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## INTRODUCTION & SAFE OPERATION

The **Viper™** LS6 Hand-Held Printer is the complete printing solution for Electricians, Assemblers, Maintenance & Repair, Construction, and Network Communications Personnel. This versatile on-site, on-demand printer provides users the ability to save, retrieve, and edit custom or serialized labels for wire and cable marking, component labeling, network labeling, and 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 or call Panduit Technical Support at 888-506-5400, ext 7470.

### **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 the Panduit Corporation.

## 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.

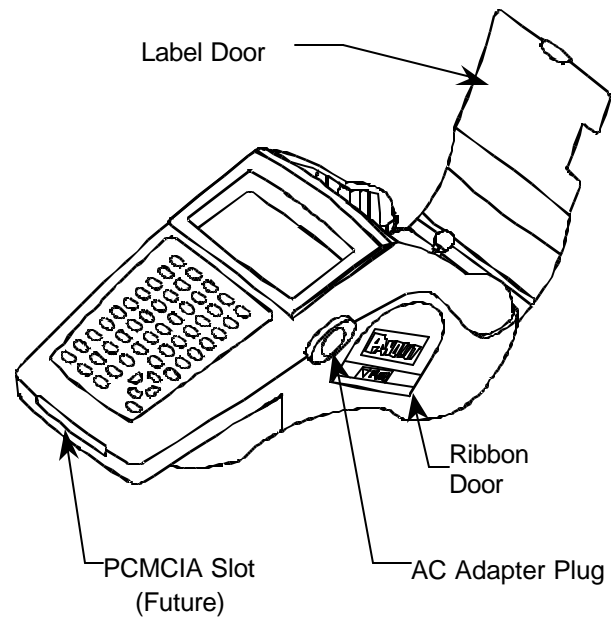
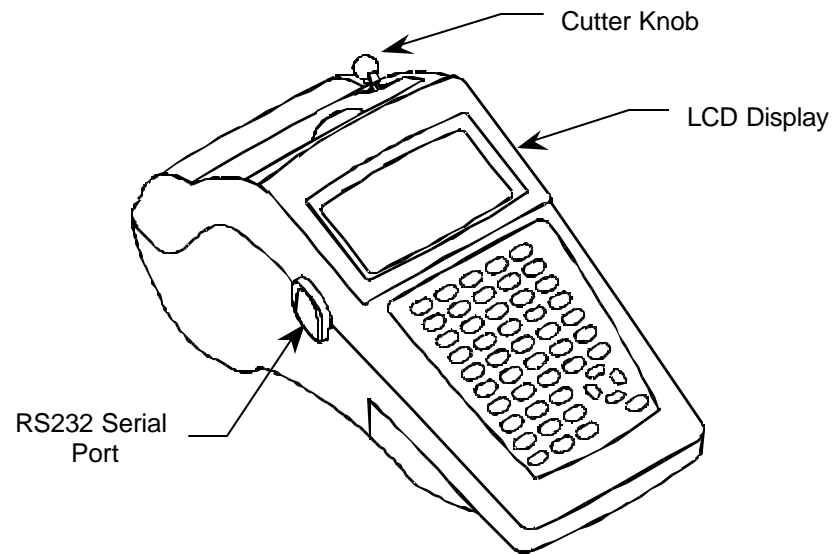
Le present appareil numerique n'emet pas de bruits radioelectriques depassant les limites applicables aux appareils numeriques de la class A prescrites dans le Reglement sur le brouillage radioelectrique edicte par le ministere des Communications du Canada.

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 re-cycled per local rules and regulations.

## GENERAL DESCRIPTION



## 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 material, allowing the ink to transfer to the label material. The print head operates at 203 dots per inch.

### **Smart Label Roll – See page 11**

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 10**

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.

### **Battery Pack – See pages 6-8**

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, resulting in less stringent recycling requirements.

### **AC Adapter / Battery Charger – See page 6**

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. Contact the factory for the availability of a fast battery charging accessory.

### **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.

### **PC Upgrade Kit – See page 35**

An upgrade kit consisting of a cable for connection to a personal computer (PC) and a CD containing the operating system in several languages (contact factory for availability of languages), and an application program **ViperLink™**. **ViperLink™** is used to connect the PC and the **Viper™** LS6.

## BATTERY INFORMATION

A 12 volt NiMH (Nickel-Metal Hydride) battery comes with the **Viper** LS6 printer **PARTIALLY CHARGED** with a recommended **15 HOURS OF CHARGING 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, supplied with printer). The user **MUST** manually activate the battery charger with the LS6 powered on to start the charging process (see below).

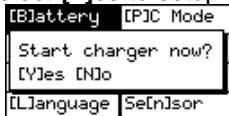
**NOTE:** The Battery (LS6-BP) should **only** be removed for replacement or for replacement of the Lithium Battery. Charging of the battery occurs while the battery (LS6-BP) is **INSIDE** the printer.

### **Charging the Battery**

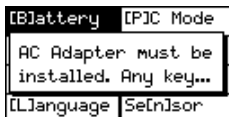
1. Connect AC Adapter
2. Ensure Printer is in On position
3. From the Home Screen Press Quik-Key [B]




4. Battery status of voltage will display
5. At prompt select [Y]es to setup for Charging



6. Insert AC Adapter into connection on the side of the Printer. Press Any key to continue.



7. Press  to end charging. A fully charged battery will completely darken the status bar.

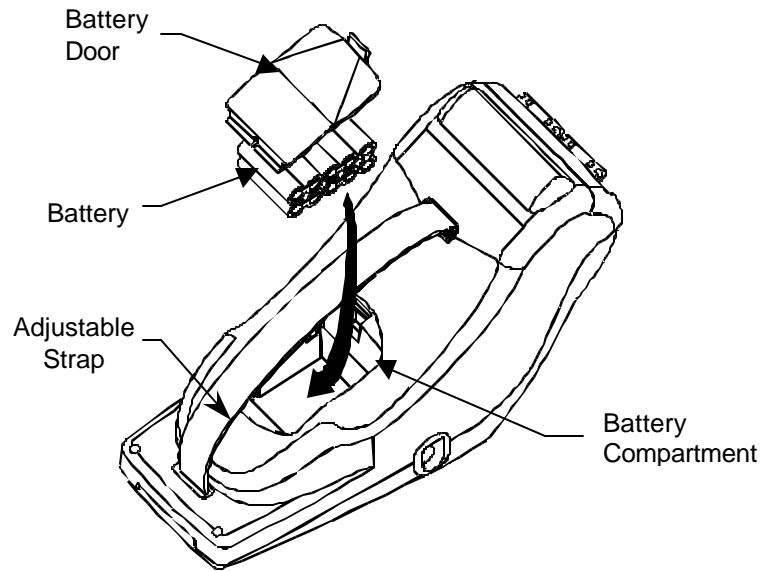
- Completely charge the battery pack before use. The operating system reports the battery charge status.
- Completely drain the battery pack before charging. The operating system will warn the user on power up and power down of low battery conditions.

