DeLaRue

# user guide 

## MACH 6

Coin Sorter and Counter
W / Basic Control \& RS232 Interface




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## Dear Customer,

Thank you for purchasing the Model 6950 Coin Sorter / Counter from De La Rue. This product is yet another step to fulfilling our mission:

## To enable the secure and cost effective availability of cash when and where people need it.

This innovative product incorporates the very latest technology for you to process coins faster and more accurately than ever before. It contains De La Rue designed and patented components which make this product unique.

Additional benefits of the Model 6950 are:

- Compact size
- 3000 coins per minute
- Quiet operation
- Tabletop or stand- alone operation
- Battery backup
- Sorts up to 8 different denominations
- Large capacity tilting inspection pan
- Selectable bagstops
- Auto-ranging power supply for world-wide voltages
- Lockout security to protect operating information
- High speed printer
- Remote display
- Three levels of memory

With over 100 years' experience in the design, development and manufacture of world class coin processors, De La Rue supplies more products world-wide than any other manufacturer. Quality is paramount in our manufacturing process and we are proud to hold certificates for European quality directives for both safety and electromagnetic standards. In addition to this, manufacturing sites have been awarded ISO9001 quality certificates.

To ensure maximum life from your Sorter, we recommend that it is regularly serviced. To assist you, we provide worldwide service and support through our network of branch offices and authorized distributors. Please contact them for the location of your nearest service office.

We wish you many years of carefree use.
De La Rue
Cash Systems Inc.


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## FCC Interference Statement

## Warning

This equipment generates, uses and can radiate radio frequency energy and if not installed and used in accordance with the instruction manual may cause interference to radio and television reception. It has been tested and found to comply with the limits for a Class A or Class B computing device pursuant to Subpart J of Part 15 of FCC Rules which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference with radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by taking one or more of the following measures:
$\checkmark$ Reorient the receiving (radio/TV) antenna
$\checkmark$ Move the sorter to the right or left with respect to the receiver
$\checkmark$ Move the sorter away from the receiver
$\checkmark$ Plug the sorter into a different outlet so that the sorter and receiver are on different branch circuits.
Warning: Only equipment certified to comply with the Class A or Class B limits may be attached to this currency counter. Operation with noncertified equipment is likely to cause radio and TV reception interference.

Peripherals should be interfaced using only shielded cables to maintain FCC Class A or Class B certification and to reduce the possibility of interference with radio and television reception.

## Reference material

If this equipment does cause reception interference, the user should contact an authorized sales or service representative for suggestions. Two booklets, the CIB Interference Handbook and the CIB Telephone Interference Booklet are provided by the Compliance and Information Bureau of the Federal Communications Commission. To obtain copies, call the Bureau at (202) 418-1100 or on the Internet at http://www.fcc.gov/cib.

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## Model 6950 Coin Sorter / Counter W / Basic Control \& RS232 Interface

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## THIS IS NOT A SELF-SERVICE PRODUCT.

## OPERATION OF THIS PRODUCT

SHOULD BE PERFORMED ONLY BY PROPERLY TRAINED PERSONS.

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# C 

## Declaration of conformity

Manufacturer \& responsible person
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Telephone: (920) 262-3300
Fax: (920) 261-1783

## Details of product

Coin Sorter / Counter

## Model types

6950000-6950999 (230V)

This product conforms to the essential requirements of:
Directive 89 / 336 / EEC Electromagnetic compatibility
Directive 73 / 23 / EEC Low voltage electrical equipment (safety)
and conformity has been demonstrated by meeting the applicable requirements of the following standards:

| EN 60 950 | Safety of Information Technology Equipment including Electrical <br> Business Equipment |
| :--- | :--- |
| EN 55014 | Limits \& Methods of Measurement of Radio Interference of Information <br> Technology Equipment |
| EN 50082-1 | Electromagnetic Compatibility Generic Immunity |
| IEC 801-2 | Electrostatic Discharge Requirements |
| IEC 801-3 | Radiated Electromagnetic Field Requirements |
| IED 801-4 | Electrical Fast Transient/Burst Requirements |

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## introduction

The Mach 6 Coin Sorter and Counter is designed for ease of operation. Coins are sorted and counted at a rate of up to 3,000 dimes per minute (depending on the coin mix). The denomination and quantity totals are registered within the Control Module, and are selected for display at the Control Panel located on the front of the Module.

1. Inspection Pan

Allows inspection of coin mix so that unwanted objects may be removed before coins enter the Sorting Area.
2. Power Switch (Rear of Sorter) Turns Main Power to Sorter on and off.
3. Display

Visual communications link between the Sorter and the Operator.
4. Control Assembly

Communications link between the Sorter and the Operator. All Sorter operation is done here.
5. Keylock

Allows access to programming mode.


FIGURE \#1
SORTER DESCRIPTION

## Introduction

## model identification

| MODEL | APPLICATION | STATIONS |
| :--- | :--- | :--- |
| 6950002 | USA | 8 |
| 6950022 | USA | 8 |
| 6950028 | USA ( 2 TOKEN ) | 8 |
| 6950112 | UK | 8 |
| 6950127 | AUSTRALIA | 8 |
| 6950122 | CANADA | 6 |
| 6950143 | MEXICO | 8 |
| 6950145 | MEXICO | 8 |
| 6950150 | SWITZERLAND | 7 |
| 6950160 | PAKISTAN | 5 |
| 6950204 | RUSSIA | 7 |
| 6950511 | U.K. ( SAINSBURY ) | 8 |
| 6950519 | NEW ZEALAND | 6 |
| 6950551 | SINGAPORE | 8 |
| 6950553 | MALAYSIA | 6 |
| 6950802 | EURO | 8 |

Note: ALL MODELS REQUIRING CE (EUROPEAN COMMUNITY) ARE PROPERLY CONFIGURED.

## Introduction

## specifications

## Size; Height 11.340" ( 28.8 cm ) <br> Width $16.730^{\prime \prime}(42.5 \mathrm{~cm})$ <br> Depth 21.730" ( 55.2 cm ) <br> Weight $47.180 \mathrm{lbs}(21.4 \mathrm{~kg})$

Note: Weight is approximate and does not include Coin Drawers / Bag Attachments.

Sorting Speed
Up to 3000 Coins per Minute (depending on coin mix)

Operating Temperature Range
+40 to +100 Degrees Fahrenheit
+5 to +38 Degrees Centigrade
Voltage 90-264 VAC 50 / 60 Cycle
Coin Diameter Capability (Typical) $.590^{\prime \prime}(15 \mathrm{~mm})$ to $1.28^{\prime \prime}$ ( 32.4 mm )
Sorting Differential $=.5 \mathrm{~mm}\left(.020^{\prime \prime}\right)$ minimum $)$
Inspection Pan Capacity
Approximately 4500 coins
(. 705 " / 18mm diameter)

Coin Drawer Capacity
Approximately 900 coins
(.705" / 18mm diameter)

## $\triangle$ CAUTION

THIS EQUIPMENT MUST BE GROUNDED FOR PROPER OPERATION. USE OF EXTENSION CORDS OR 3-2 ADAPTERS IS NOT RECOMMENDED. IF A 3-2 ADAPTER IS USED, THE GROUNDING WIRE OR TANG MUST BE CONNECTED TO THE BUILDING GROUND. FOR OPTIMUM SAFETY, THE POWER CORD SHOULD BE DISCONNECTED FROM THE POWER SOURCE BEFORE CLEANING OR SERVICING. THE SOCKET OR OUTLET SHOULD BE INSTALLED NEAR THE EQUIPMENT AND BE EASILY ACCESSIBLE.

## options

There are seven (7) options available. Each option is packaged separately, complete with Installation Instructions.

