

Hamilton Manufacturing Corporation

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Operational Manual for the POS-TD

ABOUT THIS MANUAL

This manual was designed to introduce the POS-TD Changer and to provide information about installing and operating the machine. This manual will enable the operator to detect error codes and to perform basic troubleshooting procedures. Further assistance can be obtained by calling (800) 837-5561 or (419) 867-4858.

When calling for assistance it is important to have serial numbers readily available. Please take the time to record these numbers in the spaces provided.

POS-TD SERIAL # _____

CONTROLLER SERIAL # _____

HOPPER SERIAL # _____

LOCK / KEY # _____

Please complete the warranty card, which was included with your changer, and return it to the manufacturer.

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I. INTRODUCTION

The Hamilton POS-TD Changer combines security and accountability to provide an automated coin dispensing solution suitable for many applications. The strength of the POS-TD lies in its ability to interface with the locations Point Of Sale (POS) system. With this configuration, the POS system is able to determine the number of coins to dispense and sends this information directly to the changer. This eliminates any cashier intervention.

Some possible applications utilizing the POS-TD's capabilities include quantity-based discounts for token sales, frequent customer discounts, and group discounts. In addition to these marketing possibilities, accounting will also be improved by eliminating any cashier-related errors such as over, or under payments.

II. OPERATION

The POS-TD Changer operates by communicating with the location's POS system. The POS system determines there are coins to dispense, and then it notifies the POS-TD Controller of the quantity. Once this information is received, the POS-TD Changer begins dispensing.

If multiple payout commands are received while dispensing for a previous command, the number of coins to be dispensed will be accumulated so all coins will be dispensed consecutively before the Coin Hopper stops.

If a problem should arise with the POS-TD, such as the Hopper going empty, the POS-TD signals the store POS system. This provides feedback to the cashier for quick response and less "down-time".

III. INSTALLATION

MOUNTING

Cabinets are pre-drilled for wall mounting or mounting on an optional base. Bases are pre-drilled for securing to the floor. Do not use leveling screws when fastening to the floor. Changers mounted on bases should be securely fastened to both the floor and the wall. Fasteners to be used should be recommended by your engineer as to strength and suitability for floor and wall composition. **HAMILTON WILL NOT BE RESPONSIBLE FOR INJURY DUE TO IMPORPER INSTALLATION.**

For mounting in the wall, cabinet size is 36-3/8" H x 9-15/16" W x 13'1/4" D.

ELECTRICAL

The POS-TD Changer operates on 120 VAC, 60 Hz. Unit may be hard-wired with conduit if desired.

A GROUND FAULT INTERRUPTER IS REQUIRED. The recommended Ground Fault Interrupter is sometimes referred to as an ELCI (Equipment Leakage Circuit Interrupter) and should have the following specifications:

- 120 VAC
- 15 AMP
- 6-10mA trip level
- Should not trip when power is removed from circuit.

A communications cable is necessary to connect the POS system to the POS-TD Changer. This cable is not provided. **The required cable is a standard DB9 Male to DB9 Female serial cable wired "straight through".** This cable can be found at most electronics and appliance stores, as well as most mail order computer companies.

To install the cable, connect the Male end of the cable to the back of the POS-TD Changer, and the Female end to the serial port on the POS system. Be sure to tighten all of the screws to avoid accidental unplugging of the connectors.



The total length of the serial communications line between the Hamilton POS-TD and the store POS should not exceed 50 feet.

COMPUTER SOFTWARE

A diskette is provided with your POS-TD Changer. This diskette contains several files needed for communications with the POS system and also an installation program.

This disk should be passed on to your systems integrator for proper installation and configuration of the required files. If the systems integrator is not familiar with this software already, he should contact Hamilton and request the document "Interfacing with Hamilton C2000SI Controllers". This document provides a more detailed explanation of the requirements and operation of the provided software.

IV. MAINTENANCE

CAUTION! Do not use oil, grease or solvents on any part of this changer except as clearly specified in this manual, the Hopper Manual or in the Controller Manual.

HOPPER

Any lubrication in the Hopper can result in a faulty payout. Empty the Hopper and vacuum once a month. Use a soft brush to loosen dirt. (Refer to the Hopper Manual for details on maintenance.)

CONTROLLER

The microprocessor based Hamilton C2000 AUDITPRO Controller monitors the systems of the POS-TD Changer. If a problem is detected, the Controller will notify the store's POS system, shut down the changer, and display the appropriate error code. (Refer to the TROUBLESHOOTING section of this manual for error codes.)

