

# **Minisoft**

GETTING STARTED  
**MS92<sup>®</sup> FOR DOS<sup>®</sup>**



# DISCLAIMER

The information contained in this document is subject to change without notice.

Minisoft, Inc. makes no warranty of any kind with regard to this material, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose. Minisoft, Inc. or its agents shall not be liable for errors contained herein or for incidental or consequential damages in connection with the furnishings, performance, or use of this material.

This document contains proprietary information which is protected by copyright. All rights are reserved. No part of this document may be photocopied, reproduced, or translated to another programming language without the prior written consent of Minisoft, Inc.

©1987 by Minisoft, Inc. Printed in U.S.A.

Printing History:	Version 6.4 - October 1, 1991
	Version 6.5 - January 1, 1992
	Version 6.6 - August 1, 1992
	Version 7.2 - January 1, 1993
	Version 7.4 - May 1, 1993
	Version 8.7 - January 1, 1998

All product names and services identified in this document are trademarks or registered trademarks of their respective companies and are used throughout this document in editorial fashion only and are not intended to convey an endorsement or other affiliation with Minisoft, Inc.

# LICENSE AGREEMENT

In return for payment of a onetime fee for this software product, the Customer receives from Minisoft, Inc. a license to use the product subject to the following terms and conditions:

- ◆ The product may be used on one computer system at a time: i.e., its use is not limited to a particular machine or user but to one machine at a time.
- ◆ The software may be copied for archive purposes, program error verification, or to replace defective media. All copies must bear copyright notices contained in the original copy.
- ◆ The software may not be installed on a network server for access by more than one personal computer without written permission from Minisoft, Inc.

Purchase of this license does not transfer any right, title, or interest in the software product to the Customer except as specifically set forth in the License Agreement, and Customer is on notice that the software product is protected under the copyright laws.

## 90-Day Limited Warranty

Minisoft, Inc. warrants that this product will execute its programming instructions when properly installed on a properly configured personal computer for which it is intended. Minisoft, Inc. does not warrant that the operation of the software will be uninterrupted or error free. In the event that this software product fails to execute its programming instructions, Customer's exclusive remedy shall be to return the product to Minisoft, Inc. to obtain replacement. Should Minisoft, Inc. be unable to replace the product within a reasonable amount of time, Customer shall be entitled to a refund of the purchase price upon the return of the product and all copies. Minisoft, Inc. warrants the medium upon which this product is recorded to be free from defects in materials and workmanship under normal use for a period of 90 days from the date of purchase. During the warranty period Minisoft, Inc. will replace media which prove to be defective. Customer's exclusive remedy for any media which proves to be defective shall be to return the media to Minisoft, Inc. for replacement.

**ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS IS LIMITED TO THE 90-DAY DURATION OF THIS WRITTEN WARRANTY.** Some states or provinces do not allow limitations on how long an implied warranty lasts, so the above limitation or exclusion may not apply to you. This warranty gives you specific rights, and you may also have other rights which vary from state to state or province to province.

**LIMITATION OF WARRANTY:** Minisoft, Inc. makes no other warranty expressed or implied with respect to this product. Minisoft, Inc. specifically disclaims the implied warranty of merchantability and fitness for a particular purpose.

**EXCLUSIVE REMEDIES:** The remedies herein are Customer's sole and exclusive remedies. In no event shall Minisoft, Inc. be liable for any direct, indirect, special, incidental, or consequential damages, whether based on contract, tort, or any other legal theory.

# TABLE OF CONTENTS

<b>DISCLAIMER .....</b>	<b>2</b>
<b>LICENSE AGREEMENT .....</b>	<b>3</b>
<b>CONFIGURING MINISOFT 92 .....</b>	<b>7</b>
Configuration file .....	7
Running a different configuration .....	8
Configuring messages and screen labels .....	8
Configuration keys .....	9
Configuring the connection .....	11
Type of connection .....	11
Terminal options .....	11
Configuring the interface .....	12
Special configuration .....	12
Color configuration .....	18
Configuring function keys .....	19
Function key label settings .....	19
Programming user-defined function keys .....	20
<b>RUNNING A SESSION .....</b>	<b>23</b>
Opening and closing a session .....	23
Logging on .....	23
Logging off and exiting Minisoft 92 .....	23
Running the DOS shell .....	24
Using function keys .....	24
Device Control keys .....	24
Device Modes keys .....	24
Configuration keys .....	26
Special keys .....	26
Debug keys .....	26

User defined keys .....	26
Transferring files .....	27
Configuring file transfer .....	27
Downloading a file .....	28
Uploading a file .....	30
Printing from Minisoft 92 .....	32
Sending host data to a local printer .....	32
Log top / log bottom .....	32
Record mode .....	33
Copy all / copy page / copy line .....	34
Copy all .....	34
Copy page .....	35
Copy line .....	35
Sending host data to a PC file .....	36
Printing from the PC to a host-based printer .....	36
Getting help .....	36
Emulating a DEC terminal .....	36
Translation tables in MS92 .....	37

## **TCP/IP PROTOCOL AND DRIVERS FOR DOS92 .....** 40

Requirements .....	40
Network requirements .....	40
Host requirements .....	42
Installing device drivers .....	42
Installing odi92.sys .....	42
Installing ndis92.sys .....	45
Installing pack92.sys .....	47
Configuring driver connections .....	48
Telnet connections .....	48
Network services (ns/vt) connections .....	50
Clarkson packet driver connections .....	51
Configuring an ndis connection for lanastic .....	53
Lanastic and the system.ini file .....	53
Configuring dos92 .....	58

## **INDEX.....** 59



# CONFIGURING MINISOFT 92

**W**hen you first run Minisoft 92, you must establish configuration settings in order to connect to a host computer. You can also establish configuration settings to control: colors and fonts of the Minisoft 92 display, set of function keys that initially display, whether or not typeahead is activated, and many other options.

These settings are stored in a configuration file (MS92.CFG), which Minisoft 92 opens automatically the next time you run Minisoft 92.

This section discusses the Minisoft 92 configuration file and how to configure the various settings in Minisoft 92.

## CONFIGURATION FILE

Configuration settings are stored in a configuration file, which has the extension *CFG*. The first time you run Minisoft 92, the software runs a default configuration file, MS92.CFG. You should adjust this configuration for your system. You may also create alternative configurations for various connections. For example, you might have separate configuration files to run Minisoft 92 serially, on a network, or to connect to an HP3000 or HP9000 host.

This chapter explains how to choose your configuration settings using the menu of configuration function keys. The changes you make to your configuration are active until you exit Minisoft 92. At this point, if you made any changes to the configuration, Minisoft 92 prompts:

**Save configuration changes? Y to confirm**

If you respond *Y* the following prompt appears:

**Enter File Name to save as. Press ESC to exit**

Respond in one of the following ways:

- ◆ To overwrite the existing configuration (MS92.CFG) with the current configuration, press RETURN.
- ◆ To save the current settings under a different name, enter a new file name and press RETURN. (If you enter a file name that already exists, Minisoft 92 writes the new settings over the old one).
- ◆ To quit Minisoft 92 without saving your changes, press ESC. Your MS92.CFG file is unchanged.

## RUNNING A DIFFERENT CONFIGURATION

You may run Minisoft 92 under any configuration settings you saved to a file. To do so, include the configuration file as a parameter when you execute Minisoft 92 at the DOS prompt:

**ms92 <config file>**

For example, the following command runs Minisoft 92 under the same configuration as typing ms92, since MS92.CFG is the default configuration file:

**ms92 ms92.cfg**

You can use configuration files for particular kinds of connections or sessions. For example, you might have a configuration file called HP3000.CFG for connecting to the HP3000 host, and another called HP9000.CFG for connecting to the HP9000 host. Configuration files must have the extension CFG.

To create a new configuration file:

1. Execute Minisoft 92 normally.
2. Change the configuration as desired.
3. When you exit Minisoft 92 (see “Logging Off and Exiting Minisoft 92,” on page 23), respond *Y* to the prompt:

**Save configuration changes? Y to confirm**

4. Enter a new file name at the prompt:

**Enter File Name to save as. Press ESC to exit**

## CONFIGURING MESSAGES AND SCREEN LABELS

The messages and labels that Minisoft 92 writes to your screen are stored in the file MS92.MSG. This file is included on the Minisoft 92 installation diskette, and resides in the directory where you installed Minisoft 92 (usually c:\ms92).

The catalog of messages and labels in MS92.MSG includes:

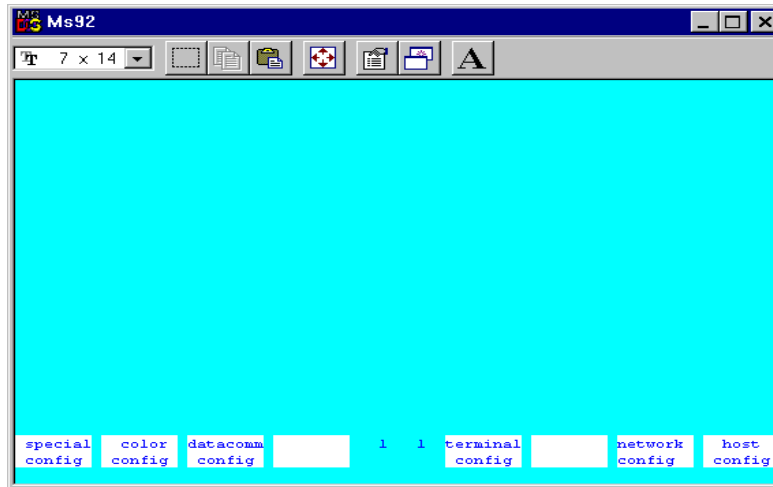
- ◆ Error and information messages
- ◆ Prompts
- ◆ Function key labels
- ◆ Field labels in configuration screens

If you wish, you may edit MS92.MSG in a text editor to customize these messages and labels. This is especially useful for translating the messages and labels into languages other than English.

If you edit this file, edit the text only. Do not edit catalog numbers (far left column) or remove quotation marks.

Since Minisoft 92 accesses this file while it is running, you must exit from Minisoft 92 before editing the file. You must also save your changes and close the file before running Minisoft 92 to implement the changes.





**Figure 1-1**  
Pressing F4 Config Keys displays the configuration keys

## CONFIGURATION KEYS

When you execute Minisoft 92, the screen displays the eight HP function keys across the bottom. These are the Modes function keys.

To access the set of configuration function keys from the Modes keys:

1. Press ALT-X to display the Special function keys.
2. Press F4 Config Keys to display the configuration keys as shown in **Figure 1-1**.

**Note:** You may also access the menu of configuration keys from the System function keys, by pressing ALT-S.

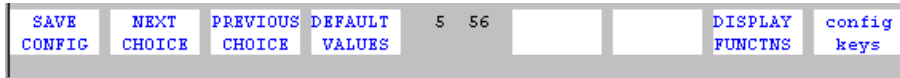
In order to run host sessions, you must configure Minisoft 92 using this menu of

function keys. The keys control configurations as follows:

*F1 - Special Config:* Displays the Special Configuration screen and configures typeahead, local printing, screen memory, 132 column display, video card adapter, and keyboard remapping.

*F2 - Color Config:* Displays the Color Configuration screen and configures the colors of your screen display. Most screen enhancements can be modified through this screen.

*F3 - Datacomm Config:* Displays the Datacomm Configuration screen and configures baud rate and communication handshaking.

**Figure 1-2** Configuration screen function keys

*F5 - Terminal Config:* Displays the Terminal Configuration screen and configures terminal ID, foreign language support, and terminal emulation mode (VT or HP).

*F7 - Network Config:* Displays the Network Configuration screen and configures LAN connections, including Telnet, Network Services (NS/VT), Interrupt 14, BAPI, LAN Workplace, and NACS.

*F8 - Host Config:* Displays the Host File Transfer Configuration screen and configures for file transfer, printing to host, and installation of the file transfer host programs.

In each configuration screen the data fields allow you to select predefined settings or to enter information (fields for entering information are displayed in inverse video). To select the predefined settings, use the F2 Next Choice and F3 Previous Choice keys. The configuration screen function keys are shown in **Figure 1-2**.

*F1 - Save Config:* Activates your settings for the current session only. You will be prompted to save the changes permanently upon exiting Minisoft 92.

*F2 - Next Choice:* With the cursor in a configuration field, press F2 Next Choice to move forward through the list of available selections.

