How To Connect Up A Mars Gaming Coin Validator

Older Mars Coin Mechanism's are divided up into three basic model types with variations on these three themes. The easiest way to identify the three different groups is by the number of wires which are used to connect the front "flight deck" to the back part of the Validator. There will be either two grey wires, three grey wires or a coloured ribbon film cable. The multi-pin connector near the side of the mechanism will have between 13 and 17 pins (counting the spaces) depending on the group, this connector is on a 0.1" pitch and a Molex type "KK" can be used to mate with it.

The newer Cashflow 330 range come in basically two variations, 17W (inc spaces) and 10W (DIL ribbon cable). The 17W is a standard gaming machine, Parallel, Dual Polarity interface, and is the same as a ME111 interface. The 10W is a NRI G13 or Money Controls SR3/C120 compatible interface, and is not discussed on this page.

How to Identify the different groups

1. The original Mars **MS111** group is a 4-Coin acceptor with a Positive Common Interface only. Needs a 12 volt supply, but will work with a voltage of between 10 and 15 volts. The supply should be capable of supplying 2.3A peak current (at moment of coin acceptance) and a continuous supply of approximately 400ma. The acceptor has a 13 way connector. **This group is identified by having two grey wires.**

2. The Mars **MS111/B1** group is a 5-Coin acceptor with both Positive Common or Negative Common Interface (self configuring). Needs a 12 volt supply, but will work with a voltage of between 10 and 15 volts. The supply should be capable of supplying 2.3A peak current (at moment of coin acceptance) and a continuous supply of approximately 50ma. The acceptor has a 15 way connector. **This group is identified by having three grey wires.**

3. The Mars **ME111** group is a 5/6-Coin acceptor with both Positive Common or Negative Common Interface (self configuring). Needs a 12 volt supply, but will work with a voltage of between 10 and 15 volts. The supply should be capable of supplying 2.3A peak current (at moment of coin acceptance) and a continuous supply of approximately 50ma. The acceptor has either a 15 or 17 way connector. **This group is identified by having a coloured Ribbon Film cable.**

4. The **Cashflow 330** is a smaller bodied Validator only measuring **4" wide** (front to back), where as the MS/ME range are all 5 1/4" wide validators.

All later models are backward compatible (except where a separator is required, then ME111 cannot be used). Below is a Pin-Out list for the above models. With the Validator in the upright position, pin number 1 is the bottom pin

Some confusion has arisen as regards to pin numbering. Mars originally described pin one as being at the bottom of the validator, and this is also the way Molex number their connectors. Mars have now changed the way they number the pins on their products documentation, so that pin one is at the top, so please be aware of this. **This document refers to the original Mars specification with Pin one at the bottom**.

MS111 Group

Pin Number	Function	Description
13	V.Com	Selects Output Polarity
12	Ch. F Output	£1 Output
11	Blank	
10	Ch. E Output	50P Output
9	Ch. D Output	20P Output
8	Blank	
7	Ch. C Output	10P Output
6	Ch. C Inhibit	Stops Acceptance of 10P
5	+12V DC	Supply +
4	0V DC	Supply -
3	Ch. D Inhibit	Stops Acceptance of 20P
2	Ch. E Inhibit	Stops Acceptance of 50P
1	Ch. F Inhibit	Stops Acceptance of £1

MS111/B1 Group + ME111 Group with 15 Pins

Pin Number	Function	Description
15	Ch. B Output	Token Output
14	V.Com	Selects Output Polarity
13	Ch. F Output	£1 Output
12	Blank	
11	Ch. E Output	50P Output
10	Ch. D Output	20P Output
9	Blank	
8	Ch. C Output	10P Output
7	Ch. C Inhibit	Stops Acceptance of 10P
6	+12V DC	Supply +
5	0V DC	Supply -
4	Ch. D Inhibit	Stops Acceptance of 20P
3	Ch. E Inhibit	Stops Acceptance of 50P
2	Ch. F Inhibit	Stops Acceptance of £1
1	Ch. B Inhibit	Stops Acceptance of Token

ME111 Group with 17 Pins

Pin Number	Function	Description
17	Ch. A Output	5P Output
16	Ch. B Output	Token Output
15	V.Com	Selects Output Polarity
14	Ch. F Output	£1 Output
13	Blank	
12	Ch. E Output	50P Output
11	Ch. D Output	20P Output
10	Blank	
9	Ch. C Output	10P Output
8	Ch. C Inhibit	Stops Acceptance of 10P
7	+12V DC	Supply +
6	0V DC	Supply -
5	Ch. D Inhibit	Stops Acceptance of 20P
4	Ch. E Inhibit	Stops Acceptance of 50P
3	Ch. F Inhibit	Stops Acceptance of £1
2	Ch. B Inhibit	Stops Acceptance of Token
1	Ch. A Inhibit	Stops Acceptance of 5P

The above listing assumes a Validator with an English standard coin set programmed into it, and hence shows the value of the coins used, but the Validator may of course be programmed with another coin set, by a reputable Coin Mechanism Recalibration Company.

What Do These Technical Terms Mean?

Ch. C Output

As a coin is accepted by the Validator, this output will be switched to the Voltage supplied to the V.Com pin, i.e. if a permanent 12 volts is applied to the V.Com pin, the Ch. C Output pin will briefly be switched to 12 volts (for 100ms). The outputs can switch up to 40ma each.

V.Com

This pins sets the voltage which will appear on the relevant coin output pin, once a coin has been accepted. On the early MS111 models this voltage has to be set at +12 or more volts (max. 27 Volts), but on the MS111/B1 + ME111 models this can be set as a positive or even a negative voltage, 0 volts included.

Ch. C Inhibit

This pin is used to tell the acceptor which coins you would like it to accept and which coins to inhibit. For example you may be using the Validator in a machine which gives change. You would not want the Validator to accept £1 coins when the change giver is low on coins, so you would inhibit Ch. F, but allow acceptance of coins in the other channels. To inhibit a coin, the relevant inhibit input must be switched or left to float high (3.5V to 13.2V) To accept a coin the relevant inhibit input should be switched low (0V to 1.5V). **Important, if an inhibit line is left to float, then that channel will be inhibited.**