

# **LOVESHAW**

***Little David®***

## ***VersaJet LC***

**Large Character Ink Jet Printer**



### **OPERATOR'S MANUAL**

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**P/N CPLC-100**

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### Introduction



The VersaJet LC is a simple, low cost, standard two-line to six-line large character or optional high character ink jet coder. They have been designed for easy installation on any standard conveyor line with minimal maintenance and maximum flexibility.

Standard features include: one 7x5 dot matrix printhead dotting at speeds up to 100 feet per minute. Automatic date and time coding, day of the week designation, Julian dating, alpha/numeric incrementing, automatic box counting, lockout capability and complete keyboard are also included. Keys are also provided for print control of dot size, product delay and character width adjustment.

The VersaJet LC is user friendly in every way. Their small size and sophisticated capabilities combine with extraordinary ease of installation, maintenance and operation, for the ultimate in satisfaction — at low cost.

Each printhead can be mounted individually for maximum flexibility. Ink is provided via a separate regulated pump where a continuous bulk supply of water based ink can be provided. The ink can easily be changed from black, red, blue, green or ultraviolet. Pre-conditioning Solution and Cleaning Solution are also available. The printheads are available in 3/8", 1/2", 7/8", 1/4", 1 1/2", 2" or a high character 15/16", 1 1/4", 2 7/32" size.

In order for our printer to image the message, the conveyor must provide the following: continuous motion, product indexing, guide rails for crisp imaging.

LOVESHAW offers optional standard Little David Case Taper bases that provide for ink jet printer mounting. Contact your Little David Distributor for details and pricing.

The software for the VersaJet LC is Year 2000 (Y2K) ready.

**(Personal Protection Equipment like safety glasses / goggles and other protective gear should be worn when using ink jet printers.)**

## **Installation of Controller**

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### **Installation of Controller**

The performance of your VersaJet LC Ink Jet Printer can be greatly affected by the way it is installed. It is very important that this section of the manual is studied carefully before performing an installation.

### **Unpacking**

The VersaJet LC System is supplied in various corrugated boxes. Open the boxes, remove and check the contents. Below is a checklist of parts contained for a typical system. Use the packing slip as your checklist.

- Controller
- Printhead
- Ink System Assembly with External Power Supply
- Power Cord
- Operator Manual
- Controller Bracketry Kit
- Printhead Bracketry Kit
- Product Detection Device (Photocell)

The VersaJet LC Printer is made up of these major components; the Controller, Printhead & Ink System Assembly. This section details the installation process for these major components and peripherals.

### **Application Notes**

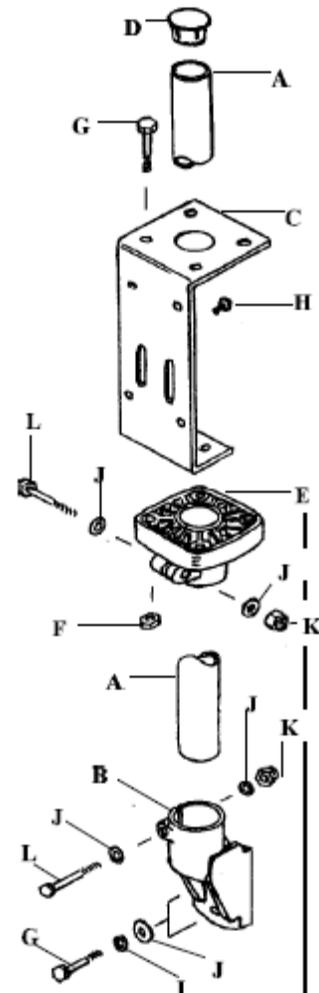
1. When mounting the VersaJet LC Controller, it should be placed to allow the user easy access. The LCD display should be viewable where the keypad can be used.
2. A standard 10' printhead umbilical cord length is included as standard. If the need arises, longer printhead umbilicals can be supplied as an option.
3. The controller is industrial, however, not water tight and should be mounted away from wash down environments or covered during the wash down process.

\*

## Controller Mounting

The VersaJet LC Controller can be mounted using the Conveyor Side Bracketry Kit included or by the use of an optional Floor Stand.

- A 1 2" (50mm) x 3' (915mm) Post (Part #LF-X20018) or 1 2" (50mm) x 6' (1830mm) Post (Part # LF-X25019)
- B 1 Conveyor Side Bracket 2" (50mm) (Part #LF-X20105)
- C 1 Controller Bracket (Part #LF-X20017)
- D 1 2" (50mm) Post Cap (Part #LF-X20025)
- E 1 Post Clamp (Part #LF-X20003)
- F 6 Nut, 3/8 x 16 Hex (Part #LF-X22017)
- G 6 Bolt, 3/8 x 16 x 1 ½ Hex (Part #LF-X22061)
- H 4 Screw, 1/4 x 20 x 3/8 Rnd Hex SS (Part #LF-X22069)
- I 4 Washer, 5/16 x 18 lock/split (Part #LF-X22073)
- J 6 Washer, 5/16 x 18 flat (Part #LF-X22074)
- K 2 Nut, 5/16 x 1 x 18 Hex (Part #LF-X22072)
- L 2 Bolt, 5/16 x 18 x 2 ½ Hex (Part #LF-X22114)

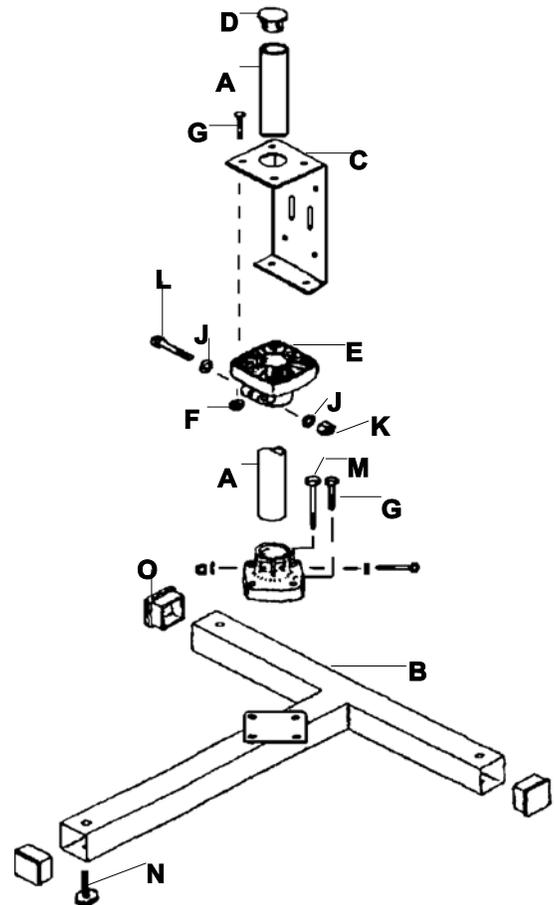


### VersaJet Conveyor Bracket Assembly (Part #LF-S02200)

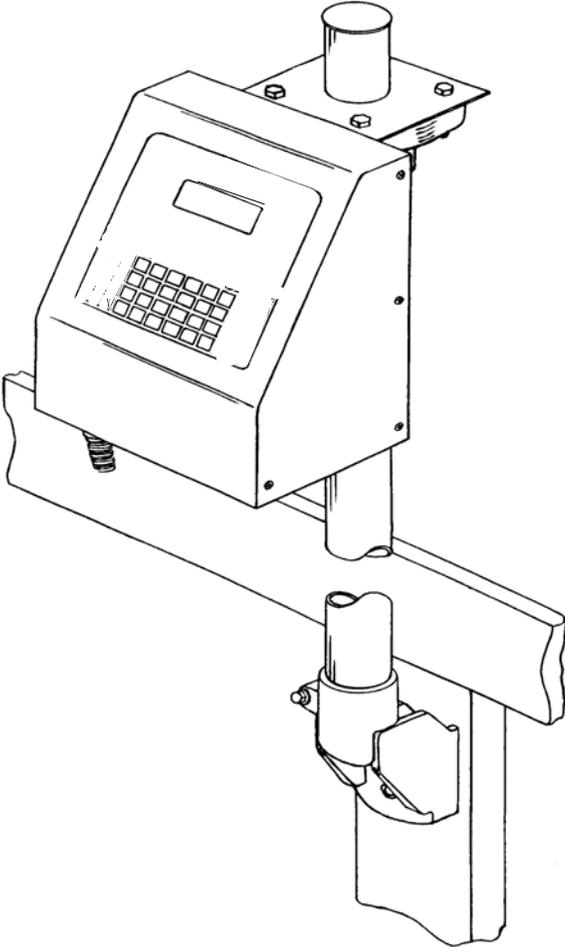
## Optional Floor Stand

The VersaJet LC Controller can be mounted using the Conveyor Side Bracketry Kit included or by the use of an optional Floor Stand.

