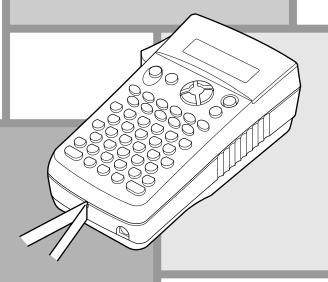
# PANDUIT LS7 OPERATOR'S MANUAL

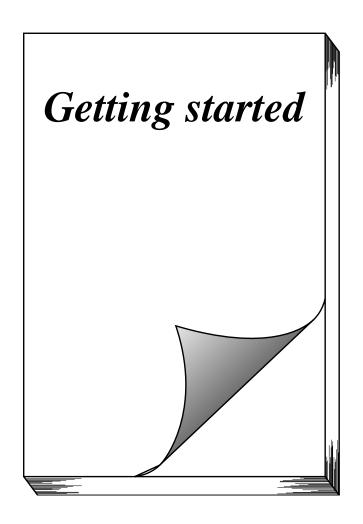


- Read this Operator's Manual before you start using your LS7 printer.
- Keep this Operator's Manual in a handy place for future reference.

LS7-MAN-A

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# INTRODUCTION AND SAFE OPERATION

The LS7 printer was designed specifically to make cable, patch panel, faceplate and facility marking effortless. This palm-sized printer combines high quality thermal transfer print, fast loading tape cassettes and industrial label materials to eliminate concerns about labels falling off.

This manual will guide you step by step through the set-up, operation, and troubleshooting of the LS7 Printer. If you have problems not covered herein, contact your local Panduit Sales Representative or call Panduit Technical Support at 866-871-4571 (outside the US, refer to page 70 for contact information).

#### SAFE OPERATION PRACTICES

The following general safety practices supplement the specific warnings and cautions depicted elsewhere in this manual. They are recommended precautions that must be understood and applied during the operation and maintenance of this printer.

#### **⚠** Do Not Operate In An Explosive Environment

Do not operate the printer in the presence of flammable gases or fumes. Operation of this printer in such an environment constitutes a definite safety hazard.

#### **⚠** Do Not Operate In Wet Or Damp Areas

Do not operate this printer in wet or damp areas. Operation of the printer in such an environment constitutes a definite safety hazard.

#### **⚠** Do Not Substitute Parts Or Modify Equipment

Because of the danger of introducing additional hazards, do not install substitute parts or perform an unauthorized modification to the printer or its accessories. The proper components for service and repair may be obtained from Panduit Corp.

#### **⚠ WARNING:**

When the printer has been in use for an extended period of time, the printer motor may become hot. DO NOT touch the printer motor with bare hands.

Patent numbers and patent publication numbers which are related to this product are as follows: USP4839742, USP4927278, USP4976558, USP4983058, USP5009530, USP5069557, USP5120147

#### Information to USA Users

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

#### Information to Canadian Users

This Class A digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la class A est conforme à la norme NMB-003 du Canada.

It is possible that infrequent electrical phenomena (static discharge, power line fluctuations) may cause printer function to be temporarily interrupted. In this case, the printer will usually reset itself. In extreme cases, the user's hould remove then re-apply power (battery and/or AC Adapter).

# **GENERAL PRECAUTIONS**

- ★ WARNING: Observe the following warnings in order to avoid damage to the LS7 or its accessories.
- Use only Panduit LS7 tapes with this machine (green colored cassettes).
- Use only the LS7-ACS, AC adapter designed exclusively for this machine. Use of any other adapter will void the warranty.
- Do not use the machine in dusty places, and keep it out of both direct sunlight and rain.
- Do not expose the machine to high temperatures or high humidity. Never leave it on the dashboard or in the back of your car.
- Do not touch the print head mechanism. If the head is touched, clean it immediately with a cotton swab to avoid permanent damage.
- Do not pull on the tape being fed from the LS7. This may damage the tape cassette.
- **CAUTION:** Observe the following cautions in order to prevent malfunction of the LS7.
- When the AC adapter (LS7-ACS) is connected, unplugging the adapter from the electrical outlet before unplugging it from the machine can delete all text files in the memory, even if batteries are installed.
- Use six AA (AM3, LR6) alkaline batteries in this machine.

# WARRANTY INFORMATION

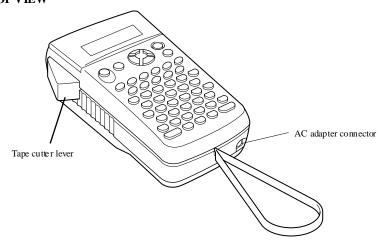
Our products are warranted to be free from defects in material and workmanship at the time of sale but our obligation under this warranty is limited to the replacement of any product proved to be defective within 6 months (for product) or 90 days (for printers) from the date of delivery. Printer warranty is void if Panduit printers are modified, altered or misused in any way. Use of Panduit printers with any product other than the specified Panduit products for which the printer was designed, constitutes misuse. Before using, user shall determine the suitability of the product for his intended use and user assumes all risk and liability whatsoever in connection therewith.

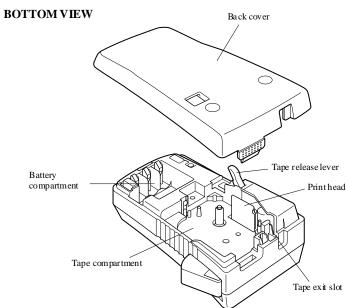
This warranty is made in lieu of and excludes all other warranties, expressed or implied. THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR USE ARE SPECIFICALLY EXCLUDED. Neither seller nor manufacturer shall be liable for any other injury, loss or damage, whether direct or consequential, arising out of the use of, or the inability to use the product.

The information contained in this literature is based on our experience to date and is believed to be reliable. It is intended as a guide for use by persons having technical skill at their own discretion and risk. We do not guarantee favorable results or assume any liability in connection with its use. Dimensions contained herein are for reference purposes only. For specific dimensional requirements consult the factory. This publication is not to be taken as a license to operate under, or a recommendation to infringe any existing patents. This supersedes and voids all previous literature, etc.

# GENERAL DESCRIPTION

# **TOP VIEW**





# KEYBOARD & LCD DISPLAY



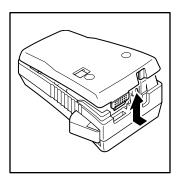
# **BATTERIES**

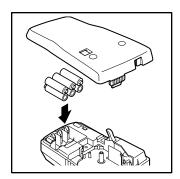
This light weight and portable machine can be used anywhere by installing six (6) **AA (AM3, LR6) alkaline batteries**. When changing the batteries, always replace all six at the same time.

#### To change the batteries:

- 1 Remove the back cover by pressing in on the rough area at the top end of the machine and pulling off the cover. Pulling off the back cover lifts up the tape release lever.
- 2 If batteries are already installed, remove them.
- 3 Insert six new batteries, making sure that they face the direction shown in the illustration on the bottom of the battery compartment. The positive ends of the three batteries in the bottom row point towards the bottom of the machine, while the positive ends of the top three batteries point in the opposite direction.
- 4 Attach the back cover by inserting the tab on the bottom end of the cover into the slot on the bottom end of the machine, then pushing down firmly on the top end of the cover until it snaps into place.
- Be sure to insert the new batteries within five minutes of removing the old ones, otherwise the text shown in the LCD display and any text files stored in the memory will be lost (unless the machine is plugged into an electrical outlet with the AC adapter).

If alkaline batteries are not used, large fonts and barcodes cannot be printed.





# **OPTIONAL AC ADAPTER**

The AC adapter (LS7-ACS) allows you to use this machine wherever there is an electrical outlet.

## To connect the optional AC adapter:

- Insert the plug on the adapter cord into the connector marked DC IN 9.5V on the bottom end of the machine.
- 2 Insert the plug on the adapter into the nearest standard electrical outlet.
- Only use the AC adapter (part no. LS7-ACS) designed exclusively for this machine.

