

**DE LA RUE  
CASH SYSTEMS**



# Model EV8650

Currency Counting Machine

## User Guide

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4th July 2006

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Dear Customer,

Thank you for purchasing the new EV86-Series note counter from De La Rue. Given De La Rues long industry experience, we understand what people require from a bank note counter. From the first note to the last, the EV86-Series has market leading:

- Feed
- Accuracy
- Speed

These are all characteristics which lead to business **EFFICIENCY**. Better efficiency means greater throughput, increased productivity and ultimately a higher return on your investment. With efficiency as our target, we applied two hundred years of industry experience and engineering expertise to create our best ever note counter.

Quality is paramount in our manufacturing process and we are proud to hold certificates for European directives for both safety and electromagnetic standards. In addition to this, our manufacturing sites have ISO 9001 quality certificates.

To ensure maximum life from your machine we recommend that it is regularly serviced. To assist you, we provide worldwide service and support through our network of branch offices and authorised Business Partners. Please contact them for all of your sales and service requirements.

Yours sincerely



Victoria Piercy

Managing Director - Desk Top Products  
De La Rue Cash Systems

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## Declaration of conformity€

### Manufacturer & responsible person

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### Details Of Product

Currency Counter

Model types  
EV8626 & EV8650  
Series Variants

### This product conforms to the essential requirements of:

Electromagnetic compatibility

Directive 89/336/EEC  
Amended by 92/31/EEC

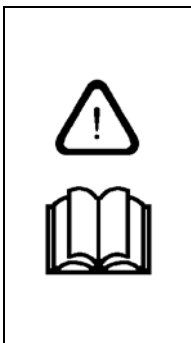
Low voltage electrical equipment (safety)

Directive 73/23/EEC  
Amended by 93/68/EEC

David Brooks, Engineering Manager.  
Authorised signatory on behalf of the responsible person.

### This product range also meets the requirements of the

**European RoHS Directive 2002/95/EC and WEEE Directive 2002/96/EC.**



### Warning

This machine has been designed for optimum safety for users. For your added Protection please follow these guidelines.

Voltages above 42V are potentially dangerous. Always handle mains-supplied equipment with caution. Never open the machine when it plugged in. If the sensors are obscured the feed rollers will operate. Always keep loose clothing & hair out of the feed hopper area when operating the machine.

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# 1 Introduction

## 1.1 Obligations of the User

- Everyone working with the EV8650 must read this manual.
- Observe the Safety instructions and warning labels.
- Damaged safety devices such as fuses and warning labels should be replaced immediately by De La Rue or its representative.

## 1.2 Safety Instructions

### 1.2.1 Warning indications

Please pay special attention to the warnings in this manual.

Recommendations are given as to what should be done to minimize any possible danger.

**ATTENTION:**

The indication ATTENTION warns of the possible danger of minor physical injury or damage to equipment.

---

**WARNING:**

The indication WARNING warns you of the possible danger of serious physical injury.

---

**DANGER TO HANDS:**

The indication warns of possible injuries to the hands.

---

**ELECTRIC SHOCKS:**

The indication warns of possible injuries through electrical shocks.

---



### 1.3 General Notes Concerning Safety

**WARNING:**

Due to the nature of his work, a service technician may have to bypass normal safety interlocks and features to carry out some of the instructions in this manual.

- Always restore safety interlocks after completing work.

At any risk or danger, disconnect the mains cable at the rear of the machine before removing any covers or servicing the machine.

---

**DANGER TO HANDS:**

Remember, to take extra care when covers have been removed.

- Beware of fast moving mechanical parts, especially when covers are removed.
  - Always replace covers after completing work.
- 

**ELECTRIC SHOCKS:**

Improper work on the electrical components can lead to life threatening injuries from electric shocks! Unprofessional handling or incorrect connections can result in the EV8650 no longer being safe for operation.

- Electrical work shall be performed only by qualified personnel.

Remember, to take extra care when covers have been removed or circuit boards unplugged.

- Never leave a part-serviced machine connected when unattended.
-

## 2 Machine Overview

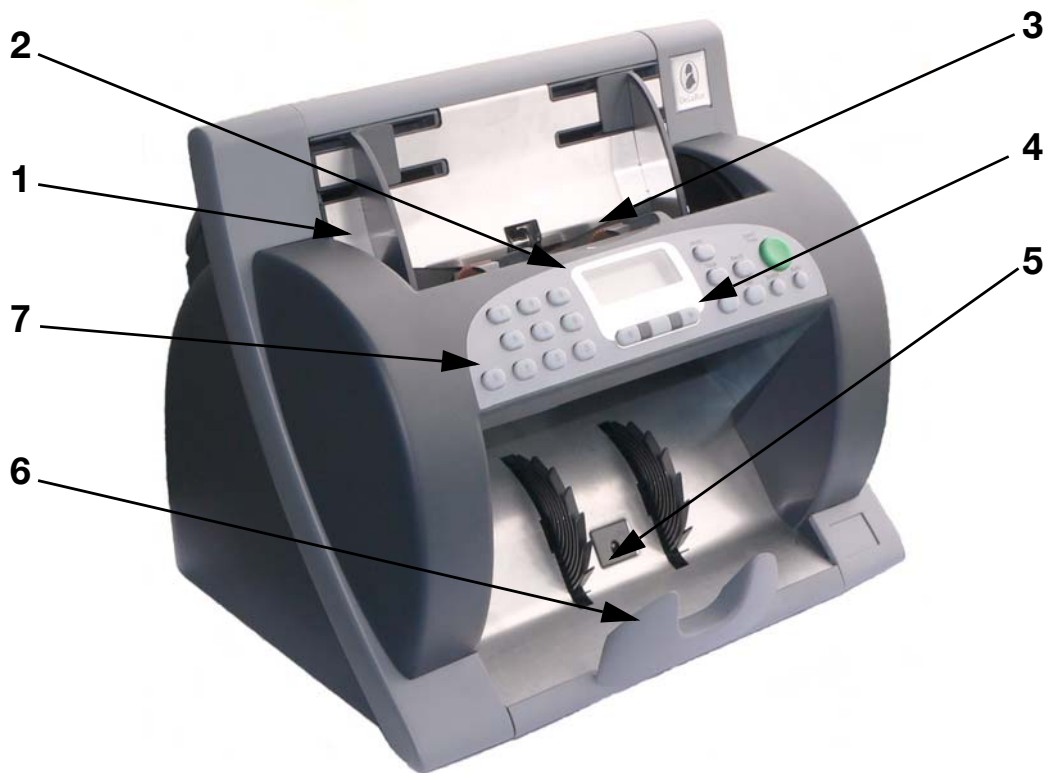
### 2.1 Model Type

Model EV8650

#### 2.1.1 Machine Overview (Front View)

Front View

#### Model EV8650

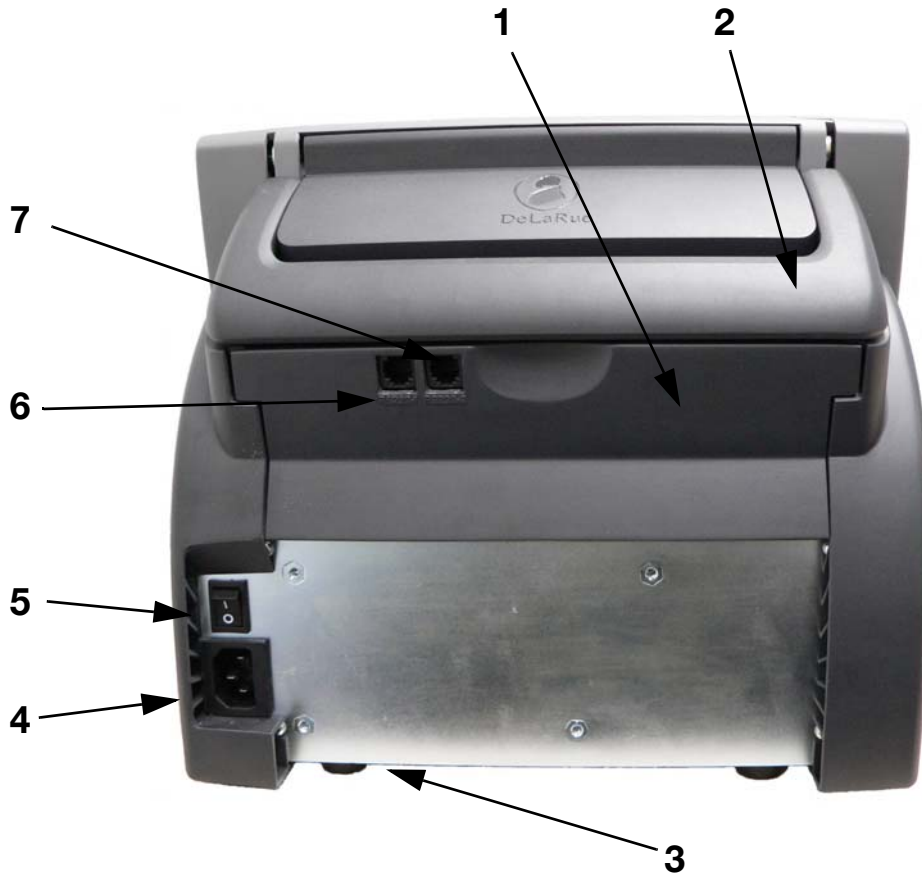


- |   |                          |   |
|---|--------------------------|---|
| 1 | Note Guides.             | Aligns notes to be counted.             |
| 2 | Note Hopper Sensor.      | For starting note count.                |
| 3 | Note Hopper.             | Notes are placed here for counting.     |
| 4 | Display / Control Panel. | Controls operator functions.            |
| 5 | Note Stacker Sensor.     | For detecting counted notes.            |
| 6 | Note Stacker.            | Counted notes are collected here.       |
| 7 | Numeric Keypad.          | Use for entering data into the machine. |

**2.1.2 Machine Overview (Rear View)**

Rear View

**Model EV8650**



- |   |                         |   |
|---|-------------------------|---|
| 1 | Detector Box.           | Tilts backwards for note access.                    |
| 2 | Fold Away Carry Handle. | For carrying & transporting.                        |
| 3 | Identification Label.   | For model & serial number.                          |
| 4 | Mains Input Connection. | For connecting the machine to the Mains Supply.     |
| 5 | On / Off Switch.        | For switching the machine on & off.                 |
| 6 | RS232 Port Channel 1.   | For connection to a computer or printer.            |
| 7 | RS232 Port Channel 2.   | For connection to a printer - SMDS & 3D/IR/UV only. |

### 2.1.3 Display Control Panel (Keypad)

Display Panel



**Model EV8650**  
**Display / Control Panel**

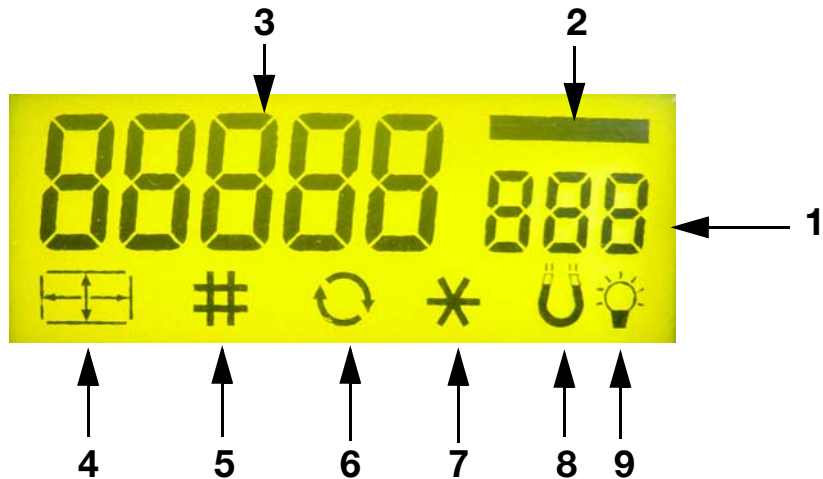
1	LCD Display.	For note count / value & other functions.
2	Total.	Displays Sub Total of notes counted.
3	Mode Function.	For selecting Piece Count Mode or Value Mode selection. Also used to enter Supervisor Mode.
4	Batch.	Set Batch size, press to step through the pre-set batch sizes.
5	Start / Stop.	For Manual Start / Stop, if the Auto Start is not selected also as a accept or enter key.
6	Auto.	Enables / disables automatic note start of note counting.
7	Speed.	Setting the throughput speed, press for pre-set speeds.
8	Det.	For selecting detectors.
9	Clear.	Clears display & some error messages.
10	Right Arrow Key.	For scrolling through various mode options.
11	Denom.	For selecting Denominational Values in d_Entr, FdEn Modes, currency selection & exit key.
12	Left Arrow Key.	For scrolling through various mode options.
13	Numeric Keypad.	For note count / value & other functions.

### 2.1.4 Display Control Panel (Display Symbols)

Display

#### Evolution EV8650 STD

#### Display / Control Panel



- |   |               |  |
|---|---------------|--|
| 1 | Batch Display | Displays note batch quantity. 100 for count mode. If set to oFF, no zeros are shown.                     |
| 2 | Bar           | Visible in Count & Batch mode, invisible in Value Mode. Not shown if Batch is set to oFF.                |
| 3 | Count Display | Displays count and value count figures.  |
| 4 | Size          | Visible if Long / Short edge detection aid is on. (Not available on STD version).                        |
| 5 | CnS           | Visible if machine is on-line to a PC. (2620 Pro only.) Keypad Locked or Busy on other versions.         |
| 6 | Auto Start    | Visible if auto note start is on.  |
| 7 | Infra Red     | Visible if the Infra Red Detection aid is on. (Not available on STD version.)                            |
| 8 | Magnetic/MTD  | Visible if the Magnetic Detection aid / Metallic Thread Detection is on. (Not available on STD version.) |
| 9 | UV / PPD      | Visible if the Ultra Violet / Paper Property Detector is on. (Not available on STD version.)             |



## 2.1.6 Note Path Access & Note Guides

Notes Access

### Model EV8650 Note Path Access Note Guides



#### Detector Box / Note Path Access Release Buttons

Press in both these buttons together to release the detector box to gain access to the note path.

To clean the sensors

Remove excess dust

To clean counterfeit detection aids

To clean rollers

Removal of jammed notes.

#### Note Guides

The Note guides are used to keep the notes aligned, when being fed into the machine. They should be adjusted for different notes sizes. Use of the guides will improve machine performance.

## 2.1.7 Maintenance

### Cleaning

#### Routine Maintenance



The sensors in the machine may have reduced efficiency if they are obscured by dirt.

Switch off and un-plug the machine prior to any cleaning.

Using a dry cloth, clean the **Track (1), Ultra Violet (2), Short-edge Detectors (3), Hopper (4) and Stacker (5) sensors.**

The rubber feed wheels, feed roller, dolly roller assembly and separation assembly rubber pads may be cleaned with a slightly damp cloth. You may use a small amount of liquid soap on the cloth. Ensure all soap residue is removed from the rollers. Allow to dry thoroughly before connecting the machine to the mains electrical supply.

You may also clean the Mechanical Double Detect rollers in the same way.

Contact your local De La Rue distributor for further information on how to carry out required operational cleaning.



## 2.1.8 Machine Specification

Size, Weight etc.

### Specification

Mains voltage	nominally 98v - 264v AC, 50/60HZ.
Power consumption	150W max at 1500 npm
Acoustic noise level	<76dBA at 1500 npm
Operating range	-10°C to 30°C, 40% to 70% RH (non-condensing)
Dimensions	
Height	265mm
Depth	263mm
Width	300mm
Weight	7 kgs
Document size range	185 x 90mm maximum 100 x 50mm minimum 165 x 90mm (if size detection is available) 120 x 50mm (if size detection is available) On Euro machines: 160 x 90mm max 120 x 50mm min Larger note sizes may be processed but optimum performance may not be achieved.
Speed	800 to 2000 + notes per minute
Hopper capacity	500 notes
Stacker capacity	50—200 notes

**2.1.9 Factory Defaults**

## Settings

**Model EV8650**  
**Factory Settings**

The following list shows the factory settings of the machine configuration, to which the machine is set at power up.

Stacker hopper limit	100 notes
Speed table default	SPEEd 4
Speed table settings	SPEEd 1, 2, 3, 4
Batch size table default	100
Batch size table settings	100; 50; 25; 20; 10; 5; oFF
Denomination preset values default	500; 200; 100; 50; 20:10:5:2:1
Available denomination values	50,000; 25,000; 20,000; 10,000; 5,000; 2,500; 2,000; 1000; 500; 250; 200; 100; 50; 25; 20;10; 5; 3; 2; 1
Available Currency tables as standard	
USd (United States Dollars)	100; 50; 20; 10; 5 ;2; 1
Eur (Euros)	500; 200; 100; 50; 20; 10; 5

## 3 Operating Instructions

### 3.1 Powering Up The Machine



#### Powering up the machine

Connect the mains lead to the socket on the rear of the machine.

Plug the machine's power lead into a mains socket and switch on the mains supply.

Switch on the machines on / off switch.

The machine will power up and complete a self test routine.

The display will then automatically select a batch size of 100 notes and the auto start will be activated.



8650 STD

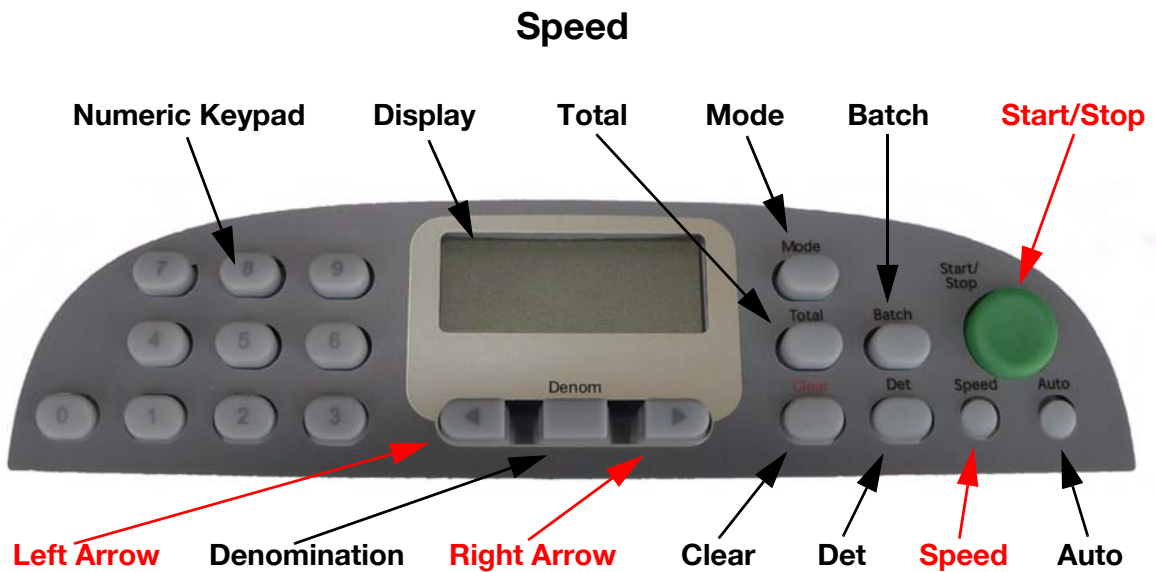


8650 SD UV EMG

Note: If The Display Shows FAULT. Check the Detector Box is closed correctly.

