



FT5000 Automated Teller Machine Service Manual

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CORPORATE HEADQUARTERS:

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DISCLAIMER

The manufacturer of the Automated Teller Machine product(s) described herein makes no representations or warranties, either expressed or implied, by or with respect to anything in this manual, and shall not be liable for any implied warranties of fitness for a particular purpose or for any indirect, special or consequential damages. Information in this document is subject to change without notice and does not represent a commitment on the part of the manufacturer. **USE OF THIS PRODUCT IN A MANNER OTHER THAN THOSE DESCRIBED IN THIS MANUAL MAY RESULT IN PERSONAL INJURY.**

FCC COMPLIANCE

Statement of Compliance: This equipment complies with Part 68 of the FCC rules located in the control area of the ATM is the Product Label. This label lists the FCC registration number and ringer equivalence number of the unit. If requested, this information must be provided to the telephone company. USCO/FIC Codes: When ordering service from the telephone company for the RL2000 series Automated Teller Machine, the following information should be supplied:

Universal Service Order Code (USOC): RJ-11C

The Facility Interface Code (FIC): 02LS2

Plug and Jack: The plug and jack used to connect this equipment to premise wiring and telephone network must comply with the applicable FCC Part 68 rules and requirements adopted by ACTA. A compliant telephone cord and modular plug is provided with this product. The telephone cord is designed to be connected to a compatible modular jack that is also compliant.

Ringer Equivalent Number (REN): The REN is used to determine the number of the 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 the RENs should not exceed five (5). To be certain of the number devices that may be connected to a line, as determined by the local RENs, contact the local telephone company.

Harm to the Network: If the RL2000 Automated Teller Machine causes harm to the telephone network, the telephone company will notify the customer that a temporary discontinuous of service may be required. If advanced notice is not possible, the telephone company will notify the customer as soon as possible. You will be advised of your right to file a complaint with the FCC if you believe it's necessary.

Notification of Changes in Telephone Company Equipment: The telephone company may make changes in its facilities, equipment, operations or procedures that could affect the operation of the equipment. If this happens, the telephone company will provide advanced notice in order for you to make necessary modifications to maintain uninterrupted service.

Repairs and Returns: If telecom compatibility trouble is experienced with the RL2000 Automated Teller Machine, you may contact for repairs and warranty information:

Triton at 1-228-575-3100
Triton Systems of Delaware, Inc.
21405 B Street
Long Beach, MS 39560

If the equipment is causing harm to the network, the telephone company may request that you disconnect the equipment until the problem is resolved. Repairs should be made only by qualified factory representatives.

Party Lines: The RL2000 Automated Teller Machine must not be used on party lines.

Alarm Equipment: The RL2000 Automated Teller Machine should have its own dedicated phone line. Do not install the RL2000 on the same line as alarm equipment.

Electrical Safety Advisory: Telephone companies report that electrical surges, typically lightening transients, are very destructive to customer equipment connected to AC power sources. This has been identified as a major nationwide problem. A commercially available, power surge suppressor, is recommended for use with the RL2000 to minimize damage in the event of an electrical surge.

CANADIAN IC COMPLIANCE NOTICE:

The Industry Canada label identifies certified equipment. This certification means that the equipment meets telecommunications network protective, operational and safety requirements as prescribed in the appropriate Terminal Equipment Technical Requirements document(s). The Department does not guarantee the equipment will operate to the user's satisfaction.

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

Repairs to certified equipment should be coordinated by a representative designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas. Caution: Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate.

NOTICE:

The Ringer Equivalence Number (REN) assigned to each terminal device provides an indication of the maximum number of terminals 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 Ringer Equivalence Numbers of all the devices does not exceed 5.

AVIS:

L'étiquette d'Industrie Canada identifie le matériel homologué. Cette étiquette certifie que le matériel est conforme aux normes de protection, d'exploitation et de sécurité des réseaux de télécommunications, comme le prescrivent les documents concernant les exigences techniques relatives au matériel terminal. Le Ministère n'assure toutefois pas que le matériel fonctionnera à la satisfaction de l'utilisateur.

Avant d'installer ce matériel, l'utilisateur doit s'assurer qu'il est permis de le raccorder aux installations de l'entreprise locale de télécommunication. Le matériel doit également être installé en suivant une méthode acceptée de raccordement. L'abonné ne doit pas oublier qu'il est possible que la conformité aux conditions énoncées ci-dessus n'empêche pas la dégradation du service dans certaines situations. Les réparations de matériel homologué doivent être coordonnées par un représentant désigné par le fournisseur. L'entreprise de télécommunications peut demander à l'utilisateur de débrancher un appareil à la suite de réparations ou de modifications effectuées par l'utilisateur ou à cause de mauvais fonctionnement.

Pour sa propre protection, l'utilisateur doit s'assurer que tous les fils de mise à la terre de la source d'énergie électrique, des lignes téléphoniques et des canalisations d'eau métalliques, s'il y en a, sont raccordés ensemble. Cette précaution est particulièrement importante dans les régions rurales. Avertissement: L'utilisateur ne doit pas tenter de faire ces raccordements lui-même; il doit avoir recours à un service d'inspection des installations électriques, ou à un électricien, selon le cas.

AVIS:

L'indice d'équivalence de la sonnerie (IES) assigné à chaque dispositif terminal indique le nombre maximal de terminaux qui peuvent être raccordés à une interface. La terminaison d'une interface téléphonique peut consister en une combinaison de quelques dispositifs, à la seule condition que la somme d'indices d'équivalence de la sonnerie de tous les dispositifs n'exède pas 5.

UNITED KINGDOM

This equipment has been approved in accordance with Council Decision 98/482/EC for pan-European single terminal connection to the public switched telephone network (PSTN). However, due to differences between the individual PSTNs provided in the different countries, the approval does not, of itself, give unconditional assurance of successful operation on every PSTN network termination point. In the event of problems, contact your equipment supplier in the first instance. This unit uses only DTMF address signaling.

EMISSIONS (EMI)

This device complies with Part 15 of the FCC rules. Operation is subject to the following two (2) conditions:

- 1) This device may not cause harmful interference.
- 2) This device must accept any interference received, including interference that may cause undesired operation.

Note:

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of 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 own expense. Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

CANADIAN EMISSION REQUIREMENTS

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set in the Radio Interference Regulations of the Canadian Department of Communications. This Class A digital apparatus complies with Canadian ICES-003.

Le present appareil numerique n'emet pas de bruits radioelectriques depassant les limites applicables aux appareils numeriques de la Class A prescrites dans le Reglement sur le brouillage radioelectrique edicte par le ministere des Communications du Canada. Cet appareil numerique de la classe A est conforme a la norme NMB-003 Canada.

UK / AUSTRALIAN EMISSION REQUIREMENTS

Warning:

This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Notices

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Warranty Statement

Manufacturer warrants that the products delivered to a distributor will perform in accordance with the Manufacturer's published specifications for thirteen months from date of shipment in Long Beach, MS. Manufacturer's warranty shall not apply to any damage resulting from abuse, negligence or accident, or to any loss or damage to the Products while in transit. Written notice and explanation of circumstances surrounding any claims that the goods have proved defective in material or workmanship shall be given promptly from the distributor to the manufacturer. No claim may be made, or action brought, by or through a distributor after the expiration of 14 months following any alleged breach of warranty.

Distributor's sole and exclusive remedy in the event of defect is expressly limited to the replacement or correction of such defective parts by manufacturer at its election and sole expense, except there shall be no obligation to replace or repair items which, by their nature, are expendable. If Manufacturer is unable to replace or repair the defective parts, Manufacturer shall refund to Distributor that portion of the purchase price allocatable to such goods.

No representation or other affirmation of fact not set forth herein, including but not limited to statements regarding capacity, suitability for use, or performance of the goods, shall be or be deemed to be a warranty or representation by Manufacturer for any purpose, nor give rise to any liability or obligation of Manufacturer whatever.

Except as specifically provided in this document, there are no other warranties expressed or implied including, but not limited to, any implied warranties or merchantability or fitness for a particular purchase.

Limitation of Liability

In no event shall manufacturer be liable for loss of profits or incidental, indirect, special, consequential or other similar damages arising out of any breach of this contract or obligations under this contract.

Defense of Infringement Claims

If notified promptly in writing of any action (and all prior claims relating to such action) brought against the Distributor based on a claim that Distributor's use of the goods infringes a patent or other intellectual property right, and if given access by Distributor to any information distributor has regarding such alleged infringement, Manufacturer agrees to defend Distributor in such action at its expense and will pay any costs or damages finally awarded against Distributor in any such action, provided the Manufacturer shall have had sole control of the defense of any such action and all negotiations for its settlement or compromise.

Waiver Ineffective

No claim or right arising out of or relating to a breach of these terms and conditions can be discharged in whole or in part by a waiver or renunciation of the claim or right unless the waiver or renunciation is supported by consideration and is in writing signed by the aggrieved party. Waiver by either Manufacturer or Distributor of a breach by the other of any provision of these terms and conditions shall not be deemed a waiver of future compliance therewith, and such provisions shall remain in full force and effect.

Statute of Limitations

Any action by the Distributor or Manufacturer for breach of these terms and conditions must be commenced within one (1) year after the cause of action has accrued.

Applicable Law

These terms and conditions shall be governed by and construed in accordance with the provisions of the Uniform Commercial Code as adopted by the State of Mississippi.

Bankruptcy

In the event of any proceedings, voluntary or involuntary, in bankruptcy or insolvency by or against Distributor, or in the event of the appointment, with or without the Distributor's consent, of an assignee for the benefit of creditors or of a receiver or of a liquidator, then Manufacturer shall be entitled to cancel any unfilled part of these terms and conditions without any liability whatsoever.

Parts Only Limited Manufacturer's Warranty

Triton Systems of Delaware, Inc. warrants the components of each RL5000 series Automated Teller Machine, excluding software and related documentation, against any defect in materials and/or workmanship for a period of 13 months from the shipping date. If a component fails due to defects in materials and/or workmanship within the warranty period, Triton will furnish a new or refurbished component, at its discretion. Triton shall not be responsible for labor or other costs associated with installing the component; and the failed component shall be returned to Triton at the purchaser's expense. Triton shall not be responsible for misuse or abuse of a unit; and any attempts to remove or deface the serial number or date code on a unit or any component thereof, or any attempt to repair a unit or to repair or replace any component by anyone other than a service technician authorized by Triton shall void this warranty.

Limited Warranty covers normal use. Triton Systems does not warrant or cover damage:

- occurring during shipment of the equipment or components from or to Triton's facilities;
- caused by accident, impact with other objects, dropping, falls, spilled liquids, or immersion in liquids;
- caused by a disaster such as fire, flood, wind, earthquake, lightning, or other acts of God;
- caused by failure to provide a suitable installation environment for the equipment, including but not limited to, faulty wiring in the building in which the equipment is installed, installation in a facility with uncontrolled environmental conditions, failure to provide a dedicated electrical circuit on which the equipment operates, and/or lack of proper earth grounding for the equipment;
- caused by the use of the equipment for purposes other than those for which it was designed;
- resulting from improper maintenance;
- caused by any other abuse, misuse, mishandling, or misapplication.

Under no circumstances shall Triton Systems or its suppliers be liable for any special, incidental, or consequential damages based upon breach of warranty, breach of contract, negligence, strict liability, or any other legal theory. Such damages include, but are not limited to, loss of profits, loss of revenue, loss of data, loss of use of the equipment or any associated equipment, cost of capital, cost of substitute or replacement equipment, facilities or services, down time, purchaser's time, the claims of third parties, including customers, and injury to property.

Disclaimer of Warranties

The warranty stated above is the only warranty applicable to this product. All other warranties, expressed or implied (including all implied warranties of merchantability or fitness for a particular purpose or quality of service), are hereby disclaimed. No oral or written information, or advice given by Triton Systems, its agents or employees shall create a warranty or in any way increase the scope of this warranty.

Shipping Damage

All equipment is shipped FOB, Triton's facilities. The organization or individual who has purchased the equipment assumes responsibility for the equipment once it leaves Triton's facilities.

Should your equipment be damaged in the process of shipment or delivery to your place of destination, we recommend the following course of action:

- If possible, call the shipping company before the driver leaves your delivery site. Make note of the damage on the "receipt of delivery" paperwork. If this is not possible, call them as soon as possible to report the damage.
- Take photographs of the damaged packaging prior to opening the boxes. If this is not possible, make note of key points, such as whether the equipment is on a pallet, if the banding is intact, how the boxes are damaged, etc. Keep all of the packaging for inspection by the shipping company.
- If you unpack the equipment, take photographs of the damaged equipment. If this is not possible, make note of the damages.
- You must file a claim with the shipper for shipping damages immediately after reporting the damages.

Should you specify the carrier, we recommend that you explore with this chosen carrier the policies and procedures regarding shipping damage claims prior to selecting them as your preferred carrier.

If the equipment receives structural damage and is in an uninstallable condition, Triton will work with you to arrange for a replacement unit to be shipped as soon as possible. The purchaser will be billed for the replacement unit. Triton's Repair Technicians will repair the damaged unit after it is returned to our facilities. We will credit the purchaser's account for the full purchase price of the damaged unit, minus the cost of returning the unit to 'like new' condition. Under no circumstances does Triton authorize anyone to complete structural damage repairs in the field. Therefore, we will not ship primary structural parts, such as a cabinet head or main cabinet body for repair in the field.

Authorized Installation and Service Providers

Triton Systems utilizes several nation-wide and regional authorized third party maintenance providers. All miniATM Cash Dispensers must be installed and serviced by service technicians certified by Triton. This includes authorized third party service technicians and technicians who have been factory trained by Triton to service *miniATM* equipment. Installation or repairs attempted by unauthorized service technicians automatically voids the warranty on the product.

Please contact Triton Systems' Technical Services Department at (800) 259-6672 for a list of our third party service providers and/or to obtain information on the requirements and procedures for becoming a certified Triton service technician.

Triton's Technical Services Department

The primary purpose of the Technical Services Department is to provide assistance to customers in the operation, trouble shooting, and repair of equipment manufactured by Triton. A toll-free phone number (1-800-259-6672) is provided for convenience.

The Technical Services Department operates to serve our customers. The staff is trained to follow our policies and procedures to ensure fair and uniform treatment of all our customers.

Automated Voice Mail System

Our goal is to have a 'live' person answer 100% of all incoming calls (during regular support hours). On occasion, however, call loads may exceed the capacity of the staff. When this occurs, an automated voice mail system will answer the call, indicate to the caller that all Technical Support Specialists are busy assisting others, and ask the caller to leave detailed information about the nature of the call.

Should it become necessary to leave a voice mail message, the caller should state:

- their name
- the organization for which they work
- the **serial number** of the equipment they are calling about
- detailed description of the problem that they are experiencing
- phone number where they can be reached, including area code.

As Technical Support Specialists become available, they check for voice mail messages and return calls in the order in which they were received. By providing the information requested in the voice mail, the technician can be prepared when your call is returned. Triton asks you to be patient if you must leave voice mail, and assures you that your call is important to us and that we will respond promptly.

Calls for Service or Repair

Calls for service or repair will be accepted from authorized service technicians only. End users must contact either the sales organization that placed the equipment or an authorized third party service organization to obtain service. The sections that follow describe the policies and procedures that relate to the repair and replacement of malfunctioning equipment.

Questions on Operation of Equipment

Technical support is available to owners of Triton equipment and to qualified service personnel. When calling for help with the configuration or operation of a Triton product, the caller must provide either positive identification as a service technician or the serial number of a Triton terminal. Technical support is provided during normal business hours for the life of the product.

When calling for help with an operational problem, please have available information pertaining to the nature of the trouble. This includes the type of equipment, examples of what is or is not happening, and the name of the Processor that supports your terminal.

All questions pertaining to the settlement of accounts, transaction inquiries, and fund status must be directed to the Processor. Triton does not have access to the information needed to answer questions relating to specific transactions.

CONTACT INFORMATION:

TRITON SYSTEMS
21405 B STREET
LONG BEACH, MS 39560

Sales:

(800) 367-7191
(228) 575-3100
(228) 575-3101 FAX

Service:

(800) 259-6672 (Technical Support)
(228) 575-3229 FAX (Training/Technical Support)
(228) 868-0859 FAX (Parts)

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Notes

SECTION 1

INTRODUCTION

WHAT'S IN THIS MANUAL?

SECTION 1 - INTRODUCTION

This section of the manual provides a brief description of the contents of the FT5000 Automated Teller Machine Service Manual.

SECTION 2 - TROUBLESHOOTING

This section describes step-by-step fault isolation and repair procedures to assist service personnel in maintaining the cash dispenser. It contains information about error codes and suggested courses of action to repair the cash dispenser.

SECTION 3 - FT5000 CASH DISPENSER MODULE REPLACEMENT

This section contains brief descriptions of each of the modules that make up the FT5000 Automated Teller Machine. It also contains detailed procedures and accompanying photographs that describe how to remove and replace each of the field replaceable components that are part of the FT5000 Automated Teller Machine.

SECTION 4 - WORKING WITH FT5000 CASSETTES

This section describes how to remove, fill, replace, and make adjustments to the dispenser's note cassettes.

SECTION 5 - FT5000 CASH DISPENSER PREVENTIVE MAINTENANCE

This section describes all preventive maintenance that must be periodically performed on the FT5000 Automated Teller Machine by the end user (usually the owner or their designated representative), the Level I Service Provider, and the Triton Factory Certified Service Technician. Procedures for cleaning the exterior portion of the cabinet, replenishing paper, cleaning the card reader, and dispensing mechanism maintenance are just a sampling of the information contained in this section of the manual.

APPENDIX A - FT5000 FIELD REPLACEABLE PARTS

This section provides a comprehensive list of all available FT5000 field replaceable parts.

WARNINGS, CAUTIONS, AND NOTES

Warnings, cautions, and notes provide information, which you need to consider.

A **WARNING** indicates that a certain action can potentially give you an electrical shock.

A **CAUTION** indicates that a defined action may cause damage to the cash dispenser or one of its components.

A **NOTE** can influence your decision on how to respond to the information in the section you are currently reading.



Figure 1-1. The FT5000 Automated Teller Machine

FT5000 AUTOMATED TELLER MACHINE STANDARD FEATURES AND SPECIFICATIONS.

- One to four cassettes
- 10.4" (264 mm) VGA color display with 640 x 480 resolution
- 80 mm thermal paper with presenter
- 64 MB RAM standard, 256 MB maximum
- Microsoft Windows® CE.NET operating system
- PC-based Intel® Xscale™ 32-bit processor (300 MHz)
- One USB slave port (Use has yet to be determined)
- Four USB master ports (for "slave" devices such as flash drives that can be used to downloading ad screens)
- Two PC card slots (one occupied by modem)
- Four serial ports (one spare)
- 2 MB journal storage (32768 records)
- 56kbps internationally certified modem
- Dip-style card reader or optional EMV smart card reader
- Americans with Disabilities Act (ADA) compliant
- Audio transactions for visually impaired
- Encrypting PIN Pad (EPP) to comply with all international encryption standards, Triple DES Compliant
- Available in UL-291 business hours and level-one cabinet vault
- Electronic lock standard, Cencom lock optional
- Multi-language capabilities
- Standard dial-up and TCP/IP communications, wireless optional
- Dimensions:

Depth	Vault 30.0" (762 mm) Sleeve 12.0" (305 mm)
Width	Vault 16.9" (429 mm) Sleeve 21.3" (541 mm)
Height	Total 55.6" (1412 mm)
Weight:	240 lbs. (109 kg) <i>*Varies with options.</i>
- Advertising revenue potential

Couponing (printed and dispensed)

Transaction screen

OPERATING SPECIFICATIONS

- Temperature
Vault/Electronics
10° - 40° C / 50° - 104° F
- Relative Humidity 20% - 80% non-condensing
- Power consumption.
2.0A @ 115 VAC at 60 Hz
1.0A @ 230 VAC at 50 Hz

SECTION 2

TROUBLESHOOTING

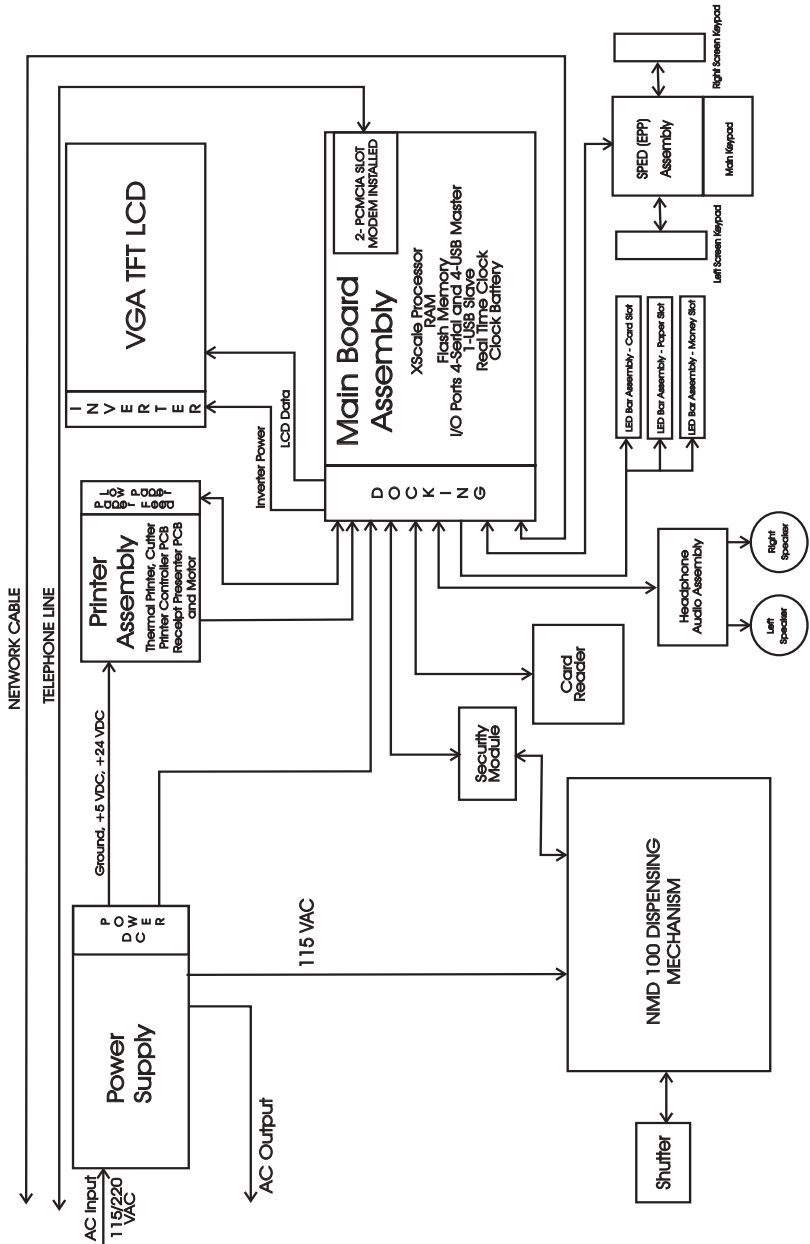


Figure 2-1. FT5000 Automated Teller Machine Block Diagram.

MAINTENANCE PHILOSOPHY

Triton's philosophy for field repair of the FT5000 Automated Teller Machine (ATM) is to determine the faulty module and replace it. This section of the manual reflects the modular repair approach in that it will assist you to quickly locate a defective module and direct you to the simplest method of replacing it. Modules are not repairable in the field and should be returned to the factory for further evaluation and repair. Figure 2-1 is a block diagram of the FT5000 Automated Teller Machine that will help understanding the relationship of the different modules that make up the ATM.

DIAGNOSTICS

THE TRITON P.O.S.T. DIAGNOSTICS

P.O.S.T. Diagnostics test will perform basic functional testing of the main board assembly and the peripheral devices connected to it. The following is displayed during the P.O.S.T.



Figure 2-2. Triton P.O.S.T. for the FT5000 Automated Teller Machine.

The failure find any peripheral device indicates a possible failure of the device not found. Check all cable connections between the peripheral device and the docking assembly. Make sure the power supply outputs are within expected operating ranges..

After completion of the Triton P.O.S.T. diagnostics, PLEASE WAIT is displayed on the display for about twenty seconds before the display switches to the TOP MENU screen.

FIRST CHECKS

When the ATM is not working, the first thing to check its external environment. Make sure that working dedicated AC power source and a working dedicated telephone line are available and connected to the ATM. Make sure the main power circuit breakers are ON. Verify that the ATM main power switch is in the ON position. Measure the AC input voltage with a multimeter if necessary.

The ATM may use an uninterruptible power supply that could temporarily mask problems with the power line, so check the power where it enters the unit.

The operation of the telephone line can be checked quickly by connecting an external telephone into the telephone line. Once connected to the external telephone it's easy to check the line for a dial tone, excessive noise and verify its ability to dial out to another number.

NO DISPLAY

The ATM has a backlit LCD display. It is possible for the LCD to fail independently of the backlights. If the display is black, make sure the voltage (+12 VDC) applied to the inverter assembly is correct. If the voltage is correct, the inverter may be defective. If the display is dim, difficult to read or shows a contrast imbalance, one or both of the two backlights may be defective. Verify that both backlights are operating. Make sure that the connections on the inverter board are plugged in. **Do NOT CONNECT THE BACKLIGHTS TO THE INVERTER WITH THE AC POWER SWITCH ON. AN ELECTRICAL SHOCK MAY OCCUR.** Power down the ATM to make any connections.

If the backlights are operating properly and there is no data displayed on the LCD, verify that the data cable is connected between the docking assembly and the it is in good operation condition.

SPED (EPP) ASSEMBLY NOT OPERATING

SPED (EPP) operation can be verified visually. First verify that all cables into the SPED (EPP) assembly are securely seated at the SPED (EPP) assembly and their point of origin. There are two LED on the SPED (EPP) assembly that provide and indication of the operational status on the SPED (EPP) assembly. The green LED will always be on if the SPED (EPP) assembly has good power applied to it. If the green LED fails illuminate, possible causes might be the cable supplying power to the SPED (EPP) assembly, the docking assembly, power supply, and cabling, or the SPED (EPP) assembly itself. The other indicator on the SPED (EPP) assembly is a red. There are three conditions associated with its operation.

1. Flashing slowly - Normal
2. Flashing fast - Tamper condition
3. OFF - SPED (EPP) assembly in not operating

CARD READER

If the card reader fail to read a card, check the following.

1. Verify that the cable between the card reader and the docking assembly is seated at both ends. Make sure that the cable is in good operating condition.
2. Inspect the card reader for blockage.
3. Access the management function and run the Scan Card Test. Use several magnetic strips or smart cards to verify operation. The failure may be due to a faulty card.
4. Clean the card reader with a card reader cleaner. Run the Scan Card Test
5. If the card reader fails to read any card tested, replace the card reader.

PRINTER ASSEMBLY

Print failure may be caused by many different factors. The print status can be reviewed through Management Functions Printer Device Status. The report will indicate if the printer is on-line and is detected by the operation system. Inspect all cables connected to the printer assembly. Look for disconnected cables, damaged cables and improperly connected cables. Thermal paper is designed to print text on one side only. Make sure the paper is installed correctly. Inspect the printer mechanism for the following:

1. Platen is in the open position. Verify that the blue lever is in the print position. This condition results in Error/Status Code 139. Return the platen to the closed position. Enter the top menu screen and clear the error status.
2. Inspect all cables and connections on the printer controller PCB and the paper transport module. Reseat all connections as needed. Enter the top menu screen and clear the error status.
3. Paper not in printer. Make sure that the paper is feed into the printer correctly. If the printer does not see the paper during the P.S.T. the indication will be "Printer not found". Enter the top menu screen and clear the error status.
4. Refer to Figure 2-3. Make sure the switches on the two set dip switches are

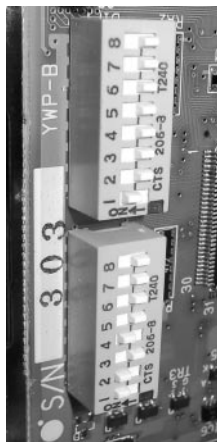


Figure 2-3. FT5000 Printer Controller Board Dip Switch Settings

in the correct position.

5. Refer to Figure 2-4. Make sure the DC voltages being applied at CN1 on the printer controller board are correct.

Voltages measured from CN1

Pin 1 - +5 VDC

Pin 2 - Ground 0 VDC

Pin 3 - Ground 0 VDC

Pin 4 - Ground 0 VDC

Pin 5 - +24 VDC

Pin 6 - +24 VDC

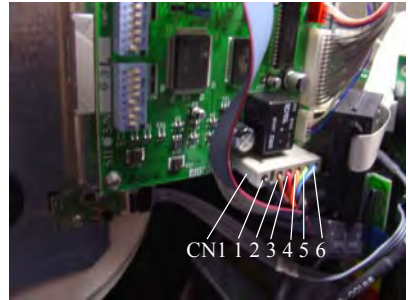


Figure 2-4. Voltage measurement points on the printer controller board.

POWER SUPPLY VOLTAGE MEASUREMENTS

Tools and Equipment:

- 1 - Digital multimeter with probes

All DC voltages output from the power supply can be measured with a digital multimeter from the front of the power supply module.

1. Open the rear panel and apply AC power to the ATM by pushing the AC power switch to the ON position.
2. Turn on the digital multimeter. Set the meter to measure DC voltage. Set the meter range to a value higher than the voltage that will be measured. If the meter has a range switch set it to measure at least +36 VDC.

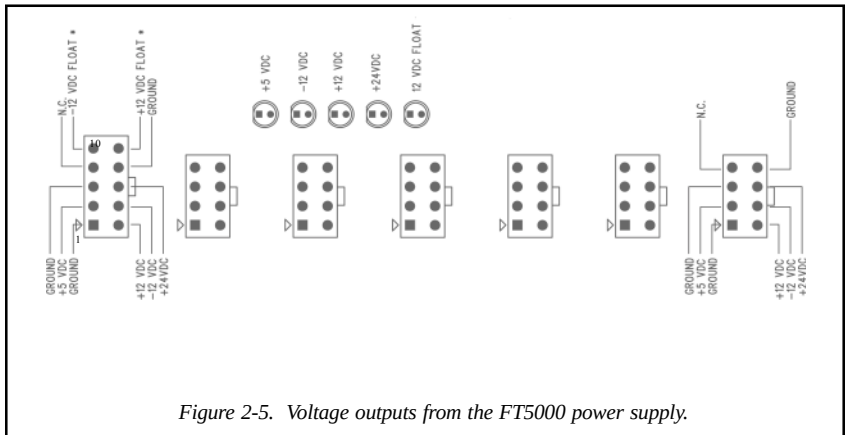


Figure 2-5. Voltage outputs from the FT5000 power supply.

3. Connect the black lead from the meter to chassis ground.
4. Use the red probe to measure the voltages on each pin on one the eight pin connectors on the power supply . The nominal reading for each of these voltages is shown in Figure 2-5. Measure the voltages at each pin on the ten pin connector. The nominal reading for each of these voltages is shown in Figure 2-4. Compare these readings with your measurements.
 - a. The absence of all voltages indicates that: 1.)The AC input power may be turned OFF, 2.) The power supply module is turned off, 3.) The power supply may have a blown fuse or, 4.) The power supply is completely defective. Replacing blown fuses may bring the power supply on line, but the quickest solution for getting the ATM operational is to replace the power supply.
 - b. Voltages that are out of tolerance indicate that the power supply must be replaced.

REPLACING DEFECTIVE FUSES

There are two fuses in the FT5000 Automated Teller Machine power supply. The first is a 6.3 AMP 250 VOLT fuse used to protect all devices that are connected to the AC outputs of the power supply. This fuse is located at the bottom of the black AC power distribution block located on the left side of the power supply near the AC power ON/OFF switch (Refer to Figure 3-9).

The other fuse is a 5 AMP 250 VOLT fuse on the printed circuit board inside the power supply. This fuses can only be accessed by removing the power supply from the upper enclosure cabinet sleeve door . The location of this fuse is shown in Figure 3-10.

WARNING

Turn off the AC power to the ATM and unplugged it from the wall outlet before removing the power supply or changing fuses.

TROUBLESHOOTING ERROR/STATUS CODES FROM THE TERMINAL

The ATM internal self-diagnostics performs a status check before the first transaction is allowed and after each transaction to make sure, the next transaction is possible. Additionally, if there is no activity at the terminal for about forty seconds a status check is completed to verify terminal readiness to perform a transaction. When an error is detected, the terminal is set to an “Out of Service” condition. In the “Out of Service” condition user cannot select any action on the terminal. The

terminal must be restarted by turning off the power for about ten seconds and then turned back ON. After the restart, the OUT OF SERVICE screen appears on the display to allow access to the management mode or to reset the error condition. In the management mode, there are Diagnostics functions that can assist you in troubleshooting the unit.

“Out of Service” conditions are presented to the user as Error Code or Status Codes. An Error/Status Code is a two or three digit number that identifies the specific reason the terminal is “Out of Service”. Because the FT5000 Series ATM shipped with four different dispensers the error/status codes for each different dispenser configuration is unique.

ERROR CODES GENERATED BY THE FT5000 SERIES ATM

The following paragraphs provide a list of the error codes associated with the FT5000 Series ATM. The information provides the error (decimal and hexadecimal) code numbers, the error definitions and some recommended actions that may be taken to correct the cause of a “out of service” condition.

ERROR CODE 95

DESCRIPTION: Multiple cassettes of the same type

RECOMMENDED ACTION:

Verify that there is only one of each type of cassette installed in the dispensing mechanism. If two of the same types are installed, inject new ID into one of the cassette that is different from the other cassette.

ERROR CODE: 128

DESCRIPTION: Error in reply from the dispenser mechanism.

RECOMMENDED ACTION:

Verify that the power supply is operating and the DC voltages being supplied to the main board and dispenser are within tolerance. Reseat connectors or replace the power supply as needed. Verify that the communications cables from the main board to the electronic journal, and from the electronic journal to the dispenser are securely seated at both ends of the cable. Other components that may cause this error are the main board or the dispensing mechanism.

ERROR CODE: 129

DESCRIPTION: No response from the dispenser mechanism.

RECOMMENDED ACTION:

See the recommended action for error code 128.

ERROR CODE: 130

DESCRIPTION: Command not acknowledged by the dispenser mechanism.

RECOMMENDED ACTION:

See the recommended action for error code 128.

ERROR CODE: 131

DESCRIPTION: CTS (Clear To Send) line from the dispenser is not active.

RECOMMENDED ACTION:

See the recommended action for error code 128.

ERROR CODE: 132

DESCRIPTION: Error code reports bad doubles detect in last dispense.

RECOMMENDED ACTION:

Remove the cassettes and inspect the dispenser's feed path for jammed documents and other debris in the double detect assembly. Open all access panels and inspect for jammed documents and other debris. Install the cassette. Reset the cash dispenser by turning OFF the AC power switch for a few seconds and switching it back ON. Clear the error . Pur ge the dispenser using PURGE command. Complete several Test Dispenses to verify correct operation. If the problem persists, replace the dispensing mechanism.

ERROR CODE: 133

DESCRIPTION: +5 VDC not present on carrier detect.

RECOMMENDED ACTION:

See the recommended action for error code 128

ERROR CODE: 134

DESCRIPTION: Exit blocked as reported by error code check.

RECOMMENDED ACTION:

Inspect the feed path exit sensor for jammed documents and broken components. The exit sensor may be dirty. Clean as needed with compressed air. Reset the cash dispenser by turning OFF the AC power switch for a few seconds and switching it back ON. Clear the error. Purge the dispenser with the PURGE command. Verify correct operation with a live transaction. If the problem persists, replace the dispensing mechanism.

ERROR CODE: 135

DESCRIPTION: Feed sensor blocked.

RECOMMENDED ACTION:

Inspect the feed path and feed sensors for jammed documents and broken components. The feed sensors may be dirty. Clean as needed with compressed air. Reset the cash dispenser by turning OFF the AC power switch for a few seconds and switching it back ON. Clear the error. Purge the dispenser with the PURGE command. Complete several Test Dispenses to verify correct operation. If the problem persists, replace the dispensing mechanism.

ERROR CODE: 136

DESCRIPTION: Modem initialization failed.

RECOMMENDED ACTION:

Reset the cash dispenser by turning OFF the AC power switch for a few seconds and switching it back ON. If the problem persists, remove the main board and replace the modem. If replacing the modem does not correct the problem, replace the main board.

ERROR CODE: 138

DESCRIPTION: Printer failed while printing to the receipt printer.

RECOMMENDED ACTION:

Verify that the Printer has paper in it. Replenish paper as needed. Refer to Section 4 of the RL5000 Installation and Service Manual or the RL5000 Quick Reference Guide for instructions. Release the printer locking screw. Open the

printer and verify that there are no jams in the printer or the paper path. Verify the blue lever on the left side of the printer in the print position. Inspect the cable supplying DC power from the power supply to the printer. Make sure it is connected to CN1 on the printer control board. Verify that all DC voltages applied to the printer control board are correct. If the voltages are not within tolerance, you may need to replace the cable or power supply. Inspect the printer data cable for damage. Make sure it is seated at the main board at J15 and at the printer control board at CN6. Inspect the cables connected to CN2, CN3, CN4, and CN5. Make sure they are seated at the printer control board and not damaged. If the voltages are correct, and the cables are undamaged and correctly connected, causes of this error may be a defective cable, a defective printer, printer control board, or the main board.

ERROR CODE: 139

DESCRIPTION: Printer controller not responding to commands.

RECOMMENDED ACTION:

See recommended action for error code 138.

ERROR CODE: 140

DESCRIPTION: Time-out waiting for printer to be ready.

RECOMMENDED ACTION:

See recommended action for error code 138.

ERROR CODE: 141

DESCRIPTION: Paper jam reported by the controller during **ERROR CODE** check.

RECOMMENDED ACTION:

Release the Printer Locking screw. Open the Printer Bracket and verify that there are no jams in the printer or the paper path. Verify the blue lever on the left side of the printer in the print position. Check the DC voltages supplied to the Printer. If the voltages are correct and the blue lever is in the print position, the most likely causes of the error are the printer, printer control board, or the main board.

ERROR CODE: 142

DESCRIPTION: Dispenser returns bad command error.

RECOMMENDED ACTION:

See the recommended action for error code 128.

ERROR CODE: 143

DESCRIPTION: PTDF error.

RECOMMENDED ACTION:

This error code will occur only in cash dispensers running ACS terminal software. This problem may be caused by a corrupt pin working key. Check with the processor.

ERROR CODE: 144

DESCRIPTION: No reply from the electronic journal.

