4000

User's Guide

Boundless
TECHNOLOGIES

> **NOTE**
>
> Before using this information and the product it supports, be sure to read the general information under "Notices."

It is the policy of Boundless Technologies, Inc. to improve products as new technology, components, software, and firmware become available. Boundless Technologies, therefore, reserves the right to change specifications without prior notice.

All features, functions, and operations described herein may not be marketed by Boundless Technologies in all parts of the world. In some instances, photographs are of equipment prototypes. Therefore, before using this document, consult your Boundless Technologies representative or Boundless Technologies office for information that is applicable and current.

Note that Boundless Technologies appreciates receiving suggestions and comments on its publications. After reading this guide, please comment and return the comment sheet that has been provided.
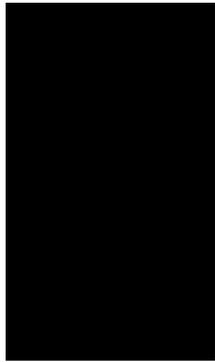
This guide...

is a user's manual and contains all of the information necessary to install, setup, and use the 4000 product.

More detailed information on programming using control codes and escape sequences, default strings and character sets, international language support, etc. can be obtained by calling:
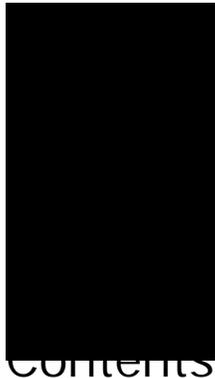
USA and Canada calls	1-800-231-5445
International calls	1-516-342-7400

At the options menu, press 2 for "Product Information," then press 2 for "Products or Program Information Mailed to You," and request the following:

4000 Guide to Operations, part number 514-41100

This manual is offered to our customers at no additional charge. When calling to order, please have your terminal's serial number available.

Contents

Preface

This product is in conformity with the protection requirements of EU Council Directive 89/336/EEC on the approximation of the laws of the Member States relating to electromagnetic compatibility.

Boundless Technologies cannot accept responsibility for any failure to satisfy the protection requirements resulting from a non-recommended modification of the product, including the fitting of non- Boundless Technologies option cards.

How to Connect/Disconnect the Terminal

To Connect:	To Disconnect:
First, turn everything OFF.	First, turn everything OFF.
Attach all cables to devices.	Remove power cord from outlet.
Attach signal cables to receptacles.	Remove signal cables from receptacles.
Attach power cord to outlet.	Remove all cables from devices.
Turn device ON.	You may now take it with you.
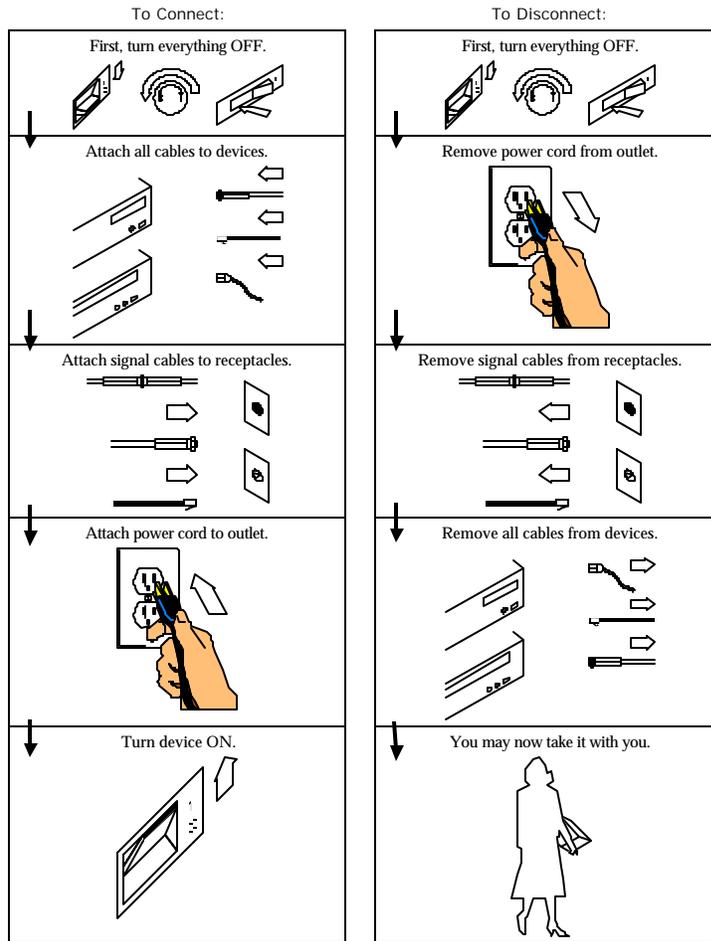
Note: In the UK, by law, the telephone cable must be connected after the power cord.

Note: In the UK, by law, the power cord must be disconnected after the telephone line cable.

Notices

References in this publication to Boundless Technologies products, programs, or services do not imply that Boundless Technologies intends to make these available to all countries in which Boundless Technologies operates. Any reference to an Boundless Technologies product, program, or service is not intended to state or imply that only Boundless Technologies product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any of Boundless Technologies' intellectual property rights may be used instead of Boundless Technologies product, program, or service. Evaluation and verification of operation in conjunction with other products, except those expressly designated by Boundless Technologies, are the user's responsibility.

This publication could contain technical inaccuracies or typographical errors.

This publication may refer to products that are announced but are not currently available in your country. Boundless Technologies makes no commitment to make available any unannounced products referred to herein. The final decision to announce any product is based on Boundless Technologies' business and technical judgment.

The drawings and specifications contained herein shall not be reproduced in whole or in part without the written permission of Boundless Technologies.

Trademarks and Service Marks

The following terms are trademarks of these companies:

CSA	Canadian Standards Association
Hazeltine 1500	Esprit
DEC VT-52/100	Digital Equipment Corporation
WYSE 50/75	Wyse Technology
TVI 910, 920, 925	TeleVideo Systems, Inc.
ADDS Viewpoint, Regent 40	Boundless Technologies, Inc.

Electronic Emission Notices

Federal Communication Commission (FCC) Statement

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

Properly shielded and grounded cables and connectors must be used in order to meet FCC emission limits. Boundless Technologies is not responsible for any radio or television interference caused by using other than recommended cables and connectors or by unauthorized changes or modifications to this equipment. Unauthorized changes or modifications could void the user's authority to operate the equipment.

This device complies with Part 15 or the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Canadian Department of Communications Compliance Statement

This equipment does not exceed Class A limits per radio noise emissions for digital apparatus, set out in the Radio Interference Regulation of the Canadian Department of Communications.

Avis de conformité aux normes du ministère des Communications du Canada

Cet équipement ne dépasse pas les limites de Classe A d'émission de bruits radioélectriques pour les appareils numériques, telles que prescrites par le Règlement sur le brouillage radioélectrique établi par le ministère des Communications du Canada.

Japanese Voluntary Control Council for Interference (VCCI) Statement

This equipment is Class 1 Equipment (information equipment to be used in commercial and industrial districts) which is in conformance with the standard set by Voluntary Control for Interference by Data Processing Equipment and Electronic Office Machines (VCCI) with an aim to prevent radio interference in commercial and industrial districts.

This equipment could cause interference to radio and television receivers when used in and around residential districts.

Please handle the equipment properly according to the instruction manual.

Korean Government Ministry of Communication (MOC) Statement

Please note that this device has been approved for business purposes with regard to electromagnetic interference. If you find this is not suitable for your use, you may exchange it for a non-business purpose one.

Safety Notices

Danger Notices

A danger notice indicates a hazard that could possibly cause death or serious personal injury.

The following danger notices are used throughout this manual.

> DANGER: To prevent a possible electrical shock when installing the device, ensure that the power cord for that device is unplugged before installing signal cables.

> DANGER: To prevent a possible electrical shock when adding the device to a system, disconnect all power cords, if possible, from the existing system before connecting the signal cable to that device.

> DANGER: To prevent a possible electrical shock during an electrical storm, do not connect or disconnect cables or station protectors for communication lines, display stations, printers, or telephones.

