

RDM SYNERGY II Installation Guide



RDM | SYNERGY II



This manual, the RDM SYNERGY II Installation Guide, is intended for RDM SYNERGY II units only.

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Compliance Statements

FCC Compliance Statement

NOTE: 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 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 which case the user will be required to correct the interference at his/her own expense.

Models with internal modem: Modem-equipped models comply with Part 68 of the FCC rules and the requirements adopted by the ACTA. They connect to the telephone line by means of a standard jack (USOC RJ-11C). On the bottom of the equipment is a label that contains, among other information, the product identifier US: RCOMM00B2433RDM3, with no explicit mention of Ringer Equivalence. If requested, this information must be provided to the telephone company.

The Ringer Equivalence Number (REN) is used to determine the number of devices that may be connected to a telephone line. Excessive RENs on a telephone line may result in the devices not ringing in response to an incoming call. In most, but not all areas, the sum of RENs should not exceed five (5.0). To be certain of the number of devices that may be connected to a line, as determined by the total RENs permissible on your telephone line, contact the local telephone company. The REN for the RDM SYNERGY II is US: RCOMM00B2433RDM3. The digits 00 are the REN without a decimal point (00 is the REN of 0.0).

The plug and jack used to connect this equipment to the premises wiring and telephone network must comply with the applicable FCC Part 68 rules and requirements adopted by the ACTA. A compliant telephone cord with modular plug is provided with this product. It is designed to connect to a compatible modular jack that is also compliant. See the installation instructions for details.

If this equipment is equipped with a modem and causes harm to the telephone network, the telephone company will notify you in advance that temporary discontinuance of service may be required. If advance notice is not feasible, you will be notified as soon as possible. When you are notified, you will be given the opportunity to correct the problem and informed of your right to file a complaint with the FCC if you believe that it is necessary. Contact your telephone company if you have any questions about your phone line.

Telephone Company Procedures: The goal of the telephone company is to provide you with the best service it can. In order to do this, it may occasionally be necessary for them to make changes in their equipment, operations or procedures. If these changes might affect your services or the operation of your equipment, the telephone company will give you notice, in writing, to allow you to make any changes necessary to maintain uninterrupted service. Connection to party line service is subject to state tariffs. Contact the state public utility commission, public service commission, or corporation commission for information. Connection to Telephone Company provided coin service is prohibited.

If the building where a modem-equipped RDM product is installed has specially wired alarm equipment connected to the telephone line, ensure that the installation or operation of the modem does not disable your alarm equipment. If you have questions about what will disable alarm equipment, consult your telephone company or a qualified installer.

All units covered by this manual have no user-serviceable parts inside. In the event repairs are ever needed to any RDM product, they should be performed by RDM Corporation or an authorized representative of RDM Corporation. For information please contact RDM Corporation, 4-608 Weber Street North, Waterloo, Ontario, Canada N2V 1K4, at 1-800-567-6227, or RDM's US service agent below.

US Service Agent

Tim Luther

(952) 447-4430

(612) 868-3077 (mobile)

tluther@rdmcorp.com

Industry Canada Compliance Statement

This product meets the applicable Industry Canada technical specifications/Le présent matériel est conforme aux spécifications techniques applicables d'Industrie Canada.

The Ringer Equivalence Number is an indication of the maximum number of devices allowed to be connected to a telephone interface. The termination on an interface may consist of any combination of devices subject only to the requirement that the sum of the RENs of all the devices does not exceed five/L'indice d'équivalence de la sonnerie (IES) sert à indiquer le nombre maximal de terminaux qui peuvent être raccordés à une interface téléphonique. La terminaison d'une interface peut consister en une combinaison quelconque de dispositifs, à la seule condition que la somme d'indices d'équivalence de la sonnerie de tous les dispositifs n'excède pas 5.

For information contact: RDM Corporation, 4-608 Weber Street North, Waterloo, Ontario, Canada N2V 1K4

Introduction

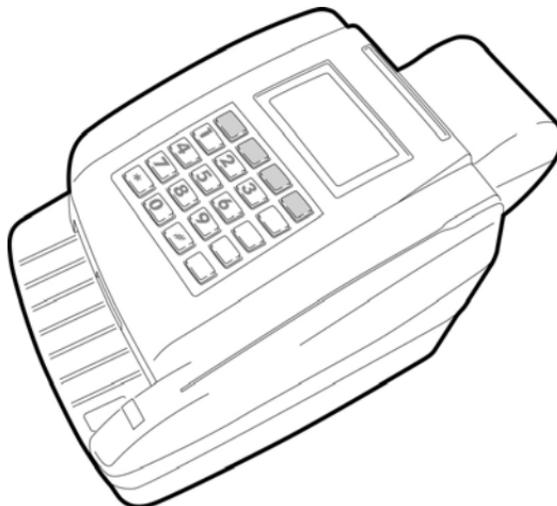
RDM SYNERGY II is a versatile, feature-rich, all-in-one Point-Of-Sale (POS) payment solution.

