



Videojet 4320

Operator Manual

P/N 361933-01

Revision: AA, January 2008

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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.



Warning

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 applicables aux appareils numerique de la 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

Safety Standards

US and Canada: UL 69050-1 1st Edition

EU: EN 69050-1: 2001

EMC Standards

US and Canada: FCC Part 15.107/109 Class A emissions

EU: EN 55022: 1998, A1: 2000, A2: 2003 Class A emissions

EN 61000-3-2: 2000 Harmonics

EN 61000-3-3: 1995, A1: 2001 Voltage Fluctuations

EN 55024: 1998, A1: 2001, A2: 2003 ITE immunity using:

IEC 61000-4-2 Electrostatic Discharge

IEC 61000-4-3 Radiated Electromagnetic Field

IEC 61000-4-4 Electrical Fast Transient

IEC 61000-4-5 Surge

IEC 61000-4-6 Conducted RF

IEC 61000-4-8 50 Hz Radiated Susc.

IEC 61000-4-11 Voltage Dips, Interrupts

Support and Training

Contact Information

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

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Service Program

About *Total Source Commitment*

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

The *Total Source Commitment*

The *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, highly recommends you complete a Customer Training Course on the printer.

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

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

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Videojet 4320 Printer

Videojet 4320 printer is an ink jet addressing system, which can provide reliable and cost effective printing of addresses, personalized messages, bar codes and serialized numbers at high throughput speeds.

The PC based controller can interface with different external equipment to maximize your investment and keep the production line running at peak efficiency.

About this Manual

The Videojet 4320 Operator Manual is written for the Operators of Videojet 4320 printer. The operator manual helps you to understand the different parts of the printer and easily perform the printing operations.

Related Publications

The following manual is available for reference:

Videojet 4320 Service Manual (Part Number 361893)

Language Codes

When you order these manuals, make sure to add the 2-digit language code at the end of the part number. For example, the Spanish version of this manual is part number 361933-04. Table 1-1 on page 1-2 provides the list of language codes used to identify the translated versions of this manual.

Code	Language	Availability (see note)	
01	English (US)	*	+
02	French	*	-

Table 1-1: Languages

Code	Language	Availability (see note)	
03	German	*	-
04	Spanish	-	-
05	Portuguese	-	-
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: Languages

Note: An asterisk (*) indicates that the Operator Manual is available. A plus sign (+) indicates that the Service Manual is available. For more information, contact your Videojet distributor or subsidiary.

Content Presentation

The manual contains different types of information like safety guidelines, how to operate the printer and how to use the Graphic User Interface (GUI). To help you identify the different types of information, a structured method is followed in this manual.

The Printer

The word printer indicates the Videojet 4320 printer, from this point forward in this manual.

Positional References

The positions and directions like left, right, front, rear, to the right and to the left given with reference to the printer seen from the front.

Units of Measurement

This manual uses metric units of measurement. The equivalent English measures are included in parenthesis. For example, 240 mm (9.44 inches)

Safety Information

The safety information includes warning and caution statements.

Warning

The warning statements indicate hazards or unsafe practices that can cause severe personal injury or death.

For example:



Warning

The cleaning agent is poisonous if taken internally. Do not drink. Seek medical attention immediately if ingested.

Caution

The caution statements indicate hazards or unsafe practices that can cause damage to the equipment.

For example:



Caution

Do not fit or remove any connector on the printer when the power is turned on, otherwise the printer may get damaged.

Additional Notes

Notes provide additional information about a known topic.

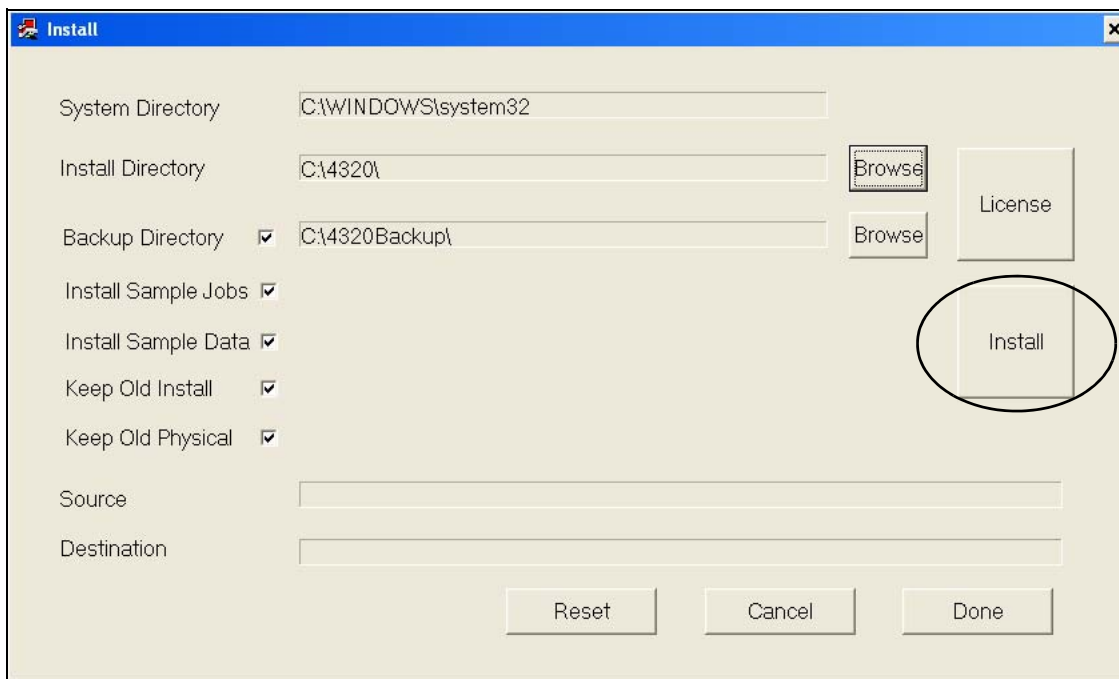
For example:

Note: You can set the password protection for some functions to prevent any access that is not authorized.

UI Terminology

The text that appears on the software is written in italics.

For example:



Click the *Install* button. The *EULA* dialog box appears.

Abbreviations and Acronyms

Abbreviations	Expansion
PCU	Print Controller Unit
BIS	Bulk Ink Supply
WYSIWYG	What You See Is What You Get

Chapters in the Manual

This manual is divided into eight chapters. Table 1-2 lists the topics that each chapter covers.

Chapter No.	Chapter	Description
1.	Introduction	Contains the information about this manual, the related publications, and writing styles used in this manual
2.	Safety	Contains the safety and hazard information
3.	Main Parts	Describes the main parts of the printer
4.	Printer Operations	Describes the procedures to operate the Videojet 4320 printer
5.	User Interface	Describes the different screens of the GUI. Only those screens that are required by a operator are described in this chapter.
6.	Maintenance	Contains the maintenance and cleaning procedures of the printer that are performed by the operator.
7.	Spare Parts and Accessories	Contains the spare parts list
8.	Index	Contains the alphabetical listing of topics with the page numbers on which they are referred to or described.

Table 1-2: List of Chapters

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. We enforce strict quality control techniques to eliminate the potential for defects and hazards in our products.

The intended use of the Videojet® 4320 printer is to print information directly onto a product. Use of this equipment in any other fashion may lead to serious personal injury.

The safety guidelines provided in this chapter are intended to educate the technicians on all safety issues, so that the printer is serviced and operated in a safe manner.

Safety Guidelines

General

- Read and understand the Operator Manual, Service Manual, and all safety labels before operating or servicing the printer (Table 2-1 on page 2-4).
- Do not wear loose clothing or jewelry while operating the printer.
- Keep hands and fingers away from all belts and rollers.
- Do not remove jams while the printer is running.



Wear safety glasses with side shields (or equivalent eye protection) when handling the ink. If the ink splashes into the eyes, flush your eyes with water for 15 minutes and contact a physician immediately.

Mechanical Guidelines

- Disconnect the external power cords before you service the printer.
- Do not operate this printer without side and safety covers in correct position.
- Only authorized personnel should remove the safety covers.
- Do not attempt to adjust the drive belt, transport belts, and/or pulleys when the drive motor is running.
- Keep the hands and fingers away from all belts and rollers.
- While replacing the components, use only those specified by the manufacturer.

Electrical Guidelines



Comply with Electrical Codes: All electrical wiring and connections must comply with applicable local codes. Consult the appropriate regulatory agency for further information.

- Ensure that the electrical circuit providing electrical power to the equipment is of the recommended electrical rating and is in good working order.
- Use only the main power cable supplied with the printer. The end of this cable must have an approved, three-pole, main plug that has a protective ground conductor.
- The electrical power cables, sockets and plugs must be kept clean and dry.
- The printer must be connected only to an AC power supply that has a protective ground conductor and must be according to IEC requirements or applicable local regulations.

Warning

Do not use the equipment if there is any interruption in the protective ground conductor or if the protective ground conductor is disconnected. The failure to follow this warning can cause an electrical shock.

-
- Do not operate this printer with the electrical enclosure open.
 - Do not expose this printer to rain or use it in a moist or wet environment.

- While replacing other electrical components, use only the components that are specified by the manufacturer.
- Do not unplug DB-25 printhead cables from the printheads unless power is turned off.

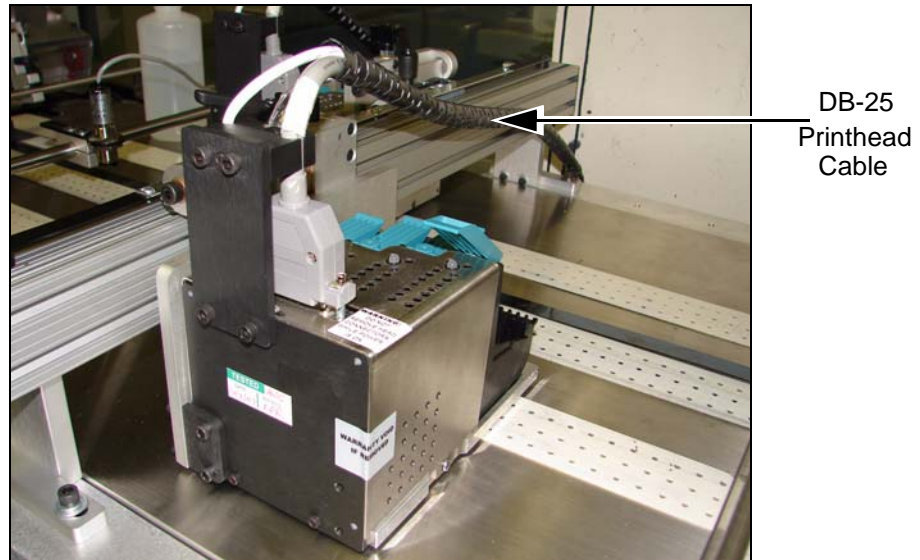


Figure 2-1. DB-25 Printhead Cables

Fire Safety Guidelines (for printers using dryers)

- Read and understand the operator manual and service manual of both the printer and the dryer before you operate the printer and the dryer.
- Understand all the safety labels on the printer and the dryer (Table 2-1 on page 2-4).
- Product jams and stoppages are a fire hazard and hence a fire extinguisher must be available in the immediate area at all times.
- Clear all product jams and stoppages immediately.
- Do not leave the printer running unattended.
- Do not leave product in the dryer area of printer, even if the dryer appears to be turned off.
- Do not touch any part of the dryer's heating elements at any time.

This section contains important safety guidelines pertaining to the electric supply and ground connection of the printer.

Safety Labels

Do Not Remove Warning Labels: Under any circumstances, do not remove or obstruct any warning, caution, or instruction labels in the printer.

Table 2-1 describes the various safety labels.


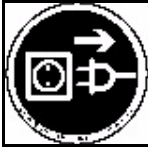





Safety Label	Description
	Electrical hazard. Disconnect the electrical supply prior to opening the compartment.
	Unplug the unit prior to entering or opening the panel.
	High temperature area. Use caution when the unit is running.
	Moving abrasive belts. Keep your hands away from this area when the belt is moving.
	Pinch point. Keep hands and clothing away from this area when the unit is running.
	Pinch point. Keep hands and clothing away from this area when the unit is running.
	Do not remove the safety guard.

Table 2-1: Safety Label Description



Safety Label	Description
	Refer to the service manual prior to performing the maintenance.
	Watch for (and avoid) moving parts on the feeder, base, and conveyor.

Table 2-1: Safety Label Description (Continued)

Hazard Information

This section contains important hazard notices. You must read these notices before you use the printer.

The hazard information is arranged into typographically clear warning and caution notices as follows:



Warning

WARNING NOTICES. Warning notices denote a potential hazard to the health and safety of users. These notices clearly state the nature of the respective hazard and the means by which it can be avoided.

Warning notices, together with the warning symbol shown on the left, appear in full in this chapter and at their points of application in the manual. They are presented in the typographical style of this notice.



Caution

CAUTION NOTICES. Cautionary notices denote a potential hazard to the physical integrity of equipment/software but not a danger to personnel. These notices clearly state the nature of the hazard and the means by which it can be avoided.

Cautionary notices appear in full in this chapter and at their points of application in the manual. They are presented in the typographical style of this notice.

This chapter provides a brief description about the printer, the system overview and the main parts.

About the Printer

The Videojet 4320 is a complete high-speed industrial inkjet printer that has a GUI for the following applications:

- Envelope addressing
- Product marking
- Bundle printing applications.

The Figure 3-1 shows the different parts of the Videojet 4320 printer.

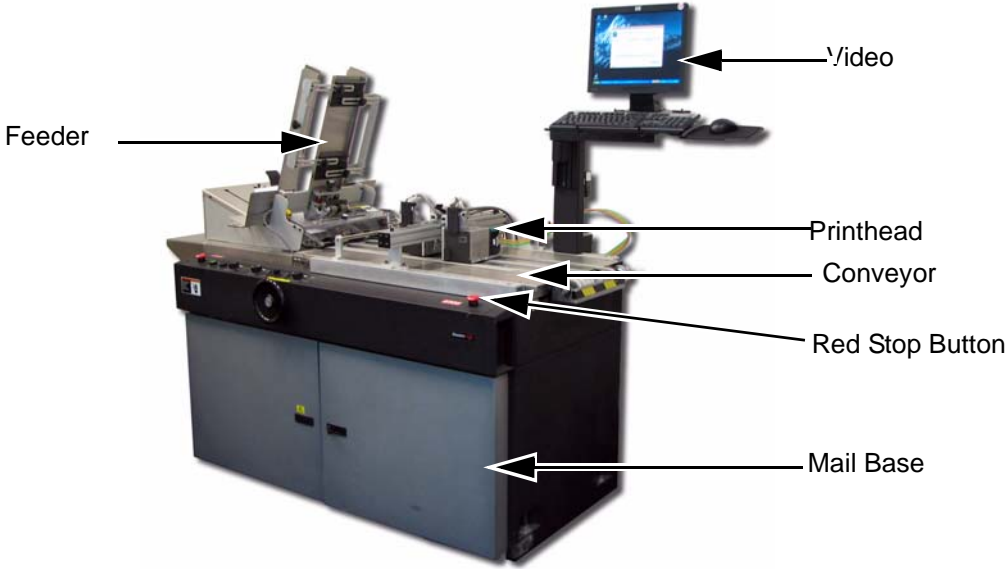


Figure 3-1. Videojet 4320 Printer and 7050 Transport

System Overview

The unique design of the Videojet 4320 printer allows you to send variable data through high-speed USB 2.0 interface connections to the printer controller unit (PCU). The printer also allows you to add many 2 inch printheads to a maximum of 8 inch printheads. The standard base controls like base stop and feeder lockout is provided from the PCU. You can meet other I/O requirements, like a divert gate and/or Stacker with optional additional I/O capability. The Figure 3-2 shows the block diagram for the Videojet 4320 printer.

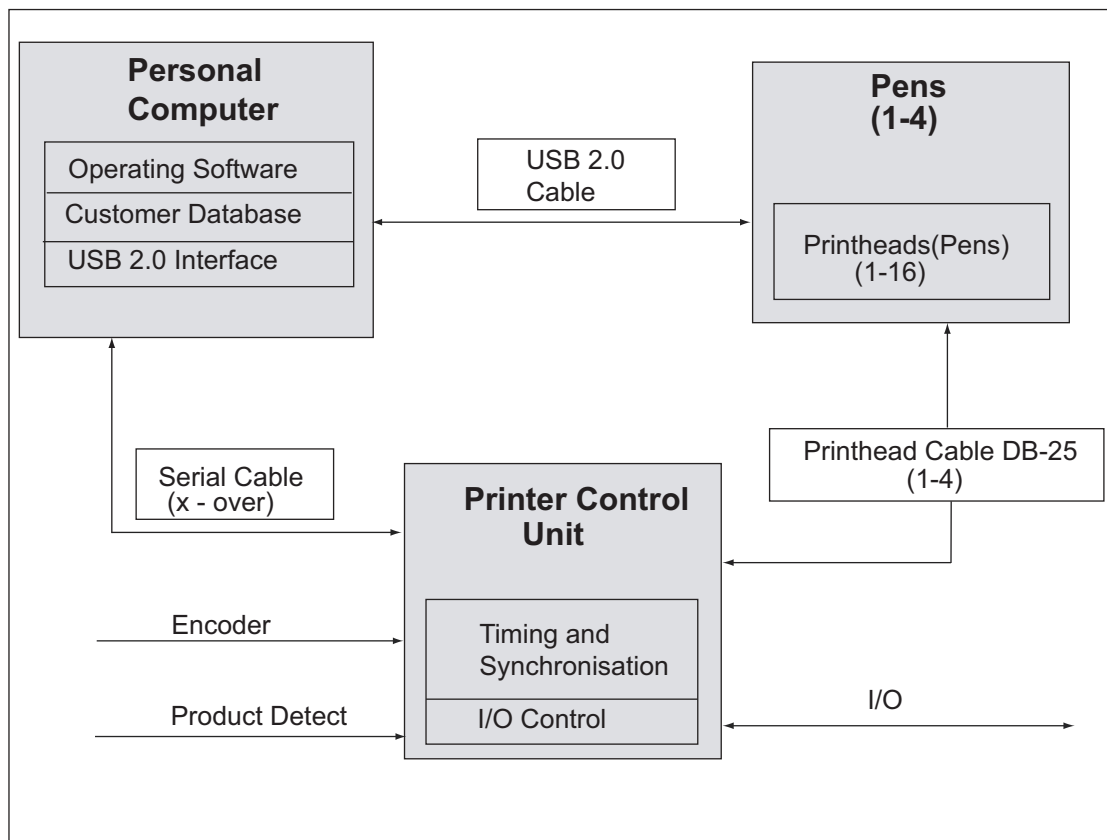


Figure 3-2. Videojet 4320 Printer - Block Diagram Representation

The PC application software provides a simple graphical user interface to operate and maintain the system. Some of the features are enabled or disabled to protect the system from the operators, who are not either authorized or experienced. The software has a WYSIWYG window that allows the operators to see their jobs before printing and all through the printing. The buttons are large, so that you can easily find the buttons. The simple menus with optional touch screen operation make sure that the GUI is very easy to use.