> DANGER: To prevent a possible electrical shock from touching two surfaces with different electrical grounds, use one hand, when possible, to connect or disconnect signal cables.

> DANGER: To avoid a shock hazard:
> þ   The power cord must be connected to a properly wired and earthed receptacle.
> þ   Any equipment to which this product will be attached must also be connected to properly wired receptacles.

DANGER: Electrical current from power, telephone, and communication cables is hazardous. To avoid shock hazard, connect and disconnect cables as shown on the following page when installing, moving, or opening the covers of this product or attached devices.

DANGER: The device's switch is not the main disconnect. The device's main power disconnect is the detachable line cord.

Caution Notice

A caution notice indicates a hazard that could possible cause minor personal injury.

CAUTION: This product contains a lithium battery. Do not attempt to exchange or charge the battery. Discard the product as instructed by local regulations for limited lithium batteries. Do not burn.

Warning Notice

A warning notice indicates the possibility of damage to a program, device, system, or data.

chapter

1

Introduction
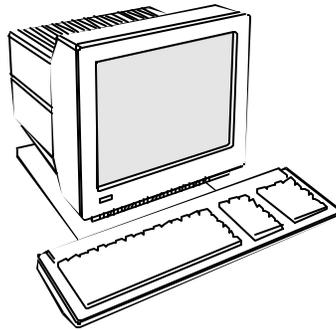
This terminal can emulate a number of
ASCII and ANSI terminals, including
PC-Term. The keyboards supported by
the terminal are the 101/102 key
Extended-PC (EPC), the 106/107
PC/+, and the ASCII keyboards.

The dual host capability of the terminal
allows you to run two different
applications simultaneously.

Clock, calendar, calculator, ASCII chart,
and diagnostic desk accessories are
provided. Another feature is the selectable
overscan border which can provide bezel-
to-bezel video.

This terminal also features an easy-to-
use Setup menu. Travel between
menus is facilitated by function keys,
the first letter of the menu name, or
the ENTER and SHIFT-ENTER keys.

Features

Compatibility

- þ   ADDS-Viewpoint™
- þ   Regent 40
- þ   Hazeltine™ 1500
- þ   Wyse™ 50, Wyse 75
- þ   DEC™ VT-52 & VT-100
- þ   PC Terminal
- þ   TVI™- 910, 920, 925

Display

- þ   100 Hz refresh rate (flicker-free)
- þ   Selectable overscan borders
- þ   Selectable screen saver
- þ   26 or 44 row display with top and bottom status lines
- þ   80 or 132 column display
- þ   Double high/double wide display
- þ   Up to 2 pages of memory
- þ   Small footprint, tilt and swivel base

Character Sets

- þ   Numerous standard, graphic, and supplemental character sets
- þ   Support for different keyboard languages: US (English), UK (English), Danish, French, German, Norwegian, Portuguese, Spanish, Swedish, Dutch, Belgian-Flemish, French-Canadian, Italian, Latin American, Swiss-French, Swiss-German

Communications

þ   Serial RS-232-C host/printer port 1, operating from 110 to 38,400 baud

þ   Serial RS-232-C host/printer port 2, operating from 110 to 19,200 baud

þ   Parallel IBM™/Centronics™ compatible printer port

Keyboards

þ   EPC 101/102-key keyboard for use in the US and Internationally

þ   ASCII keyboard

þ   PC/+ 106/107-key keyboard for use in the US and Internationally

þ   Up to 35 shiftable and programmable edit and function keys

Desk Accessories

þ   Calculator capable of transmitting results

þ   Monthly Calendar

þ   Clock with alarm settings

þ   ASCII and Diagnostic charts

Physical Features
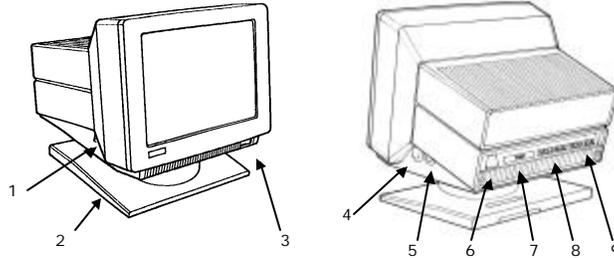
1. **Keyboard Connector** – push in the keyboard connector here.
2. **Tilt and Swivel Base** – use the tilt and swivel arrangement to adjust the viewing angle. Grasp the lower corners of the terminal and push up or down, or twist left or right.
3. **Power Switch** – "0" is off; "1" is on.

> Leave the terminal's power switch in the off position ("0") until power, keyboard, and communication connections are made.

4. **Contrast Dial** - adjust the contrast between characters of different intensities by rotating the dial.
5. **Brightness Dial** – adjust the overall screen brightness by rotating the dial.
6. **Power Connection** – plug the female end of the power cord into this connector and the male end of the cord into a properly grounded receptacle.

> The Canadian Standards Association (CSA) recommends that the power outlet be near the terminal and easily accessible at all times.

7. **Parallel Printer Port** – connect the cable from the IBM/Centronics compatible parallel printer to this port. See the Installation chapter for options.
8. **Printer Port** – connect the cable from a serial printer here. See the Installation chapter for options.
9. **Host Port** – connect the cable from the host here. See the Installation chapter for options.

Keyboards

The "PC" keyboards, including the EPC (101/102-key) and the PC/+ (106/107-key), are similar in style and feature a number of key groups.

The alphanumeric keypad is the main typewriter keypad, while the function key group lies along the top of the keyboard and can be programmed locally or downloaded from the host. The numeric keypad is the calculator-style set of keys on the right-hand side of the keyboard, used to enter numeric data.

The cursor and edit keypads, located to the left of the numeric keypad, allows users to edit text and move around in the document. The communication key group, above the edit keypad, is used to control communications with the host or printer.

The ASCII keyboard varies from the PC keyboard styles mainly in that it features 28 edit keys and 16 function keys.

For each keyboard, there is a set of local "hot-keys." They perform a variety of terminal functions, such as "Print Screen" and "Enter Setup." (See Appendix A for a complete list of local functions.)
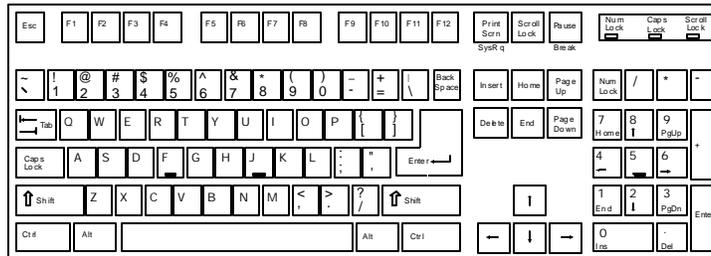
101-key EPC Keyboard - U.S.
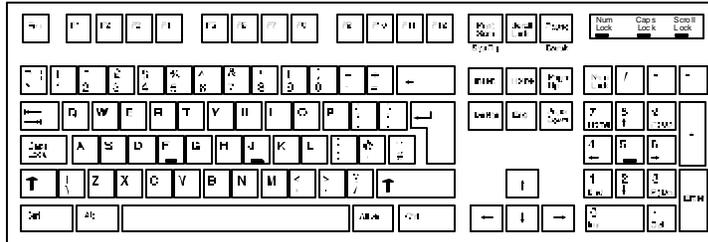
102-key EPC Keyboard - International
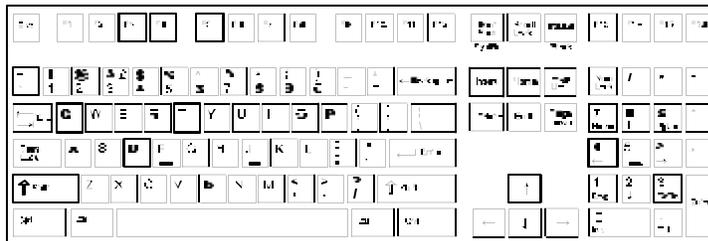
106-key PC/+ Key board - U.S.
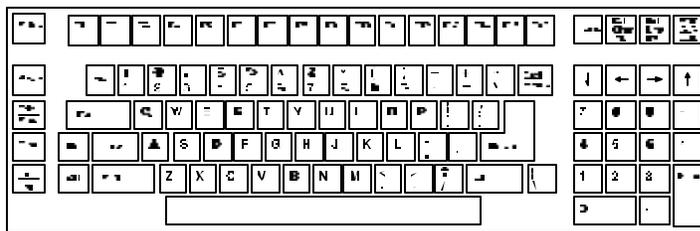
ASCII Keyboard

Usage Notes

The following notations and symbols are used in this manual:

þ   Ctrl-F1: the two keys, **Ctrl** and **F1**, are to be pressed simultaneously.

