



The Big Apple

(MPU4, set 1)

MANUAL

Table of contents

Table of contents.....	1
Safety Instructions.....	2
Product Safety.....	2
Electrical Safety.....	2
Introduction.....	3
Part list.....	3
Conversion instructions.....	4
Reel bands.....	5
Routing plug information.....	6
Award structure.....	6
Top glass.....	6
Reel Glass award structure.....	7
Dil switch settings.....	8
Switch bank 1.....	8
Switch bank 2.....	8
Inputs & outputs.....	10
Switch Inputs.....	11
Lamp allocations.....	12
General information.....	15
Float levels.....	15
Test procedure.....	15
Alarm codes.....	19

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 manufacturer's 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

All machines leaving the manufacturer are subject to electrical safety tests. These tests consist of earthbond 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 persons should carry out work on the internal parts of this machine.

Electrical supply.

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

Introduction

Big Apple is designed to fit the list of Barcrest based machines on the front page.

The machine incorporates an alphanumerical display and also boasts the use of sample sound.

On receipt of your kit please check the contents against the following list, and notify our **Spares department** immediately of any shortages on: - 01222 377402

Part list

Top glass	AT 1002
Reel glass	AL 1002
Reel band 1	AR 1007
Reel band 2	AR 1008
Reel band 3	AR 1009
Reel band 4	AR 1010
Button legends	AB 1002
£8 cash disclaimer decal	AD 1041
£10 cash disclaimer decal	AD 1024
£8 token disclaimer decal	AD 1025
£5 cash disclaimer decal	AD 1072
Price of play decal	AD 1027
20/25p £10 decal (top glass)	AD 1028
5/10p £10 decal	AD 1029
5/10/20p £8 decal	AD 1030
5/10/20p £5 + repeat chance decal	AD 1068
20/25p £10 decal (reel glass)	AD 1032
10p £10 decal	AD 1033
5p £10 decal	AD 1034
20p £8 decal	AD 1035
10p £8 decal	AD 1036
5p £8 decal	AD 1037
5p £5 decal	AD 1069
20p £5 decal	AD 1071
10p £5 decal	AD 1070
Programme Eprom	
Sound Eproms x2	
Bottom glass vacuum form loomed	
Top glass vacuum form loomed	

Conversion instructions

Prior to commencement ensure that the machine to be converted is in good working order.

Slide payout shelf back to allow easier access to the interior of the machine.

Disconnect and remove the mars mech.

Disconnect and remove the reel unit.

Disconnect the lamp looms attached to the lamp interface board.

Remove the button switches from the button housings.

Remove the alphanumeric display using either a posi driver or a 7mm (3BA) nut spinner, from the centre channel housing the two glasses.

Remove the securing screws fixing the glass frames from the machine.

Inside the machine, below the button panel are five studs securing the framework to the button panel. Remove these, which will then allow the removal of the glass housings (frames) from the machine.

Place the glass housings onto a flat surface and remove the glasses, retain all fixings to use again, discard the glasses.

Before replacing the new glass into the framework affix the vacuum forming to the glass ensuring that it is aligned correctly. Also insert designated award decal.

Replace glasses into frame and secure back into the machine the same way they came out.

Remove the lens caps from the buttons and discard the existing button legends.

Replace with legends provided. See the layout diagram below. (Viewed from the front of the machine)

CANCEL	HOLD	HOLD	HOLD	HI	LO	COLLECT	START
	NUDGE	NUDGE	NUDGE				

Reconnect button switches to the buttons, and reconnect the top and reel glass lamp looms to the lamp interface board.

Alpha numerical display

The fixing plate attached to the alpha casing needs to be placed on the bottom of the housing (this may already be the case in certain machines.) Affix the plate back onto the alpha and affix into the machine with the securing bolts on the central extrusion.

Reel bands

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.