Main Parts

The printer has the following parts:

- Personal Computer (PC)
- Printheads that contain many pens, related electrical hardware and pen slots
- Printer Control Unit (PCU) that contains circuit boards, power supply, DB-25 cables, USB cables, and a serial connection to the PC

Personal Computer

A PC that Windows XP and the Videojet 4320 GUI is installed on the PC.

Printheads

The printhead of the printer can contain one to 16 pens. These pens are the printhead cartridges and known as HP 45a, or TIJ 2.5 cartridges.

PCU

The PCU coordinates the activities of the printheads with the sensor input data from the encoders and product detect sensors.

Mail Base

The recommended mail bases for the Videojet 4320 printer are shown below:

- Videojet Cheshire 7000 series bases/7050 bases
- Videojet 5100 mail base

This chapter describes the procedure to log into the software and the options used during document setup. This chapter also describes how to prepare a mail list, sort break options, and set display options.

How to Log into the Software

To log into the software, do the following tasks:

- 1 Turn on the power to the computer.
- 2 After the startup is completed, turn on the PCU.




- 3 Double-click  to open the 4320 application. The screen displays *Ok to Re-Program Everything* message (see Figure 4-1).
- 4 Click the *OK* button. A new .JMD file appears. The *Pnp* tab appears by default where the printheads are programmed automatically.



Figure 4-1: *Ok to Re-Program Everything* Screen

Note: *If the printheads are programmed again, do not program again unless the PCU power is turned on or turned off. When the application restarts, click the Cancel button. Next, click the Install All button in the PNP screen.*

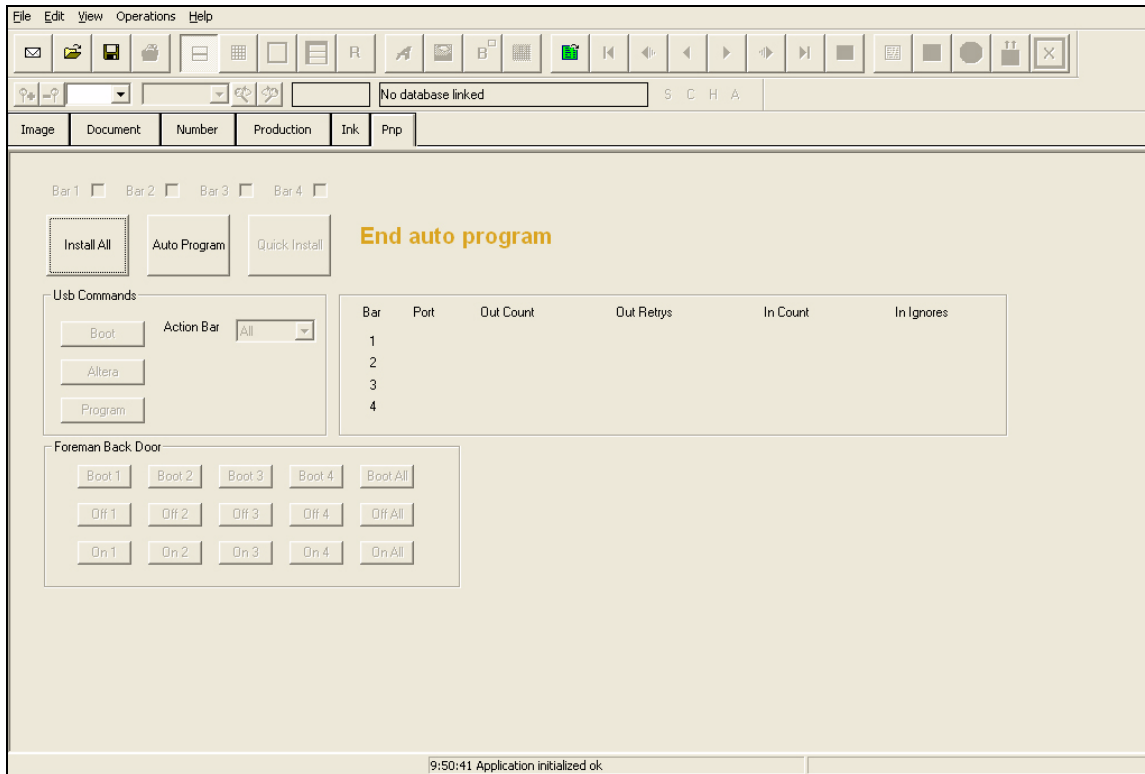


Figure 4-2: New JMD File

- 5 Navigate to *Operations > Log In* (see Figure 4-3). The *Operator Login* screen appears (see Figure 4-4).

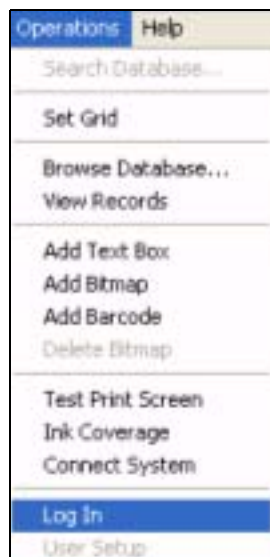


Figure 4-3: Log In

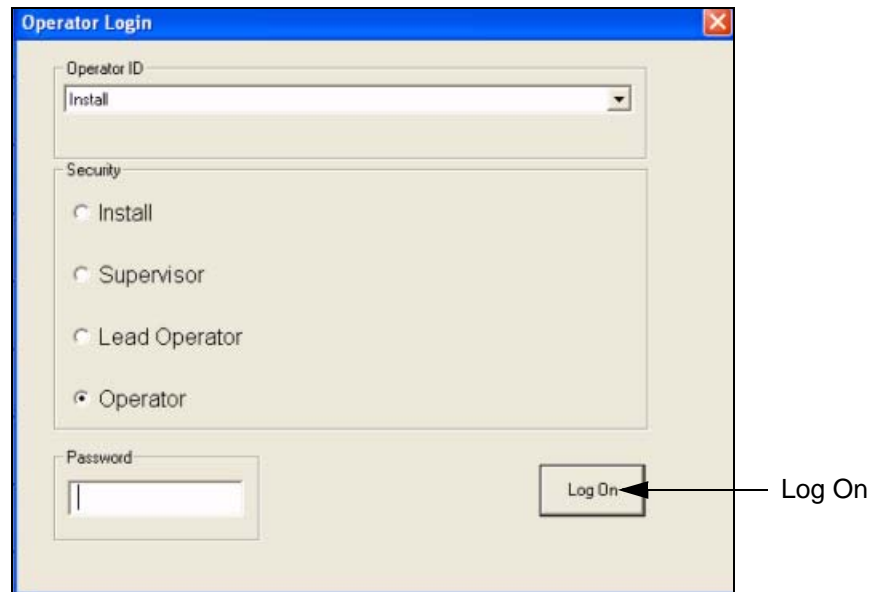


Figure 4-4: Operator Login Screen

- 6 Select the required *Operator ID* and the role under the *Security* options. Enter the *Password*.

Note: The default password is 1.

- 7 Click the *Log On* button (see Figure 4-4). A new document is loaded automatically (see Figure 4-5 on page 4-4).

Note: The tabs that appears in the new document depends on the role you select when you log into the software.

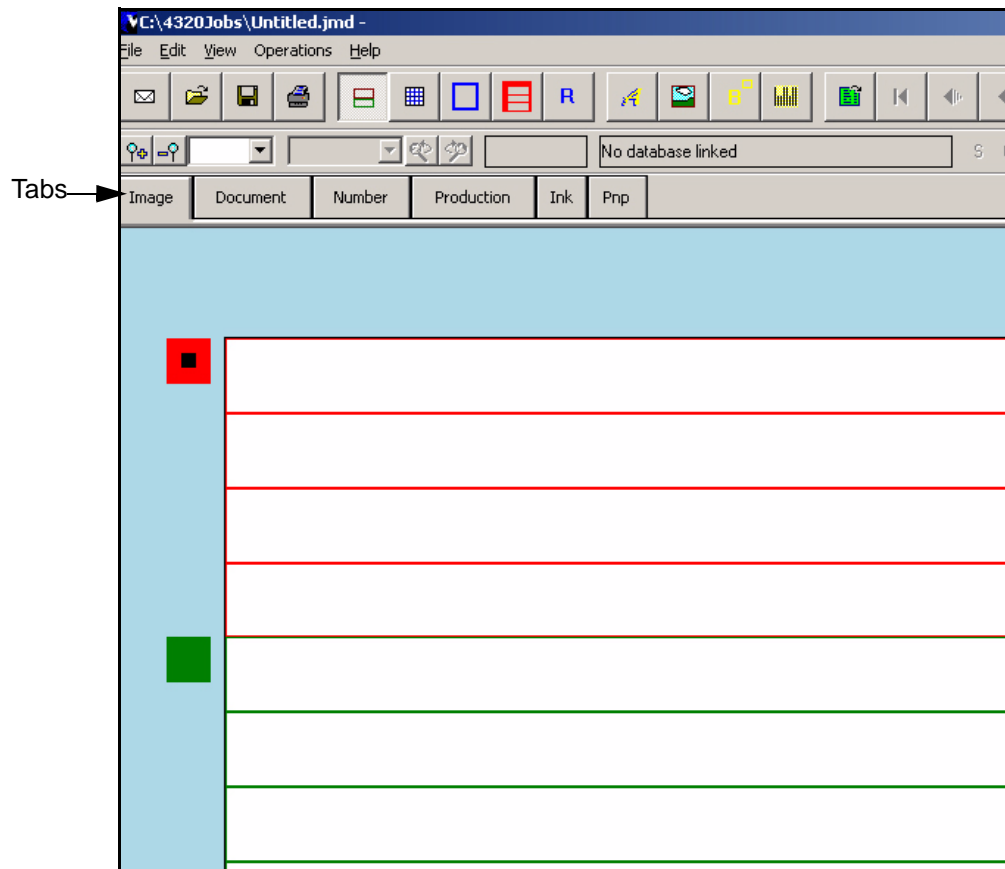


Figure 4-5: New Document

How to Set up Document Options

Do the following tasks to set up the document options:

- 1 Log into the application.
- 2 Click the *Document* Tab. The document setup screen appears (see Figure 4-6).

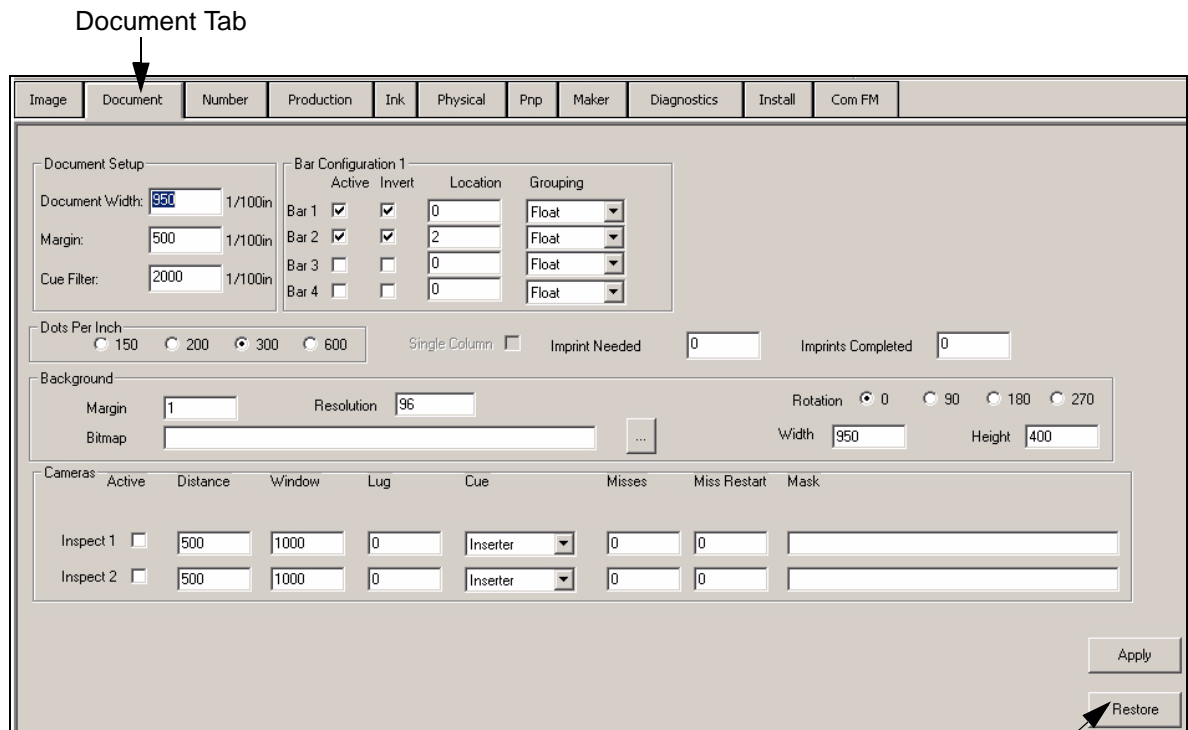


Figure 4-6: Document Tab Setup Parameters

- 3 Enter the required fields (see Table 4-1).

Fields	Description
Document Width	Enter the width of the mail piece to set the print position. Document width is measured in 1/100th of an inch. For example, for 8-inch document, the document width must be 800. <ul style="list-style-type: none"> • 150 x 600 maximum document width is 24" • 200 x 600 maximum document width is 24" • 300 x 600 maximum document width is 24" • 600 x 600 maximum document width is 12"
Margin	Enter the Margin to set the print position. Margin is the distance between the Cue sensor and the first cartridge in the printhead. You can decrease or increase the print position from left to the right side as required.

Table 4-1: Field Reference

Fields	Description
Cue Filter	Enter the document size plus 1 inch. This parameter helps to filter extraneous cues in the system from a paper jam or paper slippage. If this number is very large, blank documents pass by on the conveyor, then reset this value to a lower number.
Bar Configuration 1	Select the check boxes against the bar numbers like Bar 1, 2, 3 and 4 to set the number of bars. 1 bar is equal to 1 print head, which is equal to 2 inches of print. Select <i>Active</i> to use the bars normally or select the check boxes under <i>Invert</i> to rotate the image by 180 degrees.
Dots Per Inch	Select the DPI option under the <i>Dots Per Inch</i> .
Imprints Needed	Enter the number of fixed records that must be printed. <i>Imprints Needed</i> field is used when a data file is not linked to the document and the same information must be on every piece. <i>Imprints Complete</i> must match the number of <i>Imprints Needed</i> after completion.
Imprints Complete	When the print operation is complete, the <i>Imprints Complete</i> field will match the number of <i>Imprints Needed</i> .
Background	-
Cameras	-


Table 4-1: Field Reference

- 4 Click on the *Apply* button to save and set the parameters.

Note: Click the *Restore* button to reset to the previous parameters.

How to Link the Data file

Do the following tasks to link the data file:

- 1 Click on the *Datafile Browser*  icon from the toolbar and the *Database Browser* screen appears (see Figure 4-7 on page 4-7).

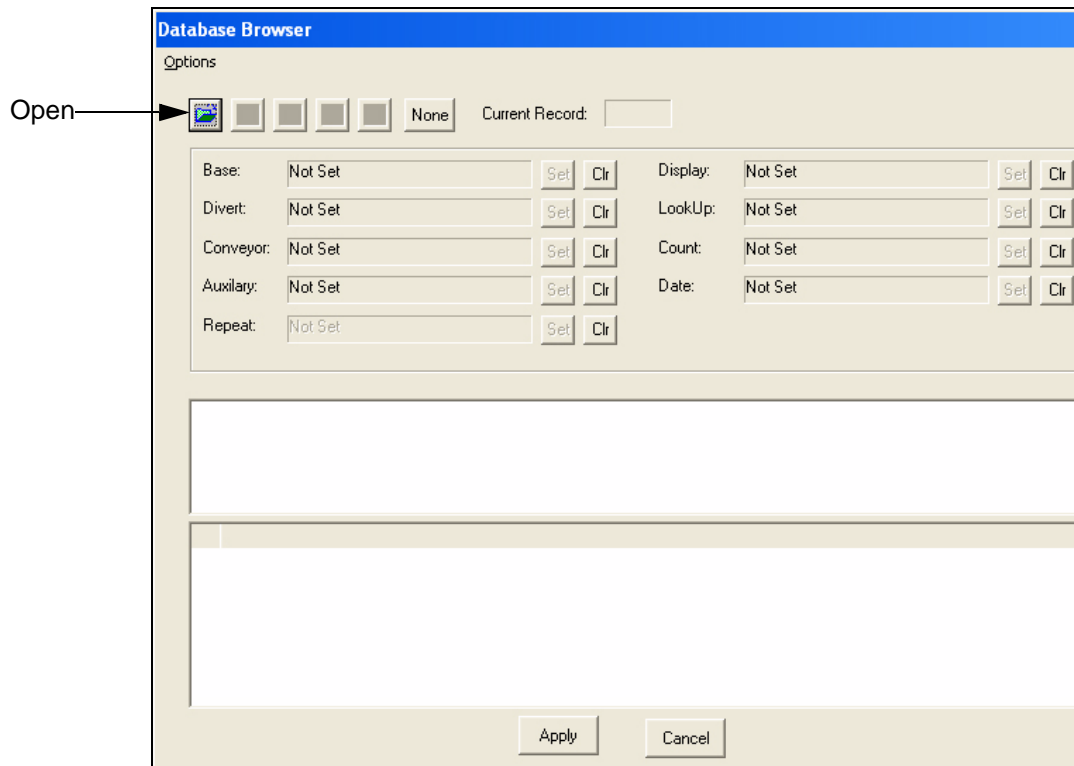



Figure 4-7: Database Browser

- 2 Click on the *Open*  icon on the toolbar (see Figure 4-7). The *Open* dialog box appears (see Figure 4-8).

