Letterwriter 100
Operator Guide

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emit radio frequency energy. The equipment has
been type tested and found to comply with the
limits for a Class A computing device pursuant to
Subpart J of Part 15 of FCC Rules, which are
designed to provide reasonable protection against
such radio frequency interference when operated
in a commercial environment. Operation of this
equipment in a residential area may cause
interference in which case the user at his own
expense may be required to take measures to
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The Letterwriter 100
This section introduces you to the Letterwriter 100 and its new features. The Letterwriter 100 is a microprocessor-controlled, versatile, desk-top printing terminal.

Variable Density
The Letterwriter 100 uses a dot matrix printing technique and can print in four main applications.

- Correspondence quality (high density, low speed)*
- Memorandum quality (medium density, medium speed)*
- Draft quality (high speed, low density)
- Graphics (computer defines printed dots)

Any characters printed by the terminal can be printed in draft, memo or letter quality.

Fonts
The terminal can print characters in different font styles. Changing a font changes the shape of the character, but not the character itself. DIGITAL currently provides the following fonts. Additional fonts will be available in the future.

- Courier 10
- Courier 12
- Orator 10
- Gothic 12
- Symbols

The terminal can contain up to five accessible fonts anytime. You do not have to change a print wheel or element to use a different font.

Three of the fonts can be installed inside the terminal only, therefore, they are safe from changes. Two can be installed either inside or outside the terminal using the multiple font option (LAl0X-FL) and read-only memory (ROM) cartridges. Fonts installed on the outside of the terminal are easy to change.

* High or medium density depends on the character ROM selected.
Character Sets
The 7-bit code can access 94 printable characters anytime. So the terminal can use more characters, the characters are grouped in sets of 94 (character sets). Each character set has an associated name and designator character. Up to 80 character sets can be used anytime. Usually the number of character sets does not exceed ten. Changing a character set changes the character accessed by a given code or key. A separate character set is needed for each font.

Forcing Fonts or Density
The computer can select the print density and font. However, you may want to use the same file to print in a different density or font (e.g. print orator for slide presentation and courier for printed handouts). Therefore, it is possible to override or force the computer selected font or density. Force the density using the AUTO/MANUAL key. Force the font using the font select switch. If you force the font or density, the computer cannot change the forced font or density. The computer commands to change font or density are received and processed, but do not take effect until the terminal is set back to the computer select state.

Horizontal Pitch
Horizontal pitch is the width of a character as well as the spacing between characters. The Letterwriter 100 has eight user-selectable horizontal pitches.

Each font has a designed or standard pitch (usually 10 or 12 characters per inch). A character is designed to be printed at a given pitch and is optimized to give the best result at that pitch.

Varying the horizontal pitch can be done by modifying a given character dot pattern or by using different character dot patterns for various pitches.

Characters printed in draft mode can be printed in all eight pitches. In memorandum or letter mode, different character dot patterns must be used to achieve the required quality, unless the requested width is exactly double of the standard pitch.

You can force the draft mode to print only in the pitches that would be available in memorandum or letter mode by using the pitch mode setting.

Character ROMs
Character ROMs contain a certain character set at a certain font at a certain horizontal pitch. A character ROM may be used alone or as a complement to another ROM. If the character ROM is used alone, it is a primary ROM. If it is used to complement another ROM, it is a ROM overlay. Overlay ROMs must match the primary ROM font and pitch, but add different character sets to the primary ROM.
There are two types of character ROMs, plug-in ROMs and ROM cartridges. Plug-in ROMs must be plugged into one of the five ROM sockets inside the terminal. ROM cartridges are used with the multiple font option (LA10X-FL).

You can use the five ROM slots to configure the terminal for the most flexibility for your application. You can use five primary ROMs providing five different fonts or various pitches. Or, you can use three primaries and two overlay ROMs to expand the character sets.

You may choose to install the ROMs inside the terminal so the configuration is stable, or you may use the multiple font option to provide even more flexibility.

Note: The multiple font option replaces two of the internal ROMs. It makes it easier to change the configuration, but does not expand the number of possible ROMs. Remember, you may decide to change the configuration anytime by changing your choice of ROM options.

Vertical Form Features
The Letterwriter 100 handles vertical form features differently from previous DIGITAL terminals. Previous terminals base vertical form features on lines. The Letterwriter 100 vertical form features are based on inches. Changing vertical pitch does not change the form length, top and bottom margins, or top of form. The terminal always prints a distance from the top margin which is a multiple of the vertical pitch.

The Letterwriter 100 also has a no form mode that is used with roll feed paper. No form mode allows the terminal to print continuously because roll paper does not require a perforation skip.

BOOK INTRODUCTION
A complete list of the Letterwriter 100 models is given in Appendix A. The Letterwriter 100 User Documentation Package covers all Letterwriter 100 model terminals and addresses three general audiences.

- The hardware installer requiring specific installation and checkout information
- The operator requiring general operating information
- The applications programmer requiring interface and control function descriptions

Four documents make up Letterwriter 100 documentation.
- Operator and Programmer Reference Card
- Installation Guide
- Operator Guide
- Programmer Reference Manual
This guide contains required information for operating Letterwriter 100 terminals. The operator should use this guide as a reference when operating the terminal. The application software determines terminal operation with the computer, therefore, you should use your application software document also.

The Operator Guide contains the following chapters.

Chapter 1, Controls and Indicators, provides a general introduction to Letterwriter 100 operation and shows all the controls and indicators of the terminal.

Chapter 2, Ribbon and Paper Installation, describes the procedures to change ribbon cartridges, load paper or preprinted forms, and adjust the printhead.

Chapter 3, Operator Selectable Features, describes in detail the procedure to enter and exit SET-UP and each SET-UP feature.

Chapter 4, Maintenance and Troubleshooting, describes the general cleaning and care recommendations. The chapter also provides a list of checks the operator should make before requesting service. The warranty information and services available from DIGITAL are described in this chapter.

Chapter 5, Accessories and Supplies, describes the accessories and supplies offered for the Letterwriter 100. Included in this chapter is a short description of each accessory and supply, part number, and ordering information.

Appendix A lists and describes all of the Letterwriter 100 models available from DIGITAL.

WARNINGS, CAUTIONS, AND NOTES
In this book, warnings, cautions, and notes are used for specific purposes. Warnings highlight information used to prevent personal injury. Cautions highlight information used to prevent damage to the terminal. Notes highlight general information.
CHAPTER 1
CONTROLS AND INDICATORS

GENERAL
This chapter describes each Letterwriter 100 control and indicator. Detailed operating information can depend on the computer software. The Letterwriter 100 has many different controls and indicators used by the operator to control and monitor terminal operation. The controls and indicators chapter is organized as follows.

- Printer controls
- Keyboard controls
- Visual indicators
- Audible indicators

PRINTING CONTROLS
The following paragraphs describe the function of the printer controls.

Voltage Selector Switch
This switch (Figure 1-1) changes the terminal to match the available ac input voltage range. Refer to the Installation Guide to change the voltage range selected.

CAUTION: Failure to set the voltage selector switch to the correct voltage range can damage the power supply.

Always use a small blade screwdriver or ball point pen to change the voltage selection. Never use a lead pencil because broken lead can cause a short circuit on the printed circuit board.

Power ON/OFF Switch
This switch turns terminal power on or off (Figure 1-2). The ON position is labeled "ON 1" and the OFF position is labeled "OFF 0". One of the keyboard indicators goes on to indicate that power is on.
Figure 1-1 Voltage Selector Switch

Figure 1-2 Power ON/OFF Switch
Paper Adjust Knobs
These knobs advance paper 1/12 of an inch at a time (Figure 1-3). Press in the right paper adjust knob and turn it in either direction to roll the paper. This knob allows precise vertical paper positioning.

NOTE: Moving the paper adjust knob changes the top of form reference.

Paper Release Lever
This lever (Figure 1-4) is used to reposition or remove paper from the terminal.

Printhead Release Lever
This lever (Figure 1-5) is used to remove or install the printhead. When moved toward the back of the terminal, the printhead can be removed. When moved toward the front of the terminal, the printhead is locked in place.

Printhead Adjustment Lever
This lever (Figure 1-6) controls the space between the printhead and the platen. Use the printhead adjustment lever to adjust the printhead for clear printing on single or multipart forms. Refer to Chapter 2 for the printhead adjustment.

Ribbon Adjust Knob
This knob is used to tighten the ribbon when installing a new ribbon cartridge (Figure 1-7). Refer to Chapter 2 for the ribbon cartridge installation procedure.

Tractor Release Levers (Part of the LAX34-AL Tractor Option)
These levers are used to install or remove the LAX34-AL Tractor Option (Figure 1-8). Refer to the Installation Guide for the tractor option installation procedure.

Tractor Adjust Levers (Part of the LAX34-AL Tractor Option)
The tractors can be moved horizontally to hold different size paper. The tractor adjust levers (Figure 1-9) are used to clamp the tractors in place. Pull the lever toward the front of the terminal to move the tractor. Push the lever toward the back of the terminal to lock the tractor in place. Refer to Chapter 2 for the correct tractor adjustment procedure.

Paper Out Override Switch
This switch is used to disable paper out detection. This feature is useful when using single-sheet paper or forms (Figure 1-10).
Figure 1-3 Paper Adjust Knobs

Figure 1-4 Paper Release Lever
Figure 1-5 Printhead Release Lever
Figure 1-6 Printhead Adjustment Lever
Figure 1-7 Ribbon Adjust Knob
Figure 1-8 Tractor Release Levers
Figure 1-9 Tractor Adjust Levers

Figure 1-10 Paper Out Override Lever
Font Selection Switch (Part of LAX24-FL Multiple Font Option)
This switch (Figure 1-11) is used by the operator to force a font or allow the computer to select the fonts. Each time the switch is pressed, the terminal advances to the next state, skipping fonts that are not installed. If the currently forced font is removed, the terminal advances to the next valid state. The terminal steps through the following states each time the switch is pressed.

- Computer select (power-up state)
- Font 1 forced
- Font 2 forced (upper cartridge)
- Font 3 forced
- Font 4 forced (lower cartridge)*
- Font 5 forced*

NOTE: To force a font means that everything is printed using that font despite all computer commands. The computer commands are processed but do not take effect until the terminal is set to computer select mode.

KEYBOARD CONTROLS
The Letterwriter 100 keyboard has a main keyboard and an optional auxiliary keypad (Figure 1-12). The main keyboard is arranged and operates similarly to a standard office typewriter. The auxiliary keypad is arranged to allow rapid entry of numeric data. The keyboard controls are described in three groups.

- Standard keys
- Function keys
- SET-UP keys

Standard Keys
The shaded keys in Figure 1-13 are standard keys. These keys are used to send characters to the computer. The SHIFT keys and the CAPS LOCK key are also described here. These keys do not transmit characters to the computer. However, they do modify the characters sent by the main keyboard.

NOTE: The alternate keypad SET-UP feature changes the function of the auxiliary keypad keys. Refer to Chapter 3 for more detail.

CAPS LOCK
This key is a two-position locking key. In the down position, alphabetic keys generate uppercase characters regardless of the position of the SHIFT keys. In the up position, the alphabetic keys generate lowercase characters. The numeric, special symbol, function and auxiliary keypad keys are not affected by this key.

SHIFT
Either of these keys cause the standard keys on the main keyboard to generate uppercase characters. The SHIFT keys do not affect the function and auxiliary keypad keys.

* if not used for overlays.
Figure 1-11 Font Selection Switch
Figure 1-12 Letterwriter 100 Keyboard

Figure 1-13 Standard Keys
Auto-Repeat -- If the BACKSPACE key, DELETE key, or any of the standard keys outlined in Figure 1-13 are pressed for more than 0.6 seconds, then the code for that key is transmitted over and over at the rate of 15 characters per second. If an auto-repeat is in progress, all other keys pressed are ignored until the repeating key is released. If more than one key is pressed before an auto repeat begins, only the last key pressed will repeat automatically.

Function Keys
Figure 1-14 shows the function keys on the main keyboard. The following paragraphs describe each function key.

ESCAPE
This key causes the terminal to generate the escape control character.

TAB
This key causes the terminal to generate the horizontal tab control character.

CONTROL
When a standard key on the main keyboard is pressed while the CTRL key is pressed, the terminal generates a control character.

AUTO/MANUAL
In the AUTO position (up), print quality (draft/letter mode) is controlled by the computer. The LETTER/DRAFT key is inactive.

In the MANUAL position (down), the print quality (draft/letter mode) is controlled by the LETTER/DRAFT key. Quality (draft/letter mode) control escape sequences from the computer are processed, but only take action when auto mode is selected.

LETTER/DRAFT
In the LETTER position (up), the terminal prints letter mode (medium or high density depending on character ROM) characters. See Figure 1-15 for examples.

In the DRAFT position (down), the terminal prints draft mode (low density) characters. See Figure 1-15 for an example.

NOTE: The LETTER/DRAFT key is active only when the AUTO/MANUAL key is in the MANUAL (down) position.
Figure 1-15 Printing Examples
VIEW/FAULT RESET

When manual last character view is selected, the VIEW key manually causes the printhead to move 1 cm (0.4 in) to the right of the last character printed. This allows the user to see the last character printed. When the VIEW key is pressed along with the CTRL key, last character viewing is switched from manual to automatic. Last character viewing is then performed automatically without operator control. When the VIEW key is pressed again with the CTRL key, the terminal switches back to manual last character view. Refer to Chapter 3 for more detail.

The FAULT RESET key resets the fault indication of the terminal to permit continued operation after any fault (e.g., printhead jam, cover open) has occurred and has been corrected.
LINE/LOCAL
This key switches the terminal between on-line and local. While on-line, the terminal can transmit and receive characters. While local, the terminal cannot transmit or receive characters and characters typed at the keyboard are printed by the terminal. The LINE indicator lights when the terminal is on-line.