### 3.2 Speed Adjustment

Select Pre-set Speeds



A range of pre-set speeds can be used for counting differing qualities of note paper.

Select the throughput speed by pressing the SPEED key.

Press this key and the current speed number will be displayed.

Press the SPEED key repeatedly to step through the available preset speeds.

**e.g. SPEEd 1, SPEEd 2, SPEEd 3, SPEEd 4.**

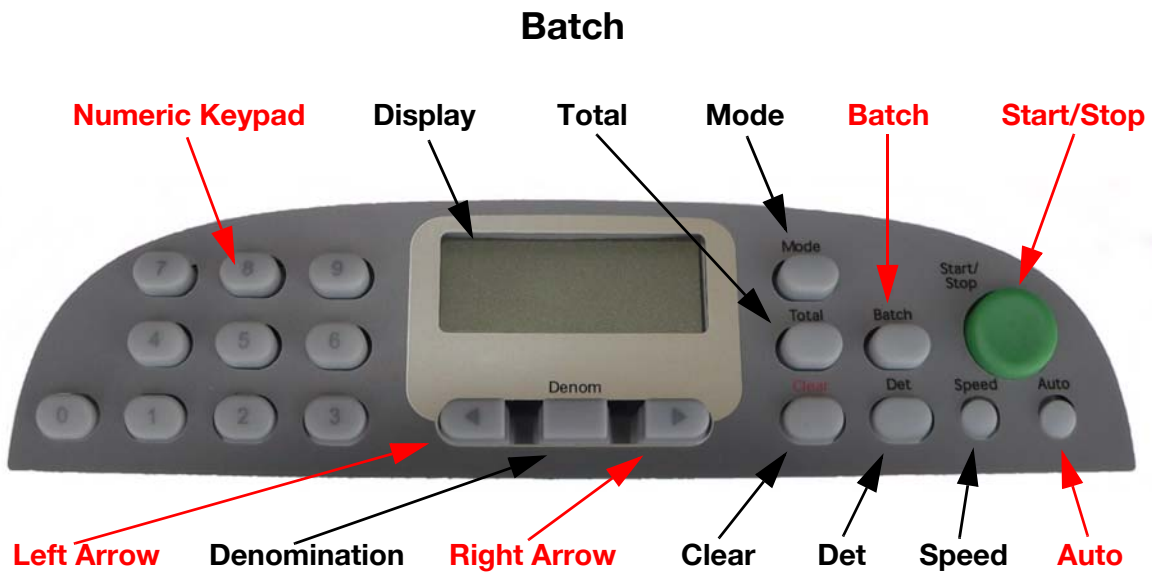
**Where SPEEd 1 is the slowest speed and SPEEd 4 is the fastest.**

Alternatively whilst the speed value is shown on the display, use the left or right arrow keys to select required speed.

Press the START/STOP key to return to the count display or wait for the display to time out.

### 3.3 Batch Settings

Select pre-set Batch Settings



The EV8650 is in batch/count mode if the display shows PIECE Cnt when the MODE key is pressed.

Select the batch size to be counted by pressing the BATCH key.

Use this key to step through the pre-set values.

e.g. 100, 50, 25, 20, 10, 5 (and oFF which is the continuous count mode).

On the EV8650 the batch size can be set from 1 to 999 using the Numeric Keypad.

Alternatively whilst the batch quantity is on the display, use the left or right arrow keys to enter a batch quantity that is not included in the preset list.

The arrow keys will increment (Right Arrow) or decrement (Left Arrow) the batch number shown on the display.

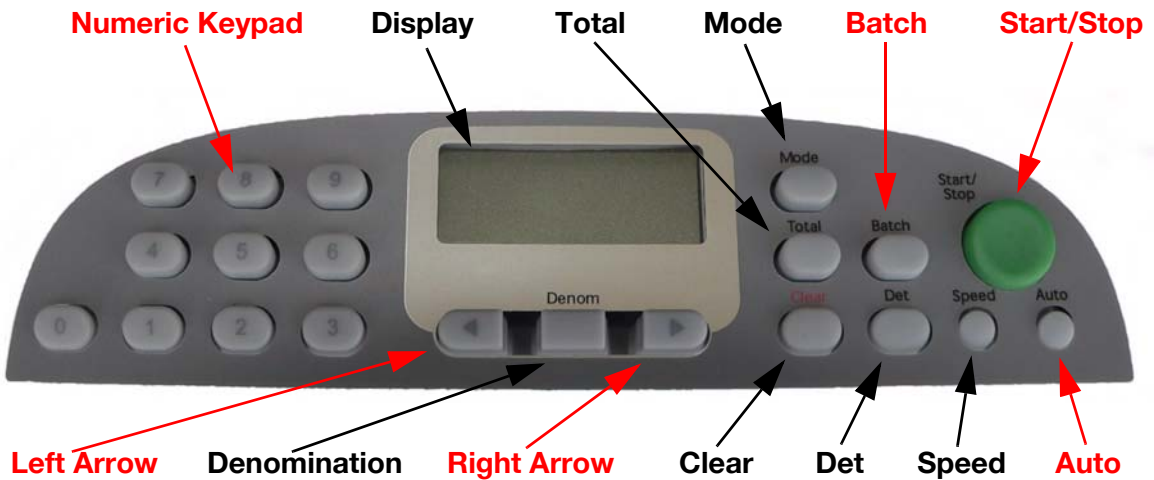
Press START/STOP key to return to the count display or wait for the display to time out.

Place the notes to be counted onto the feed hopper.

The machine will automatically start, with AUTO selected, or you can choose, if AUTO is deselected, to start it manually by pressing the START/STOP key.

The machine will stop when the batch size has been reached.

## Batch Settings Continued



If there are insufficient notes in the feed hopper to complete a batch, the total counted will flash on the count display. Without removing the notes in the stacker, add more notes to the feed hopper and the machine will continue to count.

Remove the notes from the stacker when the batch is completed.

If the machine stops due to a 'degraded note' a rFEED or ChEC message will be displayed, rFEED indicates that the whole bundle should be fed again. If ChEC is displayed remove notes from the stacker and return only undamaged notes to the feeder.

If AUTO is selected, press START/STOP to clear the error message.

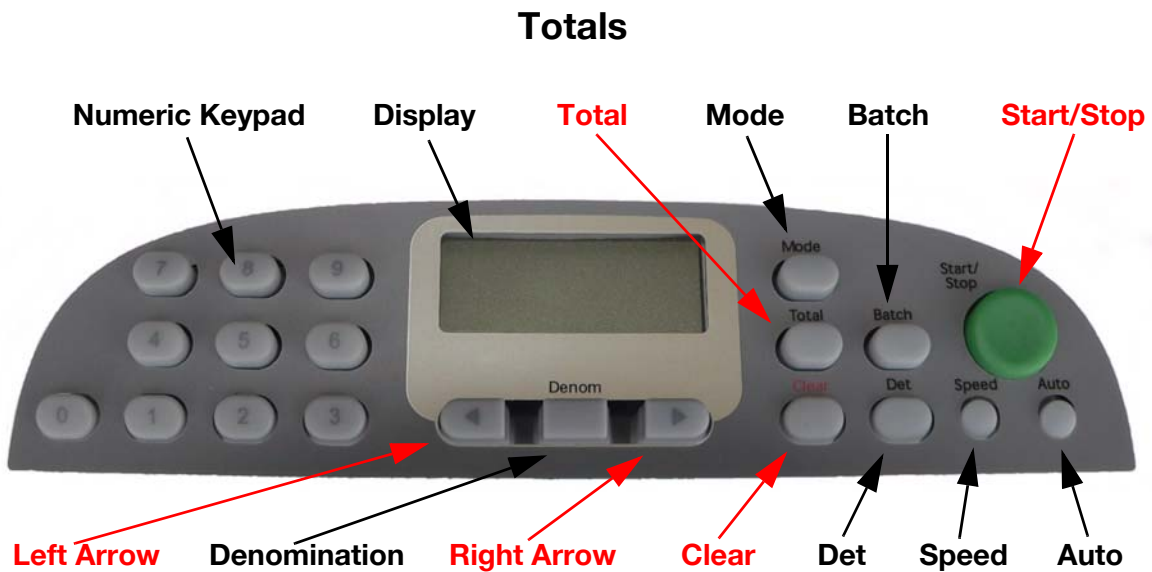
The machine will restart automatically.

The next batch will be started automatically if there are notes in the feed hopper and AUTO is selected.

If AUTO is not selected, press START/STOP to clear the error message and press START/STOP again to continue the count.

### 3.4 Machine Totals

Total count / value



Every time a batch is completed correctly, it is added to a running total.

Press the TOTAL key to enter the totals function.

Pressing the TOTAL key, or using the left and right arrow keys will scroll through the available total levels. The total levels are dependant upon the operating mode:

#### Non-value Batch

totAL 1 = Total number of notes, currently feed towards the batch in Stacker pocket, if stacker limit is not exceeded.

totAL 2 = Total number of notes counted with complete batches, from when the Feed Hopper and Stacker were last cleared.

totAL 3 = Total number of notes in completed batches.

#### Non-value Counting

totAL 1 = Total number of notes counted.

#### Value Counting

totAL 1 = Total value of current notes in the Stacker pocket.

totAL 2 = Total value of notes from when the Feed Hopper and Stacker were last cleared.

totAL 3 = Total Value of notes counted.

#### Value Dispense

totAL 1 = Total value of notes counted towards the dispense value. It will be cleared at the start of each new dispense.

Press the START/STOP key to display the level selected.

The horizontal bar over the small digits will flash.

The displayed total may be larger than the eight digit display. This is indicated with a bar on the left hand side of the display followed by the 7 lower digits.

Pressing the right hand arrow key will change the display to show the upper 5 digits with a bar on the right hand side of the display. Hence, the arrow keys can be used to toggle between the upper and lower digits.

## Machine Totals Continued

Pressing the CLEAR key with the selected total displayed will clear that total, display 'donE' for one second, and return to the idle state for normal counting mode. Other lower level totals may also be cleared depending on the mode of operation:

### Non-value Batch - Clear

totAL 1 = Pressing the CLEAR key with totAL 1 displayed, will clear totAL 1 and also subtract it from totAL 2 and totAL 3 if it is a complete batch.

totAL 2 = Pressing the CLEAR key with totAL 2 displayed, will clear both totAL 1 and totAL 2 but will also subtract totAL 2 from totAL 3.

totAL 3 = Pressing the CLEAR key with totAL 3 displayed, will clear totAL 1, totAL 2, and totAL 3.

Note: Changing the batch size will clear totAL 1, but not the overall batch total in totAL 2.

### Non-value Counting - Clear

totAL 1 = Pressing the CLEAR key with totAL 1 displayed will clear totAL 1 without affecting the non-value batch totAL 2.

### Value Counting - Clear

totAL 1 = Pressing the CLEAR key with totAL 1 displayed will subtract totAL 1 from totAL 2 and totAL 3, and then clear totAL 1.

totAL 2 = Pressing the CLEAR key with totAL 2 displayed will subtract totAL 2 from totAL 3, and then clear totAL 1 and totAL 2.

totAL 3 = Pressing the CLEAR key with totAL 3 displayed will clear totAL 1, totAL 2, and totAL 3.

Note: Pressing the CLEAR key with notes in either the stacker hopper or feed hopper while in value counting mode outside of the Totals menu will subtract the last bundle from the totals, and update the display with the total prior to the last bundle notes being counted.

Note: Pressing the CLEAR key when both the feed hopper and stacker hopper are emptied will clear totAL 1 and totAL 2 on the display without changing totAL 3, ready to start a new batch. totAL 1 and totAL 2 are also cleared when counting starts with a new batch after both the feed hopper and stacker hopper have been emptied. totAL 3 will continue to be updated with the new batch of notes adding them to the overall total from previous batches.

### Value Dispense - Clear

totAL 1 = Pressing the CLEAR key with totAL 1 displayed will clear totAL 1, and reset the display to the dispense value on returning to counting mode.

Note: Pressing the CLEAR key while in value dispense mode outside of the Totals menu will also clear totAL 1 and reset the display to the dispense value.

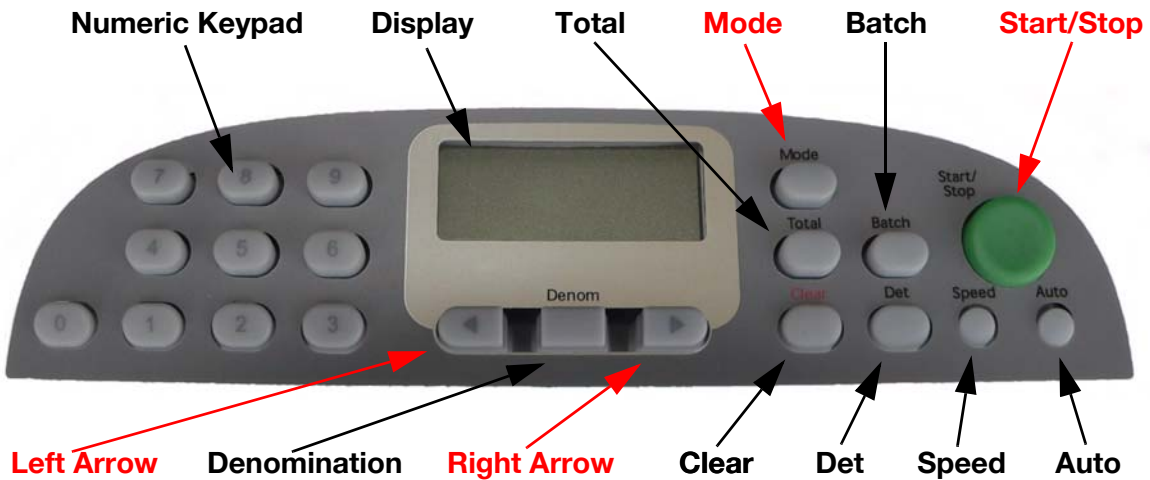
Note: Please be aware that you should not clear notes from the note hopper or note stacker, whilst in any of the selection menus. Notes should be removed in the normal way before entering the Total functions or any other operator modes.



### 3.5 Mode Selection (Count or Value)

Count or Value

#### Mode Selection



Press the MODE key to display the current counting Mode.

Whilst the current counting mode is shown, press MODE again to toggle between the available Modes.

#### Quick Access

Prior to using the MODE selection key, the supervisor can set up the Quick Access Function. This allows the Supervisor to select the four most common mode selections that they use. Two Quick Access functions in Count Mode and two in Value mode.

The second of each is typically set to OFF which means that the MODE key simply switches between count and value operation.

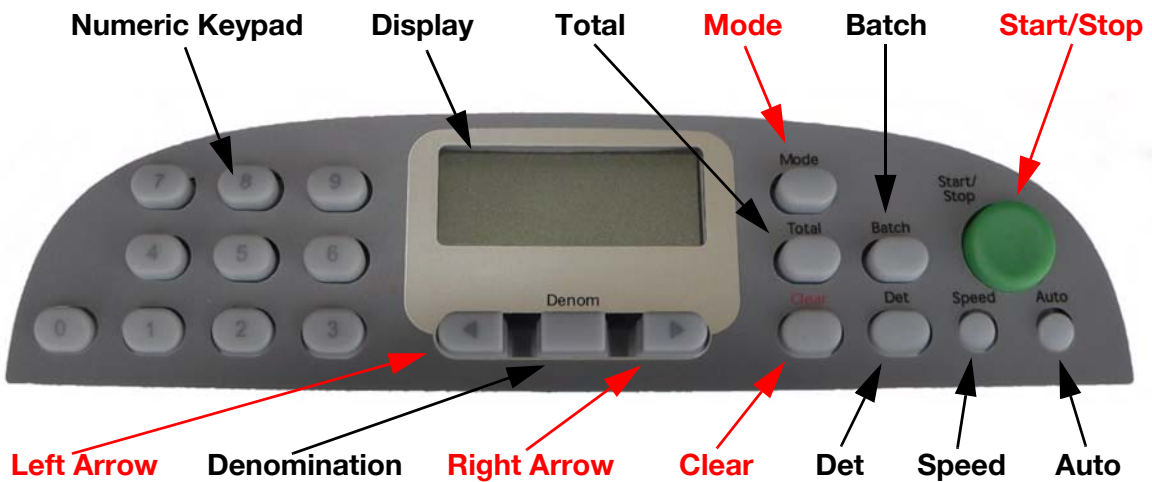
Repeatedly pressing the MODE key will scroll through these four Quick Access modes.