Utilizing RDM's industry leading progressive MICR method and imaging technology, RDM SYNERGY II is ideal for Electronic Check Conversion (ECC).

With an integrated keypad, magstripe reader, graphical display, bi-directional document drive, OCR MICR assist, franking acknowledgment printer, and optional thermal printer, RDM SYNERGY II is the only terminal you need for all card and ECC payment acceptance.

RDM SYNERGY II supports:

- Checks
- Credit, debit, and ATM cards
- Electronic benefits transfer (EBT)



Do's and Don'ts

Requirements

- RDM SYNERGY II is for indoor use only. Keep RDM SYNERGY II **dry** and avoid areas of high humidity.
- RDM SYNERGY II **must** be used with the power adapter supplied in the original shipping container, power adapter model (RDM Part #302815).
- **Do not remove any cabinetry** other than the areas specified in this guide; removing cabinetry other than the areas specified in this guide will void the warranty.

Recommendations

- **Save the original box** and packing material. Re-use them if the unit must be shipped to a new location.
- **Position the unit** so that the operator has easy access to the check path and a clear view of the display. Do not put the unit close to a heat source, in direct sunlight or close to any device that can emit electromagnetic interference such as a computer monitor or power adapter.

Setting Up RDM SYNERGY II

To set up RDM SYNERGY II, follow steps A – H.

A. Choose a Location

Locate your terminal in a place that:

- has a flat surface, such as a countertop or table;
- is convenient for the terminal operator;
- is not close to any device that can emit electromagnetic interference such as a computer monitor or power adapter;
- offers adequate ventilation and protection from elements such as heat, dust, oil, or moisture;
- is close to a telephone line or network connection (depending on your unit) and power connections.

B. Unpack the Shipping Box

Open the top of the box. Remove and unwrap the items. Save the box and wrapping for future use.

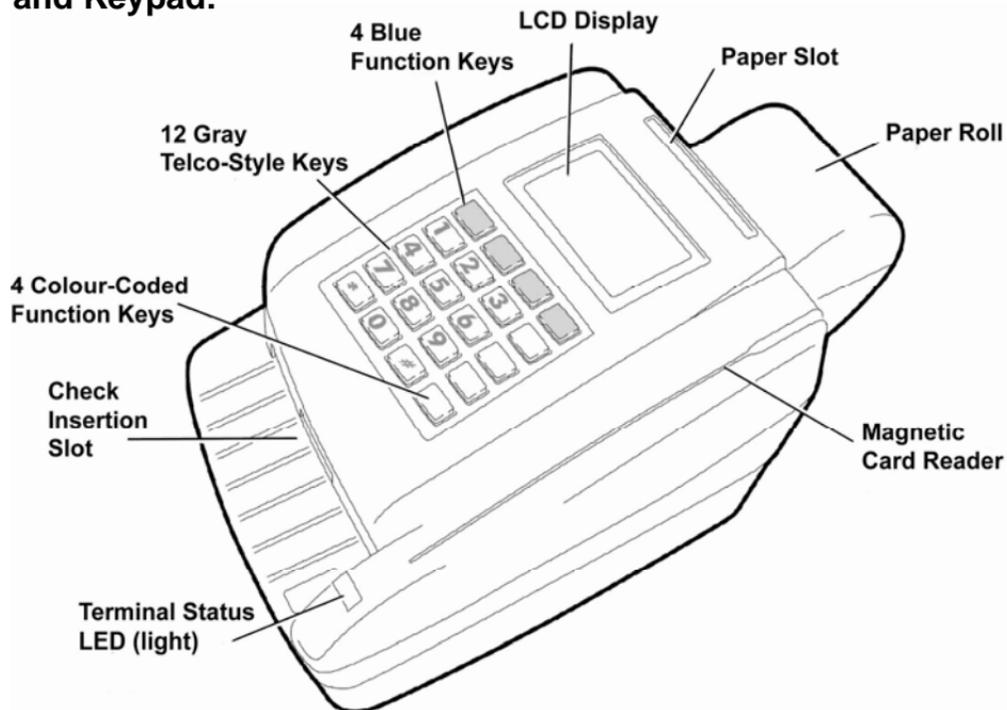
NOTE: Before unpacking the box, examine it for damage received in shipping. If the terminal, or any component, appears damaged, do not use it. File a claim with the shipping company and contact your distributor.