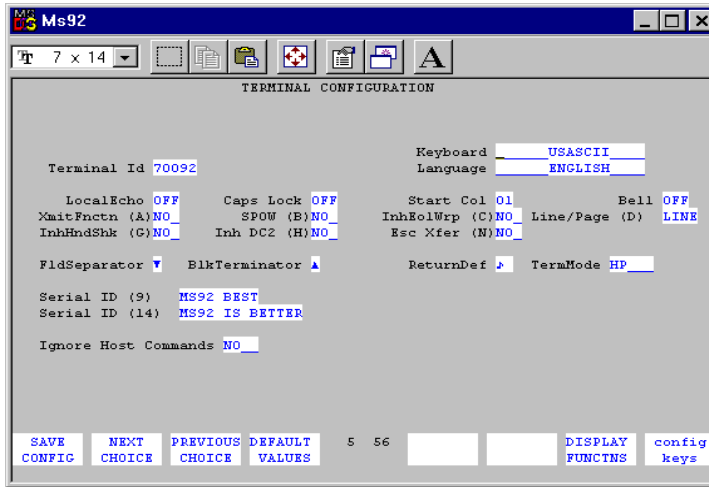
*F3 - Previous Choice:* With the cursor in a configuration field, press F3 Previous Choice to move backward through the list of available selections.

*F4 - Default Values:* Sets all values in the current configuration screen to their defaults.

*F7 - Display Functions:* Causes functions to be displayed rather than executed (Pressing the RETURN key, for instance, would not issue a carriage return, but would print a musical note symbol to the screen). An asterisk displayed on this key indicates that the option is active.

*F8 - Config Keys:* To access the menu of configuration keys press F8 Config Keys.

The next section address the configuration settings you must make in order to logon to the host computer.



**Figure 1-3**  
*Terminal configuration screen*

## CONFIGURING THE CONNECTION

The settings you must configure in order to connect to the host computer consist of the following:

- ◆ Type of connection
- ◆ Datacommunications
- ◆ Terminal Options

Other configuration settings are discussed under “Configuring the Interface,” on page 12.

## TYPE OF CONNECTION

The connection is either serial or network. If it is a network connection, you must configure the network type in Minisoft 92. If you plan to use Minisoft 92 to dial in to a host computer over a modem, configure as for a serial connection.

## TERMINAL OPTIONS

Terminal Options consist of information that helps the host computer identify your terminal. Handshaking and screen options are also included in order for data from the host to display properly on your PC’s monitor.

To configure terminal options:

1. From the menu of configuration keys, press F5 Terminal Config. The Terminal Configuration Screen appears as shown in **Figure 1-3**.
2. Use the tab key to move from one field to the next, and use the F2 Next Choice and F3 Previous Choice keys to make selections in these fields. When you are finished setting the changes press F1 Save Config.

Most of the options available in this screen function the same as those available in the Terminal Configuration dialog box in WS92.

The remaining settings are unique to MS92:

*Fld Separator:* Character defined as a field separator (ASCII 31).

*Blk Terminator:* Character defined as a block terminator (ASCII 30).

*Return Def:* Character defined as a carriage return (ASCII 13).

## CONFIGURING THE INTERFACE

In addition to configuring settings that allow you to communicate with the host computer, you can configure the interface. These configurations are saved in the configuration file when you exit from Minisoft 92 (see “Configuration File,” on page 7).

The settings that control the interface consist of the following:

- ◆ Special Configuration
- ◆ Color Configuration
- ◆ Function Key Configuration

## SPECIAL CONFIGURATION

The Special Configuration settings allow you to configure the Minisoft 92 screen display and function key label settings. You may enable typeahead, configure up to 60 pages of screen memory, and remap certain function keys.

To access the Special Configuration settings:

1. Press ALT-X to access the menu of Special function keys.
2. Press F4 Config Keys to access the configuration keys. From the menu of configuration keys, press F1 Special Config. The Special Configuration screen appears as shown in **Figure 1-4**.
3. Use the tab key to move from one field to the next, and use the F2 Next Choice and F3 Previous Choice keys to make selections in these fields. When you are finished setting the changes press F1 Save Config.

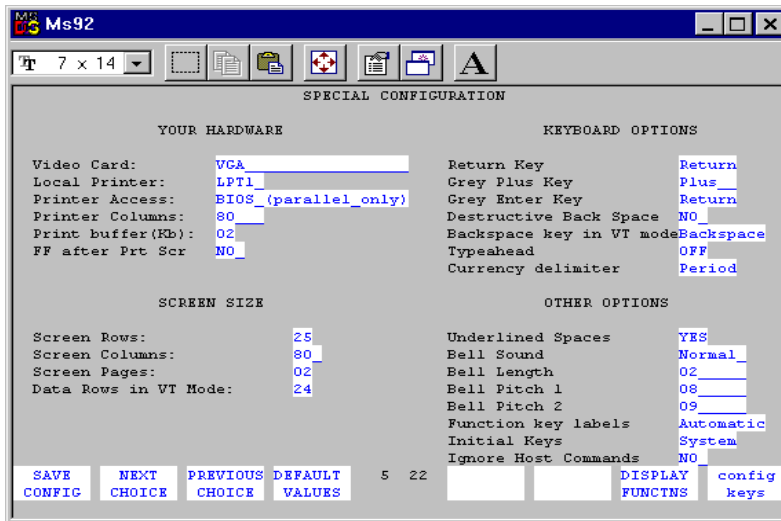
The settings are grouped as follows:

- ◆ Your Hardware
- ◆ Screen Settings
- ◆ Keyboard Options
- ◆ Other Options

### YOUR HARDWARE:

*Video Card:* Specifies which video card you have installed on your PC. Use the F2 Next Choice and F3 Previous Choice keys to select a setting for the following video cards in the order shown:

- ◆ STANDARD (for mono, CGA, Hercules or compatible cards)
- ◆ EGA
- ◆ VGA (for VGA cards without an enhanced graphics feature; allows you to



**Figure 1-4**  
Special configuration screen

- ◆ have a 27 line screen display including 2 line function keys)
- ◆ Paradise SVGA 30 (for Paradise VGA Plus, Plus 16 or compatible cards; use VGAPLUS.EXE supplied by Paradise to improve the clarity of the 132 column display)
- ◆ Special (for video cards that come with special programs that can be used to expand their screen displays to 132 columns or 27 rows)
- ◆ Speedstar Super VGA
- ◆ Video 7
- ◆ HP SVGA
- ◆ ATI
- ◆ ET VGA-4000 (for Tseng ET VGA-4000 cards)
- ◆ Orchid (for Orchid cards, which operate very similar to the Speedstar Super VGA card)
- ◆ IBM XGA-2
- ◆ HP VGA Monochrome
- ◆ HP VGA Color
- ◆ MXIC
- ◆ Stealth 24 (for Speedstar Stealth 24 cards)
- ◆ Stealth Pro (for Speedstar Stealth Pro cards)
- ◆ Speedstar Pro
- ◆ Viper VLB (for Speedstar Viper VLB cards)
- ◆ TVGA 9000
- ◆ Paradise Accelerator
- ◆ Paradise Accelerator VL Plus

- ◆ Paradise Accelerator 24
- ◆ Paradise Accelerator SVGA
- ◆ Paradise Accelerator Value
- ◆ Oak VGA Master

*Local Printer:* Defines a local printer to Minisoft 92. If you do not have a printer, select None. Otherwise, select the name of your printer port.

*Printer Access:* Specifies an output device. If you have no printer, select No Printer. If your printer is connected directly to a parallel port, select BIOS. If your printer is connected directly to a serial port or if you are printing to a network printer and the PRN device has been redirected to the network device, select DOS Default Printer. If you are printing to a network printer and your parallel port has been redirected, select DOS Named Printer.

*Printer Columns:* Specifies 80 or 132 column printing. Select 80 or 132 to match your current printer settings.

*Print Buffer (Kb):* Configures temporary memory for direct (non-network) printers. Use the F2 Next Choice and F3 Previous Choice keys to configure from 1 to 10 kilobytes of buffer space.

*FF after Prt Scr:* Set to YES to send a form feed automatically. If this setting is NO, you must perform a form feed manually at the printer.

#### SCREEN SIZE:

*Screen Rows:* Specifies the number of vertical rows to display: 25, 27, or 43. The number of rows or columns you can display depends on your video card. Options available are shown in **Table 1** and **Table 2**.

*Screen Columns:* Specifies 80 or 132 horizontal column display. See **Table 1** and **Table 2** for video cards that support 132 column mode. You may scroll right and left if your PC lacks 132 column “on-screen” display capability.

*Screen Pages:* Sets the number of screen pages Minisoft 92 will support in an application. Use F2 Next Choice and F3 Previous Choice to select the number of screen pages up to 60. Minisoft 92 defaults to 2 pages of screen memory.

*Data Rows in VT mode:* Determines the number of vertical rows displayed in VT (Digital Equipment Corporation) terminal mode. Select 24 or 25.

Many video cards have an option for 132 column display, which you execute through the card’s setup program before running Minisoft 92. You should also establish a “132 column” configuration in Minisoft 92 as follows:

1. Using your card’s setup, select 80x25 and then run Minisoft 92.

**Table 1**

	25	27	43
ATI	•†	•	•
EGA	•		•
ET VGA-4000	•†	•†	•†
HP-SVGA	•†	•†	•†
HP VGA Mono and Color	•†	•	•†
IBM XGA-2	•†	•†	•
MXIC	•†	•†	
Oak VGA Master	•†	•†	•†
Orchid	•†	•†	•†
Paradise Accel 24	•†	•†	•†
Paradise Accel SVGA	•†	•	•†
Paradise Accel Value	•†	•	•†
Paradise Access VL +	•†	•†	•†

• = 80 column; † = 132 column mode

**Table 2**

	25	27	43
Paradise Accelerator	•†	•†	•†
Paradise SVGA 30	•†	•	•†
Special	•	•	•
Speedstar Pro	•†	•†	•†
Speedstar Super VGA	•†	•†	•†
Standard	•		
Stealth 24	•†	•	•†
Stealth Pro	•†	•	•†
TVGA 9000	•†	•†	•†
VGA	•	•	•
Video 7	•†	•†	•†
Viper VLB	•†	•	•†

• = 80 column mode; † = 132 column mode



2. Select the Special Configuration screen (ALT-X, F4, F1).
3. Select Special in the Video Card field and select rows and columns you wish to use (for example, 25, 132).
4. Exit from Minisoft 92 (ALT-X, F2). When the program asks you to save the configuration, respond *Y*. Enter the file name of the new configuration (for example, *132.cfg*).

To run Minisoft 92 in 132 column mode:

1. Use your card's setup program, and select 132x25 or 132x27.
2. Run Minisoft 92 using the special configuration file you made (for example, type *ms92 132.cfg*).

#### KEYBOARD OPTIONS:

*Return Key:* Configures the key labeled "Enter" on the typewriter portion of the PC keyboard as a block mode enter key or a character mode return key.

*Grey Plus Key:* Allows you to configure this key to function as a tab, return, enter, comma, or plus.

*Grey Enter Key:* Allows you to configure this key to function as a return key in character mode or an enter key in block mode.

*Destructive Backspace:* Allows backspacing to delete characters as the cursor moves to the left. Select YES to enable this feature.

*Backspace Key in VT mode:* Configures the backspace key for Backspace or Delete in VT mode. To configure for VT mode, see the Terminal Configuration screen (see "Terminal Options," on page 11).

*Typeahead:* Types characters before the host is ready to receive them. Minisoft 92 stores the characters and transmits them when the host is ready. Select ON to enable this feature. You may also turn typeahead on and off by pressing ALT-Y.

You must be logged on to the HP host as a terminal type 10 for typeahead to work correctly. If you are not a term type 10, you can force the terminal type by logging on:

```
HELLO <GROUP>.<ACCOUNT>;TERM=10
```

*Currency Delimiter:* Specifies a period or comma as the delimiting mark for currency-oriented decimal numerals.

#### OTHER OPTIONS:

*Underlined Spaces:* Causes spaces to be replaced by underline characters. Select YES to enable this option. In most cases, use this option if you have a color monitor; monochrome monitors display genuine underlining.

*Bell Sound:* Configures the PC's warning

sound. Choices in this field are Normal, Special (not as loud), Delayed (pause before bell sounds), and None.

*Bell Length:* Configures duration of the PC's warning sound. Choices are 00 through 07.

*Bell Pitch 1:* Configures pitch of the PC's warning sound. Choices are 00 through 08.

*Bell Pitch 2:* Configures a second pitch for the PC's warning sound. Choices are 00 through 09.

