MC₅
User’s Guide

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This digital apparatus does not exceed the Class A electromagnetic noise emission limits for digital apparatus as defined in the radio interference regulations of the Canadian Department of Communications.

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<td>A-1</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
Overview

Features

Display Screen:
Color 14" flat diagonal, green, amber, or white phosphor with fully scanned video. External contrast and brightness controls.

Screen Refresh:
78 or 60 Hz.

Screen Formats:
26-row display in 80 or 132 columns.

Virtual Terminals:
Simultaneous connection to two hosts with a full page screen only.

Screen Attributes:
Normal, Dim, Bold, Blank, Reverse, and Blink in all combinations.

Attribute Styles:
Full screen embedded, line embedded, or character; independently selectable per session.

Line Attributes:
Double wide, double high/double wide, and double high.

Character Size:
10x16 (60Hz, 26 rows); 10x13 (78 Hz, 26 rows); 10x9 (60 Hz, 46 rows).
Character Set:

512 displayable characters per session in hidden mode; 128 displayable characters per session in embedded mode.

Font Support:

ASCII, PC Multinational, DEC Multinational, and ISO Latin 1.

Display Memory:

80-columns, up to 7 pages; 132-columns (non-embedded), up to 2 pages.

Scrolling:

Jump or Smooth.

Keyboards:

Detached, adjustable, low profile with mechanical keyswitches and 6-foot coiled RJ11 cord. Supports US Enhanced PC (EPC), International Enhanced PC (IEPC), and ANSI layouts. Up to 500 bytes of non-volatile memory available for key programming.

Communications:

Two asynchronous, bi-directional serial ports (MAIN and AUXILIARY), and one printer port (PARALLEL). The MAIN port supports RS-232 communications via its DB25F connector. The AUXILIARY port supports RS-232 communications via its DB9M connector. RS-232 communications require a shielded interface cable. RS-422 communications can be supported from the AUXILIARY port as an option. The PARALLEL port is compatible with the Centronix parallel printer interface.

Emulation Compatibility:

Link 125, ANSI.SYS, DEC VT220-7, VT220-8, VT100, and VT52, Wyse WY-60, Wyse WY-50/WY-50+, ADM3A, ADM5, TeleVideo 955 (TVI955), TVI950, TVI925, TVI910+, PC Term, ADDS Adds VP, and Adds 60.

Power:

94-264 Vac ±10%/50/60 Hz.
Overview

Dimensions:

Height: 12.5" (320 mm), Width: 13.5" (340 mm), Depth: 12.5" (310 mm).

Shipping Weight:

25 lbs. (55 kg.)

Regulatory Compliance:

UL and CSA Approved. Meets FCC Class A, VDE Class B, IEC 950, CISPR-B, MPR II, and ZH1/618 "GS" requirements.

About This Manual

The MC5 User's Guide contains the information you need to install, set up, and operate the terminal. It is organized in the following manner:

Chapter 1
Installing the MC5

This chapter explains how to install the terminal as part of your host system network. Connecting external devices is also explained.

Chapter 2
Configuring the MC5

Chapter 2 explains how to invoke the MC5’s setup mode, and configure its operating parameters to meet your system’s requirements.

Chapter 3
Operating the MC5

Chapter 3 discusses the terminal’s user features, operating functions, and display capabilities.

Appendix A
Keyboard Layouts

This appendix provides illustrations of the keyboards supported by the MC5.

Appendix B
Error Codes

This appendix includes the MC5's error and system code descriptions.
Troubleshooting

This appendix provides a quick reference guide for troubleshooting the terminal.

Terms and Conventions

Terms

The following terms are used throughout this manual:

<table>
<thead>
<tr>
<th>Term</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application</td>
<td>A software program that directs the host computer and terminal to accomplish a specific task. For example, word or transaction processing.</td>
</tr>
<tr>
<td>Cursor</td>
<td>An on-screen indicator, such as a blinking underline, that marks the location at which keystrokes are entered from the keyboard.</td>
</tr>
<tr>
<td>Default</td>
<td>A value, setting, or response set by the manufacturer. For instance, the MC5's default emulation is VT220-7.</td>
</tr>
<tr>
<td>Host</td>
<td>The main computer in a network of computers or terminals connected directly or indirectly via a communications link.</td>
</tr>
<tr>
<td>Mode</td>
<td>A specific operational state in which the terminal exhibits a defined response.</td>
</tr>
<tr>
<td>Emulation</td>
<td>An operating mode that features compatible characteristics of a specific terminal, such as Digital Equipment Corporation's VT220.</td>
</tr>
<tr>
<td>Session</td>
<td>The active connection between the terminal and the host.</td>
</tr>
</tbody>
</table>

Key Symbols

The names of keys are italicized in small, bold typeface. For example: Tab, F4, or S. The inscriptions left and right are used to identify a particular control key, such as left Alt or right Shift.

Key Sequences

Key sequences appear simply as a series of key symbols, separated by a single space. For instance, Shift Setup means hold down the Shift and Setup keys at the same time.
Chapter 1

Installing the MC5

Setting Up the Terminal

Follow these instructions when setting up the MC5:

1. Choose a location away from direct sunlight or other sources of bright, direct lighting.

2. Place the terminal on a flat, hard surface, allowing three inches on all sides for ventilation and external cabling.

3. Connect the keyboard. Figure 1-1 shows the terminal’s keyboard connector location.

4. Check that your power outlet is grounded, and that it will accommodate a three-pronged plug.

5. Ensure that your power source’s voltage falls within the range shown on the back of the terminal before connecting the power cord.

Figure 1-1. Keyboard Connector Location
To turn the MC$_5$ on, press the power button on the right side of the terminal. A beep will indicate that the terminal is receiving power. A brief self-test will then take place. After which, the top of the screen will display a flashing cursor. At this point, set the brightness and contrast controls to mid-position, and then adjust the display to a comfortable viewing level. Figure 1-2 shows the power switch, and contrast and brightness control locations.

If a beep sounds at power-on, and a single character appears at the right-lower quadrant of the screen, you must exit the self-test and return to the operating screen by pressing G. Then enter setup, and check your parameter selections. If this happens again, note the error code, and return the terminal for servicing. Appendix B provides a list of error codes.

If a K is displayed, turn the power off. Press and hold down G while you turn the power back on. If this does not work, return the terminal for servicing.

---

**Figure 1-2. The MC$_5$ Terminal Controls**
After the MCs’s operating screen appears, enter setup mode. If this is the very first time the terminal has been turned on, press **Select** on the EPC/IEPC keyboard, **left Shift Setup** on the ASCII keyboard, or **F3** on the ANSI keyboard. The **General Setup** menu appears. Table 1-1 lists the setup mode’s keyboard commands. The parameters you see in this and the other menus are set with their factory defaults. Chapter 2 provides information about selecting different parameter values.

If the terminal’s emulation has been changed to a different value other than the default (VT220-7), then refer to Table 1-2 for the keystrokes that will invoke setup when another emulation is being used.

**Table 1-1. Setup Keyboard Commands**

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>↑ or ↓</td>
<td>Used to highlight the desired setup parameter.</td>
</tr>
<tr>
<td>← or →</td>
<td>Used to select a setup parameter’s setting.</td>
</tr>
<tr>
<td>Tab</td>
<td>Moves the highlight to the opposite parameter column.</td>
</tr>
<tr>
<td>P</td>
<td>Switches to the setup parameters for the other communications port. (Default is MAIN port.)</td>
</tr>
<tr>
<td>D</td>
<td>Restores the factory settings.</td>
</tr>
<tr>
<td>S</td>
<td>Saves the current settings in non-volatile memory. The settings that were saved last will be in effect at the next power-up.</td>
</tr>
<tr>
<td>R</td>
<td>Restores the most recently saved settings.</td>
</tr>
<tr>
<td>E</td>
<td>Exits setup mode. If the current setup is not saved, the changes will be lost when the terminal is turned off.</td>
</tr>
</tbody>
</table>
Installing the MC₅

### Table 1-2. Keystrokes Used to Invoke Setup

<table>
<thead>
<tr>
<th>Emulation</th>
<th>EPC/IEPC</th>
<th>ANSI</th>
<th>ASCII</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use the keystroke(s) for the appropriate keyboard you are using to invoke setup if this is the first time the MC₅ has been turned on or it is configured for any of the following emulations: ANSI.SYS, VT220-7, VT220-8, VT100, or VT52</td>
<td>left Shift Select</td>
<td>F3</td>
<td>left Shift Select</td>
</tr>
<tr>
<td>Use the keystroke(s) for the appropriate keyboard to invoke setup when the MC₅ has been configured for any of the following emulations: Link 125, Wyse 60, Wyse 50+, ADM3A, ADM5, TVI955, TVI950, TVI925, TVI910+, PC Term, Adds VP, or Adds 60</td>
<td>left Shift Select</td>
<td>left Ctrl F20</td>
<td>left Shift Select</td>
</tr>
</tbody>
</table>

### Adjusting the Display and Keyboard

Adjust the MC₅'s display with the brightness and contrast controls (see Figure 1-2).

The keyboard can be elevated to a comfortable position by pulling out the hinged feet located underneath the board.

### Communications Ports

The terminal can be connected directly to a host computer or indirectly to a remote system via a terminal server or modem. The MAIN port has a female 25-pin RS-232 connector. Use a shielded serial interface cable fitted with a male 25-pin connector on the terminal end.

A parallel printer can also be connected to the terminal’s PARALLEL port. Use a shielded parallel interface cable with a male 25-pin connector on the terminal end.

Figure 1-3 shows the location of the MC₅’s communications ports.
CAUTION! Be sure that your interface cable's pin assignments are compatible with those of the port to which they will be connected. Improper or incompatible cable connections can damage the terminal.