Consult you local guidelines for instructions on proper disposal of spent battery packs.

## BATTERY INFORMATION

### Battery Removal

1. Remove battery door by using a coin to depress the tab.
2. Remove battery by unplugging and lifting out of 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.



### 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.


## BATTERY INFORMATION

### Replacing the Lithium Cell

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 battery pack.





## QUICK START WITH THE *Viper™* LS6

1. Plug in the AC adapter.
2. Install a ribbon cartridge. See Section-Ribbon Cartridge Installation page 9. **NOTE: No ribbon required for Thermal Paper**
3. Install a label cartridge – See Section – Label Loading (Page 11) **OR** install included thermal paper sample cartridge (1" wide practice media).
4. Turn ON the printer. Press . If low battery message, select **[N]** to continue. The following screen will appear:

```

┌           ┐ Page is
└           ┘ blank.
              Select
              TOOLS.
┌           ┐
└           ┘ [D]emo


```

5. Press **[D]** for Demonstration. Press  at any time to exit.
6. Read Demonstration screens to understand printer operation.
7. Press the  button. The following tool selection screen will appear:

```

┌           ┐ Tools
└           ┘
┌           ┐
└           ┘ [T]ext

```

8. Select the **A** icon or press **[T]** to select a Text Tool.
9. Type in up to 4 lines of up to 16 characters. Example: "PANDUIT"
10. When complete, press the  key to return to the **HOME** Screen.

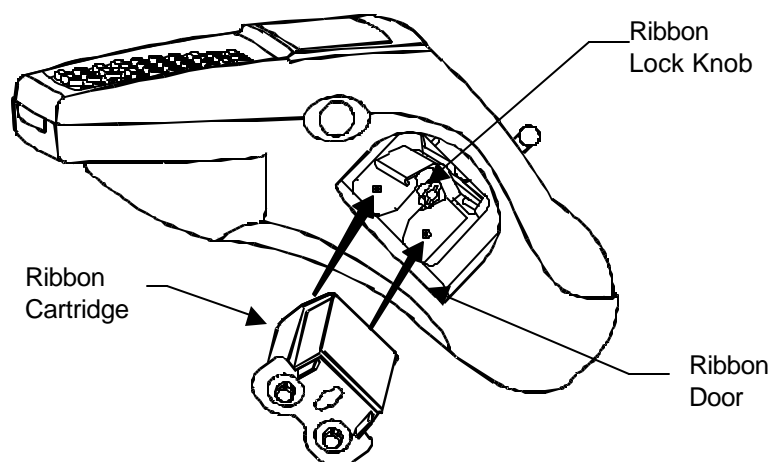
```

┌           ┐ TEXT
└           ┘ PANDUIT
              [ENTER]Edit
              [Q]uik-Key
              [TOOLS]Add
┌           ┐
└           ┘ [PRINT]

```



11. Press the  key to print your label.

## RIBBON LOADING & SELECTION



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

Printer must be turned OFF.

1. Open ribbon door on side of printer by pushing on arrow.
2. Rotate ribbon lock knob into open (unlocked) position [Counter clockwise].
3. Remove slack from ribbon by winding left roller.
4. Insert the ribbon cartridge, the web of the ribbon should slide freely between the rubber roller and the print head.
5. Turn printer ON .
6. Rotate ribbon lock knob into closed (locked) position –[Clockwise].
7. Close ribbon door on side of printer.
8. Press the  key to align the ribbon, by advancing forward an inch or two. If the label is not installed, you may need to press any key to stop the feed.

**Viper™ LS6 label media ribbon compatibility chart**

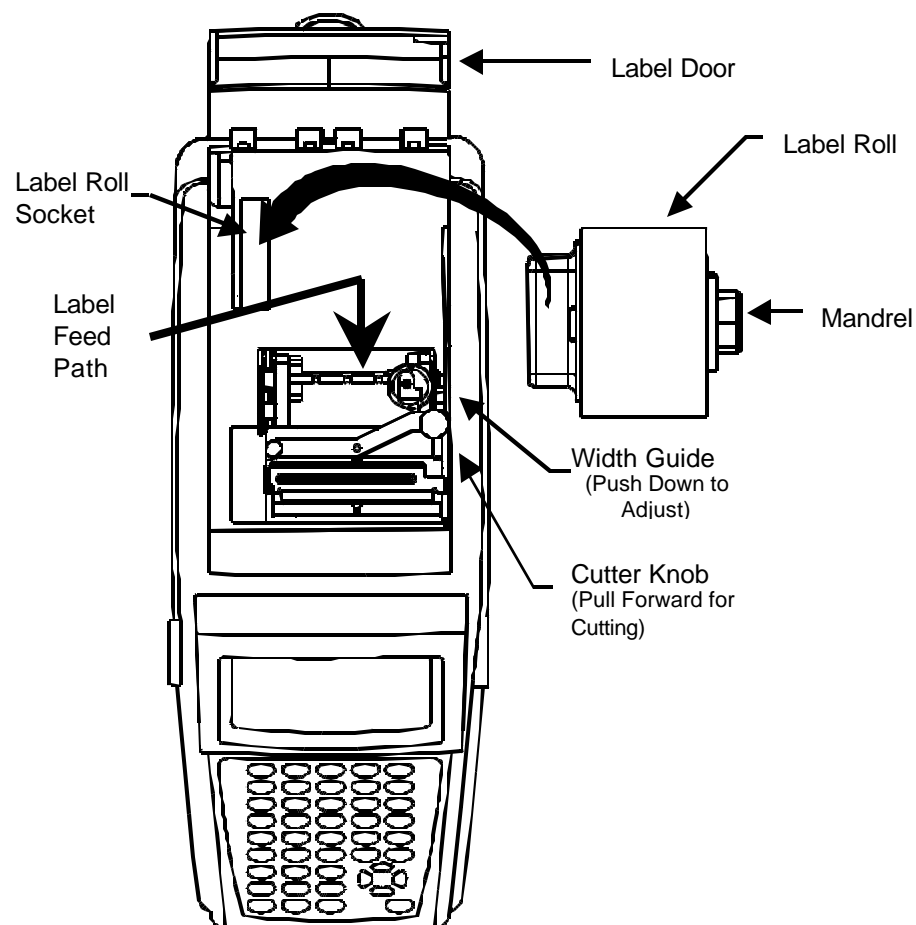
Label Material	Ribbon Required
Vinyl, Self-Laminating	LS6-RWBLK
Heat Shrink	LS6-RWBLK
Vinyl Tape	LS6-RRBLK
Vinyl Cloth	LS6-RWBLK
Polyester, Clear	LS6-RRBLK or LS6-RRWHT
Polyester, White	LS6-RRBLK
Polyolefin	LS6-RRBLK
Non-Adhesive Polyester	LS6-RRBLK
Paper	NONE