Alternatively use the arrow keys to scroll through all of the other available modes. Press START/STOP to return to the counting display or wait for the display to time out. Modes that may be used include:

#### Count Mode

- |       |            |   |
|-------|------------|---|
| PIECE | <b>cnt</b> | For counting pieces of paper without attributing any value.   |
| FdEn  | <b>cnt</b> | (Fixed Denomination) For counting documents, all of a single denomination but displaying the result as a count.   |
| AdEn  | <b>cnt</b> | (Automatic Denomination) For counting documents, all with the same denomination as the first note fed but displaying the result as a count. This is typically used in Size, IR or SMDS detection. |

## Mode Selection Continued



Modes that maybe used include:

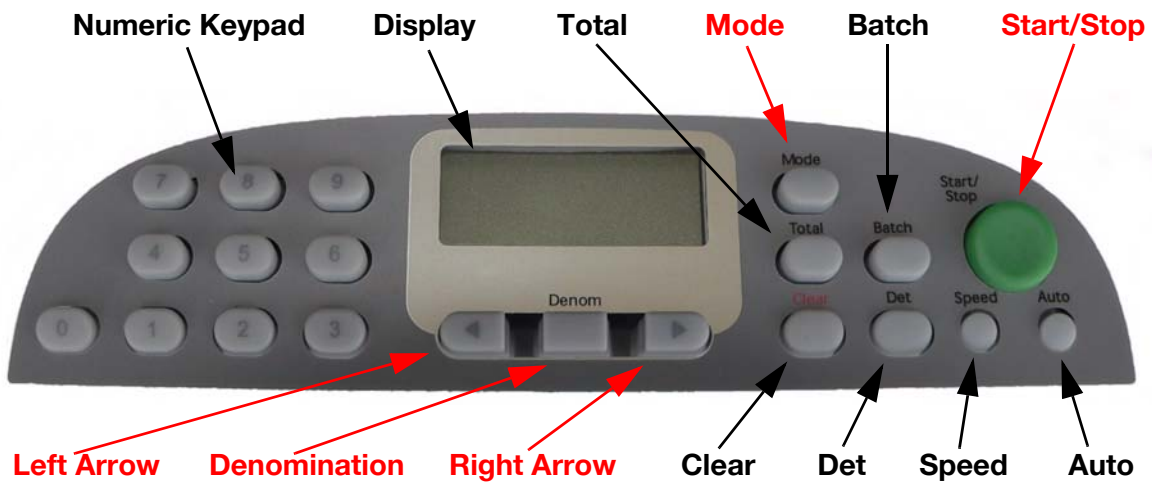
### Value Mode

- |        |            |  |
|--------|------------|--|
| d_Entr | <b>val</b> | (Denomination Enter) For counting pieces of paper and displaying the result as a value based on a denomination entered by the user.              |
| AdEn   | <b>val</b> | (Automatic Denomination) For counting documents, all of the same denomination as the first fed and displaying the result as a value.             |
| FdEn   | <b>val</b> | (Fixed Denomination) For counting documents, all of a given denomination as specified by the user and displaying the result as a value.          |
| SPECL  | <b>val</b> | (Special-Mixed denomination) For counting documents of mixed denomination and displaying the result as a value. (3D, SMDS and SD machines only.) |
| DISP   | <b>val</b> | (Dispense) For counting a number of notes of a single denomination to provide a previously specified total value.                                |

### 3.5.1 Currency Selection

Currency Tables

#### Currency Selection



On the variants of the machine, more than one currency table can be loaded. To switch between different currencies.

Press and hold DENOM for one second, the current currency code is displayed. Press DENOM repeatedly to scroll through the list of available currencies. Alternatively, whilst the currency is displayed, the left and right arrow keys can be used to scroll through the available currencies.

The numerical keypad can also be used to select the currency. Press the DENOM key then press 1, 2, 3, etc. 0 = currency OFF. The currency tables relationship to the numeric number will depend in the order the currency tables were loaded into the machine.

The number of currencies that can be loaded is dependant on the machine variant.

Press START/STOP to select the currency to count or wait for the display to time out. The currency will then have been selected.

Note: If the counter is not in either dEntr or FdEn modes then it will respond instantly to the DENOM key without the two second delay.

Each currency has its own detector and mode settings. When a different currency is chosen, all the detector settings and the counting Modes will revert to those saved for that currency.

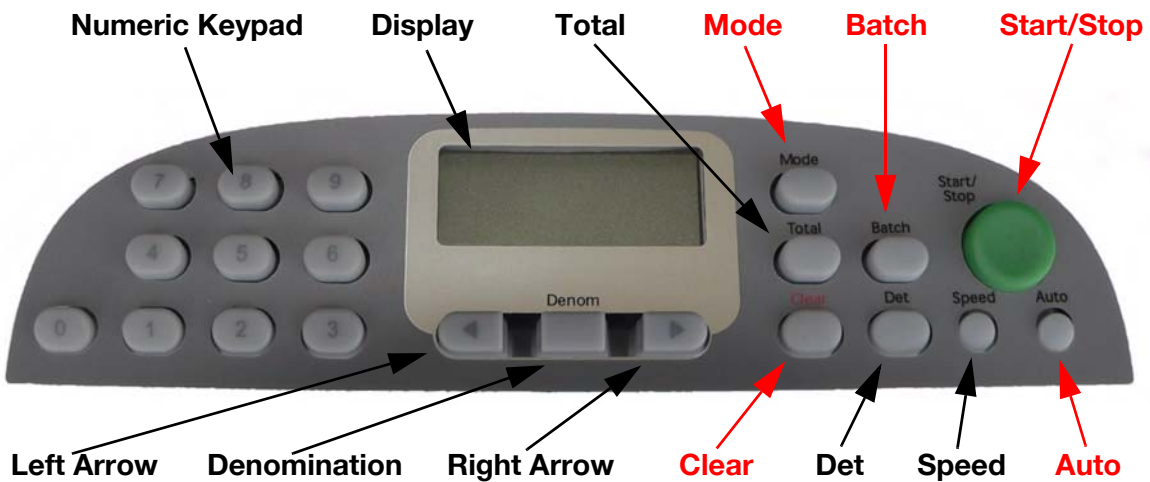
If the user wishes to count without using the pre-defined currency settings then selecting OFF will revert to standard detectors and manual detector listings.

Repeat the above procedure until the display shows OFF.

### 3.5.2 Count Mode

Piece Counting

#### Count Mode



The EV8650 is in continuous count mode if the display shows no bar or batch display. The machine will count notes continuously, pausing only when the stacker is full.

Alternatively, select the batch size to be counted by pressing the BATCH key (refer to section 3.3).

Place the notes to be counted onto the feed hopper.

The machine will automatically start, with AUTO selected, or you can choose, if AUTO is deselected, to start it manually by pressing the START key.

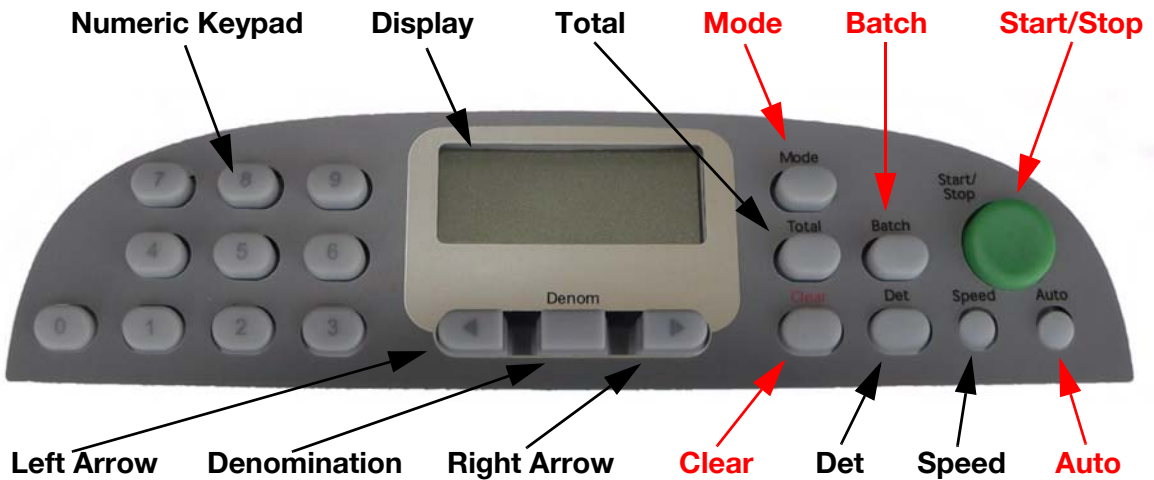
If the number of notes to be counted is larger than the stacker limit (default 100), remove the notes from the stacker to continue to count. The machine will restart automatically if AUTO is selected.

Every time a bundle is completed correctly, it is added to a running total which flashes automatically on the display.

Remove the notes from the stacker.

To clear the running total press the CLEAR key.

## Count Mode Continued



The maximum number of notes that can be counted is 99999. When this number is reached the machine will stop and flash 99999.

Remove the notes from the stacker and press CLEAR to reset the total to 0.

If the machine stops because of a 'degraded note' a rFEED or ChEC message will be displayed.

rFEED indicates that the whole bundle should be fed again.

If ChEC is displayed remove notes from the stacker and return only undamaged notes to the feeder.

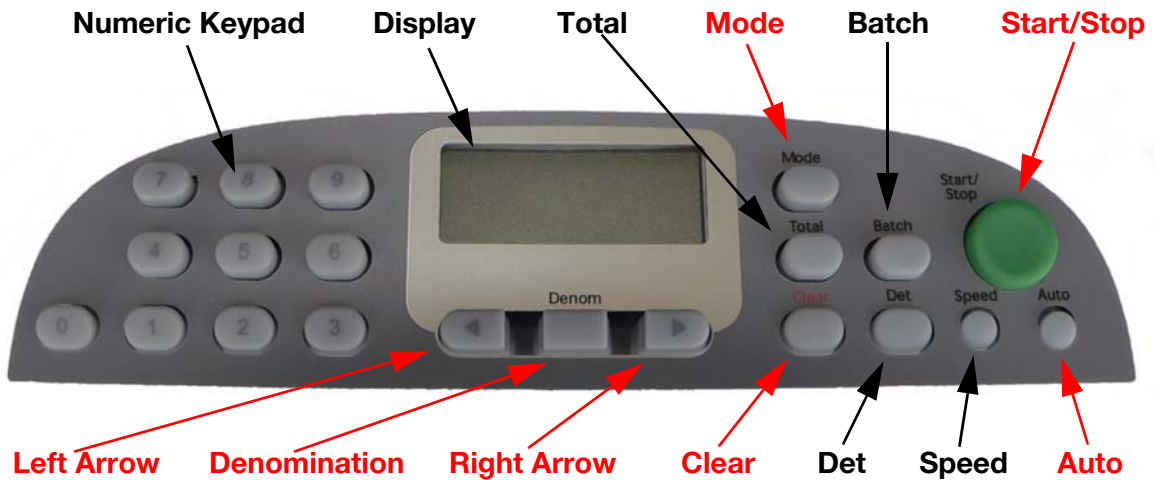
If AUTO is selected, press START/STOP to clear the error message, and the machine will restart automatically.

If AUTO is not selected, press START/STOP to clear the error message and press START/STOP again to continue the count.

### 3.5.3 Value Count Mode

Selecting Value Modes

#### Value Count Mode



The value function of the machine allows you to 'Value' a bundle of notes by denomination, rather than to count the 'Quantity' of notes.

Press the MODE key to display the current counting Mode.

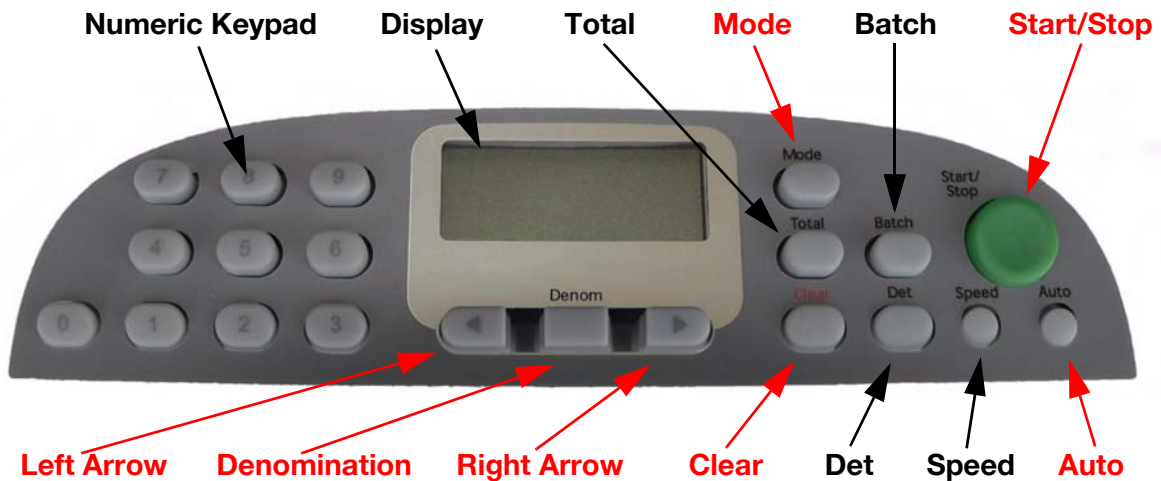
Whilst the current counting mode is shown, press MODE key repeatedly to scroll through the available Quick Access Modes (preset by Supervisor).

Alternatively use the arrow keys to scroll through the available modes.

Press START/STOP to return to the counting display or wait for the display to time out.

To exit Value Mode to count Mode press the MODE key again until it shows PIECE Cnt on the display.

## Value Count Mode Continued



Modes that maybe used include:

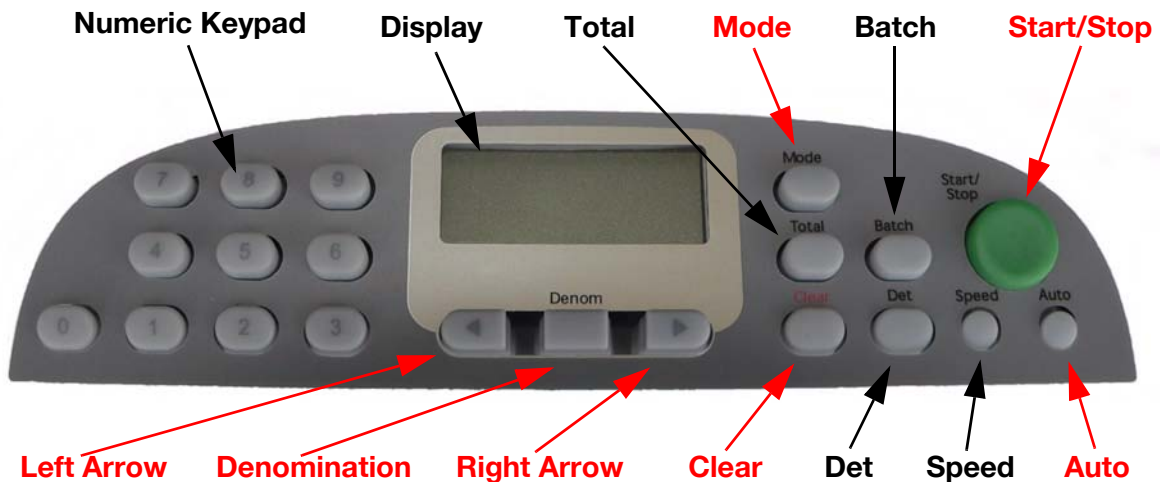
### Value Mode

d_Entr	<b>val</b>	(Denomination Enter) For counting pieces of paper and displaying the result as a value based on a denomination entered by the user.
AdEn	<b>val</b>	(Automatic Denomination) For counting documents, all of the same denomination as the first fed and displaying the result as a value.
FdEn	<b>val</b>	(Fixed Denomaination) For counting documents , all of a given denomination as specified by the user and displaying the result as a value.
SPECL	<b>val</b>	(Special-Mixed denomination) For counting documents of mixed denomination and displaying the result as a value. (3D, SMDS and E11+ machines only.)
DISP	<b>val</b>	(Dispense) For counting a number of notes of a single denomination to provide a previously specified total value.

### 3.5.4 Value Count Mode Without Size (dEntr & FdEn Modes)

Value without Long or Short edge note detection

#### Value Count Mode



#### Denomination Entry (dEntr & FdEn Modes)

Before placing the notes in the note hopper.

Press the DENOM key, the current selected denomination will be displayed.

Whilst the denomination is shown, press the DENOM key repeatedly to scroll through the predefined list of denominations.

Alternatively, whilst the denomination is shown, use the left or right arrow keys to scroll through the predefined list of denominations.

Press the START/STOP key to select that value.

Alternatively, in dEntr mode only, the numerical keys may be used to specify any denomination.

A manually entered denomination must be a multiple of 10 for one of the following values.

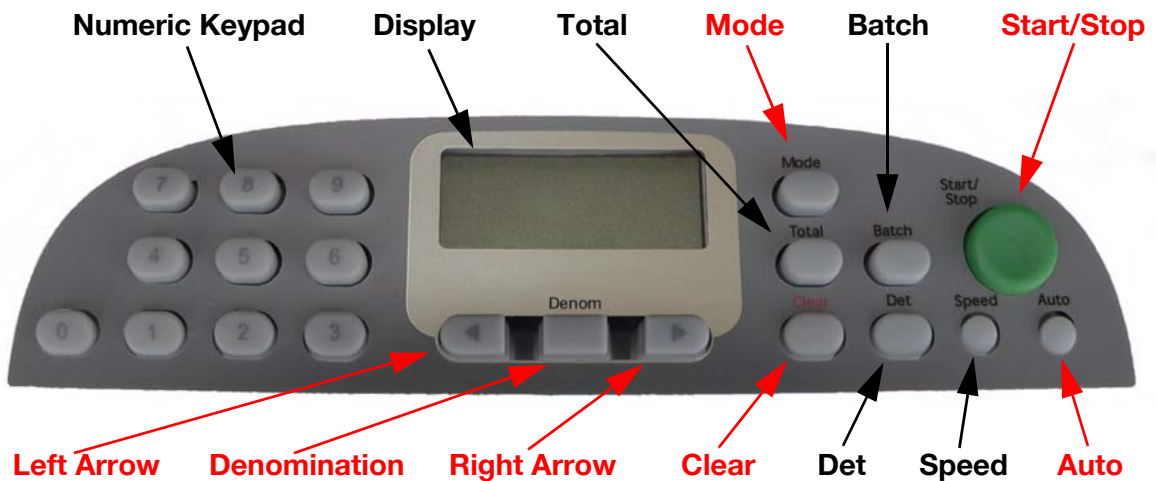
Values. 1; 2; 25; 3; 4; 45; 5; 6; 7; 8; 9

Note: If a note of a different denomination is hidden in a bundle it will be valued as the denomination selected. Also FdEn can only be used if a SMDS detector is on the machine.



