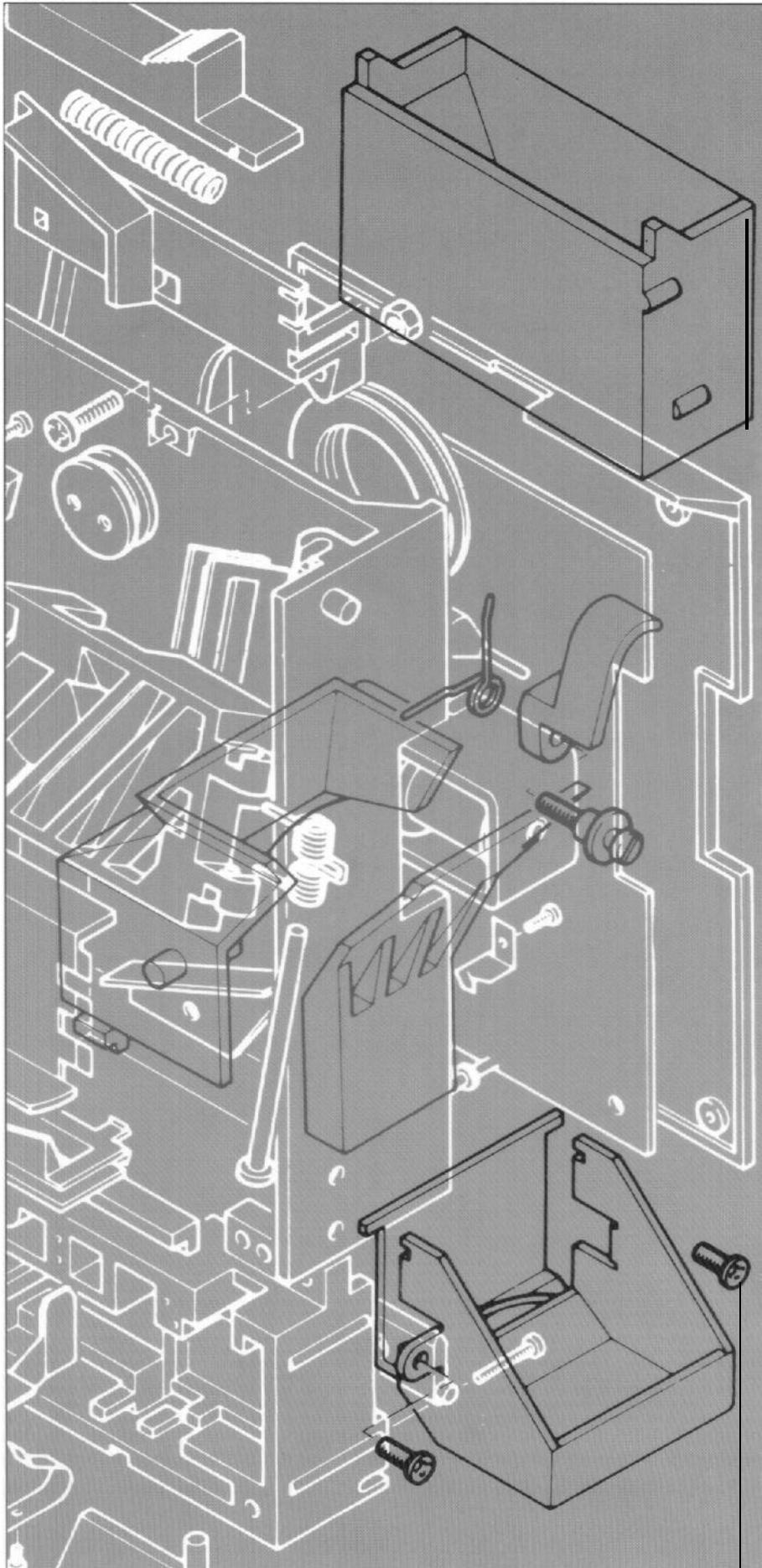




C200  
Electronic  
Validators





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# C200 Electronic Validators

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Fig. 1 Exploded Diagram - C200 Series
Fig. 2 C200 Options



**GENERAL DESCRIPTION**

1.0

1.1

**Description**

The C200 range of products uses the latest in coin handling technology to offer a product with an unparalleled combination of performance, features and value for money.

The key feature of this series is flexibility. By selection from the carefully designed system of mechanical sub-modules, C200 range can be configured to suit any 5" sized coin mechanism application.

The C200 range offers:-

Standard 5" size

Up to 8 coin validation

Parallel interface

Flexible and fully

programmable sorting

(4 ways plus toggle within the height of the 5" body)

1.2

**Product Range**

The C200 range of coin mechanisms are generally capable of validating coins and tokens in the diameter range minimum 10mm to maximum 33mm, and the thickness range minimum 1.0mm to maximum 3.5mm. For detailed information on the C200's capabilities with respect to diameter thickness combinations and the list of qualified coins, contact Coin Controls Technical Services Department.

There are a number of product variants available from CCL within the C200 range:-

a) C220

12 to 24 volt operation via a 15 pin parallel interface.

The coin mechanism can be used in two modes validating either 4 or 8 coins. Supplied as standard with single coin outlet.

b) C235

As (a), but with the addition of an active 4-way sorter module incorporated within the 5" body. The routing of the coins can be

altered through the use of an 'Electronic Toolkit'.

c) C250

12 to 24 volt operation via a BDTA standard interface, capable of

accepting up to 6 coins. Supplied as standard with single coin outlet.

d)

As (c), but with the addition of an active 4-way sorter module incorporated within the 5" body. The routing of coins can be altered through the use of 'Electronic Toolkit'.

A sorter override facility is available as standard, allowing coins to be diverted from paths B, C or D to path A (cashbox) should the payouts become full. Use of this interface is optional and maybe left unconnected.

## MECHANICAL DESCRIPTION

### 2.0

#### 2.1

Coin Mechanism Assembly  
The C200 series of coin mechanism is shown in exploded form in Figure 1 .

A rundown is provided between the reject gate and the body along which are placed three coils of different shapes and sizes. The first coil is a large diameter round coil which is placed at the front of the rundown. Coil number two is a smaller round coil which is situated in the gate and the final coil is a wraparound. If a coin having passed the three sensors is deemed true the accept gate is opened by energising a solenoid and the coin passes through the accept coil. Having cleared the accept coil, the accept gate is closed and a credit signal is generated.

