TLS2200™

THERMAL TRANSFER PRINTER

Users Manual

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Technical Support

Brady Worldwide, Inc. provides several TLS2200 System support options:

1. To speak with a technical support representative, call (800) 643-8766; Monday - Friday 7:00 a.m. - 7:00 p.m. (CST), or

2. FAX your inquiry to (414) 358-6767, or

3. Contact Brady's Technical Support Team on-line at: **tech_support@whbrady.com**.

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Introduction

Small in size, big in performance! Since the invention of thermal transfer technology, the idea has remained unchanged - bigger has always been better. Until now. Brady introduces the TLS2200™ Thermal Labeling System. This hand-held thermal transfer printer is the new leader in the Brady line of quality performance printers. Weighing in at just 2.75 lbs., it's the only thermal transfer bar code/label printer that you can hold in just one hand.

Never before has there been a printer quite like the TLS2200 Thermal Labeling System. It's so easy - simply choose the type of labels you want to print and load them in. The TLS2200 printer takes care of the rest. Thanks to its innovative smart-cell technology, the TLS2200 printer recognizes the label you're using and automatically adjusts itself, saving you a significant amount of setup time. As you will see, the TLS2200 System is the first hand-held thermal transfer printer that's not only portable, quick and easy to use, but uniquely intelligent as well. We are sure you will find it to be an extremely versatile and durable tool, useful for a great number of label-making needs.

Unpacking Your TLS2200 Printer

Before you begin setting up the printer, check that you have received the following items in your packaging.

- Printer
- Hard Side Carrying Case
- Battery Pack
- Battery Charger
- Warranty Card
- Cleaning Card
- Dust Cover
- User's Manual
- R6010 Ribbon
- Sample Label Roll (PTL-19-423)

Packaging to Save

The packaging surrounding your TLS2200 Thermal Labeling System should be saved in the event of any future shipments of the printer and accessories.

Future Shipment of the Battery Pack

WARNING:

Never ship the TLS2200 Thermal Labeling System without first removing the rechargeable battery pack from the printer.

If shipping both the printer and battery pack, remove the battery pack from the printer and place the items in the original shipping material before transporting.

TLS2200 Printer Specifications

- Thermal Transfer Print Mechanism (203 dpi)
- Optical Registration System for Precise Print Registration
- Elastomeric Keypad
- 2-Line by 16-Character Liquid Crystal Display
- Custom True Type Font (Arial)
- Labels up to 2" Wide
- Printable Area - 1.81" x 1.81" (Width x Height)
- Adjustable for 6 Different Liner Widths
- Prints 500 Labels Between Battery Charges
- 6 Month Warranty

Physical and Environmental Characteristics

Physical	**U.S. Units:**	**Metric Units:**
Dimensions:	12 x 3.75 x 4.5 in.	305 x 95 x 114 mm.
Weight (with battery pack):	2.75 lb.	1.25 kg

Environmental	**Operation:**	**Storage:**
Temperature:*	40℉ to 105℉F (4℉ to 40℉C)	0℉ to 140℉F (-18℉ to 60℉C)
Relative Humidity:	20% to 95% (non-condensing)	10% to 80% (non-condensing)

*Exposing the TLS2200™ Thermal Labeling System to direct sunlight is not recommended.

Certification

- FCC Class A Approved
- UL/CUL-listed Battery Charger

Quick Label Making Instructions

The following steps are all you need to create a simple label. Read the rest of this manual for detailed information on each of these steps, as well as other functions not listed here.

Follow these steps:

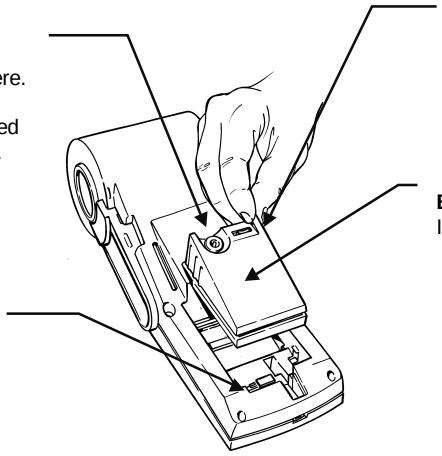
1. Install a fully charged battery pack.
2. Install a ribbon cartridge.
3. Install a label roll of the desired type and size.
4. Turn the power switch "On."
5. Type the text for your label. Press the <Enter> key to begin each new line of text.
6. Edit the text so it reads exactly as you want it to.
7. Press the <Print> key to print the label.
8. Use the built-in cutter to remove the finished label.

Setting Up

Read the following sets of instructions to learn how to connect the battery pack/charger, install a print ribbon cartridge, and install a roll of labels.

Using the Battery Pack and Charger

The TLS2200™ Thermal Labeling System is shipped with a battery pack and a battery charger unit. Use these items to power the unit as shown below:



Battery Charger Jack
Connect the charger unit here. You can charge the battery pack while it is either installed or removed from the printer.

Power Switch
Turns the printer ON and OFF

Battery Pack
Install as shown.

Sliding Lever
Use to lock the battery pack in place during installation or to release it for removal.

NOTES: The battery pack is shipped in an uncharged condition. Charge the battery for a minimum of 5 hours before operating the printer solely on battery power. You can charge the battery pack while the printer is turned "On" or "Off." The battery pack will be charging as long as the charger is plugged in.

Brady recommends, however, that once the battery pack is fully charged, you should unplug the charger and operate the printer solely on battery power.

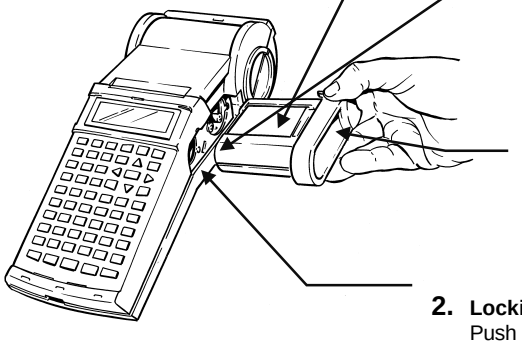
If the battery pack is completely discharged, connecting the charger does not provide enough power to run the printer. Recharge the battery pack before continued use.