- A 1 2" (50mm) x 3' (915mm) Post (Part #LF-X20018)
- B 1 Stand T-Base (Part #LF-X21044)
- C 1 Controller Bracket (Part #LF-X20017)
- D 1 2" (50mm) Post Cap (Part #LF-X20025)
- E 2 Post Clamp (Part #LF-X20003)
- F 8 Nut, 3/8 x 16 Hex (Part #LF-X22017)
- G 6 Bolt, 3/8 x 16 x 1 ½ Hex (Part #LF-X22061)
- H 4 Screw, 1/4 x 20 x 3/8 Rnd Hex SS (Part #LF-X22069)
- I 2 Washer, 5/16 x 18 lock/split (Part #LF-X22073)
- J 4 Washer, 5/16 x 18 flat (Part #LF-X22074)
- K 2 Nut, 5/16 x 1 x 18 Hex (Part #LF-X22072)
- L 2 Bolt, 5/16 x 18 x 2 ½ Hex (Part #LF-X22114)
- M 2 Bolt, 3/8 x 16 x 3 ½ Hex (Part #LF-X22062)
- N 3 T-Base Feet (Part #LF-X22058)
- O 3 Caps, T-Base (Part #LF-X22051)



## VersaJet Floor Stand Assembly (Part #LF-S02118-01 3' or LF-S02119-01 6')



**VersaJet LC Controller, Conveyor Side Bracket Mounted**

## Installation

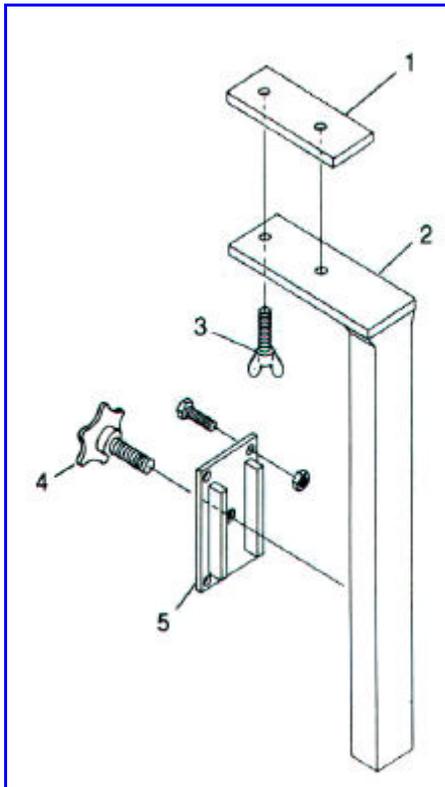
- ◆ Using Conveyor Side Bracketry or Floor Stand to mount the controller unit.

**NOTE: It is highly recommended that a power line conditioner / regulator be used with the VersaJet LC (see Optional Spare Parts P/N CPVA40-003-0).**

- ◆ Connect the detachable power cord of the transformer to the connector located under the ON/OFF switch on the bottom of the unit.

Locate the following parts for the printhead.

- Mounting block assembly with Hand Knob.
  - L-Bracket with Thumbscrews and Clamping Nut.



- ◆ Secure Mounting Block Assembly with opening vertical to the support structure that will hold the VersaJet. Use the four bolts supplied to secure the block to the structure.
- ◆ Insert the L-Bracket through the Mounting Block and tighten the Hand Knob.
- ◆ Loosen Thumbscrews on the top of the L-Bracket.
- ◆ Slide the Clamping Nut into the VersaJet LC Mounting Channel (running the length of the unit on the bottom).
- ◆ Plug printhead into the controller.

## Ink System Installation

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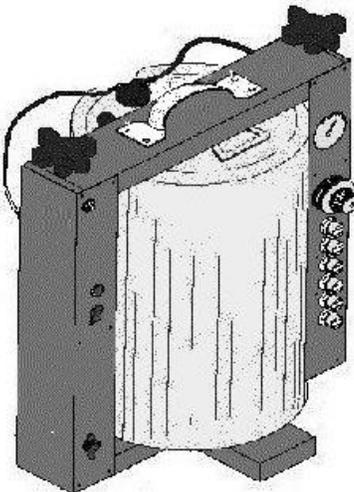
### Ink System Function

The VersaJet LC ink system consists of the following components:

- 2-Amp External Power Supply (either 115 or 220 volt AC input)
- Internal 24 Volt DC Power Board
- Low Ink Light/Relay assembly
- Air Pump assembly
- Regulator and Pressure Gauge assembly
- Manifold assembly
- Ink Pick Up Tube/Cap assembly
- 5 Gallon Container Winpak with Ink (Must be ordered with system)

The 5 Gallon Winpak ink container is installed to the pump frame as shown below. When the main power switch is in the “ON” position, the ink container is pressurized and the ink fluid is pushed to the regulator/gage assembly. This high pressure side of the ink fluid is connected to a regulator that allows ink pressure adjustments to the output manifold.

A capacitive low ink sensor determines the amount of fluid remaining in the container which is positioned to indicate a low ink condition. The low ink light on the frame of the pump assembly will illuminate during a low ink condition. An internal normally open relay circuit is installed within the ink pump frame that allows for an external remote low ink signal. An external low ink signal is available as an option.



**Warning: Make sure top bar is secure before turning pump on.**

Figure 1 Air Pressurized Ink Pump

## PC Communication Installation

### Interconnect Cables between the PC and the VersaJet LCs.

Default setup is RS232. RS232 connection is a point to point connection where only one COM port may be connected to one VersaJet. A maximum cable length is 300 feet using Braided Shield Extended Quite Cable.

DB9	DB25	VersaJet DB9
2 (RXD)	3 (TXD)	2 (TX)
3 (TXD)	2 (RXD)	3 (RX)
5 (GND)	7 (GND)	5 (Ground)
Shield	Shield	Shield

*Some RS232 boards have different pinouts, review hardware provided documentation.*

If RS232 is used only one unit can be connected to a Windows computer using multitasking. Only one VersaJet can be connected to one RS232 system at one time. If more units have to be connected or if the cable length is longer that 300 feet, RS422 must be used. RS422 allows for up to 32 VersaJet units to be connected to each COM port.

RS422 connection is a multi drop connection. The PC is the master and the VersaJets are the slaves to it. A maximum cable length if 1000 feet.

A RS422 unit is indicated by the serial number and two Interface connector on the Right Bottom of the unit. Switching from RS232 to RS422 requires a few cable and jumper changes.