**LS6-RWBLK – Black Wax**




**LS6-RRBLK – Black Resin**

**LS6-RRWHT – White Resin**

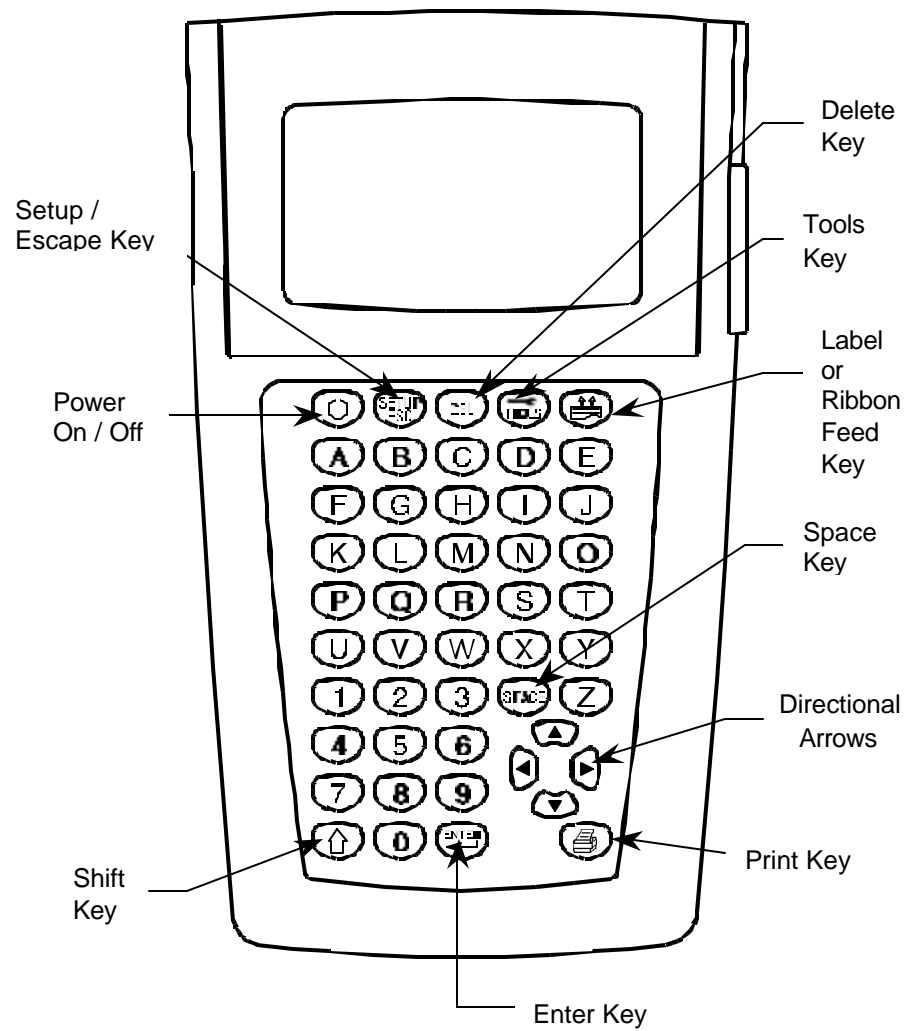
## LABEL LOADING

























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 set the printer for optimum usage of each label. Also, the operating system keeps track of the remaining labels on each roll. Use the steps 1-5 to load each label roll.


1. Ensure that the printer is in the OFF position  . Plug the Label Roll into the socket as shown above until it is firmly seated.
2. Insert end of label 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.
3. Labels should be inserted into the label path until resistance is met – approx. ½" (requires ribbon knob to be in locked position).
4. Turn the printer ON. Press the  key to position the label for printing.
5. You are now ready!



## KEYBOARD








## KEYBOARD

KEY / SYMBOL	COMMON FUNCTIONS
POWER 	Turns the printer <b>ON</b> ,  then  turns the printer <b>OFF</b> .
SETUP/ ESCAPE 	Activates the Setup Menu for printer functionality, escape key to back out of menus .
DELETE 	Deletes tools or characters.
TOOLS 	Used for selecting Text, Serial, Symbol, Line, Box, Data, Barcode, and Date/Time tools.
FEED 	Advances labels in printer,  then  reverses feed. Also, functions as the HELP key.
UP ARROW 	Moves cursor, or tool up, one option or line at a time.
DOWN ARROW 	Moves cursor, or tool down, one option or line at a time.
RIGHT ARROW 	Moves cursor, or tool right, one option or line at a time.
LEFT ARROW 	Moves cursor, or tool left, one option or character at a time.
PRINTING 	Activates printing of label(s)
 	For multiple Copies of labels
  	To print the current page
SPACE 	Inserts a blank character.
ENTER 	Completes a selection or moves cursor to next line.
SHIFT 	Access alternate functions or characters.

 to access characters on the keypad graphic overlay (not shown).

  to access lower case alpha characters.

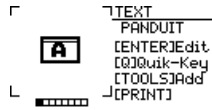
  clears all tools or text on the page.

   clears all pages.

## USING THE *Viper*™ LS6

### **The Home Screen**

The Home Screen is where the user creates or builds his label. Available tools are text, serialization, bar code, symbol, line, box, time/date, and Data. See the tools for building labels below. The Home Screen consists of the following elements:



### **Label Preview**

The left side of the screen is where the user builds the label by placing tools in the desired position on the label. Up to 8 tools can be placed on each page of a label. Up to 8 pages can be defined for each label.

### **Tool Preview**

The right side of the screen shows the contents of the selected tool, and commonly used key functions.

### **Label Boundary**

The 4 corner symbols on the left side of the screen indicate the boundaries of the label.

### **Tool Boundary**

A tool is represented by a rectangle. The size of the rectangle indicates the relative size of the tool to the label size or label print on area.

### **Tool Tops**

The line in the tool rectangle is the tool top, indicating the orientation of the tool on the label.

### **Tool Icon**

The symbol within the tool rectangle indicates the type of tool.

- A** - For a Text Tool
- 123** - For a Serialization Tool
- - For a Symbol Tool
- ↗** - For a Line Tool
- - For a Box Tool
- 📅** - For a Data Tool
- ||||** - For a Barcode Tool
- 🕒** - For a Date/Time Tool

## USING THE *Viper*™ LS6

### Key Mode Indicator

The key mode indicator is located in the lower left corner. The key mode is indicated as follows:

- Blank for **Normal** - The character on the key will be selected when pressed.
- Open Square for **Alternate** - The next key stroke will select the overlay character for the key, or the alternate function associated with the key.
- Filled Square for **Shift** - The next key stroke will select lower/upper case for an alphabetic character, or select the shift function associated with the key.