Disposal of the Battery Pack

The NiCad battery pack contains cadmium, a toxic element. The battery pack is considered hazardous toxic waste and must not be thrown away in the home or office garbage. Once the useful life of the battery is ended (1-3 years), contact your local authorities for information regarding its proper disposal or recycling options.

Installing a Ribbon Cartridge

Install a ribbon cartridge as shown below:



Ribbon
Avoid touching or wrinkling.

Take-up Spool Remove any ribbon slack by rotating spool end towards you (↓).

1. Ribbon Cartridge
Slide firmly into printer. (Locking Lever must be in unlock position - see below)

2. Locking Lever (Underneath the printer)
Push the lever towards the back of the printer to close print head and lock ribbon cartridge in place. Pull the lever towards the front of the printer to open the print head and release the installed cartridge.

Installing a Label Roll

Use the following instructions to install a label roll into your printer (follow steps 1-8 in order).

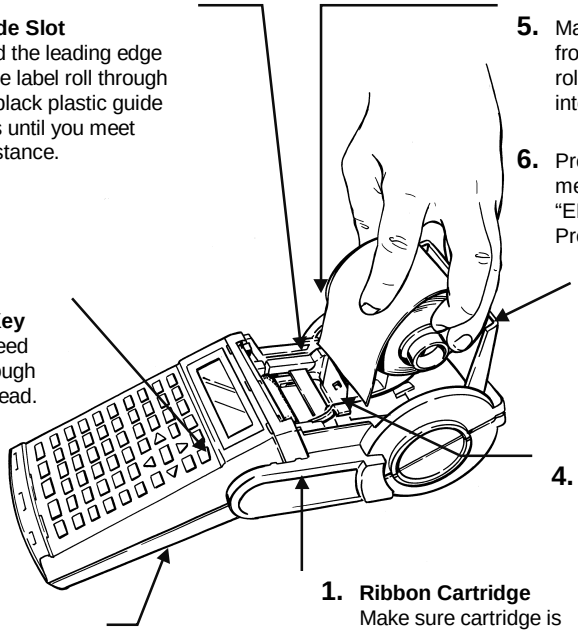
7. Guide Slot
Feed the leading edge of the label roll through the black plastic guide slots until you meet resistance.

5. Make sure labels unroll from the top and label roll is firmly snapped into cradle.

6. Press <Enter> to clear message on display: "ERROR No Label Present"

8. <Feed> Key
Press to feed labels through the print head.

3. Roll Door
Open by lifting at the edges.



4. Guide Plate Lever
Press down and slide the lever to match the width of the label roll.

1. Ribbon Cartridge
Make sure cartridge is installed and lever is locked.

2. Power Switch
Turn the printer ON.

Typing and Editing Text

This section describes how to use the keypad to type and edit text for your labels.

Typing Text Characters

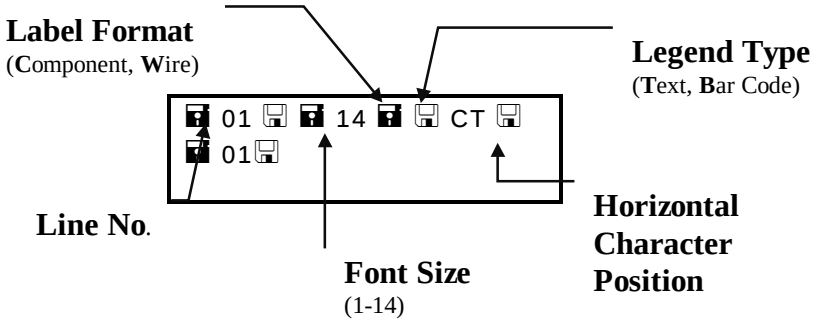
- **Alphabetic letters:** Type lower-case letters (a-z) by pressing the appropriate keys. Press the <Space> key to add a space between words. Type an upper-case letter by holding down the <Shift> key while typing the letter. To type many upper-case letters in a row, turn the Caps Lock feature on by pressing the <Func> + <Cap Lock> keys.
- **Numbers:** Type numbers (0-9) by pressing the desired keys.
- **Secondary characters:** A red secondary character appears on the upper-right of each text key. Type one by first pressing the <Func> key, then press the desired secondary character key.
- **Accented Characters:** To place an accent mark over a vowel, type the mark first followed by the letter itself (Note: "~" is to be used with the letters A,a or N,n only).

Reading the LCD and Moving the Cursor

As you type characters, they appear on the liquid crystal display (LCD) at the cursor's position. Depending on the installed label size and font size selected, you can have up to 23 lines on a single label and 50 characters on a single line. The cursor marks your current typing or editing position.

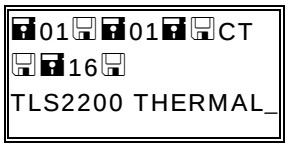
The LCD will display two lines of text with 16 characters on each line. The first line will always display the STATUS BAR which displays font and character positioning information (see below).

Status Bar

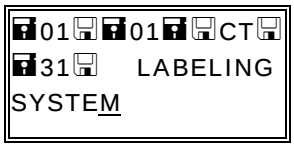


If you are entering more than 16 characters on a line, you will not be able to see the entire label until it is printed. The arrow keys allow you to move the cursor around the LCD. As the cursor moves beyond the 16th character, the screen will scroll to display the remaining text for

the label line:



The status bar indicates that the cursor is located at the 16th character position.



As you continue to enter text, the screen scrolls to allow the entry of the remaining text (underlined "M" is at cursor position 31).

