



Videojet 1310

Operator Manual

P/N 361540-01

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Compliance Information

For Customers in the U.S.A.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: 1) this device may not cause harmful interference, and 2) this device must accept any interference received, including interference that may cause undesired operation.



Caution

Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide responsible protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference. In such cases, the users will be required to correct the interference at their own expense.

Shielded cables must be used with this unit to ensure compliance with Class A FCC limits.

The user may find the following booklet prepared by the Federal Communications Commission helpful: [How to Identify and Resolve Radio-TV Interference Problems](#). This booklet is available from the U.S. Government Printing Office, Washington, DC 20402, Stock No. 004-00-00345-4. This equipment has been tested and certified for compliance with U.S. regulations regarding safety and electrical emissions by TUV Rheinland of North America, Inc.

For Customers in Canada

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

This equipment has been tested and certified for compliance with Canadian regulations regarding safety and electrical emissions by TUV Rheinland of North America, Inc.

Pour la Clientèle du Canada

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

Cet équipement est certifié CSA.

For Customers in the European Union

This equipment displays the CE mark to indicate conformance to the following legislation.

- EN60950-1: 2001 Safety Requirements for Information Technology Equipment
- EN61000-3-2: 1995 Limits for harmonic currents emissions (equipment input current < 16A per phase)
- EN61000-3-3: 1995 Limitation of voltage fluctuation and flicker in low-voltage supply systems for equipment with rated input current < 16A.
- EN61000-4-2: 1995 ESD Requirements
- EN61000-4-3: 1997 Radiated Susceptibility
- EN61000-4-4: 1995 Electrical Fast Transient Burst Requirement
- EN61000-4-6: 1996 Immunity to conducted disturbances, induced by radio-frequency fields
- EN61000-4-8: 1994 Power frequency magnetic field immunity test
- EN61000-4-11: 1996 Voltage dips, short interruptions and voltage variations immunity tests

Support and Training

Contact Information

If you have any questions or need assistance, please contact Videojet Technologies Inc. at 1-800-843-3610 (for all customers within the United States). Outside the U.S., customers should contact their Videojet Technologies Inc. distributor or subsidiary for assistance.

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Service Program

About *Total Source* Commitment

Total Source® TOTAL SERVICE PLUS RELIABILITY, is the Videojet Technologies Inc. commitment to provide you - our customer - the complete service you deserve.

The *Total Source* Commitment

The Videojet *Total Source*® Service Program is an integral part of our business in providing marks, codes, and images where, when, and how often customers specify for packages, products, or printed materials. Our commitment includes:

- Applications support
- Installation services
- Maintenance training
- Customer response center
- Technical support
- Field service
- Extended hours phone assistance
- Parts and supplies
- Repair service

Customer Training

If you wish to perform your own service and maintenance on the printer, Videojet Technologies Inc. highly recommends you to complete a Customer Training Course on the printer.

***Note:** The manuals are intended to be supplements to (and not replacements for) Videojet Technologies Inc. Customer Training.*

For more information on Videojet Technologies Inc. Customer Training Courses, call 1-800-843-3610 (within the United States only). Outside the U.S., customer should contact a Videojet subsidiary office or their local Videojet distributor for more information.

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This chapter contains the following topics:

- A description regarding the intended use of the product
- Information about the audience to whom this manual is targeted
- A description of how the manual is organized
- Information regarding other manuals that are associated with this printer



Caution

EQUIPMENT DAMAGE. Read Chapter 2, “Safety” before attempting to operate the equipment.

Equipment Description

The Videojet 1310 printer is a non-contact, ink jet printer that prints at high production speed onto almost all surfaces, in any required direction.

Printer Supplies

A large variety of Videojet inks are available for use along with this product. Consult your Videojet Technologies sales representative for questions regarding the supplies selection (inks, make-up fluids, and cleaning solutions) or product applications.



Caution

EQUIPMENT DAMAGE. Only Videojet supplies are recommended for use in this printer. Non-approved supplies may damage the printing unit, thus producing inferior printing operations or printing output.

About this Manual

The Videojet 1310 operator's manual is intended for the operator and contains information only for operating the printer. Unless noted otherwise, all procedures in this manual can be performed by the operator of the printer.

The operator's manual is a supplement to (and not a replacement for) formal training.

Related Documents

The Videojet 1310 Service Manual (P/N 361541) is the other document that is available (through Videojet Customer Service), for the Videojet 1310 printer.

The service manual contains information on installing, maintaining, troubleshooting, and servicing the Videojet 1310 printer. It also includes sections about the theory of operation, component identification, and the illustrated parts breakdown of the printer.

This document is intended for use only by trained service personnel. The service manual is a supplement to (and not a replacement for) formal training.



Caution

EQUIPMENT DAMAGE. Customers who intend to service and maintain the printer themselves must have only qualified personnel perform these procedures. Qualified personnel have successfully completed the training courses, have sufficient experience with this printer, and are aware of the potential hazards to which they may be exposed.

Language Codes

While ordering for manuals, ensure adding the 2-digit language code to the end of the part number. For example, the part number for the Spanish version of this manual would be 361540-04. For the complete list of codes, refer Table 1-1.

Code	Language	Availability (see Note)	
01	English (US)	*	+
02	French	*	
03	German	*	
04	Spanish	*	
05	Portuguese (Brazil)	*	
06	Japanese	*	
07	Russian		
08	Italian	*	
09	Dutch		
10	Chinese (Simplified)	*	
11	Arabic		
12	Korean		
13	Thai		
14	Icelandic		
15	Norwegian		
16	Finnish		
17	Swedish		
18	Danish		
19	Greek		
20	Hebrew		
21	English (UK)	*	+
23	Polish		

Table 1-1: Language Codes List

Note: Initial availability of the Operator's Manual is indicated by an asterisk (*). Availability of the Service Manual is indicated by a plus sign (+).

This chapter contains the following topics:

- Safety conventions used throughout this manual
- Important safety guidelines to follow while operating the equipment
- Important safety guidelines to follow while working with inks, make-up fluids, and cleaning solutions
- Action to be taken in case of a medical emergency



Caution

EQUIPMENT DAMAGE. Read this chapter thoroughly before attempting to install, operate, service, or maintain this product.

Introduction

The policy of Videojet Technologies Inc. is to manufacture non-contact printing/coding systems and ink supplies that meet high standards of performance and reliability. Therefore, we employ strict quality control measures to eliminate the potential for defects and hazards in our products.

The intended use of this printer is to print information directly onto a product. Use of this equipment for any other purpose may lead to serious personal injury.

The safety guidelines provided in this chapter are intended to educate the operator on all safety issues so that the operator can operate the printer safely.

Safety Conventions Used in the Manual

Specific safety information are listed throughout this manual in the form of Warning and Caution statements. Pay close attention to these statements as they contain important information that help in avoiding potential hazards to yourself or to the equipment.

Warning Statements

- Warning statements are used to indicate hazards or unsafe practices that may result in personal injury or death.
- They have a triangular symbol with an exclamation mark to the immediate left of the text.
- They are always preceded by the word “Warning”.
- They are always found before the step or information referring to the hazard.

For example:



Warning

PERSONAL INJURY. The next step, “Cleaning the Printhead,” must be performed by the service or maintenance personnel. Qualified personnel have successfully completed the training courses, have sufficient experience with this printer, and are aware of the potential hazards to which they may be exposed.

Caution Statements

- Caution statements are used to indicate hazards or unsafe practices that can result in product or property damage.
- They have a triangular symbol with an exclamation mark to the immediate left of the text.
- They are always preceded by the word “Caution”.
- They are always found before the step or information referring to the hazard.

For example:



Caution

EQUIPMENT DAMAGE. Never turn off the printer by switching the AC power switch to the Off (O) position. Before pressing the Off key, allow the printer to complete the three and a half minute shutdown sequence. Failure in following this procedure prevents the printer from drawing the ink in the ink return line, back into the reservoir. This may cause the ink to dry in the ink return line, resulting in problems when you turn the printer on again.

Equipment Safety Guidelines

This section contains important safety guidelines pertaining to the operation and handling of the printer and associated equipment.



Warning

PERSONAL INJURY. Always observe the following safety guidelines while operating and handling the printer and associated equipment.

Comply with Electrical Codes



All electrical wiring and connections must comply with the applicable local codes. Consult the appropriate regulatory agency for more information.

Avoid Breathing Exhaust Vapors



During its operation, the printer releases fumes from the printer exhaust tube. These fumes may be flammable and present a health hazard. For these reasons, do not allow the exhaust to be confined to an area that does not have proper ventilation, or is located near a source of ignition. Printer exhaust fumes are generally heavier than air, so keep all sources of ignition away from low areas where the fumes may travel or accumulate.

If, under any circumstances, the printer is to be kept in a place that

lacks proper ventilation, it is necessary to expel the printer exhaust to the outside air. Consult the appropriate regulatory agency in concern with the emission permit and venting system requirements, before giving vent to the printer exhaust into the outside air.

Note: A Vapor Exhaust Ducting Kit is available at Videojet Technologies Inc.

Do Not Remove Warning Labels



Do not, under any circumstances, remove or obstruct any warning, caution, or instruction labels present on the printer.

Placement of the Printer



Warning

PERSONAL INJURY. Do not place the printer in a hazardous location. Hazardous locations might create an explosion, leading to personal injury.

Hazardous locations, as defined in the United States, are those areas that may contain hazardous materials in a quantity sufficient to create an explosion. These are defined in Article 500 of the National Electrical Code ANSI/NFPA 70-1993.

Outside the United States, you must ensure compliance with all local regulations regarding equipment placement in potentially hazardous locations.

Location of the AC Socket-Outlet

To maintain regulatory approval (EN 60950-01, Sec 1.7.2), the AC socket-outlet must be near the printer, and should be easily accessible.

Mounting the Printhead Stand

To maintain regulatory approval, the printhead stand should be bolted to the floor, conveyor, or any other stable foundation when installed.

Using Printer Accessories

To maintain regulatory approval for the printer, you must use only Videojet-approved accessories when attaching any device to the equipment.

The following printer stands have been approved:

- Mobile Floor Stand (P/N-378766)
- Stationery Floor Stand (P/N-378155)
- Table Top Stand (P/N-378158)

Ink Safety Guidelines

This section provides important safety guidelines pertaining to the usage and handling of printer supplies (inks, make-up fluids, and cleaning solutions).



Warning

PERSONAL INJURY. Observe the following safety guidelines while using or handling inks, make-up fluids, and cleaning solutions.

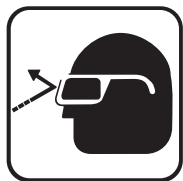
For continued protection against a possible fire hazard, use only Videojet supplies having a flash point not lower than -22°C (-8°F) and boiling point not lower than 56°C (133°F).

No Smoking



Do not smoke near the printer or printhead. If the printer exhaust fumes are subjected to an ignition source, it may result in an explosion or fire.

Wear Safety Glasses



Wear safety glasses with side shields (or equivalent eye protection) when handling any ink, make-up fluid, or cleaning solution. If it splashes onto your eyes, flush your eyes with water for 15 minutes and consult a physician immediately.

Avoid Skin Contact



Wear butyl rubber gloves while handling the ink, make-up fluid, or cleaning solution. Avoid contact with skin and mucous membranes (nasal passage, throat). On contact with the skin, remove any contaminated clothing and wash the area with soap and water. Consult a physician if irritation persists.

Avoid Breathing in Vapors



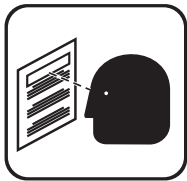
Avoid prolonged exposure to the print exhaust vapors. If respiratory protection is needed, a cartridge organic respirator can be used.

Dispose Ink Properly



Do not pour any ink, make-up fluid, or cleaning solution into sinks, sewers, or drains. Waste disposal must comply with local regulations. Contact the appropriate regulatory agency for more information.

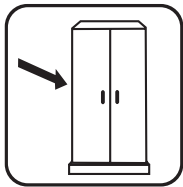
Read the Material Safety Data Sheets



Read and understand the Material Safety Data Sheet (MSDS) before using any ink, make-up fluid, or cleaning solution. An MSDS exists for each type of ink, make-up fluid, and cleaning solution. The appropriate sheet or sheets are supplied along with the shipped product.

Ensure that you retain all MSDSs for future reference in case you need to consult a physician regarding an ink-related accident. Additional copies of MSDSs are available on request, and can be obtained by contacting the Videojet Customer Service Department at 800-843-3610. Outside the U.S, customers should contact a subsidiary Videojet office or their local Videojet distributor.

Store the Inks Properly



Certain inks, make-up fluids, and cleaning solutions are flammable and must be stored appropriately. Storage must comply with local regulations. Contact the appropriate regulatory agency for more information. The label on the bottle or the MSDS indicates if a particular fluid is flammable or not.



Caution

EQUIPMENT DAMAGE. The waste container or service tray grounded to the printhead must be made of metal. Use of a non-metallic waste container/service tray may result in possible electrostatic discharge.

Medical Emergencies

This section provides important medical information in case of an accident.



Warning

PERSONAL INJURY. In the event of a medical emergency, contact a physician immediately.

Emergencies Involving Printer Fluids

If the incident involves an ink, make-up fluid, or cleaning solution, carry the bottle and/or MSDS with you to the physician's office. These items contain important information that the physician may require in order to provide the precise medical treatment.

Rocky Mountain Poison Control Center

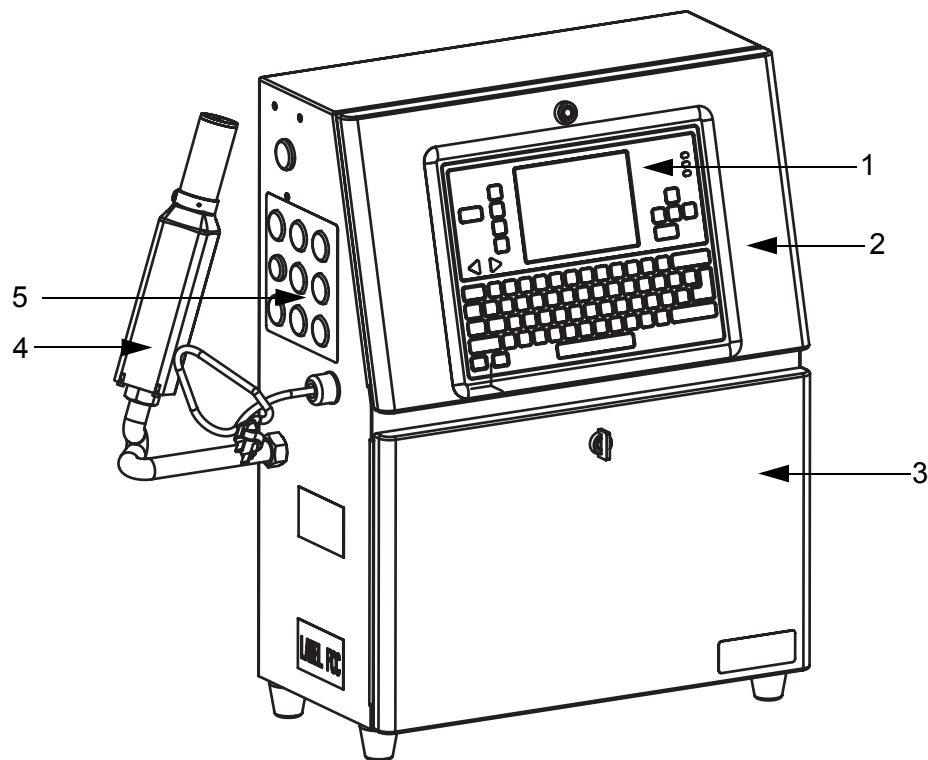
All of Videojet inks, make-up fluids, and cleaning solutions are also registered with the Rocky Mountain Poison Control Center, located in the United States. If the bottle or MSDS cannot be located, the physician can contact the Rocky Mountain Poison Control Center to obtain the information required.

Rocky Mountain Poison Control Center
(303) 623-5716

***Note:** Persons outside the United States requiring medical attention can have a physician contact the Rocky Mountain Poison Control Center in the United States or a poison control center or hospital in their own area.*

This chapter provides a detailed description of the main parts of the Videojet 1310 printer (Figure 3-1). The main parts include:

- Connector panel
- Control panel
- Electronics compartment
- Ink system compartment
- Printhead



1. Control Panel
2. Electronics Compartment
3. Ink System Compartment
4. Printhead
5. Connector Panel

Figure 3-1: Videojet 1310 Printer Main Parts

Connector Panel

The connector panel is located at the side of the printer. In addition to the mount for installing the optional lamp stack, the panel contains nine connectors.

Refer page 3-3 for more information on the standard and optional connectors present on the panel.

Standard Connector

Figure 3-2 shows the standard connector on the connector panel of the Videojet 1310 printer.

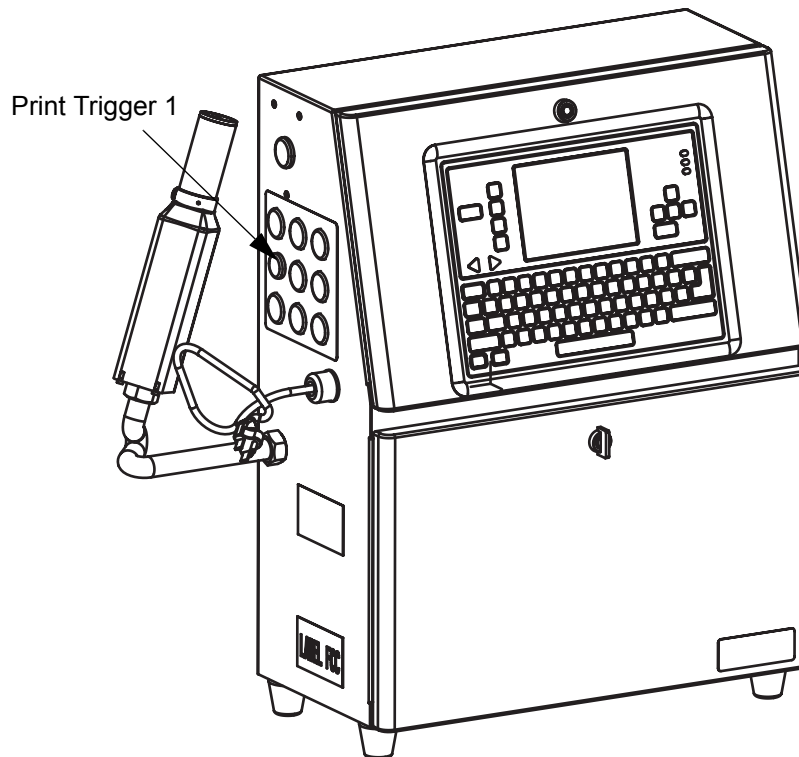


Figure 3-2: Standard Connector on the Connector Panel

Print Trigger Port 1

The print trigger ports are used to connect devices to the printer that have the capability of detecting the precise alignment of the product to the printer, for the printing process. These devices are generally known as "product detectors." Refer "Triggering a Print" on page 7-1 for more information about when and how to make use of the print trigger ports.

Optional Connectors

The optional connectors on the connector panel of the Videojet 1310 printer are shown in Figure 3-3. All the optional connectors are not installed on the standard Videojet 1310 printer. Your printer may contain some of the connectors in order to support specific optional functions.

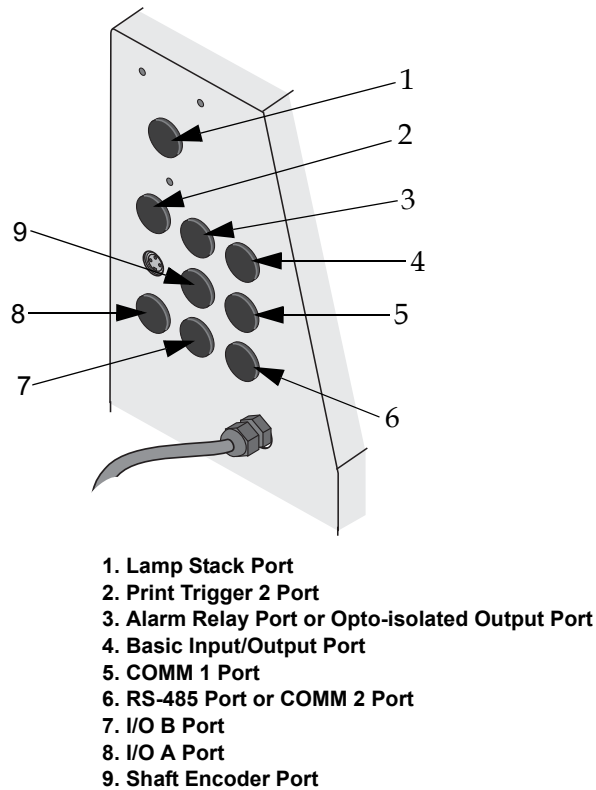


Figure 3-3: Optional Connectors on the Connector Panel

Lamp Stack Port

The lamp stack connector and the three mounting holes that surround it are used to install the optional lamp stack assembly.

Print Trigger Port 2

The print trigger port 2 (3-pin, female) is identical to the print trigger port 1 in function. Refer "Triggering a Print" on page 7-1 for more information on when and how to make use of the print trigger ports.

Alarm Relay Port

The alarm relay port (7-pin, female) comprises two outputs that produce signals indicating problems that may prevent the completion of the printing process. This feature is identical to the relay option that was available in the 43s, 46 series, and Willett 400 series printers. The alarm relay port requires the optional I/O expansion circuit board for its installation.

Opto-isolated Output Port

The opto-isolated output port (8-pin, female) is reserved for special applications. It requires the optional I/O expansion circuit board for its installation.

Basic Input/Output Port

The basic input/output (5-pin, female) connector performs two functions:

- The first is to produce an output signal that is indicative of when the printer is able to print. This signal is useful for applications that require some external action when the printer can no longer print. For example, some customers would like their production line to stop when the printer fails.
- The second function is a logic input that is reserved for special applications.

COMM 1 and COMM 2 Port

The COMM 1 and COMM 2 (6-pin, COMM 1 is male, COMM 2 is female) are RS-232 serial ports. The COMM 1 port can be used for the handheld barcode scanner option or used to produce an acknowledgement every time a message is printed successfully.

Alternatively, COMM 2 can interface with Videojet's Connector software.

RS-485 Port

The RS-485 (3-pin, male) is a serial port. It is typically used to interface with Videojet's Connector software.