### Page Indicator




The row of 8 page indicators are located at the bottom of the screen. The filled page indicator is the page selected for preview. A line appears in a page indicator if at least one tool is present on that page.

### Text Case Indicator



The current default for the text case is indicated at the lower right corner of the label preview area.

- Blank indicates upper case
- A filled square indicates lower case


### POWER Key

To turn **ON** the *Viper*™ LS6, press and hold the  key until a beep is heard or until activity is seen on the display. To turn the *Viper*™ LS6 off, press and release the  key, then press and hold the  key until a beep is heard, or until the power down message appears. This method of power control reduces the chance of accidentally turning off the printer.










### SETUP Key

Press and release the  key to activate the setup screens. The  key also functions as an ESCAPE key to end a function and return to the previous function.


### DEL Key

The  key is used to delete characters or tools. Deleting a tool from a label removes the tool and places it in a temporary storage location. If desired, the tool can be restored by 'pasting'.


### TOOL Key

The  key is used to activate the tool selection function. The *Viper*™ LS6 provides 8 tools for building labels and wire markers; text - , serialization - , line - , symbol - , box - , data - , bar code - , date/time - . Up to 8 tools can be placed on a page of a label.


### FEED Key

The  key is used to manually advance the label or ribbon material during loading, or to reposition the label when desired. It also serves to activate the HELP topic for the currently active function.


### PRINT Key

The  key signals the operating system to process and print the currently active label. Note that a print job can be terminated by pressing and holding any key.

### SHIFT Key

The  key is used to select characters from the keypad and graphic overlay, and to activate Quik-key™ functions. Press and release the key to sequence through the three key modes – **Normal**, **Alternate**, **Shift**.

### ARROW Key

The  keys are used to move the selected tool or to move the cursor when editing text.






### Quik-Key™ Fast Label Formatting system

Commonly used functions can be quickly activated by using **Quik-Keys**™, which are 1, 2, or 3 key combinations. **Quik-Key**™ definitions can be reviewed by pushing the **[Q]** at the Home screen.



## TEXT TOOL

The Text Tool is used to add up to 4 lines of 16 characters each (maximum) to a label. The following are the steps for building a Text Tool.

- Step 1:** Press  from the home screen .
- Step 2:** Select  from the Tools buttons using the arrow keys, then  or by selecting Quik-Key™ **[T]**.
- Step 3:** Enter alphanumeric characters onto the four (4) lines provided.
- Step 4:** Press  when complete or  for text options.

For editing text and associated strokes, see **KEYBOARD** section page 13

### TEXT OPTIONS

[S]ize – Size text from 6 point to 192 point

[t]yle – Text styles available:

[N]ormal

[U]nderline

[R]everse – Reverses text to appear white on black.

[J]ustify – Text justification:

[C]enter

[L]eft

[R]ight

[O]rient – Define text orientation (angle of characters):


[0] 0 deg

[1] 90 deg

[2] 180 deg

[3] 270 deg

### TEXT TOOL HELP



Help can be accessed at any time while in the Text Tool by pressing .

Note: If Text Tool is chosen and no characters are entered, the printer default is to set up a blank tool on the screen.

## SERIALIZATION TOOL

The Serialization Tool is used to automatically number labels sequentially either with numeric or alphanumeric characters. Up to four (4) serializations can be defined for one text string and serializations can be printed as text or as a bar code. The Serialization Tool is used in the following progression of steps in building labels:

**Step 1:** Press  from the home screen.

**Step 2:** Select  from the Tools buttons using the Arrow keys, then , or selecting **Quik-Key™ [S]**.

**Step 3:** Prompt Screen 1 Lists the following Options:

[A]lpha – Alphanumeric serialization

Num[1] – Single digit numeric serialization


Num[2] – Two digit numeric serialization

Num[3] – Three digit numeric serialization


Select by using Quik-key™ [bracketed] key or .

**Step 4:** Prompt Screen 2 – Prefix Text

Allows user to define text string to appear before

serialization. Eight (8) characters allowed. Press  to continue.

**Step 5:** Prompt Screen 3 – Start of serialization

User defines start value for serialization. Press  to continue.

**Step 6:** Prompt Screen 4 – End of serialization

User defines end value for serialization, alpha or numeric.

Press  to continue.


**Step 7:** Prompt Screen 5 – Increment

User defines incrementing value of serialization.

Example; 1, 2, 3. Press  to continue.

## SERIALIZATION TOOL


### Step 8: Prompt Screen 6 – Next serialization / Options

Press [N] for next serialization or  to complete and return to HOME screen. **Viper™** allows up to four (4) serializations per line per tool.

Press [O] for Options – Included options are:

- a) Span
  - [L]ine** – Places serialization on the next line of the same label.
  - [P]age** – Places serialization on the next page of the eight available pages.
  - La[b]el** – Places serialization on the next label.
- b) Serialize as
  - [T]ext** – Print the serialization as text.
  - [B]ar Code** – Print the serialization as a bar code, using the default bar code settings.
- c) Text Options **[S]ize, S[t]yle, [J]ustify, [O]rient** – See Text Tool Page 17

### SERIAL TOOL HELP



Help can be accessed at any time while in the Serial Tool by pressing .




Note: If Serial Tool is chosen and no characters are entered, the printer default is to set up a blank tool on the screen.

## SYMBOL TOOL


The Symbol Tool is most used for building facility identification markers using continuous tape. Symbols can also be used on any other labels but their size will be restricted by the physical size of the labels. The Symbol Tool is used in the following progression of steps in building labels:





**Step 1:** Press  from the home screen.

**Step 2:** Select  from the Tools buttons using the Arrow keys and , or selecting **Quik-Key™** [Y].

**Step 3:** Use the Arrow keys   to select the desired symbol or [N] [Symbol #]  to select the symbol by number. The **Viper™** LS6 has more than 35 symbols available. The right side of the screen will display a preview of the symbol. See below for a summary of symbols.


**Step 4:** Select [S] to change the size of the symbol – Options include:  
[1] **Small** - .25" tall, [2] **Medium** - .5" Tall, [3] **Large** - .75" Tall  
[4] **Xlarge** – 1.0" tall [5] **Huge** – 1.5" tall

**Step 5:** Press ENTER to select the symbol and return to the home screen or press  to return to Home Screen.

**Step 6:** Adjust Placement of tool on screen with    .

NOTE: Additional symbols may be added in the future.










































### SYMBOL TOOL HELP

Help can be accessed at any time while in the Symbol Tool by pressing .

Note: If Symbol Tool is chosen and no symbol is selected, the printer will select the default symbol [**DATA** – No. 1] and setup on the screen.