NOTE: After the terminal is switched from on-line to local, any data sent to the terminal from the computer is lost. If a modem is being used, communication with the computer must be restored.

HERE IS
This key causes the terminal to send an answerback message. The answerback message is selected in SET-UP. Refer to Chapter 3 for more detail.

LOCAL FORM FEED
This key advances the paper to the next top margin without sending a form feed control character to the computer.

LOCAL LINE FEED
This key advances the paper one line without sending a linefeed control character to the computer.

BACKSPACE
This key causes the terminal to generate the backspace control character.

BREAK
This key causes the terminal to transmit a short break signal with a fixed time duration. When pressed while pressing the SHIFT key, the terminal generates a long break disconnect signal. Refer to the Programmer Reference Manual for more detail on how to use the break signal.

NOTE: The BREAK key can be disabled by a SET-UP feature. Refer to Chapter 3 for more detail.

DELETE
This key causes the terminal to generate the delete control character.

RETURN
This key causes the terminal to generate either the carriage return control character or the carriage return and linefeed control characters (when the auto-linefeed feature is on). Refer to chapter 3 for more detail.

LINE FEED
This key causes the terminal to generate the linefeed control character.

PF1 PF2 PF3 PF4
These keys cause the terminal to generate escape sequences which may have special meaning to the computer.
ENTER
This key generates the same control character(s) as the RETURN key on the main keyboard.

NOTE: The alternate keypad feature changes the characters generated by the auxiliary keypad. Refer to Chapter 3 for more detail.

SET-UP Keys
The keys shaded in Figure 1-16 are used during SET-UP. The following paragraphs include a short description of each key. Before using these keys, read the detailed description of SET-UP and the SET-UP features in Chapter 3.

SET-UP
When pressed while pressing the CTRL key, the SET-UP key causes the terminal to enter SET-UP. When pressed while in SET-UP, the SET-UP key causes the terminal to exit SET-UP.

SET TAB
This key sets a horizontal tab stop at the current column when pressed alone. It sets a vertical tab stop at the current line when pressed while pressing the SHIFT key.

CLEAR TAB
This key clears a horizontal tab stop at the current column when pressed alone. It clears a vertical tab stop at the current line when pressed while pressing the SHIFT key.

CLEAR ALL
This key clears all horizontal tab stops when pressed alone. It clears all vertical tab stops when pressed while pressing the SHIFT key.

TOP (Top of Form)
This key selects the current paper position as the top of form (line 1).

TOP/LEFT MAR (TOP/LEFT MARGIN)
This key sets the left margin at the current column when pressed alone. It sets the top margin at the current position when pressed while pressing the SHIFT key.

BOT/RT MAR (BOTTOM/RIGHT MARGIN)
This key sets the right margin at the current column when pressed alone. It sets the bottom margin at the current position when pressed while pressing the shift key.

MAR CLEAR (MARGIN CLEAR)
This key clears the left and right margins when pressed alone. It clears the top and bottom margins when pressed while pressing the SHIFT key.
Figure 1-16 SET-UP Keys
STATUS
This key causes the terminal to print the status message. The status message is a list of the currently selected SET-UP features.

STORE/RECALL
This key recalls the SET-UP features stored in user permanent memory when pressed alone. It stores the contents of the operating memory into user permanent memory when pressed while pressing the SHIFT key.

VISUAL INDICATORS
The following paragraphs describe the Letterwriter 100 visual indicators.

POWER/FAULT
This indicator (Figure 1-17) lights when power is turned on. When power is first turned on, the POWER/FAULT and DSR (data set ready) indicators show any errors during the power-up self-test. Refer to Chapter 4 for more detail on the power-up self-test. The POWER/FAULT indicator flashes when the terminal is not ready to print for any of the following reasons.

Paper is out or low
Access cover is open
Printhead is jammed (also indicated by multiple bell tones)

To correct any of these conditions refer to Chapter 4.

SET-UP
This indicator (Figure 1-17) flashes when the terminal is in SET-UP. When storing the SET-UP features (in SET-UP) the indicator steadily remains on for up to 9 seconds.

DSR
This indicator (Figure 1-17) lights when the terminal receives the DSR signal. It is also used with the POWER/FAULT indicator to show any errors during the power-up self-test. Refer to Chapter 4 for more detail on the power-up self-test.

LINE
This indicator (Figure 1-17) lights to show that the terminal is on-line and can transmit and receive characters.

CTS (Clear to Send)
This indicator (Figure 1-17) lights when the terminal receives the CTS signal.

Font (Part of LA10X-FL Multiple Font Option)
These indicators (Figure 1-18) show the currently selected font. One light on indicates that the font shown is forced. One light off indicates that no font is forced. The indicator that is off also shows the currently computer selected font.
Figure 1-17 Keyboard Indicators
Figure 1-18 Font Indicators
ROM Cartridge (Part of ROM Cartridge Options)
This indicator (Figure 1-19) lights when the ROM cartridge is seated correctly in the ROM cartridge socket.

Column
This indicator (Figure 1-20) shows the current position (column) of the printhead. Scales are provided for four of the horizontal pitch (characters per inch) selections.

AUDIBLE INDICATORS
Table 1-1 lists the conditions that cause a bell tone.
Figure 1-19 ROM Cartridge Indicator
Figure 1-20 Column Indicator
<table>
<thead>
<tr>
<th>Cause</th>
<th>Action/Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input buffer overflow</td>
<td>If terminal cannot process characters from input buffer before buffer fills, an input buffer overflow can occur. During an overflow condition, bell tone sounds and character is discarded.</td>
</tr>
<tr>
<td>Keyboard buffer overflow</td>
<td>Typing faster than terminal transmits characters from keyboard buffer causes a keyboard buffer overflow. When keyboard buffer is full, every character typed causes a bell tone and character is discarded. Refer to the Programmer Reference Manual for more detail.</td>
</tr>
<tr>
<td>Bell code</td>
<td>Each bell code received by terminal causes bell tone to sound.</td>
</tr>
<tr>
<td>Incorrect SET-UP command</td>
<td>An incorrect key pressed during SFT-UP causes one bell tone.</td>
</tr>
<tr>
<td>Printhead jam</td>
<td>Indicated by multiple bell tones and a flashing POWER/FAULT indicator. To correct condition, refer to Chapter 4.</td>
</tr>
</tbody>
</table>
CHAPTER 2
RIBBON AND PAPER INSTALLATION

GENERAL
This chapter describes how to change ribbon cartridges, load paper or preprinted forms, and adjust the printhead.

RIBBON CARTRIDGE INSTALLATION
The ribbon cartridge used in the Letterwriter 100 terminals usually provides 40 hours of continuous printing. Actual cartridge life depends on the type of printing done by the terminal. When the print density is too light, check the printhead adjustment (described later in this chapter). If the printhead is adjusted correctly and the print density is still too light, replace the ribbon cartridge.

CAUTION: Although you can use the DECwriter IV ribbon cartridge with the Letterwriter 100, DIGITAL recommends the Letterwriter 100 ribbon cartridge (P/N LA10R). Using other ribbon cartridges may damage the printhead and void the warranty. Refer to the Accessories and Supplies chapter for ordering information.

Perform the following procedure to install a ribbon cartridge. It is not necessary to turn the power off when installing a ribbon cartridge.

1. Open the access cover (Figure 2-1).
2. Remove (lift) and discard the old ribbon cartridge.
3. Move the printhead adjustment lever all the way to the right (Figure 2-1).
4. Turn the ribbon adjust knob on the new ribbon cartridge clockwise to tighten the ribbon (Figure 2-2).
5. Line up the snap buttons on the new ribbon cartridge with the mounting holes in the carriage assembly (Figure 2-1).
6. Slowly press the new ribbon cartridge onto the carriage assembly while turning the ribbon adjust knob. Verify that the slot in the ribbon cartridge (Figure 2-2) engages the tab on the ribbon advancing mechanism (Figure 2-1).
Figure 2-1 Carriage Assembly
Figure 2-2 Ribbon Cartridge
7. While watching the ribbon adjust knob, manually move the printhead to the right and left two or three times. If the ribbon adjust knob is turning in a clockwise direction when the printhead moves, the ribbon is advancing correctly.

8. Close the access cover and press the RESET key.

9. Adjust the printhead as described later in this chapter.

LOADING PAPER AND PREPRINTED FORMS
The Letterwriter 100 accepts friction feed or tractor feed paper ranging in width from 3 to 14 7/8 inches. Friction feed roll paper must be used to operate the printer as a graphics output printer. Use the following rules when selecting paper for the Letterwriter 100.

Friction Feed Paper
Observe these rules when using friction feed paper.

- Use single sheet or roll paper.
- Do not use preprinted roll paper forms.
- Do not use multipart forms.
- Do not use impact paper.
- Do not use card stock.

Tractor Feed Paper
Observe these rules when using tractor feed paper.

- Use multipart forms three or four parts only and one card part. The card must be the last part.
- Dot or line glue margins are acceptable (one margin only).
- Do not use first-surface impact paper.
- Do not use split forms (different number of sheets on each side of form).
- Do not use stapled forms.

Loading Friction Feed Paper
The following paragraphs describe how to load friction feed paper, including single sheet and roll paper. It is not necessary to turn the power off to load friction feed paper.

Single Sheet -- To use single sheets of paper in the Letterwriter 100, you must disable the paper out or paper low detection options (LAX34-PL or LAX34-LL) if either is installed. (To disable these options refer to the Installation Guide.) To load single sheets of paper, refer to Figures 2-3 and 2-4, and perform the following procedure.
Figure 2-3 Loading Single Sheet Paper

Figure 2-4 Single Sheet Paper Path
1. Feed the sheet of paper under the platen from the back. Lift the bail bar and advance the paper, using the paper advance knob, until the top edge of the paper is even with the bottom edge of the paper.

2. Pull the paper release lever toward the front of the printer and position the paper to the left of the printer (as seen from the front).

3. Smooth the paper over the surface of the platen and align the top and bottom edges.

4. Push the paper release lever toward the back of the printer and lower the bail bar to its original position.

5. If necessary, adjust the printhead as described later in this chapter.

Roll Paper — The LAX34-RL roll paper holder option must be installed to use friction feed roll paper. (Refer to Installation Guide.) Perform the following procedure to load friction feed roll paper or preprinted forms into the Letterwriter 100.

1. Remove the mandrel from the roll paper holder and slide one paper roll retainer from the mandrel (Figure 2-5).

2. Remove the old roll of paper. Slide the new roll of paper onto the mandrel. Replace the paper roll retainer previously removed.

3. Reinstall the mandrel on the roll paper holder assembly so the paper feeds from the bottom of the roll (Figure 2-6).

4. Position the paper roll to the left of the holder (as seen from the front). Make sure the paper roll retainers are touching the paper roll to prevent it from moving from side to side. Do not let the paper roll retainers touch the side of the roll paper holder to create unnecessary friction.

5. Feed the paper over the roll holder apron and under the platen from the back. Lift the bail bar and advance the paper, using the paper advance knob, until the top edge extends back over the apron (Figure 2-6). Make sure the paper does not pass under the paper low sensor (Figure 2-6).

6. Pull the paper release lever toward the front of the printer (Figure 2-5). Smooth the paper over the surface of the platen and line up the sides of the paper with the supply roll edges.
Figure 2-5 Loading Roll Paper

Figure 2-6 Roll Paper Path
7. Push the paper release lever toward the back of the printer and lower the bail bar to its original position.

8. Adjust the printhead as described later in this chapter.

**Loading Tractor Feed Paper/Forms**

The following paragraphs describe how to load tractor feed paper or preprinted forms into the Letterwriter 100. The LAX34-AL tractor option must be installed to use tractor feed paper. DIGITAL also recommends using the printer stand option (LAX34-SL) for the most effective paper feeding operation. Tractor feed paper may be loaded through the bottom or from the back of the printer. It is not necessary to turn power off when reloading tractor feed paper. Perform the following procedure to reload tractor feed paper.

**NOTE:** If paper is loaded from the back of the terminal, the paper out detection option does not operate.

1. Make sure that the bail bar is behind the tractors. If not, remove the tractors and reinstall according to the LAX34-AL tractor option instructions in the Installation Guide.

2. If you are using a different size paper, pull the right tractor adjust levers toward the front of the printer to loosen the right tractor (Figure 2-7).

3. Move the right tractor to the right side plate. Do not tighten the right tractor adjust lever at this time.

**NOTE:** Step 3 provides margins for 13.2 inch wide paper. If you are using smaller paper, move the right tractor to the place that corresponds to the size of your form. Do not move the left tractor when using smaller forms.

4. Open both tractor covers (Figure 2-7).

5. If you are not using the printer stand option, position the printer as shown in Figure 2-8. Place the back edge of the printer parallel to and slightly over the edge of the table.
Figure 2-7 Loading Tractor Feed Paper
Figure 2-8 Tractor Feed Paper Path (Without Stand)
6. Position the paper to feed correctly into the printer.
   a. If you are using the printer stand, place the paper/forms on the crossmember between the legs of the printer stand (Figure 2-9).
   b. If you are not using the printer stand, place the paper/forms on the floor behind the table as shown in Figure 2-8. The paper can be left in the shipping container if the container top is removed.

NOTE: If it is not possible to place the paper supply on the floor, place it on the table behind the printer. However, use the LAX34-SW paper tray accessory to prevent interference between the printout and supply paper unless the printer is continuously watched.

7. Feed the paper through the paper slot.
   a. If you are using the printer stand, align the paper parallel to the bottom paper slot and route the paper through the paper slot (Figure 2-9).

