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Operating and Safety Instructions

Product Safety

Every effort has been made to ensure this product has been designed with safety in mind.

Components used within this product are used within the manufacturers stated specification limits. Under no circumstances should replacement parts other than those specified or supplied by the manufacturer be used within this machine.

Electrical Safety



This machine must not be used unless it is correctly earthed and should be connected to a mains supply of 220v/240v at a frequency of 50Hz.

All machines leaving the manufacturer are subject to electrical safety tests. These tests consist of earth-bond and insulation tests. These tests should be carried out on a regular basis, or when a critical part is replaced.

Only suitably qualified or adequately instructed person should carry out work on the internal parts of this machine.

Connection

A three-pin plug fitted with a fuse rated at not greater than 5 Amps should be fitted to the supply cable. The supply cable should not exceed a length of 2 metres and meet the current safety requirements

Connector	complying with BS4491
Cord	3 core 0.75mm ² diameter complying with BS6500
Plug	Complying with BS1363
Plug fuse	5A 250V complying with BS1362

Setting-up



No connector or component must be removed or reconnected whilst the power is turned on.

Check that all connectors, assemblies, and wiring harness are correctly engaged inside the machine.

Set the mains voltage selector on the power supply to the correct position for the mains site voltage 240/220 VAC.

Set the DIL switch options on the MPU board to the desired position and fit the relevant decals.

Run the machine through the test procedure.

Set the volume level in test or via the refill key to the desired level.

Parts list

Coliseum is designed to fit the JPM Electra base cabinet.

Part	Part number
Top Glass small	AT 2002
Reel Glass	AL 2002
Reel Band 1	AR 2002/1
Reel Band 2	AR 2002/2
Reel Band 3	AR 2002/3
Reel band 4	AR 2002/4
Button Legends x 7	AB 2002
£5 Cash disclaimer	AD 2002/1
£15 cash disclaimer	AD 2002/2
£8 cash Disclaimer	AD 2002/
5p £15 stake/prize decal	AD 2002/3
5p £5 stake /prize decal	AD 2002/4
10p £15 stake /prize decal	AD 2002/5
10p £5 stake/prize decal	AD 2002/6
20p £15 stake/prize decal	AD 2002/7
20p £5 stake/prize decal	AD 2002/8
25p £15 stake/prize decal	AD 2002/9
30p £15 stake/prize decal	AD 2002/10
20p £5+rep chance award decal	AD 2002/11
20/25/30p £15 award decal	AD 2002/12
5p/10p £15 award decal	AD 2002/13
5/10p £5 award decal	AD 2002/14
5p £8 jackpot decal	AD2002/15
10p£8 jackpot decal	AD 2002/16
Gamesman Gm3000 reel unit & foot	MDMGM3000

Coliseum Game Information

General

Coliseum is a 4-reel AWP machine for the UK single site / arcade market.

Game Description

Wins can be achieved by lining up matching symbols on all 3 reels with the help of holds and nudges. In addition a trail leads into one of three feature columns to start the main feature. All wins will take the player directly into the feature and may be gambled up to the jackpot.

Coliseum has 3 trails (Cash, Nudge and Feature) which are selected at random every game. An arrow beneath each column will indicate which one is selected. Any numbers appearing on the win line will transfer to the trail each game. On position 4 of the trail one of the following bonus will be given: -

STOPPER

PICK A TRAIL

RESPIN

SKILL STOP

NUMBERS IN VIEW

Bonus features are as follows: -

EXTRA LIFE

CHANGE NUMBER

SUPER SIX

COLUMN CHANGE

NO LOSE

BOOST

Features on "Coliseum" are as follows: -

SPIN A WIN

REEL ROULETTE

CASH CLIMBER

MYSTERY

STOP N STEP

SKILL MULTIPLIER

SKILL CLIMBER

WIN ROLLOVER

COLUMN CLIMBER

COLISEUM CASH

The Coliseum features are as follows: -

STOP A WIN

*NEAREST WIN
CASH ATTACK*

HI LO CLIMBER

BAR GAIN

*JACKPOT REPEATER
NUDGE CLIMBER*

WIN CLIMB

CHERRY SPINNER

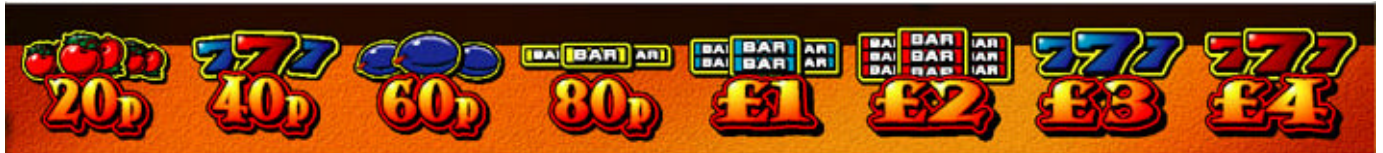
NUDGE TIME

Award Structure

Located on the right hand side of the reel glass is a stake and prize decal that changes according to the desired price of play and jackpot selected via DIL switches 1, 2 and 3 on bank 2. Close to the bottom of the reel glass is the awards decal, for the correct decal layout relevant to the stake and prize please refer to the table below.

