

Unimark

Travel Document Delivery Systems

**U 4000
THERMAL ATB PRINTER**

OPERATOR'S MANUAL

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INTRODUCTION

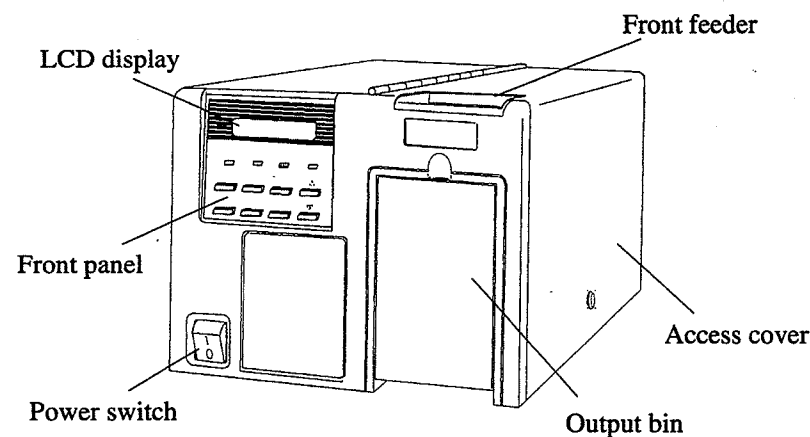


FIGURE 1. U 4000 THERMAL ATB PRINTER

1.0 GENERAL DESCRIPTION

The U 4000, hereafter referred to as the "Printer", is a direct/thermal transfer, high speed graphics capable printer designed for high volume, multi-stock, and STP (Satellite Ticket Printer) applications. The Printer supports both ATB1 and ATB2 document formats. The Printer is designed for either counter applications or as a floor standing unit with optional triple stock bins.

Standard features include 200 dot per inch printing resolution, full graphics capabilities, 2 x 16 character LCD operator display, four track encode/decode magnetics capabilities, downloadable logos and fonts capability, thermal transfer/direct thermal printing without adjustments, auto sensing power supply, and front feeding capability.

1.1 OUTPUT BIN

Once the maximum document capacity of the output bin is reached a message will be displayed on the LCD display, alerting the operator to remove the documents. When the output bin is closed the Printer will dispense printed documents through the bottom slot located beneath the output bin.

The output bin has a maximum capacity of 100 coupons. Coupons are stacked so that the first coupon comes out of the front right side of the Printer with the printed surface facing away from the Printer.

1.2 FRONT FEED

The Front Feed feature allows the Printer to act as a reader for operator convenience in making changes, Validating activities, etc. This utilizes the Printer's transport mechanism and magnetic encoding/decoding subsystem. The mechanism can accept any ATB document, read it, re-encode it, return it to the operator and/or move the coupon into the Printer for future printing.

When the document is inserted into the front load insertion slot, it is immediately magnetically read. The data is checked for integrity and can then either be sent to the host in its entirety or the Printer can send only those important fields defined by the customer to minimize communication time.

1.3 REJECT BIN

The reject bin is used to store voided coupons which are voided by the Printer's print station and magnetic encoders. The reject bin has a maximum capacity of 30 coupons. When the maximum capacity of the reject bin is reached the Printer's LCD display will prompt the operator to remove the coupons.

1.4 STOCK

The Printer's three stock inputs are standard. The Printer prints on fan-folded, continuous form ATB or ATB wallet documents which conform to the standard IATA specifications. No special TOP-OF-FORM marks or holes are required for the coupon stock. The Printer discriminates between 8 inch and 7³/₈ inch stock.

Stock loading is as simple as explained in section 2.3 of this manual. The Printer can be equipped with an optional triple bin which internally houses up to 1000 coupons per bin. Documents are separated by bursting them before they are magnetically encoded or printed.

1.5 RIBBON

The Printer can use a single or multi-pass thermal transfer ribbon for thermal transfer printing. The single pass ribbon has a life of 2,000 coupons per cassette and the multi-pass has a life of 5,000 coupons per cassette. The Printer can detect the presence of a multiple-pass or single pass ribbon automatically.

1.6 PRINT STATION

The print resolution is 8 dots per mm or 203 DPI. The Printer can issue tickets at a rate of 40 coupons per minute or issue a single ticket within 3.5 seconds. The thermal printhead is considered a consumable part because it is field replaceable within a few minutes. The thermal printhead has a coupon life of 150,000 forms and a wear life of 30 km (black rate: 15%) or 1 year from the delivery date.

The UNIMARK, INC. "SMART PRINTHEAD" technology automatically detects failed dot elements and if required can report this information to the operator and/or host system. The thermal printhead is allowed to have up to 5 missing dots except for adjacent dots to be regarded as not reached its end of life.

1.7 STANDARD USAGE

- (1) 14 hours/day
- (2) 365 days/year
- (3) 400 coupons/day
- (4) 18 lines/coupon
- (5) 35 characters/line

1.8 TECHNICAL SPECIFICATIONS

PRINT TECHNOLOGY:

- Thermal Transfer/Direct Thermal
- 200 dpi print resolution
- Graphics capability
- Optional character fonts

RIBBON:

- Easily replaceable thermal ribbon cassette.
- Converts to Direct Thermal printing without adjustment.

SPEED:

- 40 printed documents per minute.
- Single document processing within 3.5 seconds.

DOCUMENT HANDLING:

- Issues ATB1 or ATB2 tickets and boarding passes.
- 3 ¼ inches wide x 8 inches long (including binding stub) or 7 ¾ inches long (without binding stub).
- 90 ~ 100 lb. perforated/fan-folded stock.
- 3 standard rear feed stock inputs.
- Optional triple stock bin is available.

MAGNETICS:

- Four tracks, read, write, and write verification.
- Conforms to IATA RP 1722C, and 722 specifications.
- Pre-read of magnetically encoded SCN.

SOFTWARE:

- Downloadable logos and fonts capability available.
- Downloadable forms mask capability.

BAUD RATE:

- Front panel selectable 1200, 2400, 4800, 9600, and 19,200 bits per second.

POWER:

- Switching technology
- Auto sensing - 115/220 VAC, 50/60 HZ
- Compatible with international electrical codes.
- AC voltage range: 90-132V or 180-264V
- Frequency range(Hz): 47 to 63

- POWER CONSUMPTION:**
- Operating: 200W (excluding options)
 - Standby: 80W (excluding options)
- COMMUNICATIONS:**
- 2 standard RS232C Ports.
 - Optional RS422 CCITT V.24
 - Supports all popular ATB interfaces including AEA 93 specifications.
 - Optional LAN Token Ring/Ethernet
 - Optional IBM 3270 Coax and IBM 5250 Twin-ax connectivity.
 - Optional expandable on-board memory.
 - Optional internal PC/AT (286, 386, 486) with mass storage options allowing connection to virtually any system.
- COMPLIANCE:**
- Fully compliant with IATA ATB2 specifications.
 - Compliant with ATA Resolution 30.200.
 - Compatible with US and international safety codes.
- PHYSICAL CHARACTERISTICS:**
- 9" (229mm) h X 11" (280mm) w X 22.6" (575mm) d
 - Weight = 50 lb.
- TEMPERATURE RANGE:**
- Operating: 5 to 40°C (41-104°F)
 - Non-operating: -5 to 45°C (23-113°F)
 - Transportation: -10 to 50°C (14-122°F)
- RELATIVE HUMIDITY:**
- Operating: 20 to 80% non-condensing.
 - Non operating: 20 to 85% non-condensing.
 - Transporting: 20 to 90% non-condensing.
- ACOUSTIC NOISE:**
- Operating: 55 dB(A) (except when bursting fanfold form)
 - Standby: Less than 45dB(A)
- Conditions: Measurement method: ISO7779
- MTBF/MPBF**
- 3,500 hours of operation or 100,000 forms of printing, whichever comes first, excluding maintenance and consumable parts.

GETTING STARTED

2.0 OVERVIEW

This chapter contains information necessary to unpacking, inventory, installing, and loading stock into the Printer.

2.1 UNPACKING

Before unpacking the Printer, examine the shipping container for obvious signs of damage. If the shipping container is damaged, notify the carrier so a claim can be established. Do not attempt to use the Printer. Contact your sales representative to arrange for the Printer to be returned to the factory for damage assessment and repair if necessary.

Exercise care when using a knife or other sharp instruments to burst the shipping tape. Unpack the Printer and the power cord from the shipping container (refer to fig. 2-1. when lifting).

CAUTION!

"Approximately 50 pounds."

Grasp at rear to lift.

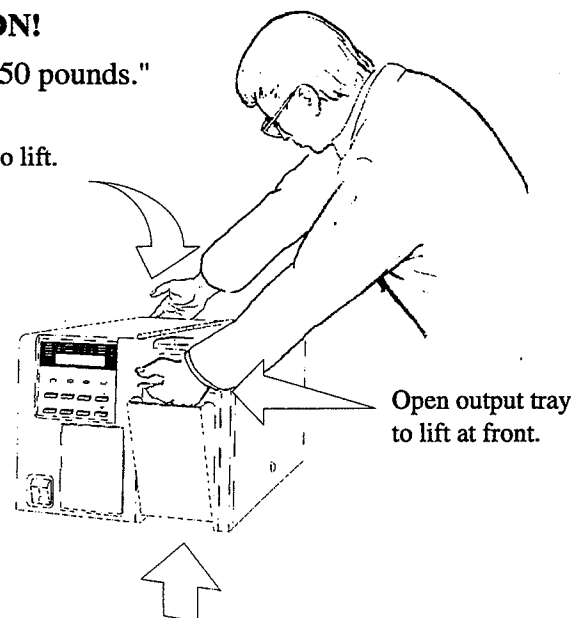


FIGURE 2-1. LIFTING THE PRINTER

1. Using the key provided, unlock and open the mechanism access cover.
2. Raise the access cover to a full upright position as shown in figure 2-2.

Note: Some models may not have a key lock or mechanism access cover.