#### 2.2

Coin Entry and Exit Options

##### 2.2.1

Front Entry

The front entry option is achieved by fixing the basic assembly, parts numbered (6,8,9,12,13,15,16).

In most cases the assembly will be used in conjunction with the frontplate parts numbered (1,2,3,4,5,44).

##### 2.2.2

Top Entry

This is achieved by adding to the basic assembly, parts numbered (51, 52, 53, 54, 55).

##### 2.2.3

Direct Reject

The type of reject, whether direct or indirect is specified when ordering the unit from Coin Controls. The reject type cannot be altered, since the main body is specifically manufactured to be of one type or the other. On direct reject, the coins are returned at the bottom front of the coin mechanism, into a reject cup (no 56) on the frontplate.

##### 2.2.4

Indirect Reject

On this version, the coins are rejected from the bottom of the mechanism, so that the designer can then channel the coins away to the point required on their particular application.

#### 2.3

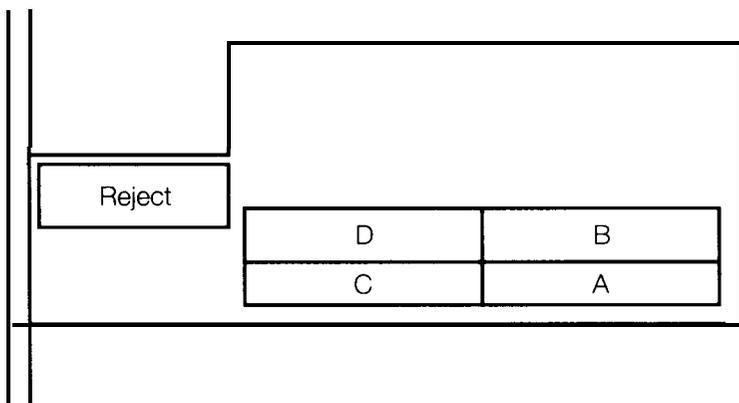
Coin Sorter Module

When fitted (see 1 .1 product range) the sorter allows 4-way sorting. This is achieved by two flaps which are actively driven by solenoids.

The first flap is of metal construction, which diverts the coin to one of ports A or B at the back of the assembly when the solenoid is not energised, and to one of ports C or D near the centre of the mechanism when the solenoid is energised.

The plastic diverter flap which runs the length of the sorter, is used to select between ports A and B or between ports C and D under the control of the solenoid.

Two sets of photo-cells are located at the bottom of the sorter which reset the solenoids and allow the mechanism to accept further coins immediately after a coin has cleared the photocells. This eliminates any fixed timing requirements, however there is a 2 second timeout period in the event that the coin is not seen by the opto for whatever reason.



View from bottom of Validator with sorter



**SERVICING**

**3.0**

**3.1**

**Removal and Refitment to Machine**

**3.1.1**

**Front Entry**

To remove the body from the frontplate, first unplug the parallel interface connector, and the Sorter Divertor cable if fitted.

Pull back catch (6) and lift the body upwards. When the stop position is reached the body can be withdrawn.

When reassembling, line up keyhole slots in body with retainers on frontplate. Push body forward and downwards. When in position, catch (6) will click into the locking slot.

Re-connect cables to the mechanism.

**3.1.2**

**Top Entry**

To remove the body from the back channel, first unplug the parallel interface connector, and the Sorter Divertor cable if fitted.

Release the locking catches and withdraw the mechanism out of the back channel carefully.

Refitting the mechanism is the reverse of removal.

**3.2**

**Servicing - Main Components**

**3.2.1**

**Accept Gate**

To detach the accept gate, first slide gate spring (41) towards rear of mech and remove. Pull gate forward and downward to remove. Care must be taken not to damage the spring on refitment.

**3.2.2**

**Reject Button**

To replace the reject button it is necessary to remove the button assembly. This is achieved by removing screws (45). When reassembling, ensure cone spring is in correct position.

**3.2.3**

**Direct Reject**

By removing screws (58) the reject cup and flap can be detached.

**3.3**

**Sorter**

**3.3.1**

**Removal and Refitment of the Sorter**

Undo screw (19) and remove the rundown cover (39). The sorter can be unplugged and withdrawn. When reassembling, ensure snubber (25) is correctly fitted.

**3.4**

**Servicing - General**

**3.4.1**

**Cleaning**

The plastic coin rundown should be cleaned every 100,000 coins using a slightly moist cloth and a mild detergent. On no account should any Solvent type cleaner or Foam cleaner be used.

Access to the rundown is gained by folding back the reject flap. Access to the accept gate and sorter assembly is described in Section 3.2.

### 3.4.2

#### Fault Finding

The following information is presented for customer's guidance in determining a suspected fault and does not cover all possible causes. All mechanisms with electronic faults should be returned to Coin Controls Ltd. or to an approved service centre for repair.

Symptom	Investigate	Possible Cause
(a) Mech does not work (all coins reject)	Connector Power Supply Inhibit Inputs Accept Gate Accept Channel Reject Action	Poor contact Ribbon cable damaged Not Switched On Incorrect voltage Inadequate power, power supply rise time too slow. Mech inhibited Gate not free or dislocated Obstruction in channel Reject gate not fully closed
(b) True coins reject too often	Power Supply Accept Gate Connector Rundown	Voltage less than 1.0V (NB voltage drop when solenoid activated) Gate not free, or dislocated Loose Dirty
(c) Coins stick or jam in mech.	Rundown, Accept Channel, Reject Channel, Accept Gate	Dirt or mechanical damage/destruction
(d) One of the true coins always rejects	Parallel Interface (if connected)	Bent or broken connection pin Wrong inhibit input voltage V in (enable) <1.2V
(e) Coins in wrong cash box	Sorter Main unit	Dirty, damaged or obstructed Solenoid failure or broken wire Incorrect sorter paths programmed
(f) No accept signal	Connector Accept channel	Connector loose or broken Dirty or obstructed (timeout)



### APPLICATIONS

#### 4.0

This section is intended to help the user to get the most out of the C200 series of coin mechanisms. It discusses power supplies, interfacing and coin sorting. No applications section can ever be complete, however, and customers are always very welcome to contact Coin Controls direct to discuss the requirements of their particular coin handling applications and any other coin handling matters. For detailed Power and Interfacing Specifications see Section 5.

#### 4.1

#### **Power Supply C220/C235**

Voltage : 12-24 Volts d.c.

Current : 100 mA continuous (nominal)  
650 mA max. (no sorter fitted)  
1.65 Amps max. (sorter fitted)

Rise Time : 200 milliseconds max.

