LEXMARK™

RFID UHF option

Setup Guide

Safety information

Refer service or repairs, other than those described in the user documentation, to a professional service person.

CAUTION—SHOCK HAZARD: Make sure that all external connections (such as Ethernet and telephone system connections) are properly installed in their marked plug-in ports.

CAUTION—POTENTIAL INJURY: Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

This product is designed, tested, and approved to meet strict global safety standards with the use of specific Lexmark components. The safety features of some parts may not always be obvious. Lexmark is not responsible for the use of other replacement parts.

Contents

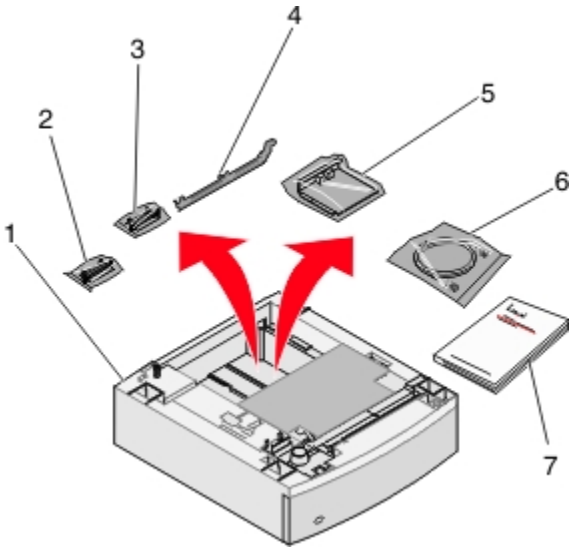
Setting up the RFID UHF option

Checking the box contents

Notes:

- You must have a 250- or 500-sheet drawer installed on the printer to load RFID labels and print tags.
- This option works with all Lexmark™ T64x series printers, except the Lexmark T640rn.

The RFID UHF option comes in a box with other items needed for installation. Once the box is unpacked, verify that you have the following items:



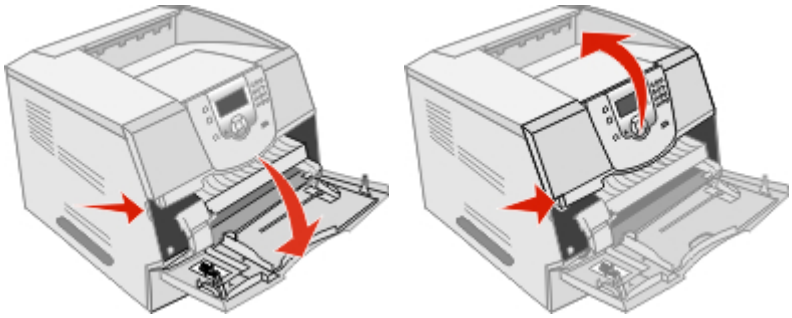
1	RFID UHF option
2	Firmware card
3	Flash memory card
4	Fuser wiper
5	Interface card
6	RFID cable
7	*RFID UHF option Setup Guide*

Accessing the system board to install internal options

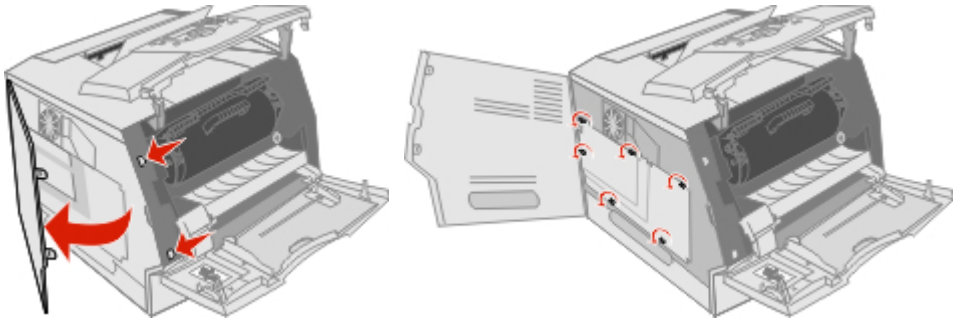
CAUTION—SHOCK HAZARD: Turn the printer off, and unplug the power cord from the wall outlet before continuing. If you have any other devices attached to the printer, turn them off as well and unplug any cables going into the printer.

Note: Use a #2 Phillips screwdriver to remove the system board cover.

