## MA <br> Y G A Z

## SIMPSONS - Duff Beer Guide Game Manual MAN00647

## MA Y GA Z

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## CONTENTS

## SECTION 1 GAME DESCRI PTI ON

| Game Details | $\ldots .$. | $\ldots .$. | $\ldots .$. | $\ldots .$. | 1 |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Reel Bands | $\ldots .$. | $\ldots .$. | $\ldots .$. | $\ldots .$. | 2 |

SECTI ON 2 TEST PROCEDURES
Test Sequence ..... 3
1.1 Coin In ..... 4
1.2 Coin Out ..... 4
1.3 Notes In ..... 4
2.1 Reels 2 ..... 4
2.3 Soak ..... 5
3.1 Auto Lamp ..... 5
3.2 Lamps ..... 5
4.1 Inputs ..... 5
4.2 DILS ..... 6
5.1 Alphanumeric ..... 6
6.1 Meters ..... 6
7.1 Comms ..... 6
8.1 Audio ..... 6
8.2 Volume ..... 7
9.1 Keys ..... 7
Extended Tests
9.2 Clear Memory ..... 7
9.3 Stat Dump ..... 7
9.4 Photo ..... 8
9.5 Time ..... 8
9.6 Payout Percentage Test ..... 8
SECTION 3 MAINTENANCE PROCEDURES
Refill
Refill Procedures ..... 9
Volume Control ..... 10
Last Bank Recall ..... 10
Hopper Level ..... 11
Error Log ..... 11
SECTION 4. ALARMS/ ERROR CODES
Error Codes ..... 12
Table of Error Messages ..... 12
Mascot Alarm (where fitted) ..... 13
Alarm Switch Wiring Instructions ..... 14
Alarm Test Switch ..... 14
SECTI ON 5 DI L SWI TCHES
DIL Switches ..... 15
Options 1-8 ..... 15
Options 9-16 ..... 15
Option 12 - Price of play Variations ..... 15
DIL Switch Function Descriptions
Clear Credits on Any reset (Anti-Fraud) - Option 1 ..... 16
Credits - Option 3 ..... 16
Pay Out Bank After Win - Option 7 ..... 16
Bank Limit - Option 11 ..... 16
Credit Limit - Option 12 ..... 16
Free Credit Demo - Option 14 ..... 16
Extended Refill - Option 15 ..... 16
Distration Attract Mode - Option 16 ..... 16
SECTION 6 SWITCH MATRIX ..... 17
SECTI ON 7 EPOCH Reel \& LED Listing Equates ..... 18
SECTI ON 8 PART NUMBERS ..... 19

## SECTION 1 - GAME DESCRIPTION

## GAME DESCRIPTION

Duff Beer is based on the popular trail to end style of game, but with several added features giving greater strategy and choice for the player. The trail consists of three main feature columns Cash, Features and Nudges which are arranged in vertical columns. Once on one of these features, the player can choose to hi-lo up these columns being rewarded each time they do so, by increasing a pot that once full will give invulnerability, ultimately leading to the jackpot. Further depth to the game is given by the inclusion of overlaid red bars on the reels which give access to hidden features.

## REEL BANDS

| REEL 1 | REEL 2 | REEL 3 | REEL 4 |
| :--- | :--- | :--- | :--- |
|  |  |  |  |
| JACKPOT | JACKPOT | JACKPOT | 12 |
| CHERRY | CHERRY +2 | CHERRY +1 | 11 |
| PEAR +1 | PEAR | PEAR | 10 |
| SgI BAR | Tri BAR +1 | Sgl BAR | 9 |
| STRAWBERRY +2 | STRAWBERRY | STRAWBERRY | 8 |
| MELON | MELON | MELON | 7 |
| Tri BAR | Sgl BAR +1 | Tri BAR +3 | 6 |
| BELL | BELL | BELL | 5 |
| MLON +1 | MELON | MELON | 4 |
| Dbl BAR | Sgl BAR | Dbl BAR | 3 |
| STRAWBERRY =3 | STRAWBERRY | STRAWBERRY +2 | 2 |
| CHERRY | CHERRY +2 | CHERRY | 1 |
| Sgl BAR +1 | Dbl BAR | Sgl BAR +1 |  |
| MELON | MELON | MELON |  |
| PEAR | PEAR | PEAR +2 |  |
| GRAPE | GRAPE +4 | GRAPE |  |

## Test Procedures

When installing a new machine, several tests must be performed to ensure the main parts are in working order.
LH1

RH7







## Test Sequence

To enter tests the machine must be turned on and the front service door open. The alphanumeric display will read "Door Open". The test sequence is entered as follows;

A red button, labelled TEST SWITCH, is situated on the Front Hopper cover this should be pressed simultaneously with the function switch located on the main processor. The alphanumeric will display "BACTA STD V1.0" for three seconds, refreshing to display "TEST 1.1 Coins In".