RECOMMENDED ACTION:

Inspect main board to Electronic Serial communication cable for damage. Make sure the connectors are seated securely on the dispensing mechanism and on the main board. If it is necessary to check continuity of the cable assembly, refer to Appendix B for pinout of the cable assembly. Verify that the DC voltages supplied to the dispensing mechanism are correct. If the cable is undamaged and DC voltages are correct, the main board, electronic journal, or dispenser may be defective.

ERROR CODE: 145

DESCRIPTION: Error in reply from the electronic journal.

RECOMMENDED ACTION:

See the recommended action for error code 144.

ERROR CODE: 146

DESCRIPTION: No reply from command to electronic journal.

RECOMMENDED ACTION:

See the recommended action for error code 144.

ERROR CODE: 147

DESCRIPTION: Error in reply from electronic journal.

RECOMMENDED ACTION:

See the recommended action for error code 144.

ERROR CODE: 148

DESCRIPTION: Write to electronic journal failed.

RECOMMENDED ACTION:

See the recommended action for error code 144.

ERROR CODE: 149

DESCRIPTION: Read from electronic journal failed.

RECOMMENDED ACTION:

See the recommended action for error code 144.

ERROR CODE: 150

DESCRIPTION: ERROR CODE command to journal failed.

RECOMMENDED ACTION:

See the recommended action for error code 144.

ERROR CODE: 151

DESCRIPTION: Electronic Journal Full.

RECOMMENDED ACTION:

Open the control panel and verify that there is sufficient paper on the roll to print a complete journal (32,768 entries). Replace paper as needed. Enter the management functions and complete the print journal command.

ERROR CODE: 152

DESCRIPTION: Electronic journal corrupt.

RECOMMENDED ACTION:

See the recommended action for error code 144.

ERROR CODE: 153

DESCRIPTION: Electronic journal mode.

RECOMMENDED ACTION:

See the recommended action for error code 144.

ERROR CODE: 154

DESCRIPTION: Unknown electronic journal ERROR CODE.

RECOMMENDED ACTION:

See the recommended action for error code 144.

ERROR CODE: 155

DESCRIPTION: Electronic journal modify record failure.

RECOMMENDED ACTION:

See the recommended action for error code 144.

ERROR CODE: 156

DESCRIPTION: Cassettes not in service.

RECOMMENDED ACTION:

Enter management functions and make sure that the cassettes are programmed and placed in service.

ERROR CODE: 157

DESCRIPTION: Format command to electronic journal failed.

RECOMMENDED ACTION:

See the recommended action for error code 144.

ERROR CODE: 158

DESCRIPTION: Format command to electronic journal failed.

RECOMMENDED ACTION:

See the recommended action for error code 144.

ERROR CODE: 159

DESCRIPTION: Electronic journal test feature failed.

RECOMMENDED ACTION:

See the recommended action for error code 144.

ERROR CODE: 160

DESCRIPTION: Electronic journal set featured failed.

RECOMMENDED ACTION:

See the recommended action for error code 144.

ERROR CODE: 161

DESCRIPTION: Electronic journal clear feature failed.

RECOMMENDED ACTION:

See the recommended action for error code 144.

ERROR CODE: 162

DESCRIPTION: Electronic Journal get serial number failed.

RECOMMENDED ACTION:

See the recommended action for error code 144.

ERROR CODE: 163

DESCRIPTION: Terminal did not answer (Triton Connect error)

RECOMMENDED ACTION:

This error is not displayed at the cash dispenser . The Triton Connect Host Computer generates the error when a terminal does not respond to a telephone call from the Triton Connect Host Computer. The cash dispenser may be turned OFF, or the telephone line is shared with some other device that connects to the line before the cash dispenser. Additionally, the Triton Connect feature may be disabled at the cash dispenser. This problem may also be caused by a defective modem.

ERROR CODE: 164

DESCRIPTION: Terminal did not return call. (Triton Connect error)

RECOMMENDED ACTION:

This error is not displayed at the cash dispenser . The Triton Connect Host Computer generates this error when a terminal does not make a call to the Triton Connect Host Computer as requested. Replace the modem module.

ERROR CODE: 165

DESCRIPTION: Electronic journal not present.

RECOMMENDED ACTION:

See the recommended action for error code 144.

ERROR CODE: 166

DESCRIPTION: Bad dispense.

RECOMMENDED ACTION:

Open the Security Cabinet and inspect the cash dispenser for broken parts. Replace the dispenser if it is broken. Check for and clear any foreign debris the note path. Reset the cash dispenser. Replace the dispenser if the error persists.

ERROR CODE: 167

DESCRIPTION: Low Cash.

RECOMMENDED ACTION:

This is a message to the Triton Connect Host indicating that the last in service Cassette has reach at the Low Cash Threshold level. This is a warning message that will not place the ATM “Out of Service”. The ATM should be replenished with cash as soon as practical

ERROR CODE: 183

DESCRIPTION: Receipt paper low

RECOMMENDED ACTION:

Install a new roll of paper if needed. If this does not correct the problem, verify that the paper low sensor is correctly attached to the paper bracket and it is connected to the printer controller PCB. The paper low sensor may be dirty and require cleaning. Otherwise, the possible causes of the problem may be a defective paper low sensor, or a defective printer control PCB. A temporary fix to this problem may be to set the LOW RECEIPT PAPER parameter to IN SERVICE so that the terminal software does not read the input from the low paper sensor. When this is done, the terminal will operate normally until it is completely out of paper. Then it will go “Out of Service” for an Error 195 “Out of Paper”.

ERROR CODE: 185

DESCRIPTION: Telephone number not configured

RECOMMENDED ACTION:

Enter the Management Functions and configure the primary telephone number

ERROR CODE: 186

DESCRIPTION: Bill size not configured

RECOMMENDED ACTION:

Default value is factory set to \$0.00. Allowable bill sizes are 5, 10, 20, 50, and 100. Enter the management functions and configure the multiple amount parameter.

ERROR CODE: 187

DESCRIPTION: Maximum withdrawal not configured.

RECOMMENDED ACTION:

Enter management functions and configure the maximum amount. The maximum withdrawal cannot exceed 50 times the denomination of the bill size in the cassette.

ERROR CODE: 188

DESCRIPTION: PIN Working key not configured.

RECOMMENDED ACTION:

Enter management functions and configure the pin working key.

ERROR CODE: 189

DESCRIPTION: Terminal ID not configured.

RECOMMENDED ACTION:

Enter the management function and configure the terminal ID correctly.

ERROR CODE: 190

DESCRIPTION: Pin Master key not configured.

RECOMMENDED ACTION:

Enter management functions and enter the pin master key.

ERROR CODE: 192

DESCRIPTION: Communications error.

RECOMMENDED ACTION:

Enter management functions and verify that all terminal parameters have been set correctly. Verify that the telephone line is operational. Reset the cash dispenser and clear the error. Other possible causes may be a defective modem or main board.

ERROR CODE: 193

DESCRIPTION: The baud rate setting for electronic journal failed.

RECOMMENDED ACTION:

Inspect the electronic journal to make sure is it the correct part number. Reset the cash dispenser and clear the error. If the error persists, replace the Electronic Journal.

ERROR CODE: 194

DESCRIPTION: An attempt to dispense bills has been made when the cassettes are unlocked.

RECOMMENDED ACTION:

This error may occur anytime that a cassette is removed from the cash dispenser with the AC Power ON. Make sure that the cassettes are installed and locked before performing a test dispense or live transaction.

ERROR CODE: 195

DESCRIPTION: Receipt printer out of paper.

RECOMMENDED ACTION: Replenish the paper. Reset the cash dispenser and clear the error. Make sure that the ribbon cable from the docking station to the low paper sensor assembly is fastened at both ends of the cable and the orientation of the cable is correct. If the error persists, possible causes of the problem may be the low paper sensor assembly, the docking station, the main board, or cables.

ERROR CODE: 196

DESCRIPTION: Card reader error.

RECOMMENDED ACTION:

Inspect the card reader assembly. Make sure that there is no foreign material in the card slot. Clean the card reader assembly with a cleaning card. Make sure the ribbon cable from the docking station to the card reader is fastened at both ends of the cable and the orientation of the cable is correct. Reset the cash dispenser and clear the error. If the error persists, replace the card reader.

ERROR CODE: 203

DESCRIPTION: SPED keypad is not replying to main board.

RECOMMENDED ACTION:

ERROR CODE valid only for units with SPED keypad device installed. Make sure the battery is seated secure in the battery holder . Make sure the tamper screw is secure to the SPED module. Reset the cash dispenser and clear the error. If the error persists, replace the SPED keypad module.

ERROR CODE: 204

DESCRIPTION: Number of bills dispensed not equal to bills requested.

RECOMMENDED ACTION:

Reset the ATM If Problem persist it may be necessary to replace the dispenser

ERROR CODE: 205

DESCRIPTION: SPED keypad reported tamper condition.

RECOMMENDED ACTION:

Error code valid only for units with SPED keypad device installed. Make sure the battery is seated secure in the battery holder Make sure the tamper screw is secure to the SPED module. Reset the cash dispenser and clear the errorIf the error persists, replace the SPED keypad module.

ERROR CODE: 206

DESCRIPTION: SPED keypad could not perform a successful command within SPED MAX_ATTEMPTS tries.

RECOMMENDED ACTION:

Error code valid only for units with SPED keypad device installed. Reset the cash dispenser and clear the error. If error persists, replace the SPED keypad module.

ERROR CODE: 207

DESCRIPTION: SPED not detected.

RECOMMENDED ACTION: This **ERROR CODE** is valid for units with SPED keypad device installed. Check the cable and connections from the docking station to the SPED board. Verify that the SPED board has the correct DC voltages applied to it. If the DC voltages applied to the SPED board correct and the cables are in good condition and seated properly, replace the SPED board.

ERROR CODE: 208

DESCRIPTION: Dispenser did not reply after a dispense command.

RECOMMENDED ACTION:

Reset the ATM. If error is repeated, verify communication cables from docking board to security module and from the security module to the dispenser are good. Otherwise, it may be necessary to replace the dispenser or security module to correct the problem.

ERROR CODE: 209

DESCRIPTION: Check number of notes delivered command failed.

RECOMMENDED ACTION:

Reset the ATM. If error is repeated, it may be necessary to replace the dispenser correct the problem.

ERROR CODE: 210

DESCRIPTION: Dispenser type is unknown.

RECOMMENDED ACTION: Verify that the correct software is installed on the ATM. Make sure the dispenser is the correct type. Reset the ATM. If error persists, replace the CMC board on the dispenser. Replace the Dispenser.

ERROR CODE: 211

DESCRIPTION: The reply from dispenser was invalid.

RECOMMENDED ACTION:

Reset the ATM. If error persists, replace the CMC board on the dispenser. Replace the dispenser.

ERROR CODE: 231

DESCRIPTION: Warning: Card left in card reader.

RECOMMENDED ACTION:

Inspect the card reader for any foreign debris that is jammed in card slot. Remove any foreign objects. Replace the card reader.

ERROR CODE: 233

DESCRIPTION: Smart card reader not installed.

RECOMMENDED ACTION:

Verify that the ATM has the correct software installed on it. Verify that the card reader is the correct type. Inspect cables for loose or damaged connections. Repair or replace any damaged cables. If the ATM has a Smart Card Reader installed on it, it may be necessary to replace it.

ERROR CODE: 236

DESCRIPTION: Failed to make a connection to a TCP/IP host.

RECOMMENDED ACTION:

Verify that the ATM is configured to operate on a TCP/IP network. Verify that the cable between the ethernet connector on the docking board and the wall outlet is good. Verify that the network signal is available at the wall outlet. The problem could be caused by a configuration error or hardware such as the ethernet (CAT5) cable, the docking board, or the Main board assembly.

ERROR CODE: 237

DESCRIPTION: TCP/IP device failed

RECOMMENDED ACTION:

Verify that the ATM is configured to operate on a TCP/IP network. Verify that the cable between the ethernet connector on the docking board and the wall outlet is good. Verify that the network signal is available at the wall outlet. The problem could be caused by a configuration error or hardware such as the ethernet (CAT5) cable, the docking board, or the Main board assembly.

ERROR CODE: 300(30h)[0]**DESCRIPTION:** Successful Command**RECOMMENDED ACTION:**

The dispenser sends this **ERROR CODE** when a command has been successfully executed. This error code will appear in the electronic journal as code 300 indicating the successful completion of a transaction. When performing a **PURGE** or **TEST DISPENSE** operation the return code will be “0” in the first digit returned by the dispenser. It will be display as the hexadecimal number “30” when running the dispenser with the NMD test software.

ERROR CODE: 301(31h)[1]**DESCRIPTION:** Low level in cassette.**RECOMMENDED ACTION:**

This error code is returned by the dispenser when the number of notes in one or more of the cassettes is below a preset level, indicating the low level sensor in the note cassette has been activated. This occurs when the currency in any cassette reaches a thickness of approximately 25-35 mm. This is a warning message. It will not place the cash dispenser “Out of Service”. This condition is also displayed on the configuration summary printout under “dispenser” as a lower case a, b, c, or d for the cassette in the low currency condition. Other - wise, the **ERROR CODE** for cassettes not in a low currency condition would normally be upper case characters A, B, C, or D. Remove and fill the af fected cassette using normal procedures. Refilling may be delayed for several transactions if the **ERROR CODE** is the first warning that the cassette is nearly empty. However, actions to fill the cassette should be taken as soon as possible.

ERROR CODE: 302(32h)[2]**DESCRIPTION:** Empty Cassette.**RECOMMENDED ACTION:**

This error code is generated when a cassette is emptied during a dispense operation and does a partial dispense. The cash dispenser will attempt to complete the transaction from other cassettes. If the requested amount cannot be dispensed, the customer will receive the cash that can be dispensed. The transaction will be completed with the customers’ receipt indicating the amount of cash actually received. The cash dispenser will then attempt to complete a Reversal Transaction to notify the financial institution of the error. This error will not put the cash dispenser “Out of Service”. The cash dispenser will only

be placed “Out of Service” when all cassettes are empty. Remove and refill the affected cassette using normal replenishment procedures.

ERROR CODE: 303(33h)[3]

DESCRIPTION: Lifts are down.

RECOMMENDED ACTION:

This error code is generated when a cassette is not open and any command other than open cassettes, reset, and close cassettes are sent to the system. It is feasible that this error code could be generated even if the lifts are in the up position. This will occur if the machine is switched off and on during normal daily operation. This is done to indicate that the power has been off. Clear this error code by restarting the cash dispense or by unlocking and locking the cassettes. If the error recurs, a faulty cassette, note feeder or CMC module may be cause the problem.

ERROR CODE: 304(34h)[4]

DESCRIPTION: Rejected notes.

RECOMMENDED ACTION:

This error code indicates that notes were rejected during the transaction or test dispense operation. This is a warning message there is no action required.

ERROR CODE: 305(35h)[5]

DESCRIPTION: Diverter Failure.

RECOMMENDED ACTION:

This error code indicates that the system has recognized a document intended for the reject vault has reached the note transport sensor. The most probable cause is either mechanical or electrical failure of the note diverter in the note transport module. This error will place the cash dispenser “Out of Service”. Inspect the note diverter in the note transport module. Verify that there are no documents jammed in the note diverter area. Make sure the note diverter moves freely. Check to make sure that cables connecting the note transport and the CMC module are not damaged. Make sure all connectors attached to the CMC are seated in their receptacles. Remove and empty the reject vault. Install the Reject Vault. PURGE the dispensing mechanism. Complete several test dispenses. If the error does not repeat again, complete a live dispense to verify the

note diverter moves the currency to the exit position. If the error reoccurs the most likely causes of the problem may be note transport or CMC.

ERROR CODE: 306(36h)[6]

Description: Failure to feed.

Recommended Action:

There are several possible reason for this error code being generated. One cause is that the note feeder fails to feed notes. Another cause is that there are too many single rejected notes in the transactions. Check the condition of the currency to ensure it is fit for dispensing. Verify that the cassettes are operating correctly. Replace cassette as needed. Check the operation of the note feeder sensors. Clean the note feeder sensors as needed. Replace the note feeder if necessary.

ERROR CODE: 307(37h)[7]

DESCRIPTION: Transmission Error.

RECOMMENDED ACTION:

This error code occurs when the message received by the dispenser is incorrect. The reason that the error code is generated is the detection of an incorrect LRC character or a parity error. Inspect all communication cables to make sure they are not damaged and are properly connected to their termination points. Restart the cash dispenser. Reset the dispenser and try to complete a test dispense. If the error code is reported again, replace the CMC module. Otherwise, put the cash dispenser into service.

ERROR CODE: 308(38h)[8]

DESCRIPTION: Illegal Command or Command Sequence.

RECOMMENDED ACTION:

This error occurs when the logical sequence of the commands sent to the dispenser is not the one expected by the system. Examples of this are two move commands sent one after another or a deliver command that is sent without a previous move command. Inspect all communication cables to make sure they are not damaged. Make sure all cables are properly connected. Reset the dispenser and try to resend the command that caused the error code. If the error code is reported again, replace the CMC module.

ERROR CODE: 309(39h)[9]**DESCRIPTION:** Jam in Note Qualifier.**RECOMMENDED ACTION:**

This error code is generated when the note transport sensor does not detect a note that was detected by the note qualifier. This may be due to jammed documents in the transport path between the note qualifier and the note diverter. This error code will place the cash dispenser “Out of Service”. Inspect the documents in each cassette to insure they are in fit condition. Make sure that note qualifier and the note transport modules are mechanically aligned. Open all access panels and inspect for jammed documents in note path between the note qualifier and note transport. Remove the jammed documents as needed. Inspect the note qualifier and note transport for broken components (i.e. belts, gears, cables, or sensors). Inspect the note diverter for proper operation and damage. Replace the note qualifier or note transport if the problem persists.

ERROR CODE: 310(3Ah)[:]**DESCRIPTION:** Cassette not properly installed.**RECOMMENDED ACTION:**

This error code occurs when documents are requested from a cassette that is not present or is not open. This error code will place the cash dispenser in an “Out of Service” condition. Verify the physical presence of each cassette. If present, “unlock” and remove each cassette from its feed channel. Put the cassettes back into its feed channel. Lock the cassettes. Clear the error and perform a test dispense. If the error is repeated, proceed to the next paragraph. If the error does not show again put the cash dispenser back into service. Verify that the identity of each cassette can be read through read cassette ID function (See the 5000 Cash Dispenser Configuration Manual). Cassettes with no identity must be injected with a new cassette ID (See the 5000 Cash Dispenser Configuration Manual). If a cassette cannot be injected with a new ID, verify that the cable between the top feed channel and the CMC is in good condition and connected at both ends. Try to inject an ID into another cassette. If the inject cassette ID function works on a different cassette. Then the original cassette is faulty. If the inject cassette ID function fails on a different cassette the CMC is defective.

ERROR CODE: 311

DESCRIPTION: Configuration record size invalid

RECOMMENDED ACTION:

To be determined.

ERROR CODE: 312(3Ch)[?]

DESCRIPTION: No notes retracted

RECOMMENDED ACTION:

This is a warning message. No action is required.

ERROR CODE: 313

DESCRIPTION: Invalid hopper map

RECOMMENDED ACTION:

Reset the ATM. If error persists, it may be necessary to replace the dispenser.

ERROR CODE: 314

DESCRIPTION: Cannot resolve dispenser Count

RECOMMENDED ACTION:

To Be Determined.

ERROR CODE: 315(3Fh)[?]

DESCRIPTION: Reject vault not properly installed.

RECOMMENDED ACTION:

This error code is generated when the reject vault is not present or not properly installed. Attempting to operate the cash dispenser without the reject vault will normally cause it to go to an “Out of Service” condition. Make sure the reject vault is installed correctly. Inspect the reject vault present sensor visually for proper operation. Use the cash dispenser diagnostic functions to check the electrical operation of the sensor. If the sensor is properly connected and operating correctly the CMC module may be defective. If the sensor is not operating normally, replace the note transport module.

ERROR CODE: 316(40h)[?]**DESCRIPTION:** Delivery Failure**RECOMMENDED ACTION:**

Reset the ATM. If the error persists, it may be necessary to use the diagnostics program to determine the status of the count sensors. Clean dirty sensors. It may be necessary to replace the dispenser

ERROR CODE: 317(41h)[A]**DESCRIPTION:** Reject Failure**RECOMMENDED ACTION:**

Reset the ATM. If the error persists, replace the Reject Vault. If this fails to correct the problem, replace the dispenser

ERROR CODE: 318(42h)[B]**DESCRIPTION:** Too many notes requested.**RECOMMENDED ACTION:**

This error code occurs while running the dispenser on the NMD test software and when too many notes are requested during a dispense command. The maximum number of notes that can be dispensed from the dispenser during a transaction is defaulted to fifty. Retry the test operation and request fifty or fewer notes.

ERROR CODE: 319(43h)[C]**DESCRIPTION:** Jam in note transport.**RECOMMENDED ACTION:**

This error code is generated when a document from a note feeder fails to reach the note qualifier within a specified time. This failure may be caused by a blockage in the transport path between the Note Feeder and the note qualifier, or if a document passes through the note qualifier unseen. This error code will cause the cash dispenser to go “Out of Service”. Check the cassettes. Make sure they are not overfilled. The recommended capacity is 1850 documents. Make sure the documents are in good condition. Open all access panels and remove any jammed documents from the transport path. Inspect the note feeders and note qualifier for damage. Restart the cash dispenser. Reset the error. Com-

plete several test dispenses. If the test dispenses are normal and the error does not show again, the cash dispenser may be returned to service. If the error recurs, change the note feeder for the affected channel.

ERROR CODE: 320(44h)[D]

DESCRIPTION: Reject cassette almost full.

RECOMMENDED ACTION:

This error code is generated when the number of reject events exceeds 37 events. Error code 320 will not put the cash dispenser “Out of Service. It is not displayed directly to the operator or customer. The error code will be sent to the Triton Connect host if Triton Connect feature is enabled. It will also be stored as part of the transaction data in the electronic journal. The reject vault should be emptied as soon as possible in order to avoid an “Out of Service” condition that occurs when the number of reject events reaches 50. The reject event counter can be reset by removing the reject vault from the dispenser and then putting it back into the dispenser.

ERROR CODE: 321(45h)[E]

DESCRIPTION: Cassette data corrupted.

RECOMMENDED ACTION:

This error code is generated when there is a checksum error in data stored in the note cassette. Program the cassette by injecting a new cassette ID into the cassette. If injecting a new cassette ID into the cassette does not correct the problem, replace the cassette.

ERROR CODE: 322(46h)[F]

DESCRIPTION: Main motor failure

RECOMMENDED ACTION:

Error code 322 is generated when the main motor fails to reach normal speed with in a specified time, or if there are several pulses missing from the transport clock wheel (timing wheel) in one transaction. This error code causes an “Out of Service” condition. Open all access panels and remove any jammed documents from the transport path. Verify the documents are fit for dispensing. Inspect the note qualifier for any damage (i.e. broken belts, broken gears, disconnected or damaged cables, broken timing wheel etc.). Make sure all access panels are closed. Restart the cash dispenser and reset the error. Com-

plete several test dispenses. If cash dispenser operates normally when performing the test dispense function, put the cash dispenser in service. If the error code repeats, verify the power supply output voltages are within expected values. Replace the power supply if necessary. If the power supply is operating normally, replace the note qualifier to correct the problem.

ERROR CODE: 325(49h)[I]**DESCRIPTION:** Note qualifier faulty**RECOMMENDED ACTION:**

Error code 325 is generated when the double detect sensors in the note qualifier can not be calibrated, or when the gain value cannot be adjusted when learning a new documents. Verify that the cable that connects the double detect module to the CMC module is undamaged and connected at both ends. Make sure the access panel on the bottom of the note qualifier is closed and locked in position. Carefully remove the double detect module from the note qualifier. Use clean compressed air to remove any dust or dirt from the sensor lenses. Carefully install the double detect module into the note qualifier. Make sure all connections between the double detect module and the CMC are seated properly. If at any time during the following checks, the “faulty note qualifier” error code recurs. It will be necessary to replace the note qualifier. Restart the cash dispenser. Reset the error code. If it clears, initiate the learn note thickness operation. Perform a test dispense. If cash dispenser operates normally, it will pick from seven to fifteen notes from each cassette to calibrate the double detect to the document in each of the cassettes. Then it will complete the test dispense function. A normal return code for this test dispense operation is “4 1 1 1” for a four cassette dispenser. If the operation is normal, you may put the cash dispenser in service. If these checks are not properly completed, replace the note qualifier.

ERROR CODE: 326(4Ah)[J]**DESCRIPTION:** Note feed sensor failure.**RECOMMENDED ACTION:**

This error code is generated when there is a sensor error in one or more of the note feeders or when there is a document jammed in the note feeder exit sensor. Make sure there are not any documents jammed at any of the note feeder exit sensors. Check the calibration value for the pressure, empty, and exit sensors. If any sensor is out of its calibration limits, clean all of the sensors and attempt to do a transaction. If the error code reoccurs, replace the note feeder module.

ERROR CODE: 327(4Bh)[K]

DESCRIPTION: Reject vault not properly installed.(NMD-100 only.)

RECOMMENDED ACTION:

Verify that the cables running between the docking board and the shutter assembly are undamaged and securely connected. ResetThe ATM. If the shutter still fails to respond replace the shutter assembly . If replacing the shutter assembly does not correct the problem replace the dospenser

ERROR CODE: 329(4Dh)[M]

DESCRIPTION: Notes in delivery throat.

RECOMMENDED ACTION:

An attempt to feed or dispense documents has been made when there is a note in the note transport throat. Remove any documents blocking the throat opening. Make sure the diverter is not jammed. Inspect the note transport for damage and verify that all connectors are plugged into their respective receptacles. Use the reject channel error code function to verify the operation of the sensors on the note transport module. Clean the sensors in the note transport a needed. Restart the cash dispenser . Reset the error code. Perform the test dispense function several times (two or three). Complete a live transaction. If the error does not show again put the cash dispenser into service. If the error code returns, replace the note transport module.

ERROR CODE: 330(4Eh)[N]

DESCRIPTION: Communication timeout.

RECOMMENDED ACTION:

This error is reported when the transmission of each one of the characters in the command string is not completed within the time restriction imposed by the electrical interface. Inspect all cables for damage. Verify that the both ends of each cable are securely connected to its termination points. This problem may be caused by incompatibilities between terminal software and dispensing mechanism software. Check with Triton Systems Technical Support for known software incompatibilities.

ERROR CODE: 332(50h)[P]

DESCRIPTION: Cassettes may have been changed.

RECOMMENDED ACTION:

This error code is generated when a movement command is sent before read cassette ID command after the cassettes, including the reject vault are removed. This is error code will set an “Out of Service” condition. Verify that each cassette is placed in its designated feed channel. Complete the test receipt printer function to determine which if any of the cassettes are not responding. If a cassette is not responding it may be necessary to inject a new identity into the cassette by completing the inject new cassette ID command. A defective cassette may also cause this problem.

ERROR CODE: 333(51h)[Q]

DESCRIPTION: Reject vault full.

RECOMMENDED ACTION:

This error code is produced when the single reject event counter exceeds 50 reject events or the bundle reject event counter exceeds 250 notes. This error code will cause an “Out of Service” condition. Remove all documents from the reject vault. To clear the error code, the reject vault must be removed and inserted with the power on. This will reset the reject event counters.

ERROR CODE: 339(57h)[W]

DESCRIPTION: Error in throat.

RECOMMENDED ACTION:

This error code is reported by the dispensing mechanism when a document is jammed in the throat sensor during a live dispenses or when a reset is performed. Make sure all cables between the note transport and the other units are undamaged and securely seated at their termination point. Check the operation of all sensors in the note transport module. Inspect the diverter area to make sure that it is not blocked and that it moves freely. Make sure that the access panels before and after the diverter are closed and secured in place. Remove any documents from the tote transport. Restart the cash dispenser. Reset the error code. Perform a live transaction. If the cash dispenser operates normally put it back in service. If the error code persists, replace the note transport module.

ERROR CODE: 343(5Bh)[[]]

DESCRIPTION: Sensor error or sensor covered.

RECOMMENDED ACTION:

This error is produced when a sensor in note transport module is not working correctly during an internal self-test preceding the movement commands. Inspect all cables for damage. Make sure that all cables are securely fastened to their termination points. Open the access panels on the note transport and remove any documents that may be in the transport path. Access the error code command to determine if any sensors in the reject channel are dirty or defective. Clean the dirty sensor or replace the note transport as needed. Restart the cash dispenser. Reset the error. Perform a live transaction. If the cash dispenser operates normally put it in service. If the problem persists, replace the note transport module.

ERROR CODE: 348(60h)[‘]

DESCRIPTION: Dispenser internal error.

RECOMMENDED ACTION:

This error code is reported when an internal error occurs in the dispenser. The most likely cause is internal communication problems within the dispenser. Inspect all cables for possible damage. Ensure that each cable is securely fastened to its termination point. Restart the cash dispenser. Reset the error. If the response to the RESET command indicates a successful execution, put the cash dispenser back in service. If the error code is reported again, it may be necessary to replace the CMC or one of the note feeder controllers.

ERROR CODE: 349(61h)[a]

DESCRIPTION: Cassette lock faulty.

RECOMMENDED ACTION:

This error code is generated when the LIFTS UP command fails to open a note cassette to the operating position. Verify that the currency is properly installed in the cassette. If necessary, reload the currency in the cassette. If the problem remains after reloading the cassette, replace the cassette, the denomination extension, or the note feeder controller associated with the cassette causing the problem.

ERROR CODE: 350(62h)[b]

DESCRIPTION: Error in note stacker area.

RECOMMENDED ACTION:

Turn off the ATM. Open the security cabinet and clear any jammed notes found in the dispenser. Make sure all access panels are securely closed. Inspect for misaligned or damaged modules. Check the condition of the currency in each cassette. Remove all unfit bills. Restart the ATM. Reset the error. Test dispense several times with multiple picks. If the dispenser responds normally without repeating the error place the ATM in service. If the error persists, it may be necessary to replace the dispenser.

ERROR CODE: 351(63h)[c]

DESCRIPTION: Module needs service.

RECOMMENDED ACTION:

This error code is generated by the dispensing mechanism when the calibration value for at least one of the sensors in any of the note feeders has exceeded the upper limits of its calibration range. Use the diagnostic functions or NMD test software to determine if a note feeder has a faulty or dirty sensor. Remove each note feeder module from the dispensing mechanism and clean their associated empty, pressure and exit sensors with clean compressed air. Install the note feeders and recheck their operation to determine if the error code has been cleared. If the error code has been cleared, the cash dispenser can be put back in service. If the error code is repeated, replace the note feeder or note feeder controller for the affected feed channel.

ERROR CODE: 353(65h)[e]

DESCRIPTION: No message to resend.

RECOMMENDED ACTION: This error code may indicate a power loss/firmware restart has occurred at the dispenser controller and no information could be retrieved. Restart the cash dispenser. Reset the error. Perform several test dispenses. If the cash dispenser operates normally while performing a test dispense, put it back into service. If the error code recurs, replace the CMC module.

ERROR CODE: 356(68)[h]

DESCRIPTION: Error in note transport.

RECOMMENDED ACTION:

This error code will be generated when the following conditions occur: 1When the note is stuck in the note transport sensor . 2. When the note is stuck in between the note transport sensor and the throat. Inspect the note transport sensor for blockage. If the sensor is blocked, remove the blockage. Clean the sensors if needed. Restart the cash dispenser Reset the error If the error code continues, replace the note transport module. Otherwise, put the cash dispenser into service.

ERROR CODE: 357

DESCRIPTION: Dispenser data size error.

RECOMMENDED ACTION:

Restart the operating system. Clear terminal error code. Replace the dispenser is the error persists.

ERROR CODE: 358

DESCRIPTION: Dispenser device read error.

RECOMMENDED ACTION:

Restart the operating system. Clear terminal error code. Replace the dispenser is the error persists.

ERROR CODE: 359

DESCRIPTION: Dispenser device record error.

RECOMMENDED ACTION:

Restart the operating system. Clear terminal error code. Replace the dispenser is the error persists.

ERROR CODE: 360

DESCRIPTION: Dispenser invalid return ID.

RECOMMENDED ACTION:

Restart the operating system. Clear terminal error code. Replace the dispenser is the error persists.

ERROR CODE: 361

DESCRIPTION: Dispenser sequence error.

RECOMMENDED ACTION:

Restart the operating system. Clear terminal error code. Replace the dispenser is the error persists.

ERROR CODE: 362

DESCRIPTION: Dispenser device write error.

RECOMMENDED ACTION:

Restart the operating system. Clear terminal error code. Replace the dispenser is the error persists.

ERROR CODE: 363

DESCRIPTION: Dispenser device not found

RECOMMENDED ACTION:

Restart the operating system. Clear terminal error code. Replace the dispenser is the error persists.

ERROR CODE: 364

DESCRIPTION: Dispenser device offline.

RECOMMENDED ACTION:

Restart the operating system. Clear terminal error code. Inspect all cable for good connections. Replace the dispenser is the error persists.

ERROR CODE: 365

DESCRIPTION: Dispenser BCC error.

RECOMMENDED ACTION:

Restart the operating system. Clear terminal error code. Replace the dispenser if the error persists.

ERROR CODE: 366

DESCRIPTION: Dispenser cassettes disabled.

RECOMMENDED ACTION:

Access management functions and enable cassettes.

ERROR CODE: 367

DESCRIPTION: Dispenser communication error.

RECOMMENDED ACTION:

Check the dispenser data and power cable connections. Restart the operating system. Clear terminal error code. Replace the dispenser if the error persists.

ERROR CODE: 368

DESCRIPTION: Dispenser cannot dispense the request.

RECOMMENDED ACTION:

Requested amount may exceed the dispensers one time limit. Enter a smaller value. If error persists, replace the dispenser mechanism.

ERROR CODE: 369

DESCRIPTION: Dispenser device reset.

RECOMMENDED ACTION:

Check data and power connections to the dispenser device. Clear terminal error code. If error persists, replace the dispenser mechanism.

ERROR CODE: 370

DESCRIPTION: Dispenser - SDD EOT error.

RECOMMENDED ACTION:

Check data and power connections to the dispenser device. Clear terminal error code. If error persists, replace the dispenser mechanism.

ERROR CODE: 371

DESCRIPTION: Dispenser SDD com error header-trailer.

RECOMMENDED ACTION:

Check data and power connections to the dispenser. Clear terminal error code. If error persists, replace the dispenser mechanism.

ERROR CODE: 372

DESCRIPTION: Dispenser item value error

RECOMMENDED ACTION:

Clear terminal error code. If error persists, replace the dispenser mechanism.

ERROR CODE: 373

DESCRIPTION: Dispenser machine not opened.

RECOMMENDED ACTION:

Access the management functions menu and lock all cassettes. Verify that all cassettes used are in service.

ERROR CODE: 374

DESCRIPTION: Dispenser rejected cheque.

RECOMMENDED ACTION:

Clear terminal error code. If error persists, replace the dispenser mechanism.

ERROR CODE: 375

DESCRIPTION: Dispenser invalid request.

RECOMMENDED ACTION:

Clear terminal error code. If error persists, replace the dispenser mechanism.

ERROR CODE: 376

DESCRIPTION: Dispenser multiple device error.

RECOMMENDED ACTION:

Restart operating system. Clear terminal error code. If error persists, replace the dispenser mechanism.

ERROR CODE: 377

DESCRIPTION: Dispenser device error.

RECOMMENDED ACTION:

Restart operating system. Clear terminal error code. If error persists, replace the dispenser mechanism.

ERROR CODE: 379

DESCRIPTION: Dispenser unknown error code.

RECOMMENDED ACTION:

Restart operating system. Clear terminal error code. If error persists, replace the dispenser mechanism.

ERROR CODE: 382

DESCRIPTION: Dispenser cassettes disabled (ALL).

RECOMMENDED ACTION:

Enter management functions menu and place the cassette(s) in service.

ERROR CODE: 383

DESCRIPTION: Dispense cassettes low (ALL).

RECOMMENDED ACTION:

All cassettes have reached low cash level. Reload cassettes. Clear terminal error code.

ERROR CODE: 384

DESCRIPTION: Dispenser cassettes empty (ALL).

RECOMMENDED ACTION:

All cassettes report no notes. Reload cassettes. Clear terminal error code.

ERROR CODE: 385

DESCRIPTION: Dispenser offline, no reject vault and not hoppers.

RECOMMENDED ACTION:

Verify that the dispenser mechanism has data and power cable connected. Verify power is applied to the dispenser.

ERROR CODE: 386

DESCRIPTION: Dispenser offline - no hoppers.

RECOMMENDED ACTION:

The hoppers are not detected. Check the computer area network connectors in the dispenser. Restart operating system. Clear terminal error code. If error persists, replace the dispenser mechanism.

ERROR CODE: 387

DESCRIPTION: Dispenser offline - error validating configuration.

RECOMMENDED ACTION:

Dispenser failed to identify the dispenser type installed. Verify all connectors to the dispenser mechanism. Restart operating system. Clear terminal error code. If error persists, replace the dispenser mechanism.

ERROR CODE: 388

DESCRIPTION: Dispenser offline - NMD requires Reject Vault and at least one cassette.

RECOMMENDED ACTION:

Verify that the RejectVault and one cassette are present in the dispenser mechanism. Clear terminal error code. If error persists, replace the dispenser mechanism.

ERROR CODE: 389

DESCRIPTION: Dispenser offline. Detected offline error check op state.

RECOMMENDED ACTION:

Restart the operating system. Verify the error code lights on the dispenser are operating in proper sequence. Use the NMD test software (available to Triton Certified Service Technicians) and verify the operational error code of the dispenser.

ERROR CODE: 390

DESCRIPTION: Dispenser offline - storing configuration.

RECOMMENDED ACTION: Restart the operating system. Verify the error code lights on the dispenser are operating in proper sequence. Use the NMD test software (available to Triton Certified Service Technicians) and verify the operational error code of the dispenser.

ERROR CODE: 391

DESCRIPTION: Dispenser sensor failure.

RECOMMENDED ACTION:

Access the management function diagnostics menus to verify the operational error code of dispenser mechanism sensors. Clean sensors as needed. Replace dispenser components or dispenser if the error persists.

ERROR CODE: 392

DESCRIPTION: Error in last dispense.

RECOMMENDED ACTION:

Check operational **ERROR CODE** of dispenser. Replace dispenser if error code persists.

ERROR CODE: 395

DESCRIPTION: Multiple cassette of the same type.

RECOMMENDED ACTION:

NMD dispenser allows for only one of each cassette ID to be installed. Verify each cassette ID. Replace cassette or Inject New Cassette ID.

ERROR CODE: 500

DESCRIPTION: SPED Read Error.

RECOMMENDED ACTION:

Verify all SPED connections. Restart the operating system. Inspect the battery for a voltage reading of greater than 2.8VCD. Replace SPED battery is below 2.8 VDC. Replace SPED if error persists.