*Function key labels:* Allows you to set the function key labels to automatically pop down and display 24 lines of data. Select Automatic to enable this feature. Select Locked to have the function key labels fixed at 2 lines. If you have a PC with a VGA or Super VGA video card you can select 27 lines of display in the screen rows field which will provide 2 line function keys. You must select VGA or a VGA equivalent graphics card in the Video Card field for 27 line display to work.

*Initial Keys:* Configures which set of function keys display initially, when Minisoft 92 is executed. Select System (modes keys) or User (user defined).

## COLOR CONFIGURATION

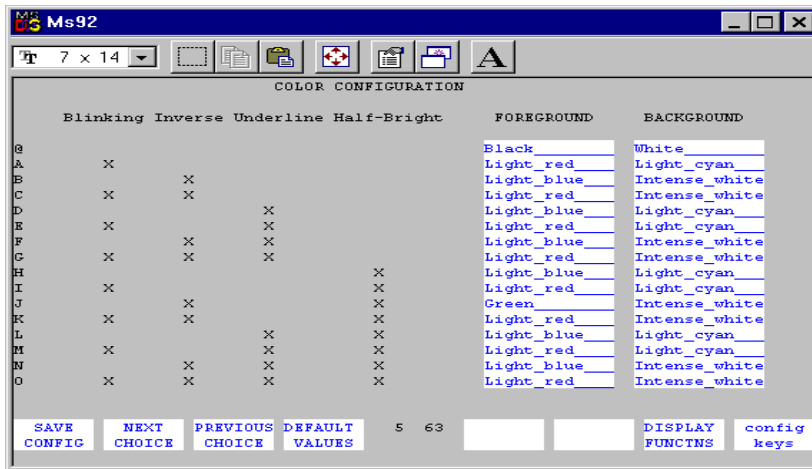
Minisoft 92 fully supports color monitors. If you have a color monitor, you can set the

foreground, background, inverse, and underline. Any combination of the following colors is supported: white, black, blue, green, red, magenta, cyan (turquoise), or yellow.

To configure color:

1. Press ALT-X to access the menu of Special function keys.
2. Press F4 Config Keys to access the configuration keys.
3. From the menu of configuration keys, press F2 Color Config. The Color Configuration screen appears as shown in **Figure 1-5**.
4. Use the tab key to move from one field to the next, and use the F2 Next Choice and F3 Previous Choice keys to make selections to these fields.

The sample enhancements in the center of the screen change to reflect changes you made to the settings. Mapping enhancements on a PC with a monochrome card and monochrome screen is exactly the same as on the 2392A or 700/92, except that underlining and inverse video cannot be shown at the same time. If both enhancements are turned on, only the inverse is shown. On a PC with a color card and a monochrome screen, the enhancements are mapped the same as the 2392A or 700/92, except that underlining cannot be shown at all.



**Figure 1-5**

*Color configuration screen*

- When you are finished setting the changes, press F1 Save Config.

## CONFIGURING FUNCTION KEYS

Minisoft 92 supports all function keys found on the HP 2392A and 700/92 block mode terminals. In addition, Minisoft 92 features a number of function keys that provide access to file transfer, networking, typeahead, and many other special functions. For information on using function keys, refer to section “Using Function Keys” on page 24.

This section discusses configuring how function keys are displayed (label settings), as well as programming your own user-defined keys.

## FUNCTION KEY LABEL SETTINGS

You may configure Minisoft 92 to display function key labels as a single line rather

than two lines when the screen paints data on lines ordinarily occupied by function key labels and the status line.

To configure function key label settings:

- Press ALT-X to access the menu of Special function keys, and then press F4 Config Keys.
- Press F1 Special Config to display the Special Configuration screen.
- If your graphic card is CGA or EGA, select “25” in the Screen Rows field, and select “Automatic” in the Function Key Labels field. If your graphics adapter is VGA, you must also select Standard in the Video Card field.
- Press F1 Save Config.

#### LOCKING TWO-LINE DISPLAY:

You can lock the function key labels in a two-line display, even though the screen paints data on lines occupied by the function key labels. The screen will actually scroll down and then up to accommodate the extra lines of data.

To lock two-line display:

1. Access the Special Configuration Screen (see above).
2. If your graphics card is CGA or EGA, select "25" in the Screen Rows field, and select "Locked" in the Function Key Labels field. If your graphics card is VGA, select "27" in the Screen Rows field and "VGA" in the Video Card field.

#### STARTING UP WITH USER-DEFINED KEYS:

In its default configuration, Minisoft 92 starts up with the Modes menu of function keys. You can configure Minisoft 92 to start up with a menu of user-defined function keys instead.

To configure User-Defined keys at startup:

1. Access the Special Configuration screen.
2. Select User in the Initial Keys field.
3. Press F1 Save Config.

#### DISABLING/ENABLING FUNCTION KEY LABELS:

To disable and enable function key labels:

1. Press F9, the function key labels disappear.
2. Press F9 again and the function key labels reappear.

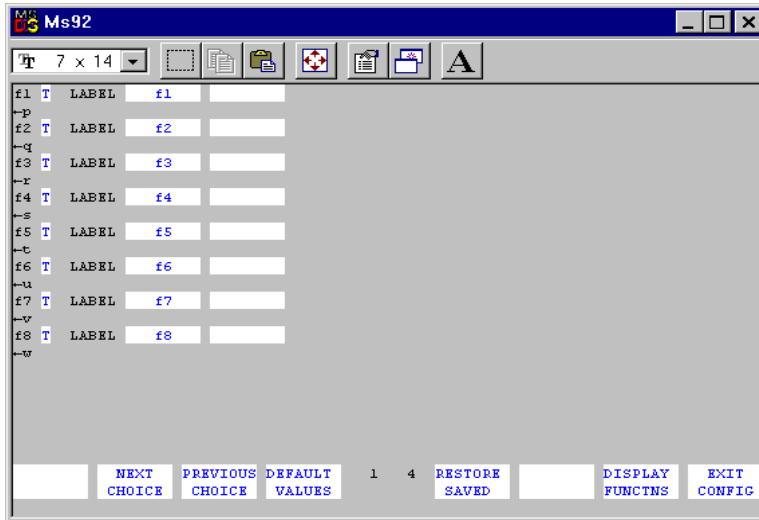
#### PROGRAMMING USER-DEFINED FUNCTION KEYS

Minisoft 92 allows you to create your own user-defined function keys. This feature is especially useful for repeated activities, such as logging off, or for eliminating the need to type lengthy commands.

**Note:** You must be logged onto the host system in order to program user-defined function keys.

To program user-defined keys:

1. Press ALT-F to access the User Key Definition screen as shown in **Figure 1-6**.
2. Use the tab key to move from one field to another, positioning the cursor for the function key you wish to program (the first programmable field for each function key is the attribute field, which is defaulted to T).



**Figure 1-6**  
*User key definition screen*

3. Press F2 Next Choice or F3 Previous Choice to set the key's attribute. Attribute choices are as follows:

**T (Transmit-only):** In remote mode, Minisoft 92 transmits the user key string to the host computer after completing a block transfer handshake, automatically transmitting a carriage return. In local mode, the key has no effect.

**N (Normal keyboard input):** The string is treated exactly as if it had been entered from the keyboard. A carriage return is not automatically transmitted. If Minisoft 92 is in local mode, the string is displayed on the screen and embedded escape sequences are executed locally. In remote mode, with local echo

off, the string is transmitted to the host computer, and is executed and displayed only if the host system echoes.

**L (Local-only):** The user key string is executed locally but is not transmitted to the host system.

4. Press the tab key to move to the LABEL field.

**Note:** When entering data into the label and definition fields, you can use all the editing keys (INS, DEL, clear line, etc.).

5. In the first LABEL field, enter up to eight characters as you want them to appear on the top line of the key's label in the function key window. If the label will continue to the second line, add this

text to the second field, using the tab key to move the text.

If your function key labels display only one line, Minisoft 92 will display only what you enter in the first LABEL field.

6. Press the tab key to move to the program entry field.
7. Using no more than 80 characters, enter the exact character string the user key is to generate. Include escape sequences and ASCII control codes within the string by pressing F7 DISPLAY FUNCTNS before entering the control codes. Disable display functions mode immediately after entering the desired control code by pressing F7 again.
8. When you are finished defining the function keys, press ALT-M or ALT-U. The keys you defined should appear across the bottom of the screen.

If you wish to save this set of user keys, answer Y to the “Save configuration changes?” prompt when you exit Minisoft 92. If you wish to save the set of user keys to a different configuration file, create a file name at the “Enter File Name to save as” prompt when you exit Minisoft 92.

## RUNNING A SESSION

**M**inisoft 92 allows you to run a host session from your PC as if your PC were a terminal connected directly to the host computer. The difference is that Minisoft 92 also allows you to take advantage of your PC's CPU, data storage capacity, and printer while you are running a session on the host.

This chapter covers the following aspects of running a host session:

- ◆ Opening and closing a session
- ◆ Using function keys
- ◆ Transferring files
- ◆ Printing
- ◆ Getting Help
- ◆ Emulation to a DEC terminal
- ◆ Using translation tables

### OPENING AND CLOSING A SESSION

Minisoft 92 allows you to open and close a session on the host computer just as you would from a terminal: by logging on and off the host. Minisoft 92 also allows you to break temporarily to a DOS prompt; this is called running a DOS shell.

### LOGGING ON

To logon to the host:

1. Start Minisoft 92 and configure a connection.
2. Press RETURN and wait a moment for a system prompt from the host.
3. If no system prompt appears, check the configuration settings, and make any necessary adjustments; then press RETURN. Make one adjustment at a time (for example, change the handshaking, then change the baud rate for a serial connection; or change the network driver, then the IP address for a network connection), until you get a system prompt from the host.
4. At the system prompt, type your usual logon. Minisoft 92 will log you onto the host computer.

### LOGGING OFF AND EXITING MINISOFT 92

It is possible to exit from Minisoft 92 without logging off the host computer, which can tax the overhead of the host. Make a habit of logging off the host before exiting from Minisoft 92.

To logoff and exit:

1. At the system prompt, type your logoff (usually “BYE” or “EXIT”).
2. Access the menu of Special function keys by pressing ALT-X.
3. Press F2 Quit to exit from serial connections, or press F3 Disconnect to exit from a network or modem connection.

If you have made changes to the configuration settings, Minisoft 92 prompts you for whether or not you want to save your changes (see “Configuration File” on page 7). When you respond to this prompt, Minisoft 92 closes.

## **RUNNING THE DOS SHELL**

Minisoft 92 allows you to break temporarily and access the DOS prompt. This is known as running a DOS shell.

To run the DOS shell:

1. Press CTRL-F10. The Minisoft 92 display disappears, and the DOS prompt appears.
2. Issue DOS commands or run DOS applications. Because Minisoft 92 is still running in the background, you may not have enough memory to run other DOS applications from the DOS shell.
3. When you are ready to return to Minisoft 92, type *exit*. The DOS prompt is replaced by the Minisoft 92 display.

## **USING FUNCTION KEYS**

Minisoft 92’s function key menus give you access to the various sets of HP function keys, F1 through F8. In addition, you may use F9 to toggle the function key display off and on, F10 as a block-mode enter key, and F12 to refresh the screen.

Function key labels in lower case letters bring up a new set of function key labels. An asterisk (\*) appears in the label when a key is enabled.

There are three main menus of function keys in Minisoft 92, and hierarchies of menus nested within them, as shown in the following diagram. The main menus in the diagram are positioned in the middle. Connecting lines indicate submenus: thinner lines indicate primary submenus while dashed lines indicate secondary submenus.