Cursor and Editing Keys

Enter	• Activates a screen selection • When composing a legend, inserts a non-visible end of line character and moves the cursor down to the next line. • Clears system messages from display
	Moves the cursor one character to the right. If at the rightmost position on the display, then the display is scrolled one character to the left and the cursor remains at the rightmost position.
	Moves the cursor one character to the left. If at the leftmost position on the display, then the display is scrolled one character to the right and the cursor remains at the leftmost position.
	Displays the previous line of text (if any).
	Displays the next line of text (if any).
Shift +	Skip to the beginning of the next word.
Shift +	Skip to the beginning of the previous word.
Delete	• While in text editor, deletes the character at the cursor position. • Backs you out one level in the Setup menu tree. • Terminate the printing of markers.
Shift + Delete	Backspaces as it deletes characters. If cursor is at the first character position on a line, the carriage return is deleted and any text on the line is appended to the text on the previous line.
Legend Clear	Clears all characters on the current label line.
Shift + Legend Clear	Clears all characters on the label.
Shift + Form Clear	Deletes all characters and lines on the label, and resets the font size to the default value.
Cap Lock	Toggles between upper and lowercase characters NOTE: Current Cap Lock status is retained when unit is turned OFF.

Space Bar	Moves the cursor one position to the right. Will insert a space at the current cursor position.

The Text Editor

Each time the printer is turned ON, a printer initialization routine will be performed, then the Text Editor screen will appear. This screen is the "home base" of any processing you will do with the TLS2200 System. To change any of the parameters previously defined, you must access the software features of the printer by calling up the Setup Menu from the Text Editor screen. *For more information on setting Setup Menu options, see page 17.*

After setting the label parameters, you can begin entering the text of your legend.

As previously mentioned, the LCD displays a maximum of one line of text and 16 characters on the screen at any one time. If a line consists of more than 16 characters, the LCD will automatically shift to the right to allow you to enter and view additional characters. Characters can be entered on the text editor screen in INSERT mode only.

Use of the <Enter> Key When Composing a Legend

It is not necessary to press the <Enter> key after entering the last line of text in your legend. Pressing the <Enter> key instructs the printer to reserve space for a new line of text (notice the cursor advances to the next line). Even if characters are not entered on this new line, the printer assumes that the blank line is valid. As a result, markers will be printed with the blank line, which leads to uncentered legends, etc.

When the <Enter> key is pressed at the end of a line, a non-visible end-of-line character is inserted at the cursor. Characters entered after the cursor will fall to the next line. This end-of-line character can be deleted by positioning the cursor over the first character position on the following line and pressing the <Shift> + <Delete> keys. This will delete the carriage return, move up the text located on the second line, and append the text on the first line. Any remaining lines of text will also move up one line.

NOTE: The <Shift> + <Delete> command will delete the carriage return and append text to the previous line only if all characters on the current line will fit on the previous line. If the text will not fit, the carriage return will not be deleted and all text will remain on the current line.

Default Font Size

The TLS2200™ Thermal Labeling System allows you to choose the font size for each individual line of text on your label (one size per line). The font size will always be displayed on the STATUS BAR (located on the first line of the LCD).

When a label roll is loaded and the unit is turned ON, the TLS2200 System will read the label size information stored in the smart-cell on the label core. This information will be used to automatically set an initial font size for your label. The method used to set this default is intended to help approximate an optimal starting point for sizing your text. If the label width is less than 0.5 inches (12.7 mm), the font will default to the largest size that will allow 4

characters to fit on a label line. If the label width is greater than or equal to 0.5 inches (12.7 mm), the font will default to the largest size that will allow 8 characters to fit on a label line.

Label Width	Default Font Size
< 0.5 in. (12.7 mm)	Largest size that will allow 4 characters to fit on a label line
³ 0.5 in. (12.7 mm)	Largest size that will allow 8 characters to fit on a label line

Once set for a label line, the size of the font will remain the same for any new lines that may follow (e.g., font size set at 8 for line 1, press <Enter> to add line 2, font size remains at size 8). Remember, the font size will remain at the size you choose, until you decide to change it.

Changing the Font Size

At any time during the text entry or editing process, you can change the font size for the label line displayed on the text editor screen. This can be done on a line-by-line basis only. To change the font size for a given line, simply press <**Shift +** ☮> or <**Shift +** ✍ > respectively to increase or decrease the font size.

Selectable font sizes range from 1 (4 point) to 14 (28 point). The maximum font size selectable for a particular label line will be dependent on several factors including label size, number of characters of text entered on the label line, number of lines of text entered on the label, and the font sizes chosen for the other label lines.

TLS2200 Printer Fonts

FONT NUMBER	POINT SIZE	PRINT SAMPLE
1	4	BRADY 12345
2	5	BRADY 12345
3	6	BRADY 12345
4	7	BRADY 12345
5	9	BRADY 12345
6	10	BRADY 12345
7	11	BRADY 12345
8	13	BRADY 12345
9	14	BRADY 12345
10	17	BRADY 12345
11	20	BRADY 12345
12	23	BRADY 12345
13	26	BRADY 12345

14	28	BRADY 12345

Text Editing Notes:

- If you attempt to enter too many characters on a label line, the message "Reduce Type Size" will flash on the display. To allow more characters to fit on the line, press <**Shift**> + < ✍ > to decrease the font size.
- To move within the text of a multi-line legend, use the arrow keys to move the cursor up, down, left, or right.
- The font size, once set for a particular line, will remain constant for any new lines until changed by the user.
- A change to the Rotation value will cause the following to occur:
  - ◊ all characters and lines on a label will be deleted
  - ◊ the cursor will move to the first character position on line 1.
  - ◊ the font will be set to the default size for the label

  To ensure that text is not deleted, always set the rotation value before entering your legend.
- You will know when you have attempted to enter more lines than will fit on a label when pressing the <Enter> key no longer moves the cursor down to another label line.
- Any legend entered on the text editor will be saved when the unit is turned OFF. Just turn the unit back ON, and the legend will reappear on the display. This rule holds true only if the part number of the label roll loaded in the unit is not changed while the unit is turned OFF. If the TLS2200 System detects a label size change when turned ON, or if a different label size is loaded while the unit is ON, text on the display will be cleared, the default font size will be set, and the previously saved legend will be lost.
- Pressing <Legend Clear> clears all characters from the currently displayed label line, keeping the font size unchanged.
- Pressing <Shift> + <Legend Clear> clears all characters on the label keeping the font size for all label lines unchanged.
- Pressing <Shift> + <Form Clear> deletes all characters and lines on the label, resets the font size to the default, and positions the cursor in the first character position on line 1.
- Values set for Setup Menu options (Rotation, Horizontal and Vertical Justification, etc..) will remain unchanged when performing any of the following actions:
  - ◊ <Legend Clear>
  - ◊ <Shift> + <Legend Clear>
  - ◊ <Shift> + <Form Clear>
  - ◊ Turn the unit OFF