5/10p £5 or £8 cash

AD2002/14



5/10p £15

AD2002/13



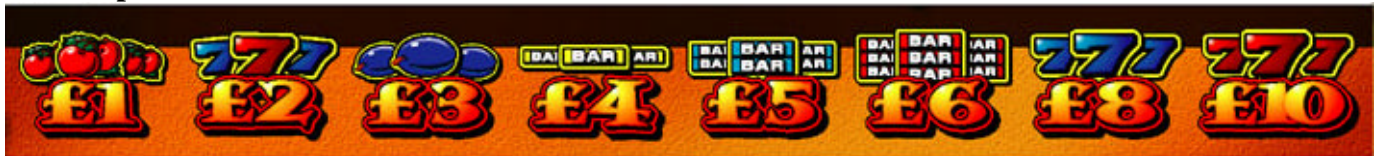
20p £5+repeat chance

AD2002/11



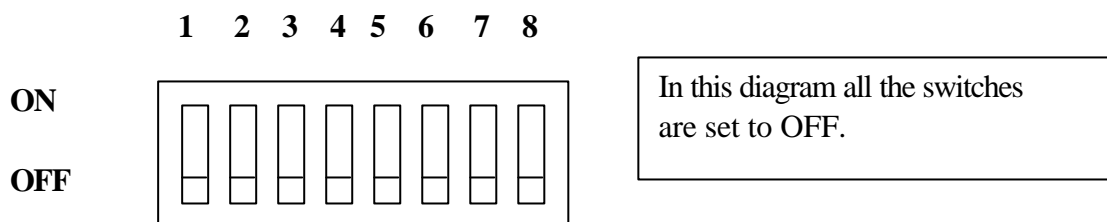
20/25/30p £15

AD2002/12



Switch Settings

There is a bank of 8 DIL switches fitted to the motherboard.



Adjustment of these can access different options within the software.

Switch	OFF	ON
1	Stake & Prize	
2	Stake & Prize	
3	Stake & Prize	
4	Stake & Prize	
5	Not used (leave off)	
6	Normal payout	Direct payout
7	Show float with door open	Show float with door closed
8	Multi coin play	Single coin play

Stake, Prize Settings

Switch 1	Switch 2	Switch 3	Switch 4	Outcome
OFF	OFF	OFF	OFF	5p £5
ON	OFF	OFF	OFF	5P £8
OFF	ON	OFF	OFF	5P £15
ON	ON	OFF	OFF	10P £5
OFF	OFF	ON	OFF	10P £8
ON	OFF	ON	OFF	10P £15
OFF	ON	ON	OFF	20P £5
ON	ON	ON	OFF	25P £15
OFF	OFF	OFF	ON	25P £15
ON	OFF	OFF	ON	30P £15

All values are cash. No tokens are paid out or accepted.

Any other combination of stake & prize settings will result in the machine activating 30p £15.

To activate any changes that have been made to the switches the machine must be turned off for 30 seconds and then on again.

Percentage Settings

The percentage key fitted on the motherboard sets the aiming percentage of the machine. There is no adjustment in the test routine.

If there is a switchable percentage key on the motherboard, the percentage can be set via the four DIL switches. If all the switches are OFF then an invalid percentage has been selected and the machine will display an error.

Switch 1	Switch 2	Switch 3	Switch 4	%
ON	OFF	OFF	OFF	70
OFF	ON	OFF	OFF	72
ON	ON	OFF	OFF	74
OFF	OFF	ON	OFF	76
ON	OFF	ON	OFF	78
OFF	ON	ON	OFF	80
ON	ON	ON	OFF	82
OFF	OFF	OFF	ON	84
ON	OFF	OFF	ON	86
OFF	ON	OFF	ON	88
ON	ON	OFF	ON	90
OFF	OFF	ON	ON	92
ON	OFF	ON	ON	94
OFF	ON	ON	ON	96
ON	ON	ON	ON	98

To activate any changes that have been made to the switches the machine must be turned off for 30 seconds and then on again.

Demonstration mode

A demonstration mode is provided which enables the game to be played or tested without having the need to insert coins and without any actual paying out of prizes.

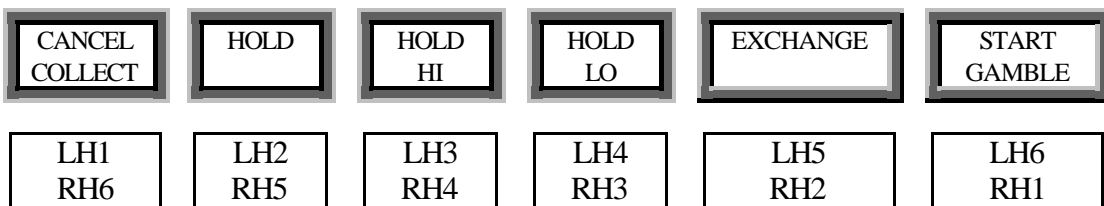
To enter the demonstration mode, open the top door and hold down the test button located on the motherboard for approximately 3 seconds. To achieve £5 worth of credits press the Start button. By holding down the Cancel button and any of the Hold buttons the reels can be stepped down. The reel can also be stepped up by holding down the Cancel and HI buttons, to induce reel wins or to play the feature.

If the MPU does not recognise any activity after approximately 20 seconds the machine enters the attract mode. Credits can then be achieved by pressing the Start button again.

Test Routine

To enter the test routine the top door must be open and the test-button pressed once.

Navigation.



To step to the next test press the RH1 button. To step to a previous test press the RH3 button. The relevant test will be displayed on the alphanumerical display. To activate the desired test the RH2 button is then pressed. Press the RH1 once to exit that test.

<i>Test Number</i>	<i>Test procedure</i>
1.1	Coin in
1.2	Coin out
2.1	Reels 1
3.2	Lamps
4.1	Inputs
4.2	DILS
5.1	Alphanumeric
6.1	Meters
7.1	Communications
8.2	Volume
9.1	Keys
A.1	Alarm log

Test 1.1 – Coin In

All coins accepted by the machine will display the relevant coin value on the display.

To inhibit the coins the LH1 button is pressed. To return to coin acceptance then the LH1 button is pressed again.

The LH2 button is used to toggle coin diversion ON, or OFF. Coin diversion will only affect £1 coins and 20p when 'COIN IN DIV' is displayed

Test 1.2 – Coin out

Button RH3 is used to select between the £1 hopper and the 20p hopper. If the display shows "PND" then the £1 hopper is currently selected and ready to payout. If the display shows "SEC" then the 20p hopper is selected.