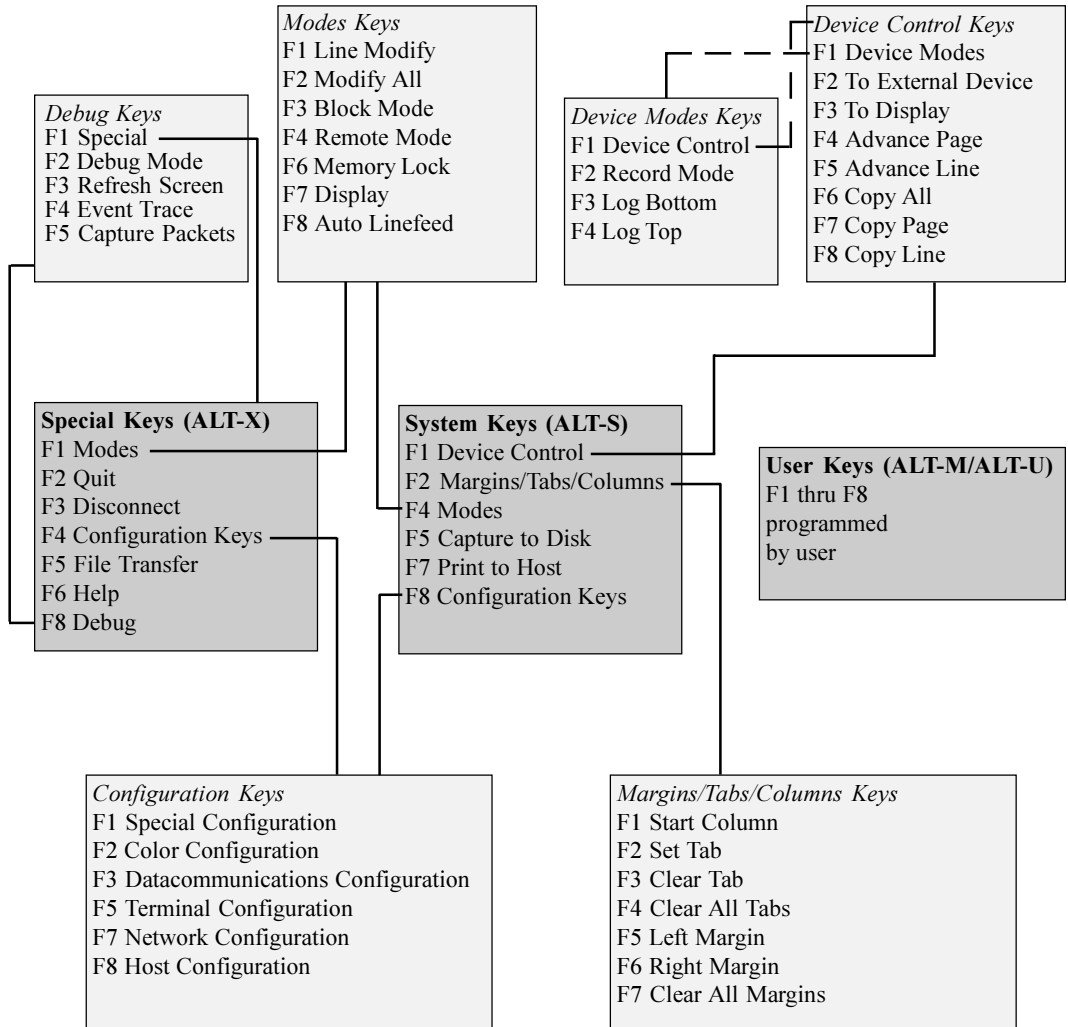
## **DEVICE CONTROL KEYS**

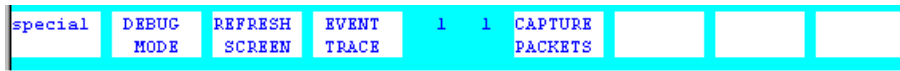
The device control keys allow you to store a block of screen memory temporarily, in order to send it to a specific destination. Access the device control keys from the menu of Special function keys.

## **DEVICE MODES KEYS**

The device modes keys allow you to control how data is sent to the destination specified by the Device Control keys. Access the device modes keys from the Device Control keys.





**Figure 2-2** *Debug keys*

## CONFIGURATION KEYS

Configuration keys allow you to select the settings that govern how Minisoft 92 communicates with the host computer and how Minisoft 92's interface appears.

For information on Configuration keys, see "Configuration Keys" on page 9.

## SPECIAL KEYS

Press ALT-X to display the Special menu of function keys. ALT-X does not correspond to any specific key on the 2392A or 700/92 terminals, but provides options for mode settings, file transfer, and access to all of the Minisoft 92 configuration keys.

## DEBUG KEYS

The Debug keys provide a menu of debugging utilities available from within Minisoft 92.

The Debug keys are shown in **Figure 2-2**.

*F1 - Special:* Displays the Special function keys (see "Special Keys," on page 26).

*F2 - Debug Mode:* Activates the diagnostic utility used for debugging Minisoft 92.

*F3 - Refresh Screen:* Repaints the Minisoft 92 screen.

*F4 - Event Trace:* Captures all interactions of an HP application to a file. Minisoft technicians can use an event trace file to find and resolve problems with the emulator.

*F5 - Capture Packets:* Captures packets transmitted between the PC and host through a LAN. The packet capture file is used to diagnose any problems with Minisoft 92 and the LAN connection.

## USER DEFINED KEYS

Press ALT-M (Menu) or ALT-U (User) to load the menu of user defined function keys. These two commands correspond to the Menu key on the 2392A and 700/92 terminals. You may define User Defined keys locally or programmatically. Default labels for these keys are f1 through f8.

To get Minisoft 92 to start up with the User Defined keys visible, specify User as the Initial Keys choice in the Special Configuration screen (see "Configuring Function Keys" on page 19).

To program the user-defined keys, see "Configuring Function Keys" on page 19.

## TRANSFERRING FILES

Minisoft 92 incorporates its own protocol for file transfer between a PC and HP host computer. The host program resides on the host computer.

Minisoft 92 also supports Xmodem, a file transfer protocol common to bulletin boards and Unix systems. Be sure that Xmodem also resides on the host computer before you specify it as your file transfer protocol in Minisoft 92.

## CONFIGURING FILE TRANSFER

The settings you define in the Host File Transfer Configuration screen determine your global file transfer configuration. You may adjust these settings as needed from the File Transfer screen to effect file transfers temporarily, for the duration of the current session (or until you change the settings again).

To configure file transfer:

1. Press ALT-X to display the menu of special function keys, and press F4 Config Keys.
2. From the Configuration Keys, press F8 Host Config. The Host Configuration screen appears as shown in **Figure 2-3**.
3. Configure the settings using the list of options shown below.

*Host Computer Type:* Select the choice that describes your host computer.

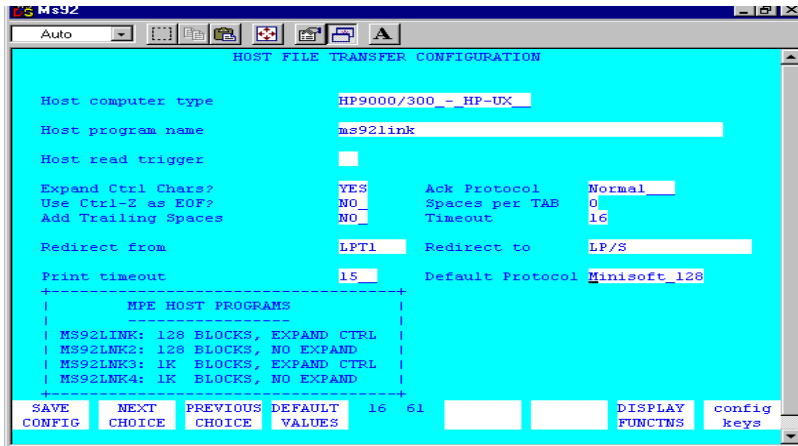
*Host Read Trigger:* Select DCI for connections other than over X.25 networks. Select Colon (:) when communicating X.25 networks. If you are using X.25 networks, the host program name should be MS92LINK (or MS92LNK3) .PUB.SYS;PARAM=58.

*Default Protocol:* Select Minisoft to use Minisoft's proprietary file transfer protocol; select Xmodem to use the Xmodem protocol.

*Default Block Size:* Select 128 Bytes to use MS92LINK or MS92LNK2; select 1K Bytes to use MS92LNK3 or MS92LNK4. See **Table 3** to determine which block size and encoding to use with your host file transfer program.

*Host Program Name:* Enter the name of the host program you wish to use, including group and account names (for example, MS92LNK4.PUB.SYS). Minisoft 92 returns an error message indicating it could not find the host program, or the location for the host program was specified incorrectly.

*Host Printer Name:* Enter the device name or device number of your host printer, such as LP/S or 66/S. Minisoft 92's Print File to Host Printer feature uses this field. This field is optional. If the host printer is connected serially, add /s to the device name or number. If the host printer is a parallel device (line printer), do not add /s.



**Figure 2-3**  
Host configuration  
screen

*Altern. Ack Protocol:* Select this option when the data communication link you are using will not allow the transmission of ACK CTRL-F or NAK CTRL-U characters. When this option is enabled, you must append the string ;*PARM=256* to the host program name for an HP3000 host and the string *256* for an HP9000 host.

*Ctrl Z for End of File:* Prevents the CTRL-Z character at the end of an ASCII file from being uploaded to the host.

*Expand Control Characters:* Encodes data being sent or received. Encoding the data makes it possible to send non-displayable characters (control characters) through data communication links that would otherwise not be displayed. You *must* select this option if you plan to use MS92LINK or MS92LNK3 as the host program. *Do not* select it if you plan to use MS92LNK2

or MS92LNK4. See **Table 3**, to determine which block size and encoding to use with your host file transfer program.

*Add trailing spaces:* Select this option only if you want to keep spaces at the end of lines (spacebar characters).

*Spaces per tab:* Enter the number of spacebar characters to replace a tab character in the file being transferred.

## DOWNLOADING A FILE

Downloading a file means to transfer a file from the host computer to the local PC.

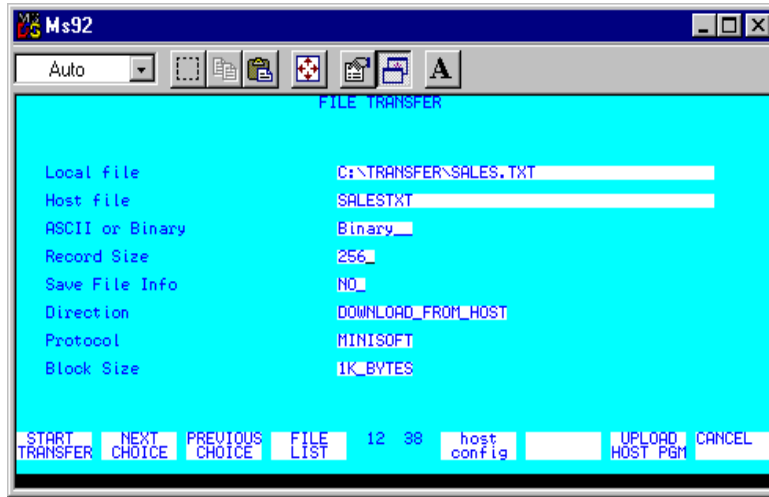
To download a file:

1. Press ALT-X to display the menu of special function keys; then press F5 File Transfer. Minisoft 92 displays the File Transfer screen as shown in **Figure 2-4**.

**Table 3**

Host Program	Block Size	Expand CTRL Characters?
MS92LINK	128 bytes	Yes
MS92LNK2	128 bytes	No
MS92LNK3	1K blocks	Yes
MS92LNK4	1K blocks	No

2. Use the tab key to move from field to field. In the Local File field, enter the fully extended name of a DOS file. This is the name the file will have when it is downloaded from the host.
3. In the Host file field, enter the name of the file you wish to download. Remember to use correct syntax for your host (lower case for Unix). Your logon area (such as group and account) is assumed; depending on your user access, you may specify a fully extended file name for a file that resides somewhere other than your logon area.  
  
As shown in **Figure 2-4**, the file “salestxt,” which is stored in the user’s logon area is being transferred to the PC where it will be named “sales.txt” in the “transfer” directory on the C drive.
4. In the ASCII or Binary field, select either of these options for the type of file you are transferring. Select ASCII for text files and Binary for files that are program files, word processing print files, or graphics. Use F2 Next Choice or F3 Previous Choice to make your selection.
5. In the Record Size field, specify the record length for the file you are transferring. ASCII and binary files can have different record sizes, but a general convention is that ASCII files have a record length of 80 and binary files a record length of 256.
6. In the Save file Info field, choose whether or not to save the file information in the first 128 bytes of the destination file. Choose YES to save the file information and NO to transfer the file without saving the file information.  
  
Saving file information is particularly useful when transferring a binary file from one minicomputer to another via a PC.
7. In the Direction field, use F2 Next Choice or F3 Previous Choice to select DOWNLOAD FROM HOST.



**Figure 2-4**  
*File transfer screen*

8. In the Protocol field, select a communications protocol supported by your host. The default choice is determined by your settings in the Host File Transfer Configuration screen, which you can access by pressing F5 Host Config.
9. In the Block Size field, select 1K\_BYTES if you are using MS92LNK3 or MS92LNK4 host programs; select 128\_BYTE if you are using MS92LINK or MS92LNK2 host programs.
10. Press F1 Start Transfer. Minisoft 92 displays running statistics of the transfer: number of bytes and percentage of data as it is transferred.
11. After finishing the file transfer, you may transfer another file or press F8 Cancel to return to the main emulator screen.