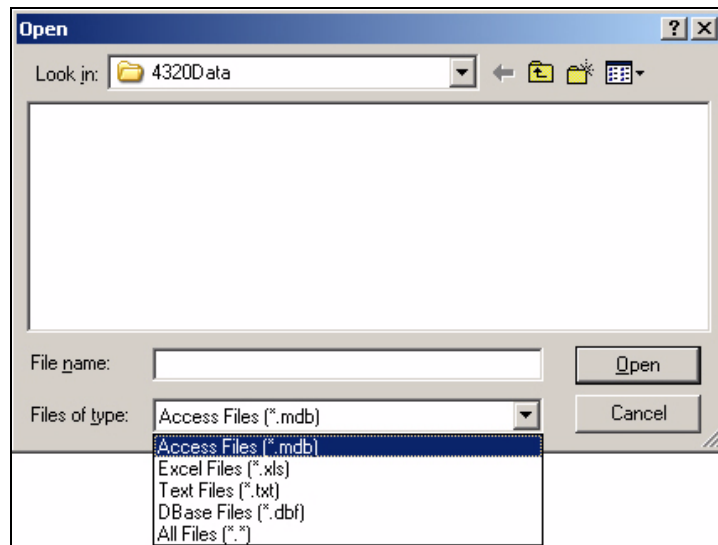


Figure 4-8: Database Browser Setup

- 3 Select the file type from the *Files of type* list (see Figure 4-8). The related data files appear (Figure 4-9).
- 4 Click the *Open* button.

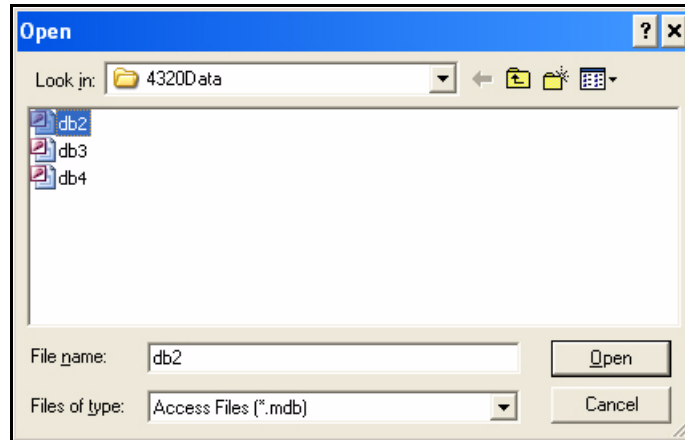


Figure 4-9: File Selection

Note: A data file cannot be run from a Network drive. The Data file must be copied to the local drive to link.

- 5 Click on (+) in front of the file name to expand the path (see Figure 4-10).
- 6 Click on (+) next to tables, sheet or document.
- 7 Select the table of the file. The data contents appear at the bottom of the screen (see Figure 4-10).

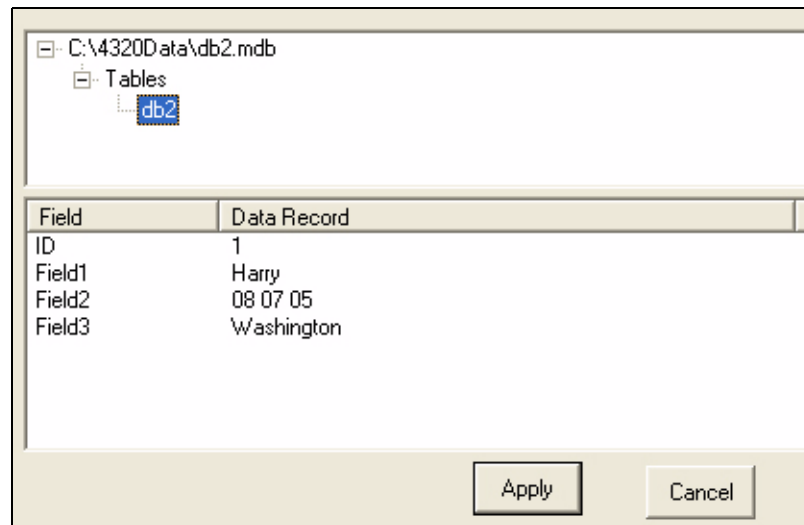


Figure 4-10: Data Records

- 8 To scroll through and select the records, select the following view records buttons (see Table 4-2).





Button	Action
	Moves to the first record.
	Moves to the previous record
	Moves to the next record
	Moves to the last record

Table 4-2: Scroll Buttons

- 9 To set sort break options and display records, refer to “How to Set Sort Break Options” on page 4-22.
- 10 Click the *Apply* button to link the data file to the current document setup.

How to Create a Label Box

You can insert the fixed text, variable database fields and system fields within the text boxes at the required positions on the document.

Do the following tasks to create a label box:


- 1 Click on the *New Text Box*  icon on the toolbar.
- 2 Move the cursor over the mail piece until the cursor changes into a crosshair.



Figure 4-11: Label Art Display

- 3 Click and drag the crosshair to the right and create the text box. The *Edit Text Box* screen appears (see Figure 4-12).

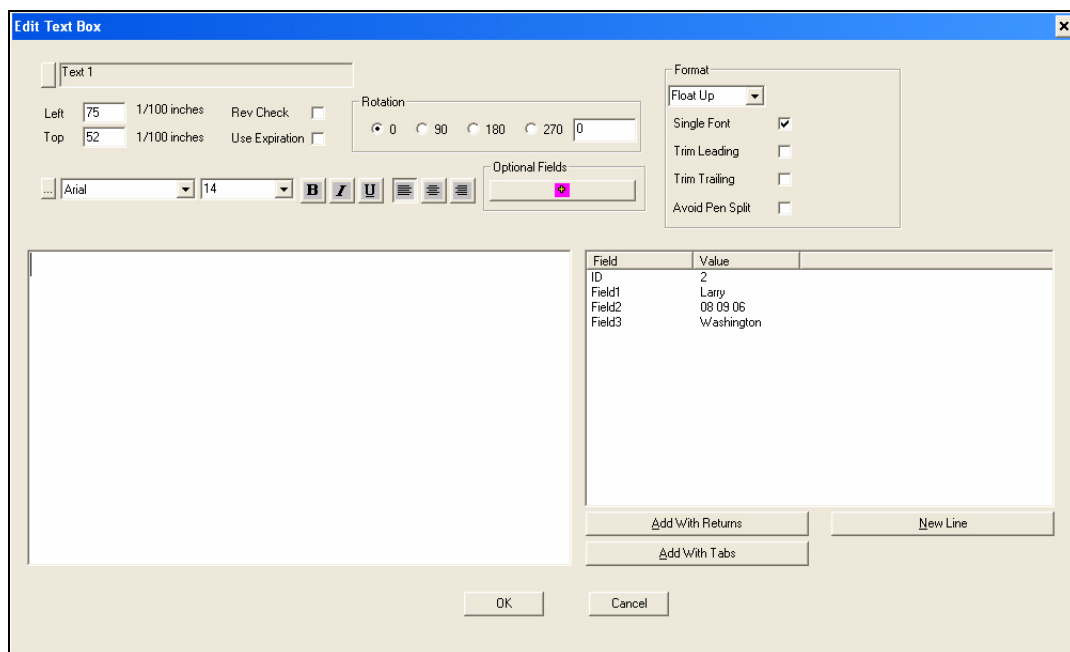


Figure 4-12: Edit Text Box

- 4 Double-click the selected database fields from the *Field* list to the right. These fields move to the left side of the screen (see Figure 4-13 on page 4-11). You can also select the field and click the *Add With Return* button or *Add With Tabs* button.

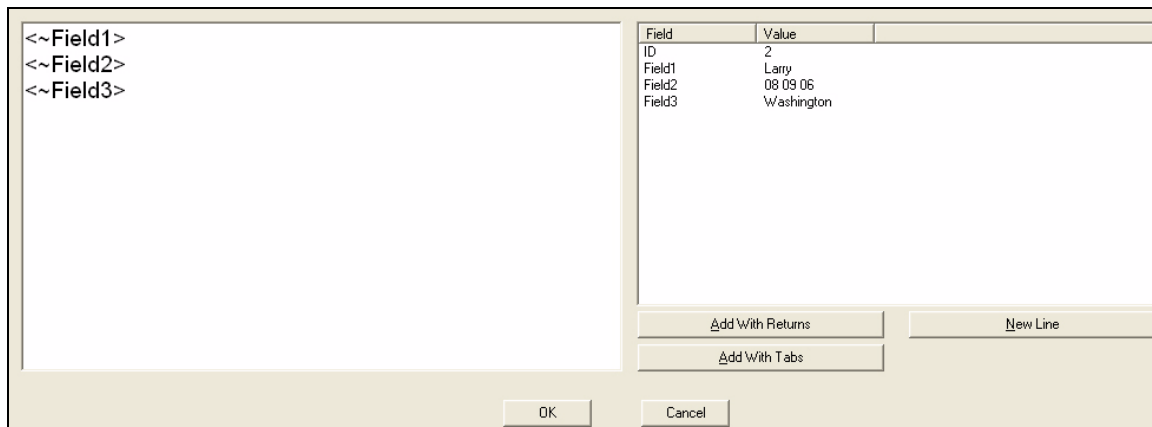


Figure 4-13: Fields Selected

Note: The Add With Tabs button inserts the selected fields on the same line.

Note: To select many fields at a time, press the Shift key or Ctrl key and click the fields.

- 5 Click on the *Optional Fields* button to add *Date Time*, *Misc* fields and *User Defined* fields. The *Dialog* screen appears (see Figure 4-14 on page 4-12).

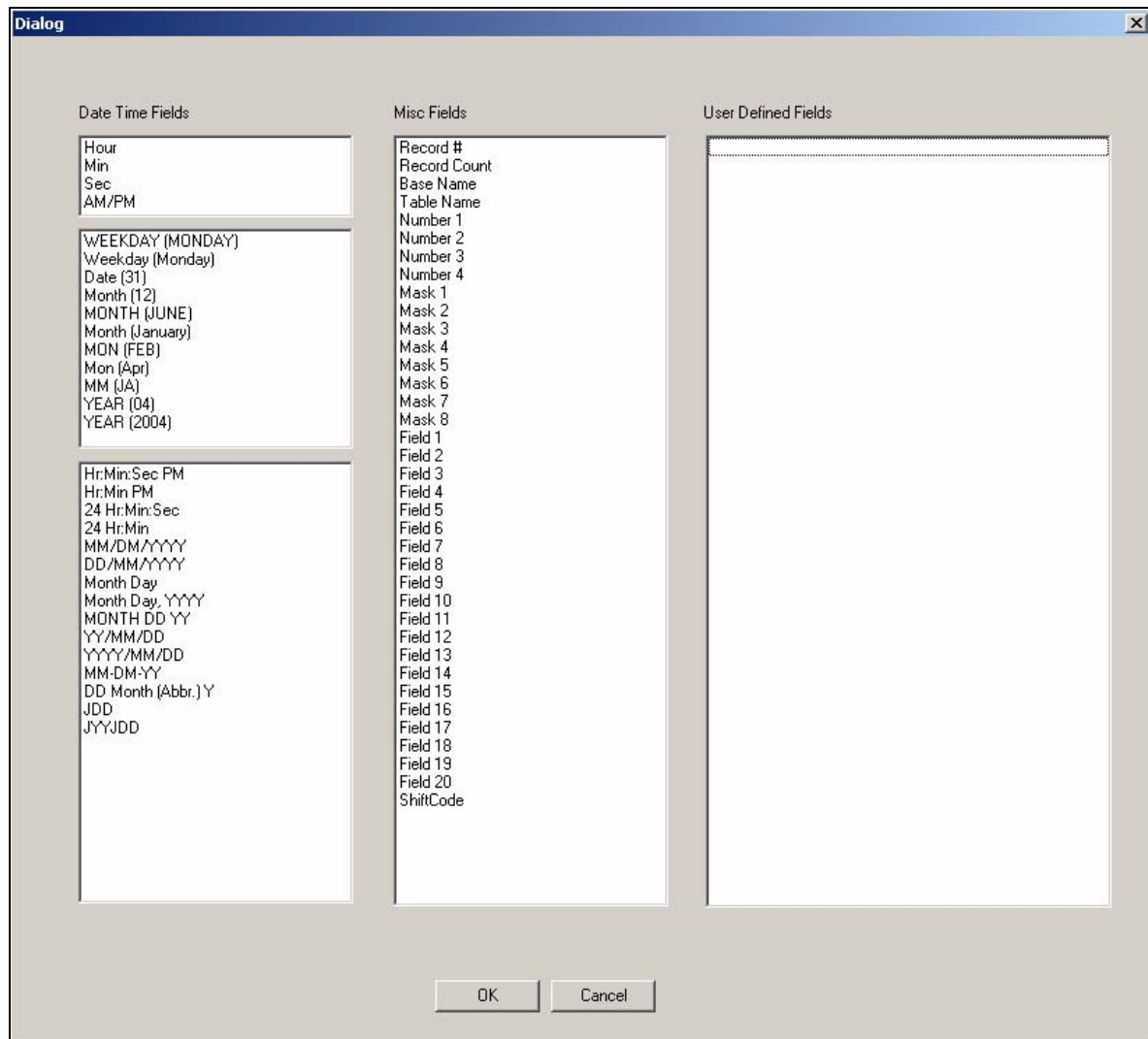


Figure 4-14: Optional Fields

- 6 Select the field and click the *OK* button. The fields appear in the *Edit Text box* screen.
- 7 To format the text box and the fields in the text, use the following features:
 - a. Select the font from the *Font* drop-down list and size from the *Size* drop-down list. Click the *Bold*, *Italic*, *Underline* and *Align* icons to change the font style and alignment of the content in the *Edit Text box*
 - b. Enter the *Left* field to set the distance between the left edge of the mail piece to the top-left corner of the text box in the *Left Text Box*. Use this option to set the position of the image more accurately.

- c. Enter the *Top* field to set the distance from the top edge of the mail piece to the top-left corner of the text box where the text box on the label image is set. Use this option to set the position of the image more accurately.
- d. *Single Font* allows the application of font, font size, and format style to all contents of the text box. When not checked, text must be selected and the font size and type is applied to the selection.
- e. The database fields can be moved, or float up or down if a null (blank) database field is found during production. This feature is useful when you must ignore a field deliberately where a leftover space is not necessary. This feature completes the blank spaces for fields automatically, that are ignored for some mail pieces.

Note: Add any punctuation needed to print between fields or add to fields. This punctuation or text appears on every piece of mail.

- f. While in the *Edit text* screen, the user has the option to rotate the text. Select the degree of rotation or set the required degree. This option allows the text box to be rotated by the degree selected if in production (see Figure 4-15).

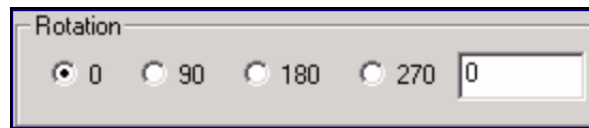



Figure 4-15: Rotation

- g. Click the *OK* button at the bottom.

How to Insert a Bitmap Box

Do the following to insert a bitmap box:

- 1 Click on the *New Bitmap*  icon on the toolbar.
- 2 Place the cursor over the mail piece image and cursor changes to a crosshair.
- 3 Click and drag the mouse to create a bitmap area in the mail piece.
- 4 Browse to the location of the bitmap that you require for your image (Figure 4-16 on page 4-14).

Note: The bitmap must not be linked from Network drive. The file must be copied to your local hard drive.

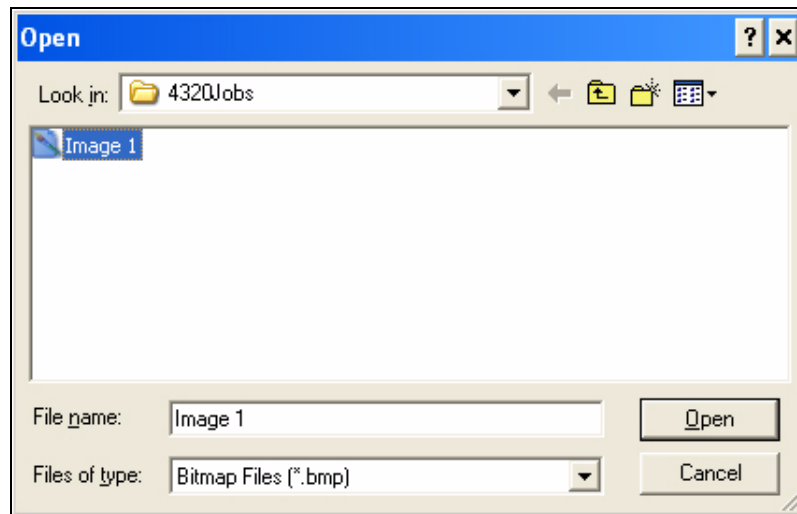


Figure 4-16: Bitmap Link Screen

Note: The bitmap is displayed only in black and white and not in gray scale. You must change the type of file before you link it to the Videojet 4320 Document. The bitmap file must have the extension *.bmp*.

Warning

Bitmap boxes are not copied into the Videojet 4320 Document. The Videojet 4320 Document keeps a link to the image file on the hard drive. Once the image file (bitmap) is assigned to the bitmap box, the image file must not be moved from its location on the hard drive. If the file is moved, the link will be invalid and the bitmap box will be deleted automatically.

- 5 Click the *Open* button and *Bitmap Properties* screen appears (see Figure 4-17 on page 4-15).