NOTE: Multipart forms might separate if loaded into the printer from the back.
   b. If you are not using the printer stand, feed the paper through the paper slot behind the platen. Rotate the paper advance knob clockwise until the top edge of the paper extends above the tractor (Figure 2-8).

NOTE: Feeding supply paper under the Letterwriter 100 and through the bottom paper slot is not recommended unless the printer stand is used. When paper is loaded from the bottom without the printer stand, the paper perforations might catch on the table and cause the terminal to print uneven lines across the paper.

8. Place the left margin holes over the tractor feed pins. Close the left tractor cover.

9. Position the right tractor to place the right margin holes over the tractor feed pins. Close the right tractor cover.

10. Tighten the right tractor adjust lever to clamp the right tractor in place.

CAUTION: Do not stretch the paper too tight. If the paper pulls against the tractor pins or is loose in the center, readjust the right tractor.

11. Position the paper supports one third of the distance from each tractor (Figure 2-7).
Figure 2-9 Tractor Feed Paper Path (With Stand)
12. Make sure that the paper stack is centered directly under the tractors.

13. Pull the paper release lever toward the front of the printer (Figure 2-5).

14. Adjust the printhead as described later in this chapter.

PRINTHEAD ADJUSTMENT
Perform the following procedure to adjust the printhead.

1. Make sure that the power ON/OFF switch is on.

2. Open the access cover and move the printhead adjustment lever all the way to the right (Figure 2-10).

3. Carefully move the printhead adjustment lever one position to the left.

4. Manually move the printhead to the right and left to check for smudging. If the ribbon smudges, first make sure that the paper is installed correctly. If the paper is installed correctly, move the printhead adjustment lever to the right until the smudging stops.

5. Close the access cover and press the FAULT RESET key.

6. Type a line of characters and check the printed characters for print quality.

NOTE: If the form ripples or is pulled by the printhead, the printhead is not adjusted correctly. Repeat steps 2 through 6.

7. If necessary, repeat steps 3 through 6 until the printed characters are clear and sharp.
Figure 2-10 Printhead Adjustment
CHAPTER 3
OPERATOR SELECTABLE FEATURES

GENERAL
Letterwriter 100 terminals have many operator-selectable features (SET-UP features) that allow you to configure the terminal to meet specific applications. These features allow the terminal to handle different forms or provide computer or communication system compatibility.

This section defines SET-UP and each of the SET-UP features in detail. It is organized as follows.

- SET-UP
- Operator preference features
- Form features
- Communication compatibility features
- Feature memories
- Self-test features

SET-UP
The operator-selectable features can be changed only while the terminal is in SET-UP. Five steps usually are required to change or select a SET-UP feature.

1. Enter SET-UP.
2. Print a status message to check feature settings.
3. Change a feature such as tabs, baud rate, etc.
4. Store the feature if desired.
5. Exit SET-UP.

NOTE: Storing a feature saves it for future use. Refer to the Feature Memories section in this chapter for more detail.

The terminal can enter SET-UP while on-line or local. However, to prevent data loss while the terminal is on-line, enter SET-UP only while the computer is not transmitting characters or the computer recognizes a selected XON/XOFF feature.

When changing more than one SET-UP feature, it is not necessary to enter and exit SET-UP each time. Also, if you press a key that has no function in SET-UP when changing a SET-UP feature, the terminal prints a question mark (?) and a bell tone rings.
Perform the following procedure to enter and exit SET-UP.

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Indication/Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Press and hold CTRL down. Then press SET-UP and release both keys.</td>
<td>SET-UP indicator flashes, indicating terminal is in SET-UP.</td>
</tr>
</tbody>
</table>

Now you can change any SET-UP feature.

Press SET-UP again to exit SET-UP. SET-UP indicator stops flashing.

**OPERATOR PREFERENCE FEATURES**

The following paragraphs describe the operator preference features. You can use these features to configure the terminal for individual needs. Changing these features has no effect on characters transmitted or received by the terminal. You also can store the operator preference features in the terminal for future use. Refer to the Feature Memories section in this chapter for more detail.

**Last Character View**

This feature allows you to see the last character printed. After printing activity stops, the printhead moves to the right to show the last character printed and then automatically moves back to continue printing. This feature can occur automatically or only after you press the VIEW key. For your convenience, you can change the last character view feature without entering SET-UP.

Perform the following procedure to select manual or automatic last character view.

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Indication/Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Press and hold CTRL down. Then press VIEW and release both keys.</td>
<td>Terminal switches between manual and automatic last character view each time CTRL and VIEW are pressed. When printhead moves right and after VIEW is pressed, manual last character view is selected. When printhead moves right and after any printing activity stops, automatic last character view is selected (VIEW key does not function).</td>
</tr>
</tbody>
</table>

**Keyclick**

Keyclick is a sound generated each time a key is pressed. The SHIFT and CTRL keys do not generate keyclicks because they do not generate character codes. They modify character codes generated by other keys. Keyclick can be turned off for low-noise environments.
Perform the following procedure to turn the keyclick feature on or off.

**Procedure**

Enter SET-UP.

Press Q = A RETURN

Press Q = B RETURN

Exit SET-UP.

**Indication/Comment**

SET-UP indicator flashes.

Keyclick off

Keyclick on

SET-UP indicator stops flashing.

**FORM FEATURES**

When setting up a form in a typewriter, you must position the form, set the left and right margins, and set tabs. Setting up the terminal to print forms is very similar. However, you can set the following features, too.

- Pitch mode
- Horizontal pitch
- Vertical pitch
- Form length
- Top of form
- Vertical margins
- Vertical tabs

You can store the form features in the terminal for future use.

**NOTE:** The computer can load form settings into the terminal automatically. Refer to the Programmer Reference Manual for more detail.

**Recommended Sequence**

Use the following recommended sequence as a guide when setting up a form. You do not have to use all of the features listed. However, you must follow the order in which the features are presented.

1. Set the pitch select mode.
2. Set the horizontal pitch.
3. Clear horizontal margins.
4. Set the left horizontal margin.
5. Clear the horizontal tabs.
6. Set the horizontal tabs.
7. Set the right horizontal margin.
8. Set the vertical pitch.
9. Set the form length.
10. Set the top of form.
11. Clear the vertical margins.
12. Set the top vertical margin.
13. Clear the vertical tabs.
14. Set the vertical tabs.
15. Set the bottom vertical margin.
16. Store the form settings.
**Pitch Select Mode**

This feature selects font pitches or all pitches. When all pitch mode is selected, the terminal can print any of the eight horizontal pitch selections available. All pitch mode is useful when the terminal is used as a printer. When font pitch is selected, the terminal prints the single width pitch of the current font (10 or 12 characters per inch) or its double width (5 or 6 characters per inch) only. Font pitch mode is useful when printing draft copies of letter quality memorandums because the draft copy looks like the letter version.

Perform the following procedure to select font pitch or all pitch.

**NOTE:** The actual horizontal pitch used by the terminal depends on the density selection (letter or draft quality), pitch select mode, and horizontal pitch features. Refer to all three features when attempting to select horizontal pitch.

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Indication/Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enter SET-UP.</td>
<td>SET-UP indicator flashes.</td>
</tr>
<tr>
<td>Press:</td>
<td>To select:</td>
</tr>
<tr>
<td>B RETURN</td>
<td>Prints list of pitch select mode features and current selection.</td>
</tr>
<tr>
<td>B = A RETURN</td>
<td>All pitch mode</td>
</tr>
<tr>
<td>B = B RETURN</td>
<td>Font pitch mode</td>
</tr>
<tr>
<td>Exit SET-UP.</td>
<td>SET-UP indicator stops flashing.</td>
</tr>
</tbody>
</table>

**Horizontal Pitch (Characters Per Inch)**

The horizontal pitch of a character is the width of the character as well as the spacing between characters. The terminal has eight different horizontal pitch selections (Figure 3-1).

**NOTE:** Changing horizontal pitch resets the left margin to column one and the right margin to the maximum column for the selected pitch. Table 3-1 lists the maximum columns for each horizontal pitch.

The actual horizontal pitch used by the terminal depends on the density selection (letter or draft quality), pitch select mode, and horizontal pitch features. Refer to all three features when attempting to select horizontal pitch.
Figure 3-1  Horizontal Pitch Examples

Table 3-1  Maximum Right Margins

<table>
<thead>
<tr>
<th>Horizontal Pitch</th>
<th>Maximum Right Margin</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>132</td>
</tr>
<tr>
<td>12</td>
<td>158</td>
</tr>
<tr>
<td>13.2</td>
<td>168</td>
</tr>
<tr>
<td>16.5</td>
<td>217</td>
</tr>
<tr>
<td>5</td>
<td>66</td>
</tr>
<tr>
<td>6</td>
<td>79</td>
</tr>
<tr>
<td>6.6</td>
<td>84</td>
</tr>
<tr>
<td>8.25</td>
<td>108</td>
</tr>
</tbody>
</table>
Perform the following procedure to set or change the horizontal pitch feature.

**Procedure**

**Enter SET-UP.**

**Press:**

**H RETURN**

**Indication/Comment**

SET-UP indicator flashes.

To select:

<table>
<thead>
<tr>
<th>Selection</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>H = A RETURN</td>
<td>10 characters per inch</td>
</tr>
<tr>
<td>H = B RETURN</td>
<td>12 characters per inch</td>
</tr>
<tr>
<td>H = C RETURN</td>
<td>13.2 characters per inch</td>
</tr>
<tr>
<td>H = D RETURN</td>
<td>16.5 characters per inch</td>
</tr>
<tr>
<td>H = E RETURN</td>
<td>5 characters per inch</td>
</tr>
<tr>
<td>H = F RETURN</td>
<td>6 characters per inch</td>
</tr>
<tr>
<td>H = G RETURN</td>
<td>6.6 characters per inch</td>
</tr>
<tr>
<td>H = H RETURN</td>
<td>8.25 characters per inch</td>
</tr>
</tbody>
</table>

**Exit SET-UP.**

SET-UP indicator stops flashing.

### Horizontal Margins And Tabs

The left margin specifies the first column in which to print and the right margin specifies the last column in which to print (Figure 3-2).

A horizontal tab stop is a preselected column to which the printhead advances when a horizontal tab control character is received (Figure 3-2). For example, if a horizontal tab stop is set at column nine and a horizontal tab control character is received, the printhead advances to column nine.

Perform the following procedures to set or clear horizontal margins and tabs.

### Clearing Horizontal Margins

--- Use this procedure to clear horizontal margins.

**Procedure**

**Indication/Comment**

SET-UP indicator flashes.

**Exit SET-UP.**

SET-UP indicator stops flashing.
Figure 3-2 Horizontal Margins and Tabs
Setting Left Horizontal Margin -- Use this procedure to set left horizontal margins.

Procedure

Enter SET-UP.

Clear current margins if desired.

Use space bar to advance printhead to desired column.

Press 5

Exit SET-UP.

Indication/Comment

SET-UP indicator flashes.

Sets left margin.

SET-UP indicator stops flashing.

Clearing A Single Horizontal Tab -- Use this procedure to clear a single horizontal tab.

Procedure

Enter SET-UP.

Press TAB to move printhead to desired tab stop.

Press 2

Exit SET-UP.

Indication/Comment

SET-UP indicator flashes.

Printhead advances to horizontal tab stop.

Clears horizontal tab.

SET-UP indicator stops flashing.

Clearing All Horizontal Tabs -- Use this procedure to clear all horizontal tabs.

Procedure

Enter SET-UP.

Press 3

Exit SET-UP.

Indication/Comment

SET-UP indicator flashes.

Clears all horizontal tab stops.

SET-UP indicator stops flashing.
Setting Horizontal Tabs -- Use this procedure to set horizontal tabs.

Procedure

Enter SET-UP.

Clear horizontal tab stops if desired.

Use space bar to advance printhead to desired column.

Press !

1

Sets tab.

Repeat last two steps for each additional tab stop.

Exit SET-UP.

SET-UP indicator stops flashing.

Setting Right Horizontal Margin -- Use this procedure to set right horizontal margins.

Procedure

Enter SET-UP.

Clear current margins if desired.

Use space bar to advance printhead to desired column.

Press ^

6

Sets right margin.

Exit SET-UP.

SET-UP indicator stops flashing.

Vertical Pitch (Lines Per Inch)
Vertical pitch is the spacing between lines, not the height of the printed characters. The terminal has six different vertical pitch selections (Figure 3-3). This feature allows the terminal to print on a large number of different forms.

Changing vertical pitch changes the:

- Number of lines per page
- Active line (takes affect after first vertical motion command and pitch change)
- Action of vertical margin command
<table>
<thead>
<tr>
<th>2 LPI</th>
<th>3 LPI</th>
<th>4 LPI</th>
<th>6 LPI</th>
<th>8 LPI</th>
<th>12 LPI</th>
</tr>
</thead>
<tbody>
<tr>
<td>! * % &amp; ' ( ) A+</td>
<td>! * % &amp; ' ( ) A+</td>
<td>! * % &amp; ' ( ) A+</td>
<td>! * % &amp; ' ( ) A+</td>
<td>! * % &amp; ' ( ) A+</td>
<td>! * % &amp; ' ( ) A+</td>
</tr>
<tr>
<td>$ % &amp; ' ( ) A+</td>
<td>* $ % &amp; ' ( ) A+</td>
<td>* $ % &amp; ' ( ) A+</td>
<td>* $ % &amp; ' ( ) A+</td>
<td>* $ % &amp; ' ( ) A+</td>
<td>* $ % &amp; ' ( ) A+</td>
</tr>
<tr>
<td>$ % &amp; ' ( ) A+</td>
<td>$ % &amp; ' ( ) A+</td>
<td>$ % &amp; ' ( ) A+</td>
<td>$ % &amp; ' ( ) A+</td>
<td>$ % &amp; ' ( ) A+</td>
<td>$ % &amp; ' ( ) A+</td>
</tr>
<tr>
<td>$ % &amp; ' ( ) A+</td>
<td>$ % &amp; ' ( ) A+</td>
<td>$ % &amp; ' ( ) A+</td>
<td>$ % &amp; ' ( ) A+</td>
<td>$ % &amp; ' ( ) A+</td>
<td>$ % &amp; ' ( ) A+</td>
</tr>
</tbody>
</table>

* Figure 3-3 Vertical Pitch Examples*
• Position of last printed line (always above bottom margin)
• Position of vertical tabs.