Connector Pin Assignments

Figure 1-3. MC5 Communications Ports

Figure 1-4. MAIN Port
Figure 1-5. PARALLEL Port

1 - STROBE
2 + DATA BIT 0
3 + DATA BIT 1
4 + DATA BIT 2
5 + DATA BIT 3
6 + DATA BIT 4
7 + DATA BIT 5
8 + DATA BIT 6
9 + DATA BIT 7
10 - ACKNOWLEDGE
11 + BUSY
12 + PAPER END
13 + SELECT
14 ....
15 - ERROR
16 ....
17 - 25 GROUND

Figure 1-6. AUXILIARY Port

1 RECEIVE LINE SIGNAL DETECT
2 RECEIVE DATA (RX)
3 TRANSMIT (TX)
4 DATA TERMINAL READY (DTR)
5 SIGNAL GROUND
6 DATA SET READY (DSR)
7 REQUEST to SEND (RTS)
8 CLEAR to SEND (RTS)

MC5 User's Guide
Chapter 2

Configuring the MC5

This chapter explains how to configure the MC5’s operating parameters, and redefine specific keys when in setup mode.

In general, setup parameters fall into three groups:

- Parameters that must be set to match the requirements of your computer or device for successful communications. For example, the terminal and the computer must be set to the same baud rate at which data is sent and received or communications will not be possible.

- Parameters that must be set to meet the requirements of particular application programs. For example, does your application require that tabs be set before it is installed?

- Parameters that you can set to suit your personal preferences. For example, do you want the cursor to appear on the screen as a block or underline, blinking or non-blinking?

Consult your computer, printer, and application manuals for instructions about their setup requirements.

Invoking and Exiting Setup

Invoke the MC5’s setup mode by pressing left Shift Setup on the ASCII keyboard, F3 on the ANSI keyboard, or left Shift Select on the EPC/IEPC keyboards. The General Setup menu will appear (Figure 2-1).

Note: Refer to Table 1-2 in Chapter 1 for keystrokes used to invoke setup when the MC5 is configured for an emulation other than the factory default.

CAUTION! If handshaking is not enabled, data may be lost if when invoking setup mode while the terminal is receiving data.
Setup Menus

A screen layout common to eight different setup menus is used to display the terminal’s setup parameters. Menu titles and their associated function keys appear in Table 2-1.

Table 2-1. Setup Menu List

<table>
<thead>
<tr>
<th>Function Key</th>
<th>Associated Menu</th>
</tr>
</thead>
<tbody>
<tr>
<td>F1</td>
<td>General Setup (Gen)</td>
</tr>
<tr>
<td>F2</td>
<td>Communications Setup (Comm)</td>
</tr>
<tr>
<td>F3</td>
<td>Display Setup (Disp)</td>
</tr>
<tr>
<td>F4</td>
<td>Keyboard Setup (Kbd)</td>
</tr>
<tr>
<td>F5</td>
<td>ANSI Setup (ANSI)</td>
</tr>
<tr>
<td>F6</td>
<td>Function Keys Setup (Fkeys)</td>
</tr>
<tr>
<td>F7</td>
<td>Tabs Setup</td>
</tr>
<tr>
<td>F8</td>
<td>Answerback Setup (Ansbk)</td>
</tr>
</tbody>
</table>

Exit setup by pressing F9 from within any of the eight setup menus listed above.

From the General Setup menu you can:

- Change the General Setup menu’s parameters
- Select and access the other seven setup screens to change their parameters

The first five setup menus may be accessed sequentially when Next Scrn or Prev Scrn on the ANSI keyboard, Next Page or Previous Page on the ASCII keyboard, or Page Up or Page Down on the EPC/IEPC keyboard is pressed.
Setup Menu Organization

As shown in Figure 2-1, the setup screens are divided into five areas or blocks:

- Header Block
- Parameter Item Block
- Selection Block
- Function Key Directory Block
- Host Port Indicator Block
- Control Key Options Block

![Figure 2-1. Setup Menu Organization](image-url)
**Configuring the MC5**

**Header Block**

This block indicates the manufacturer, model number, the title of the current setup screen, and the firmware release date and version number.

**Parameter Item Block**

The Parameter Item Block displays each setup menu’s parameter options. The selected option is highlighted. Its setting may be changed to any of the options shown in the selection block. Use the ↑ or ↓ key to select an option, and the ← or → key to select the setting for that option.

**Selection Block**

The Selection Block displays the options for a selected parameter.

**Function Key Directory Block**

This block lists the function keys that invoke each setup menu.

**Host Port Indicator Block**

This block indicates which serial port is currently connected to the host. Press P to toggle between the MAIN and AUXILIARY ports.

**Control Instruction Block**

The Control Instruction Block provides a summary of key commands used to invoke each setup menu.

**Saving Parameter Selections**

Press S to save your current parameter selections to permanent memory.

Press R to restore the MC5’s most recently saved parameter settings.

To restore the original factory settings, press D.

Press F9 or E to exit setup after you have finished making changes to the terminal’s parameters and saving them.
Configuring the MCs

Note: Selections not saved will remain in effect until the terminal is turned off. When it is turned back on, the most recently saved parameter settings will be restored.

Key definitions and the answerback message are automatically saved to permanent memory as they are entered.

Setup Parameters and Options

Tables 2-2 through 2-9 describe each setup menu’s parameter options. Defaults are shown in bold typeface.

Note: Not all setup parameters apply to every emulation. If you select an option that is invalid for the current emulation, the terminal will default to a valid setting when exiting setup.

General Setup Menu

The General Setup menu allows you to select a desired emulation, and configure such features as non-native enhancements, virtual terminal modes, and page editing. Press left Shift Setup on the ASCII keyboard, F3 (or left Ctrl F20 for ASCII emulations) on the ANSI keyboard, or left Shift Select on the EPC/JEPC keyboards to invoke setup mode from the main screen and invoke this menu. Press F1 to invoke it from any other setup menu.

Figure 2-2 shows the General Setup menu. Table 2-2 lists describes its parameters.
## Configuring the MC5

### General Setup Menu

<table>
<thead>
<tr>
<th>Emulation</th>
<th>VT220-7</th>
<th>AutoPage</th>
<th>Off</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enhancements</td>
<td>Off</td>
<td>Warning Bell</td>
<td>On</td>
</tr>
<tr>
<td>Virtual Terminal</td>
<td>Off</td>
<td>Margin Bell</td>
<td>Off</td>
</tr>
<tr>
<td>Scroll Style</td>
<td>Jump</td>
<td>Bell Sound</td>
<td>1</td>
</tr>
<tr>
<td>Auto Scroll</td>
<td>On</td>
<td>Block Terminator</td>
<td>US/CR</td>
</tr>
<tr>
<td>Auto Wrap</td>
<td>Off</td>
<td>Send ACK</td>
<td>Off</td>
</tr>
<tr>
<td>Received CR</td>
<td>CR</td>
<td>Monitor Mode</td>
<td>Off</td>
</tr>
</tbody>
</table>

ANSI.SYS VT220-7 VT220-8 VT100 VT52 Link 125 Wyse 60 Wyse 50+ ADM3A ADM5 TV1955 TV1950 TV1925 TV1910+ PC Term Adds VP Adds 60

<table>
<thead>
<tr>
<th>Host is on Main Port</th>
<th>F1 Gen</th>
<th>F6 Fkeys</th>
</tr>
</thead>
<tbody>
<tr>
<td>E .. Exit Setup</td>
<td>F2 Comm</td>
<td>F7 Tabs</td>
</tr>
<tr>
<td>M .. Save Mode</td>
<td>F3 Disp</td>
<td>F8 Ansbk</td>
</tr>
<tr>
<td>S .. Save All</td>
<td>F4 Kbd</td>
<td>F9 Exit</td>
</tr>
<tr>
<td></td>
<td>F5 ANSI</td>
<td></td>
</tr>
</tbody>
</table>

**Figure 2-2. General Setup Menu**
### Table 2-2. General Setup Menu Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Emulation</strong>&lt;sup&gt;1&lt;/sup&gt;</td>
<td>The terminal will run application programs using command sets characteristic of the following terminals:</td>
</tr>
<tr>
<td>ANSI.SYS</td>
<td>SCO Xenix Console.</td>
</tr>
<tr>
<td>VT220-7</td>
<td>DEC VT220 in 7-bit mode.</td>
</tr>
<tr>
<td>VT220-8</td>
<td>DEC VT220 in 8-bit mode.</td>
</tr>
<tr>
<td>VT100</td>
<td>DEC VT100.</td>
</tr>
<tr>
<td>VT52</td>
<td>DEC VT52.</td>
</tr>
<tr>
<td>Link 125</td>
<td>Link Technologies, Inc. 125.</td>
</tr>
<tr>
<td>Wyse 60</td>
<td>WYSE Technologies, Inc. WY-60.</td>
</tr>
<tr>
<td>Wyse 50+</td>
<td>WYSE Technologies, Inc. WY-50, WY-50+.</td>
</tr>
<tr>
<td>ADM3A</td>
<td>Zentec ADM3A.</td>
</tr>
<tr>
<td>ADM5</td>
<td>Zentec ADM5.</td>
</tr>
<tr>
<td>TVl955</td>
<td>TeleVideo TVI955.</td>
</tr>
<tr>
<td>TVl950</td>
<td>TeleVideo TVI950.</td>
</tr>
<tr>
<td>TVl925</td>
<td>TeleVideo TVI925.</td>
</tr>
<tr>
<td>TVl910+</td>
<td>TeleVideo TVI910 and TVI910+.</td>
</tr>
<tr>
<td>PCTerm</td>
<td>PC Terminal.</td>
</tr>
<tr>
<td>ADDS VP</td>
<td>ADDS Viewpoint.</td>
</tr>
<tr>
<td>ADDS 60</td>
<td>ADDS Viewpoint 60.</td>
</tr>
<tr>
<td><strong>Enhancements</strong></td>
<td>In some non-native emulations, an enhanced set of codes is:</td>
</tr>
<tr>
<td>Off</td>
<td>Disabled; not recognized by the terminal.</td>
</tr>
<tr>
<td>On</td>
<td>Enabled; recognized by the terminal.</td>
</tr>
<tr>
<td><strong>Virtual Terminal</strong></td>
<td>When Virtual Terminal is set to:</td>
</tr>
<tr>
<td>Off</td>
<td>The terminal will access only one host during a session.</td>
</tr>
<tr>
<td>On</td>
<td>The terminal will access two hosts in full-page display mode (Dual Session mode).</td>
</tr>
<tr>
<td><strong>Scroll Style</strong>&lt;sup&gt;2&lt;/sup&gt;</td>
<td>The screen display scrolls at:</td>
</tr>
<tr>
<td>Jump</td>
<td>The rate data is received.</td>
</tr>
<tr>
<td>Smooth-8</td>
<td>Eight lines per second.</td>
</tr>
<tr>
<td>Smooth-4</td>
<td>Four lines per second.</td>
</tr>
<tr>
<td>Smooth-2</td>
<td>Two lines per second.</td>
</tr>
<tr>
<td>Smooth-1</td>
<td>One line per second</td>
</tr>
</tbody>
</table>