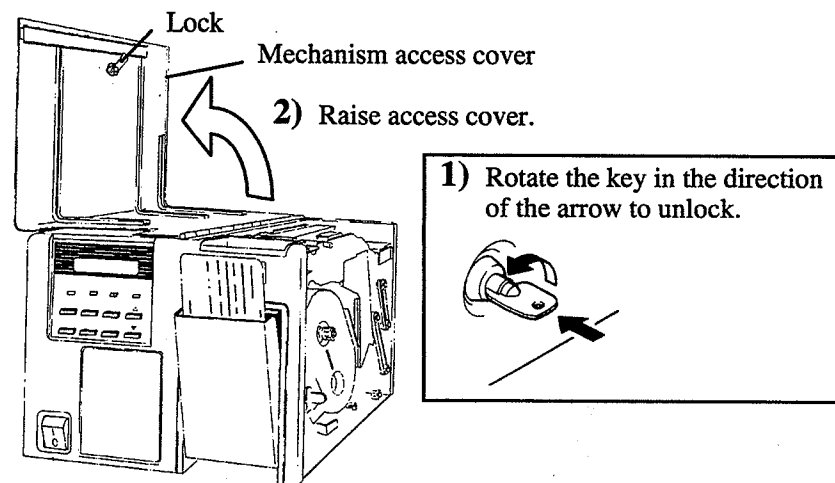


FIGURE 2-2. OPENING THE PRINTER.

3. Locate and remove the foam used to secure the printhead (refer to figure 2-3).

Note: *The foam used to secured the printhead must be installed when relocating the Printer.*

4. Close and lock the Printer's access cover.

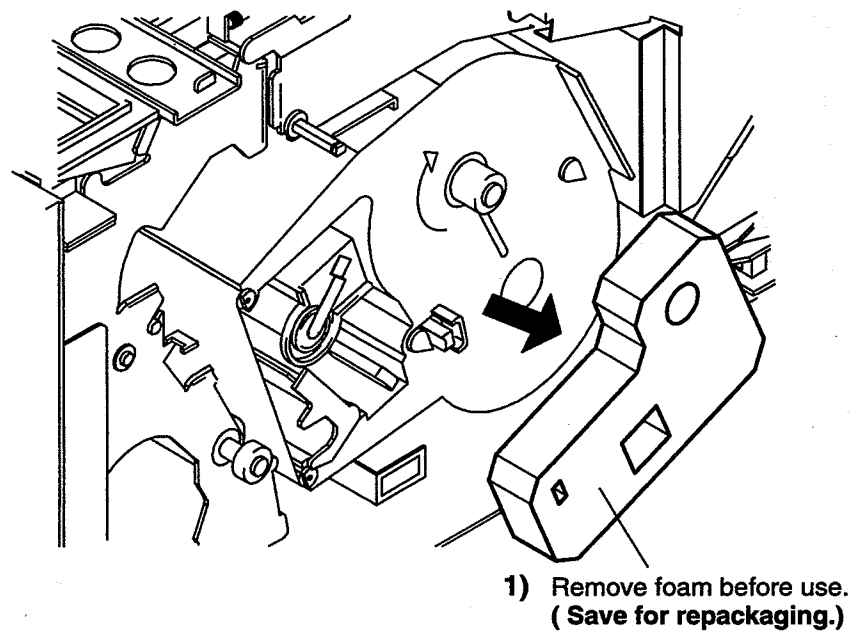


FIGURE 2-3. UNPACKING

2.2 INSTALLATION

The location for the Printer should meet the following physical and environmental requirements:

- Power: 90 to 264 VAC, 50 to 60 Hz, single phase. Three-wire, eight-foot power cord with ground plug.
- Operating temperature: 5° C to 40° C (41°F to 104°F)
- Operating humidity: 20% to 80% non-condensing.

The Printer must be placed within eight feet of an AC power outlet (115 VAC or 230 VAC nominal). If using an RS-232 serial interface, the Printer must be placed within 50 feet of the communications device utilizing a multi-conductor shielded cable. If using current loop, the Printer must be placed within 4000 feet of the communications device utilizing a shielded cable.

Clearance for opening the Printer's mechanism access cover will also be needed unless the unit is mounted on a counter top or in a manner that will allow the Printer to be pulled out of the counter. Inadequate ventilation of this device may result in overheating, which may damage the machine. Make sure the vents are kept clean and free of obstructions.

Attach the power cord to the rear of the Printer and plug it into an AC outlet. Connect the communications cables to the rear ports as outlined in 2.2.1. Make sure the host computer's communications settings match the Printer's communications settings. If configuration changes to the Printer are required see 3.3 and 3.3.1 for front panel menu instructions.

Note: Make sure the foam used to secure the printhead has been removed (see 2.1).

2.2.1 CONNECTING TO THE PRINTER

Cable connection configurations may vary according to the particular host computer's communication connections. Before connecting to the host, verify the host communication configuration. Connect the power cord to the rear AC power connector and connect the communications cable from the host system to the Printer's rear communications connector (refer to table 2-1 for the RS232C connector pinouts).

TABLE 2-1. PORTS A & B RS232C CONNECTOR PINOUTS.

PIN#	SIGNAL	DESCRIPTION
1	GND	Frame Ground
2	TX	Transmit Data
3	RX	Receive Data
4	RTS	Request To Send
5	CTS	Clear To Send
6	DSR	Data Set Ready
7	GND	Signal Ground
8-10		Open
11	RTS	Request To Send
12-19		Open
20	DTR	Data Terminal Ready
21-25		Open

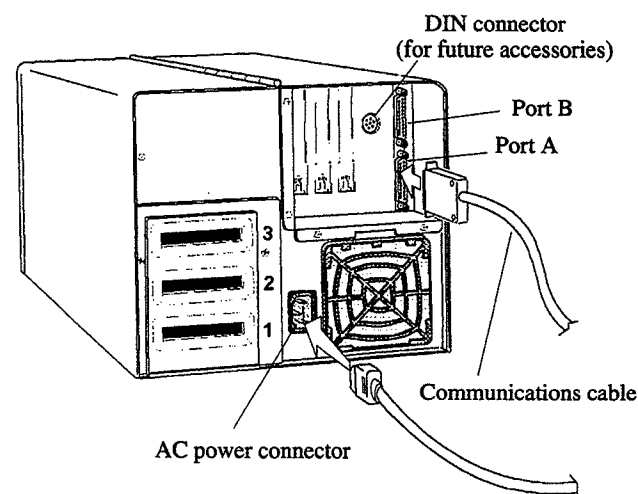
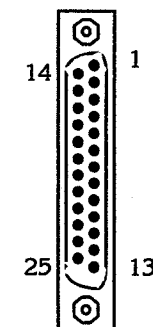


FIGURE 2-4. CONNECTING TO THE PRINTER

2.3 OUTPUT BIN

The output bin should be pulled open to allow coupons to be ejected in an upright position. If the output bin is closed the coupons will be ejected through the bottom slot beneath the output bin. Open the output bin as shown below in figure 2-5.

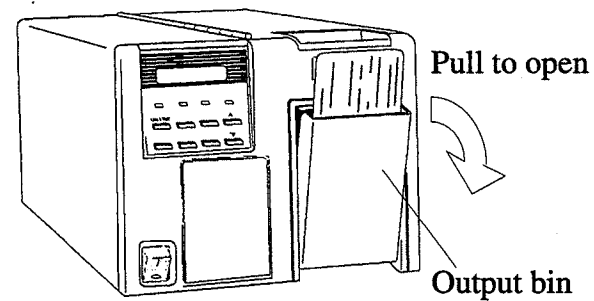


FIGURE 2-5. OPENING THE OUTPUT BIN.

2.4 LOADING STOCK: NO BINS

The Printer can draw stock from up to three stock feed inputs of fan-folded ATB coupons. Follow the instructions outlined below when loading stock into Printer without bins.

1. Set the Printer's power switch to on (green POWER LED illuminated).
2. **Load the stock** into the empty stock inputs located at the rear of the Printer with the **magnetic stripe up** and **staple tab first**. The Printer will grab the stock and pull it into position for printing.

Note: *If non-magnetic stock is used, load the stock into the empty stock input slots with the side to be printed on face down and the staple tab first.*

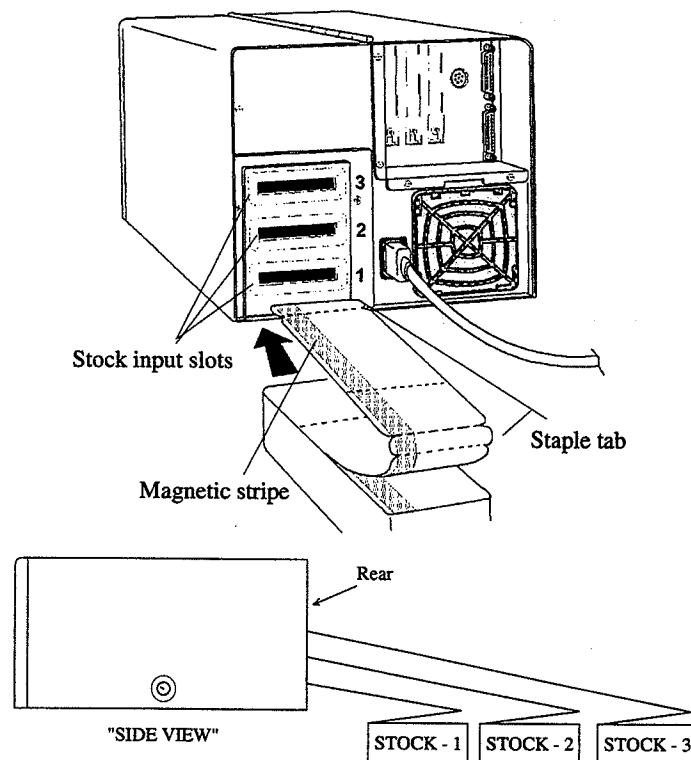


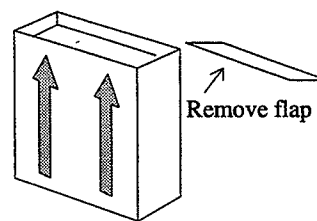
FIGURE 2-6. LOADING STOCK

2.4.1 LOADING STOCK: TRIPLE BIN

The triple bin version of the Printer can hold up to 3000 coupons (1000 coupons per stock bin). Install the coupon stock as outlined below:

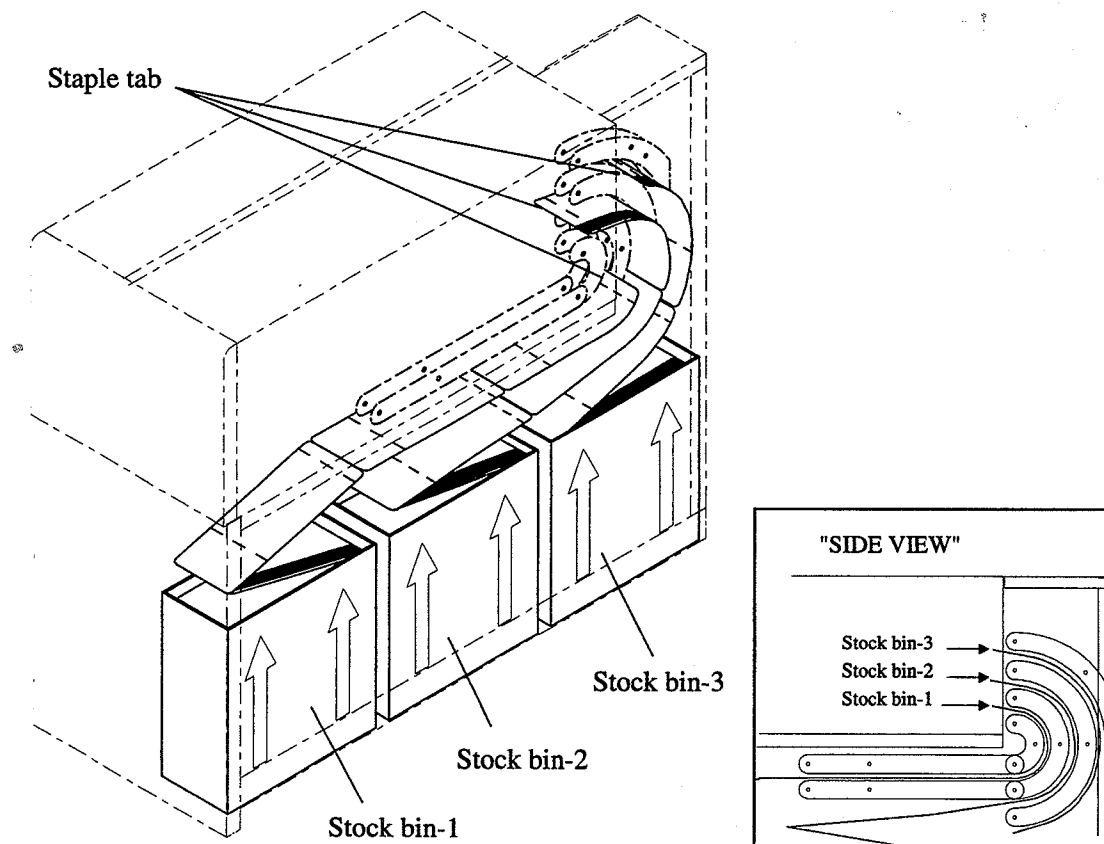
1. Set the Printer's power switch to on (green POWER LED illuminated).
2. Unlock and open the triple bin's stock door or cabinet.
3. Open a new box of stock (arrows up) and remove the flaps.

Note: Do not remove the coupon stock from the box.



4. Place the open boxes of coupon stock in the triple bin as shown in figure 2-7.
5. Load the stock in the Printer by **threading the stock** into the rear of the Printer with **staple tab first** and the **magnetic stripe up** as shown in figure 2-7. The Printer will grab the stock and pull it into position for printing.

Note: If non-magnetic stock is used, load the stock into the rear stock input slots with the side to be printed on face down and the staple tab first.

**FIGURE 2-7. LOADING STOCK (TRIPLE BIN)**

6. Slide each coupon stock into its rear stock input slot until the Printer grabs it and pulls it into position for printing.
7. Close and lock the stock door or cabinet.

FRONT PANEL OPERATION

3.0 INTRODUCTION

The Printer has two modes of operation, *on line* and *off line*. This chapter will explain the Printer's front panel operation in both *on line* and *off line* operating modes.

3.1 OPERATING MODES

When *on line*, the Printer prints documents as requested by the host system. The *off line* mode allows the operator to query the Printer's status, modify operational parameters and test/maintain the Printer.

The *ON LINE* button transitions the Printer between *on line* and *off line* modes. The Printer will not operate in the *on line* mode if an *alarm* condition exists.

3.1.2 ON LINE OPERATIONS

When the Printer is in the *on line* mode and communicating with the host system the *ON LINE* LED will be illuminated. While *on line*, the Printer accepts data from the host system and prints all the requests. If an alarm condition occurs, the Printer suspends printing until the alarm condition is cleared.

The Printer will beep twice and go *on line* after a successful initialization during power up. The Printer will go *on line* automatically after exiting the sub-menus of the front panel.

3.1.3 OFF LINE OPERATIONS

Off line mode provides the service technician the information and procedures needed to maintain the Printer. The *off line* functions are available via the keyboard. Depressing the MENU button will automatically place the Printer in an *off line* mode.

3.2 INDICATORS AND CONTROLS

The operator's front panel is the interface tool between the Printer and the operator. The panel is used to select the on line/off line operation of the Printer, print configuration coupons, select the Printer functions, and display messages/status. It is important that the operator understands the operation of the panel before attempting to operate the Printer. The front panel is divided into three (3) sections: *LCD display*, *indicator lights (LED)*, and *an eight button control keypad*. See figure 3-1.

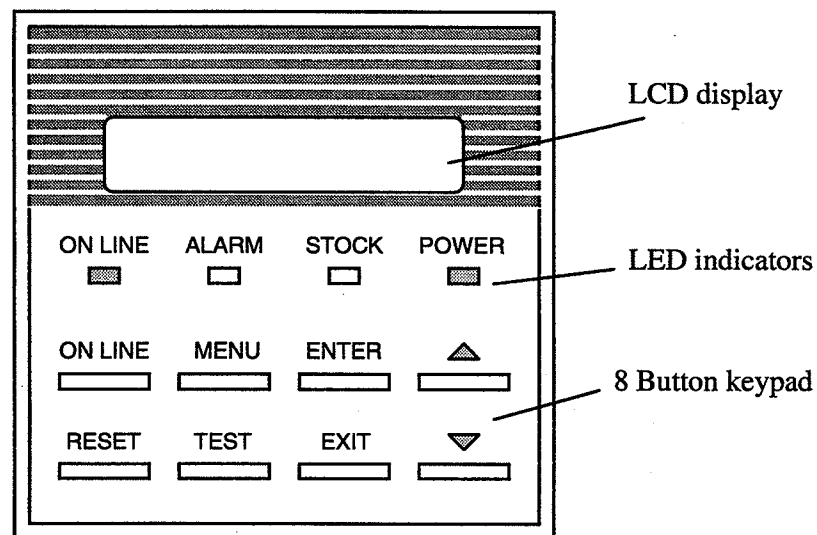


FIGURE 3-1. FRONT PANEL

LCD DISPLAY



Located on the front of Printer, the LCD display displays messages and functions on two lines consisting of sixteen characters per line.

INDICATOR LIGHTS

Located below the LCD display, the indicator lights indicates via four LEDs the current Printer's operating status. The indicator lights are POWER ON, ON LINE, ALARM, and STOCK.

- **POWER ON** When illuminated, this LED indicates power has been applied to the Printer. The power on LED emits a green light.
- **ON LINE** When illuminated, this LED indicates the Printer is on line and ready to accept data. The on line LED emits a green light.
- **ALARM** When illuminated, this LED indicates an alarm condition exists. The alarm LED emits a red light.
- **STOCK** When blinking, this LED indicates the Printer is out of stock. The stock LED emits a green light.

CONTROL KEYPAD

- **RESET** If an alarm exists, it performs an alarm clear sequence.
- **ON LINE** Toggles the Printer's off line or on line modes.
- **MENU** Used to enter the Printer's Function menu. If the Printer is *on line* when pressed it will automatically be placed in an *off line* mode.
- **TEST** Executes selected diagnostic test when the Printer is *off line*.
- **ENTER** Used to input a menu selection.
- **EXIT** Exits a menu level.
-   These buttons select menu entries or parameters.

3.3 FRONT PANEL MENU DEFINITIONS

This section will provide you with a more complete description of a few front panel menu configuration selections. When scrolling through the front panel LCD menus, you may see an asterisk (*) next to some of the currently active sub menu selections. To alter your current Printer configuration, follow the instructions indicated for each menu selection.

To modify configuration options, run maintenance or diagnostic functions, the Printer must be placed in the OFF LINE mode. Press the MENU button to place the Printer in the OFF LINE mode.

LCD MESSAGE

DESCRIPTION

FUNCTIONS

DISPLAY STATUS

Queries the Printer for a detailed alarm list. This list of alarm messages assists maintenance personnel in troubleshooting the Printer's electrical and/or mechanical subsystems. If no alarm exists, the LCD will display the message NO ALARM. See the operator's guide for displayed alarm messages. Use the ▲ or ▼ buttons to scroll through the alarm messages and use the EXIT button to exit this menu.

FUNCTIONS

DISPLAY CNTRS

This menu will display the Printer's counters. Use the ▲ or ▼ buttons to scroll through the DISPLAY CNTRS menu and use the EXIT button to exit this menu. The counters displayed are as follows:

BIN 1
FRONT FEED
JAMMED COUPONS
VOIDED COUPONS
MAG COUPONS
MAG ERRORS
BIN 3
BIN 2

FUNCTIONS**SERVICE FUNCS**

This menu will provide access to the menu functions that are used to setup and exercise the Printer's operations. *All service functions are protected by a password to prevent unauthorized entry.* See the Menu Tree for the service functions available under the SERVICE FUNCS menu. Use the ▲ or ▼ buttons to scroll through the menu list and press the ENTER button to enter the desired selection. Use the EXIT button to return to the previous menu. See section 3.3.1 (Front Panel Menu Tree) for a more complete list of the available options.

NOTE:

When exiting a SERVICE FUNCS sub-menu, all changes made are currently active. The operator now has the option to save all changes permanently or allow them to default to the previous configuration upon powering down. The Printer will prompt the operator with the following messages:

CHANGES DEFAULT

exit = no ent=yes

ENTER *When depressed the currently selected Printer options will be saved in the Printer's battery backed RAM.*

EXIT *When depressed the currently selected changes are not saved. The currently selected Printer options will remain active until loss of AC power and the previously saved configuration will become active when AC power is restored.*

**SERVICE FUNCS
PASSWORD**

The password allows the operator to enter into the SERVICE function sub-menus and to modify the existing password. If password protection is disabled, or the correct password has been entered the menu will allow you to change the password. To enter the password, press the ENTER button. The LCD displays the following:

ENTER PASSWORD
0000

The password consists of a four alphanumeric-character code. To shift the blinking character one place to the right, press the ENTER button. To select an alphanumeric code, use the arrow buttons to change the blinking character.

