



Count on one.

Model S-2500

Two Pocket Currency Discriminator

Operating Manual



SEMACON MODEL S-2500 TWO POCKET CURRENCY DISCRIMINATOR

This Operating Manual provides general guidelines for the operation of your Semacon model S-2500 Bank Grade Two Pocket Currency Discriminator. This Discriminator is a sophisticated machine designed to save time and labor while sorting and/or value counting bills in bulk. Before starting, please read this manual thoroughly to familiarize yourself with the operation and functions of the machine. Please follow all operating instructions and preventive maintenance procedures as described. If you have any questions or suggestions, please contact Semacon or your distributor.

WARNINGS

- The machine should only be connected to a main 110-120 volt AC socket with proper grounding and correct voltage.
- Always turn off the power switch and unplug the power cable before you open the rear doors or when the machine will not be in use for an extended period of time.



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INTRODUCTION

FEATURES

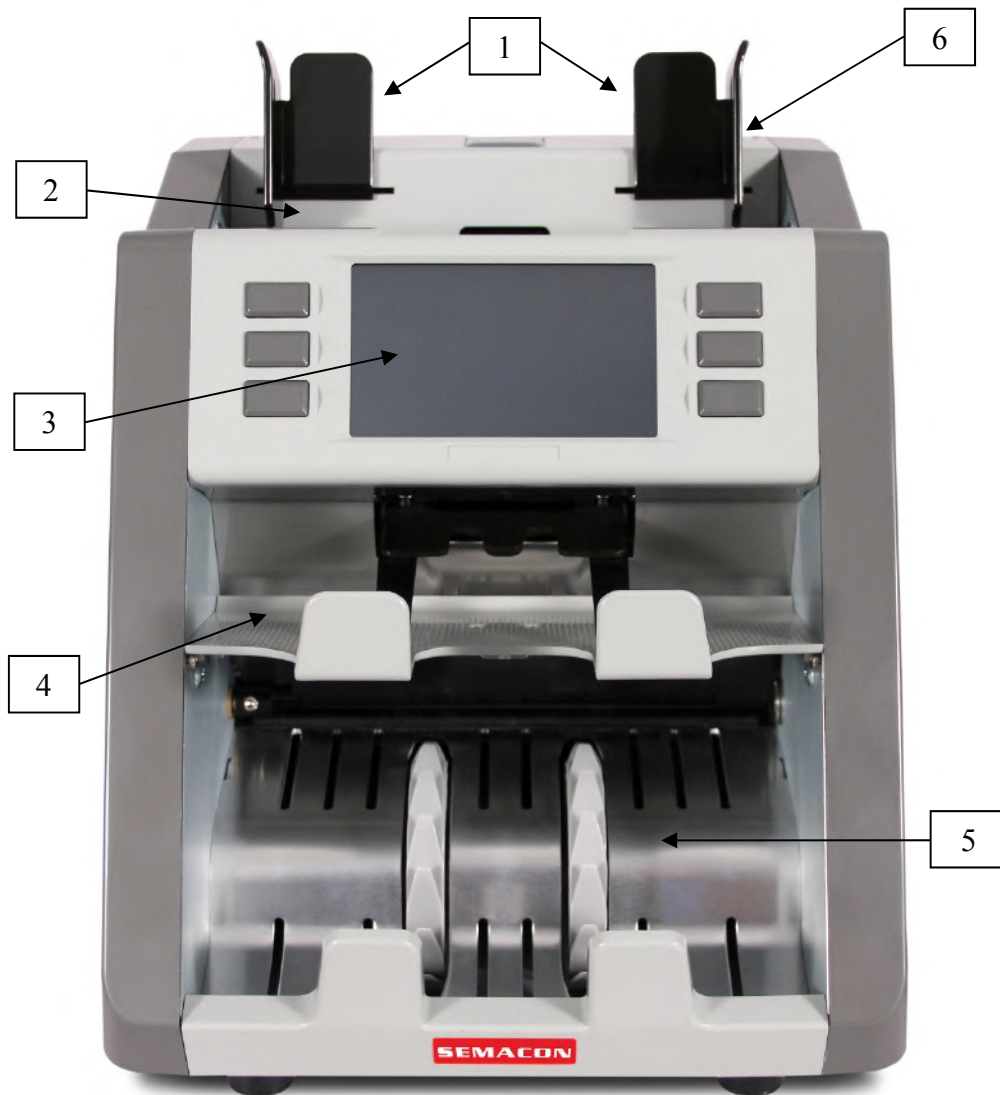
- Two pocket currency discriminating counter with image processing technology
- Large easy to read color LCD touch screen display
- Mixed bill value counting
- Sorting by denomination (auto or select)
- Separation by face
- Separation by orientation
- Advanced counterfeit detection (UV, MG, MT, FL, IR)
- Optional thermal printer