Reel band Layout

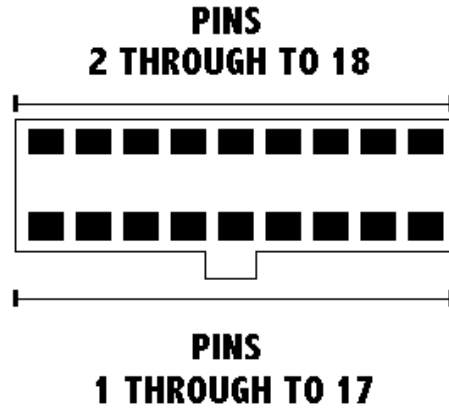
Reel 1	Reel 2	Reel 3	Reel 4
Big Apple	Big Apple	Big Apple	12
Melon	Melon	Melon	4
Single Bar	Double Bar 1	Single Bar	11

Routing plug information

This machine uses a 18 way routing plug. The pins are identified with the notch of the routing plug facing downward and the wire links facing you.

To achieve the correct routing, link pins: -

- 1 + 2
- 4 + 6
- 8 + 15
- 7 + 18
- 12 + 13



Award structure

Top glass

5/10/20p £5

£5 + repeat chance
£4
£3
£2.40
£2
£1.60
£1.20
80p
40p

5/10/20p £8

£8
£4
£3
£2.40
£2
£1.60
£1.20
80p
40p

5/10p £10

£10
£6
£4
£3
£2
£1.60
£1.20
80p
40p

20/25p £10

£10
£8
£6
£4
£2
£1.60
£1.20
80p
40p

Reel Glass award structure.

5p £10

20p	40p	£1	£2	£3	£4	£6	£10
-----	-----	----	----	----	----	----	-----

10p £10

40p	£1	£2	£3	£4	£5	£6	£10
-----	----	----	----	----	----	----	-----

20/25p £10

£1	£2	£3	£4	£5	£6	£8	£10
----	----	----	----	----	----	----	-----

5p £8

20p	40p	60p	80p	£1	£2	£4	£8
-----	-----	-----	-----	----	----	----	----

10p £8

40p	80p	£1.20	£1.60	£2	£3	£4	£8
-----	-----	-------	-------	----	----	----	----

20p £8

£1	£1.20	£1.60	£2	£2.40	£3	£4	£8
----	-------	-------	----	-------	----	----	----

5p £5

20p	40p	60p	80p	£1	£2	£4	£5
-----	-----	-----	-----	----	----	----	----

10p £5

40p	80p	£1.20	£1.60	£2	£3	£4	£5+Rep
-----	-----	-------	-------	----	----	----	--------

20p £5

£1	£1.20	£1.60	£2	£2.40	£3	£4	£5+Rep
----	-------	-------	----	-------	----	----	--------

Dil switch settings

There are different versions of eproms that select different jackpots, £8/£4, £8/£5, £10, £15.

The following outcomes occur when the switch is set in the 'ON' position

Switch bank 1

SWITCH	FUNCTION
1	Ram clear
2	Coin alarm inhibit
3	Direct payout
4	Priority payout to 20p
5	Lock up if tubes low
6	Reel motor selection (See below)
7	Zero credit animation off
8	Single coin play

Switch bank 2

SWITCH	FUNCTION
1	Price of play (see next page)
2	Price of play (see next page)
3	Jackpot selection OFF=£8, ON=£5*
4	High token ratio*
5	Payout percentage selection (see next page)
6	Payout percentage selection (see next page)
7	Payout percentage selection (see next page)
8	Payout percentage selection (see next page)

Token EPROM ONLY

NOTE

Switch 6 on switch bank 1 controls motor selection. When the switch is in the OFF position the Barcrest, Minebea, Crouzet motors are selected. When the switch is in the ON position the Saia, Airpax motors can be used. Once the switch is in the desired position the ram has to be reset via DIL switch 1 bank 1.

In £8 token mode all wins over £4 are still paid in tokens.