þ   Ctrl, F1: the two keys, **Ctrl** and **F1**, are to be pressed in succession.

þ   1-num or 1-alph: specifies that the number must be generated either from the numeric or alphanumeric keypads.

þ   23h: the number 23 is represented in hexadecimal (hex) notation.

þ   applies only to the PC+ keyboard.

þ   applies to ASCII emulations *only:* ADDS-VP, Wyse 50+, Wyse 60, PC Term, and TVI-925.

 Unless specifically stated, this guide is written from the perspective that an ASCII keyboard is attached to the terminal.

Communications

This terminal is equipped with three ports. The two serial ports are intended for connecting to either a host/modem or a serial printer. The remaining port is a Centronics-compatible printer port. The port you use as the printer port depends on whether you have a serial or a parallel interface to the printer.

The first host/printer serial port (SES1-EIA) can communicate with your computer at a baud rate of 110 to 38,400 baud (bits per second). The second host/printer serial port (SES2-AUX) can communicate at speeds from 110 baud to 19,200 baud.

You have the choice of using either the second serial port or the parallel printer port as your printer interface. Refer to the following sections for further information on these ports.

Flow Control

Because devices can receive data faster than they can process it, data flow control (selectable in the COMM1 & AUX/COMM2 menus of Setup) should be used to prevent data loss. Software flow control relies on the Xon and Xoff characters ("g" and "e" characters in PC Term Emulation) to indicate when the terminal is able or unable to store further data. The Xon signal transmits the DC1 character (11h) and the Xoff signal transmits DC3 (13h).

When Xon/Xoff in the COMM1 Setup menu for Comm 1 is "DC1/DC3," the terminal issues an Xoff character, indicating to the host that it should stop transmitting data. The terminal will then continue to process data until its receive buffer is empty. It will then issue an Xon character to the host, indicating that it can resume sending data to the terminal.

If the Xon/Xoff is "none" in Setup, the terminal will continue to accept characters into its receive buffer until it is full. Any additional characters sent after the receive buffer is full will be lost. Additional characters will be lost. Xon-Xoff protocol must also be set on the host computer or printer for proper handshaking.

In addition to software "receive" flow control (Xon/Xoff), the serial host/printer ports support "receive" hardware flow control. The SES1-EIA port has an outgoing DTR (Data Terminal Ready) signal. If "Xon/Xoff" is "DTR" in Setup, and the terminal's receive buffer fills to the level mentioned above, the terminal will set the DTR signal low to inform the host (serial) device to stop sending data.

Host Port 1

This port, labeled "SES1-EIA," is designed for connection to the host (computer or modem) via a 25-pin D-shell (DB25) female connector. This port uses an RS-232-C communication interface, is configured as a DTE (Data Terminal Equipment) device, and can operate from 110 to 38,400 baud. The pins supported are shown below:
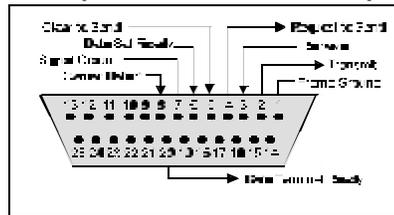
Host Port 1 Pin Assignments

Host/Printer Port 2

This port, labeled "SES2-AUX," is designed to connect to a host connection (computer or modem) or a serial printer, and can operate from 110 to 19,200 baud. This port uses an RS-232-C interface via a DB25 female connector, and is configured as a DCE (Data Communication Equipment) device. The pin assignments for this port are shown below:
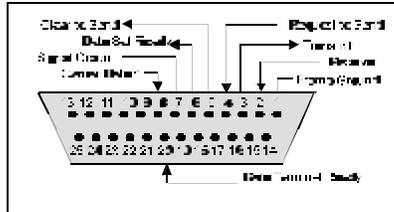
Host/Printer Port 2 Pin Assignments

Refer to the Installation chapter for details on the connection of all ports to serial devices (hosts, modems, or printers).

Parallel Printer Port

This port, labeled "PAR," is designed for connection to a parallel printer, which has a Centronics interface with a 25-pin D-shell female connector. This port, unlike the others, is a uni-directional device—it only serves to output data to the printer and cannot receive data. The pins and signals supported are shown below:
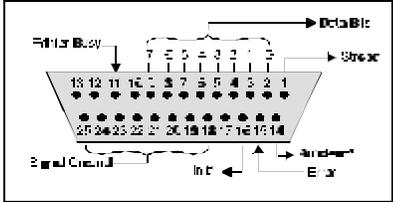
Parallel Port Pin Assignments

* These signals are held high, in an inactive state.

If you have opted to use a parallel printer, but it is not connected, an error message will appear on the status line when any PRINT operation is done. This error will not affect your terminal's operation. Any activity that updates the top status line (such as pressing the CAPS LOCK key) will clear the error message.

Terminal to Modem (DCE) or Host

Refer to the diagram below to understand why a null modem adapter may be needed when connecting the second serial port (SES2-AUX) to a modem or a DCE host. The first serial port will connect directly without a null modem since it is a DTE device.
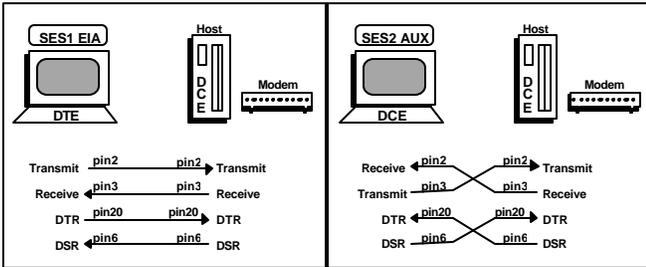
Terminal to Host (DTE) or Printer

Refer to the diagram below to understand why a null modem adapter may be needed when connecting the first serial port (SES1-EIA) to a host port or a modem. The second port (AUX) will connect directly, without a null modem, since it is a DCE device (most serial printers are DTE devices).
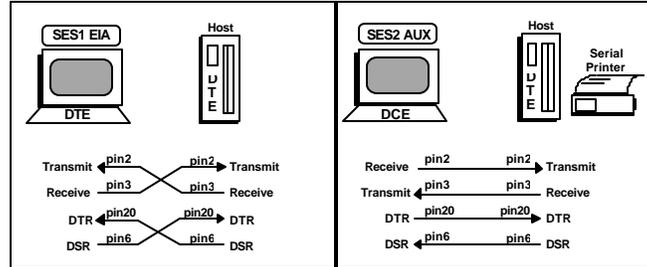
Screen Display and Pages

This terminal offers two lengths: 26 and 44 lines. These numbers include the top and bottom status lines (or label line), as well as the lines used to display data. A "page" of terminal memory represents the total number of lines that can be accessed, whether or not they are all viewable on the screen at once.

Bottom Status/Label Line Display

If the "Data Lines" selection is "24/42", then the bottom status/label line is available. If the "Data Lines" selection is "25/43", then the bottom status/label line is not available.

2
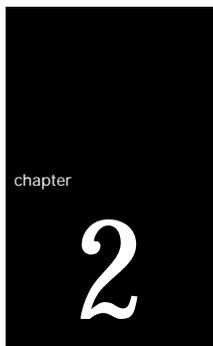
Installation

This section provides a "walk-through" approach to the installation of your terminal. This will enable you to physically connect the terminal to a printer and a host computer/modem, as well as to configure the Setup menu to suit your requirements and preferences.