## SYMBOL TOOL



Available Symbols and their assigned library number are listed below:

								
1	2	3	4	5	6	7	8	9
								
10	11	12	13	14	15	16	17	18
								
19	20	21	22	23	24	25	26	27
								
28	29	30	31	32	33	34	35	36
								
37	38	39	40	41				

## LINE TOOL


The Line Tool is used to display a solid line either horizontally or vertically on the label. The line can be  $\frac{1}{4}$ ,  $\frac{1}{2}$  or the full length (or width) of the label. The following are steps to building a Line Tool:

**Step 1:** Press  from the home screen.


**Step 2:** Select  from the Tools buttons using the Arrow keys and , or selecting **Quik-Key™ [L]**.

**Step 3:** Prompt Screen 1 – Line  
User Defines type of line to be displayed.  
[V] – Vertical  
[H] – Horizontal

**Step 4:** Prompt Screen 2 – Size  
User defines line to be quarter, half, or full length.  
[Q] –  $\frac{1}{4}$  length/width  
[H] –  $\frac{1}{2}$  length/width  
[F] – Full length/width

**Step 5:** Press  to return to Home Screen.

### LINE TOOL HELP



Help can be accessed at any time while in the Line Tool by pressing .

Note: If Line Tool is chosen and no selection made, the printer default is to set up a blank tool on the screen.

## BOX TOOL

The Box Tool is used to display a box on the label. The box can be  $\frac{1}{4}$ ,  $\frac{1}{2}$ , or full length (or width) of the label. The box can be a frame only, filled, clear, or reverse. Reverse will invert (white on black) the text or symbols contained within the borders of the box. The following are steps to building a Box Tool:

**Step 1:** Press  from the home screen .

**Step 2:** Select  from the Tools buttons using the Arrow keys and , or selecting **Quik-Key™** [B].

**Step 3:** Prompt Screen 1 – Box Style

User defines type of box to be displayed.

[B]ox – Displays box of size specified.

[F]ill – Displays filled box.

[R]everse – Invert objects within the box boundaries.

[C]lr – Clears objects within the box boundaries.

**Step 4:** Prompt Screen 2 – Horizontal Size


User defines whether box will be half or full length.

[Q]tr –  $\frac{1}{4}$  size.

[H]alf –  $\frac{1}{2}$  size.

[F]ull – Full size.


Repeat for vertical size.

**Step 5:** Press  to return to Home Screen.

### EXAMPLE OF REVERSE BOX TOOL:

**WARNING**

### BOX TOOL HELP

Help can be accessed at any time while in the Box Tool by pressing .



Note: If the Box Tool is chosen and no selections made, the printer default is to set up a blank tool on the screen.

## DATA TOOL

The Data Tool is used to link a list of label legends to a label. The Data Tool also defines how to place the label legends on the label. The list can consist of up to 100 legends, where each legend can be up to 4 lines of up to 16 characters. The list can be created on the printer, or created on a PC then downloaded to the printer using the ViperLink™ software (See page 35). Using a Data Tool, the user need only define 1 label that could print up to 100 labels.

The Data Tool can also be defined to prompt the user for legend when the label is printing. This feature allows the user to reserve space on the label for data that will be entered at a later time.

**Step 1:** Press  from the home screen .

**Step 2:** Select  from the Tools buttons using the Arrow keys and , or selecting **Quik-Key™ [D]**.

**Step 3:** Prompt Screen 1 – Data Input

User defines method of data input:

[L]ist – Data is pulled from an internal data list built by user.

[F]ile – Data is pulled from a file in memory.

[K]ey – User will be prompted to enter data during printing.

See Step 8

Press  to continue.

**Step 4:** Prompt Screen 2 – # of Lines 1-4

Defines how many lines (up to 4) the data tool will accept.

Press  to continue.

**Step 5:** Prompt Screen 3 – # of Characters 1-16:

Defines how many characters (up to 16) the data tool will

accept. Press  to continue.

**Step 6:** Prompt Screen 4 – Span

[L]ine – The tool will place each legend on lines of the same label.

[P]age – The tool will place each legend on pages of the 8 pages available.


La[b]el – The tool will place each legend on a different label.

Press  to continue.










## DATA TOOL

### Step 7: Prompt Screen 5 – Tool Name



Allows user to give a descriptive name to the tool. Default is “No Name”. Press  to continue.

### Step 8: Prompt Screen 6 – Data List


[E]dit – Allows user to create or revise the internal data list.

Press  to continue OR if [E] is chosen to edit or start a new data list, an item #: 0 screen will appear. Up to 100 separate items can be input. Move between items by pressing  = back or  = next item. After entering all items, press . Printer will then prompt user to save as a DATA file (.DAT). If [Y]es is chosen, printer will prompt for file folder location to save the data file then require entry of file name. After file name is entered press . Press [T] to select file type as .DAT then  and [S] to save. Press  to return to text options.

### Step 9: Prompt Screen 7 – Data Tool Text Options – Press [O] to Edit. See TEXT TOOL Section Page 17

Step 10: Press  or  to return to Home menu.

### DATA TOOL HELP



Help can be accessed at any time while in the Data Tool by pressing .

Note: If the Data Tool is chosen and no selections are made, the printer default is to set up a blank tool on the screen.

## BAR CODE TOOL

The Bar Code Tool can be used for bin labeling or component identification and can be used in combination with other tools for effective identification of property or components. The Bar Code Tool can be printed with and without a checksum or human readable text. The Bar Code Tool can receive data from the serial port, from the keypad when the Bar Code Tool is created, or from the keypad when the label is printed (Note- printer prompts user after printing engaged). The following steps are for building Bar Code Tools:

**Step 1:** Press  from the home screen .

**Step 2:** Select  from the Tools buttons using the Arrow keys and  or selecting **Quik-Key™ [C]**.

**Step 3:** Prompt Screen 1 – Input Method

The printer automatically defaults to Fixed Text that the user will enter at prompt screen 2. Selecting **[I]** to change the input mode yields:

**[T]ext** – Allows user to type in the bar code data (up to 16 characters)

**[K]ey** – Operating system will prompt the user to type in the bar code data after printing is engaged (up to 16 characters)

**[S]erial** – Operating system will read the bar code data from the serial port (up to 16 characters) via a computer or a bar code scanner (not included).

**Step 4:** Prompt Screen 2 – Text Input

User inputs desired characters (up to 16)

**Step 5:** Prompt Screen 3 – Options –

Selecting  will honor default settings (see below) and complete the tool.

Selecting **[O]** at this screen will allow change to the bar code default parameters. The default bar code parameters are determined by the settings in the [SETUP] menu and noted below:

**[S]elect** – Choose bar code symbology

**[H]uman Readable** – **[Y]es** **[N]o** (See Note below)

**Checksum** - - **[Y]es** **[N]o** (See Note below)

**Narrow Bar** – **[1]** .010” , **[2]** .015” **[3]** .020”

**Name** – A descriptive name for the tool.

**Text [O]ptions** – See TEXT TOOL Page 17.

**Note:**

**Human Readable** – Prints alpha/numeric characters of barcode below the barcode.

**Checksum** – Unique Check Digit used in barcode scanner technology to verify proper read by scanner device.

## BAR CODE TOOL

### **SERIALIZED BAR CODES**

For serialized bar codes, please see the Section entitled "Serial Tool". A serialization is first built and then the options are set to print as a Bar Code.