I/O A and I/O B Port

The I/O A and I/O B (8-pin, female) are optional ports that provide the same external message select facility that was available as an option in the 43s, 46 series, and Willett 400 series printers. Use these ports if you are replacing one of these printer models with an application that makes use of the external message select function. The I/O A and I/O B ports require the optional I/O expansion circuit board for their installation.

Shaft Encoder Port

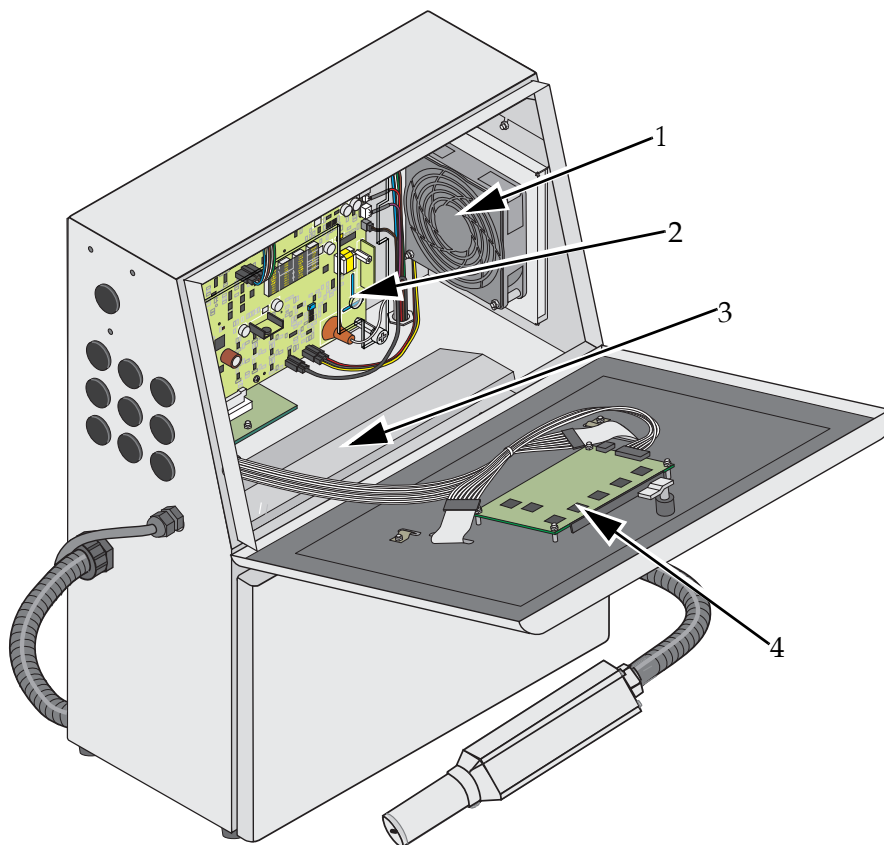
The shaft encoder port (4-pin, female) may be used to connect a shaft encoder to the printer. Shaft encoders sense changes in the line speed, allowing the printer to compensate the change in the line speed with a change in the print speed. Refer "Compensating for Changes in Line Speed" on page 7-6 for more information on the use of a shaft encoder.

Control Panel

The control panel handles the overall control, data input and output, and the user interface of the printer. The decisions regarding the initiation of various functions are made by the control software residing on this board. The functions are carried out by the circuitry residing on the print engine board.

Electronics Compartment

The electronics compartment contains the printer's power supply and control electronics. The main parts of the electronics compartment are shown in Figure 3-4.



- 1. Cooling Fan
- 2. Control and Print Engine Circuit Board
- 3. Power Supply Unit (PSU)
- 4. Display Circuitry

Figure 3-4: Electronics Compartment

Only Videojet-trained service personnel should attempt to access the electronics compartment of the printer.

**Warning**

PERSONAL INJURY. Lethal voltages are present when the printer is connected to the AC power. Tampering with items in the electronics compartment can result in personal injury or death.

Ink System Compartment

The ink system compartment contains the printer's air and fluid-handling componentry. The main parts of the ink system compartment are shown in Figure 3-5.

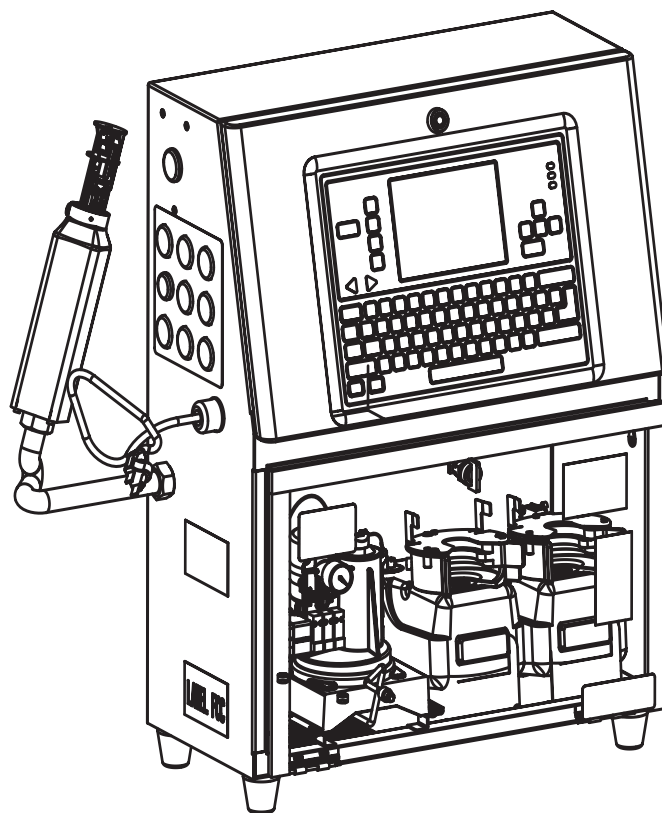
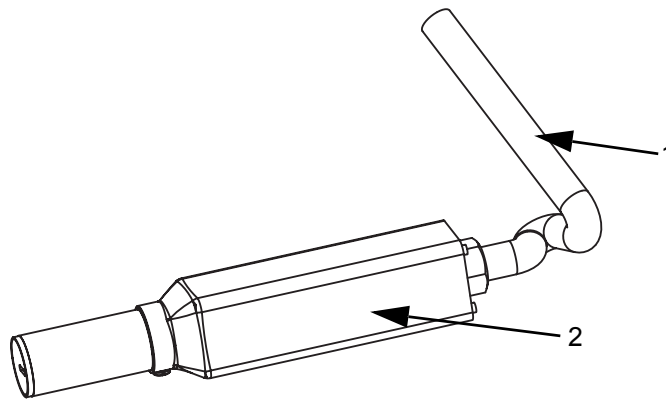


Figure 3-5: Ink System Compartment

The ink bottle and make-up bottle requires occasional replacement during normal operation. Refer "Replacing the Ink and Make-Up Bottles" on page 8-8 for more information.

Printhead

The printhead is connected to the electronics cabinet by the umbilical assembly. The printhead receives pressurized ink through the umbilical and turns the ink stream into tiny electrically-charged ink droplets. The droplets are then deflected onto a substrate to form a printed code. The main parts of the printhead assembly are shown in Figure 3-6.



- 1. Umbilical Assembly
- 2. Printhead

Figure 3-6: Printhead Assembly

This chapter contains the following topics:

- Starting the printer
- Working with the user interface
- Entering and changing the password
- Changing the displayed language
- Setting the system time and date
- Setting up shifts

Starting the Printer

To start the printer, proceed as follows:

***Note:** If the printer has been in storage or has been shut down for more than two or three days, have the qualified service or maintenance personnel prepare the printer for service before you begin.*

- 1 Plug the printer into the accurate slot on an AC power outlet.
- 2 Switch the printer on.

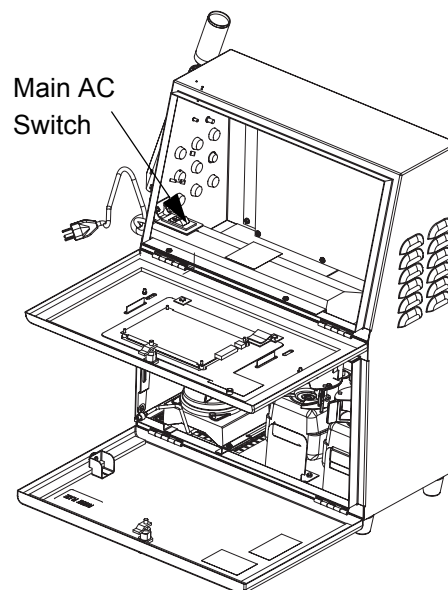


Figure 4-1: Main AC Switch

Wait for the printer to complete initializing and the default screen (Figure 4-2) to appear.

Working with the User Interface

The default screen that appears when the printer is switched on is known as the “Quick Screen” (Figure 4-2).

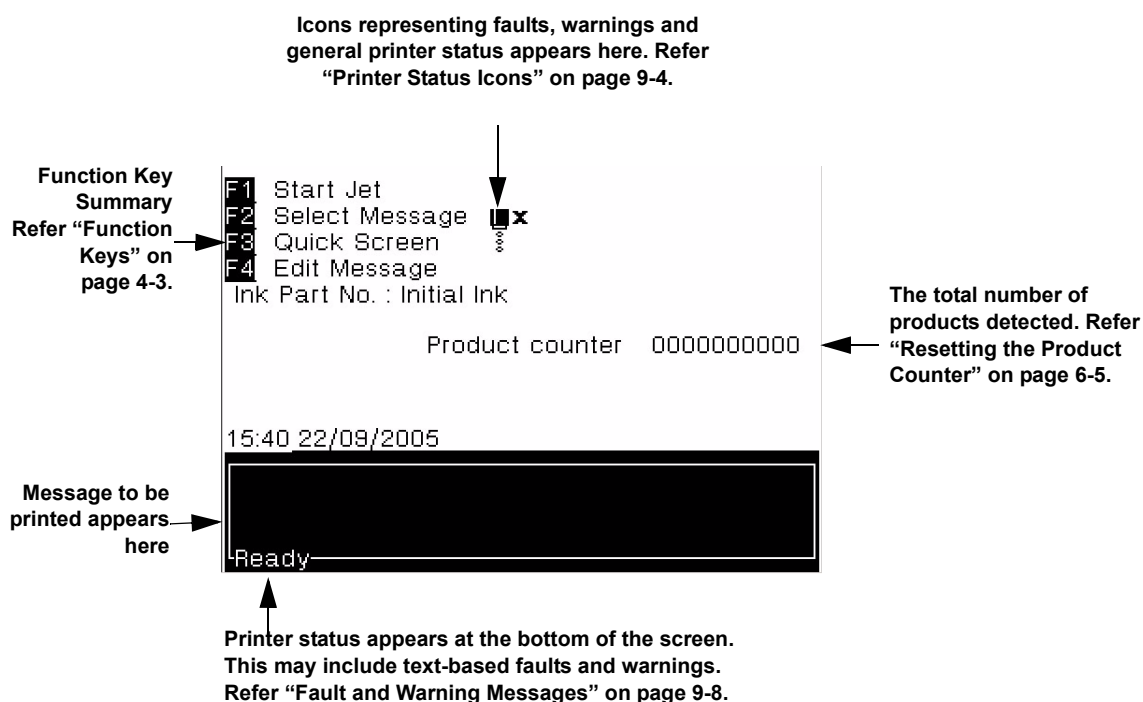


Figure 4-2: Quick Screen

Function Keys

The four function keys on the left side of the display allows easy access to the major printer control functions.

Key	Function
f1	Start or stop the ink jet (start and stop printing). Refer "Starting the Printing Process" on page 6-2 and "Stopping the Printing Process" on page 6-2.
f2	Select a message to print. Refer "Loading an Existing Message" on page 6-1.
f3	Display the menu bar at the top of the screen. Press this key again to hide the menu bar. Refer "Menu Bar" on page 4-3.
f4	Edit the message selected currently. Refer Chapter 5, "Creating a Job" for more information.

Table 4-1: Function Keys

Menu Bar

The menu bar provides access to the printer's advanced features.

Press **f3** to display the menu bar (Figure 4-3) at the top of the screen.



Figure 4-3: Menu Bar

Selecting a Menu

The menu bar contains nine menus and only a few are displayed at any given time. However, the menu bar scrolls left and right to reveal the hidden ones. To select a particular menu from the bar, proceed as follows:

- 1 Highlight the desired option using the  and  arrow keys.
- 2 Press Enter to open the highlighted menu.

Note: If a menu title has one character highlighted, you can open the desired menu by holding down the Alt key and then pressing the highlighted character in the menu's title, on the keypad. The display of the highlighted characters may vary based on the display language selected.

Selecting an Item from the Open Menu

To select an item from an open menu, proceed as follows:

- 1 Highlight the desired option from the open menu using the  and  arrow keys.
- 2 Press Enter to open the highlighted option.

Note: Each menu shows only those options that are available at the current access level. Refer "Entering and Changing Passwords" on page 4-6 for more information on advanced access levels.

Note: If a menu item has one character highlighted, you can select a desired item by pressing the highlighted character on the keypad. The display of the highlighted characters may vary based on the display language selected.

Exiting a Menu

To exit a menu without making a selection, press the Esc key.

Dialog Boxes

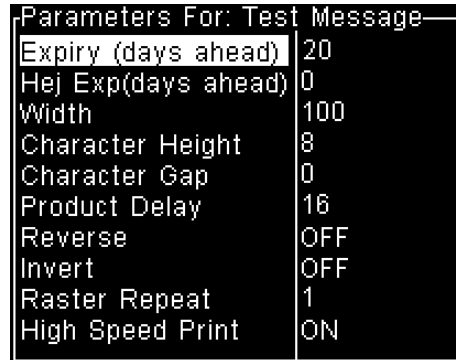


Figure 4-4: Dialog Box

To modify the contents of a dialog box (Figure 4-4), proceed as follows:

- 1 Highlight the desired option, using the  and  arrow keys.
- 2 Adjust the displayed value for the selected field, using one of the methods given below:
 - Cycle through the available values using the  and  arrow keys. This feature works with numerical fields, check boxes, and some text fields.
 - Type the desired value. This feature works with numerical fields and some text fields.
 - Press the space bar to switch a check box on or off. This feature works for check boxes only.
- 3 Repeat steps 1 and 2 for each additional field that is to be edited.
- 4 Exit the dialog box by following one of the procedures given below:
 - Press Enter to save all the changes and exit the dialog box.
 - Press Esc to exit the dialog box without saving the changes.

Entering and Changing Passwords

The printer has several access levels. The default level (0) allows access only to a few features, such as the ability to start and stop printing or to select a different message. Advanced access levels allow features such as message creation and printer setup. The entry to higher access levels requires the entry of a level 1 or a level 2 password. By entering the password for a particular level, the operator gains access to the features for that access level, as well as for all the lower levels.

Note: All the software features covered from this point in the book, require the entry of a password. If a feature described in the book does not appear in the software menus, you are currently at a password level that is not high enough to access that feature.

Entering a Password

To enter a password for a particular access level, proceed as follows:

- 1 Select the option *Password* from the menu bar, and press Enter.
- 2 Select *Enter Password* from the Password menu.
- 3 Press Enter to open the Enter Password dialog box (Figure 4-5).



Figure 4-5: Enter Password Dialog Box

- 4 Type the appropriate password for the feature level that you want to access.

Note: The factory default level 1 and level 2 passwords are 1111 and 2222 respectively.

- 5 Press Enter to save the password for the current password level and exit the dialog box.

Resetting the Printer to Access Level 0

When you have completed accessing higher level features, it is usually better to return the printer to access level 0 in order to prevent unauthorized tampering.

To reset the printer to access level 0, proceed as follows:

- 1 Select the option *Password* from the menu bar, and press Enter.
- 2 Select *Clear Password* from the Password menu.

- 3 Press Enter to clear the password for the higher access levels and exit the dialog box.

Note: This option does NOT remove or change any password stored in the system.

Changing the Passwords for Levels 1 and 2

The passwords used to access level 1 and level 2 features can be changed when required. However, you must enter a password of equal or higher access level first. In other words, you must be at access level 1 (or higher) in order to change the password for access level 1.

To change the password of the required access level, proceed as follows:

- 1 Select the option *Password* from the menu bar, and press Enter.
- 2 Select *Set Password for Level 1* or *Set Password for Level 2* from the Password menu.
- 3 Press Enter to open the New Password dialog box (Figure 4-6).

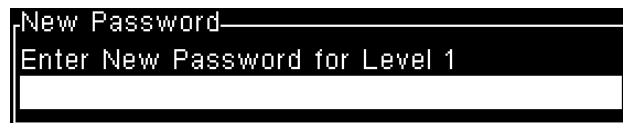


Figure 4-6: New Password Dialog Box

- 4 Type the new password (at least 4 characters long) in the space provided, and press Enter. You will be prompted to confirm the password (Figure 4-7).



Figure 4-7: Confirm Password Dialog Box

- 5 Type the new password again, and press Enter.

If the confirmation password matches the first password entered, the new password is saved. The system returns to the screen from which the password menu was accessed.

If the confirmation password does not match the first password entered, an error message appears (Figure 4-8).

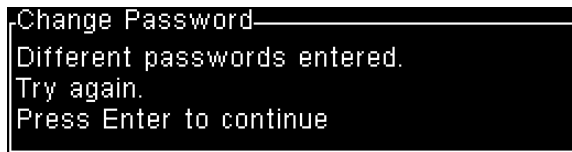


Figure 4-8: Change Password Dialog Box

Press any key to close the error message and return to the new password window.

Changing the Displayed Language

The printer menus and prompts can be displayed in a number of different languages.

To change the language of the printer menu display, proceed as follows:

- 1 Select the option *Configure* from the menu bar, and press Enter.
- 2 Select *Set Language* from the Configure menu. A list of all the languages that are supported by the interface appears (Figure 4-9).



Figure 4-9: Set Language Screen

- 3 Select the desired language using the  and  arrow keys.
- 4 Press Enter to display the Menu screen in the language that you set.

Note: Most of the printers require access level 2 to perform this task.

Setting the System Time and Date

The printer's internal clock can be configured as required. The options available are:

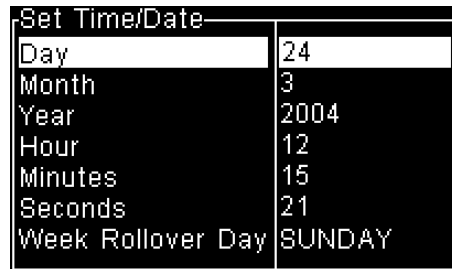
- Setting the time of the day (in hours, minutes and seconds)
- Setting the date according to the Gregorian calendar used by the western countries
- Choosing the day of the week to be designated as day 1
- Setting the date according to the Hejra calendar used in Arabic countries

Note: Most of the printers require access level 2 to perform these tasks.

Setting the Time and Date - Gregorian Calendar

To set the time of the day and date according to the Gregorian calendar, proceed as follows:

- 1 Select the option *Configure* from the menu bar, and press Enter.
- 2 Select *Set Time/Date* from the Configure menu.
- 3 Press Enter to open the Set Time/Date dialog box (Figure 4-10 on page 4-9).



Set Time/Date	
Day	24
Month	3
Year	2004
Hour	12
Minutes	15
Seconds	21
Week Rollover Day	SUNDAY

Figure 4-10: Set Time/Date Dialog Box

- 4 Select a field to edit using the  and  arrow keys.
- 5 Change the value of the selected field either by using the  and  arrow keys, or by typing the desired value in place of the old.

Note: The value for the Date field can be changed by, not more than 2 days at a time. If the date is changed by more than two days, repeat this step until the time and date are correct.

- 6 Repeat steps 4 and 5 to edit any other field.

Note: Week Rollover Day specifies the day of the week that is designated as day 1. For example, if you select Monday as the week rollover day, then Tuesday is day 2 each week, Wednesday is day 3, and so on.

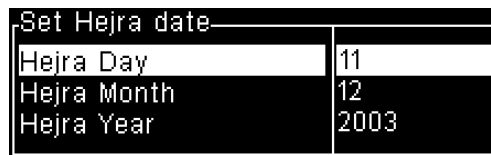
This setting also affects how the printer calculates the week of the year. For example, if you select the Week Rollover Day as Sunday and the new year begins on a Wednesday, then week 1 starts on Wednesday, January 1, but week 2 begins on Sunday, January 5.

- 7 Press Enter to save the time and date and exit the dialog box.

Setting the Hejra Date

To set the Hejra date, proceed as follows:

- 1 Configure the Gregorian date before configuring the Hejra date.
- 2 Select the option *Configure* from the menu bar, and press Enter.
- 3 Select *Set Hejra Date* from the Configure menu.
- 4 Press Enter to open the Set Hejra Date dialog box (Figure 4-11).



Set Hejra date	
Hejra Day	11
Hejra Month	12
Hejra Year	2003

Figure 4-11: Set Hejra Date Dialog Box

- 5 Select the required field (day, month, or year) using the  and  arrow keys.
- 6 Change the value of the selected field either by using the  and  arrow keys or by typing the desired value in place of the old.
- 7 Repeat steps 5 and 6 to edit any other field.
- 8 Press Enter to set the date and exit the dialog box.

Note: When you change the Gregorian date, the printer automatically changes the Hejra date by the same number of days, months, and years.

Setting Up Shifts

If shift codes are being used in messages, the shifts have to be defined first.

To set up shifts, proceed as follows:

- 1 Select the option *User Fields* from the menu bar, and press Enter.
- 2 Select *Set Shifts* from the User Fields menu.
- 3 Press Enter to open the Set Shifts dialog box (Figure 4-12).

Set Shifts	
Start hour of shift 1	7
Start minute of shift 1	0
Start hour of shift 2	15
Start minute of shift 2	0
Start hour of shift 3	23
Start minute of shift 3	0
Start hour of shift 4	0
Start minute of shift 4	0
Start hour of shift 5	0
Start minute of shift 5	0
Character for shift 1	1

Figure 4-12: Set Shifts Dialog Box

- 4 Set the start time for each shift that you wish to use (starting with shift 1), using the  and  arrow keys. For example, to set a start time of shift 1 as 7:15 AM, set *Start hour of shift 1* to "7" and *Start minute of shift 1* to "15".
- 5 Select the start time fields of the consecutive shifts using the  and  arrow keys, and enter the desired values as in step 4.

Note: Hour values are based on the 24-hour clock. For example, entering "15" indicates 3:00 PM as the start time of the shift.

Note: When shift 2 is to be used, the start time for shift 2 must be later in the day, after the start time for shift 1. When shift 3 is to be used, the start time for shift 3 must be later in the day, after the start time for the shifts 1 and 2, and so on.