After entering your password, press the EXIT button. If the Printer accepts your password, the LCD screen displays the following message for a few seconds:

PASSWORD ACCEPTED

If the Printer denies your password the following LCD message will be displayed. Try entering the password again or check your password validity.

INVALID PASSWORD

After a few seconds the following LCD message will be displayed:

PASSWORD

You may now use the ▲ or ▼ buttons to scroll to the desired menu selections. **Do not use the EXIT button if you wish to scroll through the SERVICE FUNCS menu once your password is accepted.**

To change the current password press the ENTER button at this time. After the LCD message below is displayed, enter the new password as previously explained.

CHANGE PASSWORD
0000

Press EXIT to accept the new password or to exit this menu. The following LCD message will appear after pressing the EXIT button.

exit=no ent=yes

Press ENTER to accept the new password. After selecting the password function, the following is displayed for a few seconds:

PASSWORD ACCEPTED

After the Printer accepts your password, all the service functions are available.

SERVICE FUNCS SERIAL NUMBER

Use the ▲ or ▼ buttons to input a 7 character alpha-numeric serial number. Press the EXIT button to return to the previous menu.

SERVICE FUNCS PASSW. PROTECT

Use the ▲ or ▼ buttons to scroll to the desired selection and press the ENTER button to make that selection active. An asterisk (*) will appear next to the currently active selection. Press the EXIT button to return to the previous menu. The following selections are available.

DISABLED
ENABLED

SERVICE FUNCS PRINTER SETUP

This menu is used to configure the Printer to its operating environment. Use the ▲ or ▼ buttons to scroll to the desired option, and depress the ENTER button to make your selection. See 3.3.1 (Front Panel Menu Tree) for a complete list of the available options. The following sub-menus are available:

MAGNETICS
EXCEPTIONS
SCN SETUP
RIBBON TYPE
ADJUSTMENTS
COMMUNICATIONS
CUSTOM OPTIONS

**SERVICE FUNCS
DIAGNOSTICS**

Selects the diagnostic test functions. Use the ▲ or ▼ buttons to scroll through the selections until the desired message appears, then press the ENTER button to make that selection. Whenever the TEST button is depressed, the selected test is executed. See 3.3.1 (Front Panel Menu Tree) for a complete list of the available options. The following sub-menus are available:

SINGLE TESTS
MULTI TESTS
MECH/ELECT TESTS
COMM PORT TESTS
TEST OPTIONS

**SERVICE FUNCS
MAINTENANCE**

Selects the maintenance functions. Use the ▲ or ▼ buttons to scroll through the selections until the desired message appears, then press the ENTER button to make that selection. The following sub-menus are available:

CLEAR COUNTERS
CLEAR HISTORY

3.3.1 FRONT PANEL MENU TREE

The front panel LCD displays two lines or levels of messages. Use this chapter of the manual to assist in configuring your Printer for operation. To exit any menu level use the EXIT button. Use the ENTER button to enter the selected Printer menu functions.

LV	LCD MESSAGE	DESCRIPTION
1	DISPLAY STATUS	<ul style="list-style-type: none"> Queries the Printer for a detailed alarm list.
1	DISPLAY CNTRS	<ul style="list-style-type: none"> Displays the actual and resetable coupon counts.
1	SERVICE FUNCS	<ul style="list-style-type: none"> A <i>password</i> may be <i>required</i> to enter the submenus.
2	PASSWORD	<ul style="list-style-type: none"> Must consist of a four alphanumeric-character code.
3	ENTER/CHANGE PASSWORD	<ul style="list-style-type: none"> See 3.3 configuration menu definitions.
2	SERIAL NUMBER	<ul style="list-style-type: none"> Printer's 7 character, alpha-numeric identification (serial) number.
2	PASSW. PROTECT	<ul style="list-style-type: none"> Enables or disables password protection.
	ENABLED DISABLED	<ul style="list-style-type: none"> When enabled a password is required. When disabled no password is required.
2	PRINTER SETUP	<ul style="list-style-type: none"> This menu is used to configure the Printer.
3	MAGNETICS	<ul style="list-style-type: none"> This menu is used to set the magnetics options. An asterisk (*) will appear next to the currently selected sub menu options. Use the ▲ or ▼ buttons to scroll through each menu and press the ENTER button to enter a sub menu or make a selection.
4	EQUIPAGE	<ul style="list-style-type: none"> Specifies the Printer's magnetic equipage.
	ENCODE VERIFY	<ul style="list-style-type: none"> Encodes the data when selected. Verifies the encoded data when selected.
4	TRACKS ENCODE	<ul style="list-style-type: none"> Selects which physical tracks are to be encoded.
	TRACK 1 TRACK 2 TRACK 3 TRACK 4	

LV	LCD MESSAGE	DESCRIPTION
4	TRACKS VERIFY	• Selects which tracks are verified after being encoded.
	TRACK 1 TRACK 2 TRACK 3 TRACK 4	
3	EXCEPTIONS	• Sets the parameters for handling coupons which fail.
4	VOID COUPON	• Allows an erred coupon to be voided.
	NO YES	
4	MAG RETRIES	• Sets the number of retries before a coupon is voided.
	0 to 3	• Max. retries =3
4	ERASE MAG	•
	TRACK 1 TRACK 2 TRACK 3 TRACK 4	• If error is detected erase track 1 (* = enable). • If error is detected erase track 2 (* = enable). • If error is detected erase track 3 (* = enable). • If error is detected erase track 4 (* = enable).
4	HOPPER	• Assigns the output hopper for the failed coupon.
	OUTPUT REJECT	• Outputs exception coupons to the output bin. • Outputs exception coupons to the internal (reject) bin.
4	COUPON RETRIES	• Number of coupons that can be voided before an alarm is declared.
	0 to 2	• Max. attempts =2
3	SCN SETUP	• Sets up the coupons Stock Control Number. • An asterisk (*) will appear next to the currently selected option. Use the ▲ or ▼ buttons to scroll through the menu and press the ENTER button to make a selection.
4	SCN DIS/ENABLE	• Enables or disables the Stock Control Numbers.
	DISABLED ENABLED	
4	SCN COUPON ORDER	•
	ASCENDING DESCENDING	
4	SCN FORMAT	•
	IATA 722E 10 DIGIT	

LV	LCD MESSAGE	DESCRIPTION
3	RIBBON TYPE	<ul style="list-style-type: none"> An asterisk (*) will appear next to the currently selected Ribbon Type. Use the ▲ or ▼ buttons to scroll through the menu and press the ENTER button to make a selection.
	DIRECT THERMAL THERMAL TRANSFER	<ul style="list-style-type: none"> Selects no ribbon installed. Thermal stock used. Selects thermal transfer ribbon installed.
3	ADJUSTMENTS	<ul style="list-style-type: none"> Adjustments to the Printer's parameters.
4	TOP MARGINS ADJ	<ul style="list-style-type: none"> Adjusts print ▼(down) / ▲(up) (8 dots/mm).
	TOP MARGIN BIN 1 TOP MARGIN BIN 2 TOP MARGIN BIN 3 TOP MARG DEFAULT	<ul style="list-style-type: none"> The Front feed is the default bin.
4	LEFT MARGIN ADJ	<ul style="list-style-type: none"> Adjusts print ▼(left) / ▲(right) (8 dots/mm).
	LFT MARGIN BIN 1 LFT MARGIN BIN 2 LFT MARGIN BIN 3 LFT MARG DEFAULT	<ul style="list-style-type: none"> The Front feed is the default bin.
4	CONTRASTS ADJUST	<ul style="list-style-type: none"> Adjust the print contrast (▼ = light/▲ = dark)
	CONTRAST BIN 1 CONTRAST BIN 2 CONTRAST BIN 3 CONTRAST DEFAULT	<ul style="list-style-type: none"> The Front feed is the default bin.
4	COUPONS LENGTH	<ul style="list-style-type: none"> Selects the coupon length used from each stock bin.
5	LENGTH BIN 1	<ul style="list-style-type: none"> Selects the coupon length used from bin 1.
	AUTO DETECT STAPLE STUB NO STAPLE STUB	<ul style="list-style-type: none"> Coupon registration hole is required. 7³/₈ coupon (no staple tab).
5	LENGTH BIN 2	<ul style="list-style-type: none"> Selects the coupon length used from bin 2.
	AUTO DETECT STAPLE STUB NO STAPLE STUB	<ul style="list-style-type: none"> Coupon registration hole is required. 7³/₈ coupon (no staple tab).
5	LENGTH BIN 3	<ul style="list-style-type: none"> Selects the coupon length used from bin 3.
	AUTO DETECT STAPLE STUB NO STAPLE STUB	<ul style="list-style-type: none"> Coupon registration hole is required. 7³/₈ coupon (no staple tab).