Minisoft 92 saves your file transfer options, such as file names, ASCII/binary, and record length until you exit Minisoft 92.

## UPLOADING A FILE

Uploading a file means to transfer a file from the PC to the host computer.

To upload a file:

1. Press ALT-X to display the menu of Special function keys; then press F5 File Transfer. Minisoft 92 displays the File Transfer screen.
2. Use the tab key to move from field to field. In the Local File field, enter the fully extended name of the DOS file you wish to upload.



**Figure 2-5**

Select F4 File List to see a list of available PC files.

- To see a list of available PC files, press F4 File List. To select a file from the list, highlight it and press RETURN. To dismiss the list, press ESC. See **Figure 2-5**
- In the Host file field, enter the name the file will have when it is uploaded. Remember to use correct syntax for your host (lower case for Unix). Your logon area (such as group and account) is assumed; depending on your user access, you may specify a fully extended file name for a file that resides somewhere other than your logon area.
- Settings for ASCII/Binary, Record Size, Save Info, Protocol, and Block Size fields, are found on page 28 under “Downloading a File”.
- In the Direction field, use F2 Next Choice or F3 Previous Choice to select UPLOAD TO HOST.
- Press F1 Start Transfer. Minisoft 92 displays running statistics of the transfer: number of bytes and the percentage of data as it is transferred.
- After finishing the file transfer, you may transfer another file or press F8 Cancel to return to the main emulator screen. Minisoft 92 saves your file transfer options, such as file names, ASCII/binary, and record length until you exit Minisoft 92.

## PRINTING FROM MINISOFT 92

Minisoft 92 allows you to print:

- ◆ From the host to a local printer
- ◆ From the host to a file on the PC
- ◆ From the PC to a host-based printer

Some print functions allow you to select a block of text on the screen. In order to position the cursor to select the text, you may need to scroll the display.

To scroll Minisoft 92 display:

1. If you have an IBM enhanced keyboard, press the Scroll Lock key on your PC keyboard.
2. Use the PC keyboard's inverted-T pad of cursor keys (arrow keys) to scroll up, down, left, and right.
3. Another method for scrolling is to press the CTRL key and the appropriate arrow key for scrolling left, right, up, or down.

## SENDING HOST DATA TO A LOCAL PRINTER

There are several ways to print data from the host computer to a printer attached to the PC:

- ◆ Sending data to the printer as the display scrolls
- ◆ Recording data as it is received
- ◆ Copying data from the display

## LOG TOP / LOG BOTTOM

Sending data to the printer as the display scrolls is called Log Top or Log Bottom, depending upon whether the data is being sent from the beginning or the end of the scrolling region.

To use *Log Top* using pull-down menus:

1. Select Log Top from the Print menu. A checkmark appears next to the command indicating that Log Top is active.
2. Continue your host session. Minisoft 92 sends data to the printer as it scrolls off the top of the display region.
3. When the data you want to print has scrolled off the top, select Log Top again. The check mark disappears, indicating that Log Top has been disabled.
4. To flush any remaining data from the printer select Advance Page from the Print menu to send a form feed command to the printer. The printer prints any remaining data.

You can also Log Top by using the HP function keys.

To *Log Top* using the function keys:

1. Use the function key scroll bar to access the System keys. Press *F1 Device Control*.
2. From the Device Control keys, press *F2*



*To External Device.* An asterisk appears in the function key label, indicating that the external device is active.

3. Press *F1 Device Modes*.
4. From the Device Modes keys, press *F4 Log Top*. An asterisk appears in the function key label, indicating that Log Top is enabled.
5. Continue your host session. Minisoft 92 sends data to the printer as it scrolls off the top of the display region.
6. When the data you want to print has scrolled off the top, press *F4 Log Top* again. The asterisk disappears, indicating that Log Top has been turned off.
7. To flush any remaining data from the printer press *F1 Device Control* from the Device Modes keys.
8. Press *F4 Advance Page* to send a form feed command to the printer. The printer prints any remaining data.

To **Log Bottom** using the pull-down menus:

1. Select Log Bottom from the Print menu. A checkmark appears next to the command, indicating that Log Bottom is active.
2. Continue your host session. Minisoft 92 sends data to the printer as it scrolls forward from the current cursor position.
3. When the data you want to print has

been printed to the screen, select Log Bottom again. The checkmark disappears, indicating that Log Bottom has been disabled.

4. To flush any remaining data from the printer select Advance Page from the Print menu to send a form feed command to the printer. The printer prints any remaining data.

You can also **Log Bottom** by using the HP function keys.

To **Log Bottom**, using the function keys:

1. Follow step 1 through 4 for “Log Top, using the function keys.”
2. Follow step 5 through 9 for “Log Top, using the function keys,” only press F3 Log Bottom instead of F4 Log Top.

## RECORD MODE

Minisoft 92 allows you to send host data to the printer at the same time it sends data to your screen. This is known as using Record Mode.

To use *Record Mode*:

1. Use the function key scroll bar to access the System keys.
2. Press *F1 Device Control*.
3. From the menu of Device Control keys, press *F2 To External Device*. An

asterisk appears in the function key label, indicating that the external device is active.

4. Press *F1 Device Modes*.
5. Type the command you wish to send to the host computer, but *DO NOT* press RETURN.
6. From the menu of Device Modes keys, press *F2 Record Mode*. An asterisk appears in the function key label, indicating that Record Mode is enabled.
7. Press RETURN. The host sends data directly to your printer without sending it to your screen.
8. When the data has been printed, press *F2 Record Mode* again. The asterisk disappears, indicating that Record Mode has been disabled.
9. To flush any remaining data from the printer press *F1 Device Control* from the Device Modes keys, and then press *F4 Advance Page*. Or, select Advance Page from the Print menu. This command sends a form feed command to the printer, which causes the printer to print any remaining data.

### **COPY ALL / COPY PAGE / COPY LINE**

You can copy a block of the display's memory and send it to the printer using the HP function keys or by using commands from the Print menu.

### **COPY ALL**

To copy the entire contents of display memory and send it to the printer:

1. Select "Print Memory from Cursor" from the Print menu to print all the display memory, from the current cursor position to the end.

OR

Select "Print All Display Memory" from the Print menu to print the contents of the display memory.

2. Select Advance Page from the Print menu, to send a form feed character to the printer. The printer prints the text.

You can also use the HP function keys to copy display memory to the printer.

To use the function keys to print the contents of display memory:

1. Follow steps 1 through 3 for "Copy Line, using the function keys."
2. Position the cursor at the beginning of the block you wish to print.
3. Press *F6 Copy All*. All the display memory, from the current cursor position to the end is sent to the printer.
4. Press *F4 Advance Page*, or select Advance Page from the Print menu, to send a form feed character to the printer. The printer prints the text.

## COPY PAGE

To copy a page of display memory and send it to the printer:

1. Select Print to end of Page from the Print menu to print from the current cursor position to the end of the page.

OR

Select Print Current Page from the Print menu (or press ALT-PgDn) to send the currently visible contents of the screen to the printer.

2. Select Advance Page from the Print menu, to send a form feed character to the printer. The printer prints the page.

You can also use the HP function keys to copy a page to the printer.

To use the function keys to print a page of display memory:

1. Follow steps 1 through 3 for “Copy Line, using the function keys”.
2. Scroll the display so that the text you want printed is visible.
3. Press *F7 Copy Page*. All the text currently visible on the screen is sent to the printer.
4. Press *F4 Advance Page*, or select Advance Page from the Print menu, to send a form feed character to the printer. The printer prints the page.

## COPY LINE

To copy a line of display memory and send it to the printer:

1. Select Print Line from the Print menu. The line where the cursor is positioned is sent to the printer.
2. Select Advance Page from the Print menu, to send a form feed character to the printer. The printer prints the line.

You can also use the HP function keys to copy a line to the printer.

To use the function keys to print a line of display memory:

1. Use the function key scroll bar to access the System keys.
2. Press *F1 Device Control*.
3. From the menu of Device Control keys, press *F2 To External Device*. An asterisk appears in the function key label, indicating that the external device is the active output device.
4. Position the cursor somewhere in the line you wish to print.
5. Press *F8 Copy Line*. The line where the cursor is positioned is sent to the printer.
6. Press *F4 Advance Page*, or select Advance Page from the Print menu, to send a form feed character to the printer. The printer prints the line.

## SENDING HOST DATA TO A PC FILE

With Minisoft 92, you can store host data directly on your PC by capturing the data to a diskfile.

### CAPTURE TO DISK:

You can write data to a file as it is displayed to the screen by using the Capture to Disk utility.

## PRINTING FROM THE PC TO A HOST-BASED PRINTER

Minisoft 92 allows you to print PC files on a printer attached to the host.

To print to a host-based printer:

1. Be sure that your host printer is defined in the Host File Transfer Configuration screen.

Make sure you enter just the logical device number or device name in the “Redirect to” field. If your host printer is connected serially, you must add /s to the device name (for example, lp/s). You can also direct PC files to a diskfile on the host by entering *DISC/S* in the “Redirect to” field. On the host, the file will be called MWLIST.

2. Logon to the host, if you are not already logged on.
3. Verify that a Minisoft 92 host link program exists on the host computer.

4. Access the menu of System function keys by pressing ALT-S.
5. Press *F7 Print to Host*.
6. When Minisoft 92 prompts you for a file to print, enter a fully qualified path designation (for example, *c:\ms92\hpfile.txt*) and press RETURN. You may direct spreadsheets, PC graphics, and word processing documents to printers attached to the host computer.

## GETTING HELP

Access Minisoft 92’s help facility by pressing ALT-H. Minisoft 92 displays a screen of commonly used key combinations as shown in **Figure 2-6**.

## EMULATING A DEC TERMINAL

In addition to emulating HP terminals, Minisoft 92 also allows you to emulate a DEC terminal. This option enables you to run VT applications and to display data in ANSI mode, which is a common mode for dial-in bulletin boards and modem connections.

To configure DEC emulation:

1. Press ALT-X to display the menu of Special keys.
2. Press *F4 Config Keys*.
3. From the menu of Configuration keys, press *F5 Terminal*.
4. In the Term Mode field, select VT.



**Figure 2-6**  
*Commonly used key combinations*

5. Press *F1 Save Config*. Minisoft 92 displays the setting VT in the lower left corner of the screen. If you change this setting during a session, Minisoft 92 resets the function keys and runs the new setting.

## TRANSLATION TABLES IN MS92

Minisoft 92 uses Character Set Translation Tables to convert between different character sets on PCs and the host computer. The size of these tables is always 256 bytes. The tables reside in the working directory of the PC where Minisoft 92 looks for them during startup. Some of the tables may also be loaded dynamically without having to stop and restart Minisoft 92. This is done by running a script file that includes the `TABLOAD` command.

For a list of functions available with the `TABLOAD` command see **Table 4**. If none of

the translation tables shown in the table are present in the PC's working directory, Minisoft 92 performs the following conversion by default:

- ◆ PC to host computer: Code Page 850 to Roman-8
- ◆ Host computer to PC monitor: Roman-8 to Code Pate 850

**Note:** See **Table 4**

Appropriate translation tables as well as `.bat` and `.s92` script files are included on the installation diskettes distributed in Europe. They are stored in the directory `XLATDOS`. If you require character set conversion, you should copy the following files from the installation diskette to your hard disk:

```
copy diskette drive\xltdos\*. *
c:\ms92
```

Separate README files provide more detailed instructions for individual language support, and also for support of 7-bit, rather than 8-bit, operation.

If you plan to use the TABLOAD command, remember that you can execute these commands in three ways:

- ◆ at startup of Minisoft 92 in a command-line parameter
- ◆ from a host application or UDC using the Host Initiated Command construct (ESC & o C)
- ◆ from within MS92 by pressing ALT-C to access the command line.

**Table 4**

<b>Function</b>	<b>Translation Table</b>	<b>TABLOAD Value</b>
PC keyboard to host computer	HP_CHARS.TBL	1
Host computer to PC monitor	PC_CHARS.TBL	2
ASCII file transfer from PC to host	XLAT1.TBL	3
ASCII file transfer from host to PC	XLAT2.TBL	4
Host computer to PC monitor: for function key labels	FK_CHARS.TBL	-
Host computer to PC slaved printer (local print functions)	PT_CHARS.TBL	-
Copy-and-paste from Minisoft 92 to other Windows application	CUTCHARS.TBL	-
Paste from other Windows application to Minisoft 92	PASTE_CH.TBL	-

# TCP/IP PROTOCOL AND DRIVERS FOR Dos92

If your PC does not have a WinSock Dynamic Link Library (WINSOCK.DLL) and is not already running a TCP/IP protocol stack, you must install one of the Minisoft device drivers, and configure DOS92 to run with your type of LAN connection. If you are running a LAN connection, you must use the DOS92 version of MS92; WS92 will not work.