Note: Shifts must be consecutive (you cannot set the timings for shift 1 and shift 3, and exclude Shift 2).

- 6 Enter "0" for both the start hour and the start minute of the first shift you do not wish to use. The shifts that follow are not used.
- 7 Enter the character that represents the first shift in the *Character for shift 1* field. This character, representing the current shift can be inserted in messages at the time of print. The printer counts upward from that character onwards to derive the remaining shift codes. Table 4-2 provides an example of shift codes.

Value Entered	Shift 1	Shift 2	Shift 3	Shift 4	Shift 5
A	A	B	C	D	E
1	1	2	3	4	5
4	4	5	6	7	8
d	d	e	f	g	h

Table 4-2: Shift Codes

- 8 Press Enter to save the settings and exit the Set Shifts dialog box.

This chapter contains the following topics:

- Creating a new message
- Formatting text
- Copying and pasting text
- Inserting foreign language characters
- Inserting a barcode
- Working with user fields
- Adding a prompted field
- Adding clock and calendar information
- Adding counters
- Adding logos and other graphics
- Configuring message parameters
- Copying messages
- Deleting messages
- Checking free message space

Creating a New Message

To create a new message, proceed as follows:

- 1 Select the option *Messages* from the menu bar (refer “Menu Bar” on page 4-3 for instructions).

- 2 Select the *New Message* option, using the  arrow key (Figure 5-1).

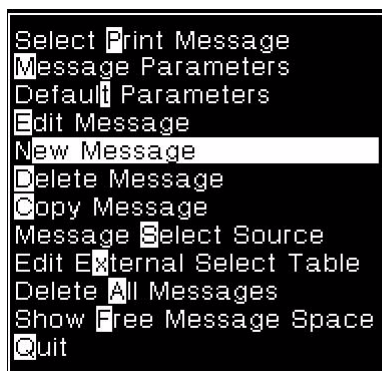


Figure 5-1: Messages Menu Options

- 3 Press Enter to open the New Message dialog box (Figure 5-2).

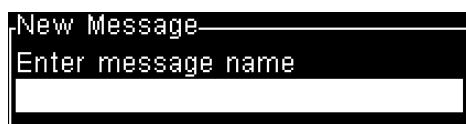


Figure 5-2: New Message Dialog Box

- 4 Type a name for the new message, using the keypad.

Note: The message name may contain up to 30 alphanumeric characters, including spaces.

- 5 Press Enter to open the Message Editor window (Figure 5-3).

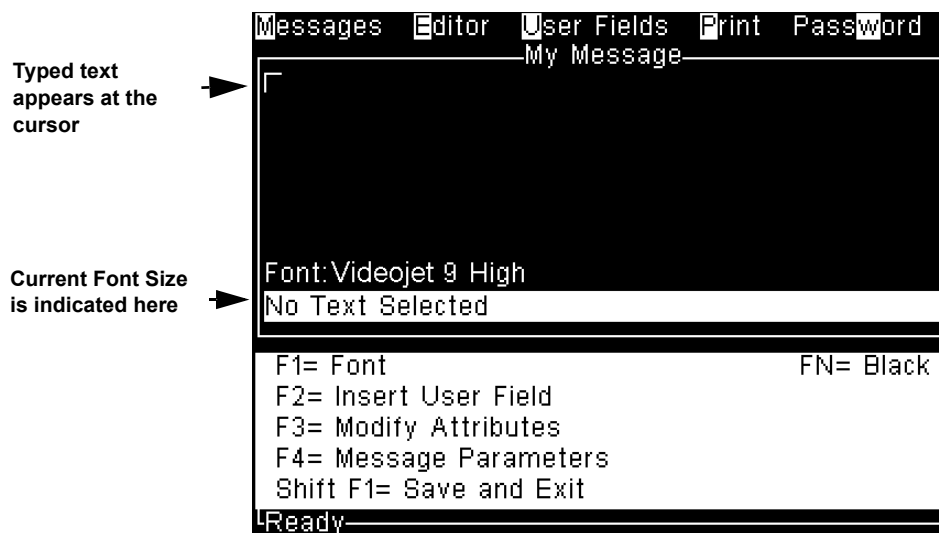


Figure 5-3: Message Editor Window

- 6 Enter a new message in the space provided. To enter a simple (static text only) message, proceed as follows:
 - a. Press F1 repeatedly until the desired font size is displayed at the bottom of the message area (Font field).
 - b. Type the message text in the space provided.

More complex message content and formatting can be achieved by employing any of the following techniques:

- Modifying the attributes and formatting of individual blocks of text (refer “Formatting Text” on page 5-4)
- Inserting barcodes (refer “Inserting a Barcode” on page 5-11)
- Inserting “user fields” (refer “Working with User Fields” on page 5-13)
- Changing the message attributes (refer “Configuring Message Parameters” on page 5-34)

- 7 Press Shift + F1 when you complete editing the message.

This saves the new message and exits from the Message Editor window.

Notes: “Save and Exit” from the Editor menu can also be used instead of Shift + F1, to save the message and exit the window.

Save the created message so that the new version of the message is printed immediately (starting with the next impression).

Entering Multiple Lines

Messages that are entered can be up to 32 dots high. You can enter multiple lines of text, as long as all lines fit within the permissible message height.

Start editing on a new line by moving the cursor to the line you want

to edit, using the  or  arrow key.

Note: Some Videojet printers require that you specify the number of lines of text that are used in the message. This is not necessary on the Videojet 1310 printer. The printer automatically selects the best configuration based on the actual message entered.

Formatting Text

You can format the text in-line (as you type) or select and reformat an entire block of text. The following formatting changes are possible:

- Changing the text size
- Switching from upper case to lower case
- Making the characters bold or very bold
- Inverting and reversing the characters

There are also other text formatting options (such as dot spacing) that affect the entire message rather than just a portion of it. Refer “Configuring Message Parameters” on page 5-34 for more information on these settings.

Selecting a Block of Text to Change the Format

Using the selection procedure, formatting changes can be made to affect an entire block of text.

To make formatting messages easier, the editor automatically selects the block of text that you are currently typing. This is known as the “default text selection” (Figure 5-4) and is displayed at the bottom of the message display area (below the Font field). If no default text selection is available, the message “No Text Selected” appears in that area.

This bar indicates the default text selection. This is the text that the editor automatically selects as you type.



Figure 5-4: Default Text Selection

To select the required block of text for a format change, proceed as follows:

- 1 Position the cursor in the text, at a position where the required selection is to start or end, using the  and  arrow keys, and press Enter.
- 2 Hold down Ctrl and then highlight the required text using the  or  arrow keys (Figure 5-5).



Figure 5-5: Highlighting Text Selection

This enables selection of the required block of text for format changes.

Changing the Text Size

To produce a change in the text size, use one of the following procedures:

Note: Text size can only be changed in-line (as you type). You cannot alter the size of text that you have already typed.

- Press F1 repeatedly until the desired text size is displayed at the bottom of the message area.
- Choose *Select Font* in the Editor Menu and, select the appropriate text height from the list that appears.

Switching From Upper Case to Lower Case

The required message may contain both upper and lower case characters. Table 5-1 shows the keys on the keypad that control the case of characters being typed.

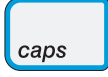
Key	Function
	Pressing the “caps” key changes the case of the next character typed.
	Pressing the “caps lock” key changes the default case.

Table 5-1: Keys to Change Case of Text

Making Characters Bold or Very Bold

The text in the message can be made bold as the printer has the capacity to print each column of dots two or three times.

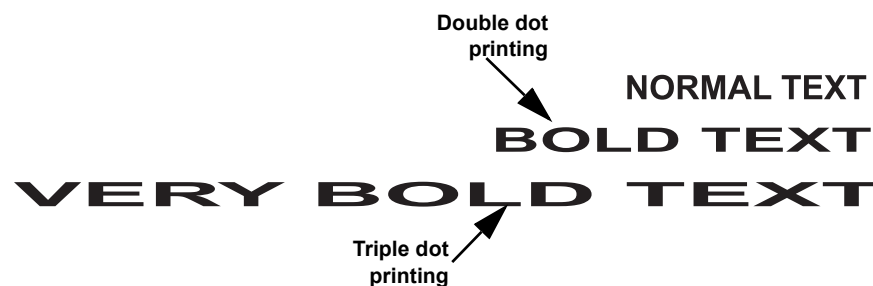


Figure 5-6: Making Bold Text

To make the text in the message bold or very bold (Figure 5-6), proceed as follows:

- 1 Position the cursor in the text, at a position where the required selection is to start or end, using the  and  arrow keys, and press Enter.
- 2 Hold down Ctrl and then highlight the required text from the message that you have already typed, using the  or  arrow keys.

Note: If no characters are selected, then the formatting changes affect the new text typed at the cursor.

- 3 Press F3 or select *Modify Attributes* from the Editor menu to open the Editor Attributes window (Figure 5-7).

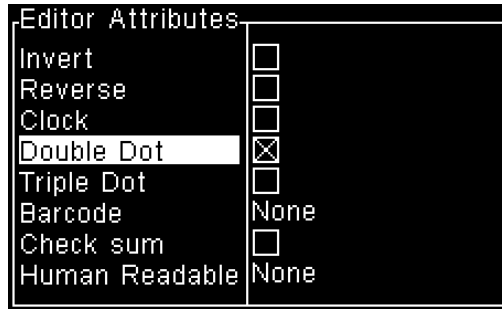


Figure 5-7: Double Dot Option

Note: The “Inline Attributes” option in the Editor menu also opens the same window. However, any formatting changes made, applies only to the new text typed at the cursor and the selected text is ignored.

- 4 Highlight the *Double Dot* option (for bold text), or *Triple Dot* option (for very bold text) using the  and  arrow keys.
- 5 Press the space bar to check the box alongside the selected attribute.
- 6 Remove the check from either the *Double Dot* or *Triple Dot* option, (as required) using the  and  arrow keys.
- 7 Press Enter to save the changes made and exit the Editor Attributes window.

Inverting and Reversing Characters

Inverted characters are printed upside down as shown in Figure 5-8.



Figure 5-8: Inverted Text

A reversed group of characters are printed backwards as shown in Figure 5-9.

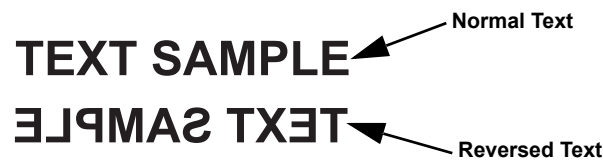


Figure 5-9: Reversed Text

A group of characters that are both inverted and reversed, appear to be rotated in an upside down position, as shown in Figure 5-10.

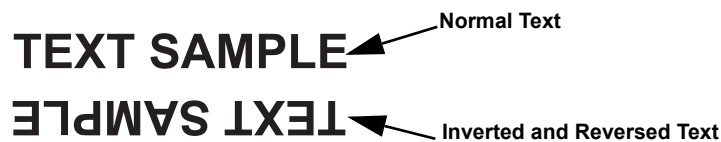


Figure 5-10: Inversed and Reversed Text

To invert and/or reverse the characters in a message, proceed as follows:

- 1 Position the cursor in the text, at a position where the required selection is to start or end, using the  and  arrow keys, and press Enter.
- 2 Hold down Ctrl and then highlight the required text from the message that you have already typed, using the  or  arrow keys.

Note: If no characters are selected, then the formatting changes effect the new text typed at the cursor.

- 3 Press F3 or select *Modify Attributes* from the Editor menu to open the Editor Attributes window (Figure 5-11).

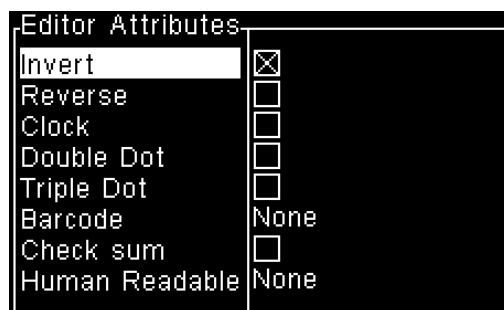


Figure 5-11: Invert Option

Note: The “Inline Attributes” option in the Editor menu also opens the same window. However, any formatting changes made applies only to the new text typed at the cursor and the selected text is ignored.

- 4 Highlight *Invert* and/or *Reverse* option (as required) using the  and  arrow keys.
- 5 Press the space bar to check the box alongside the selected attribute.
- 6 Use the  and  arrow keys to remove the check from either the *Invert* or *Reverse* option, as required.
- 7 Press Enter to save the changes made and exit the Editor Attributes window.

Copying and Pasting Text

Text from the message can be copied to the clipboard and pasted later.

To copy the required text, proceed as follows:

- 1 Position the cursor at a point in the text, where the required selection is to start or end, using the  and  arrow keys, and press Enter.
- 2 Hold down Ctrl and then highlight the required text from the message that you have already typed, using the  or  arrow keys.
- 3 Select the option *Editor* from the menu bar.
- 4 Select the *Copy Text* option from the *Editor* menu using the  arrow key.

To paste the copied text, proceed as follows:

- 1 Position the cursor at the point in the message where you want to paste the text.
- 2 Select the option *Editor* from the menu bar.

- 3 Select the *Paste Text* option from the *Editor* menu using the

 arrow key.

This enables the copied text to be pasted at the required position.

Inserting Foreign Language Characters

You can include characters from more than one language alphabet in a message.

To insert foreign language characters in the message, proceed as follows:

- 1 Select the option *Editor* from the menu bar.
- 2 Select the *Set Keyboard Type* option from the *Editor* menu, using the  arrow key (Figure 5-12).
- 3 Press Enter to open the *Select Keyboard Type* window (Figure 5-12).



Figure 5-12: Set Keyboard Type Window

- 4 Select the required keyboard type from the list provided, using the  arrow key.
- 5 Press Enter to save the changes and exit the Select Keyboard Type window.
- 6 Repeat steps 1 to 4 of the procedure to change the keyboard back to the original, when you have completed entering the foreign language characters.

Inserting a Barcode

To insert a barcode into a message, proceed as follows:

Note: Refer Appendix B, “Supported Barcodes” for detailed information on each type of supported barcode.

- 1 Select the option *Messages* from the menu bar (refer “Menu Bar” on page 4-3 for instructions).
- 2 Select the *New Message* option using the  arrow key.
- 3 Press Enter to open the New Message window.
- 4 Type a name for the new message using the keypad.

Note: The message name may contain up to 30 alphanumeric characters, including spaces.

- 5 Press Enter to open the Message Editor window.
- 6 Press F1 until the desired font size for the barcode is displayed.

Note: Barcodes less than 16 high do not support the addition of a human readable version of the code.

- 7 Select the option *Editor*, from the menu bar.
- 8 Select *Inline Attributes* from the Editor menu to open the Editor Attributes window (Figure 5-13).

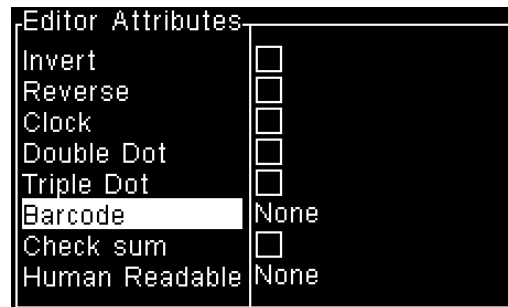


Figure 5-13: Barcode Option

- 9 Highlight the *Barcode* option using the  and  arrow keys.
- 10 Select the type of barcode that you wish to insert, using the  and  arrow keys.

- 11 Select the *Check sum* option using the and arrow keys and then press the spacebar to check the corresponding box, if you want the barcode to include a check sum for error correction.

Note: If you cannot highlight “Check sum” at this point, the current setting is mandatory for the selected bar code type.

- 12 Select the *Human Readable* option using the and arrow keys and then select the relative position of the human readable text (none or below) using the and arrow keys, if you want a human readable version of the barcode text to appear near the barcode.

Note: If you cannot highlight “Human Readable” at this point, the current setting is mandatory for the selected bar code type and font size.

- 13 Press Enter to save the barcode and exit the Editor Attributes window.
- 14 Type the barcode data at the cursor. A graphical representation of the barcode now appears in the Message Editor window, along with some helpful information about the allowable input for the selected bar code type (Figure 5-14).

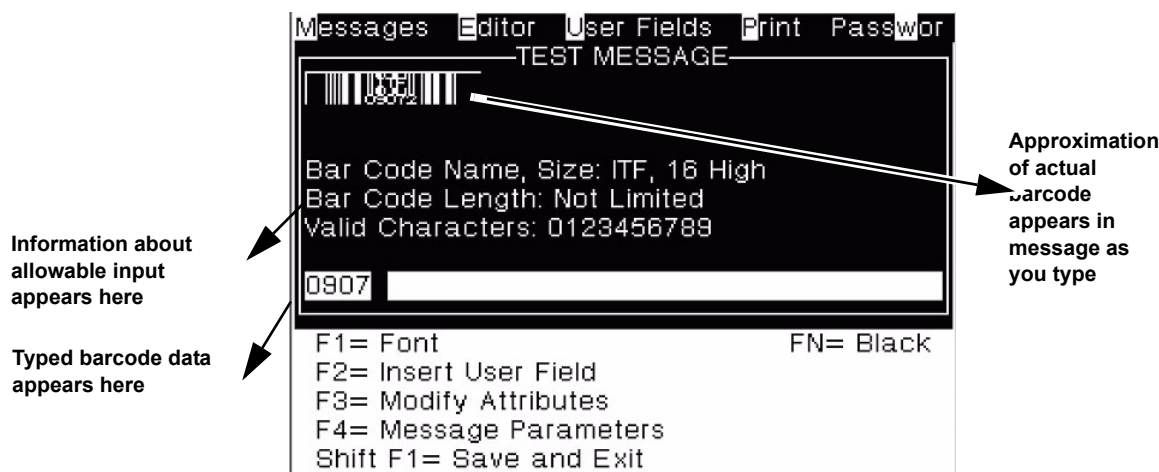


Figure 5-14: Message Editor Displaying Barcode Information

Note: You can also insert any pre-defined user field into a barcode as long as all characters in the user field are valid for the type of barcode you are creating.

- 15** Move the cursor away when you have finished editing the

barcode, using  or  arrow key.

Note: When you save a message containing one or more barcodes, the system attempts to verify the validity of each barcode, displaying an error if any problems are found.

This enables the insertion of the required barcode in the print message.

Working with User Fields

User fields are message inserts such as counters, time/ date stamps, text and prompted fields, shift codes, graphics, and logos. There are several pre-defined user fields as well as custom user fields.

Inserting a Pre-defined User Field

To insert a pre-defined user field, proceed as follows:

- 1** Select the option *Messages* from the menu bar.
- 2** Press Enter to open the Messages menu.
- 3** Select the *New Message* option using the  arrow key.
- 4** Press Enter to open the New Message window.
- 5** Type a name for the new message using the keypad.
- 6** Press F2 in the Message Editor window to open a list showing all the currently-defined user fields (refer Table 5-2 on page 5-15 for a list of all pre-defined user fields and their uses).



Figure 5-15: User Field Dialog Box

Note: In addition to any user fields that have been created by operators and other technicians, the list normally contains a number of user fields that are pre-defined.

- 7 Highlight the name of the user field you want to insert, using

the  and  arrow keys.

- 8 Press Enter to save the required type of user field and exit the dialog box.

This enables the insertion of the selected user field in the print message.

Pre-defined User Fields

Field Name	Description	Typical Output
Alpha Month	The first three letters in the name of the month in which the message is printed	APR
Date	The date on which the message is printed in Day/Month/Year format	06/11/04
Date - YYYY	Same as <i>Date</i> , but showing a 4-digit year	06/11/2004
Day of Week	The day of the week (numerical). Note that you can select which day of the week is designated as day 1 (refer "Setting the Time and Date - Gregorian Calendar" on page 4-9)	5
Expiry Date	Print date along with a selected number of days (refer "Configuring the Date Offset for Expiration Dates" on page 5-21)	07/12/04
Expiry Date - YYYY	Same as <i>Expiry Date</i> , but showing a 4-digit year	07/12/2004
Julian Date	The day of the year (1-365*). *366 days in the case of a Leap Year	152
Shift	The printer replaces the value here with a shift code at print time. Set up the shifts in the printer to be able to use this field (refer "Setting Up Shifts" on page 4-11)	B
Time	The time of day that the message is printed (in hours, minutes and seconds)	09:06:28
Week of Year	The week of the year on which the message was printed. Note that although week 1 begins with the first day of the year, week 2 and all the following weeks begin with the rollover day (refer "Setting the Time and Date - Gregorian Calendar" on page 4-9)	36

Table 5-2: List of Commonly Used User Fields

Creating a Custom User Field

To create a custom user field, proceed as follows:

- 1 Select the option *User Field* from the menu bar.
- 2 Press Enter to open the User Fields menu (Figure 5-16).

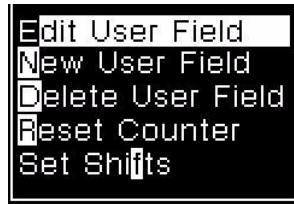


Figure 5-16: New User Field Option

- 3 Select the *New User Field* option using the  arrow key.
- 4 Press Enter to open the New User Field window (Figure 5-17).

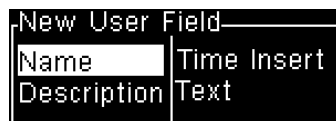


Figure 5-17: New User Field Window

- 5 Type a name for the New User Field in the Name option provided.
- 6 Highlight the *Description* option on the same window using the  arrow key.
- 7 Select from the three types of user fields using the  and  arrow keys (refer Table 5-3 on page 5-17 for a description on the type of user fields).
- 8 Press Enter to open the configuration dialog box (Figure 5-18) for the type of user field selected.



Figure 5-18: Text Field Configuration Dialog Box

- 9 Enter the appropriate data in the Text field.
- 10 Press Enter to save the created user field and exit the configuration dialog box.

- 11 Press F2 at the message editor window to open the new user field which is now included in the list of pre-defined user fields.

Types of User Fields

Description	Purpose
Text	This type of user field can hold a maximum of 50 characters and can be used for three different purposes: • to create a named field containing normal text (as in this example) • to add a prompted field (refer “Adding a Prompted Field” on page 5-19) • to add time and date information (refer “Adding Clock and Calendar Information” on page 5-21)
Counter	This type of field is used to add a numerical, alphabetic or alphanumeric counter (refer “Adding Counters” on page 5-25).
Logo	This type of field is used to insert logos and other graphics (refer “Adding Logos and Other Graphics” on page 5-27).