Your RDM SYNERGY II product package includes the following:

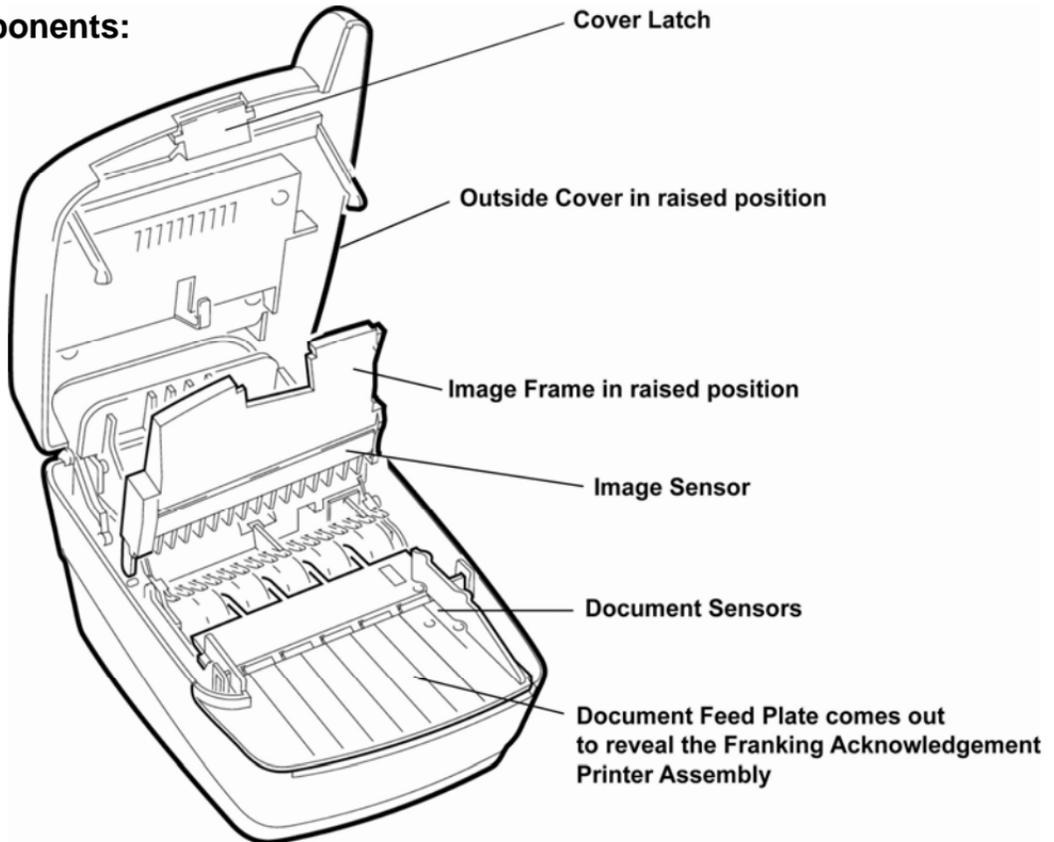
- The RDM SYNERGY II terminal
- Power adapter
- Telephone line
- One thermal printer paper roll
- Check Franking Acknowledgement Printer Cartridge

C. Inspect the Unit's Features

Display and Keypad:



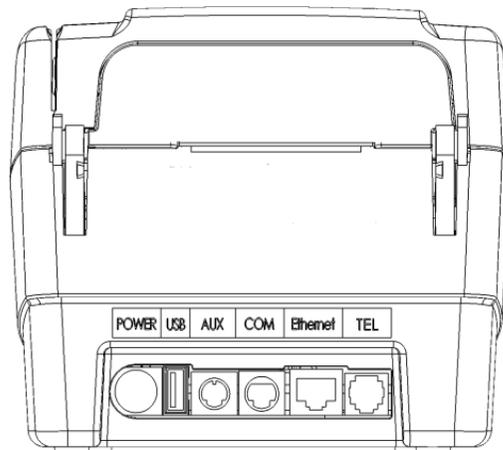
Inside Components:



Connection Ports:

RDM SYNERGY II can be installed in different configurations. These configurations are designed and programmed by the distributor (installer) to suit your unique needs. Install as per instructions from your distributor (reseller).

- Power:** Red. Connect the power adapter to this port.
- USB:** Orange. Use this port to connect optional peripheral devices.
- AUX:** Yellow. Use this port to connect optional peripheral devices.
- COM:** Green. Use this port to connect optional peripheral devices.
- Ethernet:** Blue. This port offers an Ethernet connection to be connected to a LAN (Local Area Network) line.
- TEL:** Purple. This port offers a modem to be connected to a telephone line.