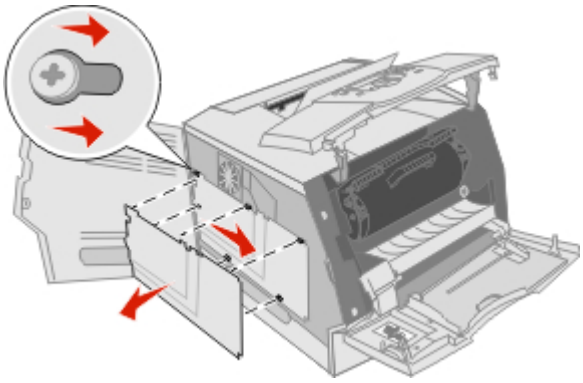
1. Push the release latch, and then lower the multipurpose feeder tray.
2. Push the release latch, and then open the top front cover.



3. Press both side door latches, and open the side door.
4. Loosen, but do not remove, the six screws on the system board cover.



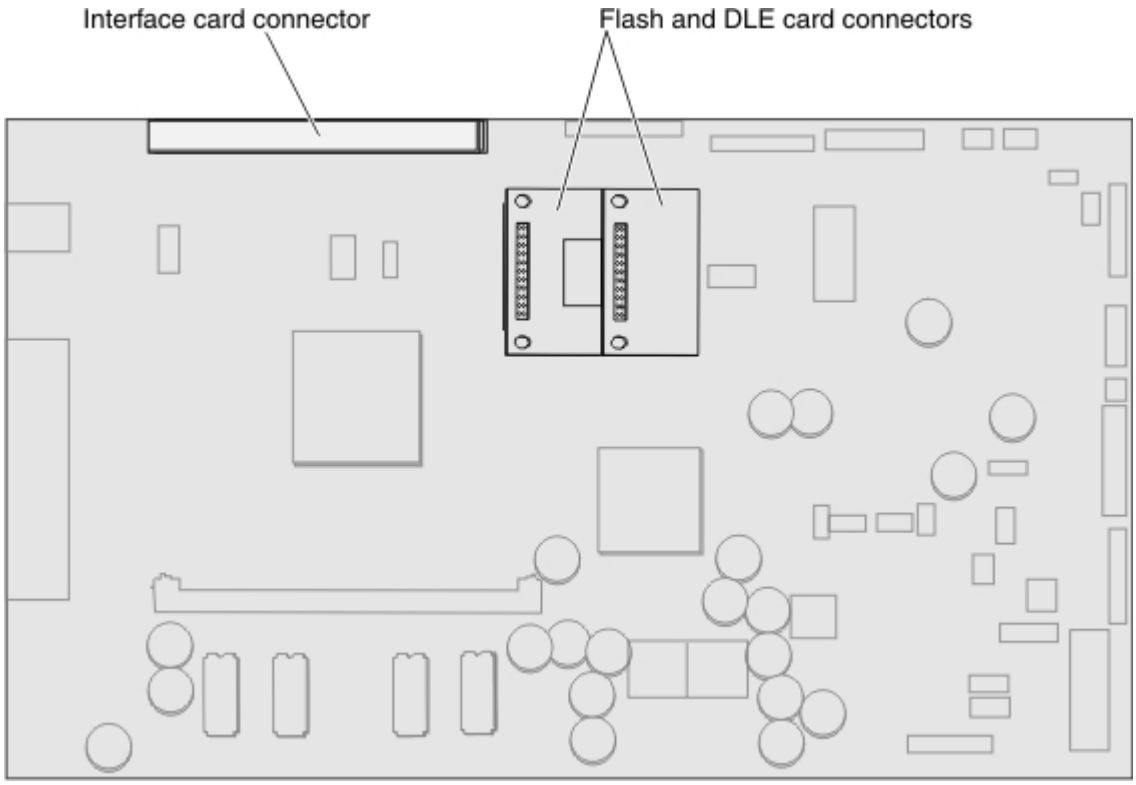
5. Slide the system board cover to the right, and then remove it.



6. Set the system board cover aside.

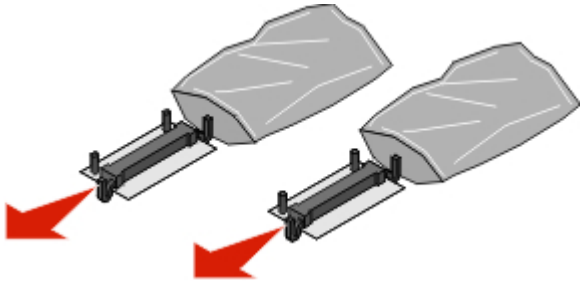
7 Use the following illustration to locate the appropriate connector.

Warning—Potential Damage: System board electrical components are easily damaged by static electricity. Touch something metal on the printer before touching any system board electronic components or connectors.