  Values will change to default values however, if a new label roll with a different label size is loaded into the unit.
- Text already entered on a line can be switched from "Text" to "Barcode" mode and vice versa. If the size of the bar code or text being switched to does not fit on the label, you

will encounter the message "Reduce Type Size" when you attempt to print the label. You will have to scroll to the line where the switch was made, reduce the size of the font (if text) or bar height (if a bar code) and print again.

Saving and Recalling a Legend

Once you have finished entering and editing your text, you may wish to save your legend for retrieval at some later point in time. The TLS2200 System allows you to save a legend by simply pressing the <Func> + <Save> keys.

Once saved, a legend can be recalled to the text editor screen by pressing <Func> + <Recall>. Any legend currently displayed on the text editor screen will be overwritten by the recalled legend. Once recalled, the saved legend will continue to be stored in the printer's memory.

The TLS2200 System can <Save> and <Recall> one legend in memory. If you have a previously saved legend stored in your printer, then save a new legend, the new legend will overwrite and replace the previously saved legend.

NOTE: The Font Size(s) and Legend Type(s) are saved with the legend. If you change to a smaller label part and attempt to recall a legend saved with a font size or bar code height larger than the maximum supported for the label part, the legend will not be recalled to the display.

Function Keys

The use of each function key is described in the chart below:

Feed	Advances to the next label.
Print	Prints the legend.
Multi Print	Prints multiple copies of the legend (1-100).
Serial	Serializes legend starting with the character at the cursor.
Exit	Exits you back to the text editor screen from any Serial, Multi Print or Setup Menu screen.
Peel	Advances label to peel position. NOTE: Cannot use function with PSPT label rolls (PermaSleeve).
Type	Toggles Legend Type status (Text, Bar Code)
Shift +	Increases font size
Shift +	Decreases font size
Shift + 0 (zero)	Toggles Label Format (Component, Wire)
Setup	Displays Setup menu options
Save	Saves the currently displayed legend
Recall	Recalls the previously saved legend.
List	RESERVED FOR FUTURE USE

Form	RESERVED FOR FUTURE USE
Form Clear	RESERVED FOR FUTURE USE

The Setup Menu

The Setup Menu allows you to set or adjust label formating or printing defaults. You can access any of the Setup menu functions by following the steps below:

1. Press the <Func> + <Setup> keys to access the Setup menu.
   The Setup menu appears on the LCD.

2. Use the < > and < > keys to move through the menu choices. The cursor indicates the currently selected option.

   NOTE: A downward pointing arrow on the right side of the LCD indicates that there are more selections available below the currently highlighted choice. An upward pointing arrow indicates that there are more selections available above the currently highlighted choice. Up and down arrows appearing simultaneously indicate that there are more selections available both above and below the currently hightlighted choice.

3. Press the <Enter> key to access the sub-menu choices.

4. Use the < > and < > keys to move through the sub-menu choices. The cursor indicates the currently selected option.

5. Press the <Enter> key. Use the < > and < > keys select the desired menu setting, then press <Enter> to save your change. To exit without saving the change, press either the <Exit> key (sends you back to the text editor screen) or the <Delete> key (backs you out one level in the menu tree).

Setup Menu Options

The Setup Menu contains five sub-menu options for formating and printing your labels . These options provide you with many ways to customize the formatting of your labels. *See Setup Menu Tree on page 19.*

Printer

The Printer menu contains the following user options:

***** Top Margin Adj:	Adjusts first vertical print position from top of label.
***** Left Margin Adj:	Adjusts first horizontal print position from left edge of label.
****** Cut Feed Adj:	Adjusts vertical cut position between labels.

Peel Time:	Determines how long (in seconds) a label will remain in peel position before moving back to cut position. Ranges from 2 to 9 seconds. Default = 5 sec. **NOTE: Peel Time option is not supported for BradySleeve and PermaSleeve label parts.**
Burn Time:	Determines the print density on the label. Setting ranges from -5 (lightest) to + 5 (darkest). Default = 0
Term Repeat:	Adjusts the terminal block repeat value. Setting ranges from 5 mm to 46 mm. < > and < > keys increase/decrease value by 0.125 mm increments (1 dot). <Shift> + < > , <Shift> + < > increase/decrease value by 1mm increments (8 dots)
Clean Printer:	Performs printer cleaning routine (To be used with the cleaning card shipped with the unit.).

***** Values range from -0.625 mm to +1.375 mm.

****** Values range from -1 mm to +1 mm. The < > and < > keys increase/decrease value by 0.125 mm increments (1 dot).

Barcode

The Barcode menu contains the following user options:

Bar Height:	Sets the height of the Code 39 bar code. Setting ranges from 1 to 15 mm. Default = 1. Narrow bar width = 2 dots (.25 mm). Bar Code Ratio = 2 to 1
Human Readable:	Determines whether the bar code will be printed together with human readable text. Toggles between ON and OFF. Font Size = 2 (5 point) Default = OFF.