### **BAR CODE HELP**

Help can be accessed at any time while in the Bar Code Tool by pressing








Note: If the Bar Code Tool is chosen and no characters are entered, the printer default is to set up a blank tool on the screen.

## DATE/TIME TOOL

The Date/Time Tool allows the user to apply a time stamp to labels. The time and date applied to the label will be defined per the internal clock of the **Viper™** LS6. Please see section Setting up the **Viper™** LS6 page 29.



### Setting Time, Date, Alarm on the LS6

1. Press 
2. Select **[P]**rinter
3. Select Ti**[m]**e
4. Select **[T]**ime, **[D]**ate, or **[A]**larm
5. Enter appropriate information (See Note).
6. Press  to accept.
7. Press    to return to the **HOME** Screen

**Note:** Press [A] or [P] to toggle between a.m. and p.m. for time.

### Using the Date/Time Tool

**Step 1:** Press  from the Home screen .

**Step 2:** Select  from the Tools buttons using the  
Arrow keys and  or selecting **Quik-Key™ [M]**.

**Step 3:** Prompt Screen 1 – Time or Date

**[T]ime** – Setup as a Time Tool.

**[D]ate** – Setup as a Date Tool

**Step 4:** Prompt Screen 2 – Text or Current Time/Date

**[T]ext** – Allows fixed text (up to 16 characters) to be entered.


**[N]ow** – The tool will use the current time/date settings when the label is printed.

**Step 5:** Prompt Screen 3 – Text **[O]**ptions

See TEXT Tool Page 17 for text options available.

**Note:** If the Date/Time Tool is chosen and no characters are entered, the printer default is to set up a blank tool on the screen.








## SETTING UP THE VIPER™ LS6

Activate the setup screens by pressing the  key.

<b>[O]ptions</b>	<b>[M]ode</b>
<b>[F]ile</b>	<b>[P]rinter</b>
<b>[B]arCode</b>	<b>[U]tility</b>
<b>[H]elp</b>	<b>[L]abel</b>

The setup screens allow the user to set the default operating parameters for the printer, and the initial settings for the tools.

Working in the Setup Screens:

- Use the     keys to move the highlighter to the desired topic.  
**OR....**
- Type in the **Quik-key™ [bracketed]** to select the desired topic or Press .
- Use the  key to back out of a topic.
- Use the  key to view the Help text associated with a topic or sub-topic.

The following topics and sub-topics are available:

### Options

Text Rotation  
Text Size  
Text Style  
Text Position  
Text Characters  
Tool Rotation  
Tool Horizontal Position  
Tool Vertical Position

### File

Clear Memory  
Folder  
File Name  
File Type  
File Info  
Save a File  
Recall a File  
Delete a File

### Bar Codes

Human Readable Text  
Checksum  
X Dimension  
Input Mode

### Help

Show Tool Tops  
Show Tool Icons  
Help Index  
Demonstration

# SETTING UP THE VIPER™ LS6

## Mode

Component  
Wire Marker  
Terminal  
Tape  
Strip  
Notches

## Printer

Automatic Power Down  
Contrast  
Peel or Cut Position  
Sound Effects  
Feed Control  
Low Battery Setting  
Print Quality Setting  
Set Time, Date, and Alarm

## Utility

Battery Charging  
Games  
Calculator  
Language  
PC Mode  
Emulate  
Printer Status  
Sensor Sensitivity

## Label

Left Margin  
Right Margin  
Top Margin  
Bottom Margin  
Line Spacing  
Heat Setting  
Label Width  
Label Length  
Printable Length  
Label Cut Distance

## Examples:

### Mode:

[C]omponent	[M]ode
[W]iremarker	
[T]erminal	[P]rinter
[T]ape	[U]tility
[S]trip	
[N]otches	

### Options:

[O]ptions	[M]ode	RotTeExIt	[C]har Set	RotTeExIt	[F]0 0 deg
[F]ile	[P]rinter	[S]ize	Rot[T]ool	[S]ize	[F]1 90 deg
[B]arCode	[U]tility	St[y]le	[H]or Pos	St[y]le	[C]2 180 deg
[H]elp	[L]abel	[P]osition	[V]er Pos	[P]osition	[C]3 270 deg

RotTeExIt	[M]ore...	RotTeExIt		RotTeExIt	[F]0 Center
[S]ize	[F]1 6 pt	[S]ize	[F]0 Normal	[S]ize	[L]Left
St[y]le	[C]2 8 pt	St[y]le	[U]nderlin	St[y]le	[R]Right
[P]osition	[C]3 10 pt	[P]osition	[R]everse	[P]osition	
	[C]4 12 pt				
	[C]5 16 pt				


## SAVING FILES

The **Viper™** LS6 has the ability to save and retrieve label files and data files. The operating system uses a portion of memory for a label work area, and another portion to store the internal data list. The user creates a label in the label work area. Saving a label file (filename.LS6) stores the contents of the label work area in to the permanent file storage area of the internal memory. The user creates or edits the data list in the data list work area. Saving a data file (filename.DAT) stores the contents of the data list work area into the permanent file storage area of the internal memory. Retrieving a file places a copy of a permanently stored file into the appropriate work area.

The file storage area contains 16 folders. Each folder can store up to 16 files. Each file must be given a unique name of up to 8 characters. The folders allow files to be grouped by name, job, label type, or by some other scheme.

Saving or retrieving files is completed through the SETUP menu as follows:

### Saving a Label

1. Ensure the printer is in On position
2. After label definition has been completed, press  to show **SETUP** menu

[O]ptions	[M]ode
[F]ile	[P]rinter
[B]arCode	[U]tility
[H]elp	[L]abel


3. Select [F]ile – Activates folder selection prompt:

[ESC] end [FEED] help  
Folder # [N]ame  
0 0  
[ENTER]Accept /browse/




to scroll Folders

The screen depicts the folder number and folder name. The default settings for the printer are numeric names for folders 015. Step 4 allows the user to change the name of the folder to a relevant title for label storage identification.

4. Press [N]ame or  to accept the indicated folder. Choosing [N]ame allows the user to enter in up to 8 characters to identify the folder where you wish to store the label. The LS6 is configured with 16 file folders numbered from 0 to 15 which can remain numbered or named with an 8 digit alphanumeric/numeric character.


## SAVING FILES

5. Press  after completion of folder name which will activate the file naming prompt screen


```
[ESC] end [FEED] help
File [N]ame . [T]ype
TEST . DAT
[ENTER]Accept /browse/
```

    to scroll Files

Select [N]ame to name the label file that has been defined. Use up to 8 characters are allowed for the name.