Price of play table

£8 / £5 Version

Switch 1	Switch 2	Outcome
Off	Off	20p Play
On	Off	5p Play
Off	On	10p Play
On	On	20p Play

£10/£15 All cash Version

Switch 1	Switch 2	Outcome
Off	Off	5P Play
On	Off	10p Play
Off	On	20p Play
On	On	25p Play

Percentage payout table

Switch 5	Switch 6	Switch 7	Switch 8	%
OFF	OFF	OFF	OFF	70
ON	OFF	OFF	OFF	72
OFF	ON	OFF	OFF	74
ON	ON	OFF	OFF	76
OFF	OFF	ON	OFF	78
ON	OFF	ON	OFF	80
OFF	ON	ON	OFF	82
ON	ON	ON	OFF	84
OFF	OFF	OFF	ON	86
ON	OFF	OFF	ON	88
OFF	ON	OFF	ON	90
ON	ON	OFF	ON	92
OFF	OFF	ON	ON	94
ON	OFF	ON	ON	96
OFF	ON	ON	ON	98
ON	ON	ON	ON	99

Inputs & outputs

Triac drives (Male MTA white 11-way)

Pin No.	Function
1	48v AC
2	0V
3	20p solenoid
4	£1 solenoid
5	Token solenoid A
6	Token solenoid B
7	Key
8	Not used
9	Lockout
10	Cash refill meter (if connected)
11	Token refill

Misc. (Male MTA blue 11-way)

Pin No.	Function
1	48v AC
2	0V
3	Audio output
4	0V
5	0V
6	0V
7	+12v DC
8	Key
9	-12v DC
10	+34v DC
11	Aerial

Switch Inputs

Male MTA 10-way Orange

Male MTA 19-way Black

Pin No	Function	Pin No	Function
1	20p level	1	Not used
2	£1 level	2	Not used
3	Token level A	3	Not used
4	Token level B	4	Not used
5	Not used	5	Not used
6	Not used	6	Test switch
7	Not used	7	Refill key switch
8	Not used	8	Door switches
9	Not used	9	Cancel
10	Not used	10	Hold-Nudge
11	Not used	11	Hold-Nudge
12	Not used	12	Hold-Nudge
13	Not used	13	HI
14	Key	14	LO
15	Not used	15	Collect
16	Not used	16	Key
17	Not used	17	Start
18	Enable pins 1-8	18	Enable Pins 1-8
19	Enable pins 9-17	19	Enable pins 9-17

Lamp allocations

<u>Blue plug Pin No</u>	<u>Green plug Pin No</u>	<u>Lamp No</u>	<u>Function</u>
1	1	56	Token bezel
1	2	57	Cash bezel
1	3	58	3 nudges
1	4	59	Cherry award
2	3	50	2 nudges
2	4	51	Mixed bar award
2	5	52	Single bar award
2	6	53	Big Apple award
2	8	54	Trail No 2
3	1	40	Collect button
3	2	41	Start button
3	3	42	1 nudge
3	4	43	Plum award
3	5	44	Double bar award
3	6	45	Trail No 2
3	8	46	Trail No 3
4	1	32	Hold nudge Button 3
4	2	33	HI button
4	3	34	LO button
5	1	24	Cancel button
5	2	25	Hold-Nudge Button 1
5	3	26	Hold-Nudge Button 2
5	4	27	Melon award
5	5	28	Triple bar award
5	6	29	Trail No 6
7	1	16	Reel A Bottom
7	2	17	Reel B Bottom
7	3	18	Reel C Bottom
7	5	21	Trail No 5
7	6	22	Held (secret)
8	1	8	Reel A Middle
8	2	9	Reel B Middle
8	3	10	Reel C Middle
9	1	0	Reel A Top
9	2	1	Reel B Top
9	3	2	Reel C Top