1. SORTER STAND -- Secures Sorter and Bag Ring / Spout in proper configuration for bagging coin.
2. COIN DRAWERS -- Receive sorted coins.
3. BAG CHUTE / SPOUT / RING --

For bagging large coin quantities. Chute replaces Coin Drawer. The Spout / Ring attach to Sorter Stand.
4. MAGNET -- Attaches to Inspection Pan to prevent unwanted metallic objects from entering the Sorting Area.
5. REMOTE BATCH DISPLAY -- Allows the customer to observe the total as coins are sorted / counted.

Note: The Control must be "told" that a Remote Batch Display is connected. The procedure is discussed in the Programming Section later in this Guide.
6. PRINTER -- Provides a permanent record (audit trail) of all transactions.

Note: The Control must be "told" that a Printer is connected. The procedure is discussed in the Programming Section later in this Guide.
7. SECURITY STAND -- Similar to Item \#1 (above), but encloses Coin Bags for security.

## installation

## UNPACK (See FIGURE \#2)

The internal packaging is designed not only for protection during shipment but to allow an easy means of removal from the shipping container.


FIGURE \#2
PACKAGING

## $\triangle$ CAUTION

THE SORTER WEIGHS 47.18 POUNDS (21.4 KG). USE PROPER LIFTING TECHNIQUES OR USE A HELPER WHEN REMOVING THE SORTER FROM THE SHIPPING CARTON.

## installation



FIGURE \#3 COUNTERTOP INSTALLATION


FIGURE \#4 STAND INSTALLATION

## installation



## installation



FIGURE \#6
COIN BAG INSTALLATION

## INSTALL COIN BAGS / COIN DRAWERS

Unpack the Coin Drawers (if ordered) and slide them into position. All Coin Drawers are identical in size and shape. If you are bagging coin, replace the Coin Drawers at those locations with the Chute / Spout configuration. To install a Coin Bag, lift the appropriate Ring and slip the Bag over the Spout. Slide the Ring down over the Bag to secure it in position with the slot in the Ring facing forward.

Note: Depending on the length and condition of the Coin Bag, folding the top over to provide a double fabric thickness may increase the holding capability of the ring.

Rest the Coin Bag on the Stand Shelf to support the weight of the coin.

|  RECOMMENDED  <br> COIN DRAWER   <br> CAPACITIES   |  |  |
| :--- | :--- | :--- |
|  |  |  |
| $10 \phi-1000$ Units | $\$ 100.00$ |  |
| $1 \phi$ | -750 Units | $\$ 7.50$ |
| $5 \phi$ | -500 Units | $\$ 25.00$ |
| $25 \phi-400$ Units | $\$ 100.00$ |  |
| $1.00-300$ Units | $\$ 300.00$ |  |
| $50 \phi-250$ Units | $\$ 125.00$ |  |

installation

## THE POWER CORD / SWITCH



Check the Power Cord supplied with the Sorter to ensure compatibility with local requirements. If a different plug connection is required, obtain the correct Power Cord assembly locally.

Be sure the Power Switch (See FIGURE \#7) is in the "OFF" position, and then connect the Sorter end of the Power Cord as shown in FIGURE \#8, and the opposite end to a properly grounded AC outlet of the appropriate voltage.


FIGURE \#8 POWER CORD CONNECTION

## installation

Note: Allow sufficient clearance at the rear and sides of the Sorter to allow the Inspection Pan free movement throughout its travel range.

## THE INSPECTION PAN / SHIELD

Lifting the corner as shown in FIGURE \#9 allows the Pan to swing to the right and tilt upward, transferring the coins to the Sorting Disc. The second (next) batch of coins may then be placed in the Pan and inspected while the first batch is sorting. Returning the Pan to its "rest" position quiets the sorting operation considerably. If a Magnet is used, move the Inspection Pan to the right before lifting so the Magnet clears the Rear Housing / Printer. To remove the Pan for access to the sorting area, first close the Pan ("rest" position) then lift the rear of the Pan up slightly and (if a Printer is used) to the rear to remove, so that the Shield will not contact the Printer Bracket. Notches in the Inspection Pan allow addition of the Shield (if desired) to prevent spillage when processing large batches. SMOOTH SIDE UP.

GURE \#9
INSPECTION PAN

## sorting stations

The Sorter has eight (8) Sorting Stations. They are numbered as shown in FIGURE \#10. In some applications, not every Sorting Station would be used. The Coin Drawers for these Stations may be secured in position, if desired, by a single screw inserted in the bottom of the Drawer through the Baseplate.

A small label intended to remind the operator to examine the coin mix and remove objects that could cause damage is included with the Sorter. Usage is optional. A suggested location is shown in FIGURE \#10.


FIGURE \#10
SORTING STATIONS

## Operation

## the keyswitch



FIGURE \#11 KEYSWITCH

Complete programming instructions are discussed later in this Guide.

## the control



FIGURE \#12
CONTROL

## FUNCTION KEYS

## MOTOR ON / OFF

Alternate function key that controls the Sorting Motor. Toggles between ON and OFF.

BATCH Displays the current Batch Total. Repeated key depressions will display the Batch Total for each denomination.
GRAND Displays the current Grand Total. Repeated key depressions will display the Grand Total for each denomination.
ACCEPT Accepts the value shown on the top line of the Display into the next level (it is cleared out of the present level). If it is a Grand Accept, the total is not cleared.

Note: When the accept key is pressed, a message may appear on the Display to alert the operator to an error condition. Refer to "Operator Messages" later in this Guide for a listing and explanation.

BAG COUNT Displays the partial Bag Counts.
BAG STOP Displays current bagstop setting by denomination.

## Operation

## the control

CLEAR Clears the value shown on the Display. The exception to this rule is the "GRAND- CLEAR - ACCEPT" sequence, in which case the GRAND is cleared after the ACCEPT Key is pressed. If a Printer is connected, the output is sent to the Printer. If a Serial Port is configured for data output, it will be sent to that Port.

Note: The Sorter incorporates a power-up reset (clear) feature to clear all totals stored in batch and grand memory, as well as all bag count totals.

To ensure the Control is clear (Display at ". 00 "), hold the CLEAR Key on the Control down, and while holding, move the main Power Switch at the rear of the Sorter to on. The Control will cycle through a "self-check" sequence and then display:

For two (2) seconds, then return to display batch total.

## time / date - fee percent - fixed fee

## TIME / DATE

The Sorter contains a calendar and clock for operator convenicene and for controlling program functions.
Complete instructions for setting the clock are contained in the programming section later in this Guide.

## FEE PERCENT

The Sorter has the capability of assessing a predetermined fee for coin processing.

This fee is programmable and may be from .01\% - 9.99\%.

Complete instructions for setting the fee percent option are contained in the programming section later in this Guide.

## FIXED FEE

The Sorter has the capability of assessing a fixed fee for coin processing.

This fee is programmable and may be from .01 - 19.99.

Complete instructions for setting the fixed fee option are contained in the programming section later in this Guide.

## Operation

## displaying quantities and / or totals


200.00
.05 BAG STOP

1. Display Batch Total

Cycle the BATCH Key until the Display shows the following:

Note: Batch totals must be displayed before the accept key is pressed for that particular batch total.
3. Display Grand Total

Cycle the GRAND Key until the Display shows the following:
4. Display Batch, or Grand Individual Coin Totals

Cycle the BATCH, or GRAND Key to display the appropriate coin. Example: A batch total of .25 .
5. Display Individual Bag Count

Cycle the BAG COUNT Key to select the appropriate coin (. 25 Bag Count shown in Unit Mode). The Display can be shown in units or dollar value. Refer to the Programming section later in this guide for additional information.
6. Display Bagstop

Cycle the BAGSTOP Key to locate the appropriate coin. The bagstop setting can be displayed in unit or dollar value. Refer to the Programming section later in this guide for additional information.