Button LH1 is used to activate the paying out of the coins. Press this button once at the time and the hopper will pay out one coin at a time and the alphanumeric display will increment with each coin being paid out. Once the coin has been paid out the hopper motor will stop.

If the LH1 button is held down for 3 seconds then all coins in the selected hopper will be paid out. This will initialise the hopper float level. The display will read "FLOAT UPDATED" then the *amount* of coins that have been paid out. This is not to be mistaken by the *value* of the coins that have been paid out.

Once "FLOAT UPDATED" has been displayed the hoppers will not operate again. To activate the hopper again the test must then be exited and then re-entered.

Test 2.1– Reels 1

On entry to this test reels 1 to 4 will spin to the SYNC position and light all the lamps behind the reel bands. The message SYNC POSITION will be displayed. At this point the first reel symbols will be on the win line. Reels 1,2,3 will show MDM jackpot and reel 4 will show 12.

The relevant HOLD/NUDGE button can be pressed to step the reels down.

Pressing the CANCEL button will nudge the feature reel.

The symbol on the last reel pressed will be displayed.

If the CANCEL button is held for 3 seconds or more any win/feature available will be indicated.

To perform a reel set-up see the technical data section of the manual under the impact motherboard.

Test 3.2 – Lamp test

On entering the test the display will read 3.2 FLASH, and all the lamps will flash.

Pressing the LH1 button will toggle the step lamp test.

The RH2 and RH3 buttons will respectively step through the lamps forwards and backwards.

Test 4.1 – Inputs

When any input changes a sound will be generated and the relevant information is displayed. To exit this test, hold down RH1 for longer than two seconds.

The following table indicates lamps that will light upon various switches being made.

Input Definition	Lamp Definition
Test switch	C (coliseum name)
Refill key	4 nudges
Hopper Top up switch	1 Nudge
Hopper Dump switch	2 Nudges
Top door	Blue triangle
Outer cash box door	Yellow triangle

Test 4.2 – DIL Switches

On entry to this test the status of the DIL switches are displayed. When a number 1 is displayed then the switch is ON. If the number is 0 then the switch is OFF.

Test 5.1 – Alphanumerical display

On pressing the RH2 button each segment of the alphanumeric will light from left to right. Once all the segments have been tested they will then be tested simultaneously.

Test 6.1 – Meters

Pressing the RH1 button initiates the test. Each meter will pulse 5 times. The order is cash in, cash out then refill. **The refill key is not required for this test.**

Test 7.1 – Comms

If machine recognises that there is a Datapak connected to the RS232 port the machine will display PASS. If there is no Datapak fitted then FAIL is displayed.

Test 8.2 – Volume

This test will allow adjustment of the electronic volume control and is identical to the volume adjustment via the refill key with the doors closed.

The display will show the volume in a percentage.

The LH1 and LH2 buttons will be used to adjust the volume down and up respectively.

The RH2 and RH3 buttons will allow the sample number to be increased or decreased respectively.

Test 9.1 – Keys

The display will show whether the percentage and the stake and prize is currently controlled off the DIL switches or a key. The display will then change to display the current aiming percentage, the current stake and prize and then the actual percentage.

Test A.1- Alarm log

On pressing the RH1 button the alarm log number will be shown on the left-hand side of the display, the alarm code on the right.

By pressing the LH4 button and the LH2 buttons you can increment or decrement the log number respectively.

By holding the RH2 button for five seconds the alarm log can be cleared.

Alarm codes

<u>Code</u>	<u>Fault</u>	<u>Causes (in order of probability)</u>
0.1	Ram clear/ checksum fail	Change of program, faulty battery, processor card
0.2	Mode change	Stake, prize or percentage changed
1.1	£ 1 coin input	Coin jam. Coin mech., coin loom, motherboard
1.2	50p coin input	As above
1.3	20p coin input	As above
1.4	10p coin input	As above
1.6	5p coin input	As above
1.5	Token input	As above
1.9	Anti-strim alarm	Coin mech., coin loom, motherboard
2.1	Reel 1 fault	Set-up, opto, loom, motor, motherboard
2.2	Reel 2 fault	As above
2.3	Reel 3 fault	As above
2.4	Reel 4 fault	As above
4.1	10p Hopper fault	Disconnected, jammed, Opto dirty/failure
4.2	20p Hopper fault	Disconnected, jammed, Opto dirty/failure
4.4	£ 1 Hopper fault	Disconnected, jammed, Opto dirty/failure
6.0	Meter error	More than 1 meter disconnected
6.1	Meter 1 fault	Meter1 faulty
6.2	Meter 2	“
6.3	Meter 3	“
6.4	Meter 4	“
6.5	Meter 5	“
7.1	E.D.C failure	Dataport unit not fitted, M.P.U, no -12v
9.1	Incorrect switch settings	Adjust switch settings, faulty MPU
9.2 – 9.8	Faulty processor	Ram corruption, faulty processor card, motherboard
HOPPER ERROR on Power up/Reset		Jam, Hopper not connected, faulty opto, hopper driver board, loom, PSU