SPECIFICATIONS

Currency:	USD
Dimensions:	10.25" W x 12" D x 13" H (260mm W x 305mm D x 330mm H)
Weight:	21 lbs (9.5 kg)
Speed:	800 & 1000 bills per minute
(Discriminating)	
(Count Mode)	800, 1000, 1200 & 1500 bills per minute
Pockets:	2 (1 main stacker and 1 reject/sorting stacker)
Hopper Capacity:	500 bills (800 bills with hopper extensions)
Main Stacker Capacity:	250 bills
Reject Stacker Capacity:	100 bills
Counterfeit Detection:	UV, MG, MT, FL, IR
Power Source:	100 - 240 VAC, 50/60 Hz
Power Consumption:	65W
Printer Interface:	Serial

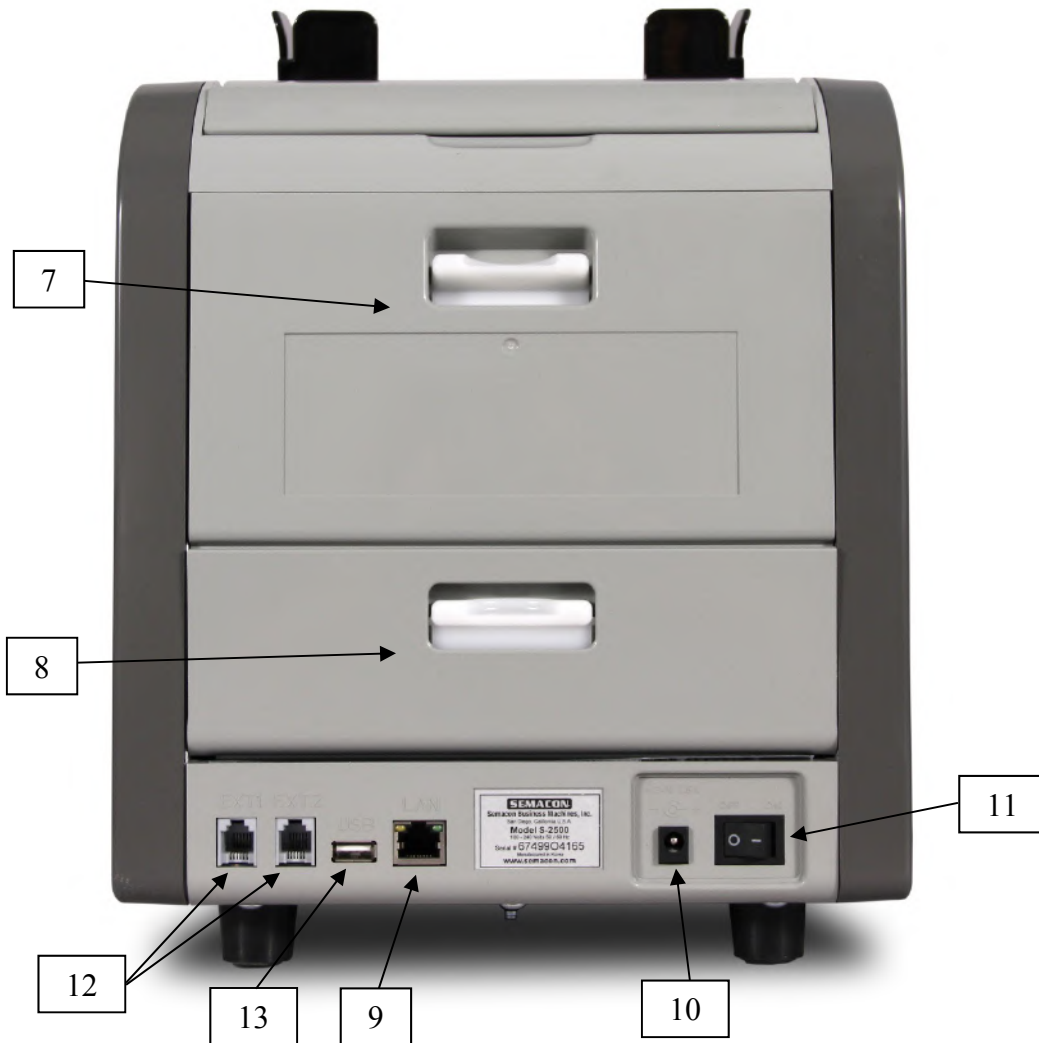
Specifications subject to change without notice