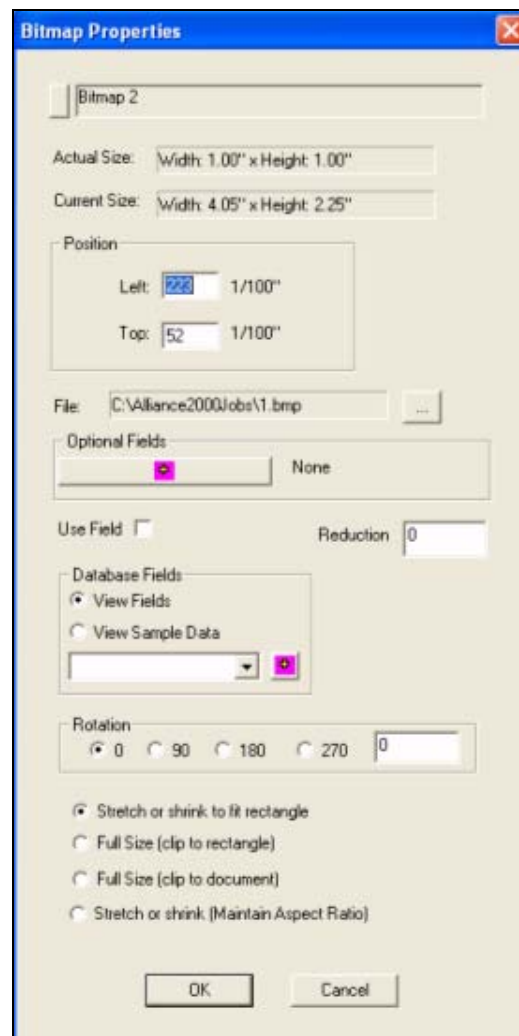


Figure 4-17: Bitmap Properties


The bitmap properties are described below:

- To set the position of the bitmap box more accurately, use the *Left* and *Top* position coordinates under *Position*.
- *File* shows the location path and name of the bitmap. Click the 3-ellipse button to the right and you can map again to another location or/and bitmap.
- Select the option *Use Field* to show that the file is a variable bitmap. Select the variable bitmap file from the drop down list under the database fields.
- Bitmap boxes can be rotated to 90, 180, 270, or a degree set by the operator.
- You can adjust the bitmap with the *Stretch or shrink to fit rectangle* option.

- *Full Size (clip to rectangle)* adjusts the bitmap box and not the bitmap.
 - *Stretch or Shrink (Maintain Aspect Ratio)* adjusts the size of the bitmap, but maintains the same height to width ratio.
 - Database Fields.
 - *Optional Fields* option is used to add *Date Time*, *Misc* fields and *User Defined* fields.
 - Reduction.
- 6 Click *OK* to save the changes.

How to Create a Barcode

Do the following tasks to create a barcode:

- 1 Click on the *New Barcode*  icon. This icon creates a *Postnet* or any other type of barcodes.
- 2 Move your mouse cursor over the mail piece image until the cursor becomes a crosshair.
- 3 Click and drag your mouse under the address to create a box of height of one inch for the barcode.
- 4 When the *Barcode Type* opens, select the type of barcode you must create (see Figure 4-18 on page 4-17).

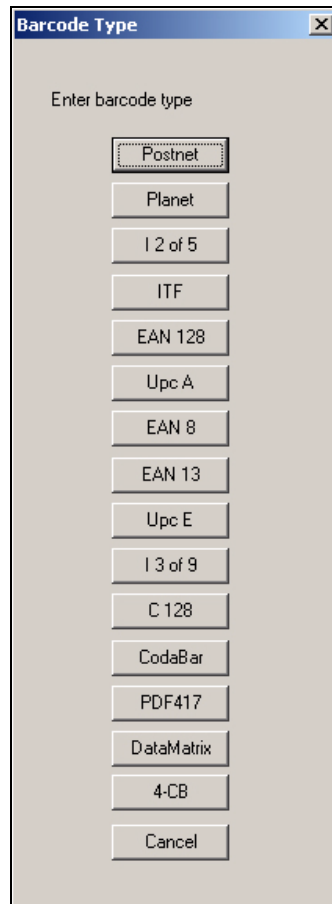


Figure 4-18: Barcode Type Selection

- 5 When the *Barcode Setup* screen opens, select the type of barcode from the drop down menu (see Figure 4-19 on page 4-18).

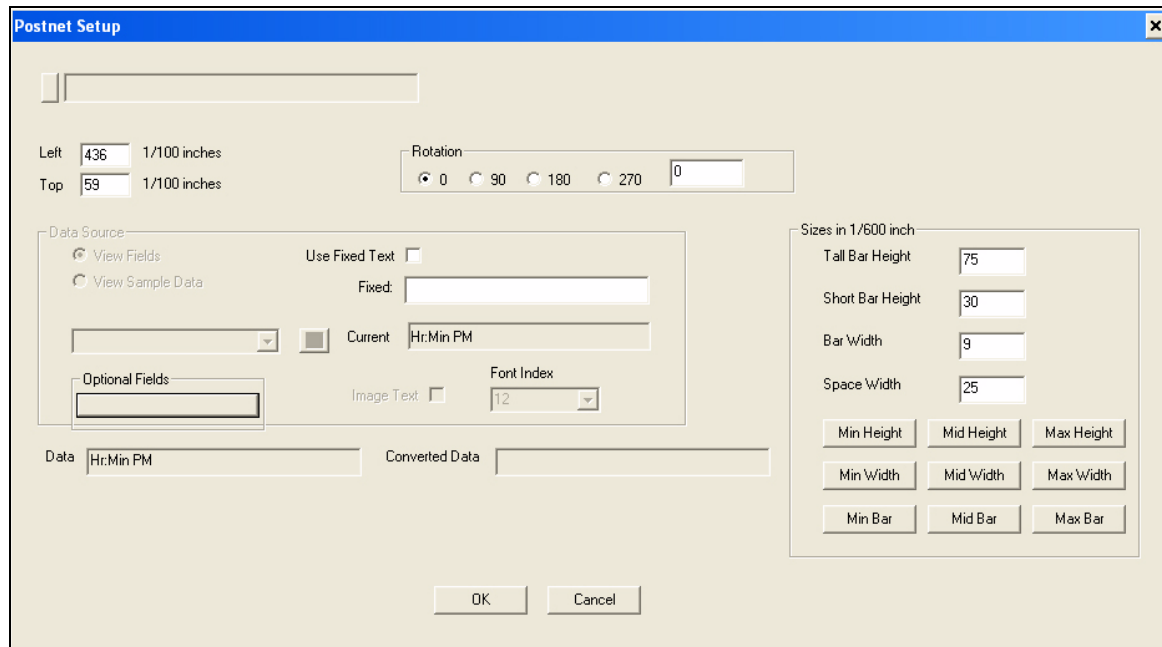



Figure 4-19: Barcode Setup Screen

Note: The Postnet barcode is a digital barcode, which allows you to adjust the white space between bars, bar height and bar width. The adjustments that are allowed to the barcode, is within Postal regulations.

- 6 Select *Postnet* field from the drop down *Data Source* field menu.
- 7 Choose any rotation if needed for barcode.
- 8 Adjustments to the barcode can be made from the right side of the screen. The buttons below changes the settings to the minimum and maximum sizes available.
- 9 Click *OK* to save and apply these settings.
- 10 Click on the  icon or select *Save As* from the File Menu to name and save document.
- 11 Click on the *Production Tab* and select either *Imprint* or *Image* (see Figure 4-20 on page 4-19).

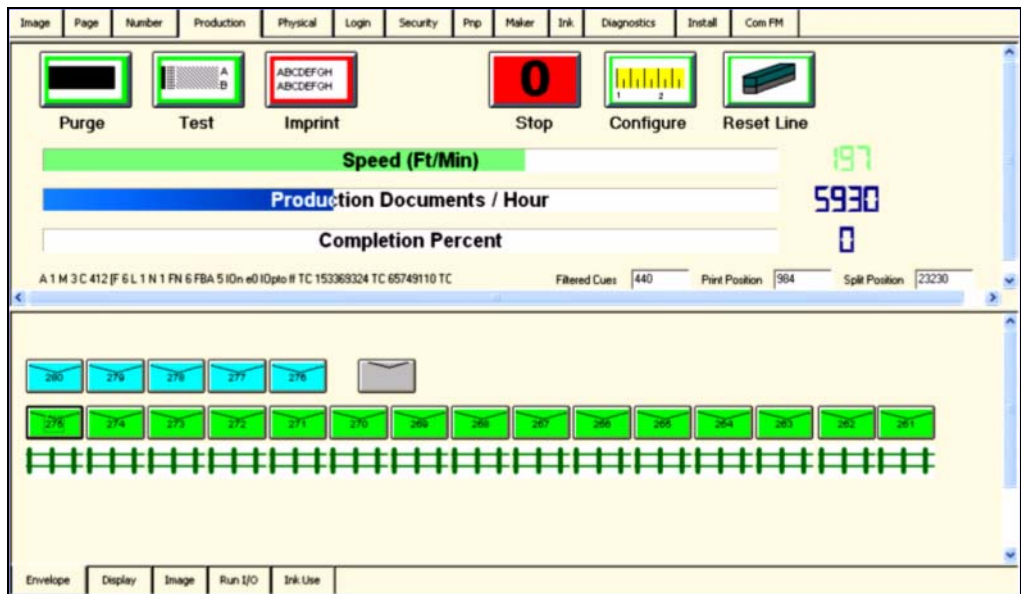


Figure 4-20: Production Envelope Monitoring Screen

- 12 Begin the production.
- 13 When the production is completed, close the Videojet 4320 software.
- 14 Turn *Off* the power to the PCU and shut down the computer.

How to Prepare a Mail List

Data must be prepared in the required mail sorting software. All of the information for a job must be stored in a single database.

Do the following tasks for data preparation:

- 1 Obtain the list from your customer.
- 2 Import the list to the mail sorting software.
- 3 Make sure that addresses and zip codes are correct.
- 4 If required, combine Zip + 4 +DB into one field for Postnet barcode.
- 5 Sort the list to get the best postal rates.
- 6 Add any special fields/ characters.

When you use base stop, conveyor speed up, or stacker to sort during production, zone change indicators must be added to the list.

7 Export the list into one of the following files:

- a text file (comma or tab delimited)
- an Excel spreadsheet
- MS Access database
- dbase file format

Important Notes

- You must have a plan to manage your file, or in future the hard drive will be full. A planned method to manage the files can decrease the number of files and tables on your hard drive, and helps to find and link the correct tables to the required.JMD file.

Note: A .JMD is a job file.

- You can overwrite old lists with updated lists.

For example, If you do mailing for Pearle Vision Centers every month, and Pearle gives you an updated mail list for each mailing, there is no need to keep the old Pearle mail list on the hard drive. The updated list can replace the table that was used for the old list.

- Access® allows you to save and use the specifications again for importing a mail list. For importing specifications, the source file needs to be consistent. This condition saves your time.

For example: if the source file is fixed width, the name column must begin in the same character position and use the same number of characters in the updated list as shown in the old list. If the address followed the name in the old list, the address must follow the name in the new list, etc.

- If your source files are consistent, it is easier for you to import the files. The operator can easily set the JMDs if the source files are consistent. If you have some control on the format of mail lists provided by your customer, create a standard format (order of information, field lengths, etc.) and recommend your customers to follow that format.
- Videojet 4320 allows you to change the data file assigned to a JMD.

The process:

- a. Open the *Database Browser* screen.
- b. Click the file *Open* icon, and continue as if you were creating a new JMD.
- c. Videojet 4320 examines the field names in the new database table.

- d. When a field name is same as the field you assigned before to text boxes, those fields from the new database table are assigned to the same text boxes.
- e. When fields are assigned to the text boxes and are not present in the new database table (or the names are not same), you are allowed to keep the old field names (the printer will not print these fields, but they do not cause any problems) or to delete these fields.
- f. Every time you open or close the JMD with old field names not present in the new database table, you are asked to keep or discard the old-field references.
- g. You can assign new field names to old or new text boxes. You can assign new field names to old or new text boxes with, or without the same old-field references

How to Set Sort Break Options

Sort Break is used to signal changes in zones, routes, etc. When a break action is set, the controller will monitor a particular character position in the required field. When a break is detected, the PCU can stop the feeder or increase the speed of the shingle conveyor on 5100 transport system. The increase in speed indicates the break. A signal occurs for the type of break.

- 1 Click on the field that is used to activate the sort break from the *Database Browser* screen.
- 2 Select the device where break action occurs and click *Set*. A screen appears where the user sets the *Field Selection* characters (see Figure 4-21).

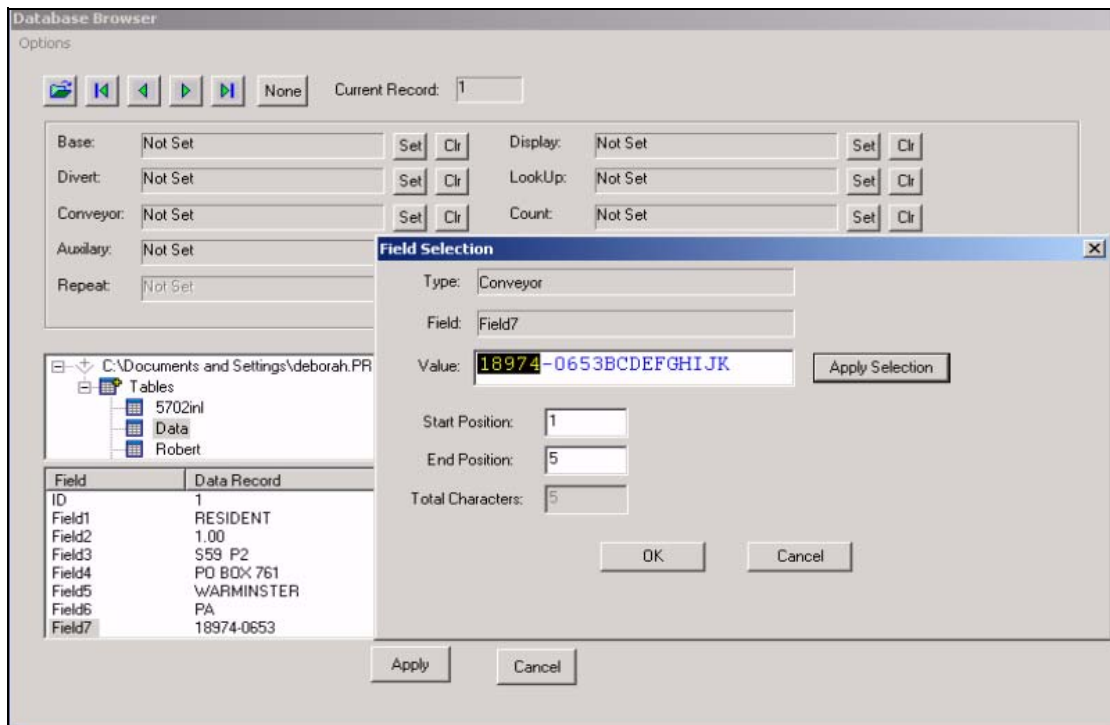


Figure 4-21: Setting Sort Breaks

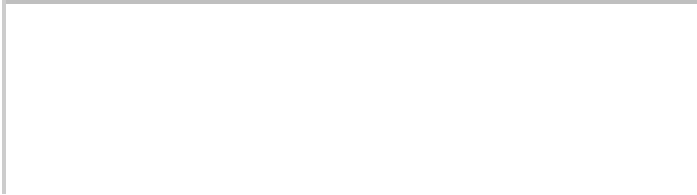
- 3 When the Sort break window opens, highlight the character in the *Value* box that begins the Sort Break action.
- 4 Click the *Apply Selection* button and the *OK* button.
 - The field and character positions used to begin the action, are displayed next to the Sort Break window (conveyor speed up break was shown) (see Figure 4-22 on page 4-23).
 - To delete a sort break action, click the *Clear* button next to the sort break that was set.

Base:	Not Set	Set	Clr	Display:	Field1	Set	Clr
Divert:	Not Set	Set	Clr	LookUp:	Not Set	Set	Clr
Conveyor:	Field7 1 5	Set	Clr	Count:	Not Set	Set	Clr
Auxiliary:	Not Set	Set	Clr	Date:	Not Set	Set	Clr
Repeat:	Not Set	Set	Clr				

Figure 4-22: Conveyor Speed Up Sort Break

How to Set the Display Parameters

- 1 Click on the field that must be displayed during the production run under the *Production Display* Tab. The selected field appears for each record created.
- 2 Click the *Set* button for the display box.
- 3 Click on the *Apply* button at the bottom of the database browser to link the database and the sort breaks to your Videojet 4320 document.



This chapter provides information on the main screen, the menus and the different tabs in the GUI.

Main Screen

The main screen has menu options, icon functions, database identifier, and several tab functions that open other screens and system functions (see Figure 5-1).

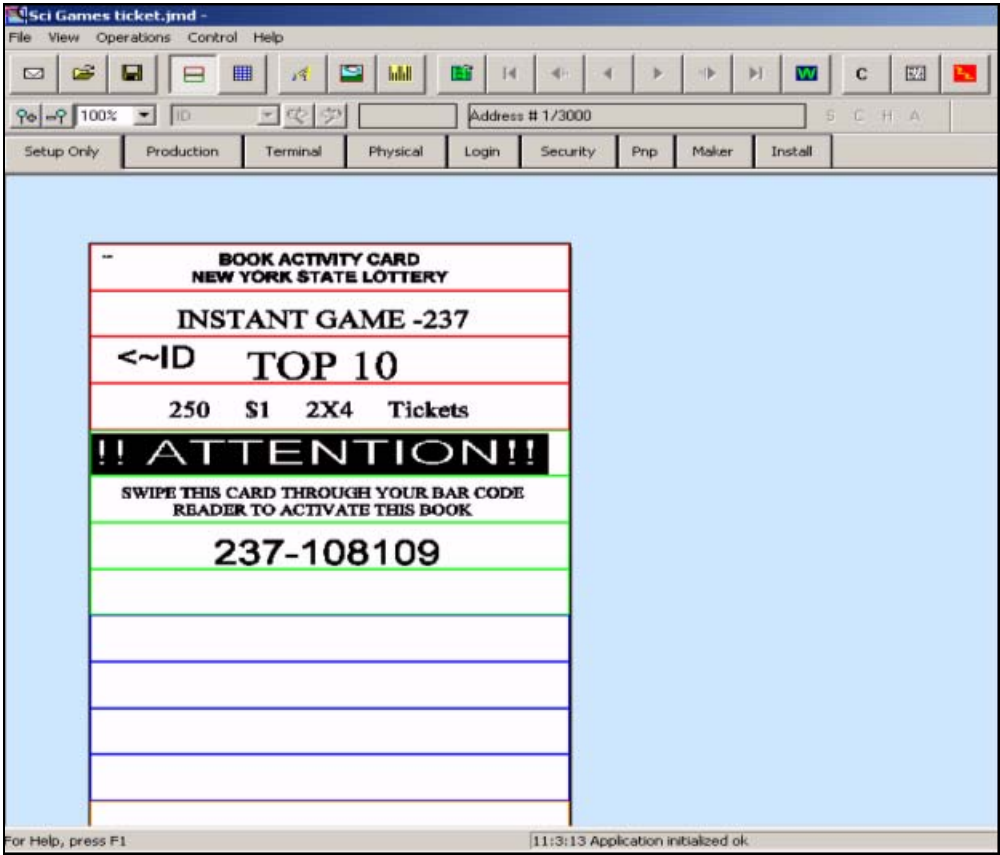
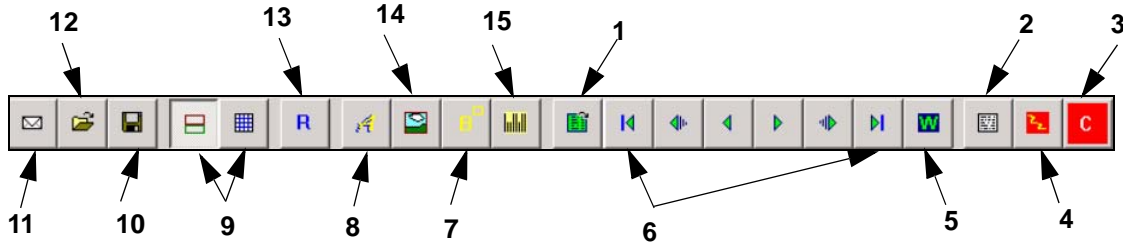


Figure 5-1: User Interface Main Screen

Toolbar

The toolbar allows the operator to create, edit, change view modes, and perform other functions (see Figure 5-2).