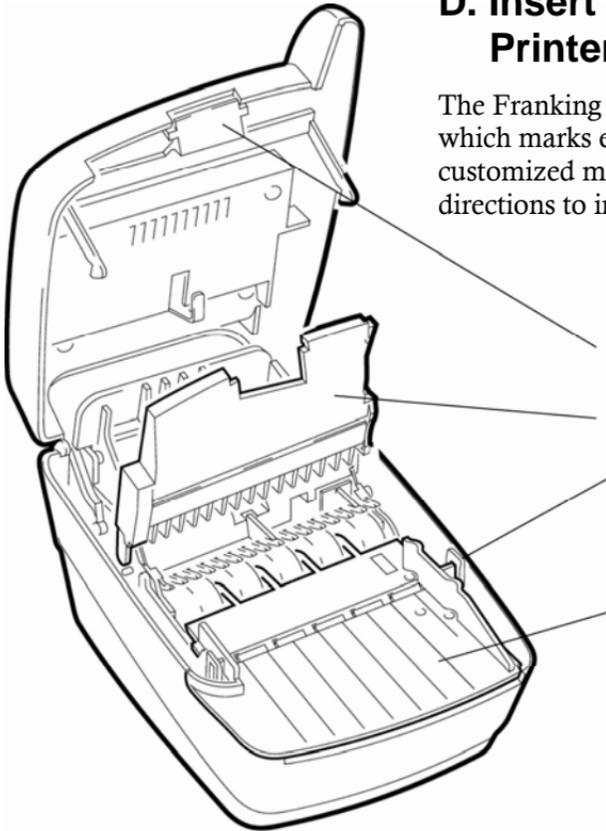
NOTE: The Ethernet port includes two small LED lights. The left light flashes when the line is properly connected. The right light flashes during network activity. The TEL port does not come equipped with LED lights.

D. Insert the Franking Acknowledgement Printer Cartridge

The Franking Acknowledgement Printer Cartridge is an ink stamp, which marks each check to read “Electronically Presented” or a customized message. It is installed into the unit. Follow these directions to insert it into the unit.

I. Access the Printer Assembly:

1. Press the latch and lift the cover to access the imaging frame.
2. Lift the imaging frame to access the feed plate.
3. Locate the blue tab on the right side of the unit. With your thumb on the outside of the unit, apply enough pressure to pull the blue tab towards the outside of the unit and hold it there.
4. While holding the blue tab, lift the document feed plate up and left to free it from the right side.
5. To free the plate from the left side, pull it up and to the right. Remove the plate completely.
(continued...)

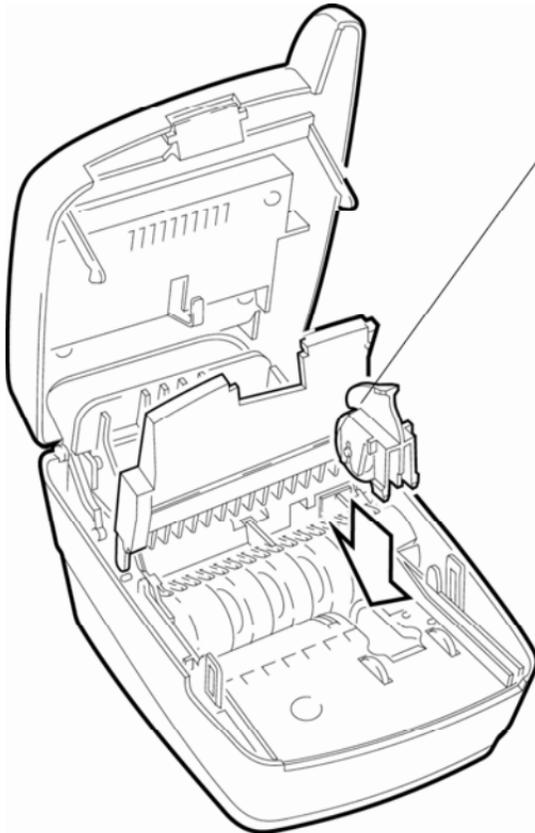


II. Insert the Franking Roller Cartridge into the Printer Assembly:

1. Drop the franking roller straight into the printer assembly.
2. Apply pressure to the widest part of the flat top until the roller clicks into place.
3. Replace the document feed plate by pressing down firmly until it clicks into place.
4. Close the imaging frame.
5. Close the outside cover.

CAUTION:

- Ink may be harmful if swallowed.
- Avoid contact with eyes.
- Damage to the unit or the roller resulting from modifying the roller is not the responsibility of RDM.
- Intended for single use only.
- Not licensed for modifications.
- RDM may change product designs, features or specifications at any time.



