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SECTION 1

GETTING STARTED

INTRODUCTION & SAFE OPERATION

The *VIPER*[™] LS6 Thermal Transfer Portable Printer is the complete printing solution for Electricians, Assemblers, Installers, Maintenance & Repair, Construction, and Network Communications Personnel. This versatile on-site, on-demand printer provides users with the ability to save, retrieve, and edit custom or serialized labels for wire and cable marking, component labeling, network labeling, safety identification, and general facilities identification.

This manual will guide you step by step through the set-up, operation, and troubleshooting of the *VIPER*[™] LS6 Printer. If you have problems not covered herein, contact your local Panduit Sales Representative, call Panduit Technical Support at 866-871-4571, or call Panduit Customer Service at 800-777-3300. More information is available on the Internet at www.panduit.com.

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.

INTRODUCTION & SAFE OPERATION

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.

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 digital apparatus does not exceed Class A limits for radio noise emissions for digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

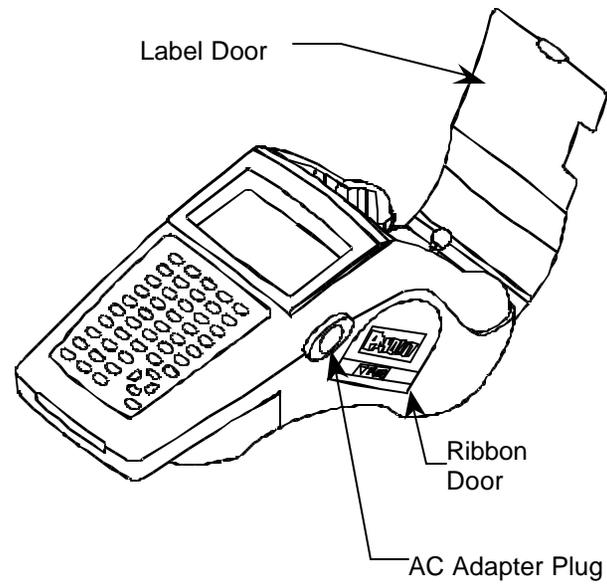
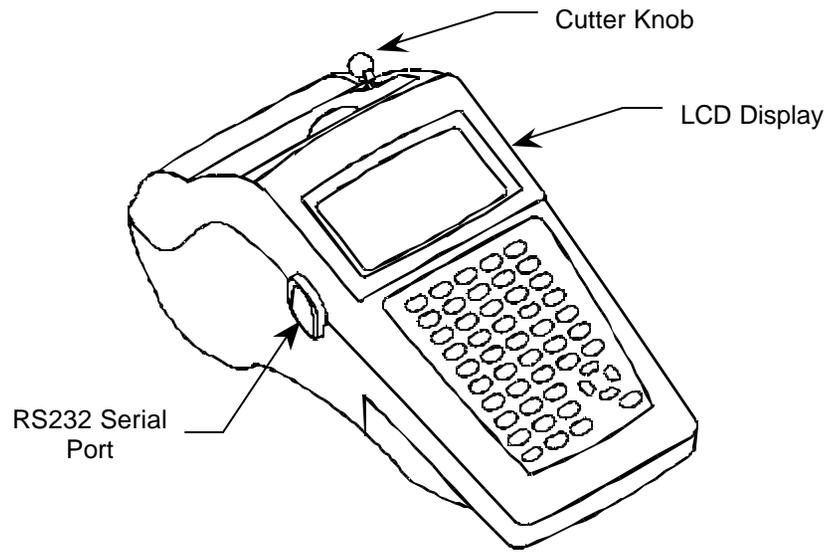
Le present appareil numerique n'emet pas de bruits radioelectriques depassant les limites applicables aux appareils numeriques de la class A prescrites dans le Reglement sur le brouillage radioelectrique edicte par le ministere des Communications du Canada.

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 should remove then re-apply power (battery pack and/or AC Adapter).

Printer Power Supply

The *VIPER*[™] LS6 is supplied with a NiMH (Nickel-Metal Hydride) battery. This battery is re-chargeable. The life expectancy of the NiMH battery is approximately 500 charge/discharge cycles. After the NiMH has surpassed its useful life, it must be disposed of properly. **DO NOT PLACE THE SPENT NiMH BATTERY IN AN UNAPPROVED TRASH RECEPTACLE** All NiMH batteries should be disposed of according to local rules and regulations. It is strongly recommended that the NiMH battery be recycled.

GENERAL DESCRIPTION



GENERAL DESCRIPTION

The *VIPER* LS6 printer kit contains each of the following items:

1. *VIPER* LS6 thermal transfer portable printer
2. TPDEMO direct thermal labeling tape sample
3. LS6-RWBLK, black wax ribbon cartridge
4. LS6-ACS, 120 VAC adapter and battery charger
5. LS6-BP, NiMH rechargeable battery pack
6. LS6-CLN, package of 5 cleaning cards
7. LS6-MAN-A, operator's manual in English*
8. Hardside carrying case
9. Product registration and warranty card

*Operator's manuals are also available in other languages.

Optional accessories and replacement parts are listed on page 62 of this operator's manual.

GENERAL DESCRIPTION

Print Technology

The *VIPER™* LS6 prints labels using thermal transfer printing technology. The print head melts ink contained on a thin web of ribbon material allowing the ink to transfer to the label material. The print head operates at a resolution of 203 dots per inch (dpi).

Smart Label Roll – See page 15

The *VIPER™* LS6 label supplies are wound on a label cartridge that is plugged into a socket in the printer. The label cartridge is read by the printer operating system. The operating system AUTOMATICALLY selects the appropriate printer settings. Also, the operating system will keep track of the number of labels used from each roll and report the remaining labels to the user unless labels are manually removed.

Ribbon Cartridge – See page 13

The ribbon material, which contains the thermal transfer ink, is housed in a plastic housing to keep it clean, and to allow for easy installation and replacement. Ribbons are available in wax, hybrid, and resin materials.

Battery Pack – See page 9

A 12 volt battery powers the *VIPER™* LS6. The battery is a rechargeable NiMH (Nickel-Metal Hydride) type which offers longer life than an equivalently sized Ni-Cad (Nickel-Cadmium) battery. Also, NiMH batteries are more environmentally friendly than Ni-Cad batteries, resulting in less stringent recycling requirements.

AC Adapter / Battery Charger – See page 9

An AC Adapter is included for powering the *VIPER™* LS6. The AC adapter is compatible with international power systems (100 – 240 VAC). The *VIPER™* LS6 includes an internal overnight battery charging circuit. The AC Adapter is used to power the charging circuit. This circuit is intended to charge a completely discharged battery pack in less than 15 hours.

Label Cutter

A manually operated label cutter is included. The *VIPER™* LS6 will automatically place the printed label in the proper position for cutting.

Carrying Case

A custom carrying case to protect and transport the printer and accessories is included.

PC-KIT – See page 47

An upgrade kit consisting of a serial cable for connection to a personal computer (PC) and a CD of *ViperLink™* software. The PC-KIT is used to communicate between a PC and the *VIPER™* LS6 printer.

BATTERY INFORMATION

A 12 volt NiMH (Nickel-Metal Hydride) battery comes with the *VIPER™* LS6 printer. The battery is **PARTIALLY CHARGED**. Panduit recommends **charging the battery for 15 HOURS PRIOR TO USE**. Charging of the *VIPER™* LS6 battery should be accomplished ONLY with Panduit Model LS6 AC Adapter/Battery Chargers (Part No. LS6-ACS, which is supplied with the printer). The user MUST manually activate the battery charger with the LS6 powered on to start the charging process (see **Charging the Battery** below).

NOTE: The Battery (LS6-BP) should only be removed during its own replacement or during the replacement of the Lithium Battery. Charging of the NiMH battery pack will only occur while the battery (LS6-BP) is installed **INSIDE** of the *VIPER™* LS6 printer.

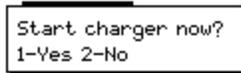
NOTE: The battery may lose capacity after extended periods of non-use, and may require several charge/use cycles to recover to its full capacity.

Charging the Battery

1. Connect the AC Adapter to the printer at the AC Adapter Plug.
2. Plug the AC Adapter into an ordinary wall outlet.
3. Turn the Printer On.
4. Wait for the printer to cycle through its start up screens.
5. From the Home Screen press the  key to enter the setup menu.
6. Next, use the arrow keys to scroll down to **Utilities**. Select **Battery** next to **Utilities** and press the  key.
7. The current charge level of the battery will appear on the screen briefly.



8. The printer will then prompt to **Start charger now? 1-Yes 2-No**



9. Press 1 first and then press any other key to begin charging or Press 2 to exit the battery charging prompt screen and return to the setup menu.
10. Press  to end charging. A fully charged battery will completely darken the status bar vertically.