FRONT VIEW DIAGRAM



1	HOPPER GUIDES	Adjust to fit the width of the bills
2	HOPPER	To count bills, place them in the hopper
3	COLOR LCD TOUCH SCREEN	Use the color touch screen display to view counts and control machine settings.
4	REJECT STACKER/POCKET	Rejected bills are placed in this stacker
5	MAIN STACKER/POCKET	Counted bills are placed in this stacker
6	FEED TENSION ADJUSTMENT KNOB	Adjust the silver feed tension knob for smooth feeding and to eliminate feed errors

REAR VIEW DIAGRAM



7	UPPER REAR COVER	Push down to open and close the upper rear cover
8	LOWER REAR COVER	Push down to open and close the lower rear cover
9	ETHERNET/LAN PORT	Ethernet/LAN port (not used)
10	POWER CONNECTOR	Power cord connector
11	POWER SWITCH	Main power on/off switch
12	SERIAL PORTS 1 & 2	Serial connectors for optional external printer or optional external display
13	USB PORT	USB connector for memory stick containing software updates

POWER ON SELF-TEST

Following is the display which appears during the self-test after the machine is powered on.



If there is a problem with the system, an error message will be displayed on the screen. In this case, turn the machine off and perform the cleaning procedures as described in the Preventive Maintenance section of this manual. If cleaning does not resolve the issue, contact Semacon or your service center.

Following is the display which appears after the self-test has completed successfully.



CONTROL PANEL OVERVIEW

The following diagrams show the S-2500 control panel menus and settings.



	Main Screen Functions
1	Count Modes
2	Batch Mode
3	Add Mode
4	Setup Functions
5	List Reject Details / List Subtotals
6	Start/Stop



	Setup Screen Functions
1	Reset Counts
2	Currency (N/A on this model)
3	Additional Setup Functions
4	Engineering Mode
5	Print Functions
6	Return to Previous Screen




MACHINE OPERATION

The following diagrams show the various operating modes and functions of the machine. To select a function on the display, press the icon on the screen or the button next to the icon.

COUNTING MODES






Press or touch the top left corner button to select the counting mode.

MODE	DESCRIPTION	DISPLAY
<p>MIX COUNT (Value Count Mode)</p>	<p>Mixed stacks of bills can be value counted in MIX COUNT mode. Bills are not sorted in this mode (all denominations are placed in the main stacker). Separate denomination counts are displayed along with a grand total of all bills counted.</p>	
<p>DENOM COUNT (Sort Mode)</p>	<p>DENOM COUNT mode is used to sort and count bills.</p> <p>Touch SELECT to choose a specific denomination(s) to sort or to select AUTO mode.</p> <p>The AUTO setting uses the first denomination in the stack to select the denomination to be sorted and counted.</p> <p>The selected denomination(s) are counted and placed in the main stacker. All other denominations will be placed in the reject stacker.</p> <p>In the SELECT menu, you can also choose FACE and ORIENTATION modes.</p>	
<p>FACE</p>	<p>In FACE mode, the machine separates notes that are face up from notes that are face down. The first bill in the stack sets the face direction that will be placed in the main stacker. All bills faced in the other direction will be placed in the reject stacker.</p>	