RS232 connection is on the Right internal driver board RS2 labeled RS232. On the Left is RS7 labeled RS422. Change this ribbon cable connection. It is selected by 3pin of RS6 from the two right pins to the two left pins. The last unit must only have pull up resistors on it therefore remove RS4 and RS5 jumper if not the last unit. This is the only two jumpers visable on the board facing up. Now the connector is specified below:

From Master (PC) to Slave (VJ)

TXD(PC) (H or +) to RXD (H or +)  
RXD(PC) (H or +) to TXD (H or +)  
Ground(PC) to Ground(VJ) pin 5

TXD(PC) (L or -) to RXD (L or -)  
RXD(PC) (L or -) to TXD (L or -)  
Shield(PC) to Shield(VJ)

Pin Signal Name Type VersaJet Signals

1 RS485 TX- Output  
2 RS485 RX+ Input  
3 RS485 RX- Input  
5 DC Ground Ground  
9 RS485 TX+ Output

*Each RS485 board has different pinouts, review hardware provided documentation.*

*The provided RS485 board may or may not require terminator resistor or jumper change.*

From each VersaJet unit to next VersaJet unit is:

1 - 1 (TX-) 2 - 2 (RX+)  
3 - 3 (RX-) 5 - 5 (Grounds)  
9 - 9 (TX+) Shield to Shield

These VersaJet unit are slaved to the PC master computer and therefore have all their signals connected to each other.

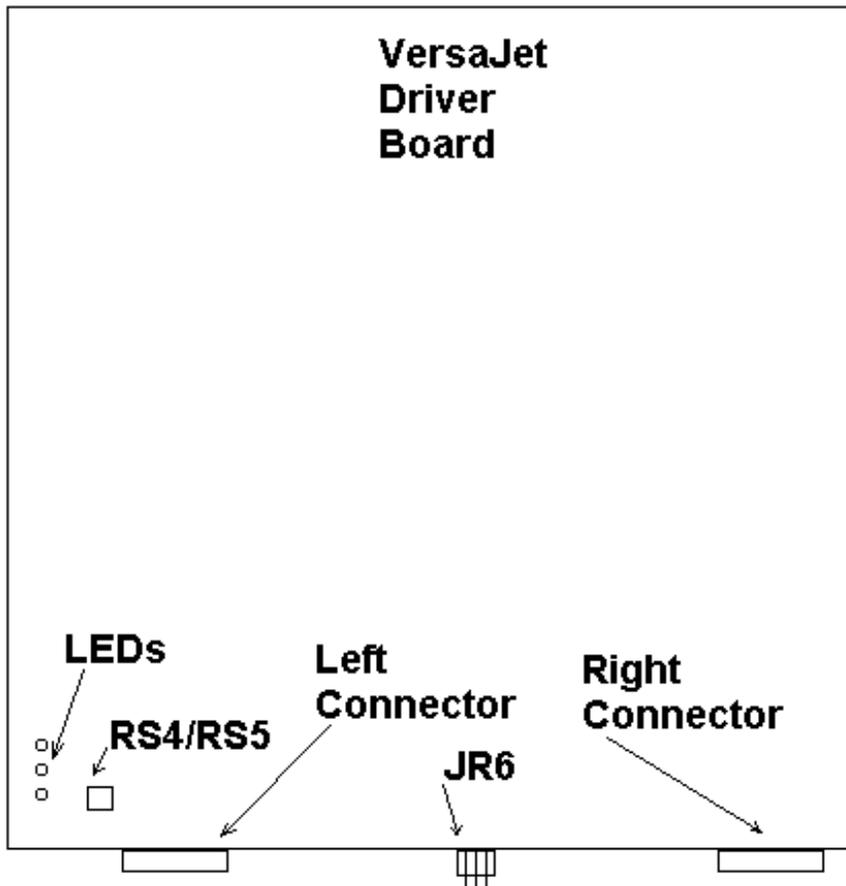
See page 24 to set the Net ID under the Other Menu, each unit must have a unique ID.

### VersaJet Console RS485 setup.

To set the VersaJet from RS232 to RS485/RS422 communications jumper JR6 must be move from the Right position to the Left position.

The 10 wire ribbon connector must be move from the right connector to the left connector.

Jumpers RS4 and RS5 are the terminator resistors, only the last unit in the chain must have



these jumpers on.

To setup PC computer see Loveshaw Net RS232 & RS485 Setup for VersaJet HR & SI Systems and Window LCX Program. For additional information also see the VersaJet LC Technical Manual.

## Operation

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### Operation

The VersaJet LC is not shipped with an ink container. Ink is shipped separately in its own shipping case. **(Personal Protection Equipment like safety glasses and other protective gear should be worn when using ink jet printers. )**

- ◆ With an open container in front of the nozzle plate, hold the purge switch down until ink reaches the nozzle plate and streams of ink result.
- ◆ Back flush any nozzle that does not give a straight and steady stream of ink.
- ◆ **The unit is ready to print.**
- ◆ The LCD screen will show the software version and the word "LOCKED". Unlock the controller by entering the unlock code: 5863434. When the correct unlock code has been entered, the LCD screen will show a test message, be blank or show the last message printed.
- ◆ To enter your message, press **MSG** key. There will be a blinking cursor on the upper left side of the LCD screen.
- ◆ Press the character keys to create your message. It will show up in the LCD screen. Remember that a message line is 39 characters maximum. Spaces are included in the character count.
- ◆ Use the **INCR**, **DECR** keys to move the cursor to make any necessary corrections as you prepare your message.
- ◆ When your message is complete, press **ENTER** and your message will print after a box passing in front of the unit has activated the photocell.
- ◆ Adjust the dot size by pressing the **SIZE** button and entering a value normally above 150.

### Printing

The VersaJet LC won't print when a feature is being used. The **ENTER** key should always be pressed when finished with a feature or printing can't occur. If there is any doubt about this, just press **ENTER** a few more times (Some features require the sequence **MENU, ENTER** to exit).

**NOTE: BOLD CAPITAL LETTERS USED IN THE TEXT OF THIS MANUAL DENOTES A KEY ON THE KEYPAD.**

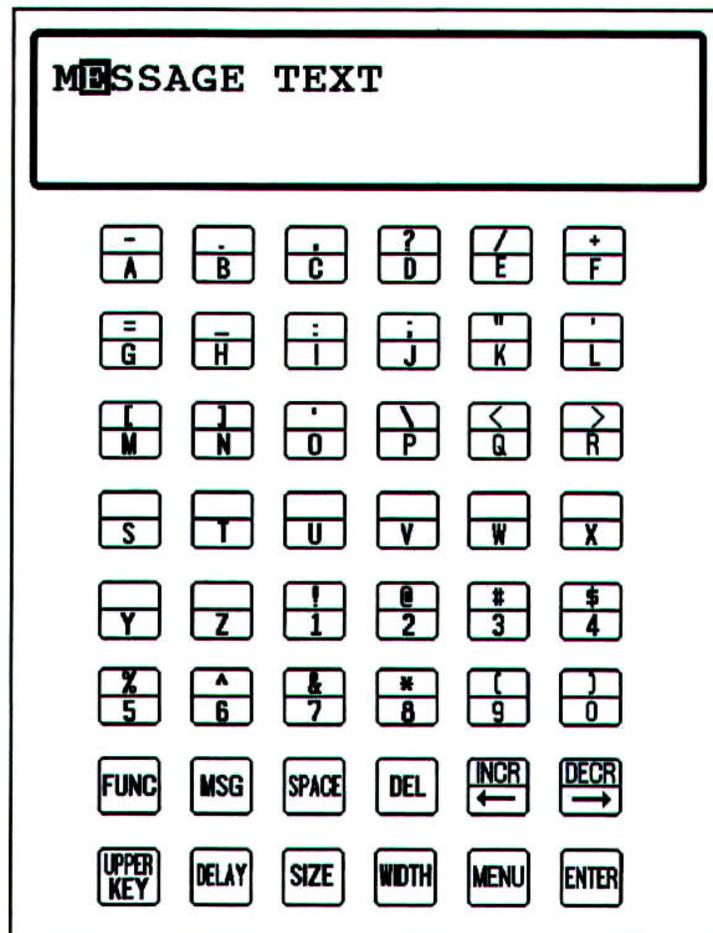
## Keyboard and Display

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### Keyboard and Display

The keyboard and display are used to “set-up” the VersaJet LC to print any desired message. The keyboard is used mostly for entering messages to be printed, but is also used to adjust VersaJet LC features.