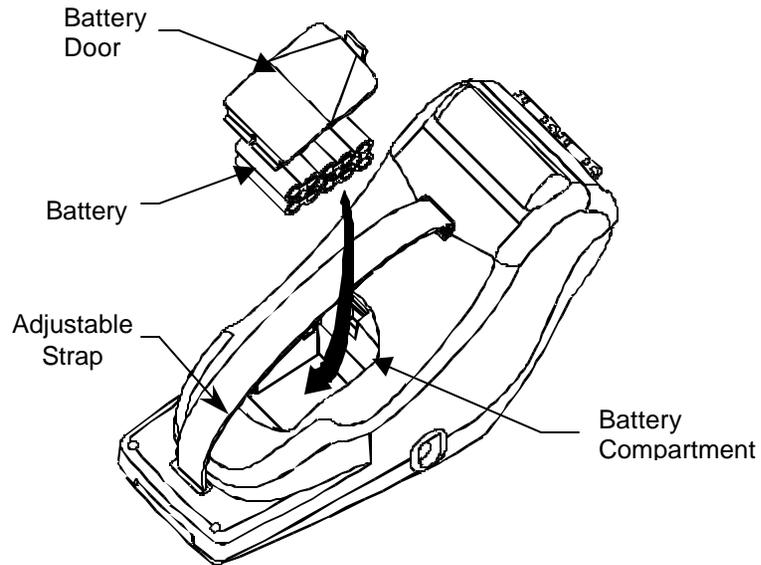
BATTERY INFORMATION

NOTE:

- Completely charge the battery pack before use. The operating system reports the battery charge status.
- Completely drain the battery pack before charging. The operating system will warn the user on power up and power down of low battery conditions.
- Consult your local guidelines for instructions on proper disposal of spent battery packs.

Battery Removal

1. Remove battery door by using a coin to depress the tab.
2. Remove battery by unplugging and lifting it out of the battery compartment.
3. Re-install the battery by reversing steps 1 and 2 ensuring that the battery is firmly plugged into the plug connection on the printer.



BATTERY INFORMATION

Lithium Battery

The *VIPER™* LS6 uses a Lithium coin-cell battery to preserve the printer settings and stored files when the main battery pack is removed and the AC Adapter is not plugged in.



Do not leave the main battery pack out for extended periods of time, as this will drain the Lithium cell.



Do not remove the Lithium cell as this may result in a loss of all stored settings and files.

If the printer does not preserve the printer settings and files when both the battery pack and the AC Adapter are disconnected, then the Lithium cell should be replaced using the procedure below.

Replacing the Lithium Battery

1. Plug-in the AC Adapter to preserve the stored settings and files during the battery replacement.
2. Remove the main battery pack to gain access to the lithium cell.
3. Peel away the lithium cell warning label to expose the lithium cell in a plastic holder. Save the warning label.
4. With your finger, firmly push on the circular plastic tab holding the cell in place to slightly eject the lithium cell from the holder.
5. Noting the polarity markings on the cell, remove the cell and replace it with a Panasonic CR2032 or equivalent. The cell should snap in place when properly installed. This common cell can be found at most office and computer supply stores.
6. Replace Warning Label over Lithium Battery.
7. Replace the main battery pack.

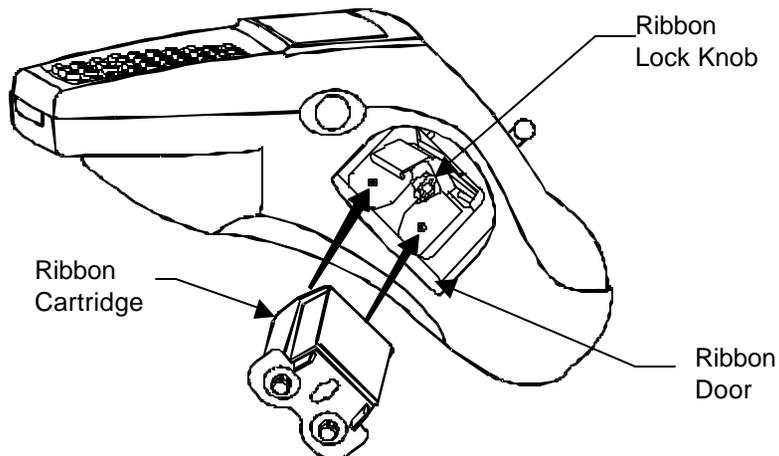
NOTE: A ribbon is not required for TPDEMO, the thermal paper roll supplied with the printer.

3. Install a label cartridge. (See section entitled "LABEL LOADING" on page 15.)
4. Turn ON the printer by pressing . If the low battery message appears, select 2 to disregard and continue. (For detailed battery charging instructions, see page 9.) The home screen will appear:

```
REC MODE Com 5723 108 TOOLS
1: |
2:
3:
4:          HB
          00
```

5. You may immediately begin typing text at the home screen or otherwise press the  key to enter the Tools menu. (See detail instructions for creating tools beginning on page 23.)
6. From the home screen, press the  key to print your label.

RIBBON LOADING & SELECTION



The *VIPER™* LS6 uses a cartridge based ribbon (wax, resin, or hybrid) to form legends on labels. The ribbon is loaded into the printer by the following steps:

1. Open the ribbon door on the side of printer.
2. Rotate the ribbon lock knob into the open (unlocked) position [Counter clockwise].
3. Remove slack from the ribbon by winding the left roller of the ribbon cartridge.
4. Insert the ribbon cartridge into the printer, the web of the ribbon should slide freely between the rubber roller and the print head.
5. Rotate the ribbon lock knob into the closed (locked) position – [Clockwise].
6. Close the ribbon door on the side of printer.
7. Install a label cartridge. (See LABEL LOADING on page 15.)
8. Press the  key to advance the ribbon forward.

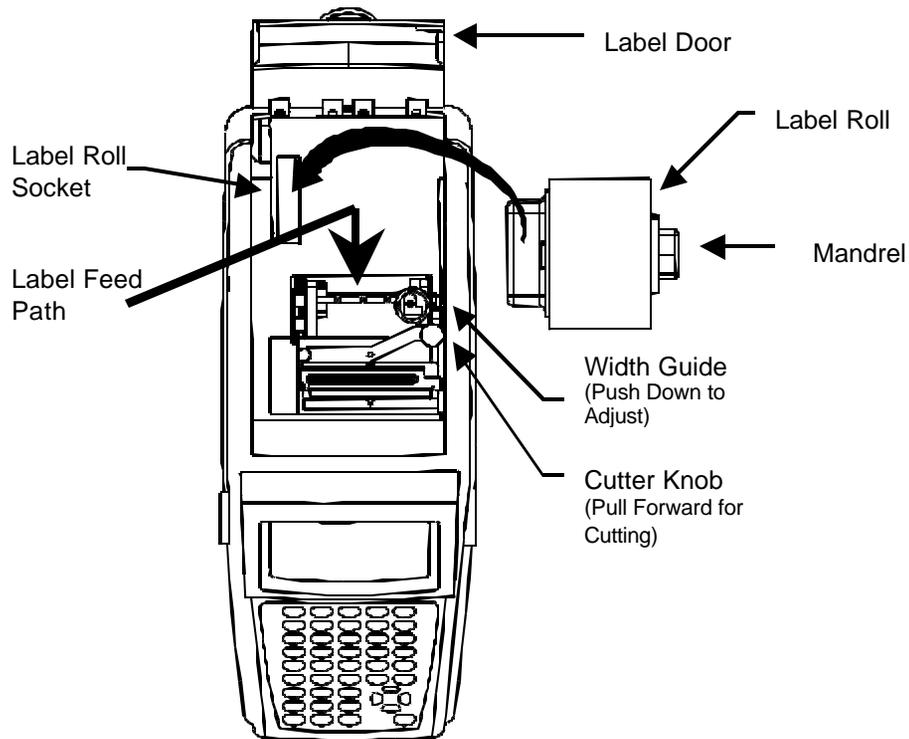
RIBBON LOADING & SELECTION

Use the chart below to determine the ribbon cartridge part number that is recommended for your application.

VIPER™ LS6 label media and ribbon compatibility chart

Label Material	Recommended Ribbon			
	Black Wax	Black Hybrid	Black Resin	White Resin
	LS6-RWBLK	LS6-RHBLK	LS6-RRBLK	LS6-RRWHT
Vinyl, Self-Laminating	X	X		
Heat Shrink	X	X		
Vinyl Cloth	X	X		
Vinyl Tape, White			X	
Vinyl Tape, Colored			X	X
Polyester, White			X	
Polyester, Clear			X	X
Polyolefin		X	X	
Non-Adhesive Polyester		X	X	
Thermal Paper	No ribbon required			