## accepting quantities and / or totals

Note: Each time a Batch, or Grand total is accepted an audit trail will print if the printer option is utilized.

1. Batch ACCEPT

With the Display in the BATCH TOTAL mode, press the ACCEPT Key once. The BATCH TOTAL is cleared, and the Control remains in the BATCH mode. The BATCH TOTAL is added to the GRAND TOTAL.
2. Grand ACCEPT (All Grand Totals remain)

With the Display in the GRAND TOTAL mode, press the ACCEPT Key once. The GRAND TOTAL remains on the Display. To clear the Display, refer to "Clearing Quantities and / or Totals" on the following pages. The GRAND TOTAL can be accepted only if the BATCH TOTAL is zero.

Note: The Printer must be allowed to finish the print cycle before attempting to accept a coin total or an operator message will appear. Refer to "Operator Messages" later in this Guide for additional information.

Note: If a batch or grand total is accepted and the Printer is off-line (sel light "off"), the tape will not advance far enough for proper tear-off. Turn the Printer Power Switch off, wait a few seconds, then on again. Press the "sel" key and continue operation.

## Operation

## clearing quantities and / or totals

Note: Always double-check your need to clear. Quantities cannot be recalled!

The CLEAR function is used to remove information from memory.

1. Clear Batch Total
a. Press the BATCH Key (displays batch total).
b. Press the CLEAR Key once (the Display MUST be allowed to flash for two seconds).
c. Press the CLEAR Key again (the Display resets to zero, resets all batch totals).

Note: If a batch total is cleared rather than accepted, the dollar amounts are not transferred to the grand total.
2. Clear Grand Total (without Audit Trail Printout)
a. Press the GRAND Key (displays grand total).
b. Press the CLEAR Key once (the Display MUST be allowed to flash for two seconds).
c. Press the CLEAR Key again (the Display resets to zero, resets all grand totals).

## clearing quantities and / or totals

3. Clear Grand Total (with Audit Trail Printout)
a. Press the GRAND Key (displays grand total).
b. Press the CLEAR Key once (the Display MUST be allowed to flash for two seconds). The Display must read "GRAND TOTAL"
c. Press the ACCEPT Key (the Display resets to zero, resets all grand totals and printer prints an audit trail).
4. Clear All Partial Bag Counts
a. Cycle the BAG COUNT Key until the Display shows the following:
b. Press the CLEAR Key once (the Display MUST be allowed to flash for two seconds).
c. Press the CLEAR Key again (all partial bag counts clear).
5. Clear Individual Bag Counts
a. Cycle the BAG COUNT Key until the Cursor shows the coin to be cleared.
b. Press the CLEAR Key once (the Display MUST be allowed to flash for two seconds).
c. Press the CLEAR Key again (the individual total clears).

## processing coin



FIGURE \#13 INSPECTION PAN

## $\triangle$ CAUTION

REMOVE ANY DAMAGED COIN OR FOREIGN OBJECTS. FAILURE TO DO SO MAY DAMAGE THE ELASTIC DRIVE DISC, WHICH MAY NOT BE COVERED UNDER WARRANTY OR M/A CONTRACT.

THE (OPTIONAL) MAGNET WILL CATCH METAL ITEMS SUCH AS METALLIC COIN SLUGS, WASHERS, PAPER CLIPS, ETC., THAT SHOULD NOT ENTER THE SORTER.

IF A MAGNET IS USED, MOVE THE INSPECTION PAN TO THE RIGHT BEFORE LIFTING SO THE MAGNET CLEARS THE REAR HOUSING / PRINTER.

1. Place the coins for the first batch in the Inspection Pan and remove any unwanted objects.
2. Press the MOTOR ON / OFF Key on the Control to start the Sorting Motor.
3. Lift and tilt the Inspection Pan to transfer the coins into the Sorting Area.
4. When the sorting is complete, press the MOTOR ON / OFF Key on the Control to stop the Sorting Motor. (The Sorting Motor stops automatically approximately seven (7) seconds after the last coin has been processed if left unattended.)

Note: The Sorter can be programmed to run continuously if desired. Refer to the programming section later in this guide to activate this feature.
5. The total batch amount for the coins sorted will appear on the Display. Press the ACCEPT Key on the Control to transfer the batch total to the Grand Total. An audit trail (printout) will print the Batch information if a Printer is properly connected.

Note: If the batch total does not print properly, or does not space (advance) the tape properly after printing, the printer may not be properly initialized. Refer to the Programming section later in this guide to initialize the Control.
6. Repeat Steps \#1 through \#5 for the second and all subsequent batches.
7. When all Batch Totals have been processed, press the GRAND-ACCEPT Keys to display and print the Grand Total of all coins processed.

Note: If it is desired to print and clear the grand total information, press grand, then press clear, then press accept.

## Operation

## bagstop

The Sorter will stop when any of the coin denominations being sorted reaches a predetermined bagstop amount.
A. The Display will indicate which Sorting Station has reached a bagstop, and the number of coins (if any) over the bagstop quantity.
B. Empty the Coin Drawer or exchange the Coin Bag. Place the overage (if any) in the new drawer or bag.
C. Press the MOTOR ON / OFF Key.

1. If a second (or more) bagstop was reached, the Display will advance to the next coin at bagstop. The Display will show that coin's denomination, and the number of coins (if any) over the bagstop quantity.
2. When there are no more stations at bagstop, the Display will return to show the Batch Total, and the Sorting Motor will start.

Note: If the bagstop selection is to be changed, press the Clear Key, change the selection (see section following), then press the Motor On / Off Key to continue operation.

## Operation

bagstop selection

## BAGSTOP QUANTITY SELECTION

Note: Bagstop quantities may be set (reset) at any time the Sorter is at rest (no counting / sorting). If quantities are changed during coin processing, it is important that the number of coins currently in the coin bag must be less than the new bagstop quantity. Check (and clear if necessary) the bag count quantity of the selected coin before selecting the new bagstop setting, then proceed as follows:

These bagstop settings may be observed and selected (changed) as desired using the following procedure:
A. Cycle the BAG STOP Key to the desired station. The Bagstop quantity previously selected for that station will be displayed.
B. Cycle the BAG COUNT Key to observe each of the three preprogrammed bagstops for that station.
C. Press the ACCEPT Key to enter the new bagstop quantity into memory.

## bagstop quantities

## CHANGING THE BAGSTOP QUANTITY

Three Bagstop quantities are operator selectable for each coin station. Each Station's coin value (unit count if non-valued coin) and three selectable bagstop amounts are programmed at the time of manufacture. The values can be altered for your particular application. Refer to the Programming section later in this guide for this procedure. Totals and memory are retained by a service-replaceable, non-rechargeable lithium battery in the event of a power loss.

The Control permanent memory contains the following coin values and three pre-selected bagstop settings per Sorting Station.