DOS92 includes its own Telnet and NS/VT (Network Services) virtual terminal connections, as well as its own TCP/IP protocol stack for use in a DOS environment, as shown in **Figure 3-1**.

## REQUIREMENTS

Certain software and hardware components are required on the network and on the host computer in order to connect your PC to the host computer over a LAN.

## NETWORK REQUIREMENTS

In order to connect a PC to a network you need a network interface card (NIC), network driver, protocol stack, and application software such as DOS92. The flow of data is as follows: NIC → Network Driver → Protocol Stack → DOS92.

- ◆ *Network Interface Card:* Each PC must have a Network Interface Card (NIC). Popular manufacturers are 3Com, Intel, SMC, Hewlett Packard, Xircom, Thomas Conrad, and Cabletron.
- ◆ *Network Driver:* Each PC on the network must have a network driver installed for its particular model NIC. As a general rule these software drivers are loaded as part of your AUTOEXEC.BAT (ODI installation) file or CONFIG.SYS (NDIS installation) file.

DOS92 supports three standard network drivers:

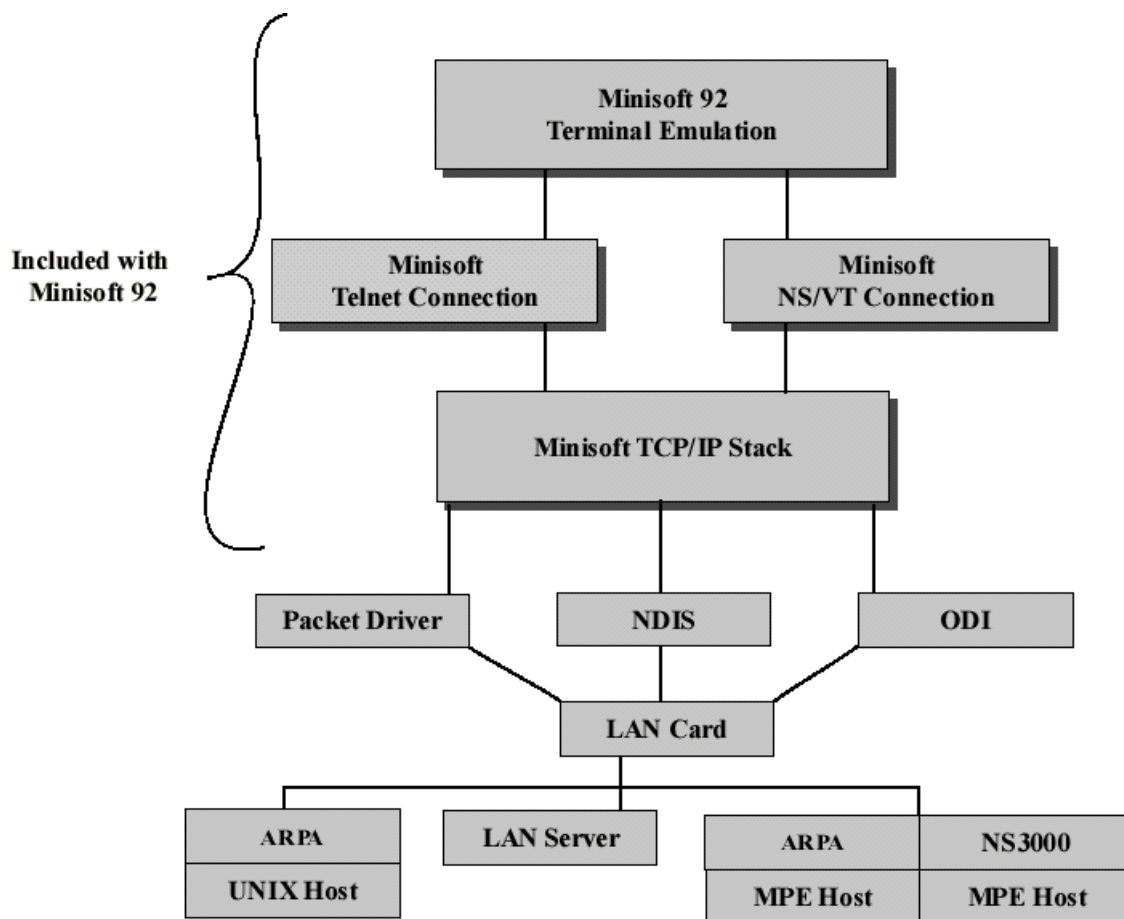
*ODI* (Open Datalink Interface): a standard devised by Novell. ODI is a set of specifications that lets multiple communication protocols such as IPX/SPX and TCP/IP share the same driver and NIC.

*NDIS* (Network Driver Interface Specification): a standard devised by 3Com and Microsoft which enables a NIC to access a LAN Manager, LANtastic, Windows for Workgroups, or Windows NT. NDIS allows concurrent terminal and LAN access through a single NIC.

*Clarkson Packet Driver:* A public



Figure 3-1



domain specification that allows communication programs such as DOS92 to access a NIC without the presence of a network operating system.

You can obtain the appropriate driver for your Network Interface Card in a number of ways. Most NIC manufacturers supply a disk that includes drivers for ODI, NDIS, and packet drivers. Many manufacturers maintain bulletin board systems (BBS) which you can access by modem to download the latest drivers. Minisoft, Inc. maintains such a bulletin board service: our BBS telephone number is 360-568-2817. You can also obtain ODI drivers from Novell's NOVLIB section on CompuServe.

- ◆ *Protocol Stack:* The protocol stack receives data from the driver, extracts the data portion of each packet, and handles other tasks, such as handshaking and error checking.

DOS92 includes its own TCP/IP stack and device driver. No separate software is required for making network connections. The device driver you install depends on the type of LAN connection you have:

*ODI92:* Install this device driver if your LAN is Novell NetWare.

*NDIS92:* Install this device driver if your LAN is LAN Manager or LANtastic.

*PACK92:* Install this device driver if you are connecting to your LAN through a Clarkson Packet Driver.

## HOST REQUIREMENTS

Host software is also required for either the HP3000 or HP9000, according to whether the host protocol is Telnet or NS/VT.

For Telnet connections, you must have ARPA Services. For NS/VT connections, you must have ThinLAN/iX (MPE/iX) or LanLink-V (MPE-V), depending on the operating system.

## INSTALLING DEVICE DRIVERS

**Note:** The setup program you used to install DOS92 automatically installs the device drivers. Follow these procedures for manual installation.

To install a device driver, you must copy the driver of your choice from the MS92 diskette to your PC's hard drive and edit CONFIG.SYS on the PC. This section provides instructions for installing the Minisoft drivers: ODI92 or NDIS92. On the MS92 diskette, the driver filenames carry the extension .SYS. Refer to **Table 5** to determine which driver you should install.

## INSTALLING ODI92.SYS

ODI (Open Datalink Interface) is a product from Novell that enables you to access Novell file servers and other host computers concurrently, using the same Network Interface Card (NIC). ODI consists of a special device driver for your NIC and a program called LSL.COM (Link Support Layer) that acts as an interface between the

**Table 5**

Type of LAN	Connection via	Minisoft driver
LAN Manager	NDIS	NDIS92.SYS
LANtastic	NDIS	NDIS92.SYS
NetWare	ODI	ODI92.SYS
Clarkson Packet Driver	Packet Driver	PACK92.SYS

application software and the driver. LSL examines packets received from the network and passes them to your other software, such as Novell or DOS92.

When you operate Novell under ODI, you run a program called IPXODI (Novell's ODI version of IPX), and a special version of the Novell software called:

- ◆ NET4.COM (for DOS 4.0), NETX.COM (a version that runs under any version of DOS), or
- ◆ VLM.EXE (the NetWare 4.0 equivalent of NETX). NETX talks to the network via LSL and the ODI driver for your NIC.

DOS92 also talks to the network via LSL and the ODI driver.

To install the ODI92 device driver:

1. Copy ODI92.SYS from the distribution diskette 1 to your PC's root directory or

to the directory where you wish to run it, such as C:\DOS92.

**C:\>COPY A:\ODI92.SYS C:\DOS92**

2. Edit these three files:

- ◆ CONFIG.SYS
- ◆ AUTOEXEC.BAT
- ◆ NET.CFG

CONFIG.SYS

Add a device statement to your CONFIG.SYS identifying the driver's path. For example:

**DEVICE=C:\DOS92\ODI92.SYS**

AUTOEXEC.BAT

In AUTOEXEC.BAT, add instructions to load the LSL, IPXODI and NETX (or VLM if your version of NetWare is 4.0 or above) drivers, along with the driver for your LAN card. LSL, IPXODI, and NETX are supplied with NetWare 3.12 and 4.00 on the WSGEN

diskette. Look for the ODI LAN card driver on the distribution diskette you received with your LAN card.

Load the drivers in the order shown by adding these lines to AUTOEXEC.BAT (indicate full path):

```
c:\lsl
c:\<LAN card driver>
c:\lipxodi
c:\netx      (or vlm for NetWare 4.0)
```

NET.CFG

**Note:** If you are using a different frame type for Novell and your HP connection, you must add an additional frame type to NET.CFG. The Novell frame type should always come first. Most users will want to add all three frame statements to their NET.CFG files:

- ◆ Frame Ethernet\_802.3
- ◆ Frame Ethernet\_802.2
- ◆ Frame Ethernet\_II.

NET.CFG is an ASCII text file that can be created with any DOS editor. Place NET.CFG in the root directory, or in the directory where the driver LSL.COM is located. The layout of NET.CFG is quite specific. Please refer to the Novell manual *ODI Shell for DOS/Windows* for more information.

Following are several examples of NET.CFG files:

*HPISA16*

**Link Support**

**Buffers 8 1500**  
**MemPool 4096**

**Link Driver HPISAODI**

**Frame Ethernet\_802.3**  
**Frame Ethernet\_802.2**  
**Frame Ethernet\_II**  
**Protocol IPX 0 Ethernet\_802.3**  
**Int 5**

*INTEL ETHEREXPRESS*

**Link Support**

**Buffers 8 1514**  
**MemPool 4096**

**Link Driver EXP16ODI**

**Port 300**  
**INT 5**  
**Frame Ethernet\_802.3**  
**Frame Ethernet\_802.2**  
**Frame Ethernet\_II**

**Protocol Stack IPX**

**Bind EXP16ODI**

*NE2000*

**Link Support**

**Buffers 8 1514**  
**MemPool 4096**

**Link Driver NE2000**  
**Port 300**  
**Int 5**  
**Frame Ethernet\_802.3**  
**Frame Ethernet\_802.2**  
**Frame Ethernet\_II**

**Protocol TCPIP**  
**ip\_address 192.6.1.8**

**Protocol Stack IPX**  
**Bind NE2000**

#### *KODIAK NOTEPORT*

**Link Support**  
**Buffers 8 1586**  
**MemPool 4096**

**Link Driver NP\_ODI\_S**  
**Int 7**  
**Port 1**  
**Frame Ethernet\_II**  
**Frame Ethernet\_802.3**  
**Frame Ethernet\_802.2**

**Note:** In some network operating systems, such as Novell, frame types must be listed in a specific order. This is not the case with Minisoft's protocol. Add any new frame types for DOS92 to the end of the list of frame types.

#### *SMC ELITE 16*

**Link Support**  
**Buffers 8 1500**  
**MemPool 4096**

**Protocol TCPIP**  
**ip\_address 192.6.1.5**

**Link Driver SMC8000**  
**Port #1 300**  
**Frame Ethernet\_II**  
**Frame Ethernet\_802.3**  
**Frame Ethernet\_802.2**

#### *3COM - 3C509*

**Link Support**  
**Buffers 8 1514**  
**MemPool 4096**

**Link Driver 3C509**  
**Port 300**  
**Int 10**  
**Frame Ethernet\_II**  
**Frame Ethernet\_802.3**  
**Frame Ethernet\_802.2**

**Protocol TCPIP**  
**ip\_address 192.6.1.6**

**Protocol Stack IPX**  
**Bind 3C509**

### **INSTALLING NDIS92.SYS**

NDIS (Network Driver Interface Specification) is a protocol designed by 3Com and Microsoft, under which multiple applications can share a single network interface card (NIC). Typically, you will be using NDIS if you are using LANtastic or LAN Manager network and wish to connect to a Telnet or NS host computer without disconnecting from your network or rebooting.