LV	LCD MESSAGE	DESCRIPTION
4	PRINT SPEEDS	• Selects the actual printing speed for each stock bin.
5	SPEED BIN 1	
	NORMAL HALF SPEED	
5	SPEED BIN 2	•
	NORMAL HALF SPEED	
5	SPEED BIN 3	•
	NORMAL HALF SPEED	
4	LOAD SPEEDS	• Selects the speed the stock will load from each bin.
5	SPEED BIN 1	
	NORMAL HALF SPEED QUARTER SPEED	
5	SPEED BIN 2	
	NORMAL HALF SPEED QUARTER SPEED	
5	SPEED BIN 3	
	NORMAL HALF SPEED QUARTER SPEED	
4	REJECT SPEEDS	• Selects speed coupons will be backed out the Printer.
5	SPEED BIN 1	
	NORMAL HALF SPEED QUARTER SPEED	
5	SPEED BIN 2	
	NORMAL HALF SPEED QUARTER SPEED	
5	SPEED BIN 3	
	NORMAL HALF SPEED QUARTER SPEED	

LV	LCD MESSAGE	DESCRIPTION
3	COMMUNICATIONS	<ul style="list-style-type: none"> Sets the parameters for the communication ports.
4	PORT A SETUP	<ul style="list-style-type: none"> Port A communications setup. An asterisk (*) will appear next to the currently selected Baud Rate, Parity, Data Bits, or Stop Bits. Use the ▲ or ▼ buttons to scroll through the menu and press the ENTER button to make a selection.
5	BAUD RATE	<ul style="list-style-type: none"> Sets the serial port communications speed.
	19200 9600 4800 2400 1200 600 300	
5	PARITY	<ul style="list-style-type: none"> Selects the parity type used for error detection.
	NONE EVEN ODD	
5	DATA BITS	<ul style="list-style-type: none"> Selects the data characters size in bits to be received.
	7 BITS 8 BITS	
5	STOP BITS	<ul style="list-style-type: none"> Selects the last element of a character in the start/stop asynchronous serial transmission.
	1 STOP BITS 2 STOP BITS	
4	PORT B SETUP	<ul style="list-style-type: none"> Port B communications setup. An asterisk (*) will appear next to the currently selected Baud Rate, Parity, Data Bits, or Stop Bits. Use the ▲ or ▼ buttons to scroll through the menu and press the ENTER button to make a selection.
5	BAUD RATE	<ul style="list-style-type: none"> Sets the serial port communications speed.
	19200 9600 4800 2400 1200 600 300	
5	PARITY	<ul style="list-style-type: none"> Selects the parity type used for error detection.
	NONE EVEN ODD	

LV	LCD MESSAGE	DESCRIPTION
5	DATA BITS	• Selects the data characters size in bits to be received.
	7 BITS 8 BITS	
5	STOP BITS	• Selects the last element of a character in the start/stop asynchronous serial transmission.
	1 STOP BITS 2 STOP BITS	
3	CUSTOM OPTIONS	<ul style="list-style-type: none"> This menu is used to configure customized Printer options such as language, front feed, mode, etc. See the rear insert for specific custom options. <p>See the second configuration coupon for your specific customized Printer configuration.</p>
2	DIAGNOSTICS	• Selects the diagnostic test functions.
3	SINGLE TESTS	<ul style="list-style-type: none"> Prints a single test coupon. An asterisk (*) will appear next to the currently selected test. Use the ▲ or ▼ buttons to scroll to the desired test, then press the ENTER button. Depress the TEST button to execute the selected test.
	PRINTER CONFIG. ALARM HISTORY ABC CPN H COUPON ATB COUPON ITIN COUPON MAG ATB CPN SCN TEST MAG EN/DE-CODE FL DECODE PRT PRINthead TEST	<ul style="list-style-type: none"> Prints a configuration coupon. Prints an alarm history coupon. Prints a test coupon with an alphabet test pattern. Prints a test coupon with an H test pattern. Prints a single ATB test coupon. Prints a sample itinerary coupon. Prints a magnetically encoded test coupon. Prints a test coupon with SCN. Prints magnetically encoded and verified test coupons. Decodes magnetic data from front load coupons and prints the results on a separate coupon. Printhead Dot check.

LV	LCD MESSAGE	DESCRIPTION
3	MULTI TESTS	<ul style="list-style-type: none"> Prints multiple test coupons. An asterisk (*) will appear next to the currently selected test. Use the ▲ or ▼ buttons to scroll to the desired test, then press the ENTER button. Depress the TEST button to execute the selected test.
	MULTI ABC CPNS MULTI H CPNS MULTI ATB CPNS MULTI ITIN CPNS MAG ATB CPN MAG ATB SCN CPN MAG EN/DE-CODE	<ul style="list-style-type: none"> Prints test coupons with an alphabet test pattern. Prints test coupons with an H test pattern. Prints sample ATB test coupons. Prints sample itinerary coupons. Prints magnetically encoded ATB test coupons. Prints magnetically encoded coupons with SCN. Prints magnetically encoded and decoded test coupons.
3	MECH/ELECT TESTS	•
	RIBBON REWIND	• This test rewinds the ribbon.
3	COMM PORT TESTS	<ul style="list-style-type: none"> Tests the Printer's communications ports. An asterisk (*) will appear next to the currently selected test. Use the ▲ or ▼ buttons to scroll to the desired test, then press the ENTER button. Depress the TEST button to execute the selected test.
	COMM A TEST COMM B TEST	<ul style="list-style-type: none"> Wrap connector required. Wrap connector required.
3	TEST OPTIONS	•
4	INPUT BIN SELECT	<ul style="list-style-type: none"> Selects the bin the test coupon stock will be drawn from. An asterisk (*) will appear next to the currently selected option. Use the ▲ or ▼ buttons to scroll to the desired selection, then press the ENTER button to make that selection.
	FRONT FEED BIN 1 BIN 2 BIN 3	• • • •
4	OUTPUT SELECT	•
	OUTPUT REJECT	<ul style="list-style-type: none"> Outputs test coupons to the output bin. Outputs test coupons to the internal reject bin.
4	NUMBER OF MULTI	• Determines the number of coupons used in the MULTI TESTS.

LV	LCD MESSAGE	DESCRIPTION
2	MAINTENANCE	<ul style="list-style-type: none">Selects the maintenance test functions. Use the ▲ or ▼ buttons to scroll to the desired menu, then press the ENTER button to make that menu.
3	CLEAR COUNTERS	<ul style="list-style-type: none">This menu is used to clear all the resetable counters.
	EXIT=NO ENT=YES	<ul style="list-style-type: none">Press the ENTER button to clear the counters.
3	CLEAR HISTORY	<ul style="list-style-type: none">This menu is used to clear the Printer's alarm history.
	EXIT=NO ENT=YES	<ul style="list-style-type: none">Press the ENTER button to clear the alarm history.

3.4 CONFIGURATION (TEST) COUPON

The configuration test coupons can be printed (if selected under the diagnostic menu) by depressing the TEST button. The following paragraphs will describe each field of the first coupon (indicated by numbers shown figure 3-2). The second coupon contains the custom options, refer to the rear insert of this manual for your printer's custom options.

- | | |
|----------------------------------|--|
| 1. PRINTER IDENTIFICATION | This identifies the Printer's model number. |
| 2. SERIAL NO. | This field displays the Printer's serial number. |
| 3. PASSWORD | This field indicates if password protection is enabled or disabled. |
| 4. MAGNETICS | Currently includes Encode Tracks, and Verify Tracks. |
| 5. EXCEPTIONS | Includes the Coupon Retries, Void Coupon Destination options, and Void Coupon, Magnetics Verify Retry Count options, and Erase Mag Errors. |
| 6. SCN SETUP | Indicates if SCN is enabled/disabled, its order of print and the format type. |
| 7. RIBBON TYPE | Indicates the ribbon type (thermal transfer or direct thermal). |
| 8. ADJUSTMENTS | Includes the start of print Top and Left margins, Contrast settings, Coupon length, and the Print, Load and Reject speeds. |
| 9. COMMUNICATIONS | Includes the Communications Baud Rate, Parity, Data Bits, Stop Bits. |
| 10. OCR | OCR number test print field. |
| 11. FIRMWARE PART NO | This field presents the part numbers for all the individual firmware components within the Printer. Each entry is structured as follows: |

NAME - 46-XXXX-YYR

- NAME is the firmware component name.
- 46 is the firmware part number prefix.
- XXXX-YY is the firmware part number assigned to this firmware component.
- R is the revision level, A to Z.

12. TEST RESULTS

This field provides the results of all power-up tests performed. The following items are tested:

- **DIAG, APL** Application Processor and its associated electronics.
- **DIAG, MCU** Mechanism Control Processor and its associated electronics.
- **LAST ALARM** This is the last alarm to occur by group and type.
- **MAG ENCODE** The results of the mag encoding test performed on the test coupon itself.

The following results can appear unless otherwise indicated:

- PASSED** All power-up tests passed.
FAILED At least one test failed.

13. OPERATING HOURS

The amount of time, in hours: minutes: seconds since the Printer was powered up is displayed here.

14. RESOURCE STATUS

The status of the Printer's stock supply, and ribbon is displayed here.

15. BURST ADJ.

Burster adjustment (for use by maintenance personnel only).

16. PRINT ADJ.

Print adjustment (for use by maintenance personnel only).

DMX - 4000

1 SERIAL NO.: none
2 PASSWORD - DISABLED
3 **MAGNETICS**
 ENCODE/TRKS - YES/1234
 VERIFY/TRKS - YES/1234
4 **EXCEPTIONS**
 VOID COUPON - YES
 MAG RETRIES - 2
 ERASE MAG TRKS - 1234
 VOID DESTINATION - OUTPUT BIN
 COUPON RETRIES - 1
5 **SCN SETUP**
 ENABLED NO
 ORDER - ASCEND
 FORMAT- IATA 722
6 **RIBBON TYPE**- DIRECT THERMAL (none)
7

8 **ADJUSTMENTS**

	1	2	3	F-FEED
TOP MARGIN	-30	+00	+00	+00
LEFT MARGIN	+00	+00	+00	+00
CONTRAST	+0	+0	+0	+0
COUPON LENGTH	STUB	STUB	STUB	n/a
PRINT SPEED	NORM	NORM	NORM	NORM
LOAD SPEED	NORM	NORM	NORM	n/a
REJECT SPEED	NORM	NORM	NORM	n/a

9 **COMMUNICATIONS**

PORT	BAUD	PARITY	DATA	STOP
A	9600	EVEN	7	1
B	9600	NONE	8	1

10 1 2 3 4 5 6 7 8 9 0

11 **OPERATING HOURS**
 0000020:19:52
12 **RESOURCE - STATUS - COUNT**
 BIN 1 - OK - 4
 BIN 2 - OUT - 0
 BIN 3 - OUT - 0
 FRONT - n/a - 0
 THERMAL - OK - n/a
13 **TEST RESULTS**
 DIAG, APL - PASSED
 DIAG, MCU - PASSED
 LAST ALARM - group 1, type 3
 MAG ENCODE - PASSED
 BURST ADJ - -03
 PRINT ADJ - -03
 FIRMWARE PART NO.
 APL - 46-2280-02F
 MCU - 01.12

FIGURE 3-2. CONFIGURATION TEST COUPON

PRINTER BASICS

4.0 PRINTER BASICS

This chapter will describe how to replace the ribbon, remove voided coupons, operate the front feeder, and clear coupon jams.

4.1 REPLACING THE RIBBON CARTRIDGE

When the ribbon supply is exhausted the message "OUT OF RIBBON • REPLENISH-RESET" will be displayed on the LCD display, and the red ALARM LED will illuminate.

The ribbon cartridge should be removed only when being replaced or when using direct thermal stock.

1. Make sure the Printer's AC power is on.
2. Unlock and open the mechanism access cover as shown below.

Note: Some models may not have a key lock or mechanism access cover.