The coin values and bagstop amounts shown in the chart below may be altered for your specific application. Refer to the Programming section later in this Guide for this procedure. These new coin values are held in memory which is retained by the battery during power outages.

| Station No. <br> (Showing Coin Value) | Quantity <br> "A" | Quantity <br> "B" | Quantity <br> "C" |
| :--- | ---: | ---: | :---: |
| Station \#1 | 10,000 | 5,000 | 1,000 |
| Station \#2 | 5,000 | 2,500 | 500 |
| Station \#3 | 4,000 | 2,000 | 400 |
| Station \#4 | 4,000 | 2,000 | 400 |
| Station \#5 | 1,000 | 500 | 100 |
| Station \#6 | 2,000 | 1,000 | 200 |
| Station \#7 | ---- | ---- | ---- |
| Station \#8 | ---- | ---- | ---- |

CHART "A"
PREPROGRAMMED QUANTITIES

## Operation

## bagstop quantities

The following chart may be filled-in to show the values specifically programmed for your application. This will aid in proper selection of bagstop quantities and will be helpful in the event re-programming becomes necessary.

| Station No. <br> (Showing Coin Value) | Quantity <br> "A" | Quantity <br> "B" | Quantity <br> "C" |
| :--- | :--- | :--- | :--- |
| Station \#1 |  |  |  |
| Station \#2 |  |  |  |
| Station \#3 |  |  |  |
| Station \#4 |  |  |  |
| Station \#5 |  |  |  |
| Station \#6 |  |  |  |
| Station \#7 |  |  |  |
| Station \#8 |  |  |  |

CHART "B"
REPROGRAMMED QUANTITIES

## display messages

## INTRODUCTION

This feature allows the Control to alert the operator to an error condition. A Motor Run Symbol (located in the upper left corner of the Display), will appear while the Sorter Motor is running.

Should the Sorter stop for any reason, observe the Display. If the reason was a Sorter error, one of the following error messages will be displayed. If the reason was an operator error (lifting the Front Cover, removing a Coin Drawer, etc.), the Motor will stop and the Display will show:

CHECK DRAWER AND
COVER INTERLOCKS

RAM / ROM ERROR
-CALL SERVICE

Locate and eliminate the problem and continue operation.

11 messages are available:

1. RAM ERROR

A problem has occurred in the electronics of the Sorter. Stop operation. Press the CLEAR Key to clear the Display. If the problem persists, disconnect Sorter from power and contact your Authorized Service
Representative for assistance.
2. KEY SEQUENCE

Keys where not pressed in an acceptable sequence. Press the "CLEAR" Key to clear the Display and use the proper key sequence.

## CLEAN

. 25 SENSOR
3. CLEAN SENSOR

An object has blocked a Coin Sensor. Disconnect the Sorter from power, locate and clean the dirty Sensor, reconnect the Sorter to power and resume operation.

Note: When the Clean Sensor Error has been corrected, the coin quantity for that station should be re-run to verify its accuracy.

Note: Proper cleaning procedures are discussed later in this Guide.

## LOW BATTERY

-CALL SERVICE

## CLEAR

COIN-BACKUP

## CLEAR

BATCH TOTAL
4. LOW BATTERY

The Battery in the Control has become too low to sustain totals in the event of a power loss. Contact your Authorized Service Representative for replacement.
5. COIN BACK-UP

Coins have backed up in a Coin Drawer or Bag. Straighten the Coin Bag and / or shake the Coin Chute slightly to eliminate the coin jam. Change the Bag or empty the Drawer and resume operation.
6. TOTAL NOT ZERO

This message will be displayed if the totals are not accepted in order. Clear the BATCH total before clearing a GRAND total.

## Operation

## display messages

## 7. RUN NO ACCEPT

Sorter cannot accept totals while coins are being sorted / counted. Wait for sorting to stop before accepting total.

## NO ACCEPT

WHILE COUNTING

## PRINTER BUSY <br> - PLEASE WAIT

CLEAR GRAND,
WILL ROLL OVER
8. PRINTER BUSY

Totals cannot be accepted while Printer is operating. Wait for printing to stop before accepting total.
9. OVERFLOW

The GRAND total has come within $\$ 10,000$ of the maximum total possible. Complete the present batch, accept the total, clear and accept the Grand Total. If the total is not cleared, it will soon "roll over" and no longer show valid totals.

## 10. COMMUNICATIONS ERROR

An error has occurred at the port shown on the Display. Check all physical connections between Sorter and Peripherals. If all connections are proper, check the port parameters and resume operations. If the problem persists, contact your Authorized Service Representative for assistance.

## CHECK PORT 1

COMMUNICATIONS
11. INTERLOCK

The Upper Front Cover is open or a Coin Drawer is not in position. Close the Cover, or place a Coin Drawer or Coin Chute in each sorting location and resume operation.

## default settings

The Sorter is set when manufactured to the following default parameters. Each of the parameters may be changed to fit your specific application. Refer to the following section for these instructions. To enter the Programming Mode: 1) turn Keyswitch to vertical, 2) hold Batch Key down at power-up.

Press the "MOTOR ON / OFF " Key to cycle through the programming mode, following the instructions to change the default settings. Once completed, press "BATCH" Key and then turn the Keyswitch to horizontal.

## $\triangle$ CAUTION

IF AN ERROR IS MADE DURING PROGRAMMING, AND THE DISPLAY APPEARS TO BE "LOCKED-UP" PREVENTING ADDITIONAL ENTRIES, SWITCH THE MAIN POWER SWITCH TO "OFF" TO COMPLETELY EXIT THE PORGRAMMING MODE.

SWITCH THE POWER BACK ON, RE-ENTER THE PROGRAMMING MODE AND CONTINUE OPERATION.

Note: If display = yes is initialized, the information will be sent to Port \#4. Connect the Remote Batch Display to this port.

Note: If print = yes is initialized, the information will be sent to Port \#3. Connect the Remote Printer to this port.

## DEFAULT SETTINGS

Note: The settings described here are standard defaults. Settings for specific countries or applications may be diifferent, and are selectable by the operator.
If the display shows a RAM-ROM condition, the Sorter will revert to these standard values.

1. SET TIME AND DATE

Default = Day / Month / Year
2. DISPLAY DECIMAL POINT / COMMA (CHOICE AND LOCATION)
Default $=$ Decimal point in position .00
3. SET FEE PERCENT Maximum is $9.99 \%$
4. SET FIXED FEE Maximum is 19.99
5. BATCH PRINT LENGTH / NUMBER OF COPIES
Default $=$ Long printout with 1 copy
6. GRAND PRINT LENGTH / NUMBER OF COPIES
Default = Long printout with 1 copy
7. RS232 COMMUNICATION PORT PARAMETERS

Port \#1 Default = 9600 Baud / No Parity / 7 Data Bits / 1 / DTE / No Handshaking / No ACK NAK

Port \#2 Default = Same as Port \#1

Port \#3 Default $=$ Same as Port \#1

Port \#4 Default = Same as Port \#1

## default settings

8. PRINT ORDER (VALUE / SIZE) Default $=$ Value
9. BAGSTOPS (Enable / Disabled) Default = Enable
10. RUN / AUTO-STOP Default = Stop after 7 seconds
11. BAGSTOP DISPLAY (units or dollars) Default = Dollars
12. COIN VALUES as shown in FIGURE \#14
13. CURRENCY VALUES as shown in FIGURE \#14

Programmed to specific values / quantities if specified. If none are specified the values / quantities will be as shown in the following chart:

|  | SELECTION \#1 |  | SELECTION \#2 |  | SELECTION \#3 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| COIN <br> VALUE | UNITS | DOLLAR <br> VALUE | UNITS | DOLLAR <br> VALUE | UNITS | DOLLAR <br> VALUE |
| $\$ .10$ | 10000 | 1000.00 | 5000 | 500.00 | 1000 | 1000.00 |
| $\$ .01$ | 5000 | 50.00 | 2500 | 25.00 | 500 | 5.00 |
| $\$ .05$ | 4000 | 200.00 | 2000 | 100.00 | 400 | 20.00 |
| $\$ .25$ | 4000 | 1000.00 | 2000 | 500.00 | 400 | 100.00 |
| $\$ 1.00$ | 2000 | 2000.00 | 500 | 500.00 | 100 | 100.00 |
| $\$ .50$ | 2000 | 1000.00 | 1000 | 500.00 | 200 | 100.00 |
| DISABLED | --- | --- | --- | --- | --- | --- |
| DISABLED | --- | --- | --- | --- | --- | --- |

FIGURE \#14
Coin value / bagstop default settings

## printer initialization

## INITIALIZING THE CONTROL FOR PRINTER OPERATION

The Sorter must be "told" that a Printer is connected, so that the proper communication link can be established.

