move the selected X window on-screen by moving the cursor to the edge of the window which is off-screen. Panning is not operational in the Virtual Root mode.

debug=0
One (1) = on and zero (0) = off.
Debug gives a list of the X requests being processed by the X server (X-Win). These requests are shown in the X-Win window. The X-Win window may be resized to view more past requests.

single=0

width=1016
height=732
One (1) = on and zero (0) = off.
Single controls the Virtual Root Mode. If it is turned on, then a single X window, whose dimensions are described by width and height, is generated. A remote window manager should be used to manage the windows created in this Virtual Root Window (single window).

screen1enable=0
One (1) = on and zero (0) = off.
Screen1enable, when turned on, allows the generation of X windows to xpc:0.1, the second screen. This second screen is managed by the Microsoft window manager.

network=winsock
The available selections are: automatic, winsock, pctcp, & pcnfs. The automatic mode searches for winsock, then pctcp, and then pcnfs. Setting to winsock, or pctcp, or pcnfs, will cause the server to try to run specifically that transport interface.

Keyboard Selection

The default keyboard selection is the US keyboard (US.KBD).

There are two ways of setting the keyboard selection:

1. Automatically - Under MS Windows select:

Program Manager
Main
Control Panel
International

Now select Keyboard Layout and choose the desired keyboard. X-Win will automatically use its matching XXXXXX.KBD file for keyboard support.

2. Manually - Modify the MXWIN.INI file which is in your windows directory. Under the heading [MicroX] place an entry for the desired keyboard.

```
[MicroX]
KBDfile=FINLAND.KBD
```

This forces X-Win to use the keyboard file XXXXXX.KBD for keyboard support.
The supported keyboards are: BELGIUM, CANADA, DENMARK, ENGLISH, FINLAND, FRANCE, GERMANY, ITALY, LATINAM, NETHERLA, NORWAY, PORTUGAL, SPAIN, SWEDEN, UK, and US.

Fonts

X-WIN comes with the standard and optional MISC and 75DPI fonts. These fonts were compiled from the X11 distribution bfd fonts using BDFTOFON.EXE. The entries were placed into the corresponding FONTS.DIR using MKFONDIR.EXE. Users can uses these programs to complile and use other bdf fonts.

BDFTOFON

The BDFTOFON program will compile a BDF file to a MS_Windows .FON file for use with the X-Win programs. The file produced is basically a Windows file with a Font resource and Font directory and an additional data area for the X specific information.

usage: BDFTOFON [-t] [-i] [-o FONT_FILE] BDF_FILE

BDF_FILE	BDF format input file. Default extension = .BDF
-o FONT_FILE	Font output file. Default extension = .FON output will default to BDF_FILE.FON if no name is specified.
-t	Produce Terminal font, if possible.
-i	Inhibit ink metric computations.

This program uses the BDFREAD functions in the X11R5 distribution. For detailed information about Terminal Fonts or Ink metrics, see the source code or X11R5 documentation.

MKFONDIR

The program will create a file FONTS.DIR from all the .FON files in the CURRENT directory. Duplicate entries will be reported and not added to the file.

Usage: MKFONDIR