#### **C250/C255**

Voltage : 12V-24V d.c.

Current : 60 mA continuous (nominal)  
575mA max. (no sorter fitted)  
1.6 Amps max. (sorter fitted)

Rise Time : 200 milliseconds max.

#### **IMPORTANT NOTE**

*Operation of the coin mech outside the specification may cause malfunction or damage. It is important to ensure that the supply voltage remains within the quoted range throughout the Peak current periods of operation.*

#### 4.2

#### **Using the Parallel Interface**

#### 4.2.1

#### **Parallel Interface C220/C235**

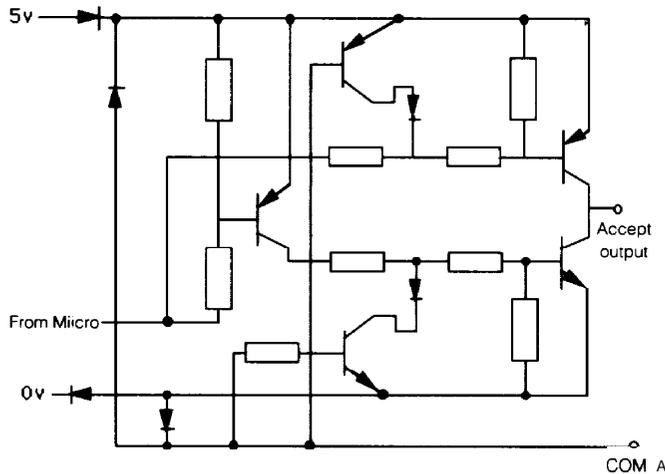
The parallel interface provides open-collector output signals which will automatically pull-up or pull-down to any voltage in the range +5V to +24V and 0V to -20V respectively. Figure 4.2 is a circuit diagram of the Accept output buffer in each of its three states.

Two types of output coding are available, dependent upon the state of the SELECT input on the parallel interface. The output coding types are: 1 -Of-4 Coins and 8 Coin. These are described in detail later on. Full electrical specifications for the interface are given in Section 5.0.

All parallel interface signals are routed via Connector 1, the parallel interface connector. The following signals are available in this connector:

Pin No.	Signal Name	Signal Description
1	COM A	Supply input for output pull-up/pull-down. Allowing this line to float disables all the accept outputs.
2	A1	Accept Output 1. The Accept outputs are all normally open-circuit, pulling to within 1 Volt of the voltage on the COM A pin when true (logic "1").
3	n.c.	Polarising Position
4	A2	Accept Output 2
5	A3	Accept Output 3
6	SELECT	4-coin/8-coin interface selection. This line is a passive pull-up, active pull-down signal. Open circuit : 4-coin interface. Tied to 0V : 8-coin interface.
7	A4	Accept Output 4
8	I4	Inhibit Coin Channel 4. The Inhibit inputs are all passive pull-up, active pull-down. A coin channel is enabled when the inhibit input is pulled to 0V and disabled when it is left floating.
9	V (board)	Power supply input. 12-24V d.c. 220mA nominal. 2.0A peak
10	0V	
11	I3	Inhibit input for Coin Channel 3.
12	I2	Inhibit input for Coin Channel 2.
13	I1	Inhibit input for Coin Channel 1.
14	15.6	Inhibit input for Coin Channels 5 and 6.
15	17.8	Inhibit input for Coin Channels 7 and 8.

### Actual Circuit



### Equivalent Circuits

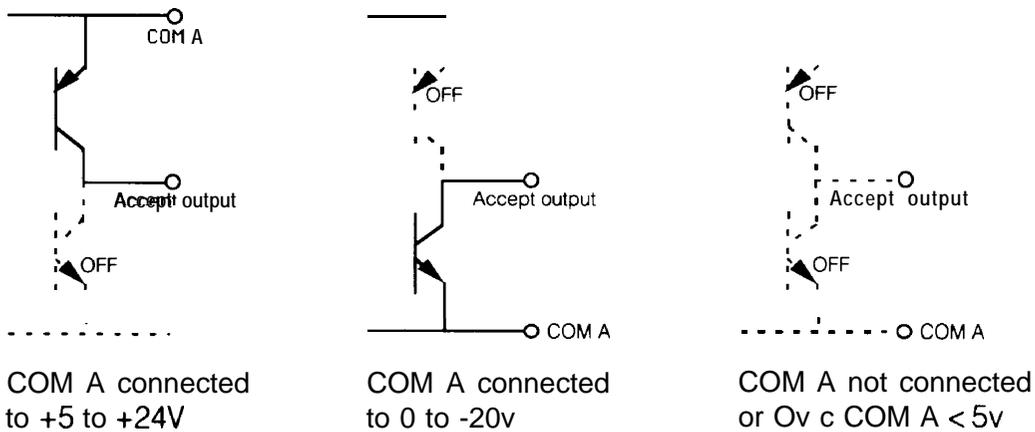


FIGURE 4.2 C200 SERIES Accept output buffer circuit diagram.

Operation  
1-of-4 Coins

With the SELECT line left open-circuit, the parallel interface will operate as a 1-of-4 coins interface. The C200 will provide validation of up to 4 different coin types.

Inhibits 15.6 and 17.8 MUST be left open circuit for correct operation of the validator. When tied low, inhibit lines 11 -14 have the following meaning:

- |    |                                  |
|----|----------------------------------|
| I1 | enable acceptance of coin type 1 |
| I2 | enable acceptance of coin type 2 |
| I3 | enable acceptance of coin type 3 |
| I4 | enable acceptance of coin type 4 |

Signals A1 - A4 then have the following meaning:

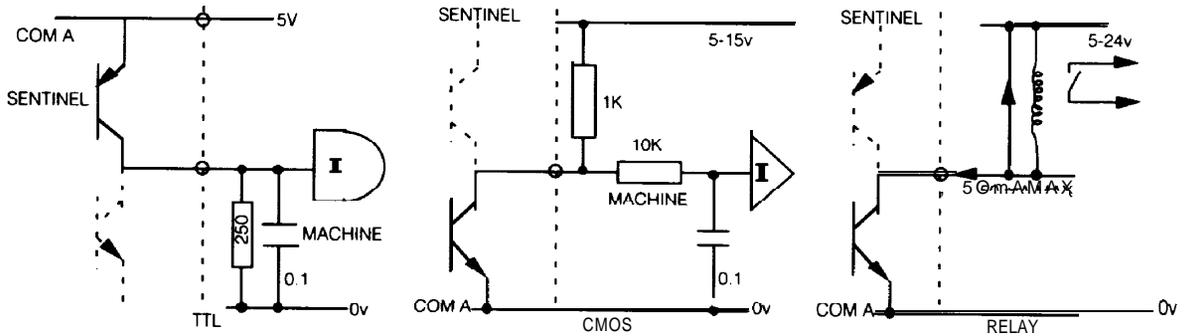
- |    |                            |
|----|----------------------------|
| A1 | valid coin type 1 accepted |
| A2 | valid coin type 2 accepted |
| A3 | valid coin type 3 accepted |
| A4 | valid coin type 4 accepted |

The accept signal will remain 'true'; ie: Pulling to less than 1 volt of COM A line at 50mA per output (worst case, all active) for 80ms +/-20%.