<p>ORIENT</p>	<p>In ORIENTATION mode, bills are separated by orientation. The first bill in the stack sets the orientation direction that will be placed in the main stacker. All bills oriented in the other direction will be placed in the reject stacker.</p>	
<p>TOTAL COUNT</p>	<p>In TOTAL COUNT mode, mixed bills are value counted the same as they are in MIX COUNT mode but the screen displays only the total number and value of all the counted bills. The denomination breakdown is not displayed in this mode.</p>	
<p>FREE COUNT</p>	<p>In FREE COUNT mode, bills are counted without denomination recognition, value counting, sorting or counterfeit detection. This mode is not recommended for general use.</p>	

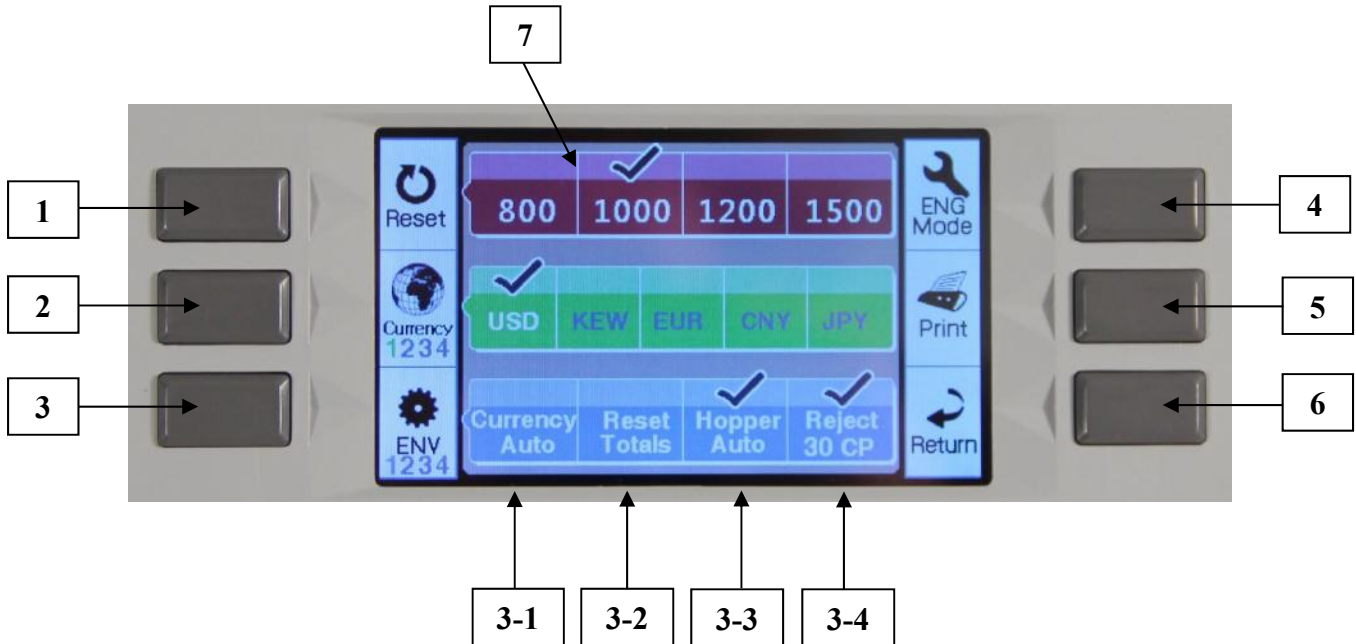
BASIC FUNCTIONS

BUTTON	DESCRIPTION	DISPLAY
<p>SETUP</p>	<p>Press the SETUP button to access the SETUP menus. For more information, see the SETUP MENU section.</p>	
<p>BATCH</p>	<p>Press the BATCH button to access the batch mode menu. Use the number buttons or select one of the preset values and press ENTER to set the BATCH limit. Once the batch limit has been reached in the main stacker, feeding will stop. When the bills are removed from the main stacker, feeding will resume automatically.</p> <p>If no BATCH limit is selected, the BATCH limit will default to 200.</p>	
<p>LIST SUBTOTALS</p>	<p>Press the LIST button when there are no bills in the reject stacker to display the SUBTOTAL LIST.</p> <p>When the hopper and both stackers are emptied following a count, a new subtotal line will be added to the SUBTOTAL LIST. The grand total is shown at the bottom of the subtotal list.</p>	