Note: The Sorter must be in programming mode. To enter the programming mode, perform the steps below.
A. Connect the Printer to port \#4 at the rear of the Sorter.
B. Turn Keyswitch to vertical position, hold Batch Key on Control down, and switch the Sorter Power Switch to ON.
C. Cycle MOTOR ON / OFF Key until Display shows:

PRINTER? PRESS
BATCH $=\mathrm{Y}, \quad$ GRAND $=\mathrm{N}$
The current selection will flash.
D. Press the Batch Key ("Y") to insure Control Communications to the Printer.
E. Turn the Sorter Keyswitch to horizontal position and back to the vertical position.
F. Switch Printer Power Switch ON.
G. Press "SEL" Key on Printer to place Printer on-line (green light "ON" on "SEL" Key).

Note: If a Batch or Grand total is accepted and the printer has not been initialized, the Printer Tape may not advance far enough for proper tear-off. Initialize the Printer (steps a-h above). switch the Printer Power Switch off, wait a few seconds, then switch the Printer on again.

## remote display initialization

## INITIALIZING THE CONTROL FOR

 REMOTE DISPLAY OPERATIONThe Sorter must be "told" that a Remote Display is connected, so that the proper communication link can be established.

Note: The Sorter must be in programming mode. To enter the programming mode, perform the steps below.
A. Connect Remote Display to Port \#3 at rear of Sorter.
B. Turn Keyswitch to vertical position, hold Batch Key on Control down, and switch the Sorter Power Switch to ON.
C. Press MOTOR ON / OFF Key twice. Display will show:

DISPLAY? PRESS
BATCH $=\mathrm{Y}, \quad$ GRAND $=\mathrm{N}$

## The current selection will flash.

D. Press the Batch Key ("Y") to insure Control Communications to the Remote Display.
E. Turn the Sorter Keyswitch to horizontal ( - ) position and back to the vertical (I) position..
time / date

## SET CLOCK

USE GRAND KEY

## PROGRAMMING KEY

 SEQUENCESThe following pages explain in detail all the steps necessary to properly program the features of the Sorter.

1. SET TIME / DATE
A. Turn Keyswitch to vertical position, hold Batch Key on Control down, and switch the Sorter Power Switch to ON.
B. Cycle the MOTOR ON / OFF Key until the Display shows:
C. Press the GRAND Key.
D. The Display will show (example):
E. Press the BAGSTOP Key to highlight the digit to be changed.
F. Cycle the BAG COUNT Key to until the desired number is shown.
G. Repeat steps E and F for all digits.
H. Press the ACCEPT Key to accept the changes and return to the Programming Mode.
I. Press the MOTOR ON / OFF Key to return to the programming mode.
or
Turn the Keyswitch to the horizontal position to exit the programming mode.

Note: 1) 24 hour time is displayed / printed in hours / minutes
2) date is displayed as day (dd), month (mm), year (yy).

## decimal point / comma

2. DECIMAL POINT / COMMA SELECTION AND DISPLAY LOCATION
A. Turn Keyswitch to vertical position, hold Batch Key on Control down, and switch the Sorter Power Switch to ON.
B. Cycle MOTOR ON / OFF Key until Display shows:
C. To select Decimal Point / Comma
3. Press BAG STOP Key. Display will show:

COMMA

Repeated depressions of the BAG STOP Key will select between the Displays. When the Display you require is shown, either:

Press the BAG COUNT Key to select the Decimal Point / Comma position (See "D" below).

OR
Press the MOTOR ON / OFF Key to select the next parameter.

OR
Turn the Keyswitch to horizontal, then back to vertical to exit the programming mode.
D. To select Decimal Point / Comma position:

## Programming

## decimal point / comma

1. Press BAG COUNT Key. Display will show one of the following:


| .000 |
| ---: |
| POINT LOCATION |

E. When the Display shows the location you require, exit using one of the following:
Press the MOTOR ON / OFF Key to select the next parameter.

OR
Turn the Keyswitch to horizontal, then back to vertical to exit the programming mode.

## fee percent

## 3. SET FEE PERCENT

A. Turn Keyswitch to vertical position, hold Batch Key on Control down, and switch the Sorter Power Switch to ON.
B. Cycle the MOTOR ON / OFF Key until the Display shows:
C. Press the BATCH Key.
D. The Display will show (example):
E. Press the GRAND Key. The digit (0) will flash.
F. Cycle the BAG COUNT Key to increment (increase ) the number.
G. Cycle the BAG STOP Key to decrement ( decrease) the number.

Note: The maximum \% that can be entered is $999=9.99 \%$.
H. Repeat steps F and $G$ for each additional digit.
I. When all required changes are complete press the ACCEPT Key to enter the fee percent into memory.
J. Press the MOTOR ON / OFF Key to return to the programming mode.
or
Turn the Keyswitch to the horizontal position to exit the programming mode.

## fixed fee

## FIXED FEE

 USE BATCH KEYHUND. OF CURR.

Note: $100=1.00$
4. SET FIXED FEE
A. Turn Keyswitch to vertical position, hold Batch Key on Control down, and switch the Sorter Power Switch to ON.
B. Cycle the MOTOR ON / OFF Key until the Display shows:
C. Press the GRAND Key.
D. The Display will show (example) and the digit (0) will flash:
E. Cycle the GRAND Key to select the digit to be changed.
F. Cycle the BAG COUNT Key to increment ( increase ) the value.
G. Cycle the BAG STOP Key to decrement (decrease) the value.

Note: The maximum value that can be entered is $1999=19.99$.
H. Repeat steps E through $G$ for each additional digit.
I. When all required changes are complete press the ACCEPT Key to enter the fee percent into memory.
J. Press the MOTOR ON / OFF Key to return to the programming mode.
or
Turn the Keyswitch to the horizontal position to exit the programming mode.

## batch print length / \# copies

## 5. BATCH PRINT LENGTH / NUMBER OF COPIES

A. Turn Keyswitch to vertical position, hold Batch Key on Control down, and switch the Sorter Power Switch to ON.
B. Cycle MOTOR ON / OFF Key until Display shows:

## SET BATCH PRINT

-USE BAG STP / CNT
C. To select length of Printout:

1. Press BAG STOP Key. Display will show:

| BATCH | -LONG- <br> PRINTOUT |
| ---: | ---: |

BATCH -SHORTPRINTOUT

Repeated depressions of the BAG STOP Key will select between the Displays. When the Display you require is shown, either:

Press the BAG COUNT Key to select the number of printout copies (See "D" below).

OR
Press the MOTOR ON / OFF Key to select the next parameter. OR

Turn the Keyswitch to horizontal, then back to vertical to exit the programming mode.
D. To select number of printout copies;

1. Repeatedly press the BAG COUNT Key. The Display increments from 0 to 4 copies.

## BATCH

\# OF PRINTOUTS

## batch print length / \# copies

E. Exit using one of the following:

Press the MOTOR ON / OFF Key to select the next parameter.

OR
Turn the Keyswitch to horizontal, then back to vertical to exit the programming mode.