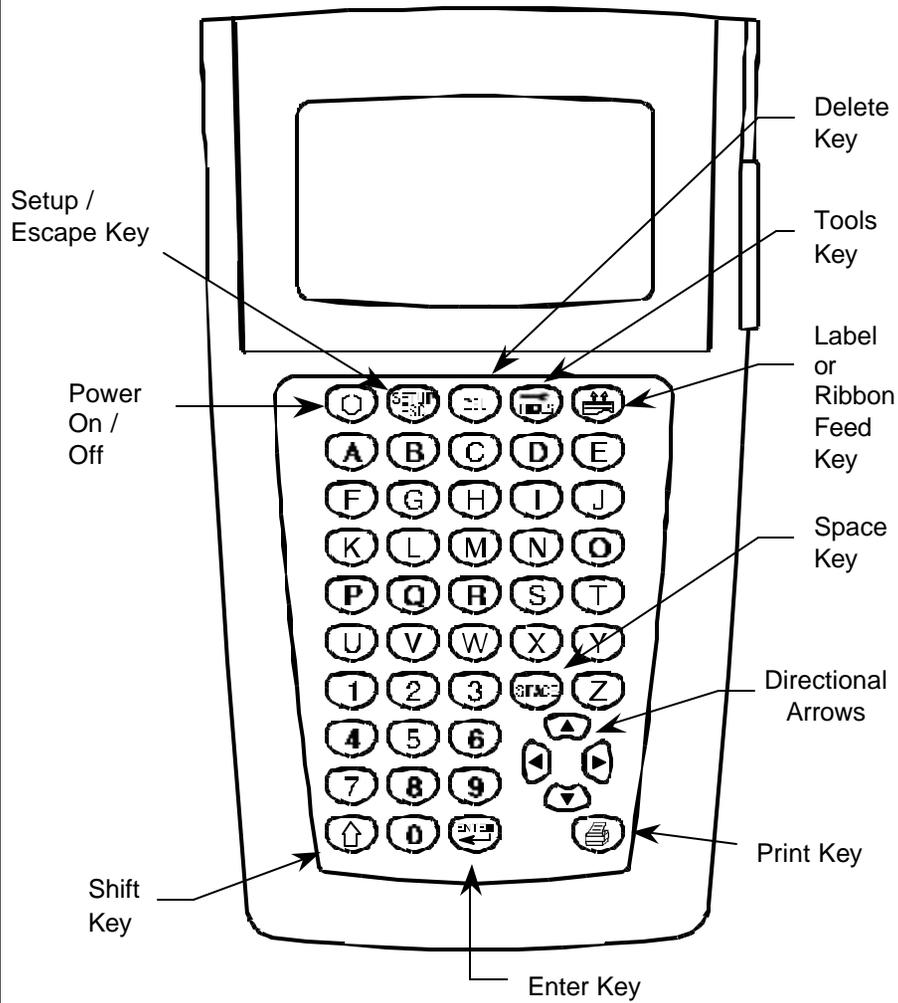
LABEL LOADING



Each roll of labels or tape used in the *VIPER™* LS6 is uniquely identified by the mandrel holding the labels. This allows the operating system to automatically set the printer for optimum usage of each label. Also, the operating system keeps track of the remaining labels on each roll. Use steps 1-5 below to load each label roll.

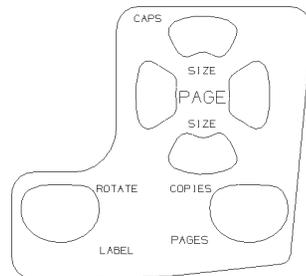
1. Ensure that the printer is turned OFF. If the printer is on, press the  and  keys to turn the printer off. Insert the Label Roll into the socket as shown above until it is firmly seated.
2. Ensure that the ribbon knob is in the locked position.
3. Insert the end of the label roll into the label guide path (see yellow arrows). This requires positioning the label width guide to the proper width. **IF THE WIDTH GUIDE IS NOT LOCKED INTO A WIDTH NOTCH, LABEL RECOGNITION FAILURE MAY OCCUR.**
4. Labels should be inserted into the label path until resistance is met – approximately $\frac{1}{2}$.
5. Turn the printer ON. Press the  key to position the label for printing.
6. You are now ready to begin printing!

KEYBOARD



More Function Keys

- Caps lock
- Text size
- Change page
- Rotate label
- Read label mandrel
- Print multiple copies
- Print selection of pages



KEYBOARD

Basic Keyboard Functions

KEY / SYMBOL	COMMON FUNCTIONS
POWER 	Turn the printer ON ,  then  turns the printer OFF .
SETUP/ ESCAPE 	Activate the Setup Menu from the home screen or back out of internal menus.
DELETE 	Delete characters or tools.
TOOLS 	Used for creating serializations, symbols, data lists, boxes, lines, bar codes, and date/time stamps.
FEED 	Advance labels and ribbon. Pressing  then  reverse feeds labels and ribbon.
UP ARROW 	Move cursor up one line.
DOWN ARROW 	Move cursor down one line.
RIGHT ARROW 	Move cursor one space to the right.
LEFT ARROW 	Move cursor one space to the left.
PRINTING      	Print label. Print multiple copies of the entire label. Print a selection of pages from the label. A print job can be terminated by pressing any key.
SPACE 	Insert a blank character.
ENTER 	Complete a selection or move the cursor to the next line.
SHIFT 	Access alternate functions or characters.

KEYBOARD

Using the Shift Key



Press the shift key once to access the functions listed in the table below.

PRESS SHIFT FIRST	THEN PRESS	RESULT
		Turn the printer OFF .
		Delete all items on a label and return formats to default values.
		Delete all items on the current page only. Does not delete current formats.
		Left, center, or right justify the label items.
		Reverse feed the label media.
	Any Alphabetic or Numeric Key	Enter secondary function from keypad overlay onto text screen.
		Enter the = symbol onto text screen
		Increase the text size.
		Decrease the text size.
		Move forward one page in the current label.
		Move backward one page in the current label.
		Rotate the label 90 degrees in the clockwise or counterclockwise directions.
		Print multiple copies of the entire label(s).

KEYBOARD

Press the shift key   twice to access the functions listed in the table below.

PRESS SHIFT FIRST	THEN PRESS	RESULT
 		Display the version of firmware currently installed on the printer.
 		Delete all items on the entire label. Does not delete current formats.
 		Activate or deactivate fit checking. Fit checking automatically checks the size of the label items to determine if they will fit on the label. Fit checking occurs after each new item is entered onto the home screen. If fit checking is deactivated, the printer will only perform fit checking before printing.
 		Reverse feeds the label media.
 	Any Alphabetic Key	Enter lower case character if caps lock is on. Enter upper case character if caps lock is off.
 		Activate or deactivate caps lock.
 		Move cursor to home position on the home screen.
 		Move cursor to end position on the home screen.
 		Move cursor to far right position of current line on the home screen.
 		Move cursor to far left position of current line on the home screen.
 		Automatically read the label mandrel in order to restore default formats for a new label roll or to enter an exact label length for continuous tape.
 		Print a selection of pages from the label.

Press the shift key    three times in a row to exit the shift mode.

KEYBOARD

Using the Delete Function



The four methods available for deleting labels are listed in the table below.

PRESS FIRST	THEN PRESS	RESULT
		Delete individual characters or items on a label.
		Delete all items on the current page only. Does not delete current formats.
		Delete all items on the entire label. Does not delete current formats.
		Delete all items on the entire label and return formats to default values.

SECTION 2

WORKING WITH THE *VIPER*[™] LS6

USING THE VIPER™ LS6

Home Screen

The home screen is where the user enters and edits text or places label items known as tools. The home screen is also where the user prints labels. The home screen appears as:



Home Screen Indicators

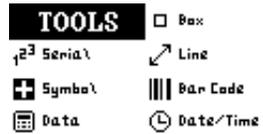
INDICATOR	ICON	DESCRIPTION
Caps Lock		Indicates if caps lock is on or off.
Shift	or	Indicates if shift or alternate mode is selected.
Text Size		Indicates the text size for the current line.
Tool		Prompts the user to press and enter the tools menu.
Text Line		Indicates the current line.
Page		Indicates the current page. There are 8 total pages.
Rotation		Indicates 0 degrees rotation.
Rotation		Indicates 90 degrees clockwise rotation.
Vertical or Horizontal Line		Indicates whether the line tool is on or off.
Box		Indicates whether the box tool is on or off.
Fit Checking		Indicates whether fit checking is on or off.
Justification		Indicates left justification.
Justification		Indicates center justification.
Justification		Indicates right justification.

USING THE VIPER™ LS6

Tool Menu

The tool menu includes serializations, symbols, data lists, boxes, lines, bar codes, and date/time stamps. These items are placed on the home screen.

The tool menu is accessed by pressing the  key.



Tool Icons

The following icons represent the available tools:

-  - Serialization
-  - Symbol
-  - Line
-  - Box
-  - Data List
-  - Barcode
-  - Date/Time Stamp

USING THE VIPER™ LS6

POWER Key

To turn **ON** the VIPER™ LS6, press and hold the  key until activity is seen on the display. To turn **OFF** the VIPER™ LS6, press and release the  key, then press and hold the  key until the powering down message appears. This method of power control reduces the chance of accidentally turning off the printer. The VIPER™ LS6 will automatically turn off after 10 minutes of idle time in order to conserve battery life.

SETUP Key

From the home screen, press and release the  key to activate the setup menu. The  key also functions as an ESCAPE key to end a function and return to the previous screen.

DEL Key

The  key is used to delete characters or label items. For a detailed description of the delete function, see page 20.

TOOL Key

The  key is used to activate the tool selection menu.

FEED Key

The  key is used to manually advance or reverse the label and ribbon.

PRINT Key

The  key is used to print labels. **A PRINT JOB CAN BE TERMINATED BY PRESSING ANY KEY.**

SHIFT Key

The  key is used to select characters from the keypad or access secondary functions. For a detailed description of the shift key, see pages 18-19.

ARROW Key

The  keys are used to move the cursor, change text size, and move between pages.

CREATING TEXT

The Text Tool

After turning on the VIPER™ LS6, the home screen will appear. The home screen is also the text editor.



To create text on the home screen, simply begin pressing the alphabetic or numeric keys on the keypad. Text will be entered at the position of the cursor. The cursor is indicated by a dark line or dark box highlighting a character. To insert blank spaces, press the  key. Press  to move down to the next line. Use the directional arrow keys to move the cursor up, down, right, or left. The maximum number of text characters allowed to be placed on each line is 32. Typically, continuous tape must be used to fit up to 32 characters on a line. The maximum number of lines available for each label page is 8.



Inserting or Deleting Text

To remove characters from the screen, press the  key. Each press of the  key will delete one character at a time immediately to the left of the cursor. To insert characters into a string of text, move the cursor to the position immediately to the right of where the text will be inserted and then begin entering text.