Table 5-3: Types of User Fields

Editing a User Field

The content and format of any existing user field can be altered.

To edit a user field, proceed as follows:

- 1 Select the option *User Fields* from the menu bar.
- 2 Press Enter to open the User Fields menu.
- 3 Select the *Edit User Field* option from the User Field menu using the  arrow key.
- 4 Press Enter to open a list of all currently-defined user fields.
- 5 Select the field that you want to edit using the  arrow key, and press Enter.
- 6 Edit the parameters according to your requirement.
- 7 Press Enter to save and exit the edited user field.

Note: You can edit a user field that is used in the message currently being printed, without interrupting printing. Saving your changes instructs the printer to begin printing the altered version of the user field. However, the printer waits for the next product detected, to actually make the change.

Deleting a User Field

To delete a user field, proceed as follows:

- 1 Select the option *User Fields* from the menu bar.
- 2 Press Enter to open the User Fields menu.
- 3 Select the *Delete User Field* option from the User Field menu using the  arrow key.
- 4 Press Enter to open a list of all currently-defined user fields.
- 5 Select the field that you want to delete using the  arrow key.
- 6 Press Enter to delete the selected user field and return to the Menu screen.

Note: You can delete a user field that is part of the message currently being printed, without interrupting printing. The printer continues to print the message after removing the deleted user field.



Caution

DATA LOSS. The Delete User Field option does not ask for confirmation to delete a User Field.

Adding a Prompted Field

Prompted fields are used to define content that may change each time the message is used. This may include a message of the day or other content that is specific to a specific run of the product, but remains constant for the entire run. The operator is prompted to provide the field's contents each time one of the following events occurs:

- A message containing a prompted field is loaded.
- The printer is put in print mode and the currently selected message contains a prompted field in it.

To add a prompted field, proceed as follows:

- 1 Select the option *User Fields* from the menu bar.
- 2 Press Enter to open the User Fields menu.
- 3 Select *New User Field* from the User Fields menu using the  arrow key.
- 4 Press Enter to open the New User Field window (Figure 5-19).

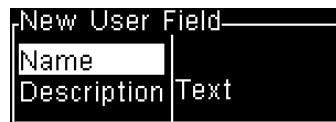


Figure 5-19: New User Field Window

- 5 Type a name for the new prompted field in the space provided.
- 6 Highlight the *Description* option using the  arrow key.
- 7 Select the *Text* option using the  and  arrow keys.
- 8 Press Enter to open the configuration dialog box for text user fields (Figure 5-20).



Figure 5-20: Prompted Field Configuration Dialog Box

- 9 Type a default value for the prompted field corresponding to the field labeled *Text*. This text is displayed in the prompted field until the operator is prompted for the text to replace it.
- 10 Highlight *Attribute* using the  arrow key.

- 11 Select the *Prompted Field* option using the  and  arrow keys.
- 12 Press Enter to open the Prompted Field Length window.
- 13 Specify the maximum length of the prompted field in the space provided (any number less than or equal to 50 is allowed here).
- 14 Press Enter to save the created prompted field and exit the Prompted Field Length window.

Note: *If the default text entered in step 9 is longer than the maximum length specified in step 13, the default text is truncated to the specified maximum. Lengths of 0 are not allowed.*

Adding Clock and Calendar Information

Clock and calendar information can be added to a message in the form of one or more placeholder variables that are automatically updated to show the actual date and/or time of printing.

The same method can be used to add an expiration date to a message. The expiration date is derived by adding a fixed number of days to the actual date on which the message was printed.

Configuring the Date Offset for Expiration Dates

If you intend to add an expiration date to the message, information regarding how many days ahead are required to be added to the message print date in order to construct an expiration date, must be entered into the printer first.

To set the expiration date in a message, proceed as follows:

- 1 Select the option *Messages* from the menu bar.
- 2 Press Enter to open the Messages menu.
- 3 Select the *New Message* option using the  arrow key.
- 4 Press Enter to open the New Message window.
- 5 Type a name for the new message using the keypad.
- 6 Press Enter to open the Message Editor window.
- 7 Hold down the Alt Key and press M in the keypad, to open the Messages window from the menu bar.
- 8 Select the *Message Parameters* option from the Messages menu, using the  arrow key.
- 9 Press Enter to open the *Message Parameters* window (Figure 5-21).

Parameters For: Test Message	
Expiry (days ahead)	20
Hej Exp(days ahead)	0
Width	100
Character Height	8
Character Gap	0
Product Delay	16
Reverse	OFF
Invert	OFF
Raster Repeat	1
High Speed Print	ON

Figure 5-21: Message Parameters Window

- 10 Select the *Expiry (days ahead)* option using the  and  arrow keys.

***Note:** This field is based on the Gregorian calendar used by western nations. If you intend to include expiration dates based on the Arab Hejra calendar, configure the Hej Exp field as well.*

- 11 Increase or decrease the number of days displayed, using the  or  arrow keys or type the desired number of days (up to a maximum of 32,000).
- 12 Press Enter to save the settings and exit the Message Parameters window.

Inserting Pre-configured Time and Date Inserts

The easiest way to insert a time stamp or a date stamp is to select one that has already been configured. The interface of a new printer contains several pre-configured inserts (called “user fields”), most of which contain time and date information.

Refer “Inserting a Pre-defined User Field” on page 5-13 for a description of all pre-configured user fields that are present in the interface of a new printer.

Creating Custom Time and Date Inserts

Times and dates are inserted in messages by formatting a block of text, which is known as “clock information.”

To create a clock information user field, proceed as follows:

- 1 Select the option *User Fields* from the menu bar.
- 2 Press Enter to open the User Fields menu.
- 3 Select the *New User Field* option from the User Fields Menu, using the  arrow key.
- 4 Press Enter to open the New User Field window (Figure 5-22).

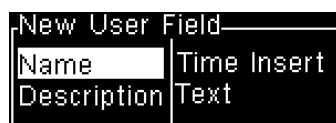


Figure 5-22: New User Field Window

- 5 Type a name for the new time and date insert in the space provided.
- 6 Highlight the *Description* field using the  arrow key.
- 7 Select the *Text* option using the  and  arrow keys, and press Enter to open the configuration dialog box for Text user fields (Figure 5-23).



Figure 5-23: Time Insert Dialog Box

- 8 Type the appropriate code in the field labeled *Text*, as required (refer to Table 5-5 on page 5-24).

Note: Remember the following when entering the codes:

Codes are case-sensitive.

Although the table groups digits together for clarity, each letter actually corresponds to a single digit. For example, "C" represents the last digit of the year number.

The standard date codes are derived from the Gregorian calendar used by western nations. The Arab Hejra calendar uses alternate date codes.

You can practically add any other character for formatting, including numbers, spaces, punctuation marks, etc.

- 9 Press Enter after entering the codes, to save the settings and exit the Time Insert dialog box.

The new insert appears in the list of defined user fields. Press F2 in the Message Editor window. You can select the new field for insertion in the message currently being edited.

Examples

Desired output	Codes and Formatting
May 29, 2003 (print date)	NOP FG, 20BC (or NOP FG, hiBC)
10/29/03 (expiration date)	de/fg/bc
10:29	HI:JK

Table 5-4: Examples of Codes for Custom Time and Date Inserts

Time and Date Codes

Code	Definition
A	Numerical day of the week (1 to 7)
BC	Two-digit year
DE	Month (numerical)
FG	Day of the month
HI	Hours
JK	Minutes
LM	Seconds
NOP	Alpha month
QRS	Day of the year
TU	North American week number
VW	European week number
XY	First two digits of the four-digit expiration year
Za	First two digits of the current Hejra year
bc	Two-digit expiration year
de	Expiration month (numerical)
fg	Expiration day of the month
hi	First two digits of four-digit current year
nop	Alpha expiration month
jk	Last two digits of Hejra year
lm	Hejra month (numerical)
qr	Hejra day of the month
stuv	Hejra expiration year
wx	Hejra expiration month (numerical)
yz	Hejra expiration day of the month

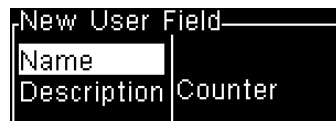
Table 5-5: Time and Date Codes

Adding Counters

Counters (also called “serializers”) are fields that change their value by a fixed amount, each time a specified event occurs. For example, they may be used to print a unique serial number on each product that passes the production line.

To add a new counter, proceed as follows:

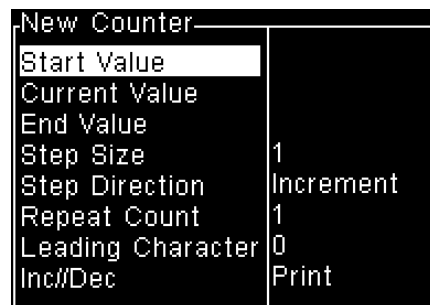
- 1 Select the option *User Fields* from the menu bar.
- 2 Press Enter to open the User Fields menu.
- 3 Select the *New User Field* option using the  arrow key.
- 4 Press Enter to open the New User Field window (Figure 5-24).



New User Field	
Name	
Description	Counter

Figure 5-24: New User Field Window

- 5 Type a name for the new counter in the space provided.
- 6 Highlight the *Description* field using the  arrow key.
- 7 Select the *Counter* option using the  and  arrow keys.
- 8 Press Enter to open the configuration dialog box for counters (Figure 5-25).



New Counter	
Start Value	
Current Value	
End Value	
Step Size	1
Step Direction	Increment
Repeat Count	1
Leading Character	0
Inc/Dec	Print

Figure 5-25: Counter Configuration Dialog Box

- 9 Set the values for all the fields in the counter configuration dialog box (refer Table 5-6 on page 5-26 for definitions of various counter fields).

Note: The *Start Value*, *Current Value*, and *End Value* fields must contain the same number of characters. For example, if the new counter

counts from 1 to 500, be sure to enter “001” rather than “1” in the Start Value and Current Value fields.

Counters may be numerical, alphabetic or alphanumeric. The system automatically selects the type of counter based on the start, current and end values configured. Alphanumeric counters count 0 to 9 and then A to Z.

- 10** Press Enter to save the settings and exit the Counter Configuration dialog box.

Counter Field Definitions

Field Name	Definition
Start Value	Value from which the count starts. The counter returns to this value when it is reset.
Current Value	The counters current value. This field is primarily used to change the current value of a counter that is already in use. When setting up a new counter, the value entered here should be identical to the Start Value.
End Value	Value that the counter reaches at the end of the count. The counter resets to the start value the next time it is incremented.
Step Size	Number by which the counter is incremented or decremented. This is a numerical value even for alphabetic counters (a value of 2 causes an alphabetic counter to count “a, c, e, g” etc.)
Step Direction	Set to Increment (count up) or Decrement (count down)
Repeat Count	Specifies how many times the event selected in the Inc/Dec on field must occur to cause the counter to increment or decrement itself.
Leading Character	Leading zeros can be replaced with a different character (for example a blank space). The default setting is “0” which leaves leading zeros unchanged.
Inc/Dec on	This field specifies what causes the counter to increment or decrement itself. Select PRINT to specify that the counter is incremented or decremented each time a message that contains the counter is printed. Select the name of another counter to specify that the counter is incremented or decremented when the selected counter reaches its End Value.

Table 5-6: Definitions of Counter Fields

Adding Logos and Other Graphics

Graphics can be inserted by creating a user field of the logo type.

To add a new graphic to a message, proceed as follows:

- 1 Select the option *User Fields* from the menu bar.
- 2 Press Enter to open the User Fields menu.
- 3 Select the *New User Field* option using the  arrow key.
- 4 Press Enter to open the New User Field window (Figure 5-26).



Figure 5-26: New User Field Window

- 5 Type a name for the new graphic in the space provided.
- 6 Highlight the *Description* field using the  arrow key.
- 7 Select the *Logo* option using the  and  arrow keys.
- 8 Press Enter to open the Logo Editor for logos and other graphics (Figure 5-27).



Figure 5-27: Logo Editor for Construction of Logos

- 9 Create the graphic by controlling the cursor position using a combinations of keys from the keypad (refer Table 5-7 on page 5-28 for the key combinations and their functions).

Key Combination	Cursor Movement
   or 	Move the cursor one dot at a time without drawing a line.
 +    or 	Move the cursor ten dots at a time without drawing a line.
Space Bar	Draw a single dot at the current cursor position.
 +    or 	Move the cursor one dot at a time and draw a line.
 +    or 	Move the cursor one dot at a time and delete any dots drawn.

Table 5-7: Key Combinations Used for the Construction of Graphics

Note: Content is added to a graphic by any of the following procedures:

Text can be typed by using the Set Cursor option in the Editor menu. The font size for the typed text can be set using the F1 key or the Select Font option in the Editor menu.

Foreign language characters can be inserted by selecting Set Keyboard Type from the Editor menu and then typing the desired characters.

User fields such as counters, time stamps or another graphics can be embedded. Press F2 or select Insert User Field from the Editor menu to do so.

Graphic editing tasks can be achieved by the function of Copy and Paste blocks. Refer "Block Editing Functions" on page 5-29 for more information.

- 10 Crop the graphic to the desired size by cutting out the extra space at the edges (refer "Cropping a Graphic" on page 5-33 for instructions).
- 11 Hold down Shift and Press F1 to save your graphic and exit the Logo Editor window, when your logo is complete.

Changing Logo Size

After inserting the logo, the size can be changed. To change the height and width of the logo, proceed as follows:

- 1 Select the option *Editor* from the menu bar.

- 2 Press Enter to open the Editor menu.
- 3 Highlight the *Set Logo Size* option using the  arrow key and press Enter to open the Logo Editor box.

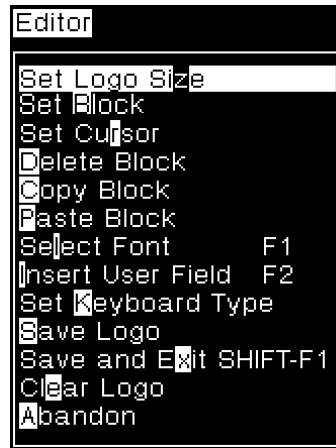


Figure 5-28: Set Logo Size Option

- 4 Change the height of the logo to the required size, using the  and  arrow keys.
- 5 Change the width of the logo to the required size, using the  and  arrow keys.

This enables changing the size of the logo created.

Block Editing Functions

Selecting a rectangular area of the graphic called as the “block”, within the logo editor allows you to delete the block or make a copy of it.

To select a block after the creation of a logo or graphic, proceed as follows:

- 1 Hold down Alt and press E to open the Editor menu in the Logo Editor window.
- 2 Select the *Set Block* option using the  arrow key (Figure 5-29).

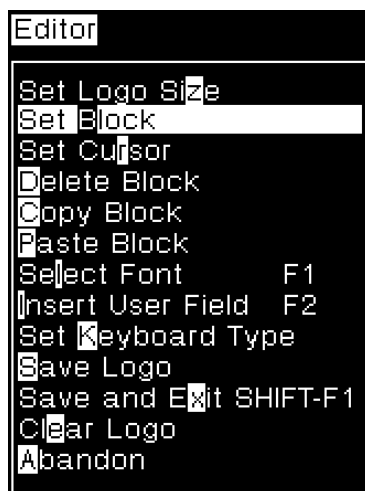


Figure 5-29: Logo Editor Menu

- 3 Press Enter to see a rectangle appear in the Logo Editor, which indicates the outline of the block to be selected (Figure 5-30).

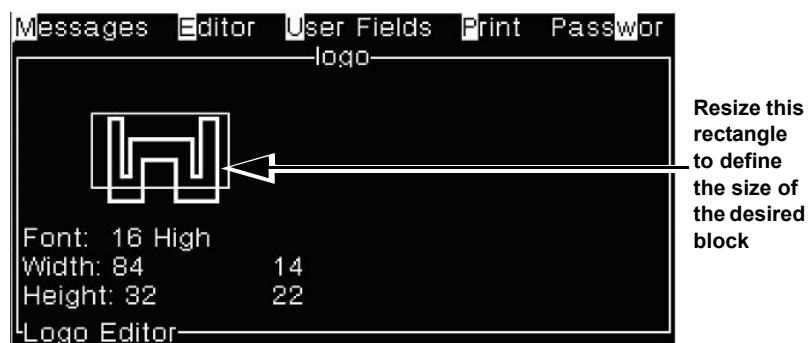


Figure 5-30: Block Editing Function

- 4 Position and resize the outline rectangle using a series of key combinations on the keypad (refer Table 5-8 on page 5-31 for the various key combinations).

Key combination	Function
 +  or 	Move the right-hand edge.
 +  or 	Move the left-hand edge
 +  or 	Move the top edge.
 +  or 	Move the bottom edge.
 ,  ,  or 	Move the whole outline by one dot at a time.
 +  or 	Move the whole outline by ten dots at a time.

Table 5-8: Key Combinations for Block Editing Function

- 5 Press Enter when you have completed positioning and resizing the block's outline.

Note: The outline rectangle disappears at this point.

This enables selecting a block, following the creation of a logo or graphic.

Deleting a Selected Block

To clear the contents of a selected block, proceed as follows:

- 1 Hold down Alt and press E to open the Editor menu in the Logo Editor window.
- 2 Select the *Set Block* option using the  arrow key.
- 3 Press Enter to see the selected block appear in the window.
- 4 Hold down Alt and press E to open the Editor menu in the Logo Editor window.
- 5 Select the *Delete Block* option using the  arrow key.
- 6 Press Enter to clear the contents in the selected block.

Copying and Pasting a Selected Block

To copy and paste a selected block, proceed as follows:

- 1 Hold down Alt and press E to open the Editor menu in the Logo Editor window.
- 2 Select the *Set Block* option using the  arrow key.
- 3 Press Enter to see the selected block appear in the window.
- 4 Hold down Alt and press E to open the Editor menu in the Logo Editor window.
- 5 Select the *Copy Block* option using the  arrow key, and press Enter (Figure 5-31).

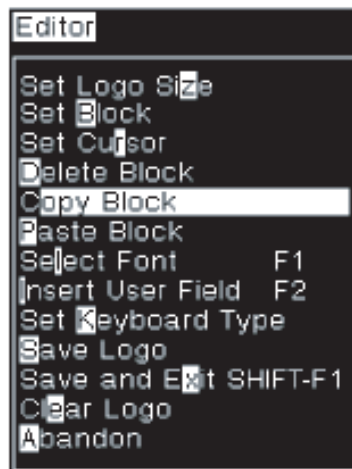


Figure 5-31: Copy Block Option

- 6 Move the cursor to the desired location where you want to paste the contents of the selected block (the upper left hand corner of the graphic is pasted at the cursor location).
- 7 Hold down Alt and press E to open the Editor menu in the Logo Editor window.
- 8 Select the *Paste Block* option using the  arrow key.
- 9 Press Enter to paste the contents of the selected block in the desired location, on the Logo Editor screen.

Cropping a Graphic

Cropping is the process of trimming the edges of a graphic to eliminate the empty space that surrounds it.

To crop a graphic, proceed as follows:

- 1 Hold down Alt and press E to open the Editor menu in the Logo Editor window.
- 2 Select the *Set Logo Size* option using the  arrow key (Figure 5-32).

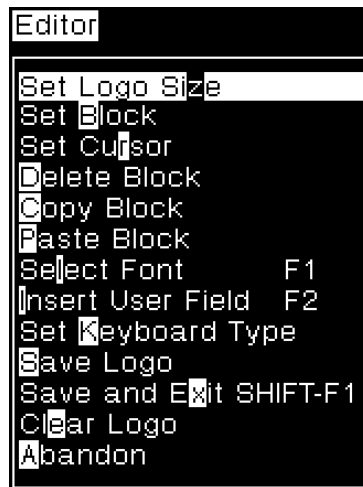


Figure 5-32: Set Logo Size Option

- 3 Press Enter to see the appearance of a frame depicting the current boundaries of the graphic (Figure 5-33).

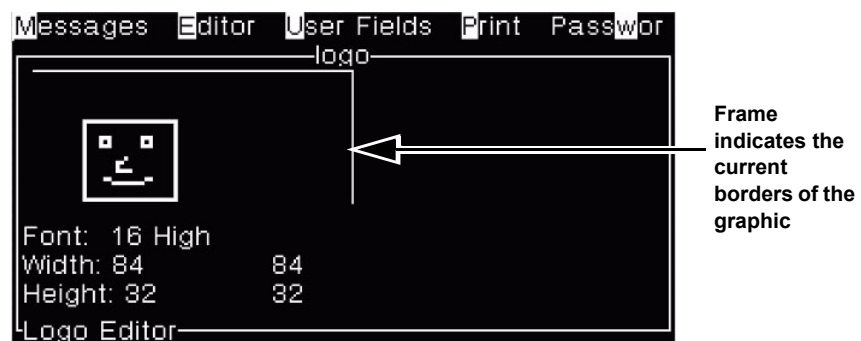


Figure 5-33: Graphic Cropping Function

- 4 Adjust the size of the frame using a combination of controls, until boundaries of the graphic are as required (refer Table 5-9 on page 5-34 for the controls used and their functions).

Key combination	Function
 ,  ,  or 	Adjust the frame size one dot at a time.
 +  ,  ,  or 	Adjust the frame size ten dots at a time.

Table 5-9: Key Combinations for Graphic Cropping Function

5 Press Shift+F1 to save the settings.

Configuring Message Parameters

Message parameters include variables that affect the appearance and behavior of the entire message. You can change the parameters for a specific message or the default parameters for all messages.

To edit message parameters, proceed as follows:

- 1 Select the option *Messages* from the menu bar.
- 2 Select *Message Parameters* in the Messages menu using the  arrow key, if you want to set parameters for the current message. If you want to set the parameters for all messages, select *Default Parameters*.
- 3 Press Enter to open the Message Parameters dialog box (Figure 5-34).

Note: Changes made to the default settings affects subsequent new messages created, but does not affect existing messages.

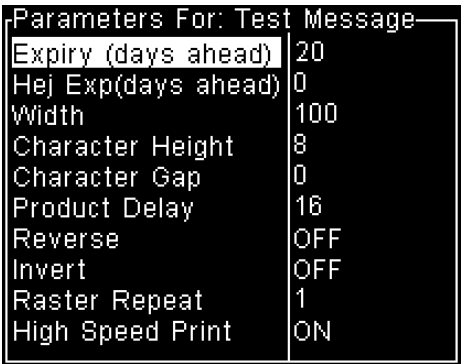


Figure 5-34: Message Parameters Dialog Box

- 4 Select each parameter to be edited using the  arrow key and enter the required value.
- 5 Press Enter to save settings and exit the Message Parameters dialog box (refer Table 5-10 for a description of all the message parameters).