E. Connect to a Telephone Line or Network Line

CAUTION: RDM SYNERGY II comes equipped with a TEL port and an ETHERNET port. NEVER plug a telephone line into the Ethernet port, and never plug an Ethernet line into the TEL port.

FOR TEL: Follow these directions to connect the RDM SYNERGY II modem to a telephone line:

1. Insert the end of the telephone line into the **TEL** port on the back of the terminal.
2. Insert the other end of the telephone line into the telephone company wall jack.

CAUTION: Plug the telephone line into an “outside line,” analog phone jack only; the modem will not work if plugged into a PBX digital line.

FOR ETHERNET: Follow these directions to connect the RDM SYNERGY II network line to the Local Area Network (LAN):

1. Insert the end of the Ethernet line into the **Ethernet** port on the back of the terminal.
2. Connect the other end of the Ethernet line into a network port, another terminal or a computer, as required.

ATTENTION

For WiFi Environments:

Guidelines for meeting PCI DSS v1.1 wireless requirements if the Synergy II terminal is to be installed in a wireless network (Wi-Fi) environment.

A firewall is required between any wireless networks and the cardholder data environment (i.e. the Synergy II device), and the firewall must be configured to deny any traffic from the wireless environment or from controlling any traffic if such traffic is necessary for business purposes (PCI DSS 1.3.8).

For wireless environments, the installer must change wireless vendor defaults, including but not limited to, wired equivalent privacy (WEP) keys, default service set identifier (SSID), passwords, and SNMP community strings. The installer must disable SSID broadcasts and enable Wi-Fi protected access (WPA and WPA2) technology for encryption and authentication when WPA-capable (PCI DSS 2.1.1).

For wireless networks transmitting cardholder data, transmissions must be encrypted using Wi-Fi protected access (WPA or WPA2) technology, IPSEC VPN, or SSL/TLS and that one should never rely exclusively on wired equivalent privacy (WEP) to protect confidentiality and access to a wireless LAN. If WEP is used, the installer must do the following: Use with a minimum 104-bit encryption key and 24 bit-initialization value, Use ONLY in conjunction with Wi-Fi protected access (WPA or WPA2) technology, VPN, or SSL/TLS, rotate shared WEP keys quarterly (or automatically if the technology permits), rotate shared WEP keys whenever there are changes in personnel with access to keys, and restrict access based on media access code (MAC) address.

F. Connect Peripheral Devices

RDM SYNERGY II works with several different optional tools that facilitate POS transactions, such as PINpads, bar code wands, or smart card readers. Each of these peripheral devices plugs into any of the USB, AUX, or COM ports on the back of the terminal as directed by your distributor.

CAUTION: Before connecting any optional tool, ensure the unit is unplugged from its power source.

G. Connect the Power Cord

1. Insert the round end of the power cord into the **POWER** port on the back of the terminal.
2. Plug the metal-pronged end of the power cord into an electrical power outlet.

CAUTION: Disconnecting the power source while the terminal is processing a transaction may cause data files stored in the unit's memory to be lost.

When you connect to power, the LED and the display will light up. Your unit is now turned on.

H. Install the Printer Paper Roll

RDM SYNERGY II uses single-ply, thermal-sensitive paper that comes in a roll that is 2.25 inches (5.8 cm) wide.

CAUTION: Handle thermal paper with care; friction, humidity, light, etc. will damage it. Do not load paper with wrinkles, folds, or tears. For best results, cut the paper, rather than tearing it, to feed it into the printer.

To install a roll of paper:

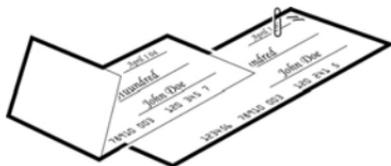
1. Ensure that RDM SYNERGY II is turned on.
2. Swing open the clear plastic paper roll cover at the back of the unit.
3. Hold the paper roll with the paper feeding from the bottom and guide the straight-cut end of the paper into the paper feed slot that is in line with the holder. The feed mechanism will start to pull the paper into the unit.
4. Place the roll loosely into the paper roll holder.
5. Swing the paper roll cover back into place.

Operating RDM SYNERGY II

Preparing Checks

To reduce the possibility of errors and damage to the unit, you should:

- Remove all folds and creases in the check.
- Remove any paper clips and staples from the check.



Feeding Checks

RDM SYNERGY II is ready to accept checks when the LED is green. As shown on the right, insert the check:

- flush to the right side of RDM SYNERGY II;
- information side facing up;
- MICR line to the inside right.