The procedures described here are among the most common. Described here are conventional setups, with or without a printer. These steps may need to be adjusted to meet your requirements.

STEP 1 – Know Your Devices

The first step in our installation process will be to determine what type of serial ports you are connecting to the terminal. The Communications section in the Introduction chapter describes the differences between a DTE and DCE serial device. Determine what type of devices you are using (a DTE host, a DCE modem, a DTE printer, a parallel printer, etc.).

STEP 2 – Physical Connections

Depending on the types of serial interfaces of your devices, you may need one or more "null modem" adapters to communicate properly.

First, refer to the Common Setups diagrams later in this chapter. If one of these setups matches your needs, make the connections as shown in the diagrams by referring to the Host/Printer Connection Guide shown later in this chapter. Each cable connection in the diagram (the lines with arrows on each end) has a letter next to it. The letters correspond to the letters in the Host/Printer Connection Guide. If these setups don't apply, choose the connections in the Host/Printer Connection Guide that are appropriate.

Your physical connections are now complete.

STEP 3 – No Printer Option

If you did not opt to install a printer (do not complete connection E, F, or G), you must set the "Printer Use" selection in the GLOBAL Setup menu to "None".

STEP 4 – Know Your Serial Port(s) Protocol

Consult your system administrator to find out the communication settings on all the serial devices you are connected to, including EIA (or Aux) baud, data bits, stop bits, parity, parity checking on/off, and flow control protocol. This could include a host/modem, or a serial printer.

STEP 5 – Communications Setup Selections

To complete this step, you must recall the letters next to the connections that you made in Step 2.

The procedures below correspond directly to the individual connections made. Notice that only certain connection procedures are to be followed, not all of them. For example, if you have made connections "C" and "F" to a modem and a serial printer, then follow connection procedures "C" and "F" below.

Only follow those steps that apply to your connections (A-G).

To access the Setup menu, press SHIFT-SETUP on an ASCII keyboard or Shift-Print Scrn on a PC+ keyboard.

Connection A: Host DCE

1.   Enter the Setup menu.

2.   In the COMM menu, set the proper communications settings for the EIA Baud, EIA Data Format, EIA Parity Check, EIA Recv, and EIA Xmt selections. See the Setup chapter for more information on the individual settings.

Connection B: Host DTE

1.   Enter the Setup menu.

2.   In the AUX/COMM2 menu, select the proper communication settings. See the Setup chapter for more information on the individual settings.

Connection C: RS-232 with Modem

1.   Follow all procedures of Connection A.

Connection D: RS-232-C with Modem

1.   Follow all procedures of Connection B.

Connection E: RS-232-C Printer

1.   In the GLOBAL Setup menu, set the "Printer Use" selection to "SES1/SER".
2.   Follow procedure of Connection B, step 2.

Connections F and G: Parallel Printer

1.   Enter the Setup menu.
2.   In the GLOBAL Setup menu, set the "Printer Use" selection to either "SES1/PAR" or "SES2/PAR" for single or dual host environment.

STEP 6 – Emulation Setup Selection

This step requires setting a selection in the Setup menu to configure the emulation of the "Terminal". Determine which emulation your applications run with.

Enter the Setup menu. In the MODE menu, set the "Terminal" selection to match your emulation requirements.

STEP 7 – Additional Setup Options

At this point, you should proceed to the Setup chapter and continue to set up your own selections for any other parameters such as those for the display, keyboard, function/edit keys, and tabs.

STEP 8 – Save Parameters

Finally, remember to save your Setup parameters in permanent memory, so that they can be recovered if the terminal is powered down. When you exit the Setup menu, the prompt "Save parameters before exit? (Y/N)" appears. To save parameters select "Y". Another way to save parameters is to move the highlight bar over the "Save Parameters" field in the EXECute menu and press the "space" bar.

Remember to save your Setup settings after the entire installation process.

STEP 9 – Establish Communications

Your installation is now complete. By pressing the Return or Enter key, you should be able to communicate with the host computer(s).

If for some reason, your installation was not successful, make sure your physical connections are secure, that the communications protocol settings match your devices, and that the Setup selections are chosen to provide a proper interface between the terminal and your devices.

If you continue to have problems installing the terminal, call your local dealer for technical support.

Host/Printer Connection Guide

⚠	CAUTION: Do not (un)plug in electrical storm.

	SE: 1-EIA (DTE)	SES ·AUX (DCE)	PA
DTE Host*	Connection A: Connect a null modem adapter between the host cable and the EIA port.	Connection B: Connect the host cable directly to the AUX port.	Not applicable.
DCE Host or Modem	Connection C: Connect the host or modem cable directly to the EIA port.	Connection D: Connect a null modem adapter between the host or modem cable and the AUX port.	Not applicable.
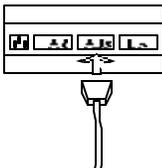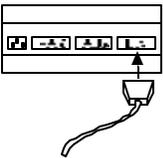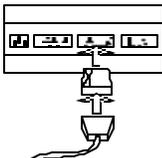
NOTE	*Most host computers are configured as a DCE device. The Mentor' ' System is an example of a DCE host system.

	SER 1-EIA (DTE)	SES -AUX (DCE)	PA R
DTE Serial Printer**	Not applicable.	Connection E: Connect the serial printer cable directly to the AUX port.	Connection F: This is an option if you connect a parallel-to-serial converter between the serial printer cable and the PAR port.
P. allel Printer (C entronics/ IB 1)	Not applicable.	Not applicable.	Connection G: Connect the parallel printer cable to the PAR port.
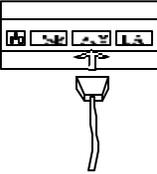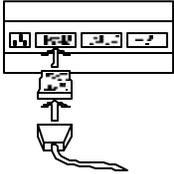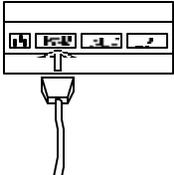
** Most serial printers are configured as DTE devices.
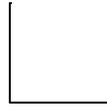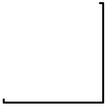
This page is intentionally left blank.

3

Setup

Overview

Your terminal can be configured to operate in a variety of different modes to suit your needs and to conform with the requirements of your host computer. Operating parameters can be selected as described in the paragraphs that follow.

Setup Menu

The Setup menu allows you to select the emulation you wish to operate in, program your function keys, set tab stops and select operating parameters from your keyboard. These parameters can also be downloaded from the host computer. Easy to read menus are available to help you select the operating parameters to suit your needs.

To enter the Setup Menu or toggle between host 1 and host 2, you need to invoke the following keystrokes, depending upon the type of keyboard being used. (See below.)

Keyboard Type	Setup Menu	Toggling Host
ASCII	SHIFT-SETUP	CTRL-SETUP
PC/+	Shift-SysRq	Ctrl-SysRq

The names of the menus will be displayed on the top status line as follows:

EXEC1 GLOBAL COMM1 AUX/COMM2 KEYBOARD1 SCREEN1 VISUAL1 MODE1 TAB1 FUNCT1 BELL

The currently displayed menu is identified by highlighting its name on the top status line. ENTER and SHIFT-ENTER are used to move back and forth respectively through the menus. Moving from one menu selection to another can also be accomplished by pressing the first letter of the selection itself (e.g. "B" to get to the BELL menu or "M" to get to the MODE menu).

NOTE
All but two Setup menu names have a number appended to them (1 or 2). This number represents which host port parameters are being shown. For example, EXEC1 or SCREEN1 are showing setup parameters for host port 1. Those menu names with no numbers appended represent global parameters common to both host ports

Cursor Keystrokes for Movement Within the Setup Menu

↑ or ↓ – Used to move the cursor up and down within a menu.

←, → or Space Bar – Used to select the parameter value or to perform the function selected in the menu.

Menus have two types of fields. They are action fields and multiple choice fields.

1.   An action field *only* has a single entry and is executed by pressing the Space Bar.

2.   A multiple choice field has more than one option. The selected option is displayed in bold. To change parameters in a multiple choice field, press ← or → or the Space Bar until your choice is displayed.