6. Select [T]ype to select the file type. (Label.LS6) or (Data.DAT).
7. Press  to accept.
8. Press [S]ave to save the file

```
[ESC] end [FEED] help
0 \ TEST.DAT
[S]ave [L]oad [D]el
[ENTER]Accept /browse/
```

9. Press either  to exit file storage or [I]nfo or [C]lear All


```
[ESC] end [FEED] help
File Options
[I]nfo [C]lear All
[ENTER]Accept /browse/
```

10. Pressing [I]nfo will prompt the following screen.

```
Filename: TEST
Type: DAT
Part #: ----
[P]rotect: No 05/10/01
[L]ocked: No 08:46:06am
```

[P]rotect – Toggles between [Yes/No] to define file as Read Only.

[L]ocked – Toggles between [Yes/No] to protect file from deletion.


 **Warning** – Pressing [C]lear All will result in loss of Printer Memory (Label Files) and is irreversible!

11. Pressing [C]lear All will prompt the user to Format the Printer Memory.



## RETRIEVING FILES

### Retrieving a Label File

1. Press  to show **SETUP** menu

[O]ptions	[M]ode
[F]ile	[P]rinter
[B]arCode	[U]tility
[H]elp	[L]abel

2. Select [F]ile – Activates folder selection prompt:


[ESC] end [FEED] help


Folder # [N]ame  
0 0

[ENTER]Accept /browse/



to scroll Folders

3. Select the folder where the label file is located. Press 

4. Select the label file. Press  to Accept

[ESC] end [FEED] help

File [N]ame . [T]ype  
TEST . DAT

[ENTER]Accept /browse/



to scroll Files


5. Press [L]oad to retrieve the file

[ESC] end [FEED] help

0 \ TEST.DAT  
[S]ave [L]oad [D]el

[ENTER]Accept /browse/

**NOTE: The LS6 will not allow file loading unless the correct label part is installed in the printer.**

6. Press either  to exit file storage to HOME Screen or [I]nfo or [C]lear All

[ESC] end [FEED] help

File Options  
[I]nfo [C]lear All

[ENTER]Accept /browse/


## RETRIEVING FILES

7. Pressing [I]nfo will prompt the following screen.

```
Filename:  TEST
Type:     DAT
Part #:   ----

[P]rotect: No 05/10/01
[L]ocked:  No 08:46:06am
```

[P]rotect – Toggles between [Yes/No] to define file as Read Only.  
[L]ocked – Toggles between [Yes/No] to protect file from deletion.

 Warning – Pressing [C]lear All will result in loss of  
Printer Memory (Label Files) and is irreversible!

8. Pressing [C]lear All will prompt the user to Format the Printer Memory.

## INTERFACING TO 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 the operating system in multiple languages and the **ViperLink™** software program as well as a serial cable for connecting the **Viper™** LS6 to your personal computer (PC). The **ViperLink™** software program allows the user to

- Upgrade the operating system
- Copy files (.DAT or .LS6) from the **Viper™** LS6 to the PC
- Copy files (.DAT or .LS6) from the PC to the **Viper™** LS6
- Create / Edit a **DATA** File (.DAT )
- Retrieve Printer Status Information

The **ViperLink™** software does not currently possess the following functionality

- Download MS Excel\* spreadsheet to **Viper™** LS6
- Import .bmp/.jpg logo
- Download **Pan-Mark®** files to LS6
- Use of **Viper™** LS6 as “DUMB” printer

See the **ViperLink™** CD (LS6-CD) for installation of the **ViperLink™** software onto the Personal Computer. Follow the installation wizard to install the software on your computer. Use the serial cable (Enclosed in LS6-PCKIT) to connect the Personal Computer (9 Pin Serial Port) to the LS6 (RS232 Port)

Upgrades to the **Viper™** LS6 Internal operating system can be downloaded from the Panduit Internet website. The web address is:


**[www.panduit.com/eg/ls6](http://www.panduit.com/eg/ls6)**

The website also has other pertinent information related to the LS6. It will be required for the user to download a operating system upgrade via the Panduit website to his personal computer then use the **ViperLink™** software to upload the revised operating system to the LS6 Printer. File format for the operating system is LS6\_VERXXX.bin. Downloading of any other binary (.bin) file into the LS6 will result in non-functionality of the unit.

\* MS Excel is a trademark of Microsoft Corporation.

## INTERFACING TO A COMPUTER

The LS6 must first be in PC Mode before attempting the above items. To engage PC mode on the LS6:

**Step 1:** With the printer **ON** and at the HOME screen, press 

**Step 2:** Press **[U]** for Utility



**Step 3:** Then press **[P]** for PC Mode. You are now ready to perform tasks between your PC and the LS6.

**NOTE:** The Screen of the LS6 will go blank and flicker when upgrading Operating system.

## 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 and remove label cartridge from printer.
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.

## 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 Service at **866-871-4571**.

SYMPTOM	ACTION
<b>POWER</b>	
Printer does not power up properly, and LCD does not come on.	<ul style="list-style-type: none"> <li>To turn printer ON, depress the power button.</li> <li>Make sure the battery pack is fully charged. Charge a drained battery pack for a minimum of 15 hours with LS6-ACS.</li> <li>Plug in AC Adapter. Ensure power cord is firmly seated into adapter.</li> <li>Make sure battery pack plug is connected to printer plug in battery compartment</li> <li>Battery pack is worn out or damaged. Try a new charged battery pack. (LS6-BP).</li> </ul>
<b>PRINTING</b>	
Not printing.	<ul style="list-style-type: none"> <li>Make sure printer:               <ol style="list-style-type: none"> <li>Is turned ON</li> <li>Has ribbon cartridge properly loaded</li> <li>Ribbon cartridge locked in place</li> <li>Label mandrel seated properly</li> <li>Labels positioned in feed mechanism correctly</li> </ol> </li> <li>Remove ribbon cartridge and clean print mechanism with provided cleaning card.</li> </ul>
Too Big!	<ul style="list-style-type: none"> <li>Tool too large for label print on area. Adjust size of tool or text font size within tool to fit on label.</li> </ul>
Media is not advancing properly in the printer.	<ul style="list-style-type: none"> <li>Ribbon knob not locked. Rotate ribbon knob into locked position.</li> <li>Label jam in printer. Label is caught in print mechanism.</li> <li>To clear jam:               <ol style="list-style-type: none"> <li>Turn printer power OFF.</li> <li>Open label door.</li> <li>Detach any printed labels w/cutter.</li> <li>Open ribbon lock knob.</li> <li>Remove unprinted labels from the printer.</li> </ol> </li> </ul>