When the AC adapter is connected, unplugging the adapter from the electrical outlet before unplugging it from the machine can delete all text files in the memory, even if batteries are installed.

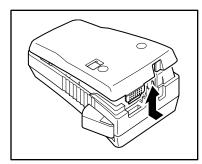
It is recommended that you use the AC adapter when printing large fonts and barcodes on 3/4" (18-nm)-wide tape since these operations can quickly drain the batteries.

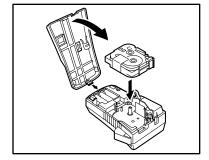
# TAPE CASSETTE

A single LS7 tape cassette is supplied with this unit. This machine has been designed to allow the tape cassette to be changed quickly and easily.

#### To change the LS7 tape cassette:

- 1 Remove the back cover by pressing in on the rough area at the top end of the machine and pulling off the cover. Pulling off the back cover lifts up the tape release lever.
- 2 If a tape cas sette is already installed, remove it by pulling it straight out.
- 3 If the ink ribbon in the other tape cassette is loose, use your finger to wind the toothed wheel in the direction of the arrow on the cassette until there is no slack in the ribbon.
  - If you are using a new tape cassette provided with a stopper, be sure to remove the stopper before installing the cassette.
    - Make sure that the end of the tape feeds under the cassette tape guides.
- 4 Insert the tape cassette firmly into the tape compartment, making sure that the entire back of the cassette touches the bottom of the compartment.
  - When inserting the tape cassette, make sure that the inner ribbon does not catch on the corner of the metal guide.
- 5 Attach the back cover by inserting the tab on the bottom end of the cover into the slot on the bottom end of the machine, then pushing down firmly on the top end of the cover until it snaps into place.
- Tum on the machine if it is off, and then feed the tape to remove any slack by holding down (Code) and pressing (Svm) once.
- 7 Press in the tape cutter lever to cut off any excess tape.





# LABEL CODE

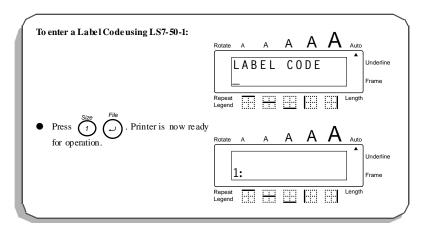
The "LABEL CODE" message appears on the display when the following tape cassettes are loaded:

Part Number	Tape Width	Color	Label Code
LS7-50-1	1/2" (12 mm)	Black/White	1
LS7-50-2	1/2" (12 mm)	Black/Clear	1
Future	_	_	See Tape Cass ett e

The Label Code must be entered in order for the printer to function with the tape cassette listed. Future parts may require Label Code entry.

The Label Code is printed on the cassette and can be viewed with the cassette either unloaded or loaded in the printer.

The majority of tape cass ettes do not require manual entry of a Label Code.

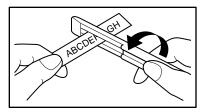


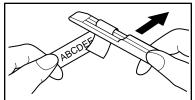
# LAMINATED INDUSTRIAL TAPE SEPARATOR TOOL

#### LAMINATED INDUSTRIAL TAPE

The enclosed tape separator enables you to easily remove the backing from labels printed on laminated tapes.

- 1 Hold the tape in one hand, with the printed surface facing up, and hold the tape separator in your other hand.
- 2 Pass the tape halfway through the long narrow hole in the tape separator.
- 3 Tum the tape separator three-quarters of a turn towards you, and then pull the tape separator away from you as shown below.
- 4 Peel off the label backing.





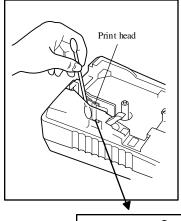
# PRINT HEAD & ROLLERS

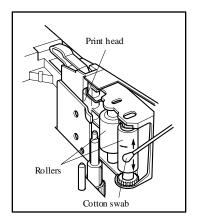
Occasionally, specks of dust or dirt become attached to the machine's print head and rollers. This is particularly likely when you are using the unit outdoors or in a very dusty environment. If a section of the print head is covered with dust, a blank horizontal streak may appear through the label text. Therefore, the machine's head may need to be cleaned from time to time.

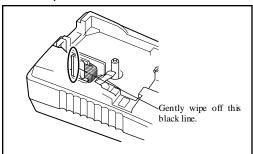
#### To clean the print head and rollers:

- 1 Tum off the machine.
- 2 Remove the back cover, and then remove the tape cassette if one is installed. The print head and rollers are located in the tape compartment.
- 3 Print head: Use a dry cotton swab to gently wipe the print head with an up-and-down motion
  - Rollers: Use a dry cotton swab to wipe each roller with an up-and-down motion while rotating them with your finger.
- Install a tape cassette, at tach the back cover, and then try printing again.
- 5 If dust still remains, use Panduit Cleaning Cassette (LS7-CLN).

If none of the above works, contact Technical Support at 866-871-4571.







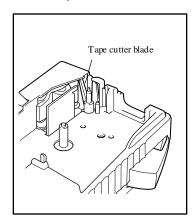
# TAPE CUTTER

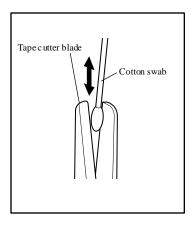
With use, the tape cutter may become covered with adhesive, making it difficult to cut the tape. If the tape cannot be cut correctly, clean the tape cutter blades as explained below.

To avoid injuries, be extremely careful not touch the cutter blades with bare hands.

#### To clean the tape cutter blades:

- 1 Tum off the machine.
- 2 Remove the back cover, and then remove the tape cassette if one is installed. The tape cutter is located near the tape exit slot.
- 3 Using a cotton swab dipped in isopropyl (rubbing) alcohol, wipe the tape cutter blades with an up-and-down motion.

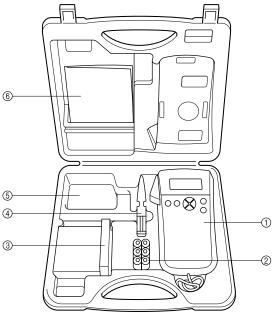




# **CARRYING CASE**

The enclosed hard case is designed to protect your LS7 and its accessories while you store or carry them. Therefore, keep them in this carrying case whenever they are not being used.

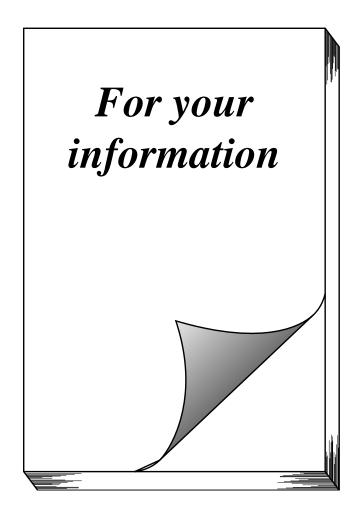
Before opening the carrying case, be sure that the side with the Panduit logo faces upward.



- 1 LS7
- 2 Six AA batteries
- 3 Tape cassette
  - Stand up the tape cassettes so that the end with the label attached faces upwards.

This compartment can store up to five 1/4" (6-mm)-, 3/8" (9-mm)- or 1/2" (12-mm)-wide cassettes, four 3/4" (18-mm)-wide cassettes, or a combination of three 1/2" (12-mm)- and two 3/4" (18-mm)-wide cassettes

- 4 Tape Separator Tool
- 5 AC adapter
  - This compartment can store the optional AC adapter (model LS7-ACS), designed exclusively for the LS7.
- 6 Operator's Manual (LS7-MAN-A)



# **POWER KEY**

The power key ( ) is located in the top right-hand corner of the keyboard. If batteries have been installed or the machine has been plugged in using the optional AC adapter, the previous session's information is displayed when the machine is turned on. This feature allows you to stop work on a label, turn off the machine, and return to it later without having to re-enter the text.

The machine will automatically turn off if no key is pressed within 5 minutes. The machine's internal memory stores the current session's information and displays it when you turn on the machine again.

#### To turn on the machine:

Press (6). The previous session's information appears in the LCD display.