Examples of long and short Batch printouts are shown in FIGURE \#15.

| BATCH |  | ACCEPT | B A T C H | ACCEPT |
| :---: | :---: | :---: | :---: | :---: |
| TIME 09:15 |  | 09/21/02 | TIME 09:15 | 09/21/02 |
| BATCH |  | 1503-01 | BATCH | 1503-01 |
| SUB |  | 111 | SUB | 111 |
| GRAND |  | 09/21/02 | GRAND | 09/21/02 |
| . 01 | 200 | 2.00 | TOTAL | 414.00 |
| . 05 | 260 | 13.00 | SHORT |  |
| . 10 | 360 | 36.00 |  |  |
| . 25 | 1100 | 275.00 |  |  |
| . 50 | 76 | 38.00 |  |  |
| 1.00 | 50 | 50.00 |  |  |
| TOTAL COIN |  | 414.00 |  |  |
| TOTAL |  | 414.00 |  |  |

FIGURE \#15
BATCH PRINTOUTS

## grand print length / \# copies

## 6. GRAND PRINT LENGTH / NUMBER OF

 COPIESA. Turn Keyswitch to vertical position, hold Batch Key on Control down, and switch the Sorter Power Switch to ON.
B. Cycle MOTOR ON / OFF Key until Display shows:
C. To select length of Printout, Press the BAG STOP Key. The Display will show:

## GRAND -SHORT-

Cycling the BAG STOP Key will select between the Displays. When the Display you require is shown, either:

Press the BAG COUNT Key to select the number of printout copies (See "D" below).

OR
Press MOTOR ON / OFF Key to select next parameter.

OR
Turn the Keyswitch to horizontal, then back to vertical to exit the programming mode.
D. To select number of printout copies, repeatedly press the BAG COUNT Key. The Display increments from 0 to 4 copies.
E. Exit using one of the following:

Press MOTOR ON / OFF Key to select next parameter. OR
Turn the Keyswitch to horizontal, then back to vertical to exit the programming mode.
Examples of long and short Grand printouts are shown in FIGURE \#16.

## grand print length / \# copies



## Programming

## baud rate

## 7. RS232 COMMUNICATION PORT PARAMETERS

INTERFACE CHART

| Model | Display | Interface <br> Cable | Baud <br> Rate | Data <br> Bits | Parity | RTS <br> /CTS | Port(s) | Display <br> Selection | Comments |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| M5 / M7 OUTPUT FORMAT | 7 | --- | --- | --- | --- | --- | $1-2-3-4$ | OPTION 4 | OLD PRINTER <br> OUTPUT FORMAT |
| 0036886 | 6 | --- | 19.2 K | 8 | NONE | --- | 3 | --- | --- |
| 0036888 | 1 | 0033131 | 9600 | 8 | NONE | RTS | $1-2-3-4$ | --- | PORT 4 |
| M3540 / 3550 <br> CTZN PNTR | A | 0035561 | 9600 | 8 | NONE | RTS | $1-2-3-4$ | OPTION 3 | PORT 4 |
| DEPROS | --- | --- | 1200 | --- | --- | --- | 1 | ENHANCED | ALL SET W/ PC-CASH |

7.0 SELECT BAUD RATE
A. Turn Keyswitch to vertical position, hold Batch Key on Control down, and switch the Sorter Power Switch to ON.
B. Cycle MOTOR ON / OFF Key until Display shows:
C. Press BAG STOP Key. The Display will show:
D. Cycle the BAG COUNT Key until the Display shows the port you wish to change.

## parity

## $\triangle$ CAUTION

THE BAUD RATE THAT YOU SELECT WILL APPLY ONLY TO THE PORT YOU HAVE SELECTED IN ITEM "D" ABOVE.
E. Cycle the BAG STOP Key until the Display shows the following:

## SELECT BAUD RATE

F. Cycle the BAG COUNT Key until the Display shows the desired baud rate.

EXAMPLE:


BE SURE DISPLAY SHOWS CORRECT PORT NUMBER
(TO CHANGE, SEE ITEM "D")
Note: BAUD RATES AVAILABLE:
300 / 1200 / 2400 / 9600 / 19,200
G. Cycle the Bag Count Key to display the Baud Rate you require.
H. Exit using one of the following:

Press BAG STOP Key to select the next communications parameter

## OR

Press MOTOR ON / OFF Key to select the next programming parameter

OR
Turn the Keyswitch to horizontal, then back to vertical to exit the programming mode.

## parity

### 7.1 SELECT PARITY

A. Turn Keyswitch to vertical position, hold Batch Key on Control down, and switch the Sorter Power Switch to ON.
B. Cycle MOTOR ON / OFF Key until Display shows:
C. Press BAG STOP Key. The Display will show the following:
D. Cycle the BAG COUNT Key until the Display shows the port you wish to change.

## $\triangle$ CAUTION

EXAMPLE: PORT \#1
PORT 1; 9600, N, 7, 1 DTE THE BAUD RATE THAT YOU SELECT
WILL APPLY ONLY TO THE PORT YOU HAVE SELECTED IN ITEM "D" ABOVE.
E. Cycle the BAG STOP Key until the Display shows:
F. Cycle the BAG COUNT Key to display the parity you require (none, even, or odd).

## SELECT PARITY

USE BG COUNT KEY

EXAMPLE:
NONE
PORT 1 PARITY
BE SURE DISPLAY SHOWS
CORRECT PORT NUMBER
(TO CHANGE, SEE ITEM "D")

## data bits

G. Exit using one of the following:

Press BAG STOP Key to select the next communications parameter

OR
Press MOTOR ON / OFF Key to select the next programming parameter

OR
Turn the Keyswitch to horizontal, then back to vertical to exit the programming mode.
7.2 SELECT DATA BITS
A. Turn Keyswitch to vertical position, hold Batch Key on Control down, and switch the Sorter Power Switch to ON.
B. Cycle MOTOR ON / OFF Key until Display shows:
C. Press BAG STOP Key. The Display will show the following:
SELECT PORT NO.,
USE BG COUNT KEY

EXAMPLE: PORT \#1
D. Cycle the BAG COUNT Key until the Display shows the port you wish to change.

PORT 1; 9600, N, 7, 1 DTE

## $\triangle$ CAUTION

THE DATA BITS THAT YOU SELECT WILL APPLY ONLY TO THE PORT YOU HAVE SELECTED IN ITEM "D" ABOVE.

## formats

## SELECT DATA BITS

USE BG COUNT KEY

EXAMPLE:

## PORT 1 DATA BITS

BE SURE DISPLAY SHOWS CORRECT
PORT NUMBER
(TO CHANGE, SEE ITEM "D" ABOVE)
E. Cycle the BAG STOP Key until the Display shows:
F. Cycle the BAG COUNT Key to display the data bits you require ( 7 or 8 ).
G. Exit using one of the following:

Press BAG STOP Key to select the next communications parameter

OR
Press MOTOR ON / OFF Key to select the next programming parameter

OR
Turn the Keyswitch to horizontal, then back to vertical to exit the programming mode.

## Programming

## formats

### 7.3 SELECT FORMATS

A. Turn Keyswitch to vertical position, hold Batch Key on Control down, and switch the Sorter Power Switch (see FIGURE \#7) to ON.