<sup>1</sup> The terminal may clear the entire display memory after you change the emulation.<br><sup>2</sup> When smooth scrolling is selected, receive handshaking should be enabled (see Communications Setup menu).
### Table 2-2. General Setup Menu Parameters (cont.)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auto Scroll</td>
<td>When the cursor moves past the last line on the page:</td>
</tr>
<tr>
<td></td>
<td><strong>On</strong></td>
</tr>
<tr>
<td></td>
<td>The data scrolls up one line at a time.</td>
</tr>
<tr>
<td></td>
<td>It returns wraps around to the top of the same page.</td>
</tr>
<tr>
<td></td>
<td><strong>Off</strong></td>
</tr>
<tr>
<td>Auto Wrap</td>
<td>When characters are entered at the end of a line:</td>
</tr>
<tr>
<td></td>
<td><strong>On</strong></td>
</tr>
<tr>
<td></td>
<td>The cursor wraps to the start of the next line.</td>
</tr>
<tr>
<td></td>
<td>Characters at the cursor position are overwritten.</td>
</tr>
<tr>
<td></td>
<td><strong>Off</strong></td>
</tr>
<tr>
<td>Received CR</td>
<td>When the MC₅ receives an ASCII CR (carriage return) character, the cursor will move to the beginning of the:</td>
</tr>
<tr>
<td></td>
<td><strong>CR</strong></td>
</tr>
<tr>
<td></td>
<td>Current line.</td>
</tr>
<tr>
<td></td>
<td><strong>CRLF</strong></td>
</tr>
<tr>
<td></td>
<td>Next line.</td>
</tr>
<tr>
<td>Auto Page</td>
<td>When the cursor reaches the top or bottom of the page:</td>
</tr>
<tr>
<td></td>
<td><strong>Off</strong></td>
</tr>
<tr>
<td></td>
<td>It wraps around and data scrolls up and down the page, depending upon the Autoscroll parameter selection.</td>
</tr>
<tr>
<td></td>
<td><strong>On</strong></td>
</tr>
<tr>
<td></td>
<td>A new page of memory moves onto the screen.</td>
</tr>
<tr>
<td>Warning Bell</td>
<td>When Virtual Terminal mode is set to On, the MC₅’s bell:</td>
</tr>
<tr>
<td></td>
<td><strong>Off</strong></td>
</tr>
<tr>
<td></td>
<td>Does not sound when the inactive session receives data.</td>
</tr>
<tr>
<td></td>
<td><strong>On</strong></td>
</tr>
<tr>
<td></td>
<td>Sounds repeatedly when the inactive session receives data from the host.</td>
</tr>
<tr>
<td>Margin Bell</td>
<td>The MC₅’s bell:</td>
</tr>
<tr>
<td></td>
<td><strong>On</strong></td>
</tr>
<tr>
<td></td>
<td>Rings when the cursor reaches the column where the bell is set (default is column 72 in 80-column mode, and column 124 in 132-column mode).</td>
</tr>
<tr>
<td></td>
<td><strong>Off</strong></td>
</tr>
<tr>
<td></td>
<td>Does not ring when the cursor approaches the right margin.</td>
</tr>
</tbody>
</table>
Table 2-2. General Setup Menu Parameters (cont.)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bell Sound</td>
<td>The sound of the MC5’s bell is:</td>
</tr>
<tr>
<td>Off</td>
<td>Turned off.</td>
</tr>
<tr>
<td>1</td>
<td>A low-pitched beep.</td>
</tr>
<tr>
<td>2</td>
<td>A medium-pitched beep.</td>
</tr>
<tr>
<td>3</td>
<td>A high-pitched beep.</td>
</tr>
<tr>
<td>Block Terminator</td>
<td>When the MC5 sends a block of data to the host, the:</td>
</tr>
<tr>
<td>US/CR</td>
<td>Line terminator is an ASCII US character; the block terminator is an ASCII</td>
</tr>
<tr>
<td>CRLF/ETX</td>
<td>CR character.</td>
</tr>
<tr>
<td></td>
<td>Line terminators are ASCII CR and LF (line feed) characters; the block</td>
</tr>
<tr>
<td></td>
<td>terminator is an ASCII ETX character.</td>
</tr>
<tr>
<td>Send ACK</td>
<td>After executing certain commands⁴, the terminal:</td>
</tr>
<tr>
<td>Off</td>
<td>Sends no acknowledgment.</td>
</tr>
<tr>
<td>On</td>
<td>Sends an ASCII ACK character to the host port when the operation is complete.</td>
</tr>
<tr>
<td>Monitor Mode</td>
<td>The MC5:</td>
</tr>
<tr>
<td>Off</td>
<td>Executes escape sequences and control codes.</td>
</tr>
<tr>
<td>On</td>
<td>Displays symbols for escape sequences and control codes without acting on</td>
</tr>
<tr>
<td></td>
<td>them.</td>
</tr>
</tbody>
</table>

⁴ For example, commands to reconfigure the serial ports, load character sets, or print a page.
Communications Setup Menu

The MCs's Communications Setup menu allows you to configure the terminal’s communications parameters. This includes defining the Printer Port, and setting the Serial Interface and Comm Mode options. To invoke this menu, press F2.

Figure 2-3 shows the Communications Setup menu. Table 2-3 describes each of its parameters.

![Table 2-3](image)

**Figure 2-3. Communications Setup Menu**
### Table 2-3. Communications Setup Menu Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main Baud</td>
<td>The MAIN port's baud rate (bps) is:</td>
</tr>
<tr>
<td>75</td>
<td>75 bps.</td>
</tr>
<tr>
<td>110</td>
<td>110 bps.</td>
</tr>
<tr>
<td>134.5</td>
<td>134.5 bps.</td>
</tr>
<tr>
<td>150</td>
<td>150 bps.</td>
</tr>
<tr>
<td>300</td>
<td>300 bps.</td>
</tr>
<tr>
<td>600</td>
<td>600 bps.</td>
</tr>
<tr>
<td>1200</td>
<td>1200 bps.</td>
</tr>
<tr>
<td>1800</td>
<td>1800 bps.</td>
</tr>
<tr>
<td>2400</td>
<td>2400 bps.</td>
</tr>
<tr>
<td>3600</td>
<td>3600 bps.</td>
</tr>
<tr>
<td>4800</td>
<td>4800 bps.</td>
</tr>
<tr>
<td><strong>9600</strong></td>
<td>9600 bps.</td>
</tr>
<tr>
<td>19200</td>
<td>19200 bps.</td>
</tr>
<tr>
<td>38400</td>
<td>38400 bps.</td>
</tr>
<tr>
<td>57600</td>
<td>57600 bps.</td>
</tr>
<tr>
<td>115200</td>
<td>115200 bps.</td>
</tr>
<tr>
<td>Main Data/Parity</td>
<td>The MC₅ sends data via the MAIN port with:</td>
</tr>
<tr>
<td><strong>8/None</strong></td>
<td>8-bit data, no parity.</td>
</tr>
<tr>
<td>8/Space</td>
<td>8-bit data, space parity.</td>
</tr>
<tr>
<td>8/Odd</td>
<td>8-bit data, odd parity.</td>
</tr>
<tr>
<td>8/Even</td>
<td>8-bit data, even parity.</td>
</tr>
<tr>
<td>8/Mark</td>
<td>8-bit data, mark parity.</td>
</tr>
<tr>
<td>7/Space</td>
<td>7-bit data, space parity.</td>
</tr>
<tr>
<td>7/Odd</td>
<td>7-bit data, odd parity.</td>
</tr>
<tr>
<td>7/Even</td>
<td>7-bit data, even parity.</td>
</tr>
<tr>
<td>7/Mark</td>
<td>7-bit data, mark parity.</td>
</tr>
<tr>
<td>Main Stop Bits</td>
<td>The MC₅ sends and receives characters via the MAIN port with:</td>
</tr>
<tr>
<td>1</td>
<td>1 stop bit.</td>
</tr>
<tr>
<td>2</td>
<td>2 stop bits.</td>
</tr>
<tr>
<td>Main Rcv Hndsk</td>
<td>The MC₅ controls the receipt of data from a device connected to the MAIN port using:</td>
</tr>
<tr>
<td>None</td>
<td>No handshaking protocol.</td>
</tr>
<tr>
<td><strong>XON/XOFF</strong></td>
<td>XON/XOFF software handshaking.</td>
</tr>
<tr>
<td>DTR</td>
<td>Data Terminal Ready hardware handshake protocol.</td>
</tr>
<tr>
<td>DTR/XOFF</td>
<td>DTR + XOFF handshaking.</td>
</tr>
<tr>
<td>XPC</td>
<td>XPC handshaking.</td>
</tr>
<tr>
<td><strong>DTR/XPC</strong></td>
<td>DTR + XPC handshaking.</td>
</tr>
</tbody>
</table>
### Table 2-3. Communications Setup Menu Parameters (cont.)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Main Xmt Hndsk</strong>&lt;sup&gt;1&lt;/sup&gt;</td>
<td>When sending data to a device connected to the MAIN port, the <strong>MC₅</strong>:</td>
</tr>
<tr>
<td>None</td>
<td>Ignores all incoming software handshaking codes.</td>
</tr>
<tr>
<td>XON-XOFF</td>
<td>Responds to XON/XOFF software handshaking.</td>
</tr>
<tr>
<td><strong>Main Rcv Level</strong></td>
<td>When handshaking is active, the <strong>MC₅</strong> receives data via its Main port when:</td>
</tr>
<tr>
<td>25%</td>
<td>The receive buffer is 25% full.</td>
</tr>
<tr>
<td>50%</td>
<td>The receive buffer is 50% full.</td>
</tr>
<tr>
<td>75%</td>
<td>The receive buffer is 75% full.</td>
</tr>
<tr>
<td><strong>Ignore 8th Bit</strong></td>
<td>The <strong>MC₅</strong> receives:</td>
</tr>
<tr>
<td>Off</td>
<td>Bits 0 through 7.</td>
</tr>
<tr>
<td>On</td>
<td>Bits 0 through 6.</td>
</tr>
<tr>
<td><strong>Comm Mode</strong>&lt;sup&gt;2&lt;/sup&gt;</td>
<td>The <strong>MC₅</strong>'s host port communication mode is:</td>
</tr>
<tr>
<td>Full Duplex</td>
<td>Full duplex.</td>
</tr>
<tr>
<td>Block</td>
<td>Block.</td>
</tr>
<tr>
<td>Half Duplex</td>
<td>Half duplex.</td>
</tr>
<tr>
<td>Half Block</td>
<td>Half-duplex block.</td>
</tr>
<tr>
<td>Local</td>
<td>Local.</td>
</tr>
<tr>
<td><strong>Disconnect</strong></td>
<td>When the Modem Control parameter is set to on, the terminal disconnects after the Receive Line Signal Detect (RLSD) goes low for:</td>
</tr>
<tr>
<td>2 sec</td>
<td>Two seconds.</td>
</tr>
<tr>
<td>60 msec</td>
<td>60 milliseconds.</td>
</tr>
</tbody>
</table>