CAUTION: Do not open the cover or otherwise try to access the inside of the unit while it is in the process of scanning a document.

Swiping Credit Cards

Swipe the credit card with the black, magnetic stripe facing downward and to the left.

Understanding Status Signals

RDM SYNERGY II comes equipped with the default light and sound signals described below. However, the light and sound signals may change depending on the application in use. For a more detailed status description, always look at the terminal display.

Default Light Signals:

The unit's status is shown through a single, multi-state LED (light emitting diode)—the light on the top, front, right-hand side of the unit. The table below details typical status signals and their meanings:

LED	Meaning and Instruction
Green Solid	The unit is ready to accept a transaction, e.g. insert a check.
Green Flashing	The unit is busy , processing the last transaction. Wait for the job to finish.
Amber Solid	The unit is idle . Start the next job.
Amber Flashing	The unit is sending or receiving information. Wait for it to finish.
Red / Green / Amber Flashing	The unit is processing information. Wait for it to finish.
Red Solid	The unit failed during operation. Check the display for instructions.
Red Flashing	An error occurred during processing.

A Typical Check Processing / LED Cycle:

1. The unit is on and idle. The LED is **Solid Amber**.
2. A command is entered to start a transaction. The LED turns to **Solid Green**.
3. A check is run through the unit. The LED turns OFF (3-4 seconds) then **Flashes Green**.
4. The terminal displays an “Approved” message. The LED returns to **Solid Amber**.

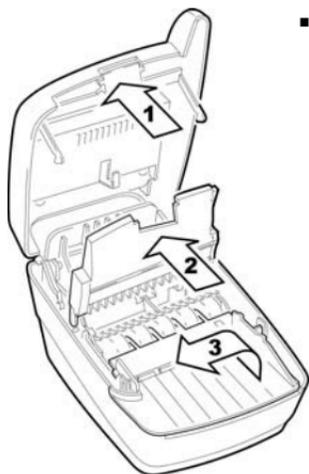
Maintaining RDM SYNERGY II

RDM SYNERGY II performs best when all working surfaces are clean and free of foreign material.

Cleaning the Terminal

CAUTION: Solvents or harsh cleaners may discolor the cabinetry.

- **To clean the outside cabinetry:** Use a damp cloth and mild soap.
- **To clean the inside of the unit:** To remove dust and debris from inside the unit; open it by following the diagram to the left. Inside, use a dusting brush designed for use on electronic equipment or a compressed air duster. To clean the inside:



1. Press the latch and lift the cover to access the imaging frame.
2. Lift the imaging frame to access the document feed plate.
3. Locate the blue tab on the right side of the unit. With your thumb positioned on the outside of the unit, apply enough pressure to pull the blue tab towards the outside of the unit and hold it there.
4. While holding the blue tab, lift the document feed plate up and left to free it from the right side.
5. To free the left side, pull it up and to the right. Remove the plate.

Cleaning the Printer

Every few months, examine and clean the printer by following these steps:

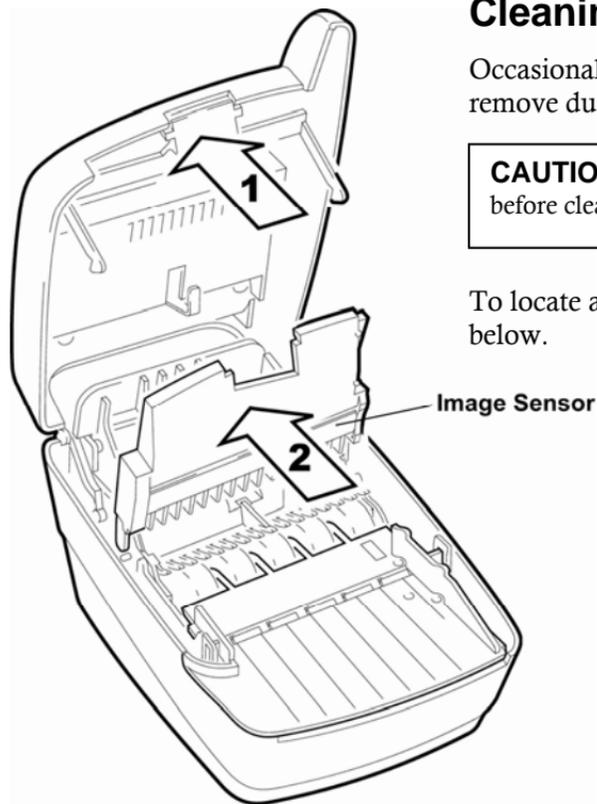
CAUTION: Always disconnect the unit from its power source before cleaning the printer.