- | | |
|--|---|
| <ul style="list-style-type: none"> 1. Database Browser Button 2. Reprint Tool 3. Not Used 4. Program Tool 5. WYSIWYG Print Preview Mode 6. Record Viewer Buttons 7. Box Maker Tool 8. New Text Box | <ul style="list-style-type: none"> 9. Grid Line Toggle 10. Saves Layout 11. New Setup 12. Open Setup 13. Refresh Screen 14. New Bitmap Tool 15. New Barcode Tool |
|--|---|

Figure 5-2: Toolbar

Reorders/Reprints

Sometimes you must get reprints if the mail pieces get damaged during or after production. The method to make reprints in Videojet 4320 is very simple.

- 1 Stop the production. The production window must be closed to open the reorder window.

- 2 Click on the *Reorder* icon  from the toolbar.

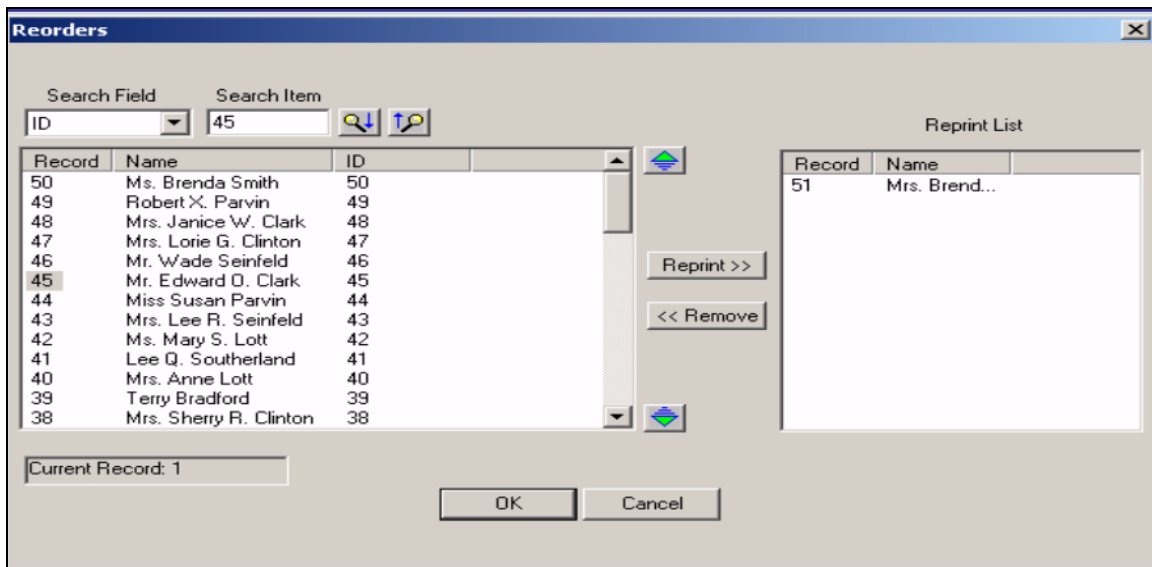


Figure 5-3: Reorders Screen

- From the list in the left window, select the record number of the record to be imaged again (See Figure 5-3).
- Click the Reprint button. You can reprint for many records as required.
- Click *OK*. The reorder window closes.
- Click the *Production* Tab.
- Select the *Image* operating mode.
- Resume the production.

Note: When the production starts again, the records in the Reprint list are sent immediately to the print buffers. The conveyor speed increases if the setup is done after the pieces are reordered. Records are removed from the reprint list as the printer images the data in the records.

Other functions of the Reorder window

The record list (left window) displays a maximum of 50 records at a time. Click the *Backward* button to display previous records. Click the *Forward* button to display the records after the present records. You can use these buttons to see the full database.

How to Search for a Record

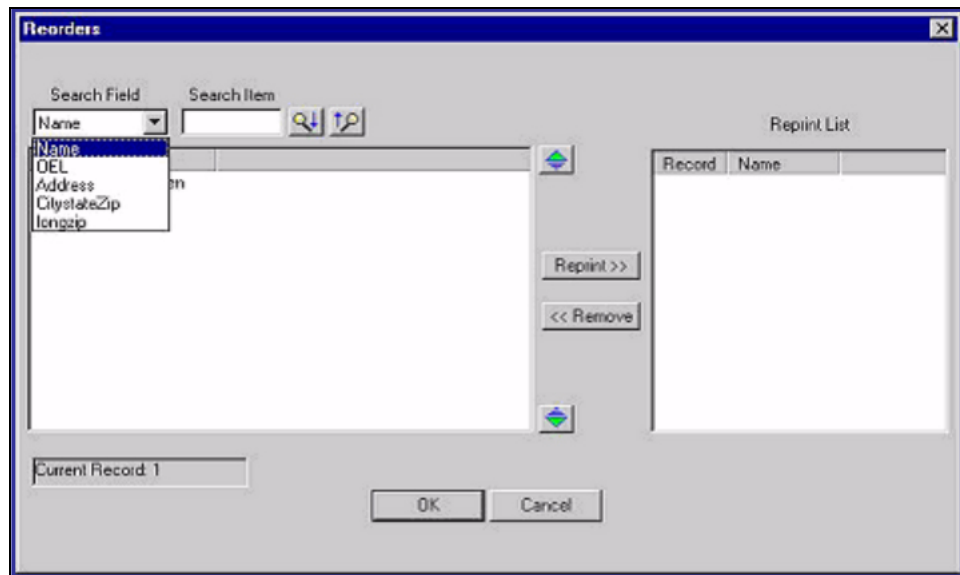
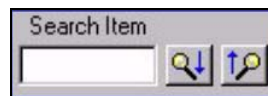


Figure 5-4: Search for a Record

- 1 In the *Reorder* window (see Figure 5-4), click the drop down search menu to select the *Search Field*.
- 2 Enter the text to be searched in the *Search Item* box as below.



- 3 Use the *Search Forward* or *Search Backward* tool to perform the search.

How to remove a Record

- Click on the *Remove* button.
- The *Current Record* box displays the database record at which the controller begins imaging when the printer starts the production. If you add or remove records in the *Reprint List*, the current record number is not changed. If you search after or before the current record, does not change the current record number.

Menus

Menus allow you to select most of the functions that you must perform. The rest of the functions are available as tools on the toolbar. Some functions are available on the menu bar and the toolbar. The menu bar

functions as a drop down menu. When you click any one of the four options of the menu bar, the menus drop down (see Figure 5-5).

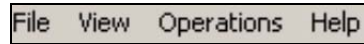


Figure 5-5: Menu Options

Parameters	Function
File	<ul style="list-style-type: none"> • Open a Videojet 4320 document • Save a Videojet 4320 document that is open • Save an open Videojet 4320 document under a new name
View	To perform all terminal operations
Operations	To perform different functions like <ul style="list-style-type: none"> • Create or remove the text boxes or graphics • Turn on or turn off the grid or print band displays • See the records
Help	To access the help system or see the copyright notice for the software

Table 5-1: Menu Options Descriptions

File Menu

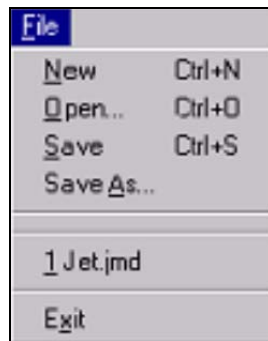


Figure 5-6: File Menu

Parameter	Function
New	Creates a new Videojet 4320 document.
Open	Opens a Videojet 4320 document that exists.
Save	Saves the current Videojet 4320 document.

Table 5-2: File Menu

Save As	Saves the opened Videojet 4320 document under another name and location needed.
<u>1</u> Jet.jmd	This option shows the past four documents that you have opened. Select one to open the document.
Exit	Closes the application.

Table 5-2: File Menu

View Menu

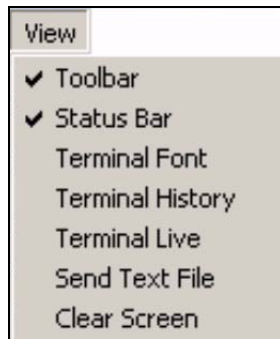


Figure 5-7: View Menu

Parameter	Function
Toolbar	Turns the toolbar on and off in the LabelArt Display window
Status Bar	Gives the status of the present activity and gives the description of an icon
Terminal Font	When you use the terminal program, select the font type.
Terminal History	Shows the history of communication for Com port.
Terminal Live	Opens the Com port communication.
Send Text File	Sends the text file(s) to Shoebox board.
Clear Screen	Clears screen of previous information recorded

Table 5-3: View Menu

Operations Menu

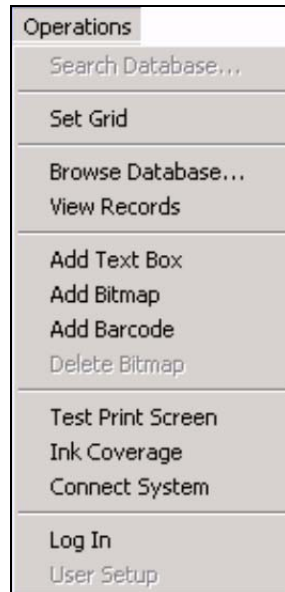


Figure 5-8: Operations Menu

Parameter	Function
Search Database	Allows you to search for known record in database.
Set Grid	Toggles Grid lines in the setup screen.
Browse Database	Allows you to browse to database, link new database, and set sort break options.
View Records	WYSIWYG mode
Add Text Box	Creates a new text box.
Add Bitmap	Creates a new bitmap box.
Add Barcode	Creates a new barcode box.
Delete Bitmap	Deletes a bitmap box.
Test Print Screen	Makes a bitmap image of the JMD on the screen that is like a print screen. The bitmap is found in the Videojet 4320 directory.
Ink Coverage	Calculates how many ink droplets are needed for current image on screen.
Connect System	Applicable when using the system in a Read/Write function.
Log In	Log into the system under the current setup.

Table 5-4: Operations Menu

User Setup	Allows you to add, delete or change an operator log in and password.
------------	--

Table 5-4: Operations Menu (Continued)

Help Menu

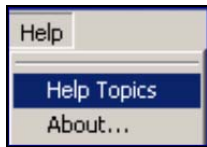


Figure 5-9: Help Menu

Parameter	Description
Help Topics	Displays on line help topics
About	Displays system version and copyright information.

Table 5-5: Help Menu

Tabs

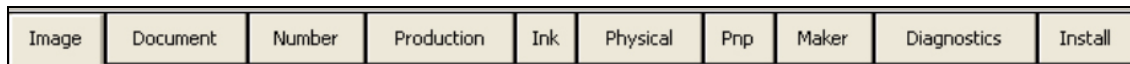


Figure 5-10: Tab Options

Image

The *Setup* Display window is the area on the screen where the Videojet 4320 document is created. The window can be shown in a WYSIWYG view. The print bars are displayed on the window for you to insert the image correctly for each print bar. Each print bar indicates one inch. The outline of the print bars can be turned on and turned off. The grid also can be turned on and off (see Figure 5-11 on page 5-9).

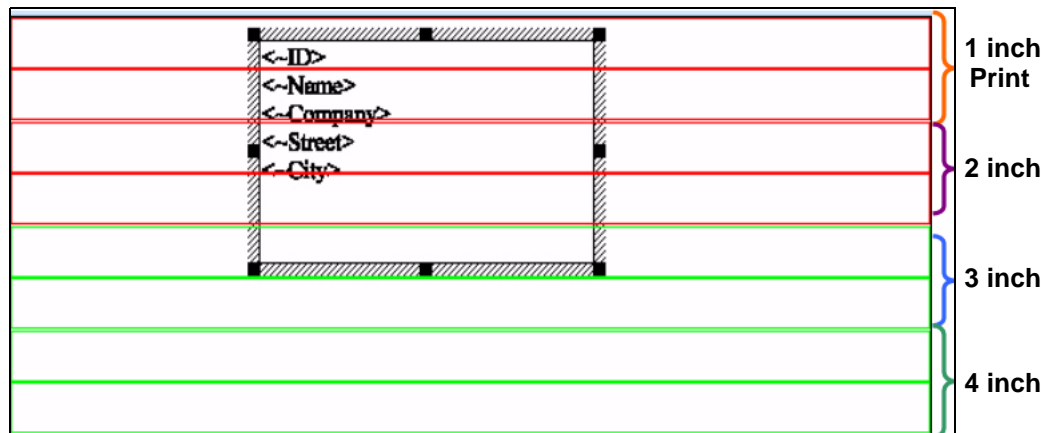


Figure 5-11: Image Tab

To select an Image Element Box

Image element boxes are text boxes, bitmap boxes, and barcode boxes. If you select image element boxes, you can edit, move, change the size, and delete the contents of the box or the full box itself.

- Double click inside the text, bitmap, or barcode box.
- When the border of the box is visible, the box is selected.

To delete an Image Element Box

- 1 Select the image element box that you must delete.
- 2 Right-click on the highlighted element, and select Delete.
- 3 Select *Yes* to delete the *Image Element Box*. Select *No* so that the *Image Element* box is not deleted.

To move an Image Element Box

- 1 Select the *Text*, *Bitmap*, or *Barcode* box that you must move.
- 2 Position the mouse pointer in the box.
- 3 Click and drag the box to the new location within the Layout.
- 4 Release the mouse button to see the change.

Change the size an Image Element Box

- 1 Select the *Text/Bitmap* Box.

Note: You cannot change the size of the Barcode boxes.

- 2 Position the mouse pointer over a handle on the border of the box. (handles are the black squares on the corners of the box and at the middle point of each side of the box).
- 3 Click and drag a handle to a new location. Corner handles allow you to move the two adjacent borders in one command. Middle point borders allow you to move a single side on the border.
- 4 Release the mouse button to see the change.

To Edit the Contents of a Text Box

- 1 Select the *Text* box.
- 2 Double-click on the text box that you must edit.
- 3 The Edit Text box window opens.
- 4 Now you can edit the contents of the Text Box.

To insert Fixed Text In a Text Box

Text can be inserted into the Edit Text box window by either of these methods:

To Enter the Text:


- a. Position the cursor at the point where you must insert text.
- b. Enter the additional text.

To paste:

- a. Position the cursor at the point where you must insert the text from the clipboard.
- b. Press *Control+V*.
- c. The text on the clipboard is pasted into the existing text.

To insert Optional Fields in a Text Box

To insert the optional fields into the *Edit Text Box* window, do the following tasks:

- a. Click on the  sign below *Optional Fields*. The *Optional Fields* dialog box opens.
- b. Select the field from the *Optional Fields* dialog box and click *OK*.

To delete Text from a Text Box

You can delete the text from the *Edit Text Box* in a number of methods.

Backspace

- a. Position the cursor following the text that you must delete.
- b. Press the *Backspace* key.

Delete

- a. Position the cursor before the text that you must delete.
- b. Press the Delete key.

or

- a. Select the text that you must delete.
- b. Press the delete key.

Cut

- a. Select the text you must remove.
- b. Press Control+X.

Overstrike

- a. Position the cursor at the point where you must change the text.
- b. Press the Insert key. The *Edit Text Box* window turns to Overstrike mode.
- c. Type the new text.
- d. Press the *Insert* key when you are done with the Overstrike mode.

Document

This tab is used to select document settings (see Figure 5-12). The operator can select the bar configurations, dpi, print position, and target production rate.

The screenshot displays the 'Document' tab of the software interface. It features several sections for configuration:

- Document Setup:** Includes fields for Document Width (500), Margin (500), and Cue Filter (2000), all with units of 1/100in.
- Bar Configuration 1:** A table with columns for Active, Invert, Location, and Grouping.

	Active	Invert	Location	Grouping
Bar 1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	0	Float
Bar 2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	2	Float
Bar 3	<input type="checkbox"/>	<input type="checkbox"/>	0	Float
Bar 4	<input type="checkbox"/>	<input type="checkbox"/>	0	Float
- Dots Per Inch:** Radio buttons for 150, 200, 300 (selected), and 600. Includes checkboxes for Single Column and Imprint Needed, and fields for Imprints Completed (0).
- Background:** Fields for Margin (1), Resolution (96), Rotation (0, 90, 180, 270), Width (950), and Height (400). Includes a Bitmap selection button.
- Cameras:** A table with columns for Active, Distance, Window, Lug, Cue, Misses, Miss Restart, and Mask.