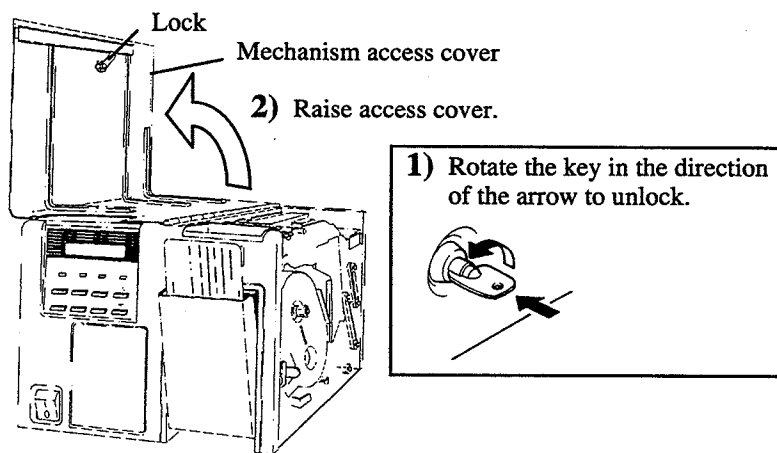


FIGURE 4-1. OPENING THE MECHANISM ACCESS COVER

Remove the ribbon cartridge as follows (refer to steps in figure 4-2):

Note: *The printhead assembly will unlatch automatically when the mechanism access cover is opened as long as the Printer's AC power is on.*

3. Press and hold the cartridge release latch.
4. Slide out the ribbon cartridge while holding the cartridge release.

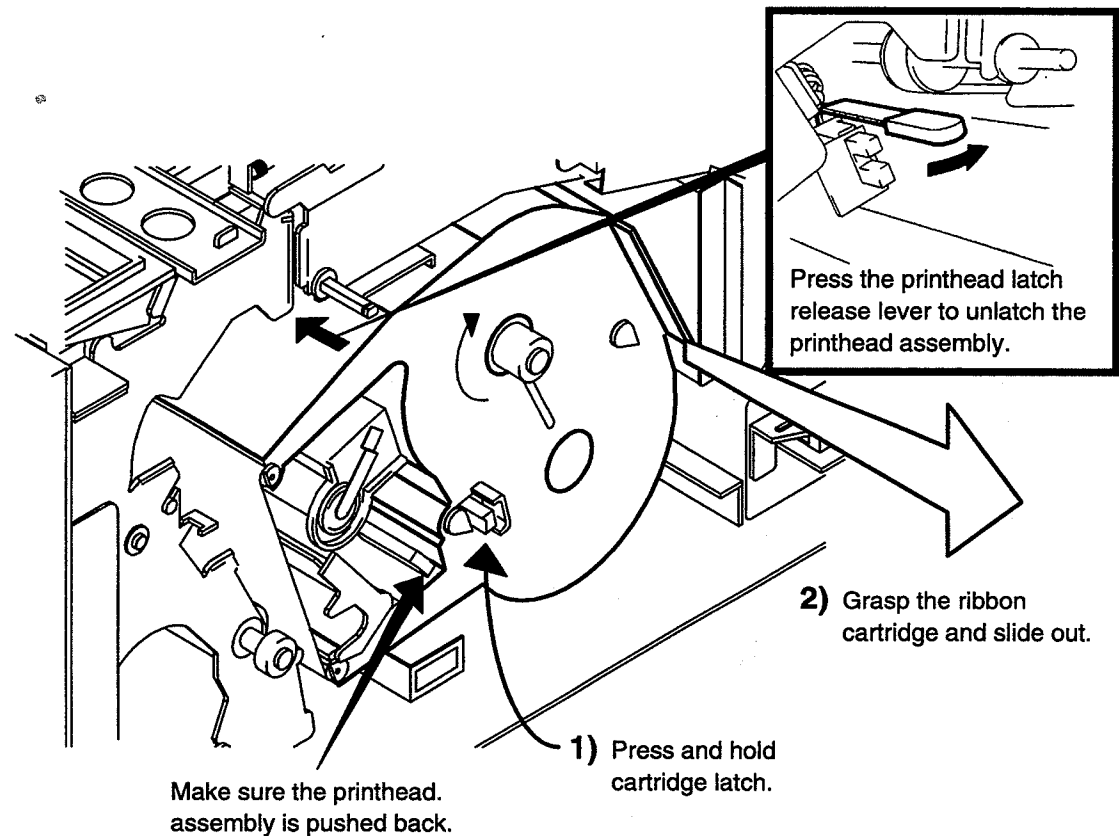


FIGURE 4-2. REMOVING THE RIBBON CARTRIDGE

Install the ribbon cartridge as follows (refer to figure 4-3):

Make sure the printhead assembly is pushed back. (see figure 4-2).

1. Align the ribbon cartridge with the cartridge guides and slide the ribbon cartridge into the Printer until locked in place.
2. Rotate the ribbon tension adjuster to the right to remove any ribbon slack.

Note: *The printhead assembly will close automatically when the mechanism access door is closed.*

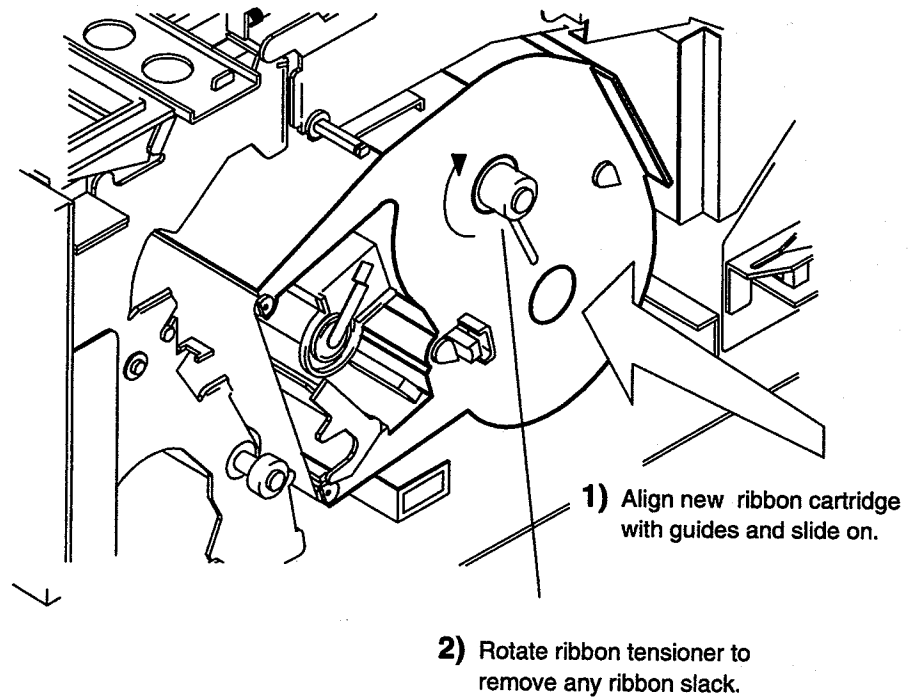


FIGURE 4-3. INSTALLING THE RIBBON CARTRIDGE

4.2 DIRECT THERMAL PRINTING

Direct thermal printing implies the use of direct thermal stock with no Printer ribbon installed. When configuring the Printer for direct thermal printing follow the instructions outlined below.

1. Remove the ribbon cartridge as outlined in sec. 4.1.
2. Press the MENU button to display the front panel menu selections.
3. Use the ▲ or ▼ buttons and scroll the menu until "SERVICE FUNCS" is displayed on the LCD display's bottom line, then press the ENTER button.
4. Enter your four alphanumeric-character password (refer to 3.3 for detailed description).
5. Use the ▲ or ▼ buttons and scroll the menu until "PRINTER SETUP" is displayed on the LCD display's bottom line, then press the ENTER button.
6. Use the ▲ or ▼ buttons and scroll menu until "RIBBON TYPE" is displayed on the LCD display's bottom line, then press the ENTER button.
7. Use the ▲ or ▼ buttons and scroll menu until "DIRECT THERMAL" is displayed on the LCD display's bottom line, then press the ENTER button.
8. Press the EXIT button until the following information is displayed.

CHANGE DEFAULT

exit=no enter=yes

9. Press the ENTER button to make the changes the new default.
10. Press the ONLINE button to restore on line operation.
11. Load direct thermal stock into the Printer (See section 2.4 Loading Stock).

4.4 FRONT FEEDER OPERATION

Front feed is normally used on line for ticket re-validation, updating, etc.. Before the front feeder can be used it must be enabled. Follow the instructions outlined below when using this feature.

1. Make sure the Printer's power is on.
2. The Printer should be on line (green ON LINE LED illuminated).
3. Follow the instructions indicated by the host computer and go to step 4 when inserting the coupon.
4. Insert the coupon into the front feeder with the boarding stub first, the staple tab last and the magnetic stripe up as shown in figure 4-4.

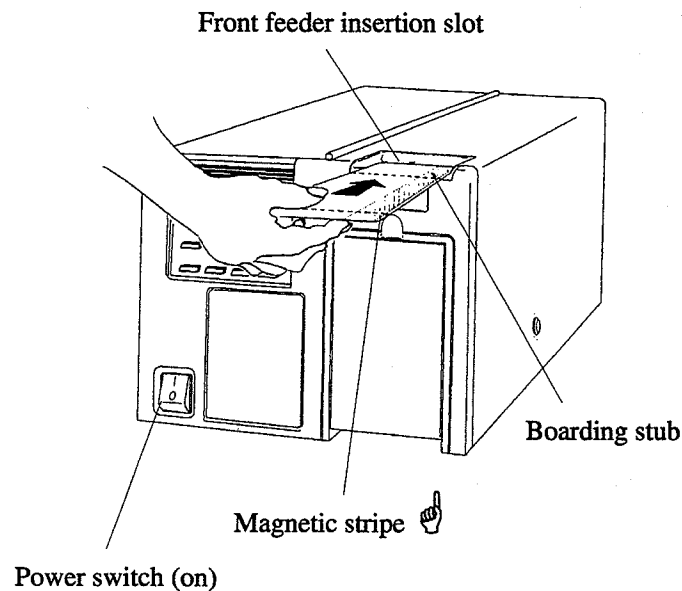


FIGURE 4-4. FRONT FEEDER INSERTION

4.4 REMOVING VOIDED COUPONS

When the reject bin is full the Printer will halt printing operations and display the message "REJECT BIN FULL • REMOVE CPNS" until the voided or rejected coupons are removed. When removing coupons from the reject bin refer to the instructions outlined below.