## Value Count Mode dEntr & FdEn Continued

Value without Long or Short edge note detection



With AUTO selected the machine will continue to count each bundle at the denomination set, adding the value of each batch to a running total.

If AUTO is not selected the denomination may be changed for each new batch. The display will show the total value counted.

To clear the running total and to start to count a new denomination press the CLEAR key.

The list of denominations will be specified in a pre-loaded currency table. If there is no table only dEntr can be used. In this case a default list of denominations will be used:

1; 2; 3; 5; 10; 20; 25; 50; 100; 200; 250; 500; 1000; 2000; 2500; 5000; 10,000; 20,000; 25,000; 50,000

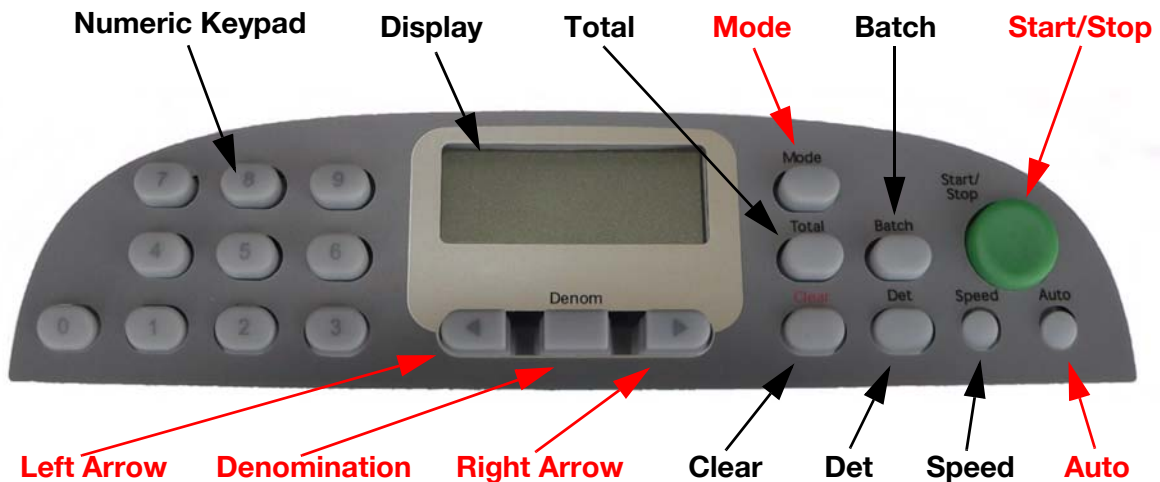
The supervisor can set which denominations are available to the operator.

By default 1; 2; 5; 10; 20; 50; 100; 200; 500

### 3.5.5 Value Count Mode With Size (AdEn, FdEn & SPECL)

Value with Long or Short edge note detection

#### Value Count Mode



For optimum performance in value mode with size detection the notes should be undamaged.

There are three other options for value operation available:

1. Automatic denomination (AdEn)
2. Fixed denomination (FdEn)
3. Special (3D, SMDS & SD Machines only) (SPECL)

The list of denominations are specified in a pre-loaded currency table. If there is no table then there is no currency data and only dEntr can be used. In this case a default list of denominations will be used:

1; 2; 3; 5; 10; 20; 25; 50; 100; 200; 250; 500; 1000; 2000; 2500; 5000; 10,000; 20,000; 25,000; 50,000

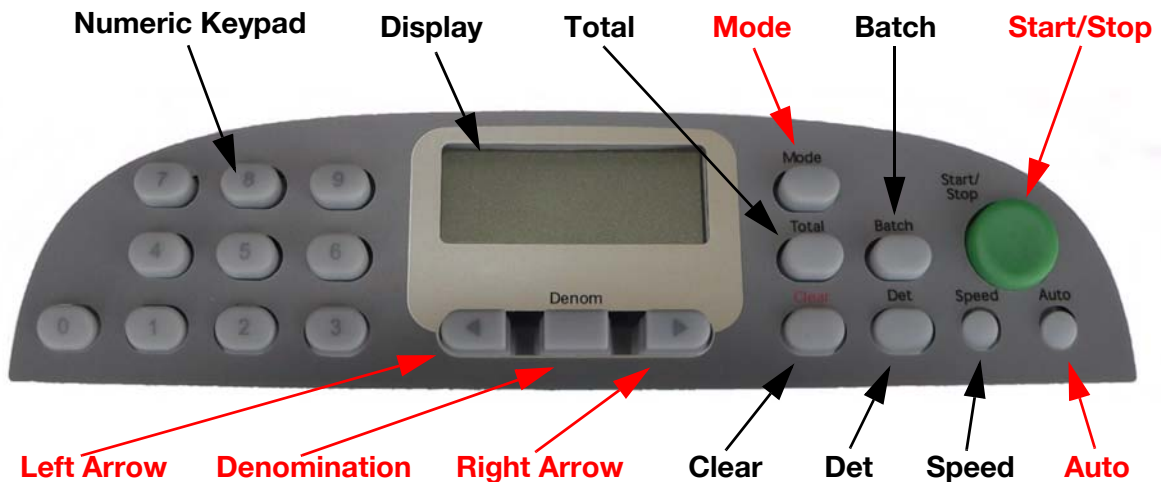
The supervisor can set which denominations are available to the operator.

By default 1; 2; 5; 10; 20; 50; 100; 200; 500

### 3.5.6 Value Count Mode With Size (AdEn - Auto Denomination)

Value with Long or Short edge note detection

#### Value Count Mode



#### Automatic Denomination (AdEn)

To choose this option press the MODE key repeatedly to scroll through the available modes.

Alternatively use the arrow keys to scroll through the available modes.

Press START/STOP to return to the counting display or wait for the display to time out.

The first note of the bundle will be assessed (first note reference) and value assigned automatically for the rest of the count.

(There may be a short pause while this process takes place).

The size / denomination of each subsequent note is checked against the denomination table held within the machine.

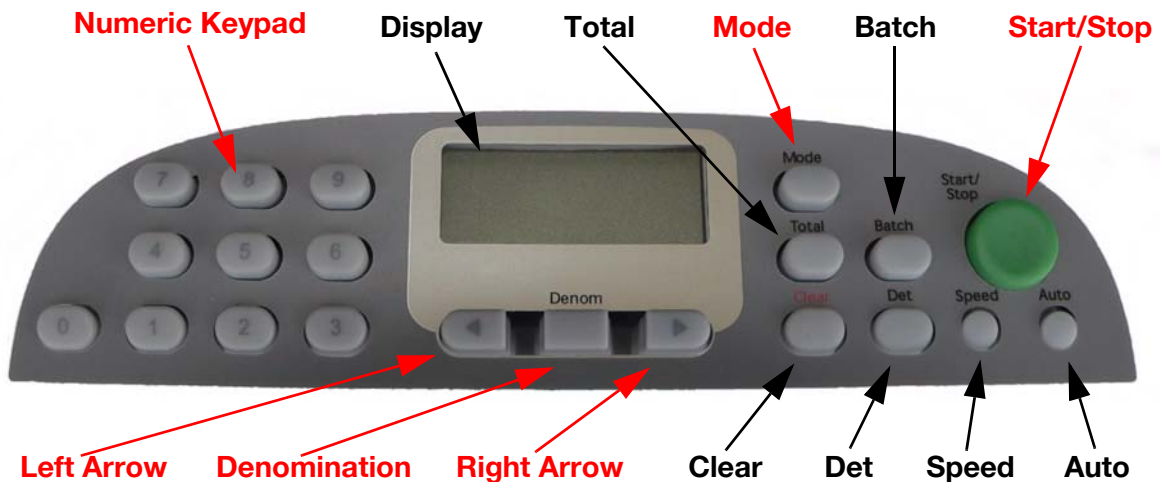
Place notes to be value counted in the hopper.

The machine will start automatically if AUTO START has been selected, or Press the START/STOP key if it has not.

### 3.5.7 Value Count Mode With Size (FdEn - Fixed Denomination)

Value with Long or Short edge note detection

#### Value Count Mode



#### Fixed Denomination (FdEn)

To choose this option press the MODE key repeatedly to scroll through the available modes.

Alternatively use the arrow keys to scroll through the available modes.

Press START/STOP to return to the counting display or wait for the display to time out

Before placing the notes in the note hopper.

Press the DENOM key on the display, the current selected denomination will be displayed.

Whilst the denomination is shown, press the DENOM key repeatedly to scroll through the predefined list of denominations.

Alternatively, whilst the denomination is shown, use the left or right arrow keys to scroll through the predefined list of denominations.

Alternatively, the numerical keys may be used to specify any denomination.

The size/denomination of each subsequent note is checked against the denomination table held within the machine.

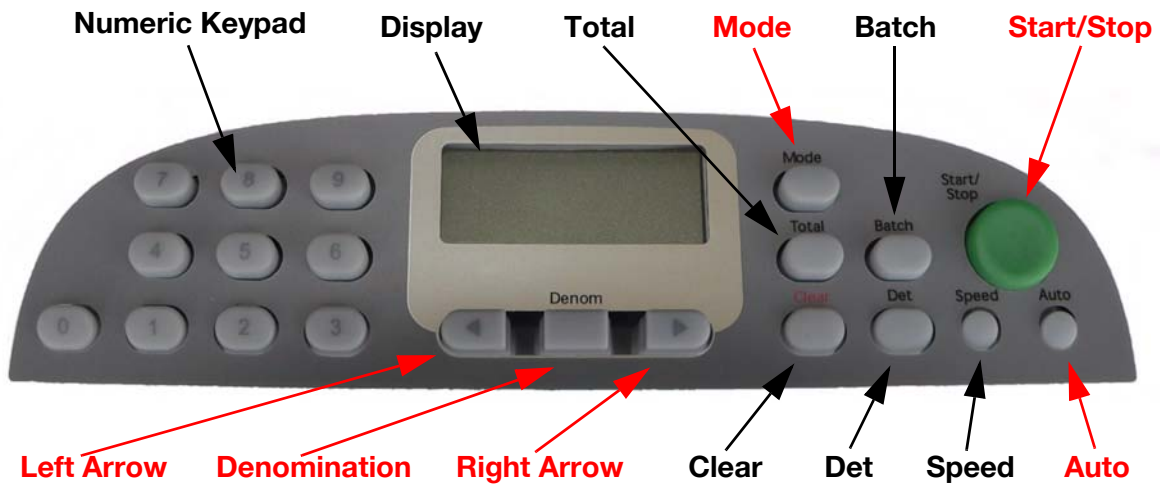
Place notes to be value counted in the hopper.

The machine will start automatically if AUTO START has been selected, or Press the START/STOP key if it has not.

### 3.5.8 Value Count Mode With Size (SPECL - Mixed Denomination)

Value with Long or Short edge note detection

#### Value Count Mode



Special (3D, SMDS & SD machines only) (Special)

To choose this option press the MODE key repeatedly to scroll through the available modes.

Alternatively use the arrow keys to scroll through the available modes.

Press START/STOP to return to the counting display or wait for the display to time out.

A mixed bundle of notes with differing denominations can be fed through the Machine. The size of each note is checked against a currency table held within the machine, after which the total value of the bundle will be shown on the display.

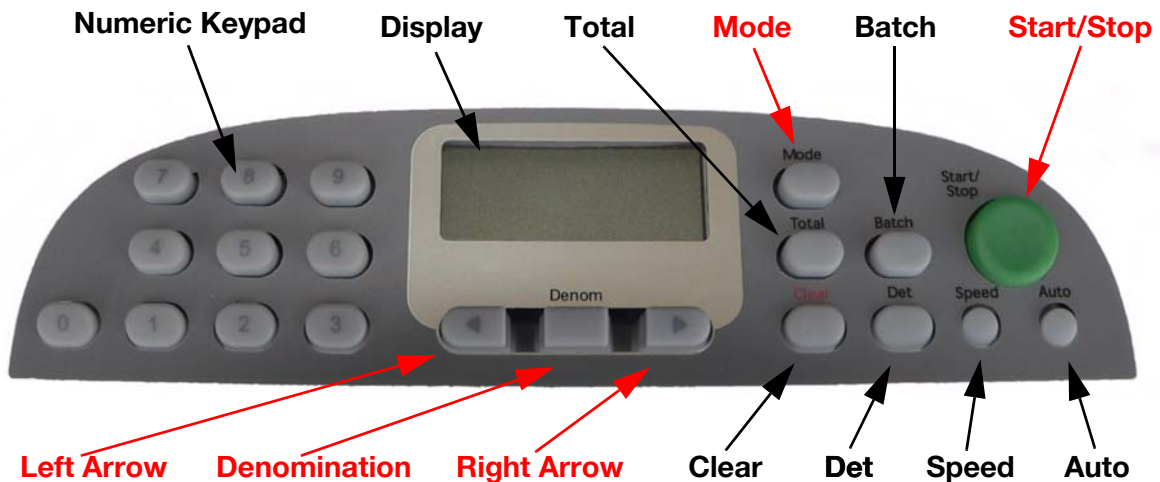
Place notes to be value counted in the hopper.

The machine will start automatically if AUTO START has been selected, or press the START/STOP key if it has not.

### 3.6 Value Dispense Mode

Single denomination amount dispense

#### Value Dispense Mode



The value function of the machine allows you to 'Value' a bundle of notes by denomination, rather than to count the 'Quantity'. It will also dispense notes by denomination. It will count downwards from the value entered into the display by the operator to a zero value, i.e. donE will be shown on the display when finished. If the dispense amount cannot be completed successfully because there are not enough notes on the hopper the display will flash the remaining value it needs. If the dispense amount cannot be completed successfully because the denomination set is larger than the remaining value required, the display will show NEAR.

Place a new denomination in the hopper, press START/STOP, and input the new denomination to complete the dispense.

Remove the notes or press CLEAR to go to the dispense amount.

To choose this option press the MODE key repeatedly to scroll through the available modes.

Alternatively use the arrow keys to scroll through the available modes.

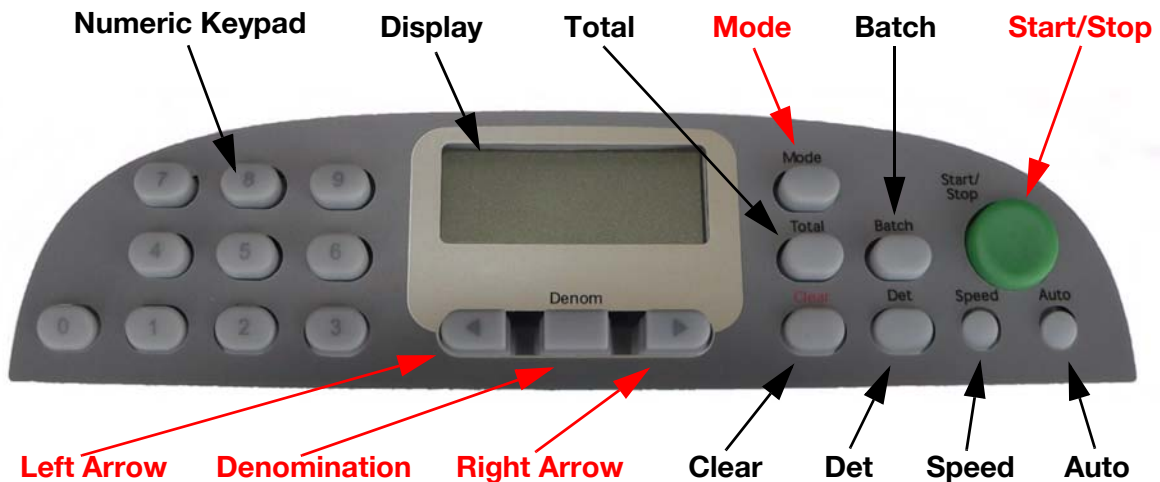
Press START/STOP to return to the counting display or wait for the display to time out.

The machine will only dispense in AdEn (if a Valid currency table is loaded).

### 3.6.1 Value Dispense Mode With Size (AdEn - Auto Denomination)

Value dispense with Long or Short edge note detection.

#### Value Dispense Mode



#### Auto Denomination (AdEn)

To choose this option press the MODE key repeatedly to scroll through the available modes.

Alternatively use the arrow keys to scroll through the available modes.

Press START/STOP to return to the counting display or wait for the display to time out.

Before placing the notes in the note hopper key in the value to be dispensed.

Place notes to be dispensed in the note hopper.

Press the START/STOP key.

The first note of the bundle will be assessed (first note reference) and value assigned automatically for the rest of the count.

(There may be a short pause while this process takes place).

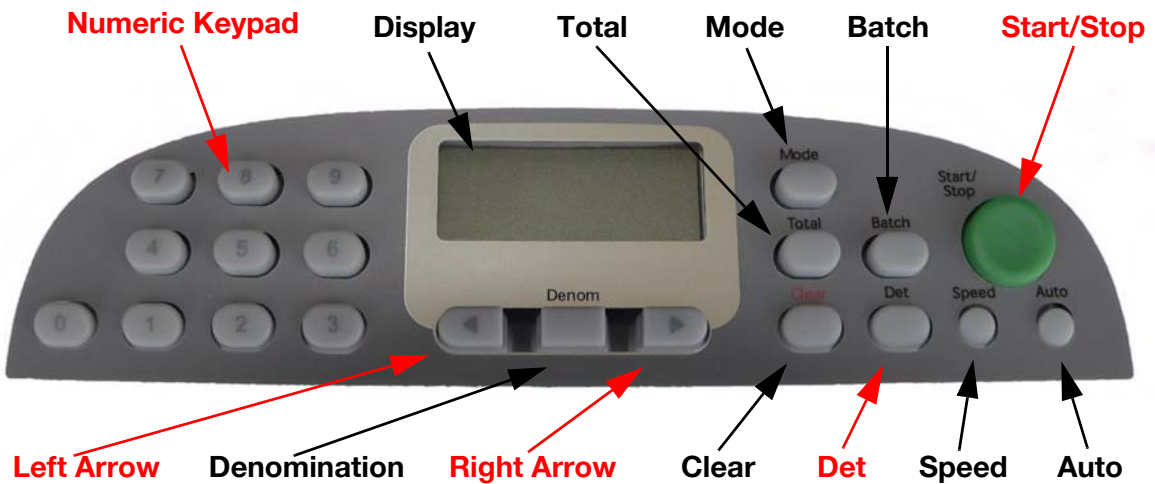
The size of each subsequent note is checked against the denomination table held within the machine.