Style

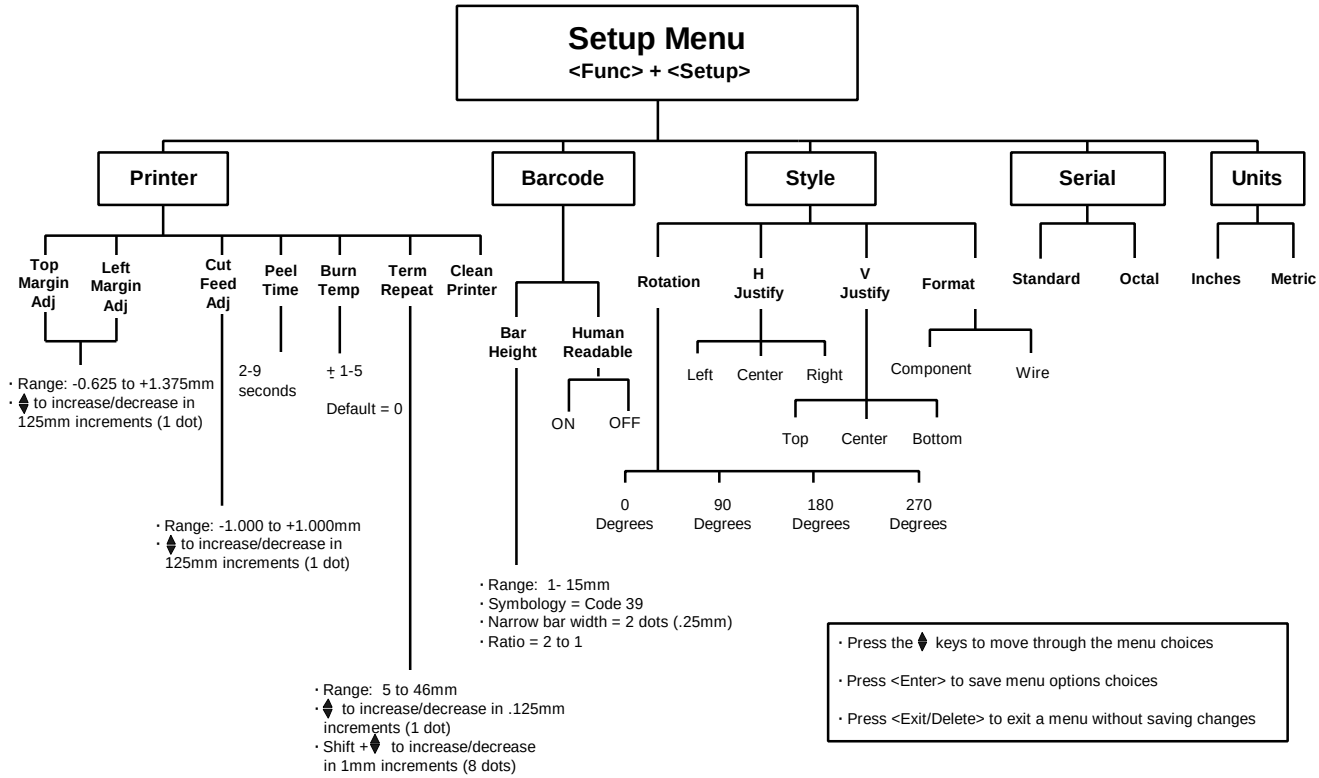
The Style menu contains the following user options:

Rotation:	Sets the rotation in one of four orientations. 0☜, 90☜ , 180☜ , 270☜. Default orientation is dependent on the label roll loaded in the unit. **NOTE: Rotation option is not supported for BradySleeve, PermaSleeve, and pre-printed label parts (defaults to 0☜).**
H Justify:	Sets the horizontal justification of the legend. Options are: Left, Center, Right. Default setting is determined by the label roll loaded in the unit.
V Justify:	Sets the vertical justification of the legend. Options are: Top, Center, Bottom. Default setting is determined by the label roll loaded in the unit.
Format:	Sets the Label Format. Options are: Component, Wire. The Component label format is designed to print all of the lines of a legend one time before advancing to the next marker. The Wire format is designed to automatically repeat the text of a legend down the length of a marker as many times as possible, considering the number of lines available in the marker. Default = Component.

Serial

The Serial menu contains the following user options:

Standard:	Defaults serial number scheme to Decimal (0-9) or Alpha (A-Z, a-z) based on character type entered.
Octal:	Defaults serial number scheme to Octal (Base 8). 0-7 numeric serialization.


Setup Menu
<Func> + <Setup>
Printer
Barcode
Style
Serial
Units
Top Margin Adj
Left Margin Adj
Cut Feed Adj
Peel Time
Burn Temp
Term Repeat
Clean Printer
Bar Height
Human Readable
Rotation
H Justify
V Justify
Format
Standard
Octal
Inches
Metric
· Range: -0.625 to +1.375mm
· ⧫ to increase/decrease in 125mm increments (1 dot)
2-9 seconds
± 1-5
Default = 0
ON
OFF
Left
Center
Right
Top
Center
Bottom
Component
Wire
0 Degrees
90 Degrees
180 Degrees
270 Degrees
· Range: -1.000 to +1.000mm
· ⧫ to increase/decrease in 125mm increments (1 dot)
· Range: 1- 15mm
· Symbology = Code 39
· Narrow bar width = 2 dots (.25mm)
· Ratio = 2 to 1
· Range: 5 to 46mm
· ⧫ to increase/decrease in .125mm increments (1 dot)
· Shift + ⧫ to increase/decrease in 1mm increments (8 dots)
· Press the ⧫ keys to move through the menu choices
· Press <Enter> to save menu options choices
· Press <Exit/Delete> to exit a menu without saving changes

Units

The Units menu allows you to set the unit of measure for the following Setup menu options: (Vert Align, Horz Align, Vert Cut Align, Term Repeat, Bar Height,)

Inches:	Sets the units of measure to inches.
Metric:	Sets the units of measure to millimeters.

Printing Your Labels

- To print the contents of your label, simply press the <Print> key.
- To print multiple copies of your label, press <Func> + <Multi Print>. The screen will prompt for the "No. of Copies?". Enter a number from 1-100 and press <Enter>.

NOTE: Press the <Feed> key if you want to feed one label without printing.

Cutting off the Printed Label

When a label has printed out, use the built-in cutter to remove it. The cutter mechanism consists of a fixed blade and a moving blade. Use the external lever to cut between labels.

NOTE: <u>Never use the cutter with BradySleeve label rolls!</u> The printer will always advance the last printed sleeve to a position to allow tear-off at the perforation.