If problems occur with the POS-TD Changer or any of its components, contact Hamilton Manufacturing. **YOU MUST HAVE THE MODEL AND SERIAL NUMBER OF THE MACHINE AND THE COMPONENT READY WHEN CALLING FOR ASSISTANCE.**

V. RETURNING ITEMS FOR SERVICE

If any part or component must be shipped to the distributor or the manufacturer for replacement or repair, the following procedure is used:

- **CALL BEFORE SHIPPING. BE READY WITH THE MACHINE SERIAL NUMBER AND THE COMPONENT SERIAL NUMBER. YOU WILL RECEIVE A RETURN AUTHORIZATION NUMBER (RA NUMBER). WRITE THE RA NUMBER ON THE OUTSIDE OF THE BOX YOU ARE USING TO RETURN THE COMPONENT, AS WELL AS ON AN ENCLOSED NOTE.**
- If shipping components, first place in a plastic bag before putting in a box and surrounding with good packing material.
- Ship via **UNITED PARCEL SERVICE (UPS)** if at all possible.
- If shipped by **U.S. Postal Service (Parcel Post)**, send by **SPECIAL HANDLING**.
- Adequately insure shipments; if uncertain about the value, call the distributor or the manufacturer for information.
- **Include a note in shipment describing the nature of the problem, along with a full return address. WE CANNOT RETURN SHIPMENTS TO POST OFFICE BOXES. Be sure to include the RA Number.**
- Please include your **NAME** and a **TELEPHONE NUMBER** where you can be reached.

VI. PARTS

POS-TD PARTS LIST		
PART #	DESCRIPTION	QTY
11-0100	QUARTER HOPPER ASSEMBLY	1
48-0050	POWER BOX HARNESS	1
48-1005	1-H HARNESS	1
48-2022A	POS-TD COMMUNICATION CABLE	1
49-1022A	5 AMP POWER BOX, COMPLETE	1
49-2004A	AUDIT PRO CONTROLLER, COMPLETE	1
49-9268	POS-TD DISKETTE	1
61-0505C	VN-1 POS-TD CABINET, COMPLETE	1
96-0155A	VN-1 DECAL ASSEMBLY	1

VII. TROUBLESHOOTING

As described earlier in the OPERATION section, when a fault has been detected, the LED will flash an error code. An LED that remains off indicates no power or a major failure of the Controller.

Following is a list of error codes and their definitions.



Always note the error code before attempting any service or before contacting the manufacturer.

ERROR CODES		
ERROR CODES RETURNED TO CONTROL SOFTWARE	CONTROLLER ERROR CODES	DESCRIPTION
19	1 FLASH, PAUSE, 3 FLASHES	HOPPER EMPTY
4	2 FLASHES, PAUSE, 3 FLASHES	HOPPER JAMMED
12	4 FLASHES, PAUSE, 3 FLASHES	COIN DROP STUCK
15	5 FLASHES, PAUSE, 3 FLASHES	UNEXPECTED HOPPER PAYOUT
21	7 FLASHES, PAUSE, 2 FLASHES	UNSTABLE 120VAC

ERROR CODE DEFINITIONS

HOPPER EMPTY

The Hopper has sensor strips that detect the level of coins. When the coin level falls below the strips, the circuit is open and the Hopper is considered empty.

HOPPER JAMMED

If this message is displayed, the Controller has not detected any count signals from the Hopper or the counting circuit has remained closed. The Controller allows a specified amount of time to recognize a payout. If the Controller has not detected a payout, it “times-out”. This message could mean that the count switch is out of adjustment or broken. It could also mean that the Hopper is jammed or unable to “pick-up” coins. This error cannot be detected until the Controller turns on the Hopper and will not be detected on power-up or in standby mode.

COIN DROP STUCK

Since the coin count switch in the Hopper is **NORMALLY CLOSED**, a coin passing under the count switch **OPENS** the circuit. The Controller allows only a short time for a coin to pass under and open the switch, and for a coin to drop. If the switch remains open for too long, it is determined that the switch has malfunctioned. If this should happen, the Controller shuts down the changer because it is unable to count dispensed coins accurately. This message could mean that the count switch is stuck, the count switch is broken, or there is a broken connection elsewhere in the circuit. **This error cannot be detected until the Controller turns on the Hopper and will not be detected on power-up or in standby mode.**

UNEXPECTED HOPPER PAYOUT

This message will appear if the Controller has detected a coin payout signal even though the Hopper has not been “authorized” to run. The Controller has detected an unexpected open and close of the count circuit.

UNSTABLE 120VAC (POWER LOSS) If the Controller detects an extreme voltage drop during payout of change it will normally finish the correct payout. The Controller can recover and finish vending through several voltage drops during a payout. However, if there are too many voltage drops during one payout, the microprocessor considers the power source unusable and shuts the changer down. If this condition occurs repeatedly, consult an electrician or the power company.

LIMITED WARRANTY AGREEMENT
OF HAMILTON MANUFACTURING CORP.