Parameter	Range	Description
Expiry (days ahead)	0 to 32000 days	Sets an expiry date the selected number of days after the print date. This parameter affects the expiration dates based on the Gregorian calendar used by western nations (refer “Adding Clock and Calendar Information” on page 5-21 for more information).
Hej Expiry (days ahead)	0 to 32000 days	Sets an expiry date the selected number of days after the print date. This parameter affects the expiration dates based on Arab Hejra calendar (refer “Adding Clock and Calendar Information” on page 5-21 for more information).
Width	1 to 255	Sets the message width. The minimum width is limited by the maximum print speed. Set the width to 1 to print at the maximum achievable rate for the selected number of “printed drops”. Each increment in width increases the message width by approximately 3 %.
Character Height	1 to 10	Adjusts the vertical dot spacing of the entire message by selecting one of ten preset values. Typically, these values would have been configured so that 1 generates the shortest message and 10 generates the tallest message.
Character Gap	0 to 10	Sets the character gap between 0 (equivalent to a single vertical line of dots) to 10 rasters width (equivalent to 11 vertical lines of dots). Due to character formation, setting 0 gives a character gap of 1 raster. This setting does not affect the spacing of printed barcodes.

Table 5-10: Description of Message Parameters

Parameter	Range	Description
Product Delay	0 to 10000	Sets the product delay (the time between the start of product (trigger point) and the print start position).
		The diagram shows a bottle on a conveyor belt moving to the right. A dashed line marks the 'Trigger point' at the front of the bottle. Another dashed line marks the 'Print start position' further back on the bottle. The distance between these two points is labeled 'Product delay'. A 'Photocell' is positioned to detect the trigger point. A 'Message' is shown being printed on the bottle's label.
Reverse	On/Off	Toggle reversed character (back to front) printing.
Invert	On/Off	Toggle inverted character (upside down) printing.
Raster Repeat	1 to 10	Sets the number of times the same raster is printed. This allows characters to be emboldened.
High Speed Print	On/Off	Setting High Speed Print Off instructs the printer to maintain high print quality even if it has to print more slowly to do so. This setting affects the print quality. Setting High Speed Print On can affect the print quality but allows full speed printing. Refer to the Print Specification Table in the Service Manual for font specific details.

Table 5-10: Description of Message Parameters

Note: Product delay and message length are dependent on the line speed and resolution of the shaft encoder.

Copying Messages

If only minor changes are required to be made to an existing message to create a new one, use the Copy Message option.

To copy a message, proceed as follows:

- 1 Select the option *Messages* from the menu bar.
- 2 Select the *Copy Message* option using the  arrow key.
- 3 Press Enter to open the Copy Message dialog box (Figure 5-35).



Figure 5-35: Copy Message Dialog Box

- 4 Enter the name of the message from which you want to copy, in the *From* field, or press F2 to select from a list of available messages.
- 5 Select the *To* field using the  arrow key and enter the name of the message where you want to paste the message copied in Step 4.
- 6 Press Enter to save the copied message and return to the Menu screen.

Deleting Messages

You can delete either a single message or all messages (except the Test Message, which cannot be deleted).

Deleting a Single Message

- 1 Select the option *Messages* from the menu bar.
- 2 Select the *Delete Message* option using the  arrow key, to delete a single message.

- 3 Press Enter to open the Select Message dialog box (Figure 5-36).

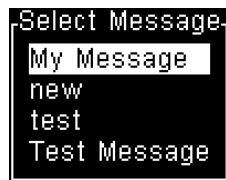


Figure 5-36: Select Message Dialog Box

- 4 Highlight the message name using the  and  arrow keys, or enter the name of the message using the keypad.
- 5 Press Enter to delete the message and return to the Menu screen.



Caution

DATA LOSS. Ensure the correct message name is selected for message deletion as a message selection confirmation prompt is not given.

Deleting all Messages

To delete all messages, proceed as follows:

- 1 Select the option *Messages* from the menu bar.
- 2 Select the *Delete All Messages* option using the  arrow key.
- 3 Press Enter to delete all the messages and return to the Menu screen.



Caution

DATA LOSS. With the above operations, all messages apart from the Test Message and the message currently loaded in the editor are deleted.

Checking Free Message Space

The printer stores all the messages created on a flash memory “disk.” The high capacity of this disk makes it unlikely that the printer runs out of space to store messages.

However, you can check the amount of free message space left in the printer by doing the following:

- 1 Select the option *Messages* from the menu bar.
- 2 Select the *Show Free Message Space* option using the  arrow key.
- 3 Press Enter to open the Memory Space dialog box (Figure 5-37). Refer Table 5-11 for the description of the fields appearing in the window.



Memory Space	
Free Disk Space	51330048
Message Count	1

Figure 5-37: Memory Space Dialog Box

Field	Meaning
Free Disk Space	The total amount of memory (in bytes) that remains available for creating new messages.
Message Count	Shows the total number of messages currently stored in the printer's memory.

Table 5-11: Description of Fields in the Memory Space Window

Note: When the free disk space approaches zero, it becomes impossible to create new messages. However, you can make space available by deleting unused messages.

- 4 Press Enter to close the dialog box and return to the Menu screen.

Loading and Printing a Job

6

This chapter contains the following topics:

- Loading an existing message
- Starting the printing process
- Stopping the printing process
- Monitoring the printing process
- Resetting serializers
- Resetting the product counters

Loading an Existing Message

The message that is currently printing appears in the box, at the bottom of the main screen.

To select a different message to print, proceed as follows:

- 1 Press F2 to display the *Select Message* menu (Figure 6-1).

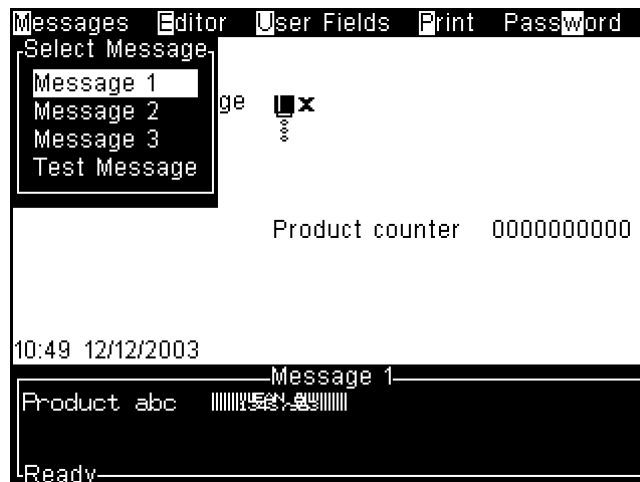


Figure 6-1: Select Message Menu

- 2 Highlight the name of the desired message using the  and  arrow keys.

Note: To highlight the name of the message required, type the first letter of the message. The highlight moves to the beginning of the message whose name begins with that letter.

- 3 Press Enter to select the highlighted message for the printing process.

Starting the Printing Process

To print the message selected currently, press F1.

Wait for the printer to complete the jet start sequence (up to five minutes). Printing commences automatically once the sequence is completed.



Caution

EQUIPMENT DAMAGE. Make-up solvent is used to clean the printhead during the start and stop cycles. Therefore, starting and stopping the printer repeatedly over a short period of time can dilute the ink.

Stopping the Printing Process

To stop the ink jet and cease the printing, press F1.

Wait for the printer to complete the jet stop sequence. The green LED and the ink jet icon stops flashing (up to 3 minutes). Following this, the printing process ceases.



Caution

EQUIPMENT DAMAGE. Do not disconnect the printer until the jet stop sequence has been completed.

Monitoring the Printing Process

The three keypad LEDs and the lights on the optional lamp stack shows the printer status at its simplest level (Figure 6-2).

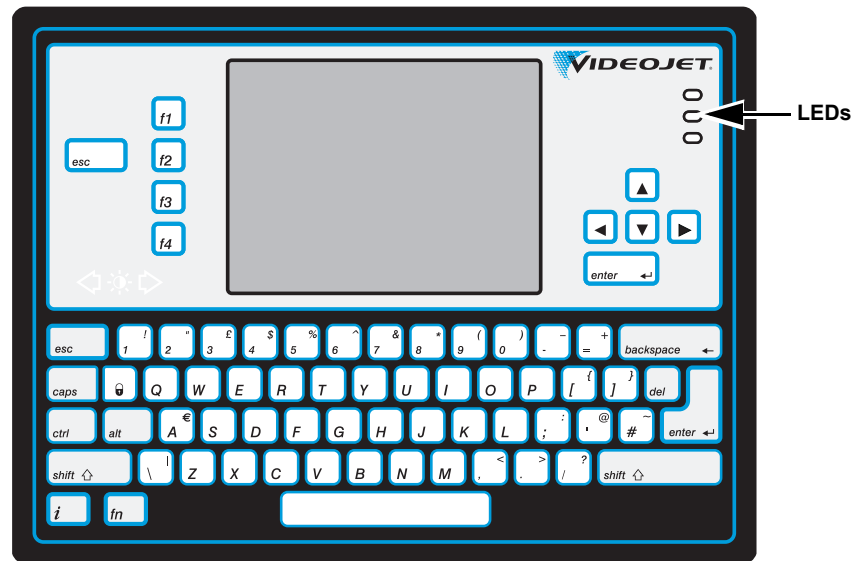


Figure 6-2: Printer Keypad

Red

This indicates that there is a fault condition that prevents printing. An icon appears on the screen along with a corresponding error message. Refer “Printer Status Icons” on page 9-4 and “Fault and Warning Messages” on page 9-8 for more information on troubleshooting.

Amber

This indicates a condition which may require user intervention, but does not usually prevent printing. This includes conditions that may or may not be considered a problem for the current application (such as slight print distortions). It also includes potential problems that are not affecting printing yet, but eventually might (such as low ink supply). Refer “Troubleshooting the Amber LED” on page 9-2 for more information.

Green

This indicates that the printer is able to print correctly. The Green LED (but not the lamp) flashes when the printhead is starting up or shutting down and when print has been disabled.

Resetting Message Counters

Message counters (also called “serializers”) are user-defined counters that are inserted in messages. Such a counter is typically incremented whenever the message is successfully printed.

Refer “Adding Counters” on page 5-25 for information on creating message counters.

To reset any message counter to its starting value, proceed as follows:

- 1 Select the option *User Fields* from the menu bar.
- 2 Select the *Reset Counter* option from the User Fields menu, using the  arrow key.
- 3 Press Enter to open the Select Counter to Reset menu (Figure 6-3).

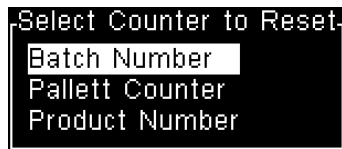


Figure 6-3: Select Counter to Reset Menu

- 4 Select the counter that you want to reset.
- 5 Press Enter to reset the required counter and exit the Select Counter to Reset menu.

Resetting the Product Counter

The product counter (Figure 6-4 on page 6-5) shows the total number of products that the printer has detected. All detected products are counted here including the products on which the printer has not printed a message.



Figure 6-4: Product Counter

To reset the product counter, proceed as follows:

- 1 Select the option *Data Logging* from the menu bar.
- 2 Select the *Product Counter* option from the Data Logging menu, using the  arrow key.
- 3 Press Enter to open the Product Counter dialog box (Figure 6-5).

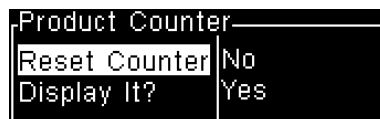


Figure 6-5: Product Counter Dialog Box

- 4 Set the *Reset Counter* field to "Yes" using the  and  arrow keys.
- 5 Press Enter to reset the product counter and exit the Product Counter dialog box.

Hiding the Product Counter

To hide the product counter, proceed as follows:

- 1 Select the option *Data Logging* from the menu bar.
- 2 Select the *Product Counter* option from the Data Logging menu using the  arrow key.
- 3 Select *Product Counter* from the Data Logging menu.
- 4 Press Enter to open the Product Counter dialog box (Figure 6-6).

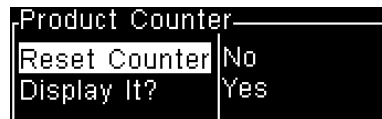


Figure 6-6: Product Counter Dialog Box

- 5 Highlight the *Display It?* field using the  arrow key.
- 6 Press the  and  to select "No."
- 7 Press Enter to save the settings and exit the Product Counter dialog box.

External Select Table and Message Select

You can set the messages stored in the machine to print from an internal source (i.e. the keyboard) or an external source (another machine on the product line).

To set the message, proceed as follows:

- 1 Select the Messages menu.
- 2 Select Message Select Source (Figure 6-7). The Message Select Source dialog opens.



Figure 6-7: Message Select Source Screen

- 3 Use the arrow keys to highlight the required source - either Internal or External.

- 4 Press ENTER to set the message select source and return to the Menu screen.
- 5 If the external message select is desired, select the Messages menu again.
- 6 Select Edit External Select Table (Figure 6-8). The External Message Select dialog opens.

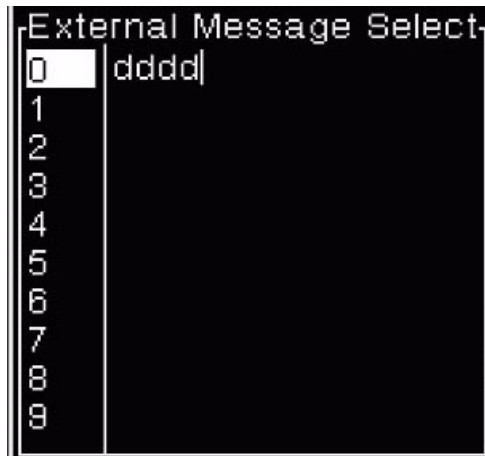


Figure 6-8: External Message Select Screen

- 7 Enter the name(s) of the message(s) at the location desired for the external source.
- 8 Press the F2 key to select the message names from a list of those available or enter the message names. Entering message names not stored on this machine are ignored.

When you have assigned all the messages to the locations (range from 0 to 99) that you want to be available to the external source, press ENTER to return to the Menu screen.

This chapter contains the following topics:

- Triggering a print
- Compensating for changes in line speed

Triggering a Print

Once the ink jet is turned on, individual prints are triggered in one of the following three ways, depending upon the configuration of the printer:

- Printing manually
- Printing with a product detector
- Printing continuously

Printing Manually

This option manually triggers a single print of the message selected currently. It is generally used only for troubleshooting purposes.

To manually trigger printing, proceed as follows:

- 1 Ensure that the printer is set up to receive shaft encoder pulses by doing one of the following:
 - Check if the shaft encoder is properly installed and configured according to the instructions in “Compensating for Changes in Line Speed” on page 7-6, and ensure that the line that the encoder measures is moving.
 - Set the *Shaft Encoder Source* setting to “Internal.”
- 2 Select *Manual Print* from the Print menu.
- 3 The printer then prints the currently loaded message.

Printing with a Product Detector

Product detectors can be used to trigger message printing when a product passes the printhead. This method enables automatic printing of one or more messages on each product present on a moving line.

Installation

Installation and setup of a product detector varies depending upon the model of product detector used (refer the installation instructions that come along with your product detector). However, the following overview is true for all product detector models.

To install a product detector, proceed as follows:

- 1 Mount the product detector in a position that enables it to detect the product when it is in print position.
- 2 Shut down the printer normally.
- 3 Attach the product detector to the *Print Trigger 1* port on the side of the printer.
- 4 Start the printer.
- 5 Configure the printer's operating software to use the product detector (refer "Configuring the Product Detector Ports" on page 7-2).

Configuring the Product Detector Ports

To configure the product detector ports, proceed as follows:

- 1 Select the option *Configure* from the menu bar.
- 2 Select the *Photocell Source* option from the Configure menu using the  arrow key.
- 3 Press Enter to open the Print Control dialog box (Figure 7-1).

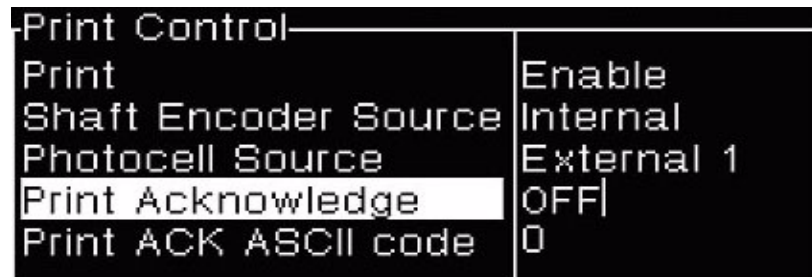


Figure 7-1: Print Control Dialog Box

- 4 Select the *Photocell Levels* option from the Configure menu using the  arrow key.
- 5 Press Enter to open the Photocell Levels dialog box (Figure 7-2).



Figure 7-2: Photocell Levels Dialog Box

- 6 Select the “Active High” or “Active Low” options (NPN detectors are Active high and PNP detectors are Active Low) using the  and  arrow keys.
- 7 Press Enter to save the settings and exit the Photocell Levels dialog box.

Print Acknowledge

This option is located in the Print Ack Control menu (Figure 7-3), and sends a signal to an external control system.

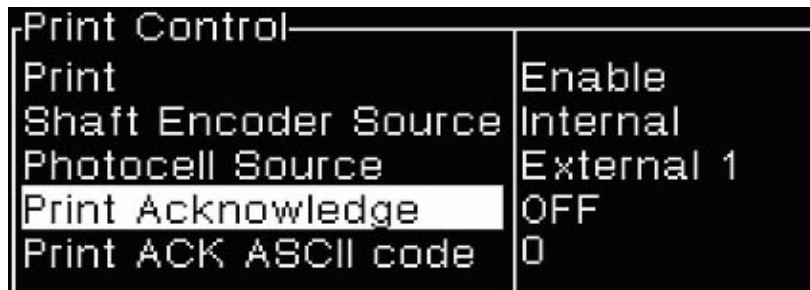


Figure 7-3: Print Acknowledge

There are four possible control setting options available. Select these control setting options using the  and  arrow keys.

- 1 After Compile: The Print ACK ASCII code is sent after the update of any dynamic information such as Clock Codes or counter information in the message to be printed.
- 2 After Print: The Print ACK ASCII code is sent after the message has been printed.
- 3 Both: The Print ACK ASCII code is sent after the message has been compiled and after it has been printed.
- 4 Off: Default setting. No print acknowledge sent.

Print ACK ASCII Code

This option is also located in the Print Ack Control menu, and sets the ASCII character code (0-255) to be sent to the external control system.

Set Language

This feature allows selection of language character sets. Specific language selections changes the menu language.

To set specific languages, proceed as follows:

- 1 Select Set Language (Figure 7-4 on page 7-4) from the Configure menu. This displays a list of languages to select depending upon the version of software installed.



Figure 7-4: Select Language

- 2 Select the desired language and press ENTER.

Printing Continuously

The continuous printing option prints a message repeatedly at a regular time or distance interval. This is particularly useful for applications such as wire and cable marking, where the same message is printed at regular intervals along the length of a single product. The printer continues printing for as long as the product continues to be detected.

To print continuously at regular intervals, proceed as follows:

- 1 Select the option *Print* from the menu bar.
- 2 Select the *Continuous Print* option from the Print menu, using the  arrow key.
- 3 Press Enter to open the Continuous Print dialog box (Figure 7-5).

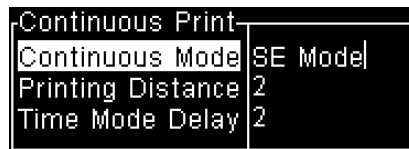


Figure 7-5: Continuous Print Dialog Box

4 Do one of the following:

- To configure continuous printing at a specific time interval, proceed as follows:
 - a. Set the *Continuous Mode* field to the “Time Mode” option using the  and  arrow keys.
 - b. Select the *Time Mode Delay* option using the  arrow key.
 - c. Enter the number of ticks of the internal 64 Hz clock between each printed message (each tick takes roughly 15.6 ms), using the  and  arrow keys.
 - d. Press Enter.
- e. Generate a product detect signal to start printing. This can be accomplished by either:
 - Passing a product past the product detector (if installed)
 - Creating an inactive to active transition on the product detect input by using the Photocell Levels option from the Configure Menu
- To configure continuous printing at a specific distance interval, proceed as follows:
 - a. Ensure that a supported shaft encoder is properly installed and configured. Refer “Compensating for Changes in Line Speed” on page 7-6 for more information.
 - b. Set the *Continuous Mode* field to the “SE Mode” option using the  and  arrow keys.
 - c. Set the *Printing Distance* value to the number of shaft encoder pulses between the start of each printed message (Range: 1 to 10,000), using the  and  arrow keys.
 - d. Press Enter to start printing.

Compensating for Changes in Line Speed

Messages are printed on a moving surface. Hence, a change in line speed can cause the distortion of messages. For example, a faster line speed may cause messages to appear wider because the dots are actually landing further apart. Similarly, a slower line speed may cause messages to appear narrower and a stopped line can reduce the message to a single vertical column of ink.

Since this type of distortion is usually undesirable, the printer has the capability to compensate for changes in the line speed. To do this, however, the printer must be supplied with constant updates about the current line speed. Typically, this information is provided by a device called a "Shaft Encoder".

Operating without a Shaft Encoder

When the printer is used on a line whose speed never changes, a shaft encoder is not necessary. In this case, the printer may be configured to use the "internal encoder" option. This option causes the printer to separate the printing of each column of dots by a fixed time interval. If the line moves at a constant rate, the dot columns appears evenly spaced.

To operate a printer without a shaft encoder, proceed as follows:

- 1 Select the option *Configure* from the menu bar.
- 2 Select the *Shaft Encoder Source* option from the Configure menu using the  arrow key.
- 3 Press Enter to open the Print Control dialog box (Figure 7-6).

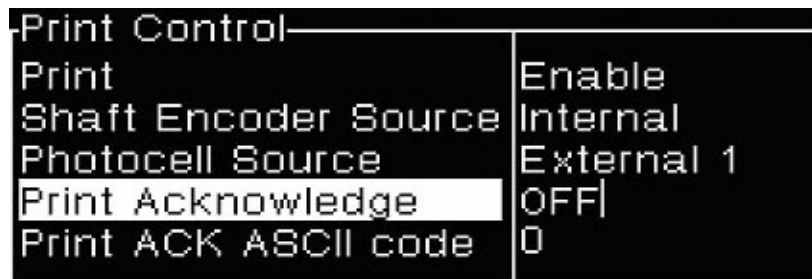


Figure 7-6: Print Control Dialog Box

- 4 Select the *Shaft Encoder Source* option using the  arrow key.