To save changed parameter values in non-volatile memory, select Save in the EXEC menu, or press "Y" at the prompt "SAVE PARAMETERS BEFORE EXIT ? (Y or N). Selecting "Y" at this field saves parameter values for both sessions.

NOTE
Look at the bottom line in any setup menu if you forget these movement keystrokes.

The following pages will display what will appear on your screen as each menu is chosen, and a definition of the possible parameters.

EXECute Menu

```
XEC1   GLOBAL   COMM 1  AUX/COMM 2  KEYBOARD1   SCREEN1    VISUAL1   MODE1   TAB1  FUNCT1  BELL

Exit
Save Parameters
Load Default Parameters
Load Default Programmable Keys
Clear Screen
Clear Communication

            SAVE PARAMETERS BEFORE EXIT? (Y o  N)

ENTER:menu ↑↓ :line  ← →        SPACE:select        S-SETUP:exit        CTL-SETUP:SES#1
```

When you first enter the Setup Mode, the EXECute menu will be highlighted. All selections in this menu are action fields and are invoked by pressing the Space Bar.

Exit - Exits Setup Mode and returns user to display screen.

Save Parameters - Stores the current parameter values of the Setup Mode menus in non-volatile memory. To save parameters return to Execute menu selection and use the cursor arrow keys to highlight the Save Parameters field. Press the Space Bar once to execute Save, and press the Space Bar again to exit the Setup mode.

When editing host 1 parameters, Save Parameters will only save the host 1 parameters. To save parameters for host 2 you must first toggle to host 2 (CTRL-SETUP on ASCII keyboard or Ctrl-Sys Req on PC+ keyboard), then select Save Parameters.

Save Parameters Before Exit? (Y or N) - Select Y to save all parameters in both sessions. Select N to exit without saving parameters. This selection serves as a reminder to Save changed parameters before exiting Setup.

Load Default Parameters - Loads original factory settings into memory, regardless of the emulation selected.

Load Default Programmable Keys - Loads factory settings for programmable type keys into memory. These settings will be dependent on the emulation selected.

Clear Screen - Clears the application screen.

Clear Communication - Enables you to empty the receive and transmit buffers of the terminal.

GLOBAL Menu

```
EXEC1    LOBAL   COMM1  AUX/COMM2   KEYBOARD1   SCREEN1   VISUAL1  MODE1   TAB1  FUNCT1      BELL

Screen Timeout            Yes        No
Fore/Back                 Blk/Wht    Wht/Blk      Blk/Hlfint   Hlfint/Blk
Scroll                    SM 8       SM 4         SM 2         SM 1        Jump
Lines/Sessions            26/1       26/2         44/1         44/Split
Printer Use               SES1/SER   SES1/PAR     SES2/PAR     None
Overscan Border    Yes    No
Refresh Rate       60Hz   71Hz          82Hz        100Hz
```

ENTER:menu ↑↓ :line ← →   SPACE:select   S-SETUP:exit   CTL-SETUP:SES#1

Screen Timeout [Yes No]
Causes the screen to dim after 15 minutes of inactivity until the first character is
received from the host computer or keyboard. While the screen is dim, the LOCK key
LED will flash on and off. CTRL or SHIFT will reactivate the display without
disturbing the displayed data.

Fore/Back [Blk/Wht, Wht/Blk, Blk/Hlfint, Hlfint/Blk]
Choose to display foreground (Fore) and background (Back) as black/white,
white/black, black/half intensity, or half intensity/black.

Scroll [SM 8, SM 4, SM 2, SM 1, Jump]
Select your screen to jump or smooth scroll. Four rates of smooth scroll are available,
SM1 representing the slowest, SM8 representing the fastest.

> In 44/split mode with smooth scroll enabled, the terminal will default to jump
> scroll.

Lines/Sessions [26/1, 26/2, 44/1, 44/Split]
Select the total number of lines displayed and the session to be enabled. The number
of data lines in the scrolling region is selected in the SCREEN menu. Entering or
exiting 44/1 will erase the screen(s). For information on dual session operation refer
to Section 6: Multi host/Split Screen.

Printer Use [SES1/SER, SES1/PAR, SES2/PAR, None]
Select session 1 serial or parallel printer, session 2 parallel, or no printer. If dual host is
selected SES1/SER is not available. If single host is selected, SES2/PAR is not
available.

Overscan Borders [Yes, **No**] choose whether the overscan borders are active. The
borders extend video from one edge of the screen to the next.

> To see the borders, select Blk/Wht or Blk/Hlfint in the Fore/Back parameter.

Refresh Rate [60 Hz, 71 Hz, **82 Hz**, 100 Hz] select the rate (number of times per
second) at which the image on your terminal's display is updated. This selection is
only applicable to 26 line display mode.

COMMunications Menu (Sess 1 - EIA)

EXEC1	GLOBAL	COMM1	AUX/COMM2	KEYBOARD1	SCREEN1	VISUAL1	MODE1	TAB1	FUNCT1	BELL
Mode		Block	H-Blk	FDX/Line	HDX/Echo					
Baud Rate		38400	19200	9600	4800	2400	2000	1800		
		1200	600	300	150	110				
Parity		None	Odd	Even						
Parity Check		Yes	No							
Data Bits		7	8							
Stop Bits		1	2							
Xon/Xoff		None	DTR	DC1/DC3	Both					
Pace		00								
Terminator		US/CR		CRLF/ETX						
XPC		Off		On						

ENTER:menu ↑↓ :line ← →   SPACE:select   S-SETUP:exit   CTL-SETUP:SES#1

Mode [Block, H-Blk, FDX/Line, HDX/Echo]
Four selections are available for defining communication protocol.

Baud Rate [38400, 19200, 9600, 4800, 2400, 2000, 1800]
Various baud rates are available to match the data rate for your computer system.

Parity [None, Odd, Even]
Multiple selections are available to meet the requirements of your host computer.

Parity Check [Yes, No]
When Yes is selected, an asterisk (*) symbol will be displayed on your screen at any character position where an error in parity is detected by the terminal on incoming data.

Data Bits [7, 8]
Select 7 or 8 bit character operation.

Stop Bits [1, 2]
Select to append 1 or 2 stop bits at the end of a character.

Xon/Xoff [None, DTR, DC1/DC3, Both]
Select DTR, DC1/DC3 or both for data flow control. Flow control must be used when using smooth scroll.

Pace [00]
Relative amount of delay time between characters during transmission to host (00-99). Use right arrow to increase value and left arrow to decrease value.

When transmitting large character strings of function key data, this feature will be useful in preventing any characters from being lost during transmission to the host.

Terminator [US/CR, CRLF/ETX]
This field sets the end of line/end of page characters for block mode.

XPC [Off, On]
Set data flow control for PC Term Operation. This option modifies the Xon/Xoff characters.

AUXiliary/COMMunications Menu (Sess 2 - AUX)

```
EXEC1   GLOBAL   COMM1   AUX/COMM2   KEYBOARD1   SCREEN1   VISUAL1   MODE1   TAB1   FUNCT1   BELL


   Mode              Block   H-Blk             FDX/Line   HDX/Echo
   Baud Rate         19200   9600      4800    2400       2000      1800
                     1200    600       300     150        134.5     110
   Parity   Odd      Odd     Even      Space   Mark
   Parity Check      Yes     No
   Data/Stop Bits    7/1     8/1       7/2     8/2
   Xon/Xoff None     DTR     DC1/DC3   Both
   Aux Echo          Yes     No
   Pace              00
   Terminator        US/CR   CRLF/ETX
   XPC               Off     On



   ENTER:menu ↑↓ :line ← →        SPACE:select        S-SETUP:exit  CTL-SETUP:SES#1
```

Mode [Block, H-Blk, FDX/Line, HDX/Echo]
Four selections are available for defining communication protocol.

Baud Rate [19200, 9600, 4800, 2400, 2000, 1800]
A wide range of baud rates are available to match the data rate for your printer/host.

Parity [Odd, Even, Space, Mark]
Four selections are available to meet the requirements of your printer/host.