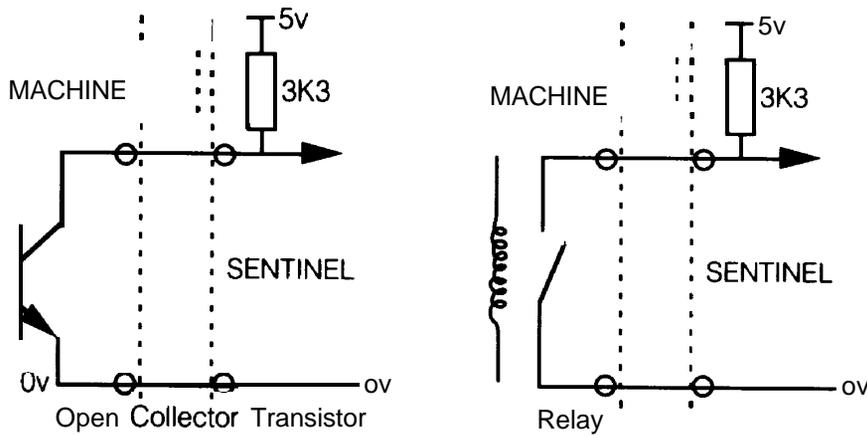
Since it operates in an identical manner to the "coin-switch" outputs of many mechanic coin mechanisms, the 1-of-4 interface can easily be connected to a wide range of existing coin operated equipment.

*Note, however, that it is ESSENTIAL for signals to conform to the electrical specification of Section 5 to avoid damage or malfunction of the mechanism. Overleaf are some typical circuit configurations which are given as examples for guidance: -*

## ACCEPT OUTPUT INTERFACING



## INHIBIT INPUT INTERFACING



**Operation of Dual Currency**  
 Dual currency mode can be entered by enabling coins 5-8 as well as 1-4.  
 Coins effectively become paired with outputs as follows:- 1&5 on line 1, 2&6 on line 2, 3&7 on line 3 and 4&8 on line 4. This can be used when two different currencies are required and where similar value coins can be linked, e.g. f 1 on coin 1 and 10 French Francs on coin 5 both providing a signal on coin 1.  
 (Note: It is not possible to identify which of the two linked coins has been validated).

**Operation of up to 8 Coin**  
 With the SELECT input tied low to 0V, the machine enters 8-coin mode.  
 When tied low, the inhibit lines have the following meaning:

1f	enable acceptance of coin type 1
12	enable acceptance of coin type 2
13	enable acceptance of coin type 3
14	enable acceptance of coin type 4
15.6	enable acceptance of coin type 5 and coin type 6
17.8	enable acceptance of coin type 7 and coin type 8



Upon detection of a valid coin, the accept outputs, AI -A4, form a binary pattern defining the valid coin type which has been detected. The outputs have the following meaning:

A4	A3	A2	AI	MEANING
0	0	0	0	coin validator inactive
0	1	1	1	coin present in validator
1	0	0	0	valid coin type 1 accepted
1	0	0	1	valid coin type 2 accepted
1	0	1	0	valid coin type 3 accepted
1	0	1	1	valid coin type 4 accepted
1	1	0	0	valid coin type 5 accepted
1	1	0	1	valid coin type 6 accepted
1	1	1	0	valid con type 7 accepted
1	1	1	1	valid coin type 8 accepted

("0" = output open circuit,  
"1" = output short circuit to within 1 Volt of COM A.)

Normally, when idling, the outputs will display 'coin validator inactive' with all outputs open circuit.

When a coin is detected as having entered the validator, the outputs will show "coin present in validator".

When a coin has been accepted, the corresponding 'coin accepted' signal is presented to the outputs. This signal remains present for 80ms +/-20%. The 'coin accepted' signal is then removed, and the validator will continue to generate the "coin present in validator" output until the coin has successfully passed out of the mechanism.

In this manner it is possible to externally detect two possible fault conditions. The first is that a coin has been rejected. This is determined by the validator outputs changing from 'coin validator inactive' to 'coin present in validator' and back to 'inactive' without generating any 'coin accepted' signal. The second is that a coin is being held within the validator. This is determined by the outputs sticking in the "coin present" state.

4.2.2  
**Parallel Interface - Models C250/C255**

The parallel interface connection is made via a 450mm 16-way ribbon cable with a polarised female IDC connector.

The following signals are available on this connector:

Pin No.	Signal	Active
1	Inhibit coin 4	High
2	Inhibit coin 5 or selective inhibit	High*
3	Inhibit coin 2	High
4	inhibit coin 6	High
5	Coin Return	Low
6	Inhibit all coins	Low
7	Accept coin 4	Low
8	Ground (OV)	
9	Accept coin 6	Low
10	Accept coin 2	Low
11	Accept coin 5	Low
12	Accept coin 3	Low
13	Accept coin 1	Low
14	Inhibit coin 3	High
15	Inhibit coin 1	High
16	12 to 24V d.c.	

\* Low when used in Selective Inhibit Mode.

**Coin Accept Outputs**

Each coin accept output consists of an open-collector N.P.N. transistor whose emitter is connected to ground. On acceptance of a true coin the transistor is turned on for a period of 80ms +/-20%.

**Coin Inhibit Inputs**

These inputs are active pull-up, passive pull-down and therefore when the inhibits are Low (below 1 volt), true coins are enabled, when High (above 5 volts), they are automatically rejected.



By default, the inhibits are low, and coins are enabled. The inhibits must be driven high by the host machine to disable accept.

### Selective Inhibit Input

In an alternative mode of operation selected by switches on the C250/C255, the input on pin 2 may be used as a Selective Inhibit.