To use any VersaJet LC features, including entering or changing print messages; a “command” key must be used. The keyboard has various kinds of keys on it, including the command keys.



## **Keyboard and Display**

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### **Character Keys**

The top six rows of the keyboard contain all the characters in the alphabet, numbers and various figure characters.

**SPACE** On the bottom of the keyboard is the space key. It is like a typewriter space key and is used to put blanks into printed messages.

There are six control keys among the keys on the bottom two rows of the keyboard.

### **Control Keys**

**UPPER KEY** When the upper key is pressed and held down, and then one of the letter keys with a “figure” shown on the key top is pressed and then both keys released, the figure character is entered instead of the letter. These figure characters are used when entering print messages.

**FUNC** When the func key is pressed and held down and then one of several letter keys is pressed, and then both are released, special “functions” are activated; these functions are only used when entering print messages.

**ENTER** Pressed to “enter” a number or command when adjusting VersaJet LC features.

**DEL** Removes characters or numbers.

**INCR** ← Used when entering numbers and print messages.

**DECR** → Used when entering numbers and print messages.

### **Command Keys**

On the bottom two rows, there are five command keys: **DELAY, SIZE, WIDTH, MSG AND MENU**. These command keys are used to activate VersaJet LC features. **MSG** is used to enter or change print messages, **DELAY, SIZE** and **WIDTH** adjust printing and **MENU** provides access to many other features.

### **Numbers**

When a command key is pressed, the screen displays a message about the selected feature. Many of the features will print a number and allow the operator to adjust it. This can be done

by pressing number keys or by using the **INCR** ← and **DECR** → control keys to make the number larger or smaller. Pressing **DEL** makes the original number reappear. Pressing **SPACE** after a number key is used will “back-up”.

Finally, pressing **ENTER** sets the feature to the displayed number. The VersaJet LC automatically prevents “out-of-range” numbers.

## **Keyboard and Display**

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### **Mistakes**

If you press a wrong key — for instance, using a key other than a command key when trying to select a feature — the VersaJet LC will display a blinking error message for about four seconds; often the error message will include some information about the correct keys that should be pressed.

### **Command Key Features**

**DEL** Adjusts the time after a box is detected before printing is started.

**SIZE** Adjusts the size of the dot; how much ink is used to print a message.

**WIDTH** Adjusts the width of a message; a smaller number makes the message narrower.

**MSG** The MSG command key is used to type in print messages. After pressing **MSG**, press the letter, numbers or spaces that should appear in the print message; if unwanted characters are in the message — from a previous message, for instance — use **DEL** or the **SPACE** key to erase them. Figure characters are put into a message by pressing **UPPER KEY** plus the letter with the desired figure character shown above it.

There are seven special printing effects that can be put into a message: time, expiry, bold, count, pallet count and high and (medium characters if available). (High and medium characters must be on line 1, “**MENU, 1**” for the first high character printhead). Line 3 for the second and 5 for the third. In each case, pressing **FUNC** along with a letter — **T, E, B, C, P** or **H** creates the special effect. Then, various letters or numbers are entered. Finally, the same **FUNC** — plus letter combination is pressed to “close” the expression. When **FUNC** plus **T, E, B, C, P** or **H** is used in the **MSG** feature, a lower case version of the character appears in the message; other wise all letters are capitals. Figure 4 shows how a buffer with date codes, count codes and pallet codes might appear in the display



**Figure 4**  
*Date, Count and pallet coding*

### **Effects**

The (**FUNC+B**) “bold” effect causes double-width characters to be printed. The “count” effect causes any numbers of letters between two **FUNC + C**’s to be incremented every time a box is printed. The (**FUNC+P**) “palled” effect is like the count, except that it counts multiples, i.e., pallets (The pallet size can be set with the menu pallet feature, described later).

The (**FUNC+T**) “time” effect allows dates and times to be printed. The electronic clock should be set to the correct time (See Time Codes). The expiry effect (**FUNC + E**) provides additional time codes, including expiration dates and a shift character.

## Keyboard and Display

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### High Character Effect

Characters placed between two **FUNC + H** tokens will be printed in a double-high effect (see figure 5); however, the text *must be entered on line 1, 3, or 5: switch* to line 1 (**MENU, 1**), press the **MSG** key and then use the **FUNC + H** tokens with the desired text.

Occasionally the high effect is used on both lines 1 and 2, to “line-up” and effect, as shown in the Figures. High characters on line 1 don’t print, but they do occupy space, which can help line-up the message for more complicated effects on the first high character printhead.

h#7h Building (line 1)
h#7h 24 (line 2)

**Figure 5.**  
**High Character Composition**

The second high character printhead is lines 3 and 4 and the third high character printhead is lines 5 and 6. Using these printheads give a character using 16 valves. Using this **FUNC + H** tokens with **FUNC + F** tokens in special software may offer varied foreign fonts like Chinese, Arabic, among others.

### Other Msg Keys

Some other keys have special effects when using the **MSG** feature. The **INCR ←** and **DECR →** keys move through the message; pressing **FUNC + DEL** erases the previous character.

**FUNC + S switches** lines #1 and #2: if the other line is empty, the current line is copied to it; if this line is empty, then the other line is copied to it; and finally, if both lines have text in them, then the text is switched.

### Exiting

Once the print message looks correct, press **ENTER**.

### Non-English Characters

To enter non-English characters into a message, use **FUNC + L** (“L” is for Language; the accent which is also on the L key is another way of remembering it). Non-English characters will appear in the buffer where the cursor was; using the **DECR →** and **INCR ←** keys will display all the other available non-English characters.

Press **ENTER** to select the non-English character shown; or pressing **MSG** will go back to message without changing anything.

8). It often won't look like the character shown during the selection process, but instead a "place-holder" is used to indicate the presence of the non-English character. Such "place-holders" often bear only a vague relationship to the actual character that will be printed.

## Keyboard and Display

### Non-English Characters, Contd.

An example: The operator wants to put the accented E character "É" into a print message. Using the **DECR** → or **INCR** ← keys if necessary, move the cursor to the position where the character should appear. Press **FUNC + L** a non-English character appears. If it isn't "É", use **DECR** → or **INCR** ← until "É" appears, then press **ENTER** to select the "É".

Immediately after **ENTER** is pressed, the displayed "É" changes to a "place-holder" that looks like ε — it is supposed to be "reminiscent" of the "É" character (see figure 9). This arrangement reflects a limitation of the VersaJet LC LCD display; the correct non-English character — in this case "É" — will be printed.

**Figure 8**  
*Non-English Character Before Selection*

```
Z Ä H L E N c 0 2 4 c
```

**Figure 9**  
*Non-English Character After Selection*

```
Z Ä H L E N c 0 2 4
c
```

Pressing **FUNC + L** with the cursor over a non-English character will display the actual character to be printed, if there is any doubt, as usual, exit back to normal message editing with the **MSG** key.

Then non-English characters available are É, Ç, Æ, Ö, Ü, Ä, Å, Ñ, ª, º, £, ¥, and Pt.

### Menu

The **MENU** command key allows adjustment of many additional VersaJet LC features. After pressing **MENU**, a list of features appears with a number or letter for each feature (see Figure 10). Use the **DECR** → or **INCR** → key to move through the features, and enter the number or letter of the desired feature to select it. It actually isn't necessary to go through the features; if the feature number or letter is known, simply use the **MENU** key followed by the number or letter will select the feature.

**Figure 10**  
*First Menu Screen*

```
3: Print direction 2: Line 2
```

## 1, 2,: Select Line

**MENU** followed by 1 or 2 selects line 1 or 2 for edit or adjustment of the LC2 and 1 to 6 for the LC6.

## Menu

---

### Set Time

When the Set time feature is selected, the screen shows a display like that in Figure 11. The numbers are the current time as kept by the electronic clock. The “MMDDYYHHMMWroll” is a brief description of the required values. “MM” stands for Month, “DD” stands for Date, “YY” stands for Year, “HH” stands for Hour, the second “MM” stands for Minutes, the “W” stands for the day of the week and “roll” stands for the rollover time in hours and minutes. All time is kept in the military 24 hour form (hour’s range from 00 to 23); the weekday should be a number between 1 and 7.