#### To turn off the machine:

Press 6. The current session's information is stored in the internal memory.

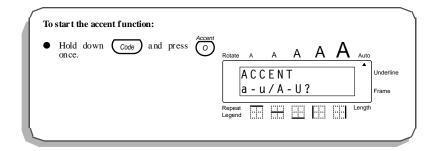
# CODE & CAPS KEYS

Most characters can be entered simply by pressing their keys. However, to use special functions or to enter capital letters, accented characters and some symbols, the following special keys are necessary.

#### CODE KEY

To use a function or type in characters printed either above or below a key:

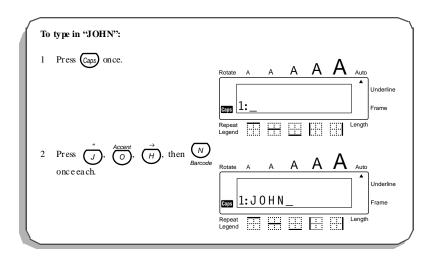
 Hold down Code and press the key either immediately below or immediately above the desired function or character written in orange.



## CAPS KEY

#### To type capital letters continuously:

- 1 Press  $\bigcirc$  until the **Caps** indicator ( $\bigcirc$  on the left side of the display lights up.
- 2 Press the keys of the desired letters.
  - To exit Caps mode, press (Caps) until the Caps indicator goes off.



# **CURSOR KEYS**

The machine's LCD display shows two rows of 11 characters; however, the text that you create can be up to 99 characters long. You can review and edit your text by using the cursor keys ( \*\* \int \hat{\chi}, \hat{\chi\_{nmo}}, \hat{\chi} \hat{\chi\_{nmo}}, \hat{\chi\_{nmo}} \hat{\chi} \hat{\chi\_{nmo}} \hat{\cho\_{nmo}} \hat{\chi\_{nmo}} \hat{\chi\_{nmo}} \hat{\chi\_{nmo}} \hat{

Press (s) once.
 To move the cursor several characters to the left:

Hold down 
 until the cursor moves to the desired position.

To move the cursor to the beginning of the current line:

#### RIGHT CURSOR KEY

To move the cursor one character to the right:

● Press ♦ once.

To move the cursor several characters to the right:

● Hold down ♦ until the cursor moves to the desired position.

To move the cursor to the end of the current line:

## UP CURSOR KEY

To move the cursor up to the previous line:

 $\bullet \quad \text{Pres s} \stackrel{\textit{Home}}{ \bigodot} \text{once.}$ 

To move the cursor up several lines:

 $\bullet \quad \text{Hold down} \xrightarrow[]{\textit{Home}} \text{until the cursor moves to the desired position.}$ 

To move the cursor to the beginning of the entire text:

Hold down Code and press Home

## DOWN CURSOR KEY

To move the cursor down to the following line:

 $\bullet \quad \text{Pres s} \overset{\textstyle \longleftarrow}{\underset{\textit{End}}{\longleftarrow}} \text{ once.}$ 

To move the cursor down several lines:

• Hold down  $\bigotimes_{End}$  until the curs or moves to the desired position.

To move the cursor to the end of the entire text:

 $\bullet \quad \text{Hold down } \underbrace{\quad \text{Code} \quad} \text{and press } \bigotimes_{\text{End}}.$ 

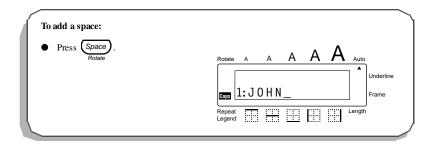
# SPACE KEY

The **Space** key lets you add blank spaces between characters in your text. It is different from the right cursor key ( $\bigcirc$ ), which just moves the cursor without adding blank spaces.

## To add a space:

Press Space

Rotate



# **RETURN KEY**

Like on a typewriter or word processor, this machine's return key ( ) is used to end a line of text and start another one. When you have finished entering one line of text, press the return key to add a return mark ( ) to the end of the line and start a new one.

A maximum of four text lines can be entered. If you press when the cursor is located in the fourth line, the error message "4 LINE LIMIT!" will appear.

The number of text lines that can be printed on the installed tape depends on the tape width.

Tape width	Maximum number of lines that can be printed
1/4" (6 mm)	1
3/8" (9 mm)	2
1/2" (12 mm)	2
3/4" (18 mm)	4
All Widths Rotated Legend	10

The return key can also be used to select an item from a list (e.g., add a symbol or accented character to the text) or to apply a selected setting.

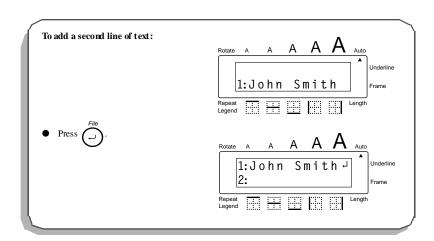
Some question asking you to confirm a command may appear on the LCD display, especially when the function that you have chosen will delete or affect text. In these cases, pressing

is the same as answering "yes".

To answer "no", press (BS). Refer to BACKSPACE KEY on pages 27 and 28.

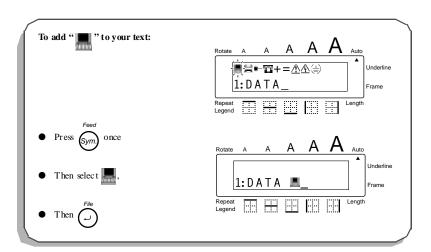
#### To add a new line of text:

- 2 Press . The return mark ( ) appears at the end of the line and the cursor moves to the new line.



# To apply a selected item:

 $\bullet \quad \text{Pres s} \overset{\textit{File}}{\smile} \text{ once.}$ 



# BACKSPACE KEY

The backspace key ( BS ) allows you to remove characters to the left of the cursor's current position. It differs from the left cursor key ( ( ), which only moves the cursor without deleting any characters.

The backspace key can also be used to quit most functions and return to the previous display without changing the text.

The backspace key cannot be used to quit the **barcode** function. To quit the **barcode** function, hold down  $\bigcirc$  and press  $\bigcirc$ .

Some questions asking you to confirm a command may appear on the LCD display, especially when the function that you have chosen will delete or affect text. In these cases, press-

ing  $\frac{Clear}{BS}$  is the same as answering "no".

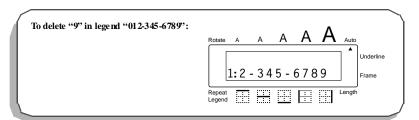
To answer "yes", press . Refer to RETURN KEY on pages 24 to 26.

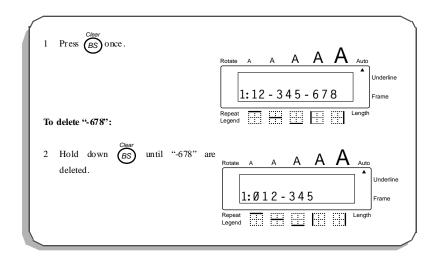
#### To delete one character:

- 1 Press  ${}_{\triangleleft}$   $\diamondsuit$ ,  $\diamondsuit$   ${}_{\triangleright}$ ,  $\overset{\textit{Home}}{\diamondsuit}$  or  $\overset{\textit{Home}}{\diamondsuit}$  to position the cursor below the character immediately to the right of the one that you wish to delete.
- 2 Press (BS) once.

## To delete a sequence of characters:

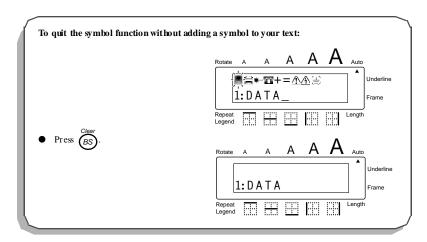
- 1 Press ( ), ( ), ( ), Home or End to position the cursor below the character immediately to the right of the last character that you wish to delete.
- Hold down  $\binom{Clear}{BS}$  until all of the characters that you wish to delete are deleted.