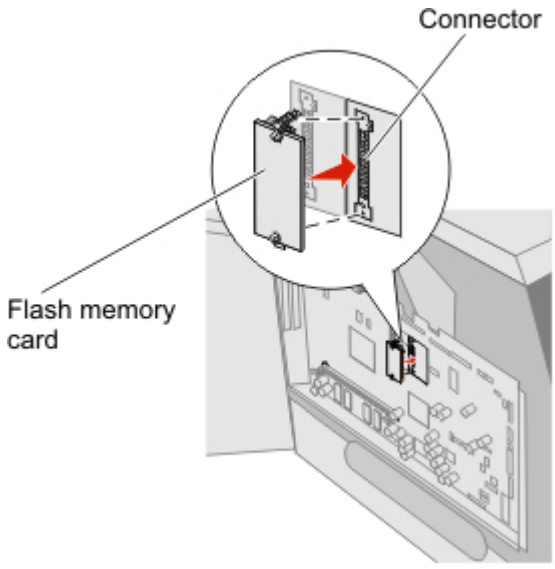
Installing flash memory and firmware cards

1 Unpack the flash memory and firmware cards.



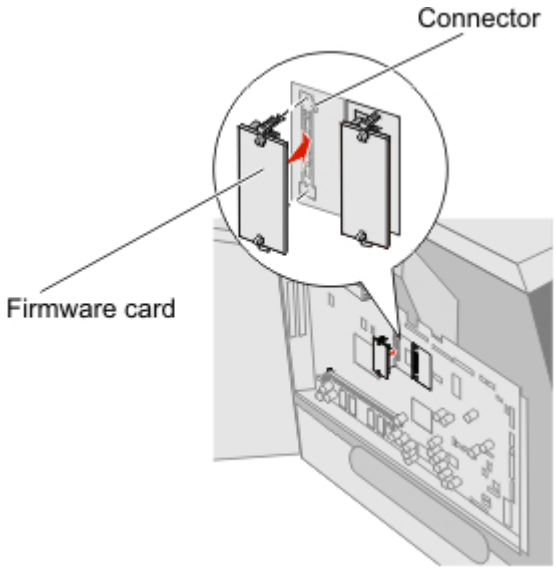
2 Holding the flash memory card by the locking clips, align the plastic pins on the card with the holes on the system board.

3 Push the flash memory card firmly into place, and then release the locking clips.



4 Holding the firmware card by the locking clips, align the plastic pins on the card with the holes on the system board.

5 Push the firmware card firmly into place beside the flash memory card, and then release the locking clips.



Notes:

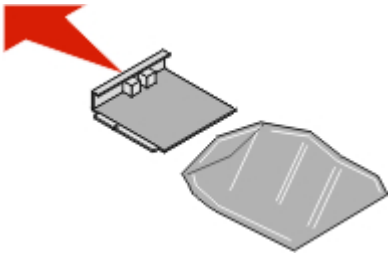
- The entire length of the connector on the flash memory and firmware cards must touch the system board and be locked into the connector.
- Be careful not to damage the connectors.

Installing an interface card

1 Locate the card connectors on the system board.

2 Remove the screw and the cover plate, and save them.

3 Unpack the interface card.

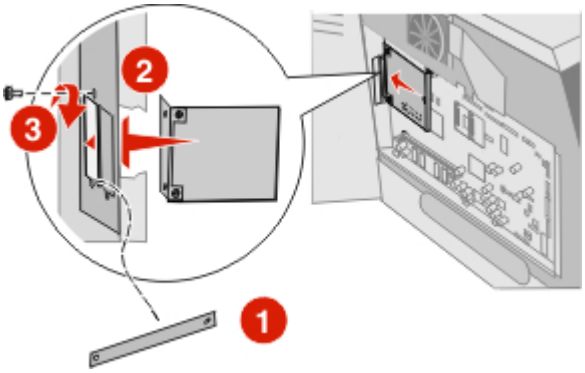


4 Align the connection points on the card with the connector on the system board, and push the card firmly into the system board connector.

5 Insert the screw saved from the cover plate (or the extra screw shipped with the card).

6 Tighten the screw to secure the card.

Note: The Lexmark T642 and T644 have two card connectors. The interface card must be installed into the left connector, which is the closest to the controller card.



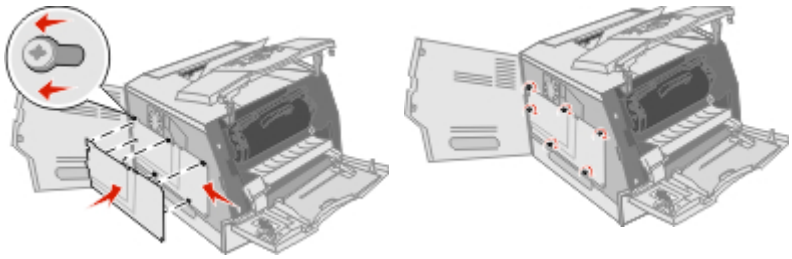
Replacing the system board cover

After you have installed the options on the printer system board, follow these steps to reattach the system board cover and close the doors.