If you have not already installed NDIS, please refer to the documentation that was included with your network package. Install NDIS and confirm that it works with your network before you attempt to install DOS92.

To install the NDIS92 device driver:

1. Copy NDIS92.SYS from the first MS92 distribution diskette to your PC's root directory or to the directory where you wish to run it, such as C:\DOS92.

```
C:\>COPY A:\NDIS92.SYS C:\DOS92
```

2. Edit the following files:

- ◆ CONFIG.SYS
- ◆ PROTOCOL.INI

CONFIG.SYS

1. Add a device statement to your CONFIG.SYS identifying the path of PROTMAN.SYS and PROTOCOL.INI:

```
DEVICE=<path1> PROTMAN.SYS/  
I:<path2>
```

where <path1> indicates the directory where PROTMAN.SYS or PROTMAN.DOS is located. <path2> indicates the directory where PROTOCOL.INI is located.

2. Add a device statement for your particular LAN card. For example (for a Novell LAN card):

```
DEVICE=C:\NETWORKS\NET2000.DOS
```

After adding a device statement for your particular LAN card, there will be one or more entries for protocol drivers, such as for LAN Manager.

3. Add a device statement to your CONFIG.SYS identifying the device driver's path. For example (indicate full path designation):

```
DEVICE=c:\DOS92\NDIS92.SYS
```

**Note:** It is important that the entry for NDIS92.SYS be placed *after* the entry for PROTMAN.SYS.

PROTOCOL.INI

PROTOCOL.INI is an ASCII text file that can be created with any DOS editor. It lists the drivers used in your configuration of NDIS and tells them how to bind to each other. The structure of the file is as follows:

- ◆ First entry: specifies the name of the protocol manager device (loaded by the DEVICE=PROTMAN.SYS statement).
- ◆ Second entry: specifies the NDIS driver for your network interface card. The actual entry will depend on your particular LAN card and driver.
- ◆ Third entry: tells NDIS to include the Minisoft NDIS driver. Modify the

BINDINGS line to specify the name of the NDIS network card driver.

Following are several examples of PROTOCOL.INI files:

*NE2000*

```
[PROTOCOL MANAGER]
  DRIVERVERNAME = PROTMAN$
```

```
[NE2000_NIF]
  DRIVERVERNAME = MS2000$
  INTERRUPT = 5
  IOBASE = 0X360
```

```
[NDIS92]
  DRIVERVERNAME = NDIS92$
  BINDINGS = NE2000_NIF
```

*SMC ELITE 16*

```
[PROTOCOL MANAGER]
  DRIVERVERNAME = PROTMAN$
```

```
[SMCMAC]
  DRIVERVERNAME = SMCMAC$
  IRQ = 5
  IOBASE = 0X300
  RECEIVEBUFSIZE = 1536
```

```
[NDIS92]
  DRIVERVERNAME = NDIS92$
  BINDINGS = SMCMAC
```

*3C509*

```
[PROTOCOL MANAGER]
  DRIVERVERNAME = PROTMAN$
```

```
[ELNK3_NIF]
  DRIVERVERNAME = ELNK3$
```

```
[NDIS92]
  DRIVERVERNAME = NDIS92$
  BINDINGS = ELNK_NIF
```

Once you are satisfied with your CONFIG.SYS, AUTOEXEC.BAT and PROTOCOL.INI, you should reboot your PC.

## INSTALLING PACK92.SYS

If your PC is operating with Clarkson Packet Drivers, or if you are running under the ODI specification with a packet driver (ODIPKT.COM), you should use PACK92.

To install the PACK92 device driver:

1. Copy PACK92.SYS from the first MS92 diskette to your PC's root directory or to the directory where you wish to run it, such as C:\DOS92:

```
C:\>COPY A:\PACK92.SYS
C:\DOS9
```

2. Add a device statement to your CONFIG.SYS identifying the device driver's path. For example:

```
DEVICE=C:\DOS92\PACK92.SYS
```

## CONFIGURING DRIVER CONNECTIONS

After you have installed the device drivers and have made any adjustments to your system files, such as AUTOEXEC.BAT, CONFIG.SYS, PROTOCOL.INI or NET.CFG, reboot your computer and run DOS92.

**Note:** To use WfW's networking, run WS92 and a WinSock connection.

To configure DOS92 for your network connection, press F7 Network Config from the menu of configuration keys in DOS92.

DOS92 supports several different LAN connections as shown in **Table 6**.

In addition, you can acquire versions of DOS92 that support these connections (contact Minisoft for these versions of DOS92):

- ◆ PC-NFS (Sun Microsystems)
- ◆ PC-TCP (FTP)

The device drivers included with DOS92 allow you to configure ODI, NDIS, or packet-driver connections on your particular type of LAN (refer to the table under *Installing device drivers*, earlier in this chapter).

The type of connection is Telnet or Network Services, depending on the virtual terminal protocol supported by the host computer.

## TELNET CONNECTIONS

In order to connect to a host over a LAN with the Telnet protocol, the HP host computer must be operating with ARPA services.

To make a Telnet connection using one of the Minisoft drivers, you should select Telnet as the Network Type, and NDIS, ODI, or Packet as the Driver. Then supply IP addresses, net mask, and gateway information as necessary for your connection.

For example, to configure a Telnet connection over a Novell network using ODI:

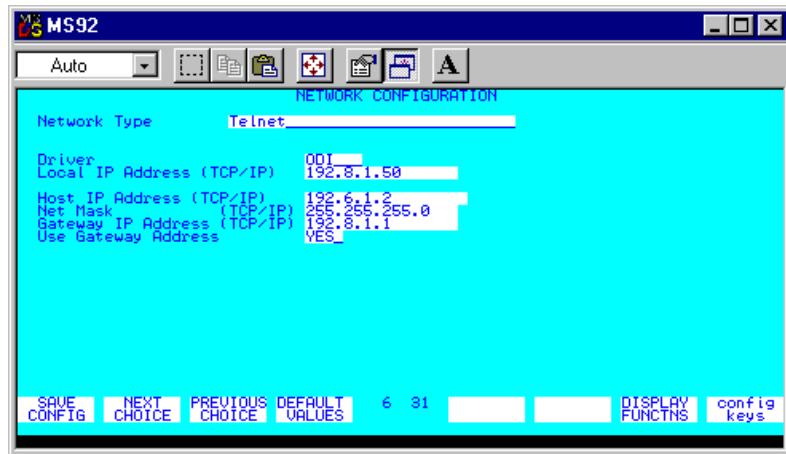
1. Install the ODI92.SYS driver, as explained earlier in this chapter.
2. Run DOS92, and go to the Network Configuration screen.
3. Select Telnet as the Network Type and ODI as the Driver. DOS92 displays IP address fields as shown in **Figure 3-2**.
4. Enter the IP address of the PC as the Local IP Address.
5. Enter the IP address of the HP host computer as the Host IP Address.
6. Enter the IP address of the network mask for Net Mask if necessary.
7. Enter the IP address of the subnet for the gateway if a router or bridge connects your PC to the host. If you are using a gateway, enable the Use Gateway option.



**Table 6**

<b>Network types</b>	<b>Drivers</b>
Novell, NACS, NPC	
Interrupt 14	
Telnet	Packet - Clarkson Packet Driver.  NDIS - for connecting on LANtastic, Windows for Workgroups, Windows NT, and LAN Manager.  ODI - for connecting on NetWare.
NS3000	Packet - Clarkson Packet Driver.  NDIS - for connecting on LANtastic, Windows for Workgroups, Windows NT, and LAN Manager.  ODI - for connecting on NetWare.
None (use serial ports)	

Figure 3-2



## NETWORK SERVICES (NS/VT) CONNECTIONS

In order to connect to a host over a LAN with the Network Services (NS/VT) protocol, the HP host computer must be operating with ThinLAN/iX or LanLink-V (the host component of Network Services).

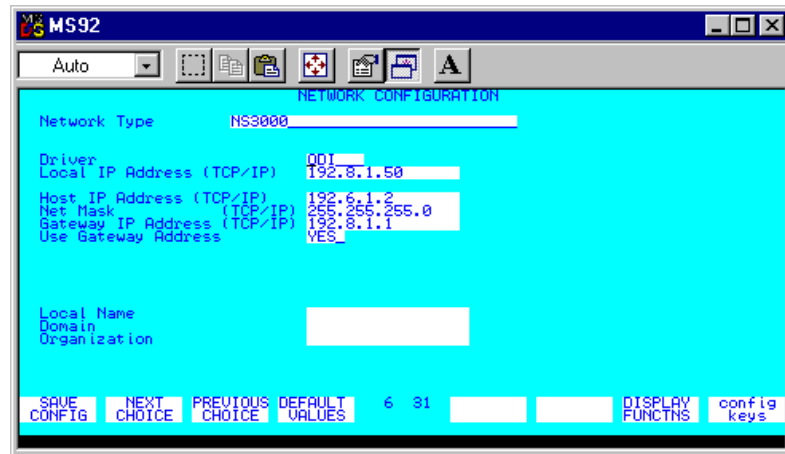
To make an NS/VT connection using one of the Minisoft drivers, you should select NS3000 as the Network Type and NDIS, ODI, or Packet as the Driver. Then supply IP addresses, net mask, and gateway information as necessary for your connection.

For example, to configure an NS/VT connection over a Novell network using ODI:

1. Install the ODI92.SYS driver, as explained earlier in this chapter.

2. Run DOS92, and go to the Network Configuration screen.
3. Select NS3000 as the Network Type and ODI as the Driver.  
  
DOS92 displays other fields for you to fill, see **Figure 3-3**.
4. Enter the IP address of the PC as the Local IP Address.
5. Enter the IP address of the HP host computer as the Host IP Address.
6. Enter the IP address of the network mask for Net Mask if necessary.
7. Enter the IP address of the subnet for the gateway if a router or bridge connects your PC to the host. If you are using a gateway, enable the Use Gateway option.

Figure 3-3



## CLARKSON PACKET DRIVER CONNECTIONS

The Clarkson Packet Drivers were originally developed at Clarkson University. They provide users with a method for establishing virtual terminal connections via Ethernet without a LAN operating system being present.

The Clarkson Packet Drivers are easy to install and have the additional advantage of consuming very little memory. Minisoft maintains a library of the most common Clarkson drivers. They are available upon request. However many LAN card manufacturers are providing packet drivers with their LAN cards. Intel, 3Com, and SMC are three companies that supply packet drivers they have developed.

In addition to making Telnet and Network

Services connections, Clarkson Packet Drivers also provide an alternative way to connect to a Novell LAN by running an ODI packet driver. This driver, ODIPKT.COM, allows users of the Clarkson Packet Drivers to run under the ODI specification. The ODIPKT packet driver provides a packet driver interface over Novell's ODI, allowing a single network adapter service for IPX, TCP/IP, and other protocol stacks that use packet drivers.

DOS92 users wishing to operate with the ODIPKT packet driver should install the device driver PACK92.

To run ODI with packet drivers:

1. Download ODIPKT.COM from the Minisoft bulletin board (phone number 1-360-568-2817).

- Copy ODIPKT.COM and PACK92.SYS from the MS92 diskette 1 to your PC's root directory or to the directory from which you wish to run it.

```
C:\>COPY A:\PACK92.SYS
```

- Edit the following files:

- ◆ CONFIG.SYS
- ◆ AUTOEXEC.BAT
- ◆ NET.CFG

#### CONFIG.SYS

Add a device statement to your CONFIG.SYS identifying the device driver's path. For example:

```
DEVICE=C:\PACK92.SYS
```

#### AUTOEXEC.BAT

In AUTOEXEC.BAT, add instructions to load the LSL, IPXODI, NETX (or VLM if your version of NetWare is 4.0 or above), and ODIPKT drivers, along with the driver for your LAN card.

- ◆ LSL, IPXODI, and NETX or VLM are supplied with Netware 3.12 and 4.00 on the WSGEN diskette.
- ◆ ODIPKT is the driver you just copied to your PC.
- ◆ Look for the ODI LAN card driver on the distribution diskette you received with your LAN card.