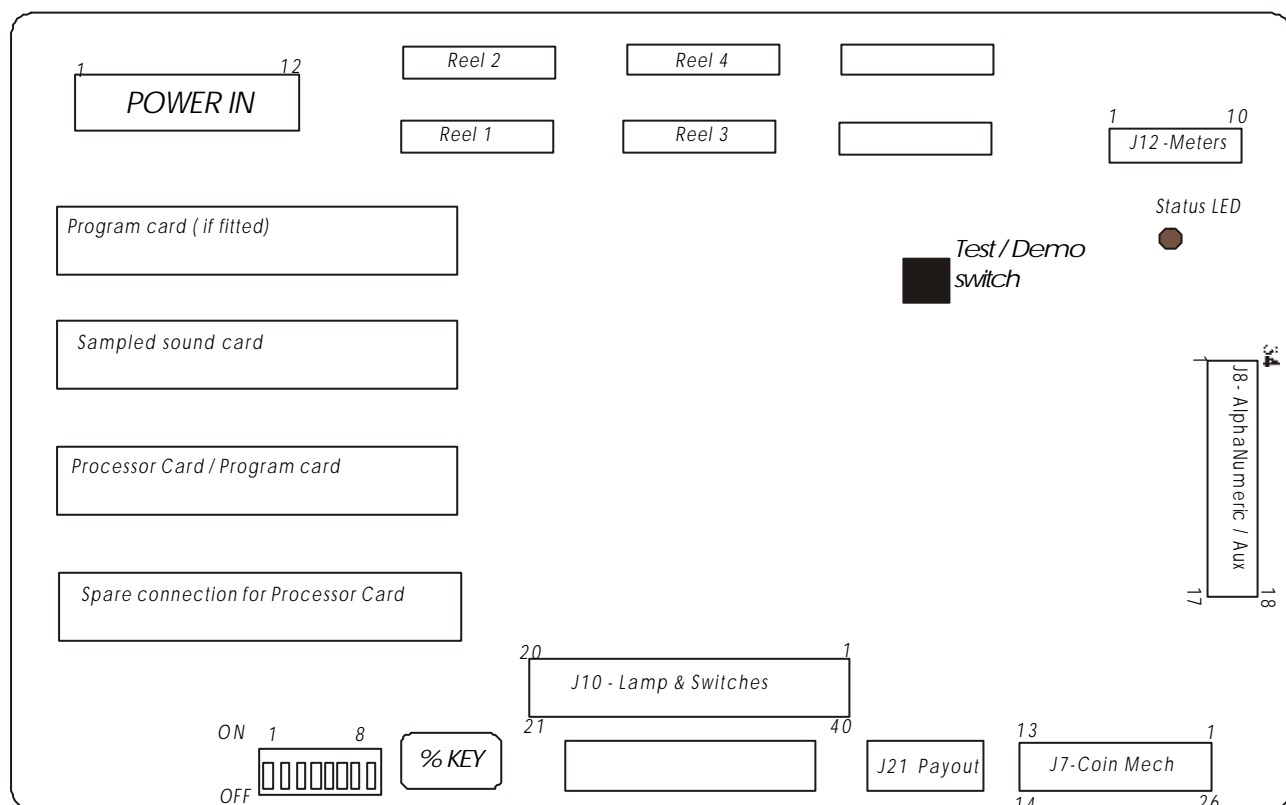
Technical Data

Test/Demo switch

The test/demo switch has three functions.

1. To perform reel set-up, switch the machine OFF. Hold the test/demo button down and turn the machine back ON. The reels will judder, you can then move the reel around by hand so the optic tab is perfectly in the opto sensor, the LED on the reel should change status if the LED is working correctly. If the tab is not in the sensor adjustment is required. To perform correct adjustment, move the reel so the tab is as close as possible to the sensor, then loosen the two motor screws and rotate the motor so the tab is in between the sensor (the LED will extinguish). Tighten the screws and reset the machine.
2. From power up pressing the test/demo switch once (for less than two seconds) will put the machine into the test routine.
3. Pressing the button for longer than two seconds will allow the machine to access the demonstration mode.

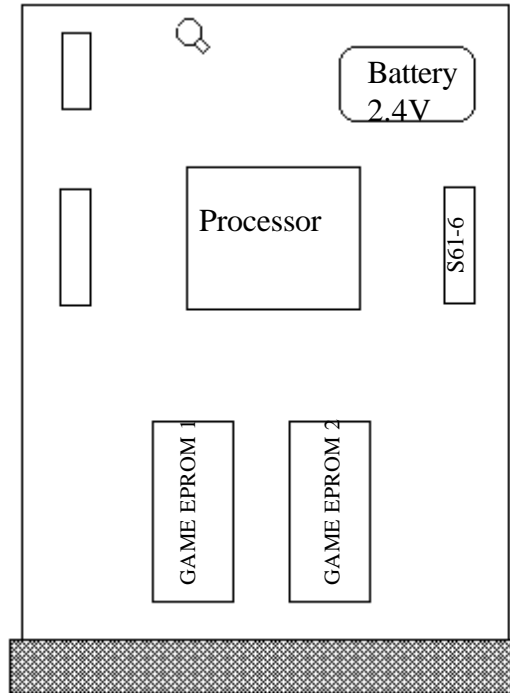
Impact Motherboard



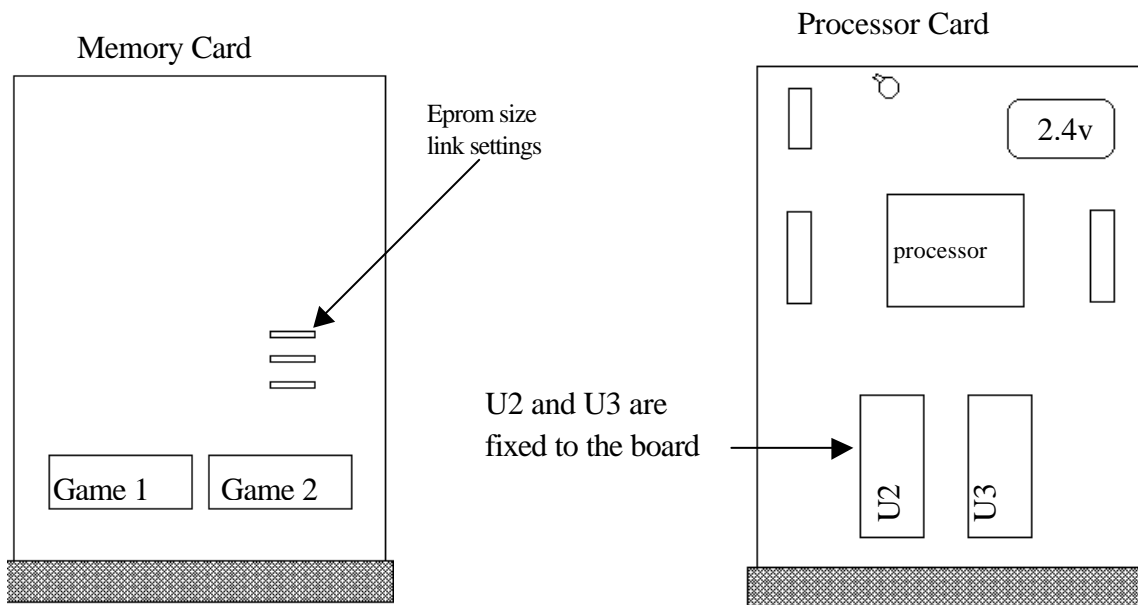
Processor & Memory Cards

There can be two different types of processor cards fitted to this machine. One has the processor and memory card combined on one card, and the other type the memory (EPROM card) and processor cards are separate.