	Active	Distance	Window	Lug	Cue	Misses	Miss Restart	Mask
Inspect 1	<input type="checkbox"/>	500	1000	0	Insertor	0	0	
Inspect 2	<input type="checkbox"/>	500	1000	0	Insertor	0	0	

Buttons for 'Apply' and 'Restore' are located at the bottom right of the window.

Figure 5-12: Document Tab

Parameter	Description
Document Width	<p>Enter the width of the mail piece in the <i>Document Width</i> Box. The width is measured in 1/100th of an inch. <i>Example: An eight inch document is input as 800.</i> You must do this step for correct position of the print.</p> <p>150 x 600 maximum document width is 24 inches 200 x 600 maximum document width is 24 inches 300 x 600 maximum document width is 24 inches 600 x 600 maximum document width is 12 inches</p>
Eye Distance	<p>Eye Distance is used to set position of print. The distance is measured in 1/100th of an inch the distance from the Cue sensor to the first cartridge in the printhead. You must increase or decrease the value to move the position of the print on the page from the left side to right side as necessary.</p>
Cue Filter	<p>The Cue Filter is set to the document size plus 1 inch. This parameter sorts the cues in the system caused from a paper jam or paper slippage. If this number is large you can see blank documents pass on the base. Reset this value to a lower number.</p>
Bar Configuration	<p>Select the bar number check box under the <i>Bar Configuration 1</i> box to set the number of bars. 1 bar is equal to 1 printhead, which is equal to 2 inches of print. Select <i>Active</i> to use the bars normally, or check <i>Invert</i> to rotate the image 180 degrees.</p>
DPI	Dots per inch required for run.
Stack Minimum	If you use a stacker to sort, then you must enter the minimum number of products used in a bundle.
Stack Size	If you use a stacker to sort, then you must enter the maximum number of products used in a bundle.
Imprints Needed	When a database is not used, enter the number of fixed text records needed.
Imprints Completed	Updates with the number of imprints run.

Table 5-6: File Menu

Number

You can use the *Number* tab for ordered numbering, or random numbering (Figure 5-13 on page 5-13). This numbering is not in your data, but is imprinted from the specifications made on this tab. You can define a

maximum of four number fields in the top section number. You can create masks to adjust the numbers in the mask section. For example,

- Enter # # # # in the mask box to adjust the space between the numbers.
- Putting the words "Serial Number" after the number field.

These fields are defined in the system and are added to your layout in a new text box with the system field number selected.

Number	Start	End	Increment	Current	Digits	Count Up
Number 1		999999	1	1	6	<input checked="" type="checkbox"/>
Number 2	1	999999	1	1	6	<input checked="" type="checkbox"/>
Number 3	1	999999	1	1	6	<input checked="" type="checkbox"/>
Number 4	1	999999	1	1	6	<input checked="" type="checkbox"/>

Mask	Value	Number
Mask 1		Number 1
Mask 2		Number 1
Mask 3		Number 1
Mask 4		Number 1
Mask 5		Number 1
Mask 6		Number 1
Mask 7		Number 1
Mask 8		Number 1

Fields
Field 1
Field 2
Field 3
Field 4
Field 5
Field 6
Field 7
Field 8
Field 9
Field 10
Field 11
Field 12
Field 13
Field 14
Field 15
Field 16
Field 17

Figure 5-13: Number Tab

- 1 For the *Number 1* value, enter the start number. The printer starts the printing with this number.
- 2 Enter the *End* number. The printer ends the printing with this number.
- 3 Use *Increment* to indicate the value the number has to increase with. You can count by 1, 2, 5, and 10 etc.
- 4 You must set the *Current* to the number from where you must start the printing.
- 5 The *Digits* indicate the maximum number of digits this number will contain.
- 6 You must select the *Count Up* check box to start the printing from the start until the end. You must not select the *Count Up* check box to print backwards.

- 7 Use XXXX to enter a filter to block out some numbers in the *Number* fields from the steps above for the *Mask 1* value. Else, enter a word if this word must be printed before or after the *Number* fields.
- 8 To apply the mask to the numbers, select the *Number* value 1-4 under the *Number* drop down list.
- 9 The buttons *Minus 1*, *Plus 1*, *Minus 10*, *Plus 10* etc change all the *Current Numbers* at the top of the screen by the value of the button selected. *Reset Seq.* sets the *Current* to its original value.
- 10 Click the *Apply* button to save the changes. Else, click the *Restore* button to discard the changes made.

Production

The *Production* tab is used to put the controller in operation (Figure 5-14). Several modes of operation are available from the *Production* tab. This tab also includes the monitoring for the system. Line speed, production status, and record indicators are present. You must configure the printer if any changes are made to the print parameters that is done here. There are several tabs shown at the bottom of the *Production* tab for additional monitoring capabilities.

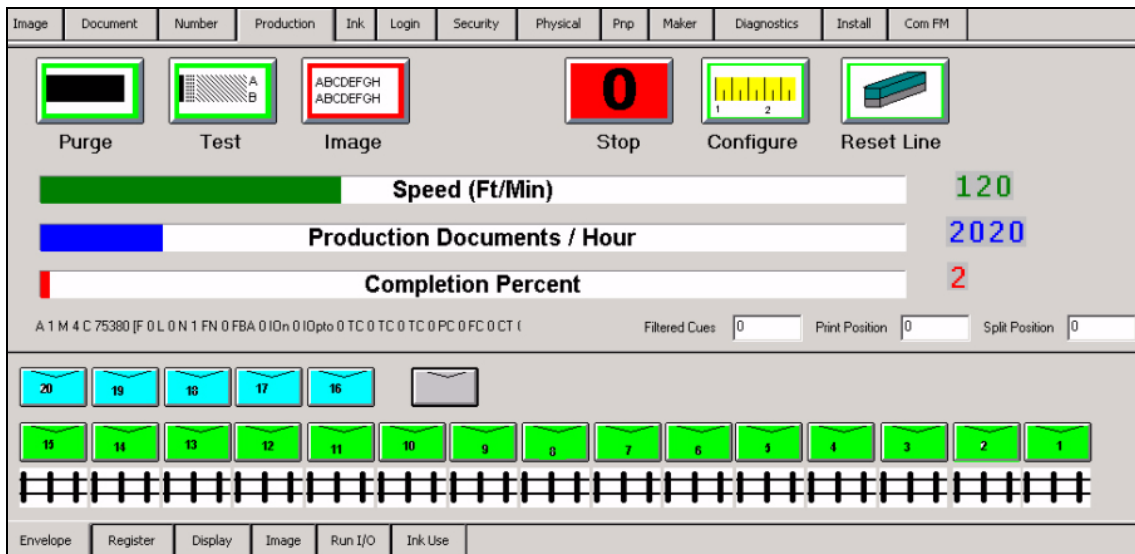


Figure 5-14: Production Monitoring Tab

Parameter	Function
Purge	Fires all jets on each head, which creates a purge pattern on every piece.
Test	Prints a test pattern on every piece. When you do the print position setup and head alignment, use the test pattern.
Image/Imprint	Image prints the document layout with related database records linked. Run mode of operation. Imprint prints fixed information or numbers or both on every document. When the database is not loaded, only <i>Imprint</i> will be the option on the screen.
Stop	Stops the transmission of records to the print buffer.
Configure	Resets the printhead to reflect new changes in print position, or printer parameters. An automatic configure is done during an <i>Auto Program</i> . You must not do the configure again unless a physical parameter is changed after the <i>Auto Program</i> .
Reset Line	Dumps current buffer information from queue.
Speed	Displays line speed in feet/minute.
Production	Display records made per hour based on line speed.
Completion Percent	Displays a status bar for records completion.
Filtered Cues	Displays number of cues sorted by the system based on the Filtered Cue parameter that is set in the Document tab.
Print Position	Displays current print position. The <i>Print Position</i> helps to setup Eye Distance.
Split Position	Displays current print position when you use a split eye. The <i>Split Position</i> helps to setup Split Eye Distance.

Table 5-7: Production Tab

Envelope Tab

The *Envelope* tab gives the operator visual monitoring capability of the pieces when the envelope is printed (Figure 5-15). The top blue envelopes are the records that are in the buffer queue. Five images are buffered at a time. The bottom green envelopes are in the following order:

- How the envelopes are printed
- When the envelopes are printed as they move along under the printhead

A record number is attached for each envelope. When you scroll your mouse over the envelope, the record is displayed.

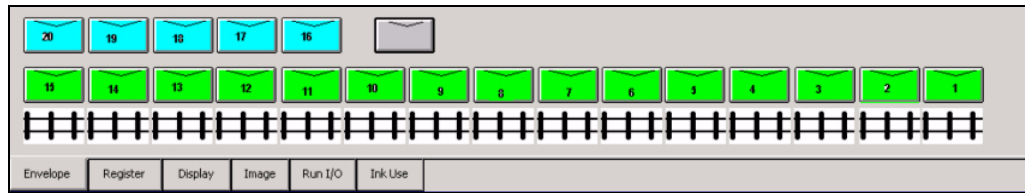


Figure 5-15: Envelope Monitoring Tab

Register Tab

The *Register* tab allows the operator to make changes to the print position without logging into the system and go into the *Physical Parameter* tab to change these values (see Figure 5-16). You can click one of the value option buttons below to change the margin or the head (bar) position or both.

The values allow the operator to increase or decrease the position of the print by 1/10th of an inch, 1/2 an inch, or one inch. The numbers in between the positive (+) and the negative (-) values show the current position.

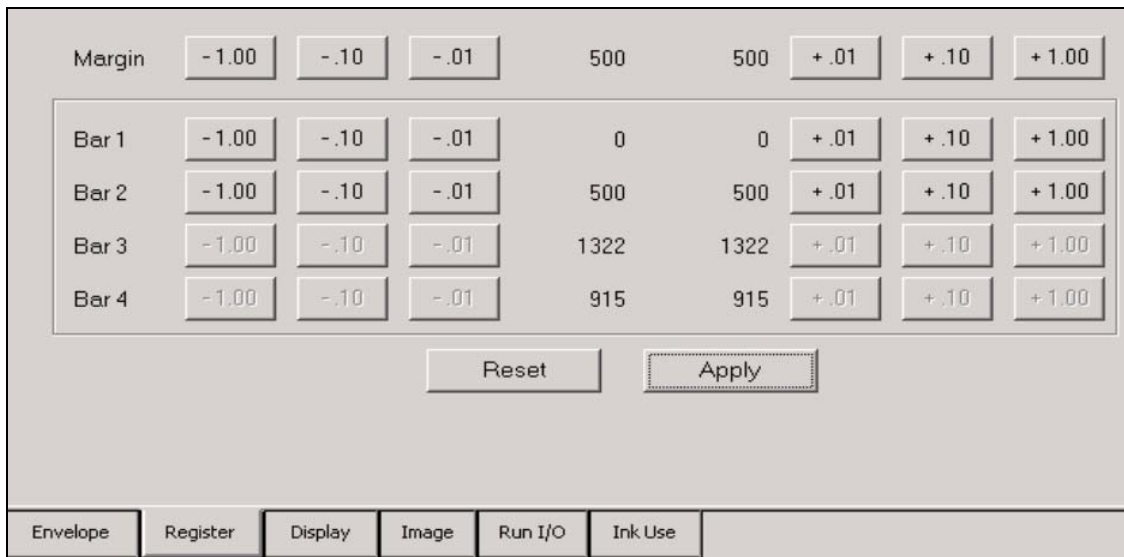


Figure 5-16: Production - Register Tab

- 1 Click the *Apply* button to apply changes in the position to physical parameter file.
- 2 Click the *Reset* button to reset the changes to the original settings.

Messages Tab

The *Messages* tab displays the order of the records that are printed (Figure 5-17 on page 5-17). The user has the ability to select the field in the data, or what information is displayed here. Click the field in the data to

select the field under the database browser, that must be displayed and click set on the display option (see “How to Set Sort Break Options” on page 4-22). Refer to Figure 5-17.

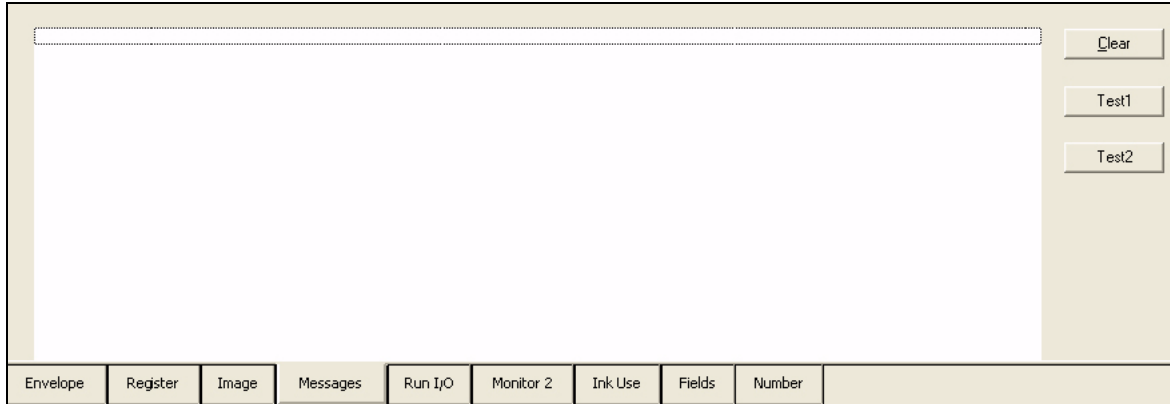


Figure 5-17: Production Messages Tab

Image Tab

Displays the record information in real time on the job layout. This tab is another monitoring screen that allows the operator to see their job layout with the required job information as the records are sent to the printer (see Figure 5-18).



Figure 5-18: Production - Image Tab

- 1 Click the *Make Image* button to display layout on this screen.
- 2 Record information changes during production.

Run I/O Tab

This tab is used to test input/output signals. This tab also toggles OPTO modules related to I/O selected and useful if you are required to test the signals to see if the controller is controlling the components installed in the printer correctly. For example, click **0** or **1** for the base, as an example, and the base must stop operating. This action validates that the signals are correctly setup. The same test can be performed for the feeder, divert, and conveyor (see Figure 5-19).

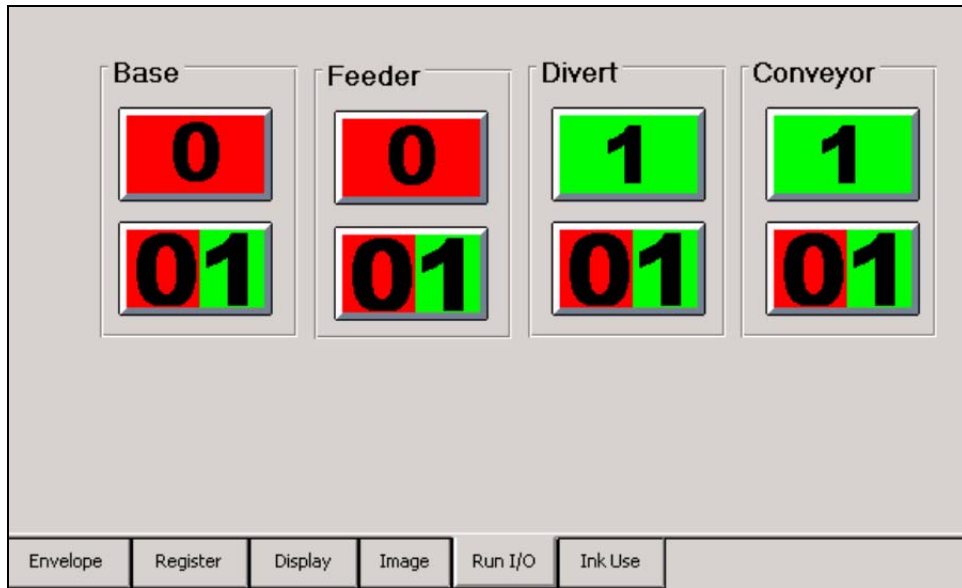


Figure 5-19: Production - Run I/O Tab

Ink Use Tab

This monitoring tab allows the operator to see the status of the cartridge, or ink use by the bulk ink supply (see Figure 5-20).



Figure 5-20: Production - Ink Use Tab

- 1 The *ID* field displays the cartridge ID number.
- 2 The *Status* displays the state of the cartridge.
- 3 *Ink* displays the percentage of ink that is available in the cartridge, or bladder.

Ink Tab

The *Ink* use tab is the input screen for the ink display tab on the *Production* tab. This tab allows the operator to monitor the ink cartridges and ink bladders supplies during production. Accurate parameters must be added in this tab to display the correct information. When a new cartridge or bladder is installed, click the pen number and select the related option.

	ID	Status	Buckets Used	Ink	Bladder	Ink	Bladder	New Bladder	New Cartridge	Select	Copy	Reset
Bar 1 Pen 1	999-999	Unknown	454459	0	<input type="checkbox"/>	<input type="text" value="0"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bar 1 Pen 2	999-999	Unknown	1292719	0	<input type="checkbox"/>	<input type="text" value="0"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bar 1 Pen 3	999-999	Unknown	719279	0	<input type="checkbox"/>	<input type="text" value="0"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bar 1 Pen 4	999-999	Unknown	31132	76	<input type="checkbox"/>	<input type="text" value="76"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bar 2 Pen 1	999-999	Unknown	19721150	0	<input type="checkbox"/>	<input type="text" value="0"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bar 2 Pen 2	999-999	Unknown	17246466	0	<input type="checkbox"/>	<input type="text" value="0"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bar 2 Pen 3	999-999	Unknown	25594163	0	<input type="checkbox"/>	<input type="text" value="0"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bar 2 Pen 4	999-999	Unknown	21335347	0	<input type="checkbox"/>	<input type="text" value="0"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bar 3 Pen 1	999-999	Unknown	26161440	0	<input type="checkbox"/>	<input type="text" value="0"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bar 3 Pen 2	999-999	Unknown	26439344	0	<input type="checkbox"/>	<input type="text" value="0"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bar 3 Pen 3	999-999	Unknown	33612860	0	<input type="checkbox"/>	<input type="text" value="0"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bar 3 Pen 4	999-999	Unknown	17290739	0	<input type="checkbox"/>	<input type="text" value="0"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bar 4 Pen 1	999-999	Unknown	10868186	0	<input type="checkbox"/>	<input type="text" value="0"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bar 4 Pen 2	999-999	Unknown	18332451	0	<input type="checkbox"/>	<input type="text" value="0"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bar 4 Pen 3	999-999	Unknown	13472048	0	<input type="checkbox"/>	<input type="text" value="0"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bar 4 Pen 4	999-999	Unknown	16761891	0	<input type="checkbox"/>	<input type="text" value="0"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>

Ink Calculation

Manifold Bladder Size ml

Manifold Cartridge Size ml

Manifold Cartridge Life ml

Bladder Size ml

Cartridge Size ml

Drops / ml

Drop Size pico

Cartridge Price

Bladder Price

Manifold Cartridge Price

Manifold Cartridge Price

Figure 5-21: Ink Control Tab

- 1 Click on the *New Bladder* button when a new bladder is installed into the related location.
- 2 Click the *New Cartridge* button when a new cartridge is installed into the related location.
- 3 When you change the cartridges or bladders or both, you can easily copy and paste their values by following the steps given below:
 - a. Click in the *Select* circle to select the value for that current location.
 - b. Click the *Copy* button at the location that you are required to move the value.