Changing vertical pitch does not change the:

• Top of form
• Form length
• Top margin (first line always printed at same position)
• Bottom margin (last line never printed below bottom margin).

Perform the following procedure to select or change the vertical pitch feature.

Procedure
Indication/Comment

Count number of lines per inch on your form (Figure 3-4).

Enter SET-UP. SET-UP indicator flashes.

Set terminal to desired number of lines per inch.

Press: To select:

V RETURN Prints list of vertical pitch selections and current selection.

V = A RETURN 6 lines per inch
V = B RETURN 8 lines per inch
V = C RETURN 12 lines per inch
V = D RETURN 2 lines per inch
V = E RETURN 3 lines per inch
V = F RETURN 4 lines per inch

Exit SET-UP. SET-UP indicator stops flashing.

Form Length
The form length is measured in 1/24 inch lines. The form length can be no longer than 21 inches. To set form length, first make sure the terminal is at the top of form.
Figure 3-4 Selecting Vertical Pitch
Perform the following procedure to set form length.

Procedure
Measure length of form in inches.
Multiply result by 24.
Enter SET-UP.
Press F RETURN
Press F = n RETURN
Exit SET-UP.

Indication/Comment
SET-UP indicator flashes.
Prints current form length value.
Substitutes numeric result obtained in first two steps for n.
SET-UP indicator stops flashing.

Top of Form (TOF)
The top of the form (TOF) is the physical top edge of the paper and line one of the paper. Do not confuse the top of form with the top margin. The top margin is the line where you want printing to begin (Figure 3-5).

NOTE: To avoid losing the TOF setting when reloading paper, the terminal assumes a loading at TOF. Once the fault is cleared, the terminal automatically repositions itself.

Once TOF is defined, you should avoid using the paper adjust knobs to advance the paper. You should use these knobs only to set TOF because any other use loses TOF.

Perform the following procedure to set TOF.

Procedure
Enter SET-UP.
Use paper adjust knob to set form perforation even with top of printhead (Figure 3-5).
Press $ 4
Exit SET-UP.

Indication/Comment
SET-UP indicator flashes.

Sets TOF. If top margin is not set to line one, paper immediately advances to top margin.
SET-UP indicator stops flashing.

Vertical Margins and Tabs
The top margin is the line where you want printing to begin. The bottom margin is the line where you want printing to end (Figure 3-5). Setting vertical margins does not change the top of form or form length.
Figure 3-5 Vertical Form Settings
NOTE: Printing always starts the same distance from the top of form, no matter what vertical pitch is used. However, printing stops a variable distance from the bottom of the form, depending on the vertical pitch. Printing never occurs above the top margin or below the bottom margin.

A vertical tab is a preselected line to which the printhead advances when the terminal receives a vertical tab control character (Figure 3-5). You can set or clear vertical tabs anytime. However, when setting up a new form, the best time to set tabs is after setting the top margin.

Perform the following procedures to set or change the vertical margins or tabs features.

NOTE: The actual position of the vertical tab changes with each vertical pitch change.

Clearing Vertical Margins -- Use this procedure to clear vertical margins.

Procedure
Enter SET-UP.
While pressing SHIFT, press & 7
Exit SET-UP.
Indication/Comment
SET-UP indicator flashes.
Clears top and bottom vertical margins.
SET-UP indicator stops flashing.

Setting Top Vertical Margin -- Use this procedure to set top vertical margins.

Procedure
Enter SET-UP.
Clear old vertical margins.
Press LOCAL LINE FEED to advance paper to desired line.

NOTE: If you can not select the exact margin location you want, you might have to change the vertical pitch.

While pressing SHIFT, press % 5
Exit SET-UP.
Sets top margin at current line.
SET-UP indicator stops flashing.
Clearing A Single Vertical Tab -- Use this procedure to clear single vertical tab.

Procedure
Enter SET-UP.
While pressing CRTL, press K
While pressing SHIFT, press @ 2
Exit SET-UP.

Clearing All Vertical Tabs -- Use this procedure to clear all vertical tabs.

Procedure
Enter SET-UP.
While pressing SHIFT, press # 3
Exit SET-UP.

Setting Vertical Tabs -- Use this procedure to set vertical tabs.

Procedure
Enter SET-UP.
Press LOCAL LINE FEED to advance paper to line requiring a tab.
While pressing SHIFT, press ! 1
Repeat last two steps for each additional tab.
Exit SET-UP.

Indication/Comment
SET-UP indicator flashes.
Form advances to vertical tab stop.
Clears vertical tab.

Indication/Comment
SET-UP indicator stops flashing.

Indication/Comment
SET-UP indicator stops flashing.

Indication/Comment
SET-UP indicator stops flashing.

Sets tab.

SET-UP indicator stops flashing.
Setting Bottom Vertical Margin -- Use this procedure to set bottom vertical margins.

Procedure

Enter SET-UP.  

Press LOCAL LINE FEED to advance paper to desired line.

While pressing SHIFT, press 6

Exit SET-UP.

Indication/Comment

SET-UP indicator flashes.

Sets bottom margin.

SET-UP indicator stops flashing.

COMMUNICATION COMPATIBILITY FEATURES

To transmit and receive data, the terminal must be compatible with the computer and the communication system. Therefore, the communication features are usually preset and should not be changed unless compatibility is verified.

NOTE: Also refer to the Programmer Reference Manual for additional information about communication features.

This section describes the following features in detail.

Parity and data bits  
Receiver error processing  
Baud rate  
Modem control  
Paper fault  
Coded disconnect  
Local echo  
Auto-XON/XOFF  
Answerback  
Auto-answerback  
End of line control  
Printer new line  
Printer character set  
BREAK key  
Alternate keypad  
Auto-linefeed  
Keyboard layout

Parity and Data Bits

The parity and data bits procedure selects two separate but related features, data bits per character and parity. The data bits per character can be set to 7 or 8 data bits per character. Parity selects the type of parity bit that the terminal generates for transmitted and received characters. (Also see Receiver Error Processing).
Perform the following procedure to change the parity or data bit feature.

Procedure
Enter SET-UP.
Press:

P RETURN
P = A RETURN
P = B RETURN
P = C RETURN
P = D RETURN
P = E RETURN
P = F RETURN
Exit SET-UP.

Indication/Comment
SET-UP indicator flashes.
To select:
Prints selections and current setting.
No parity, 7 data bits, sets 8th bit to mark
Even parity, 7 data bits
No parity, 7 data bits, sets 8th bit to space
Odd parity, 7 data bits
Even parity, 8 data bits
Odd parity, 8 data bits
SET-UP indicator stops flashing.

Receiver Error Processing
This feature determines the terminal response to and error (e.g., parity error, UART overrun, framing error). When this feature is on and an error occurs, the terminal prints the substitute control character (¶). When this feature is off, the terminal tries to print characters as received.

Perform the following procedure to enable or disable receiver error processing.

Procedure
Enter SET-UP.
Press R RETURN
Press R = A RETURN
Press R = B RETURN
Exit SET-UP.

Indication/Comment
SET-UP indicator flashes.
Prints list of selections and current setting.
Prints substitute control character (¶) when error occurs.
Prints characters as received.
SET-UP indicator stops flashing.

Baud Rate (Speed)
Baud rate is the speed at which the terminal transmits and receives characters. In some systems, transmit and receive speeds might be different. This difference is known as split baud rate.
Perform the following procedure to set the baud rate.

**Procedure**

<table>
<thead>
<tr>
<th>Indication/Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enter SET-UP.</td>
</tr>
<tr>
<td>SET-UP indicator flashes.</td>
</tr>
<tr>
<td>Press:</td>
</tr>
<tr>
<td>To select:</td>
</tr>
<tr>
<td>S RETURN</td>
</tr>
<tr>
<td>Prints available selections and current setting.</td>
</tr>
</tbody>
</table>

| S = A RETURN | 50 baud |
| S = B RETURN | 75 baud |
| S = C RETURN | 110 baud |
| S = D RETURN | 134.5 baud |
| S = E RETURN | 150 baud |
| S = F RETURN | 200 baud |
| S = G RETURN | 300 baud |
| S = H RETURN | 600 baud |
| S = I RETURN | 1200 baud |
| S = J RETURN | 1800 baud |
| S = K RETURN | 2400 baud |
| S = L RETURN | 4800 baud |
| S = M RETURN | 7200 baud |
| S = N RETURN | 9600 baud |
| S = O RETURN | 75 baud send/600 baud receive |
| S = P RETURN | 75 baud send/1200 baud receive |
| S = Q RETURN | 150 baud send/600 baud receive |
| S = R RETURN | 150 baud send/1200 baud receive |
| S = S RETURN | 300 baud send/2400 baud receive |
| S = T RETURN | 300 baud send/4800 baud receive |
| S = U RETURN | 600 baud send/2400 baud receive |
| S = V RETURN | 600 baud send/4800 baud receive |

Exit SET-UP. SET-UP indicator stops flashing.

**Modem Control**

This feature controls the Electronic Industry Association (EIA) control lines that communicate with the computer. The actual lines controlled by each feature are described in the Programmer Reference Manual. Perform the following procedure to select the modem control feature.

**Procedure**

<table>
<thead>
<tr>
<th>Indication/Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enter SET-UP.</td>
</tr>
<tr>
<td>SET-UP indicator flashes.</td>
</tr>
<tr>
<td>Press Z = A RETURN</td>
</tr>
<tr>
<td>No modem control, restraint mode</td>
</tr>
<tr>
<td>Press Z = B RETURN</td>
</tr>
<tr>
<td>No modem control, speed control mode</td>
</tr>
<tr>
<td>Press Z = C RETURN</td>
</tr>
<tr>
<td>Modem control, restraint mode</td>
</tr>
<tr>
<td>Press Z = D RETURN</td>
</tr>
<tr>
<td>Modem control, speed control mode</td>
</tr>
</tbody>
</table>

Exit SET-UP. SET-UP indicator stops flashing.
Paper Fault
The paper fault feature describes the action the terminal takes when a paper fault occurs. A paper fault can be detected only when the paper out (LAX34-PL) or paper low (LAX34-LL) detection option is installed. (See Installation Guide.)

Four responses are available: no action, send break, disconnect, and do not answer.

A no action response is selected usually for hardwire installations or when no disconnect is desired. When no action is selected the terminal stops printing. If the XON/XOFF feature is on or restraint is selected and the buffer fills, the terminal sends a device control 3 XOFF to the computer or turns the busy line off.

A send break response causes the terminal to transmit a 275 ms + 25 ms BREAK signal when a paper fault occurs.

Disconnect causes the terminal to turn the data terminal ready (DTR) signal off immediately.

The do not answer response is used with the roll paper holder. This response allows the terminal to complete any call in progress. When the call is completed, the terminal disconnects (turns DTR signal off) and does not answer any new calls.

Perform the following procedure to select a paper fault response.

Procedure
Enter SET-UP.

<table>
<thead>
<tr>
<th>Indication/Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>SET-UP indicator flashes.</td>
</tr>
<tr>
<td>No action</td>
</tr>
<tr>
<td>Send break</td>
</tr>
<tr>
<td>Disconnect</td>
</tr>
<tr>
<td>Do not answer</td>
</tr>
</tbody>
</table>

Exit SET-UP.

SET-UP indicator stops flashing.

Coded Disconnect
When this feature is selected and the DECwriter V receives the end of transmission (EOT) control character, the terminal disconnects from the communication line. When this feature is off, the terminal ignores the EOT control character.
Perform the following procedure to turn coded disconnect on or off.

**Procedure**

Enter SET-UP.

Press N = A RETURN
Press N = B RETURN

Exit SET-UP.

**Indication/Comment**

SET-UP indicator flashes.

Coded disconnect off (ignore EOT)
Coded disconnect on (disconnect upon receiving EOT)

SET-UP indicator stops flashing.

Local Echo

When the local echo feature is on, every character sent to the computer is also printed by the terminal (Figure 3-6). If local echo is off, characters are transmitted only. The computer must transmit (echo) the characters back to the terminal for printing when the local echo feature is off.

**NOTE:** If the terminal prints double characters turn the local echo feature off. The computer is performing the echo function.

**NOTE:** Enquiry (ENQ) characters are never echoed.

Perform the following procedure to turn the local echo feature on or off.

**Procedure**

Enter SET-UP.

Press E RETURN

Press E = A RETURN
Press E = B RETURN

Exit SET-UP.

**Indication/Comment**

SET-UP indicator flashes.

Prints list of available selections and current setting.

Local echo off
Local echo on

SET-UP indicator stops flashing.

Auto-XON/XOFF

The auto-XON/XOFF feature prevents the loss of received characters. When auto-XON/XOFF is on, the terminal transmits the device control 3 XOFF and device control 1 XON control characters to indicate when the input buffer is almost empty or full. The device control 3 XOFF character requests the computer to stop sending characters. The device control 1 XON character requests the computer to continue sending characters.

**NOTE:** The auto-XON/XOFF feature should be changed only when your system is not sending data.
Figure 3-6  Local Echo Feature
Perform the following procedure to select or disable the auto-XON/XOFF feature.

**Procedure**

Indication/Comment

Enter SET-UP.

SET-UP indicator flashes.