Combined processor and memory card.



Separate processor and memory card.



Coin Handling

The coin validator loom is connected from plug J7 on the motherboard to the coin mechanism. The coin loom can be fitted to either a Coin controls C435A or Mars Cashflow coin validators. To achieve correct routing of the coins the correct routing plug and sorter override or route inhibit connector must be fitted.

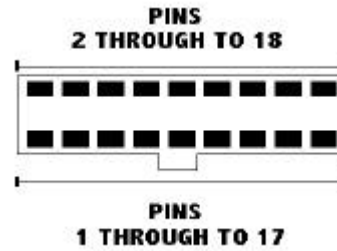
Coin Controls C435A

The pins are identified with the notch pointing down and the wires facing you.

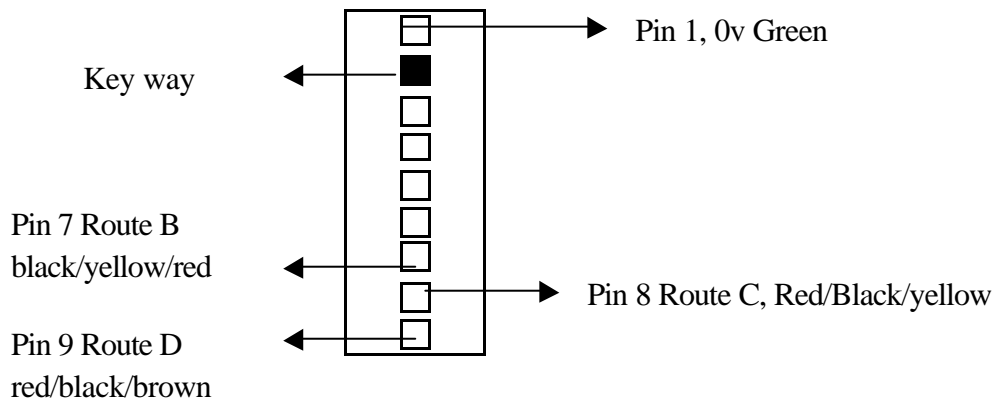
An 18 way routing plug is used.

7+8, 15 ← 7, 13+12, 17 → 15

Pins 15 to 7 and 17 have a diode with the cathode (striped end) at pin 15.



The sorter over-ride connector pins are identified with the wire facing towards you.

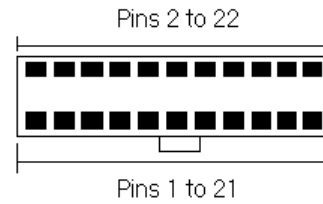


Mars Cashflow Routing.

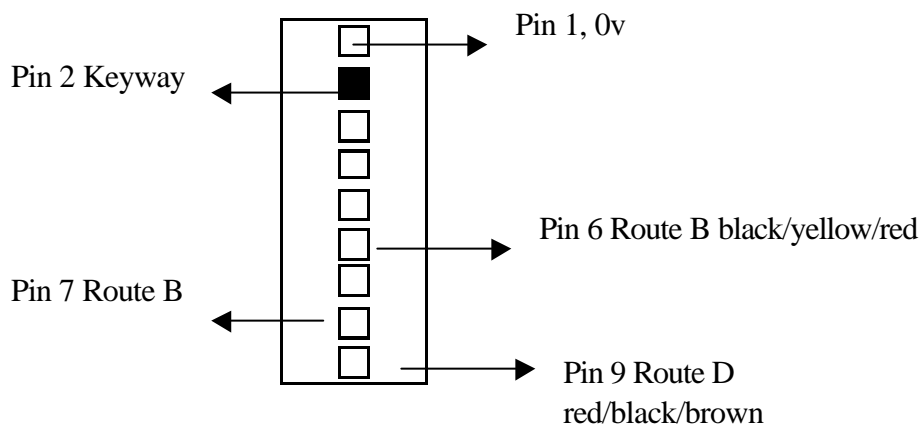
The pins are identified with the notch pointing down and the wires facing you.

1 ← 13, 2 ← 22, 12+18, 14+20

Pins 1 to 13 and 2 to 22 have a diode with the cathode (striped end) at pins 1 and 2 respectively.



The route-inhibit connector pins are identified with the wire facing towards you.



Hopper

This machine is fitted with a Coin Controls Compact £1 hopper and a 20p hopper. When the machine pays out, the coin is passed through an opto sensor in the hopper, breaking the beam. With each break of the beam the machine recognises that a coin has been paid out.

Routine maintenance of the hopper should be carried out every 3 months or 100,000 coins. This involves cleaning the coin route and the opto sensor with a mild detergent on a damp cloth. Under no circumstance should an abrasive cleaner or solvent cleaner be used. If the opto sensor becomes dirty its effectiveness at counting out the coins will be impaired therefore resulting in possible over payment of the coins or hopper alarms.

Dismantling the hopper

1. Gently pull the securing clips on the back of the base outwards.
2. Tilt the bowl forwards until it clears the clips.
3. Slide the bowl forward until the locating lugs (at the front of the hopper) are clear of the slots.
4. Lift the motor assembly out of the base, taking note of which direction the opto sensor is positioned.