1. Using the key provided, unlock and open the mechanism access cover.
2. Raise the access cover to a full upright position as shown in figure 4-5.

Note: Some models may not have a key lock or mechanism access cover.

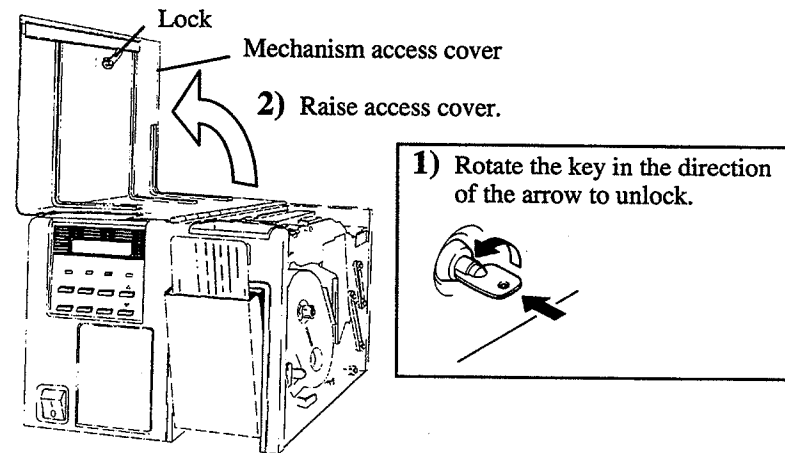


FIGURE 4-5. OPENING THE MECHANISM ACCESS COVER.

3. Locate the reject bin coupon ejection lever (refer to figure 4-6).
4. Pull the coupon ejection lever out to gain access to the voided coupons as shown in figure 4-6.
5. Remove the voided coupons.
6. Close and lock the mechanism access cover.

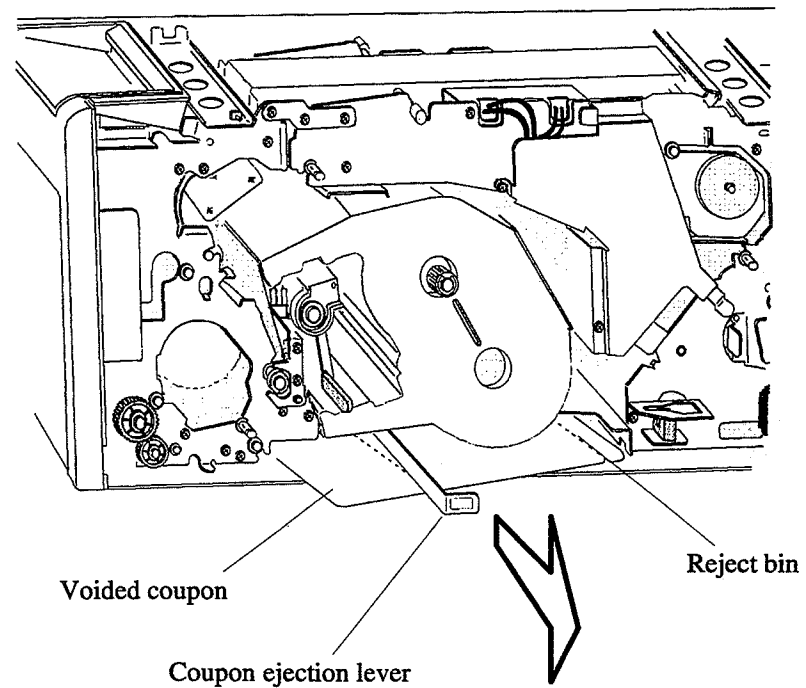
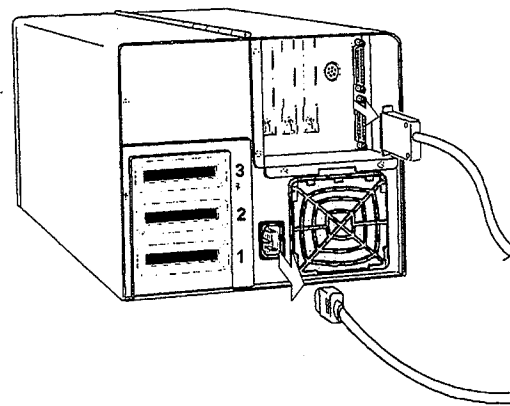


FIGURE 4-6. REMOVING VOIDED COUPONS

4.6 RELOCATING

To prevent damage to the printhead when relocating or shipping, it is very important that the Printhead assembly be secured with the securing foam removed from the Printer during unpacking.

1. Disconnect the communications cables and the power from the rear of the printer.



2. Install the printhead securing foam as shown in figure 4-7.

Note: To prevent damage to the Printhead the foam should be installed with or without the ribbon cartridge.

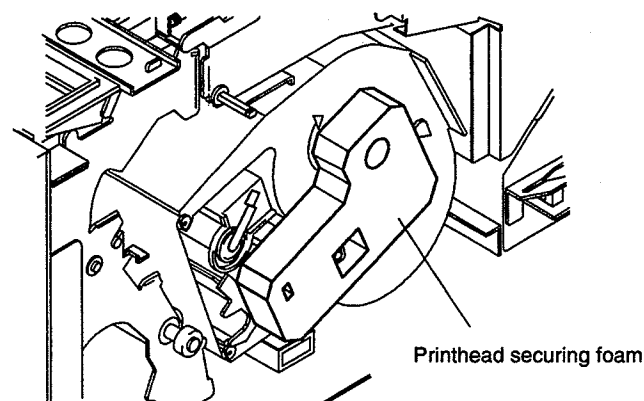


FIGURE 4-7. SECURING THE PRINTHEAD.

4.7 CLEARING PAPER JAMS

When a jam occurs within the Printer's mechanism an Alarm message will appear on the LCD display which can help in locating the problem. To assist in removal of coupon jams, green plastic shaft knobs are provided to allow rotation of different assembly shafts.

To remove coupon jams, unlock and open the mechanism access cover and remove the jams as explained below.

BURSTER JAMS

1. Rotate the green knob until the burster blade is locked open and remove any exposed paper jams from the rear stock input.
2. If step 1 failed to clear jam then pull out the burster unit latch knobs and remove the burster unit as shown below.
3. Remove the paper jam from the Printer, and re-install the burster unit and latch.
4. Close the Printer cover, lock.
5. Press RESET to clear the alarm.

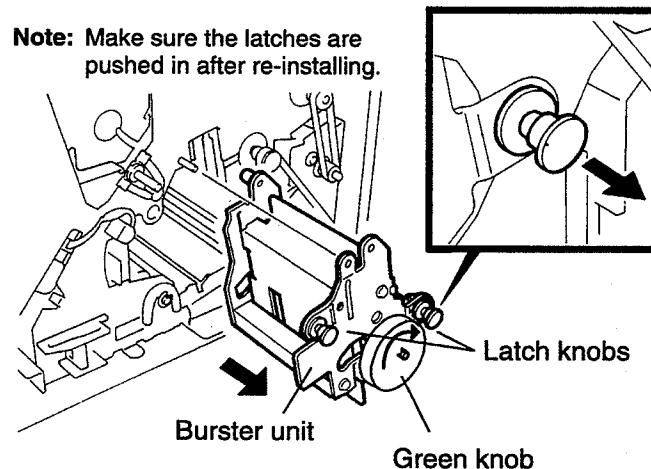


FIGURE 4-8. REMOVING THE BURSTER UNIT.

ENCODER JAMS

1. Open the encoder cover by pushing back the two green shaft ends, and lifting up (see figure 4-9).
2. Remove the jammed coupon.
3. Close the encoder cover and ensure cover is latched securely.
4. Close and lock the Printer's access cover.
5. Press RESET to clear the alarm.

EXIT JAMS

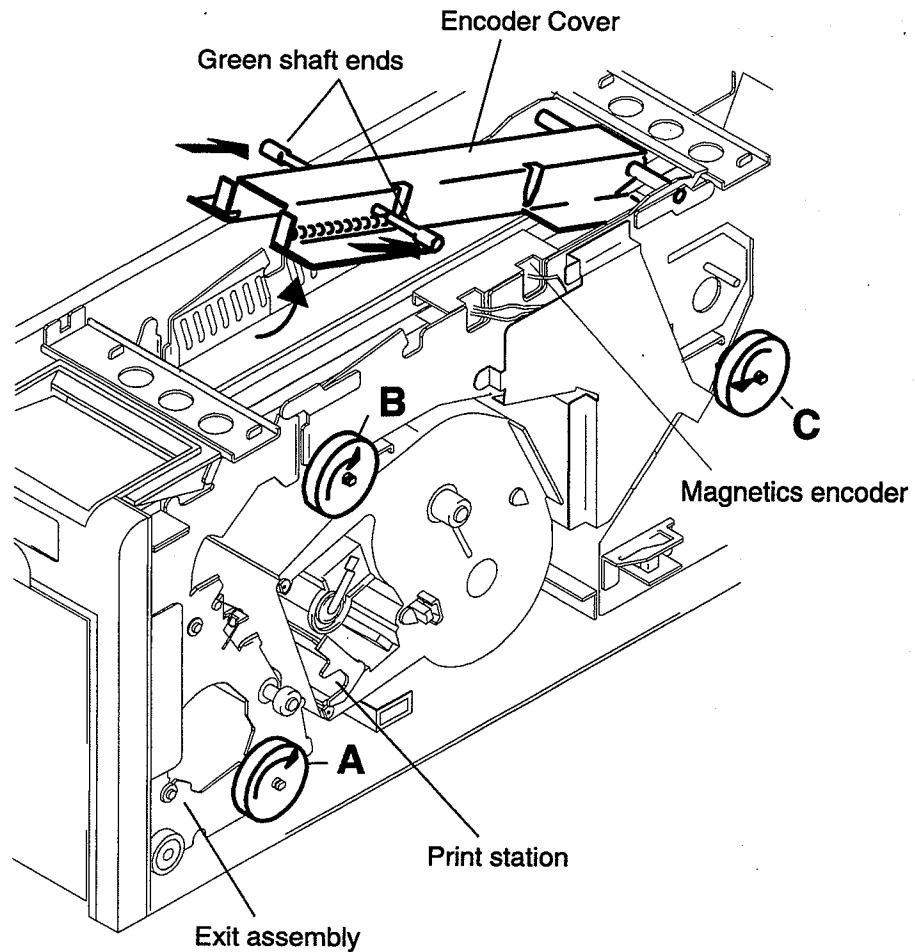
1. Rotate **knob A** clockwise until the coupon can be removed from beneath the output bin (see fig. 4-9).
2. Close and lock the Printer's access cover.
3. Press RESET to clear the alarm.