ERROR CODE: 501

DESCRIPTION: SPED invalid return record.

RECOMMENDED ACTION:

Refer to error 500.

ERROR CODE: 502

DESCRIPTION: SPED read type error.

RECOMMENDED ACTION:

Refer to error 500.

ERROR CODE: 503

DESCRIPTION: SPED invalid command.

RECOMMENDED ACTION:

Refer to error 500.

ERROR CODE: 504

DESCRIPTION: SPED invalid return ID.

RECOMMENDED ACTION:

Refer to error 500.

ERROR CODE: 505

DESCRIPTION: SPED device busy.

RECOMMENDED ACTION:

Refer to error 500.

ERROR CODE: 506

DESCRIPTION: SPED invalid request.

RECOMMENDED ACTION:

Refer to error 500.

ERROR CODE: 507

DESCRIPTION: SPED sequence error.

RECOMMENDED ACTION:

Refer to error 500.

ERROR CODE: 508

DESCRIPTION: SPED LRC error.

RECOMMENDED ACTION:

Refer to error 500.

ERROR CODE: 509

DESCRIPTION: SPED no data.

RECOMMENDED ACTION:

Refer to error 500.

ERROR CODE: 510

DESCRIPTION: SPED invalid message ID.

RECOMMENDED ACTION:

Refer to error 500.

ERROR CODE: 511

DESCRIPTION: SPED Data overflow.

RECOMMENDED ACTION:

Refer to error 500.

ERROR CODE: 512

DESCRIPTION: SPED device idle.

RECOMMENDED ACTION:

Refer to error 500.

ERROR CODE: 513

DESCRIPTION: SPED device offline.

RECOMMENDED ACTION:

Refer to error 500.

ERROR CODE: 514

DESCRIPTION: SPED device bit stuck.

RECOMMENDED ACTION:

Refer to error 500.

ERROR CODE: 515

DESCRIPTION: SPED device attention stuck.

RECOMMENDED ACTION:

Refer to error 500.

ERROR CODE: 516

DESCRIPTION: SPED device no attention.

RECOMMENDED ACTION:

Refer to error 500.

ERROR CODE: 517

DESCRIPTION: SPED device timeout.

RECOMMENDED ACTION:

Refer to error 500.

ERROR CODE: 518

DESCRIPTION: SPED command sequence error.

RECOMMENDED ACTION:

Refer to error 500.

ERROR CODE: 519

DESCRIPTION: SPED invalid command data.

RECOMMENDED ACTION:

Refer to error 500.

ERROR CODE: 520

DESCRIPTION: SPED device reset.

RECOMMENDED ACTION:

Refer to error 500.

ERROR CODE: 521

DESCRIPTION: SPED clear key

RECOMMENDED ACTION:.

Refer to error 500.

ERROR CODE: 522

DESCRIPTION: EJ error.

RECOMMENDED ACTION:

Inspect electronic journal cabling. Reseat connections. Restart operating system. Replace electronic journal.

ERROR CODE: 523

DESCRIPTION: EJ data size error.

RECOMMENDED ACTION:

Refer to error 522.

ERROR CODE: 524

DESCRIPTION: EJ bad command.

RECOMMENDED ACTION:

Refer to error 522.

ERROR CODE: 525

DESCRIPTION: EJ invalid ID.

RECOMMENDED ACTION:

Refer to error 522.

ERROR CODE: 526

DESCRIPTION: EJ device busy.

RECOMMENDED ACTION:

Refer to error 522.

ERROR CODE: 527

DESCRIPTION: EJ invalid request.

RECOMMENDED ACTION: Refer to error 522.

ERROR CODE: 528

DESCRIPTION: EJ sequence error.

RECOMMENDED ACTION:

Refer to error 522.

ERROR CODE: 529

DESCRIPTION: EJ device offline.

RECOMMENDED ACTION:

Refer to error 522.

ERROR CODE: 530

DESCRIPTION: EJ EXT error.

RECOMMENDED ACTION:

Refer to error 522.

ERROR CODE: 531

DESCRIPTION: EJ SOH error.

RECOMMENDED ACTION:

Refer to error 522.

ERROR CODE: 532

DESCRIPTION: EJ STX error.

RECOMMENDED ACTION:

Refer to error 522.

ERROR CODE: 533

DESCRIPTION: EJ BCC error.

RECOMMENDED ACTION:

Refer to error 522.

ERROR CODE: 534

DESCRIPTION: EJ device reset.

RECOMMENDED ACTION:

Refer to error 522.

ERROR CODE: 535

DESCRIPTION: Card Reader - Data size error.

RECOMMENDED ACTION:

Inspect card reader cabling. Inspect card reader for foreign objects. Clear the terminal error code. If error persists, reboot the ATM. Replace the card reader if error persists.

ERROR CODE: 536

DESCRIPTION: Card Reader - Device read error.

RECOMMENDED ACTION:

Refer to error code 535.

ERROR CODE: 537

DESCRIPTION: Card Reader - Invalid Record.

RECOMMENDED ACTION:

Refer to error code 535.

ERROR CODE: 538

DESCRIPTION: Card Reader - Reader type error.

RECOMMENDED ACTION:

Refer to Error code 535.

ERROR CODE: 539

DESCRIPTION: Card Reader - Invalid track.

RECOMMENDED ACTION:

Refer to error code 535.

ERROR CODE: 540

DESCRIPTION: Card Reader - Invalid message.

RECOMMENDED ACTION:

Refer to error code 535.

ERROR CODE: 541

DESCRIPTION: Card Reader - Com error.

RECOMMENDED ACTION:

Refer to Error/Error code 535.

ERROR CODE: 542

DESCRIPTION: Card Reader - Device busy.

RECOMMENDED ACTION:

Refer to error code 535.

ERROR CODE: 543

DESCRIPTION: Card Reader - Sequence error.

RECOMMENDED ACTION:

Refer to error code 535.

ERROR CODE: 544

DESCRIPTION: Card Reader - Invalid request.

RECOMMENDED ACTION:

Refer to error code 535.

ERROR CODE: 545

DESCRIPTION: Card Reader - LRC error.

RECOMMENDED ACTION:

Refer to error code 535.

ERROR CODE: 546

DESCRIPTION: Card Reader - No data.

RECOMMENDED ACTION:

Refer to error code 535.

ERROR CODE: 547

DESCRIPTION: Card Reader - Start sentinel not found.

RECOMMENDED ACTION:

Refer to error code 535.

ERROR CODE: 548

DESCRIPTION: Card Reader - End sentinel not found.

RECOMMENDED ACTION:

Refer to error code 535.

ERROR CODE: 549

DESCRIPTION: Card Reader - Parity error.

RECOMMENDED ACTION:

Refer to error code 535.

ERROR CODE: 550

DESCRIPTION: Card Reader - Card not removed.

RECOMMENDED ACTION:

Refer to error code 535.

ERROR CODE: 551

DESCRIPTION: Card Reader - Card removed to slow.

RECOMMENDED ACTION:

Refer to error code 535.

ERROR CODE: 552

DESCRIPTION: Card Reader - Device received invalid request.

RECOMMENDED ACTION:

Refer to error code 535.

ERROR CODE: 553

DESCRIPTION: Card Reader - device offline.

RECOMMENDED ACTION:

Refer to error code 535.

ERROR CODE: 554

DESCRIPTION: Card Reader - device reset.

RECOMMENDED ACTION:

Refer to error code 535.

ERROR CODE: 555

DESCRIPTION: Card Reader - System timeout.

RECOMMENDED ACTION:

Refer to error code 535.

ERROR CODE: 556

DESCRIPTION: System timeout.

RECOMMENDED ACTION:

An operating system timeout has occurred. Verify operation of the power supply. Restart ATM. If error persists, replace the main board assembly.

ERROR CODE: 557

DESCRIPTION: System device reset.

RECOMMENDED ACTION:

Verify operation of the power supply. Restart ATM. Clear the error. If error persists, replace the main board assembly.

ERROR CODE: 558

DESCRIPTION: System sync error.

RECOMMENDED ACTION:

See error code 557.

ERROR CODE: 559

DESCRIPTION: System error.

RECOMMENDED ACTION:

See error code 557.

ERROR CODE: 560

DESCRIPTION: Unknown device error.

RECOMMENDED ACTION:

See error code 557.

ERROR CODE: 561

DESCRIPTION: Software error.

RECOMMENDED ACTION:

See error code 557.

ERROR CODE: 562

DESCRIPTION: SPED error.

RECOMMENDED ACTION:

Inspect cable from Main Board assembly to the SPED module for damage. Make sure that cable is connected at both ends. Verify that the DC operating voltages are correct. Restart ATM. Clear the error. If error persists, replace the SPED module.

ERROR CODE: 565

DESCRIPTION: Cabinet door open.

RECOMMENDED ACTION:

Close the control panel door. Reset error code code. If error persists, verify the operation of cabinet door switch. Replace as needed.

ERROR CODE: 566

DESCRIPTION: Vault door open.

RECOMMENDED ACTION:

Close vault door. Reset error code. If error persists, check the operation of the vault door switch. Replace as needed.

ERROR CODE: 567

DESCRIPTION: Security module not found.

RECOMMENDED ACTION:

Inspect cable from main board assembly to the security module for damage. Make sure that the cable is connected at both ends. Restart ATM. Clear the error. If error persists, replace the security module.

ERROR CODE: 568

DESCRIPTION: Security module com failed.

RECOMMENDED ACTION:

See error code 567.

ERROR CODE: 569

DESCRIPTION: Security module attached dev com failed.

RECOMMENDED ACTION:

See error code 567.

ERROR CODE: 570

DESCRIPTION: Security module dev port setup.

RECOMMENDED ACTION:

See error code 567.

ERROR CODE: 571

DESCRIPTION: Invalid default transaction.

RECOMMENDED ACTION:

To Be Determined.

ERROR CODE: 572

DESCRIPTION: SPED key from pad cmd aborted by user.

RECOMMENDED ACTION:

Inspect cable from main board assembly to the SPED module for damage. Make sure that the cable is connected at both ends. Restart ATM. Clear the error. If error persists, replace the SPED module.

ERROR CODE: 573

DESCRIPTION: SPED keys from pad cmd verify failed.

RECOMMENDED ACTION:

Inspect cable from Main Board assembly to the SPED module for damage. Make sure that the cable is connected at both ends. Restart ATM. Clear the error. If error persists, replace the SPED module.

ERROR CODE: 574

DESCRIPTION: SNA comms error.

RECOMMENDED ACTION:

To be determined.

ERROR CODE: 575

DESCRIPTION: Timeout waiting to send command to dispenser.

RECOMMENDED ACTION:

Inspect the serial communication cables from the main board assembly to the electronic journal and from the electronic journal to the dispenser for damage. Make sure that each cable is connected securely at both ends. Replace the cable if they appear damaged. Verify the proper DC operating voltages are applied to the dispenser mechanism. Possible defective components include main board assembly, the electronic journal, the serial communications cables, the DC power cables, the power supply, and the dispenser mechanism.

ERROR CODE: 576

DESCRIPTION: Timeout waiting to receive response from dispenser.

RECOMMENDED ACTION:

Inspect the serial communication cables from the main board assembly to the electronic journal and from the electronic journal to the dispenser for damage. Make sure that each cable is connected securely at both ends. Replace the cable if they appear damaged. Verify the proper DC operating voltages are applied to the dispenser mechanism. Possible defective components include main board assembly, the electronic journal, the serial communications cables, the DC power cables, the power supply, and the dispenser mechanism.

ERROR CODE: 577

DESCRIPTION: Card reader disabled.

RECOMMENDED ACTION:

Inspect card reader cable. Inspect the card reader for foreign objects. Replace the cable or clean the card reader as needed. Clear the error Restart the ATM. If the error persists, replace the card reader.

ERROR CODE: 578

DESCRIPTION: Card reader present timeout.

RECOMMENDED ACTION:

Inspect card reader cable. Inspect the card reader for foreign objects. Replace the cable or clean the card reader as needed. Clear the error Restart the ATM. If the error persists, replace the card reader.

ERROR CODE: 579

DESCRIPTION: SPED - Enable keypad command failed.

RECOMMENDED ACTION:

Inspect cable from Main Board assembly to the SPED Module for damage. Make sure that the cable is connected at both ends. Verify that the DC operating voltages are correct. RestartATM. Clear the error If error persists, replace the SPED module.

ERROR CODE: 580

DESCRIPTION: SPED - Disable keypad command failed.

RECOMMENDED ACTION:

Inspect cable from main board assembly to the SPED module for damage. Make sure that the cable is connected at both ends. Verify that the DC operating voltages are correct. RestartATM. Clear the error If error persists, replace the SPED module.

ERROR CODE: 581

DESCRIPTION: SPED - Enable key from pad module failed.

RECOMMENDED ACTION:

Inspect cable from main board assembly to the SPED module for damage. Make sure that the cable is connected at both ends. Verify that the DC operating voltages are correct. RestartATM. Clear the error If error persists, replace the SPED module.

ERROR CODE: 582

DESCRIPTION: SPED - Disable key from pad module.

RECOMMENDED ACTION:

Inspect cable from main board assembly to the SPED module for damage. Make sure that the cable is connected at both ends. Verify that the DC operating voltages are correct. RestartATM. Clear the error. If error persists, replace the SPED module.

ERROR CODE: 583

DESCRIPTION: SPED - Enable PIN entry mode failed.

RECOMMENDED ACTION:

Inspect cable from main board assembly to the SPED module for damage. Make sure that the cable is connected at both ends. Verify that the DC operating voltages are correct. RestartATM. Clear the error. If error persists, replace the SPED module.

ERROR CODE: 584

DESCRIPTION: SPED - Disable PIN entry mode failed.

RECOMMENDED ACTION:

Inspect cable from main board assembly to the SPED module for damage. Make sure that the cable is connected at both ends. Verify that the DC operating voltages are correct. RestartATM. Clear the error. If error persists, replace the SPED module.

ERROR CODE: 585

DESCRIPTION: SPED - Enable JETCO PIN entry mode failed.

RECOMMENDED ACTION:

Inspect cable from main board assembly to the SPED module for damage. Make sure that the cable is connected at both ends. Verify that the DC operating voltages are correct. RestartATM. Clear the error. If error persists, replace the SPED module.

ERROR CODE: 586

DESCRIPTION: SPED - Enable JETCO PIN entry mode failed.

RECOMMENDED ACTION:

Inspect cable from main board assembly to the SPED module for damage. Make sure that the cable is connected at both ends. Verify that the DC operating voltages are correct. RestartATM. Clear the error. If error persists, replace the SPED module.

ERROR CODE: 586

DESCRIPTION: SPED - Enable JETCO PIN entry mode failed.

RECOMMENDED ACTION:

Inspect cable from main board assembly to the SPED module for damage. Make sure that the cable is connected at both ends. Verify that the DC operating voltages are correct. RestartATM. Clear the error. If error persists, replace the SPED module.

ERROR CODE: 587

DESCRIPTION: Cassette not installed in top feed channel of NMD dispenser during power up.

RECOMMENDED ACTION:

Power down the ATM. Install a cassette into the top feed channel. Restart the ATM

ERROR CODE: 588

DESCRIPTION: ERR_PRESENTER_OFFLINE

RECOMMENDED ACTION:

Verify that a cable from the docking board to the presenter controller board is securely connected at both ends. If the cable appears undamaged, and it is securely connected at the docking board and the presenter controller board, Replace the presenter assembly. If replacing the presenter does not clear the error, other possible causes of this problem may be the main board assembly or the docking board.

ERROR CODE: 589

DESCRIPTION: ERR_PRESENTER_MOTOR_STALLED

RECOMMENDED ACTION:

Inspect the gears assembly on the presenter for possible damage. Replace the presenter if gear damage is apparent. Open printer and inspect the presenter paper path for jammed paper. Remove any jammed paper or other debris.

ERROR CODE: 590

DESCRIPTION: ERR_PRESENTER_EXIT_JAM

RECOMMENDED ACTION:

Open printer and inspect the presenter paper path for jammed paper. Remove any jammed paper or other debris. Restart the cash dispenser . If the error persist, replace the presenter module.

ERROR CODE: 591

DESCRIPTION: ERR_PRESENTER PAPER_NOT_DETECTED

RECOMMENDED ACTION:

Open the printer and verify that the paper is not jamming in the printer between the printer output and the input to the cutter . Clear all debris from the printer path. Restart the ATM. If the paper continues to jam, it may be necessary to replace the cutter or printer. If replacing the printer of cutter does not clear the error , replace the presenter module.

ERROR CODE: 592

DESCRIPTION:ERR_SPED_DEVICE_REPORTED_COMMAND_FAILED

RECOMMENDED ACTION:

Inspect cable from main board assembly to the SPED module for damage. Make sure that the cable is connected at both ends. Verify that the DC operating voltages are correct. Restart ATM. Clear the error. If error persists, replace the SPED module.

ERROR CODE: 593

DESCRIPTION: ERR_SPED_IN_USE

RECOMMENDED ACTION:

Inspect cable from main board assembly to the SPED module for damage. Make sure that the cable is connected at both ends. Verify that the DC operating

voltages are correct. Restart ATM. Clear the error. If error persists, replace the SPED module.

ERROR CODE: 594

DESCRIPTION: ERR_SPED_DEVICE_REPORTED_COMM_ERROR

RECOMMENDED ACTION:

Inspect cable from main board assembly to the SPED module for damage. Make sure that the cable is connected at both ends. Verify that the DC operating voltages are correct. Restart ATM. Clear the error. If error persists, replace the SPED module.

ERROR CODE: 595

DESCRIPTION: ERR_SPED_RETURNED_INVALID_AMOUNT_OF_DATA

RECOMMENDED ACTION:

Inspect cable from main board assembly to the SPED module for damage. Make sure that the cable is connected at both ends. Verify that the DC operating voltages are correct. Restart ATM. Clear the error. If error persists, replace the SPED module.

ERROR CODE: 596

DESCRIPTION: ERR_SPED_INVALID_SPED_TYPE

RECOMMENDED ACTION:

Inspect cable from main board assembly to the SPED module for damage. Make sure that the cable is connected at both ends. Verify that the DC operating voltages are correct. Restart ATM. Clear the error. If error persists, replace the SPED module.

ERROR CODE: 597

DESCRIPTION: ERR_SPED_INVALID_SPED_COMMS_PROTOCOL

RECOMMENDED ACTION:

Inspect cable from main board assembly to the SPED module for damage. Make sure that the cable is connected at both ends. Verify that the DC operating voltages are correct. Restart ATM. Clear the error. If error persists, replace the SPED module.

ERROR CODE: 598

DESCRIPTION: ERR_SPED_INVALID_DEVICE_CLASS

RECOMMENDED ACTION:

Inspect cable from main board assembly to the SPED module for damage. Make sure that the cable is connected at both ends. Verify that the DC operating voltages are correct. Restart ATM. Clear the error. If error persists, replace the SPED module.

ERROR CODE: 599

DESCRIPTION: ERR_SPED_REPORTED_UNRECOGNIZED_COMMAND

RECOMMENDED ACTION:

Inspect cable from main board assembly to the SPED module for damage. Make sure that the cable is connected at both ends. Verify that the DC operating voltages are correct. Restart ATM. Clear the error. If error persists, replace the SPED module.

ERROR CODE: 600

DESCRIPTION: ERR_SPED_REPORTED_BLOCK_DOES_NOT_EXIST

RECOMMENDED ACTION:

Inspect cable from main board assembly to the SPED module for damage. Make sure that the cable is connected at both ends. Verify that the DC operating voltages are correct. Restart ATM. Clear the error. If error persists, replace the SPED module.

ERROR CODE: 601

DESCRIPTION: ERR_SPED_REPORTED_INVALID_ENCRYPT_MODE

RECOMMENDED ACTION:

Inspect cable from main board assembly to the SPED module for damage. Make sure that the cable is connected at both ends. Verify that the DC operating voltages are correct. Restart ATM. Clear the error. If error persists, replace the SPED module.

ERROR CODE: 602

DESCRIPTION: ERR_SPED_REPORTED_UNSUPPORTED_CLEAR_OPTION

RECOMMENDED ACTION:

Inspect cable from main board assembly to the SPED module for damage. Make sure that the cable is connected at both ends. Verify that the DC operating

voltages are correct. Restart ATM. Clear the error. If error persists, replace the SPED module.

ERROR CODE: 603

DESCRIPTION: ERR_SPED_REPORTED_TAMPER_PRESENT

RECOMMENDED ACTION:

Inspect cable from main board assembly to the SPED module for damage. Make sure that the cable is connected at both ends. Verify that the DC operating voltages are correct. Restart ATM. Clear the error. If error persists, replace the SPED module.

ERROR CODE: 604

DESCRIPTION: ERR_SPED_REPORTED_INVALID_KEY_INDEX

RECOMMENDED ACTION:

Inspect cable from main board assembly to the SPED module for damage. Make sure that the cable is connected at both ends. Verify that the DC operating voltages are correct. Restart ATM. Clear the error. If error persists, replace the SPED module.

ERROR CODE: 605

DESCRIPTION: ERR_SPED_REPORTED_PARENT_KEY_NOT_LOADED

RECOMMENDED ACTION:

Inspect cable from main board assembly to the SPED module for damage. Make sure that the cable is connected at both ends. Verify that the DC operating voltages are correct. Restart ATM. Clear the error. If error persists, replace the SPED module.

ERROR CODE: 606

DESCRIPTION: ERR_SPED_REPORTED_WRONG_DATA_LENGTH

RECOMMENDED ACTION:

Inspect cable from main board assembly to the SPED module for damage. Make sure that the cable is connected at both ends. Verify that the DC operating voltages are correct. Restart ATM. Clear the error. If error persists, replace the SPED module.

ERROR CODE: 607

DESCRIPTION: ERR_SPED_REPORTED_PIN_RETRY_TOO_SOON

RECOMMENDED ACTION:

Inspect cable from main board assembly to the SPED module for damage. Make sure that the cable is connected at both ends. Verify that the DC operating voltages are correct. Restart ATM. Clear the error. If error persists, replace the SPED module.

ERROR CODE: 608

DESCRIPTION: ERR_SPED_SELFTEST_CRC_FAILED

RECOMMENDED ACTION:

Inspect cable from main board assembly to the SPED module for damage. Make sure that the cable is connected at both ends. Verify that the DC operating voltages are correct. Restart ATM. Clear the error. If error persists, replace the SPED module.

ERROR CODE: 609

DESCRIPTION: ERR_SPED_SELFTEST_CRYPTOGRAPHIC_ERROR

RECOMMENDED ACTION:

Inspect cable from main board assembly to the SPED module for damage. Make sure that the cable is connected at both ends. Verify that the DC operating voltages are correct. Restart ATM. Clear the error. If error persists, replace the SPED module.

ERROR CODE: 610

DESCRIPTION: ERR_SPED_SELFTEST_BATTERY_LOW_STATUS

RECOMMENDED ACTION:

Inspect cable from main board assembly to the SPED module for damage. Make sure that the cable is connected at both ends. Verify that the DC operating voltages are correct. Restart ATM. Clear the error. If error persists, replace the SPED module.

ERROR CODE: 611

DESCRIPTION: ERR_SPED_SELFTEST_SERIAL_NUMBER_ERROR

RECOMMENDED ACTION:

Inspect cable from main board assembly to the SPED module for damage. Make

sure that the cable is connected at both ends. Verify that the DC operating voltages are correct. Restart ATM. Clear the error. If error persists, replace the SPED module.

ERROR CODE: 612

DESCRIPTION: ERR_SPED_TAMPER_STATUS_COLD

RECOMMENDED ACTION:

Inspect cable from main board assembly to the SPED module for damage. Make sure that the cable is connected at both ends. Verify that the DC operating voltages are correct. Restart ATM. Clear the error. If error persists, replace the SPED module.

ERROR CODE: 613

DESCRIPTION: ERR_SPED_TAMPER_STATUS_FRONT

RECOMMENDED ACTION:

Inspect cable from main board assembly to the SPED module for damage. Make sure that the cable is connected at both ends. Verify that the DC operating voltages are correct. Restart ATM. Clear the error. If error persists, replace the SPED module.

ERROR CODE: 614

DESCRIPTION: ERR_SPED_TAMPER_STATUS_BACK

RECOMMENDED ACTION:

Inspect cable from main board assembly to the SPED module for damage. Make sure that the cable is connected at both ends. Verify that the DC operating voltages are correct. Restart ATM. Clear the error. If error persists, replace the SPED module.

ERROR CODE: 615

DESCRIPTION: ERR_SPED_TAMPER_STATUS_GRID

RECOMMENDED ACTION:

Inspect cable from main board assembly to the SPED module for damage. Make sure that the cable is connected at both ends. Verify that the DC operating voltages are correct. Restart ATM. Clear the error. If error persists, replace the SPED module.

ERROR CODE: 616**DESCRIPTION:** ERR_SPED_TAMPER_STATUS_VOLTAGE**RECOMMENDED ACTION:**

Inspect cable from main board assembly to the SPED module for damage. Make sure that the cable is connected at both ends. Verify that the DC operating voltages are correct. Restart ATM. Clear the error. If error persists, replace the SPED module.

ERROR CODE: 617**DESCRIPTION:** ERR_SPED_SERIAL_NUMBER_CHANGE**RECOMMENDED ACTION:**

Inspect cable from main board assembly to the SPED module for damage. Make sure that the cable is connected at both ends. Verify that the DC operating voltages are correct. Restart ATM. Clear the error. If error persists, replace the SPED module.

MISCELLANEOUS ERROR CODES

The following paragraphs discuss the set of miscellaneous error codes that are generally associated with communication failure at either the processor or the terminal.

ERROR CODE: 1**DEFINITION:** Time-out**POSSIBLE CAUSE:**

1. Request has been sent. Time-out waiting for response or carrier was dropped. No characters were received. Time-out is typically 60 seconds.
2. Request has been sent. Time-out waiting for response or carrier was dropped. At least one character was received (ETX was never received). Time-out is typically 60 seconds.
3. EOT was received as first character after sending a NAK due to a bad response message.

RESULT:

No money is dispensed, screen and receipt display system unavailable.

ERROR CODE: 3

DESCRIPTION: BCD NOANSWER

POSSIBLE CAUSE:

Possible may be a processor or telephone hardware problem.

RESULTS:

No money is dispensed, screen and receipt display system unavailable

ERROR CODE: 4

DESCRIPTION: ERROR IN MODEM DATA

POSSIBLE CAUSE:

Unexpected data received from processor in response to message.

RESULTS:

No money is dispensed, screen and receipt display system unavailable.

ERROR CODE: 5

DESCRIPTION: Connect 1200 Baud then lost carrier or connection. Host hung up.

POSSIBLE CAUSE:

1. Telephone line is not dedicated. (A TM is being used with another devices connected to the line.
2. Telephone line is noisy and in general has poor quality characteristics.
3. Baud rate set to high for telephone line conditions. Change baud rate settings.
4. Modem may be defective.

RESULTS:

No money is dispensed, screen and receipt display system unavailable.

ERROR CODE: 6

DESCRIPTION: BGD NODIAL TONE

POSSIBLE CAUSE:

1. Used up all radial attempts and got No Dial Tone for each attempt.
2. Check local telephone line for proper operation.
3. Telephone hardware problems.

RESULTS:

No money is dispensed, screen and receipt display system unavailable.

ERROR CODE: 11

DESCRIPTION: No connect

POSSIBLE CAUSE:

1. Used up all radial attempt and got Busy Signal for each attempt or No Dial Tone for each attempt.
2. Got connected and never received ENQ within time-out period (14 Seconds).

RESULTS:

No money is dispensed, screen and receipt display system unavailable.

ERROR CODE: 13

DESCRIPTION: BGD DONE GOOD

POSSIBLE CAUSE:

Communication was normal, but response header does not match request.

RESULTS:

No money is dispensed, screen and receipt display system unavailable.

ERROR CODE: 14

DESCRIPTION: BGD DONE BAD

POSSIBLE CAUSE:

1. EOT was received as first character after the first request message was sent.
2. If EOT is received on subsequent attempts, then Error Code 1 is reported

RESULTS:

No money is dispensed, screen and receipt display system unavailable.

ERROR CODE: 17

DESCRIPTION: NO EOT

POSSIBLE CAUSE:

1. EOT from processor was not received within time out period.
2. Carrier was lost before receiving EOT.

RESULTS:

No money is dispensed, screen and receipt display system unavailable.

ERROR CODE: 18

DESCRIPTION: OVERFLOW

POSSIBLE CAUSE:

Received more characters, than expected after request causing modem buffer overflow.

RESULTS:

No money is dispensed, screen and receipt display system unavailable.

ERROR CODE: 48

DESCRIPTION: NO ANSWER

POSSIBLE CAUSE:

1. Modem response was good, but operation was not performed.
2. This is normally an internal terminal problem.

RESULTS:

No money is dispensed, screen and receipt display system unavailable.

ERROR CODE: 65

DESCRIPTION: Processor not communicating with the modem correctly

POSSIBLE CAUSE:

This is normally a terminal problem. The modem or the main board may cause the problem.

RESULTS:

No money is dispensed, screen and receipt display system unavailable.

ERROR CODE: 143

DESCRIPTION: PTDF (Processor Timeout Delay Failure) - ACS Code only.

POSSIBLE CAUSE:

A corrupt pin-working key may cause this problem.

RESULTS:

No money is dispensed, screen and receipt display system unavailable.

SECTION 3
FT5000 AUTOMATED TELLER MACHINE
MODULE REPLACEMENT

FT5000 AUTOMATED TELLER MACHINE MODULE DESCRIPTION

The function of the each major components that comprise the FT5000 Automated Teller Machine is described in the following paragraphs. Photographs showing the location of each module can be found in Figure 3-1 through Figure 3-6.

MAIN BOARD ASSEMBLY (PART NUMBER 09200-00002)

The Main Board Assembly is the heart of the cash dispenser. It contains the following subsystems:

- 300 MHz Intel® PXA255 (XScale) processor,
- 32 MB Memory (BIOS and Program)
- 64 MB Memory (RAM)
- Video circuitry to drive the LCD Display,
- Serial Ports - 4 used, 1 for expansion
- USB 1.1 - 4 master, 1 slave device
- PCMCIA - 2 each, Type II
- Audio - AC97 CODEC stereo output
- Ethernet - 10/100 BaseT, RJ-45 connector
- Operating System Microsoft® Windows CE.NET 4.1

DOCKING PCB ASSEMBLY (PART NUMBER 09100-00226)

The docking PCB assembly provides the electrical and mechanical interface to all devices external to the main board assembly. You may have an original board with 3 (three) printer connections, or Rev B with 2 (two) printer connections. These boards are NOT backward compatible.

SPED (EPP ASSEMBLY) AND KEYPAD ASSEMBLIES (PART NUMBER SPED BOARD 09200-00003 FOR ENGLISH KEYPAD WITH HOUSING, 09200-00004 FOR FRENCH KEYPAD WITH HOUSING AND 2- 1X4 LEFT AND RIGHT SCREEN KEYPAD ASSEMBLIES (PART NUMBER 09200-00006)

The SPED (EPP assembly), with the 4X4 keypad assembly, and the 2-1X4 screen keypads provide the end user interface for the cash dispenser. The SPED (EPP assembly) accepts user entered key inputs during a transaction and provides the security to protect important user information sent to the processor.

PRINTER ASSEMBLY (PART NUMBER 01500-00003)

The receipt printer is a fixed-head thermal printer that can print 12 lines per second and is graphics capable. The 80 mm wide paper used by the printer is coated for thermal printing.

CUTTER ASSEMBLY (PART NUMBER 01500-00005)

Cutter for printer assembly can be replaced as an individual assembly.

PRINTER CONTROLLER PCB (PART NUMBER 01500-00007)

The printer controller board provides the interface between the main board assembly and the receipt printer.

LOW PAPER SENSOR ASSEMBLY (PART NUMBER 09100-00223)

This subassembly monitors the level of the paper remaining on the paper roll. The main board assembly periodically checks the condition of this sensor to determine whether there is enough paper on the spool to continue normal operation. If the paper low sensor indicates that the paper is low the cash dispenser may be put into an “Out of Service” condition depending on how software options are set.

Printer Paper Transport Assembly (Part Number 09200-00007)

ELECTRONIC JOURNAL

The electronic journal stores data about what takes place during each transaction completed by the cash dispenser. It also keep track of cash dispenser error conditions. The electronic journal in the FT5000 Automated Teller Machine is capable of storing up to 32,768 separate records on the main board assembly. These records can be viewed on the LCD screen, printed to the receipt printer, or saved to an external device such as a USB pin drive.

SECURITY MODULE (PART NUMBER 09600-02036)

This is used to secure the communications between the main board assembly and the dispenser mechanism.

AUDIO BOARD ASSEMBLY (PART NUMBER 09100-00224)

Provides a standard electromechanical interface for connecting a headphone to the cash dispenser that meets ADA guidelines. Once the headphone is connected to this assembly, the cash dispenser provides audio instructions that will help visually impaired individuals use the cash dispenser.

CARD READER ASSEMBLY TRACK 1-2 SERIAL (PART NUMBER 01162-00008), TRACK 2-3 (PART NUMBER 01163-00009) AND EMV CARD READER (PART NUMBER 01162-00007)

Reads the magnetic stripe on the end user card to obtain data to completing a transaction. The card reader is normally configured to read tracks 1 and 2 on the card,

but can be configured to read tracks 2 and 3. An optional smart card reader is available.

COLOR LCD AND INVERTER ASSEMBLIES (PART NUMBER 09200-00010)

The color LCD is used for presenting visual information to the end user. It will displaying 256 color graphics that have a maximum resolution of 340 X 240 pixels. The inverter module is used provide operating voltages to the display Backlight.

Speaker Assemblies (Part Numbers 09120-00158, 09120-00159)

Two speakers provide the end user with crisp clear audio feedback when keys are press and during other cash dispenser operations.

POWER SUPPLY (PART NUMBER 09200-00013)

The purpose of the power supply is to provide AC and DC voltages that are used throughout the cash dispenser for operating the various electronic and electromechanical components. The power supply has built-in LEDs that provide an indication of the presence of the correct operating voltages.

REAR SERVICE PANEL (PART NUMBER TBD)

Allowsoperator to perform administrative functions from the rear of the ATM.

DISPENSING MECHANISMS

MULTI-CASSETTE DISPENSING MECHANISM

- NMD-100 (note capacity up to 3000/cassette)

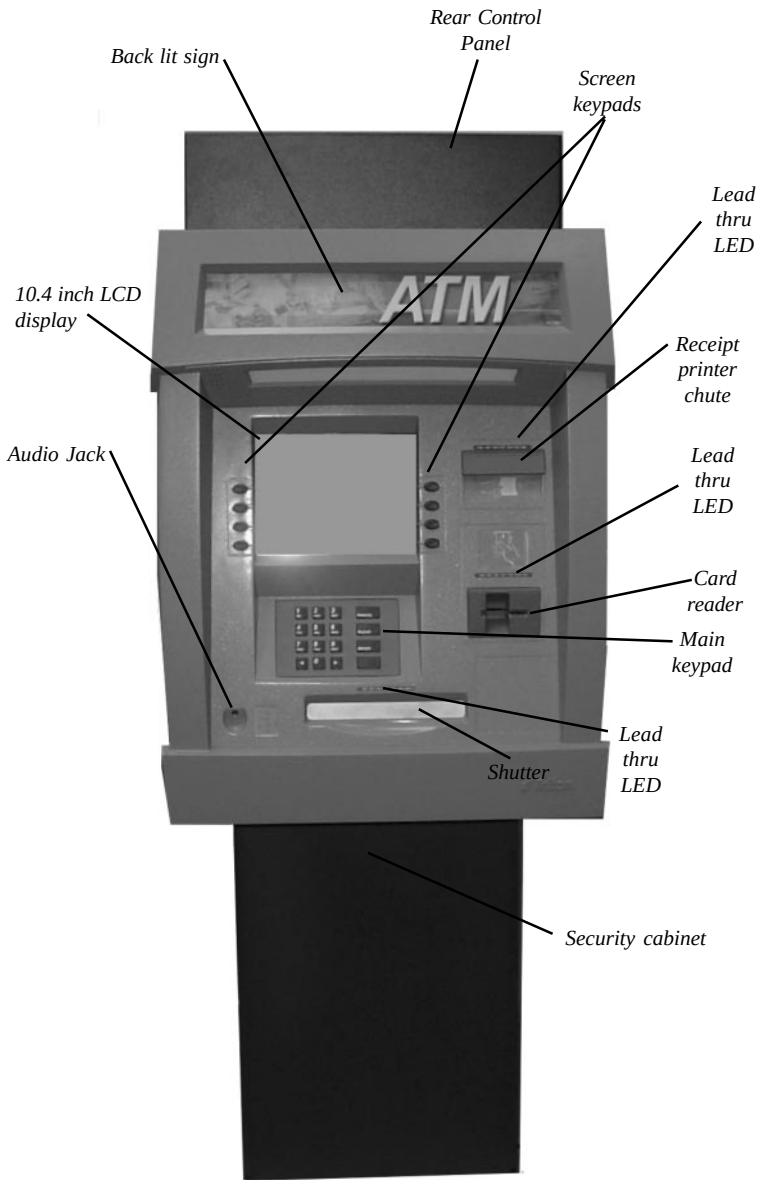


Figure 3-1. FT500 Automated Teller Machine front view.