If the dispense amount has been completed successfully, the display will show donE.

### 3.7 Detector Control

Enables / Disables detectors

#### Detector Control



To enable or disable a detector.

Press DET to enter the detector menu. The last accessed detector is displayed.

Whilst the detectors are shown, press DET repeatedly to scroll through the list of available detectors.

Alternatively, whilst the detectors are shown, use the arrow keys to scroll through the list of detectors.

Use the 0 and 1 keys or DENOM key to switch the selected detector on or off.

Continue to scroll through the list of detectors until all modifications are complete. Press START/STOP to return to the counting display or wait for the display to time out.

Detectors in the list include:

Short	Short Edge Detection(SD)
Enh	Enhanced Magnetics (Enh)
PrES	Magnetic Presence (PrES)
Ub	Ultra Violet (UV)

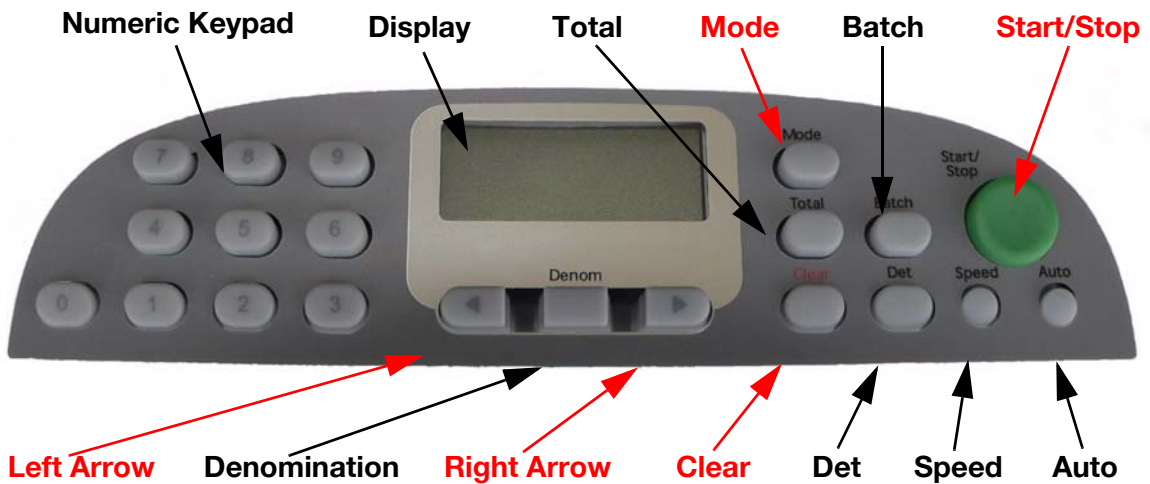
Only detectors fitted to the machine will be displayed in the list.



### 3.8 Detector Display Messages (dEn)

Denomination Size Errors

#### Detector Display Messages



#### Denomination Size Detection (dEn)

This detector will recognise notes of a different size within a bundle of notes being fed. The first note of each bundle is used as a reference size.

A SD (Short edge dimension) detector requires a difference of 3mm or more from the original reference note to recognise a size error.

If during normal operation of the machine, you see a Display Message

#### **dEn 2**

It means a suspect note of a different size has been detected, in this case the different sized note would be located in the stacker, being the second note back from the front of the stacker.

It might display as **dEn 1** or **dEn 3** this would mean either the first note or the third note back from the front of the stacker.

As well as showing **dEn**, the Short Edge Size Icon will flash to indicate a size detection error.

Examine the suspect notes. Either return the note to the stacker or replace it with correct size note.

Press START/STOP to continue the count or remove all the notes from the stacker and re-feed again.

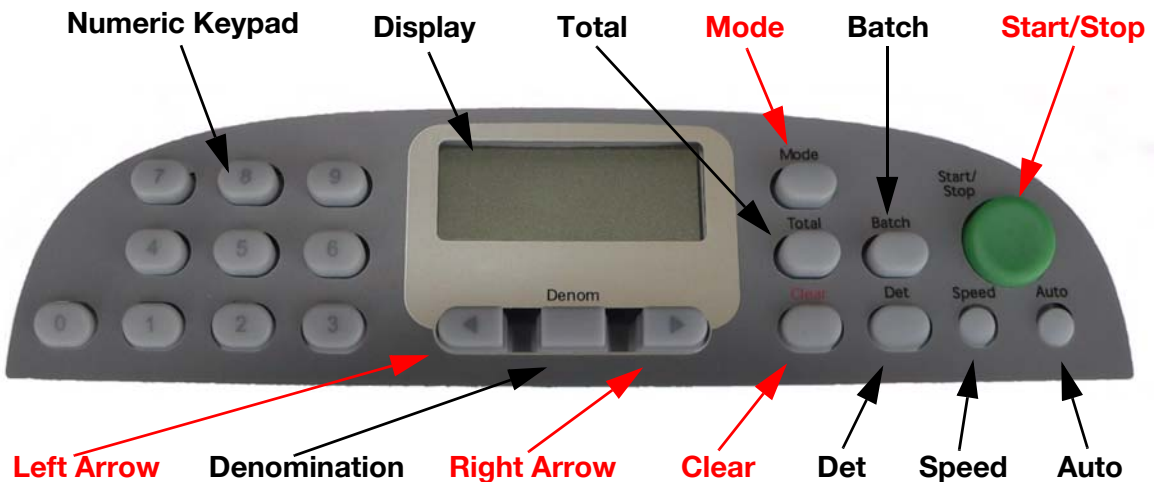


Short Edge Size Icon

### 3.9 Detector Display Messages (CF)

Counterfeit Detection Aid Errors

#### Detector Display Messages



Counterfeit Detection Aid (CF)

The detectors fitted to this variant help to detect suspect counterfeits.

**EMG** has two parts to it.

**PrES** (Magnetic Presence) & **Enh** (Enhanced Magnetics)

This will detect magnetic presence and the magnetic qualities of the US Dollar.

**UV** Will detect the differences in the UV brightness of notes.

If during normal operation of the machine, you see a Display Message

#### **CF 2**

It means that a suspect note has been detected. In this case the suspect note would be located in the stacker, being the second note back from the front of the stacker.

It might display **CF 1** or **CF 3** this would mean either the first note or the third note back from the front of the stacker.

As well as showing **CF**, the **UV** or **EMG** Icon will flash to indicate a suspect error. Examine the suspect notes. Either return the note to the stacker or replace it with a Valid note.

Press **START/STOP** to continue the count or remove all the notes from the stacker and re-feed again.

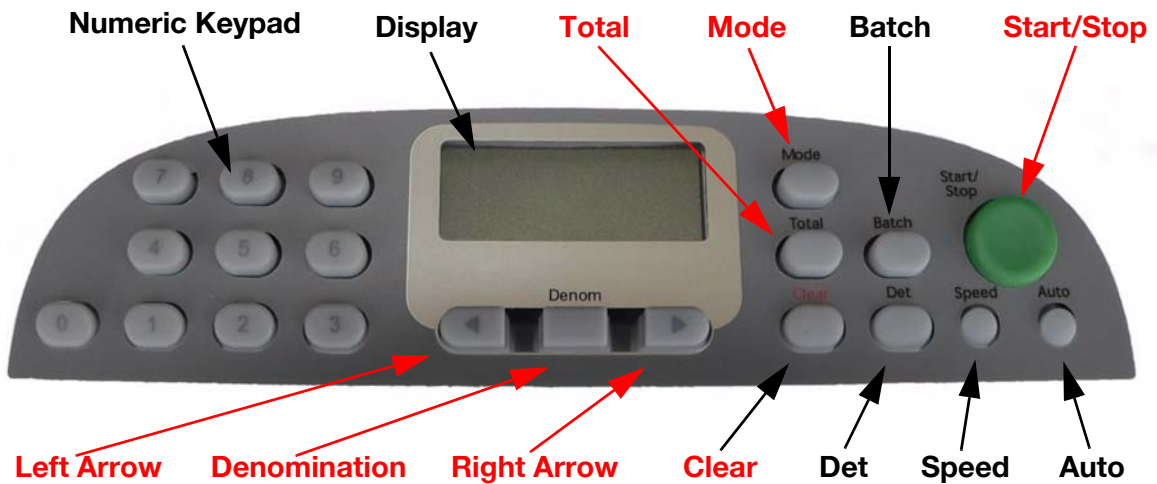


EMG & UV Suspect Icon

### 3.10 Print Commands

Print On Demand

#### Print Commands



The print on demand option will only operate in Value Counting Mode but not in **dEntr** (denomination Enter) or **diSP** (Value Dispense).

The printer (\*) must have been selected in the **CnS** function in Supervisor Function. It also has to be configured in the Supervisor Function (**Print SEL**) prior to use.

\*(Citizen CBM-910 Model, contact your local Distributor for further information.)

To enter the print on demand options. Press and hold the TOTAL Key for one second. The display will show Print 0.

Press the TOTAL key repeatedly to step through the available options.

Alternatively when Print 0 is shown on the display. Use the left or right arrow keys to select required option or use the numeric keypad.

Option	Description
0	Level 1 Totals (Batch Totals)
1	Level 2 Totals (Bundle Totals)
2	Level 3 Totals for selected Currency (Grand Totals)
3	Level 4 Totals For all Currencies (Grand Totals)

After the option number has been entered, the START/STOP key must be pressed within 5 seconds to print the totals. Pressing the DENOM key will exit the Print On Demand Option. Also if no action is taken within 5 seconds in the Print On Demand option, the EV8650 will revert back to the normal display mode, without printing.

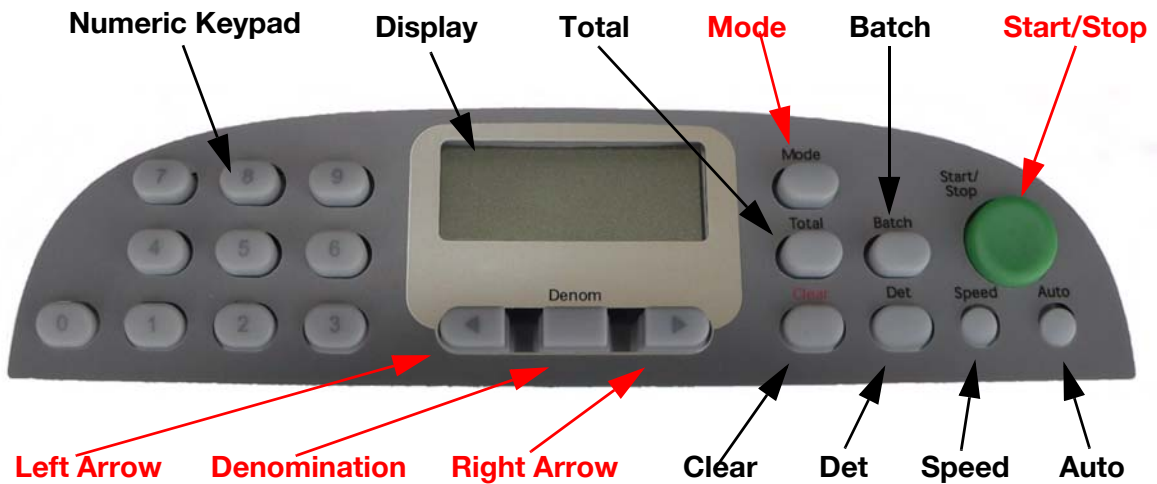
Automatic printing is also available in **Print SEL** in the Supervisor Functions.

The printer set-up is also available in the **Print SEL** Function.

### 3.11 CnS Control Command (Cash Management System)

Online / Offline function

#### CnS Control Command



Cash Management System RS232 connection.

If the counter is connected to a computer using Legacy (2620) CMS protocol then the counter can be manually connected and disconnected from the computer by pressing the AUTO key for one second.

“OFF Line” or “On Line” will be displayed.

Use the arrow keys to toggle between on and off line.

Press START/STOP to return to normal operation.

The display message “rEAdy CnS” can be cleared by pressing the CLEAR key

The display will return to the counting display automatically.

The 2620 Legacy CMS can be configured (in the Supervisor settings) to either connect to PC automatically at power-up or wait until commanded to go “On Line”.

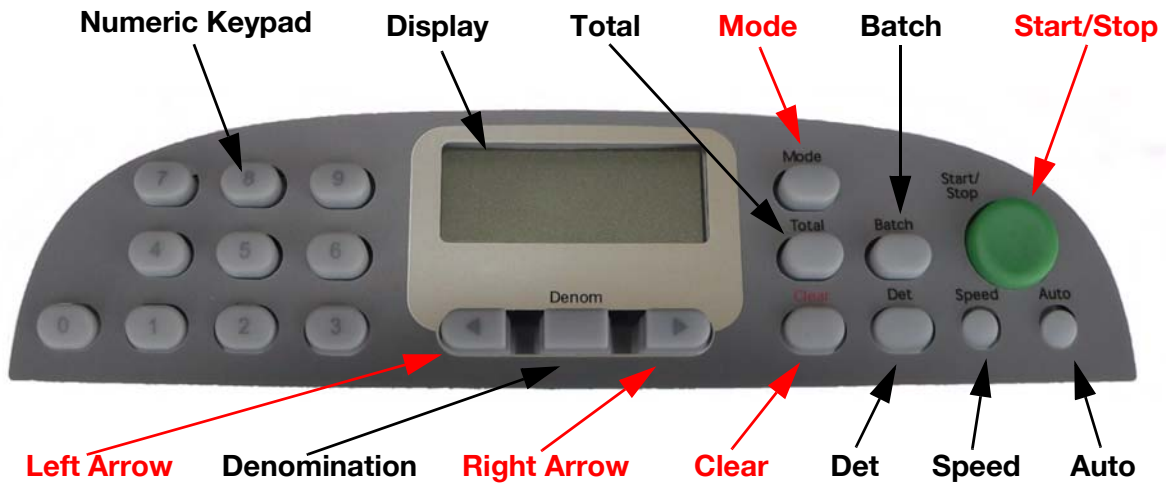
Two other Protocols are also available: 2650 Pro and 8643 Pro.

For help with the CMS connection, contact your local De La Rue Office.

### 3.12 General Error Display

Show Error Codes

#### General Error Display



When an error is displayed, press the MODE Key to display the Error Code.

Press the arrow keys to scroll through all the reported error codes to see why the machine has stopped.

Press MODE again to show the Stack Count (SC).

Press the MODE key to return to the normal error display.

Press START/STOP to clear the error.

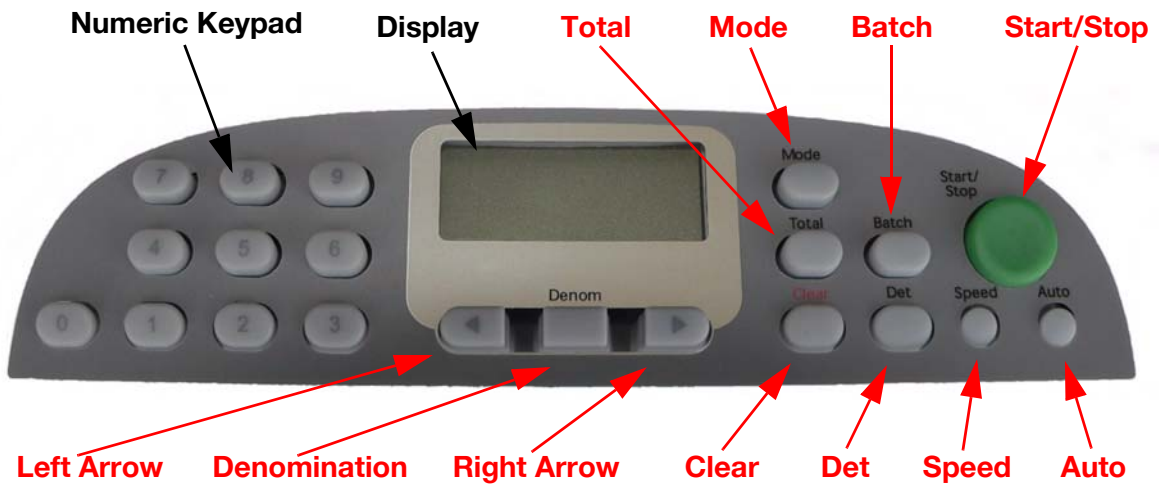
A description of the Display Messages can be found on page 58 of this user Guide.

For a full Error Code list, please contact your local De La Rue Distributor.

### 3.13 Command Summary

Keypad Functions

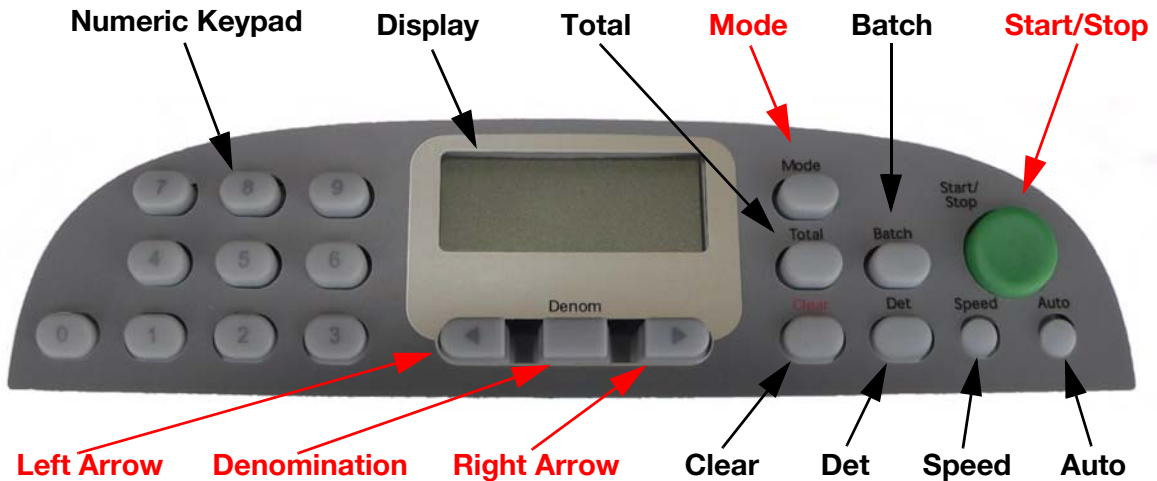
#### Command Summary



Key	Quick Press	Hold for 1 Sec	Special Functions
Start/Stop	Manual start or stop. Clear Error		Enter Data
Denom	Select Denomination	Select Currency	Exit Supervisor Mode
Mode	Select Count Mode (Value)	Select Supervisor Mode	Display Error Details
Total	Displays Totals	Manual Print	
Clear	Clear Displayed Value		
Batch	Select Batch		
Det	Select Detector Menu		
Speed	Select Speed		
Auto	Select Auto Start	Legacy CMS Control	
◀ ▶			Scroll through options

## 4 Supervisor Functions

### 4.1 How to Enter Supervisor Functions



A range of functions are provided to enable the supervisor to alter the parameters of the machine. To enter these functions, depress the MODE key for one second. If PIN security was previous selected in the Supervisor Mode, a request for a 3 digit PIN will be displayed. - - - Pin will appear on the display (Default 796).