Text Size

The VIPER™ LS6 has 13 different font sizes available for creating text. The font sizes range from 6 pt. to 192 pt. Text size can be increased by pressing the  key and then the  key. Text size can be decreased by pressing the  key and then the  key. The current text size is displayed on the top of the home screen next to the text size icon.

CREATING TEXT

Initially, the text size will be set to the default value according to the label loaded in the printer. The text size can be increased or decreased for each individual line of the label. There is a maximum of 8 lines available for creating text.

Text Rotation

Label legends may be rotated from 0 degrees to 90 degrees in the clockwise direction. The page shaped icon in the lower right hand corner of the display indicates the current rotation. To change the rotation, press the  key and then press the  key. Repeat this procedure to return the rotation back to the previous setting.

Text Justification

Label legends may be left justified, center justified, or right justified. The page shaped icon in the lower right hand corner of the display indicates the current justification setting. To change the justification, press the  key and then press the  key. Repeat this procedure until the desired justification is selected.

Text Options

There are two text options available for each line of text. The options are called style and orientation. The style can be set to either **normal** or **underlined**. The orientation can be set to **0 degrees, 90 degrees, 180 degrees, or 270 degrees**. The orientation setting refers to the rotational position of the individual text characters, not the rotational position of the legend as a whole. To rotate the entire legend simultaneously, refer to text rotation described above.

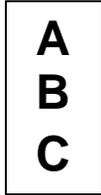
To access text options, move the cursor over any character within a text string and then press the  key. Use the up or down directional arrows to select 'Style' or 'Orient'. Next, use the right or left directional arrows to change the settings. Last, press the  key to accept the changes and to return to the home screen. Each individual line on a label may have different text options selected.

CREATING TEXT

Vertical Text

Vertical text can be created by following these steps:

1. At the home screen, press  and then press  to rotate the entire label 90 degrees in the clockwise direction. (Note: when using continuous tape, the label will automatically be rotated 90 degrees in the clockwise directions by default.)
2. Enter text
3. Move the cursor over any character within the text string and then press the  key. Use the up or down directional arrows to select 'Orient'. Next, use the left directional arrows to change the setting to 270. Last, press the  key to accept the change and to return to the home screen.
4. The result will appear similar to this example:



A
B
C

CREATING SERIALIZATIONS

The Serialization Tool



The serialization tool is used to automatically number labels in a sequence. The sequence can be either numeric (1 to 999) or alphabetic (A to Z). A serialization is defined by a start value, an end value, and a step value.

To correctly define a serialization, the end value must be larger than the start value **and** the start and end values must be both numeric or both alphabetic. (Numbers and letters cannot be used together when defining a particular serialization.)

The step value can be any number between 1 and 99.

Serializations can be combined with other label items, such as text, boxes, lines, etc. For example, to create a prefix or a suffix to a serialization, enter text immediately before or after the serialization.

Serializations can be printed as text or as bar codes on a label.

Creating a Serialization

The serialization tool should be accessed from the home screen. To access the serialization tool:

1. Press the  key to enter the tools menu.
2. Press the down directional arrow key to highlight the serialization tool.
3. Press the  key to select the serialization tool.
4. Use the up or down directional arrow keys to select the serialization parameters: **Start**, **End**, or **Increment**.
5. Use the right or left directional arrow keys to set the values for **Start**, **End**, or **Increment**.

NOTE: Pressing the right directional arrow key will highlight the current value of the selected parameter. For a new serialization the start and end values will display an asterisk *. When the value is highlighted, enter a number (1 to 999) or a letter (A to Z) and then press the  key.

The cursor will automatically move to the next parameter.

6. Repeat step 5 for each parameter.

CREATING SERIALIZATIONS

7. Press the  key to accept the changes and to return to the home screen. Otherwise, press the  key to return to the home screen without accepting changes.
8. On the home screen, the serialization tool icon  will appear at the position of the cursor.

More Serialization Parameters

The serialization tool includes more parameters on a second screen following the first screen. The second screen includes **Text Options**, **Copies**, and **Group**. To access the second screen press the down directional arrow twice after **Increment**.

1. The **Text Options** parameter allows greater customization of the serialization text. There are two text options available in Text Options: style and orientation. The style can be set to either **normal** or **underlined**. The orientation can be set to **0 degrees, 90 degrees, 180 degrees, or 270 degrees**. The orientation setting refers to the rotational position of the individual serialization characters.

To access text options, press the up or down directional arrow keys to select the style or orientation.

Press the right directional arrow key to change the value of the text options.

Press the  key to accept the changes and to return to the previous screen.

2. The **Copies** parameter determines the number of copies to print for the serialization. The **Copies** parameter can be set to any number from 1 to 99.

To change the **Copies** parameter, press the up or down directional arrow keys to highlight **Copies**

Press the right directional arrow key to highlight the current value of the Copies parameter. The Copies parameter will default to a value of 1. Enter the number of copies to print.

CREATING SERIALIZATIONS

Press the  key to accept the changes and to return to the previous screen.

3. The **Group** parameter determines whether or not the copies of the serialization items will be grouped together. The **Group** parameter only works when more than one copy of a serialization is defined. The **Group** parameter defaults to **Yes**.

If **Yes** is selected, then consecutive copies of the serialization items **will not** be placed together. The result will resemble the following legend:

A01	A02	A03	A01	A02	A03
-----	-----	-----	-----	-----	-----

If **No** is selected, the consecutive copies of the serialization items **will** be placed together. The result will resemble the following legend:

A01	A01	A02	A02	A03	A03
-----	-----	-----	-----	-----	-----

To change the **Group** parameter, press the up or down directional arrow keys to highlight **Group**.

Press the right directional arrow key to select **Yes** or **No**.

Press the  key to accept the changes and to return to the home screen.

Advanced Serialization Options

The serialization tool includes several advanced options for customizing labels. The advanced serialization options are **Print As** and **Place On**.

1. The **Print As** option determines whether the serialization will print as text or as a bar code on the labels. The default setting will print as text. The bar code settings can be changed in the setup menu. Printing a serialization as a bar code is useful for asset tracking and component manufacturing.

CREATING SERIALIZATIONS

2. The **Place On** option determines whether the serialization will print on consecutive labels or on consecutive pages of the same label. The default setting for will print on labels. Printing a serialization on pages is useful for creating serialized patch panel labels using die cut network systems label media.

Editing a Serialization

To edit a serialization on the home screen, move the cursor over the serialization and then press the  key. Follow the steps listed above for creating a serialization.

CREATING SYMBOLS

The Symbol Tool



The Symbol Tool is used for creating safety or facility identification labels. Common applications for these types of labels include pipe marking and safety hazard signs. Most often these types of labels will require continuous tape label media. Symbols may also be used on die cut label media, such as self-laminating labels or heat shrink markers. However, for die cut label media the symbol size will be restricted by the physical size of the labels.

Creating a Symbol

The symbol tool should be accessed from the home screen. To access the symbol tool:

1. Press the  key to enter the tools menu.
2. Press the down directional arrow key to highlight the symbol tool.
3. Press the  key to select the symbol tool.
4. Use the right or left directional arrow keys to search the symbol library. (see the next page for available symbols)
5. Use the up or down directional arrow keys to increase or decrease the size of the symbol.
6. Press the  key to accept the changes and to return to the home screen. Otherwise, press the  key to return to the home screen without accepting changes.
7. On the home screen, the symbol tool icon  will appear at the position of the cursor.

Editing a Symbol

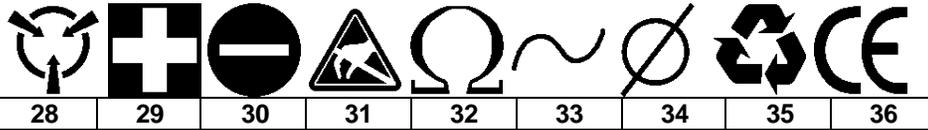
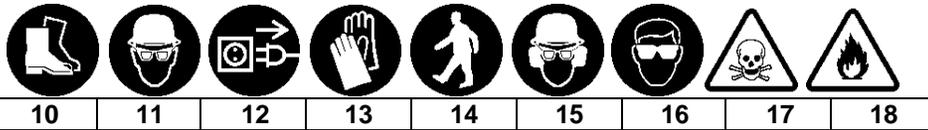
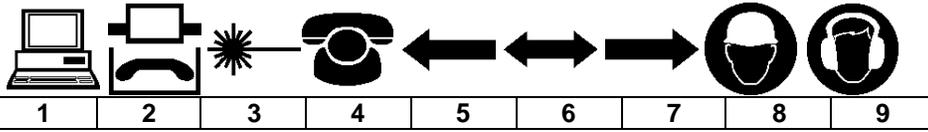
To edit a symbol on the home screen, move the cursor over the symbol and then press the  key.

1. Use the right or left directional arrow keys to search the symbol library. (see the next page for available symbols)
2. Use the up or down directional arrow keys to increase or decrease the size of the symbol.
3. Press the  key to accept the changes and to return to the home screen. Otherwise, press the  key to return to the home screen without accepting changes.

CREATING SYMBOLS

NOTE: The symbol size will automatically default to match the text size on the current line. Changing the text size will automatically change the symbol size accordingly. There are 5 sizes available for each symbol. The sizes range from 1 (smallest) to 5 (largest).

Currently available symbols and their assigned library numbers are listed below. Additional symbols may be added to the VIPER™ LS6 firmware in the future.