<sup>1</sup> Do not change the default setting (none) unless another setting is specifically required by your system. Set this parameter to XON-XOFF to be fully DEC-compatible when the terminal is in an ANSI emulation.

<sup>2</sup> Do not select this setting unless you know it is required; duplicated characters will appear on the screen if the host also echoes the data.
Configuring the MC$_5$

### Table 2-3. Communications Setup Menu Parameters (cont.)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Aux Baud</strong></td>
<td>The AUXILIARY port’s baud rate is:</td>
</tr>
<tr>
<td>75</td>
<td>75 bps.</td>
</tr>
<tr>
<td>110</td>
<td>110 bps.</td>
</tr>
<tr>
<td>134.5</td>
<td>134.5 bps.</td>
</tr>
<tr>
<td>150</td>
<td>150 bps.</td>
</tr>
<tr>
<td>300</td>
<td>300 bps.</td>
</tr>
<tr>
<td>600</td>
<td>600 bps.</td>
</tr>
<tr>
<td>1200</td>
<td>1200 bps.</td>
</tr>
<tr>
<td>1800</td>
<td>1800 bps.</td>
</tr>
<tr>
<td>2400</td>
<td>2400 bps.</td>
</tr>
<tr>
<td>3600</td>
<td>3600 bps.</td>
</tr>
<tr>
<td>4800</td>
<td>4800 bps.</td>
</tr>
<tr>
<td><strong>9600</strong></td>
<td>9600 bps.</td>
</tr>
<tr>
<td>19200</td>
<td>19200 bps.</td>
</tr>
<tr>
<td>38400</td>
<td>38400 bps.</td>
</tr>
<tr>
<td>57600</td>
<td>57600 bps.</td>
</tr>
<tr>
<td>115200</td>
<td>115200 bps.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Aux Data/Parity</strong></th>
<th>The terminal sends data via the AUXILIARY port using:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>8/None</strong></td>
<td>8-bit data, no parity.</td>
</tr>
<tr>
<td>8/Space</td>
<td>8-bit data, space parity.</td>
</tr>
<tr>
<td>8/Odd</td>
<td>8-bit data, odd parity.</td>
</tr>
<tr>
<td>8/Even</td>
<td>8-bit data, even parity.</td>
</tr>
<tr>
<td>8/Mark</td>
<td>8-bit data, mark parity.</td>
</tr>
<tr>
<td>7/None</td>
<td>7-bit data, no parity.</td>
</tr>
<tr>
<td>7/Space</td>
<td>7-bit data, space parity.</td>
</tr>
<tr>
<td>7/Odd</td>
<td>7-bit data, odd parity.</td>
</tr>
<tr>
<td>7/Even</td>
<td>7-bit data, even parity.</td>
</tr>
<tr>
<td>7/Mark</td>
<td>7-bit data, mark parity.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Aux Stop Bits</strong></th>
<th>The MC$_5$ sends and receives characters through Aux port with:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1</strong></td>
<td>1 stop bit.</td>
</tr>
<tr>
<td><strong>2</strong></td>
<td>2 stop bits.</td>
</tr>
</tbody>
</table>
### Configuring the MCs

#### Table 2-3. Communications Setup Menu Parameters (cont.)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aux Rcv Hndsk</td>
<td>The MCs controls the receipt of data from a device connected to the AUXILIARY port by:</td>
</tr>
<tr>
<td>None</td>
<td>No handshaking.</td>
</tr>
<tr>
<td>XON/XOFF</td>
<td>XON/XOFF software handshaking.</td>
</tr>
<tr>
<td>DTR</td>
<td>Data Terminal Ready hardware handshaking.</td>
</tr>
<tr>
<td>DTR/XOFF</td>
<td>DTR + XOFF handshaking.</td>
</tr>
<tr>
<td>XPC</td>
<td>XPC handshaking.</td>
</tr>
<tr>
<td>DTR/XPC</td>
<td>DTR + XPC handshake protocols handshaking.</td>
</tr>
<tr>
<td>Aux Xmt Hndsk</td>
<td>When sending data to a device connected to the AUXILIARY port, the terminal:</td>
</tr>
<tr>
<td>None</td>
<td>Ignores all incoming software handshaking codes.</td>
</tr>
<tr>
<td>XON-XOFF (^3)</td>
<td>Responds to XON/XOFF software handshaking.</td>
</tr>
<tr>
<td>DSR</td>
<td>Responds to data-set-ready (DSR) hardware handshaking.</td>
</tr>
<tr>
<td>Aux Rcv Level</td>
<td>When handshaking is active, the MCs receives data via its AUX port when:</td>
</tr>
<tr>
<td>25%</td>
<td>The receive buffer is 25% full.</td>
</tr>
<tr>
<td>50%</td>
<td>The receive buffer is 50% full.</td>
</tr>
<tr>
<td>75%</td>
<td>The receive buffer is 75% full.</td>
</tr>
<tr>
<td>Aux Port</td>
<td>The AUXILIARY port is using:</td>
</tr>
<tr>
<td>RS232</td>
<td>RS-232 communications.</td>
</tr>
<tr>
<td>RS232/RS422</td>
<td>RS232/RS-422 communications..</td>
</tr>
<tr>
<td>Aux Interface</td>
<td>The AUXILIARY port supports:</td>
</tr>
<tr>
<td>RS232</td>
<td>RS-232 communications.</td>
</tr>
<tr>
<td>Printer Port</td>
<td>During print operations, the terminal sends data to a:</td>
</tr>
<tr>
<td>Parallel</td>
<td>Parallel printer connected to the PARALLEL port.</td>
</tr>
<tr>
<td>Serial</td>
<td>Serial printer connected to the MAIN or AUXILIARY port (whichever is not assigned as the host port (see Host Port parameter).</td>
</tr>
<tr>
<td>None</td>
<td>No printer supported.</td>
</tr>
</tbody>
</table>

\(^3\) Do not change the default setting (none) unless another setting is specifically required by your system installation. Set to XON-XOFF to be fully DEC-compatible when the terminal is in an-ANSI emulation.
Configuring the MC\textsubscript{5}

Display Menu Setup

The MC\textsubscript{5}'s Display Setup menu allows you to configure the terminal's display parameters. This includes setting parameters for lines, columns, text attributes, and cursor style. To invoke this menu, press \textit{F3}.

Figure 2-4 shows the Display Setup menu. Table 2-5 describes each of its parameters.

![Table of Display Setup Parameters]

\textbf{Figure 2-4. Display Setup Menu}
### Table 2-5. Display Setup Menu Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Columns</td>
<td>The screen will display:</td>
</tr>
<tr>
<td>80</td>
<td>80 Columns.</td>
</tr>
<tr>
<td>132</td>
<td>132 Columns.</td>
</tr>
<tr>
<td>Econ-80</td>
<td>80 Columns. This option will disable the MC5's 132-column display format, and increase memory space for the 80-column display.</td>
</tr>
<tr>
<td>80/132 Clear</td>
<td>When changing the column formats, the terminal:</td>
</tr>
<tr>
<td>Off</td>
<td>Will not clear the screen.</td>
</tr>
<tr>
<td>On</td>
<td>Will clear the screen.</td>
</tr>
<tr>
<td>Lines</td>
<td>The screen will display a status line at the top of the page, and also:</td>
</tr>
<tr>
<td>24</td>
<td>24 data lines with 1 label line.</td>
</tr>
<tr>
<td>25</td>
<td>25 data lines with 1 label line.</td>
</tr>
<tr>
<td>42</td>
<td>42 data lines with 1 label line.</td>
</tr>
<tr>
<td>43</td>
<td>43 data lines with 1 label line.</td>
</tr>
<tr>
<td>Pages</td>
<td>The length of a memory page is equal to:</td>
</tr>
<tr>
<td>1 x Lines</td>
<td>The number of data lines selected from the Lines parameter.</td>
</tr>
<tr>
<td>2 x Lines</td>
<td>Twice the number of data lines selected from the Lines parameter.</td>
</tr>
<tr>
<td>4 x Lines</td>
<td>Four times the number of data lines selected from the Lines parameter.</td>
</tr>
<tr>
<td>*</td>
<td>The number of data lines for the first page, the remaining lines for page 2 will reside in memory.</td>
</tr>
<tr>
<td>Status Line</td>
<td>The screen displays:</td>
</tr>
<tr>
<td>On</td>
<td>A status line with cursor and column indicators.</td>
</tr>
<tr>
<td>EXT</td>
<td>A status line with editing information.</td>
</tr>
<tr>
<td>Off</td>
<td>No status line.</td>
</tr>
</tbody>
</table>

1 When the screen or page format is changed, the terminal clears the entire display memory, homes the cursor, and resets the scroll margin.