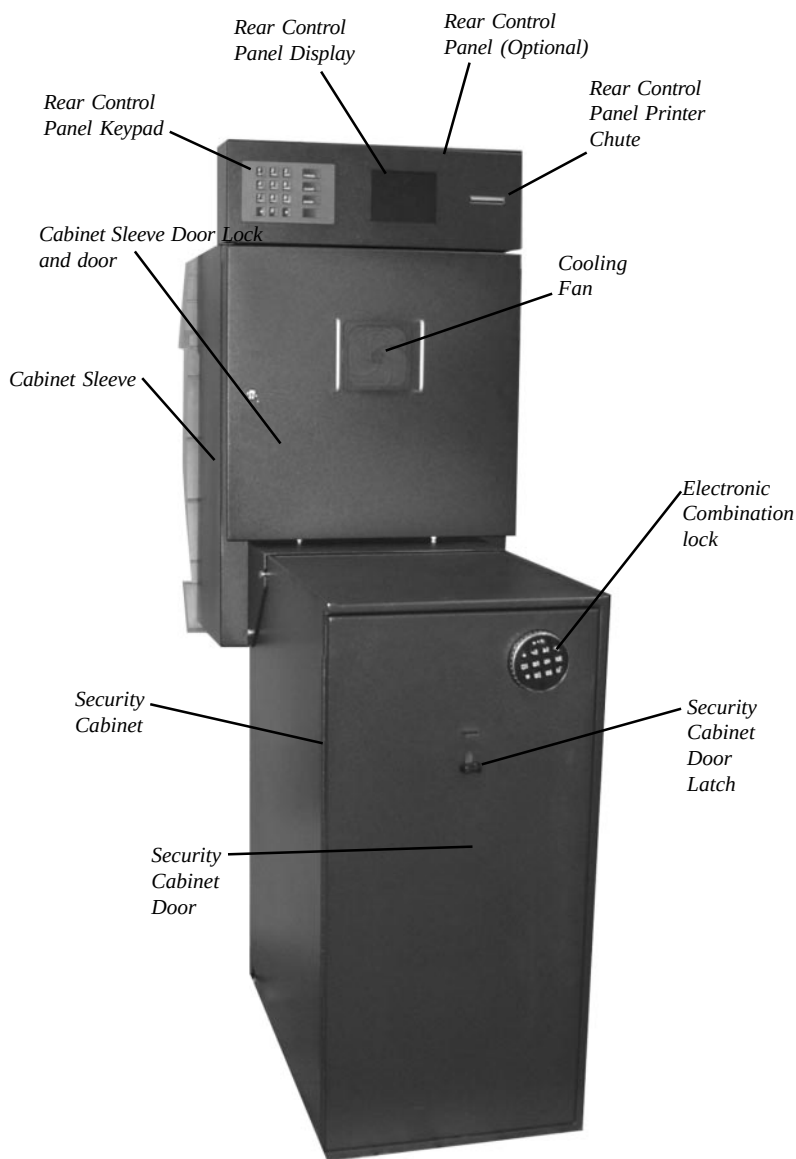


Figure 3-2. FT5000 Automated Teller Machine rear view.

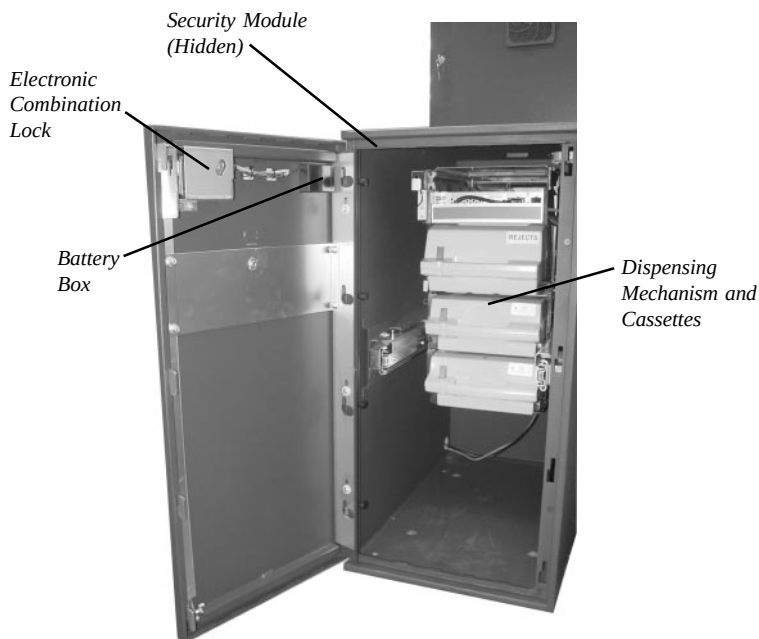


Figure 3-3. FT5000 Automated Teller Machine rear view with security cabinet door open.



Figure 3-4. FT5000 Automated Teller Machine with cash dispensing mechanism fully extended from the cabinet.

*Power supply and DC power
distribution assemblies*

Cooling fan



Figure 3-5. The components located on the inside of the FT5000 Automated Teller Machine cabinet sleeve door.

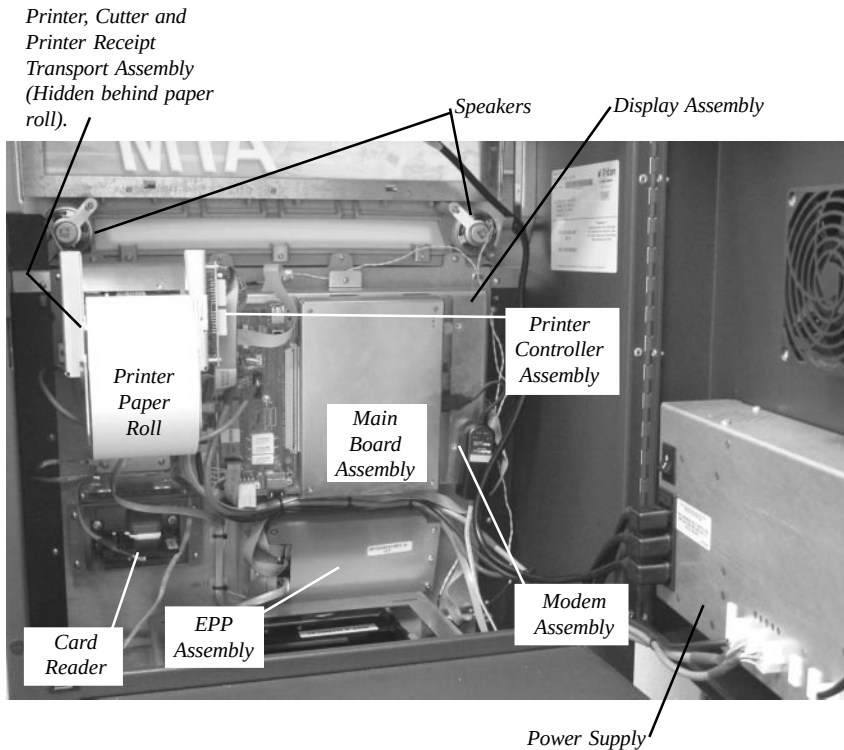


Figure 3-6. FT5000 Control Panel rear view. Major component location.

REPLACING MODULES**REPLACING THE POWER SUPPLY**

The function of the power supply is to provide all of the necessary operating voltages for the other components in the cash dispenser. The output voltages are 115 VAC for auxiliary AC power, and +5 VDC, +12 VDC, +24 VDC or +36 VDC.

The output of the power supply is routed to DC dower distribution board and then out the power supply chassis through connectors on the front of the power supply.

REMOVING THE POWER SUPPLY**TOOLS:**

- 1 - 11/32 nut driver.
- 1 - ESD wrist strap with grounding cord.

To remove the power supply complete the following procedure:

1. The power supply is located on the inside of the cabinet sleeve door as shown in Figure 3-6.
2. Unlock and open the cabinet sleeve door to the top enclosure. Turn off the AC input power by pushing the AC ON/OFF switch to the OFF(0) position
3. Unplug the AC power from the wall outlet.
4. Put on the wrist strap on and attach the clip on the cord to ground.
6. Unplug the AC power input plug from the left side of the power supply.
7. Disconnect all DC outputs from the top of the power supply.
8. Refer to Figure 3-8. Remove the two 11/32 inch nuts that secure the front of the power supply chassis to power supply mounting bracket.
9. Remove the power supply from the door assembly by lifting it up and pulling it away from the door.

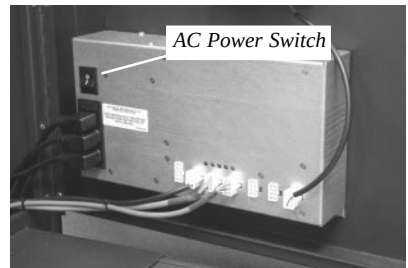


Figure 3-7. The main AC power ON/OFF switch.

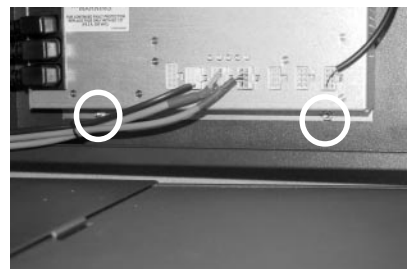


Figure 3-8. Location of the 11/32 inch nuts that are removed to take the power supply out of the upper enclosure.

INSTALLING A POWER SUPPLY

To install the power supply complete the following procedure:

1. Place the power supply on its mounting on the back of the top enclosure door.
2. Secure the power supply to the door with the two 11/32 inch nuts.
3. Connect all DC output connectors to the power supply.
4. Connect the AC input and outputs to the power supply.
5. Verify that all connections are correct.
6. Connect AC power to the cash dispenser by plugging it into the AC wall outlet.
7. Turn on power supply by pushing the AC power switch to the ON(1) position. Close and lock the top enclosure. Verify proper operation prior to putting the cash dispenser in operation.

REPLACING DEFECTIVE FUSES

There are two fuses in the FT5000 Automated Teller Machine power supply. The first is a 6.3 AMP 250 VOLT fuse used to protect all devices that are connected to the AC outputs of the power supply. This fuse is located at the bottom of the black AC power distribution block located on the left side of the power supply near the AC power ON/OFF switch (See Figure 3-9).

The other fuse is a 5 AMP 250 VOLT fuse on the printed circuit board inside the power supply. This fuses can only be accessed by removing the power supply from the upper enclosure cabinet sleeve door. The location of these fuses are shown in Figure 3-10.

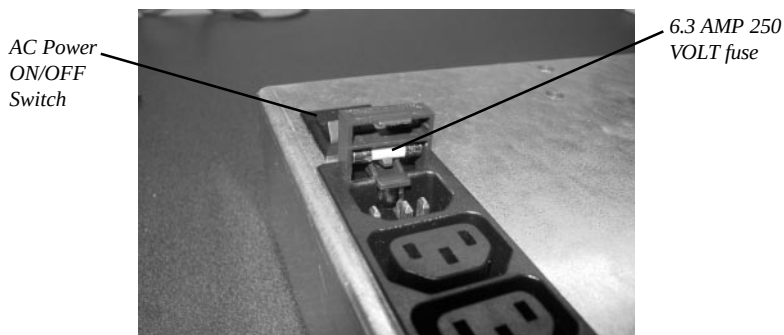


Figure 3-9. Pop up the fuse holder to gain access to the 6.3 AMP 205 VOLT fuse.



Figure 3-10. Remove the power supply from the cabinet to access the 5.0 AMP 250 VOLT fuse.

REPLACING THE MAIN BOARD ASSEMBLY

Refer to Figures 3-6. The main board assembly is located on the control panel.

REMOVING THE MAIN BOARD ASSEMBLY

TOOLS:

- 1 - ESD wrist strap with grounding cord

To remove the main board from the control panel proceed as follow:

1. Unlock and open the cabinet sleeve door. Turn off the AC input power by pushing the AC ON/OFF switch to the OFF(0) position
2. Unplug the AC power from the wall outlet.
3. Put on the ESD wrist strap and attach the clip on the cord to ground.
4. Refer to Figure 3-11. Disconnect the telephone line adapter connector from the modem assembly. Remove the adapter from the velcro strip securing it

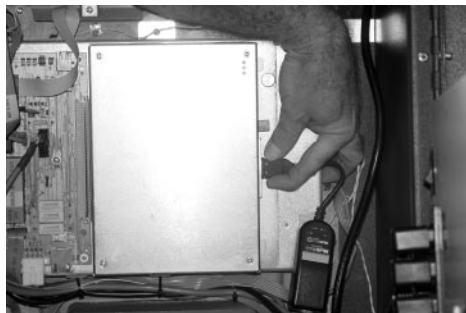


Figure 3-11. Disconnect the telephone line from the modem.

to the LCD display assembly.

- 5 Refer to Figure 3-12. Lift the locking pin that secures the main board to its mounting bracket. Grasp the main board assembly by its case and carefully pull it away from the connector on the docking assembly.

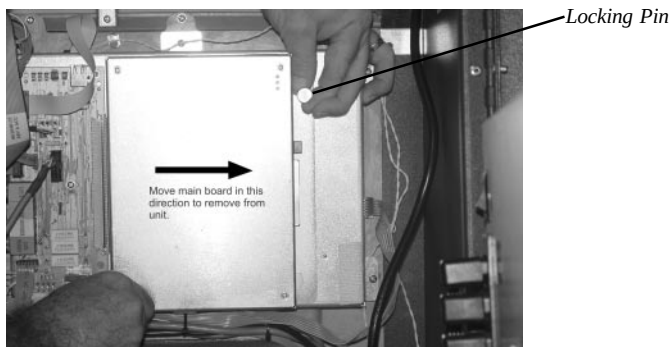


Figure 3-12. Lift the locking pin to allow the main board assembly to be unplugged from the docking assembly.

INSTALLING THE MAIN BOARD ASSEMBLY

1. Refer to Figure 3-13. Align the four tabs on the bottom of the main board assembly with the four slots on the display mounting plate. When aligned, lower the tab into the slots and push it until the large connector on the main board seats into the receptacle on the docking assembly. When the main board is seated properly the locking pin will snap into place.
2. Refer to Figure 3-14. Attach the telephone line adapter to the velcro strip on

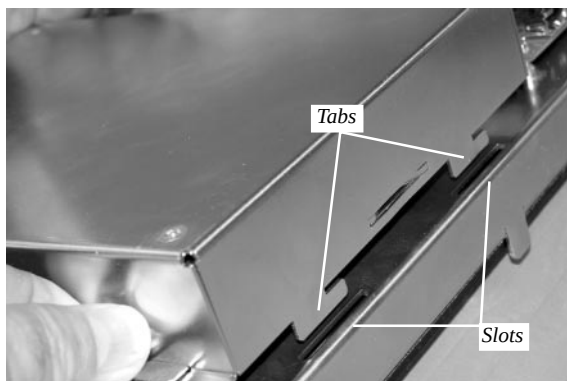


Figure 3-13. Align the tabs on the main board assembly with the slots on the mounting bracket.

the display assembly. Connect the telephone line adapter connector to the modem assembly.

3. Connect AC power to the cash dispenser by plugging it into the AC wall outlet.
4. Push the AC power ON/OFF switch to the ON(1) position.
5. Close and lock the control panel. Verify proper main board operation prior to putting the cash dispenser in operation.

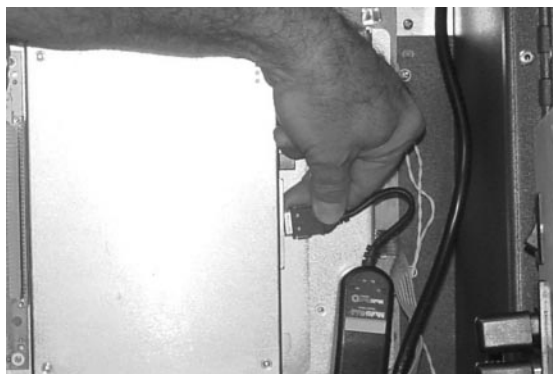


Figure 3-14. Connect the telephone line adapter to the modem assembly.

REPLACING THE MODEM ASSEMBLY

The modem is plugged into a PCMCIA slot on the main board assembly.

REMOVING THE MODEM ASSEMBLY

TOOLS:

- 1 - ESD wrist strap with grounding cord

To remove the modem assembly from the main board proceed as follow:

1. Unlock and open the cabinet sleeve door to the top enclosure. Turn off the AC input power by pushing the AC ON/OFF switch to the OFF(0) position
2. Put on the ESD wrist strap and attach the clip on the cord to ground.
3. Refer to Figure 3-14. Disconnect the telephone line adapter



Figure 3-14. Disconnecting the telephone line adapter connector from the modem.

connector from the modem assembly.

4. Refer to Figure 3-15. Push the PCMCIA card eject button to eject the modem from the slot.
5. Remove the modem from the PCMCIA slot.

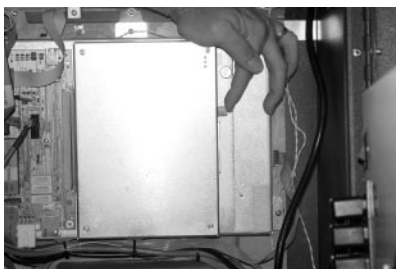


Figure 3-15. Push the eject button to release the modem for the PCMCIA slot

INSTALLING THE MODEM

1. Make sure the AC power ON/OFF switch is in the OFF(0) position and that you are wearing a ESD wrist strap that has been attached to ground.
2. Refer to Figure 3-16. Insert the modem card into either of the PCMCIA slots on the main board assembly.
3. Refer to Figure 3-17. Connect the telephone line adapter to the modem assembly.
4. Push the AC power ON/OFF switch to the ON(1) position.
5. Close and lock the control panel. Verify proper operation prior to putting the cash dispenser in operation.



Figure 3-16. Installing the modem into the PC-MCIA slot.



Figure 3-17. Connect the telephone line adapter connector to the modem.

REPLACING THE DISPLAY ASSEMBLY

Refer to Figures 3-6. The display assembly is located on the control panel. It consists of the display , the inverter assembly and the tempered glass display shield.

REMOVING THE DISPLAY ASSEMBLY

TOOLS:

- 1 - ESD wrist strap with grounding cord

1 - #2 Phillips screwdriver

To remove the display assembly the proceed as follow:

1. Unlock and open the cabinet sleeve door. Turn off the AC input power by pushing the AC ON/OFF switch to the OFF(0) position..

Remove this screw to allow the docking assembly to be removed from the display panel.

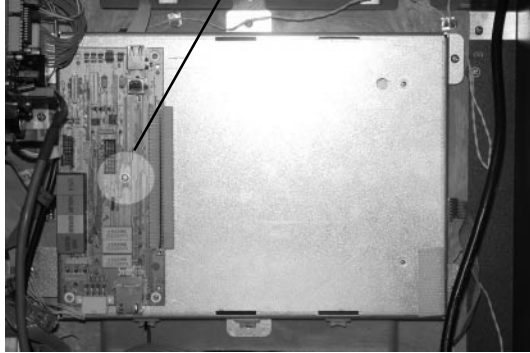


Figure 3-18. Removing the docking assembly.

2. Disconnect all connectors from the docking assembly.
3. Refer to Figure 3-18. Remove the single phillips screw that secures the dock assembly to the display assembly.
4. Pull the docking assembly from the display assembly.
5. Disconnect the telephone line adapter connector from the modem assembly. Remove the adapter from the velcro strip on the display assembly.
6. Remove the main board assembly from the control panel.

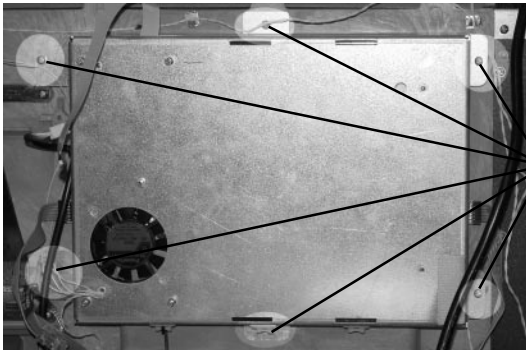


*Figure 3-19.
Removing the display
assembly.*

Remove these six screws.

7. Disconnect all connectors on the printer control board and presenter control board.
8. Remove the printer and presenter assemblies from the control panel.
9. Carefully cut all tie wraps from the cable harness that passes below the display assembly. Trace the cable that runs from the display and terminates at the power supply. Disconnect the end of that cable from the power supply and pull it from the harness.
10. Remove the 6 phillips screws highlighted in Figure 3-19 from the control panel and then remove the display assembly, the display shield and the cable from the control panel.

INSTALLING THE DISPLAY ASSEMBLY

1. Carefully place the display assembly on the control panel.
2. Secure the display assembly to the control panel with the four 6 phillips screws that were remove earlier.
3. Carefully rebuild the cable harness that was disassembled earlier . Plug in the connector that supplies DC power to the fan in the display assembly.
4. Attach the printer and presenter assembly to the control. Connect all cables that attach to the printer control board.
5. Secure the docking assembly to the display panel with the phillips screw that was removed earlier.
6. Install the main board assembly on to the control panel. Carefully slide the main board assembly into the lage connector on the docking assembly You will know that the main board is securely fitted into the connector when the locking pin snaps into its guide hole.
7. Connect all cables that attach to the docking assembly.
8. Attach the telephone line adapter to the velcro strip in the display assembly. Insert the telephone line adapter connector into the modem assembly.98. Verify all connections. Push the AC power ON/OFF switch to the ON(1) position.
10. Close and lock the control panel. Verify proper operation prior to putting the cash dispenser in operation.

REPLACING THE PRINTER CONTROL BOARD

The printer control board is located in the printer assembly. It is a field replaceable module.

REMOVING THE PRINTER CONTROL BOARD

TOOLS:

- 1 - ESD wrist strap with grounding cord
- 1 - #2 Phillips screwdriver

To remove the printer control board proceed as follows:

1. Unlock and open the cabinet sleeve door to the top enclosure. Turn off the AC input power by pushing the AC ON/OFF switch to the OFF(0) position.
2. Remove the metal cover from the printer controller board
3. Refer to Figure 3-19. Carefully unplug all cables from the printer control board.

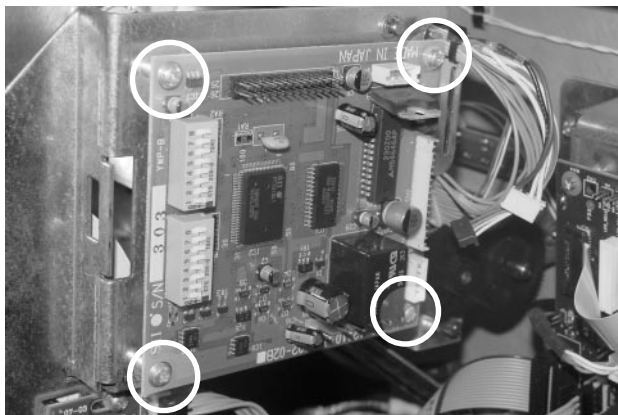


Figure 3-19. After disconnecting the cables from the printer controller board, remove the four screws that are highlighted in this photograph.

4. Refer to Figure 3-19. Remove the four screws that hold the printer control board to the printer assembly.
5. Remove the printer control board from the printer assembly.

INSTALLING THE PRINTER CONTROL BOARD

1. Align the printer control board with the four standoffs on the printer assembly.

2. Secure the printer control board to the printer assembly with the four screws that were removed earlier.
3. Verify that the dip switches on the printer control board conform with the switch setting shown in Figure 3-20.
4. Reconnect all cables to the printer control board.
5. Push the AC power ON/OFF switch to the ON position.
6. Install paper into the printer mechanism.
7. Verify the printer operation before putting the cash dispenser in service.
8. Close and lock the control panel.

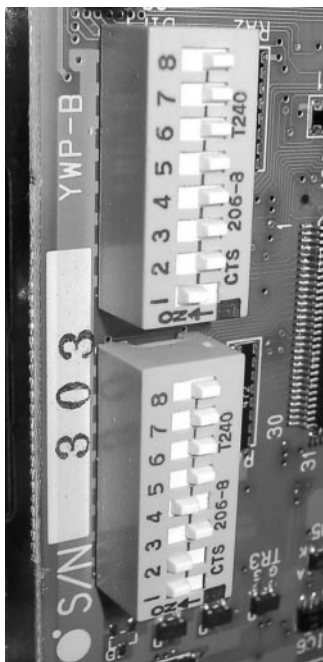


Figure 3-20. Printer Controller Board Dip Switch settings

REPLACING THE PRINTER/CUTTER ASSEMBLY

The printer/cutter is located on the printer assembly. The printer and cutter can be separated from each other so they can be replaced as separate modules.

REMOVING THE PRINTER/CUTTER ASSEMBLY**TOOLS:**

- 1 - ESD wrist strap with grounding cord
- 1 - #2 Phillips screwdriver
- 4 - Plastic cable ties

To remove the printer control board the proceed as follow:

1. Unlock and open the cabinet sleeve door to the top enclosure. Turn off the AC input power by pushing the AC ON/OFF switch to the OFF(0) position.
2. Put on the ESD wrist strap and attach the clip on the cord to ground.
3. Cut or tear completely through the paper some where between the printer and the paper roll.
4. Remove the paper roll and spool from the printer assembly.
 - a. Refer to Figure 3-21. Pull on the printer locking pin and pull the bottom of the printer bracket up and towards the front of the control panel.
 - b. Place the blue lever in the vertical position an remove the excess paper from the printer. See Figure 3-22.
5. Disconnect all cables that connect between the printer/cutter assembly and the printer control-board.
6. Cut cable ties as needed to release the printer/cutter cable bundle.
7. Refer to Figure 3-23. Remove the split ring grommet that protects the cable assembly as it passes through the printer

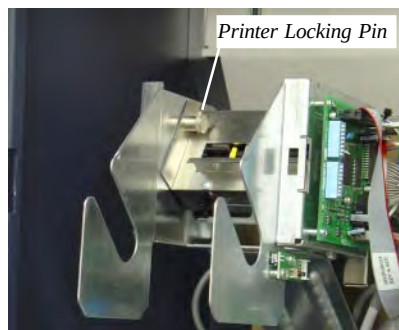


Figure 3-21. The location of the printer locking pin.



Figure 3-22. Rotate the blue lever down so it is perpendicular to the printer/cutter.

mounting assembly side plate. Remove the wires from the grommet.

8. Close and lock the printer in its operating position. Remove the three screws shown in Figure 3-24.
9. Pull on the printer locking pin and pull the bottom of the printer bracket up and towards the front of the control panel. Refer to Figure 3-25. Loosen (do not remove) the screw and nut that secures the ground wire and the last corner of the printer assembly to its mounting plate. Slide the printer assembly from its mounting plate.
10. At this point, the cutter can be separated from the printer so that it can be replaced individually or used with a new printer.

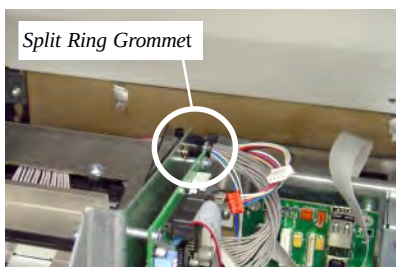


Figure 3-23. Remove the split ring grommet from the printer mounting bracket before removing the printer cables.

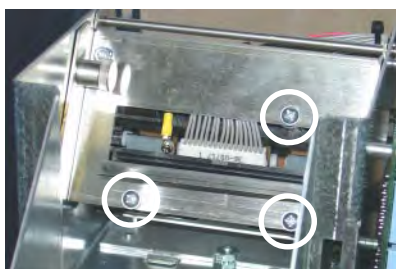


Figure 3-24. Remove the three screws highlighted in this photograph.

INSTALLING THE PRINTER/CUTTER ASSEMBLY

1. Place the printer/cutter assembly on the mounting plate and slide the side with the u-shaped slot under the screw head, ground wire terminal and washer.
2. Secure the printer to the mounting plate with the three screws that were removed earlier.
3. Tighten the screw and nut that secures the ground wire terminal and printer to the mounting plate.
4. Insert the wires coming from the printer/cutter assembly into the split ring grommet.
5. Install the grommet into the printer mounting assembly side plate.

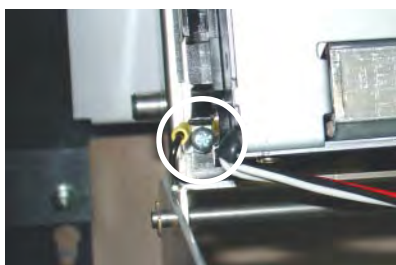


Figure 3-25. Loosen (do not remove) this screw to take the printer off of the mounting bracket.

6. Replace the cable ties the were removed earlier.
7. Connect all of the cables from the printer/cutter to the printer control board.
8. Inspect all work prior to applying power the cash dispenser.
9. Push the AC power OF/OFF switch to the ON position.
10. Install paper into the printer mechanism.
11. Verify the operation of the printer/cutter assembly.
12. Close and lock the control panel.

REPLACING THE RECEIPT PRINTER AND PAPER TRANSPORT ASSEMBLY

1. Unlock and open the cabinet sleeve door to the top enclosure. Turn off the AC input power by pushing the AC ON/OFF switch to the OFF(0) position..
2. Put on the ESD wrist strap and attach the clip on the cord to ground.
3. Remove the paper and paper spool from the printer assembly.
4. Disconnect the cable from the paper low/printer feed assembly.
5. Disconnect the DC power and serial communication cables from the printer controller assembly.
6. Disconnect the GPIO cable from the left front of the paper transport PCB assembly.
7. Refer to Figure 3-26. Remove the two screws that attach the printer support bracket to the control panel.
8. Refer to Figure 3-26. Remove the nut and bolt that secures the printer sup-

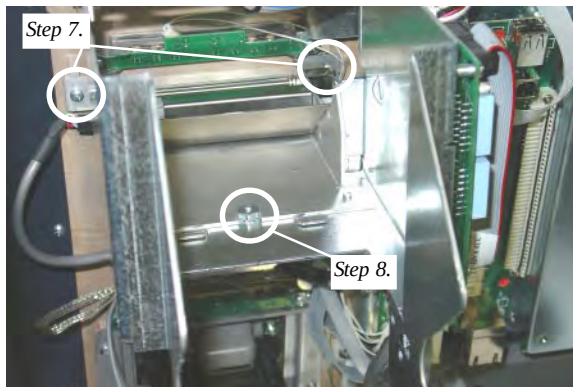


Figure 3-26. Removing the Printer/Presenter Assembly from the FT5000 Automatic Teller Machine.

port bracket to the bottom of the printer assembly.

9. Remove the printer/presenter assembly from the control panel by gently pressing down on the printer support bracket while carefully rotating the part of the printer/presenter that was attached to the control panel up until it clears the control panel. Pull the printer/presenter assembly from the printer support bracket. Be careful not to damage any of the wiring that may be near the printer assembly when removing it from the control panel.

REMOVING THE PAPER TRANSPORT ASSEMBLY

- 1.. Place the printer assembly on a clean work surface with the paper transport facing up.
2. Remove the two screws that attach the paper transport assembly to the printer assembly.
3. Remove the paper transport assembly from the printer assembly by pulling them apart.

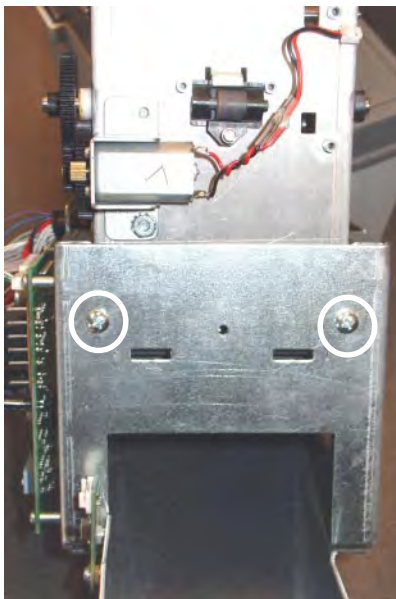


Figure 3-27. Remove the screws highlighted in this photograph to separate the paper presenter from the printer mounting bracket.

INSTALLING THE PAPER TRANSPORT ASSEMBLY

1. Slide the paper transport assembly into the printer assembly.
2. Secure the printer assembly to the presenter assembly with the two phillips head screws that were removed during disassembly.

INSTALLING THE RECEIPT PRINTER AND PAPER TRANSPORT ASSEMBLY

1. Install the printer/presenter assembly by attaching the assembly to the printer support bracket. Gently press down on the printer mounting bracket while rotating the end that attaches to the control panel down until it aligns with the two mounting holes in the control panel. Install the two screws that secure the printer to the support bracket. Do not tighten these screws at this time.
2. Attach the DC power cable that was removed during disassembly to the printer transport PCB.
3. Secure the printer assembly to the printer mounting bracket with the nut and

bolt that were removed during disassembly.

5. Tighten the two screws that secure the printer/presenter assembly to the control panel.
6. Connect the serial communication and DC power cable to the printer control board.
7. Connect the GPIO cable to the presenter controller board
7. Attach the ribbon cable to the paper low/printer feed assembly.
8. Put the paper roll on the paper spool. Install paper roll and spool on the printer assembly.
9. Feed the paper into the printer.
10. Verify the print assembly/paper transport operation by printing a test receipt.

REPLACING THE DOCKING ASSEMBLY

The Docking Board provides the electrical and mechanical interface between the main board assembly and other assemblies that make up the cash dispenser

REMOVING THE DOCKING ASSEMBLY

1. Unlock and open the control panel .
2. Push the AC power ON/OFF switch to the OFF position.
3. Put on the ESD wrist strap and attach the clip on the cord to ground.
4. Disconnect the telephone line adapter connector from the modem assembly.
5. Remove the main board assembly.
6. Refer to Figure 3-29. Carefully unplug all connectors from the docking assembly.
7. Refer to Figure 3-28. Remove the screw in the center of the PCB (This screw is highlighted by the circle in Figure 3-28.) Assembly.
8. Carefully lift the docking assembly PCB from its mounting and the control panel.

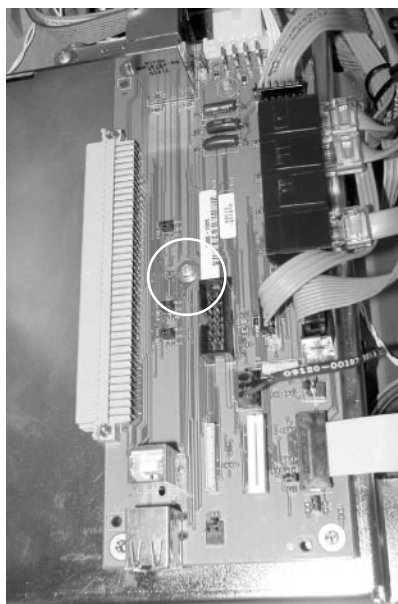


Figure 3-28. The FT5000 docking assembly.

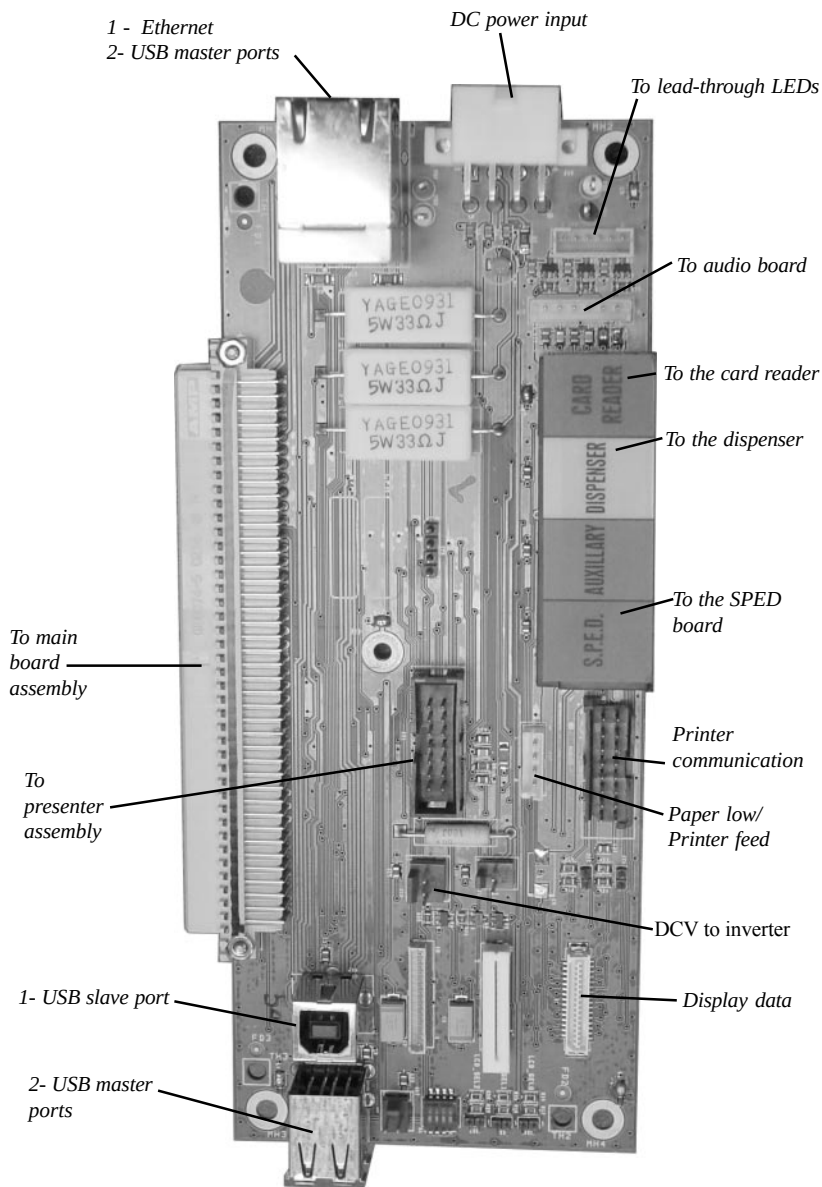


Figure 3-29. Docking Board connector lay out.

INSTALLING THE DOCKING BOARD

1. Align docking assembly with the four mounting devices. Push down on the PCB assembly to seat it on the mounting pins.
2. Put on the ESD wrist strap and attach the clip on the cord to ground.
3. Install the screw that was removed earlier.
4. Refer to Figure 3-29. Attach the connectors that were removed earlier to the docking assembly.
5. Plug the main board assembly to the docking assembly.
6. Attach the telephone line to the modem.
7. Inspect the control panel, looking for loose connectors and hardware
8. Verify that the cash dispenser operates correctly before placing it into service.

REMOVING THE X-SCALE DOCKING BOARD (REV B)

The Rev B docking board is significantly different from the original configuration. Note that there is no "Power Present" LED, J26 is no longer the LCD "position" jumper, and that the board layout is changed. Also there is a provision at J11 to power the display fan, relieving the power supply of an additional load. Newer model displays with the upgraded power connector will require this board to power the display. This board performs the same functions as the earlier model but is **NOT** a backward compatible replacement for the original.

1. "Shutdown the Terminal" from Management Functions.
2. Unlock and open the control panel.
3. Push the AC power ON/OFF switch to the OFF(0) position.
4. Remove the mainboard (refer to the procedures for "**REMOVING THE X-SCALE MAINBOARD**" as necessary).
5. Refer to Figure 3-29b. Carefully unplug all of the cables from the docking board.
6. Refer to Figure 3-28. Remove the mounting screw in the center of the docking board (this screw is highlighted by the circle in Figure 3-28.) .
7. With equal pressure, carefully release the docking board from the press fit standoffs at each corner and remove it from the control panel.

INSTALLING THE X-SCALE DOCKING BOARD (REV B)

1. Carefully align and with equal pressure, seat all four (4) corners of the docking board onto the press fit standoffs.
2. Refer to Figure 3-28. Install the center mounting screw.
3. Refer to Figure 3-29b. Reconnect all of the cables to the docking board.
4. Install the mainboard (refer to the procedures for "**INSTALLING THE X-SCALE MAINBOARD**" as necessary).
5. Push the AC power ON/OFF switch to the ON(1) position.
6. Close and lock the control panel.
7. Verify that the ATM operates correctly before placing it into service.