## To quit a function without changing your text:

 $\bullet \quad \text{Pres s} \stackrel{\textit{Clear}}{\underset{\textit{BS}}{\text{o}}} \text{ to return to your text.}$ 

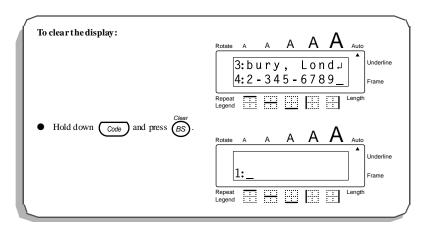


# **CLEAR FUNCTION**

The **clear** function is used to remove all characters from the display so that you can begin entering new text. Although all of the text is erased, the **Caps** mode does not change.

#### To delete all of the text:

lacktriangledown Hold down lacktriangledown and press lacktriangledown . All of the text is erased from the display.



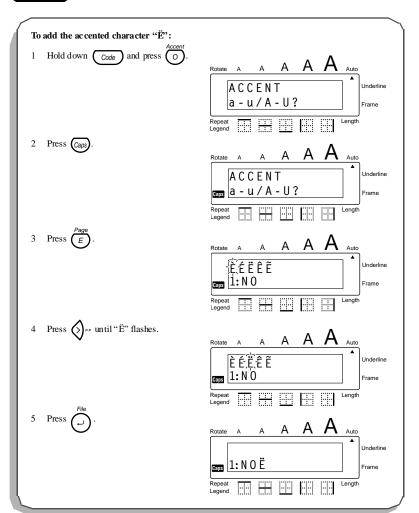
# **ACCENT FUNCTION**

The **accent** function can be used to add accented characters to your text. The accented characters are grouped according to the capital or lowercase letter that they are combined with. The following accented characters are available:

Letter	Accented characters	Letter	Accented characters
a	à á ä â ã æ	I	ÍÏÎ
A	ÀÁÄÂÃÆ	n	ñ
с	ç	N	Ñ
С	Ç	0	óöôõ
e	èéëêẽ	0	ÓÖÔÕ
Е	ÈÉËÊĒ	u	ùúüû
i	íïî	U	ÙÚÜÛ

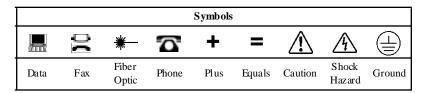
#### To type in an accented character:

- Hold down Code and press O. The message "ACCENT a-u/A-U?" appears on the display.
- 2 Press the key of the letter in the desired accented character.
  - If you wish to type in a capital letter, press (Caps) to enter Caps mode (the Caps indicator lights up) before pressing the letter key.
- 3 Press « for press or press o
- 4 Press (-). The accented character is added to the text.
  - To type in a series of accented characters, hold down Code before pressing
    - Then, continue adding accented characters by selecting them as explained
    - in steps 2 and 3, and holding down Code while pressing File. Press just
    - after selecting the last character in the series.



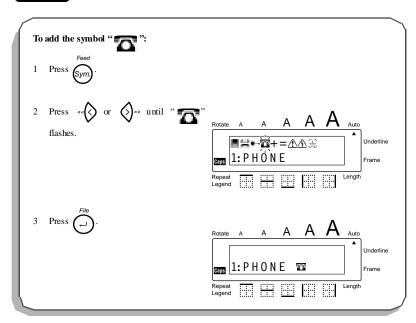
# SYMBOL FUNCTION

In addition to the letters, symbols and numerals on the key tops, there are 9 additional marks available with the **symbol** function. These symbols are shown below.



#### To type in a symbol:

- 1 Press (Sym). A row of symbols appears in the display.
- 2 Press 🗝 🗘 or 🔷 🛰 until the desired symbol flashes.
- 3 Press  $\bigcirc$ . The symbol appears in the text.
  - To type in a series of symbols, hold down Code before pressing File. Then, continue adding symbols by selecting them as explained in steps 2 and 3, and holding down Code while pressing Press just after selecting the last symbol in the series.



## **LENGTH FUNCTION**

Although the length of the printed label automatically adjusts to fit the length of the entered text, there may be times when you will want to make a label with a specific length. The **length** function allows you to set the label length between 0.25" and 11.80" (6.4 and 299.7 mm).

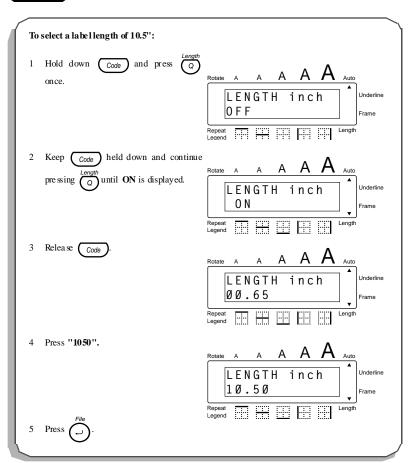
The default length setting is  $\mathbf{OFF}$ . If  $\mathbf{ON}$  is selected, the  $\mathbf{Length}$  indicator at the bottom of the display lights up. The default length when ON is 0.65" (16.5 mm) - the width of a Panduit Modular Jack.

### To turn on or off the length function:

- While holding down Code, press Open once to display the current setting (ON or OFF).
- While still holding down Code, continue pressing ountil the desired label length setting is displayed.
  - The **Length** indicator lights up when **ON** is selected.
- Release  $\bigcirc$  Ode. If **ON** was selected, the current label length setting is displayed.

### To set the length of the label:

- 4 Use the number keys to enter a length.
- 5 Press File
- Cut marks are printed on the labels when Length Function is set.



# SIZE FUNCTION

The character size of the entire text can be adjusted using the **size** function. Since the character size that can be used depends on the width of the tape, the following table shows the character sizes that can be used with each tape width.

Tape width	Sizes (in points)
1/4" (6 mm)	12, 9
3/8" (9 mm)	18, 12, 9
1/2" (12 mm)	24, 18, 12, 9
3/4" (18 mm)	36, 24, 18, 12, 9

The default size setting is **AUTO**. The currently selected size setting is always shown by the indicators at the top of the display.

With the **AUTO** size setting, the machine compares your text with the width of the installed tape and automatically adjusts the characters to the largest size possible. However, six other point sizes are also available.

Setting (in points)	Size
36	ABC
24	ABC
18	ABC
12	ABC
9	ABC
6	ABC

<sup>•</sup> Only font available for Rotate d Text ON.

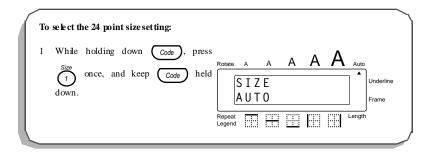
If the AUTO size setting is selected and only one line of characters has been entered, the text can be printed with a character size slightly larger than the maximum for the installed tape under any of the following conditions.

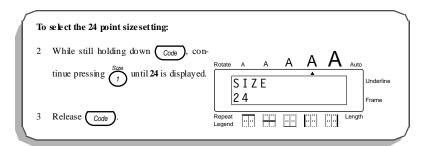
- •1/2" (12-mm)- or 3/4" (18-mm)-wide tape is installed and the text contains only capital letters
- •3/4" (18-mm)-wide tape is installed and the characters are not formatted (i.e., the underline or frame setting is not applied)

Tape width Text lines	1/4" (6 mm)	3/8" (9 mm)	1/2" (12 mm)	3/4" (18 mm)
1	12 pts	18 pts	All caps: 29 pts Not all caps: 24 pts	All caps, not formatted: 57 pts All caps, formatted: 45 pts Not all caps, not formatted: 45 pts Not all caps, formatted: 36 pts
2	N/A	9 pts	12 pts	18 pts
3	N/A	N/A	N/A	12 pts
4	N/A	N/A	N/A	9 pts
Le ng th Dependent	6	pts (only fo	ont size available) for Rot	a ted Legend or Repe at Legend ON

### To change the size setting:

- While holding down Code press once, and keep Code held down to display the current size setting.
- While still holding down Code, continue pressing is displayed.
  - The current character size setting is also shown by the size indicators above the display.
- Release Code to apply the selected size setting to the entire text.