Adjusting Burn Temperature

The burn temperature setting can be adjusted to darken or lighten your printed legend. Cases where adjustment will be needed should be rare as the TLS2200 printer automatically optimizes the burn temperature based on the material loaded in the unit.

NOTE: The burn temperature will be automatically reset to its default setting of 0 each time the unit is turned off. *To obtain further infomation on adjusting the burn temperature, refer to the Setup Menu section starting on page 17.*

Setting Peel Time

After your label(s) are printed, the TLS2200 printer will feed the last printed label to the cut-off position. If you wish to remove (peel) the last printed label from the liner without cutting, the Peel function can be used. Simply Press **<Func> + <Peel>** on the keypad and the unit will advance the last printed label forward to the peel position. Depending on how the default is set, you will have from 2 to 9 seconds to peel the label from the liner before it returns to the cut-off position. *For more information on setting the peel time, refer to the Setup menu section starting on page 17.*

NOTE: The Peel Time option is not supported for BradySleeve and PermaSleeve label parts. After printing, BradySleeve will advance to the tear-off position and PermaSleeve will advance to the cut position.

Reloading Label Rolls and Ribbons

If the label roll runs out of labels while printing, the TLS2200 System will stop printing and the following message will appear:

"Error Out of Label"

When the label roll runs out, the print job is permanently cancelled. Any legends remaining to be printed will be aborted. To continue printing, follow the instructions below.

1. Using the cutter mechanism, cut-off any labels that have already printed.
2. Pull the ribbon cartridge locking lever towards the front of the printer to open the print head.
3. Pull any remaining labels out through the top of the printer.
4. Install a new label roll. *For instructions, see "Installing a Label Roll" on page 10.*
5. Initiate a new print job to continue from where the previous one ended.

If the ribbon runs out while printing, the TLS2200 System will stop printing and display the following message:

"Error Out of Ribbon"

Similar to the situation with label rolls, when the ribbon cartridge runs out of ribbon, the print job is permanently cancelled. Any legends remaining to be printed will be aborted. To continue printing, insert a new ribbon cartridge, then initiate a new print job to continue from where the previous one ended.

NOTE: When a label roll or ribbon cartridge runs out, the legend entered on the LCD will continue to display. This will allow you to make a roll/ribbon replacement without losing your text. The display will be cleared however, if the size of the labels on the new label roll differ from those on the roll being replaced.

Advanced Features

Features outlined in this section pertain to advanced user options. You will find instructions for generating serialized, terminal block , and bar code labels.

Serialization

Legends you create with the TLS2200 System can be serialized both numerically and alphabetically. Serializing characters in a legend will result in a series of markers that increment by 1 number and/or 1 letter.

The TLS2200 System allows you to create two different types of serialization patterns.

Standard:	Defaults serial number scheme to Decimal (0-9) or Alpha (A-Z, a-z) based on character type entered.
Octal:	Defaults the serial number scheme to Octal (Base 8). 0-7 numeric serialization.

Your serialization type will default to either Standard or Octal based on the selection you choose from the Setup Menu. *For instructions on how to set the serial default, refer to the Setup Menu section starting on page 17.*

To create labels containing serialized data, follow the instructions below:

1. Enter the text to be serialized on the appropriate label line.
2. Use the < > key to position the cursor over the last character in the legend to be serialized.
3. Press <Func> + <Serial> on the keypad . The screen will prompt you to enter the number of times to increment the serial number "No. to Serial?".
4. Enter the number of times to increment the serial number and press <Enter>. The screen will prompt you to enter the number of copies of each number to print "No. of Copies?"
5. Enter the number of copies to print and press either <Enter> or <Print>. Your serialized markers will be printed.

General Guidlines for Serializing

- Both lowercase and uppercase characters can be serialized.
- Serialized characters can be incremented only (cannot decrement).
- You can choose only one serial type per label (Standard or Octal)
- Serialized text is limited to one line and one sequence only per label.
- The printer will first serialize the character the cursor is highlighted on when the <Func> + <Serial> keys are pressed. When this character reaches its maximum value (9, z or Z if Standard, 7 if Octal), the character immediately to the left is incremented, and the right most character cycles back to its minimum value (0, a or A if Standard, 0 if Octal).
- Once a serialized character has reached its maximum value and the next character encountered immediately to the left is a non-serializable character (i.e., space, accented character, or symbol), the serial pattern cyles back to begin incrementing again from the rightmost serialized character.
- After printing a series of serial characters, the editor will display the next logical character in the serial pattern (e.g., print 1 to 5. After print job is completed, editor will display 6).

Creating Terminal Block Labels

Terminal block markers can be created and printed using the TLS2200™ Thermal Labeling System. Simply choose the appropriate center-to-center spacing repeat (pitch) for the block, enter your text, and print as needed. The number of lines of text available at each termination will be dependent on repeat value spacing and the font size chosen.

Setting the Center-to-Center Spacing

The center-to-center spacing (terminal block repeat) is set by accessing the "Term Repeat" option on the Setup Menu. Follow the instructions below to set this option:

1. Press the <Func> + <Setup> keys to access the Setup Menu.
2. With the cursor highlighted on "Printer", press the <Enter> key.
3. Press the < > key 5 times to scroll the Printer submenu to "Term Repeat", then press <Enter>.
4. Use the arrow keys to adjust the terminal block repeat value, then press <Enter>.

   The repeat can be set from 5 mm to 46 mm. Press the < > and < > keys to increase/decrease the repeat value by 0.125 mm increments (1 dot). Press the <Shift> + < > and <Shift> + < > to increase/decrease the repeat value by 1 mm increments (8 dots).

NOTE: Press <Feed> after printing to advance the terminal strip label to the cut position.

Creating Bar Code Labels

The TLS2200 System allows you to create Code 39 bar codes for your labels. Legends made utilizing the bar coding feature can consist of a single bar code, several barcodes, or bar codes together with text.