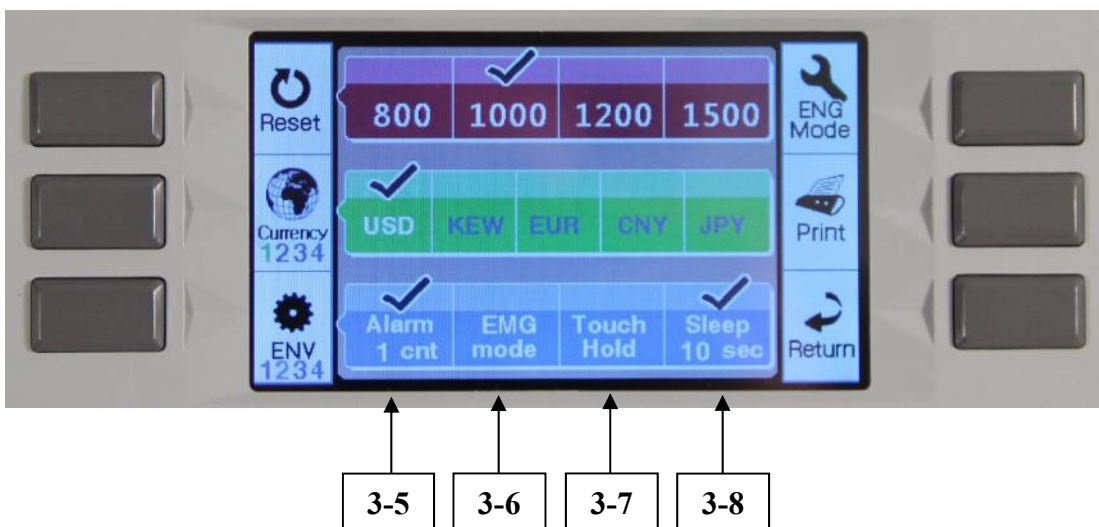
	<p>Use the RESET TOTALS function to clear the subtotal list (see the SETUP MENU section).</p>	
<p>LIST REJECTIONS</p>	<p>Press the LIST button when there are bills in the reject stacker to see the rejection details. See the ERROR MESSAGES section for rejection descriptions.</p>	
<p>PRINT</p>	<p>To access the PRINT menu, go to the SETUP menu and press the PRINT button.</p> <p>To print the current count, press PRINTER CURRENT. To print the subtotal list, press PRINTER TOTAL. USB TOTAL is not used.</p>	
<p>START/ STOP</p>	<p>Starts, restarts or stops the counting process.</p>	
<p>ADD</p>	<p>Press the ADD button to select the ADD mode. When ADD mode is ON, the display shows a cumulative total of all counted bills. When ADD mode is OFF, the machine clears the count each time the bills are removed from the main stacker and counting is restarted.</p> <p>NOTE: ADD mode has been superseded by the SUBTOTAL function and is not recommended.</p>	

SETUP MENU

The settings menu is selected by pressing the **SETUP** button. The first group of environment settings will appear on the bottom row of the screen.



The second group of environment settings are selected by pressing the **ENV** button and will appear on the bottom row of the screen. The **ENV** button may be pressed again to return to the first group of environmental settings.