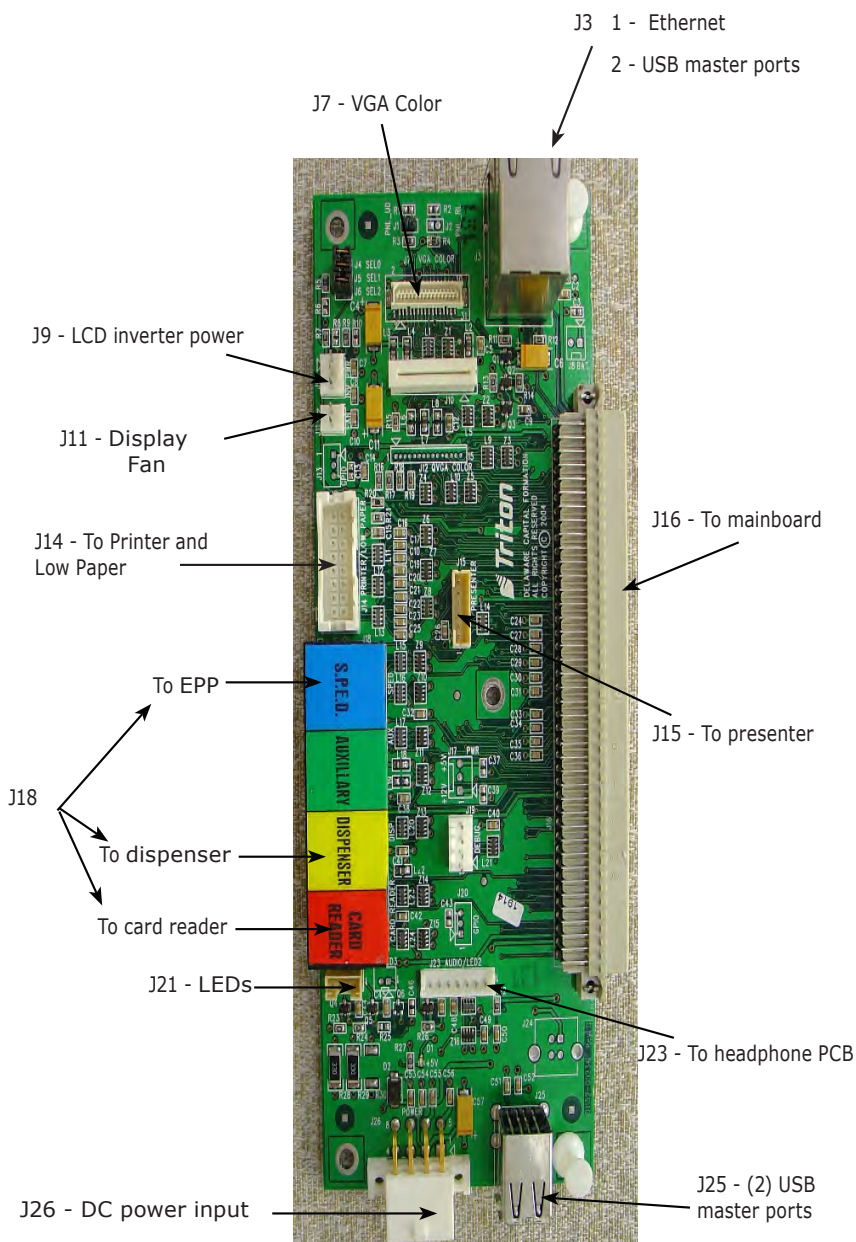


Figure 3-29b. Rev B X-scale Docking Board connector layout.

REPLACING THE CARD READER

The card reader is attached to the control panel. To replace the card reader proceed as follows:

REMOVING THE CARD READER

1. Unlock and open the top enclosure. Turn the cash dispenser OFF by pushing the Power ON/OFF switch to the OFF(0) position.
2. Put on the ESD wrist strap and attach the clip on the cord to ground.
3. Refer to Figure 3-30. Unplug the communication cable from the card reader.
4. Refer to Figure 3-30. There are eight screws visible when looking at the card reader. Remove only the four outer screws to remove the card reader from the control panel. Be careful, the card reader may fall from the control panel if not properly supported.
5. Remove the card reader by pulling it out of the front of the control panel.

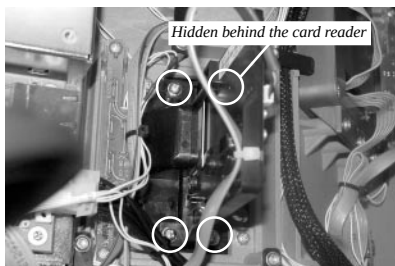


Figure 3-30. The card reader assembly. Remove the four screws highlighted in the circles to remove the card reader from the control panel.

INSTALLING THE CARD READER

1. Put on the ESD wrist strap and attach the clip on the cord to ground.
2. Install a new card reader by sliding it into its opening in the control panel. Secure it to the control panel with the four screws that were taken out during removal..
3. Connect communication cable to the card reader.
4. Turn the AC power on to the cash dispenser and verify that the card reader is operational.
5. Close and lock top enclosure and return the cash dispenser to normal operation.

REPLACING THE AUDIO ASSEMBLY

The audio board provides the interface to connect a headset to the cash dispenser. The audio board will not be installed in units sold outside the continental U.S.

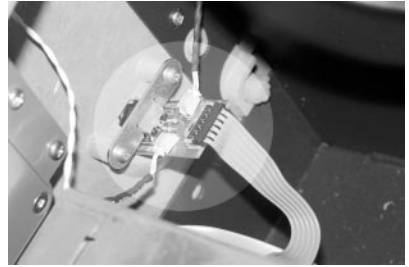


Figure 3-31. The audio board.

REMOVING THE AUDIO BOARD

1. Unlock and open the control panel.
2. Push the AC power ON/OFF switch to the OFF(0) position.
3. Put on the ESD wrist strap and attach the clip on the cord to ground.
4. Refer to Figure 3-31. Disconnect the three cables from the audio board.
5. Refer to Figure 3-31 Remove the screw that attach the audio board to the control panel.

INSTALLING THE AUDIO BOARD

1. Put on the ESD wrist strap and attach the clip on the cord to ground.
2. Attach the new audio board to the control panel with the screw that was removed earlier.
3. Reconnect the three cables to the audio board.
4. Inspect the control panel, looking for loose connectors and damaged hardware.
5. Verify that the cash dispenser operates correctly before placing it into service.
6. Close and lock top enclosure and return the cash dispenser to normal operation.

REPLACING THE SCREEN KEYPAD

There are two 1X4 Keypads in the cash dispenser . These keypads make up the screen keys located adjacent to each side of the display on the control panel.



Figure 3-32, The screen keypad PCBs.

REMOVING THE LEFT AND RIGHT SCREEN KEYPADS

1. Unlock and open the top enclosure of the cash dispenser.
2. Turn off the AC power to the terminal by pushing the AC power switch to the OFF(0) position.
3. Put on the ESD wrist strap and attach the clip on the cord to ground.
4. Disconnect all cables from the docking assembly.
5. Disconnect the telephone line adapter connector from the modem assembly
6. Remove the four screws that secure the LCD assembly to the control panel.
7. Remove the LCD/main board assembly from the control panel.
8. Disconnect the cable from the screen key PCB.
9. Refer to Figure 3-32. Remove the desired screen keypad PCB, rubber keypad assembly and keys by taking out the two screws that secure the keypad PCB to the control panel.

INSTALLING THE LEFT OR RIGHT SCREEN KEYPADS

1. Put on the ESD wrist strap and attach the clip on the cord to ground.
2. Attach the rubber keypad assembly to the keypad PCB and place the keys on the rubber keypad.
3. Align the assembly with the holes in the control panel. Adjust the position if the assembly so the key fit into their holes. Secure the printed circuit board to the control panel with the two screws that were remove earlier.

4. Connect the cable to the keypad.
5. Place the LCD/main board assembly on the control panel. Secure it to the control panel with the screws that were removed earlier..
6. Connect the telephone line adapter connector to the modem assembly.
7. Connect all cables from the docking assembly.
8. Inspect the control panel, looking for loose connectors and hardware.
9. Turn ON the AC power to the terminal by pushing the AC power switch to the ON position.
10. Verify that the screen keys operates correctly.
11. Close and lock top enclosure and return the cash dispenser to normal operation.

REPLACING THE SPED ASSEMBLY

The SPED (EPP) assembly is located on the control panel. The SPED assembly is a non repairable module. It must be returned to Triton if the battery or the keys need replacement.

NOTE

Removing the EPP module from the control panel no longer cause loss of encryption keys.

****CAUTION****

The EPP module is a non-repairable module. Disassembly of the EPP module will cause loss of encryption keys and void the manufacturers warranty.

REMOVING THE SPED ASSEMBLY

1. Unlock and open the control panel.
2. Push the AC power ON/OFF switch to the OFF(0) position.
3. Put on the ESD wrist strap and attach the clip on the cord to ground.
4. Disconnect the three cables from the SPED assembly.
5. Refer to Figure 3-33. Remove



Figure 3-33. The SPED assembly.

the six screws that secure the SPED assembly to the control panel.

6. Remove the SPED assembly from the control panel.

INSTALLING THE SPED ASSEMBLY

1. Put on the ESD wrist strap and attach the clip on the cord to ground.
2. Install the SPED assembly onto the control panel.
3. Secure the SPED assembly to the control panel with the six screws that were removed earlier.
4. Attach the cables to SPED assembly.
5. Inspect the control panel, looking for loose connectors and hardware.
6. Verify that the cash dispenser operates correctly before placing it into service.
8. Close and lock top enclosure and return the cash dispenser to normal operation.

REPLACING THE SECURITY MODULE

The security module is located in the security cabinet of the cash dispenser . The security module is a non-repairable module and must be replaced with a new module if it's defective.



Figure 3-34. Electronic journal is installed in the upper right-hand corner of the Security Cabinet.

REMOVING THE SECURITY MODULE

1. Unlock and open the cabinet sleeve door. Turn off the AC input power by pushing the AC ON/OFF switch to the OFF(0) position.
2. Put on the ESD wrist strap and attach the clip on the cord to ground.
3. Unlock and open the security cabinet door.
4. Refer to Figure 3-34. The security module is located on the inside top wall of the security cabinet near the door.
5. Remove the dispensing mechanism from the cash dispenser.
6. The security module mounting bracket is secured to the side of the security cabinet by two retaining nuts.
7. Remove both nuts with a 7/16-inch socket wrench. Support the journal bracket to keep it from falling as the last nut is removed.
8. Remove the security module from the mounting bracket. Disconnect the two cables that are attached to security module.

INSTALLING THE SECURITY MODULE

1. Put on the ESD wrist strap and attach the clip on the cord to ground.
2. Attach the two cables to the new security module.
3. Place the security module on the mounting bracket and secure it to the wall of the security cabinet with the two 7/16-inch nuts that were removed during disassembly.
4. Install the dispensing mechanism in the security cabinet.
5. Apply AC power to the terminal by pushing the AC power switch on the power supply to the ON(1) position.
6. Verify the new security module is operating normally by completing a TEST DISPENSE function from the DIAGNOSTICS menu.
7. Close and secure the security cabinet. Close and lock the cabinet door fascia. Place the terminal back in operation to perform customer transactions.

REPLACING THE NMD-100 DISPENSING MECHANISM

Refer to Figure 3-3 and Figure 3-4. The NMD-100 dispensing mechanism is located inside the security cabinet of the cash dispenser.

REMOVING THE NMD-100 DISPENSING MECHANISM**TOOLS:**

- 1 - ESD wrist straps with grounding cord.

To remove the NMD-100 dispensing mechanism complete the following procedure:

1. Enter the management functions and unlock the cassettes and reject vault.
2. Unlock and open the cabinet sleeve door. Turn off the AC input power by pushing the AC ON/OFF switch to the OFF(0) position.
3. Unlock and open the security cabinet door.
4. Put on the ESD wrist strap and attach the clip on the cord to ground.
5. Remove the cassettes and reject vault from the dispensing mechanism



Figure 3-35. The location of the locking pin on the left slide rail.



Figure 3-36. FT5000 dispenser extended with reject vault and cassettes removed

6. Refer Figures 3-35 and 3-36. Pull the dispensing mechanism out of the cabinet until it reaches it's fully extended position. The left slide rail has a locking pin that must be disengaged to extend the rail.
7. Refer to Figures 3-37 and 3-38. Disconnect the AC power, serial communications, and shutter cables from the Dispensing Mechanism.



Figure 3-37. Unplug the serial communication and shutter cables .

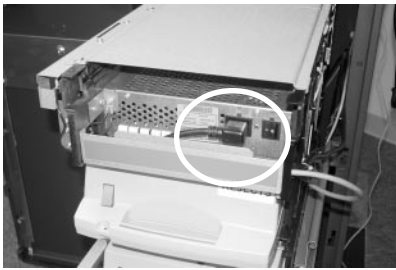


Figure 3-38. The location of the AC power cable.

8. Using two people, grasp the green handles on both sides of the dispenser mechanism and lift the dispenser off the rails and slide out of the cabinet.

****WARNING****

Two people are recommended to remove the dispenser from the cabinet. When removing dispenser from cabinet, use caution not to damage the throat extension on front of dispenser mechanism. Additionally each person handling the mechanism should be wearing an ESD wrist strap with the clip attach to ground.

8. Place the dispenser in a safe location where it will not get accidentally damaged.

INSTALLING THE NMD-100 DISPENSING MECHANISM

****CAUTION****

Be certain that you have not applied power to the Cash Dispenser before you continue!

TOOLS:

- 1 - ESD wrist straps with grounding cord.
1. Refer to Figure 1. Pull the slide rails out of the cabinet until they reach their fully extended position. The left slide rail has a locking pin that must be disengaged to extend the rail. Ensure all cables have been moved out of the way so they will not be damaged while installing the dispensing mechanism in the cabinet.
2. See Figure 3-40. Pick up the dispensing mechanism by the handles and load



Figure 3-39. Mounting rails fully extended so that rail slots are visible.

it on to the slide rail by aligning the tabs (under handle) into the rail slots.

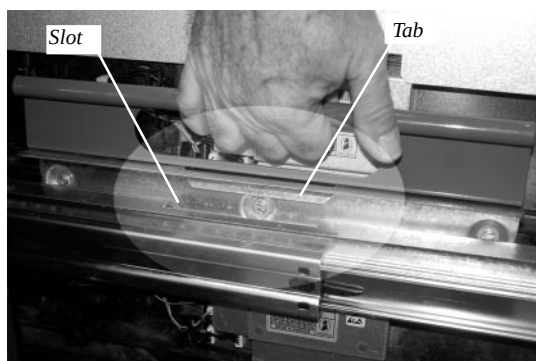


Figure 3-40. Tab and slot aligned for dispenser installation on rails.

****WARNING****

Two people are recommended to install the dispenser into the cabinet. When installing dispenser into cabinet, use caution not to damage the throat extension on front of dispenser mechanism. Additionally each person handling the mechanism should be wearing an ESD wrist strap with the clip attach to ground..

- 3 Refer to Figure 3-41. Connect the serial communication data cable and the shutter cable to the connectors on the hot (left) side of the dispenser. For the serial data cable, BE SURE to use the forward-most connector as shown. The plugs are keyed to en-

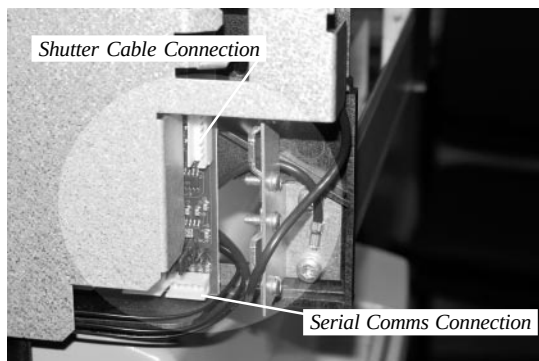


Figure 3-41. Connect the serial communication cable and shutter cable to the dispensing mechanism to the connections shown above.

sure proper installation.

4. Connect the A/C power cable to the dispenser power supply See Figure 3-38.
5. Push the dispenser into the cabinet until the slide rail locking pin is engaged.
6. Turn on the AC input power by pushing the AC ON/OFF switch on the power supply to the ON(0) position.
7. Install the reject vault.
8. Install the cassettes.
9. Lock the cassette and reject vault.
10. Put the cassettes in service. Verify that the dispensing mechanism is operating correctly by performing a test dispense with multiple notes or a live transaction with multiple notes.
11. Close and lock the security cabinet.

REPLACING THE SHUTTER ASSEMBLY

REMOVING THE SHUTTER ASSEMBLY

1. Unlock and open the cabinet sleeve door. Turn off the AC input power by pushing the AC ON/OFF switch to the OFF(0) position.
2. Put on the ESD wrist strap and attach the clip on the cord to ground.
3. Unlock and open the security cabinet door.
4. Pull the dispensing mechanism out of the cabinet so throat extension is clear of the shutter assembly and there is room to work in the shutter assembly area.

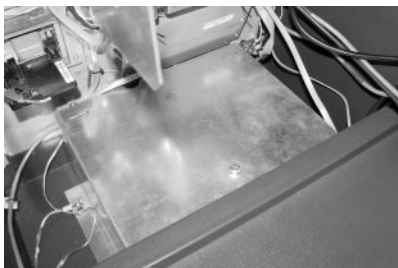


Figure 3-42. Remove the cover that provides access to the Shutter Assembly.



Figure 3-43. Shutter Assembly.

5. Refer to Figure 3-42 and 43. Remove the cover that provides access to the shutter assembly.

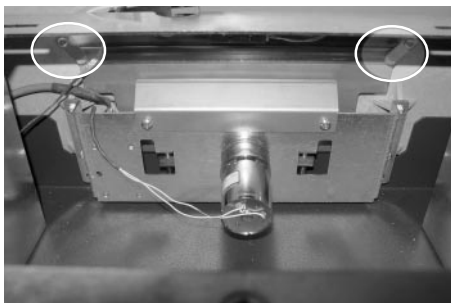


Figure 3-44. Loosen the two screws (highlighted in white circles) that secure the shutter assembly face plate to the control panel.

6. Refer to Figure 3-44. Loosen the two screws that secure the tabs that hold the shutter assembly face plate to the control panel. Adjust the tabs so they are position away from the face place. Tighten the screws to prevent the tabs from falling back onto the face plate.

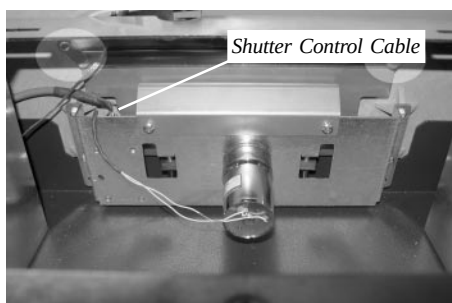


Figure 3-45. The location of the shutter control cable.

7. Refer to Figure 3-45. Disconnect the shutter control cable from the shutter assembly control board.
8. Refer to Figure 3-46. Remove the four screws that secure the shutter assembly to the control panel.
9. Remove the shutter assembly from the cabinet.

INSTALLING THE SHUTTER ASSEMBLY

1. Place the shutter assembly in the sleeve and attach the shutter assembly control cable to the shutter assembly control board.
2. Refer to Figure 3-46. Align the four mounting holes on the shutter assembly to the four mounting post on the control panel. Secure the shutter

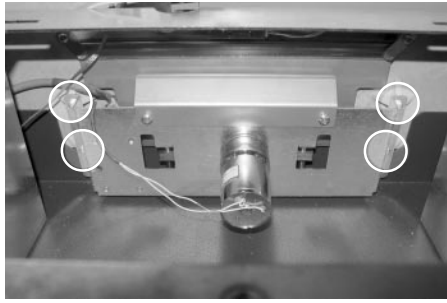


Figure 3-46. Loosen the four screws (highlighted in white circles) that hold the shutter assembly to the control panel.

assembly to the control panel with the four screws that were removed during the removal procedure.

3. Refer to Figure 3-44. Loosen the two screws that secure the tabs that hold the shutter assembly face plate to the control panel. Adjust the tabs so they are position on face place. Tighten the screws so they secure the face plate to the control panel.
4. Install the cover that provides access to the shutter assembly.
5. Push the dispensing mechanism completely into the security cabinet.
6. Remove the clip of the ESD ground strap from the grounding point. Remove the wrist strap from your wrist.
6. Close and lock the security cabinet door.
7. Turn ON the AC input power by pushing the AC ON/OFF switch to the ON(1) position. Close and lock the cabinet sleeve door.
8. Use the diagnostics functions to test the operation of the shutter assembly. If the operation is acceptable place the ATM into service.

REPLACING AN ELECTRONIC COMBINATION IN A BUSINESS HOURS CABINET

This procedure is applicable only when the security cabinet door is open. If the is combination lock faulty or the combination has be misplaced, the lock will have to be drilled to open the door. The lock should only be drill by a knowledgeable locksmith or fully competent service technician to minimize damage to the door.

REMOVING AN ELECTRONIC LOCK FROM A BUSINESS HOURS CABINET

1. Disconnect power to the unit and open the security cabinet.
2. Open the cabinet door.
3. Remove the two large Phillips screws (or 9/16 inch bolts located in the center of the door panel and three screws located at both the top and bottom of the panel.

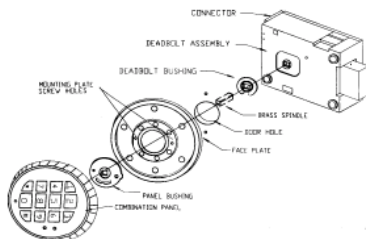


Figure 3-82. Horizontally Mounted Lock.

4. Disconnect the 9 volt dc power from the bottom connector on the deadbolt.
5. Disconnect the combination panel plug from the top connector on the dead bolt.
6. Remove the six screws that secure the dead bolt to the back of the door.
7. Remove the dead bolt assembly.
8. Turn the combination dial panel until it can be pulled away from the combination mounting plate.
9. Remove the combination mounting plate by removing the two shoulder screws that secure it to the front of the door.

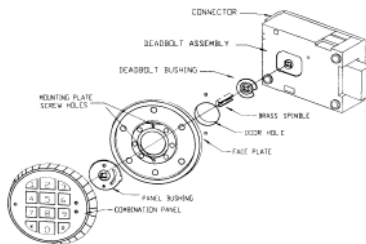


Figure 3-83. Vertically Mounted Lock.

INSTALLING AN ELECTRONIC LOCK ON A BUSINESS HOURS CABINET

1. Attach the dial mounting plate to the out side of the door using the two shoulder screws supplied with the lock replacement kit. Make sure the word "UP" stamped on the front of the dial plate is facing up if the mounting holes are positioned vertically or to the right if the mounting holes are aligned horizontally.

2. If a new brass spindle is select a the one from the Lock Replacement Kit that is same length as the brass spindle that was removed from the original lock.
3. Install the brass into the rear of the combination dial plate making sure that the channel is aligned with the wire exiting the back of the panel.
4. Install the plastic panel bushing down over the panel connector on the end of the panel wire and down over the spindle. Make sure that the two alignment holes on the bushing mate with the post on the rear of the combination panel.
5. Feed the panel lead through the front of the security container door and then insert the combination panel onto the shoulder screws which attach the combination mounting plate to the front of the door . Turn the combination dial clockwise until the dial stops, then turn the dial counter clockwise until the numbers aligned either vertically or horizontally (depending on the model of the cabinet). Refer to Figures 5-82 and 5-83 for assembly of the lock.
6. Feed the end of the combination panel lead through the center of the second plastic bushing. Make sure the flat side of the bushing is facing outward. Slide the bushing down the spindle so that the channel in the spindle is aligned with the slot in the bushing.
7. Place the deadbolt assembly onto the spindle and attach to the back of the door using the mounting screws supplied. Make sure the combination panel lead exit the bottom of the lock. Plug the combination panel lead into the top receptacle on the deadbolt connector. Make sure the connection is secure by gently pulling on the wire to make sure it does not disconnect from the dead bolt assembly.
8. Open the battery box and install a new 9 volt battery Connect the plug on the end of the battery box lead into the lower receptacle on the dead bolt connector. Make sure the connection is secure.
9. Enter the combination 1-2-3-4-5-6 and turn the combination dial clockwise to open the lock and then turn the T-Handle. Make Sure the lock operates properly before shutting the safe door.
10. Install the rear door panel and secure it to the rear of the cabinet door with the two large Phillips screws (or 9/16 inch bolts located in the center of the door panel and three screws located at both the top and bottom of the panel.

OPENING THE ELECTRONIC LOCK WHEN THE BATTERY HAS FAILED

Repeated beeping while the lock is open indicates that the 9 volt battery located in the battery box on the inside of the cabinet needs to be replaced. To remove the battery box cover, pull gently on the front of the box and slide the cover off. If the lock will not operate while the door is closed and locked, (i.e. no signal from the panel when a button is pressed), the battery is dead and the lock will need to be energized from the two round jumper terminals located on the front, right side of the push-button panel. To energize the lock, connect a 9 VDC battery across the external terminals with the negative terminal of the battery facing up. While holding the battery against the terminals, enter the six-digit combination and open the lock and door. Replace the battery inside the battery box.

SECTION 4

WORKING WITH FT5000 CASSETTES

INTRODUCTION

The purpose of this section of the manual is to describe the procedures for:

- (1) Removing and replacing note cassettes
- (2) Loading cassettes
- (3) Removing and replacing the reject notes (as applicable)

Information concerning note handling and quality issues are explained where appropriate.

CASSETTE CAPACITY

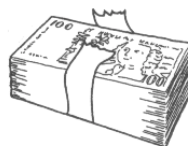
The FT5000 Automated Teller Machine (ATM) uses the NMD-100 dispensing mechanism. The NMD-100 is configured with from one to four cassettes with a single reject vault. Currency capacity for an individual cassette is approximately 3000 documents. But real time capacity will depend upon document quality and thickness. **Loading a cassette beyond its recommended maximum capacity might cause jams or more rejects than expected.**

The dispensing mechanism delivers the appropriate number of documents from the cassette(s) to fulfill the customer's withdrawal request. The purpose of the reject vault is to accept and hold documents that have been transferred from the cassette(s) but not dispensed. Conditions that could cause the mechanism to reject documents are (1) Multiple documents stuck together and (2) Document width too short or long.

Other conditions that could cause a reject are described in the next section, Media Condition.

LEARNING NOTE THICKNESS

IMPORTANT! The first time an NMD-100 dispensing mechanism is used or when ever a cassette or currency parameter is changed, the mechanism will enter a learning mode during which it will reject some notes as it learns the average thickness of the currency. In such cases, it is recommended that you remove the rejected notes from the unit before placing the dispenser into service.



MEDIA CONDITION

If possible, store the documents at room temperature for at least eight hours before dispensing from the cassettes.

The number of rejects can be directly influenced by the technique used to load the cassettes, the quality of the documents, and how many documents are put into the cassette. Documents loaded into the cassettes must be in “fit” condition if a high level of performance (low reject and failure rate) is expected from the unit. **Do not reuse rejected documents.** “Fit” documents do not possess any of the defects listed here in the following paragraphs.

Used Document Defects

Refer to Figure 4-1. The following defects may be found in used documents:

- Adhesive or “sticky” substances on the surface of the paper
- Tears extending more than 1/2” from the edge of the paper
- Tears, holes, or missing sections in the body of the document
- Tape on the surface of the paper used for repairing, patching or any other purpose
- Staples, pins, or any other foreign body attached to the documents
- Corner folds of a size greater than 1/2” on either axis
- Two or more documents joined by any means
- Excessively crumpled or crinkled
- Do not reuse rejected documents.

New or Uncirculated Document Defects

The following defects may be found in new or uncirculated documents:

- All the conditions listed for used documents
- Excessive bowing due to conditions caused by packing and storing
- New or uncirculated paper must be “burst” and fully separated before loading into cassettes.

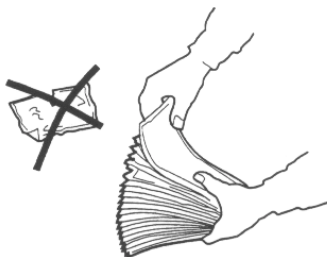


Figure 4-2. Preparing used currency.

Preparing Notes

Use the following procedures to prepare documents before inserting them into the cassette. Do not reuse rejected documents.

Refer to Figure 4-2. Prepare used documents using any or all of the following techniques:

- Remove the band around each bundle of paper
- Remove foreign objects (e.g. pins, paper clips, crumbs, etc.)
- Remove torn or very worn documents
- Straighten any folded documents



Figure 4-3. Preparing new or uncirculated currency

Refer to Figure 4-3. Prepare new or uncirculated documents using any or all of the following techniques:

- Remove the band around each bundle of paper.
- Separate the documents from each other by striking the bundle hard against the edge of a table or similar object and/or flipping through each bundle of notes in both directions at each end
- Using a Note Counter.

REFILLING THE NMD100 CASSETTE

REMOVING NOTE CASSETTES

1. UNLOCK the cassettes, using the Cassette lock/unlock procedure found in the FT/RL5000 Series Configuration Manual.
2. Open the outer fascia panel of the security container using the key lock on the front of the panel. Open the combination lock on the security container door and open the door to gain access to the dispensing mechanism.
3. Refer to Figure 4-4. To remove the selected note cassette, grasp the cassette handle with one hand while holding the mechanism in place with the other hand. Pull the cassette out slightly. Place one hand underneath to support the cassette as you slide it completely out of the unit.



Figure 4-4. Removing a cassette from the NMD-100 dispensing mechanism.

Continue to support the bottom of the cassette to keep it level as you place it on a table or other flat surface.

INSTALLING NOTE CASSETTES

Once the cassettes have been loaded with currency, replace them by using the reversing of the steps used to remove the cassettes from the mechanism. Refer to Figure 4-5. Slide each note cassette into its slot in the mechanism. Make sure each cassette is fully inserted.



Figure 4-5. Installing a cassette into the NMD-100 dispensing mechanism.

Once all cassettes have been filled and replaced, they are ready to be LOCKED into position using the cassette lock/Inlock function (See the FT/RL5000 Series Configuration Manual for the appropriate procedure.). **IMPORTANT:** Ensure the MULTIPLE AMOUNT parameter matches the denomination of currency in each Note Cassette! See the FT/RL5000 Series Configuration Manual for the procedure for using the VALUE function to set this parameter.

OPENING NOTE CASSETTES

1. Refer to Figure 4-6. Open the cassette by simultaneously pressing the release button and lifting the lid. Flip the lid back fully allowing it to rest on the table or other flat surface.
2. Move the pusher plate to the rear of the cassette (toward the handle) as shown

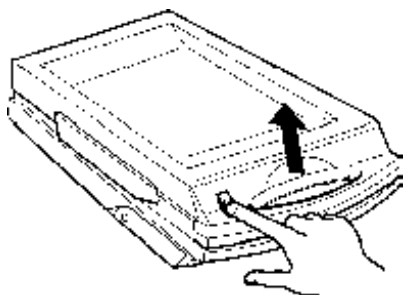


Figure 4-6. Unlocking the cassette.

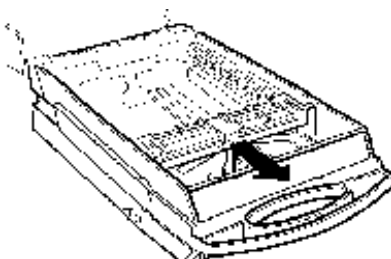


Figure 4-7 Move the cassette pusher plate.

in Figure 4-7. Ensure the pusher plate is fully back. It should stay in this position.

LOADING NOTE CASSETTES

Follow these steps to load the cassette with notes. When loaded, the notes must lean evenly against the note plate as shown in Figure 4-8.

The shape of some notes may be affected by conditions of storage or bundling, preventing them from forming neat, even piles. If not corrected, such conditions may cause notes to be rejected by the dispensing mechanism. To compensate for the most common conditions of slanting or cupped note piles, follow the directions given here. Notes with no apparent shape problems are referred to as “common” notes.

- **Slanting Pile**

Refer to Figure 4-9. To avoid dispensing problems caused by a “slanting” pile, put the notes in neat bundles of no more than $\frac{1}{2}$ to $\frac{3}{4}$ inches in thickness. Turn every other bundle around to minimize slanting of the pile.

- **Cupped Bundle**

To avoid dispensing problems caused by cupped bundles, turn all the bundles with the cupped side towards the dispense opening (the “feed” end of the cassette) as shown in Figure 4-10.

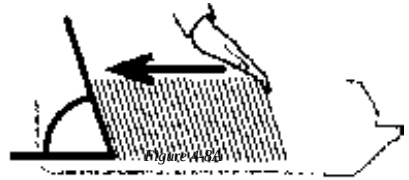


Figure 4-8. Properly installed currency will lean against the note plate as shown in Figure 4-8A.

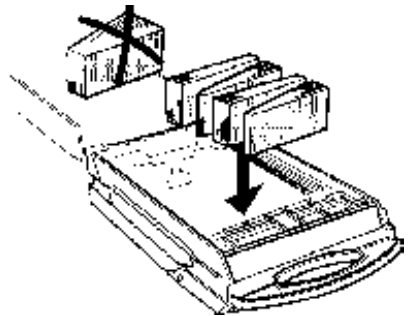


Figure 4-9. Loading slanted piles into the cassette.

****CAUTION****

Do not put more than the recommended maximum number of notes in the cassette. Over filling a cassette may cause notes to jam in the note transport path or more rejected notes than expected.

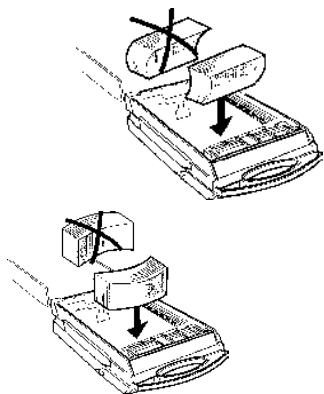


Figure 4-10. Loading cupped bundles into the cassette.

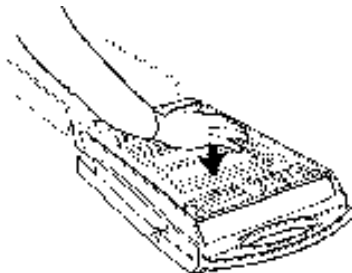


Figure 4-11. Compress the notes so that there are no single notes protruding from the pile.

• Common Notes

Place the prepared bundles in the cassette.

Follow these steps to load notes in the cassette:

1. Refer to Figure 4-11. Level the note pile. Compress the note pile slightly by hand. Single notes must not protrude from the bundle. Make sure the bundle leans evenly against the note plate.
2. Refer to Figure 4-12. Move the pusher plate against the notes with just enough pressure to hold the notes in the correct position when closing the lid and inserting the cassette into the mechanism.

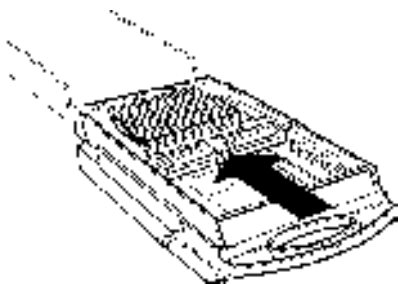


Figure 4-12. Move the pusher plate toward the currency so it holds the currency in the correct position.

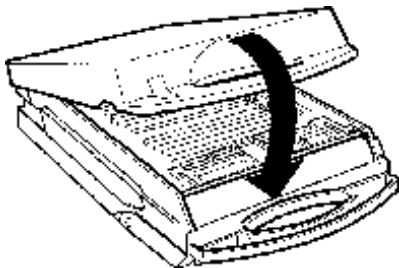


Figure 4-13. Close the lid and press the green dot on the cassette lid until the release button pops out.

3. Refer to Figure 4-13. Close the cassette lid. Fold the lid down to its locked position. The release button should pop-out allowing the lid to meet cleanly with the body of the cassette.

WORKING WITH THE NMD100 REJECT VAULT

The reject vault is part of the dispensing mechanism and is located inside the security cabinet.

1. UNLOCK the cassettes, using the Cassette lock/unlock procedure found in the FT/RL5000 Series Configuration Manual.
2. Open the combination lock on the security container door and open the door to gain access to the dispensing mechanism.
3. Refer to Figure 4-14. To remove the reject vault, grasp the handle of the reject vault. Pull the reject vault out slightly. Place one hand underneath to support the reject vault as you slide it completely out of the unit. Place reject vault on a level work surface.



Figure 4-14. Remove the reject cassette by grasping the green handle and pulling it straight from the dispensing mechanism.



Figure 4-15. Unlock the cassette by inserting the key and turning it clockwise.

OPENING THE REJECT VAULT

The reject vault is locked when it is removed from the dispenser. A key is used to unlock the reject vault.

****CAUTION****

If the Reject Cassette is removed with power applied, the terminal will automatically reset the rejected note count to ZERO. Therefore, to ensure an accurate rejected note count NEVER REMOVE THE REJECT CASSETTE WITH POWER APPLIED WITHOUT CHECKING FOR AND REMOVING ANY REJECTED NOTES.



Figure 4-16. Opening the Cassette



Figure 4-17. Reject Box open. Check both the single and bundle reject areas for rejected currency.

1. Remove the cassette seal (if present).
2. Refer to Figure 4-15. Open the reject vault by inserting the cassette/reject vault key into the lock and turning it clockwise.
3. Refer to Figure 4-16. Press the green button on the front of the reject vault in and lift the lid to open.
4. See Figure 4-17. Remove any currency in the reject vault.. Remember to check both the single and bundle reject areas for currency.

CLOSING THE REJECT VAULT

1. After removing any rejected notes, close the lid. Make sure the green button releases and secures the cassette lid to the closed position. Turn the key counterclockwise and remove it from the lock. If applicable, apply a new cassette seal



Figure 4-19. Installing the reject cassette.

INSTALLING THE REJECT VAULT

1. Figure 4-18. Install the reject cassette by reversing of the steps taken to remove the reject cassette. Make sure the cassette is fully inserted.

ADJUSTING THE NMD100 CASSETTE FOR A DIFFERENT SIZE DOCUMENT

Refer to Figure 4-19. The NMD100 cassettes are setup for the documents or currency they will dispense. This is accomplished by adjusting the cassette note guides to the correct settings for the documents being dispensed.