Parity Check [Yes, No]
When Yes is selected, an asterisk (*) symbol will be displayed on your screen at any
character position where an error in parity is detected by the terminal on incoming
data.

Data/Stop Bits [7/1, 8/1, 7/2, 8/2]
Select 7 or 8 bit character operation with either 1 or 2 stop bits appended at the end of
a character.

Xon/Xoff [None, DTR, DC1/DC3, Both]
Select DTR, DC1/DC3 or both for data flow control for received character text. Flow
control must be used when using smooth scroll.

Aux Echo [Yes, No]
When Yes is selected in this field, data received from the serial auxiliary device will be displayed on the terminal screen. (This is only available in single host mode.)

Pace [00]
Enables user to preset a delay between characters during transmission. Select from values of 0 to 99. Use right arrow to increase value and left arrow to decrease value.

> This is useful if characters are lost when pressing function keys.

Terminator [**US/CR**, CRLF/ETX]
This field sets the end of line/end of page characters for block mode.

XPC [Off, On]
Sets data flow control for PC Term Operation. This option modifies the Xon/Xoff characters.

KEYBOARD Menu

```
EXEC1 GLOBAL      COMM1   AUX/COMM2    EYBOARD1   SCREEN1   VISUAL1   MODE1   TAB1   FUNCT1      BELL


Case Select       Upper/Upper     Upper/Lower       Lower/Upper       Lower/Lower
Space Char        Destructive     Non Destructive
Keyclick  Yes     No
Keyboard          US              UK                French            Spanish
                  German          Swedish           Danish            Norwegian
                  Portuguese      Dutch             Belgian           Italian
                  Latin Amer      Fr Canadian       Sw German         Sw French
Print Scrn Key    Print Page      Aux On/Off
Break Key         Break           Ctrl Break
Nat'l Replace     Yes             No
Ext'd Char Set    Yes             No


  ENTER:menu ↑↓ :line ← →        SPACE: select      S-SETUP:exit      CTL-SETUP:SES#1
```

Case Select [Upper/Upper, Upper/Lower, Lower/Upper, Lower/Lower]
Select to display characters as all upper case, upper shift to lower case, shift lower case or all lower case.

Space Char [Destructive, Non Destructive]
Determines whether or not the Space Bar will over write (destructive) or pass over (non-destructive) data on the screen.

Keyclick [Yes, No]
Choose to have an audible tone sound each time a key is pressed on the keyboard. The volume of this tone may be adjusted in the BELL menu.

Keyboard [U.S., UK, French, Spanish, German, Swedish, Danish, Norwegian, Portuguese, Dutch, Belgian, Italian, Latin Amer, Fr Canadian, Sw German, Sw French]
For selection of appropriate languages.

The same language should be selected for both sessions.

Print Scrn Key [Print Page, Aux On/Off]
Selecting Print Page transmits a page of data when this key is pressed. Selecting Aux On/Off transforms the Print Scrn Key into a toggle between Aux-on and -off.

Print Send Key [Print Page, Aux On/Off]
Selecting Print Page transmits a page of data when this key is pressed. Selecting Aux On/Off transforms the Print Send Key into a toggle between Aux-on and -off.

Aux On/Off is only available in ASCII emulations.

Break Key [Break, Ctrl Break]
Choose if the Break key alone or Ctrl-Break generates a break.

Nat'l Replace [Yes, No]
Choose between the US ASCII chart for characters 0-127 or the NRC set that matches

your keyboard language. As a default (yes) it will match the keyboard's language, but it can be disabled to retain the US set.

Ext'd Char Set [Yes, No]
Choose whether to permit access to the characters loaded in 128-255. The extended character set that is accessed depends on the language selected, and requires 8-bit data.

Three extended character sets are available:

1.   **Standard PC** – used *only* when keyboard language is US or UK.

2.   **Multilingual** – used when any language other than US, UK, or Portuguese is selected.

3.   **Portuguese** – this is a variation of the Multilingual set and is used *only* when the language is Portuguese.

> You may elect to use the extended character set, but you can not directly specify which of the three character sets will be used. The terminal will select the set based on the selected Keyboard language.

SCREEN Menu

```
EXEC1    GLOBAL  COMM 1  AUX/COMM2   KEYBOARD1   SCREEN   VISUAL1   MODE1   TAB1   FUNCT1   BELL


Auto Wrap   Yes          No
Auto Scroll  Yes         No
Auto Line Feed           Yes          No
Margin Bell  Yes         No
Column Change            Save Screen           Erase Screen
Columns                  80           132
Cursor Home              Upper left   Auto Scroll Dependent
Data Lines   24/42       25/43



  ENTER:menu ↑↓ :line ← →        SPACE: select        S-SETUP:exit        CTL-SETUP:SES#1
```

Auto Wrap [Yes, No]
Selecting Yes will cause the cursor to wrap to the beginning of the next line when it passes the right margin. A No selection will cause the cursor to remain stationary at the right margin.

Auto Scroll [Yes, No]
Selecting Yes will cause the screen to scroll up when data is entered passed the margin of row 24/42 (25/43) depending on data line setting. A No selection will cause the cursor to position itself at the first position of row 1, when data is entered at the last position on row 24/42 (25/43).

Auto Linefeed [Yes, No]
If Yes is selected, an internal linefeed is performed moving the cursor to the beginning of the next row when a Return code is received. An internal linefeed is also generated when the cursor advances past the end of a row. Selecting No will cause the cursor to move to the beginning of the current row when a Return code is received.

Margin Bell [Yes, No]
Sounds a momentary audible sound when the cursor is nearing the end of the right margin. Selecting No will disable this feature.

Column Change [Save Screen, Erase Screen]
Select to save screen data or erase screen data when changing number of columns (80 or 132) display.

Columns [80, 132]
Select to display 80 or 132 columns.

Cursor Home [Upper Left, Auto Scroll Dependent]
Select to position the cursor at the Upper left hand corner of the display screen, or Auto-Scroll Dependent. With Auto Scroll disabled (see Auto Scroll above), selecting Auto Scroll Dependent positions the cursor at the Bottom Left hand corner of the display screen when a Cursor Home command is received.

Data Lines [24/42, 25/43]
Selecting 24/42 allows you 24 or 42 data lines with a top and bottom status line. Selecting 25/43 allows for 25 or 43 data lines with only a top status line. This selection is dependent on the session selected in the GLOBAL menu.

VISUAL Menu

EXEC1	GLOBAL	. COMM1	AUX/COMM2	KEYBOARD1	SCREEN1	VISUAL1	MODE1	TAB1	FUNCT1	BELL

```
    Cursor              Block       Underline    None
    Cursor Blink        Yes         No
    Prot Reverse        Off         On
    Prot Half   Off     On
    Prot Blink  Off     On
    Prot Underline      Off         On
    Prot Suppress       Off         On
    Status Line         On          Off


    ENTER:menu ↑↓ :line ← →        SPACE:select        S-SETUP:exit        CTL-SETUP:SES#1
```

Cursor [Block, Underline, None]
Choose to display cursor as a Block, Underline, or None.

Cursor Blink [Yes, No]
Select a blinking display of the cursor with Yes, a steady display with No.

Protected Fields [Off, On]
The next 5 selections select the display characteristics of Protected Fields. They can be set to display in logical combinations of Reverse, Half Intensity, Blink, Underline, or Suppressed.

Status Line [On, Off]
Selecting On will display a status line on the top row of your screen. This status line may be used to display information such as modes of duplex, day, date, time, etc. Selecting Off will disable this feature.

MODE Menu

EXEC1	GLOBAL	COMM1	AUX/COMM2	KEYBOARD1	SCREEN1	VISUAL1	MODE1	TAB1	FUNCT1	BELL

```
    Terminal            Viewpoint          Regent 40   Wyse 50
                        TVI 925            TVI 920              TVI 910
                        Haz 1500           VT52                 Wyse 75
                        VT100              PC-Term
    Mode                Normal             Enhanced
    Program Keys        Terminal Dependent User Dependent
    Kybd(s) to use:     PC+        or      ASCII


    ENTER:menu ↑↓ :line ← →        SPACE:select        S-SETUP:exit        CTL-SETUP:SES#1
```

PC TERM is only displayed as a terminal selection when the PC+ keyboard is connected.