**Figure 11**  
**Time Feature**

```
time MM DD YY HH MM W roll | 1 0 0 0
0
```

To change the time, type in new numbers. The **DECR** → and **INCR** → keys can be used to move left and right, so that selected parts of the time can be changed as desired. Pressing **ENTER** sets the time as specified.

### Time Codes

The time is kept so that times can be printed, by placing letters between two **FUNC + T** or **FUNC + E** combinations when using the MSG feature. However, to use the feature correctly, it is necessary to ascertain which letters should go into the expressions (see Figure 12). Various versions of VersaJet LC software may contain different time quantities; however, all versions will always display a description of all available time codes when an **ENTER** is pressed alone in the time feature: that is, by going **MENU, T, ENTER**, the display shows some time codes and the letters that produce them; pressing **ENTER** again shows another screen with more time codes; and so forth until all the time codes have been displayed. Pressing any key other than **ENTER** stops the time code display. Included in this display are the characters used in expiry expressions to print expiration dates and the shift character.

<u>Time Letter and Description</u>	
A	Causes the tens digit of the month to be printed.
B	Causes the units digit of the month to be printed
C	Tens digit of the date of the month.
D	Ones digit of the date of the month.
E	Tens digit of the year.
F	Ones digit of the year.
G	Tens digit of the hour (24 hour system).
H	Ones digit of the hour.
I	Tens digit of the minute.
J	Ones digit of the minute.
K	Causes the number of the day of the week to be printed (1..7).
L	Hundreds digit of the Julian date.
M	Tens digit of the Julian date.
N	Ones digit of the Julian date.
O	Causes the first letter of the name of the month to be printed.
P	Second letter of the name of the month.
Q	Third letter of the name of the month.

**Figure 12** **FUNC + T Time code**

## Menu

---

### Expirations

The Expirations feature set the two expiration intervals; a number can be entered or altered, much like the other VersaJet LC numeric features. Two intervals are supported; as shown in Figure 13, the prompt indicates the expiration characters which should be used between two **FUNC + E** characters to print the expiration time (the same information is available in the **Time Codes** screens described elsewhere). After the first expiration interval is entered, the VersaJet LC will allow the operator to set the second interval.

**Figure 13**  
*Expirations feature*

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E(AB/CD/EF GHle)

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The number entered for an expiration interval is used to determine the expiration date that will be printed, by adding the interval in days to the current date.

### Shifts

The Shifts feature is another time quantity that can be set (set **Expirations**, above, on how to print the shift character). This is one of the more complicated VersaJet LC features, but the basic idea is simple; a letter and a time is entered, and the VersaJet LC will determine which is the appropriate letter to print at the current time.

As shown in Figure 14, first the desired shift letter should be entered. The screen then changes as shown in Figure 16, and the shift starting time in hours: minutes can be entered, followed by the **ENTER** key. This process is continued until all four shifts are entered, or the feature is left by pressing the **MENU** key.

---

T#hA: A 000000

---

**Figure 16**  
*Additional Screen in Shift Feature*

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Expiration Code and Description

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month #1	A	Causes the tens digit of expiration to be printed.
month #1	B	Causes the units digit of expiration to be printed.
	C	Tens digit of expiration date #1.
	D	Ones digit of expiration date #1.
	E	Tens digit of expiration year #1.
	F	Ones digit of expiration year #1.
	G	Causes the first letter of the name of expiration month #1 to be printed.
	H	Second letter.
	I	Third letter.
	J	Tens digit of expiration month #2.
	K	Units digit of expiration month #2.
	L	Tens digit of expiration date #2.
	M	Ones digit of expiration date #2.
	N	Tens digit of expiration year #2.
	O	Ones digit of expiration year #2.
	P	First letter of expiration month #2.
	Q	Second letter.
	R	Third letter.
	S	Prints shift letter.

Alternately, instead of entering a letter, the **DECR** → and **INCR** → keys can be used to “scroll” through the existing shift codes, in case only one has to be changed. When the feature has reached the end of all available shifts, it asks “Finished (Y/N)?” answering “N” goes back to the last shift record, to allow further alteration. It makes no difference what order shifts are entered; when the feature is finished, it sorts the shifts by time.

**Figure 14 FUNC + E Expiration Codes**

## **Menu**

### **Change Message**

The **CHANGE MESSAGE** menu item allows for CREATION, REVIEW, SELECTION, and DELETION of messages.

The message is first created by naming it any fourteen alpha/numeric name and selecting the printhead lines to be associated with this message group. By selecting the lines associated with each conveyor, up to two conveyors can be printed using one VersaJet LC unit. This is limited by the two photocells used in product detection.

After the message lines are selected, either a message with new information is created or the previous data is modified.

- If **New** is selected the Printhead Lines associated with this message group is cleared and data must be retyped by selecting **MENU** and the Line number then entering the new text after selecting the **MSG** key.
- If **Copy** is selected, these message group lines have the previous message copied to them and then they can be modified. In this way, messages can be quickly created if common data is used. **Care should be taken so that the previous message is not modified before switching to the new message.** As the message is entered it is saved with the new data. Remember to press **ENTER** when finished with messages because this printer will not print in the **MSG** or **MENU** windows.

### **Message Review**

Within the **CHANGE MESSAGE** feature, the operator can view the various messages stored in memory. This **REVIEW** shows the first two lines of a message group, and the name in the lower right hand corner, prefaced by a little box.

- Pressing the ENTER key (Or **D** for “Display” — the letter on the ? (**Upper Key D**) key in the **CHANGE MESSAGE** feature (that is, instead of a number or using the **DECR →** and **INCR →** keys) brings up message review: the text of the current message is shown and the name of the message is displayed in the lower right hand corner of the screen.
- Pressing the **DECR →** and **INCR →** keys will “move” through the various messages and show one after another. Pressing **ENTER** selects the current message shown and returns to the normal **CHANGE MESSAGE** screen, where pressing **ENTER** again will select the message.
- Space key, or most punctuation, will move to the first message DEFAULT message group.

## Menu

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### Deletion of Messages

Pressing Enter at the **CHANGE MESSAGE** name prompt with text in the buffer goes to the next screens. If the name *\*EXISTS\**, then you can **KILL** to delete or **GET** to print this message.

There's a "DEFAULT" message group which cannot be created or destroyed, although it can be recalled.

When leaving or entering the **CHANGE MESSAGE** system, you can get an error message complaining about memory, suggesting you delete messages, or saying there was an error when you tried to create a new message: memory is finite.

### MESSAGE CONFIGURATON

Message Configuration **MESSAGE CONFIG** allow for different styles of Messages Storage.

- **1:Names:** Method allows you see exactly which group is attached to which print buffer, by name.

- **2:CW-DS:** The system by default *\* DOES NOT CHANGE CHARACTER WIDTH OR DOT SIZE \** when switching messages. You can change this behavior with this option. Message groups can have different sets of lines in them. When you recall such a group, it will change the CW (Character Width) and DS (Dot Size) for *\* all \** the lines because this unit can only have one CW-DS setting. This option in previous VersaJet have been called “Save and Recall with Parameters”.

- **3:Status:** Shows a screen like this

room:7 cw  
top:31434 cnt:63

where "**room**" is bytes of memory used, and the "**cw**" legend indicates that character width and dot sizes are recalled, as per the setting of option 2 above. "**Top**" indicates the current top of memory. Finally, "**cnt**" is the count of message groups.

## Menu

---

### Print Direction

The Print Direction allows for printing in reverse or a box moving from left to right direction. Each line has to be selected and changed individually.

### Box Count

The Count feature allows inspection and adjustment of the unit's box count. This number counts print cycles and is incremented whenever a print cycle occurs. It can be edited by typing the desired number.