CREATING LINES

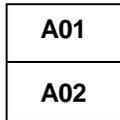
The Line Tool



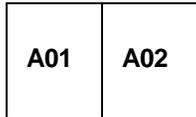
The line tool allows custom placement of vertical and horizontal lines on a label. The line tool is especially useful for creating patch panel, faceplate, or terminal block labels. There are seven unique line settings available: **Center Horizontal**, **Center Vertical**, **Top**, **Bottom**, **Left**, **Right**, and **@ Pages**. Each of these settings may be turned on or off independently.

NOTE: The top, bottom, left, and right sides of the label will rotate with the legend when a label is rotated between 0 and 90 degrees.

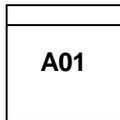
1. The **Center Horizontal** setting places a line through the center of the label in the horizontal direction.



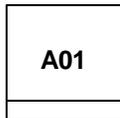
2. The **Center Vertical** setting places a line through the center of the label in the vertical direction.



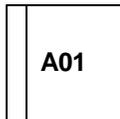
3. The **Top** setting places a line at the top of the label.



4. The **Bottom** setting places a line at the bottom of the label.

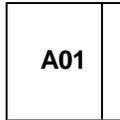


5. The **Left** setting places a line at the far left side of the label.

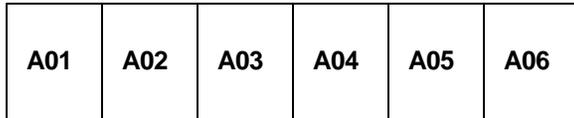


CREATING LINES

6. The **Right** setting places a line at the far right side of the label.



7. The **@ Pages** setting places lines between each page of a label that has multiple pages defined. The @ Pages setting is used for patch panel, outlet, and terminal block labeling.



Creating a Line Tool

The line tool should be accessed from the home screen. To access the line tool:

1. Press the  key to enter the tools menu.
2. Press the right directional arrow key and then press the down directional arrow key to highlight the line tool.
3. Press the  key to select the line tool.
4. Use the up or down directional arrow keys to select the desired line position.
5. Use the right or left directional arrow keys to turn on or turn off the line tool at the selected position.
6. Press the  key to accept the changes and to return to the home screen. Otherwise, press the  key to return to the home screen without accepting changes.
7. On the home screen, the line tool icon  will appear on the right side of the display when the line tool is activated.

CREATING BOXES

The Box Tool



The box tool is useful for customizing a label. There are three unique box settings available: **Frame**, **Reverse**, and **Box Off**.

The **Frame** setting places a box outline around the perimeter of the entire label area.

WARNING

The **Reverse** setting places a dark background with light text characters on a label.

WARNING

The **Box Off** setting deactivates the box tool.

Creating a Box Tool

The box tool should be accessed from the home screen. To access the box tool:

1. Press the  key to enter the tools menu.
2. Use the right directional arrow key to highlight the box tool.
3. Press the  key to select the box tool.
4. Use the right or left directional arrow keys to select the box tool setting.
5. Press the  key to accept the changes and to return to the home screen. Otherwise, press the  key to return to the home screen without accepting changes.
6. On the home screen, the box tool icon  will appear on the right side of the display when the box tool is activated.

NOTE: If the box tool is activated, it will appear on all printed pages of a label.

CREATING DATA LISTS

The Data Tool



The data tool is used to create printable data lists in the *VIPER™* LS6. The data tool is very useful for customizing labels because it allows up to one hundred unique labels to be created from a list of data. With the data tool, users can input, store, or transfer custom lists of data.

Creating a Data Tool

The data tool should be accessed from the home screen. To access the data tool:

1. Press the  key to enter the tools menu.
2. Press the down directional arrow key to highlight the data tool.
3. Press the  key to select the data tool.
4. Use the up or down directional arrow keys to highlight the data tool options, **File**, **Data**, **Text Options**, or **Place On** (see the description of the data tool options below).
5. Use the right directional arrow keys to select each data tool option.
6. After making all changes to the data tool options, press the  key to accept all of the changes and to return to the home screen. Otherwise, press the  key to return to the home screen without accepting changes.
7. On the home screen, the data tool icon  will appear at the position of the cursor.

Data Tool Options

The data tool menu lists four different options: **File**, **Data**, **Text**, and **Place On**.

1. Selecting **File** enters the **File Manager**. Label files and data lists are stored in the File Manager. File Manager can also be accessed from the main setup menu. For detailed information about File Manager see the section entitled **Using File Manager** on page 48.

In File Manager, use the up or down directional arrow keys to highlight the file name or required action.

Use the right or left directional arrow keys to select a file name from the list. There are twenty file storage locations in the *VIPER™* LS6.

CREATING DATA LISTS

Files may be saved, loaded, or deleted in File Manager.

Note: Selecting **Delete All** will erase all stored label files and data lists.

2. Selecting **Data View/Edit** enters the data list editing screen. This screen looks very similar to the home screen because the data list editing screen is a text editor. Use the data list editing screen to create or edit text. Use the directional arrow keys to navigate within the text editor.

A data list may include up to one hundred individual labels. The current label being edited is denoted by the number at the top of the data list editing screen. Each list begins at label number one. To increase or decrease the label number, press the shift key once and then press

either  or . To exit the data list editing screen, press the  key. The VIPER™ LS6 will ask to **Save the List?** Press 1 to save or 2 to bypass this screen. To save the list, enter a file name and press , then press . The screen will return to the data tool menu.

3. Selecting **Text Options** enters an editing screen for text style and orientation. These two settings may be changed to provide greater label customization. For more information about Text Options refer to the section entitled “CREATING TEXT” on page 25.
4. Selecting **Place On** determines whether the data list will print on consecutive labels or on consecutive pages of the same label. The default setting for Place On will print on labels. Printing a data list on pages is useful for creating patch panel labels or terminal block labels. Use the right or left directional arrow keys to change the Place On option.

Editing a Data Tool

To edit a data tool on the home screen, move the cursor over the data tool and then press the  key. Follow the steps list above for creating a data tool.

Transferring a Data List

A data list created using the data tool may be transferred to or from a personal computer in the .DAT format by using the LS6-PCKIT. The LS6-PCKIT includes *ViperLink*™ software and a serial cable for connecting the VIPER™ LS6 to a computer. For more information about *ViperLink*™ refer to the sections entitled “INTERFACING WITH A COMPUTER” and

CREATING BAR CODES

The Bar Code Tool



The bar code tool can be used for bin labeling, component identification, or asset management and can be used in combination with other tools. The bar code tool can be printed with or without a checksum digit or human readable text. The bar code symbology available in the *VIPER™* LS6 is **CODE 39**.

Creating a Bar Code

The bar code tool should be accessed from the home screen. To access the bar code tool:

1. Press the  key to enter the tools menu.
2. Press the right directional arrow key and then press the down directional arrow key to highlight the bar code tool.
3. Press the  key to select the bar code tool.
4. Press the right directional arrow key to input text. Type the text in the text window. The bar code must include at least one digit of text.
5. Press the  key to accept the text.
6. Use the up or down directional arrow keys to highlight the other bar code settings.
7. Use the right or left directional arrow keys to change the bar code settings.
8. Press the  key to accept all of the changes and to return to the home screen. Otherwise, press the  key to return to the home screen without accepting changes.
9. On the home screen, the bar code tool icon  will appear at the position of the cursor.

Editing a Bar Code

To edit a bar code on the home screen, move the cursor over the bar code and then press the  key.

1. Press the right directional arrow key to input text. Type the text in the text window. The bar code must include at least one digit of text.
2. Press the  key to accept the text.
3. Use the up or down directional arrow keys to highlight the other bar code settings.

CREATING BAR CODES

4. Use the right or left directional arrow keys to change the bar code settings.
5. Press the  key to accept all of the changes and to return to the home screen. Otherwise, press the  key to return to the home screen without accepting changes.

Bar Code Settings

The default bar code settings can be changed in the setup menu. To change the default settings, access the printer settings in the setup menu.

Readable: Indicates whether the bar code text is human readable or not. If activated (bar code text is human readable) the setting will display Yes.

Checksum: Indicates whether the checksum digit is activated or not. If activated (checksum digit is turned on) the setting will display Yes.

Bar Size: Indicates the width of the bar code. Available sizes are 0.010 inches, 0.015 inches, and 0.020 inches. The default width is 0.010 inches.

Serialized Bar Codes

The *VIPER*™ LS6 is able to serialize bar codes. In order to do so, a serialization must first be defined. Please see the section entitled “CREATING SERIALIZATIONS” on page 28 for more information about serialized bar codes.

CREATING DATE/TIME STAMPS

The Date/Time Tool



The Date/Time Tool allows the user to print a date and/or a time stamp on a label. The date and time printed on the label are defined by the internal clock of the VIPER™ LS6. Please see section entitled “SETTING UP THE VIPER™ LS6” on page 44 for more information about setting the internal time and date.

Creating a Date/Time Tool

The date/time tool should be accessed from the home screen. To access the date/time tool:

1. Press the  key to enter the tools menu.
2. Press the up directional arrow key to highlight the date/time tool.
3. Press the  key to select the date/time tool.
4. Use the up or down directional arrows to select date/time or text options.
5. Use the right or left directional arrow keys to select time or date specifically or to modify the text options.

NOTE: The text options available within a date/time tool are the same as those available for text editing on the home screen. For more information about text options refer to the section entitled “CREATING TEXT” on page 25.

6. Press the  key to accept the changes and return the home screen. Otherwise, press the  key to return to the home screen without accepting changes.

NOTE: If editing the text options, press the  key twice to accept the changes and return the home screen. Otherwise, press the  key twice to return to the home screen without accepting changes.