ADJUSTING THE NOTE LENGTH

1. Open the lid of the cassette.
2. Inspect the cassette for worn or broken components. Replace damaged cassettes if necessary. If needed, clean the cassette before making the adjustment.
3. Refer to Figure 4-21. If the “note supports” on bottom of the pusher plate are metal, remove them from the pusher plate before continuing.
4. If note supports are plastic, adjust them to the “not in use” position as shown in Figure 4-22.
5. Lift up on the left note guide (as viewed from the front or handle side of the cassette) while moving it towards the cassette handle.
6. Refer to Figure 4-23. When the guide had been lifted up as far as permitted and end ‘A’ is moved as close to the cassette handle as it can get, you will be able to view two yellow scales with the letter ‘A’ through ‘M’ printed on them. The pointers on the scale will indicate the current note length setting. Adjust the guide from side to side to set the value for the note length of the document as determined from Table 4-1. Make sure both pointers are pointing to the same letter to ensure the note guide is parallel to the side of the cassette.

Example: The official note length



Figure 4-19. The NMD-100 cassette.

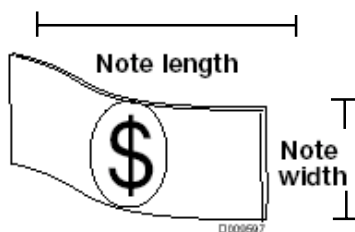


Figure 4-20. Note dimensions.

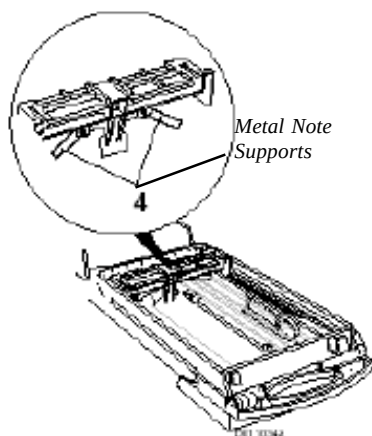


Figure 4-21 If the note supports are constructed of metal the must be remove before proceeding with any note guide adjustment.

for US currency is 156 mm. Table 4-1 is used to determine the note length settings to a specific sized document. 156 mm is equivalent to note length setting of 'H' for the left note guide and 'I' for the right note guide.

Refer to Figure 4-23. Set both pointers on the left note guide to the value for the "LeftAdj." as indicated by Table 4-1.

7. Repeat Step 4 and 5 to adjust and set the right cassette note guides to the value for the "Right Adj." as indicated by Table 4-1.

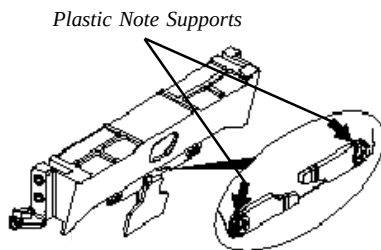


Figure 4-22. Move plastic note supports to the "not in use" position.

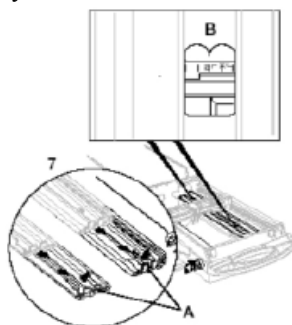


Figure 4-23. Note guide adjustment.

Table 4-1. Note length settings for the NMD-50 Cassettes.

Note Length	Left Adj.	Right Adj.		Note Length	Left Adj.	Right Adj.		Note Length	Left Adj.	Right Adj.
93	S	S		124	M	N		155	H	I
94	R	S		125	M	N		156	H	I
95	R	S		126	M	N		157	H	H
96	R	S		127	M	M		158	H	H
97	R	R		128	M	M		159	H	H
98	R	R		129	M	M		160	G	H
99	R	R		130	L	M		161	G	H
100	Q	R		131	L	M		162	G	H
101	Q	R		132	L	M		163	G	G
102	Q	R		133	L	L		164	G	G
103	Q	Q		134	L	L		165	G	G
104	Q	Q		135	L	L		166	F	G
105	Q	Q		136	K	L		167	F	G
106	P	Q		137	K	L		168	F	G
107	P	Q		138	K	L		169	F	F
108	P	Q		139	K	K		170	F	F
109	P	P		140	K	K		171	F	F
110	P	P		141	K	K		172	E	F
111	P	P		142	J	K		173	E	F
112	O	P		143	J	K		174	E	F
113	O	P		144	J	K		175	E	E
114	O	P		145	J	J		176	E	E
115	O	O		146	J	J		177	E	E
116	O	O		147	J	J				
117	O	O		148	I	J				
118	N	O		149	I	J				
119	N	O		150	I	J				
120	N	O		151	I	I				
121	N	N		152	I	I				
122	N	N		153	I	I				
123	N	N		154	H	I				

ADJUSTING THE NOTE WIDTH

1. Open the cassette and remove all documents.
2. Inspect the cassette for worn or broken components. Replace damaged cassettes. If needed, clean the cassette before making the adjustment.

Table 4-2 provides a list of values for the height steering guides. The values are in one millimeter increments for all documents that measure from 55 mm to 92 mm in width. Example: U.S. currency has a note width of 66 mm which according to the chart in Table 4-2, has a value of 10.

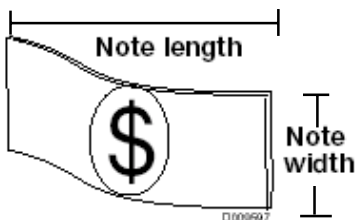


Figure 4-24. Note dimensions.

3. Loosen the screw that secures the left height steering guide to the bottom of the cassette. This screw is attached to a nut located on the bottom of the cassette. Loosening the screw too much will cause this nut to fall from the cassette.
4. Refer to Figure 4-25. Move the left height steering guide to the front or rear of the cassette to align the pointer located on the bottom of the height steering guide with the correct setting (See Table 4-2) on the ruler on the bottom of the cassette.

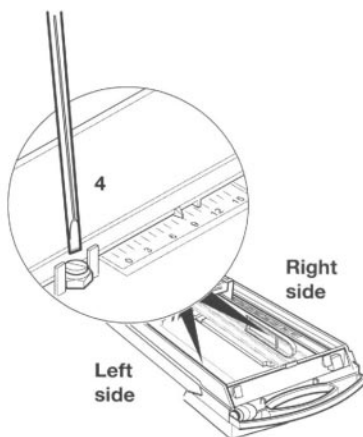


Figure 4-25. Cassette note width adjustment.

With the pointer set to the correct position tighten the screw to secure the left height steering guide to the bottom of the cassette. Press down on the left guide until it seats itself into the left height steering guide.

5. Repeat Steps 3 and 4 for the right height steering guide.
6. Place the documents removed earlier back in the cassette and close the cassette.

Table 4-2. Note width setting for the NMD-50 cassettes

Note Width	Cassette Setting
55	13
56	13
57	13
58	12
59	12
60	12
61	11
62	11
63	11
64	10
65	10
66	10
67	9
68	9
69	9
70	8
71	8
72	8
73	8
74	7
75	7

Note Width	Cassette Setting
76	7
77	6
78	6
79	6
80	5
81	5
82	5
83	4
84	4
85	4
86	3
87	3
88	3
89	2
90	2
91	1
92	1
93	1

These settings are effective as of September 1999.

SECTION 5
FT5000 AUTOMATED TELLER MACHINE
PREVENTIVE MAINTENANCE

INTRODUCTION

NOTE

Only qualified service personnel are authorized to repair or service the terminal.

This section of the manual covers preventive procedures appropriate for FT5000 Automatic Teller Machine owners and maintenance personnel. The following areas are covered:

1. **Cleaning.** The proper way to clean the cash dispenser housing.
2. **Replenishing Receipt Paper.** Describes how to replace a spent receipt paper roll.
3. **Card Reader Maintenance.** The recommended card reader cleaning technique.
4. **Dispenser Mechanism Preventive Maintenance.** Maintenance to be performed on the Dispenser.

CLEANING THE ENCLOSURE

Level of Service:	End user, Level I service provider, or Certified Service Technician
Service Interval:	As required.
Tools Required:	1 - clean nonabrasive lint free cloth and a mild cleaning solution of soap and water.

CAUTION

Avoid using abrasive cleaners on any surface of the terminal. Do not spray cleaner liquids directly on the unit.

The cash dispenser front panel is highly durable, resisting scratches and finger smudges. However, occasional cleaning of the control panel and the plastic enclosure may be necessary. A soft dry or slightly damp cloth may be used for cleaning. For best results, use a weak solution of a mild detergent and water.

CLEANING THE DISPLAY

- Level of Service: End user, Level I service provider, or Certified Service Technician
- Service Interval: As required.
- Tools Required: 1 - clean soft, lint free cloth and a mild cleaning solution of soap and water.

****CAUTION****

Avoid using abrasive cleaners on any surface of the terminal. Do not spray cleaner liquids directly on the unit.

The liquid crystal display (LCD) has a glass protective shield that should be cleaned only with a soft lint free cloth, dampened with a weak solution of a mild detergent and water.

****CAUTION****

The top enclosure access door is provided with a pneumatic piston to prevent the door from extending too far when opening and to provide some damoening when being closed. Do not force the piston when closing the Control panel.

REPLENISHING THE RECEIPT PAPER IN THE RL5000 SERIES CASH DISPENSER

- Level of Service: End user, Level I service provider, or Certified Service Technician
- Service Interval: As required.
- Tools Required: 1 - pair scissors
1 - Roll of 80 mm wide thermal paper Triton Part Number 05403-00015

*****WARNING*****

This operation must be completed with the AC power applied to the cash dispenser.

This operation is completed with the AC power ON.

1. Open the top of the cash dispenser by unlocking the top enclosure and pulling the hinged door forward.
2. If paper remains on the roll, cut the paper between the roll and the printer with a pair of scissors as shown in Figure 5-1.
3. Press and hold the receipt printer paper feed button (Figure 5-2) until the paper clears the front of the printer.
4. Remove the paper spool and paper roll from the paper support bracket by pulling the spool out of the paper support bracket. See Figure 5-3 for view of empty paper support bracket.
5. Unwind about 18 inches from the end of the new roll of paper. Use scissors to cut off about 18 inches from the end of the roll. Make sure all of the paper that has glue on it is removed from the end of the roll.
6. Install the 6 inch roll of thermal paper on to the paper spool as shown in Figure 5-5.



Figure 5-1. Cut paper between the roll and input to the printer.



Figure 5-2. The paper feed button is located on the Paper Bracket.



Figure 5-3. The paper support bracket without paper and spool.



Figure 5-4. The paper and paper spool.



Figure 5-5. Spool inserted into the roll of paper.



Figure 5-6. Paper on the paper support bracket ready to be loaded into the printer.

7. Place the spool and paper on to the paper support bracket by sliding slotted ends of the spool onto the paper support bracket as shown in Figure 5-6.
8. Once the spool is installed, take the end of paper roll and feed it into the printer path paper entrance, as shown in Figure 5-7.
9. Once the paper is fed into the paper path entrance, the printer will activate and automatically feed the paper through the printer and out the exit. See Figure 5-8. It may be necessary to use the Paper Feed Button to feed the paper so it clears the exit on the front panel.
10. Close and lock the cash dispenser.



Figure 5-7. Feeding the paper into the printer.



Figure 5-8. Paper roll and spool in place for operation.

CLEANING THE CARD READER

Level of Service: End User or Level I service provider

Service Interval: Once a month or more often if required.

Tools Required: 1 - Card reader cleaning cards -Triton Part Number 05010-00019

Special cleaning cards (Part Number 06200-00055) are available for proper maintenance of the card reader. The card reader should be cleaned at least once a month by inserting and removing a cleaning card, as shown in Figure 5-9. It may be

necessary to clean the card reader more often in locations that see heavy usage.

1. Remove the cleaning card from it sealed pouch.
2. Insert the cleaning card in to the Card Reader and move in and out several times.
3. Remove the cleaning card and turn over to uses other side.
4. Insert the cleaning card in to the card reader and move in and out several times.
5. Remove the cleaning card and discard.



Figure 5-9. Use the cleaning cards on a monthly basis to maintain effective card reader operation.

NMD-100 DISPENSING MECHANISM PREVENTIVE MAINTENANCE

- Level of Service: All preventive maintenance is to be completed by a factory certified service technician.
- Service Interval: Once every six months or more often if required.
- Tools Required: Vacuum cleaner.
Cleaning fluid (Isopropanol-A).
Pure compressed air (i.e. no added fluid or gas that might leave residue or affect mechanism).
A soft clean brush
A soft clean cloth
An empty note cassette
CMC Firmware 2001-04.06 or newer
Standard service tools
NMD test program version 2050-01.06 or greater (DOS or
NMD test program version 2055-01.01 or greater Windows).

After cleaning, perform a functional check according to the service manual and if applicable technical bulletins on the modules described in this procedure.

NOTE

Be careful not to spread dust in the machine when cleaning with compressed air, brushes or cloths. Do not use lubricants except when the service manual or a technical bulletin states otherwise.

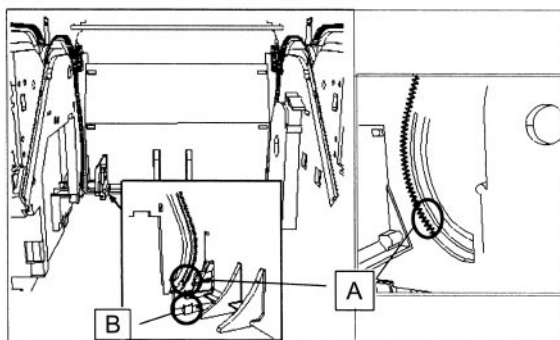


Figure 5-10 . General check points (A) and (B) on the Stacker Presenter SP100 and SP101.

GENERAL CHECK POINTS OFR THESTACKER PRESENTER, SP-100 AND 101

1. Verify that the cog rail is not damaged or worn on either sideplate around the bundle carrier unit home poition (Callout A in Figure 5-10)
2. Verify that there are not any cracks in the plastic part on the base plate that open the buldle carrier unit. (Callout B in Figure 5-10)

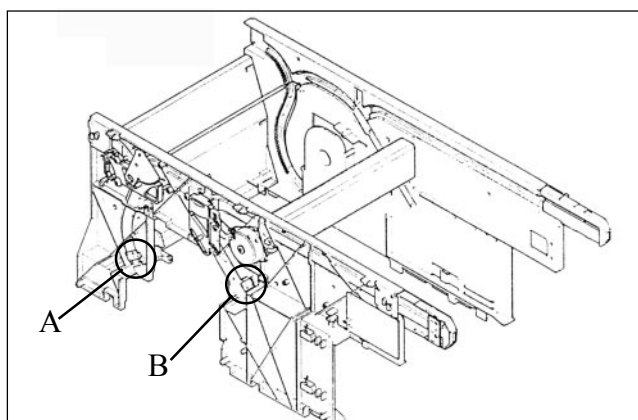


Figure 5-11. The location of the home (A) and the reject (B) sensors

****CAUTION****

Be careful not to damage sensitive parts such as motors or other electronics. Also be careful not to spread dust in the machine.

CLEANING THE HOME AND REJECT SENSORS (STACKER PRESENTER SP 100 ONLY.)

1. Locate the home position sensor (Callout A in Figure 5-11) and the reject sensor (Callout B in Figure 5-11).
2. Clean both sensors with a soft brush.
3. Use a vacuum cleaner to remove dust.

CLEANING THE BUNDLE OUTPUT UNIT (BOU) HOLD, EXIT AND DELIVERY SENSORS

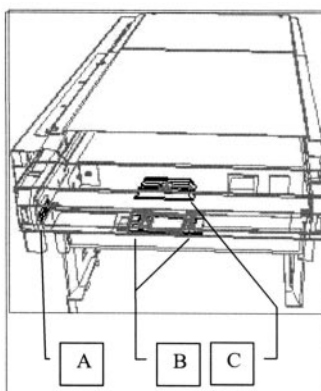


Figure 5-12. The location of the bundle output unit delivery (A), empty (B) sensors and prisms (C).

1. Locate the delivery sensor (Callout A in Figure 5-12). Clean the sensor with a soft brush. Remove dust by using a vacuum cleaner.
2. Clean the BOU empty receiver and transmitter LED's (Callout B in Figure 5-12) using a soft brush. Remove the dust with a vacuum cleaner.
3. Clean the BOU prisms (Callout C in Figure 5-12) using a soft cloth. Inspect for visible scratched or cracks.

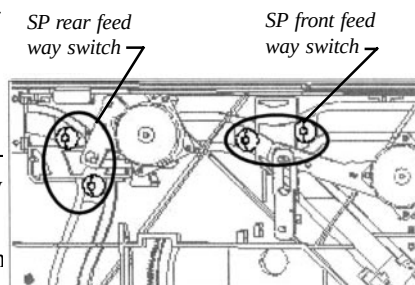


Figure 5-13. Location of the way switches on the front and rear feed stacker presenter.

4. Verify that the BOU is fitted in the correct position and that the plate is correctly mounted at the side.
5. Verify the operation of the delivery sensor, exit sensors and the BOU prisms using the NMD test program.

CHECKING THE STACKER PRESENTER, SP100 AND SP101 WAY SWITCHES

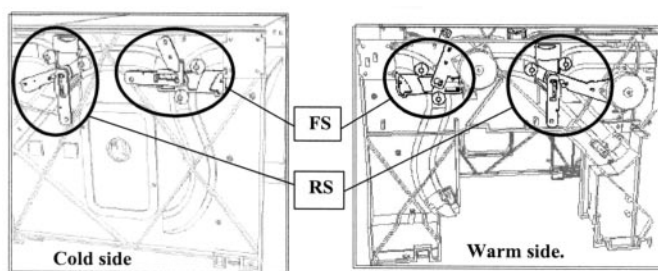


Figure 5-14. Verify that the way switches operate correctly.

1. Check that the distance between the white cap and the slide is approximately 0.1 mm. The slide should not look curved. Refer to callout A for the front service stacker presenter and callout B for the rear service stacker presenter in Figure 5-13.
2. Refer to Figures 5-14. Slide the lock into the end position and verify that the way switch cannot be moved.
3. Verify that the cold and warm side slides move simultaneously.
4. Check the position and condition of the of the springs on both the cold and warm side of the stacker presenter.
5. Check the operation of the sensors using the NMDW test program.

CLEANING AND INSPECTION OF THE BUNDLE CARRIER UNIT, BCU100, 101.

1. Inspect the BCU. Verify that it is in good condition and not skewed.
2. Check that the BCU fingers are not too high in the stacker when at the home position.
 - a. If the finger are too high, gently lift the BCU from its home position. Loosen the six

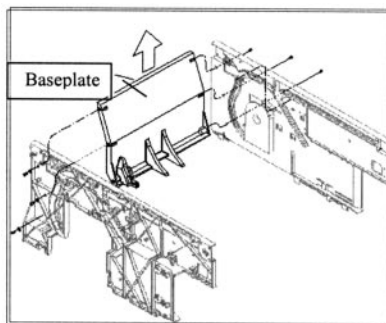


Figure 5-15. Adjusting the baseplate.

screws, as shown in Figure 5-15, and adjust the baseplate so it is mounted in its uppermost position and tighten the screws. Doing this will ensure that the BCU fingers do not protrude into the path of the stacker wheels.

3. Clean the dust from bundle carrier unit with a vacuum cleaner.
4. Inspect the rubber rollers (Refer to Figure 5-16) on the BCU. Make sure that there are no cracks the surface the rollers. If necessary change the rollers using P/N A008841 Rubber Roller.
5. Use the NMDW test program to run the BCU back to the home position (issue a reset command).

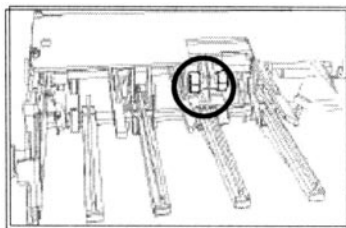


Figure 5-16. Location of the rubber rollers on the BCU.

THE NOTE DIVERTER (SINGLE REJECT SENSOR)

1. Unlock and remove the reject vault.
2. Remove the note diverter top cover and clean the receiver and transmitter LED's with a soft cloth.
3. Clean the note diverter cover prism with a soft cloth.
4. Mount the note diverter top cover.
5. Verify that the yellow snap fittings are not broken. Verify that the note diverter is properly attach to the note stacker.
6. Use the NMDW test program to test the operation of the note diverter.

WARNING

The note stacker prism is very sensitive, touching the prism or using a brush or cloth while cleaning may damage its reflecting surface.

THE NOTE STACKER, NS100, NS 101 AND NS 102

Cleaning the Note Stacker Prism

Use the NMDW test program to send a "Item 217, Clean NS Rollers" command. This command is used to clean dust particles from the note stacker prism.

1. Send command Clean NS Rollers, item 217 from the NMD test program.
2. Select option Enabled and transport will run at 500/s in 20 seconds.

3. Refer to Figure 5-17. While the note stacker is running use compressed air on the track of the note stacker prism.
4. Remove the dust from the note stacker using a vacuum cleaner.

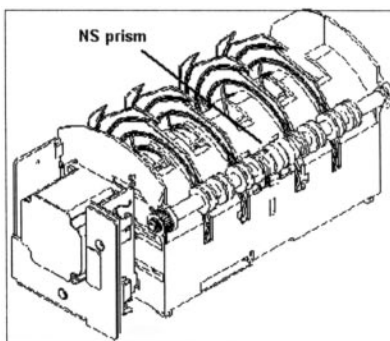


Figure 5-17. The location of the note stacker prism.

THE NOTE QUALIFIER, NQ 100, AND NQ 101

1. Verify that the gear highlighted in Figure 5-18 is not broken.
2. Open the inspection panel on the rear of the note qualifier. Remove the dust from the note qualifier with a vacuum cleaner. Close the inspection panel
3. Remove the cassette from the top feed channel to access the inspection panel on the bottom of note qualifier. Open the inspection panel and clean the inside of the note qualifier with a vacuum cleaner. Close the inspection panel.
4. Verify that both inspection panels on the note qualifier are properly closed.
5. Use a vacuum cleaner to clean the remaining surface of the note qualifier.
6. Use the NMDW test program to check the operation of the double detect sensors in the note qualifier. If the the operation of the double detect sensors are marginal or out of specification, it will be necessary to remove the double detect sensor board and clean the dust from this sensors.

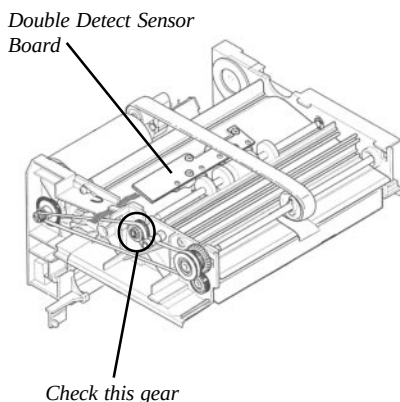


Figure 5-18. Make sure the gear highlighted by the circle is not broken.

NOTE FEEDER AND NOTE QUALIFIER NF 100, 101 AND NQ 100, 101

PREPARING TO CLEANING THE NOTE FEEDER ROLLERS

Command write data item 218 is used to clean ink and dust from the note feeder rollers. Use the vacuum cleaner to clean and remove ink and dust from the feeder

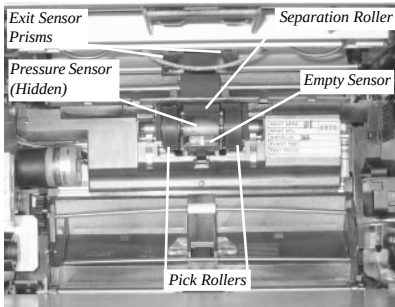


Figure 5-19. Sensor and roller locations on the note qualifier feed channel 1.

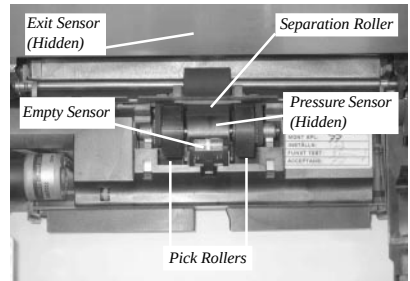


Figure 5-20. Sensor and roller locations on the note feeders for feed channels 2, 3, and 4.

by accessing through the cassette compartment as shown in Figures 5-19 and 20.

Prepare any empty cassette by pushing the pusher plate so that it meets the note cassette shutter. See Figure 5-21. **Important! The position of the Pusher Plate must be put forward towards the first note plate, i.e. to touch the note cassette shutter.** Insert the empty cassette into the feeder designated for cleaning. **Please note that all other note cassette must be removed while running this command.**

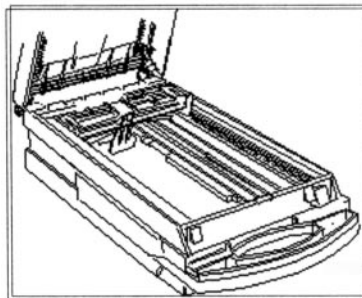


Figure 5-21. Position the pusher plate against the note cassette shutter to set it up to clean the note feeder rollers.

CLEANING THE NF ROLLERS USING THE NMDW TEST PROGRAM

1. Unlock and remove all cassettes from the cash dispenser. Place the empty cassette in the feed channel designated for cleaning.
2. Send the command Write Data, Clean NF Rollers, item 218 - select the position of the cassette, of the cassette, i.e. position NF1(note qualifier feeder),

WARNING

A communication time out may occur during these operations, in this case resend the command again.

NF3 or NF3, etc, Enter.

3. The shutter on the cassette will open and the pick rollers scrub against the cassette pusher plate, and the the separation rollers.
4. The procedure will take about 30 seconds to complete.
5. Clean NF rollers, item 218 can also be sent by the command string WD/218/X, where X is the position of the note feeder, i.e. NF1, NF2, NF3 ect.
6. Remove the note cassette and use the vacuum cleaner to remove and debries from the the cassette compartment.
7. Use the NMDW test program to check the operation of the empty (if present), exit and pressure sensors.
8. Remove dust from the note feeder/note qualified with a vacuum cleaner.

ALTERNATE METHOD FOR CLEANING THE NOTE FEEDER ROLLERS

1. Turn off the power to the cash dispenser and dispensing mechanism.
2. Use Isoproponal-A on a soft microfiber cloth to manually clean the NF/NQ pick and separation rollers.
3. Make sure that the Isoproponal-A has completely evaporated befor restoring power to the cash dispenser and dispensing mechanism.

CLEANING THE NOTE CASSETTES

1. Unlock and remove the note cassette(s) from the dispensing mechanism.
2. Turn the cash dispenser OFF by pressing the main power ON/OFF switch to the OFF position.
3. Remove any documents from the cassette(s).
4. Use a clean soft brush and a vacuum cleaner to remove all dust and debris from the note compartment of each cassette.
5. Return the documents to the note cassette(s) and install the cassette(s) into the dispenser mechanism.

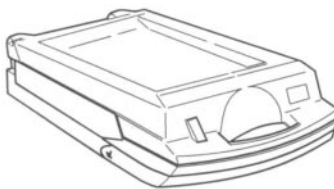


Figure 5-22. The NMD-100 Cassette.

6. Turn the cash dispenser ON by pressing the main power ON/OFF switch to the on position.
7. Verify that all cassette are in service.
8. Complete several test dispenser with to verify that the cassette(s) are operational.

CLEANING THE REJECT VAULT

1. Unlock and remove the reject vault from the dispensing mechanism.
2. Turn the cash dispenser OFF by pressing the main power ON/OFF switch to the OFF position.
3. Remove any documents in the reject vault.
4. Use a clean soft brush and a vacuum cleaner to remove all dust and debris from the reject vault.
5. Install the reject vault into the dispenser mechanism.
6. Turn the cash dispenser ON by pressing the main power ON/OFF switch to the on position.
7. Complete several test dispenser with to verify that the reject vault is operational.

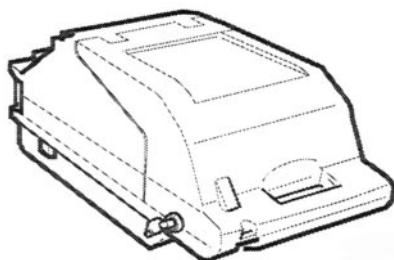


Figure 5-23. The NMD-100 Reject Vault.

APPENDIX A

FT5000 FIELD REPLACEABLE PARTS

FT5000 Field Replaceable Part List**Part Number Description****AC/DC Power Supply**

*09200-00013 Power Supply - TDM (+36 VDC)

Electronics

09600-02036 Electronic Journal Module, All Models

09600-02054 "Orange" Demo Electronic Journal

*09100-00125 PCB|Shutter Control Board||

Control Panel

*09200-00002 Subassembly, Xscale Main Board, w/Housing

*09100-00226 PCB Assembly, Docking Board

09200-00010 High Bright LCD Assembly

09200-00012 Subassembly, TTW Printer Presenter Assembly

06200-00058 80mm Printer Cutter, Seiko ACU2324A-A W/Extension Cable

01500-00003 80mm Printer, Seiko

01500-00007 Printer Controller 2/Configuration Dip Switches

09200-00011 Subassembly, TTW 80 mm Seiko Printer w/ Bracket Assembly

*06100-00040 FT5000 Complete Printer Assembly with Transport

09100-00223 PCB Assembly, Low Paper Detector, TTW

*09200-00003 Subassembly, SPED-X, English Keypad, w/housing

09200-00004 Subassembly, SPED-X, French Keypad, w/housing

*09100-00224 PCB Assembly, Head Phone Board

*01162-00010 Card Reader Track 1-2 Magtek

01162-00007 EMV Card Reader, w/Custom Triton Bezel

09200-00006 1x4 Screen Key Subassembly w/keycaps

*01170-00034 Modem|PCMCIA|Global|All (world-wide) markets

09120-00159 Speaker Assembly Left Side w/cable

09120-00158 Speaker Assembly Right Side w/cable

03110-00142 Control Panel

Dispensers

*09005-00202 NMD Rear Service REV 9

09005-00037 One Cassette Extension (NMD-50/100) (Includes extension drive belt)

09005-00080 Cassette Extension Drive Belt (NMD50/100)

*09005-00000 NMD-100 Reject Cassette

*09005-00001 NMD-100 Currency Cassette (**Specify Country**)**

Cables

09120-00153 DC Power Supply to Docking Board Cable, 35"
 09120-00156 Power Supply to Printer Controller 40"
 09120-00155 Printer Data Cable, 9inch
 01080-00100 Card Reader Cable
 09120-00154 LED Harness
 09120-00152 Low Paper Cable
 09120-00188 GPIO to Presenter Cable Assembly
 09120-00075 Shutter Harness Cable
 09120-00162 NMD Power Cable
 09120-00706 NMD to EJ Cable

Conversion Kits

None available

Cabinetry

*03015-00055 Shutter Assembly
 09110-00049 Fan Assembly
 03110-00143 Control Panel Trim

Accessories, Locks and Keys

06100-06032 Electronic Combination Lock
 06100-06030 Combination Lock Replacement Kit
 22000-00007 La Gard Keylock
 03624-00000 Cencom Lock (MAS Hamilton)
 06100-06056 Security Lock - Top (Canada & U.S..) (96XX)
 03071-00025 Key, Control Panel & Security Cabinet Fascia
 03624-00039 Combination Lock Change Key Only (Black)
 03624-00009 Combination Lock Change Key Only (Silver)

Software and Download Cables

05200-00002 Software Diskette

Consumables

02314-00105 Alcohol Wipe Pads
 05403-00007 80 mm Thermal Receipt Paper (RL/FT)
 06200-00055 Mag Head Cleaning Cards Kit (Contains 12 cards)

Miscellaneous

03110-00038 Receipt Paper Spindle

Manuals

07103-00013	Model FT5000 Cash Dispenser User Manual
07100-00004	Model FT5000 Cash Dispenser Site Preparation and Installation Guide
07100-00017	Model FT5000 Cash Dispenser Quick Reference Card

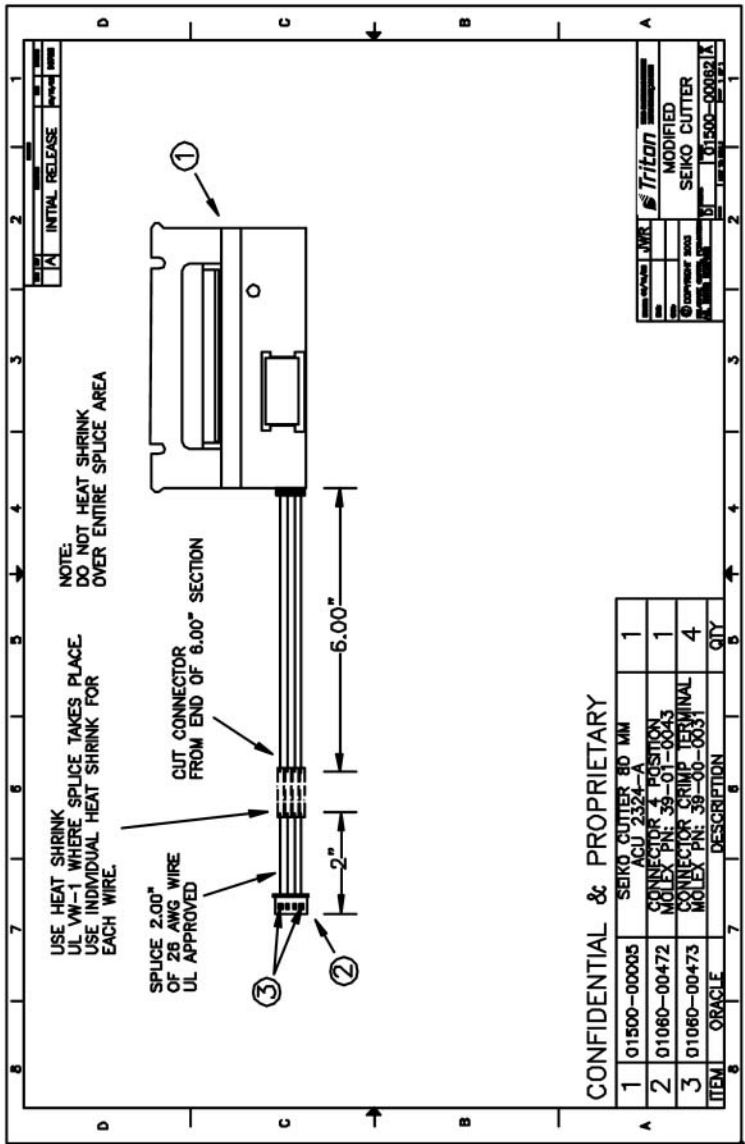
* Recommended Stocked Spare Parts. One set of parts for each service location.