- 4 In the *Ink Calculation* box the ink content for bladders and cartridges are defined in milliliters. These parameters are for *hp* ink products. Ink contents of other ink vendors can be different to that of HP and so these values do not apply.
- 5 In this screen, the *Refresh* button is used to update the status and ink values.
- 6 The *Reset All* button resets all parameters to the previous parameter values that are saved.
- 7 The *Save* button saves any changes made, to the ink parameter file.

Login Levels

- 1 *Install* - All privileges.
- 2 *Supervisor* - All access except add users or access the diagnostics tool.
- 3 *Lead Operator* - This level has access only to open and create new jobs.
- 4 *Operator* - Persons are the safest access level. The operators can open the jobs and exit the program.
 - Enter in the User Name
 - Enter in the Password
 - Choose the login Level
 - Click the Login

To add a User through Operations/ User Setup

- 1 Enter the new name for the system user in the *User Name* box. The person must use the name you enter here to log in.
- 2 Enter the new name for the system user password in the *Password* box. The person must use the password you enter here to log in. Passwords must be protected and not given to persons, who are not authorized.
- 3 Enter or select from the drop down list the new security level for the system user.
- 4 After you make the changes to system users, click the *Update* button.

To delete an Operator through Operations/ User Setup

- 1 Select the *User Name* that must delete from the drop down list. Click the down arrow to open and select the list of names.
- 2 Click the *Delete* button. The name of the user is deleted.

Changing passwords and security levels through Operations/ User Setup

- 1 Select the *User Name* that you must change from the drop down list.

- 2 Enter the new *Password*.
- 3 Enter (or select from the drop down list) the new *Security Level* and Click *Update*.

Physical Tab

Base Tab

The screenshot shows the 'Physical - Base Tab' configuration window. It is organized into several distinct sections:

- Printer:** Includes a 'Cue Reverse' checkbox (checked), a 'Poll Source' dropdown menu (set to 'Encoder'), and a 'Poll Width' text box (set to '10').
- Tach 1:** Features a 'Simulate Active' checkbox (unchecked), an 'Encoder Rate' text box (set to '600'), and 'Simulate Speed' and 'Simulate Spacing' text boxes (both set to '0').
- Tach 2:** Features a 'Simulate Active' checkbox (unchecked), an 'Encoder Rate' text box (set to '300'), and 'Simulate Speed' and 'Simulate Spacing' text boxes (both set to '0').
- Split Printer:** Includes 'Active', 'Cue Reverse', and 'Second Encoder' checkboxes (all unchecked), and 'Distance' and 'Window' text boxes (both set to '0').
- Base:** Contains 'Distance' (set to '100'), 'Time' (set to '100'), and a 'Jam Detect' checkbox (unchecked).
- Enable:** Contains 'Distance' (set to '3000') and 'Time' (set to '100').
- Divert:** Contains 'Open Distance' (set to '4000'), 'Close Distance' (set to '3500'), and 'Units' (set to '0').
- Zone Control (Conveyor / Stacker / Feeder):** Contains 'Distance' (set to '3000'), 'Time' (set to '2000'), and 'Units' (set to '0').
- Auxillary:** Contains 'Distance' (set to '3000'), 'Close' (set to '3000'), and 'Lug' (set to '0').

Figure 5-22: Physical - Base Tab

Parameter	Function
Cue Reverse	Reverses the sense of the Cue eye.
Second Encoder	Check if there are two different encoders on your line
Tach 1 or Tach 2 Simulate Active	A check indicates an internal tachometer and cue are used to drive the printer.
Simulate Speed	A emulation speed in feet/minute.
Simulate Spacing	The clearance between documents.

Table 5-8: Physical Base Tab

Base	This button is used to stop the Mail Base. <ul style="list-style-type: none"> • The Stop function must be active in this window • In the Database Browser the Stop Sort Break Action must be set to the correct field and character positions.
Feeder	If the database has Sort Break function activation characters and a Sort Break action is set in the Database Browser, the controller will prevent the feeder from feeding the substrate.
Divert	Gate that is opened to discard the product for purge, clear, and reprinted pieces
Conveyor	Provides a clearance in shingled products on the take away conveyor between zones. The Conveyor also provides a clearance after you perform a Clear, Purge or the Reprints are done. The Conveyor function must be active in this window and in the Database Browser the Conveyor Sort Break Action must be set to the correct field and character positions.
Split Printer	In most conditions, all of the printheads are cued from a single source. With the split printer options the operator can cue one or more printheads from a second source and use a second encoder. This feature can be useful in conditions where, the product is moved to a separate transport system that can be at a different speed.

Table 5-8: Physical Base Tab (Continued)

Parameter	Function
Active	A check enables the function, and allows a function for use.
Cue Reverse	Reverses the sense of the Cue eye
Secondary Encoder	If you use the second encoder for the split printer, then select this option.
Distance	This feature is measured in 1/100th of inch increments of Mail Base movement. The distance is measured from the point at which the a mail piece sends a trigger signal to the Eye until the device is activated. When a piece sends a trigger signal to the Eye, the controller measures the movement of the belts for the distance entered in this field. After validation the controller applies the signal.

Table 5-9: Settings

Time	This feature is measured in milliseconds. For the conveyor, values of 1/2 second or less normally provide an enough clearance between zones in the product. The conveyor speed up control setting also changes the size of the clearance.
Window	This setting is measured in 1/100th of an inch for the window of line travel that we expect to see the product travel under the split cue eye.

Table 5-9: Settings (Continued)

Print Tab

The screenshot shows the 'Physical' tab of the software interface. At the top, there is a navigation bar with tabs for 'Image', 'Document', 'Number', 'Production', 'Ink', 'Physical', 'Pnp', 'Maker', 'Diagnostics', and 'Install'. The 'Physical' tab is currently selected. Below the navigation bar, there is a 'Filename' field containing the path 'C:\Alliance2000\Alliance2000.phy', along with 'Restore' and 'Save' buttons. The main area of the interface is divided into several sections for configuring print settings:

- Purge:** Includes an 'Active' checkbox, a 'Time' field set to 30, and a 'Width' field set to 600.
- Clear:** Includes an 'Active' checkbox and a 'Time' field set to 10.
- Sprinkle:** Includes an 'Active' checkbox, a 'Width' field set to 1200, and a 'Count' field set to 1.
- Default Font Name:** A text field containing 'Arial'.
- Default Font Size:** A text field containing '12'.
- Change:** A button located below the font settings.
- Gap by Density:** A table with density values and corresponding settings:

150	25
200	33
300	49
600	98
- Default Head - Pen Values:** Includes a 'Pen 1 First' checkbox, and fields for 'Offset' (100), 'Separation' (601), 'Orientation' (180), 'Cycle Time' (40), 'Fire Time' (32), and 'Voltage' (1120). There are also 'Default Pens' and 'Default Test' buttons.

Figure 5-23: Physical Print Tab

Parameter	Function
Purge	Manipulates all of the ink jets in each Pen when you restart the production after imaging is not done for sometime. This action removes the ink that is dried in the jets. The Purge tests all of the ink jets in the Pen for the required amount of strokes entered in width field. The Purge creates a block of ink, instead of a label on a mail piece.
Clear	While imaging, the Clear command adjusts all of the ink jets in each Pen at intervals. This action removes ink that is dried in the jets. If the conveyor active is checked in the Base Setup tab, the conveyor increases the speed after the mail piece receives the <i>Clear</i> signal.
Sprinkle	This option is a "keep alive" feature used to keep the print cartridge primed and ready to print. This feature is used when the printer is not printing on every product. <i>Width</i> - The distance of line movement that you need this feature to activate (measured in 1/100th of an inch). A 1000 entered for the width can indicate that the cartridge can fire every 10 inches of line movement. <i>Count</i> - The number of drops sent from each jet on the cartridge. A 1 will spray 1 drop of ink. The lower the number the less visible the drop will be on the product.
Gap	The number of dots from the first row of ink jets in the Pen to the second row of ink jets in the Pen. Each Pen has two rows of 150 ink jets each. Normal values of this field are as follows: 150 dpi = 25 200 dpi = 33 300 dpi = 49 600 dpi = 98
Default Head- Pen Values	Parameter settings can be for printheads and click the <i>Default Pens</i> button to set the remaining printheads. Normally these changes are made from <i>Physical Bar 1 - 4 tab</i> .

Table 5-10: Physical Print Tab

Sprinkle	The printer activates each jet one time per cycle to keep all of the jets primed with this feature. When the active box is checked, each jet will fire the number of times indicated in the Count box over the area indicated in the Width box. Common Sprinkle settings are width=800 (8") and Count=1. This translates to each jet activates one time after eight inches of line movement.
Default Font and Default Font Size	This feature is used to set the default font and size of the font for the text editor.

Table 5-10: Physical Print Tab (Continued)

Bar Tab

Click on one of the *Bar 1-4* tab buttons to access the parameter set that print bar (printhead head). Printhead parameters include bar location, pen offset, direction, clearance, cycle time, fire time, voltage, and overlap. When any parameters are changed you must click *Save* or *Restore* to the previous saved changes before you can exit the *Physical* tab (See Figure 5-24).

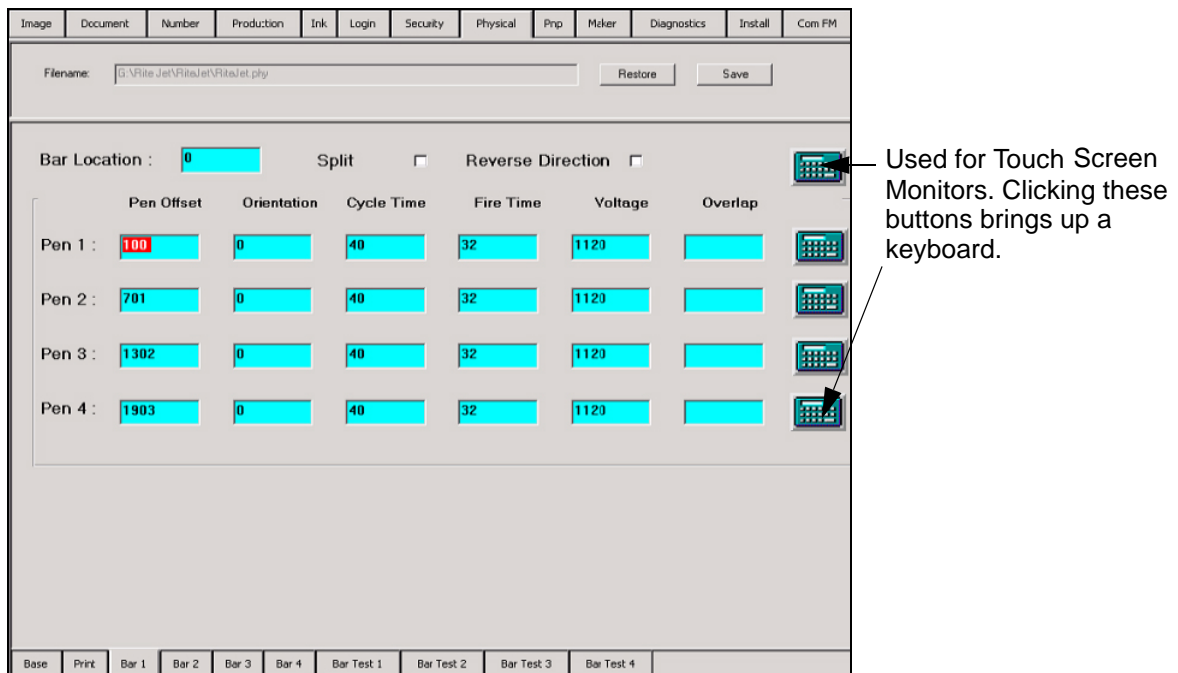


Figure 5-24: Physical Bar 1-4 Tabs

Parameter	Function
Bar Location	Any additional distance needed for the location of the first pen in a bar from the Cue eye. This parameter must be measured in 1/100th of an inch.
Split	Check to activate Sync when the cue eye on the mail table in which the main proximity signal is received for the second part of the line. This is the second cue eye. This uses the second encoder on the line. You must have a second eye to provide accurate timing for printing on the print bars that are found after the turnover.
Reverse Direction	Use this feature when head is attached in different direction and Pen 1 will print correctly from the right to the left side instead of left to the right side.
Pen Offset	The number of dots measured in 1/600th of an inch from the Bar Location to the first ink jet in Pen 1. This value controls the horizontal stitching of the Pens in the Printhead. For example, a bitmap image is over 1/2 inch tall. So the printer uses both the pens to print on mail pieces. If the portion of the image created by Pen 1 is moved left, or right from the portion of the image created by Pen 2, this value is incorrect.
Orientation	The rotation of the pen 180 degrees with in the bar location. This feature is like the invert option in the Document Setup screen. The direction must have a value of 0 or 180 degree.
Cycle Time	The amount of time between two continuous activation of a pen. Hewlett Packard describes this parameter.
Fire Time	The number of microseconds ink is heated to the boiling point that creates a droplet of ink from a single ink jet in a pen. Longer fire times are used at slower print speeds. This field changes the maximum printing speed and print quality.
Voltage	The degree of voltage applied to the pen per pen cycle This field changes the maximum printing speed and print quality.
Overlap	The number of pixels shared by Pen 1 and Pen 2. This value controls, through the software, the vertical stitching of the Pens in the Printhead. This field allows part of the image assigned to Pen 2 to overlap part of the image assigned to Pen 1. Normally this field is set to zero. This parameter allows part of the image assigned to Pen 2 to extend over the part of the image assigned to Pen 1. Normally this field is set to zero.

Table 5-11: Physical Bar Tab

Test Tab

This tab shows the bitmaps for each pen. These test bitmaps are important for troubleshooting and testing purposes. The Test tab is useful when you setup the print parameters like pen alignment. (See Figure 5-25).

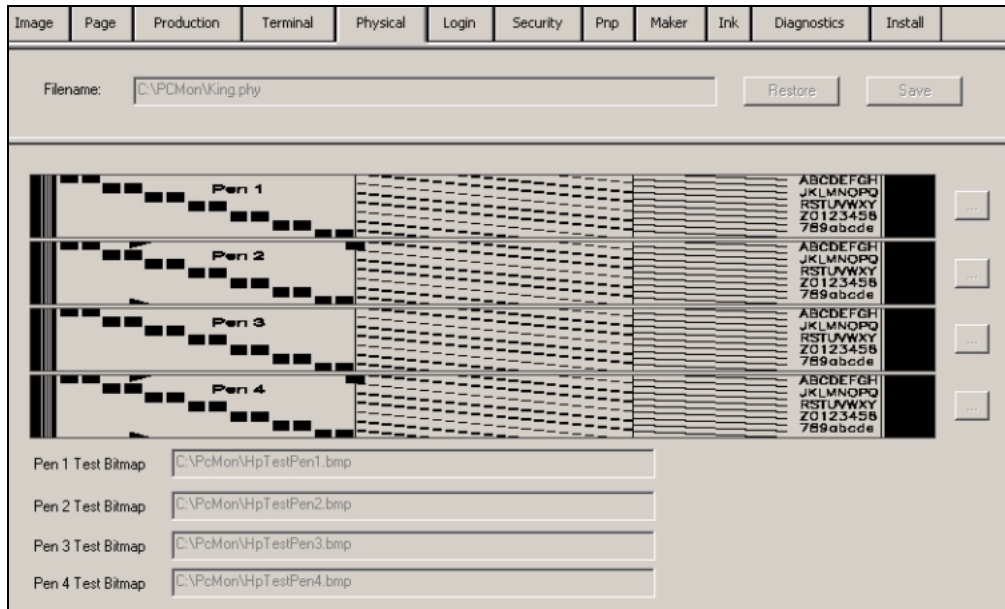


Figure 5-25: Physical Test Pattern Tab

Evaluating Test Patterns

Test Patterns are imaged from bitmap files stored on the hard drive of the controller. Test pattern files with the controller is supplied to provide a full test that is examined easily. Operators can assign other Bitmap files to be imaged as test patterns. Test pattern files with the controller is supplied to create the following image (see Figure 5-26).

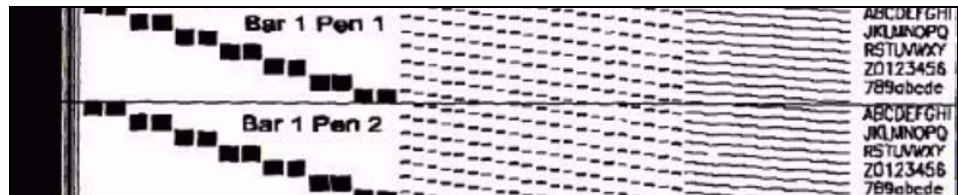


Figure 5-26: Test Patterns

The left end of the test pattern must be aligned with the leading edge of the mail piece (within 1/8 inch). If left end is not aligned, either the size of the document width was entered incorrectly, or the Eye Distance for the printhead is set incorrectly.

The diagonal row of boxes must be as shown in this example. If a box is missing, the GUI indicates an electrical problem. You must check the

installation of the pen in the pen mount. Normally if you put the pen in position corrects the problem. The other reason can be bad connections on the USB 2.0 cable. Verify that each connector is tightly installed. If all connectors are installed correctly, the pen or a cable can be defective. Replace the pen and again test the page. Replace the cable and try again.