7. On the home screen, the date/time tool icon  will appear at the position of the cursor.

CREATING DATE/TIME STAMPS

Editing a Date/Time Tool

To edit a date/time tool on the home screen, move the cursor over the date/time tool and then press the  key.

1. Use the up or down directional arrows to select date/time or text options.
2. Use the right or left directional arrow keys to select time or date specifically or to modify the text options.
3. Press the  key to accept the changes and return the home screen.

Otherwise, press the  key to return to the home screen without accepting changes.

USING THE PAGES FUNCTION

The Pages Function

The *VIPER*[™] LS6 provides 8 separate pages for each label. Label items, including text and tools may be placed on each of the 8 pages. The pages function is particularly useful for creating non-standard serializations that do not follow a common increment. The pages function is also useful for creating text on patch panel labels.

Using the Pages Function

The page number icon in the lower right hand corner of the display indicates the current page. For example, 1:8 indicates that page 1 of 8 is currently displayed. To move forward one page, press the  key and then press the right directional arrow key. Likewise, to move backward one page, press the  key and then press the left directional arrow key.

SETTING UP THE VIPER™ LS6

The Setup Menu

The setup menu is used to modify the default printer settings. The setup menu should be accessed from the home screen. To access the setup menu press the  key. The setup menu will appear:

```
Setup Menu
▲▼      ◀▶
Files...
Mode      Tape ✓
Utilities  Battery
Printer   Time
```

The available categories in the setup menu are **Files**, **Mode**, **Utilities**, and **Printer**. Use the up or down directional arrow keys to highlight these options. Use the right directional arrow keys to select the settings for each option.

After making all changes to the setup menu, press the  key to accept all of the changes and to return to the home screen.

1. The **Files** category accesses saved label files. Use the up or down directional arrows to highlight **Files**, then use the right directional arrow to enter **File Manager**. For more information about **File Manager** refer to the section entitled “USING FILE MANAGER” on page 48.
2. The **Mode** category includes all of the predefined label formats available in the VIPER™ LS6. These formats are **Component**, **Wiremarker**, **Terminal**, **Tape**, **Strip**, and **Network**. See Editing Label Mode on page 45.
3. The **Utilities** category includes the VIPER™ LS6 utility functions. These functions are **Battery**, **ViperLink** mode, and **Remote Printer** mode. See Using Printer Utilities on page 45.
4. The **Printer** category includes VIPER™ LS6 printer settings. The settings include **Time**, **Date**, **Contrast**, **Heat**, **Label Feed**, **Languages**, **Units**, and **Bar Code**. See Adjusting Printer Settings on page 46.

SETTING UP THE VIPER™ LS6

Editing Label Mode

To edit the label mode, press  to enter the setup menu and:

1. Use the up or down directional arrows to highlight **Mode**.
2. Use the right or left directional arrow keys to change the mode.
3. Press the  key to select the desired mode. A check mark icon will appear next to the selected mode.
4. Press the  key to accept the changes and return to the home screen.

MODE	DESCRIPTION	APPLICATIONS
Component	Vertically centers legend	Electrical components
Wiremarker	Repeats legend until label is filled	Wire and cable marking
Terminal	Places legends at terminal locations	Terminal blocks
Tape	Rotates legends 90°	Safety/facility ID, pipe marking
Strip	Repeats legend until label is filled and copies legend on two sides of middle perforation	Wire and cable marking
Network	Places legends at port locations	Data communications components

Using Printer Utilities

To use printer utilities, press  to enter the setup menu and:

1. Use the up or down directional arrows to highlight **Utilities**.
2. Use the right or left directional arrow keys to change the utilities setting.
3. Press the  key to select the desired utility. A new screen will appear indicating either **Battery**, **ViperLink**, or **Remote Printer**.

The **Battery** utility is used to charge the battery. See section entitled "BATTERY INFORMATION" on pages 9-11.

The **ViperLink** utility is used to interface with *ViperLink™* software. See sections entitled "INTERFACING WITH A COMPUTER" and "VIPERLINK" on pages 49-52.

SETTING UP THE VIPER™ LS6

The **Remote Printer** utility is used to print directly from Panduit software applications such as *PAN-MARK*® or *EASY-MARK*™. See section entitled “USING REMOTE PRINTER UTILITY” on pages 53-54.

Adjusting Printer Settings

To adjust the printer settings, press  to enter the setup menu and:

1. Use the up or down directional arrows to highlight **Printer**.
2. Use the right or left directional arrow keys to change the **Printer** setting.
 1. The **Time** setting adjusts the internal clock. Press the  key to select **Time**. Use the right or left directional arrow keys to move the cursor to the desired position. Use the numeric keys to change the time. Press A for AM or P for PM. Press the  key to accept all of the changes and return to the setup menu.
 2. The **Date** setting adjusts the internal date. Press the  key to select **Date**. Use the right or left directional arrow keys to move the cursor to the desired position. Use the numeric keys to change the date. Press the  key to accept all of the changes and return to the setup menu.
 3. The **Contrast** setting adjusts the contrast of the printer display. Press the  key to select **Contrast**. Use the up or down directional arrow keys to adjust the contrast from 0 (light) to 9 (dark). Press the  key to accept the change and return to the setup menu.
 4. The **Heat** setting adjusts the temperature of the print head inside of the printer. Press the  key to select **Heat**. Use the up or down directional arrow keys to adjust the heat from 0 (lower temperature) to 9 (higher temperature). Press the  key to accept the change and return to the setup menu.

SETTING UP THE VIPER™ LS6

NOTE: The heat setting is automatically adjusted to the appropriate number for the installed label roll when the printer is turned on.

5. The **Label Feed** setting adjusts the amount of media that is fed past the cutter mechanism after printing. **Cut Label** feeds just enough media to allow cutting. **Peel Label** feeds extra media to allow convenient removal of die cut labels from the liner. Press the  key to select **Label Feed**. Use the right or left directional arrow keys to select **Cut Label** or **Peel Label**. Press the  key to accept the change and return to the setup menu.

6. The **Languages** setting adjusts the operating system language. Press the  key to select **Languages**. A check mark icon is displayed next to the currently selected language. Use the right or left directional arrow keys to select **Deutsch**. Press the  key to accept the change and return to the setup menu. The display will immediately change to the language selected.

7. The **Units** setting adjusts the internal unit of measurement within the printer from English units (inches) to Metric units (millimeters). The unit of measurement is important when entering a fixed length for continuous tape. Press the  key to select **Units**. A check mark icon is displayed next to the currently selected unit of measurement. Use the right or left directional arrow keys to select **Inches** or **Millimeters**. Press the  key to select the desired units and return to the setup menu.

8. The **Bar Code** setting adjusts the default values for the bar code tool. This setting is used to change the default values for human readable, checksum, and bar size.

USING FILE MANAGER

The VIPER™ LS6 has the ability to store and recall label files and data lists. Label files and data lists are stored and recalled within **File Manager**. Label files are designated with a **.LS6** ending. Data lists are designated with a **.DAT** ending.

To access **File Manager**, enter the setup menu and:

1. Use the up or down directional arrows to highlight **File**.
2. Press the right directional arrow key to enter **File Manager**.
3. Use the up or down directional arrow keys to highlight **Filename**.
4. Use the right or left directional arrow keys to select the desired file.

There are 20 file storage locations in the VIPER™ LS6.

NOTE: When saving a new file, press the  key to begin entering a file name. Use the alphabetic or numeric keys to enter a file name. After entering a file name, press the  key again to **Save**.

NOTE: When renaming a previously saved file, press the  key to begin entering the new file name. Use the alphabetic or numeric keys to enter the new file name. After entering the name, press the  key again to **Save**. The printer will then prompt to **Overwrite File? 1-Yes 2-No**. Press 1 to accept the new file name or press 2 to keep the previous file name.

5. Use the up or down directional arrow keys to highlight **Action**.
6. Use the right or left directional arrow keys to select **Save**, **Load**, **Delete**, or **Delete All**.

 **WARNING:** Selecting **Delete All** will erase all stored label and data files.

7. Press the  key to complete the selected action.
8. Press the  key to return to the setup menu.
9. Press the  key again to return to the home screen.

NOTE: When recalling a previously stored label file, the part number of the stored label file must match the part number of the label roll installed in the printer. If the part numbers do not match, an error message will display on the screen.

INTERFACING WITH A COMPUTER

The *VIPER*[™] LS6 can be connected to a personal computer (PC) using the *VIPER*[™] LS6 Upgrade Kit (Part No. LS6-PCKIT). The kit contains a CD with *ViperLink*[™] software and a serial cable for connecting the *VIPER*[™] LS6 to your personal computer (PC). *ViperLink*[™] must be used with the serial cable to communicate with the *VIPER*[™] LS6 printer. If the personal computer has a USB port, but does not have a serial port, it is recommended that the user purchase a USB to serial adapter.

ViperLink[™] software allows the user to:

- Upgrade the printer operating system.
- Transfer files (.DAT or .LS6) from the *VIPER*[™] LS6 to the PC.
- Transfer files (.DAT, .LS6, or .CSV) from the PC to the *VIPER*[™] LS6.
- Create, edit, and store a data list (.DAT file).
- Convert a .DAT file to a .CSV file
- Convert a .CSV file to a .DAT file
- Retrieve printer status information.
- Print directly to the *VIPER*[™] LS6 using a simple label editor.