The left-hand dash will flash, and by using the left arrow key, decrement the PIN number in units of one hundred.

Note: If you overstep the required 'hundreds' number, continue to press the left arrow key to cycle around again.

Once the required 'hundreds' number is displayed, press the right arrow key to select the 'tens' column, then press the left arrow key to decrement the the PIN number in tens to the required value. Repeat the same procedure for the units.

Alternatively you can use the numeric keypad to enter the PIN number.

When the correct PIN number is displayed, press the START/STOP to accept. This will allow access to the Supervisor Functions. Press the DENOM to exit this process.

Note: If you enter the PIN-code wrong three times, including pressing the START/STOP key without entering a number, the supervisor PIN will lock you out. To reset this function, turn the machine off and on and try again.

Use the Left and Right arrow keys to scroll through the available Supervisor Functions.

Once the desired Supervisor Function is displayed, press the START/STOP key to enter that function, or press the DENOM key to exit.

Press DENOM to exit Supervisor Functions completely.

Alternatively, in the Model EV8650, Ten supervisor functions have a short cut key which can be used to select the functions directly (see table 1).

To exit the Supervisor Functions completely, press the DENOM Key. You will now be asked if you want to save the settings.

Press the DENOM key to exit without saving.

Press the START/STOP key to save settings.

## 4.2 Supervisor Functions (Table1)

Mode	Description	Shortcut
Count SEL	Set "Quick Access" modes for the count mode selection. Options are PIECE, FdEn, AdEn and oFF (dependent on settings within the currency table) Two quick access modes are available (Co1 and Co2) these are selected using the MODE key. The settings only apply to the current selected currency. Each currency has its own settings.	Mode
VALUe SEL	Set "Quick Access" modes for the value mode selection. Options are dEntr, FdEn, AdEn, SPECL, DISP and oFF (dependent on settings within the currency table) Two quick access modes are available (VA1 and VA2) these are selected using the MODE key. The settings only apply to the current selected currency. Each currency has its own settings.	Mode
dEt SEL	Detector settings. Instead of switching detectors on and off, the whole number pad is used to select sensitivity of each detector. If a detector is switched to level 0 then it is not available to the user using the dEt key. 1 is the most sensitive and 9 is the least.	Det
Print SEL	Printer settings. This specifies when a print will be performed and what will be printed, also the printer set-up. See the Table in the Supervisor Functions.	Total
AUto SEL	Select a delay before feeding after notes are placed on the feed hopper in auto-start mode (using number or arrow keys). Press the MODE key to access the ErAut (Autostart after Error) settings. Use the START/STOP key to toggle between auto-start and manual start after error recovery.	Auto
StAc SEL	Specify stack limit between 50 and 200 using the numerical or arrow keys.	Batch



**Supervisor Functions (Table1) Continued**

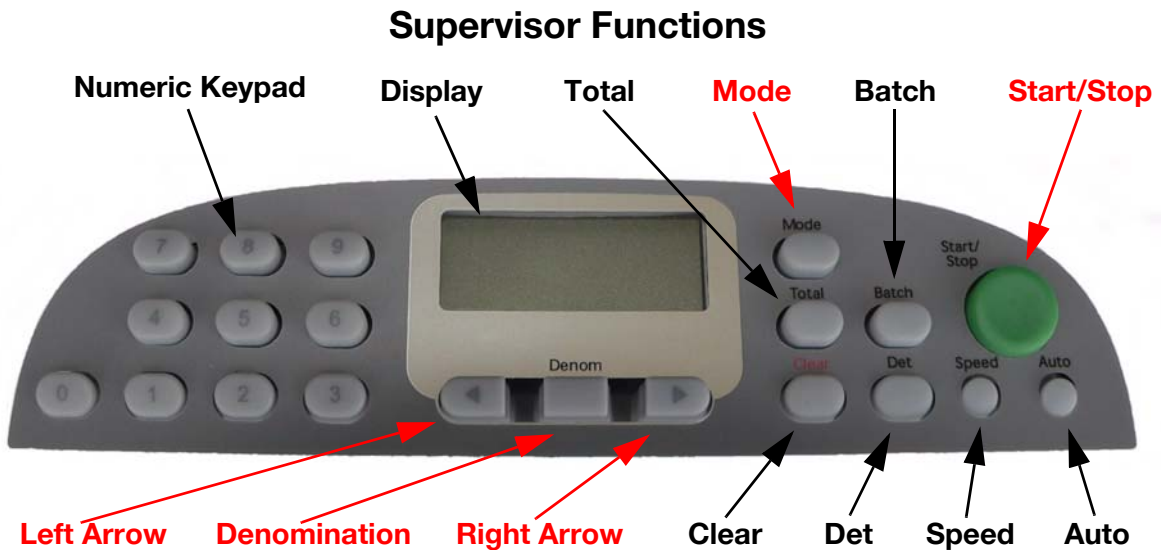
<b>Mode</b>	<b>Description</b>	<b>Shortcut</b>
dEn SEL	Use the left or right arrow keys to step through the available denominations. Press the START/STOP key to toggle between the oFF/on state.	1
SEcUr SEL	This is used to specify security settings: whether or not a PIN is needed to enter supervisor mode, change the supervisor PIN number or so the operator cannot change detector settings. The default setting is oFF (no PIN, unlocked detectors) once in SEcUr, use the mode key to Toggle between Pin_ on/oFF, PIN_SEt and dtLoc. Using the START/STOP will toggle between off and on. For PIN_SEt it will prompt you for a new 3 digit PIN Number. Pressing the shortcut key will take you staright to PIN on/oFF  Note: Even if PIN oFF has been selected, you will still the PIN to enter this function. If you forget the new PIN number a De La Rue Representitive will have to reset the machine back to the original Default PIN of 796	2
CnS SEL	Select communications settings. Select options using the arrow keys; move on to next communiation setting using the START/STOP key. Press the DENOM key to exit: an option to SAVE will be given (START/STOP key to confirm, DENOM key to exit without saving).  Channel 1 (1 Ch_) can be set for 2650 Pro; 2620 Pro; Print Pro; and 8643 Pro.  Channel 2 (2 Ch_) can be set for Print Pro; and rdiSP Pro (remote display for future expansion).	3
rEStr SEL	Specify the recovery settings. Options are Auto on, oFF, and rEStr.	4
bEEp oFF	Switch on/ oFF the keypad beeper.	5

Note: When pressing the DENOM key to exit the Supervisor Functions, you will be asked to save the configuration (SAVE CFG). Should you not wish to save the configuration, press the DENOM key to exit, or use the left or right arrow keys to select from further options:

1. rESt CG - Which will reset the machine to the last saved configuartion.
  2. dEFLt CFG - Which will restore the machine back to 'factory' defaults.
- Press the START/STOP key to accept.

### 4.2.1 Count SEL (Count Quick Access Modes)

Short cut - Mode



Once in Supervisor Mode.

Use the Left and Right arrow keys to scroll through the available Supervisor Functions.

Once **Count SEL** is displayed, press the START/STOP key to enter that function or press the DENOM key to exit. Press DENOM to exit Supervisor Function completely.

Alternatively some Supervisor functions have a short cut key, This can be used to enter the function directly.

In the EV8650 version there are ten short cut keys (see table 1). Select two out of the four quick access count mode settings. This is dependant on the settings within your currency table. Quick access modes are Co1 and Co2, these are selected by using the MODE key, then using the left and right arrow keys to select the available options.

Note: VA1 & VA2 will also be shown whilst pressing the MODE key. This is so you can set the quick access mode in Value without having to go back into the VALUE SEL option.

Options  
(PIECE; FdEn; AdEn; oFF).

The settings only apply to the current selected currency. Each currency has its own settings.

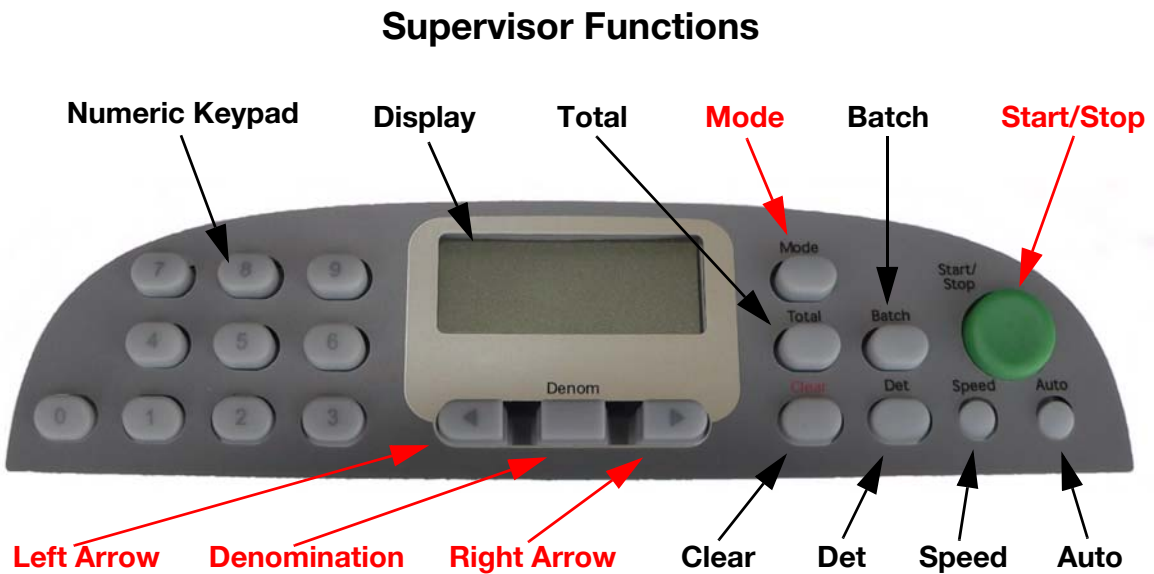
To exit the Supervisor Functions completely, press the DENOM Key. You will now be asked if you want to save the settings.

Press the DENOM key to exit without saving.

Press the START/STOP key to save settings.

## 4.2.2 VALUE SEL (Value Quick Access Modes)

Shortcut - Mode



Once in Supervisor Mode.

Use the Left and Right arrow keys to scroll through the available Supervisor Functions.

Once **VALUE SEL** is displayed, press the START/STOP key to enter that function or press the Denom key to exit. Press DENOM to exit Supervisor Function completely.

Alternatively some Supervisor functions have a short cut key. This can be used to enter the function directly.

In the EV8650 version there are ten short cut keys (see table 1).

Select two out of the six quick access value mode settings. This is dependant on the settings within your currency table. Quick access modes are VA1 and VA2, these are selected by using the MODE key, then using the left and right arrow keys to select the available options.

Note: Co1 & Co2 will also be shown whilst pressing the MODE key. This is so you can set the quick access mode in Count without having to go back into the Count SEL option.

Options:

(dEnr; FdEn; AdEn; SPECL; DISP; & oFF).

The settings only apply to the current selected currency. Each currency has its own settings.

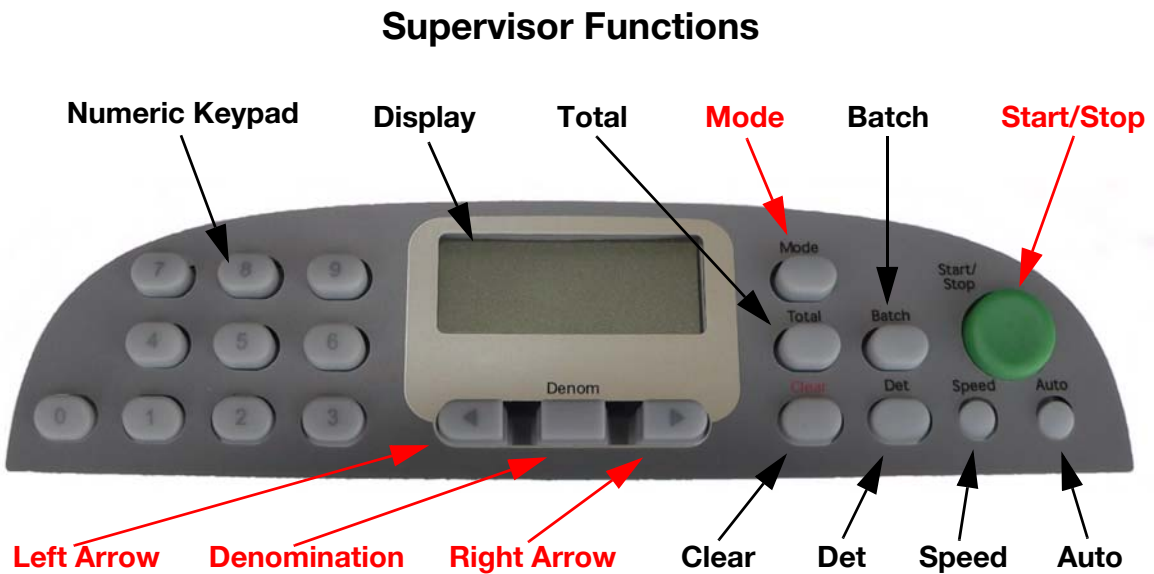
To exit the Supervisor Functions completely, press the DENOM Key. You will now be asked if you want to save the settings.

Press the DENOM key to exit without saving.

Press the START/STOP key to save settings.

### 4.2.3 dEt (Detector Settings)

Shortcut - Det



Once in Supervisor Mode.

Use the Left and Right arrow keys to scroll through the available Supervisor Functions.

Once **dEt SEL** is displayed, press the START/STOP key to enter that function or press the DENOM key to exit. Press DENOM to exit Supervisor Function completely.

Alternatively some Supervisor Functions have a short cut key. This can be used to enter the function directly.

In the EV8650 version there are ten short cut keys (see table 1).

Detector settings. Once in the **dEt** option, use the left and right arrow keys to select the detector you wish to adjust. The numerical key pad is used to enter the sensitivity of each detector.

The lower the number, the more sensitive that detector is.

Ub (Ultra Violet)	Default sensitivity setting = 5
PrES (Magnetic Presence)	Default sensitivity setting = 5
Enh (Enhanced Magnetics)	Default sensitivity setting = 5

To exit the **dEt** option press the DENOM key.

To exit the Supervisor Functions completely, press the DENOM Key. You will now be asked if you want to save the settings.

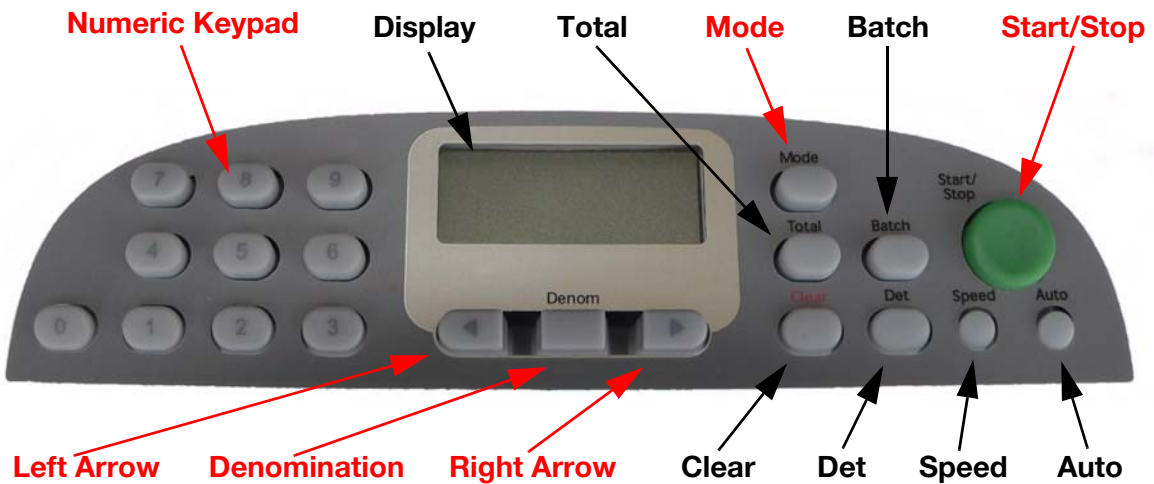
Press the DENOM key to exit without saving.

Press the START/STOP key to save settings.

#### 4.2.4 Print SEL (Automatic Print Function)

For setting automatic printing on removal of notes

##### Supervisor Functions



Once in Supervisor Mode, use the Left and Right arrow keys to scroll through the available Supervisor Functions (see section 4.1).

Once **Print SEL** is displayed, press the START/STOP key to enter that function or press the DENOM key to exit. Press DENOM to exit Supervisor Function completely.

**Prtot xxx** will be shown, Where xxx is an automatic print option. Use the arrow keys to scroll through the list of automatic Print Options.

Option	Description
<b>grb</b>	Prints Grand Totals when both Hoppers are cleared
<b>grs</b>	Prints Grand Totals when Stacker is cleared
<b>bun</b>	Prints Bundle Totals when both Hoppers are cleared
<b>StA</b>	Prints Stack Totals when Stacker Hopper Is cleared
<b>oFF</b>	Auto-Print OFF (Print On Demand Will Be Active)

To exit the **Prtot** option, press the DENOM Key. To exit the Supervisor Functions completely, press the DENOM key again. You will now be asked if you want to save the settings.

Press the DENOM key to exit without saving.