### Inhibit All Input

This line is passively high (pulled up internally) and is active if held low, when the validator rejects all coins.

### Coin Return Output

This line is the open collector of an N. P. N. transistor referenced to ground, which is turned on upon operation of the coin reject mechanism. Hence it is active when low.

### Switch Settings

At the rear of the C250 are two sets of miniature switches, SWA and SWB. These switches control the way in which the C250 will react to inhibits. SWA contains 8 switches and SWB contains 4 switches. The switches are closed when down towards the printed circuit board.

### Auto Select Mode

This mode is selected by setting the switches as follows:-

SWA		SWB
1	2	1
Closed	Open	Closed

When pin 2 (selective inhibit) of the parallel interface is low, the setting of switches 3-8 will determine which coins will be inhibited. When pin 2 is high all coins are enabled.

#### NOTE

*In auto select mode the state of the selective inhibit line (pin 2) is undefined if left open circuit. The line must be actively pulled high or low for operation to be predictable.*

### Manual Select Mode

This mode is selected by setting the switches as follows:

SWA		SWB
1	2	1
Does not matter	Closed	Closed

This mode enables pre-selected coins to be inhibited by the internal switches irrespective of the state of the inhibit inputs.

### Independent Mode

This mode is selected by setting the switches as follows:-

SWA		SWB
1	2	1
Open	Open	Closed

In this mode the inhibiting of each individual coin is dependent only on the state of the inhibit inputs from the host machine.

### Serial Only Mode (For operation of Electronic Toolkit)

This mode is selected by setting the switches as follows:

SWA		SWB
1	2	1
Does not matter	Does not matter	Open

The setting of SWB determines whether the serial or parallel interface is active. SWB-1 OPEN selects the serial interface and SWB - 1 CLOSED selects the parallel interface.

### Sorter Override Inputs (C255 only)

This is a three way ribbon cable allowing the override of sorter paths B, C and D to path A when the appropriate tine is pulled low by the host machine.

PIN 1	ORANGE	PATH B
PIN 2	YELLOW	PATH C
PIN 3	RED	PATH D

#### IMPORTANT NOTE

*It is ESSENTIAL for signals to conform to the electrical specification of section 5 to avoid damage or malfunction of the mechanism.*

### Switch Identification

SWA:

Switches 1 and 2 select mode of operation.

Switches 3 to 8 inhibit coins 1 to 6 respectively.

SWB:

Switch 1 select serial or parallel operation.

Switch 2 not used

Switch 3 link A5 - A6

Switch 4 link A1 - A3

MODE	SWITCH SETTINGS SWA								SWITCH SETTINGS SWB			
	1	2	3	4	5	6	7	8	1	2	3	4
Auto Select	COPPPPP								C			
Manual Select									C			
Independent	o	o	x	x	x	x	x	x	C			
Serial Only	x	x	x	x	x	x	x	x	0			

C = Closed, P = Switch Programmable, 0 = Open, X = Does not matter.



### 4.3

#### Programming

An external device can configure the C200 series for external programming operations. Coin Controls supply two units for programming the C200 units.

- a) The "Master Programmer" for all programming functions. This is only made available to approved Service Centres.
- b) The "Electronic Toolkit" for field service use and sorter path re-programming.

further details may be obtained from Coin Controls Ltd., Technical Services Department.

### 4.4

#### Coin Sorting (C235 and C255)

Coin Sorting is performed by means of the plug-in four way active sorter.

Coin Sorting is flexible and is programmed by values stored in the mechanism.

There are six coin sorting functions which may each be programmed to any of the coin channels: -

Coin always diverted down sorter path A (default path)

Coin always diverted down sorter path B

Coin always diverted down sorter path C

Coin always diverted down sorter path D

Coin toggles alternately between sorter paths A and B (C235 only)

Coin toggles alternately between sorter paths C and D (C235 only)

The last two functions are intended for "club" machines or any application where two payout devices for a given coin are required to be fed from a single coin mechanism.

Coin Sorting may be programmed by the user with either a "Master Programmer" or with an "Electronic Toolkit".

#### IMPORTANT NOTE

*Although the sorter can be plugged in to a C250 to convert it to a C255, the sorter paths will then have to be programmed using either an 'Electronic Toolkit' or a "Master Programmer" unit. A sorter cannot be fitted to the C220. If a C235 or a C255 has its sorter removed then all of the sorter paths must be re-programmed back to Path A. If this is not done then the mechanisms will still accept coins, but will only do so at a rate of one coin every two seconds.*

### 4.5

#### Sorter Override Interface -

There are three input lines to the sorter on the for which a three way cable is provided. These can be used by the host machine to prevent sorting to paths B, C and D, with the coins then being routed to path A.



SPECIFICATIONS		
5.0	5.2	Debounce should be applied to the host machine input lines to ensure that only genuine credit pulses within the stated timing limits are recognised as true credit signals. As set out in 5.2.1.  Inhibits <b>I1</b> -14, <b>I5/7</b> <b>I6/8</b> . These inputs are active pull-up, passive pull-down and therefore when the inhibits are low, true coins are enabled, when high they are automatically rejected.  Less than 1.2 volt : accept  Greater than 3.6 volts : reject  Maximum input voltage : 30 Volts  By default, the inhibits are low, and coins are enabled. The inhibits must be driven high by the host machine to disable accept.  In an alternative mode of operation selected by switches on C250 the input on pin 2 may be used as a Selective Inhibit.  Inhibit all input This line is passively high (pulled up internally) and is active if held low, when the validator rejects all coins  Internal pull-up to on board 5V d.c. Open circuit or greater than 3.6V - coins enabled Short to 0V or less than 1.0V - coins inhibited Signal range 0V (abs. minimum), Vin + (abs. maximum)
5.1	Parallel interface Specification	
Power Supply	5.2.1	
5.1.1	Parallel Interface for C220/C235	
Voltage	COM A: +5 to +24 volts d.c., 0 to -20 volts d.c., 200mA max.	
a)	Accept outputs 1 to 4: 50mA sink or source, credit pulse 80 msec (+/-20%) duration.	
Nominal : 12V d.c. to 24V d.c.	<i>IMPORTANT NOTE..</i>	
Absolute max : 10V d.c. to 24V d.c.	<i>The host machine must look for valid credit pulses of NOT LESS THAN 50 Milliseconds. It is not sufficient to merely detect the edges of credit pulses. This "debounce" will prevent credits being registered by the host machine as a result of any noise or false credit pulses being induced on the credit output lines.</i>	
Rise time : 200 milliseconds max.	Open Circuit or greater than 3.6 volts - Coin Inhibited.	
b) C250/C255	Short to 0 volts or less than 1.2 volts - Coin Enabled.	
Nominal : 12V d.c. to 24V d.c.	Inhibit input range: 0V (abs min.) < V in < 5V (abs max.)	
Absolute max : 10V d.c. to 30V d.c.	5.2.2	
Rise time : 200 milliseconds max.	Parallel Interface C250/C255	
5.1.2	Accept outputs A1 to A6	
Current	Each coin accept output consists of an open-collector N.P.N. transistor whose emitter is connected to ground. On acceptance of a true coin the transistor is turned on for a period of 80ms +/-20%.	
a) C220/C235	Max. Power dissipation per output : 200mW	
1 00mA nominal standby consumption.	Max. current : 100mA	
650mA peak accept current, 200 msec. max.	Max. V off : 40V	
1.65A peak sorter current, 600 msec. max. (C235)	Max. V on : < 0.8 Volts at 30 mA	
b) C250/C255	Max. V on : < 2.0 Volts at 100 mA	
60mA nominal standby consumption		
600mA peak accept current (at 12V d.c.) 200 msec. max.		
620mA peak accept current (at 24V d.c.) 200 msec. max.		
1.55A peak sorter current (at 12V d.c.) 600 msec. max.		
1.60A peak sorter current (at 24V d.c.) 600 msec. max.		
During the above load demands, the voltage must not be allowed to deviate outside the range defined under VOLTAGE above.		