1 Align the keyholes on the system board cover with the screws on the frame.

2 Slide the system board cover to the left onto the screws.

3 Tighten the screws.



4 Close the side door.

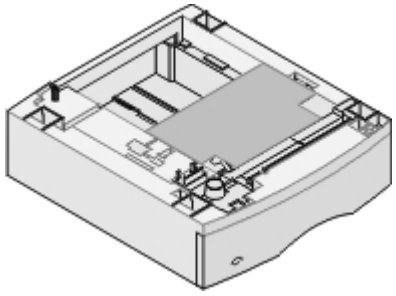
5 Close the top front cover.

6 Close the multipurpose feeder.

Installing the RFID UHF option

The RFID UHF option is positioned under the printer, or, if a duplex unit is installed, it is positioned under the duplex unit.

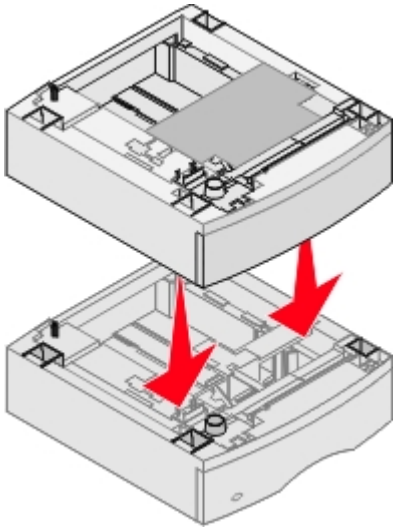
1 Remove all packing material and tape from the RFID UHF option.



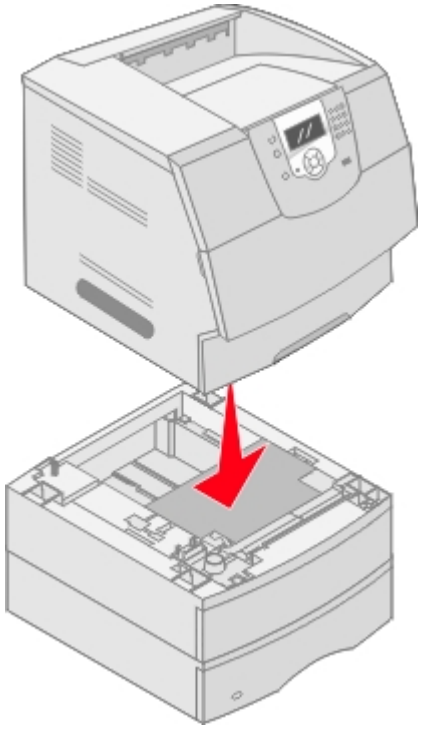
2 Disconnect all cables from the printer.

3 Separate the printer from the 250- or 500-sheet drawer.

4 Place the RFID UHF option on top of the 250- or 500-sheet drawer.



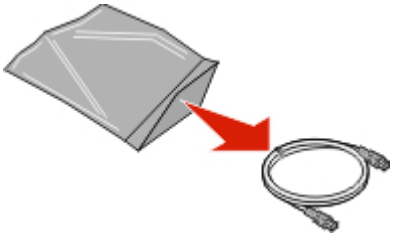
5 Place the printer on top of the RFID UHF option.



6 Do not reconnect the cables until after the RFID cable is connected. For more information, see "Connecting the RFID cable" on page 11.