1. Swing open the clear plastic paper roll cover at the back of the unit.
2. Lift out the paper roll. Cut the paper that is in the feed mechanism from the roll.
3. Press the latch and lift open RDM SYNERGY II's cover.
4. Toward the back of the unit, locate the paper slot and the gray lever on the right side of it. Flip the gray lever up and toward the front of the unit to release the paper.
5. Manually remove the remaining paper from the feed mechanism. Carefully remove dirt, dust, or scraps of paper stuck in or to the printer parts.
6. Flip the gray lever back into place. Close the cover again.
7. Re-install the paper roll as described in the “Setting Up RDM SYNERGY II - H: Install the Printer Paper Roll” section.

Cleaning the Imager

Occasionally, it may be necessary to clean the image sensor and remove dust or debris from the interior of RDM SYNERGY II.

CAUTION: Always disconnect the unit from its power source before cleaning the image sensor.



To locate and access the image sensor, follow the instructions below.

1. Press the latch and lift the cover to access the imaging frame.
2. Lift imaging frame to access the image sensor.
3. Use a lens cleaning tissue or a damp lint-free cloth to remove any ink or dust from the image sensor.

Troubleshooting

In the course of everyday operations, you may encounter minor malfunctions in your RDM SYNERGY II unit. Before calling for service, review the troubleshooting steps below.

Modem Does Not Function

1. Examine the telephone line cord and all telephone connections to ensure that they are still connected properly.
2. Ensure the telephone line is working by removing the connection from RDM SYNERGY II and connecting it to a telephone base unit.
3. If the telephone line is not working, contact your local telephone company for repair.

Peripheral Device Does Not Respond

1. Ensure that the device's cable is still properly connected to the correct port on the back of the unit (according to instructions provided by your distributor).
2. If the problem persists, contact your distributor.

Printer Does Not Respond

1. Ensure that the unit is still receiving power. The LED indicator light should still be on.
2. Check to ensure the printer still has paper. If it is out of paper, install a new roll of paper by following the directions in the “H. Install the Printer Paper Roll” section on page 15.
3. If the problem persists, contact your distributor.

Printer is Jammed

1. Swing open the clear plastic paper roll cover at the back of the unit.
2. Lift out the paper roll. Cut the paper that is in the feed mechanism from the roll.
3. Press the latch and lift open RDM SYNERGY II's cover.
4. Toward the back of the unit, locate the paper slot and the gray lever on the right side of it. Flip the gray lever up and toward the front of the unit to release the paper.
5. Manually remove the remaining paper from the feed mechanism. Carefully remove dirt, dust, or scraps of paper stuck in or to the printer parts.
6. Flip the gray lever back into place. Close the cover again.
7. Re-install the paper roll as described in “H. Install the Printer Paper Roll” on page 15.

Display Does Not Function Properly

1. Ensure that the Brightness and Contrast settings have not been turned down too low.
2. Examine the cable connections to ensure that they are connected properly.
3. Verify that the electrical outlet is working and the power adapter connectors are still connected.
4. Replace the terminal power adapter with one from another RDM SYNERGY II terminal. If the replacement solves the problem, contact your distributor to order a replacement power adapter.
5. If the problem persists, contact your distributor.

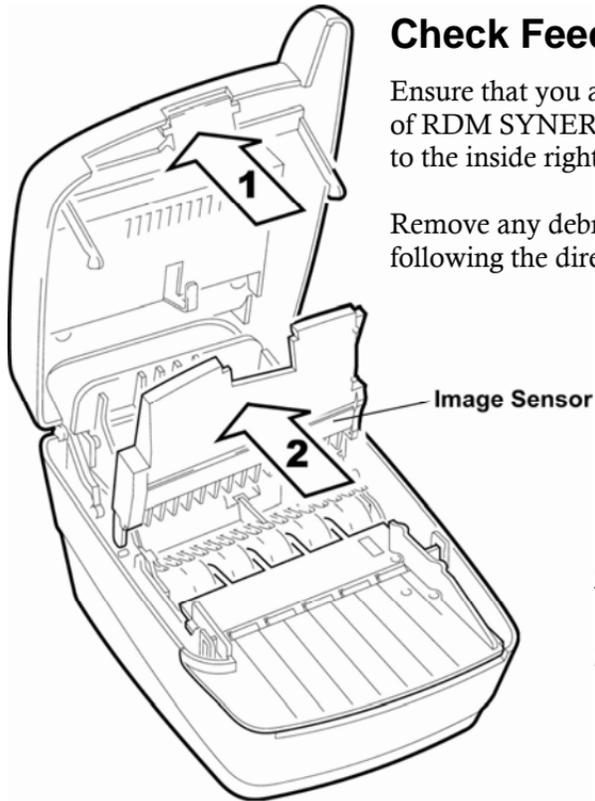
Keypad Does Not Respond

1. If the display panel is blank or displays incorrect characters when you press a key, follow the directions in the “Display Does Not Function Properly” section above.
2. If pressing a key does not result in the correct action, refer to the Application Manual to ensure that you are entering data in the correct sequence.
3. If the problem persists, contact your distributor.