Lamp allocations

Blue plug Pin No	Green plug Pin No	Lamp No	Function
10	10	120	Skill numbers (secret)
10	11	121	Super hold (secret)
10	12	122	Bonus (secret)
10	13	123	LO
10	14	124	HI
10	15	125	Reel D
11	10	112	Respin (secret)
11	11	113	Blue arrow (trail)
11	12	114	Trail 1 nudge
11	13	115	Win spin trail
11	14	116	Red arrow (trail)
11	15	117	Cherry
11	16	118	Numbers in view (secret)
11	17	119	Add numbers (secret)
12	10	104	Trail 2 nudges
12	11	105	Trail 3 nudges
12	12	106	5 nudges (trail)
12	13	107	7 nudges (trail)
12	14	108	9 nudges (trail)
12	15	109	12 nudges (trail)
12	16	110	15 nudges (trail)
12	17	111	45 nudges
13	10	96	Spot a win
13	11	97	Play a win
13	12	98	Elevator cash (trail)
13	13	99	Skill cash (trail)
13	14	100	High climber (trail)
13	15	101	Cash roll (trail)
13	16	102	High rise (trail)
13	17	103	Big Apple (trail)
14	10	88	Choose trail (secret)
14	11	89	Award 3 (trail)
14	12	90	Award 4 (trail)
14	13	91	Award 5 (trail)
14	14	92	Award 2 (trail)
14	15	93	Award 6 (trail)
14	16	94	Award 7 (trail)
14	17	95	Award 8 (trail)

Lamp allocations

<u>Blue plug Pin No</u>	<u>Green plug Pin No</u>	<u>Lamp No</u>	<u>Function</u>
15	10	80	Plum
15	11	81	Double bar
15	12	82	Triple bar
15	13	83	Bargain (secret)
15	14	84	Nudge time (secret)
15	15	85	Step to nearest win
15	16	86	Skill (secret)
15	17	87	Award 9 (trail)
16	10	72	Bar
16	11	73	Jackpot repeater (secret)
16	12	74	Yellow arrow (trail)
16	13	75	Award 1 (trail)
16	14	76	Stop a win (secret)
16	15	77	Cash attack (secret)
16	16	78	Big Apple name
16	17	79	Big Apple name
17	10	64	Melon
17	11	65	Big Apple
17	12	66	Nudge climber (secret)
17	13	67	Win climb (secret)
17	14	68	Cherry spinner (secret)
17	15	69	Hi-Lo climber (secret)
17	16	70	Big Apple name
17	17	71	Big Apple name

General information

Float levels.

The float level is approximately £100 cash and £70 Tokens.

The £1 tube holds £70 with the level sensor positioned at £16.

The 20p tube holds £30 with the level sensor positioned at £4.40 (22 coins).

The 20p small token tube holds £30 with the level sensor positioned at £5 (25 coins).

The 20p large token tube holds £40 with the level sensor positioned at £9 (45 coins).

Test procedure

To enter test, open the back door and press the test switch twice. Alternatively if you wish to enter 'DEMO' mode, open the back door and press the test button once.

The test numbers are shown on the Alpha display. These can be increased or decreased via the Hold-Nudge buttons.

Hold-Nudge 3 **INCREASES** test number

Hold-Nudge 1 **DECREASES** test number

Once the designated test has been reached it can then be activated via the Start button.

<u>Test No</u>	<u>Test Procedure</u>
1	Lamp Test
2	Meter Test
3	Switch Test
4	Reel Test
5	Coin Test
6	Percentage Test
7	RS232 Test
8	Alpha Test
9	Payout Test
10	Alarm Log
11	Sound Test

Test 1 - Lamp test

On pressing the **START** button, the lights on the button panel and coin mech's will illuminate.

On pressing the **COLLECT** button the lamps will single step, and display the lamp number on the Alpha display.

On pressing the **HOLD-NUDGE 3** it will allow to stop and start on any lamp at any one time. To bring all the lamps on again press the **COLLECT** button, the lamps will light in the following order.

Big Apple lamp test -

Group 1 - Button panel left to right
Token acceptor, Cash acceptor

Group 2 - Reels

Group 3 - Reel glass

Group 4 - Top glass

Please note that the lights on the Statue of Liberty do not light up in test. They are only illuminated when the machine has it's doors closed and in credit.

CANCEL TO EXIT

Test 2 - Meter test

On pressing the **START** button, each meter will pulse five times, in the following order: -

Cash in	Cash out	Token in	Token out	Token refill
---------	----------	----------	-----------	--------------

All the meters operate in 10p units.