Setting Bar Code Options

When adding a bar code to your label, several options can be accessed to customize how your bar code(s) will be formatted and printed. Options available are as follows:

Legend Type: This setting is used to select the Legend Entry Mode. Pressing the <Type> key allows you to toggle between "Text" and "Barcode". When set to "Barcode" mode, all text entered on the line/label will print as a Code 39 bar code . The STATUS BAR (first line on the LCD) will display a "B" to indicate that you are in Barcode mode.

Bar Height: This setting can be accessed from the Barcode submenu on the Setup Menu. This option allows you to set the height of your Code 39 bar code(s). Heights range from 1 to 15 millimeters and can be increased/decreased in 1 millimeter increments.

Human Readable: This setting is also accessed from the Barcode submenu on the Setup Menu. This option allows you to determine whether your bar code(s) will be printed together with human readable text. (Toggles ON and OFF). All bar code human readable text will print at a font size of 2 (5 point), regardless of bar height chosen.
Rotation: This option, located on the Setup sub-menu named "Style", allows you to set the rotation of your bar code(s) in one of four orientations (0☜, 90☜, 180☜ , 270☜). This will allow you to create both picket fence and ladder style bar codes. Please note however, that all lines on the legend (text and/or bar code) will print at the rotation selected. Lines cannot be rotated independently.

Code 39 Bar Code Symbology

The bar code symbology used by the TLS2200 System is **Code 39** . The character set for this symbology consists of the following characters:

The capital letters:	**A to Z**
The numbers:	**0 to 9**
The **space** character	
The symbols:	**- . $ / + %**

Characters entered in lowercase are automatically converted to uppercase when printed.

TLS2200 System Bar Code Parameters

Symbology:	Code 39
Narrow Bar Width:	2 dots (.25mm)
Wide-to-Narrow Ratio:	2 to 1
Quiet Zone:	10 dots (1.25mm)
Density	7.82 CPI

Maximum Bar Code Characters

Label Width	**Max # of Bar Code Chars Per Line**
0.5 in. (12.7 mm)	***** 0
1.0 in. (25.4 mm)	4
1.5 in. (38.1 mm)	8

***** Zero characters allowed on label (quiet zone and start/stop characters occupy entire width).

To create labels containing bar codes, follow the instructions below:

1. Press the <Type> key to toggle the Legend Type from "Text" to "Barcode" mode ("B" will display on Status Bar).
2. Press the <Func> + <Setup> keys to access the Setup Menu.

3. Press the < > key once to select "Barcode", then press <Enter>.
4. With the cursor highlighted on "Bar Height", press <Enter>.
5. Use the < > and < > keys to set the height of your bar code(s), then press <Enter>.
6. Press the < > key once to select "Human Readable", then press <Enter>.
7. Press the < > or < > keys to toggle the human readable text ON or OFF as required, then press <Enter>.
8. Press the <Delete> key to back out one level in the Setup Menu tree.
9. Press the < > key once to select "Style", then press <Enter>.
10. With the cursor highlighted on "Rotation", press <Enter>.
11. Use the < > and < > keys to select the desired rotation, then press <Enter>.
12. Press <Func> + <Exit> to exit back to the Text Editor screen.
13. Enter bar code text as needed and print your label.

Notes on Bar Coding

- Multiple bar codes can be entered on a label, but only one bar code can be entered per line.
- Bar height can be set to one height only per label regardless of the number of bar codes entered on the label.
- A change to the Rotation value will cause the following to occur:
    - ◊ all characters and lines on a label will be deleted
    - ◊ the cursor will move to the first character position on line 1.
    - ◊ the font will be set to the default size for the label

  To ensure that bar code text is not deleted, always set the rotation value before entering your legend.
- Text already entered on a line can be switched from "Text" to "Barcode" mode and vice versa. If the size of the bar code or text being switched to does not fit on the label, you will encounter the message "Reduce Type Size" when you attempt to print the label. You will have to scroll to the line where the switch was made, reduce the size of the font (if text) or bar height (if a bar code) and print again.
- You cannot switch the legend mode from "Text" to "Barcode" if a line contains any invalid Code 39 bar code characters.

Tutorial Guide

The following pages will provide step-by-step instructions for creating and printing labels using a variety of different printer functions. With the exception of "Creating a Terminal Block Label", the label part used in all tutorial examples is PTL-19-423. A sample roll of this 1" x 1" label is provided in your TLS2200™ Thermal Labeling System package.

Creating a One-Line Legend, Component Marker

Legend to be printed: 100A

Setup Status:
- H Justify: Center
- V Justify: Center
- Rotation: 0 Degrees
- Format: Component

1. Check the STATUS BAR to make sure the unit is in Component mode. If not, press <Shift> + <0> to toggle from Wiremarker mode to Component mode.
2. Enter **100A** on line 1. (Font will be set at default size - 9)
3. Press <Print>.

Creating a Component Label Utilizing Multiple Font Sizes

Legend to be printed: MULTIPLE
FONT
SIZES

Setup Status:
- H Justify: Center
- V Justify: Center
- Rotation: 0 Degrees
- Format: Component

1. Press <Legend Clear> to clear the text from line 1.
2. With font size set at the default of 9, enter **MULTIPLE** on line 1, then press <Enter>
3. Press <Shift> + < > three times to increase the font size to 12.
4. Enter **FONT** on line 2, then press <Enter>.
5. Press <Shift> + < > 8 times to decrease the font size from 12 to 4.
6. Enter **SIZES** on line 3.
7. Press <Print>.

Creating a Wiremarker

Legend to be printed: `1001`

Setup Status:
H Justify: Center
V Justify: Center
Rotation: 0 Degrees
Format: Component

1. Press <Shift> + <Form Clear> to delete all lines of text and reset the font to the default value of 9.
2. Press <Shift> + <0> to change Format mode from "Component" to "Wire" (note change from "C" to "W" on Status Bar on LCD).
3. Enter **1001**on line 1.
4. Press <Print>.