<p><b>Coin Return Output</b></p> <p>This line is the open collector of an N.P.N. transistor referenced to ground, which is turned on upon operation of the coin reject mechanism. Hence it is active when low.</p>									
<p>Max. Power dissipation : 200 mW</p>									
<p>Max. Current : 100 mA</p>									
<p>Max. V off : 40V</p>									
<p>Max. V on : &lt; 0.8 Volts at 30 mA</p>									
<p>Max. V on : &lt; 2.0 Volts at 100 mA</p>									
<p><i>IMPORTANT NOTE:</i>  <i>Application of signals or voltages outside of those specified above may cause damage to, or malfunction of, the mechanism.</i></p>									
<p><b>5.3</b>  <b>Sorter Override Input Control (C255 only)</b></p> <p>Three input lines are provided on a ribbon cable which allow the host machine to override sorting to paths 8, C and D and put the coins for those paths into path A. The input has an internal pull-up to +5 volts, and is active low.</p>									
<table border="1"> <tr> <td>PIN 1</td> <td>ORANGE</td> <td>PATH B</td> </tr> <tr> <td>PIN 2</td> <td>YELLOW</td> <td>PATH C</td> </tr> <tr> <td>PIN 3</td> <td>RED</td> <td>PATH D</td> </tr> </table>	PIN 1	ORANGE	PATH B	PIN 2	YELLOW	PATH C	PIN 3	RED	PATH D
PIN 1	ORANGE	PATH B							
PIN 2	YELLOW	PATH C							
PIN 3	RED	PATH D							
<p>Max. Input voltage : + 5 Volts d.c.</p>									
<p>Active low : &lt; 1.2 Volts d.c.</p>									
<p>Max. Sink current : 2.2 mA</p>									

<p><b>5.4</b>  <b>Environmental Conditions</b></p>
<p><b>5.4.1</b>  <b>Operating Conditions</b></p>
<p>Temperature range : 0°C to 50°C ambient</p>
<p>Relative humidity : 5% to 80% non-condensing</p>
<p><b>5.4.2</b>  <b>Storage Conditions</b></p> <p>Temperature range for storage is -10°C to +80°C.</p> <p>The humidity levels for storage is 10% to 95% non condensing. If storage is outside the environmental limits specified for operation, the C250 should be allowed to return to within operating limits before use.</p>
<p><b>5.5</b>  <b>Orientation</b></p> <p>The series is designed to operate vertically with a maximum angle of operation of +/-2 degrees from the vertical in any plane.</p>