The remaining rows of lines and characters must be as shown in this example. If a blank, horizontal line occurs in this area, an ink jet is not in operation. Dirt or dust can create a blockage in the orifice (perform the pen maintenance), dried ink in an orifice (perform the pen maintenance), low ink level in the pen (replace the pen), or a defective pen (replace the Pen).

Pnp

The *Pnp* tab is the main program screen for the print heads. Communication instructions are sent serially to the Shoebox board (see Figure 5-27).



Figure 5-27: Pnp Tab Program Printheads

Parameter	Description
Install All	Connects all programmed heads.
Auto Program Button	<p>Programs the heads. The program takes some seconds to complete. When the heads are programmed, a series of light emitting diodes (LED) turn on in the following sequence:</p> <ol style="list-style-type: none"> 1. 3 green and 1 red 2. then 4 green 3. then no lights 4. The operation ends with 1 red and a check mark next to each connected printhead. This is an indicator that the printheads are programmed.
Quick Install	

Table 5-12: Pnp Tab

Maker

The *Maker* tab builds the text files for the related boards included with the Videojet 4320 system. This tab must be used only under the direction of an experienced technician (see Figure 5-28).

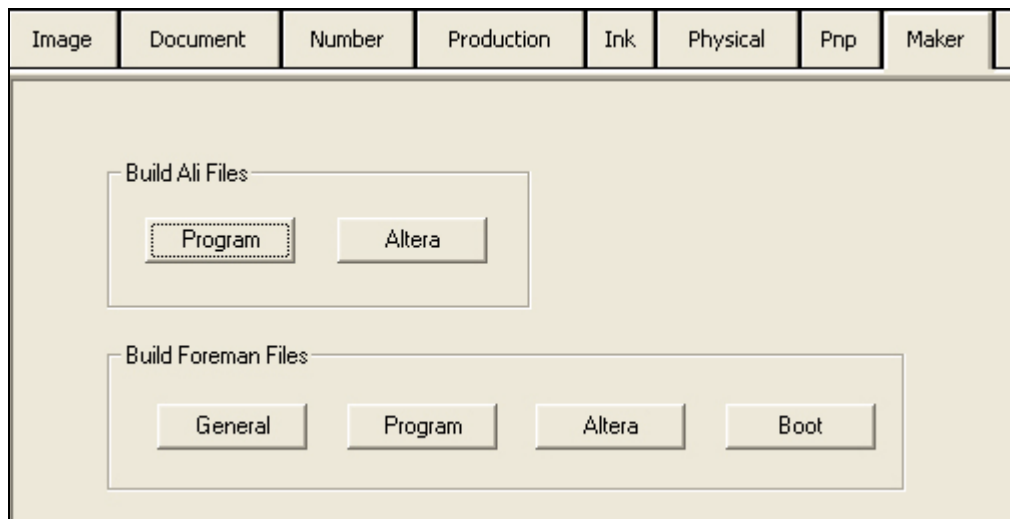


Figure 5-28: Maker Tab

Diagnostic

This tab is used to test the input and output signals. You can configure OPTO in this tab (see Figure 5-29 on page 5-30).

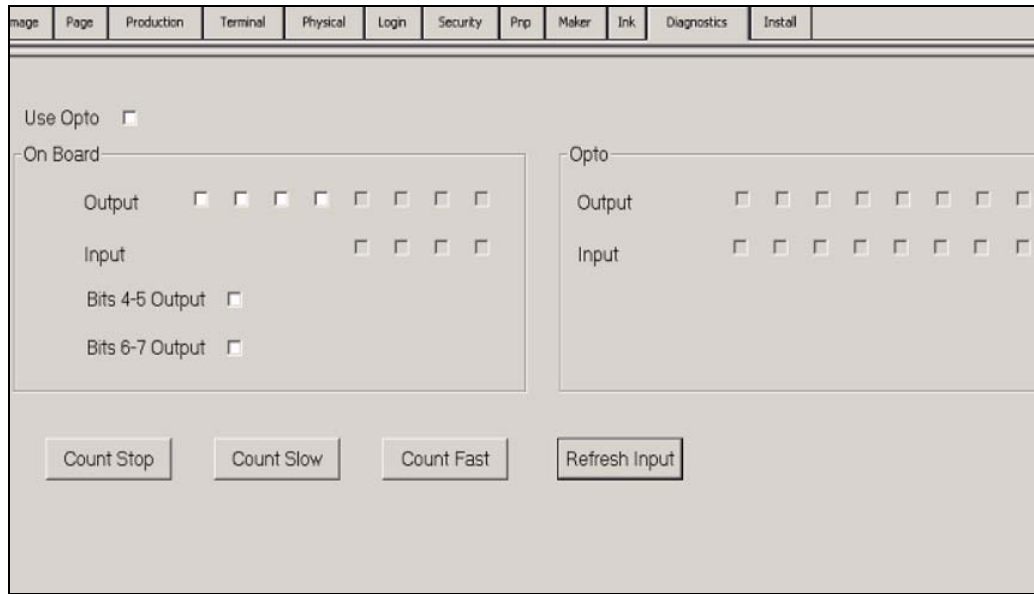


Figure 5-29: Diagnostics Tab

Note: The numbers on diagnostic screen are opposite of the numbers on the boards. 'One' in the software is 'eight' on OPTO board.

Parameter	Description
Use Opto	If this option is checked, then the OPTO modules are used from OPTO 22 board. If this option is not checked, then the On Board OPTO on the Foreman Box inside the Foreman box is used.
Output	Click to activate what output modules you require to test.
Input	Click to activate what input modules you require to test.
Bits 4-5	If more than four output modules are needed, you must activate this option to indicate that these bits be used as outputs.
Bits 6-7	If more than four output modules are needed, you must activate this option to indicate that these bits be used as outputs.
Count Stop	When a Count slow or Count fast is set, Count stop cancels the count monitored by OPTO.
Count Slow	Begins the count by toggling between modules. The light on each module is illuminated as it is counted slowly for a person to see.
Count Fast	Begins the count by toggling between modules. The light on each module is illuminated as the count occurs faster for a person to see.

Table 5-13: Diagnostics Tab

Refresh Input	Starts the count again.
---------------	-------------------------

Table 5-13: Diagnostics Tab (Continued)

Install

The *Install* tab is the setup tab for system parameters. The specifications for the number of printheads in the system and the number of other devices that must be used (See Figure 5-30).

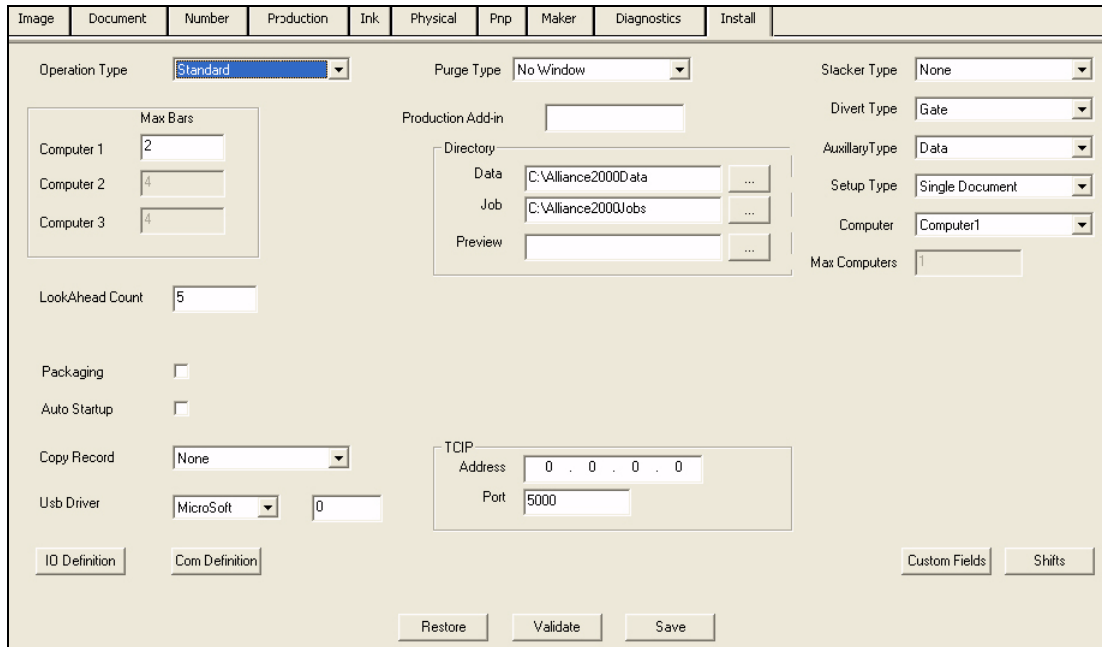


Figure 5-30: Install Tab

Parameter	Description
Operation Type	Standard - Standalone Ink Jet mode Match Mail - Scan and print mode Write Read - Print and verify mode
Max Bars	Number of Printheads installed on system.
Look Ahead Count	Number of records a head system looks (buffers).
I/O Definition	
Use Opto	Check if Opto is used
Bit 4-5 Output	Check to indicate bits 4-5 are used.

Table 5-14: Install Tab

Bit 6-7 Output	Check to indicate bits 6-7 are used.
Base - Ready Light	From drop down option, set bit required for the signal.
Reverse	Changes the sense of the signal.
TCIP	<i>Address</i> - Location of system <i>Port</i> - Port of connection used.
Stacker Type	Drop down and select stacker installed.
Console	Set the Com port used or disable if not used.
Data	Set the Com port used or disable if not used.
Bar 1-4	Set the Com port used or disable if not used.
Directory	
Data	Click on the ellipse button and browse to the directory where your data is stored. This data found at the directory becomes the default data.
Job	Click on the ellipse button and browse to the directory where your jobs are stored. These jobs found at the directory becomes the default jobs.

Table 5-14: Install Tab

Com FM

This tab is used to communicate to the serial port. This is like hyper terminal and is necessary only in a troubleshooting capability. Control options for the Com FM screen are found under the View menu option.

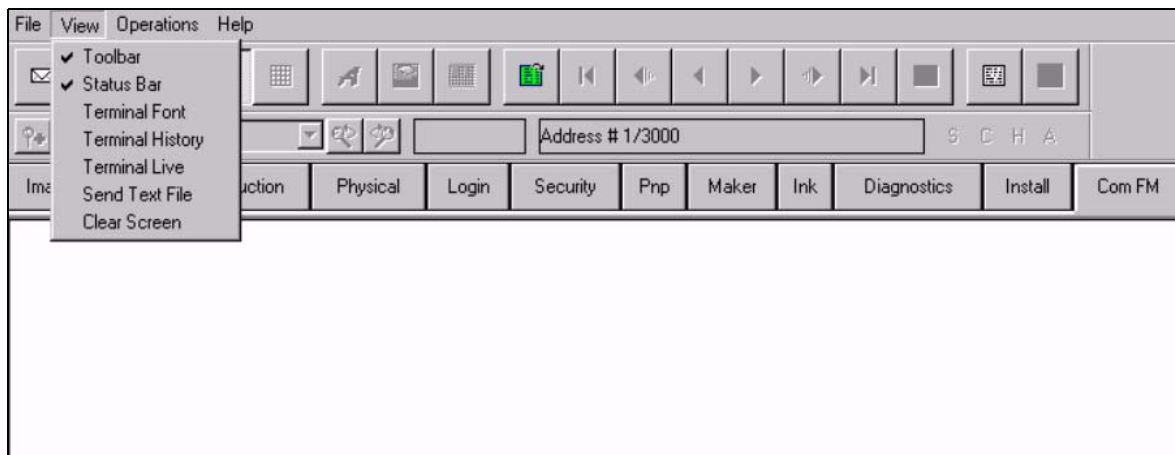


Figure 5-31: Com FM Tab Screen

This chapter describes the pen maintenance procedures.

Pen Installation

Do the following tasks to install the pen:

- 1 Remove the new print cartridge (pen) from the shipping box.
- 2 Remove the tape that is used to cover the ink jets and electrical contacts.
- 3 Tilt the top of the pen in the direction of the tab.
- 4 Insert the base of the pen into the pen stall past the pen restraint spring.
- 5 Tilt the top of the pen to vertical position while you push the pen down far enough for the top of the pen to enter the pen stall.
- 6 Keep the pen in vertical position and press the pen down until the pen reaches the bottom of the pen stall.
- 7 Close the flap down on the top of pen.

Pen Maintenance

When paper fibre, dust or dried ink deposits collect in the ink jets, the jets do not operate correctly. You must clean the blocks for the good operation of the pens.

Do the following tasks for pen maintenance:

- 1 Until you require to install the pen, keep the pens in the shipping box with the plastic strip on the ink jets. This action prevents the ink from drying and dust from collecting in the jets.
- 2 Do not drop the pen or apply shock force to the pen. The shock force can allow air into the jets.

- 3 If you do not plan to use the pen for several hours, over a holiday or a weekend, cover the orifices.

Prevention

Production Purging

Production purging at the correct rate is one of the best methods to keep the pens in good condition. The Clear and Purge procedures are like the functions performed by inkjet printers during the printing process.

- The Clear interval cleans the pens during production.
- The Purge that is applied after non-printing time periods is controlled by the purge parameters in the same window.

Manual Maintenance

Manual maintenance of the pens is required from time to time. Dried ink and paper fibers or dust can be removed by gently wiping the printing surface of the pen.

- 1 Remove the pen from the pen stall or tilt the bottom of the pen stall towards the mail base controls.
- 2 Lightly apply moisture to a Tex Wipe or lint-free, soft cloth.
- 3 Wipe the printing surface with a single, light movements in the direction that the mail piece moves across the printing surface.

Spare Parts and Accessories

7

This chapter contains the optional accessories, supplies and spare parts information for Videojet 4320 printer.

Optional Accessories

Table 7-1 lists the optional accessories.

Part Number	Description	Quantity
4320-PRNTB	Assembly, Printbar w/out Heads	1
4320-IW	Inkwell (Support upto 4 cartridges)	1
4320-IWMK	Inkwell Mounting Kit	1
398065	4KW Dryer Interconnect Cabling	1
12800300	Reflective Tape	1
220168	Dryer, 9.4KW, w/Mount, Cables	1

Table 7-1: Optional Accessories

Supplies

Table 7-2 lists the supplies required for Single Cartridges.

Part Number	Description	Quantity
16-21S	Black Versatile Ink, Single Cartridge (Best for lightly coated)	1
16-23S	Red Ink, Single Cartridge	1
16-26S	Blue Ink, Single Cartridge	1
16-24S	Green Ink, Single Cartridge	1
16-27S	Yellow Ink, Single Cartridge	1

Table 7-2: Single Cartridges Supplies

Part Number	Description	Quantity
16-29S	Black Ink, Fast Dry, Single Cartridge (Dries faster on non-coated paper)	1
16-36S	High-Adhesion Black Ink, Single Cartridge (Best for Claycoat and Aqueous)	1
16-38S	Cartridge, DFL-1000-C black, 45A	1

Table 7-2: Single Cartridges Supplies (Continued)

Lint Free Wipes

Part Number	Description	Quantity
209636	Lint Free Wipes	1

Table 7-3: Lint Free Wipes

Bulk Ink Options

Part Number	Description	Quantity
16-38Q-4	DFL-1000 Ink, 1000ml bottle for InkWell, 4 per case	1
16-38ST-4	Cartridge, DFL-1000 45A for InkWell, 4 per case	1

Table 7-4: Bulk Ink Options

Spare Parts

Videojet 4320 Controller Kit

Table 7-5 lists the spare parts for the Videojet 4320 Controller kit.

Part Number	Description	Quantity
381200	Software, 4320	1
381201	Computer, 2.8G, (WIN XP) 4 Slots	1
381202	Monitor, Flat Screen, LCD 17"	1

Table 7-5: Videojet 4320 Controller Kit Spare Parts

Part Number	Description	Quantity
381203	Stand, Monitor, Keyboard and Mouse	1
381204	Printbar, Center Rail only, 4320	1
381205	4320 Print Control Interface Box	1
381206	4320 Fan Kit	1
	Fan Filter Assembly for Control Box	1
	Fan, 110VAC Cooling	1
381207	Power Supply, 27VDC	1
381208	4320 Fuse and Switch Kit	1
	Switch, 115VAC / 230 VAC w/ Filter	1
	Fuse, 3 Amp to 110 Volt line input	1
381209	Board, Foreman Print Synchronization	1
381210	Assembly, Cable Base Control, 4320	1
381211	Power Supply, UPS 120V 900VA	1
381212	Extrusion, Aluminum (M45 x 33.75)	1
381213	Cable, Serial Crossover, DB9MF	1
381214	Encoder Assembly, 10mm	1
381215	Photocell Assembly	1
381216	Kit, Hardware 4320	1
381217	KIT, Cue Mounting	1
361933	Manual, 4320, VJ	1
361935	4320 Declaration of Conformity	1

Table 7-5: Videojet 4320 Controller Kit Spare Parts (Continued)

Printhead

Table 7-6 lists the spare parts for the printhead.

Part Number	Description	Quantity
381218	4320 Printhead Internal Cables and Board Kit	1

Table 7-6: Printhead Spare Parts

Part Number	Description	Quantity
	Board, L.E.D. for Printhead	1
	Cable, LED Harness	1
	Ribbon Cable, 5-inch Pen Interface	1
381219	Cable, Serial Comm., DB25MM, 10'	1
381220	Printhead Assembly, 2 inch	1
381221	Printhead Assembly, 4 inch	1
381222	Board, Pen Interface 45A	1
381223	Cartridge Stall, 45A Pen	1
381224	Board, ALI Universal Print	1
381235	Cable, USB Interface, 10'	1

Table 7-6: Printhead Spare Parts (Continued)

4320 InkWell System

Table 7-7 the spare parts for the 4320 Inkwell System.

Part Number	Description	Quantity
381225	Connector, to InkWell Vent Tube	1
381226	Coupler, Female Disconnect to Tubing	1
381227	Coupler, Inkwell Quick Connect to the Bottle	1
381228	Grommet, to InkWell Vent Tube	1
381229	InkWell Manifold System w/Low Level Detect	1
381230	Plug, Stainless Steel for Manifold	1
381231	Sensor, InkWell Low Level Detection	1
381232	Tubing, 4-Up Ink Supply, 18 inch	1
381233	Tubing, 4-Up Ink Supply, 36 inch	1
381234	Tubing, InkWell Vent	1

Table 7-7: 4320 InkWell System

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