Creating Serialized Wiremarkers

Legends to be printed: `A201 A202 A203 A204 A205`

Setup Status:
H Justify: Center
V Justify: Center
Rotation: 0 Degrees
Format: Wire

1. Press <Legend Clear> to clear the text from line 1.
2. Check the STATUS BAR to make sure the unit is in Wiremarker mode. If not, press <Shift> + <0> to toggle from Component mode to Wiremarker mode.
3. Enter **A201**on line 1.
4. Press < > to position the cursor under the last character.
5. Press <Func> + <Serial>.
6. When "No. to Serial? " prompt appears, enter **5 ,** then press <Enter>.
7. When "No. of Copies?" prompt appears, enter **2**
8. Press <Enter> or <Print>. The printer will begin printing two each of the five wiremarkers listed above.

Creating a Label with Rotated Text, Printing Multiple Copies

Legend to be printed: ROTATE
TEXT

Setup Status:
H Justify: Center
V Justify: Center
Rotation: 0 Degrees
Format: Component

1. Check the STATUS BAR to make sure the unit is in Component mode. If not, press <Shift> + <0> to toggle from Wiremarker mode to Component mode.
2. Press <Shift> + <Form Clear> to delete all lines of text and reset the font to the default size of 9.
3. Press <Func> + <Setup> to access the Setup Menu.
4. Press < > two times to move to the Style sub-menu, then press <Enter>.
5. With the cursor highlighted on "Rotation", press <Enter>.
6. Press the < > key once to select "90 Degrees"
7. Press <Enter>.
8. Press <Func> + <Exit> to exit back to the text editor screen.
9. Press <Shift> + < > once to increase the font size to 10.
10. Enter **ROTATE** on line 1, then press <Enter>.
11. Enter **TEXT** on line 2.
12. Press <Multi Print>.
13. When "No. of Copies?" prompt appears, enter **3**.
14. Press <Print>. The printer will print 3 copies of the legend created above.

Creating a Bar Code Label

Legend to be Printed: BRADY

A101

A101

Setup Status:

H Justify:	Center
V Justify:	Center
Rotation:	0 Degrees
Format:	Component
Legend Type:	Text

1. Press <Shift> + <Form Clear> to delete all lines of text and reset the font to the default value of 9.
2. Press <Func> + <Setup> to access the Setup Menu.
3. Press the < > key once to select "Barcode", then press <Enter>.
4. With the cursor highlighted on "Bar Height", press <Enter>.
5. Use the < > and < > keys as needed to set the height of your bar code to .31496 in. (8mm), then press <Enter>.
6. Press the < > key once to select "Human Readable", then press <Enter>.
7. Press the < > or < > keys to toggle the human readable text ON, then press <Enter>.
8. Press <Func> + <Exit> to exit back to the Text Editor screen.
9. With the cursor highlighted on line 1, press <Shift> + < > two times to increase the font size from 9 to 11.
10. Enter **BRADY** on line 1, then press <Enter>.
11. Press the <Type> key to toggle the Legend Type for line 2 from "Text" to "Barcode" mode ("B" will display on Status Bar).
12. Enter **A101** on line 2.
13. Press <Print>.

Creating a Serialized Bar Code Label

Legends to be printed: BRADY BRADY

A101 A101

A101 A105

Setup Status:

H Justify:	Center
V Justify:	Center
Rotation:	0 Degrees
Format:	Component
Legend Type:	Text

1. Repeat steps 1-12 from "Creating a Bar Code Label".
2. Press < > to positon the cursor under the last character.
3. Press <Func> + <Serial>.
4. When "No. to Serial? " prompt appears, enter **5 ,** then press <Enter>.
5. When "No. of Copies?" prompt appears, enter **1**
6. Press <Enter> or <Print>. The printer will begin printing one each of the five serialized barcode labels from **A101** to **A105.**

Creating a Terminal Block Label

NOTE: This example assumes you have the terminal block label roll **PTLTB-400-375** loaded in your printer.

Legends to be printed: 101 through 110

Setup Status:

H Justify:	Center
V Justify:	Center
Rotation:	0 Degrees
Format:	Component
Legend Type:	Text

1. Press <Shift> + <Form Clear> to delete all lines of text and reset the font to the default value of 6.
2. Press <Func> + <Setup> to access the Setup Menu.

3. Press the < > key four times to select "Units", then press <Enter>.
4. Press the < > or < > keys to toggle the Units to "Metric", then press <Enter>.
5. Press the < > key four times to select "Printer", then press <Enter>.
6. Press the < > key five times to select "Term Repeat", then press <Enter>.
7. Use the < > and < > keys as needed to set the terminal block repeat value to 6 mm, then press <Enter>.
8. Press <Func> + <Exit> to exit back to the Text Editor screen.
9. With the cursor highlighted on line 1, press <Shift> + < > once to increase the font size from 6 to 7.
10. Enter **101** on line 1.
11. Press < > .
12. Press <Func> + <Serial>.
13. When "No. to Serial? " prompt appears, enter **10 ,** then press <Enter>.
14. When "No. of Copies?" prompt appears, enter **1**.
15. Press <Enter> or <Print>. The printer should print 10 times along the terminal block marker (101 through 110).
16. Press <Feed> to advance printed terminal strip label to the cut position.

Maintenance

Keep the TLS2200™ Thermal Labeling System in good operating condition by performing the following recommended maintenance procedures.

Cleaning the Drive Roller and Cutter

Follow the instructions on the cleaning card shipped with the unit.

Cleaning the Print Head

Remove the cutter mechanism by loosening the screw that holds it in place. Lift the cutter away from the the top of the printer mechanism and clean the print head with a cotton swab dipped in isopropyl alcohol. Replace the cutter mechanism.

Replacing the System Power Cell

A lithium system cell battery maintains the legend and setup memory while power is turned "OFF." If **"Lithium cell low"** appears when turning the printer "ON," the battery must be

replaced. Order a new battery and replace it following the accompanying instructions.

Accessory Parts List

Description	Part No.
Battery Charger	18551
Hard Side Carrying Case	18552
Dust Cover	18553
Battery Pack	18554
AC Adapter	18555
Cleaning Kit	18556
User's Manual	18557
R4310 Black Ribbon	18558
R6010 Black Ribbon	18559
Cutter Assembly	33897

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