Press X RETURN

Numeric display shows current selection of XON/XOFF.

Press X = A RETURN

Auto-XON/XOFF off

Press X = B RETURN

Auto-XON/XOFF on

Exit SET-UP.

SET-UP indicator stops flashing.

**Answerback**

Answerback is a message of up to 30 characters that identifies the terminal for the computer. You enter the answerback message into the terminal. This message is transmitted from the terminal upon the computer's request or when you press the HERE IS key. Printable and control characters can be part of the answerback message.

After entering and testing the answerback message, you can protect the message by setting a switch (Figure 3-7) on the logic board to prevent the message from being changed or erased. (Refer to the Installation Guide for more detail.)

**Entering/Deleting the Answerback Message** — Perform the following procedure to enter or delete the answerback message.

**Procedure**

Indication/Comment

Enter SET-UP.

SET-UP indicator flashes.

Press M =

Next character typed starts the answerback message.

Type message delimiter

Message delimiter can be any American Standard Code for Information Interchange (ASCII) character, including control characters. Message delimiter is not part of answerback message.

Type up to 30 characters for answerback message.

Answerback message can be any ASCII character, including control characters.

**NOTE:** If more than 30 characters are typed after the message delimiter, the extra characters are entered into the 30th character position.
Figure 3-7  Answerback Message Protect Jumper
### Procedure

**Type message delimiter again.**

**Indication/Comment**

Second message delimiter ends message. Message delimiter is not part of answerback message.

**NOTE:** If you do not want to store the answerback message in user permanent memory, skip the following step.

**Exit SET-UP.**

**SET-UP indicator stops flashing.**

### Auto-Answerback

This feature causes the terminal to transmit the answerback message automatically when a communication connection is established.

**NOTE:** Auto-answerback does not affect the HERE IS key or response to the control character ENQ.

Perform the following procedure to turn the auto-answerback feature on or off.

<table>
<thead>
<tr>
<th><strong>Procedure</strong></th>
<th><strong>Indication/Comment</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Enter SET-UP.</strong></td>
<td>SET-UP indicator flashes.</td>
</tr>
<tr>
<td><strong>Press A RETURN</strong></td>
<td>Prints available selections and current setting.</td>
</tr>
<tr>
<td><strong>Press A = A RETURN</strong></td>
<td>Auto-answerback off</td>
</tr>
<tr>
<td><strong>Press A = B RETURN</strong></td>
<td>Auto-answerback on</td>
</tr>
<tr>
<td><strong>Exit SET-UP.</strong></td>
<td>SET-UP indicator stops flashing.</td>
</tr>
</tbody>
</table>

### End of Line Control

This feature prevents received characters from being lost when the terminal attempts to print beyond the right margin. Printing beyond the right margin occurs when a carriage return control character is omitted from the message. End of line control is an important feature in a message network environment.

When end of line control is turned off, any characters received beyond the right margin are discarded. When end of line control is on, the terminal performs an automatic carriage return and linefeed and prints the characters received after the right margin on the next line.
Perform the following procedure to turn end of line control on or off.

Procedure
Enter SET-UP.  
Press J RETURN  
Press J = A RETURN  
Press J = B RETURN  
Exit SET-UP.

Indication/Comment
SET-UP indicator flashes.
Prints available selections and current setting.
Off
On
SET-UP indicator stops flashing.

Printer New Line
This feature controls the terminal's response to a received linefeed or carriage return control character. The Letterwriter 100 responds in one of three different ways as described in Table 3-2.

Table 3-2 Printer New Line Selections

<table>
<thead>
<tr>
<th>Selected Feature</th>
<th>Received Carriage Return Control Character</th>
<th>Received Linefeed Control Character</th>
</tr>
</thead>
<tbody>
<tr>
<td>No new line</td>
<td>Terminal performs carriage return.</td>
<td>Terminal performs linefeed.</td>
</tr>
<tr>
<td>Linefeed new line</td>
<td>Terminal performs carriage return.</td>
<td>Terminal performs carriage return and linefeed.</td>
</tr>
<tr>
<td>Carriage return new line</td>
<td>Terminal performs carriage return and linefeed.</td>
<td>Terminal performs linefeed.</td>
</tr>
</tbody>
</table>
Perform the following procedure to select or change the printer new line feature.

Procedure

Enter SET-UP.
Press W RETURN
Press W = A RETURN
Press W = B RETURN
Press W = C RETURN
Exit SET-UP.

Indication/Comment

SET-UP indicator flashes.
Prints available selections and current selection.
No new line
Linefeed new line
Carriage return new line
SET-UP indicator stops flashing.

Printer Character Set
The character sets primarily are language sets, except for the VT100 line drawing set. The character sets that the terminal can print depend on the font the terminal is using and the selected character set. If the currently used font contains the selected character set, that character set is used. If the currently used font does not contain the selected character set, the default character set for that font is used.

The standard fonts contain the following character sets.

ISO* United Kingdom
ASCII United States
DIGITAL Finnish
DIGITAL Norwegian/Danish
DIGITAL Swedish
ISO German
DIGITAL French Canadian
ISO French
ISO Italian
ISO Spanish
DIGITAL VT100 line drawing set

Two of these character sets can be active anytime with one as G0 and the other G1. Once the character sets are designated, a single control character is used to switch between the active character sets. The shift in (SI, octal 017) control character selects the G0 character set. The shift out (SO, octal 016) control character selects the G1 character set.

NOTE: The printer character sets can be designated by the computer also. Refer to the Programmer Reference Manual for more detail.

* International Standards Organization
Perform the following procedure to change the G0 or G1 character sets.

**Procedure**

Enter SET-UP.  
Press:  
C RETURN  
D RETURN  
Exit SET-UP.

**Indication/Comment**

SET-UP indicator flashes.  
To select the G0 character set:  
Prints available character sets and current selection.  
Prints available character sets and current selection.  
SET-UP indicator stops flashing.

**BREAK Key**

The BREAK key feature allows you to turn the BREAK key on or off.

Pressing the BREAK key generates a break signal. A break signal is a transmitted space condition for 0.250 seconds.

Pressing the BREAK key while holding the SHIFT key down generates a long break disconnect. A long break disconnect is a transmitted space condition for approximately 3.8 seconds.
NOTE: The BREAK key feature does not affect the terminal response to a fault condition when the terminal is set to send a break signal. Refer to the paper fault feature in this chapter for more detail.

Perform the following procedure to turn the BREAK key on or off.

**Procedure**

Enter SET-UP.
Press U RETURN
Press U = A RETURN
Press U = B RETURN
Exit SET-UP.

**Indication/Comment**

SET-UP indicator flashes.
Prints selections and current status.
BREAK key on
BREAK key off
SET-UP indicator stops flashing.

Alternate Keypad
This feature allows the auxiliary keypad to generate characters or escape sequences. Table 3-3 lists the characters and escape sequences the keypad transmits when alternate keypad is on and off.

NOTE: When alternate keypad is on and the terminal is in local mode, the auxiliary keypad does not function.

Perform the following procedure to turn alternate keypad on or off.

**Procedure**

Enter SET-UP.
Press Y RETURN
Press Y = A RETURN
Press Y = B RETURN
Exit SET-UP.

**Indication/Comment**

SET-UP indicator flashes.
Prints selections and current status.
Alternate keypad off (keypad in numeric mode)
Alternate keypad on (keypad in function mode)
SET-UP indicator stops flashing.
<table>
<thead>
<tr>
<th>Key</th>
<th>Character Transmitted with Alternate Keypad Off</th>
<th>Character Transmitted with Alternate Keypad On</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enter</td>
<td>CR or CR LF 015 or 015 012</td>
<td>ESC 0 M 033 117 115</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ESC 0 1 033 117 154</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ESC 0 m 033 117 155</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ESC 0 n 033 117 156</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ESC 0 p 033 117 160</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ESC 0 q 033 117 161</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ESC 0 r 033 117 162</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ESC 0 s 033 117 163</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ESC 0 t 033 117 164</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ESC 0 u 033 117 165</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ESC 0 v 033 117 166</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ESC 0 w 033 117 167</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ESC 0 x 033 117 170</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ESC 0 y 033 117 171</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ESC 0 P 033 117 120</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ESC 0 P 033 117 120</td>
</tr>
<tr>
<td>PF1</td>
<td>ESC 0 P 033 117 120</td>
<td>ESC 0 P 033 117 120</td>
</tr>
<tr>
<td>PF2</td>
<td>ESC 0 Q 033 117 121</td>
<td>ESC 0 Q 033 117 121</td>
</tr>
</tbody>
</table>

3-30
Table 3-3  Auxiliary Keypad Characters and Escape Sequences (Cont)

<table>
<thead>
<tr>
<th>Key</th>
<th>Character Transmitted with Alternate Keypad Off</th>
<th>Character Transmitted with Alternate Keypad On</th>
</tr>
</thead>
<tbody>
<tr>
<td>PF3</td>
<td>ESC 0 R</td>
<td>ESC 0 R</td>
</tr>
<tr>
<td></td>
<td>Ø33 117 122</td>
<td>Ø33 117 122</td>
</tr>
<tr>
<td>PF4</td>
<td>ESC 0 S</td>
<td>ESC 0 S</td>
</tr>
<tr>
<td></td>
<td>Ø33 117 123</td>
<td>Ø33 117 123</td>
</tr>
</tbody>
</table>

Auto-Linefeed

NOTE: Do not confuse auto-linefeed with end of line control and printer new line.

This feature changes the characters generated by the RETURN and ENTER keys. When auto-linefeed is off and the RETURN or ENTER key is pressed, the terminal generates a carriage return control character. When auto-linefeed is on, the terminal generates the carriage return and linefeed control characters.

NOTE: If the terminal performs double-linefeeds, turn the auto-linefeed feature off. The computer is performing the function.

Perform the following the following procedure to turn auto-linefeed on or off.

Procedure

<table>
<thead>
<tr>
<th>Indications/Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>SET-UP indicator flashes.</td>
</tr>
<tr>
<td>Prints selections and current status.</td>
</tr>
<tr>
<td>Auto-linefeed off (Sends carriage return only.)</td>
</tr>
<tr>
<td>Auto-linefeed on (Sends carriage return and linefeed.)</td>
</tr>
<tr>
<td>SET-UP indicator stops flashing.</td>
</tr>
</tbody>
</table>

Keyboard Layout

Use this feature only when a foreign character set keyboard option is installed. When you use a foreign character keyboard, set this feature to match the installed keyboard. (See the Installation Guide for more detail.)
Perform the following procedure to change the keyboard layout selection.

**NOTE:** Perform this procedure before installing keycaps.

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Indication/Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enter SET-UP.</td>
<td>SET-UP indicator flashes.</td>
</tr>
<tr>
<td>Press:</td>
<td></td>
</tr>
<tr>
<td>K RETURN</td>
<td>To select:</td>
</tr>
<tr>
<td>K = A RETURN</td>
<td>Prints available character sets and current selection.</td>
</tr>
<tr>
<td>K = B RETURN</td>
<td>United States (ASCII)</td>
</tr>
<tr>
<td>K = C RETURN</td>
<td>United Kingdom</td>
</tr>
<tr>
<td>K = D RETURN</td>
<td>French Canadian</td>
</tr>
<tr>
<td>K = E RETURN</td>
<td>German</td>
</tr>
<tr>
<td>K = F RETURN</td>
<td>Swedish</td>
</tr>
<tr>
<td>K = G RETURN</td>
<td>French</td>
</tr>
<tr>
<td>K = H RETURN</td>
<td>Finnish</td>
</tr>
<tr>
<td></td>
<td>Norwegian/Danish</td>
</tr>
<tr>
<td>Exit SET-UP.</td>
<td>SET-UP indicator stops flashing.</td>
</tr>
</tbody>
</table>

**SELF-TEST**
The Letterwriter 100 has five printer self-test features. You can perform any of the tests to determine if there is a problem with the terminal. The self-tests provide a visual indication that the terminal is operating properly. The procedure to perform the self-tests is in Chapter 4.

**FEATURE MEMORIES**
The Letterwriter 100 features are contained in three memories as shown in Figure 3-8. There is an operating memory and two permanent memories. The following paragraphs describe the feature memories.

**Operating Memory**
The terminal operates according to the features entered in the operating memory. You can change a feature in operating memory by entering SET-UP and changing the feature. The computer can also change some of the features in operating memory. The features in operating memory that you and the computer can change are as follows.

- Horizontal pitch
- Horizontal margins
- Horizontal tabs
- Vertical pitch
- Form length
- Vertical Margins
- Vertical Tabs
- End of line control
- Printer character sets
- Alternate keypad
- Printer new line
- Answerback
Figure 3-8 Feature Memories
The features in operating memory are replaced with the features in user permanent memory when power is turned on or a recall is performed. If power to the terminal is turned on and the features stored in user permanent memory are invalid or a reset is performed, the features in operating memory are replaced with the features in default memory.

**Status Message** -- To check the features stored in operating memory, print a status message. The status message lists the selected terminal features. A status message example is shown in Figure 3-9.

Perform the following procedure to print the status message.

**Procedure**

Enter SET-UP.

Press *

8

Exit SET-UP.

**Indication/Comment**

SET-UP indicator flashes.

Prints status message.

SET-UP indicator stops flashing.

**User Permanent Memory**

User permanent memory stores operator-selected features. The computer cannot change the features stored in user permanent memory. You can change the features in user permanent memory by changing the feature and performing a store while in SET-UP. You can enter the features from user permanent memory into operating memory by performing a recall. When power to the terminal is turned on, the features in user permanent memory are entered automatically into the operating memory.

**NOTE:** Retaining information in the permanent memories requires no power or batteries.

The following paragraphs describe the store and recall procedures.