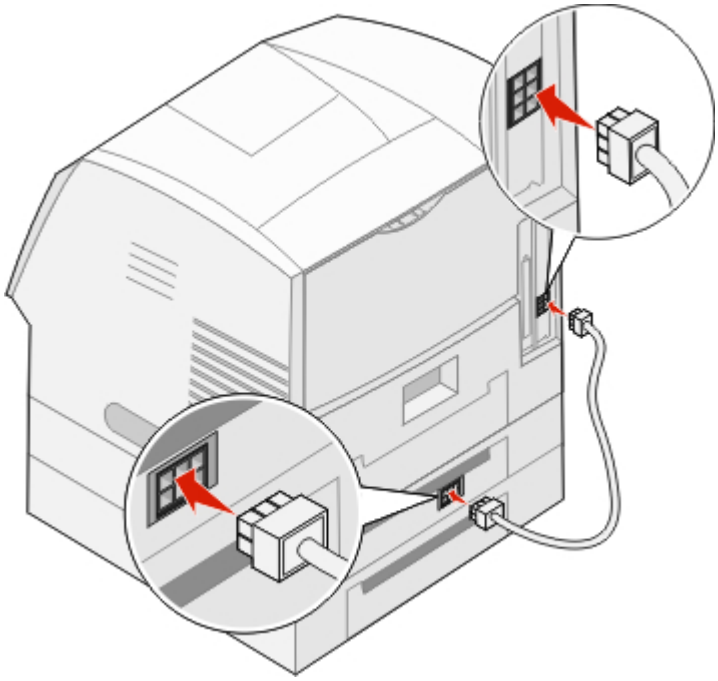
Connecting the RFID cable

1 Unpack the RFID cable.



2 Attach one end to the RFID UHF option.

3 Attach the other end to the printer.



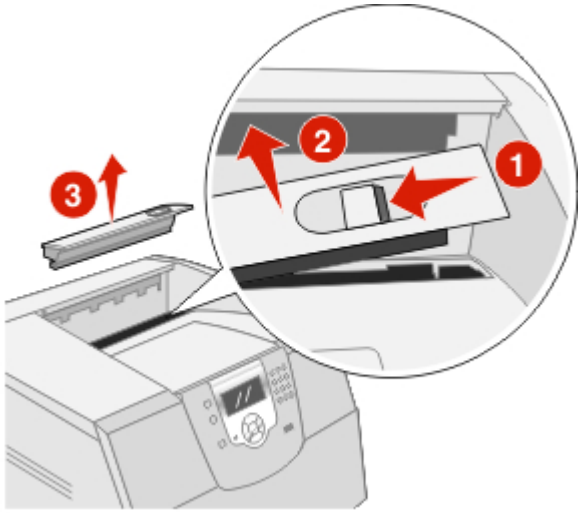
4 Reconnect all other cables to the printer, and then turn the printer on.

The printer is now ready to print with the RFID UHF option.

Installing the fuser wiper

1 Unpack the fuser wiper.

2 Locate the fuser wiper cover latch on the right side of the printer.



3 Squeeze the buttons together, and then lift the right end of the fuser cover to remove it.

4 Pull the cover out to the right.

5 Grasp the handle on the old fuser wiper, and then lift it out.

6 Replace the old fuser wiper with the new one.

7 Replace the fuser wiper cover.

Choosing output and input devices

Choosing an output device

Output devices used in printing labels include the output expander, high-capacity output stacker, adjustable stacker, and 500-sheet RFID drawer. Choose an output device based on the software program, the length of label needed, and the number of labels that you expect to print at one time. To order an output device, visit the Lexmark Web site at **www.lexmark.com**.

Output device	Part number
Output expander **Note:** Lexmark recommends using the adjustable stacker when using dual Web media equal to or greater than the length of an 8.5 x 11-inch sheet.	20G0894
High-capacity output stacker **Note:** Lexmark recommends using the adjustable stacker when using dual Web media equal to or greater than the length of an 8.5 x 11-inch sheet.	20G0896
Adjustable stacker (standard output bin option) **Note:** The adjustable stacker is useful in situations in which label media approaches lengths that could extend beyond the length of the standard output bin. It allows customers to tailor the output stacking properties of their media for maximum effectiveness.	20G1360

Choosing an input device

Input devices available for this printer include the 250-sheet drawer and the 500-sheet drawer. Choose an input device based on the software program, the length of label needed, and the number of labels that you expect to print at one time. To order an input device, visit the Lexmark Web site at **www.lexmark.com**.

Input device	RFID label support	Part number
250-sheet drawer	Yes	20G0889
500-sheet drawer	Yes	20G0890