## **UNDERLINE FUNCTION**

You can add emphasis to your text by underlining it.

The default underline setting is **OFF**. When the **underline** function is set to **ON**, the **Underline** indicator on the right side of the display lights up.

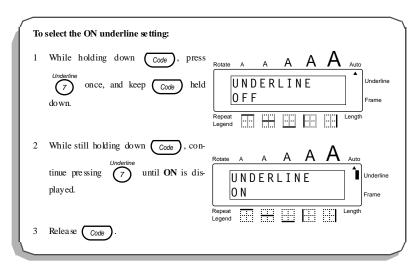
If a frame has been chosen while the **ON** underline setting is selected, the frame setting changes back to **OFF** and the text is underlined.





To change the underline setting:

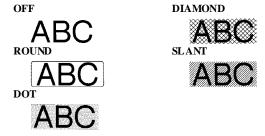
- While holding down Code, press 7 once, and keep Code held down to display the current underline setting.
- While still holding down Code, continue pressing 7 until the desired underline setting is displayed.
  - The **Underline** indicator lights up when the **ON** setting is selected.
- Release Code to apply the selected underline setting to the entire text.



## FRAME FUNCTION

With the **frame** function, you can choose from various frames and highlights to make more decorative or emphasized text.

The following frame settings are available:

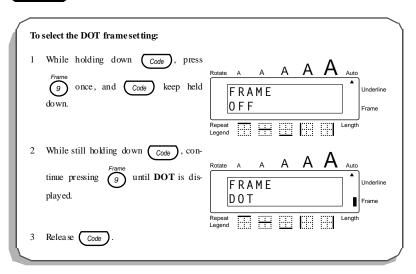


The default frame setting is **OFF**. When any setting other than **OFF** is selected, the **Frame** indicator on the right side of the display lights up.

If the ON underline setting has been chosen when a frame is selected, the underline setting changes back to OFF and the text is framed.

### To change the frame setting:

- While holding down Code, press 9 once, and keep Code held down to display the current frame setting.
- While still holding down  $\bigcirc$  continue pressing  $\bigcirc$  until the desired frame setting is displayed.
  - The **Frame** indicator lights up when any setting other than **OFF** is selected.
- Release Code to apply the selected frame setting to the entire text.



# HORIZONTAL ALIGNMENT FUNCTION

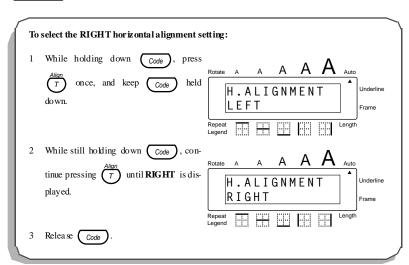
You can choose to align lines in the text in one of three ways. In addition, if the **length** function was used to set the length of the label, the text will align within the label according to the selected horizontal alignment setting.

The default horizontal alignment setting is **CENTER**; however, two other settings are also available:



### To change the horizontal alignment setting:

- While holding down  $\bigcirc$  press  $\bigcirc$  once, and keep  $\bigcirc$  held down to display the current horizontal alignment setting.
- While still holding down Code, continue pressing T until the desired horizontal alignment setting is displayed.
- Release Code to apply the selected horizontal alignment setting to the entire text.



## **MIRROR PRINTING FUNCTION**

With this function, you can print your text so that the characters can be read from the adhesive side of the tape. If mirror-printed labels are attached to glass or some other clear material, they can be read correctly from the opposite side.

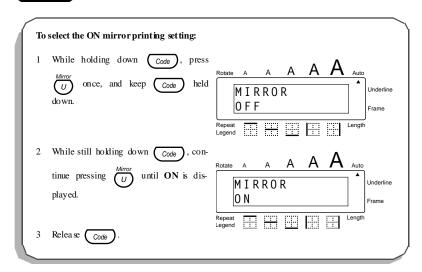
The default mirror printing setting is OFF.





### To change the mirror printing setting:

- While holding down  $\bigcirc$  and press  $\bigcirc$  once, and keep  $\bigcirc$  held down to display the current mirror printing setting.
- While still holding down Code, continue pressing U until the desired mirror printing setting is displayed.
- 3 Release Code to apply the selected mirror printing setting to the entire text.



# PRINT KEY, COPIES & FEED FUNCTIONS

After you have entered your text and chosen the desired format settings, you are ready to print the label.

### To print a label:

Press once. The message "COPIES 01/01" is displayed while the label is being printed. The label is fed out of the tape exit slot at the top end of the machine.

### To print copies of a label:

- Hold down Code and press Francisco The message "COPIES 01" is displayed. Enter between 01 and 99 copies.
- $\bullet \quad \text{Press} \bigcirc^{\text{File}}.$

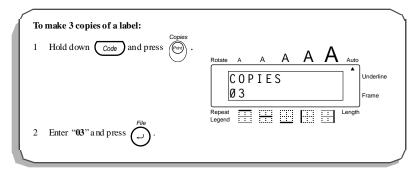
### To feed the tape:

• Hold down Code and press Sym. The message "FEED" appears while 1" (24 mm) of tape is fed out.

### To cut the tape:

- Press in the tape cutter lever.
  - In order to prevent damaging the tape, do not try to cut it while printing or feeding. Pressing in the tape cutter lever too far may break it.

Check your cassette before printing a large number of copies to ensure sufficient tape is available.



## SERIALIZATION FUNCTION

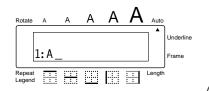
This function can be used to print many copies of the same text while increasing a certain value in the text after each label is printed. This type of automatic incrementation is very useful when printing serial number labels, patch panel labels or other labels requiring ascending codes.

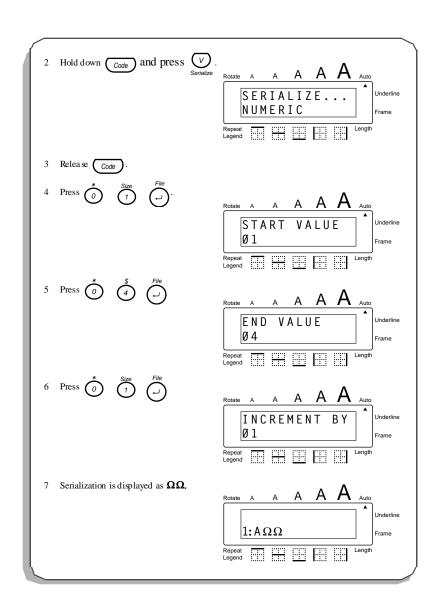
### To use the numbering function:

- 1 Hold down  $\bigcirc$  and press  $\bigcirc$  . The message "SERIALIZE NUMERIC" appears in the display. Continue to hold down  $\bigcirc$  and press  $\bigcirc$  to toggle between NUMERIC and ALPHABETIC serialization.
- When you release Code, the message "START VALUE" appears in the display. Type the number or letter of the first value to be printed and press
- The message "END VALUE" appears in the display. Type the number or letter of the last value to be printed and press .
- The message "INCREMENT BY" appears in the display. Type the number of the increment value desired and press
- 5 The serialization will be denoted on the display as a " $\Omega$ " for a one digit serialization and " $\Omega\Omega$ " for a two digit serialization.
- Check your cassette before printing a large serialization to ensure sufficient tape is available.

### To print a four position patch panel label for Building A:

Position the cursor next to the "A".