**Store** -- enters the operating memory features into user permanent memory. Storing features can be performed from the keyboard only. The computer cannot store features.
LA24 version X5.4 14-October-81 KSR
0.4K Buffer
DPSs: 006...001003...

***Keyboard Settings:

E-Local echo: Disabled
K-Keyboard: United States
L-Return key: <CR>
Q-Keyclick: Disabled
U-Break Key: Enabled
Y-Keypad mode: numeric

***Printer Settings:

B-Pitch Mode: Font Pitch
C-G0 Character set: b
D-G1 Character set: United States
  G2 Character set: United States
  G3 Character set: United States
F-Form Length: 264
H-Horiz pitch (cpi): 10
J-End of line control: wrap mode
V-Vert pitch (lpi): 6
W-NewLine request char.: none

***Communication Settings:

A-Auto-answerback: Disabled
N-Disconnect on EOT: Disabled
O-Paper fault processing: XOFF (if enabled)
P-Parity: 7/S
R-Receiver error: Print error block
S-Speed (bps): 9600
X-Auto XON/XOFF: Enabled
Z-Modem Control: No Modem Control-Restraint Mode

Figure 3-9 Sample Status Message
Perform the following procedure to store the features into user permanent memory.

**Procedure**

Enter SET-UP.

While pressing SHIFT, press (9

**Indication/Comment**

SET-UP indicator flashes.

Stores features in operating memory in user permanent memory. SET-UP indicator stays on for approximately 9 seconds. When SET-UP indicator starts to flash again, store is complete.

Exit SET-UP.

SET-UP indicator stops flashing.

Recall -- enters the features stored in user permanent memory into operating memory. All features previously stored in operating memory are erased.

Perform the following procedure to recall the features stored in user permanent memory.

**Procedure**

Enter SET-UP.

Press (9

**Indication/Comment**

SET-UP indicator flashes.

Enters features in user permanent memory into operating memory. SET-UP indicator stays on for approximately 1 second.

Exit SET-UP.

SET-UP indicator stops flashing.

**Default Memory**

Default memory, another permanent memory, contains the default settings. This memory holds typical selections for each SET-UP feature. The features stored in the default memory cannot be changed by you or the computer. If no SET-UP information is stored in the user permanent memory when power is turned on, the default settings are entered automatically into the operating memory.

**NOTE:** Retaining information in the permanent memories requires no power or batteries.

Table 3-4 lists the default values for the terminal.
Perform the following procedure to recall the SET-UP features default settings.

Procedure

Enter SET-UP.

Press I RETURN

Exit SET-UP.

Indication/Comment

SET-UP indicator flashes.

Enters terminal default settings into operating memory.

SET-UP indicator stops flashing.

<table>
<thead>
<tr>
<th>Feature</th>
<th>Default Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Last character view</td>
<td>Automatic last character view</td>
</tr>
<tr>
<td>Keyclick</td>
<td>Off</td>
</tr>
<tr>
<td>Horizontal pitch</td>
<td>10 characters per inch</td>
</tr>
<tr>
<td>Left margin</td>
<td>Column 1 (First printable column)</td>
</tr>
<tr>
<td>Right margin</td>
<td>Column 132</td>
</tr>
<tr>
<td>Horizontal tabs</td>
<td>One tab stop every 8 columns</td>
</tr>
<tr>
<td>Vertical pitch</td>
<td>6 lines per inch</td>
</tr>
<tr>
<td>Form length</td>
<td>11 inches</td>
</tr>
<tr>
<td>Top margin</td>
<td>At 0 inch</td>
</tr>
<tr>
<td>Bottom margin</td>
<td>At 11th inch</td>
</tr>
<tr>
<td>Vertical tab stops</td>
<td>Tab stops set every line</td>
</tr>
<tr>
<td>Parity and data bits</td>
<td>Space parity/7 data bits</td>
</tr>
<tr>
<td>Receiver error processing</td>
<td>Check for receiver error (print substitute character)</td>
</tr>
<tr>
<td>Baud rate</td>
<td>1200 baud</td>
</tr>
<tr>
<td>Modem control</td>
<td>No modem control/restraint mode</td>
</tr>
<tr>
<td>Paper fault</td>
<td>No action</td>
</tr>
<tr>
<td>Coded Disconnect</td>
<td>Off</td>
</tr>
<tr>
<td>Local echo</td>
<td>Off</td>
</tr>
<tr>
<td>Auto-XON/XOFF</td>
<td>On</td>
</tr>
<tr>
<td>Answerback</td>
<td>None</td>
</tr>
<tr>
<td>Auto-answerback</td>
<td>Off</td>
</tr>
<tr>
<td>End of line control</td>
<td>On</td>
</tr>
<tr>
<td>Printer new line</td>
<td>No new line</td>
</tr>
<tr>
<td>Printer character sets</td>
<td>U.S. ASCII</td>
</tr>
<tr>
<td>BREAK key</td>
<td>On</td>
</tr>
<tr>
<td>Alternate keypad</td>
<td>Numeric</td>
</tr>
<tr>
<td>Auto-linefeed</td>
<td>Off</td>
</tr>
<tr>
<td>Keyboard layout</td>
<td>U.S. ASCII</td>
</tr>
</tbody>
</table>
CHAPTER 4
MAINTENANCE AND TROUBLESHOOTING

GENERAL
This chapter includes the Letterwriter 100 maintenance procedures, a troubleshooting checklist, and a description of the terminal self-tests. The Maintenance section describes procedures to keep the terminal in good operating condition. The Troubleshooting Checklist describes a series of checks to make before requesting service. The Self-Test section describes the power-up self-test and the printer self-tests.

This chapter also includes installation, warranty, and service information.

MAINTENANCE
The Letterwriter 100 does not require you to perform preventive maintenance. Its surfaces and platen can be cleaned with a damp cloth only. Do not use cleaners with solvents or excessive amounts of water. Rubbing the keycaps with a dry or barely moist cloth is enough to clean them.

CAUTION: Do not attempt to remove the keycaps to clean them more thoroughly. You can damage the switch contacts if you replace the keycaps incorrectly.

Perform the following procedure to clean the platen.

1. Open the access cover.
2. Press the cover retainer clips and remove the cover (Figure 4-1).
3. Lift the bail bar.
4. Press the platen release levers and lift the platen straight up (Figure 4-2).
5. Clean the platen with a damp cloth.
6. Replace the platen in its original position. (Platen clicks into place when properly seated.) Make sure the platen rolls freely.
Figure 4-1 Access Cover Removal

Figure 4-2 Platen Removal
7. Lower the bail bar to its original position.

8. Reinstall the access cover.

The Letterwriter 100 covers are not meant to be weatherproof. There are several openings in the covers that liquids, coins, paper clips, and other objects can fall through. Such objects disturb the electronic operation of the printer if they come into contact with the circuitry. Therefore, do not place drinks and metal objects on any part of the terminal.

Keep the ventilation slots on the top and bottom of the terminal clear of obstruction. The terminal overheats if you block these slots.

TROUBLESHOOTING CHECKLIST
If you are unable to turn on power to the terminal or the terminal appears to be faulty, refer to Table 4-1. This table describes checks you should make before requesting service.

Table 4-1 Troubleshooting Checklist

<table>
<thead>
<tr>
<th>Indication</th>
<th>Possible Cause</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Terminal will not turn on when</td>
<td>AC power cord is not plugged into wall</td>
<td>Plug in cord.</td>
</tr>
<tr>
<td>power ON/OFF switch is set to on.</td>
<td>receptacle or printer.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Power is not coming from wall receptacle.</td>
<td>Check receptacle with a known working</td>
</tr>
<tr>
<td></td>
<td>AC line fuse blown</td>
<td>electrical device (such as a lamp). If no</td>
</tr>
<tr>
<td></td>
<td></td>
<td>power, call your electrician.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Turn printer off and have fuse replaced.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Refer to Figure 4-3 for fuse location.</td>
</tr>
</tbody>
</table>

Figure 4-3 AC Line Fuse Location
<table>
<thead>
<tr>
<th>Indication</th>
<th>Possible Cause</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Characters do not print; POWER/FAULT indicator flashes.</td>
<td>Terminal out of paper</td>
<td>Install paper and press CLEAR FAULT key to reset. Refer to Chapter 2 for paper loading information.</td>
</tr>
<tr>
<td></td>
<td>Access cover open</td>
<td>Close access cover and press CLEAR FAULT key.</td>
</tr>
<tr>
<td>Characters do not print; carriage moves.</td>
<td>Printhead too far from paper</td>
<td>Readjust printhead. Refer to Chapter 2.</td>
</tr>
<tr>
<td>Characters do not print or are garbled.</td>
<td>Data set (modem) unplugged</td>
<td>Plug in data set.</td>
</tr>
<tr>
<td></td>
<td>Incorrect communication setup</td>
<td>Make sure data communication features are set to match computer. Refer to Chapter 3.</td>
</tr>
<tr>
<td>Light print</td>
<td>Printhead too far from paper</td>
<td>Readjust printhead. Refer to Chapter 2.</td>
</tr>
<tr>
<td></td>
<td>Ribbon out of ink</td>
<td>Replace ribbon cartridge. Refer to Chapter 2.</td>
</tr>
<tr>
<td>Ink smudges during printing.</td>
<td>Paper not firmly wrapped around platen</td>
<td>Lift bail bar and smooth paper over surface of platen. Lower bail bar to original position.</td>
</tr>
<tr>
<td></td>
<td>Printhead too close to paper</td>
<td>Readjust printhead. Refer to Chapter 2.</td>
</tr>
<tr>
<td></td>
<td>Paper release lever incorrectly set (roll paper only)</td>
<td>Press paper release lever toward back of printer.</td>
</tr>
<tr>
<td></td>
<td>Feed holes torn</td>
<td>Reload paper. Refer to Chapter 2.</td>
</tr>
</tbody>
</table>
### Table 4-1 Troubleshooting Checklist (Cont)

<table>
<thead>
<tr>
<th>Indication</th>
<th>Possible Cause</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multipart paper tears</td>
<td>Printhead too close to paper</td>
<td>Readjust printhead. Refer to Chapter 2.</td>
</tr>
<tr>
<td></td>
<td>Paper not straight in printer</td>
<td>Realign paper stack within 1 cm (1/2 in) of tractors.</td>
</tr>
<tr>
<td></td>
<td>Tractors incorrectly adjusted</td>
<td>Readjust right tractor.</td>
</tr>
<tr>
<td></td>
<td>Paper or printhead jam</td>
<td>Open access cover and clear jam. Close access cover and press CLEAR FAULT key.</td>
</tr>
<tr>
<td>Garbled or double characters</td>
<td>Incorrect communication setup</td>
<td>Make sure data communication features are set to match computer. Refer to Chapter 3.</td>
</tr>
</tbody>
</table>

**SELF-TESTS**

The Letterwriter 100 can perform a power-up self-test and several printer self-tests.

The following paragraphs describe the Letterwriter 100 self-tests.

**Power-Up Self-Test**

The Letterwriter 100 performs a power-up self-test whenever power to the terminal is turned on. Any errors during this self-test are displayed by the keyboard indicators. Refer to Table 4-2 for the power-up self-test indications.

**Printer Self-Tests**

The printer self-tests provide a visual indication that the printer is working properly. You can perform any of the following printer self-tests to determine if a problem exists.

- Character pattern
- Single character
- Horizontal registration
- Nonprinting
- Loopback
<table>
<thead>
<tr>
<th>DSR Indicator</th>
<th>POWER/FAULT Indicator</th>
<th>Probable Cause</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Off</td>
<td>Off, no carriage motion</td>
<td>Power supply</td>
<td>Refer to Table 4-1.</td>
</tr>
<tr>
<td>Off</td>
<td>Off, carriage motion</td>
<td>Defective indicators</td>
<td>Request service.</td>
</tr>
<tr>
<td>1 flash</td>
<td>1 flash</td>
<td>Defective font ROM 1</td>
<td>Replace ROM.</td>
</tr>
<tr>
<td>2 flashes</td>
<td>2 flashes</td>
<td>Defective font ROM 2 (may be cartridge or plug-in ROM)</td>
<td>Replace ROM.</td>
</tr>
<tr>
<td>3 flashes</td>
<td>3 flashes</td>
<td>Defective font ROM 3</td>
<td>Replace ROM.</td>
</tr>
<tr>
<td>4 flashes</td>
<td>4 flashes</td>
<td>Defective font ROM 4 (may be cartridge or plug-in ROM)</td>
<td>Replace ROM.</td>
</tr>
<tr>
<td>5 flashes</td>
<td>5 flashes</td>
<td>Defective font ROM 5</td>
<td>Replace ROM.</td>
</tr>
<tr>
<td>6 flashes</td>
<td>6 flashes</td>
<td>Defective first microcode ROM</td>
<td>Request service.</td>
</tr>
<tr>
<td>7 flashes</td>
<td>7 flashes</td>
<td>Defective second microcode ROM</td>
<td>Request service.</td>
</tr>
<tr>
<td>8 flashes</td>
<td>8 flashes</td>
<td>Defective RAM</td>
<td>Request service.</td>
</tr>
<tr>
<td>9 flashes</td>
<td>9 flashes</td>
<td>Defective optional RAM</td>
<td>Request service.</td>
</tr>
<tr>
<td>On or off</td>
<td>Flashing, no bell</td>
<td>Cover open or paper fault</td>
<td>Close cover. Press CLEAR FAULT key.</td>
</tr>
<tr>
<td>On or off</td>
<td>Flashing, bell tones</td>
<td>Head jam</td>
<td>Clear jam. Press CLEAR FAULT key.</td>
</tr>
<tr>
<td>DSR Indicator</td>
<td>POWER/FAULT Indicator</td>
<td>Probable Cause</td>
<td>Action</td>
</tr>
<tr>
<td>---------------</td>
<td>-----------------------</td>
<td>----------------</td>
<td>--------</td>
</tr>
<tr>
<td>On</td>
<td>On</td>
<td>On-line/ready</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>to receive data</td>
<td></td>
</tr>
<tr>
<td>Off</td>
<td>On</td>
<td>Terminal is in</td>
<td>Release</td>
</tr>
<tr>
<td></td>
<td></td>
<td>modem mode with</td>
<td>SELF-TEST</td>
</tr>
<tr>
<td></td>
<td></td>
<td>no DSR signal, or</td>
<td>key.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SELF-TEST key was</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>pressed before</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>power-up.</td>
<td></td>
</tr>
</tbody>
</table>

Figure 4-4 shows examples of the character pattern, single character, and horizontal registration self-test patterns. During the character pattern self-test, 94 characters are printed continuously within the selected margins. The single character self-test prints the selected character continuously within the selected margins. The horizontal registration self-test prints an asterisk in several passes. The nonprinting self-test causes the carriage to move from the left margin to the right margin, back to the left margin, and then advance one line. This test repeats until you stop the test.