When printing directly from *ViperLink*[™] to the *VIPER*[™] LS6, the *VIPER*[™] LS6 must be in the remote printer utility.

The serial cable also allows the user to:

- Print directly to the *VIPER*[™] LS6 using *PAN-MARK*[®] or *EASY-MARK*[™] software from Panduit Corp. *PAN-MARK*[®] or *EASY-MARK*[™] files cannot be stored in the LS6.

For more information about using the *Viper*[™] LS6 with *PAN-MARK*[®] or *EASY-MARK*[™] see the section entitled "USING REMOTE PRINTER UTILITY" on pages 53-54.

NOTE: *ViperLink*[™] software does not allow a user to download .bmp or .jpg images to the *VIPER*[™] LS6 printer.

Installing ViperLinkä

Use the *ViperLink*™ CD to install *ViperLink*™ software onto a personal computer. The *ViperLink*™ CD is only available with the purchase of LS6-PCKIT.

Insert the CD into a personal computer. The installation program will begin automatically. Follow the instructions in the installation wizard in order to complete the installation process.



Using ViperLinkä

To use *ViperLink*™ software with the *Viper*™ LS6 printer:

1. Connect the serial cable (included with the LS6-PCKIT) to a personal computer at the 9 pin serial port.
2. Connect the serial cable to the *Viper*™ LS6 at the RS232 port.
3. Turn **ON** the *Viper*™ LS6.
4. Press the  key to access the setup menu.
5. Use the up or down directional arrow keys to highlight **Utilities**.
6. Use the right or left directional arrow keys to select **ViperLink**.
7. Press the  key to begin using the ViperLink utility. The LS6 is now ready to communicate to a personal computer.
8. Open *ViperLink*™ software on a personal computer.



To **upload or download label files or data lists**, select:

- Transfer -> File Transfer
- Choose COM 1 or COM 2
- Choose to Upload or Download a file.

If uploading, choose a file from the VIPER™ memory and Save As.
If downloading, first Browse for the file and select the file type, click Open, and click OK.

To **upgrade the LS6 operating system**, select:

Transfer -> Upgrade Flash Memory
Browse to locate the operating system file
Click Open
Choose COM 1 or COM 2
Click Upgrade

NOTE: Upgrades for the VIPER™ LS6 internal operating system are available for downloading from the Panduit Corp. web site at

www.panduit.com.

NOTE: The VIPER™ LS6 screen will go blank and flicker during the upgrading process.

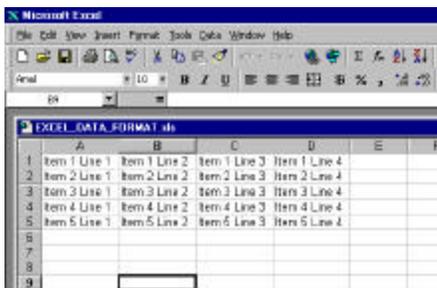
NOTE: Downloading an unauthorized binary (.BIN) file into the LS6 will result in non-functionality of the printer.

DO NOT INTERRUPT THE FILE TRANFERRING PROCESS!

To **convert a .CSV or .DAT file**, select:

Transfer -> CSV/DAT conversion
Click CSV to DAT or DAT to CSV
Browse to locate the appropriate file
Click Open, Enter the file name, Click Save

NOTE: Use Microsoft® Excel to create a spreadsheet of up to 4 columns by 100 rows. Save this data as a .CSV file. Transfer this file to the VIPER™ LS6 by using ViperLink™ and selecting download. The .CSV file will be converted into a .DAT file automatically. The columns from the spreadsheet will convert into lines 1 through 4 within a data list item. The rows from the spreadsheet will convert into consecutive items within a data list.



The screenshot shows a Microsoft Excel spreadsheet with the following data:

	A	B	C	D	E	F
1	Item 1 Line 1	Item 1 Line 2	Item 1 Line 3	Item 1 Line 4		
2	Item 2 Line 1	Item 2 Line 2	Item 2 Line 3	Item 2 Line 4		
3	Item 3 Line 1	Item 3 Line 2	Item 3 Line 3	Item 3 Line 4		
4	Item 4 Line 1	Item 4 Line 2	Item 4 Line 3	Item 4 Line 4		
5	Item 5 Line 1	Item 5 Line 2	Item 5 Line 3	Item 5 Line 4		
6						
7						
8						
9						

To **request information from the VIPER™ LS6**, select:

Request -> LS6 Info

Choose COM 1 or COM 2

Choose Version, Status, or History

Information from the VIPER™ LS6 will be retrieved and displayed in *ViperLink™*

To **access the help topics**, select:

Help -> Help Topics

To **create a data list**,

Enter a database name, Enter text on lines 1-4 of item 1

Use the up directional arrow button to advance to the next item

Use the down directional arrow button to return to the previous item

(The maximum number of items is 100) Click File -> Save

After creating a data list, follow the above instructions for

downloading a data list to the VIPER™ LS6

NOTE: The above operations are also available on the tool bar.

9. Press the  key on the VIPER™ LS6 printer to exit the *ViperLink™* utility and return to the setup menu.

USING REMOTE PRINTER UTILITY

In order to operate the remote printing feature on the VIPER™ LS6 printer, the personal computer connected to the VIPER™ LS6 must be set up in the following manner:

1. Either PAN-MARK® or EASY-MARK™ software applications must be installed on the personal computer. These applications are available exclusively from Panduit Corp.
2. The LS6 print driver must be installed on the personal computer. The LS6 print driver is included with PAN-MARK® or EASY-MARK™ software.
3. The communications port (COM PORT) must be set up correctly. For example, to set up COM1 follow this procedure:
 1. Click the start button at the bottom left corner of your computer screen.
 2. Select Settings.
 3. Select Printers.
 4. Right click on PTR3.
 5. Select Properties.
 6. Select the Details tab.
 7. Select Port Settings (make sure COM1 is selected above).
 8. Use these settings:
 - Bits per second: 57600
 - Data bits: 8
 - Parity: None
 - Stop Bits: 1
 - Flow Control: Xon/Xoff
 9. Click OK.
 10. Click OK.

NOTE: Example above is for the Windows® 98 operating system. Other Windows® operating systems may require modifications to this procedure.

NOTE: Deactivate the communication of other peripheral devices to the local serial port before using ViperLink™.

To access the Remote Printer Utility with the Viper™ LS6 follow this simple procedure:

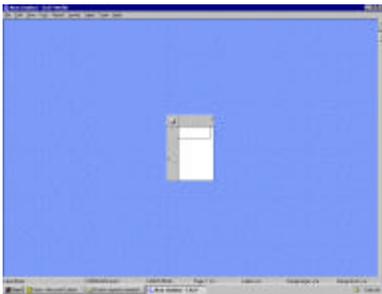
1. With the printer **ON** and at the home screen, press .
2. Use the up or down arrow keys to scroll down to **Utilities**.
3. At Utilities, use the right or left arrow keys to scroll to **Remote Printer**.
4. Press Enter. The Remote Printer Screen will appear.

USING REMOTE PRINTER UTILITY

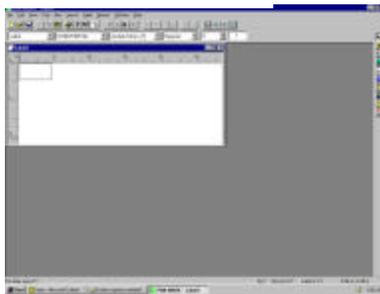
5. The LS6 is now ready to print directly from *PAN-MARK*[®] or *EASY-MARK*[™] software.
6. If the label roll installed in the *VIPER*[™] LS6 is changed while in the Remote Printer utility, press the  key to automatically adjust the printer to the default settings for the new label roll.
7. To exit Remote Printer Mode, press .

With the *VIPER*[™] LS6 in Remote Printer utility, open *PAN-MARK*[®] or *EASY-MARK*[™] and begin creating labels. Make sure to select the appropriate LS6 label format within the software.

EASY-MARK[™]



PAN-MARK[®]



In order to print from *PAN-MARK*[®] or *EASY-MARK*[™]:

1. Attach the serial cable to the personal computer and the *Viper*[™] LS6.
2. Click File on the computer screen.
3. Click Print.
4. Choose Panduit PTR3.
5. Ensure that 'Portrait' is selected in the PTR3 properties window.
6. Click OK until the print window disappears.
7. The following message may appear:



8. Click Yes.
9. A printing message will appear and the *Viper*[™] LS6 will begin to print.

NOTE: Windows[®] XP printer properties may default to a larger page size than allowed by the *Viper*[™] LS6 and may require adjustment.

PRINTER CLEANING INSTRUCTIONS

Cleaning the Print Head and Drive Roller

The print head should be cleaned regularly, and more often in harsh environments. The drive roller should be cleaned whenever foreign matter, such as dust or adhesive, is present.

1. Turn **OFF** power to printer.
2. Open the ribbon lock knob.
3. Remove any label media from print path.
4. Remove the ribbon.
5. Power the printer on .
6. Position ribbon lock knob in locked position.
7. Extend width guide to greatest width.
8. Insert cleaning card (Part No.LS6-CLN) until resistance is met.
9. Press  to feed cleaning card completely through printer.
10. Flip cleaning card over and repeat steps 8 & 9 as necessary.
11. If there are large deposits on the drive rollers, soak cotton swab in Isopropyl Alcohol (Rubbing Alcohol) and remove deposits from rubber roller with sweeping motion.



Caution: LS6-CLN (cleaning card) contains alcohol, keep away from flames.