## EXPLODED DIAGRAM - C200 SERIES.

FIG. 2

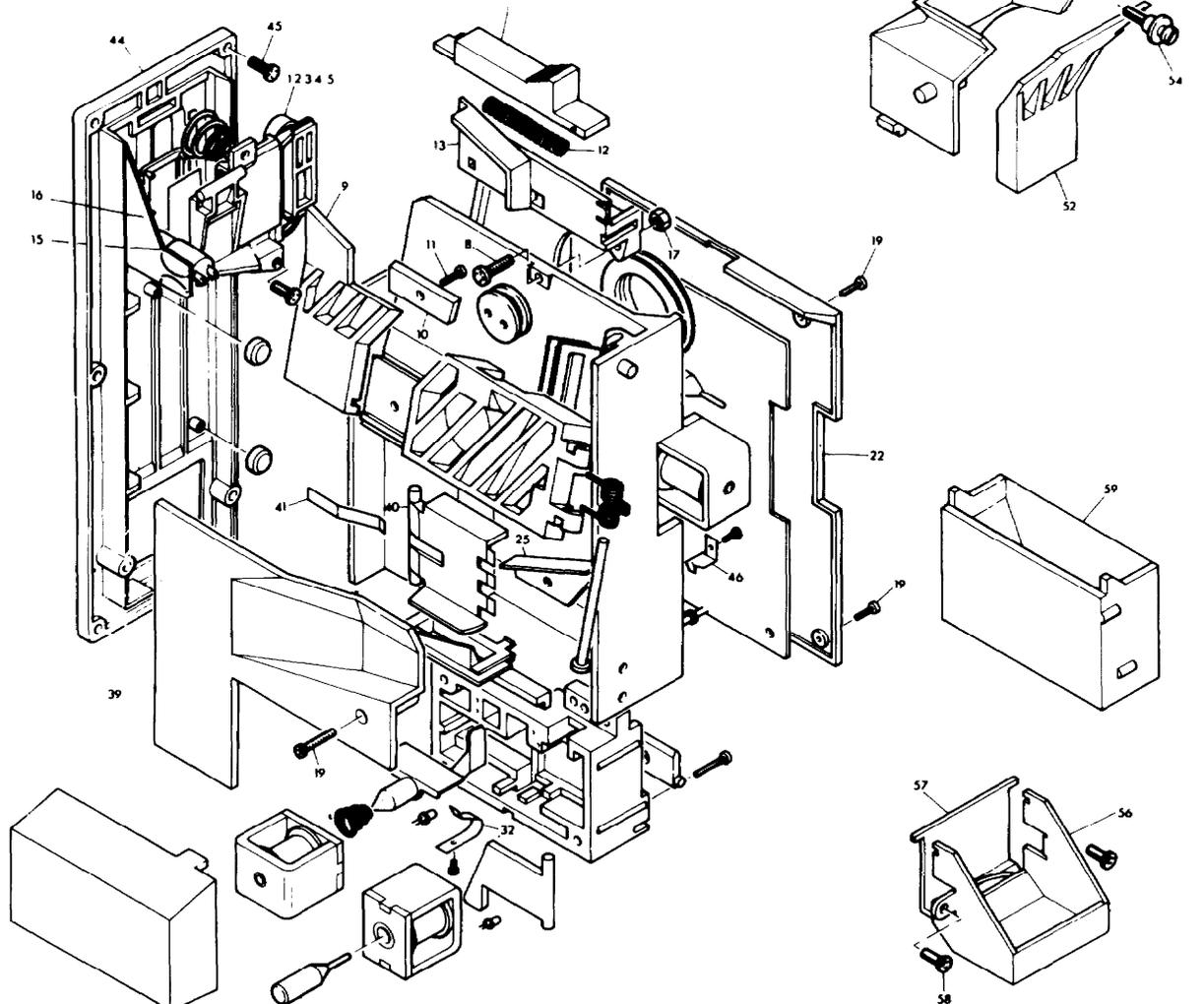
### Parts List

- PBL/402 Coin entry and button housing
- 2 PBL/403 Button
- 3 PBL/404 Button lid
- 4 SPR/045 Button cone spring
- 5 LAB/900 Button label - state coinage
- 3 PBL/411 Quick release latch
- 3 HSC/293 M4.0 x 16.0 pozi pan HD screw
- 3 PBU424 Front entry gate piece
- 10 MEJ/001 Gate snubber
- 11 HSC/150 4.20 x 3/8" pozi CSK screw
- 12 SPWO38 Quick release latch spring
- 13 PBU426 Front entry
- 15 LAM/003 Bulb
- 16 LAM/022 Lamp holder
- 17 HNT/010 M4.0 full nut
- 19 HSC/149 4.20 x 5/16" pozi pan HD
- 22 PBL/408 Indirect P.C.B. cover plate
- 25 MEJ/010 Main body snubber
- 32 SPR/040 Coin diverter flap spring reject cover direct
- 40 PBL/421 Accept gate
- 41 SPR/041 Accept gate spring
- 44 SUB/913 Front plate - state coinage and reject
- 45 HSC/292 M3.0 x 6.0 pozi pan HD screw
- 46 MEJ/014 Cotton catch
- 51 PBL/428 Top entry chute
- 52 PBL/425 Top entry gate piece
- 53 PBU429 Top entry reject lever
- 54 MEJ/012 Top entry reject lever pivot screw
- 55 SPR/039 Top entry reject lever spring
- 56 MEJ/016 Reject cup
- 57 MEJ/017 Reject cup flap
- 58 M3.0 x pozi pan HD
- 59 PBU430 Single coin outlet

The parts listed opposite are the only user serviceable components available. All units requiring additional work should be returned to a Coin Controls group company or approved service centre.

*NOTE*

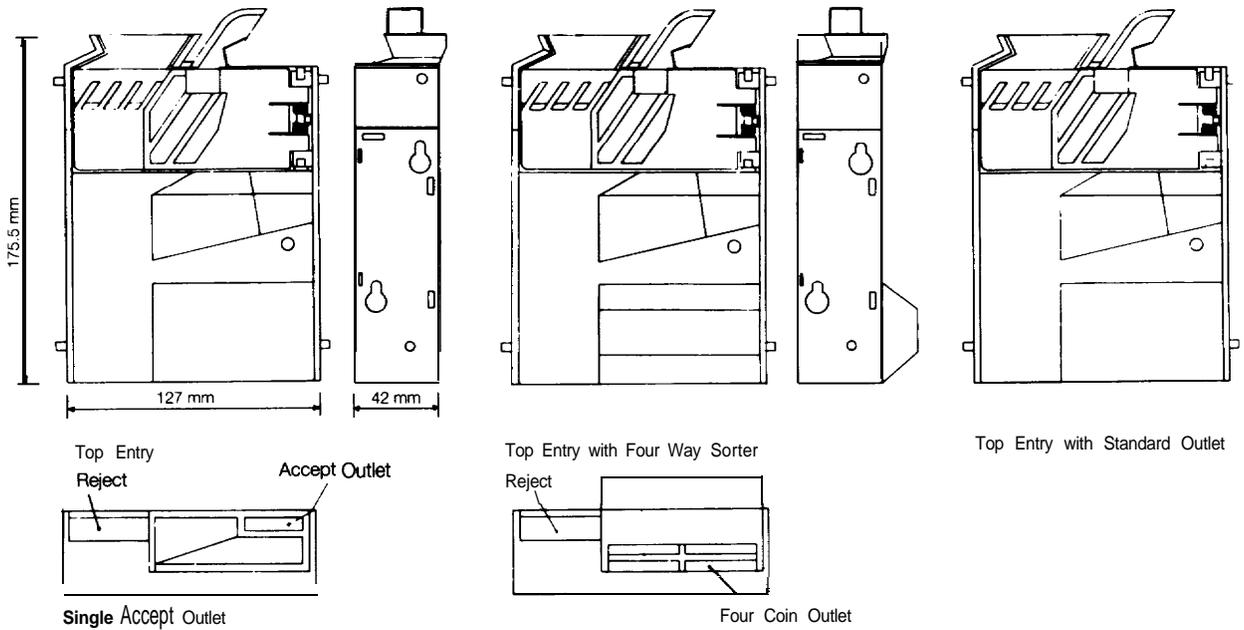
*Tampering will invalidate the warranty.*