Two loopback self-tests also can be performed. During the first loopback self-test, the transmit and receive lines of the terminal connect to each other. The terminal transmits a set of characters on its transmit lines and receives the characters on its receive lines. All control signals are checked, as are the baud rate and parity. The terminal compares the output and input and then prints one of the following messages.

- Control line OK
- Control line failed (20 mA?, jumpers?)
- Data path OK
- Data path failed
- Data path stopped

**NOTE:** When using the 20 mA interface, the terminal prints the Control line failed (20 mA?, jumpers?) message when the first loopback test is completed successfully. The 20mA interface does not use control lines.

Use the second loopback test when the terminal fails the data path section of the first loopback test. The terminal transmits and prints the 94 printable characters at the selected speed and parity, allowing you to see the type of error.

If the terminal fails the control test (except 20 mA) or the data test, request service.
Figure 4-4  Self-Test Examples
Testing is done with the aid of a loopback connector. EIA and 20 mA connectors are available from the Accessories and Supplies Group or can be manufactured locally (Figure 4-5). Refer to Chapter 5 for ordering information.

Perform the following procedures to operate the self-tests.

**Character Pattern** -- Use this procedure to operate the character pattern self-test.

**Procedure**

Press and hold CTRL down. Then press SET-UP and release both keys.

Press T and then press RETURN.

Press SET-UP to end test and exit SET-UP.

**Indication/Comment**

SET-UP indicator flashes.

Prints character pattern self-test continuously until you end test.

SET-UP indicator stops flashing.

**Single Character** -- Use this procedure to operate the single character self-test.

**Procedure**

Press and hold CTRL down. Then press SET-UP and release both keys.

Press T and then press any character key.

Press SET-UP to end test and exit SET-UP.

**Indication/Comment**

SET-UP indicator flashes.

Prints selected character continuously until you end test.

SET-UP indicator stops flashing.

**Vertical Bar** -- Use this procedure to operate the vertical bar self-test.

**Procedure**

Press and hold CTRL down. Then press SET-UP and release both keys.

Press T and then, while pressing SHIFT press \.

Press SET-UP to end test and exit SET-UP.

**Indication/Comment**

SET-UP indicator flashes.

Prints vertical bar self-test until you end test.

SET-UP indicator stops flashing.
Figure 4-5  Loopback Connectors
Nonprinting -- Use this procedure to operate the nonprinting self-test.

Procedure

Press and hold CTRL down. Then press SET-UP and release both keys.

Press T and then press SPACE bar.

Press SET-UP to end test and exit SET-UP.

Indication/Comment

SET-UP indicator flashes.

Starts nonprinting self-test.

SET-UP indicator stops flashing.

Loopback -- Use this procedure to operate the loopback self-tests.

Procedure

If 20 mA interface option is used, set one TRANS/REC switch to NORMAL and one to ACTIVE. (Refer to Option Installation Guide for procedure to reach switch.)

Connect loopback connector to terminal interface.

Press and hold CTRL down. Then press SET-UP and release both keys.

Press T and then press \.

Press T and then, while pressing SHIFT, press /

Indication/Comment

SET-UP indicator flashes.

Starts loopback test 1. Terminal prints a pass or fail message.

Starts loopback test 2. Terminal prints a pass or fail message.
**Procedure**

Press SET-UP to exit SET-UP.

Remove loopback connector from terminal interface.

If 20 mA interface option is used, return TRANS/REC switches to original positions. (Refer to Option Installation Guide for procedure to reach switch.)

**Indication/Comment**

SET-UP indicator stops flashing.

**INSTALLATION/WARRANTY**

For customers who have purchased directly from DIGITAL, reference the sales agreement for installation and warranty terms purchased with this terminal.

For customers who have purchased, leased, or rented from a vendor other than DIGITAL, contact your vendor for information regarding installation and warranty terms purchased with this terminal.

**DIGITAL SERVICES**

DIGITAL provides a wide range of maintenance and customer services for your terminal. Using these services, you can design a plan to meet your service needs, from complete DIGITAL maintenance to complete self-maintenance. Vendors supplying DIGITAL products may use these services as factory backup support.

**On-Site Service**

DIGITAL offers responsive, low-cost, factory-level maintenance performed at your site by trained Terminals Service Specialists. This maintenance is provided through service agreements or per-call service.

- Service Agreements cover all your maintenance needs, including priority response; labor, materials, and travel for a fixed monthly charge.

- Per-call service is provided on a "time" and "materials" basis and can serve as a backup to your own in-house maintenance programs.
Off-Site Service
For customers who have troubleshooting expertise, but need assistance for the component repair, DIGITAL has a worldwide network of Product Repair Centers (PRCs) and the Customer Returns Area (CRA). Through a wide array of service product offerings this logistics network offers cost-effective services that include the following features.

- Module Mailer
- Fixed price exchange
- Product refurbishment

Spare Parts
In further effort to assist customers who choose to perform their own computer maintenance, DIGITAL's Customer Spares organization provides thorough and timely spares support through the following features.

- Spares inventory planning
- Component/subassembly spares
- Maintenance test equipment
- Maintenance documentation service
- Emergency spare parts

Training
DIGITAL's Education Services group offers hardware maintenance courses at any of our 17 worldwide training centers; or, depending on your specific training requirements, courses can be provided in your own facilities.
CHAPTER 5
ACCESSORIES AND SUPPLIES

GENERAL
The Letterwriter 100 offers improved printing quality and forms handling. A wide variety of accessories and supplies are available to enhance printer versatility and make operation easier. The following lists describe the Letterwriter 100 accessories and supplies and the correct ordering information.

SUPPLIES

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ribbon</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>LA10R-03</td>
<td>Letterwriter 100 cartridge, 3/box</td>
</tr>
<tr>
<td>1</td>
<td>LA10R-12</td>
<td>Letterwriter 100 cartridge, 12/box</td>
</tr>
<tr>
<td>1</td>
<td>LA10R-A4</td>
<td>Letterwriter 100 cartridge, 12 dozen</td>
</tr>
<tr>
<td>1</td>
<td>LA10R-H2</td>
<td>Letterwriter 100 cartridge, 60 dozen</td>
</tr>
<tr>
<td>Paper</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>H9850-PA</td>
<td>14-7/8 in X 11 in, 1/2 inch green and white bar, 18 lb, 1 part</td>
</tr>
<tr>
<td>2</td>
<td>H9850-PB</td>
<td>14-7/8 in X 11 in, 1/2 inch green and white bar, 15 lb, 2 part, carbon</td>
</tr>
<tr>
<td>2</td>
<td>H9850-PC</td>
<td>14-7/8 in X 11 in, 1/2 inch green and white bar, 15 lb, 4 part, carbon</td>
</tr>
<tr>
<td>2</td>
<td>H9850-PD</td>
<td>14-7/8 in X 11 in, 1/2 inch green and white bar, 2 part, no carbon</td>
</tr>
<tr>
<td>Item Number</td>
<td>Part Number</td>
<td>Description</td>
</tr>
<tr>
<td>-------------</td>
<td>-------------</td>
<td>-------------</td>
</tr>
<tr>
<td>2</td>
<td>H9850-PE</td>
<td>14-7/8 in X 11 in, 1/2 inch green and white bar, 15 lb, 4 part, no carbon</td>
</tr>
<tr>
<td>2</td>
<td>H9850-PF</td>
<td>9-7/8 in X 11 in, 3 gray rules/in, 15 lb, 1 part</td>
</tr>
<tr>
<td>2</td>
<td>H9850-PH</td>
<td>9-1/2 in X 11 in, blank, 20 lb, 1 part, 1/2 inch perforated edges</td>
</tr>
<tr>
<td>2</td>
<td>H9850-PJ</td>
<td>9-1/2 in X 11 in, blank, 2 part, no carbon, 1/2 inch perforated edges</td>
</tr>
<tr>
<td>2</td>
<td>H9850-PK</td>
<td>9-1/2 in X 11 in, blank, 4 part, no carbon, 1/2 inch perforated edges</td>
</tr>
<tr>
<td>2</td>
<td>H9850-PL</td>
<td>8-1/2 in X 11 in, 1/2 inch green and white bar, 15 lb, 1 part</td>
</tr>
<tr>
<td>2</td>
<td>H9850-PM</td>
<td>12 in X 8-1/2 in, blank, 1 part</td>
</tr>
<tr>
<td>2</td>
<td>H9850-PN</td>
<td>9-7/8 in X 11 in, 3 gray rules/in, 2 part, carbon</td>
</tr>
<tr>
<td>2</td>
<td>H9850-PP</td>
<td>9-7/8 in X 11 in, 3 gray rules/in, 4 part, carbon</td>
</tr>
<tr>
<td>2</td>
<td>H9850-PR</td>
<td>9-1/2 in X 11 in, blank, 2 part, carbon, 1/2 inch perforated edges</td>
</tr>
<tr>
<td>2</td>
<td>H9850-PS</td>
<td>9-1/2 in X 11 in, blank, 4 part, carbon, 1/2 inch perforated edges</td>
</tr>
<tr>
<td>2</td>
<td>H9850-PT</td>
<td>8-1/2 in X 11 in, 1/2 inch green and white bar, 2 part, carbon</td>
</tr>
<tr>
<td>2</td>
<td>H9850-PU</td>
<td>8-1/2 in X 11 in, 1/2 inch green and white bar, 4 part, carbon</td>
</tr>
<tr>
<td>2</td>
<td>36-05365-01</td>
<td>Roll paper, 21.6 cm X 11.4 cm (8-1/2 in X 4-1/2 in), 12/box</td>
</tr>
<tr>
<td>2</td>
<td>36-16611-01</td>
<td>Roll paper, 36.8 cm X 7.6 cm, (14-1/2 in X 3 in) approx. 175 ft per roll, 10/box</td>
</tr>
<tr>
<td>Item Number</td>
<td>Part Number</td>
<td>Description</td>
</tr>
<tr>
<td>-------------</td>
<td>-------------</td>
<td>-------------</td>
</tr>
<tr>
<td>3</td>
<td>LAX34-ZA</td>
<td>Portable terminal carrying case (also room for cables, fanfold paper, and either an acoustic coupler/modem or LAX34-AL paper tractors), 9-1/4 in high x 24 in wide x 19 in deep</td>
</tr>
<tr>
<td>4</td>
<td>LAX34-AL</td>
<td>Fanfold paper tractors</td>
</tr>
<tr>
<td>5</td>
<td>LAX34-RL</td>
<td>Roll paper holder</td>
</tr>
<tr>
<td>6</td>
<td>LAX34-LL</td>
<td>Paper low detection option</td>
</tr>
<tr>
<td>7</td>
<td>LAX34-SL</td>
<td>Terminal stand</td>
</tr>
<tr>
<td>8</td>
<td>LAX34-SM</td>
<td>Terminal stand casters (set of two)</td>
</tr>
<tr>
<td>9</td>
<td>LAX34-SP</td>
<td>Wireform paper catch for LAX34-SL</td>
</tr>
<tr>
<td>10</td>
<td>LAX34-SQ</td>
<td>Wireform paper shelf for LAX34-SL</td>
</tr>
<tr>
<td>11</td>
<td>LAX34-SR</td>
<td>Table extension for LAX34-SL</td>
</tr>
<tr>
<td>12</td>
<td>LAX34-SU</td>
<td>Accessories kit for LAX34-SL</td>
</tr>
<tr>
<td>13</td>
<td>H981-A</td>
<td>Copy stand for LAX34-SL</td>
</tr>
<tr>
<td>14</td>
<td>LAX34-SW</td>
<td>Wireform paper tray for DECwriter IV and V terminals</td>
</tr>
<tr>
<td>15</td>
<td>LA10X-FL</td>
<td>Multiple font option</td>
</tr>
<tr>
<td>16</td>
<td>LA10X-AA</td>
<td>Courier-10 ROM cartridge</td>
</tr>
<tr>
<td>16</td>
<td>LA10X-AB</td>
<td>Courier-12 ROM cartridge</td>
</tr>
<tr>
<td>16</td>
<td>LA10X-AC</td>
<td>Gothic-12 ROM cartridge</td>
</tr>
<tr>
<td>16</td>
<td>LA10X-AD</td>
<td>Orator-10 ROM cartridge</td>
</tr>
<tr>
<td>16</td>
<td>LA10X-AE</td>
<td>Symbols ROM cartridge</td>
</tr>
<tr>
<td>16</td>
<td>LA10X-BA</td>
<td>Courier-10 foreign character set ROM cartridge</td>
</tr>
<tr>
<td>16</td>
<td>LA10X-BB</td>
<td>Courier-12 foreign character set ROM cartridge</td>
</tr>
<tr>
<td>Item Number</td>
<td>Part Number</td>
<td>Description</td>
</tr>
<tr>
<td>-------------</td>
<td>-------------</td>
<td>-------------</td>
</tr>
<tr>
<td>16</td>
<td>LA10X-BC</td>
<td>Gothic-12 foreign character set ROM cartridge</td>
</tr>
<tr>
<td>16</td>
<td>LA10X-BD</td>
<td>Orator-10 foreign character set ROM cartridge</td>
</tr>
<tr>
<td>17</td>
<td>LA10X-CA</td>
<td>Courier-10 plug-in ROM</td>
</tr>
<tr>
<td>17</td>
<td>LA10X-CB</td>
<td>Courier-12 plug-in ROM</td>
</tr>
<tr>
<td>17</td>
<td>LA10X-CC</td>
<td>Gothic-12 plug-In ROM</td>
</tr>
<tr>
<td>17</td>
<td>LA10X-CD</td>
<td>Orator-10 plug-in ROM</td>
</tr>
<tr>
<td>17</td>
<td>LA10X-CE</td>
<td>Symbols plug-in ROM</td>
</tr>
<tr>
<td>17</td>
<td>LA10X-DA</td>
<td>Courier-10 foreign character set plug-in ROM</td>
</tr>
<tr>
<td>17</td>
<td>LA10X-DB</td>
<td>Courier-12 foreign character set Plug-In ROM</td>
</tr>
<tr>
<td>17</td>
<td>LA10X-DC</td>
<td>Gothic-12 foreign character set plug-in ROM</td>
</tr>
<tr>
<td>17</td>
<td>LA10X-DD</td>
<td>Orator-10 foreign character set plug-in ROM</td>
</tr>
<tr>
<td>18</td>
<td>M9850-FA</td>
<td>Paper caddy with four 2 inch swivel casters for transporting printer paper, 15 3/4 in wide X 11 3/4 in deep</td>
</tr>
<tr>
<td>19</td>
<td>H9850-DA</td>
<td>Antistatic floor mat, DECmat, 1.22 m X 1.83 m (4 ft X 6 ft), Driftwood (brownish-gray)</td>
</tr>
<tr>
<td>19</td>
<td>H9850-DB</td>
<td>Antistatic floor mat, DECmat, 1.22 m X 1.83 m (4 ft X 6 ft), Summer Earth (brown/gold)</td>
</tr>
<tr>
<td>19</td>
<td>H9850-DC</td>
<td>Antistatic floor mat, DECmat, 0.91 m X 3.05 m (3 ft X 10 ft), Silver Birch (orange/brown)</td>
</tr>
<tr>
<td>19</td>
<td>H9850-DD</td>
<td>Antistatic floor mat, DECmat, 0.91 m X 3.05 m (3 ft X 10 ft), Autumn Bronze (orange/brown)</td>
</tr>
<tr>
<td>19</td>
<td>H9850-DE</td>
<td>Antistatic floor mat, DECmat, 0.91 m X 3.05 m (3 ft X 10 ft), Driftwood (brownish-gray)</td>
</tr>
<tr>
<td>Item Number</td>
<td>Part Number</td>
<td>Description</td>
</tr>
<tr>
<td>------------</td>
<td>-------------</td>
<td>-------------</td>
</tr>
<tr>
<td>19</td>
<td>H9850-DF</td>
<td>Antistatic floor mat, DECmat, 1.22 m X 1.83 m (4 ft X 6 ft), Silver Birch (silver-gray/brown)</td>
</tr>
<tr>
<td>19</td>
<td>H9850-DH</td>
<td>Antistatic floor mat, DECmat, 1.22 m X 1.83 m (4 ft X 6 ft), Autumn Bronze (orange/brown)</td>
</tr>
<tr>
<td>20</td>
<td>H9850-HA</td>
<td>Heavy gauge vinyl dust cover (roll paper holder option)</td>
</tr>
<tr>
<td>20</td>
<td>H9850-HB</td>
<td>Heavy gauge vinyl dust cover (tractor option)</td>
</tr>
<tr>
<td>21</td>
<td>DF01-A</td>
<td>Acoustic telephone coupler, 300 baud</td>
</tr>
<tr>
<td>22</td>
<td>LAX34-CL</td>
<td>20 mA interface option and cable</td>
</tr>
<tr>
<td>23</td>
<td>BC22A-10</td>
<td>EIA RS232 female-female shielded null modem cable, 3 m (10 ft)</td>
</tr>
<tr>
<td>23</td>
<td>BC22A-25</td>
<td>EIA RS232 female-female null modem cable, 7.6 m (25 ft)</td>
</tr>
<tr>
<td>23</td>
<td>BC23A-10</td>
<td>Kit of five BC22A-10</td>
</tr>
<tr>
<td>23</td>
<td>BC23A-25</td>
<td>Kit of five BC22A-25</td>
</tr>
</tbody>
</table>