## TROUBLESHOOTING

SYMPTOM	ACTION
PRINTING	Continued
	<p>6. Carefully remove any labels caught in the printer.</p> <ul style="list-style-type: none"> <li>• Ensure that labels are properly positioned in label path and that width guides are in contact with both sides of the label.</li> <li>• End of label roll reached. Detach end of label roll from core.</li> </ul>
Printed image is full, but grayish or “translucent”.	<ul style="list-style-type: none"> <li>• Print head energy setting is too high. Reduce energy setting.</li> <li>• Ribbon and media are incompatible. Test alternative ribbon or media.</li> </ul>
Voids in printed image: areas where there is no print.	<ul style="list-style-type: none"> <li>• Dust on label. Remove dust with compressed air. Place static tinsel across label unwind.</li> <li>• Tag or label surface is inconsistent (including color flood coating). Choose face sheet or flood coating inks specifically designed for thermal transfer.</li> <li>• Ribbon and media are incompatible. Test alternative ribbon or media.</li> <li>• 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.</li> <li>• Print head elements or “dots” are burned out. Replace print head.</li> </ul>
Repetitive voids in image.	<ul style="list-style-type: none"> <li>• 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.</li> <li>• Print head elements or “dots” are burned out or worn down. Replace print head.</li> </ul>

## TROUBLESHOOTING


SYMPTOM	ACTION
<b>PRINTING</b>	
Streaks or “dead spots” in printed image.	<ul style="list-style-type: none"> <li>• Ribbon is wrinkled. See ribbon wrinkling.</li> <li>• Poor coating quality on tag or label surface. Contact media supplier for assistance.</li> <li>• Clean print head with pre-saturated cleaning card (LS6-CLN), or soft-stemmed swab and isopropyl alcohol.</li> </ul>
Not printing any image (or barely any image).	<ul style="list-style-type: none"> <li>• Ribbon and media are incompatible. Test alternative ribbon or media. Alternative ribbons are wax or resin.</li> </ul>
Printer stalls or will not print.	<ul style="list-style-type: none"> <li>• Ribbon or media is not loaded properly. Reload ribbon and media, making sure both pass under respective sensors.</li> <li>• Ribbon or media sensors are dirty or obstructed. Clean sensors with soft-stemmed swabs and isopropyl alcohol or compressed air.</li> </ul>
<b>RIBBON</b>	
Ribbon is not advancing properly.	<ul style="list-style-type: none"> <li>• Ribbon is not loaded correctly. Load ribbon properly at side of printer and ensure knob is in lock position.</li> </ul>
Ribbon wrinkling.	<ul style="list-style-type: none"> <li>• Ribbon not loaded correctly. Remove ribbon, re-insert and lock.</li> <li>• Ribbon not wound tightly prior to installation. Remove ribbon, wind take-up until slack disappears, re-insert ribbon and lock in position.</li> </ul>
Printer doesn't stop when out of ribbon.	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"> <li>• Ribbon cartridge empty. Replace ribbon cartridge.</li> </ul>



## TROUBLESHOOTING

SYMPTOM	ACTION
<b>LABELS</b>	
Labels not registering	<ul style="list-style-type: none"> <li>• Make sure that label mandrel is firmly seated in socket</li> </ul>
	<ul style="list-style-type: none"> <li>• Width guide loose. Make sure the width guide is properly placed and fixed in place. Per specific label.</li> <li>• Printer not reset for new label format. Turn printer OFF, then ON again. Printer will re-calibrate for new label.</li> </ul>
Die-cut labels continue to feed without “calibrating”.	<ul style="list-style-type: none"> <li>• Label sensor is dirty or obstructed. Clean sensor with soft-stemmed swab and isopropyl alcohol or compressed air.</li> <li>• Printer is set in “no notches” mode. Change setting to “notches” mode in label software.</li> </ul>
<b>BAR CODES</b>	
Character does not display on screen when key is depressed.	<ul style="list-style-type: none"> <li>• Key is stuck. Make sure no keys are stuck in the depressed position.</li> </ul>
Poor edge definition (bar codes and alphanumerics).	<ul style="list-style-type: none"> <li>• Print speed is too high. Reduce print speed.</li> <li>• Ribbon and media are incompatible. Test alternative ribbon or media.</li> </ul>
Bar codes smearing (bar code edges “bleeding” or “feathering”.	<ul style="list-style-type: none"> <li>• Print head energy setting is too high. Reduce energy setting until bar edges are clean.</li> <li>• Print speed is too high. Reduce print speed.</li> <li>• Rotated (“ladder” style) bar code is being used. Change label design to include only normal (“picket fence” style) bar codes.</li> </ul>
Bars in bar codes are too wide or too narrow resulting in a poor scan grade.	<ul style="list-style-type: none"> <li>• Print speed is too high. Reduce print speed.</li> <li>• Print head energy setting is too high/too low. Adjust to optimize average bar growth (visually or with verifier).</li> </ul> <p>Overburn (too much ribbon transfer). Reduce print head energy setting or use a ribbon with lower sensitivity (refers to ribbons requiring more energy).</p>

## TROUBLESHOOTING

SYMPTOM	ACTION
BAR CODES	Continued
	<ul style="list-style-type: none"> <li>• Bars too thick. Reduce print head energy setting.</li> </ul>
Insufficient print contrast: Bars are not dark enough, spaces are not light enough.	<ul style="list-style-type: none"> <li>• Print head energy setting is too low. Increase print head energy setting.</li> </ul>
OTHER	Continued
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.

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

## GENERAL SPECIFICATIONS

Print Method:	Thermal transfer or direct thermal
Effective Print Width:	1.89" (48 mm)
Print Length:	20.0" (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:	3" diameter label roll (internal)
Media Types:	Die cut or continuous tapes
Materials:	Vinyl self-laminating, flattened heat shrink, vinyl cloth, polyester, continuous tape, vinyl, non-adhesive polyester, paper.
Media Cutting:	Manually operated cutter
Ribbons:	Replaceable cartridges, wax or resin
Keypad:	49 color coded keys with overlay
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.
Memory Card:	Future - PCMCIA Type I and Type II memory cards.
Serial Port:	RS-232 Serial Interface for PC hook-up or bar code scanner.
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.
Sound Effects:	Audio speaker included
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 (Future)	LS6-RHBLK
Battery Pack	LS6-BP
LS6 <b>ViperLink</b> ™ Software w/ Computer Connection Cable	LS6-PCKIT
LS6 AC Adapter/Battery Charger	LS6-ACS
Carrying Case	LS6-CASE
Cutter Assembly	LS6-CUTTER
Cleaning Card (kit – 5 Cards)	LS6-CLN
Operator's Manual	LS6-MAN-*
Quickstart Card	LS6-QS-*
Exercise Card	LS6-EX-*

\* Insert Language code as applicable:

**A** - English, **D** - German, **E** - Spanish, **F**- French, **I** – Italian, **J** – Japanese,  
**P**- Portugese