PRINTER TROUBLESHOOTING

This section helps identify printer conditions and problems that can often be solved by the user. If you are unable to correct the problem contact Panduit Technical Support at **866-871-4571** or Panduit Customer Service at **800-777-3300**.

SYMPTOM	ACTION
POWER	
Printer does not power up properly, and LCD does not come on.	<ul style="list-style-type: none">• To turn printer ON, depress the power button.• Make sure the battery pack is fully charged. Charge a drained battery pack for a minimum of 15 hours with LS6-ACS.• Plug in AC Adapter. Ensure power cord is firmly seated into adapter.• Make sure battery pack plug is connected to printer plug in battery compartment• Battery pack is spent or damaged. Try a new charged battery pack. (LS6-BP).
PRINTING	
Not printing.	<ul style="list-style-type: none">• Make sure printer:<ol style="list-style-type: none">1. Is turned ON2. Has ribbon cartridge properly loaded3. Ribbon cartridge locked in place4. Label mandrel seated properly5. Labels positioned in width guide correctly• Remove ribbon cartridge and clean print mechanism with provided cleaning card.
Tools Too Big!	<ul style="list-style-type: none">• The items on the home screen are too large for the printable area. Adjust the text size on the home screen, adjust the symbol size, rotate the label, or use a larger label.

PRINTER TROUBLESHOOTING

SYMPTOM	ACTION
Media is not advancing properly in the printer.	<ul style="list-style-type: none"> • Ribbon knob not locked. Rotate ribbon knob into locked position. • Ensure that labels are properly positioned in label path and that width guides are in contact with both sides of the label. Ensure that adjustable width guide is locked in place in the correct notch. • End of label roll reached. Detach end of label roll from core. • Label jam in printer. Label is caught in print mechanism. To clear jam: <ol style="list-style-type: none"> 1. Turn printer power OFF. 2. Open label door. 3. Detach any printed labels with cutter. 4. Open ribbon lock knob. 5. Remove unprinted labels from the printer. 6. Carefully remove any labels caught in the printer.
Printed image is full, but grayish or “translucent”.	<ul style="list-style-type: none"> • Print head heat setting is too high. Reduce heat setting. See procedure on page 46. • Ribbon and media are incompatible. Test alternative ribbon or media. See compatibility chart on page 14.
Voids in printed image: areas where there is no print.	<ul style="list-style-type: none"> • Dust on label. Remove dust with compressed air or place static tinsel across label unwind. • Ribbon and media are incompatible. Test alternative ribbon or media. See compatibility chart on page 14. • Print head elements or “dots” are dirty or obstructed. Clean print head with pre-saturated cleaning card (LS6-CLN) or soft-stemmed swab and isopropyl alcohol. See cleaning instructions on page 55. • Ribbon may be wrinkled. <ol style="list-style-type: none"> 1. Unlock and remove ribbon cartridge from printer. 2. Tighten ribbon in ribbon cartridge by turning knobs. 3. Insert ribbon cartridge into printer. • Print head elements or “dots” are burned out. Replace print head.

PRINTER TROUBLESHOOTING

SYMPTOM	ACTION
Repetitive voids in image.	<ul style="list-style-type: none"> Print head elements or “dots” are dirty or obstructed. Clean print head with pre-saturated cleaning card (LS6-CLN), or soft-stemmed swab and isopropyl alcohol. See cleaning instructions on page 55.
Not printing any image (or barely any image).	<ul style="list-style-type: none"> Ribbon and media are incompatible. Test alternative ribbon or media. See compatibility chart on page 14.
Printer stalls or will not print.	<ul style="list-style-type: none"> Ribbon or media is not loaded properly. Reload ribbon and media, making sure both pass under respective sensors. Ensure that labels are properly positioned in label path and that width guides are in contact with both sides of the label and locked in place in the correct notch. Ribbon or media sensors are dirty or obstructed. Clean sensors with soft-stemmed swabs and isopropyl alcohol or compressed air.
RIBBON	
Ribbon is not advancing properly.	<ul style="list-style-type: none"> Ribbon is not loaded correctly. Load ribbon properly at side of printer and ensure knob is in lock position.
Ribbon wrinkling.	<ul style="list-style-type: none"> Ribbon not loaded correctly. Remove ribbon, re-insert and lock. Ribbon not wound tightly prior to installation. Remove ribbon, wind take-up until slack disappears, re-insert ribbon and lock in position.
Printer doesn't stop when out of ribbon.	<ul style="list-style-type: none"> Ribbon sensor is dirty or obstructed. Clean sensor with soft-stemmed swab and isopropyl alcohol or compressed air.
Ribbon breaking.	<ul style="list-style-type: none"> Ribbon cartridge empty. Replace ribbon cartridge.
LABELS	
Labels not registering	<ul style="list-style-type: none"> Make sure that label mandrel is firmly seated in socket. Width guide is loose. Make sure the width guide is properly located and fixed in place. Printer not reset for new label format. Turn printer OFF, then ON again. Printer will re-calibrate for new label.

PRINTER TROUBLESHOOTING

SYMPTOM	ACTION
Die-cut labels continue to feed without stopping.	<ul style="list-style-type: none"> Label sensor is dirty or obstructed. Clean sensor with soft-stemmed swab and isopropyl alcohol or compressed air. Width guide is loose. Make sure the width guide is properly located and fixed in place.
BAR CODES	
Poor edge definition (bar codes and alphanumerics).	<ul style="list-style-type: none"> Ribbon and media are incompatible. Test alternative ribbon or media. See compatibility chart on page 14.
Bar codes smearing (bar code edges “bleeding” or “feathering”).	<ul style="list-style-type: none"> Print head heat setting is too high. Reduce heat setting until bar edges are clean. See procedure on page 46.
Bars in bar codes are too wide or too narrow resulting in a poor scan grade.	<ul style="list-style-type: none"> Print head heat setting is too high/too low. Adjust to optimize average bar growth (visually or with verifier). See procedure on page 46. Overburn (too much ribbon transfer). Reduce print head heat setting. See procedure on page 46.
Insufficient print contrast: Bars are not dark enough, spaces are not light enough.	<ul style="list-style-type: none"> Print head heat setting is too low. Increase print head heat setting. See procedure on page 46.
OTHER	
Printer Locked Up	<p>With printer OFF, Press and hold [R] and  to RESET the printer.</p> <p>Note: Saved Label files will NOT be lost during reset.</p>

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.

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GENERAL SPECIFICATIONS

Print Method:	Thermal transfer or direct thermal
Effective Print Width:	1.89" (48 mm)
Print Length:	19.99" (maximum label length)
Print Resolution:	203 dpi (horizontally and vertically)
Print Speed:	Up to 1 ips
Feed Speed:	Up to 2 ips
Label Width:	0.24" to 2.0"
Media Length:	50' continuous tapes
Media Types:	Die cut or continuous tapes
Materials:	Vinyl self-laminating, flattened heat shrink, vinyl cloth, polyester, continuous tape, vinyl, non-adhesive polyester, polyolefin, thermal paper
Media Cutting:	Manually operated cutter
Ribbons:	Replaceable cartridges (wax, resin, or hybrid)
Keypad:	49 color coded keys
Display:	128 x 64 dots graphic LCD
LCD Contrast Control:	Adjustable via keypad
Operating System:	Panduit proprietary – user upgradeable
User Memory:	128 Kbytes of RAM available for label storage
Serial Port:	RS-232 Serial Interface for PC connection
Battery Pack:	12 VDC, 1200 mAh rechargeable NiMH (Nickel-Metal Hydride) battery pack (Battery life – approx. 1500 TWS-2V labels)
AC Adapter:	Universal Input (100 - 240 VAC, 50/60 Hz) with IEC-320-C14 input connector (accepts international cord sets) Regulated DC Output 12 VDC, 0 to 1.2 Amp Powers the printer's internal battery charger Charging time 15 hours
Oper. Temp/Hum:	41-104° F (5-40 °C), 0 - 90% relative humidity (non-condensing)
Stor. Temp/Hum:	-40-140° F (-40-60 °C), 0 - 90% relative humidity (non-condensing)
Compliance:	FCC Part 15 Class A, European Community EMC and Low Voltage Directives regarding safety, emissions, and immunity
Size	Height: 6.2" (157.5 mm) Width: 4.9" (124.5mm) Length: 13.8" (350.5 mm)
Weight	4.1 lbs. (1.86 kg) - includes battery pack

REPLACEMENT PARTS AND ACCESSORIES

DESCRIPTION	PART NUMBER
Wax Ribbon – Black	LS6-RWBLK
Resin Ribbon – Black	LS6-RRBLK
Resin Ribbon – White	LS6-RRWHT
Hybrid Ribbon – Black	LS6-RHBLK
Battery Pack	LS6-BP
LS6 <i>ViperLink</i> ™ software and 9 pin serial cable	LS6-PCKIT
LS6 AC Adapter/Battery Charger for Australia	LS6-ACA
LS6 AC Adapter/Battery Charger for Europe	LS6-ACE
LS6 AC Adapter/Battery Charger for North America	LS6-ACS
LS6 AC Adapter/Battery Charger for the United Kingdom	LS6-ACU
Cleaning Card (5 cards in a package)	LS6-CLN
Operator's Manual	LS6-MAN*

* Insert Language code as applicable:

A - English, **D** - German, **E** - Spanish, **F** - French, **I** - Italian

For more information on the *VIPER*™ LS6, visit the Panduit website at www.panduit.com or call Panduit Customer Service at 1-800-777-3300 to request a brochure.