PROGRAM PORTS
USE BAG STOP KEY

SELECT PORT NO., USE BG COUNT KEY

## EXAMPLE: PORT \#1

PORT 1; 9600, N, 7, 1
DTE

## $\triangle$ CAUTION

THE FORMAT THAT YOU SELECT WILL APPLY ONLY TO THE PORT YOU HAVE SELECTED IN ITEM "D".
E. Cycle the BAG STOP Key until the Display shows:

## formats

F. Cycle the BAG COUNT Key to select one of the following five formats:

Note: Be sure that Display shows correct port \#

| DISPLAY | FORMAT | WHERE USED |
| :--- | :--- | :--- |
| 1 | Prn | Sends Printer Format |
| *2 | Cur 1 | 2620 |
| *3 | Cur 2 | 2650,2800 |
| *4 | Cur 3 | $8643,8625,8672$ |
| 5 | Enhanced | Bar Code Reader/Computer Control |
| 6 | Display | Remote Display |
| *7 | Opt 4 | Mach 5/7 Printer Format |
| *8 | Opt 1 | Not Used |
| *9 | Opt 2 | 2620 3D |
| *A | Opt 3 | Printer Citizen HD |
| * B | Opt 5 | Not Used |
| *C | Opt 6 | Jet Scan |

* NOT USED WITH BASIC CONTROL


## EXAMPLES

PORT 3; 9600, N, 8, $6-\quad$ SENDS REMOTE DISPLAY FORMAT TO PORT \#3
DTE

PORT 4; 9600, N, 8, 1ـ SENDS PRINTER FORMAT TO PORT \#4
DTE

## Programming

formats

| FORMAT PRN |
| :--- |
| PORT 3 FORMAT |

1. Printer Format

A typical print format is shown in FIGURE \#17. It contains a header, fixed and variable fields.

|  | B A C H | A | CEPT |  |
| :---: | :---: | :---: | :---: | :---: |
|  | TIME 09:15 |  | 09/21/02 |  |
|  | BATCH |  | 1503-01 |  |
|  | SUB |  | 111 |  |
|  | GRAND |  | 09/21/02 |  |
|  | . 01 | 200 | 2.00 |  |
| FIXED | . 05 | 260 | 13.00 | VARIABLE |
| FIELDS | . 10 | 360 | 36.00 | FIELDS |
|  | . 25 | 1100 | 275.00 |  |
|  | . 50 | 76 | 38.00 |  |
|  | 1.00 | 50 | 50.00 |  |
|  | TOTAL COIN |  | 414.00 |  |
|  | TOTAL |  | ----- |  |

## CURRENCY COUNTER

PORT 1 FORMAT
2. Currency Counter Format

Sets the Port output format for compatibility with Currency Counters.
3. Enhanced Mode Format

ENHANCED MODE
PORT 1 FORMAT
Allows external (remote) commands to control all Sorter functions.

## ack / nak

### 7.4 SELECT ACK / NAK ENABLE

A. Turn Keyswitch to vertical position, hold Batch Key on Control down, and switch the Sorter Power Switch to ON.
B. Cycle MOTOR ON / OFF Key until Display shows:

PROGRAM PORTS
USE BAG STOP KEY

## SELECT PORT NO.,

 USE BG COUNT KEYEXAMPLE: PORT \#1
PORT 1; 9600, N, 7, 1 DTE

## $\triangle$ CAUTION

THE ACK / NAK THAT YOU SELECT WILL APPLY ONLY TO THE PORT YOU HAVE SELECTED IN ITEM "D".
E. Cycle the BAG STOP Key until the Display shows the following:
F. Cycle the BAG COUNT Key to enable or disable ACK / NAK.

EXAMPLE:

|  | DISABLED |
| :--- | :--- |
| PORT 1 | ACK / NAK |

BE SURE DISPLAY SHOWS CORRECT PORT NUMBER (TO CHANGE, SEE ITEM "D" ABOVE)

## dtr / dsr

PROGRAM PORTS
USE BAG STOP KEY

SELECT PORT NO.,
USE BG COUNT KEY

EXAMPLE: PORT \#1
PORT 1; 9600, N, 7, 1 DTE
G. Exit using one of the following:

Press BAG STOP Key to select the next communications parameter

OR

Press MOTOR ON / OFF Key to select the next programming parameter

## OR

Turn the Keyswitch to horizontal, then back to vertical to exit the programming mode.
7.5 SELECT DTR / DSR ENABLE (NOT AVAILABLE ON PORT \#3 or PORT \#4)
A. Turn Keyswitch to vertical position, hold Batch Key on Control down, and switch the Sorter Power Switch to ON.
B. Cycle MOTOR ON / OFF Key until Display shows:
C. Press BAG STOP Key. The Display will show:
D. Cycle the BAG COUNT Key until the Display shows the port you wish to change.

THE DTR / DCR THAT YOU SELECT WILL APPLY ONLY TO THE PORT YOU HAVE SELECTED IN ITEM "D".

## rts / cts

E. Cycle the BAG STOP Key until the Display shows:
ENABLE DTR / DSR
USE BG COUNT KEY

EXAMPLE:

|  | ENABLED |
| :---: | :---: |
| PORT 1 | DTR / DSR |
| BE SURE DISPLAY SHOWS CORRECT |  |
| PORT NUMBER |  |
| (TO CHANGE, SEE ITEM "D") |  |

PROGRAM PORTS
USE BAG STOP KEY
F. Cycle the BAG COUNT Key to enable or disable DTR / DSR.
G. Exit using one of the following:

Press BAG STOP Key to select the next communications parameter

OR
Press MOTOR ON / OFF Key to select the next programming parameter

OR

Turn the Keyswitch to horizontal, then back to vertical to exit the programming mode.

### 7.6 SELECT RTS / CTS ENABLE

A. Turn Keyswitch to vertical position, hold Batch Key on Control down, and switch the Sorter Power Switch to ON.
B. Cycle MOTOR ON / OFF Key until Display shows:

## rts / cts

SELECT PORT NO.,
USE BG COUNT KEY

EXAMPLE: PORT \#1
PORT 1; 9600, N, 7, 1
DTE

ENABLE RTS / CTS
USE BG COUNT KEY

EXAMPLE:


BE SURE DISPLAY SHOWS CORRECT PORT NUMBER
(TO CHANGE, SEE ITEM "D")
C. Press BAG STOP Key. The Display will show:
D. Cycle the BAG COUNT Key until the Display shows the port you wish to change.

## $\triangle$ CAUTION

THE RTS / CTS THAT YOU SELECT WILL APPLY ONLY TO THE PORT YOU HAVE SELECTED IN ITEM "D".
E. Cycle the BAG STOP Key until the Display shows:
F. Cycle the BAG COUNT Key to enable or disable RTS / CTS.
G. Exit using one of the following:

Press BAG STOP Key to select the next communications parameter

OR
Press MOTOR ON / OFF Key to select the next programming parameter

OR
Turn the Keyswitch to horizontal, then back to vertical to exit the programming mode.

## print order / bagstops

8. SELECT PRINT ORDER BY VALUE / SIZE.
A. Turn Keyswitch to vertical position, hold Batch Key on Control down, and switch the Sorter Power Switch to ON.
B. Cycle MOTOR ON / OFF Key until Display shows:

SET PRINT ORDER
USE BAG STOP KEY

| PRINT COINS IN |
| :--- |
| ORDER OF VALUE |

BAG STOPS ACTIVE?
USE BAG STOP KEY

| BAG STOPS ARE |
| :--- |
| ACTIVE |

OPS ARE
DISABLED
D. When the Display shows your choice, exit by pressing the MOTOR ON / OFF Key for the next programming selection or turning the Keyswitch to horizontal, then back to vertical to exit the programming mode.

## 7-second / unit-dollar display

## 10.SELECT RUN CONTINUOUSLY OR

 7-SECOND AUTO STOP.A. Turn Keyswitch to vertical position, hold Batch Key on Control down, and switch the Sorter Power Switch to ON.

SET RUN / AUTOSTOP USE BAG STOP KEY
SORTER STOPS
AFTER 7 SECONDS OR

AFTER 7 SECONDS

USE BAG STOP KEY


OR
ARE DOLLAR VALUE
B. Cycle MOTOR ON / OFF Key until Display shows:
C. Cycle BAG STOP Key to select either of the following choices:

## SORTER RUNS

CONTINUOUSLY
D. When the Display shows your choice, exit by pressing the MOTOR ON / OFF Key for the next programming selection or turning the Keyswitch to horizontal, then back to vertical to exit the programming mode.