2 When the screen or page format is changed, the terminal clears the entire display memory, homes the cursor, and resets the scroll margin.
Table 2-5. Display Setup Menu Parameters (cont.)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cursor Style</td>
<td>The screen will display:</td>
</tr>
<tr>
<td>Blink Block</td>
<td>A blinking block.</td>
</tr>
<tr>
<td>Steady Block</td>
<td>A steady underline.</td>
</tr>
<tr>
<td>Blink Line</td>
<td>Blinking underline.</td>
</tr>
<tr>
<td>Steady Line</td>
<td>Steady underline.</td>
</tr>
<tr>
<td>Cursor</td>
<td>The cursor is:</td>
</tr>
<tr>
<td>On</td>
<td>Visible</td>
</tr>
<tr>
<td>Off</td>
<td>Invisible</td>
</tr>
<tr>
<td>Screen Saver</td>
<td>If data is not received for processing from the host or keyboard, the screen will:</td>
</tr>
<tr>
<td>Off</td>
<td>Continuously display data.</td>
</tr>
<tr>
<td>15 Min</td>
<td>Discontinue displaying data after 15 minutes.</td>
</tr>
<tr>
<td>30 Min</td>
<td>Discontinue displaying data after 30 minutes.</td>
</tr>
<tr>
<td>60 Min</td>
<td>Discontinue displaying data after 60 minutes.</td>
</tr>
<tr>
<td>Background</td>
<td>The screen will display:</td>
</tr>
<tr>
<td>Dark</td>
<td>Light characters against a dark background.</td>
</tr>
<tr>
<td>Light</td>
<td>Dark characters against a light background.</td>
</tr>
<tr>
<td>Attributes</td>
<td>Display attributes are:</td>
</tr>
<tr>
<td>Char</td>
<td>Assigned to each character as it is entered.</td>
</tr>
<tr>
<td>Line</td>
<td>Active to the end of the line.</td>
</tr>
<tr>
<td>Pae</td>
<td>Active to the end of the page.</td>
</tr>
<tr>
<td>Wprt Intensity</td>
<td>Write-protected characters are:</td>
</tr>
<tr>
<td>Normal</td>
<td>Normal.</td>
</tr>
<tr>
<td>Blank</td>
<td>Hidden.</td>
</tr>
<tr>
<td>Dim</td>
<td>Dim.</td>
</tr>
<tr>
<td>Wprt Reverse</td>
<td>Write-protected characters are displayed as:</td>
</tr>
<tr>
<td>Off</td>
<td>Light characters against a dark background.</td>
</tr>
<tr>
<td>On</td>
<td>Dark characters against a light background.</td>
</tr>
</tbody>
</table>
### Table 2-5. Display Setup Menu Parameters (cont.)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Wprt Underline</strong></td>
<td>Write-protected characters are:</td>
</tr>
<tr>
<td>Off</td>
<td>Not Underlined.</td>
</tr>
<tr>
<td>On</td>
<td>Underlined.</td>
</tr>
<tr>
<td><strong>Refresh Rate</strong></td>
<td>The display screen is redrawn:</td>
</tr>
<tr>
<td>60 Hz</td>
<td>60 times per second.</td>
</tr>
<tr>
<td>78 Hz</td>
<td>78 times per second.</td>
</tr>
<tr>
<td><strong>Pound Char</strong></td>
<td>When the MC₅ receives an ASCII # character (23H), the</td>
</tr>
<tr>
<td>US</td>
<td>character displayed is a:</td>
</tr>
<tr>
<td>British</td>
<td>U.S. pound symbol (#).</td>
</tr>
<tr>
<td></td>
<td>British pound symbol (£).</td>
</tr>
<tr>
<td><strong>Auto Font Load</strong></td>
<td>When changing personalities, the MC₅:</td>
</tr>
<tr>
<td>Off</td>
<td>Will not change the current character set.</td>
</tr>
<tr>
<td>On</td>
<td>Loads the appropriate character set.</td>
</tr>
</tbody>
</table>

3 Press any key to restore the screen display.
4 Selection not supported in non-hidden attribute personalities (WY-50+, ADDS VP, Link 125, ADM3A, ADM5, TeleVideo 910+, 925, 950)
The MC5's Keyboard Setup menu allows you to configure the terminal's display parameters. This includes setting parameters for lines, columns, text attributes, and cursor style. To invoke this menu, press F4.

Figure 2-5 shows the Keyboard Setup menu. Table 2-6 describes each of its parameters.

![Table 2-6: Description of Keyboard Setup Parameters](image)

**Figure 2-5. Keyboard Setup Menu.**
<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Key Click</td>
<td>Each time a key is pressed or held down, the MC5's bell:</td>
</tr>
<tr>
<td>On</td>
<td>Emits a beep.</td>
</tr>
<tr>
<td>Off</td>
<td>Does not emit a beep.</td>
</tr>
<tr>
<td>Key Repeat</td>
<td>When held down for more than .5 seconds, a key:</td>
</tr>
<tr>
<td>On</td>
<td>Will repeatedly enter the character until the key is released.</td>
</tr>
<tr>
<td>Off</td>
<td>Will not repeat the character.</td>
</tr>
<tr>
<td>Key Lock</td>
<td>When Lock or Caps Lock is pressed:</td>
</tr>
<tr>
<td>Caps</td>
<td>Alphabet keys will generate uppercase characters only. Numeric and symbol keys are unaffected.</td>
</tr>
<tr>
<td>Reverse</td>
<td>The Shift key's function is reversed: shifted alphabet keys will generate lowercase characters, and unshifted alphabet keys will generate uppercase characters. Numeric and symbol keys are unaffected. All keys will generate shifted characters only.</td>
</tr>
<tr>
<td>Shift</td>
<td></td>
</tr>
<tr>
<td>Return Key</td>
<td>Return sends the ASCII character for:</td>
</tr>
<tr>
<td>CR</td>
<td>Carriage return (CR).</td>
</tr>
<tr>
<td>CRLF</td>
<td>Carriage return (CR) and linefeed (LF).</td>
</tr>
<tr>
<td>Enter Key</td>
<td>Enter sends the ASCII character for:</td>
</tr>
<tr>
<td>CR</td>
<td>Carriage return (CR).</td>
</tr>
<tr>
<td>CRLF</td>
<td>Carriage return (CR) and linefeed (LF).</td>
</tr>
<tr>
<td>+</td>
<td>(plus character).</td>
</tr>
<tr>
<td>Back Space Key</td>
<td>The Back Space key sends a:</td>
</tr>
<tr>
<td>DEL/BS</td>
<td>Delete character (DEL), and the shifted key sends a backspace character (BS).</td>
</tr>
<tr>
<td>BS/DEL</td>
<td>Backspace character, and the shifted key sends a delete character.</td>
</tr>
</tbody>
</table>
### Table 2-6. Keyboard Setup Menu Parameters (cont.)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Left Alt Key</strong></td>
<td>Pressing <em>Compose Character, Funct</em>, or <em>left Alt</em>:</td>
</tr>
<tr>
<td><strong>Funct</strong></td>
<td>Together with an alphanumeric key sends an ASCII SOH, the alphanumeric key’s ASCII code, and an ASCII CR.</td>
</tr>
<tr>
<td><strong>Hold</strong></td>
<td>Freezes the current data on the screen until the key is pressed again.</td>
</tr>
<tr>
<td><strong>Meta</strong></td>
<td>Together with an alphanumeric key, sends the other key’s code with the high bit set.</td>
</tr>
<tr>
<td><strong>Compose</strong></td>
<td>In sequence with certain other keys, composes nonstandard characters.</td>
</tr>
<tr>
<td><strong>Note:</strong></td>
<td>This parameter’s title changes with the keyboard being used. For instance, Left Alt Key is displayed when using the EPC keyboard; Compose Key with the ANSI boards, and Funct Key with the ASCII board.</td>
</tr>
<tr>
<td><strong>Delete Key</strong></td>
<td>The <em>Delete</em> key responds according to the selected emulation in the following manner:</td>
</tr>
<tr>
<td><strong>Normal</strong></td>
<td>Deletes individual characters from the screen.</td>
</tr>
<tr>
<td></td>
<td>Sends a DEL code (7f) to the host.</td>
</tr>
<tr>
<td><strong>DEL</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Break</strong></td>
<td>When <em>F5, Break</em>, or <em>Ctrl Break</em> is pressed, the <em>MC₅</em> sends the following to the host:</td>
</tr>
<tr>
<td>170 msec</td>
<td>170 ms break signal.</td>
</tr>
<tr>
<td><strong>250 msec</strong></td>
<td>250 ms break signal.</td>
</tr>
<tr>
<td>500 msec</td>
<td>500 ms break signal.</td>
</tr>
<tr>
<td><strong>Off</strong></td>
<td>None.</td>
</tr>
<tr>
<td><strong>Xmt Limit</strong></td>
<td>The terminal sends data via the host port:</td>
</tr>
<tr>
<td><strong>None</strong></td>
<td>As fast as the baud rate allows.</td>
</tr>
<tr>
<td>60 cps</td>
<td>At a maximum 60 characters per second.</td>
</tr>
<tr>
<td>150 cps</td>
<td>At a maximum 150 characters per second.</td>
</tr>
<tr>
<td><strong>Fkey Xmt Limit</strong></td>
<td>the <em>MC₅</em> sends function key definitions:</td>
</tr>
<tr>
<td><strong>None</strong></td>
<td>As fast as the baud rate allows.</td>
</tr>
<tr>
<td>60 cps</td>
<td>At 60 characters per second.</td>
</tr>
<tr>
<td>150 cps</td>
<td>At 150 characters per second.</td>
</tr>
</tbody>
</table>
**Table 2-6. Keyboard Setup Menu Parameters (cont.)**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Keycode</td>
<td>When keys are pressed, the terminal sends:</td>
</tr>
<tr>
<td><strong>ASCII</strong> Scan</td>
<td>Standard ASCII key codes. PC scan codes (up/down).</td>
</tr>
<tr>
<td>WP Keyboard Mode</td>
<td>Enables WordPerfect when running on a host under Unix:</td>
</tr>
<tr>
<td>Off</td>
<td>WordPerfect key codes disabled.</td>
</tr>
<tr>
<td>On</td>
<td>WordPerfect key codes enabled.</td>
</tr>
<tr>
<td>Lock Keyboard</td>
<td>When set to:</td>
</tr>
<tr>
<td><strong>Disable</strong></td>
<td>Prevents the host from disabling the keyboard.</td>
</tr>
<tr>
<td><strong>Enable</strong></td>
<td>Allows the host to disable (lock) the keyboard.</td>
</tr>
<tr>
<td>Language</td>
<td>Sets the keyboard language to match the keycap set:</td>
</tr>
<tr>
<td>US</td>
<td>ANSI, ASCII, EPC.</td>
</tr>
<tr>
<td>UK</td>
<td>ANSI, ASCII, IEPC.</td>
</tr>
<tr>
<td>Norwegian</td>
<td>ANSI, IEPC.</td>
</tr>
<tr>
<td>Norwegian/Danish</td>
<td>ASCII.</td>
</tr>
<tr>
<td>Danish</td>
<td>ANSI, IEPC.</td>
</tr>
<tr>
<td>German</td>
<td>ANSI, ASCII, IEPC.</td>
</tr>
<tr>
<td>French</td>
<td>ASCII, IEPC.</td>
</tr>
<tr>
<td>Spanish</td>
<td>ANSI, ASCII, IEPC.</td>
</tr>
<tr>
<td>Swedish/Finnish</td>
<td>ASCII, IEPC.</td>
</tr>
<tr>
<td>Swedish</td>
<td>ANSI.</td>
</tr>
<tr>
<td>Flemish</td>
<td>ANSI.</td>
</tr>
<tr>
<td>Finnish</td>
<td>ANSI.</td>
</tr>
<tr>
<td>French/Canadian</td>
<td>ANSI, IEPC.</td>
</tr>
<tr>
<td>French/Belgian</td>
<td>ANSI.</td>
</tr>
<tr>
<td>Belgian</td>
<td>IEPC.</td>
</tr>
<tr>
<td>Italian</td>
<td>ANSI, ASCII, IEPC.</td>
</tr>
<tr>
<td>Swiss(French)</td>
<td>ANSI, ASCII, IEPC.</td>
</tr>
<tr>
<td>Swiss(German)</td>
<td>ANSI, ASCII, IEPC.</td>
</tr>
<tr>
<td>Dutch</td>
<td>ANSI, ASCII, IEPC.</td>
</tr>
</tbody>
</table>