Hopper Level & Procedures

The float level of the machine is dependant on the price of play see table below:

Price of Play	£1 Hopper float level	20p Hopper
5p	£ 75	£ 25
10p	£ 100	£ 25
20,25,30p	£ 125	£ 25

Manually refilling the hopper

- 1) With the machine on, insert and turn the refill key.
- 2) Open the top door and place the relevant amount into the £ 1 and 20p hopper.
- 3) Press the HOPPER TOP UP button, a beep will be heard and the alphanumerical display will show "HOPPERS FULL".
- 4) The LO button is used to select a hopper, displaying the float level.
- 5) Remove the refill key and close the top door. The hoppers are now correctly topped up.

Refilling via the coin validator.

- 1) With the machine on and both doors closed, insert and turn the refill key.
- 2) The alphanumerical display will show "R= ***" (where*** is the amount refilled).
- 3) Put the relevant coins through the coin validator to the required float level. The minimum float level should be no less than £30 in £ 1 coins and £25 in 20p coins. Once the hoppers are full the £ 1 and 20p coins will be locked out.

Hopper dump procedure.

- 1) Open the outer and inner cash box doors.
- 2) Insert and turn the refill key.
- 3) Press the HOPPER DUMP button, a beep will be heard and the display will show "HOPPER DUMP PND" for the £ 1 hopper or "HOPPER DUMP SEC" for the 20p hopper.
- 4) The LO, COLLECT/CANCEL, and the START buttons will be lit.
- 5) The LO button selects between the two hoppers. Pressing the CANCEL/COLLECT button will exit the dump procedure.
- 6) Once the desired hopper is selected pressing the START button will payout all the coins in that hopper. The hoppers can only be dumped one at a time.
- 7) If there is LESS than the float level in the hopper the display will read "SHORT BY ***" (where the *** is the amount).
- 8) If there is MORE than the float level in the hopper, then the float level will paid out and the display will read "DEFLOAT EXCESS".
- 9) Pressing the START button again will continue to pay out the excess in the hopper. "EXCESS = *** will be displayed".

This can also be performed in COIN OUT test.

To check the float level in all cases, open one of the doors, insert and turn the refill key. The display will read "P= ***" for the £ 1 coins and "S=***" for the second hopper, where *** is the value of coins. Where there is "R=***" this is the coins refilled via the coin validator at that moment in time.

Meters

2 x 12v DC
1x12v DC for refill

Software Meters (electronic)

In all there are 50 meters, but there are useful meters that have been incorporated for the operators benefit. These are Cash in, Cash out, Games played, and Cash refilled. For the desired meter refer to the table below.

To access the software meters open the top door and press the test button once. The machine will go into demonstration mode. Next turn the refill key to the on position.

The alphanumerical display will show meter number 0. To display the next meter press the third **Hold/Nudge** button, to display the previous meter press the first **Hold** button. To clear the meters, press and hold the **Start** button. A countdown sequence will be initiated and can be aborted by releasing the **Start** button. Once the countdown reaches zero the meters will be cleared.

Meter No.	Description	Divide by

Note that the software will be cleared down every time the RAM has been reset and the percentage or price of play has been altered.

Main Reels

Motor alignment

Put the machine into reel test (test 2.1). This will spin the reels showing the first symbols on the reel band in the win line. If they do not, follow the following procedure: -

To perform reel set-up, switch the machine OFF. Hold the test/demo button down and turn the machine back ON. The reels will judder, you can then move the reel around by hand so the optic tab is perfectly in the opto sensor. The LED on the reel should go off if the opto sensor is working correctly.

If the LED does not go out this would normally indicate that the sensor is faulty.

If the tab is not in the sensor adjustment is required. To perform correct adjustment, move the reel so the tab is as close as possible to the sensor, then loosen the two motor screws and rotate the motor so the tab is in between the sensor (the LED will extinguish). Tighten the screws and reset the machine.

Lamp Box Position

On the reel there is a adjustment screw to move the lamp box. The arrow should be pointed at position 55.

Reel Band Placement

Place the notched reel band on to the notch on the reel drum and rotate. When fully rotated remove the double-sided tape on the bottom edge of the reel band and affix to the top edge of the reel band.

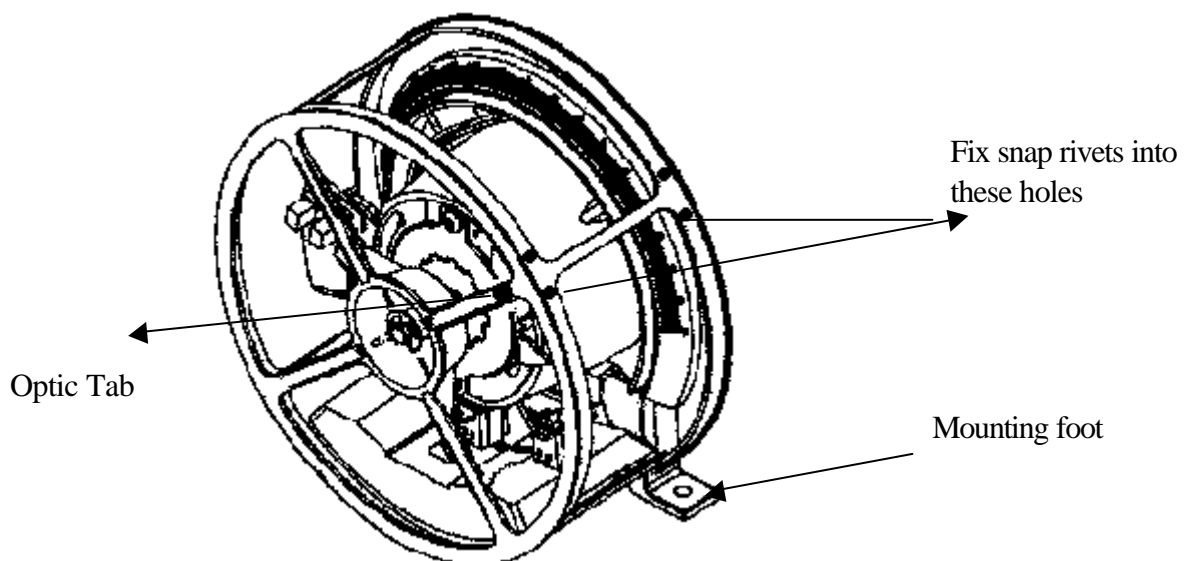
Fourth Reel

The fourth reel has already been set-up correctly and NO attempt should be made to adjust any alignment.