NUMBER	BUTTON	DESCRIPTION
1	RESET	RESET clears the current count on the display.
2	CURRENCY	Only USD can be selected. Additional currencies are not available at this time.
3	ENV	<p>The functions below can be selected from the ENVIRONMENT settings menu at the bottom of the SETUP screen:</p> <p>3-1) CURRENCY AUTO: N/A</p> <p>3-2) RESET TOTALS: Clears the SUBTOTAL LIST.</p> <p>3-3) HOPPER AUTO: When HOPPER AUTO is on, the machine will automatically start counting bills when they are placed in the hopper. When HOPPER AUTO is off, the START button must be pressed to begin counting.</p> <p>3-4) REJECT CP (Capacity): The REJECT CAPACITY can be set to 1, 20, 30, 50 or 100 bills by touching REJECT CP. The recommended REJECT CAPACITY setting is 30.</p> <p>3-5) ALARM: The ALARM function sets the number of beeps that sound when an error occurs. The ALARM can be set to 0, 1, 3, 5 or 10 beeps. The factory ALARM setting is 1 beep.</p> <p>3-6) EMG MODE: N/A</p> <p>3-7) TOUCH HOLD: When the TOUCH HOLD button is selected, the touch screen functionality is disabled (locked). Touch screen functionality is still available in the SETUP Menu.</p> <p>3-8) SLEEP: N/A</p>
4	ENG MODE	ENG (Engineering) MODE is used by qualified technicians to diagnose and correct problems. This mode is password protected and should only be accessed when directed to do so by a Semacon technical support representative.
5	PRINT	To PRINT the current count, press PRINTER CURRENT . To print the subtotal list, press PRINTER TOTAL . The USB TOTAL function is not used.
6	RETURN	Press RETURN to return to the previous screen.
7	SPEED	<p>In MIXED COUNT, DENOM COUNT and TOTAL COUNT modes, the speed options are 800 and 1000 bills per minute.</p> <p>In FREE COUNT mode, the speed options are 800, 1000, 1200 and 1500 bills per minute.</p>

PREVENTIVE MAINTENANCE

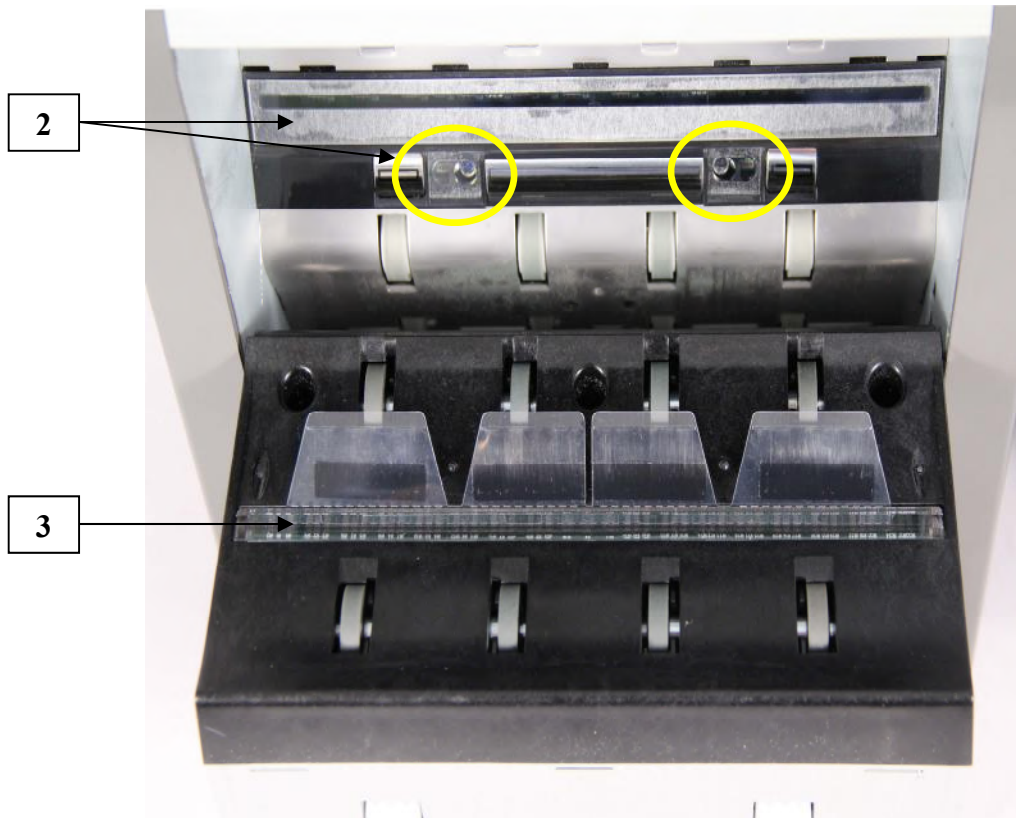
AIR CLEANING

The machine should be cleaned regularly with canned compressed air. If the machine is used consistently throughout the day, this cleaning procedure should be performed daily.