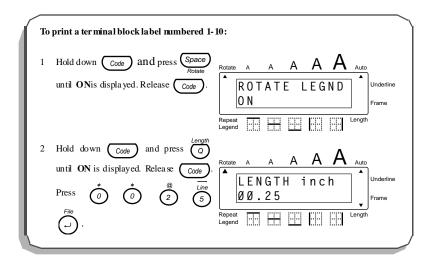
## **ROTATE LEGEND FUNCTION**

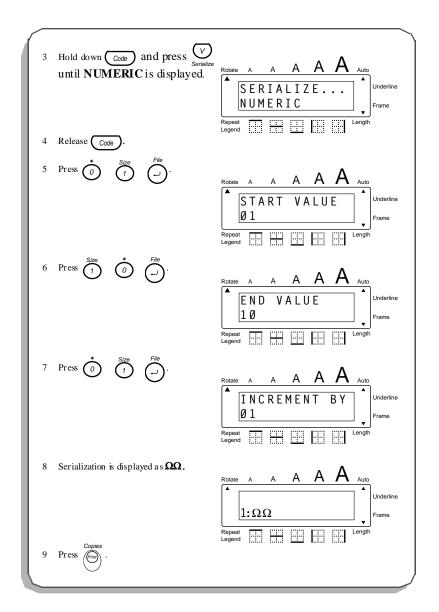
The rotate legend function is used when a label must be oriented vertically yet read horizontally. A common need for this function is terminal block labeling.

### To enable the rotate legend function:

- 1 Hold down Code and press Space until "ON" appears in the display.
- When Rotate Legend is enabled, the largest font size available is 6 pt.
- The number of characters is limited by the tape width:
  - 3/4" 10 characters
  - 1/2" 6 characters
  - 3/8" 5 characters
  - 1/4" 3 characters

Uses: Terminal Block Labeling, Vertical Labels





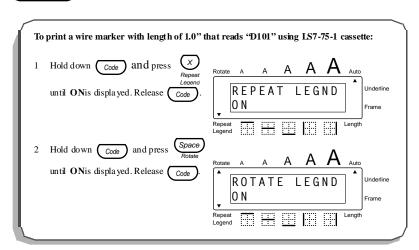
## REPEAT LEGEND FUNCTION

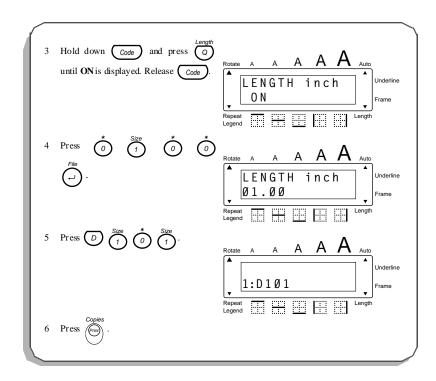
The repeat legend function is used to duplicate a legend over the length of a label. Using the combined functionality of rotated legend and repeat legend produces an excellent quality label for marking cables and wires prior to or after installation.

### To enable the repeat legend function for marking wires or other curved surfaces:

- 1 Hold down Code and press Repeat Legend until "ON" appears in the display.
- 2 Hold down Code and press Space until "ON" appears in the display.
- When Repeat Legend is enabled, Length must be **ON** and the largest font available is 6 pt.

Uses: Wire and cable marking



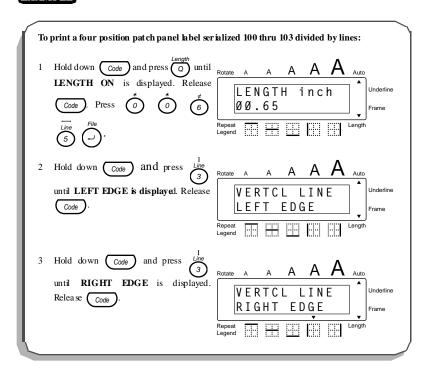


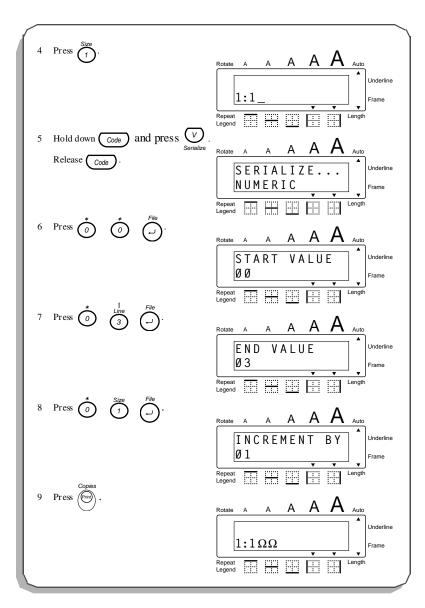
### LINE DRAWING FUNCTION

The line function is used to separate legends for easier recognition. The line function has two vertical line positions (left and right edge) and three horizontal positions (label top, every line and label bottom).

### To enable/disable the line function:

- Hold down  $\bigcirc$  and press either  $\bigcirc$  or  $\bigcirc$  to toggle between the line positions. Release  $\bigcirc$  when the desired line position is displayed.
- Can be combined with the length, serialization and symbol functions.
   Uses: Faceplate, patch panel and 110 block marking





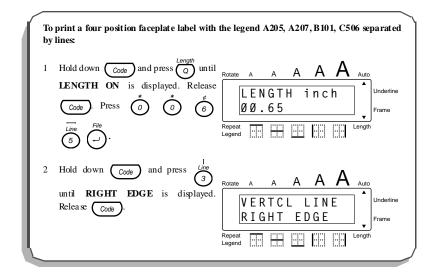
## **PAGE FUNCTION**

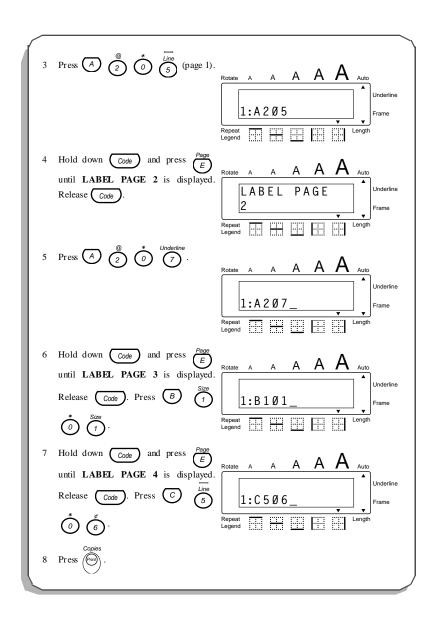
The page function is used to group multiple labels in a file. A file is a document consisting of up to 8 pages (labels). The page function is useful when labeling a group of items that have non-serialized unique legends and must be grouped together.

### To enable the page function:

- 1 Hold down  $\bigcirc$  and press  $\stackrel{Page}{E}$  to move to pages 1 thru 8. Release  $\bigcirc$  to enter text onto a page.
- Default position is page 1 of any label file.
- A page with no data is printed when Length function is set.
  A page with no data is not printed, but the margin between the pages is printed, when Length function is not set.

Uses: Faceplate, patch panel and 110 block marking





### **MEMORY FILE FUNCTIONS**

You can use the memory to store your most frequently used text files. The text remains in the memory, even after all characters are removed from the display using the **clear** function (see page 29).

When a file is stored, it is given a number to make recalling it easier. A maximum of 9 text files or about 300 characters can be stored in the memory. A stored text file can contain a maximum of 99 characters.

Since a copy of the stored text file is recalled when the **recall** function is used, the text can be edited or printed without changing the originally stored file. When a file is no longer needed or more space is necessary, the **memory delete** function can be used to delete it.

When inserting new batteries, be sure to insert the new ones within five minutes of removing the old ones, otherwise any text files stored in the memory will be lost (unless the machine is plugged into an electrical outlet with the AC adapter).

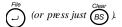
### STORING TEXT

### To store a text file:

1	Hold down Code	and press
		, , <u>, , , , , , , , , , , , , , , , , </u>

- 2 Press « or > until STORE flashes on the display.
- 3 Press . The message "STORE SELECT 1–9?" appears on the display.
- - If a file is already stored under the selected file number, the message "OVER-WRITE?" appears in the display and you must decide whether or not to overwrite it (delete it from the memory and store the new one).
  - If 300 characters have already been stored, the error message "MEMORY FULL!" appears in the display. If this occurs, an existing text file must be deleted before the new one can be stored.