Load the drivers in the order shown by adding the following lines to AUTOEXEC.BAT (indicate full path designation):

```
c:\lsl
c:\<LAN card driver>
c:\ipxodi
c:\netx      (or vlm for NetWare 4.0)
c:\odipkt    [<parm>]
```

where the optional parameter *<parm>* is none (0), 1, or 2, depending on the frame type you will specify in the Network Configuration screen. To determine which parameter to use, you must also know the frame types listed in your NET.CFG and their order. For example, all three frames may be listed in your NET.CFG:

```
Frame Ethernet_802.3
Frame Ethernet_802.2
Frame Ethernet_II
```

The first frame type listed is the default. You should load ODIPKT with no parameter if you want to use this frame type. The second frame type listed in NET.CFG is considered the first alternative, you should load ODIPKT with a parameter of 1 to use this frame type. The third frame type listed is considered the second alternative, you should load ODIPKT with a parameter of 2 to use this frame type.

For example, based on the order of the frame statements above, if you select Frame

Ethernet II in DOS92's Network Configuration screen, you should load ODIPKT with a parameter of 2 (odipkt 2). If you select Frame Ethernet 802.3, load ODIPKT with a parameter of 1 (odipkt 1).

## CONFIGURING AN NDIS CONNECTION FOR LANASTIC

In general, all NDIS connections are configured as described above for either Telnet or Network Service connections. This section provides specific information for configuring an NDIS connection for LANtastic.

To run DOS92 on a LANtastic network you must be running version 5.0 or higher of the LANtastic operating system, and you must have the driver AI-NDIS.EXE, available from ArtiSoft. If you do not have this driver, you may download it from the ArtiSoft bulletin board, telephone number (602) 884-9675. The file is AINDIS.ZIP, in Area 4 of the bulletin board.

To make the connection, you must install the NDIS device driver as described in section, *Installing NDIS92.SYS*, earlier in this chapter. You must also edit your CONFIG.SYS, PROTOCOL.INI, AUTOEXEC.BAT, and STARTNET.BAT files, similar to the following **4 Samples**.

## LANASTIC AND THE SYSTEM.INI FILE

The LANtastic install adds these lines to your SYSTEM.INI file:

In the [boot] section:

```
network.drv=c:\lantsti\lantnet.drv
```

In the [boot description] section:

```
network.drv=LANtastic for  
Windows Version 6.00
```

In the [386Enh] section:

```
NetHeapSize=64  
NetAsynchTimeout=5.0  
NetAsynchFallback=TRUE  
network=*vnetbios,  
C:\LANTASTI\LANTASTI.386
```

Section added:

```
[LANtastic]  
Comment=Add 1 Network_IRQ per  
adapter, specify correct Irq values.  
Network_IRQ=10
```

```
[CLVGA]  
cursor=0  
videomode=96  
dpi=96
```

**Sample 1***CONFIG.SYS*

```
rem: Expand environment space
shell=c:\dos\command.com c:\dos /e:640/p

rem: Load device drivers
device=c:\dos\himem.sys
device=c:\dos\emm386.exe ram

rem: Load DOS and network drivers high
dos=high,umb
devicehigh = c:\lantasti\protman.dos/l:c:\lantasti\
devicehigh = c:\lantasti\aeendis.dos
devicehigh = c:\DOS92\ndis92.sys

rem: Modify DOS defaults
files=120
buffers=30
lastdrive=z
fcbs=16,8
stacks=9,256
```

**Sample 2***PROTOCOL.INI*

```
;PROTOCOL.INI for LANtastic v6.0
;...Use with Artisoft Noderunner & AEX adapters
[protman]
  drivename=protman$
  dynamic=yes
[aeendis_nif]
  drivename=aeends$
; IOBase = 0x300
; I/O base address for AEX adapter only (not Noderunner)
; This parameter specifies the input/output port base
; address of the network adapter card. The specified value
; must match the setting of the network adapter card. If
; this parameter is not specified, then all valid input/
```

```

; output port base addresses will be tested to find an
; adapter. This parameter is required in multi-adapter
; configurations.
; Valid values are 0x300, 0x320, 0x340, ; 0x360, 0x1000,
; 0x2020, and 0x8020.
;
; Interrupt = 15
; Interrupt level for AEX adapters only (not Noderunner)
; This parameter specifies the interrupt request level
; (IRQ) of the network adapter card. the specified value
; must match the setting of the network adapter card. On
; Artisoft Noderunner Ethernet adapters, this parameter is
; not required, and is determined automatically. On
; Artisoft AE-X Ethernet adapters, if this parameter is
; not specified, a default value is used based on the I/O
; base address. Refer to your adapter documentation for a
; list of I/O base addresses and their corresponding
; default interrupt request levels.
; Valid values are 2, 3, 4, 5, 6, 7, 9, 10, and 15.
[ndis92]
bindings=aexndis_nif

```

### Sample 3

#### *AUTOEXEC.BAT*

```

@loadhigh c:\dos\share.exe //:500 //:5100
@echo off
rem: Load drivers for net, mouse, etc.
lh c:\lantastil\ai-ndis bind_to=aexndis_nif
lh c:\dos\smartdrv.exe /x
set mouse=c:\windows
lh c:\windows\mouse.exe
rem
rem: Set environment variables
set temp=c:\temp
set tmp=c:\temp
set winpmt=$aType EXIT to return to Windows$ _P$G
path=c:\dos;d:\;c:\windows;c:\util;c:\mouse;f:\excel

```

```
prompt $p$g
rem
rem: Call to start LANtastic
call c:\lantasti\startnet.bat
rem
rem: Start Windows
win
```

**Sample 4***STARTNET.BAT*

```
@echo off
rem LANtastic version 6.00 (for Windows)

c:
cd c:\lantasti

set lan_cfg=c:\lantasti

rem If LANtastic is disabled, skip everything.
IF EXIST DISABLED GOTO :STARTNET_DONE

@echo =====begin LANtastic configuration=====

set lan_dir=c:\lantasti.net
set nwdbpath=c:\lantsti\nw

lh ailanbio @startnet.cfg

lh redir pc_name @starnet.cfg

IF EXIST NOSHARE GOT :NOSHARE

goto :continue

:noshare
@echo LANtastic server was installed but turned off.
```



```
:continue
```

```
rem If connect.bat exists, run it to set up connections.  
if exist connect.bat goto :connect
```

```
rem Otherwise set up connections specified during install.
```

```
net lpt timeout 10  
goto :connect_done
```

```
:connect
```

```
@echo Setting up LANtastic connections from connect.bat  
rem build connect.bat: "net show/batch >  
c:\lantastil\connect.bat"  
rem (or run the batch file setnet.bat)  
call connect.bat
```

```
:connect_done  
net postbox
```

```
@echo=====End LANtastic configuration=====
```

```
:startnet_done  
cd\
```

## CONFIGURING DOS92

1. On your PC, run DOS92. Go to the Network Configuration screen, and select either NDIS: Telnet or NDIS: NS3000 as the Type of Connection, depending on the virtual terminal protocol of the host computer.
2. Fill in the IP address and other information, according to whether the virtual terminal protocol is Telnet or Network Services.

# INDEX

## Symbols

132 columns  
    configuring 14  
3C509 45, 47

## A

ASCII  
    transfer mode 29, 31  
ATI  
    configuring 12, 13  
AUTOEXEC.BAT file 40, 43, 52, 55  
autoexec.bat file 43

## B

Backspace Key in VT mode 17  
Bell Length configuration 18  
Bell Pitch configuration 18  
Bell Sound configuration 17  
Blk Terminator 12  
Block Size 30

## C

Capture Packets 26  
Capture to disk 36  
Clarkson Packet Driver 40, 47  
Clarkson Packet Driver: 40  
Color  
    configuring 9, 18  
Columns  
    80 or 132 13, 14

Config Keys 9, 10  
CONFIG.SYS file 40, 42, 46, 52, 54  
config.sys file 43  
Configuration  
    using an alternative 8  
    video card 12  
Configuration Keys 26  
    file transfer 27  
Connection Type 11  
Copy All 34  
Copy Line 35  
Copy Page 35  
Currency Delimiter 17

## D

Data Rows in VT mode 14  
Datacomm Config 9  
Debug Keys 26  
Debug Mode  
    running 26  
Default Values 10  
Destructive Backspace 17  
Device Control Keys 24  
Device Modes Keys 24  
Display Functions 10  
DOS Shell 24  
Download 28

## E

EGA  
    configuring 12

- Enter Key 17
- ET VGA-4000
  - configuring 13
- Events
  - tracing 26
- Exit 23
  - cancel from file transfer 31

## **F**

- FF after Prt Scr 14
- File Transfer
  - configuring 27
  - download from host 28
  - record size 29
  - save file info 29
  - upload to host 30
  - uploading large files 30
- Fld Separator 12
- Foreign Language 10
- Form Feed
  - automatic 14
- Frame Ethernet II 53
- Frame Ethernet\_802.2 44, 52
- Frame Ethernet\_802.3 44, 52
- Frame Ethernet\_II. 44
- Function Keys
  - configuration 9
  - configuring label settings 19
  - configuring labels 8
  - F9 to hide/show 20
  - user defined 20, 26

## **G**

- Grey Enter Key 17
- Grey Plus Key 17

## **H**

- Help
  - key combinations 36
- Host Config 10, 27
- Host File 29, 31
- Host Printer
  - configuring 36
- HP SVGA
  - configuring 13
- HP VGA
  - configuring 13
- HPISA16 44

## **I**

- IBM XGA-2
  - configuring 13
- Initial Keys 18
- Intel Etherexpress 44
- IPX 51
- IPXODI 52
- IPXODI driver 43

## **K**

- Keyboard configuration 17
- Kodiak Noteport 45

## **L**

- LanLink-V 50
- LANTastic 53
- Local Printer 14
- Log Bottom 33
- Log Top 32
- Logoff 23
- Logon 23
- LSL 52

LSL driver 43  
LSL.COM file 44

## M

Modes Keys 9  
MS92.CFG File  
    on initial execution 7  
MXIC Video Card  
    configuring 13

## N

NDIS 40  
    connection 40, 53  
NDIS92 42  
NE2000 44, 47  
NET.CFG file 44, 52  
Network Config 10  
Network Configuration screen 48, 50  
Network driver 40  
NETX 52  
NETX driver 43  
Next Choice 10  
NIC 40, 42  
NS/VT 40  
    connection 50

## O

Oak Video Card  
    configuring 14  
ODI 40, 42  
    connection 40  
ODI92 42  
    device driver 43  
ODIPKT 52  
ODIPKT.COM file 51

Orchid Video Card  
    configuring 13

## P

PACK92 42  
    device driver 47  
Paradise Video Card  
    configuring 13  
PC-NFS 48  
PC-TCP 48  
Previous Choice 10  
Print Buffer 14  
Print Screen  
    automatic form feed 14  
Printer Access 14  
Printer Columns 14  
Printing  
    on host printer 36  
    on local printer 32  
PROTMAN.DOS file 46  
PROTMAN.SYS file 46  
PROTOCOL.INI file 46, 54

## R

Record Mode 33  
Record Size  
    and file transfer 29  
Refresh Screen 26  
Return Def 12  
Return Key 17  
Rows  
    configuring 14

## S

Save As 7  
Save Config 10

- Save file info 29
- Screen
  - configuring messages, labels 8
- Screen Columns 14
- Screen Pages 14
- Screen Rows 14
- Screen Size
  - configuring 14
- Scroll
  - scroll lock 32
- SMC Elite 16 45, 47
- Special 26
- Special Configuration 9, 12
- Special Keys 26
- Speedstar Video Card
  - configuring 13
- STARTNET.BAT file 56

## T

- TCP/IP 51
  - protocol stack 40
- Telnet 40
- Terminal
  - options, configuring 11
- ThinLAN/iX 50
- TVGA 9000
  - configuring 13
- Typeahead key configuration 17

## U

- Underlined Spaces 17
- Upload 30
- User Defined Keys
  - displaying at startup 20
  - loading 26
  - programming 20

## V

- VGA
  - configuring 12
- Video Card
  - 132-column display 14
- Video Seven
  - configuring 13
- VLM 52
- VT Emulation 36
  - backspace key 17
  - rows 14

## W

- WINSOCK.DLL 40

## X

- Xmodem
  - for transferring files 27



# **Minisoft**

**Minisoft, Inc.**  
1024 First street  
Snohomish, WA 98290  
U.S.A.

1-800-682-0200  
360-568-6602  
Fax: 360-568-2923

**Minisoft Marketing AG**  
Papiermuhleweg 1  
Postfach 107  
Ch-6048 Horw  
Switzerland

Phone: +41-41-340 23 20  
Fax: +41-41-340 38 66  
Minisoftag@centralnet.ch

**Internet access:**  
sales@Minisoft.com  
support@Minisoft.com  
<http://www.Minisoft.com>  
<ftp://ftp.Minisoft.com>