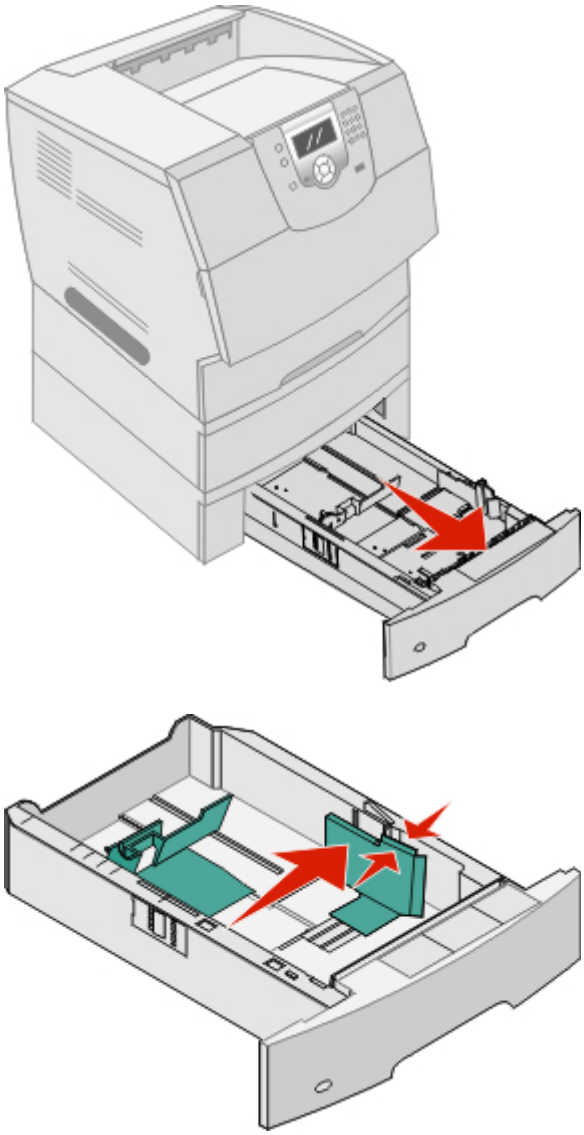
Preparing to print

Loading RFID labels

To load labels:

Note: Do not remove a tray when a job is printing or when the operator panel indicator light is blinking. Doing so may cause a jam.

1. Remove the tray from the printer, and place it on a flat, level surface.
2. Squeeze the side guide tab, and slide the guide to the outer edge of the tray.



3. Flex the label sheets back and forth to loosen them, and then fan them. Do not fold or crease the label sheets. Straighten the edges on a level surface.

4 Place the label sheets with the print side facing down and the labels positioned at the front of the tray.

Note: When loading labels, leave at least 1 inch of space between the top of the label stack and the top of the drawer. Overloading may cause paper jams or damage to the labels.

5 Squeeze the rear guide tab, and slide the guide to the correct position for the size label sheets you are loading.

6 Insert the tray into the printer.

The increased thickness of RFID labels reduces the capacity of input and output devices. For information on label construction, see the *Card Stock and Label Guide* on the Lexmark Web site at **www.lexmark.com/publications**.

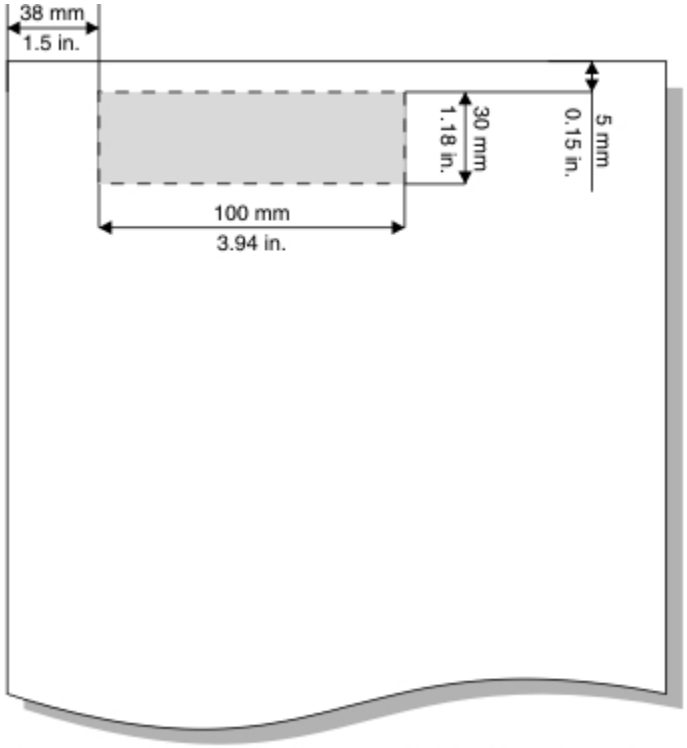
Proper tag orientation for printing

Tags must be built to EPC class 1 generation 2 specifications (IS0 18000-6C).

Note: The RFID UHF option supports one tag per sheet.

The following are examples of tags known to work correctly:

- Avery Dennison
  AD-222
- Raflatec
  Dogbone 3000838
  G2 Web 3001106

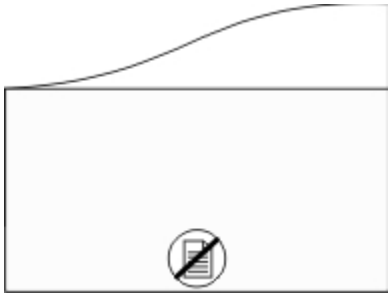


All tags must be located on the back of the label sheet. The above example is shown with print side facing up.