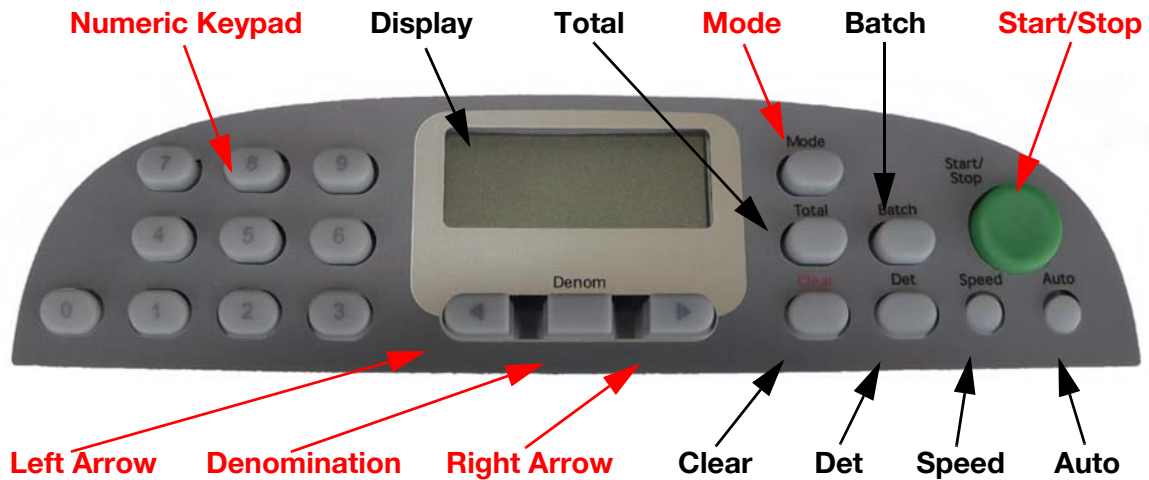
Press the START/STOP key to save settings.

Note: The automatic Print Function will only operate when the **Print Pro** has been selected in the Supervisor **CnS** Function. The transaction number is printed with the totals and then incremented thereafter on each transaction. It can be re-set to zero in the Printer set-up mode. (Not used in dEntr or Value dispense modes).

### 4.2.5 Print SEL (Printer Set-up Mode)

For setting up the printer & printouts in the correct configuration

#### Supervisor Functions



Once in Supervisor Mode. Use the Left and Right arrow keys to scroll to the available Supervisor Functions.

Once **Print SEL** displayed, press the START/STOP key to enter that function or press the DENOM key to exit. Press DENOM to exit Supervisor Function completely.

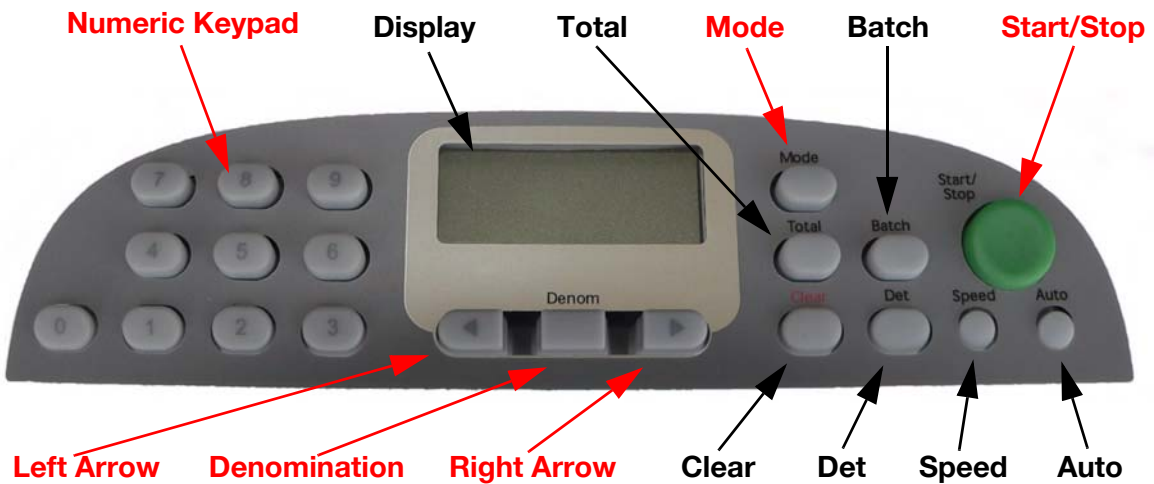
**Prtot oFF** will be shown, press the MODE key to first select the **trn** (transaction number) which shows the current transaction number level in the memory of the machine. Press the CLEAR key to reset then transaction number to zero.

Pressing the MODE Key again will display **SEtuP Prn**. Once this is displayed press the START/STOP Key to scroll through the available printer set-up options. Once that function is displayed. Use the left and right arrow keys to alter the selected option. See the next page on how to change these settings.

Option	Description
<b>totAL</b>	Print only counted (used) or all denomination totals. <b>xxx</b> = USE or ALL
<b>HAnSH</b>	Printer handshake level. <b>xxx</b> = oFF, Lo or hi.
<b>CoLS</b>	Number of printed columns. <b>xxx</b> = 25 or 40.
<b>LinES</b>	Number of trailing blank lines on printout. <b>nnn</b> = 0 - 20.
<b>AutLF</b>	Auto-line feed after each printed line. <b>xxx</b> = oFF or on.
<b>Chr 1</b>	Special control characters at end of printout. <b>hh</b> = 00 - FF in hex.
<b>Chr 2</b>	Special control characters at end of printout. <b>hh</b> = 00 - FF in hex
<b>Chr 3</b>	Special control characters at end of printout. <b>hh</b> = 00 - FF in hex

## Print SEL Printer Set-up Mode Continued

### Supervisor Functions



Chr 1, Chr 2, Chr 3 are special control characters at the end of the printout. These characters would be used if the printer had a guillotine fitted. The guillotine would then cut each printout separately. The Hex code characters for that type of printer (with a guillotine) would be in that printer's operator manual. The recommended printer from De La Rue does not have a guillotine fitted.

Use the arrow keys to change the setting on the display indicated by **xxx**.

Use the numerical keys or arrow keys to enter the setting on the display indicated by **nnn**.

Use the numerical or alpha keys to enter the hex number setting on the display indicated by **hh**.

To exit the **Printer Set-up** functions, press the DENOM Key. You will now be asked if you want to save the settings.

Press the START/STOP to save settings.

Press the DENOM key to exit without saving.

To exit the Supervisor Functions completely, press the DENOM Key. You will now be asked if you want to save the settings.

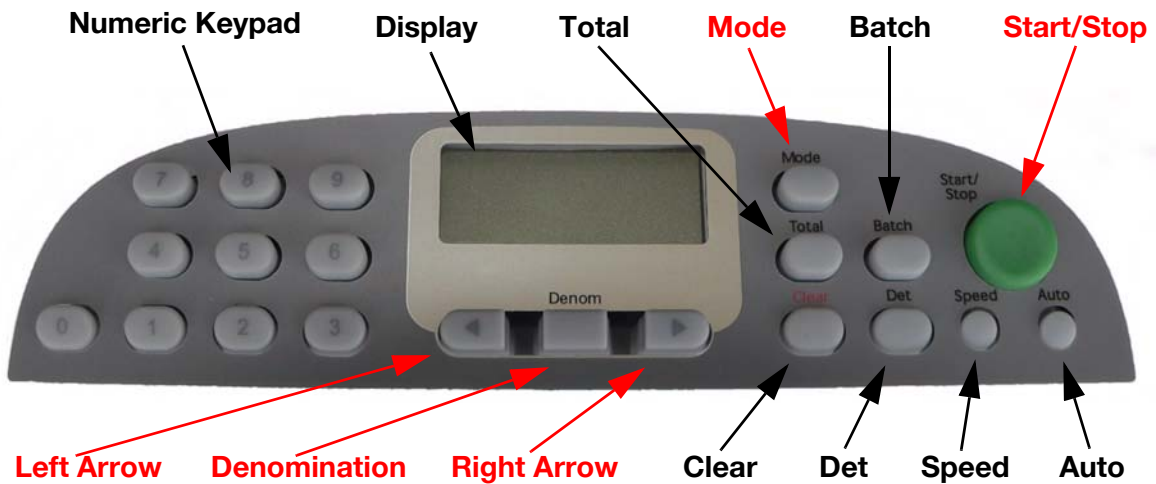
Press the DENOM key to exit without saving.

Press the START/STOP key to save settings.

## 4.2.6 AUto (Auto-Start Delay)

Auto-Start Delay

### Supervisor Functions



AUto (Auto-start Delay) Short cut (Auto)

Once in Supervisor Mode. Use the Left and Right arrow keys to scroll through the available Supervisor Functions.

Once **AUto SEL** is displayed, press the START/STOP key to enter that function or press the DENOM key to exit. Press DENOM again to exit Supervisor Function completely.

Alternatively, in the Model EV8650, ten supervisor functions have a short cut key which can be used to select the functions directly (see table 1).

Select a feeding delay (using arrow keys - Left arrow to reduce delay, right arrow to increase delay). This delays the start of feeding after notes are placed on the feed hopper in auto-start mode.

The Auto-start delay is in multiples of 100ms (ie. a value of 10 = 1 second).

Press the MODE key to access the ErAut (Autostart after Error) settings.

Use the START/STOP key to toggle between on/OFF auto-start and manual start after error recovery.

To exit the **Auto Start Delay** Function press the DENOM key.

To exit the Supervisor Functions completely, press the DENOM Key. You will be asked if you want to save the settings.

Press the DENOM key to exit without saving.

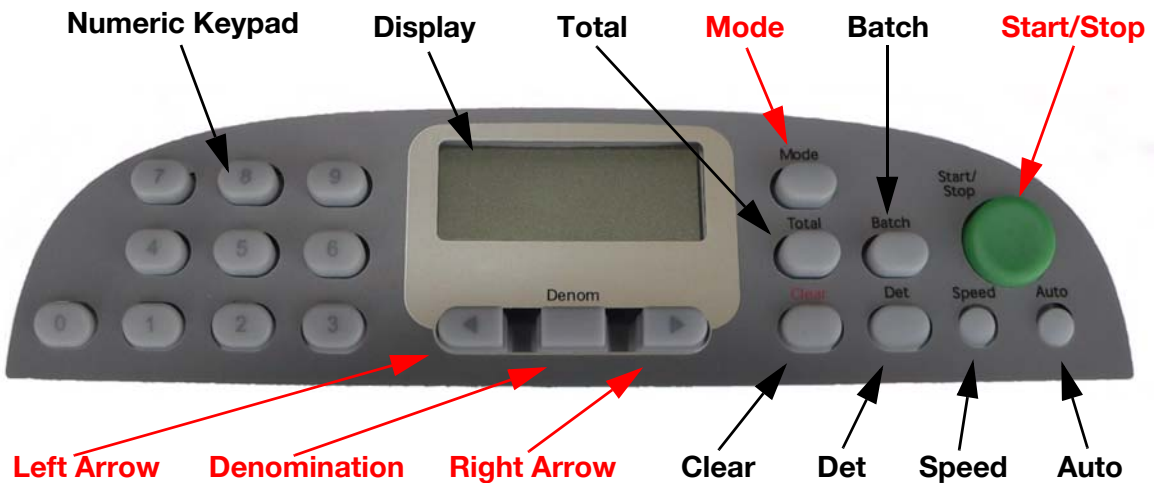
Press the START/STOP key to save settings.



### 4.2.7 StAc (Change Stacker Limit)

Change Stacker Limit

#### Supervisor Functions



StAc (Change Stacker Limit) Short cut (Batch)

Once in Supervisor Mode. Use the Left and Right arrow keys to scroll through the available Supervisor Functions.

Once **StAc SEL** is displayed, press the START/STOP key to enter that function or press the DENOM key to exit. Press DENOM again to exit Supervisor Function completely.

Alternatively, in the Model EV8650, Ten supervisor functions have a short cut key which can be used to select the functions directly (see table 1).

Specify stack limit.

The count display will show the current stack limit.

The limit can be changed within the range of 50 - 200 by pressing the left or right arrow keys, or by entering the required limit using the numeric keypad.

The stack limit must be greater than the Batch limit if batching over 100 notes, up to stacker maximum of 200 notes.

To exit the **StAc** function press the DENOM key.

To exit the Supervisor Functions completely, press the DENOM Key. You will be asked if you want to save the settings.

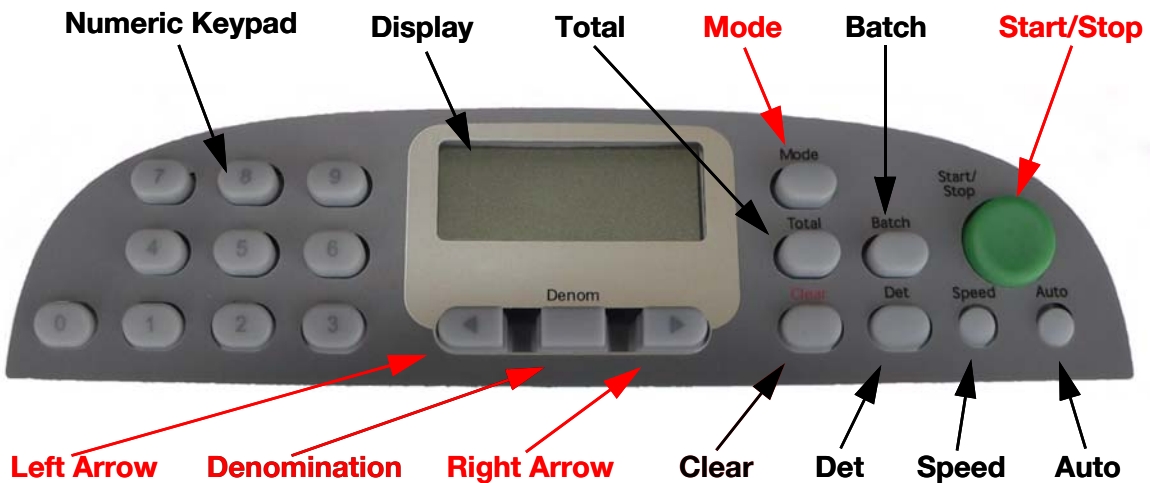
Press the DENOM key to exit without saving.

Press the START/STOP key to save settings.

## 4.2.8 dEn (Select Denomination Values)

Selecting Denomination Values

### Supervisor Functions



dEn (Denomination)

Once in Supervisor Mode. Use the Left and Right arrow keys to scroll through the available Supervisor Functions.

Once **dEn SEL** is displayed, press the START/STOP key to enter that function or press the DENOM key to exit. Press DENOM again to exit Supervisor Function completely.

Alternatively, in the Model EV8650, ten supervisor functions have a short cut key which can be used to select the functions directly (see table 1).

Select from the denominations that are available for dEntr mode:

1, 2, 3, 5, 10, 20, 25, 50, 100, 200, 250, 500, 1000, 2000, 2500, 5000, 10000, 20000, 25000, 50000

Use the left or right arrow keys to select the denomination, then toggle on/off using the START/STOP key.

To exit the **dEn** function press the DENOM key.

To exit the Supervisor Functions completely, press the DENOM Key. You will be asked if you want to save the settings.

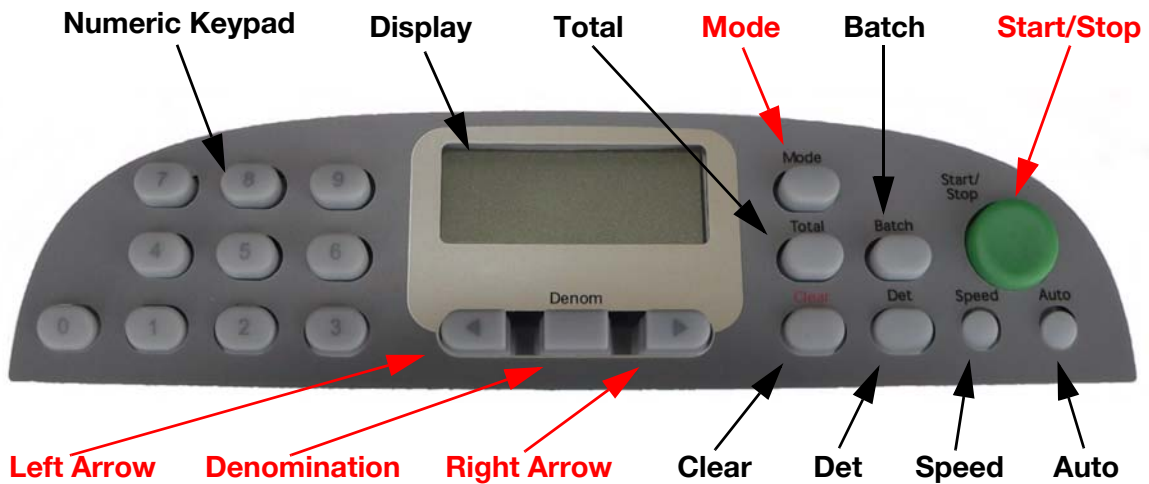
Press the DENOM key to exit without saving.

Press the START/STOP key to save settings.

## 4.2.9 SEcUr (Security Functions)

### Security Functions

#### Supervisor Functions



#### SEcUr (Security Functions)

Once in Supervisor Mode. Use the Left and Right arrow keys to scroll through the available Supervisor Functions.

Once **SEcUr SEL** is displayed, press the START/STOP key to enter that function or press the DENOM key to exit. Press DENOM again to exit Supervisor Function completely.

Note: Even if PIN off has been selected you will still have to use the default or changed PIN to enter that function for security reasons.

The Default PIN is 796

#### PIN\_on/oFF

This is used to specify security settings: whether or not a PIN is needed to enter supervisor mode. The default setting is oFF (no PIN).