### Valve Adjustments

The VALVE ADJUSTMENTS feature allows adjustment of the individual printing dots; this can sometimes be used to create a more pleasing or even printing effect.

When the feature is selected, the screen changes to the prompt shown in Figure 18; valve #1 is ready to be modified. As usual, the **DECR** → and **INCR** → keys can be used to change the valve number, or a desired number can be entered. Pressing **ENTER** selects the specified valve, and produces another screen for that valve.

In the valve screen, the valve adjustment value for a single valve can be changed (with arrow keys or numbers). See Figure 19.

*Figure 18*  
*Valve feature screen*

*Figure 19*  
*Valve adjustment screen*



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current pallet.

No *arithmetic* comparison is made between counting expressions and the specified maximum. If the counting expression starts with a value *larger* than the specified maximum *it will not be reset*. Also, pallet comparison is conducted in a special way:

- ◆ *Pallet count comparison starts on the right.* The right most character in the right most counting expression is compared with the right most character in the specified pallet count. Then the next character to the left is compared, and so forth. If there is more than one counting expression in a palletized buffer, only the right most one is used for comparison.
- ◆ *Excess is discarded.* During the comparison, if the left side of either expression is reached without a mismatch, the software assumes a match has occurred. Thus a maximum of "11" will match a counting expression of "c0011c", "c111c" and so forth. The reverse is also true: a maximum of "123" will match the counting expressions "c23c" and "c3c".
- ◆ *Special characters are ignored.* Any effect tokens within the counting expression (bold for instance) are ignored for purposes of comparison.

### Select Language

The SELECT LANGUAGE feature determines the language in which the VersaJet LC menus and other informative screens will be displayed. The feature works like the **MENU** feature itself: use the **DECR** → and **INCR** → keys to move through the available number of character for the desired language. Figure 21 shows the beginning of the language menu; pressing the arrow keys will "scroll" to show more of it.

---

1: ENGL	2: ITAL
3: DEUT	4: FRAN

---

**Figure 21.**  
**Language Menu**

Available languages are English, Italian, German, French, Spanish, Dutch and Portugese. The languages are usually indicated on the menu with an abbreviation *in the original language* (i.e., "ESPA" for Spanish ) to facilitate recognition by language speakers.

### **Menu**

#### Other

The OTHER menu selection provides access to various little used and maintenance features of the printer; the contents of the menu may change from version to version of the software. Use the arrow keys to see all these options.

One OTHER selection is "Slash": the VersaJet LC normally prints the zero character with a slash through it to distinguish it from the letter "O". The SLASH feature optionally changes this behavior so that zeros are rendered without a slash and look like the letter "O", during printing and on the VersaJet LC display.

Another is "character-space": which allows for the adjustments in the space between each character, 0 to 10.

"Space Width": adjust the width of the space character from 0 to 10.

"Net": This feature is disabled if set to "0" zero. If set to 1 thru 32 a special network using RS422 may be possible. This selection changes from the normal RS232 point to point communications to a network protocol. This option requires a hardware configuration and a special RS422 Personnel Computer Board. The optional WLC program is required. WLC is a Windows program which runs on PC computers.

#### Invert

This feature allows the print to be printed upside-down without changing the nozzle tubing.

#### Photocell

This menu allows for each printhead to be triggered independently of each other. For example: a) Two independent conveyor lines configured each with its own independent photocell and printhead, b) A 90 degree conveyor application to print the end panel and side panel on the same conveyor line. Note: A limitation in independent photocell operation is to have different character widths for each printhead and

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the message named file formats must be used.

### Line Width

The Line Width feature has been added so that different line print widths can be set. This feature attempts to provide a sense of more than one character width. The Line Width is a multiple of global Character Width, set by the Width button on the keypad.

### Purge

“Purging” is the process of cleaning the print heads by running ink through them (a container should be arranged to catch run-off).

There are various ways to clean and purge a printhead, including **FUNC A + P** command. After UNLOCKing the unit, pressing **FUNC** button, **A** and then pressing the letter **P** will start the purge. Pressing **P** again to stop the purge.

Purging can also be done using the purge button on the chassis.

FUNC A also provides a dampen selection for breaking in new valves for production **FUNC A + D**. **FUNC A + A** is a print trigger which prints all lines every time A is pressed. This is useful when you want to print with the photocells blocked.

## **66 SLAM**

### 6 66SLAM

To clear the VersaJet LC, erase all stored print messages and settings. Turn the unit off, press and hold the number **6**, turn the unit on. Wait about a second, release the **6**, then press “**66SLAM**”. If any error is made in typing the characters, the memory clear does not occur. The procedure should only be necessary when an unusual electrical disturbance has corrupted the unit’s memory.

### Command “Jumping”

When various VersaJet LC features are being adjusted, pressing one of the command keys (**DELAY**, **WIDTH**, etc) will usually “exit” the current feature and go immediately to the requested feature.

### Maintenance

A few simple procedures will keep the VersaJet LC in perfect working order.

#### General Maintenance

To insure continuous trouble-free operation, these simple steps should be followed:

#### **SHORT TERM .. UP TO 2 DAYS**

<b>Shutdown</b>	No maintenance necessary.
<b>Start Up</b>	Wipe the nozzle plate with a damp cloth. Turn the unit on and print. Purge if necessary.

#### **LONG TERM .. GREATER THAN 2 DAYS**

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<b>Shutdown</b>	Before shutting the unit down for periods longer than 48 hours, wipe the nozzle plate with a wet cloth. Coat the nozzle with <b>a very small amount</b> of petroleum jelly.
<b>Start Up</b>	Wipe the nozzle plate to remove the petroleum jelly. Purge and wipe the nozzle plate until all petroleum jelly is wiped away, and all nozzles are purging straight streams of ink. Repeat as necessary until all nozzles are purging.
<b>DAILY</b>	Wipe the photocell covers with a dampened cloth.

### **GREATER THAN 3 WEEKS**

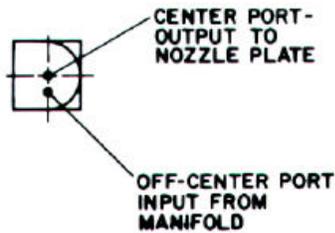
For extended down times (longer than three weeks), the unit should be flushed with LOVESHAW'S Valve Pre-Conditioning Fluid (see Spare Parts List for part number). This fluid prevents ink from drying within the tubes. When restarting the unit, be sure to flush out all conditioner with ink (ink should run pure black), before beginning to print.

## **General Maintenance**

### **Changing a Valve**

1. Turn the unit off.
2. Crimp the tubing from the manifold to the valve (refer to figure 23) (See VersaJet LC Spare Parts Kit for crimper). You are working with the off-center port on the front of the valve (figure 24). Valve #1 is positioned next to the 3 pin electrical connector.
3. Gently slide the tubing off the inlet valve port.(If necessary, gently pry off with a small bladed screwdriver .. see figure 24).
4. Gently slide the tubing off at the outlet valve port.
5. Remove the valve from the valve board by using a small pliers, grasping the valve at the shoulder and rocking the valve from side to side as upward force is applied. Take care not to hit the valve ports.
6. Install the new valve. Pay special attention to its location for necessary computer adjustment later.
7. Connect the tubing from the ink manifold to the off-center port on the new valve. Be sure to insert the tubing onto the valve port as far as possible and position it so that there are no sharp bends.
8. Connect the tubing from the nozzle plate to the center port of the new valve. Be sure to insert the tubing onto the valve port as far as possible.
9. Position the tubing so that the feed line is under the valve or crimped in any way.

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10. Release the crimp on the manifold tubing. Make sure the tubing has not been damaged. If questionable, replace it.
  11. Double-check all connections.
  12. Turn the unit on. Check all connections for leaks.
  13. Complete a 60 second purge cycle to remove any air that may have entered the system.
  14. If the purge is satisfactory, make a test print.
  15. If OK, return to use.