Printing

Identifying rejected labels

When a label is rejected, a unique defective tag marking pattern or symbol appears at the bottom of the label sheet as shown in the following diagram.



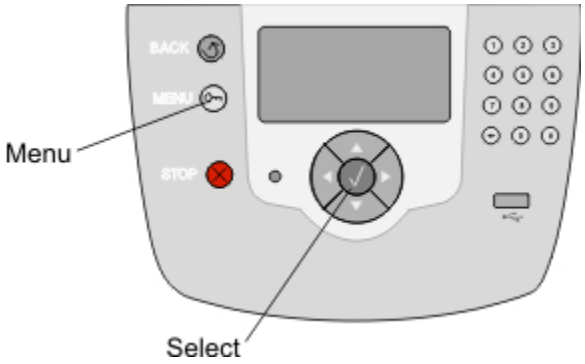
Note: A pattern or symbol appears only if **Yes** is selected from the Mark on Error menu.

Understanding the RFID menu

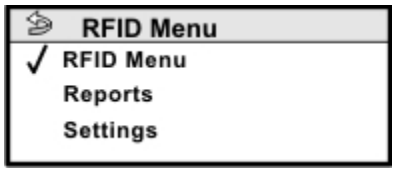
Configuring RFID-specific settings

The RFID menu is used to configure RFID-specific settings.

Note: RFID settings appear on the menu settings page. For information on printing a menu settings page, see the *User's Guide* available on the *Software and Documentation* CD.



Press to access the Menu options. Select **RFID Menu** from the list.



The RFID Menu settings appear.

RFID Settings
Retry Count
Stop on Error
Reject Bin
Mark on Error
Reset Label Counters

Retry count

Menu selection	Purpose	Option	Comments
Retry Count	Determines how many times to retry printing an RFID page when a tag refuses to program. Each retry uses a new sheet of RFID media.	0–255	Zero is the factory default setting.

Stop on Error

Menu selection	Purpose	Option	Comments
Stop on Error	Determines whether to stop printing and post a message on the display when the Retry Count is exhausted	Yes No	Yes is the factory default setting.

Reject Bin

Menu selection	Purpose	Option	Comments
Reject Bin	Determines where to send sheets with RFID tags that failed to program correctly. Standard Bin and Disabled are displayed if no option bins are installed.	Disabled Standard Bin Bin 1 Bin 2 Bin 3 Bin 4 Bin 5 Bin 6 Bin 7 Bin 8 Bin 9 Bin 10 **Note:** Bins 7–10 are not recommended for label applications.	Disabled is the factory default setting.

Mark on Error

Menu selection	Purpose	Option	Comments
Mark on Error	Tells the printer to print a defective tag pattern on the bottom of any media when a defective tag is detected	Yes No	No is the factory default setting.

Reset Label Counters

Menu selection	Purpose	Option	Comments
Reset Label Counters	Clears the current version of label counters (passed and failed). Reset is the only menu selection	Value Reset	When Reset is selected, a “Contents will be lost” confirmation prompt appears.

Understanding RFID printer messages

RFID error messages

Message	Action
44.00 RFID error (generic)	1 Turn the printer off. 2 Unplug the power cord from the wall outlet. 3 Check all cable connections. 4 Connect the power cord to a grounded outlet. 5 Turn the printer on. 6 If the message recurs, contact Customer Support, and report the message number and a description of the problem.
44.01 Bad tag error	• Cancel the current job and reprint. • Contact the software program solution provider if the percentage of failure seems high.
44.11 Data is bad	
44.12 Missing bytes in subcommand	
44.13 Too many bytes in subcommand	
44.14 Generic invalid argument error	
44.15 Invalid magic number	
44.16 Known but unsupported magic number	
44.17 Illegal characters in subcommand	
44.18 Invalid opcode	
44.19 Valid but unsupported opcode	
44.20 Invalid protocol	
44.21 Valid but unsupported protocol	
44.22 Operation not supported by reader	
44.23 Invalid ID length for given protocol	
44.24 Invalid ID bit pattern for given protocol	
44.25 Too many tags on page	
44.26 Tag location parameters invalid	
44.31 Generic run-time reader error	
44.32 Reader response timeout	
44.33 Garbled or short response from reader	
44.34 Read/verify operation failed	

RFID service messages

Message	Action
902.81 Service engine software error	1 Turn the printer off. 2 Unplug the power cord. 3 Check all cable connections. 4 Make sure the RFID UHF option is positioned under the printer, or, if a duplex unit is installed, it is positioned under the duplex unit. 5 Connect the power cord to a properly grounded outlet. 6 Turn the printer on. 7 If the service message recurs, contact Customer Support, and report the message number and a description of the problem.
982.xx Tray controller card error	
985.01 Unable to communicate with interface card	
985.02 Unable to communicate with radio	
985.03 Radio fails internal self test	
985.04 Antenna appears disconnected	
985.05 Radio firmware flash upgrade failed	
985.06 Antenna is plugged into the incorrect port	
985.07 Unable to detect antenna	

Notices

Product information

Machine type:

4061

Model(s):

RF1

Edition notice

February 2008

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For Lexmark technical support, visit **support.lexmark.com**.