To quit the store function without storing the text, hold down Code and press



### To overwrite the stored file with the new one:

- Press to delete the previously stored file and store the new one under the selected
  - To go back and choose another file number without overwriting the text file, press  $\stackrel{Clear}{(BS)}$ , and then select a different file number.

### RECALLING TEXT

### To recall a text file:

- $1 \qquad \text{Hold down} \ \underbrace{\text{Code}} \ \text{and press} \ \underbrace{\stackrel{\textit{File}}{\smile}} \ .$
- 2 Press « or resulting or resulting press of the display.
- 3 Press  $\bigcap^{File}$  . The message "RECALL SELECT 1–9?" appears on the display.
  - To quit the **recall** function without recalling the text file, hold down  $\bigcirc$  and press  $\bigcirc$  (or press just  $\bigcirc$  (BS).
- Press the key ( $\frac{\text{Size}}{1}$  to  $\frac{\text{Firame}}{9}$ ) of the file number containing the text that you wish to recall. The text stored under the selected file number is shown.
  - To see other parts of the displayed text file, press  $\leftarrow$  or  $\bigcirc$  or  $\bigcirc$  or  $\bigcirc$ .

    To display the text stored under other file numbers, press  $\leftarrow$  or  $\leftarrow$  or the key of a different file number.
- 5 Press . Any text previously entered in the display is erased and the text stored under the selected file number is recalled into the display.

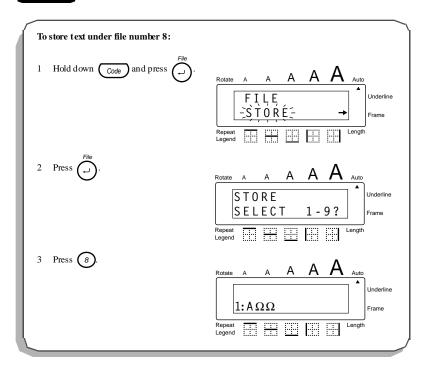
### DELETING A FILE

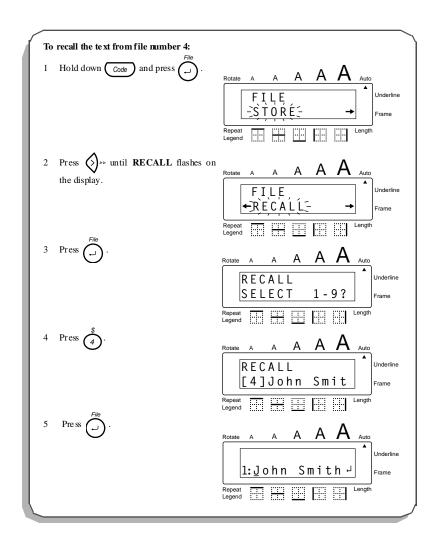
### To delete a text file:

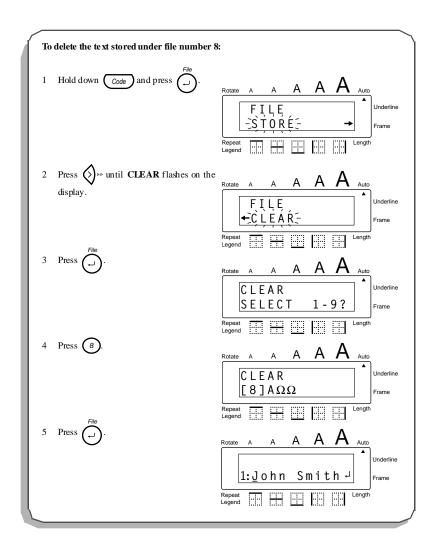
- 1 Hold down Code and press .
- 2 Press « or or until CLEAR flashes on the display.
- Press The message "CLEAR SELECT 1–9?" appears on the display.

- To quit the **file delete** function without deleting the text file, hold down  $\bigcirc$  and press  $\bigcirc$  (or press just  $\bigcirc$  ).
- Press the key ( $\frac{\text{Size}}{1}$  to  $\frac{\text{Frame}}{9}$ ) of the file number containing the text that you wish to delete. The text stored under the selected file number is shown.
  - To see other parts of the selected text file, press  $\leadsto$  or  $\bigotimes$   $\leadsto$ .

    To display the text stored under other file numbers, press  $\Longrightarrow$  or  $\Longrightarrow$ , or the key of a different file number.
- 5 Press  $\left(\begin{array}{c} File \\ \longrightarrow \end{array}\right)$  to delete the text file that was selected.







# **BARCODE FUNCTION**

The barcode function enables barcodes to be printed as part of labels. Four different parameters enable you to create custom barcodes.

Parameter	Settings
PROTOCOL	CODE 39
WIDTH (barcode width)	LARGE, SMALL
HUMAN READABLE (numbers printed below bar- code)	ON, OFF
CHECK DIG. (check digit)	OFF, ON

The default settings are CODE 39 PROTOCOL, LARGE WIDTH , HUMAN READABLE set to ON, and CHECK DIG. set to OFF.

Barcodes must be entered according to the following rules:

Protocol	Number of digits (includ- ing check digits and start and stop codes)	Characters that can be used	Notes
CODE 39	4 through 22	Numbers, letters, spaces, and symbols –, \$, /, +, and %.	The asterisk (*) is not needed as start and stop codes.

#### To use the barcode function:

se the	barcode function:
Hold	down $\bigcirc$ and press $\bigcirc$
<b>F</b>	To change the data or parameters of a barcode that has already been created,
	position the cursor below the barcode mark ( 💵 ) before holding down Code
	and pressing $\frac{N}{Barcode}$ .
	A label can only contain one barcode. If a barcode has already been entered
	when $\bigcirc$ is held down and $\bigcirc$ is pressed, the error message "1 BAR"
	CODE / LABEL" will appear.
	To quit the barcode function without making any changes, hold down Code

and press  $\frac{N}{Barcode}$ .

2 Type in the new barcode data or edit the old data.

### To change the barcode parameter settings:

- 1 Press Home.
  - To return to the barcode data display without changing any parameter settings, press (BS).
- 2 Press 🗝 🚫 or 🚫 🕫 until the parameter that you wish to change appears.
- 3 Press  $\stackrel{Home}{\Longleftrightarrow}$  or  $\stackrel{End}{\Longleftrightarrow}$  until the desired setting is displayed.
- 4 Repeat steps 2 and 3until all parameters are set as you wish.
- 5 Press  $\stackrel{\text{File}}{\smile}$ .

### To add a special character to the barcode data:

- 1 Press of or or or until the cursor is below the character immediately to the right of where you want to add special character.
- 2 Press (Sym)
- 3 Press  $\stackrel{\text{Home}}{\Longleftrightarrow}$  or  $\stackrel{\text{Lond}}{\Longleftrightarrow}$  until the desired special character is displayed.
- 4 The following special characters can only be entered when using protocols **CODE 39**.

Symbol	Character
1	+
2	\$

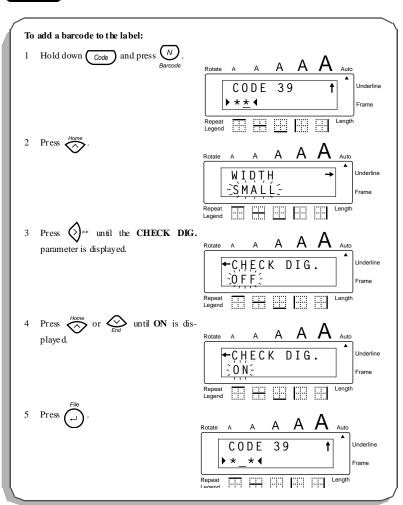
5 Press  $(-1)^{File}$  to add the selected special character to the barcode data.