INPUT SUBSYSTEM JAMS

1. Rotate **knob C** counter clockwise until the jammed coupon is under the encoder cover (see fig. 4-9).
2. Open the encoder cover (see ENCODER JAMS) and remove the jammed coupon.
3. Close the encoder cover and ensure it is latched securely.
4. Close and lock the Printer's access cover.
5. Press RESET to clear the alarm.

PRINT STATION JAMS

1. Rotate **knob B** clockwise until the jammed coupon is under the encoder cover (see fig. 4-9).
2. Open the encoder cover (see ENCODER JAMS) and remove the jammed coupon.
3. Close the encoder cover and ensure cover is latched securely.
4. Close the Printer's access cover and press RESET.

**FIGURE 4-9. REMOVING JAMS**

TROUBLESHOOTING

5.0 TROUBLESHOOTING

This chapter will discuss operator alarms and how to correct them, how to read the alarm history coupon and the display status messages. This chapter will also explain how to clear paper jams within the Printer.

5.1 OPERATOR ALARMS

The operator alarms are automatically displayed during an alarm. No operator intervention is required. This format displays the Printer's alarm and the appropriate action the operator should take.

LCD message	Trouble	Solution
COVER/ENCODE CVR CLOSE	The Printer's mechanism access cover or encoder cover is open.	Close cover and press the RESET key to clear alarm. If alarm persists call for service.
BURSTER ALARM CHECK - RESET	A fault has occurred in the burster assembly. The burster failed to burst the coupon.	Check mechanism for jam. (refer to sec. 4.7) Press RESET button. If alarm persists call for service.
ELECTRONIC ALARM PRESS RESET	An internal logic fault has been detected.	Press the RESET button to clear the alarm. If alarm persists call for service.

LCD message	Trouble	Solution
BURSTER STATION JAM CHECK - RESET	A jam has been detected within the Printer's input path.	Open the cover, remove jam from the paper input path and press RESET to clear the alarm (refer to 4.7). If alarm persists call for service.
MAG. STATION JAM CHECK - RESET	A coupon jam has been detected within the Printer's magnetics assembly.	Remove jam from the magnetics assembly (refer to sec. 4.7) and press the RESET button to clear the alarm. If alarm persists call for service.
PRINT STATION JAM CHECK - RESET	A coupon jam has been detected within the Printer's print/exit assembly.	Open cover, remove jam from the Printer's printhead or exit assembly (refer to sec. 4.7) and press the RESET button to clear the alarm. If alarm persists call for service.
OUTPUT BIN FULL REMOVE-[RESET]	The output bin is full.	Remove coupons from the output bin (see section 2.3).
OUT OF RIBBON REPLENISH-RESET	The Printer's ribbon supply is exhausted.	Replace the ribbon (refer to sec. 4.1) and press RESET to clear the alarm.
OUT OF STOCK REPLENISH-RESET	The host requested a print job but the Printer is out of stock.	Replenish the coupon stock (refer to 2.4 / 2.4.1). If the problem persists call for service.

LCD message	Trouble	Solution
PRINthead POST RESET	The printhead can not find its home position.	Check print station for jams. (refer to sec. 4.7). Press RESET to clear the alarm.
REJECT BIN FULL REMOVE-[RESET]	The internal reject bin is full.	Open access cover and remove coupons from reject bin (refer to sec. 4.3).
RIBBON LOW	The Printer has detected a "low" ribbon condition (20% or less ribbon remains).	Replace the ribbon cartridge (refer to 4.1).

5.2 ALARM HISTORY DIAGNOSTIC CODES

The ALARM HISTORY coupon provides the operator or service technician with a record of the last 20 alarms which previously occurred. The alarm group abbreviations and types will only occur on the alarm history coupon, and the group number will only occur on the first configuration coupon. The display status messages can be viewed under the front panel display status menu which display the current alarms. These alarms are identified by diagnostic codes assigned to each alarm. These codes are broken down as follows:

GROUP

Alarms are grouped into classes where each group is given a specific name.

TYPE

Alarms within a group are assigned type numbers in order to distinguish between them.

5.2.1 ALARM GROUPS

Alarms of the same or similar kinds are grouped into an ALARM GROUP. The table below lists the groups, abbreviations, group number, and their descriptions.

<u>GROUP</u>	<u>ABBR.</u>	<u>NO.</u>	<u>DESCRIPTION</u>
ELECTRONICS	ELECT	1	All alarms which involve the Printer's electronic components.
MECHANISM	MECHAN	2	All alarms which involve the operation of the various electromechanical and mechanical mechanisms of the Printer.
RESOURCE	RESRC	3	Ribbon out.
INTERLOCKS	INTLCK	4	All alarms involved with an interlock device, such as the mechanism cover being opened.

5.2.2 ALARM TYPES

Within each alarm class, alarms are further identified using a type number. Resource alarms will not appear on the alarm history coupon. The following tables, one for each class, list the type number, the available Display Status messages, the description and some possible causes.

ELECTRONICS ALARMS

ALARM TYPE	DISPLAY STATUS MESSAGE	ALARM DESCRIPTION
* 1	INTERNAL ERROR	APL (Application Processor) detected an internal logic fault.
2	MCU ROM FAULT	MCU (Mechanism Control Processor) detected a ROM fault.
3	MCU RAM FAULT	MCU (Mechanism Control Processor) detected a RAM fault.
4	MCU COMM FAULT	MCU (Mechanism Control Processor) detected a communications fault.
5	TEXT FORMAT ERR	The APL (Application Processor) has sent an invalid message to the (Mechanism Control Processor) MCU.
6	INVALID VALUE	The APL (Application Processor) has sent the MCU (Mechanism Control Processor) an invalid value.
7	NOT IDLE CONDITO	The APL (Application Processor) requested a command which is not valid when the Printer was active (printing).
8	EXSEQ FULL ERROR	APL (Application Processor) sent invalid data to the MCU (Mechanism Control Processor).
9	MCU TIMEOUT	A time-out occurred between the APL and the MCU.
10	PRINT INCOMPLETE	A coupon has completed and all the print data was not transferred.

MECHANISM ALARMS

ALARM TYPE	DISPLAY STATUS MESSAGE	ALARM DESCRIPTION
3	BURSTER STATION	A jam condition or obstruction in the input path has been detected. This can be caused by excessive slip in the feed rollers, or incorrect or faulty stock itself.
4	MAG. STATION	A jam condition or obstruction in the magnetics assembly has been detected. • Check that the encoder cover is properly latched.
5	PRINT STATION	A jam condition or obstruction in the output path or at the printhead has been detected.
6	BURSTER ERROR	A fault condition occurred while attempting to burst the stock.

RESOURCE ALARMS

ALARM TYPE	DISPLAY STATUS MESSAGE	ALARM DESCRIPTION
	RIBBON OUT	The Printer ribbon supply is exhausted.
	OUT OF STOCK	No stock is available for a print request.
	RIBBON LOW	A ribbon low condition exists. 20% or less ribbon supply remains.

INTERLOCK ALARMS

ALARM TYPE	DISPLAY STATUS MESSAGE	ALARM DESCRIPTION
1	COVER/ENCODE CVR	The mechanism access cover or the magnetic encode cover is open.
2	REJECT BIN FULL	The internal reject bin is full.
3	OUTPUT BIN FULL	The external output bin is full.
4	PRINthead POST	The printhead is failing to position itself.

5.2.3 ALARM HISTORY COUPON

When selected, this function will produce the ALARM HISTORY coupon. The ALARM HISTORY lists the LAST 20 PRINTER ALARMS which occurred while the Printer was ON LINE and the stock counters. For each entry the following is displayed:

XXXX:YY:ZZ GROUP TYPE

Entry number, 1 to 20. The oldest alarm starts at number 1. The newest alarm has the numerically largest entry number.

XXXX:YY:ZZ Power-up time the alarm occurred where:

XXXX = hours

YY = minutes

ZZ = seconds

GROUP The GROUP name for the alarm group this alarm belongs to.

TYPE The TYPE number assigned to this alarm.

Figure 5-1 shows an actual example of the ALARM HISTORY coupon. Please refer to section 5.2.1 for a description of alarm groups and types.

DMX - 4000						S/N XXXXXXXX		
ALARM HISTORY						COUNTERS		
POWER-UP TIME: 0000012:41:18								
TIME	GROUP	TYP	TIME	GROUP	TYP	ABSOLUTE RESETTABLE		
1) 00000:29:55	INTLCK	001	11)			STOCK 1 -	11	11
2) 00000:32:03	INTLCK	001	12)			STOCK 2 -	0	0
3) 00000:04:32	MECHAN	005	13)			STOCK 3 -	0	0
4)			14)			FRNT FED-	0	0
5)			15)			ENCODER -	12	12
6)			16)			VOIDED -	2	2
7)			17)			JAMMED -	1	1
8)			18)			ENCD ERR -	0	0
9)			19)					
10)			20)					
LAST ALARM) 00008:23:31 MECHAN 005								

FIGURE 5-1. ALARM HISTORY COUPON

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Refer to the part numbers below when ordering replacements:

DESCRIPTION	PART NUMBER
Single pass ribbon cartridge -	70-2031-01
Multi-pass ribbon cartridge -	70-2032-01
Maintenance manual -	88-2042-01

Unimark, Inc.

9910 Widmer Road

Lenexa, KS 66215

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9910 Widmer Road • Lenexa, KS 66215 • 800-255-6356

IMPORTANT SAFETY INSTRUCTIONS

- ♦ Read and follow all warning instruction labels.
- ♦ Unplug the Printer before cleaning it. Use only a damp cloth; do not use liquid or aerosol cleaners.
- ♦ Do not use the Printer near water, or spill liquid of any kind into it.
- ♦ Do not use an AC plug adapter to defeat the grounding.
- ♦ Do not block the vents; Printer overheating could result.
- ♦ Do not attempt to use the Printer if its covers are removed.

RADIO AND TELEVISION INTERFERENCE

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 reasonable protection against harmful interference when 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 which case the user will be required to correct the interference at his or her own expense.