Reel Band Placement

Locate the holes to the right hand side of the optic tab, line these up with the holes fitted on the clear tail of the reel band and rotate. Once all of the holes are lined up fit the plastic snap rivets supplied.

Figure 1



Reel band Layout

The reel bands are identified either by the wording on the bands or the number of grey dots below the first symbol of each band.

Reel 1	Reel 2	Reel 3	Reel 4
MDM Jackpot Cherry Bar+2	MDM Jackpot Cherry+1 Bar	MDM Jackpot Cherry Bar+1	12 4 10 + bonus

MULTI PLEXED LAMPS

Source sink	Yel/blk 0 q7	Yel/brn 1 q8	Yel/red 2 q9	Yel/org 3 q10	Yel/pur 4 q11	Yel/gry 5 q12	Yel/wht 6 q13	Yel/pnk 7 q14	Blu/blk 8 q15	Blu/brn 9 q16	Blu/red 10 q17	Blu/org 11 q18	Blu/yel 12 q19	Blu/grn 13 q20	Blu/gry 14 q21	Blu/wh 15 q22
Pur/blk 0 Q34	bottom	middle	top	Bottom	middle	Top	Hi-lo climber 6	Nudge climber 7	Name S 8	Nudge time 9	Names S 10	Col pass num 7 11	Col pass num 11 12	Not used	Not used	Not used
	Reel 1			Reel 2												
Pur/brn 1 q35	bottom	middle	top	bottom	middle	Top	Cash attack 22	Name I 23	Hi 24	LO 25	Coliseum pass 26	Col pass num 1 27	Col pass num 28	Not used	Not used	Not used
	Reel 3			Reel 4												
Blk/red 2 q36	Name O 32	Name O 33	Step to nearest 34	Name I 35	Name L 36	Not used	Not used	Name L 39	Not used	Name C 41	Jackpot repeater secret	Not used	Cherry spinner 44	Not used	Not used	Not used
Blk/org 3 q37	Name C 48	Refill meter 49	Stop a win 50	Bonus #2 51	Bonus#1 53	Extra life 54	Bargain 55	Change number 56	Super 6 57	Win climb 58	Column change 59	No lose 60	Boost 61	Not used	Not used	Not used
Pur/yel 4 q38	Name E 64	Not used 65	Jackpot repeater# 1	Mdm jackpot#1 67	Red7s #1 68	Blue7s#1 69	Red bars#1 70	Blue bars#1 71	Yellow bars#1 72	Plum s#1 73	Mixed 7s #1 74	Cherries #1 75	Red triangle 76	Not used	Not used	Not used
Pur/grn 5 q39	Name U 80	Name U 81	Jackpot repeater 82	Mdm jackpot#2 83	Red7s #2 84	Blue7s#2 85	Red bars#2 86	Blue bars#2 87	Yellow bar#2 88	Plum s#2 89	Mixed 7s #2 90	Cherries #2 91	Not used	Not used	Not used	Not used
Pur/blu 6 q40	Name M 96	Name M 97	Unlimited nudges 98	16 nudges 99	12 nudges 100	10 nudges 101	8 nudges top glass 102	6 nudges top glass 103	4 nudges top glass 104	3 nudges top glass 105	2 nudges top glass 106	1 nudge top glass 107	Blue triangle 108	Not used	Not used	Not used
Pur/gry 7 q41	Coin entry bez 112	Push to reject 113	Coliseum cash 114	Column Climber 115	Win rollover 116	Skill climber 117	Skill multiplier 118	Stop n step 119	Mystery 120	Cash climber 121	Reel roulette 122	Spin a win 123	Yellow triangle 124	Not used	Not used	Not used
Pur/wht 8 q42	Trail 7 125	Trail 6 126	Trail 5 127	Trail 4 128	Trail 3 129	Trail 2 130	Trail 1 131	Trail held 132	Jackpot decal #1 133	Jackpot decal#2 134	Jackpot decal#3 135	Jackpot decal #4 136	Not used	Not used	Not used	Not used
Pur/pnk 9 q43	Mdm winner 144	Decal red 7s 145	Not used	Decal blue 7s 147	Not used	Decal red bars 149	Not used	Decal blue bars 151	Not used	Decal yellow bar 152	Not used	Decal plum 155	Not used	Not used	Not used	Not used
Gry/blk 10 q44	Start/gamble butt 160	Exchange button 161	Button not used 162	Lose (not used) 163	1 nudge 164	2 nudges 165	3 nudges 166	4 nudges 167	Not used	Decal mix 7s 169	Not used	Decal cherries 171	Not used	Not used	Not used	Not used
Gry/brn 11 q45	Hold Lo button 176	Hold Hi button 177	Hold button 178	Cancel/collect button 179	Cherry 180	Plum 181	Yell bar 182	Blue bar 183	Red bars 184	Blue 7 185	Red 7 186	Mdm jackpot 187	Not used	Not used	Not used	Not used
Gry/red 12 q46	Not used	Not used	Not used	Not used	Not used	Not used	Not used	Not used	Not used	Not used	Not used	Not used	Not used	Not used	Not used	Not used
Gry/org 13 q47	Not used	Not used	Not used	Not used	Not used	Not used	Not used	Not used	Not used	Not used	Not used	Not used	Not used	Not used	Not used	Not used
Gry/yel 14 q48	Not used	Not used	Not used	Not used	Not used	Not used	Not used	Not used	Not used	Not used	Not used	Not used	Not used	Not used	Not used	Not used
Gry/grn 15 q49	Not used	Not used	Not used	Not used	Not used	Not used	Not used	Not used	Not used	Not used	Not used	Not used	Not used	Not used	Not used	Not used