- 5 Set the *Shaft Encoder Source* field to “Internal” using the  and  arrow keys.

- 6 Press Enter to save the settings and exit the Print Control dialog box.

Note: The spacing between columns of dots can be adjusted using the *Width* setting in the *Message Parameters* window. A width of “1” causes the columns to be printed as close together as possible at the current line speed. The space between columns is increased by approximately 3% for each additional +1 to this value.

This printer can now be used without a shaft encoder.

Configuring the Printer to Use a Shaft Encoder

Installation and setup of a shaft encoder varies depending on the model of shaft encoder used (refer the installation instructions that come along with your shaft encoder). However, there are some aspects of installation that are common to all shaft encoder models.

To install a shaft encoder, proceed as follows:

- 1 Mount the shaft encoder to a position that allows it to reflect the speed of the product.
- 2 Shut down the printer normally.
- 3 Attach the shaft encoder to the shaft encoder port at the side of the printer (the port is an optional item that may also need to be installed).
- 4 Start the printer.
- 5 Configure the printer’s operating software to use the shaft encoder (refer “Software Configuration” on page 7-7).

Software Configuration

To configure the printer to use a shaft encoder, proceed as follows:

- 1 Select the option *Configure* from the menu bar.
- 2 Select the *Shaft Encoder Source* option from the Configure menu using the  arrow key.
- 3 Press Enter to open the Print Control dialog box (Figure 7-7).

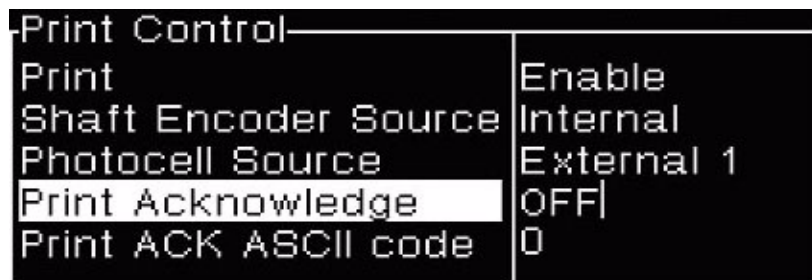


Figure 7-7: Print Control Dialog Box

- 4 Select the *Shaft Encoder Source* option using the  arrow key.
- 5 Set the *Shaft Encoder Source* field to "External" using the  and  arrow keys.
- 6 Press Enter to save the settings and exit the Print Control dialog box.

This chapter contains the following topics:

- Conducting routine inspection and cleaning
- Replacing the ink and make-up bottles
- Scheduling service of the printer
- Viewing the run hour timers
- Taking backup of the printer configuration

Conducting Routine Inspection and Cleaning

The most frequently occurring maintenance processes include the following:

- Visually inspecting the air and fluid tubes for leaks (refer “Visually Inspecting the Printer” on page 8-1).
- Checking the printhead and cleaning it when required (refer “Inspecting and Cleaning the Printhead” on page 8-2).
- Inspecting the fan filter for cleaning or replacement (refer “Inspecting and Replacing the Fan Filter” on page 8-6).

The visual inspection should be done every time you open the ink compartment or at least once in a week.

The regularity with which the inspection and cleaning of the printhead and fan filter are to be repeated, varies depending on the conditions in which the printer is operating. When you install a new printer, perform these tasks once a week. After a few weeks, the regularity with which these tasks are to be performed can be determined as required.

Visually Inspecting the Printer

Inspect the printer cabinet carefully. Open the fluids compartment and visually inspect all fluid bearing components for leaks. Check for any fluid accumulation (or build-up of dried fluids) at the bottom of the ink compartment. If leaks or fluid accumulation is detected, contact a Videojet-trained service technician immediately.

Inspecting and Cleaning the Printhead

Printhead cleaning is required when the ink build-up is affecting the printer operation. Since the system automatically cleans the nozzle and ink return line with the make-up fluid each time you start up or shut down the printer, the printhead remains clean for a long period of time.

Printhead Inspection

To inspect the printhead, proceed as follows:

- 1 If the printer is on, press the F1 key to begin the four minute printhead shutdown sequence.
- 2 When the shutdown sequence is complete, disconnect the AC power cable from the AC power.



Warning

PERSONAL INJURY. Before continuing, ensure that the AC power is disconnected (unplugged). Failure to follow this warning may result in personal injury.

- 3 Remove the screw that secures the front printhead cover using a screwdriver.
- 4 Detach the front printhead cover and retain the screw (Figure 8-1 on page 8-2).

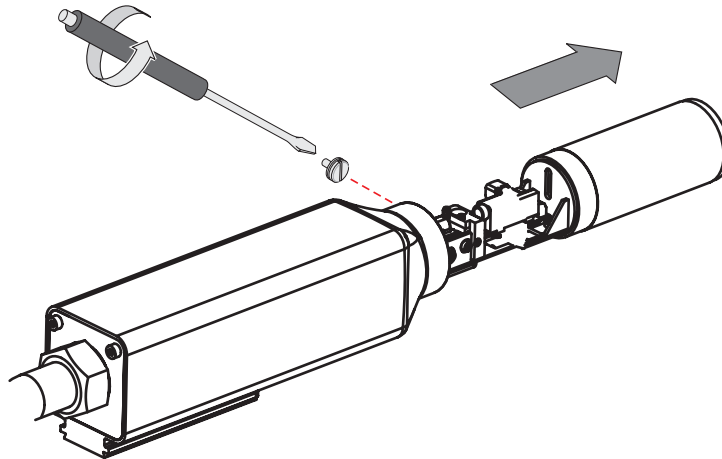
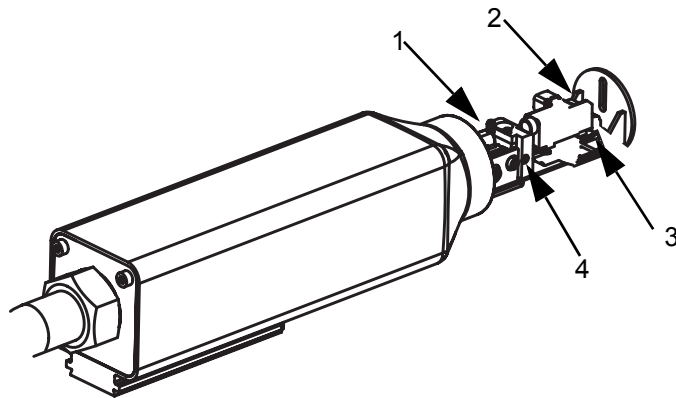


Figure 8-1: Front Printhead Cover Removal

- 5 Visually inspect the printhead assembly for foreign particles and ink that accumulates at the nozzle orifice (located at the front of the nozzle), charge tunnel, high voltage assembly, and ink return block

(refer Figure 8-2 for the location of each component of the printhead).



- 1. Nozzle
- 2. High Voltage Assembly
- 3. Ink Return Block
- 4. Charge Tunnel Assembly

Figure 8-2: Printhead Component Identification

- 6 If ink build-up is found, proceed to “Printhead Cleaning” on page 8-4.
- 7 If ink build-up is not found, cleaning is not required at present. Replace the cover and secure it with the screw retained in step 4.

Printhead Cleaning

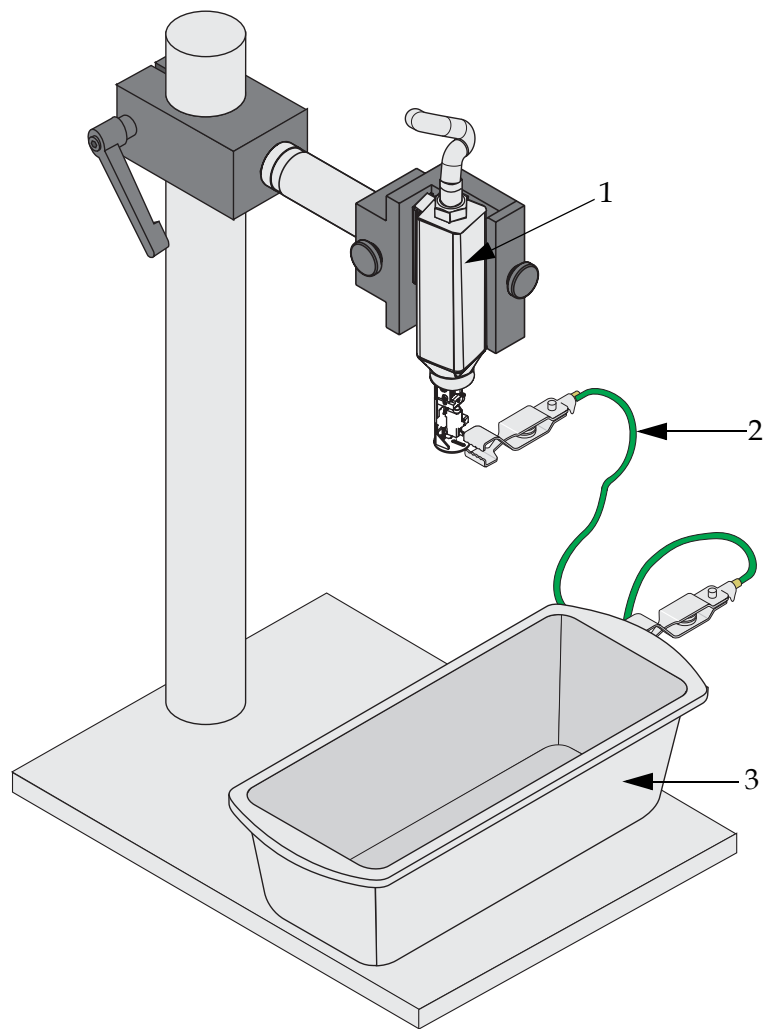
To clean the printhead, proceed as follows:

- 1 Place the service tray (Item 3 in Figure 8-3) below the printhead (Item 1) in order to collect the ink and make-up fluid.
- 2 Ground the tray by attaching one end of a ground wire (Item 2) to the tray and the other end to the printhead faceplate.



Warning

PERSONAL INJURY. Failure to ground the service tray properly when using flammable ink may cause fire due to static discharge.



- 1. Printhead
- 2. Ground wire
- 3. Service tray

Figure 8-3: Grounding the Service Tray to the Printhead



Caution

EQUIPMENT DAMAGE. Be very careful while cleaning the charge tunnel. Serious misalignment or damage may occur if excessive force is used during cleaning.

- 3 Ensure that the printhead is pointing down to the grounded service tray. Flush away the contaminants using the recommended Videojet cleaning solution or make-up fluid (Figure 8-4).

Note: Use cleaning solution sparingly. Do not flush excessive amounts of cleaning solution into the ink return block.

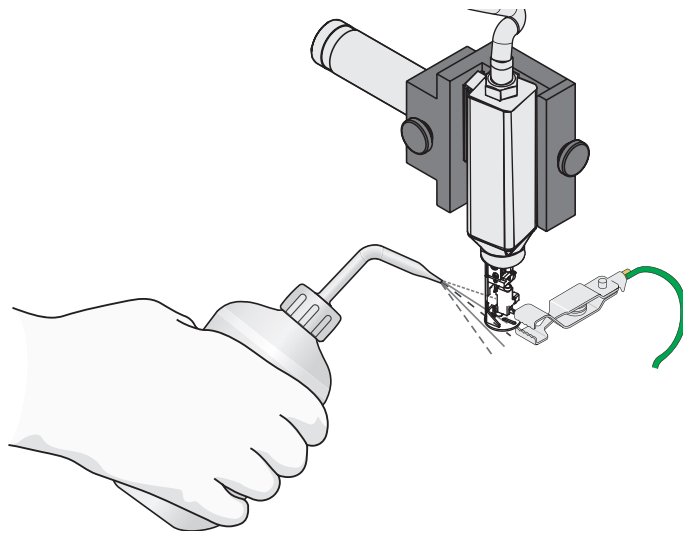


Figure 8-4: Cleaning the Printhead

- 4 Dry the printhead completely using either compressed air at approximately 20 psi (1.4 bar) or air flow produced by squeezing the blow bulb (P/N 21000170).



Caution

EQUIPMENT DAMAGE. Air dry only. Do not use shop cloth or paper towels to dry the printhead or the cover. These items can deposit particulate contaminants in the printhead.

Do not force compressed air into the ink return block.

- 5 Disconnect the ground wire from the printhead and the service tray.
- 6 Clean the front printhead cover, if required.

- 7 Attach the cover to the printhead and secure it with the cover retaining screw.
- 8 Dispose the cleaning solution in the service tray.

**Caution**

EQUIPMENT DAMAGE. Do not pour the cleaning solution into sinks, sewers, or drains. Comply with the appropriate regulations when disposing the printer fluids. Consult the appropriate regulatory agency for more information.

Inspecting and Replacing the Fan Filter

The fan filter may last for several months before a replacement is required. However, in exceptionally dirty environments, it may need to be replaced earlier. In case of a new printer, begin by inspecting the filter once a week. After several weeks, you should be able to determine an inspection schedule based on how quickly the filter becomes dirty.

To inspect the fan filter, proceed as follows:

- 1 If the printer is on, press the F1 key to begin the four minute printhead shutdown sequence.
- 2 When the shutdown sequence is complete, open the electronics compartment door of the printer.

**Warning**

PERSONAL INJURY. Before continuing, ensure that the AC power is disconnected (unplugged). Failure to follow this warning may result in personal injury.

- 3 Remove and retain the nut (Figure 8-5) that holds the fan assembly in place, by turning it counter-clockwise.

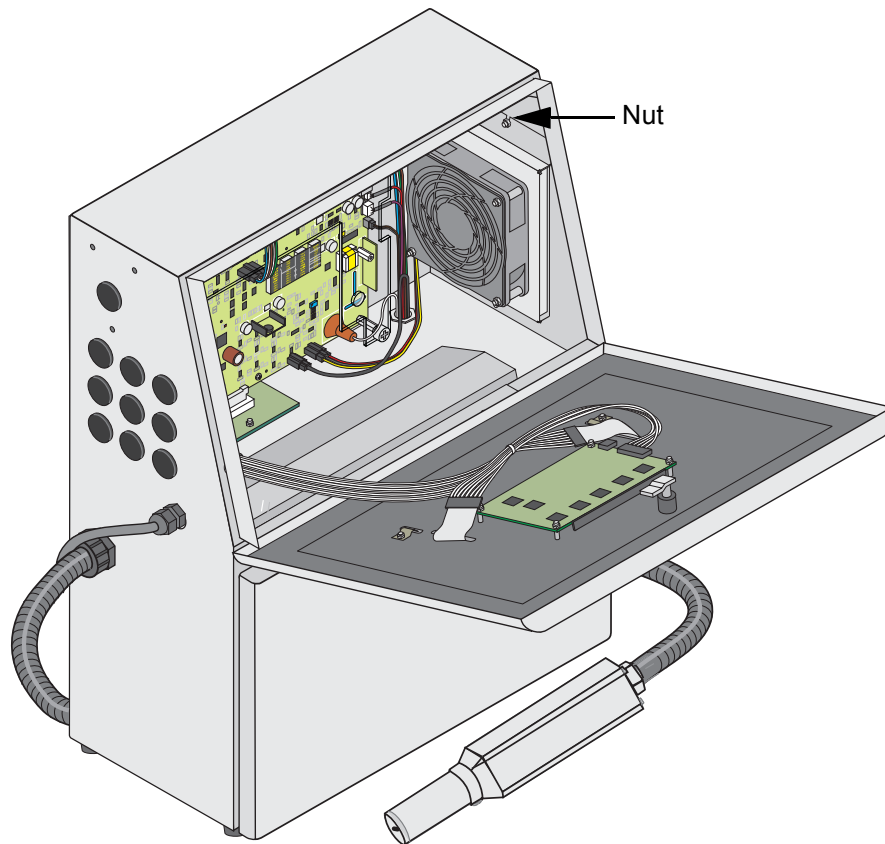


Figure 8-5: Retaining Nut in the Fan Assembly

- 4 Pull out the front of the fan assembly and remove the fan filter (Figure 8-6).

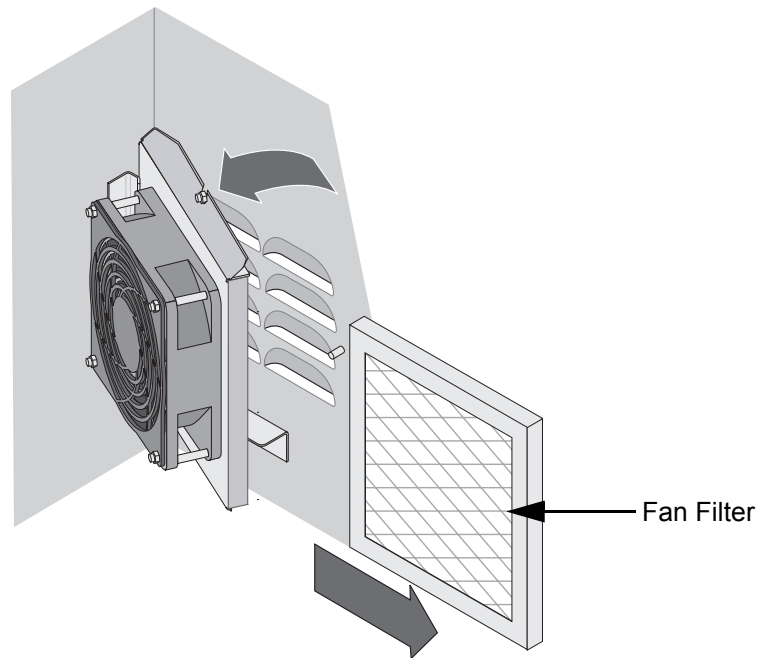


Figure 8-6: Fan Filter Removal

- 5 Inspect the fan filter. If the filter appears dirty, replace it with a clean filter. If the filter is clean, refit the same filter.
- 6 Replace the fan assembly and secure it with the nut that was retained in step 4.

Replacing the Ink and Make-Up Bottles

The ink and make-up bottles must be replaced when the printer indicates that one of these fluids is low in supply.

When the ink is low, empty or full, the printer displays the icons shown in Figure 8-7.



Figure 8-7: Ink Supply Icons

When the make-up fluid is low, empty or full, the printer displays the icons shown in Figure 8-8.

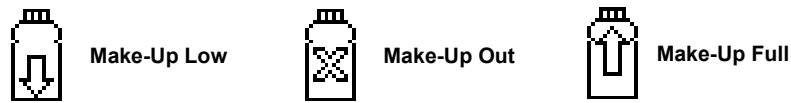


Figure 8-8: Make-Up Fluid Supply Icons

What is “Make-Up?”

Fast-drying inks like the ones used in the Videojet 1310 printer solidify quickly when exposed to air as well as when circulated within the printer. To solve this problem, the printer occasionally adds a thinning solution which is known as “Make-Up.”

Replacing the Bottle

Note: Whenever the Ink Full or Make-up Full icon appears in the display, do not add a new bottle of fluid to the corresponding tank.

To replace the ink bottle or the make-up bottle, proceed as follows:

- 1 Open the ink compartment door of the printer (Figure 8-9).

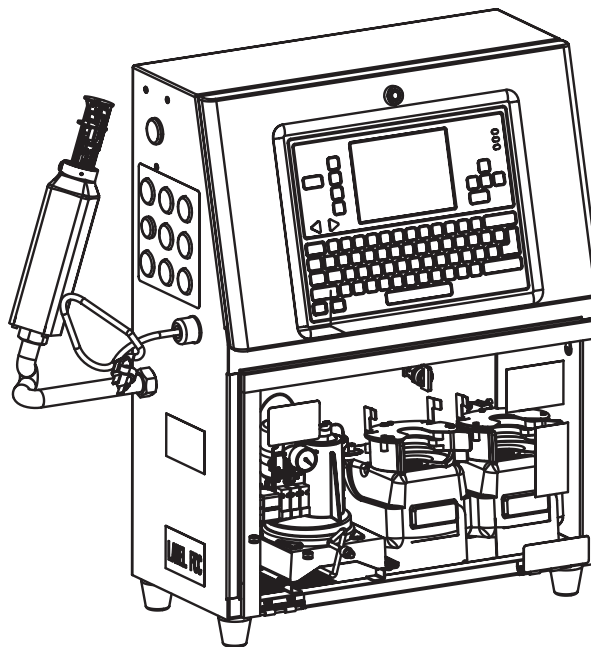


Figure 8-9: Ink System Compartment

- 2 Rotate the engagement mechanism arm fully to the right on the tank where the bottle is to be replaced.

- 3 Slide the empty bottle outwards.
- 4 To replace the make-up bottle, proceed to step 5.
- 5 Slide in a fresh bottle of fluid into the appropriate bracket in the ink compartment.

***Note:** The shape of the make-up and ink bottles prevents them from being inserted all the way into the wrong bracket (an ink bottle cannot be inserted all the way into the make-up bracket or vice versa).*

- 6 Once the bottle is completely inserted in the bracket, rotate the engagement mechanism arm fully to the left to engage the bottle to the tank.

Scheduling the Printer Service

The printer should be serviced by Videojet-trained service personnel after every 5000 hours of printer operation. Usually, the “Service Due” icon (Figure 8-10 on page 8-10) appears, to indicate the appropriate time.



Figure 8-10: “Service due” Icon

However, if the printer has been in operation for more than 5000 hours, it is a good idea to schedule a service visit even if this icon does not appear.

Viewing the Run Hour Timers

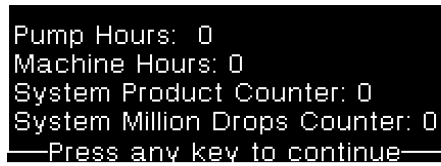
The printer maintains two resettable timers that track the length of time it has been in operation. They comprise of:

- *Pump Hours:* This timer takes into account the total number of hours that the main ink system pump has been running since the last time the timer was reset.
- *Machine Hours:* This timer takes into account the total number of hours that the printer has been switched on since the last time the timer was reset.
- *System Product Counter:* This displays the total number of product detects when the print mode is enabled and cannot be reset.
- *System Million Drops Counter:* This displays the total number of ink drops (in millions) and cannot be reset.

These timers are typically used by Videojet-trained service personnel to trigger service alarms when the printer requires routine maintenance.

To view both the timers, proceed as follows:

- 1 Select the option *Data Logging* from the menu bar.
- 2 Select the *View Run Hours* option from the Data Logging menu using the  arrow key.
- 3 Press Enter to open the Run Hours dialog box and view the readings (Figure 8-11).