- 1) Blow out the hopper area and feed rollers
- 2) Blow out the reject (upper) stacker tray area and rollers above and below the tray
- 3) Blow out the main (lower) stacker area and rollers
- 4) Open the upper rear door and blow out this area
- 5) Open the lower rear door and blow out this area

SENSOR CLEANING

The sensor areas should be cleaned periodically with a micro-fiber or soft, lint-free cloth and rubbing alcohol or glass cleaner. Other cleaning products can attract dust and are not recommended. If the machine is used consistently throughout the day, this cleaning procedure should be performed weekly or if the machine starts generating recognition errors.



- 1) Open the lower rear door, then the upper rear door
- 2) On the machine side, clean the long glass strip and the two short glass strips below it
- 3) On the door side, clean the long glass strip
- 4) Dry all glass surfaces thoroughly using a clean microfiber or lint-free cloth
- 5) Verify that all glass surfaces are cleared of all dust and smudges and are completely dry

NOTE: If the machine is generating unexpected error messages and the above cleaning procedures do not resolve the issue, please contact Semacon or your service center.

ERROR MESSAGES

Following are the error messages which can occur during counting and cause rejections or stop the counting operation. Press or touch the **LIST** button while bills are in the reject stacker to see a list of rejection details.

DISPLAY	CAUSE	SOLUTION
Clear Stacker Pocket	The bills in the main stacker need to be cleared	Remove the bills from the main stacker and press RESET
Stacker Pocket Error	An error has occurred in one of the stackers	Remove the bills from the main and reject stackers and press RESET
Hopper Jam	A jam has occurred in the hopper	Remove jammed bills from the hopper and press RESET
Path Jam	A jam has occurred in the feed path	Remove jammed bills from the feed path. Check inside both rear doors and the hopper/feeding area of the machine. Press RESET .
Motor Error	Abnormal motor operation	Press RESET . If this error occurs frequently, contact Semacon or your service center.
Chain Error	Multiple bills fed together or bill fed at steep angle	The factory setting for the feed adjustment knob is 0 . Turn the knob counterclockwise, one-half step at a time, testing with bills after each adjustment. If the error messages continue, contact Semacon or your service center.
Skew Error	Bill fed at a steep angle	Remove the bills from the reject stacker and adjust the thickness setting
Double Error	Multiple bills fed together	Remove the bills from the reject stacker and adjust the thickness setting
Recognition Error	Bill was not correctly recognized	Remove the bills from the reject stacker, check them for defects and refeed them if not defective
Batch Full	Bill count has reached the batch limit setting	Remove batched bills from the main stacker
Press Reset	Reset is needed for next operation	Press RESET
Suspect UV	Bill is abnormal and detected by ultraviolet sensor (suspect counterfeit bill)	Remove bill(s) from reject stacker and check the bill(s) for counterfeit properties
Suspect MG	Bill is abnormal and detected by magnetic sensor (suspect counterfeit bill)	Remove bill(s) from reject stacker and check the bill(s) for counterfeit properties

DISPLAY	CAUSE	SOLUTION
Suspect IR	Bill is abnormal and detected by infrared sensor (suspect counterfeit bill)	Remove bill(s) from reject stacker and check the bill(s) for counterfeit properties
Recognition Chain	Multiple bills fed together or bill was not recognized	Remove the bills from the reject stacker and adjust the thickness setting
Main Version Error	Software has become corrupted	Restart machine. If not resolved, contact Semacon or your service center.
CIS Check	CIS sensor malfunction	Restart machine. If not resolved, contact Semacon or your service center.
Sensor Check	Sensor setting values need to be checked	Restart machine. If not resolved, contact Semacon or your service center.
Cover Opened	Upper and/or lower rear door is open	Close upper and/or lower rear door

THERMAL PRINTER (Optional)

The following picture shows the optional Semacon model TP-2XXX Thermal Printer for the S-2500. This printer uses a standard size thermal paper roll, 3-1/8" (80 mm) x 230' (70 m).



Many other thermal and impact printers are compatible with the S-2500. Contact Semacon for specific compatibility information.



Count on one.