1 If the Comm Mode parameter is set to block, half block, or local, the terminal sends ASCII key codes regardless of this parameter's setting. In full-duplex mode the MC5 automatically changes the setting to scan when the PC Term emulation is selected. To select ASCII, you must already be in PC Term when you enter setup (exit and reenter setup if necessary).
The MC5's ANSI Setup menu allows you to configure the terminal's display parameters. This includes setting parameters for character sets, the numeric keypad, and answerback messages. To invoke this menu, press F5.

Figure 2-6 shows the ANSI Setup menu. Table 2-7 describes each of its parameters.

<table>
<thead>
<tr>
<th>Fkey Lock</th>
<th>Off</th>
<th>Send</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feature Lock</td>
<td>Off</td>
<td>Print</td>
<td>National</td>
</tr>
<tr>
<td>Keypad</td>
<td>Numeric</td>
<td>Send Area</td>
<td>Screen</td>
</tr>
<tr>
<td>Cursor Keys</td>
<td>Normal</td>
<td>Print Area</td>
<td>Screen</td>
</tr>
<tr>
<td>Xfer Term</td>
<td>EOS</td>
<td>Send Term</td>
<td>None</td>
</tr>
<tr>
<td>Char Mode</td>
<td>Multinational</td>
<td>Print Term</td>
<td>None</td>
</tr>
<tr>
<td>Char Set</td>
<td>DEC-MCS</td>
<td>Print Mode</td>
<td>Normal</td>
</tr>
<tr>
<td>Keys</td>
<td>Typewriter</td>
<td>Auto Answerback</td>
<td>Off</td>
</tr>
<tr>
<td>VT10 ID</td>
<td>VT100</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Off On

<table>
<thead>
<tr>
<th>Host is on Main Port</th>
<th>F1 Gen</th>
<th>F2 Comm</th>
<th>F6 Fkeys</th>
<th>F3 Disp</th>
<th>F7 Tabs</th>
<th>F8 Ansbk</th>
<th>F4 Kbd</th>
<th>F9 Exit</th>
<th>F5 ANSI</th>
</tr>
</thead>
<tbody>
<tr>
<td>E .. Exit Setup</td>
<td>D .. Default Setup</td>
<td>^P .. Print Screen</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M .. Save Mode</td>
<td>P .. Select Host Port</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S .. Save All</td>
<td>R .. Restore Saved Values</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 2-6. ANSI Setup Menu
### Table 2-7. ANSI Setup Menu Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fkey Lock</strong></td>
<td>Function keys:</td>
</tr>
<tr>
<td>Off</td>
<td>Can be redefined by host application programs.</td>
</tr>
<tr>
<td>On</td>
<td>Cannot be redefined by the host.</td>
</tr>
<tr>
<td><strong>Feature Lock</strong></td>
<td>User preference features:</td>
</tr>
<tr>
<td>Off</td>
<td>Can be redefined by host application programs.</td>
</tr>
<tr>
<td>On</td>
<td>Are locked so that they cannot be redefined by the host.</td>
</tr>
<tr>
<td><strong>Keypad</strong></td>
<td>Keystrokes from the numeric keypad send:</td>
</tr>
<tr>
<td><strong>Numeric</strong></td>
<td>Numeric or other values according to the characters depicted on the keycaps.</td>
</tr>
<tr>
<td><strong>Application</strong></td>
<td>Application-specific control codes and escape sequences.</td>
</tr>
<tr>
<td><strong>Cursor Keys</strong></td>
<td>The cursor keys send:</td>
</tr>
<tr>
<td><strong>Normal</strong></td>
<td>Normal cursor movement commands.</td>
</tr>
<tr>
<td><strong>Application</strong></td>
<td>Application-specific control codes and escape sequences.</td>
</tr>
<tr>
<td><strong>Xfer Term</strong></td>
<td>The terminal transmits blocks of data to the host ending at the:</td>
</tr>
<tr>
<td><strong>EOS</strong></td>
<td>End of the page or line.</td>
</tr>
<tr>
<td><strong>Cursor</strong></td>
<td>Cursor position.</td>
</tr>
</tbody>
</table>

1 User preference features are key repeat, scrolling speed, screen background, tab stops, and keyboard lock. Locking these features may cause problems for an application program that expects to control them.

2 This setting cannot be saved to permanent memory. This parameter will always return to its numeric setting at power-on.

3 This setting cannot be saved to permanent memory. This parameter will always return to its normal setting at power-on.
### Table 2-7. ANSI Setup Menu Parameters (cont.)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Char Mode</strong></td>
<td>The supplemental character set:</td>
</tr>
<tr>
<td><strong>Multinational</strong></td>
<td>Allows the terminal to display characters from the 8-bit extended ASCII set when in VT220 mode. Invokes a local country set using international, 7-bit characters for the selected keyboard.</td>
</tr>
<tr>
<td>National</td>
<td></td>
</tr>
<tr>
<td><strong>Char Set</strong></td>
<td>The supplemental character set is:</td>
</tr>
<tr>
<td><strong>Multinational</strong></td>
<td>Multinational. ISO 8859-1, Latin Alphabet #1.</td>
</tr>
<tr>
<td>ISO Latin-1</td>
<td></td>
</tr>
<tr>
<td><strong>Keys</strong></td>
<td>For some international ANSI keyboards, certain keys send codes as:</td>
</tr>
<tr>
<td><strong>Typewriter</strong></td>
<td>The standard character shown on the left half of the keycap.</td>
</tr>
<tr>
<td><strong>VT100 ID</strong></td>
<td>In answer to a host request, the terminal will identify itself as:</td>
</tr>
<tr>
<td>VT100</td>
<td>VT100 terminal.</td>
</tr>
<tr>
<td>VT101</td>
<td>VT101 terminal.</td>
</tr>
<tr>
<td>VT102</td>
<td>VT102 terminal.</td>
</tr>
<tr>
<td>VT220</td>
<td>VT220 terminal.</td>
</tr>
<tr>
<td><strong>Send</strong></td>
<td>During block transmissions:</td>
</tr>
<tr>
<td><strong>All</strong></td>
<td>Eraseable and non-eraseable data is sent to the host. Only eraseable data is sent.</td>
</tr>
<tr>
<td><strong>Eraseable</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Print</strong></td>
<td>During a print page or print line operation:</td>
</tr>
<tr>
<td><strong>Multinational</strong></td>
<td>Escape sequences and control codes are sent, allowing printing of ASCII and line-drawing graphics characters and line attributes</td>
</tr>
<tr>
<td>National</td>
<td>Escape sequences are not sent, and non-ASCII characters are replaced with ASCII underline characters.</td>
</tr>
<tr>
<td>Line Drawing</td>
<td>Escape sequences and control codes are sent, allowing printing of ASCII and line-drawing graphics characters and line attributes</td>
</tr>
</tbody>
</table>
### Configuring the MCs

#### Table 2-7. ANSI Setup Menu Parameters (cont.)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Send Area</td>
<td>In a Send page operation, the terminal sends data to the host from the: Screen Scroll Rgn</td>
</tr>
<tr>
<td>Print Area</td>
<td>In a page print operation, the MCs sends data to the printer port from the: Screen Scroll Rgn</td>
</tr>
<tr>
<td>Send Term</td>
<td>At the end of a send page operation: None FF</td>
</tr>
<tr>
<td>Print Term</td>
<td>At the end of a page print operation: None FF</td>
</tr>
<tr>
<td>Print Mode</td>
<td>Data is sent to the printer port: Normal Auto Ctrl Bi-Dir</td>
</tr>
<tr>
<td>Auto Answerback&lt;sup&gt;4&lt;/sup&gt;</td>
<td>In response to an ASCII ENQ character, the terminal: Off On</td>
</tr>
</tbody>
</table>

<sup>4</sup> In ANSI personalities, the answerback message is always sent to the host computer in response to an ENQ. This parameter’s setting determines whether the message is sent at power-on or after a communications disconnect.
Key Programming

The Function Keys Setup menu (see Figure 2-7) allows you to program shifted and unshifted function and editing keys to perform a desired command or sequence of commands. Invoke the Function Keys Setup menu by pressing F6.