A screenshot of a terminal window showing the Run Hours dialog box. The text is as follows:

```
Pump Hours: 0
Machine Hours: 0
System Product Counter: 0
System Million Drops Counter: 0
—Press any key to continue—
```

Figure 8-11: Run Hours Dialog Box

Taking Backup of Printer Configuration

It is a good idea to backup your printer configuration occasionally. This ensures easy and quick recovery of information, such as accidental message deletion and unauthorized tampering with printer configuration. Performing a restore brings back the printer settings. To perform a backup or restore, the ink system must be shut off.

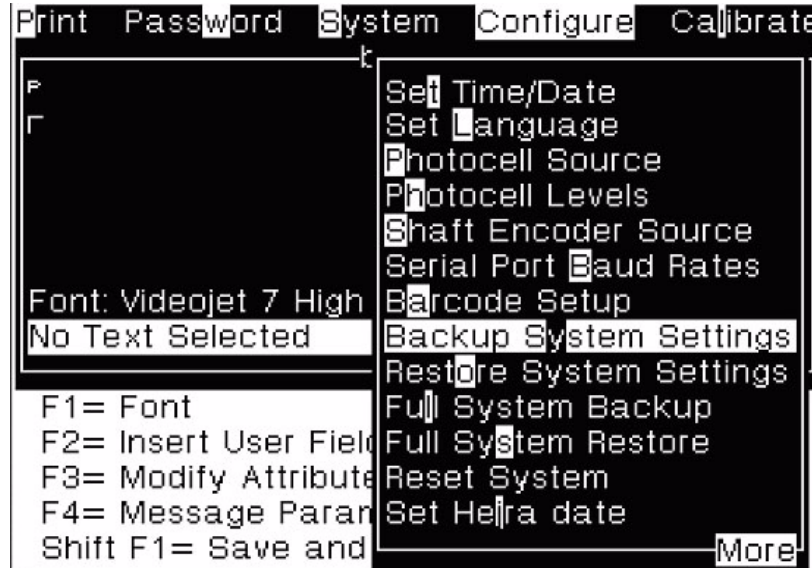


Figure 8-12: Backup System Settings Screen

Taking a Backup

This function makes a backup copy of all configured settings and messages. It is recommended that this function be used to save a set of 'known good' settings, whenever the printer configurations have been completed.

To save a backup copy of all current printer settings, including created messages and user fields, proceed as follows:

- 1 Select the option *Configure* from the menu bar.
- 2 Select the *Backup System Settings* option from the Configure menu using the  arrow key.
- 3 Press Enter to save a backup copy of the current printer settings to the CF card located in CF Card Slot 1.
- 4 If the backup is successful, 'Backup Complete' dialog box appears on the screen. Press any key to continue.

Taking a Full System Backup of System Settings

This function copies all system files, messages and configured settings to a flash memory card inserted in the secondary card slot. This is useful as a precaution against failure of the primary card.

To backup the full system settings to the backup card located in CF Card Slot 2, proceed as follows:

- 1 Select the option *Configure* from the menu bar.
- 2 Select the *Full System Backup* option from the Configure menu using the  arrow key.
- 3 Press Enter to open a dialog box in the display screen displaying "Is a CF Card inserted in the CF2 Card Slot?".

Check if the CF card is in the CF2 slot. Select Yes to continue or No to exit.

- 4 Select Yes to open the next dialog box displaying "Backing up system this may take a few minutes" followed by "Backup Complete".

The Full System Backup is complete when the main menu screen appears again.

Restoring Printer Settings

Restoring Printer Settings from Backup

To restore the saved printer settings, messages, and user fields, proceed as follows:

- 1 Select the option *Configure* from the menu bar.
- 2 Select the *Restore System Settings* option from the Configure menu using the  arrow key, and press Enter.
- 3 The printer prompts you to confirm. Select *Yes* to proceed.

The printer restores the system settings and then restart. When the printer has completed the restarting process, the restore operation is complete.

Restoring Printer Settings from Full System Backup

This function restores the system files, messages and/or configured settings from a flash memory card inserted in the secondary card slot. This is particularly useful for updating system files to the latest versions or restoring known good versions of system files that have become corrupt.

To restore the printer settings from the full system backup located in CF Card in CF Card Slot 2, proceed as follows:

- 1 Select the option *Configure* from the menu bar.
- 2 Insert the flash memory card containing the desired files, in the secondary card slot.
- 3 Select the *Full System Restore* option from the Configure menu using the  arrow key.
- 4 Press Enter to open a display screen showing “Items to Restore” followed by a list of the system settings that can be restored:
 - Messages
 - Settings
 - All
 - Fonts
 - Application
- 5 Select the required items from the list, using the using the  or  arrow key, and press Enter.

A message appears saying “Update will overwrite data. Printer will restart. Continue?” Select Yes to continue or No to exit.

- 6 Select Yes to open the next message saying “Is a CF Card inserted in the CF2 Slot? Continue”.

Check if the CF card is in the CF2 slot. Select Yes to continue or No to exit.

- 7 Select Yes to open the message saying “Updating system. This may take a few minutes” followed by “Please Wait”.

After a short while the system resets and start up again containing the restored settings.

This chapter contains the following topics:

- Troubleshooting overview
- Checking the software version

Troubleshooting Overview

Although many troubleshooting tasks should be ideally performed by Videojet-trained service personnel only, a number of processes can be performed by the operator as well.

There are seven basic categories of problems:

- Printer cannot be powered on (no display on screen). Refer “Troubleshooting Power Problems” on page 9-2 for more information.

***Note:** If the Back-Light Saver has been enabled, the screen moves into stand-by mode following 30 minutes of inactivity. Press any key to activate the screen.*
- Printer displays the amber LED. Refer “Troubleshooting the Amber LED” on page 9-2 for more information.
- Printer is on, but does not print. Refer “Printer is On, But Does Not Print” on page 9-3 for more information.
- Problems with print size or position. Refer “Problems with Print Position or Size” on page 9-4 for more information.
- Poor print quality. Refer “Poor Print Quality” on page 9-4 for more information.
- Printer is displaying an error message or a status icon. Refer “Printer Status Icons” on page 9-4 and “Fault and Warning Messages” on page 9-8 for more information.

Troubleshooting Power Problems

If the printer does not switch on (no display on the screen), it is not receiving the power supply.

To solve the above problem, proceed as follows:

- 1 Ensure that the power cord is correctly plugged into the AC outlet.
- 2 Ensure that the AC outlet is receiving power.

Try plugging an appliance that is known to be in working condition into the same outlet. If the appliance does not function, the outlet is most likely not providing power.

If the outlet is not providing power, check the building wiring, fuse, and so on.

- 3 If both of the above have been verified to be OK, contact the Videojet-trained service personnel for more troubleshooting information.

Troubleshooting the Amber LED

When lit, the amber LED in the upper right corner of the keypad indicates one of the following warning conditions:

Default Mode

If the words “Default Mode” appear on the screen, the printer is in the default mode. Refer “Default Mode” on page 9-2 for more information.

Service Mode

If the service mode icon (Figure 9-1) appears on the screen, it indicates that the printer is in the service mode.



Figure 9-1: “Service Mode” Icon

Service mode is used for maintenance tasks by service technicians. The best thing to do in this case is to contact the Videojet-trained service personnel to find out why the printer is in the service mode.

General Warnings

If neither the default mode nor the service mode icon appear on the screen, the printer is indicating a more general warning condition. An icon appears on the screen along with a corresponding warning message. Refer

“Printer Status Icons” on page 9-4 and “Fault and Warning Messages” on page 9-8 for more troubleshooting information.

Printer is On, But Does Not Print

This condition indicates that some error condition exists or the printer is not in the print mode.

If the printer is not in the service mode, examine the three LEDs (indicator lights) in the upper right corner of the keypad and try the solutions as suggested in Table 9-1.

Red	Green	Causes	Solutions
On	Off	There is a fault condition that prevents printing. An icon appears on the screen along with a corresponding error message.	Refer “Printer Status Icons” on page 9-4 and “Fault and Warning Messages” on page 9-8 for troubleshooting information.
Off	Off	The printhead has not been started.	Press F1 to start the printhead.
Off	Flashing	Either the printhead is in the process of starting up or shutting down or the printhead is on, but the printer is not in print mode.	Wait for five minutes to see if the LED turns completely on or off. If the LED is still flashing after five minutes, the printer is not in the print mode. Select <i>Print Enable</i> from the Print menu, and ensure that the Print setting is set to “Enable.”
Off	On	The printer is indicating that it is ready to print. Failure to print in this situation probably indicates that the printer is not receiving shaft encoder pulses or that it is not detecting products to print on.	Verify if any of the shaft encoders and product detectors are not operating properly. Then, check the relevant printer settings (Refer Chapter 7, “Line Setup”).

Table 9-1: Causes and Solutions to Printer Errors

If the problem persists, contact the Videojet-trained service personnel.

Problems with Print Position or Size

Problems with print position and size are usually related to the message setup. Try adjusting the setup according to the instructions given below. If the problem persists, contact the Videojet-trained service personnel.

Adjusting the Print Position

To adjust the print position, proceed as follows:

- 1 Alter the *Product Delay* value in the message parameters. Refer “Configuring Message Parameters” on page 5-34.
- 2 Ensure that there are no unnecessary spaces at the beginning of the message.

Adjusting the Print Size

To adjust the print size, proceed as follows:

- 1 Change the size of the text used in the message. Refer “Formatting Text” on page 5-4.
- 2 Ensure that the distance between the printhead and the product is accurate, as the character height is determined by the distance of the printhead from the product.
- 3 Edit the message parameters for the message being printed. The following parameters control the print size:
 - Width (alters the width of the characters)
 - Character Height (alters the height of the characters)

Refer “Configuring Message Parameters” on page 5-34 for more information.

Poor Print Quality

Print quality problems may be due to the buildup of ink deposits on the printhead. Clean the printhead according to the instructions in “Inspecting and Cleaning the Printhead” on page 8-2.

If the problem persists, contact the Videojet-trained service personnel.

Printer Status Icons

There are three categories of printer status icons that may be displayed on the screen.

- Indication of predominant faults
- Fluid low icons
- Fluid full icons

- General status icons

Indication of Predominant Faults

The most serious faults or warning conditions are displayed as icons near the top of the screen and as status messages at the bottom of the screen (Table 9-2). Only one such icon and message are displayed at a time. Refer “Troubleshooting Faults and Warnings” on page 9-9 for information on clearing the faults and returning the printer to service.

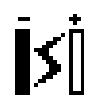
Icon	Name	Description
	Cabinet Over Temperature Fault	This icon indicates that the printer cabinet is overheated. To prevent damage, the printer shuts down automatically. The printer can be restarted after the temperature comes down. Report all overheating incidents to the Videojet-trained service personnel.
	No Signal Fault	This icon indicates that the ink is not entering the ink return block. Clean and dry the printhead. If the fault persists, then report the condition to the Videojet-trained service personnel.
	Phasing Fault	This icon indicates that the printhead requires cleaning. If cleaning and drying the printhead does not remedy the failure then report the fault then report the condition to the Videojet-trained service personnel.
	High Voltage Arc Fault	This icon indicates that a High Voltage arcing has been sensed. The printhead requires cleaning. If cleaning does not remedy the failure then report the fault then report the condition to the Videojet-trained service personnel.
	Fan Failure Fault	This icon indicates that the printer's internal fan is not functioning. The condition can cause the printer to be overheated. Contact the Videojet-trained service personnel to repair or replace the fan.
	Overspeed Warning	This icon indicates that the line speed is too high to achieve the specified print width. If the print width is unacceptable, report this condition to the Videojet-trained service personnel.

Table 9-2: Predominant Faults Icons

Icon	Name	Description
	Other Fault	This icon indicates that a fault other than the ones listed above has occurred. The exact fault reported is identified by the status text at the bottom of the screen.
	Other Warning	This icon indicates that a warning other than the ones listed above has occurred. The exact warning reported is identified by the status text at the bottom of the screen.

Table 9-2: Predominant Faults Icons

Fluid Low Icons

The fluid low icons (Table 9-3) are technical fault and warning conditions. In spite of this, they are displayed independently and in addition to, the icons for more serious faults or warning conditions.

Icon	Name	Description
	Ink Low Warning	This icon indicates that the ink supply tank is low. A fresh bottle of ink should be inserted soon.
	Ink Out Fault	This icon indicates that the ink supply tank is empty. The printer cannot print until a fresh bottle of ink is inserted.
	Make-Up Low Warning	This icon indicates that the make-up fluid supply tank is low. A fresh bottle of make-up fluid should be inserted soon.
	Make-Up Out Fault	This icon indicates that the make-up fluid supply tank is empty. The printer cannot print until a fresh bottle of make-up fluid is inserted.

Table 9-3: Fluid Low Icons

Fluid Full Icons

The fluid full icons (Table 9-4) are warning conditions. In spite of this, they are displayed independently and in addition to, the icons for more serious faults or warning conditions.

Icon	Name	Description
	Ink Full Warning	This icon indicates that the ink supply tank is full. A new bottle of ink should not be inserted when this icon is displayed.
	Make-up Full Warning	This icon indicates that the make-up fluid supply tank is full. A new bottle of make-up fluid should not be inserted when this icon is displayed.

Table 9-4: Fluid Full Icons

General Status Icons

The general status icons (Table 9-5) do not indicate faults and warnings. They indicate the printer status. Therefore, troubleshooting is not necessary when these icons appear.

Icon	Name	Description
	Jet Running	The ink jet is running and the machine is ready to print. It flashes when the ink jet is starting.
	Jet Stopped/Auto Clean Running	The ink jet is being stopped. It flashes when the ink jet is stopping. The same icon flashes when the Auto Clean is running.
	Service Mode On	The printer is currently in service mode. This mode allows qualified service personnel to make quick adjustments necessary for some service operations. Do not operate the printer in this mode unless specifically instructed to do so by the Videojet-trained service personnel.
	Service Due	The printer is due for the scheduled maintenance service.

Table 9-5: General Status Icons

Fault and Warning Messages

Fault messages are displayed at the left bottom of the screen to supplement the printer fault icons. The messages are prioritized so that if more than one fault is present, only the most serious fault message is displayed.

Viewing all Current Faults and Warnings

The main screen displays only the most serious fault condition present. The complete list of status conditions that the printer is capable of reporting can be viewed by selecting the *Status* option from the System menu.

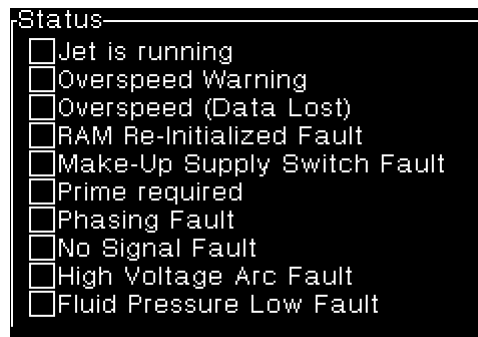


Figure 9-2: Fault Status Conditions

Fault conditions that the printer is currently reporting are checked and appear at the top of the list. Scroll up and down the list of fault

conditions using the ☐ or ☐ arrow keys.

Troubleshooting Faults and Warnings

To clear a fault or warning, proceed as follows:

- 1 Use one of the recommended solutions given in Table 9-7 on page 9-9, to close the fault.
- 2 Select the option *System* from the menu bar.
- 3 Select the *Reset Alarms* option from the System menu using the  arrow key.
- 4 Press Enter to exit the System menu.
- 5 Check the status of the green LED in the upper-right hand corner of the keyboard.

To put the printer back in service, proceed as per the instructions given in Table 9-6, depending on the status of the green LED.

Green LED	Action Required
On	None (the printer is already in print mode)
Flashing	Select <i>Print Enable</i> from the Print menu. Then, using the left or right arrow key, ensure that the Print setting reads "Enable." Then press the Enter key.
Off	Press F1

Table 9-6: Green LED Status and Action Required

List of Faults and Warnings

Table 9-7 lists all the fault and warning messages. Troubleshooting instructions are included for selected faults and warnings. However, most of these faults should be addressed only by the Videojet-trained service personnel.

Fault	Troubleshooting
220 Volt Status Fault	Service personnel only
337 Volt Status Fault	Service personnel only
Auto-Nozzle Drive Failed	Service personnel only
Cabinet Over Temperature Fault	Service personnel only
Crossflow Prime Failed (Filling)	Service personnel only
Crossflow Prime Failed (Emptying)	Service personnel only
Encoder overflow	Service personnel only

Table 9-7: Faults and Warnings

Fault	Troubleshooting
Encoder Overrun (Product missed)	This is an informational message indicating that the printer was unable to print on the first product it detected because it had not entered the print mode yet. However, it prints on the remaining products normally.
Fan Failure Fault	Service personnel only
Fluid Pressure Low Fault	Service personnel only
Fluid Pressure High Fault	Service personnel only
High Voltage Arc Fault	This message indicates that a High Voltage arcing has been sensed. The printhead requires cleaning. If cleaning does not remedy the failure contact the Videojet-trained personnel.
High Voltage Status Fault	Service personnel only
Ink Out	This message indicates that the ink supply is empty. The printer cannot print until a fresh bottle of ink is inserted.
Ink Full	This warning message indicates that the ink supply tank is full. A new bottle of ink should not be inserted when this is displayed.
Ink Low	This warning message indicates that the ink supply tank is low. A new bottle of ink should be inserted soon.
Ink Pump Overspeed	Service personnel only
Insert Update Failure	Service personnel only
Invalid Bar Code	This message indicates that the data in the current message's barcode(s) is not valid for the type of barcode used. Reformulate the barcode so that it complies to the guidelines given in Appendix B.
Make-Up Out	This message indicates that the make-up fluid is out. The printer cannot print until a fresh bottle of make-up fluid is inserted.
Make-Up Full	This warning message indicates that the make-up supply tank is full. A new bottle of make-up should not be inserted when this is displayed.
Make-Up Low	This warning message indicates that the make-up supply tank is low. A new bottle of make-up should be inserted soon.

Table 9-7: Faults and Warnings (Continued)

Fault	Troubleshooting
Message Truncated	In case this message appears, recompose and resave the message. If the problem persists, contact a the Videojet-trained service personnel.
Missing Font Data	Service personnel only
No Signal Fault	This message indicates that the ink is not entering the ink return block. Clean and dry the printhead. If the fault persists, then report the condition to the Videojet-trained service personnel.
Not Ready to Print	This message indicates that the printer is not in the print mode. Select <i>Print Enable</i> from the Print menu. Then, ensure that the Print setting reads "Enable."
Overspeed Warning	This message indicates that the line speed is too high to achieve the specified print width. The print appears to be stretched. If the stretching is unacceptable, reduce conveyor speed.
Overspeed (Data Lost)	Service personnel only
Overspeed (no stroking)	Service personnel only
Overspeed (no image)	Service personnel only
PEAP Watchdog Timeout	Service personnel only
PEAP 24V Disabled	Service personnel only
Phasing Fault	This message indicates that the printhead requires cleaning. If cleaning and drying the printhead does not remedy the failure then report the fault to the Videojet-trained service personnel.
Prime Required	Service personnel only
Print Engine Undefined Fault	Service personnel only
Printhead Heater Temperature Fault	Service personnel only
Print Queue Overflow	Service personnel only
Production line fail - bad job or line setup	Service personnel only
Product Queue Overflow	Service personnel only
RAM Re-Initialized Fault	Service personnel only
Render Image Failure	Service personnel only
Reservoir Low Too Long Fault	Service personnel only
Reservoir Overfill	Service personnel only
Reservoir Prime Failed	Service personnel only
Serial Data Error (Unknown)	Service personnel only

Table 9-7: Faults and Warnings (Continued)

Fault	Troubleshooting
Unable to put print engine into print mode	Service personnel only
Valve Control Logic Failed	Service personnel only

Table 9-7: Faults and Warnings (Continued)

Checking the Software Version

In some cases, it may be useful to check the version of the operating software that is installed in the printer.

To check the version of the software, proceed as follows:

- 1 Select the option *Data Logging* from the menu bar.
- 2 To view the software version, do one or both of the following:
 - Select the *Software Part No.* option from the Data Logging menu to display the part number for the operating software, using the  arrow key.
 - Select the *Compilation Date/Author* option from the Data Logging menu to view additional version information using the  arrow key.

Appendix A contains the following topics:

- Physical specifications for the equipment (including materials, dimensions, and weights).
- Technical specifications for the equipment (including environmental and electrical requirements as well as specifications for the keyboard and display).

Physical Specifications

Table A-1 lists the physical specifications of the Videojet 1310 printer.

Control Unit	Stainless steel (refer Figure A-1 for the dimensions).
Printhead	Stainless steel front cover and chassis (refer Figure A-1 for the dimensions). Nozzle type: 66 micron, universal.
Umbilical	Flexible PVC tubing, reinforced by rigid PVC spiral Dimensions: 9.84 ft. (3 m) in length, 1.05 in. (26.7 mm) in diameter. Bend radius: 7 inches (178 mm), minimum.
Weights	Approx. 49 lbs. (22 kg), unpacked and dry. Approx. 54 lbs. (24 kg), unpacked and loaded with fluid.