Terminal [Viewpoint, Regent 40, Wyse 50, TVI 925, TVI 920, TVI 910, Hazeltine 1500, VT52, Wyse 75, VT100, PC-Term
Select the mode compatible to suit your system requirements.

Mode [Normal, Enhanced]
Selecting Enhanced allows the additional features of the terminal to be accessed.
Selecting Normal provides the standard feature set of the terminal selected.

Program Keys [Terminal Dependent, User Dependent]
When changing compatibility modes, selecting Terminal Dependent will set default codes for all programmable function keys according to the emulation selected.
Selecting User Dependent will allow you to retain codes as programmed and will not default to codes of the emulation selected.

> At power up, default function keys will always be loaded unless User Dependent is selected at this field.

Keyboards to Use [**PC+** or **ASCII**]
This field highlights the keyboard supported for the emulation selected. No action may be taken at this field.

> If any keys have been programmed, changing terminal modes while Terminal Dependent is selected will cause that programming to be lost.

TAB Menu

```
EXEC1  GLOBAL COMM1    AUX/COMM2    KEYBOARD1   SCREEN1   VISUAL1  MODE1   TAB1  FUNCT1    BELL


         10        20        30        40        50       60         70        80
+ ........  + ...........  + ...........  + ...........  + ...........  + ...........  + ...........  + ............  +

                              Space - clears tab
                              T - sets tab
                              C - clears all tabs



ENTER:menu ↑↓ :line ← →          SPACE:select        S-SETUP:exit        CTL-SETUP:SES#1
```

Use the ← and → arrows to select a column position. The display will scroll to allow you to access any column up to 132.

Space - Pressing the Space Bar clears the tab settings.

T - Sets a tab.

C - Clears all tab settings.

FUNCTion Key Menu

```
EXEC1   GLOBAL   COMM1   AUX/COMM2     KEYBOARD1    SCREEN1   VISUAL1   MODE1   TAB1   UNCT1   BELL

  Bytes Remaining xxx Key F01         Link Key None            Y EIA
                                                               N AUX
                                                               N LOCAL

  Label:              ┌─────────────────────────────────┐
                      └─────────────────────────────────┘

  Text:
           ┌──────────────────────────────────────────────────────┐
           │   1                                                   │
           │                                                       │
           └──────────────────────────────────────────────────────┘

  ENTER:menu ↑↓ :line ← →       SPACE:select      S-SETUP:exit      CTL-SETUP:SES#1
```

This menu allows you to program the function keys as well as all other programmable
keys.

Using This Menu
Use the cursor keys to move from field to field on the screen.

Bytes Remaining
Watch the bytes remaining field to see how many characters are left for programming.

Key F01
Selecting a key to be programmed is made by pressing the FUNCT key followed by the
key to be programmed.

Use the *left* Alt key on the PC/+ keyboard.

The FUNCT followed by a function or an edit key, will update the current key being
modified and display corresponding data for the key requested.

Link Key: None programmed
By linking keys you may cause more than one key to be executed with a single key
stroke. For example, by linking F16 to Fl, when you press Fl, both Fl and F16 are
transmitted. Select N at this field for no link.

> If you link Fl to itself, a continuous loop will occur. Pressing
> CTRL-TAB will stop the loop.

Linking is accomplished by moving the cursor to the link key field and pressing
FUNCT followed by the key to be linked.

Use the *left* Alt key on the PC/+ keyboard.

Key Destination: EIA [Y/N]; AUX [Y/N]; LOCAL [Y/N]:
The fields labeled EIA, AUX, and LOCAL set the destination for the transmitted text.
Entering Y enables the destination. N disables it. If destination is N (EIA), N (AUX),
N (LOCAL), text will   act like keystrokes (duplex dependent). In full duplex, text
will be sent to the host only. In block mode, text will go to the screen only. In half
duplex environments, text will go the screen and to the host.

LABEL

The LABEL field is used to identify the 16/32 general purpose function keys.

The LABEL field is displayed on the 26th screen line during normal operation. The first 8 labels are displayed on an 80 column screen, and all 16 are shown on a 132 column screen. During normal operation, pressing the SHIFT key will toggle the display of labels programmed into the unshifted and shifted function keys.

Entering Text

The reverse video area in the middle of the screen is used to enter the key text. The cursor keys as well as the INS/REPL key can be used to edit the text. The SHIFT key or CAPS LOCK must be pressed when entering uppercase characters.

Use the cursor keys as well as the Insert and Delete keys on the PC/+ keyboard to edit the text.

To program function keys through the Setup Menu, you should press the FUNCT key and the function key to be programmed. You should notice the function key representation change to the representation for the key to be programmed.

Use *left* Alt key for the PC+ keyboard.

Function Keys Representation			
ASCII	PC/-	Normal	Shift
FUNCT+	Alt+	F01	f01
FUNCT+	Alt+	F02	f02
FUNCT+	Alt+	F03	f03
FUNCT+	Alt+	F04	f04
FUNCT+	Alt+	F05	f05
FUNCT+	Alt+	F06	f06
FUNCT+	Alt+	F07	f07
FUNCT+	Alt+	F08	f08
FUNCT+	Alt+	F09	f09
FUNCT+	Alt+	F10	f10
FUNCT+	Alt+	F11	f11
FUNCT+	Alt+	F12	f12
FUNCT+	Alt+	F13	f13
FUNCT+	Alt+	F14	f14
FUNCT+	Alt+	F15	f15
FUNCT+	Alt+	F16	f16

BELL Menu

```
EXEC1  GLOBAL   COMM1  AUX/COMM2   KEYBOARD1   SCREEN1  VISUAL1  MODE1  TAB1  FUNCT1  ELL


               0    1    2    3    4    5    6    7    8
Volume         ----------------------------------→

               S - Sound Alarm
```

ENTER:menu ↑↓ :line ← →   SPACE:select   S-SETUP:exit   CTL-SETUP:SES#1

The bell volume may be adjusted to a comfortable level by using
← and →. Pressing S will ring the bell so you can experiment to
find the best volume for your environment.

4

Desk Accessories

Clock

Pressing CTRL-F1 will display a clock overlay on your video screen.

Date	*Jan.* 1, 1995
Time Set	12:00 AM
Display	Off
Type	12
Column	48
Alarm Set	12:00 PM
Tone	Alarm/Hourly

Pressing the SHIFT key and ↑, ↓, ← or → will position the clock display anywhere on your screen. Do not hold cursor keys down (typamatic) when using Desk Accessories. Press and release cursor keys for proper movement.

Use the following keys to make changes:

þ   Up- or down-arrow keys – to enter the field you desire to change.

þ   Left- or right-arrow keys – selects the desired parameter to be changed.

þ   Spacebar – move through options available for this field.

þ   ENTER (num) – revert to the default setting for the current field.

þ   ESC – exit clock and save settings.

Time parameters are lost when power is turned off.

Date – enables you to enter the current date.

Time Set – enter the current time of day.

Display – choice to display Time, Date, or Time and Date on the top of your display screen. Select Off for no display.

Type – select a 12 or 24 hour clock setting.

Column – select column display from column 48 thru 99.

Alarm Set – enter the time you wish an alarm to sound.

Tone Off – Selections are as follows:

‡   Off – No alarm sounded.

‡   Alarm – Alarm to sound at time set.

‡   Hourly – Alarm to sound every hour.

‡   Alarm/Hourly – Alarm to sound every hour and at time set.

Press Space Bar to make your selection at this field. To reset the highlighted field to the factory setting, press ENTER (num).

Calendar

Pressing CTRL-F2 keys simultaneously, will display a calendar overlay on your video screen. The specified calendar month will display as shown below:

			JANUARY		1995	
SUN	MON	TUES	WED	THUR	FRI	SAT
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						
		Current Date : Jan. 01, 1995				

The keys below control the calendar that is displayed:

þ	SHIFT and ↑, ↓, ← or → – will position the calendar display anywhere on your screen.

þ	Right- and left-arrow keys – changes the calendar month.