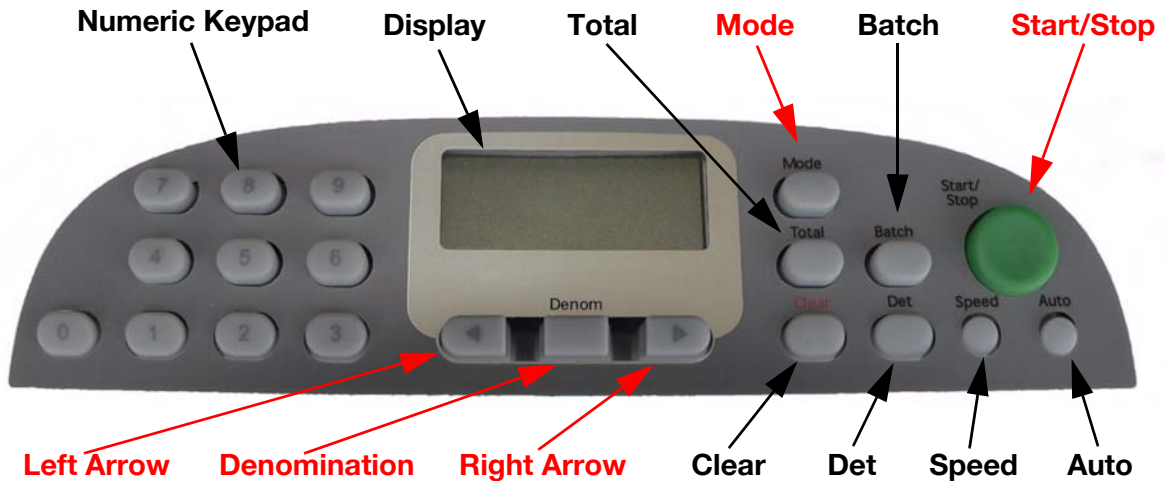
Toggle the PIN setting oFF/on using the START/STOP key.

Alternatively, in the Model EV8650, Ten supervisor functions have a short cut key which can be used to select the functions directly (see table 1).

This shortcut key will that you directly to PIN off/on.

## SEcUr Continued

## Supervisor Functions



To select one of the other two functions press the MODE key while PIN oFF/on is displayed.

**Pin\_SEt** is for changing the 3 digit default PIN to a new one of your choice. The Default PIN is 976.

Once **Pin\_SEt** is shown press the START/STOP key and \_\_\_ Pin will be displayed. Enter your new 3 digit number and press START/STOP to accept. The display will show "donE Pin".

**dtLoc** (Detector Lock) is for locking the detectors so the operator cannot turn them off in normal operation. Use the MODE key again to display **dtLoc**, the START/STOP key to toggle between oFF/on.

**dtLoc will only be shown if PIN on has been selected.**

To exit this function and the Supervisor Functions completely, press the DENOM Key. You will be asked if you want to save the settings.

Press the DENOM key to exit without saving.

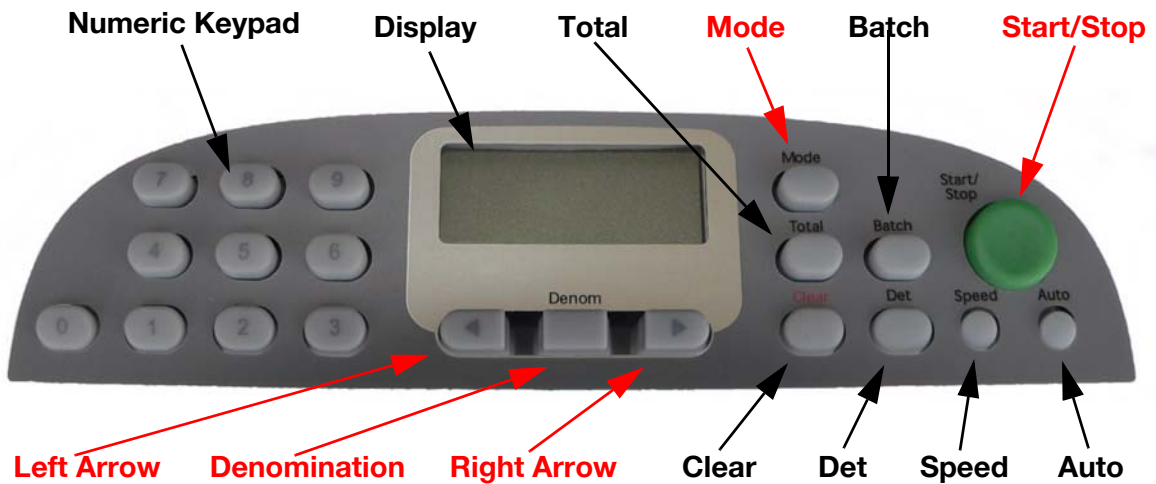
Press the START/STOP key to save settings.

Note: If you forget your PIN, you will have to contact a De La Rue representative in your region to reset the machine back to its default PIN.

### 4.2.10 CnS (RS232 Cash Management System)

Communication Settings

#### Supervisor Functions



CnS (Communication Settings)

Once in Supervisor Mode. Use the Left and Right arrow keys to scroll through the available Supervisor Functions.

Once **CnS SEL** is displayed, press the START/STOP key to enter that function, or press the DENOM key to exit.

Once **(1 Ch\_)** is shown, press the STOP/START key to select the 2650 Pro; 2620 Pro; & 8643 Pro & Print Pro communication protocols. Use the Left and Right arrow keys to select the setting you require, After selecting the communication protocol you require with the START/STOP Key, it will now prompt you to enter Baud Rate and other communication settings as shown below. Use the START/STOP key to move on to another setting and the arrow keys to change the parameters within that setting.

Baud Rate	Data Bits	Parity	Stop Bits
1200	7 dAt	EvEn PAr	1 StP
2400	8 dAt	odd PAr	2 StP
4800		nonE PAr	
9600			
19200			
38400			

To exit that function and the Supervisor Functions completely, press the DENOM Key. You will be asked if you want to save the settings.

Press the DENOM key to exit without saving.

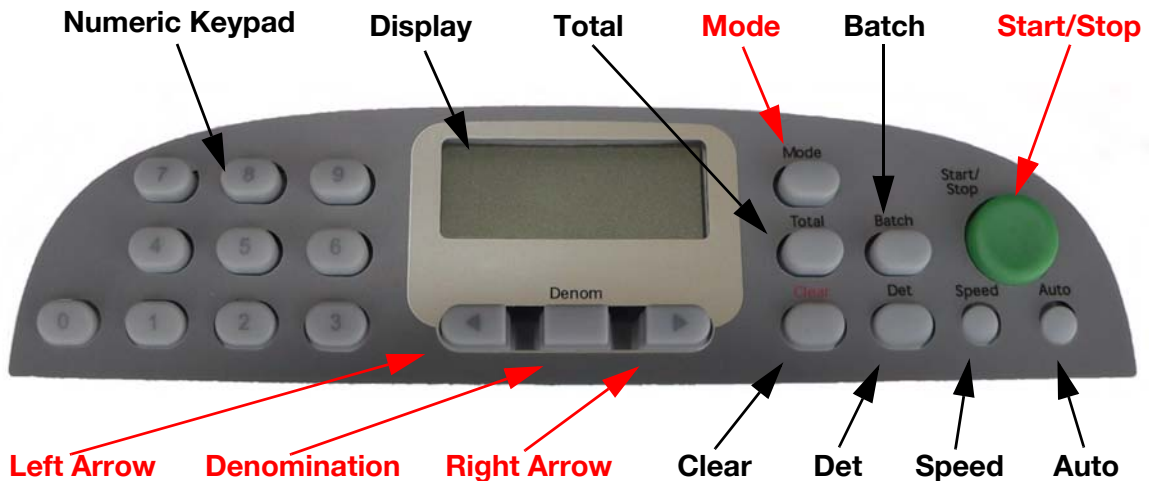
Press the START/STOP key to save settings.

Note: After changing Protocols, the machine must be turned off and on again for any changes to take affect.

### 4.2.11 rEStr (Restore Information)

Restore Information

#### Supervisor Functions



rEStr (Restore Information)

Once in Supervisor Mode. Use the Left and Right arrow keys to scroll through the available Supervisor Functions.

Once **rEStr SEL** is displayed, press the START/STOP key to enter that function or press the DENOM key to exit. Press DENOM again to exit Supervisor Function completely.

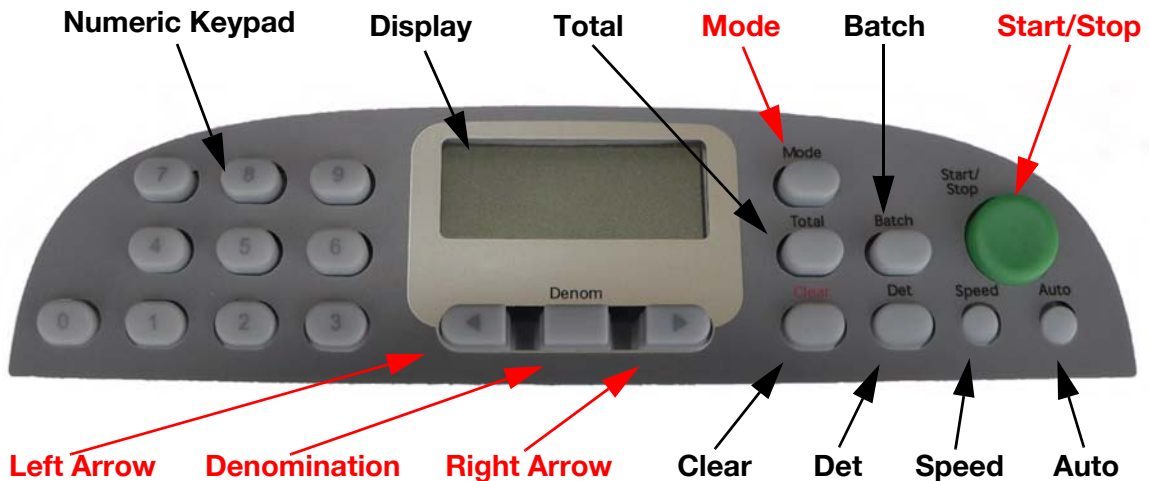
**Auto rEC** is now shown. Use the Left and Right arrow keys to scroll through the available options.

Options: Auto rEC, oFF rEC, rEStr rEC, on rEC.

The **Auto rEC** option enables recovery of the detector settings, the mode of operation, the overall totals for each currency, and the overall total for the current mode of operation set prior to the power interruption if it occurs while note counting is in progress, when the power is restored. A power interruption while the counter is idle will set the note counter to the normal default power-up configuration in memory, when power is restored. 'Auto rEC' is the default recovery mode.

## rEStr Continued

## Supervisor Functions



oFF rEC;

The **oFF rEC** option disables all the power recover modes. If there is a power failure or the note counter is switched off then the detector settings, the mode of operation, the overall totals for each currency, and the overall total for the current mode of operation, which were set prior to the power interruption will be lost. The note counter will be set to the normal default power-up configuration in the memory when power is restored.

rESTr rEC;

Provided the **Auto rEC** option was active (turned on) during the power interruption, then selecting the 'rESTr rEC' option immediately after the note counter has been switched on will recover the detector settings, the mode of operation, the overall totals for each currency, and the overall total for the current mode of operation, which were set prior to the power being interrupted due to a power failure or the power switched off.

on rEC;

The **on rEC** option enables recovery of the detector settings, the mode of operation, the overall totals for each currency, and the overall total for the current mode of operation set prior to the power interruption, when the power is restored. This mode overrides the normal default power-up configuration in memory.

Press the START/STOP key to select the desired function. The display will say donE.

To exit **rEStr** option press the DENOM key.

To exit the Supervisor Functions completely, press the DENOM Key. You will be asked if you want to save the settings.

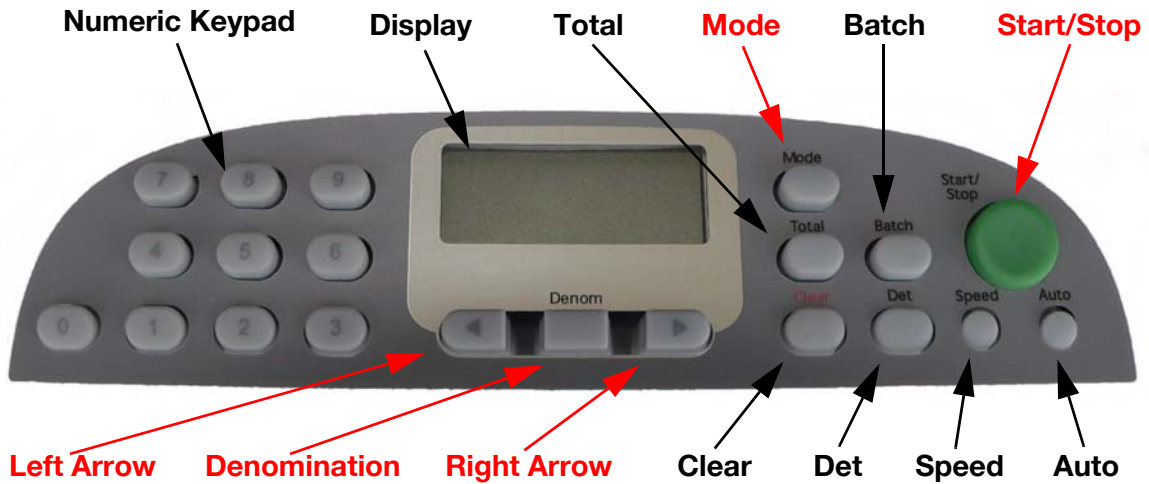
Press the DENOM key to exit without saving.

Press the START/STOP key to save settings.

#### 4.2.12 bEEP (Setting The Beeper)

Setting the Beeper

##### Supervisor Functions



bEEP (Beeping Sound)

Once in Supervisor Mode. Use the Left and Right arrow keys to scroll through the available Supervisor Functions.

Once **bEEP OFF** is displayed, press the START/STOP key to toggle the Beeper off/on.

Enables or disables beeper sound for Keypad entry or error control.

To exit the **bEEP** option and the Supervisor Functions completely, press the DENOM Key. You will be asked if you want to save the settings.

Press the DENOM key to exit without saving.

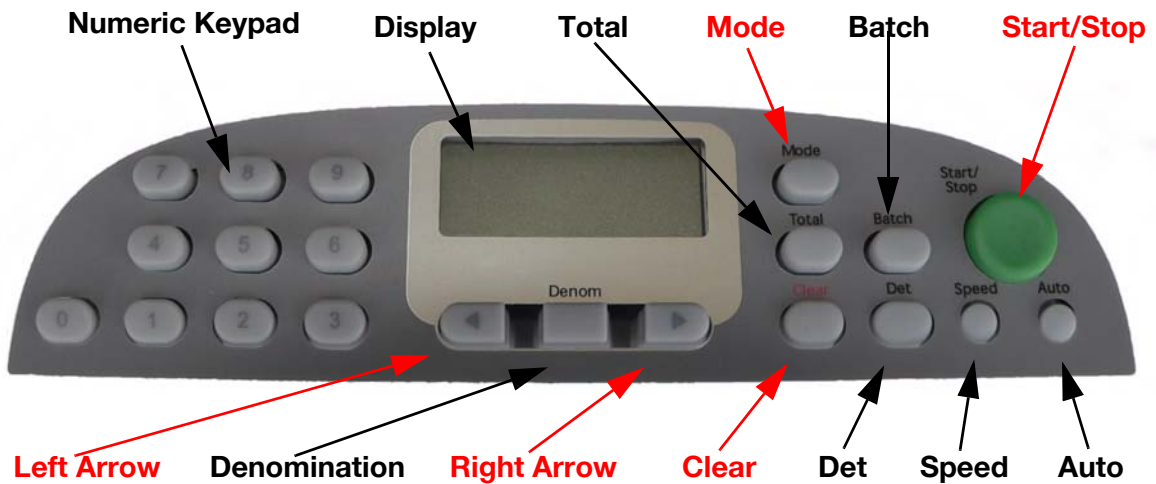
Press the START/STOP key to save settings.



## 5 Display Messages

### 5.1 Display Messages

Error Codes



Display	Reason	Solution
CLEAR	Sensors in hopper, stacker and or track sensor obscured by notes or dirt.	Remove notes and / or clean sensors.
FEED	Note jammed in hopper, stuck together or too thick for thickness setting.	Remove notes from hopper. Ensure that they are unstuck before re-feeding. Alter note thickness setting if necessary (see user guide page 7).
HALF	A half note has been detected by the machine.	Remove the notes from the stacker. Remove suspect note(s) from the bundle and repeat the count. When the notes are re-fed, the count display returns to zero or displays the total when the stacker was last emptied. Press START/STOP to continue.
JA	Notes are jammed in the note transport.	Switch Machine off. Open the machine by pressing the release buttons as shown on page 8 of the user guide. Remove the notes carefully. Close the machine and switch on.
dEn	A note of a different size has been detected.	Examine the notes, replace note or re-feed.
CF	A Counterfeit Suspect note has been detected.	Examine the note replace note or re-feed.

### Display Messages Continued

Display	Reason	Solution
rFEEd	The machine has stopped as a result of a note handling problem	Remove all notes from the stacker and repeat the count.
tAbLE	The machine has stopped as a result of a invalid denominational sized note.	Remove all notes from the stacker, remove the invalid denimation note and repeat count.
LASt	A note from the previous bundle is left in the transport.	Remove notes and recommence count.
GuLP	Three or more notes has passed through the machine together.	Remove all the notes from the stacker. Remove the suspect from bundle and repeat the count. Maybe adjust the feed gap setting
oVEr	Only appears in value mode and shows that a higher value than originally requested has been dispensed.	Replace notes with a lower value in the hopper.
FAULt	A fault has been detected in the machine.	Switch off the machine and contact your local agent's service engineer.
CLEAn	Dust from the banknotes is obstructing the machine's sensors	Clean the machine internally. See user guide page 9.
CLEAn dd	This machine has stopped as a result of dirt on the double detect bearings or rollers.	Carry out the cleaning procedure as shown. See user guide page 9.
CLEAn dEt	This machine has stopped as a result of dirt on one of the detectors	Carry out the cleaning procedure as shown. See user guide page 9.
Lid	The top of the machine has been opened to allow for a jammed note to be removed or for cleaning.	Ensure the lid is closed correctly and that both release latches are secure. Press the START/STOP key to clear the display.
nEAR	In dispense mode, the dispense amount cannot be completed because the denomination set is larger than the remaining value required.	Check and clean the transport. Remove all notes and repeat the count.
n_rdY det	A selected detector failed to start properly. The icon for the affected detector will flash. This may be too dirt in the transport path.	Check and clean the transport. Remove all the notes and repeat the count. Clean Detector.

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