NOTE: EIA RS232C specifies a maximum cable length of no more than 50 feet.

<p>| 23         | BC03M-A0    | Female-female null modem cable, 30.5 m (100 ft) |
| 23         | BC03M-B5    | Female-female null modem cable, 76.2 m (250 ft) |
| 23         | BC03M-E0    | Female-female null modem cable, 152.4 m (500 ft) |
| 23         | BC03M-L0    | Female-female null modem cable, 304.8 m (1000 ft) |
| 23         | BC22B-10    | EIA RS232 male-female shielded extension cable, 3 m (10 ft) |
| 23         | BC22B-25    | EIA RS232 male-female shielded extension cable, 7.6 m (25 ft) |
| 23         | BC23B-10    | Kit of five BC22B-10 |</p>
<table>
<thead>
<tr>
<th>Item Number</th>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>23</td>
<td>BC23B-25</td>
<td>Kit of five BC22B-25</td>
</tr>
<tr>
<td>23</td>
<td>BC05X-15</td>
<td>20 mA current loop extension cable, 4.6 m (15 ft)</td>
</tr>
<tr>
<td>23</td>
<td>BC05X-25</td>
<td>20 mA current loop extension cable, 7.6 m (25 ft)</td>
</tr>
<tr>
<td>23</td>
<td>BC05X-50</td>
<td>20 mA current loop extension cable, 15.2 m (50 ft)</td>
</tr>
<tr>
<td>23</td>
<td>30-10958-02</td>
<td>DF01-A acoustic telephone coupler interface cable</td>
</tr>
<tr>
<td>24</td>
<td>H9850-AP</td>
<td>Media-mate shelf or file storage cart with casters and lockable drawer, 64.1 cm high x 38.1 cm deep x 47 cm wide (25-1/4 in x 15 in x 18-1/2 in)</td>
</tr>
<tr>
<td>25</td>
<td>H970-EB</td>
<td>Terminal table, 68.6 cm high x 91.4 cm wide x 76.2 cm deep (27 in x 36 in x 30 in) with levelers</td>
</tr>
<tr>
<td>26</td>
<td>H9532-AA</td>
<td>Work-station desk with blue front panel and gray side panels, levelers, 122 cm wide x 76.2 cm high x 76.2 cm deep (48 in x 30 in x 30 in)</td>
</tr>
<tr>
<td>26</td>
<td>H9532-AB</td>
<td>Work-station desk with brown front panel and brown side panels, levelers, 122 cm wide x 76.2 cm high x 76.2 cm deep (48 in x 30 in x 30 in)</td>
</tr>
<tr>
<td>27</td>
<td>LAX34-KL</td>
<td>Auxiliary keypad option (14 key)</td>
</tr>
<tr>
<td>28</td>
<td>LAX34-HL</td>
<td>APL character set keycaps option</td>
</tr>
<tr>
<td>28</td>
<td>LAX34-JL</td>
<td>International character set keycaps option</td>
</tr>
<tr>
<td>29</td>
<td>LA12X-UA</td>
<td>Blank keycap kit of 50, Row 4*</td>
</tr>
<tr>
<td>29</td>
<td>LA12X-UB</td>
<td>Blank keycap kit of 50, Row 1*</td>
</tr>
<tr>
<td>29</td>
<td>LA12X-UC</td>
<td>Blank keycap kit of 50, Row 2*</td>
</tr>
</tbody>
</table>

* Row 1 is immediately above the space bar.
<table>
<thead>
<tr>
<th>Item Number</th>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>29</td>
<td>LA12X-UD</td>
<td>Blank keycap kit of 50, F&amp;J type</td>
</tr>
<tr>
<td>29</td>
<td>LA12X-UE</td>
<td>Blank keycap kit of 50, SET-UP</td>
</tr>
<tr>
<td>29</td>
<td>LA12X-UF</td>
<td>Blank keycap kit of 50, TAB</td>
</tr>
<tr>
<td>29</td>
<td>LA12X-UH</td>
<td>Blank keycap kit of 50, CAPS LOCK</td>
</tr>
<tr>
<td>29</td>
<td>LA12X-UJ</td>
<td>Blank keycap kit of 50, SHIFT</td>
</tr>
<tr>
<td>29</td>
<td>LA12X-UL</td>
<td>Main array blank keycap set</td>
</tr>
<tr>
<td>29</td>
<td>LA12X-UM</td>
<td>Blank keycap kit of 50, CR</td>
</tr>
<tr>
<td>29</td>
<td>LA12X-UN</td>
<td>Blank keycap kit of 50, ENTER</td>
</tr>
<tr>
<td>29</td>
<td>LA12X-UP</td>
<td>Blank keycap kit of 50, Number pad 0</td>
</tr>
<tr>
<td>29</td>
<td>LA12X-UR</td>
<td>Blank keycap kit of 50, Row 3*</td>
</tr>
<tr>
<td>29</td>
<td>LA12X-US</td>
<td>Blank keycap kit of 50, Row 5*</td>
</tr>
<tr>
<td>29</td>
<td>LA12X-UT</td>
<td>Auxiliary keypad blank keycap set</td>
</tr>
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**LOOPBACK CONNECTORS**

<table>
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<tr>
<th>Item Number</th>
<th>Part Number</th>
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<tr>
<td>30</td>
<td>12-15336-01</td>
<td>EIA</td>
</tr>
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<td>30</td>
<td>70-18353</td>
<td>20 mA</td>
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**DOCUMENTATION**

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Part Number</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>31</td>
<td>EK-LW100-UG</td>
<td>Letterwriter 100 User Documentation Package:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Installation Guide</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Operator Guide</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Programmer Reference Manual</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Operator and Programmer Reference Card</td>
</tr>
<tr>
<td>31</td>
<td>EK-LW100-IN</td>
<td>Letterwriter 100 Installation Guide</td>
</tr>
<tr>
<td>31</td>
<td>EK-LW100-OP</td>
<td>Letterwriter 100 Operator Guide</td>
</tr>
<tr>
<td>31</td>
<td>EK-LA100-RM</td>
<td>LA100 Programmer Reference Manual</td>
</tr>
<tr>
<td>31</td>
<td>EK-LW100-RC</td>
<td>Letterwriter 100 Operator and Programmer Reference Card</td>
</tr>
</tbody>
</table>

* Row 1 is immediately above the space bar.
<table>
<thead>
<tr>
<th>Item Number</th>
<th>Part Number</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>31</td>
<td>EK-LA100-PS</td>
<td>LA100 Series Pocket Service Guide</td>
</tr>
<tr>
<td>31</td>
<td>EK-LA100-TM</td>
<td>LA100 Series Technical Manual</td>
</tr>
<tr>
<td>31</td>
<td>EK-LA100-IP</td>
<td>LA100 Series Illustrated Parts Breakdown</td>
</tr>
<tr>
<td>32</td>
<td></td>
<td>LA100 Engineering Drawings</td>
</tr>
</tbody>
</table>

**SPARES KITS**

--

4A-LA100-AA Letterwriter 100 spares kit

**ORDERING INFORMATION**

**Continental USA**

Call 800-258-1710, or mail order to:

Digital Equipment Corporation  
P.O. Box CS2008  
Nashua, NH 03061

**New Hampshire**

Call 603-884-6660, or mail order to:

Digital Equipment Corporation  
P.O. Box CS2008  
Nashua, NH 03061

**Alaska or Hawaii**

Call 408-734-4915, or mail order to:

Digital Equipment Corporation  
632 Caribbean Drive  
Sunnyvale, CA 94086

**Canada**

Call 800-267-6146, or mail order to:

Digital Equipment of Canada LTD.  
P.O. Box 13000  
Kanata, Ontario, Canada K2K 2A6  
Att: A & SG Business Manager  
Telex: 610-562-8732
Table A-1 lists and describes the Letterwriter 100 model variations and the options included in each terminal.

<table>
<thead>
<tr>
<th>Option Number</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>LA10X-AA</td>
<td>English-language model with Courier 10 and Orator 10 fonts</td>
</tr>
<tr>
<td>LA10X-BA</td>
<td>English-language model with Courier 10 and Orator 10 fonts, keypad, tractors, BC22A-10 cable, ribbon cartridge, and paper</td>
</tr>
<tr>
<td>LA10X-CA</td>
<td>English-language model with Courier 10 and Orator 10 fonts, multiple font option, keypad, tractors, BC22A-10 cable, ribbon cartridge, and paper</td>
</tr>
<tr>
<td>LA10X-AB</td>
<td>International model with Courier 10 English, international character sets, international character set keycaps</td>
</tr>
<tr>
<td>LA10X-BB</td>
<td>International model with (new) Courier 10 English, international character sets, international character set keycaps, keypad, tractors, BC22A-10 cable, ribbon cartridge, and paper</td>
</tr>
<tr>
<td>LA10X-CB</td>
<td>International model with Courier 10 English, international character sets, international character set keycaps, multiple font option, keypad, tractors, BC22A-10 cable, ribbon cartridge, and paper</td>
</tr>
</tbody>
</table>