Table A-1: Printer Physical Specifications

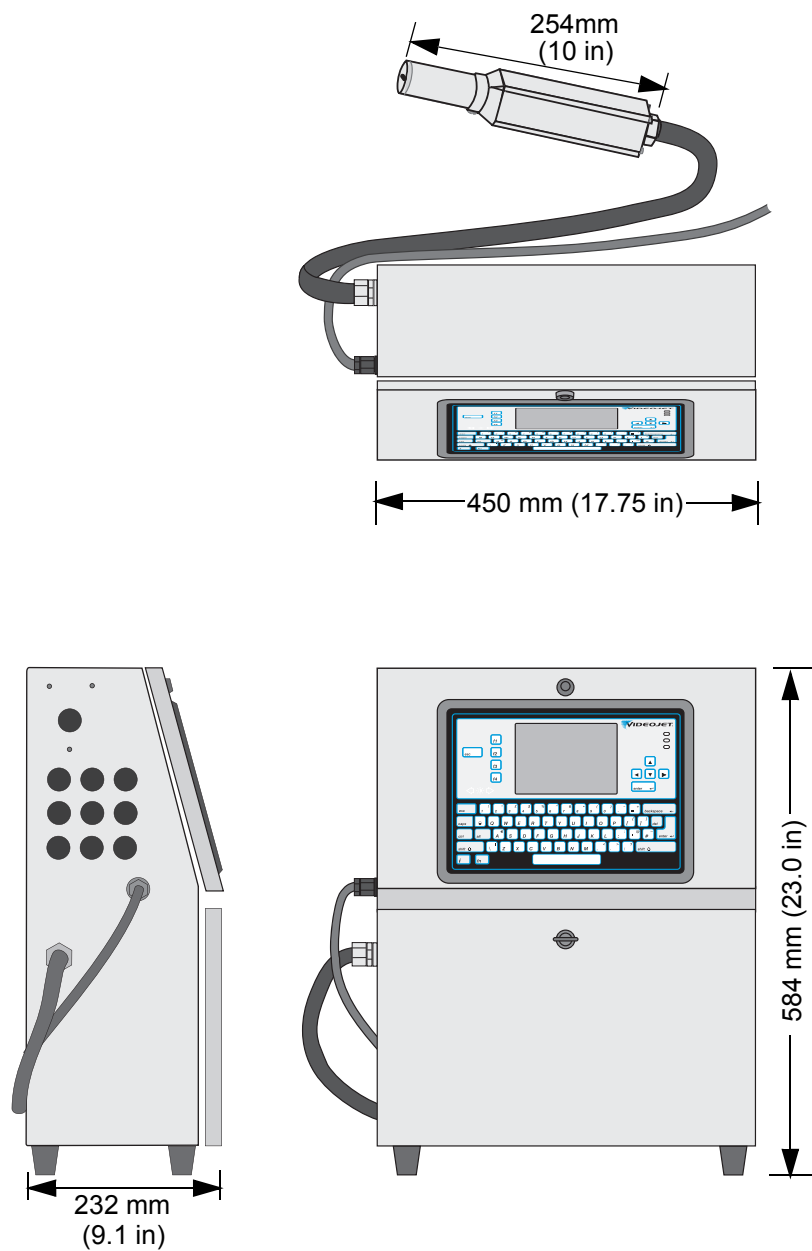


Figure A-1: Printer Dimensions

User Interface Specifications

Table A-2 lists the user interface specifications.

Display	1/4 VGA (320x240) backlit monochrome, 144mm (5.7 in.) diagonal
Keyboard	Moisture and ketone resistant, membrane-type.

Table A-2: User Interface Specifications

Environmental Requirements

Table A-3 lists the environmental requirements of the Videojet 1310 printer.

Note: The typical temperature and humidity ranges specified in Table A-3 are subject to the type of ink used.

Temperature	Operating, 40°F to 113°F (4°C to 45°C). Storage, -4°F to +140°F (-20°C to +60°C).
Humidity	Operating, 10% to 90% RH without condensation. Storage, 5% to 95% RH without condensation.
Industrial Protection Rating	IP53 (the printer includes a limited amount of protection against dust and dripping water)

Table A-3: Printer Environmental Requirements

Electrical Requirements

Table A-4 lists the electrical requirements of the Videojet 1310 printer.

Voltage	90 to 260 VAC.
Frequency	50/60 Hz, universal.
Power Consumption	105 watts, maximum.

Table A-4: Printer Electrical Requirements

Ink and Solvent Capacity

Table A-5 lists the ink and solvent capacity of the Videojet 1310 printer.

Total Working Fluid (amount of fluid in circulation)	260cc
FMS Reservoir	165cc
Ink Filter	80cc
Ink Supply Tank (Operating)	915cc
Make-Up Supply Tank (Operating)	915cc
Ink Bottle	600ml
Make-Up Bottle	750ml

Table A-5: Printer Ink and Solvent Capacity

Appendix B contains descriptions and formatting requirements for each of the barcode types supported by the Videojet 1310 printer.

There are currently seven types of barcodes supported by the printer.

- ITF (Interleaved Two of Five)
- EAN 8 (European Article Number 8)
- EAN 13 (European Article Number 13)
- UPC A (Universal Product Code, version A)
- Code 128
- EAN 128
- Code 39

Barcode Setup

This option is located in the Configure menu (Figure B-1), and changes the width of a barcode's particular bar or gap size. This enables the unreadable printed barcode to potentially become more readable. The bar or gap size can be changed from 1-8.

Barcode Bar/Space Ratios	
Bar Width 1	1
Bar Width 2	2
Bar Width 3	3
Bar Width 4	4
Gap Width 1	1
Gap Width 2	2
Gap Width 3	3
Gap Width 4	4

Figure B-1: Barcode Setup

**Caution**

EQUIPMENT DAMAGE. Changing the bar or width size from their Barcode Setup default settings can cause erroneous reads using a barcode scanner.

ITF Barcode

ITF (Interleaved Two of Five) is a numeric bar code (Figure B-2). Although there is no size limit, the typical interleaved bar code is 14 digits in length, including:

- Digit 1 - Packaging indicator
- Digits 2-3 - Assigned by Uniform Code Council
- Digits 4-8 - Manufacturer's Identification Number (assigned)
- Digits 9-13 - Product Identification Number (chosen by the manufacturer)
- Digit 14 - Check digit (optional)



Figure B-2: Interleaved 2 of 5 Barcode

The following guidelines apply when using the ITF bar code:

- Multiple inserts can be placed in this bar code. The only limitation is the message insert limitation.
- ITF bar codes must have an even number of digits. If an odd number of digits are entered (including the optional checksum), the system adds a zero to create an even number of bar code data digits.
- Only numeric data may be entered. The system validates if only numeric data is entered, and displays a warning message if inconsistent data is entered.
- The last digit of the bar code is an optional check sum digit. If the *Check Sum* box in the Editor Attributes window is checked when the bar code is created, the system automatically calculates the check sum and insert it as the last digit of the bar code.
- If the bar code's font size is at least 16 high, a human readable version of the code text can be placed below the bar code. The

default location for the human readables is “Below” the bar code, but this can also be changed to None.

EAN-8 Barcode

The EAN (European Article Number) 8 barcode encodes only fixed numeric characters (Figure B-3). EAN is similar and compatible with the UPC barcode (refer “UPC A Barcode” on page B-5). The basic difference is an extra digit for the “country flag” that indicates the country of origin. The EAN-8 barcode is 8 digits in length, including:

- First 2 digits - two flag characters
- Middle 5 digits - five data digits
- Last digit - checksum digit



Figure B-3: EAN-8 Barcode

The following guidelines apply, when using the EAN-8 bar code:

- Multiple inserts can be placed in this bar code. The only limitation is the message insert limitation.
- Only numeric data may be entered. The system validates if only numeric data is entered and displays a warning message if inconsistent data is entered.
- The last digit of the bar code is a required checksum digit.

The system accepts a total of 7 or 8 digits of data. If 7 digits are entered, the system automatically calculates the checksum and insert it as the last digit of the bar code. If 8 digits are entered, the system makes the 8th digit the checksum, displaying a warning if the entered checksum is incorrect.

- If the bar code’s font size is at least 16 high, a human readable version of the code text appears below the bar code.

EAN-13 Barcode

The EAN-13 (European Article Number 13) bar code encodes only fixed numeric characters (Figure B-4). EAN 13 is similar and compatible with the UPC bar code (refer “UPC A Barcode” on page B-5). The basic difference is an extra digit for “country flag” that indicates the country of origin. The EAN-13 Bar Code is 13 digits in length, including:

- First 2 digits - country code
- Middle 10 digits - information characters
- Last digit - mono-check digit

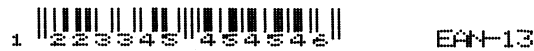


Figure B-4: EAN-13 Barcode

The following guidelines apply, when using the EAN-13 bar code:

- Multiple inserts can be placed in this bar code. The only limitation is the message insert limitation.
- Only numeric data may be entered. The system validates if only numeric data is entered and displays a warning message if inconsistent data is entered.
- The last digit of the bar code is a required checksum digit.

The system accepts a total of 12 or 13 digits of data. If 12 digits are entered, the system automatically calculates the checksum and insert it as the last digit of the bar code. If 13 digits of data are entered, the system verifies if the last digit is the correct checksum.

- If the bar code's font size is at least 16 high, a human readable version of the code text appears below the bar code.

UPC A Barcode

UPC (Universal Product Code) is a numeric-only, point-of-sale bar code that is used on numerous commercial products (Figure B-5).

UPC normally consists of 12 digits, but it varies in different versions. There is also a 5 digit version. The 12 digits of the bar code consist of SXXXXX XXXXXC.

- X - information character
- S - number system character
- C - modulo check character



Figure B-5: UPC A Barcode

The following guidelines apply, when using the UPC A bar code:

- Multiple inserts can be placed in this bar code. The only limitation is the message insert limitation.
- Only numeric data may be entered. The system validates if only numeric data is entered and displays a warning message if inconsistent data is entered.
- The last digit of the bar code is a required checksum digit.

The system accepts a total of 11 or 12 digits of data. If 11 digits are entered, the system automatically calculates the checksum and insert it as the last digit of the bar code. If 12 digits of data are entered, the system verifies if the last digit is the correct checksum.

- If the bar code's font size is at least 16 high, a human readable version of the code text appears below the bar code.

Code 128 Barcode

The Code 128 barcode (Figure B-6) automatically encodes any arrangement of the 128 characters as shown in Table B-1 on page B-7. There is no criterion for the length of the bar code other than the message length. Code 128 barcode can include the following:

- Code 128 start character A, B or C
- Data
- Check characters
- Stop, start and shift characters



Figure B-6: Code 128 Barcode

The following guidelines apply, when using the Code 128 Bar Code:

- Multiple inserts can be placed in this bar code. The only limitation is the message insert limitation.
- The system validates if the correct data type is entered into the bar code, and displays a warning message if inconsistent data is entered (i.e. if an incorrect symbol is entered).
- If an odd number of consecutive digits are entered, the system software may append a zero (0) to that string of digits.
- Invalid characters interpreted as a Code B subset are replaced with a space. Invalid characters interpreted as Code C are replaced with a zero (0).
- Start, Stop and Shift codes do not need to be added by the user. The start character A, B or C is inserted automatically at the beginning of the message.
- Where necessary, the system software automatically places the shift codes in the input data.
- The bar code does not scan without the checksum. The checksum character cannot be displayed in the human readable form.
- If the bar code's font size is at least 16 high, a human readable version of the code text can be placed below the bar code. The default location for the human readables is "Below" the bar code, but this can also be changed to None.

Value	Code Set A	Code Set B	Code Set C	Bar Pattern ¹					
				B	S	B	S	B	S
0	SP	SP	00	2	1	2	2	2	2
1	!	!	01	2	2	2	1	2	2
2	"	"	02	2	2	2	2	2	1
3	#	#	03	1	2	1	2	2	3
4	\$	\$	04	1	2	1	3	2	2
5	'	'	05	1	3	1	3	2	2
6	%	%	06	1	2	2	2	1	3
7	&	&	07	1	2	2	3	1	2
8	(	(	08	1	3	2	2	1	2
9	)	)	09	2	2	1	2	1	3
10	*	*	10	2	2	1	3	1	2
11	+	+	11	2	3	1	3	1	2
12	,	,	12	1	1	2	2	3	2
13	-	-	13	1	2	2	1	3	2
14	.	.	14	1	2	2	2	3	1
15	/	/	15	1	1	3	2	2	2
16	0	0	16	1	2	3	1	2	2
17	1	1	17	1	2	3	2	2	1
18	2	2	18	2	2	3	2	1	1
19	3	3	19	2	2	1	1	3	2
20	4	4	20	2	2	1	2	3	1
21	5	5	21	2	1	3	3	1	2
22	6	6	22	2	2	3	1	1	2
23	7	7	23	3	1	2	1	3	1
24	8	8	24	3	1	1	2	2	2
25	9	9	25	3	2	1	1	2	2
26	:	:	26	3	2	1	2	2	1
27	;	;	27	3	1	2	2	1	2
28	<	<	28	3	2	2	1	1	2
29	=	=	29	3	2	2	2	1	1
30	>	>	30	2	1	2	1	2	3
31	?	?	31	2	1	2	3	2	1
32	@	@	32	2	3	2	1	2	1
33	A	A	33	1	1	1	3	2	3
34	B	B	34	1	3	1	1	2	3
35	C	C	35	1	3	1	3	2	1
36	D	D	36	1	1	2	3	1	3
37	E	E	37	1	3	2	1	1	3
38	F	F	38	1	3	2	3	1	1
39	G	G	39	2	1	1	3	1	3
40	H	H	40	2	3	1	1	1	3

Table B-1: Code 128 and EAN 128 Character Set

Value	Code Set A	Code Set B	Code Set C	Bar Pattern ¹					
				B	S	B	S	B	S
41	I	I	41	2	3	1	1	1	1
42	J	J	42	1	1	2	1	3	3
43	K	K	43	1	1	2	3	3	1
44	L	L	44	1	3	2	1	3	1
45	M	M	45	1	1	3	1	2	3
46	N	N	46	1	1	3	3	2	1
47	O	O	47	1	3	3	1	2	1
48	P	P	48	3	1	3	1	2	1
49	Q	Q	49	2	1	1	3	3	1
50	R	R	50	2	3	1	1	3	1
51	S	S	51	2	1	3	1	1	3
52	T	T	52	2	1	3	3	1	1
53	U	U	53	2	1	3	1	3	1
54	V	V	54	3	1	1	1	2	3
55	W	W	55	3	1	1	3	2	1
56	X	X	56	3	3	1	1	2	1
57	Y	Y	57	3	1	2	1	1	3
58	Z	Z	58	3	1	2	3	1	1
59	[	[	59	3	3	2	1	1	1
60	\	\	60	3	1	4	1	1	1
61	]	]	61	2	2	1	4	1	1
62	^	^	62	4	3	1	1	1	1
63	_	_	63	1	1	1	2	2	4
64	NUL	'	64	1	1	1	4	2	2
65	SOH	a	65	1	2	1	1	2	4
66	STX	b	66	1	2	1	4	2	1
67	ETX	c	67	1	4	1	1	2	2
68	EOT	d	68	1	4	1	2	2	1
69	ENQ	e	69	1	1	2	2	1	4
70	ACK	f	70	1	1	2	4	1	2
71	BEL	g	71	1	2	2	1	1	4
72	BS	h	72	1	2	2	4	1	1
73	HT	i	73	1	4	2	1	1	2
74	LF	j	74	1	4	2	2	1	1
75	VT	k	75	2	4	1	2	1	1
76	FF	l	76	2	2	1	1	1	4
77	CR	m	77	4	1	3	1	1	1
78	SO	n	78	2	4	1	1	1	2
79	SI	o	79	1	3	4	1	1	1
80	DLE	p	80	1	1	1	2	4	2
81	DC1	q	81	1	2	1	1	4	2
82	DC2	r	82	1	2	1	2	4	2
83	DC3	s	83	1	1	4	2	1	2

Table B-1: Code 128 and EAN 128 Character Set (Continued)

Value	Code Set A	Code Set B	Code Set C	Bar Pattern ¹					
				B	S	B	S	B	S
84	DC4	t	84	1	2	4	1	1	2
85	NAK	u	85	1	2	4	2	1	1
86	SYN	v	86	4	1	1	2	1	2
87	ETB	w	87	4	2	1	1	1	2
88	CAN	x	88	4	2	1	2	1	1
89	EM	y	89	2	1	2	1	4	1
90	SUB	z	90	2	1	4	1	2	1
91	ESC	{	91	4	1	2	1	2	1
92	FS		92	1	1	1	1	4	3
93	GS	}	93	1	1	1	3	4	1
94	RS	–	94	1	3	1	1	4	1
95	US	DEL	95	1	1	4	1	1	3
96	FNC 3 ²	FNC 3	96	1	1	4	3	1	1
97	FNC 2	FNC 2	97	4	1	1	1	1	3
98	SHIFT	SHIFT	98	4	1	1	3	1	1
99	CODE C	CODE C	99	1	1	3	1	4	1
100	CODE B	FNC 4	CODE B	1	1	4	1	3	1
101	FNC 4	CODE A	CODE A	3	1	1	1	4	1
102	FNC 1	FNC 1	FNC 1	4	1	1	1	3	1
103	START (Code A)			2	1	1	4	1	2
104	START (Code B)			2	1	1	2	1	4
105	START (Code C)			2	1	1	2	3	2

Table B-1: Code 128 and EAN 128 Character Set (Continued)

1. B=bar width, S=space width
2. For definitions of FNC 2, FNC 3 and FNC 4, refer USS-128 specification

EAN-128 Barcode

UCC/EAN-128 (Figure B-7) is a variant of Code 128, exclusively reserved for the EAN International and Uniform Code Council (UCC). It shares the same bar code symbology as Code 128. UCC/EAN-128 is typically comprised of:

- Code 128 start character A, B or C
- FNC 1 character
- Data
- Check characters
- Stop, start and shift characters



Figure B-7: EAN-128 Barcode

The following guidelines apply to the EAN-128 bar code:

- Multiple inserts can be placed in this bar code. The only limitation is the message insert limitation.
- The system validates if the correct data type is entered into the bar code, and displays a warning message if inconsistent data is entered (i.e. if an incorrect symbol is entered).
- The EAN-128 bar code automatically encodes any arrangement of the 128 characters shown in Table B-1 on page B-7.
- There is no criterion for the length of the barcode other than the message length.
- Non data characters FN2, FN3, and FN4 are not allowed.
- Start, stop and shift codes do not need to be added by the user. The start character A, B or C and the FNC 1 character are inserted automatically at the beginning of the message. The FNC 1 enables the bar code scanner to automatically discriminate between EAN 128 and Code 128.
- If an odd number of consecutive digits are entered, the printer software may append a zero (0) to that string of digits.
- Invalid characters interpreted as a Code B subset are replaced with a space. Invalid characters interpreted as Code C are replaced with a zero (0).
- The bar code does not scan without the checksum. The checksum character does not be displayed as a human readable.

- If the bar code's font size is at least 16 high, a human readable version of the code text can be placed above or below the bar code. The default location for the human readables is "Below" the bar code, but this can also be changed to None.

Code 39 Barcode

Code 39 is an upper-case alphanumeric bar code (Figure B-8). The following characters are allowed:

- 10 digits (0 - 9)
- 26 letters of the alphabet (upper case)
- six symbols (\$, %, +, -, ., /)



Figure B-8: Code 39 Barcode

The following guidelines apply to the Code 39 bar code:

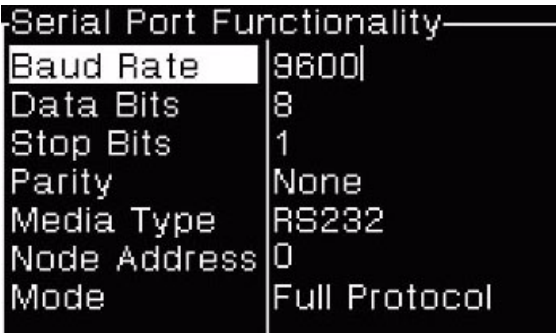
- Multiple inserts can be placed in this bar code. The only limitation is the message insert limitation.
- The system validates if the correct data type is entered into the bar code, and displays a warning message if inconsistent data is entered (i.e. if an incorrect symbol is entered).
- The last digit of the bar code is an optional checksum digit.
- If the bar code's font size is at least 16 high, a human readable version of the code text can be placed above or below the bar code. The default location for the human readables is "Below" the bar code, but this can also be changed to None.
- The '*' symbol is used as the start and stop characters and does not need to be inserted by the user. Although this is not shown in the human readable form, it is encoded in the barcode.
- Code 39 barcode does not support the full 126 ASCII characters, by using the shift control codes (allowed in some applications). The shift control codes with values of 43, 44, 45 and 46 are not used as data values. However, it is possible that a checksum is equivalent to a shift control code. In this case, a space replaces the checksum in the human readable form.

Appendix C contains information on the serial communications of the Videojet 1310 printer.

Serial Communications

Serial Port Functionality

This option is located in the Data Logging menu (Figure C-1), and sets up the printer's COM 2 port for the transmission of data logging information to and from a remote device (i.e. Connector).



Serial Port Functionality	
Baud Rate	9600
Data Bits	8
Stop Bits	1
Parity	None
Media Type	RS232
Node Address	0
Mode	Full Protocol

Figure C-1: Serial Port Functionality

The following settings are configurable:

Baud: Sets the baud rate for transmission to remote devices and ranges from 150 to 19200

Data Bits: Sets the number of bits used in a data word to either 7 or 8

Stop Bits: Sets the number of stop bits used in a data word to either 1 or 2

Parity: Selects the Odd, Even or None Parity for error detection with data transmission

Media Type: RS232 only

Node Address: Sets the node address of the printer when it is part of a network (such as used with Connector) and ranges from 0 to 99

Mode: Sets the protocol to Full Protocol or Simple Protocol

Serial Port Baud Rates

This option is located in the Configure menu (Figure C-2 on page C-2), and sets up the printer's COM 1 port for serial communications with a barcode scanner.

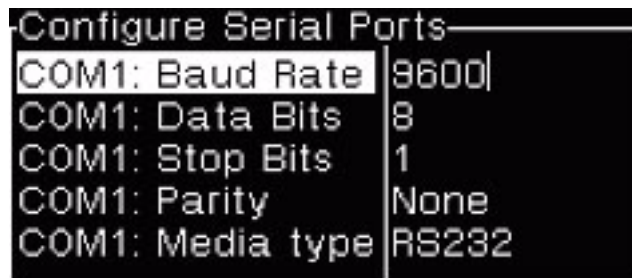


Figure C-2: Serial Port Baud Rates

The following settings are configurable:

Com1: Baud Rate - Sets the Baud rate for transmission to remote devices and ranges from 150 to 19200

Com1: Data Bits - Sets the number of bits to either 7 or 8

Com1: Stop Bits- Sets the number of stop bits to either 1 or 2

Com1: Parity - Selects the Odd, Even or None Parity for error detection with data transmission

Com1: Media Type - RS232 only

Log Onto Remote

Once the COM 2 port has been configured under Serial Port Functionality (Figure C-3), you can connect to a remote device by selecting Log Onto Remote and pressing ENTER from the Data Logging menu.



Figure C-3: Log Onto Screen

Log Off Remote

Once the COM 2 port has been configured, you can disconnect from a remote device by selecting Log Off Remote and pressing ENTER from the Data Logging menu.

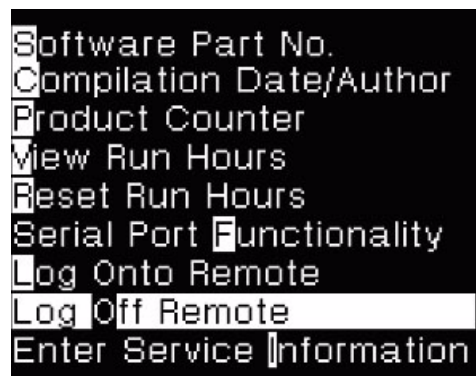


Figure C-4: Log Off Screen