***Pricing dependent upon configuration.

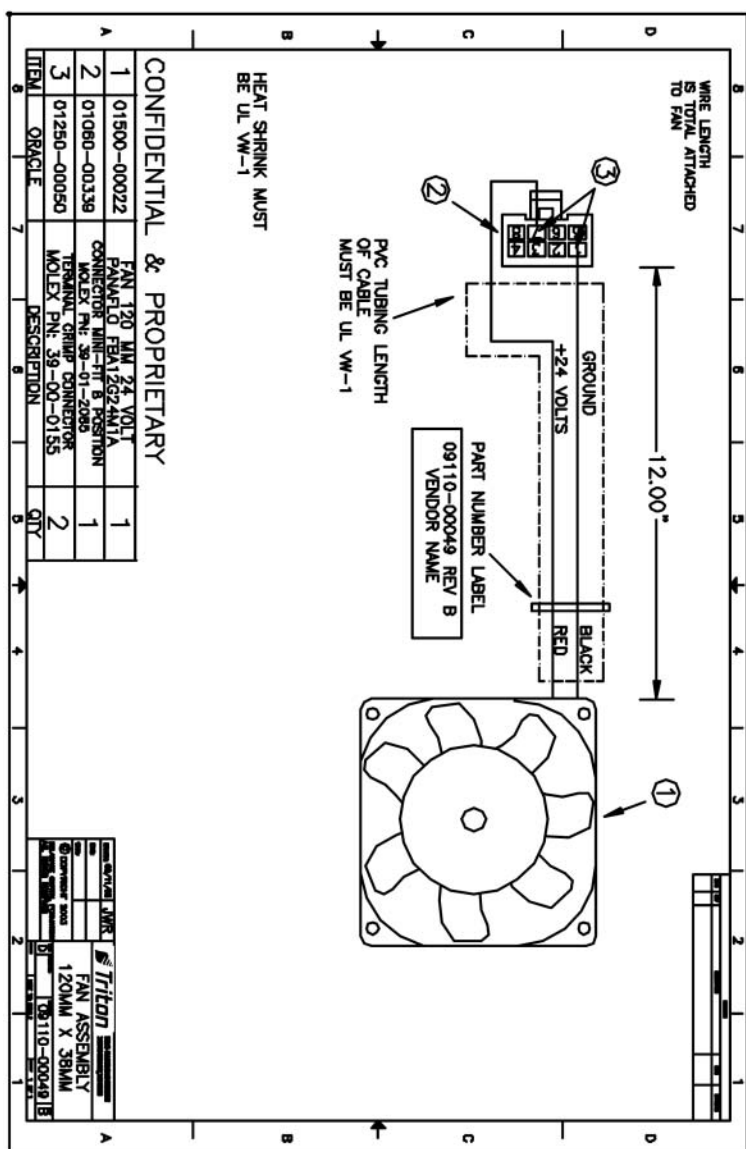
APPENDIX B

FT5000 CABLE DRAWINGS

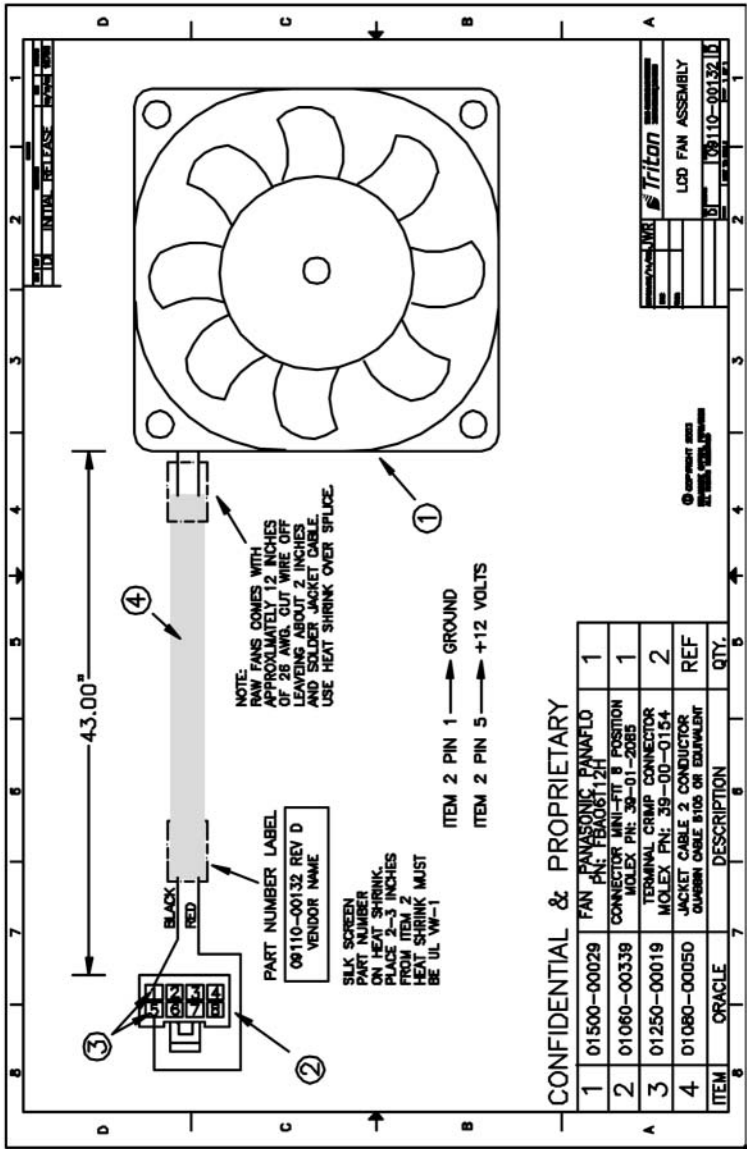
EDS Ground Cable
01080-00052



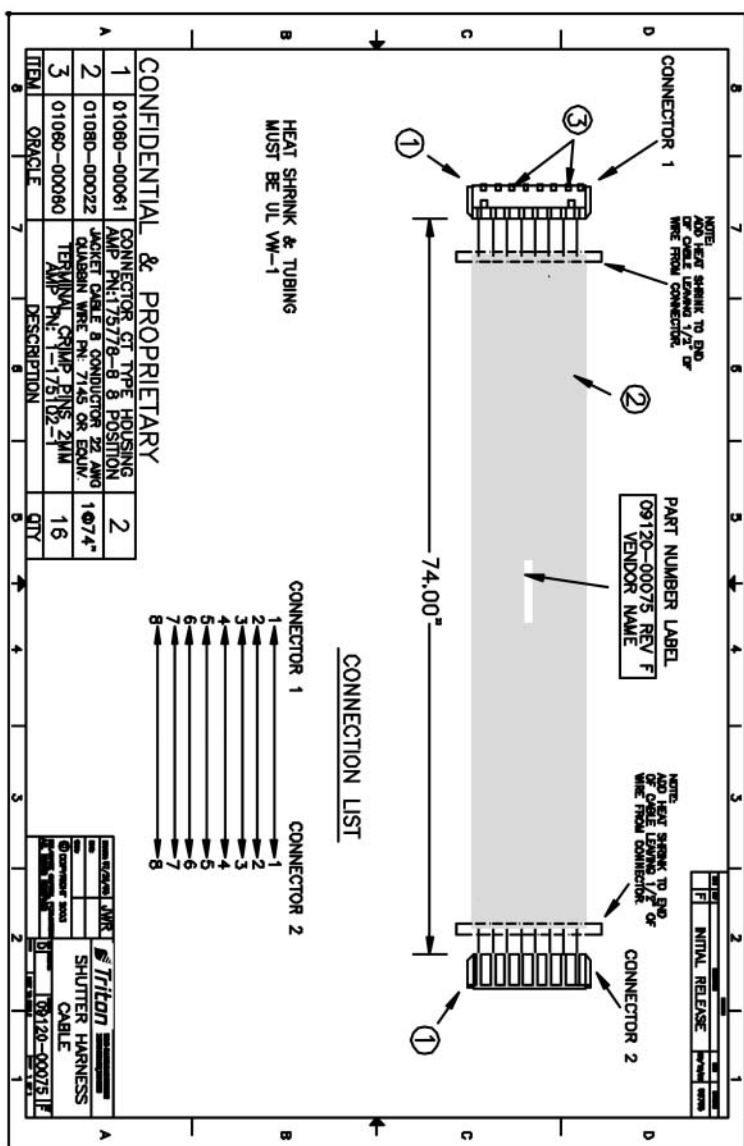
Modified Seiko Cutter
01500-00062



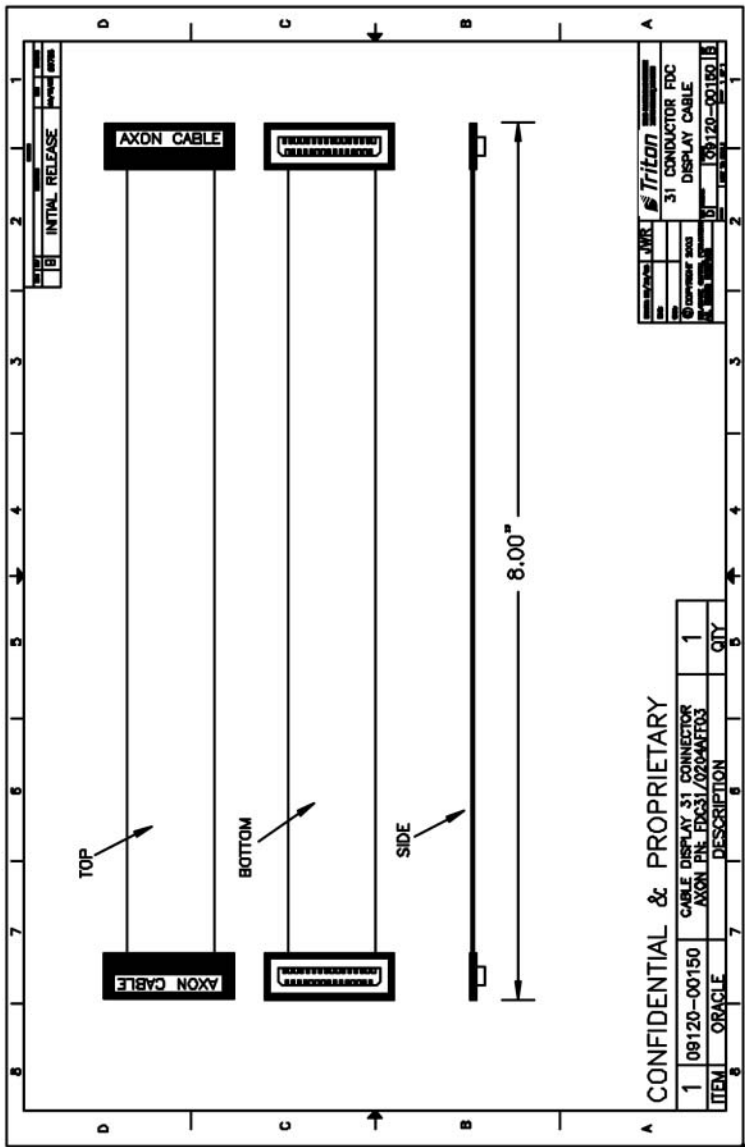
Fan Assembly
120MM X 38MM



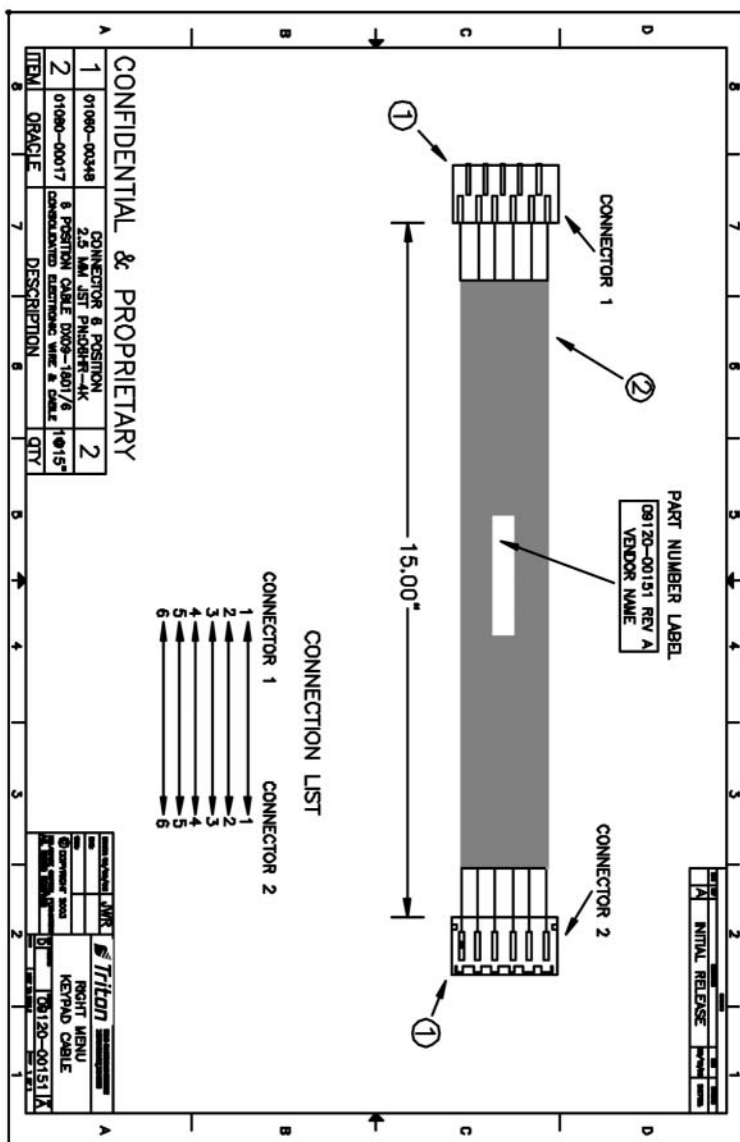
LCD Fan Assembly
09110-00132



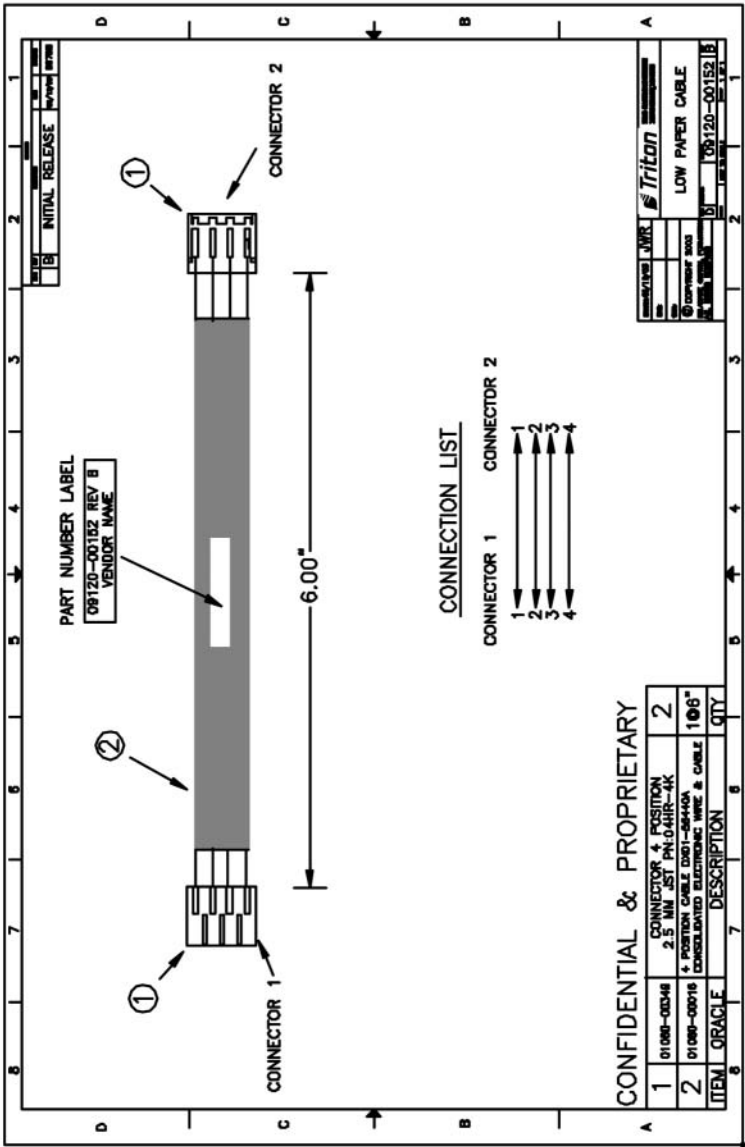
Shutter Harness Cable
09120-00075



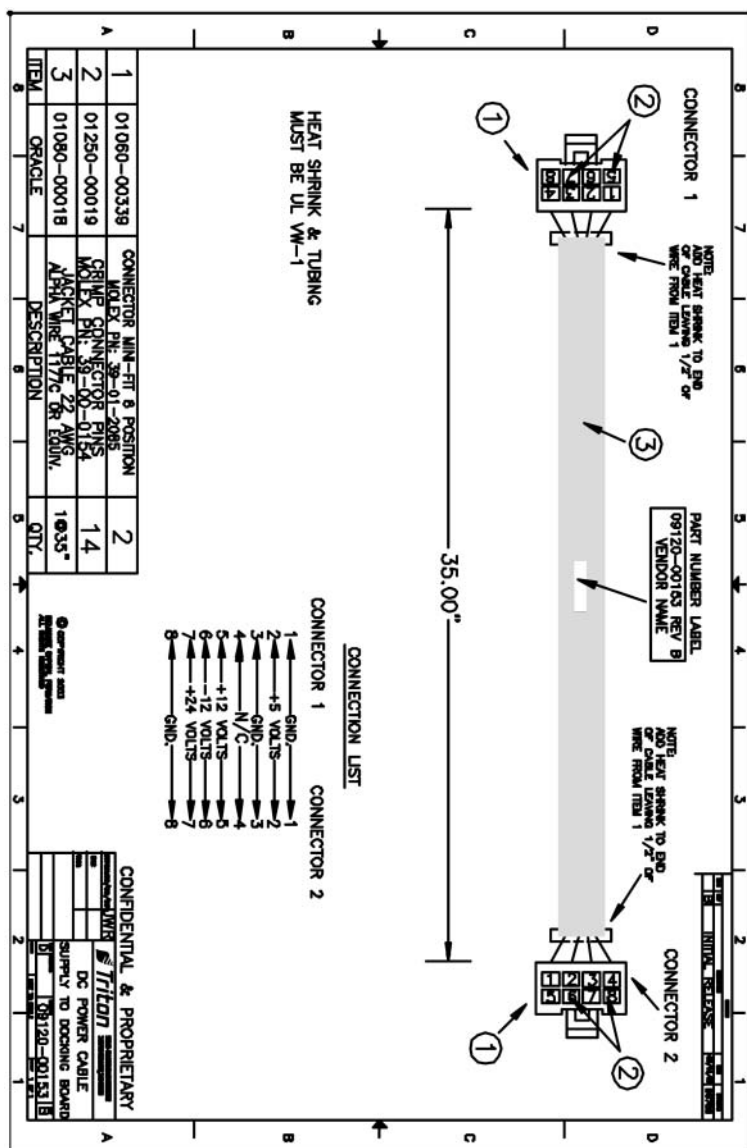
31 Conductor FDC Display Cable
09120-00150



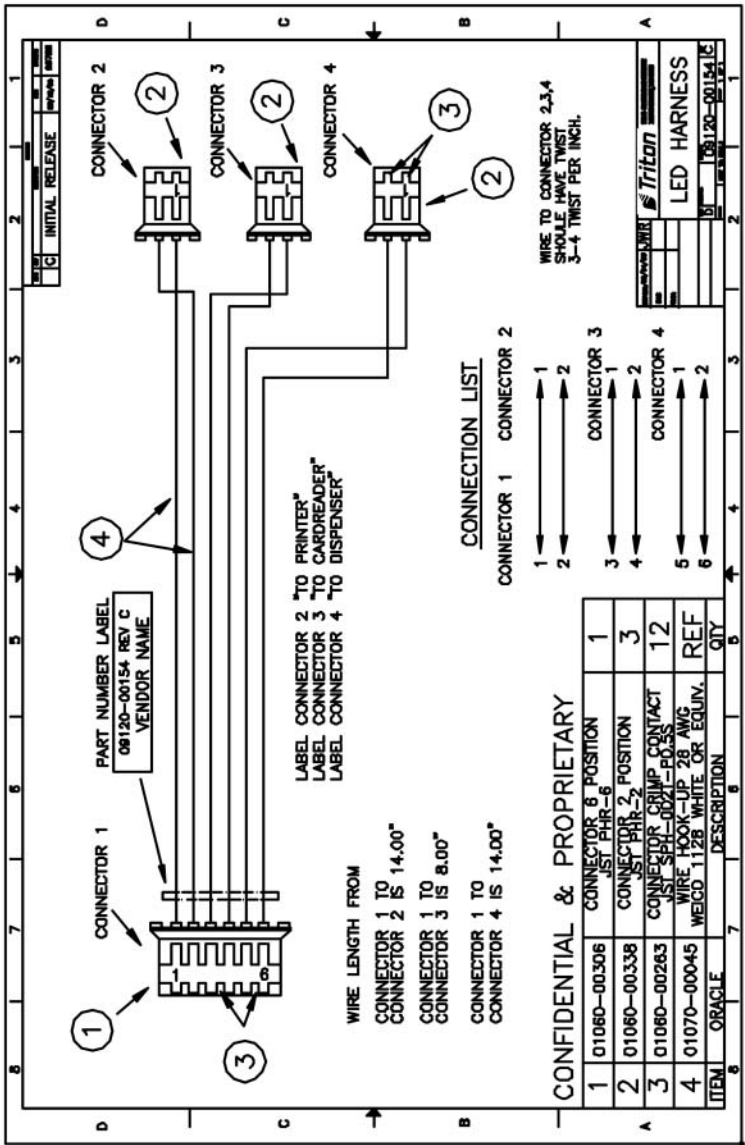
Right Menu Keypad Cable
09120-00151



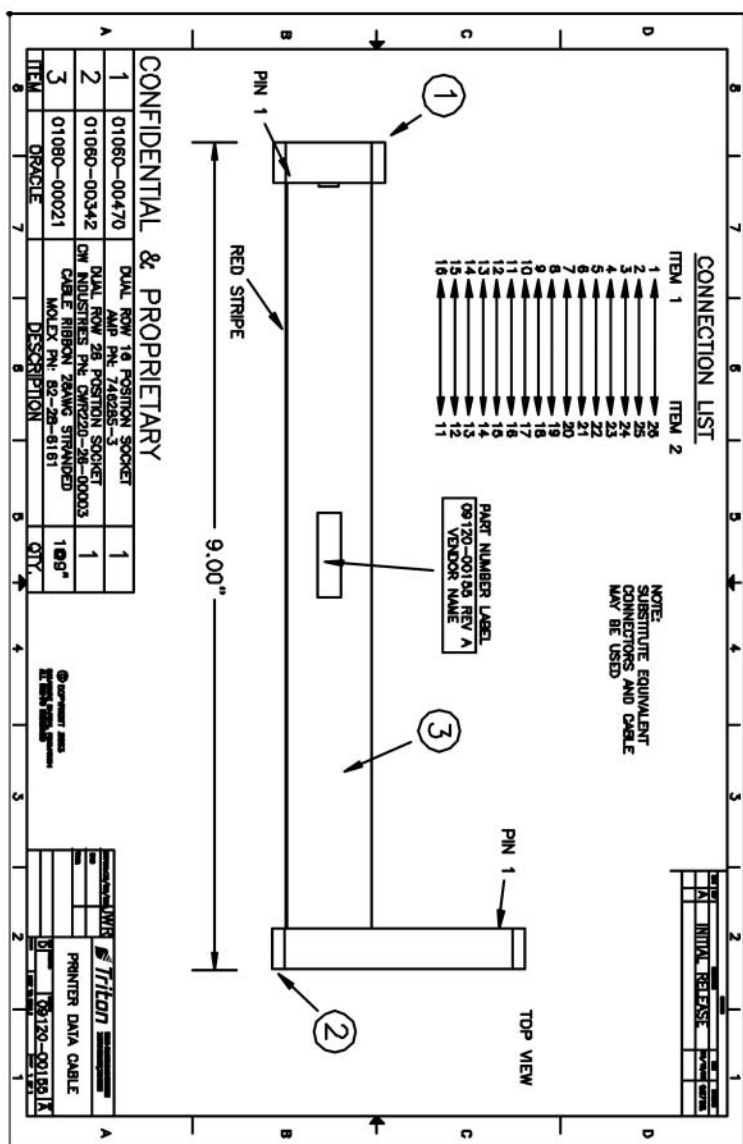
Low Paper Cable
09120-00152



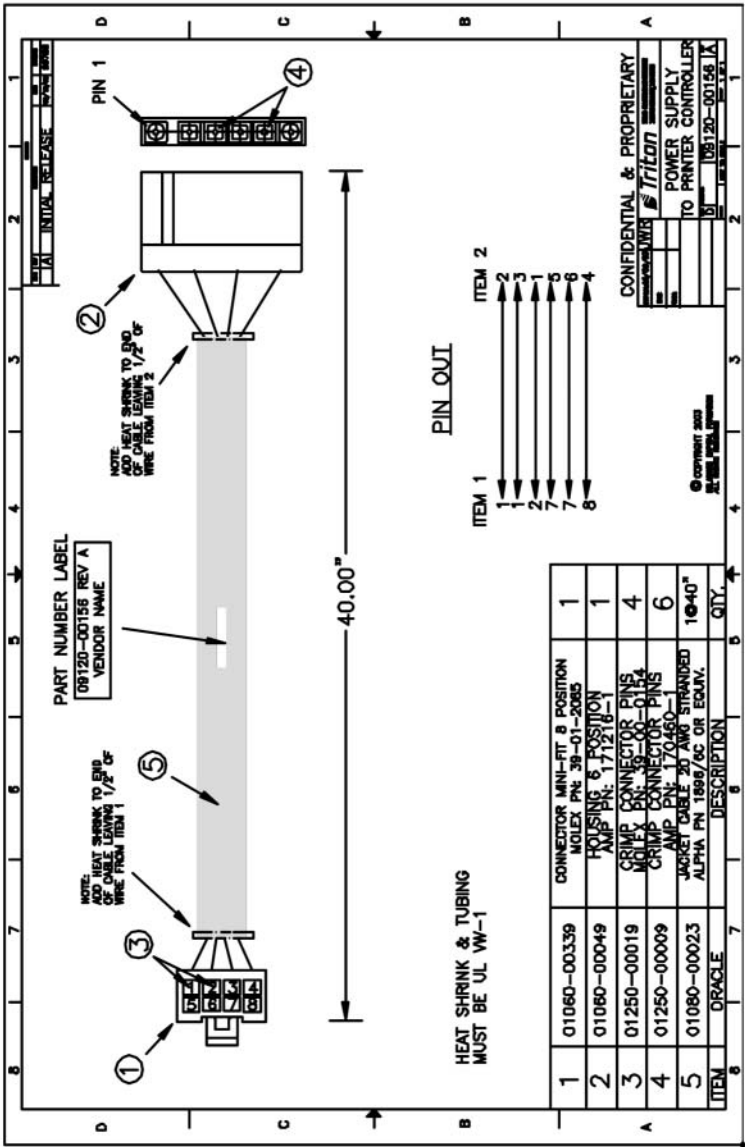
DC Power Cable
Supply to Docking Board
09120-00153



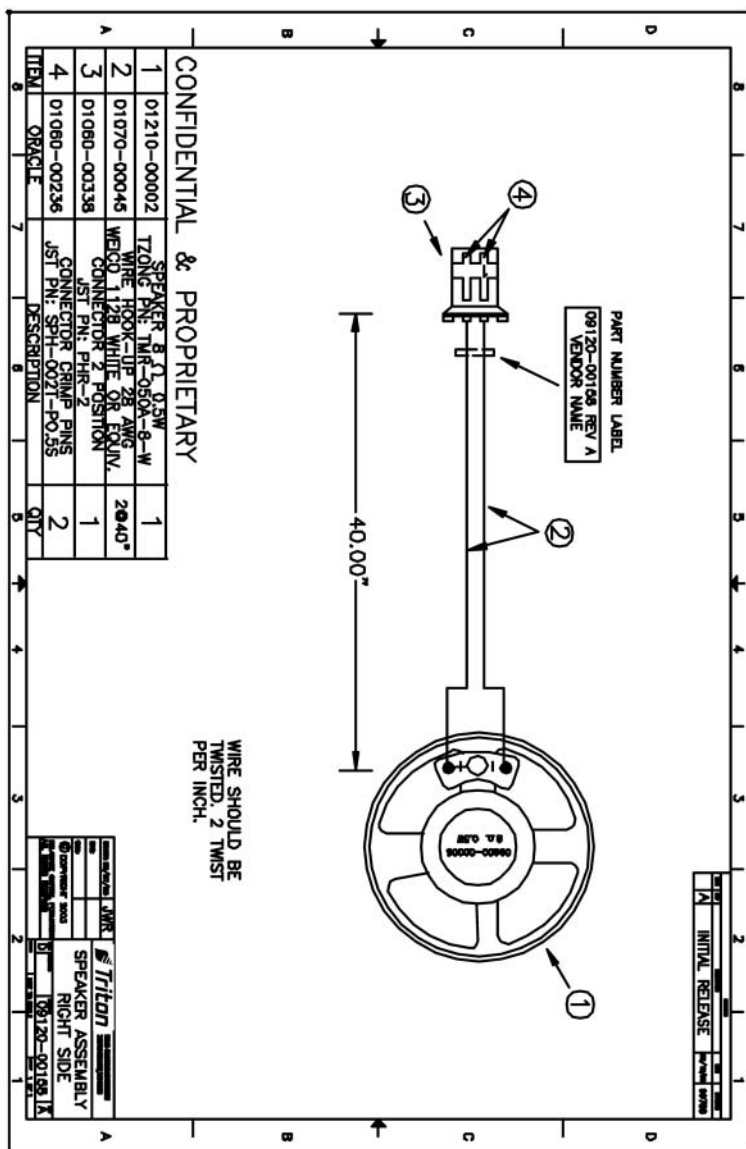
LED Harness
09120-00154



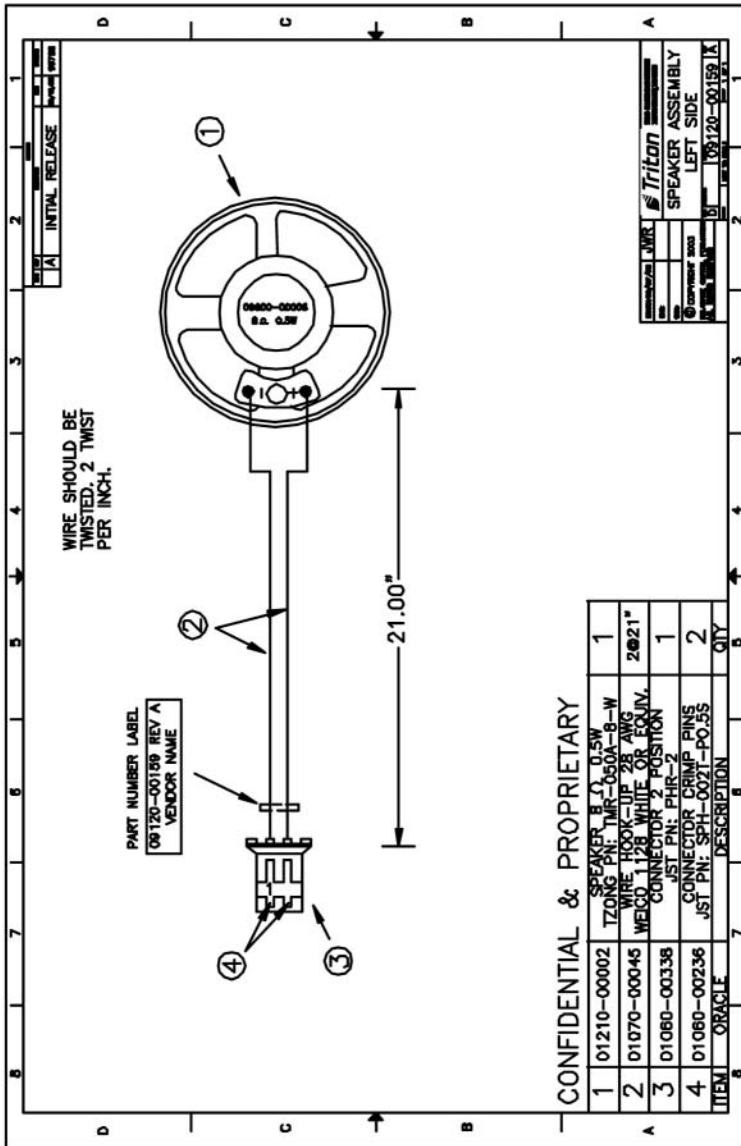
Printer Data Cable
09120-00155



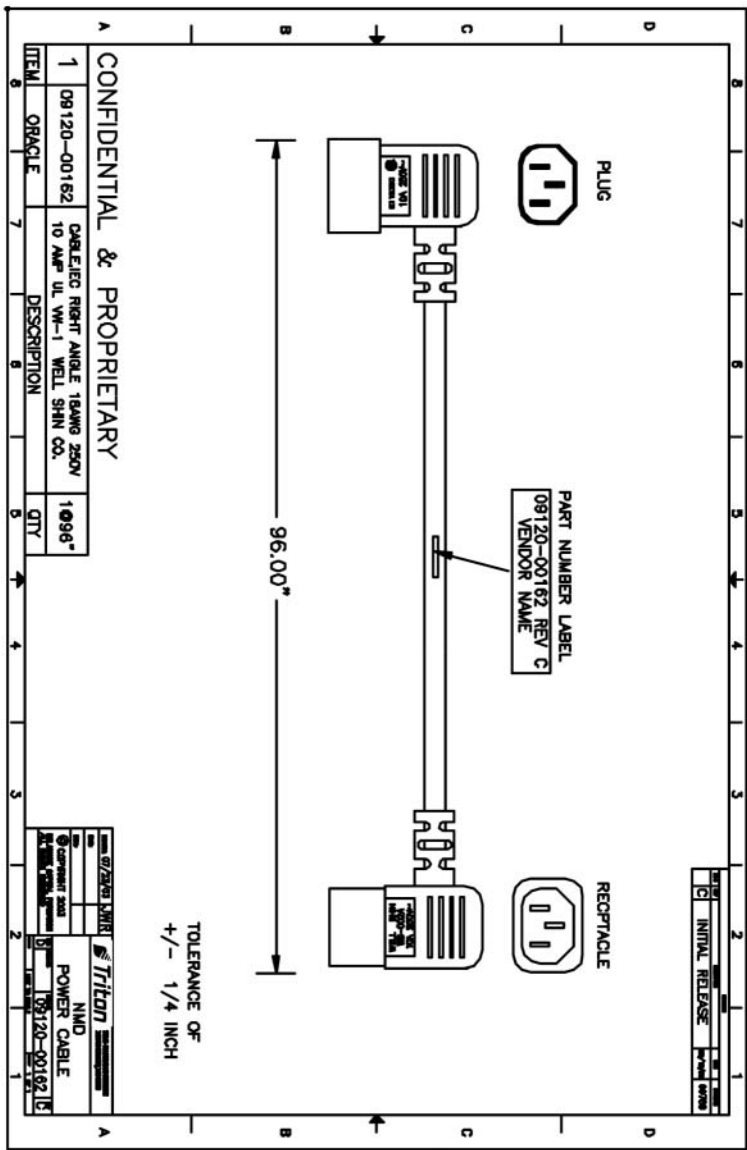
Power Supply to
Printer Controller
09120-00156



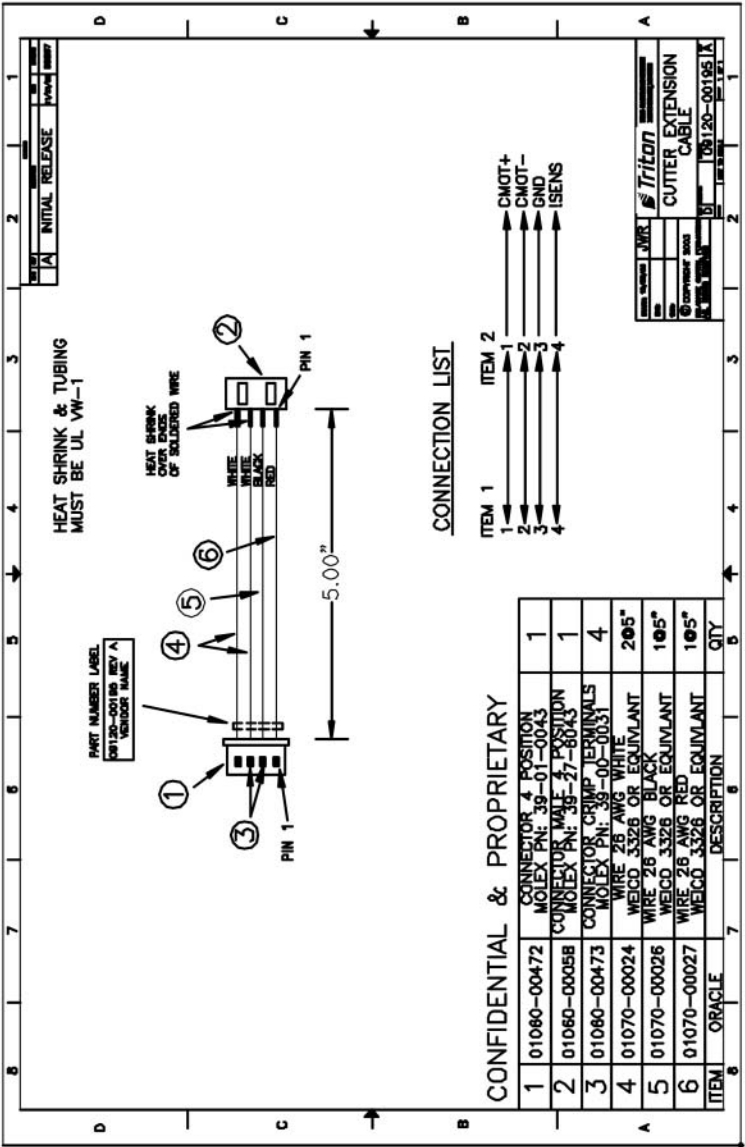
Speaker Assembly
Right Side
09120-00158



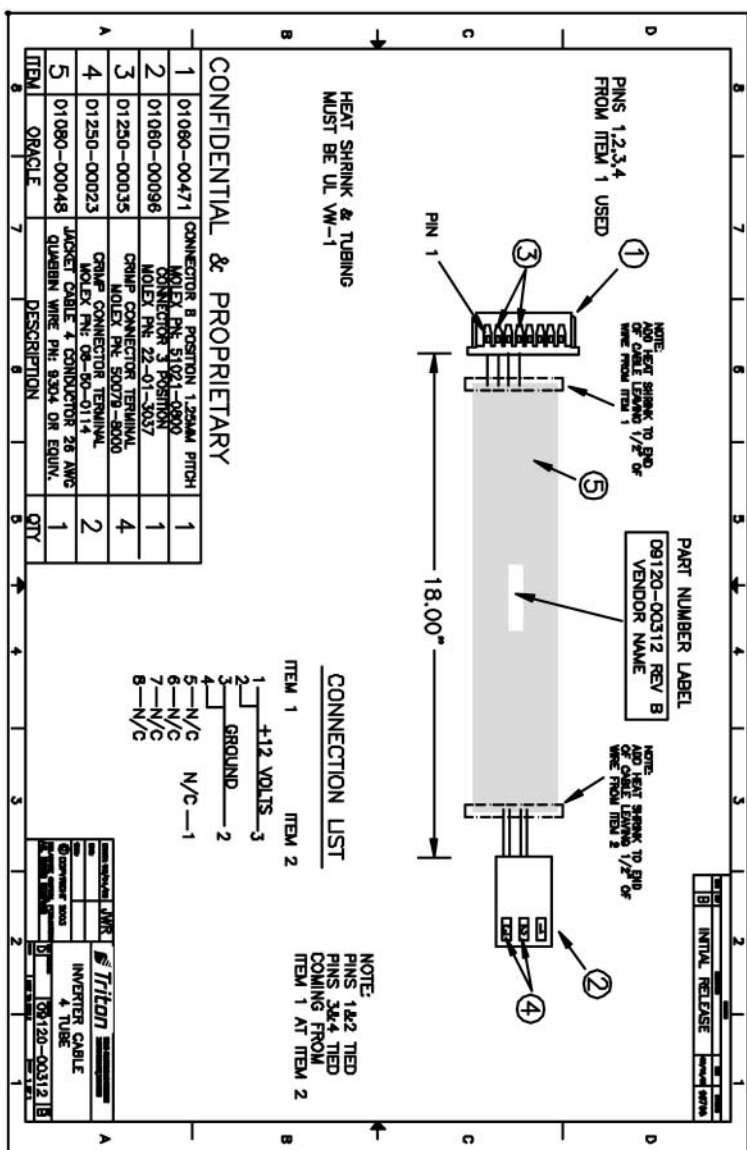
Speaker Assembly
Left Side
09120-00159



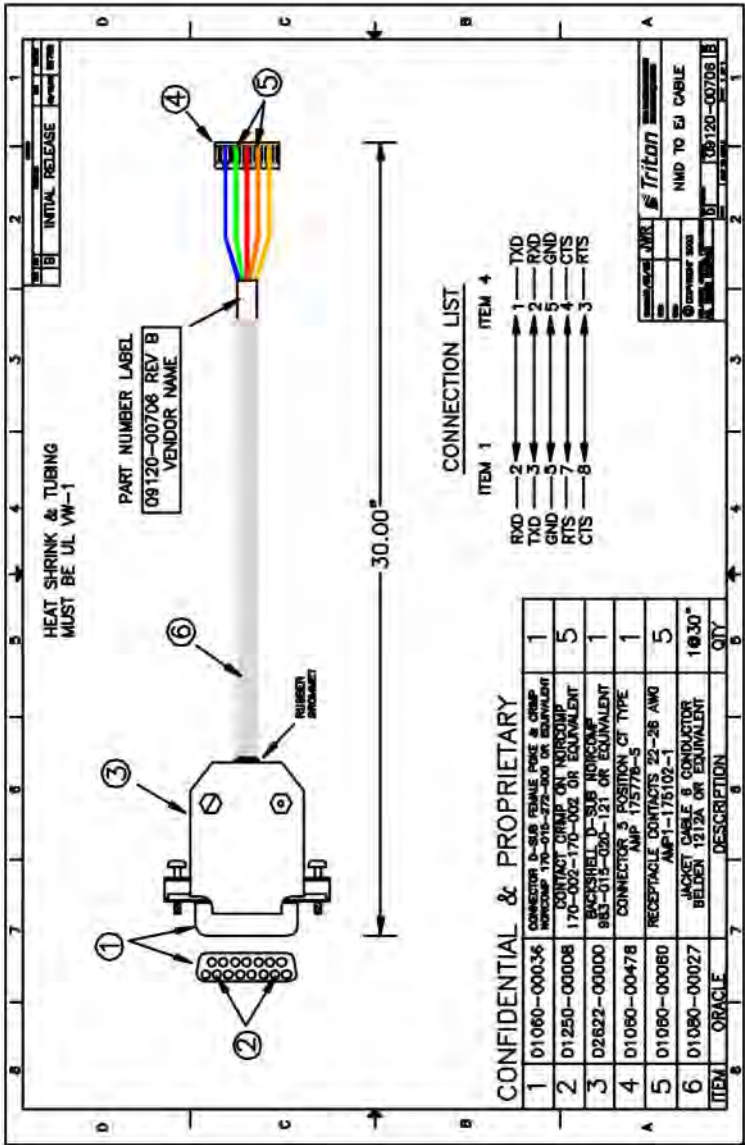
NMD Power Cable
09120-00162



Cutter Extension Cable
09120-00195



Inverter Cable and Tube
09120-00312



NMD to EJ Cable
09120-00706

APPENDIX C

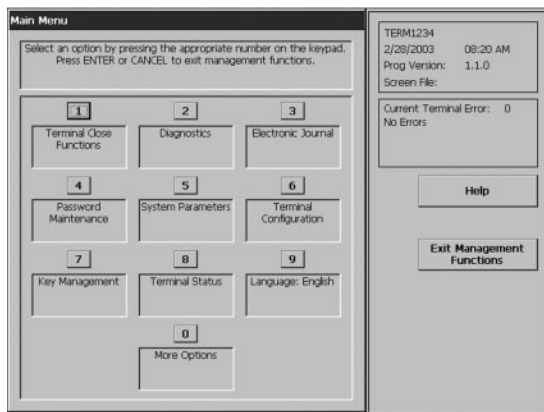
UPDATING TERMINAL SOFTWARE

UPDATING TERMINAL SOFTWARE

This procedure describes how to perform a software update to the RL/FT 5000 ATMs. You will need a flash drive (USB 1.1 storage device) with the terminal software stored on it.