## Fuse Change / Removing Controller

### Internal Console Fuse Change

Fuse change is easy to accomplish. Just follow these steps:

- ◆ Turn unit's on/off switch to the OFF position.
- ◆ Disconnect power line from unit.
- ◆ Remove 3 screws on both sides of the cover leaving the two top screws loose.
- ◆ Lift cover up and away carefully.
- ◆ Remove fuse from fuse holder.
- ◆ Insert new 3 amp 250V fuse.
- ◆ Replace cover and screw down with 6 screws.
- ◆ Turn unit on.
- ◆ If fuse blows again, contact your Distributor.

### External Console Fuse Change

Fuse change is easy to accomplish. Just follow these steps:

- ◆ Turn unit's on/off switch to the OFF position.
- ◆ Disconnect power cord from unit.
- ◆ Use a flat blade screw driver and pop lid open at notch carefully.
- ◆ Remove fuse holder with flat blade screw driver.
- ◆ Insert two new 3 amp 250V fuses.
- ◆ Replace fuse holder and close lid.
- ◆ Reconnect power cord.
- ◆ Turn unit on.
- ◆ If fuse blows again, contact your Distributor.

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## **Change Controller Battery Cover**

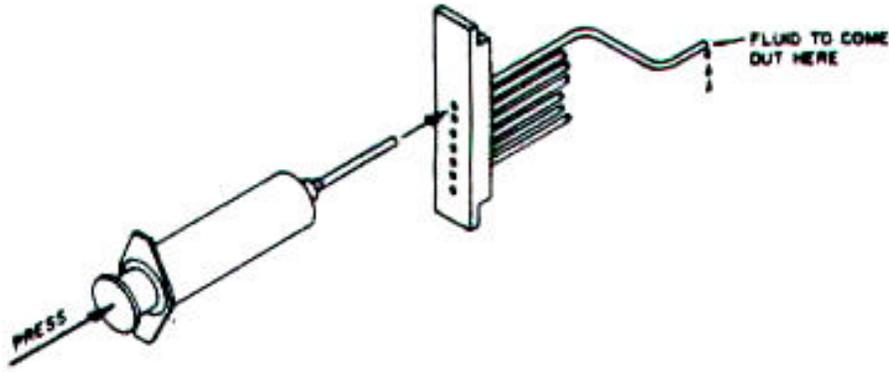
- ◆ Turn unit off, remove power cord.
- ◆ Remove cover screws on side of cover.
- ◆ Replace with 3 volt Lithium battery.
- ◆ Contact your Distributor for service instructions.

## **Fuse Change / Removing Controller**

### **Backflushing a Nozzle Plate**

This procedure can be performed while the unit is off.

- ◆ Gently remove the tubing from the center port of the valve (see figure 24).
- ◆ Insert this tube into the flanged end of the backflushing tubing found in the spare parts kit. Place the other end in an open container outside the unit.
- ◆ Fill syringe with 10 ml of cleaner or warm water (see Optional Spare Parts).
- ◆ Hold the syringe tubing over the nozzle which is not giving a straight purge stream while depressing the plunger of the syringe to force the cleaner back through the nozzle; see Figure 26. (The fluid will be captured by the backflush container, which keeps the cleaner out of the electronics and prevents shorts).
- ◆ Disconnect the nozzle tubing from the backflush tube and drain the cleaner.
- ◆ Turn unit on. Press the purge switch for 60 seconds. Note the orifice just back flushed. If the stream is straight put into service, if not, repeat.
- ◆ If the nozzle plate orifice is plugged and backflushing does not open it, contact your Distributor for service instructions.



## Spare Parts

### LC 2 Spare Parts Listing

#### Printheads

<u>STD</u>		<u>HIGH SPEED</u>		<u>STAINLESS STEEL</u>	
CPLCA0003	3/8"	CPLCHS0003	3/8"	CPLCA0003-SS	
				3/8"	
CPLCA0004	1/2"	CPLCHS0004	1/2"	CPLCA0004-SS	1/2"
CPLCA0005	7/8"	CPLCHS0005	7/8"	CPLCA0005-SS	
				7/8"	
CPLCA0006	1 1/4"	CPLCHS0006	1 1/4"	CPLCA0006-SS	1 1/4"
CPLCA0007	1 1/2"	CPLCHS0007	1 1/2"	CPLCA0007-SS	1
				1/2"	
CPLCA0008	2"	CPLCHS0008	2"	CPLCA0008-SS	2'

#### High Character Printheads

CPLCA0009	15/16"	CPLCA0010	1 1/2"	CPLCA0011	2 7/32"
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#### Miscellaneous

Standard Valve	<b>CPJL00-001-0</b>
High Speed / High Density Valve	<b>CP00-086-0-LT</b>
20 Ft continuous cable (optional for printhead)	<b>CPJA48</b>
Additional cable lengths and extensions	<b>Consult Factory</b>
Quick Disconnect printhead option (add "-QD" to printhead p/n)	
Print Head Mounting adapter for case sealer (flat)	<b>CPAOP00-LD1</b>
Print Head Mounting adapter for case sealer (U shape)	<b>CPAOP00LD3</b>
Power Backup 1000 VA	<b>CPV40-052-0</b>
Standard Spare Parts Kit	<b>CPA-SP-JR/VJ</b>
High Speed Spare Parts Kit	<b>CPA-SP-JR/VJ-HS</b>
Photocell (additional) for multi line printing	<b>LFLCA-013</b>
Floor Stand, T-Base (3' Post)	<b>LF-S02013-01</b>
Floor Stand, T-Base (6' Post)	<b>LF-S02014-01</b>
LC CPU Console	<b>LFLCA-010</b>

**LCX Program** - allows customer to take information that is stored in memory of VersaJet LC electronic console and transfer the information onto a Windows based computer (also referred to as an IBM compatible computer)

## Spare Parts

### LC 6 Spare Parts Listing

#### Standard Ink Supply System

6 Port Ink Pump APIP	<b>CPJA10-110-P</b>
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#### INK

##### 5 GAL Winpak

Black Ink	CPA275-BK
Red Ink	CPA275-RD
Blue Ink	CPA275-BL
Green Ink	CPA275-GR
Ultraviolet	CPA275-UV
Cleaner	CPA275-CL
Pre Conditioner	CPA275-PC
Hand Cleaner	CP22-001-0

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## Specifications

### Power Requirements

115 $\pm$  10% volts AC 60 Hz, 300 watts max. Other voltages: 240 VAC at 50 Hz is available.

### Operating Speed

Prints at rates up to 100 ft/min. (30m) depending on system set-up conditions.

### Character Fonts

7x5 and 7x10; all available with bold print.  
3/8", 1/2", 7/8", 1 1/4", 1 1/2", 2". 16x6 available as a high character option.

### Operational Variables

Product delay, character width, dot size, real time clock, message select, box count, time and date change, speed sensing, individual valve settings.

### Character Set

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Full ASCII 64 character upper case set. 39 character per message line standard.

### **Print Direction**

Forward and/or Reverse.

### **Memory**

Up to 167 variable messages can be stored at one time.  
Named message method allows for many more messages.

### **Character Size (height)**

Two matrix styles available: 7x5 standard (3/8", 1/2", 7/8", 1 1/4", 1 1/2", 2") or 16x6 15/16" (23.8mm), 1 1/4" (31.8mm) or 2 7/32" high character (56.4mm)

### **Ink System Capacity**

5 gallon Winpak

### **Console Dimensions**

12" L x 6" W x 4" H, 300 mm x 150 mm x 100 mm

## **Hints for Optimum Performance**

### **Hints for Optimum Performance**

- ◆ To adjust any VersaJet LC feature, including the print message, the "unlock" code *must* be entered (**5863434**). Once entered, the locked message will be cleared from the display.
- ◆ Familiarize yourself with the alpha and number characters keys and the symbols (available with the **UPPER KEY** key) as well as the capabilities of the control and command keys.
- ◆ It is not impossible to estimate exactly how the ink will last because of the many variables — length of messages, double dotting and size of characters — but please note that the ink system has a low ink signal. when the light comes on, it is time to replenish the ink supply.
- ◆ It is recommended that the Box Guide should come in contact with cartons for best print quality and moved to the side of the oncoming box.
- ◆ Routine daily maintenance is recommended for optimum performance.
- ◆ If there is too much ink in your codes, adjust the **SIZE** or valve adjustments.