**CAUTION!** Applications that have defined actions for certain keys may not run properly if they are programmed to perform other functions.

*If a problem is encountered, you can restore the factory default values by returning to the General Setup menu, and press d.* *(Pressing d restores the defaults for the other setup menus, as well.)*

Key programs are directed (or echoed) to the host and/or terminal when Remote is displayed in the Function Keys Setup menu’s Direction field (see Figure 2-13). Press Enter from the numeric keypad to redirect the key’s definition to Remote, Local, or Normal.

![Function Keys Setup Menu](image-url)

*Figure 2-7. Function Keys Setup Menu*
Configuring the MCs

A key program can be directed in one of three ways:

- To the terminal (local).
- To the host (remote).
- To the setting selected from the Comm Mode parameter (normal).

To program a key:

1. Press \textdollar F6 \textdollar to invoke the \textit{Function Keys Setup} menu.
2. Simultaneously press \texttt{Ctrl} with the key to be programmed. This highlights the key's direction and definition fields.
3. Press \texttt{↑} or \texttt{↓} to highlight the shifted or unshifted key definition field (see Figure 2-7).
4. Enter the key program (up to 255 characters) at the cursor position. Correct any errors by backspacing to delete an individual character or press \texttt{F14} on the ANSI or \texttt{Home} on the EPC/IEPC keyboards to clear the entire definition. Use the \texttt{←} or \texttt{→} key to position the cursor.

\textit{Note}: \textit{Control characters can be entered by simultaneously pressing Ctrl and the appropriate keys.}

\textit{If the Funct Key, Compose Key, or Left Alt Key parameter in the Keyboard Setup Menu has been set to Meta, characters can be entered with the high bit set. Simultaneously press the Compose Character or left Alt key with the appropriate alphanumeric key.}

\textit{Unless the Funct Key, Compose Key, or Left Alt Key parameter was set to Meta before you entered setup mode, you must set the parameter to Meta. Then exit and reenter setup mode to enter the 8-bit characters.}

When the Virtual Terminal parameter is set to On, a key can be programmed to perform one function in one session, and perform a different function in the other by following the instructions outlined above. To program keys in an alternate session, press \texttt{left Ctrl Shift F6}. 

\hspace{1cm}
**Key Programming Example**

This example shows how to program the key sequence, \textit{Shift F10}, to display the following signature block at the left margin of a page:

\begin{quote}
Sincerely yours,
Stephen DeMont
\end{quote}

1. Enter setup mode.
2. Invoke the \textit{Function Keys Setup} menu.
3. Press \textit{Ctrl F10}.
4. Press \textup{↑} to highlight the shifted key field.
5. Enter the control codes for three line feeds (LF) and one carriage return (CR). The line feed control code is \textit{Ctrl J}; the carriage return code is \textit{Ctrl M}.
6. Type Sincerely yours,
7. Enter the control codes for five line feeds and one carriage return.
8. Type Stephen DeMont

The definition string should look like this:
\begin{quote}
\texttt{LF LF LF CR Sincerely yours, LF LF LF LF LF CR Stephen DeMont}
\end{quote}

11. Press \textit{F9} to exit setup mode and return to the current emulation.
12. Now, press \textit{Shift F10} to end your letters with your usual signature block.

**Key Program Storage Limitations**

Key programs are automatically saved to memory, occupying up to 500 bytes of permanent memory space. If more than 255 characters are entered for any key or the 500-byte limit is reached, the terminal will beep, warning that you cannot enter any more characters.

When the terminal is set up for dual sessions, programs are limited to no more than 250 characters per session.
Defining Tab Stops

When you turn the MC5 on, the most recently saved tab stops will be activated. (Tab stops are cleared by default.) Tab stops are defined from within the Tabs Setup menu (see Figure 2-8). To invoke this menu press F7 from within any setup menu.

![Figure 2-8. Tabs Setup Menu](image-url)

*Configuring the MC5*

*MC5 User's Guide*
Tab stops are identified by uppercase Ts displayed along a line of periods that mark each column position. A tab stop in columns 2 through 78 is shown as a T along the upper line of periods. A tab stop in columns 79 through 132 is shown as a T along the lower line of periods (see Figure 2-8).

You can easily determine where tabs are set by moving the cursor across the line, and reading the column number displayed at the center of the screen.

Clear and set tabs anywhere along these lines by following these instructions:

1. Press the ← or → to move the cursor along the line.
2. Press the *Spacebar* to set or clear individual tab stops at the cursor position.
3. Press F14 on the ANSI or *Home* on the EPC/IEPC keyboards to clear every tab stop.
4. Press the *Backspace* key to set one tab stop at every eighth column. When running the MC5 in the VT100 or VT220 emulations, tab stops should be set at every eighth column.
5. Press F1 to save the tab settings and return to the General Setup menu.
6. When the General Setup menu appears, press S to save all setup parameters, including your tab stops.
7. Turn the terminal off and back on so that your new setup will take effect.

When the MC5 is configured as a virtual terminal in dual sessions, tabs can be set for each session according to the instructions outlined above.

To program alternate sessions, press *left Ctrl Shift F7* simultaneously.
Defining An Answerback Message

Answerback messages are defined from within the Answerback Setup menu (see Figure 2-9). Press F8 to invoke this menu. Up to 30 characters may be entered to identify the terminal to your host system.

![Figure 2-9. Answerback Setup Menu](image)

To define an answerback message, follow these instructions:

1. Enter the message at the cursor position.

Correct any errors by backspacing to delete individual characters or press F14 on the ANSI keyboards or Home on the EPC/IEPC keyboards to clear the entire message.

**Note:** Control characters may be entered by simultaneously pressing Ctrl and the appropriate key. If the Compose Key or Left Alt Key parameter has been set to Meta, characters can be entered with the high bit set (8-bit characters, ASCII 80H through FFH hexadecimal) by simultaneously pressing the Compose Character or the left Alt key with the appropriate alphanumeric key.
Unless the parameter was set to Meta before entering setup mode, the Compose/Left Alt Key parameter must be set to meta. Exit and reenter setup mode before entering the 8-bit characters.

3. To prevent the answerback message from being displayed while in setup mode, press the Enter key on the numeric keypad. The message will be replaced by the word Concealed. The message will be hidden, and cannot be redisplayed or modified unless you clear and redefine it.

4. Press F1 to go to the General Setup menu. The answerback message is automatically saved when you press S while in the General Setup menu.

Separate answerback messages can be defined when the MCs is setup up as a virtual terminal during dual session operations by following the instructions outlined above.

To define separate answerback messages when the terminal is configured for dual sessions, simultaneously press Ctrl Shift F8 to switch between sessions.

**Defining a Session I.D.**

When the terminal is configured for dual sessions, a session I.D. message of up to 30 characters can be defined for each session. To define a session I.D., follow these instructions:

1. Press F1 to invoke the General Setup menu.
2. Press P to select the session (port) to be set up—MAIN or AUXILIARY.
3. Press F8 to invoke the Answerback Setup menu.
4. Use the ↓ to move the cursor from the ANSWERBACK field to the SESSION I.D. field.
5. To enter the session I.D. definition for the alternate session, simultaneously press the left Ctrl Shift F8 keys, and repeat the previous steps.

The session I.D. cannot be concealed, and is automatically saved when you press S while in the General Setup menu.
Chapter 3  
Operating the MC5

Virtual Terminal

When the Virtual Terminal parameter is set to On, the MC5 can run two emulations (selected when in setup) to enable seamless interaction between applications that are written for typical terminal command sets. The subsections include information about each type of emulation.

Emulations

ANSI Emulations

The default emulation, VT220-7, operates according to the American National Standards Institute (ANSI) command functions. It is compatible with applications written for many ANSI terminals, including Digital Equipment Corporation’s VT220.

Other ANSI emulations supported by the MC5, and the terminals they represent, include:

- VT220 8-bit (DEC VT220 in 8-bit mode)
- VT100 (DEC VT100)
- VT52 (DEC VT52)
- PC Term

The VT52 emulation should be used with applications written for the DEC VT52 terminal. The PC Term emulation should be used with applications written for IBM PC-compatible terminals.
Operating the MC₅

ASCII Emulations

When an ASCII emulation is selected, the MC₅ will operate according to the American Standard Code for Information Interchange (ASCII) command functions. ASCII emulations supported by the MC₅, and the terminals they represent, include:

- Link 125 (Link Technologies, Inc. 125)
- Wyse 60 (WYSE Technologies, Inc. WY-60)
- Wyse 50+ (WYSE Technologies, Inc. WY-50, WY-50+, WY-100)
- ADM3A (Zentec 3A)
- ADM5 (Zentec 5)
- TVI955 (TeleVideo Systems TVI955)
- TVI950 (TeleVideo Systems 950)
- TVI925 (TeleVideo Systems 925)
- TVI910+ (TeleVideo Systems 910 and 910+)
- Adds VP (ADDS Viewpoint)
- Adds 60 (ADDS Viewpoint 60)
Display Features

The $MC_5$ displays up to 27 or 45 lines down the screen, and 80 or 132 columns across the screen. The default screen configuration is 80 columns separated into two display areas—the status line, and the data area. Figure 3-1 illustrates the default screen format.

![Figure 3-1. Default Display Screen](image)

The Status Line

Messages from the $MC_5$ or host are displayed on the status line.

The status line appears at the top of the screen when the Status Line parameter from the Display Setup menu is set to Off, On, or Ext. The status line (when set to On) identifies the cursor’s current line and column position. An EXT status line displays information when performing functions such as copying and pasting text.
Operating the MC₅

The Data Area

The screen's data area displays data entered from the keyboard or application. The default is set for 24 lines and 80 columns. This value can be changed from the Data Lines parameter within the Display Setup menu. (Refer to Table 2-3 in Chapter 2 for more information.)