Hamilton Manufacturing Corp., an Ohio Corporation, (“Seller”) warrants to Purchaser that all new equipment shall be free from defects in material and factory workmanship for a period of one (1) year from the original shipping date. Hamilton Manufacturing Corp. further warrants if any part of said new equipment in Seller’s sole opinion, requires replacement or repair due to a defect in material or factory workmanship during said period, Seller will repair or replace said new equipment. Purchaser’s remedies and the liabilities and obligations of Seller herein shall be limited to repair or replacement of the equipment as Seller may choose, and Seller’s obligation to remedy such defects shall not exceed the Purchaser’s original cost for the equipment. Purchaser EXPRESSLY AGREES this is the EXCLUSIVE REMEDY under this warranty. There are no other express or implied warranties which extend beyond the face hereof. All warranty repair service must be performed by either a Factory Trained Service Representative or **HAMILTON MANUFACTURING CORP., 1026 Hamilton Drive, Holland, Ohio 43528 PHONE (419) 867-4858 or (800) 837-5561, FAX (419) 867-4867.**

The limited warranty for new equipment is conditioned upon the following:

1. The subject equipment has not, in the Seller’s sole opinion, been subjected to: accident, abuse, misuse, vandalism, civil disobedience, riots, acts of God, natural disaster, acts of war or terrorism.
2. The Seller shall not be liable for any expense incurred by Purchaser incidental to the repair or replacement of equipment and Purchaser shall assume full responsibility for any freight or shipping charges.
3. The coverage of this warranty shall not extend to expendable parts.
4. Purchaser shall have a warranty registration card on file with Seller prior to any claim in order for warranty protection to apply.
5. No warranty coverage is applicable to any equipment used for currency other than that specified at the time of the purchase.
6. Seller expressly disclaims any warranty that counterfeit currency will not activate said equipment.
7. Seller expressly disclaims any warranty for any losses due to bill manipulation or theft or loss of cash under any circumstances.

Seller further warrants all repair or service work performed by a factory trained representative or Hamilton Manufacturing Corp. for a period of ninety (90) days from the date the repair or service work was performed. Purchaser’s remedies and the liabilities and obligations of Seller herein shall be limited to repair or replacement of equipment as Seller may choose, and Seller’s obligation to remedy such defects shall not exceed the Purchaser’s depreciated value of the equipment. Purchaser EXPRESSLY AGREES this is an EXCLUSIVE REMEDY under this warranty. There are no other express or implied warranties on repair or service work performed by a factory trained representative or Hamilton Manufacturing Corp. which extend beyond the face hereof.

(See next page for additional provisions)

The limited warranty for repair and service work is conditioned upon the following:

1. The subject equipment has not, in the Seller's sole opinion, been subjected to: accident, abuse, misuse, vandalism, civil disobedience, riots, acts of God, natural disaster, acts of war or terrorism.
2. The Seller shall not be liable for any expense incurred by Purchaser incidental to the repair or replacement of equipment and Purchaser shall assume full responsibility for any freight or shipping charges.
3. The coverage of this warranty shall not extend to expendable parts.
4. Purchaser shall have a warranty registration card on file with Seller prior to any claim in order for warranty protection to apply.
5. No warranty coverage is applicable to any equipment used for currency other than that specified at the time of the purchase.
6. Seller expressly disclaims any warranty that counterfeit currency will not activate said equipment.
7. Seller expressly disclaims any warranty for any losses due to bill manipulation or theft or loss of cash under any circumstances.
8. No person or entity other than a factory trained representative or Hamilton Manufacturing Corp. has performed or attempted to perform the subject repair or service.

THIS AGREEMENT IS MADE WITH THE EXPRESS UNDERSTANDING THAT THERE ARE NO IMPLIED WARRANTIES THAT THE EQUIPMENT SHALL BE MERCHANTABLE, OR THAT THE GOODS SHALL BE FIT FOR ANY PARTICULAR PURPOSE. PURCHASER HEREBY ACKNOWLEDGES THAT IT IS NOT RELYING ON THE SELLER'S SKILL OR JUDGMENT TO SELECT OR FURNISH EQUIPMENT SUITABLE FOR ANY PARTICULAR PURPOSE AND THAT THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THAT WHICH IS DESCRIBED HEREIN.

The Purchaser agrees that in no event will the Seller be liable for direct, indirect, or consequential damages or for injury resulting from any defective or non-conforming new, repaired or serviced equipment, or for any loss, damage or expense of any kind, including loss of profits, business interruption, loss of business information or other pecuniary loss arising in connection with this Limited Warranty Agreement, or with the use of, or inability to use the subject equipment regardless of Sellers knowledge of the possibility of the same.

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