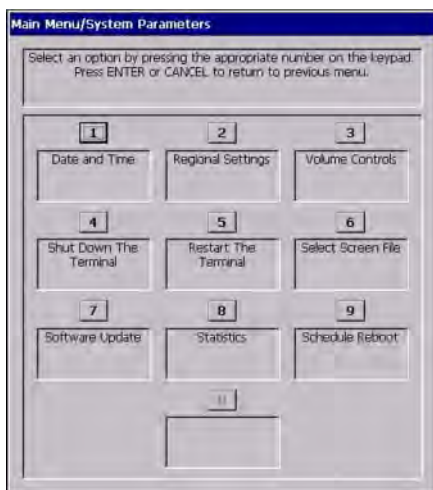
1. From the MAIN MENU screen, select the SYSTEM PARAMETERS option by pressing the number (5) on the keypad.



2. Open the Control Panel. Locate the Docking Board assembly shown below. Connect the Flash drive to any of the 4 USB ports that are available.



3. If the Flash drive has an indicator , it will light briefly , then extinguish. When the light extinguishes, this indicates the storage device has been found by the operating system of the ATM. If your Flash drive does not have a indicator proceed to the next step.
4. Press the number (7) on the keypad to access the SOFTWARE UPDATE function. This function searches for the terminal software setup program on the external storage device.

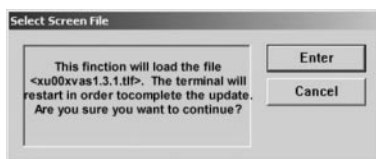


5. At the **Look In** option should be the “USB” location. If it’s not present, <CANCEL> out of the SOFTW ARE UPDATE screen and then re-enter



the same screen.

6. When the **Look In** option has “USB” present, the **Filename** screen should have the terminal software, size and date/time attributes for each file loaded on the Flash drive.
7. Use the left and right <ARROW> keys on the keypad to highlight the selected file. Press <ENTER> when selected.
8. The **Select Screen File** screen will appear verifying the selected file and



prompting to restart the terminal. Press <ENTER> to continue.

9. The terminal will restart and the installation of the software will be performed automatically. After the terminal completes its reboot sequence remove the flash device.

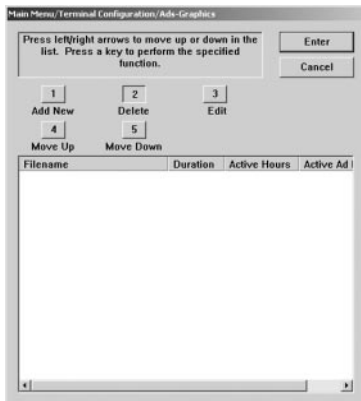
NOTE: An additional restart is recommended after the file is loaded.

APPENDIX D
***AD GRAPHICS* USER GUIDE**
(FOR MODELS RL5000/FT5000)

ADS GRAPHICS

ACCESS INSTRUCTIONS:

1. From the MAIN MENU screen, select the TERMINAL CONFIGURATION option by pressing the number (6) on the keypad.
2. To View the options available at the ADS GRAPHICS menu, press the number (7) on the keypad.



DESCRIPTION:

The following options will be available from the **ADS GRAPHICS** screen:

1. **Add New.** Use to add a graphic to the current rotation. Lets you configure Duration, Active Hours and Active Ad Fields for the graphic.
2. **Delete.** Removes an Ad Graphic entry from the display list.
3. **Edit.** Used to change the Duration, Active Hours and Active Ad Fields for a selected Ad graphic.
4. **Move Up.** Used to move an entry up in the Ad Graphic list.
5. **Move Down.** Used to move an entry down in the Ad Graphics list.
6. **Statistics.** Generates a Management Report that shows display statistics for each Ad Graphic that is currently active.

**** Important ****

Graphic files can be added AND deleted from the RL/FT5000 terminals. Using Triton Connect though, files can **ONLY** be added. No files of any kind can be deleted from the RL/FT5000 terminals through Triton Connect. Graphics can be placed in and out of service and/or added to the hard drive - but not removed!

ADD NEW

ACCESS INSTRUCTIONS:

1. From the MAIN MENU screen, select the TERMINAL CONFIGURATION option by pressing the number (6) on the keypad.
2. To View the options available at the ADS GRAPHICS menu, press the number (7) on the keypad.
4. Press the number (1) on the keypad to ADD NEW graphic to the graphics rotation.



DESCRIPTION:

The first dialog to appear when the **Add New** option is selected is a Browse dialog, shown right. The Browse dialog enables you to locate and select the image to add to the ads rotation. The Browse controls are described below:

1. **Look In.** Press this button to cycle through the available locations for image files:
 - Internal Flash
 - USB Device
2. **Files of Type.** Press this button to cycle through the available graphic and image file types. If any files of the selected type are present in the current location, they will be displayed in the browse list. You can choose from a number of graphic and image file types, such as BMP ,

NOTE

Graphics are displayed in designated fields in the display. Optimize display graphics by creating them in sizes that fit their intended use. (Graphic dimensions are in pixels)

Full Screen - 640 X 480

Logo - 310 X 85

Transaction Ad - 640 X 260

Banner - 205 X 56

Welcome Ad - 315 X 385

Coupon Graphic - 450 X 225 *

Receipt Graphic - 480 X 120 *

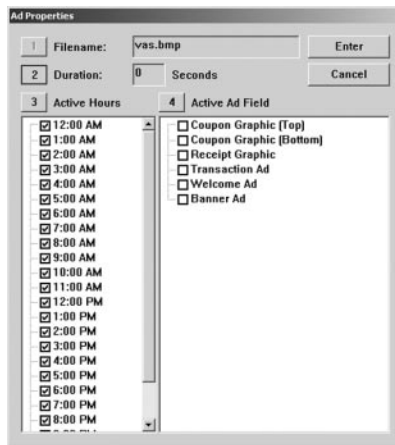
(.BMP files only)

GIF, and JPG.. The default file type is Bitmap (.BMP).

The File List shows the files in the selected location that are of the selected type. The Filename, Size and Date/Time attributes are show for each file. Use the Left or Right <Arrow> keys on the keypad to highlight a file.

Press <Enter> on the keypad to accept the currently highlighted file or <Cancel> to exit without making a selection. If anAd graphic was selected, theAds properties dialog will appear.

The Ad Properties dialog allows you to view and/or configure the followingAd graphic display properties:



FILENAME. This is the name of the Bitmap graphic file that will be displayed at the times and in the locations specified by the duration, active hours, and active Ad fields properties. This file was selected in the Add New/Browse dialog. If you want to select a different file, press the number **(1)** on the keypad to bring up the Browse dialog again and choose a different file.

DURATION. This is the length of time (in seconds) the indicatedAd graphic will be displayed on the terminal screen. To set the time, press the number **(2)** on the keypad to bring up a data entry dialog. Enter the duration in seconds.

*** Note ***

The value must be between '0' and '99999' seconds. If the Ad file is a motion graphic or video and '0' is selected, the Ad will be displayed for the actual playing time of the file.

ACTIVE HOURS. By default, the graphic will be displayed every hour of the day. If you want to restrict the display of the graphic to particular hours of the day,

leave a check mark next to the hour in which you want to display the graphic. Remove the check mark from those hours in which you don't want the graphic to be displayed.

To configure the active hours for the correct Ad graphic, press the number **(3)** on the keypad to move the highlight bar to the first selection in the active hours window, then use the <Arrow> keys to move up and down in the list. Press the <CTRL> key on the keypad to toggle a highlighted selection between checked and unchecked.

ACTIVE AD FIELD. Select the location(s) where the Ad graphic will be displayed and/or printed.

(The optimum size in **pixels** for each graphic is shown in parenthesis to the right of the graphic name)

- **Coupon Graphic (450 X 255) * (.BMP files only)**
- **Receipt Graphic (480 X 120) * (.BMP files only)**
- **Transaction Ad (640 X 260)**
- **Welcome Ad (315 X 385)**
- **Banner Ad (205 X 56)**
- **Logo (310 X 85)**
- **Full Screen (640 X 480)**

To configure the Active Ad Field for the current ad graphic, press the number **(4)** on the keypad to move a highlight bar to the first selection in the Active Ad Field window, then use the arrow keys on the keypad to move up and down in the list. Press the <CTRL> key on the keypad to toggle a highlighted selection between checked and unchecked.

3. **Preview.** Press this button to see a preview of the selected image, graphic or video file. Press the <ENTER> key to exit from the preview window and return to the browse dialog.

Press the <ENTER> key on the keypad to accept the current Ad Properties settings or <Cancel> to exit without saving.

**** IMPORTANT ****

If you are adding graphics and get a "Memory " error (Ex: 563, "Low Memory"), there may be too many or excessively large graphic files stored in the internal flash memory . It may be necessary to delete some unused graphic files. To delete files from the internal flash memory:

1. Scroll down/up using the Left or Right <Arrow> keys.
2. Highlight the file to be deleted using the <Ctrl> key. (Blank key)
2. Press the <CLEAR> key on the keypad.

DELETE

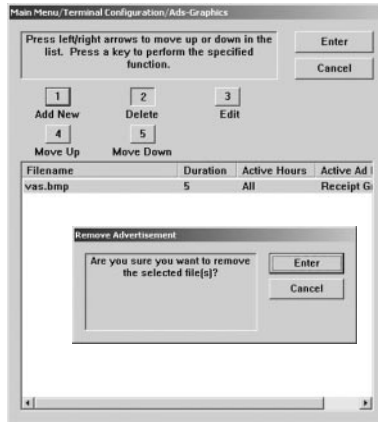
ACCESS INSTRUCTIONS:

1. From the MAIN MENU screen, select the TERMINAL CONFIGURATION option by pressing the number (6) on the keypad.
2. To View the options available at the ADS GRAPHICS menu, press the number (7) on the keypad.

- Press the number (2) on the keypad to delete a graphic display list.

DESCRIPTION:

This function removes an Ad graphic entry from the **display list NOT the hard drive**. To **DELETE** a graphic, use the <Arrow> keys on the keypad to highlight



the graphic you want to remove. Press the number(2) on the keypad. A confirmation dialog appears. Press <Enter> to delete the highlighted entry or <Cancel> to exit without deleting the entry.

EDIT

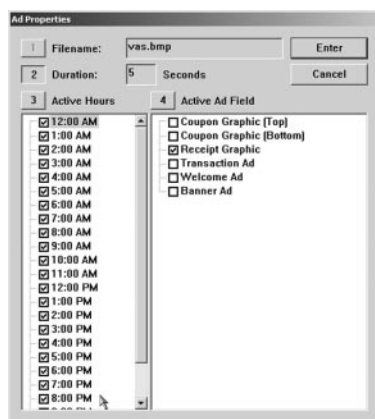
ACCESS INSTRUCTIONS:

- From the MAIN MENU screen, select the TERMINAL CONFIGURATION option by pressing the number (6) on the keypad.
- To View the options available at the ADS GRAPHICS menu, press the number (7) on the keypad.
- To EDIT the properties of an ad file, press the number (3) on the keypad.

DESCRIPTION:

With the Ads/Graphics main dialog displayed, use the arrow keys to highlight an ad entry in the list. Press the number (3) on the keypad to bring up the Ad Properties dialog which you will use to **EDIT** the ad.

The Ad Properties dialog allows you to view and/or configure the following Ad graphic display properties:



Filename. This option is disabled. The name of the graphic file that was selected in the Ads/Graphics dialog is displayed.

Duration. This is the length of time (in seconds) the indicated Ad graphic will be displayed on the terminal screen. To set the time, press the number (2) on the keypad to bring up a data entry dialog. Enter the duration in seconds.

Active Hours. By default, the graphic will be displayed every hour of the day. If you want to restrict the display of the graphic to particular hours of the day, leave a check mark next to the hour in which you want to display the graphic. Remove the check mark from those hours in which you don't want the graphic to be displayed.

To configure the Active Hours for the current ad graphic, press the number (3)

*** Note ***

The value must be between '0' and '99999' seconds. If the Ad file is a motion graphic or video and '0' is selected, the Ad will be displayed for the actual playing time of the file.

on the keypad to move a highlight bar to the first selection in the Active Hours window, then use the <Arrow> keys on the keypad to move up and down in the list. Press the <CTRL> key on the keypad to toggle a highlighted selection between checked and not checked.

Active Ad Field. Select the location(s) where the ad graphic will be displayed and/or printed:

- Advertisement
- Coupon Graphic

- Logo
- Receipt Graphic

To configure the Active Ad Field for the current ad graphic, press the number **(4)** on the keypad to move a highlight bar to the first selection in the Active Ad Field window, then use the <Arrow> keys on the keypad to move up and down in the list. Press the <CTRL> key on the keypad to toggle a highlighted selection between checked and not checked.

Press the <Enter> key on the keypad to accept the current Ad Properties settings or <Cancel> to exit without saving.

MOVE UP

ACCESS INSTRUCTIONS:

1. From the MAIN MENU screen, select the TERMINAL CONFIGURATION option by pressing the number (6) on the keypad.
2. To View the options available at the ADS GRAPHICS menu, press the number (7) on the keypad.
3. To use the MOVE UP feature, press the number (4) on the keypad.

DESCRIPTION:

The order in which multiple ad graphics are displayed on the LCD screen is determined by their arrangement in the Ads/Graphics display list. For example, assume the following items are listed, in the order shown:

Filename	Duration	Active Hours	Active Ad
vas.bmp	5	All	
CESampleCoupon.bmp	8	All	

store01
promo06
movieclip10

This means that store01 will be shown first, promo06 will be shown second and movieclip10 will be shown third. Then the sequence will repeat.

If you want movieclip10 to be shown before promo06, move it upward in the list, so that it appears before promo06. To accomplish this, first highlight movieclip10 using the <Arrow> keys on the keypad. Next, press the number (4) on the keypad once to move the entry up one position in the order . The movieclip10 entry will replace promo06 in the second position and promo06 will be pushed down to the third position. The new order will be:

store01
movieclip10
promo06

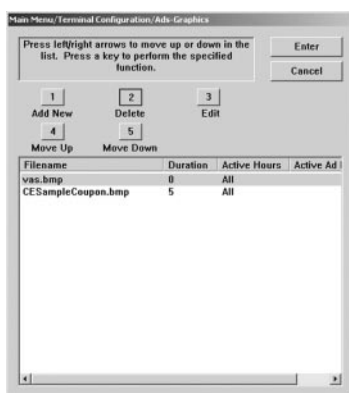
Note: To move an entry down in the list, use the Move Down function.

MOVE DOWN

ACCESS INSTRUCTIONS:

1. From the MAIN MENU screen, select the TERMINAL CONFIGURATION option by pressing the number (6) on the keypad.
2. To View the options available at the ADS GRAPHICS menu, press the number (7) on the keypad.
3. To use the MOVE DOWN feature, press the number (5) on the keypad.

DESCRIPTION:



The order in which multiple Ad graphics are displayed on the LCD screen is determined by their arrangement in the Ads/Graphics display list. For example,

assume the following items are listed, in the order shown:

store01
promo06
movieclip10

This means that store01 will be shown *first*, promo06 will be shown *second* and movieclip10 will be shown *third*. Then the sequence will repeat.

If you want store01 to be shown *after* promo06, move it downward in the list, so that it appears after promo06. To accomplish this, first highlight store01 using the <Arrow> keys on the keypad. Next, press the number **(5)** on the keypad *once* to move the entry down one position in the order . The store01 entry will replace promo06 in the second position and promo06 will be moved up to the first position. The new order will be:

promo06
store01
movieclip10

Note: To move an entry up in the list, use the Move Up function.

COUPONS (GRAPHICS)

ACCESS INSTRUCTIONS:

1. From the MAIN MENU screen, select the TERMINAL CONFIGURATION option by pressing the number (6) on the keypad.
2. To View the options available at the COUPON menu, press the number (2) on the keypad.
3. To configure the type of COUPON the ATM will issue when coupons are enabled, press the number (1) on the keypad repeatedly until the desired selection is displayed in the text box.
4. To adjust the LAYOUT of the text and graphic printed on the coupon receipt, press the number (8) on the keypad to toggle between the options shown in the LAYOUT text box.
5. To select the GRAPHIC that will be printed on the coupon, press the number (9) on the keypad.

DESCRIPTION:

COUPONS are used to notify customers of awards, prizes, sales, or other promotional opportunities. Coupons are delivered to the customer in two ways: printed or dispensed.

This dialog lets you configure up to two versions of either type of coupon, as described below:

1. **Printed1.** This is the first of two available printed coupon types. Printed coupons are delivered to the customer via the receipt printer.

2. **Printed2**. Alternate version printed coupon.
3. **Dispensed1**. This is the first of two available dispensed coupon types. Dispensed coupons are dispensed from one or more of the note cassettes.
4. **Dispensed2**. Alternate version dispensed coupon.

Press the number(1) on the keypad to cycle through the available coupon types. After selecting the coupon type, configure the remaining coupon settings as needed. Press <Enter> to accept the settings or <Cancel> to exit.

The **LAYOUT** parameter establishes the orientation of text and graphics on printed coupons. The orientation can be set to either of two types: Landscape or Portrait.

Top Graphic. The selected graphic is printed at the top of the designated receipt.

Bottom Graphic. The selected graphic is printed at the bottom of the designated receipt.

Top & Bottom Graphic: The selected graphic is printed at the top and bottom of the designated receipt.

The **COUPON/ BROWSE** dialog enables you to locate and select the graphic that will appear on printed coupons. The Browse controls are described below:

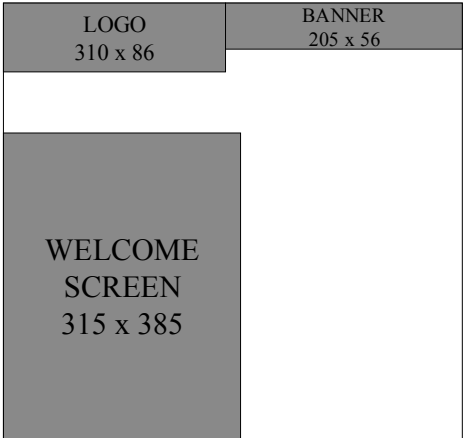
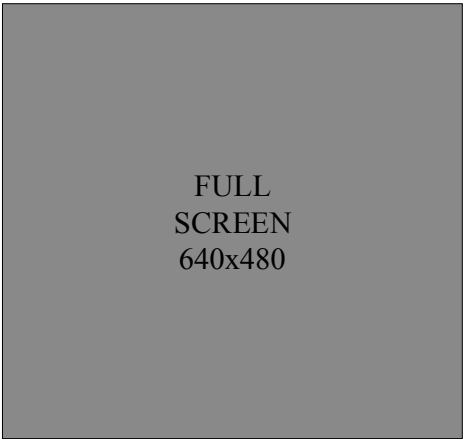
1. **Look In**. Press this button to cycle through the available locations for coupon graphic files: Internal Flash, or USB Device.
2. **Files of Type**. Selects the graphic file type to browse for . The default file type is Bitmap (.BMP).

The File List shows the available files in the selected location that are of the selected type. The Filename, Size and Date/Time attributes are shown for each file. Use the left or right <Arrow> keys on the keypad to highlight a file.

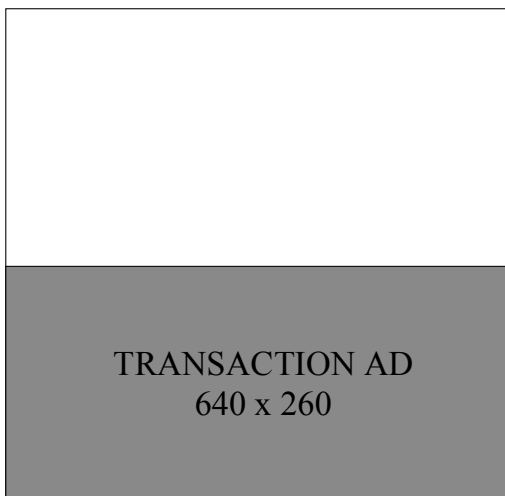
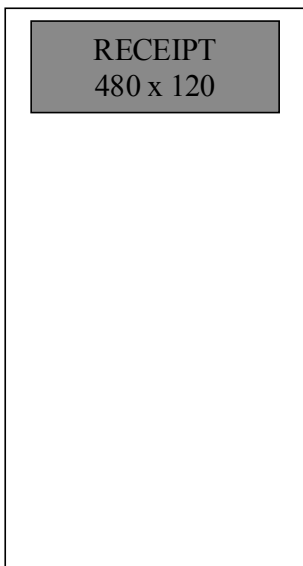
Press the <Enter> button to accept the currently highlighted coupon graphic or

<Cancel> to exit without making a selection.

GRAPHIC EXAMPLES



GRAPHIC EXAMPLES



APPENDIX E
RESETTING THE
RL/FT5000 MASTER PASSWORD

MASTER PASSWORD RESET PROCEDURES

PROCEDURE

1. Press the Control Key and the <1> key at the same time.
2. When you are prompted to enter the terminal password, enter 999999.
3. A six digit challange code will be displayed on the screen.

The response to the six digit challange code is obtained from Triton Technical Support.

Triton Technical Support: 1 800 259 6672

4. Enter the six digit response code that you obtained from Triton Support.
5. When the response code is entered correctly you will be given access to the management functions as user 00 the Master user.
6. From the Main Menu, select the P ASSWORD MAINTENANCE option by pressing the number <4> on the keypad.
7. Select the CHANGE USER PASSWORD option by pressing the number the number <1> key on the keypad.
8. Enter the new password using the numeric (0-9) digits on the keypad. The password has to consist of 4-12 digits. Press the ENTER key.
9. Confirm the new password by entering the same 4 to 12 digits as entered in Step 8. Press the ENTER key.
10. The new password is now entered into the terminal. Verify this by exiting the Management Functions to the Customer Welcome screen. Press the CONTROL key and the number <1> key at the same time. When prompted, enter 00 followed by the new password. The Main Menu screen is now displayed giving you full access to all terminal parameters.

APPENDIX F

REAR SERVICE PANEL

FUNCTIONS

Rear Service Panel (RSP) Functions

The RSP provides convenient user-access to cassette close and replenishment functions from inside the facility. It also provides diagnostic tests on the dispenser mechanism, ability to reset errors, and terminal shutdown. The following describes the menu options available from the RSP unit.

1. Upon power-up, the FT5000 will initialize and run through its internal setup. The RSP will initially display a screen message as shown in Figure 1 for approximately 30 seconds, then change to a “BUSY” status until the unit completes its startup (Figure 2).

Note

If the status display remains on “BUSY” after the unit completes its startup, you may have to reboot the unit.

2. Once the FT5000 completes its startup, the status display in the lower left corner will change to “IDLE”.

Note

The Customer screen displays an “Out of Service” message while cassette close and replenishment procedures are completed.

3. In the “IDLE” state, the ATM’s Customer screen is displayed for transactions. When ENTER is selected from the RSP keypad, the Customer screen changes to:

“This machine is temporarily out of service. Please wait.”



Figure 1. Initial screen.

Press ENTER to begin.

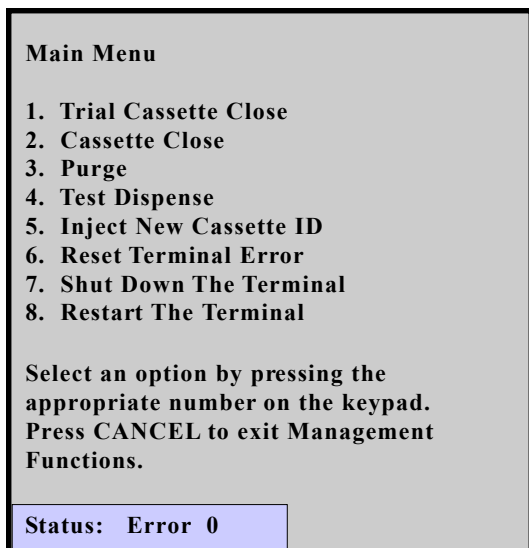
Status: BUSY

Figure 2. “BUSY” status.

Press ENTER to begin.

Status: IDLE

Figure 3. “IDLE” status.



Note
At the time of this publication, the Main menu options were as shown. Options may vary on future productions.

Figure 4. RSP main menu screen..

4. The RSP displays its Main menu options as shown in Figure 4.
5. The Main menu options operate the same as the Management Functions described in Section 5 of the User manual or Configuration manual.
6. To advance the receipt paper , press the CONTROL key first (blank key), then the number (4) key (Figure 5).



Figure 5. Receipt paper advance.

7. To initiate a manual cut of the receipt paper, press the CONTROLkey first, then the number (5) key.
8. To adjust the contrast on the RSP display, open the back panel and locate the **LCD CONTRAST ADJ** as shown in Figure 6. Slowly turn the adjustment to the desired brightness. (Variable resistor located on back of keypad circuit board)



Figure 6. Contrast adjustment location.

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Error Code: 535	79	Error Code: 591	90
Error Code: 536	79	Error Code: 592	90
Error Code: 537	79	Error Code: 593	90
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APPENDIX G

T9 KEYPAD



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Document Updates

May 14, 2014 Original

**** WARNING ****

Once the T9 EPP Keypad is installed and activated in the unit, it **CANNOT** be removed.

If the keypad is removed from the unit after activation, reactivation is required and can only be performed by Triton Technical Support.

The T9 EPP Keypad is mostly identical to the T5 EPP Keypad except for:

- The T9 EPP contains a removal detection switch that deactivates / TAMPERS the EPP if the EPP is ever removed from the ATM.
- Left and right halves of 3DES keys must be different.
- No two 3DES keys may have the same value.
- When replacing current keypad with a T9 EPP, activation is required upon installation.

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New Error Codes to Support the T9 EPP

- Error Code 625: SPED - Not Activated
Cause: The EPP has not yet been activated for use.
Recommended Action: Activate the EPP.
- Error Code 626: SPED - Not Authorized
Cause: The EPP has been removed from the ATM.
Recommended Action: Call Triton Technical Support for activation code.

To Install the T9 Keypad

The T9 EPP Keypad is a drop in replacement for new units manufactured with a T5 or T7 EPP Keypad. No additional parts are required.

- All RL1613, Traverse and ARGO were manufactured with a T5 or T7 EPP. (See NOTE below)
- All X2 RL23XX, RL53XX and RT23XX were manufactured with a T5 or T7 EPP beginning January 2, 2008 (Julian date of 08002).

If the ATM has been updated from VISA T1 EPP to T7 OR it needs to be updated from a VISA T1 EPP, the applicable kits are available.

- All XScale RL51XX, RT21XX and FT51XX were manufactured with VISA T1 EPP beginning December 29, 2004 (Julian date of 04363). Field Installation Instructions are available on www.TritonATM.com.

The software must be updated to 3.3.2 or newer.

*** NOTE***

To install the T9 into the Traverse Unit:

While holding the T9 EPP Keypad on a slight angle, position the keypad notch over the tab on the mounting bracket.



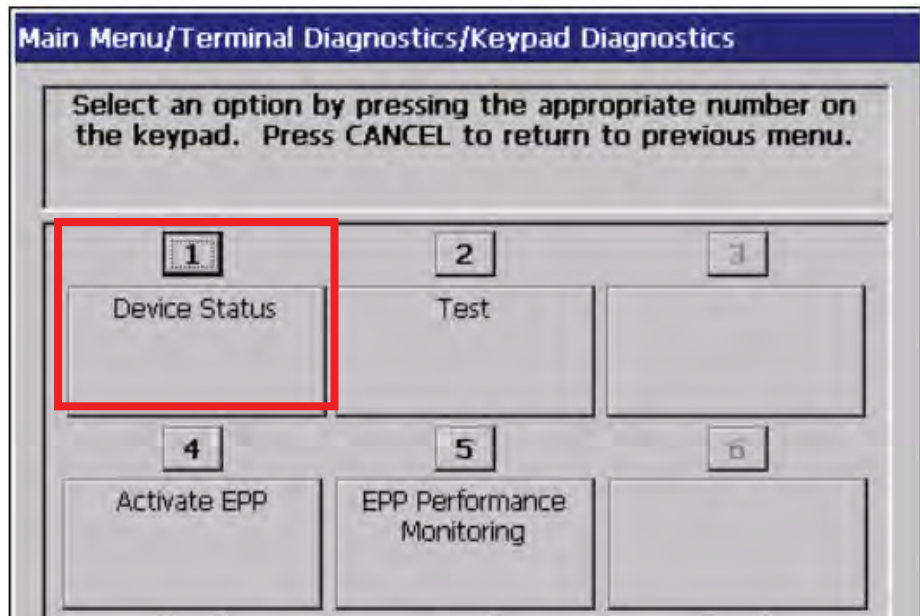
Install the top of the keypad from left to right (from the rear) ensuring the keypad gasket is sitting flush against the control panel. Using slight pressure if needed, ensure the bottom half of the keypad is also sitting flush with the control panel. Secure the keypad with the 6 screws.



Prior to T9 Keypad Activation

The Device Status report will indicate if the EPP has been installed correctly into the unit. This is imperative to check prior to activation as if it is not installed correctly, the EPP activation will fail.

1. Log into Management Functions.
2. If Favorites page appears, press 0 - Main Menu. Press 2 - Diagnostics.
3. Press 8 - Keypad.
4. Press 1 - Device Status.



5. If the T9 EPP Keypad has been installed correctly, the “Remove Detector Activated:” will read “TRUE”. If the EPP Keypad is not installed correctly, the “Remove Detector Activated:” will read “FALSE”. If “FALSE”, check that the EPP is correctly aligned in the opening and secured tightly with all six screws.

```

Stone Message
Terminal ID: 33212FT5
5/6/2014 4:05:30 PM

*** Keypad Status ***

Device Status: -74 (SPED - Serial number changed.)
Serial Number: 91930081
Version Number: 414-0702 ROG
Device Status Data:
Tamper/Error Event List:
2014-04-29 - 21:48:39, Event: 0300
2014-04-29 - 21:50:59, Event: 1000
No reboot since last status
Key stuck: FALSE
USB HW mounted: FALSE
Hoster HW mounted: FALSE
Remove detector activated: TRUE
Battery status: OK
Key status, Hierarchy ID: 66
  
```

```

Stone Message
Terminal ID: 33212FT5
5/6/2014 4:03:39 PM

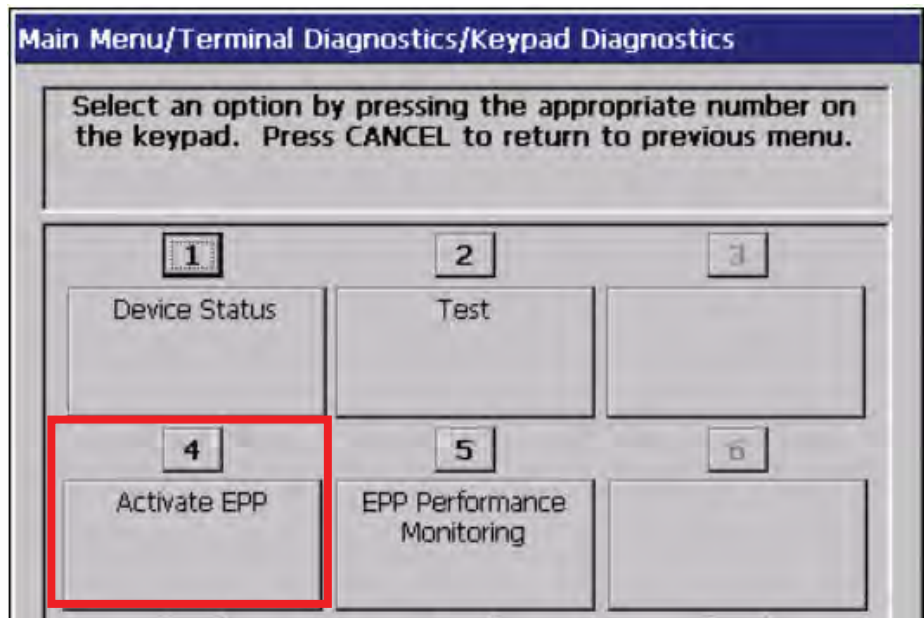
*** Keypad Status ***

Device Status: -81 (SPED - Not activated)
Serial Number: 91930081
Version Number: 414-0702 ROG
Device Status Data:
Tamper/Error Event List:
2014-04-29 - 21:48:39, Event: 0300
2014-04-29 - 21:50:59, Event: 1000
No reboot since last status
Key stuck: FALSE
USB HW mounted: FALSE
Hoster HW mounted: FALSE
Remove detector activated: FALSE
Battery status: OK
Key status, Hierarchy ID: 66
  
```

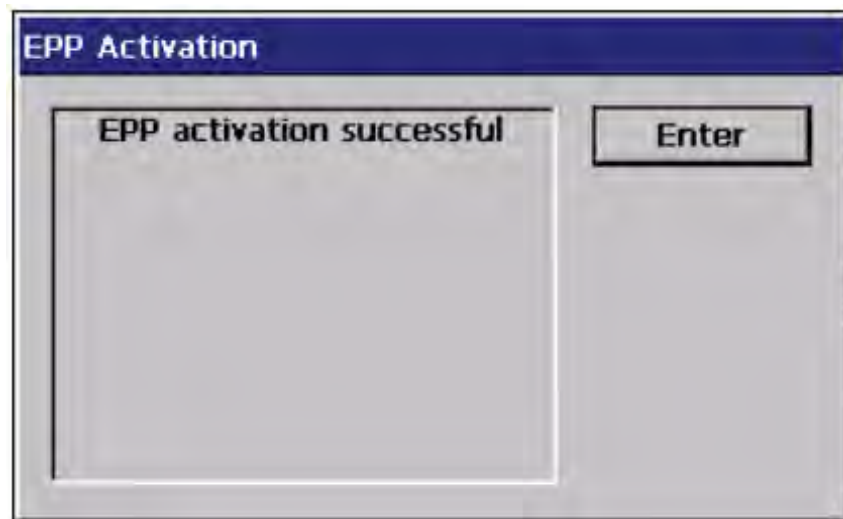
To Activate the T9 Keypad

NOTE: Activation is NOT required for units that ship with the T9 EPP installed.

1. Log into Management Functions.
2. If Favorites page appears, press 0 - Main Menu. Press 2 - Diagnostics.
3. Press 8 - Keypad.
4. Press 4 - Activate EPP.



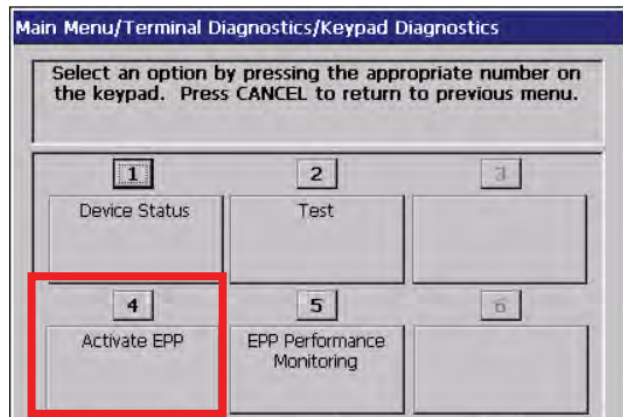
5. When the activation is successful, the “EPP activation successful” message will appear.



To Reactivate the T9 Keypad

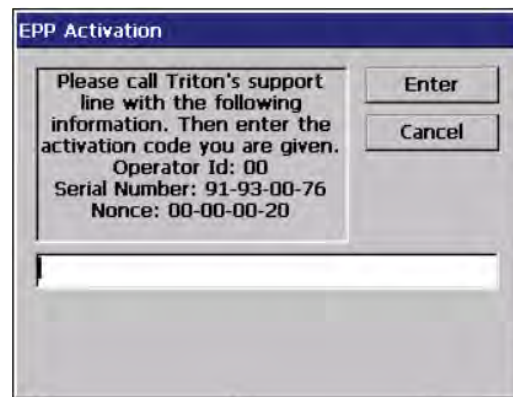
NOTE: Triton Technical Support CANNOT supply an activation code without the Operator Id, Serial Number and Nonce numbers supplied in Step 5.

1. Log into Management Functions.
2. If Favorites page appears, press 0 - Main Menu. Press 2 - Diagnostics.
3. Press 8 - Keypad.
4. Press 4 - Activate EPP.



5. The following screen will appear. An activation code is required from Triton Technical Support to reactivate the T9 EPP Keypad. Contact Triton Technical Support with the “Operator Id”, “Serial Number”

and “Nonce” numbers (supplied in the EPP Activation dialog box) for an activation code.



6. Enter the activation code. Press Enter on the keypad. If the code was entered correctly, the “EPP activation successful” box will appear. If the code was entered incorrectly, the “EPP activation failed” box will appear. If failed, repeat steps 4 - 6 (acquire a new code from Triton Technical Support).