Once pulsed the machine will automatically advance to test 3.

Test 3 - Switch test

Press **START** to activate

On the press of each button, its corresponding lamp will light and a tone will sound.

The Level sensor switches, when operated, will also light and make a sound.

20p level sensor	illuminates	2 Nudges
£1 level sensor	illuminates	1 Nudge
Front token level sensor	illuminates	3 Nudges
Back token level sensor	illuminates	5 Nudges

The **DIL** switches on the MPU will light as follows

- Bank 1 - Switch 1 to 8 lights awards 1 to 8
- Bank 2 - Switch 1 to 8 lights Win spin to High-rise

Switch 1 Bank 1 is Ram Clear. **DO NOT OPERATE**

TO EXIT THIS TEST PRESS 'START' AND 'COLLECT' SIMULTANEOUSLY

Test 4 - Reel test

On pressing the '**START**' button, the reels will spin and bring the jackpot symbols to the win line. The appropriate win value will be displayed on the alphanumeric display.

The reels can be stepped down via the **HOLD-NUDGE** buttons or can be stepped up if the button is held down. Pressing the **START** button can then pay out these wins.

The fourth reel will spin to show 12 in the window.

CANCEL TO EXIT

Test 5 - Coin test

Press **START** to activate test. This will allow coins to be accepted.

Press **COLLECT** to lock out coins.

Each coin will show its value on the Alpha Display.

To pay coins out, advance to test 9.

CANCEL TO EXIT

Test 6 - Percentage test

On pressing the **START** button the aiming percentage and the actual percentage will be displayed on the alpha. These will continue to scroll until such time the **START** button is depressed.

Test 7 - RS232 test

If the RS232 Data Port is not present the Alpha will display **FAIL**

THIS TEST WILL AUTOMATICALLY ADVANCE TO TEST 8

Test 8 - Alpha numerical display test

On pressing the **START** button each segment will light from left to right.

THIS TEST WILL AUTOMATICALLY ADVANCE TO TEST 9

Test 9 - Payout test

Press **START** to activate.

On pressing the lit buttons the relevant solenoid will pulse. To continually pulse keep the buttons depressed. When the solenoid is active the respective information is displayed on the alphanumeric display.

Hold-Nudge 1 - 20p Coin

Hold-Nudge 2 - £1 Coin

Hold-Nudge 3 - Token 2

Collect - Token 1

CANCEL TO EXIT

Test 10 - Alarm log

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

On pressing **HOLD-NUDGE 3** you can advance the log number

On pressing **HOLD-NUDGE 1** you can decrease the log number.

On pressing the **EXCHANGE** button you can clear the Alarm Log.

CANCEL TO EXIT

Alarm codes

Code	Fault	Causes (in order of probability)
0.1	Checksum failure	Faulty battery, change of program, M.P.U
0.2	Mode change	Price of play change
0.3	Manual Ram clear	D.I.L switch 1 bank 1 operated
1.1	£1 coin input	Coin jam. Coin mech., coin loom,
1.2	50p coin input	As above
1.3	20p coin input	As above
1.4	10p coin input	As above
1.5	20p token input	As above
1.9	Anti strim alarm	Coin mech., coin loom, M.P.U
2.1	Reel 1 fault	Jammed, opto, loom, motor, backboard, M.P.U
2.2	Reel 2 fault	As above
2.3	Reel 3 fault	As above
2.4	Reel 4 fault	As above
7.1	E.D.C failure	Electronic data collection unit not fitted, M.P.U
9.1	Incorrect setting	Switch settings not valid, incorrect P.O.P,J/pot

CANCEL TO EXIT

Test 11 - Sound test

On pressing the **START** button the sample number will be listed on the alphanumerical display. To activate the sample press **START**.

To increase use **HOLD-NUDGE 3**, to decrease use **HOLD-NUDGE 1**. On pressing the exchange button the machine will automatically play each tune.