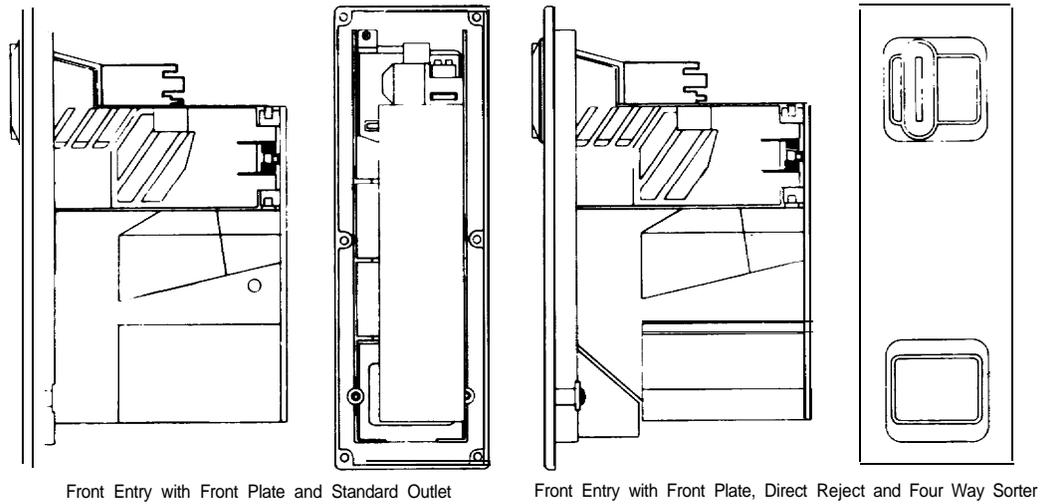


C200 - Fig 2

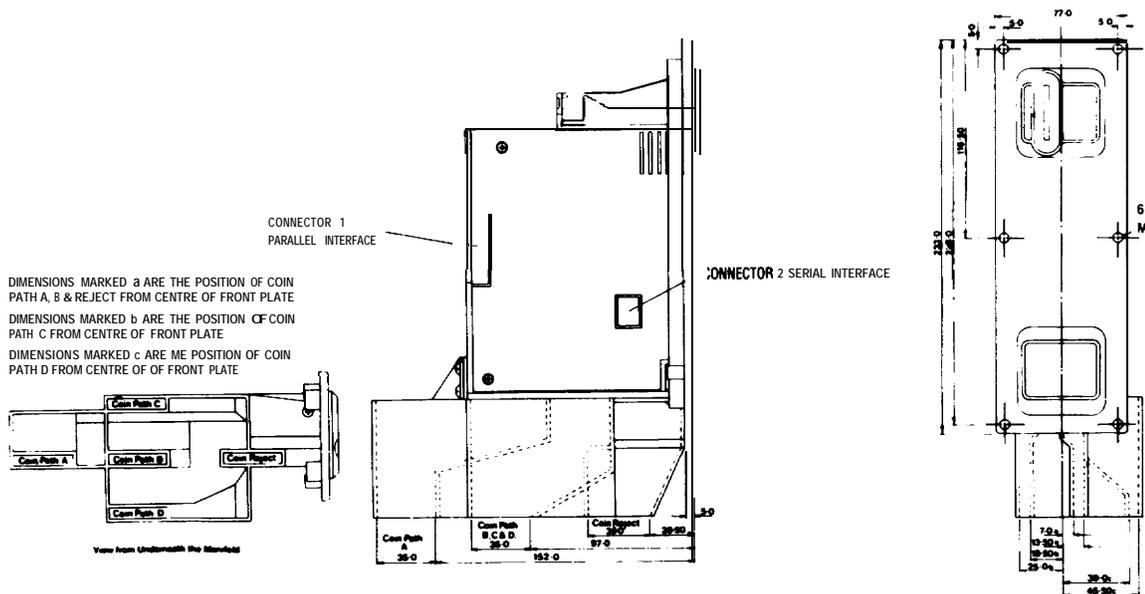
**C200 TOP ENTRY OPTIONS**



**C200 FRONT ENTRY OPTIONS**



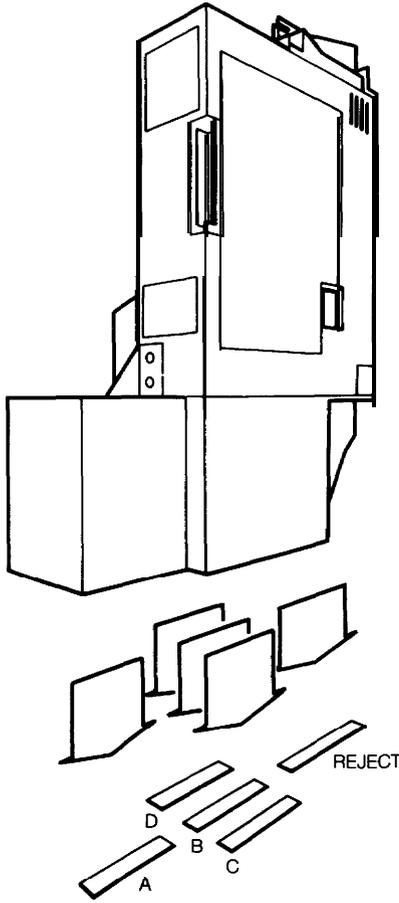
**C200 WITH MANIFOLD**



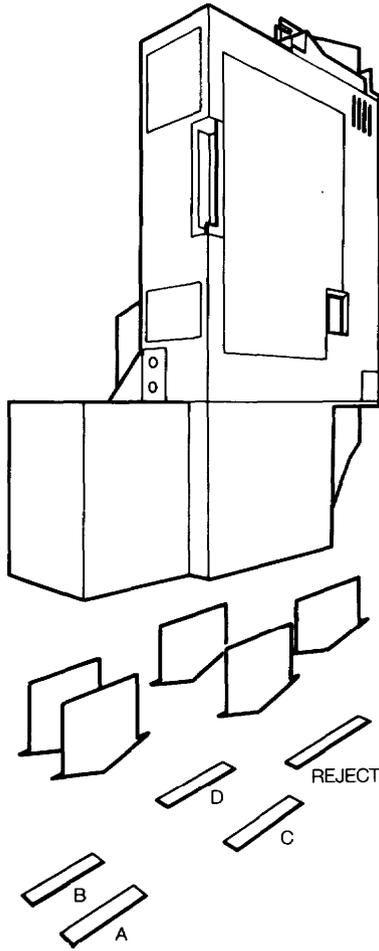


C200 Manifold 5 & 6 configurations

MANIFOLD 5



MANIFOLD 6



This manual is intended only to assist the reader in the use of this product and therefore Coin Controls shall not be liable for any loss or damage whatsoever arising from the use of any information or particulars in, or any incorrect use of the product. Coin Controls Ltd. reserve the right to change product specifications on any item without prior notice.

Coin Controls has a policy of continual product evaluation and improvement, which means that the equipment supplied may vary in some respects to the specification

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