þ	Up- and down-arrow keys – changes the calendar year.

‡	ENTER – changes Current Date is: to Enter Year: Enter a four digit number from 1600 to 4499. When the fourth number is entered, the new year will automatically be displayed on your screen. Press HOME to return to current year.

þ	ESC – exit calendar and return to normal display screen.

Calculator (ASCII Keyboard)

Pressing CTRL-F3 will display a calculator overlay on your display screen.

–	¬	⬤	–
7	8	9	–
4	5	6	,
1	2	3	ENTER
0		.	

ASCII Keyboard

			0.T
M+	M-	MR	C
%	/	X	–
7	8	9	+
4	5	6	
1	2	3	=
0		.	

Calculator Display

How To Use:

‡   CTRL 0-9 – sets # of decimals

‡   P – for printer on/off

‡   T – for tape on/off

‡   X – for transmit result

‡   SHIFT ¬ and ⬤ – move image

As a key is pressed it is highlighted for a split second. The number pressed will be displayed on the top row of the calculator image. As you operate the calculator the answer appears on the top of the calculator image, if tape is enabled.

Printer option on calculator menu must be disabled if a printer is not on-line to the terminal's auxiliary port.

Calculator (PC/+ Keyboard)

Pressing Ctrl-F3 will display a calculator overlay on your display screen.

How To Use:

‡   Ctrl 0-9 – sets # of decimals

‡   P – for printer on/off

Num Lock	/	,	*
7 Home	8	9 Pg Up	+
4	5	6	
1 End	2	3 Pg Dn	Enter
0 Ins		. Del	

PC/+ Keyboard

				0. T
M+	M-	MR	C	
%	/	X	–	
7	8	9		
4	5	6	+	
1	2	3	=	
0		.		

Calculator Display

‡   T – for tape on/off

‡   X – for transmit result

‡   Shift ← and → – move image

As a key is pressed it is highlighted for a split second. The number pressed will be displayed on the top row of the calculator image. As you operate the calculator the answer appears on the top of the calculator image, if tape is enabled.

Printer option on calculator menu must be disabled if a printer is not on-line to the terminal's auxiliary port.

ASCII Chart

Use the following keys to change the display of the ASCII chart:

‡   CTRL-F4 – displays an ASCII Chart on your display screen.

‡   SHIFT and ←,→,↑ or ↓ – postions the ASCII chart anywhere on your screen.

‡   Up- or down-arrow – scrolls up or down

DEC	OCT	HEX	BINARY	CHAR	ASCII	KEY
254	376	FE	11111110	ō̄		
255	377	FF	11111111	≋		
000	**000**	**00**	**00000000**		**NUL**	**Ctrl**-@
001	001	01	00000001		SOH	Ctrl-A
002	002	02	00000010		STX	Ctrl-B

The center line is highlighted and indicates the breakout of the character where the cursor currently rests. This implementation will save you time in locating a particular character by simply locating the cursor on the character in question and then activating the chart. The centered line on the chart represents that particular character.

For example, activating the ASCII Chart after powering up the terminal will result in SPACE being highlighted as the screen memory initializes to SPACE.

A
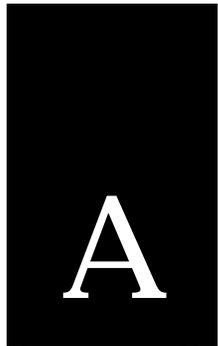
Appendix

Local Hot Keys

Action	PC+Keyboard	ASCII Keyboard
Enter Setup Mode	Ctrl-Print Screen	SHIFT-SETUP
Exit Setup Mode	F1, Space Bar	F1, SPACE BAR
Toggle Caps-Lock	Lock	LOCK
Toggle Num-Lock	Num-Lock	
Toggle Scroll-Lock	Scroll-Lock	
Toggle Sessions	Ctrl-Print-Screen	CTRL-SETUP
Toggle Block-Mode	Shift-Pause	SHIFT-BREAK
Toggle Monitor Mode[1]	Ctrl-Shift-1 (num)	CTRL-SHIFT-1 (num)
Ins/Replace	Insert/Shift-Insert	INS/REPL
Keyboard Unlock	Ctrl-Shift-Print Screen	SETUP
Hard Reset (Power On)	Ctrl-Shift-Home	CTRL-SHIFT-HOME
Break[2]	Ctrl-Pause	CTRL-BREAK
Long Break/Disconnect	Ctrl-Shift-Pause	CTRL-SHIFT-BREAK
Function	Alt (left side key)	FUNCT
Print-Page	Print Screen	PRINT/SEND

---

[1] Monitor mode is useful when debugging programs; control codes are displayed instead of executed.
[2] The Break signal activates the

Continued

Action	PC+ Keyboard	ASCII Keyboard
Increment Scroll Rate	Ctrl-Shift-↑	CTRL-SHIFT-↑
Decrement Scroll Rate	Ctrl-Shift-↓	CTRL-SHIFT-↓
Change Status Line	Ctrl-Shift-→	CTRL-SHIFT-→
Enter Clock	Ctrl-F1	CTRL-F1
Enter Calendar	Ctrl-F2	CTRL-F2
Enter Calculator	Ctrl-F3	CTRL-F3
Enter ASCII Chart	Ctrl-F4	CTRL-F4
Enter Diagnostics	Ctrl-Shift-F5	CTRL-SHIFT-F6
Exit Any Desk Accessory	Esc	ESC
Display Code Version	Ctrl-Shift-F5	CTRL-SHIFT-F6

NOTE TO INSTALLER

This equipment complies with the FCC Regulation for Class A devices, Subpart J of Part 15. Shielded, grounded interface cables were used on all ports for FCC radiated emission testing.

The manufacturer is not responsible for any violation of the FCC Regulation for Class A devices that is caused by unauthorized modification of the equipment, or caused by equipment installation not in accordance with the instructions in this manual.

This equipment generates, uses, and can radiate radio frequency energy and may cause radio or television interference. All user equipment that interfaces with other products should be connected with shielded cables. (Contact a local dealer for more information on shielded cable assemblies and their availability.)

There is no guarantee that interference will not occur. If radio or television interference occurs (this can be determined by turning the equipment off and on while the radio or television is on), the user is solely responsible for correcting the interference and is encouraged to take one or more of these measures:

1. Reorient the receiving antenna.
2. Relocate the equipment, or move the equipment away from the receiver.
3. Plug the equipment into a different outlet so the unit and receiver are on different branch circuits.
4. Consult the dealer or an experienced radio/television technician.

It is also suggested that the user read the FCC booklet entitled How to Identify and Resolve Radio-TV Interference Problems. The booklet is available from the U.S. Government Printing Office, Washington, D.C. 20402. (When ordering the booklet, specify stock number 04-000-00345-4.)

Site Preparation

The screen display geometry on terminal products is aligned using magnetic devices. External magnetic fields created by other types of electronic equipment, such as printers, in very close proximity to the terminal, may cause minor display distortion.

Examples of display distortion include:

þ   Shaky video

þ   Wavy lines

þ   Tilted display

This magnetic field interaction only occurs over a very short distance, normally less than twelve inches, and can be corrected by separating the equipment and/or slightly reorienting the display.

Technical Support

Questions about this product should be directed to the Technical Support Department of the distributor from which you obtained your Boundless Technologies equipment. When requesting assistance, please have all pertinent information available including any error messages that may have appeared either on the terminal or the host.

If your distributor fails to provide adequate support for your needs, please contact the Boundless Technologies Technical Support Department directly. You will be required to provide the name of your distributor, and a description of the problem as described above.

Please refer to the Boundless Technologies Guide to Support Services which was packaged with the terminal.

Boundless Technologies can be reached at:

Boundless Technologies, Inc.
Technical Support Department
100 Marcus Blvd.
Hauppauge, NY 11788

(800) 231-5445 ext. 7259 (voice)
(516) 342-7378 (fax)
Email: support@boundless.com
BBS: 407-333-8326 1200/14400 baud
                8 data bits, 1 stop bit, no parity
ftp: ftp.boundless.com
Web site: http://www.boundless.com