Label Lines

The label line at the bottom of the screen can display both shifted and unshifted function key labels or messages when the Data Lines parameter is set to 24 or 42. When this parameter is set to 25 or 43, the label line will display labels only.

Screen Saver

The MC₅'s screen saver helps prevent CRT phosphor burn-in by blanking the screen if the terminal does not receive keyboard input or data from the host after a specified time period. This time period is selected from the Screen Saver parameter in the Display Setup menu. (Refer to Table 2-3 in Chapter 2 for more information.)

The screen will come back up by pressing any key (press Shift to avoid entering data) or when the terminal receives data from the host. To deliberately blank the screen, press Ctrl, Shift, and F3 on the ANSI or Ctrl, Shift, and End on the EPC/IEPC keyboards.

Keyboard Features

The MC₅ accommodates one of four different keyboards:

- 102-key Enhanced PC (EPC)
- 103-Key International PC (IEPC)
- 105-key ANSI

Note: Because the MC₅ uses one of four keyboards, keyboard commands presented here are discussed in general terms.

Keyboard features can be defined from within the Keyboard Setup menu. (Refer to Table 2-4 in Chapter 2 for Keyboard Setup parameter descriptions.) Depending on the emulation you selected, most of the function and edit keys for each keyboard can be programmed to perform specialized functions. (Refer to Key Programming in Chapter 2 for information about programming these keys.)
Keyboard Language

Keyboard languages may be selected from the *Keyboard Setup* menu’s Keyboard parameter. (Refer to Table 2-4 in Chapter 2 for more information).

The language setting takes effect only after you exit setup mode. Function and edit keys should not be programmed until after you select a language, then exit and reenter setup mode.

Keyclick and Bell

The *MC5’s Keyclick* option is enabled or disabled from the *Keyboard Setup* menu. The Warning and Margin Bells are enabled/disabled from the *General Setup* menu.

When the Keyclick parameter is enabled, a beep is emitted from the terminal each time a key is pressed.

The *MC5’s* warning bell serves as a warning and a margin bell. The bell will alert you to a system error. The margin bell functions as a typewriter bell, alerting you that text entries are approaching the right margin. The bell tone can be adjusted from the *General Setup* menu’s Bell Sound parameter.

Key Functions

When the *MC5* communicates with the computer in full-duplex or half-duplex mode, most keys will perform remote functions. That is, they send codes that are interpreted and acted upon by the host’s operating system and your application. Alphanumeric keys send the ASCII characters shown on the keycaps. Codes sent by the function *Ctrl*, *Enter*, and *Shift* keys are dependant upon the selected emulation, keycode, and other keyboard options.

Local Keyboard Commands

Certain keys, and combinations of keys, perform local command functions that initiate actions from the terminal. For example: simultaneously pressing the → and *Ctrl* keys alternates the status line from Off to On to Etx. (This sequence will not function during ANSI.SYS or PC Term sessions.)
The Compose Character Key

The Compose Character key on the ANSI and the left Alt key on the EPC/IEPC keyboards perform special functions selected from the Keyboard Setup menu’s Compose Key parameter.

National Replacement Characters

National replacement characters can be used with the ANSI keyboard. Figure 3-3 provides a character chart for each language supported by the MC5. To use the replacement characters follow these instructions:

1. First, select the appropriate keyboard language from the Keyboard Setup menu, and exit setup.

2. Cross-reference the desired keyboard language character with the appropriate ANSI keyboard character from the chart in Figure 3-3.

3. Enter the ANSI keyboard character, and the keyboard language character will be displayed.
### ANSI Keyboard Character

| Keyboard Language | " | # | $ | ' | / | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | : | ; |
|------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Danish           | $E | $E | $E | $E | $E | $E | $E | $E | $E | $E | $E | $E | $E | $E | $E | $E | $E | $E |
| Dutch            | $E | $E | $E | $E | $E | $E | $E | $E | $E | $E | $E | $E | $E | $E | $E | $E | $E | $E |
| Finnish          | À | À | À | À | À | À | À | À | À | À | À | À | À | À | À | À | À | À | À |
| Flemish          | ü | ü | ü | ü | ü | ü | ü | ü | ü | ü | ü | ü | ü | ü | ü | ü | ü | ü | ü |
| French/Belgian   | ü | à | â | â | â | â | â | â | â | â | â | â | â | â | â | â | â | â | â |
| French Canadian  | Ð | Ð | Ð | Ð | Ð | Ð | Ð | Ð | Ð | Ð | Ð | Ð | Ð | Ð | Ð | Ð | Ð | Ð |
| Italian          | Ð | Ð | Ð | Ð | Ð | Ð | Ð | Ð | Ð | Ð | Ð | Ð | Ð | Ð | Ð | Ð | Ð | Ð |
| Norwegian        | $E | $E | $E | $E | $E | $E | $E | $E | $E | $E | $E | $E | $E | $E | $E | $E | $E | $E |
| Portuguese       | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Spanish          | Ñ | Ñ | Ñ | Ñ | Ñ | Ñ | Ñ | Ñ | Ñ | Ñ | Ñ | Ñ | Ñ | Ñ | Ñ | Ñ | Ñ | Ñ |
| Swedish          | À | À | À | À | À | À | À | À | À | À | À | À | À | À | À | À | À | À | À |
| Swiss French     | á | ç | á | ç | á | ç | á | ç | á | ç | á | ç | á | ç | á | ç | á | ç | á |
| Swiss German     | á | ç | á | ç | á | ç | á | ç | á | ç | á | ç | á | ç | á | ç | á | ç | á |

### Figure 3-2. ANSI National Replacement Characters
Generating 8-bit Characters

Generating 8-bit characters from the keyboard is possible when the Data/Parity parameter in the Communications Setup menu is set to any 8-bit environment, and the Compose Key or Left Alt Key parameter in the Keyboard Setup menu is set to Meta.

Once these parameters have been set, hold down the Compose Character or left Alt and press the desired key.

Printer Control Features

The MC5 supports printer functions via its parallel or serial ports. The printer may be controlled locally from the terminal or remotely from the host. When the terminal is running as a virtual terminal, the printer can be host-controlled from two separate ports.
Appendix A

Keyboard Layouts

US 102-Key Enhanced PC (EPC) Keyboard

103-Key International Enhanced PC (IEPC) Keyboard
Appendix B

Error Codes

If the MCs detects an error when turned on or during normal operations, an error code will appear at the lower right hand corner of the screen. A complete listing of the terminal’s error codes is given below:

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>P</td>
<td>EPROM Checksum</td>
</tr>
<tr>
<td>0 (Zero)</td>
<td>Character RAM</td>
</tr>
<tr>
<td>1</td>
<td>Attribute RAM</td>
</tr>
<tr>
<td>2</td>
<td>Font RAM</td>
</tr>
<tr>
<td>K</td>
<td>NVR Checksum</td>
</tr>
<tr>
<td>A</td>
<td>MAIN port RTS to CTS error</td>
</tr>
<tr>
<td>B</td>
<td>DTR to DSR</td>
</tr>
<tr>
<td>C</td>
<td>DTR to DCD</td>
</tr>
<tr>
<td>X</td>
<td>Transmit Data to Receive Data error</td>
</tr>
<tr>
<td>D</td>
<td>AUXILIARY port RTS to CTS error</td>
</tr>
<tr>
<td>E</td>
<td>DTR to DSR</td>
</tr>
<tr>
<td>F</td>
<td>DTR to DCD</td>
</tr>
<tr>
<td>Y</td>
<td>Transmit Data to Receive Data error</td>
</tr>
</tbody>
</table>
Appendix C
Troubleshooting

The following troubleshooting information can be used to resolve several problems that may occur when setting up and operating the MC5.

**Note:** Before you default the parameter settings and begin troubleshooting, enter setup as directed in Chapter 2, and copy the current operating parameters from each setup menu. It is important that you have these settings recorded and in front of you while diagnosing the terminal.

<table>
<thead>
<tr>
<th>Problem</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Setup selection(s) contain garbage</td>
<td>Default and redefine setup parameters.</td>
</tr>
<tr>
<td>The terminal does not communicate with the host.</td>
<td>1 Ensure that the terminal is connected securely to their communications ports, and that the cables match the pin assignments given in Chapter 1.</td>
</tr>
<tr>
<td></td>
<td>2 Connect the terminal to a line that is known to be in good working order.</td>
</tr>
<tr>
<td></td>
<td>3 Enter the ANSI Setup menu, and ensure that the terminal is not in a print mode. The default is Normal.</td>
</tr>
<tr>
<td></td>
<td>4 Enter setup, and ensure that the terminal is operating on the selected port.</td>
</tr>
<tr>
<td></td>
<td>5 Default the setup parameters, and reconfigure them.</td>
</tr>
</tbody>
</table>
### Troubleshooting

<table>
<thead>
<tr>
<th>Problem</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>The display screen shakes.</td>
<td>Ensure that the terminal is not located next to another electrical device, such as a terminal or printer. Electric motors and high voltage equipment often provide a source of electromagnetic interference that cause power drops.</td>
</tr>
<tr>
<td>Excessive noise or &quot;garbage&quot; on the screen.</td>
<td>1 Ensure that the <em>Communications Setup</em> menu’s parameters are configured correctly.</td>
</tr>
<tr>
<td></td>
<td>2 Check the terminal out on a good line.</td>
</tr>
<tr>
<td></td>
<td>3 Enter the <em>Communications Setup</em> menu, and put the terminal in Local mode from the Comm Mode parameter, and enter some text on the screen. If the terminal’s Keycode parameter from the <em>Keyboard Setup</em> menu is set for Scan, reset it to ASCII.</td>
</tr>
<tr>
<td></td>
<td>4 Default the setup and reconfigure all parameters.</td>
</tr>
<tr>
<td>Data is overwriting data from the previous screen.</td>
<td>Enter setup, and ensure that the <em>AutoScroll</em> parameter in the <em>General Setup</em> menu is set to On.</td>
</tr>
</tbody>
</table>
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