Check Feeder Does Not Function Properly

Ensure that you are inserting the check properly: flush to the right side of RDM SYNERGY II, information side facing up, with the MICR line to the inside right.

Remove any debris by following the directions below:



1. Press the latch and lift the cover to access the imaging frame.
2. Lift the imaging frame to access the document feed plate.
3. Clear any paper or debris from these areas. Re-close the imaging frame and cover. If the problem persists, contact your distributor.

Terminal Transactions Do Not Function Properly

Test the Card Swipe Mechanism:

1. Ensure that you are swiping the card properly: The black, magnetic stripe on the back of the card must face downward and to the left.
2. Try using another card to ensure the first card was not defective.



Test the Hardware and Software:

1. Process the transaction manually by typing the card data into the keypad.
2. **If processing the card through the keyboard does work**, then the problem lies in the card reader; contact your distributor to have the card reader repaired or replaced.
3. **If processing the card through the keyboard does *not* work**, test the telephone line using a different telephone base unit.

Test the Telephone Line and Third-Party Line:

1. Call the third-party line to which you are trying to connect to ensure that it is working properly.
2. If the third-party line is working, contact your local telephone company for repair.
3. If the telephone line works, contact your distributor to have RDM SYNERGY II serviced.

Specifications

RDM SYNERGY II Specifications	
Unit Size	With Receipt Printer: 11.8” long x 5.9” wide x 5.3” high 30 cm long x 15 cm wide x 13.5 cm high
Unit Weight	6lbs. with power supply.
Unit Orientation	For proper operation, place unit on a level, horizontal surface.
Connectors	Power: Red. Mini-DIN 4-pin. USB: Orange. USB-A. AUX: Yellow. Mini-DIN 8-pin. COM: Green. Mini-DIN 9-pin. Ethernet: Blue. RJ45. LAN connection. TEL: Purple. RJ11 plug. Modem.
Document Feed	Dual sensors detect presence of document and start processing.

Environmental	
Operating Temperature	32 to 104 degrees F (0 to 40 degrees C).
Operating Humidity	10 to 85% relative humidity (non-condensing).
Document Specifications	
Document Size and Weight	Nominal: 1.75" W x 4.4" L (4.5 cm x 11.2 cm) Maximum: 4" W x 9" L (10.16 cm x 22.86 cm) Weight Range: 20 lb to 32 lb (thermal paper to business card stock)
Font	E13B MICR Character Set
Electrical Power Requirements for Power Adapter	
Idle State	Use only with an RDM-supplied external power adapter model (RDM Part #302815)

Warranty Information

LIMITED WARRANTY:

RDM SYNERGY II is warranted against defects in materials and workmanship under normal use and service for a period of one year after the date of receipt by you. The entire liability of RDM Corporation (the Corporation), distributors of RDM SYNERGY II and manufacturers of auxiliary equipment used with RDM SYNERGY II and your exclusive remedy shall be, at the Corporation's option either (a) return of the price paid, or (b) repair or replacement of RDM SYNERGY II that does not meet this limited warranty and which is returned to the Corporation with a copy of the proof of purchase.

The limited warranty is void if failure of RDM SYNERGY II has resulted from accident, abuse or misapplication. Any replacement RDM SYNERGY II will be warranted for the remainder of the original warranty period.

The equipment is sold with the understanding that neither the Corporation, such distributors nor such manufacturers will be liable for any damages whatsoever (include, without limitation, direct or indirect damages for personal injury, loss of business profits, business interruption, loss of business information, or any other pecuniary loss) arising out of the use of or inability to use RDM SYNERGY II, even if the Corporation, such distributors and/or such manufacturers have been advised of the possibility of such damages. In any case, the entire liability of the Corporation, such distributors and such manufacturers with respect to RDM SYNERGY II shall be limited to the amount actually paid by you for RDM SYNERGY II.

The Corporation, such distributors and such manufacturers disclaim all other warranties, express or implied, including, without limitation, implied warranties of merchantability and fitness for a particular purpose with regard to RDM SYNERGY II and the accompanying written materials.

Although every effort has been made to ensure the accuracy of the information contained in this guide, no warranty or representation to that effect is made. Due to product improvements, specifications are subject to change without notice.



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Canada



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