For information on supplies and downloads, visit **www.lexmark.com**.

If you don't have access to the Internet, you can contact Lexmark by mail:

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Lexington, KY 40550
USA

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Federal Communications Commission (FCC) compliance information statement

This product has been tested and found to comply with the limits for a Class B digital device, pursuant to 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.

The FCC Class B limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult your point of purchase or service representative for additional suggestions.

The manufacturer is not responsible for radio or television interference caused by using other than recommended cables or by unauthorized changes or modifications to this equipment. Unauthorized changes or modifications could void the user's authority to operate this equipment.

Note: To assure compliance with FCC regulations on electromagnetic interference for a Class B computing device, use a properly shielded and grounded cable such as Lexmark part number 1021294 for USB attach. Use of a substitute cable not properly shielded and grounded may result in a violation of FCC regulations.

Any questions regarding this compliance information statement should be directed to:

Director of Lexmark Technology & Services
Lexmark International, Inc.
740 West New Circle Road
Lexington, KY 40550
(859) 232–3000

Modification notice

Pursuant to Part 15.21 of the FCC Rules, any changes or modifications to this equipment not expressly approved by the manufacturer may cause harmful interference and void your authority to operate this equipment. Use of supplied data cable is required to comply with the Class B limits of Part 15 of the FCC Rules. This product does not contain any user serviceable components and is to be used with the supplied antenna only.

Exposure to radio frequency radiation

The radiated output power of this device is far below the radio frequency exposure limits of the FCC and other regulatory agencies. A minimum separation of 20 cm (8 inches) must be maintained between the antenna and any persons for this device to satisfy the RF exposure requirements of the FCC and other regulatory agencies.

US/Canada radio frequency statement

Due to radio frequency limitations, this product works only within the United States and Canada.

Industry Canada radio interference statement

Industry Canada (Canada)

This device complies with Industry Canada specification RSS-210. Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

The installer of this radio equipment must ensure that the antenna is located or pointed such that it does not emit RF fields in excess of Health Canada limits for the general population; consult Safety Code 6, obtainable from Health Canada's Web site www.hc-sc.gc.ca/rpb.

The term "IC:" before the certification/registration number only signifies that the Industry Canada technical specifications were met.

Industry Canada (Canada)

Cet appareil est conforme à la norme RSS-210 d'Industry Canada. Son fonctionnement est soumis aux deux conditions suivantes :

(1) cet appareil ne doit pas provoquer d'interférences et (2) il doit accepter toute interférence reçue, y compris celles risquant d'altérer son fonctionnement.

L'installateur de cet équipement radio doit veiller à ce que l'antenne soit implantée et dirigée de manière à n'émettre aucun champ HF dépassant les limites fixées pour l'ensemble de la population par Santé Canada. Reportez-vous au Code de sécurité 6 que vous pouvez consulter sur le site Web de Santé Canada www.hc-sc.gc.ca/rpb.

Le terme « IC » précédant le numéro de d'accréditation/inscription signifie simplement que le produit est conforme aux spécifications techniques d'Industry Canada.

European Community (EC) directives conformity statement for radio products

This product is in conformity with the protection requirements of EC Council directives 2004/108/EC, 2006/95/EC, and 1999/5/EC on the approximation and harmonization of the laws of the Member States relating to electromagnetic compatibility, safety of electrical equipment designed for use within certain voltage limits and on radio equipment and telecommunications terminal equipment.

Compliance is indicated by the CE marking.

A declaration of conformity with the requirements of the directives is available from the Director of Manufacturing and Technical Support, Lexmark International, S. A., Boigny, France.

This product satisfies the limits of EN 55022; safety requirements of EN 60950; radio spectrum requirements of ETSI EN 302 208; and the EMC requirements of EN 55024, ETSI EN 301 489-1 and ETSI EN 301 489-3.

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English	Hereby, Lexmark International, Inc., declares that this type of equipment is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.
Español	Por medio de la presente, Lexmark International, Inc. declara que este producto cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 1999/5/CE.
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