## 11. SELECT UNIT OR DOLLAR

 DISPLAY FOR BAG STOP AND COUNT.A. Turn Keyswitch to vertical position, hold Batch Key on Control down, and switch the Sorter Power Switch to ON.
B. Cycle MOTOR ON / OFF Key until Display shows:
C. Cycle BAG STOP Key to select either of the following choices:

## BAG COUNTS / STOPS

ARE UNIT VALUE
D. When the Display shows your choice, exit by pressing the MOTOR ON / OFF Key for the next programming selection or turning the Keyswitch to horizontal, then back to vertical to exit the programming mode.

## bagstop values

## 12. PROGRAM BAG STOP VALUES

Note: To avoid miscounting and / or drawer spills, select a drawer stop quantity that does not fill the drawer above the molded-in "fill-line" (approximately 3/4 full).
A. Turn Keyswitch to vertical position, hold Batch Key on Control down, and switch the Sorter Power Switch to ON.
B. Cycle MOTOR ON / OFF Key until Display shows:

## SELECT BAG STOPS

## -USE BATCH KEY

EXAMPLE:

D. Cycle the ACCEPT Key to show the three choices available for that coin.


OR $\begin{array}{r}500 \\ .01-\text { STOP } 3 \\ \hline\end{array}$
E. When the Display shows the choice to be changed:

1. Cycle the GRAND Key to the digit column to be changed. The digit will flash.

## coin values

2. Cycle the BAG STOP Key to decrement (decrease) the digit value. Cycle the BAG COUNT Key to increment (increase) the digit value.

Note: All entries are in unit values only !!!
F. To reset all bag stop settings to their default settings, press the CLEAR Key.
G. Exit using one of the following:

Cycle the BATCH Key to move to the next Bagstop to be programmed

## OR

Press the MOTOR ON / OFF Key to select the next programming choice

OR
Turn the Keyswitch to horizontal, then back to vertical to exit the programming mode.

Note: This will return the Control to normal operation. Cycle the bagstop key to the desired station and select the desired quantity. Refer to "bagstop quantity selection" in earlier in this Guide for additional information.

## coin values

## 13. PROGRAM COIN VALUES.

A. Turn Keyswitch to vertical position, hold Batch Key on Control down, and switch the Sorter Power Switch (see FIGURE \#7) to ON.
B. Cycle MOTOR ON / OFF Key until Display shows:

## SET COIN SPECS

-USE BATCH KEY


OR
TOKEN W/VALUE
COIN 3 VALUE

## Programming

## coin values

| DISABLED COIN 3 VALUE | OR |  |  | LU |
| :---: | :---: | :---: | :---: | :---: |
| NO COUNT |  | UNIT | TOK |  |
| .01 <br> COIN 3 VALUE | OR | TOKE |  | UU |

H. If an error is made during entry, press the CE Key to clear the Display and enter the proper coin value.
I. Exit using one of the following:

Cycle the BATCH Key to move to the next coin to be programmed

OR
Press the MOTOR ON / OFF Key to select the next programming choice

OR
Turn the Keyswitch to horizontal, then back to vertical to exit the programming mode.

## fuse replacement

The Sorter employs one Fuse in each leg of the incoming AC line. If either Fuse becomes inoperative, the Sorter will stop.

## $\triangle$ CAUTION

DISCONNECT SORTER FROM POWER BEFORE EXAMINING OR REPLACING FUSES. ALWAYS REPLACE THE FUSE WITH THE CORRECT SIZE AND TYPE FOR CONTINUED CIRCUIT PROTECTION.

A coin (or other article) jam severe enough to stop the Sorting Motor will cause the Power Supply to go into a "foldback" (semi-shutdown) mode; and, if left unattended, will eventually blow one or both of the fuses.


FIGURE \#18
FUSE LOCATION

## sorter cleaning / jam removal

## !!! IMPORTANT SAFETY INFORMATION !!!

## $\triangle$ CAUTION

DISCONNECT THE POWER CORD FROM THE POWER SOURCE BEFORE CLEANING OR REMOVING A JAMMED COIN OR OTHER OBJECT. THE COIN TOTALS AND BAGSTOP QUANTITIES WILL BE RETAINED BY THE BATTERY BACKUP CIRCUITRY WHEN THE POWER CORD IS DISCONNECTED.

## A. CLEANING / JAM REMOVAL

Many cleaning-related accidents are caused by failure to follow basic safety rules or written precautions. Accidents can be avoided if the operator is completely familiar with the Sorter and its operation.

Improper or inadequate maintenance or care of the Sorter can be dangerous and could result in damage to the Sorter or personal injury or death to you or other persons.

## $\triangle$ Caution

NEVER ATTEMPT CLEANING WHEN THE SORTER IS CONNECTED TO POWER.

NEVER ALLOW TOOLS, FINGERS, HAIR, OR CLOTHING TO COME NEAR MOVING PARTS.

The frequency of any cleaning program must be determined by the operator, and will ultimately be controlled by operational environment (condition of coin, frequency of use, etc.). The Power Cord should always be disconnected before cleaning.

## sorter cleaning / jam removal

## 1. General Cleaning

The Sorter should be kept clean and free from dirt and dust. Clean the outside with a soft cloth and a mild soap. NEVER use alcohol, Ketone, or any harsh chemicals on the outside surfaces. NEVER spray any liquid directly onto the Control or inside the Sorter. A small portable vacuum is handy for removing coin dust buildups from surfaces inside the Sorter.
2. Cleaning Coin Sensors / Clearing Jams in Sorting Area

Should a badly bent or mutilated coin or other object enter the sorting area, it could become jammed and must be removed before further operation.

The Coin Sensors, located at the coin exit points, control the counting and must be kept clean and free of dirt buildups, coin dust, bag strings, etc., at all times.

Should either situation arise, proceed as follows:
a. Disconnect the Sorter from Power.
b. Close the Inspection Pan completely and then lift straight up to remove.
c. Lift the Top Cover for access to the finned Elastic Sorting Disc.

Note: A short metal rod, attached to the Front Cover will drop down when the Cover is raised to support the cover in the upright (open) position.
d. Remove the Disc by removing the Elastomeric (O-Ring) Retainer and unscrewing the large knob in the middle of the Disc.
e. Referring to FIGURE \#19, remove the protective foam strip and CAREFULLY clean the channel, then clean each Count Sensor with a cotton-tipped swab.
f. Reverse the process to replace the Disc.

## sorter cleaning / jam removal



FIGURE \#19
COUNT SENSOR CLEANING
g. Close the Upper Front Cover and replace the Inspection Pan. Connect the Sorter to Power, and, if desired, test for proper operation with coin as follows:

## sorter cleaning / jam removal

3. Clearing jams in the Receiving Area.

Should a Coin Drawer or Bag become overfilled, a Sensor will stop the Sorting Motor.

The likely causes for this condition are:
a. Incorrect Bag Stop setting for size of Drawer or Bag.
b. Failure to empty Drawer or Bag at Bag Stop.
c. Improperly installed or folded Coin Bag.

If a Coin Drawer is overfilled, remove the Drawer slowly so that coins are not spilled.

If a Coin Bag is overfilled, the coins will also back-up inside the Coin Chute. Straighten the Bag and / or shake the Chute to allow the coins to fall / settle.

If the jam persists, carefully remove the Chute (place your hand under the Chute to retain the coins), empty the Chute into the Coin Bag, replace the Chute and resume operation.

## Support

## service

## SERVICE

A worldwide network of factory-trained service specialists are available either on call or for execution of preventative maintenance programs scheduled through formal service contracts.

Our policy is to continually improve products. We reserve the right to change specifications and / or designs without notice.



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