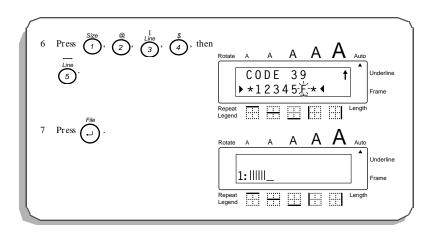
### To add the barcode to your text:

1 Press File.

### To delete the barcode from your text:

- Press  $\{ (x, y) \in \mathcal{N} \}$  or  $\{ (x, y) \in \mathcal{N} \}$  or  $\{ (x, y) \in \mathcal{N} \}$  until the cursor is positioned either below the right half of the barcode mark or immediately to the right of the entire barcode mark.
- 2 Press  $\stackrel{Clear}{(BS)}$ . The message "OK TO CLEAR? ||| ||| ".
- 3 Press  $\bigcirc$ .





# **TROUBLESHOOTING**

Problem	Remedy
1. The printer is asking for "LABEL CODE".	Enter LABEL CODE printed on tape cassette.
2. The dis play stays blank after you have turned on the machine.	Check that the correct AC adapter (LS7-ACS) is being used and that it is connected correctly.     If you are using alkaline batteries, check that they are correctly inserted.     If the batteries are low, replace them with new ones.
The machine does not print or the printed characters are blurred.	Check that the correct AC adapter (LS7-ACS) is being used and that it is connected correctly. Check that the tape cassette has been inserted properly. If the tape cassette is empty, replace it with a new one. Make sure that the back cover has been attached.
The text files that you stored in the memory are no longer there.	If the batteries are low, replace them with new ones.
The printed characters are not formed properly.	If you are using alkaline batteries, they may be low. Try using the AC adapter or replace the batteries with new ones. Check that the correct AC adapter (LS7-ACS) is being used and that it is connected correctly.
A blank horizontal white line appears through the printed label.	Clean the print head as explained on page 13 and 14.
7. Striped tape appears.	You have reached the end of the tape.  Replace the tape cassette with a new one.
8. The machine has "locked up" (i.e., nothing happens when a key is pressed).	Turn off the machine, and then while holding down Code and BS, tum the machine back on. WARNING: The text in the display, all format settings, and all text files stored in the memory are erased.

# ERROR MESSAGE LIST

Error Message	Cause	Remedy
1 BAR CODE /LABEL	This message appears if a barcode has already been added to the label when you hold down Code and press  N Barcode.	Limit the number of barcodes in the text to one.
1 SERIALIZE LIMIT!	This message appears if a serialization has already been added to the label when you hold down Code and press V.  Serialize.	Limit the number of serializations in the text to one.
10 LINE LIMIT!	This message appears if ten lines already exist when you press using the Rotate function.	Limit the number of lines in the text to ten.
4 DIGIT MIN.!	This message appears when less than the minimum four digits are entered as barcode data.	Enter a minimum of four digits before pressing .
4 LINE LIMIT!	This mes sage appears if four lines already exist when you press  File  .	Limit the number of lines in the text to four.
BATTERIES WEAK!	This message appears when the installed alkaline batteries become weak.	Replace the batteries or use the AC adapter.

Error Message	Cause	Remedy
BUFFER EMPTY!	This message appears if you try to print, but no text has been entered.	Enter text before printing.
	This message appears if you try to store a text file in the memory, but no text has been entered in the display.	Enter text before storing.
BUFFER FULL!	This message appears if you try to enter a character, symbol, barcode, return or space after 99 characters have already been entered.	Delete some existing text so that more can be entered.
CAN'T HERE!	This message appears if a character, symbol, space or return is entered while the cursor is located below the right half of a barcode and "Ω" mark.	Move the cursor or delete the barcode and 'Ω" mark before entering the character, symbol or return.
CHANGE ADAPTER	This message appears if a high-voltage adapter is being used.	Remove the high-voltage adapter and connect the AC adapter (LS7-ACS).
CHECK TAPE!	This message appears if you try to print a label or feed the tape when a tape casset te is not installed.	Install a tape cass ett e.
	This message appears if you install a non-Panduit tape cassette.	Install a Panduit (green colored) tape cas sette.
	This message appears if the tape cassette is not properly seated.	Remove the back cover of the printer and re-install cas sette in printer.

Error Message	Cause	Remedy	
FUNCTION NOT ALLOWED!	This message appears if     Size, Frame or Barcode is     set when Rotate function is     being selected.	Delete Rotate function.	
	This mess age appears if Size is set when Repeat Legend function is being selected.	• Delete <b>Repeat Legend</b> function.	
INVALID VALUE	This message appears if you input the wrong value for the function selected.	Re-input valid value.	
LABEL CODE	This message appears if the tape cassette in the printer requires manual entry of a label code.	Enter the label code printed on the tape cass ette.	
LINE LIMIT!	This message appears if the number of lines in the text is greater than the maximum number of lines possible for the installed tape.	Reduce the number of lines or install a tape of greater width.	
MEMORY FULL!	This message appears if you try to store a text file after 300 characters have already been stored in the memory.	Delete an unwanted file to make room for the new one.	
NO FILES!	This message appears if you try to recall or delete a text file from the memory when none are stored.	Store a text file first.	
REPLACE BATTERIES!	This message appears if the installed alkaline batteries are about to run out.	Replace the batteries or use the AC adapter.	
ROM PROBLEM!	This message appears if there is a problem with the machine's read only memory.	ContactTechnical Supportat 866-871-4571 (outside the US, refer to page 70 for contact information).	

Error Message	Cause	Remedy
SET LENGTH!	This message appears if length has not been set when Rotate and Repeat Legend are selected.	Set length between 0.25" and 11.80" (6.4 and 299.7 mm).
SYSTEM ERROR!	This message appears if there is a problem with the machine's software.	Contact Technical Support at 866-871-4571 (outside the US, refer to page 70 for contact information).
TEXT TOO HIGH!	This message appears if the size of the text is larger than the width of the installed tape.	Reduce the size of the characters or install a wider tape.
TEXT TOO LONG!	This message appears if the length of the text is longer than the label length that has been set using the <b>Length</b> function.	Delete some of the text or increase the set label length.
	This message appears if the number of characters is more than the limit of an installed tape when <b>Rotate</b> function is selected.	Delete Rotate function.
VALUE TOO SMALL!	This message appears if the last value set to be printed is less than the selected value in the text using the Serialize function.	Press the key of the value that is greater than the value in the text.

## **SPECIFICATIONS**

### **HARDWARE**

**Input device:** Keyboard with 52 keys (including the power key) **LCD:** 12 characters  $\times 2$  lines ( $7 \times 5$  dots/character)

17 indicators

**Print tape:** LS7 Tape

Four widths available: 1/4" (6 mm) 3/8" (9 mm) 1/2" (12 mm)

3/4" (18 mm)

Power supply: Six AA (AM3, LR6) alkaline batteries or optional AC adapter (LS7-ACS)

Auto power-off if no key is pressed for 5 minutes

Print head: 128 dot/180 dpi

**Dimensions:**  $4 \frac{3}{4}$ " (121 mm) (W)  $\times 7 \frac{31}{64}$ " (190 mm) (D)  $\times 2 \frac{51}{64}$ " (71 mm) (H)

Weight: 1.1 lbs. (520 g) (without a tape cass ette and batteries installed)

### **SOFTWARE**

**Buffer size:** Maximum 99 characters

Memory size: 300 characters

Character size: Five sizes (9, 12, 18, 24 and 36 points) + AUTO for non-rotated text

One size (6 point) for rotated text

### TECHNICAL SUPPORT CONTACTS

For technical support in the U.S., call 866-871-4571. For other countries, contact the Panduit Headquarters nearest you:

Headquarters	Location	Phone
PANDUIT Canada	Markham, Ontari o	(905) 475-6922
PANDUIT Latin America	Jalisco, Mexico	(52) 3 666 2501
PANDUIT Europe Ltd.	Wes tgat e, London UK	(44) 208 601 7200
PANDUIT Asia Pacific Pte. Ltd.	Singapore	(65) 379 6700
PANDUIT Australia Pty. Ltd.	Victoria, Australia	(61) 3 9794 9020
PANDUIT Japan	Tokyo, Japan	(81) 3 3767 7011



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