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- ◆ If the code is unclear, purge until all nozzles give straight streams of ink. Backflush if necessary.
  - ◆ If the code has uneven dot sizes after a valve change, balance the new valve with the older ones. It's a simple operation.
  - ◆ Regularly wipe the photocells with a dampened cloth.
  - ◆ To clear the VersaJet LC of all stored messages and print setting, turn the unit off, press and hold the number **6**. Turn the unit on, wait about a second, release the **6**, and then type **6 6 SLAM** normally. If any error is made in typing the characters, the memory clear does not occur.

## **Warranty Information**

### **Little David LC**

This warranty is made exclusive of all other warranties and guarantees, written or oral, expressed or implied.

The only obligation of the manufacturer and seller of Little David LC shall be to replace or repair exclusive of shipping charges any mechanical part proved to be defective, provided the defect occurs within 90 days after date of purchase, and further provided the item is returned prepaid to the factory.

The only exception to the above: Valves are guaranteed for 24 months from the date of purchase.

Purchaser shall, before purchasing, determine the fitness and suitability of the said product Little David VersaJet LC for its intended purpose and neither manufacturer nor seller shall be liable for any loss or damage, direct or consequential, arising out of the use of or the inability to use the above described equipment.

### **USE OF ANY INK, OTHER THAN LOVESHAW'S SPECIALLY FORMULATED INK, VOIDS THIS WARRANTY.**

No statement or recommendation not contained herein shall have force of effect unless in a written agreements signed by officers of the seller and the manufacturer.

Note: A policy of Loveshaw is to continually improve its products. Therefore, the right is reserved to alter

## CONTROL KEYS

<b>MSG</b>	- to enter new or edit existing messages
<b>SPACE</b>	- insert spaces
<b>DEL</b>	- removes characters and spaces
<b>INCR</b>	- moves cursor; increases value for width, delay, size
<b>DECR</b>	- moves cursor; decreases value for width, delay, size
<b>DELAY</b>	- delay start of print
<b>SIZE</b>	- adjusts dot size on all valves simultaneously
<b>WIDTH</b>	- adjusts width of characters

## COMMAND KEYS

<b>MENU+1</b>	- Line 1	to	<b>MENU+6</b>	- Line 6
<b>MENU+7</b>	- print direction			
<b>MENU+8</b>	- box count			
<b>MENU+9</b>	- change message			
<b>MENU+A</b>	- message configuration			
<b>MENU+B</b>	- set internal clock			
<b>MENU+C</b>	- individual valve adjustment			
<b>MENU+D</b>	- expiration dates			
<b>MENU+E</b>	- shifts			
<b>MENU+F</b>	- pallet			
<b>MENU+G</b>	- select language			
<b>MENU+H</b>	- other menus			
<b>MENU+I</b>	- invert			
<b>MENU+J</b>	- photocell			
<b>MENU+K</b>	- line width			
<b>FUNC+A</b>	- purge			

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## FUNCTION KEYS

FUNC+B	- bold printing
FUNC+C	- incrementing count
FUNC+P	- pallet count
FUNC+T	- time codes
FUNC+E	- expiration codes
FUNC+H	- high characters
FUNC+I	- inserts spaces

## TIME CODES

AB/CD/EF	- current month; date; year
GH:IJ	- hour; minutes
K	- day of week
LMN	- Julian date
OPQ	- month - JAN, FEB
RS	- week

## EXPIRATION CODES

AB/CD/EF	- first expiration date
GHI	- first expiration month - JAN, FEB
JK/LM/NO	- second expiration date
PQR	- second expiration month - JAN, FEB
S	- shift character

**REFER TO MANUAL FOR ADDITIONAL INFORMATION.**

## CONTROL KEYS

<b>MSG</b>	- to enter new or edit existing messages
<b>SPACE</b>	- insert spaces
<b>DEL</b>	- removes characters and spaces
<b>INCR</b>	- moves cursor; increases value for width, delay, size
<b>DECR</b>	- moves cursor; decreases value for width, delay, size
<b>DELAY</b>	- delay start of print
<b>SIZE</b>	- adjusts dot size on all valves simultaneously
<b>WIDTH</b>	- adjusts width of characters

## COMMAND KEYS

MENU+1	- Line 1
MENU+2	- Line 2
MENU+3	- print direction
MENU+4	- message storage area
MENU+5	- set internal clock
MENU+6	- individual valve adjustment
MENU+7	- expiration dates
MENU+8	- shifts
MENU+9	- box count
MENU+A	- pallet
FUNC+A	- purge

## FUNCTION KEYS

FUNC+B	- bold printing
FUNC+C	- incrementing count

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FUNC+P	- pallet count
FUNC+T	- time codes
FUNC+E	- expiration codes
FUNC+H	- high characters
FUNC+M	- medium characters
FUNC+I	- inserts spaces

## TIME CODES

AB/CD/EF	- current month; date; year
GH:IJ	- hour; minutes
K	- day of week
LMN	- Julian date
OPQ	- month - JAN, FEB
RS	- week

## EXPIRATION CODES

AB/CD/EF	- first expiration date
GHI	- first expiration month - JAN, FEB
JK/LM/NO	- second expiration date
PQR	- second expiration month - JAN, FEB
S	- shift character

**REFER TO MANUAL FOR ADDITIONAL INFORMATION.**

## TECLAS DE CONTROL

MSG	Para introducir mensaje nuevos o corregir los existentes
SPACE	Introduce espacios
DEL	Suprime caracteres y espacios
INCR	Desplaza el cursor; aumenta el valor para la anchura, el retardo o el tamaño
DECR	Desplaza el cursor; disminuye el valor para la anchura, el retardo o el tamaño
DELAY	Retarda el inicio de la impresión
SIZE	Ajusta el tamaño del punto <b>simultáneamente en todas las válvulas</b>
WIDTH	<b>Ajusta la anchura de los caracteres</b>

## TECLAS DE COMANDO

MENU+1	Línea 1	a	MENU+6	Línea 6
<b>MENU+7</b>	<b>Dirección de impresión</b>			
MENU+8	Conteo de cajas			
<b>MENU+9</b>	<b>Área de almacenamiento de mensajes</b>			
MENU+A	Ajusta el reloj interno			
MENU+B	Ajuste individual de válvula			
MENU+C	Fechas de vencimiento			
MENU+D	Turnos			
MENU+E	Paletas de carga			
MENU+F	idioma selecto			
MENU+G	otros menús			
MENU+H	invierta			
MENU+I	fotoeléctrica			
MENU+J	forre anchura			
MENU+K	purge			
FUNC+A	purge			

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## TECLAS DE FUNCIÓN

FUNC+B	Impresión en negrita
FUNC+C	Aumentar el conteo
FUNC+P	Conteo de paletas de carga
FUNC+T	Códigos de tiempo
FUNC+E	Códigos de vencimiento
<b>FUNC+H</b>	<b>Caracteres altos</b>
<b>FUNC+I</b>	<b>Introduce espacios</b>

## CÓDIGOS DE TIEMPO

<b>AB/CD/EF</b>	<b>Mes/fecha/año actuales</b>
GH:IJ	Horas: minutos
K	Día da la semana
LMN	Fecha Juliana
OPQ	Mes
RS	Semana

## CÓDIGOS DE VENCIMIENTO

<b>AB/CD/EF</b>	<b>Primera fecha de vencimiento</b>
GHI	Primer mes de vencimiento
JK/LM/NO	Segunda fecha de vencimiento
PQR	Segundo mes de vencimiento
S	Comando para cambio de turno

**CONSULTE EL MANUAL PARA OBTENER INFORMACIÓN ADICIONAL.**