MULTI PLEXED LAMPS

Sink 0 to 7 are top glass, sink 8 to 11 are bottom glass

Multiplexed Switches

J10 Lamp & Switch Connector

	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
A	Sel2	Sel4	Sw6	Sw4	Sw2	Sw0	So 14	So 12	So 10	So 8	So 6	So 4	So 2	So 0	Si 10	Si 8	Si 6	Si 4	Si 2	Si 0
B	Not used	Sel3	Sw7	Sw5	Sw3	Sw1	So 15	So 13	So 11	So 9	So 7	So 5	So 3	So 1	Si 11	Si 9	Si 7	Si 5	Si 3	Si 1
	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40

Switch select		Grey Pin 15	Orange Pin 26	White Pin 16	Blue Pin 25	Pink Pin 17	Green Pin 24	Purple Pin 18	Brown Pin 23	All have diodes fitted
		0	1	2	3	4	5	6	7	
No diodes fitted	J10 Pin 20 2 Yellow	Start I/P 16	Exchange I/P 17	Not used						
	J10 Pin 22 3 Black	Hold Lo I/P 24	Hold HI I/P 25	Hold I/P 26	Cancel I/P 27					
	J10 Pin 19 4 Red	Hopper Dump I/P 32				Cash Door I/P 36	Main Door I/P 37	Refill I/P 38		
			33	34	35				39	
	J7 Pin 1 9	Coin Accept 1, £1 72	Coin accept 2, 50p 73	Coin accept 3, 20p 74	Coin accept 4, 10p 75	Coin accept 5, tok 76	ident 77		78	79

Connections

J14 12 way from Power Supply

12	11	10	9	8	7	6	5	4	3	2	1
Green	Purple	Orn/Red	Grn/Blk	Yel	Pnk	Purple	KEY WAY	Grn/Orn	Orn/Blk	Green	Orn/Red
Ground	+12v Mech	+5v DC	0v Mux	50v DC	-12v DC	+12 v DC		0v reels	+24vDC	Ground	+5V

J7 26 way to Coin validator

13	12	11	10	9	8	7	6	5	4	3	2	1
14	15	16	17	18	19	20	21	22	23	24	25	26

Pin	Wire Colour	Function
1	Blk/brn/wht	
2	Wht/blk	
3	Wht/org	
4	Wht/grn	
6	Red/brn/org	
7	Red/brn/yel	
8	Red/brn/grn	
10	Blk/red/yel	
12	Green	
13	Green	0v
16	Purple	+12 dc
17	Red/blk/org	
18	Red/blk/brn	
20	Red/yel/blu	
21	Red/brn/pur	
22	Red/brn/blu	
24	Wht/blu	
25	Wht/yel	
26	Wht/brn	

Connections

J8 34 way Hopper & Alpha numeric

17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34

Pin	Colour	Function
1	Org/red	
3	Blk/red/org	
6	Blk/red/blu	
7	Blk/red/pur	
11	Blk/yel/blu	
12	Blk/yel/pur	
13	Blk/yel/gry	
14	Blk/yel/wht	
16	Green	
17	Green	
22	Red/gm/wht	
24	Red/gm/pur	
27	Red/blk/pur	
29	Red/blk/green	
30	Red/blk/yel	
33	Purple	+12v
34	Purple	+12v

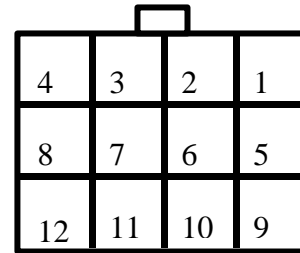
J21 – Payout connector

13	Purple	+12v
14	Bm/yel	

Connections

12 pin in-line connector

<i>Pin</i>	<i>Colour</i>	<i>Function</i>
1	Green	
2	Green	
3	Green	
4	Green	
5	Org/blk	
6	Red	
7	Not used	
8	Red/blk/green	
9	Black	
10	Pink	
11	Not used	
12	Blk/red/purple	



Viewed from rear of connector, wires facing you.

£1 Hopper driver board

<i>Plug</i>	<i>Pin</i>	<i>Colour</i>	<i>Function</i>	<i>Plug</i>	<i>Pin</i>	<i>Colour</i>	<i>Function</i>
JP1	1	Not used		JP2	1	Org/blk	
JP1	2	Blk/red/org			2	Key way	
JP1	3	Not used			3	Blk/red/pur	
JP1	4	Purple			4	Not used	
JP1	5	Red/blk/yel			5	Not used	
JP1	6	Not used			6	Red/blk/gm	
JP1	7	Blk/rd/pur					
JP1	8	Red/blk/gm					
JP3	1	Org/blk		JP5	1	Purple	
	2	Gm/org			2	Brn/yel	
	3	Key way			3	Key way	

20p Hopper driver board

<i>Plug</i>	<i>Pin</i>	<i>Colour</i>	<i>Function</i>	<i>Plug</i>	<i>Pin</i>	<i>Colour</i>	<i>Function</i>
JP1	1	Not used		JP2	1	Org/blk	
JP1	2	Blk/red/blu			2	Key way	
JP1	3	Not used			3	Red/pur/blk	
JP1	4	Purple			4	Not used	
JP1	5	Red/blk/yel		5	Not used		
JP1	6	Not used			6	Red/blk/gm	
JP1	7	Blk/rd/pur					
JP1	8	Red/blk/gm					
JP3	1	Org/blk		JP5	1	Purple	
	2	Gm/org			2	Brn/yel	
	3	Key way			3	Key way	