- RH2, RH3 and RH1 on the front of the machine will flash

The test sequence will display the individual tests in the following order:-

```
Coin In - [1.1]
Coin Out - [1.2]
Notes In [1.3]
Reels 1-[2.1]
Reels 2 (where applicable) - [2.2]
Soak - [2.3]
Auto Lamp - [3.1]
Lamps - [3.2]
Inputs - [4.1]
DILS - [4.2]
Alphanumeric - [5.1]
Meters - [6.1]
EDC/RS232 - [7.1]
Audio - [8.1]
Volume - [8.2]
Keys - [9.1]
```


## Extended Tests

Clear Memory - [9.2]
Stat Dump - [9.3]
Photo - [9.4]
Set Time - [9.5]
Payout Percentage Test - [9.6]

- Press RH2 to step through the test sequence in numeric order.
- Press RH3 to step backwards the sequence.
- Press RH1 to enter or exit the selected test.
- All button actions will be confirmed by an audible bleep.


## Coin In [1.1]

The test ensures the coin mechanism is operating correctly and that coins are correctly routed. When in this test mode:-

## Coin Entry

- Insert any coin into the coin entry bezel.
- If the coin is accepted, the alphanumeric will display the value of that coin, e.g. if a $5 p$ coin is inserted the alpha should read "1.1:05P ACC".
- If $£ 1$ is inserted then the alpha should read "1.1:1PND ACC", and so on. The coin input message should remain on the display until another coin is inserted.
- If the coin is rejected, the alphanumeric will show 'ERROR'.


## Coin Inhibit

- Press LH1 to toggle all coin inhibit lines, the display will read "1.1: COIN IN INH".


## Coin Divert

- Press the LH2 to toggle the current state of the divert outputs. When diverted the display will initially read "1.1: COIN IN DIV".
- Inserting a $£ 1$ coin should result in the following message being displayed:
"1.1: 1 PND ACC".
Coin divert is not permissible while the coin inhibit is active and only coins that would normally be diverted will be affected.
Note: When the hopper is at the maximum float level, any further $£ 1$ coins inserted will be rejected.


## Coin Out [1.2]

On entering this test the alpha will read "1.2: 1 PND HOP". This test ensures that the pay out devices are functioning correctly.
When in this test mode:-

- Press LH1 for less than 3 seconds to pulse the $£ 1$ hopper once.
- Press LH1 for more than 3 seconds for continuous pay out.


## Notes In [1.3]

On entering this test the Alpha will read "1.3 NOTE IN". This test ensures the note acceptor is working correctly.
Note Entry: Insert the note into the acceptor. If the note is accepted the Alphanumeric will display the value of that note.

## Reels 1 [2.1]

The test is provided to check operation of the reels. Upon entering the test, the reels will automatically spin to position 1 (top of the reels), illuminating all the middle lamps behind the reels to indicate that the vane is interrupting the opto. The alpha will read "2.1: SYNC POSITION".

- Press LH2 to step Reel 1 DOWN 1 symbol.
- Press LH3 to step Reel 2 DOWN 1 symbol.
- Press RH4 to step Reel 3 DOWN 1 symbol.
- Press LH1 to step Reel 4 DOWN 1 symbol.
- Hold LH1 down for more than 2 seconds to display the win on the line.
(Please note this is only permitted when a win is on the line).
The following messages will be displayed:


## £5 win

"2.1: WINLINE = 5.00".

## Soak [2.3]

The reels should spin continuously on a staggered basis, i.e.; the vane will pass through the opto at a different time for all reels. When the vane is interrupting the opto, the lights behind the reel should flash and an audio beep played. After 5 seconds the soak test message should be replaced by a rotating fault report for each reel e.g.; "2.3:R1 FAULT=0001". This will be displayed for 2 seconds.

- Press RH2 to advance to the next message.


## Auto Lamp [3.1]

This test will perform an automatic check on each lamp to determine whether it is faulty. On entering the test the message will read "3.1:CHECKING LMPS". If all the lamps are ok, the message will change to "3.1:ALL LAMPS OK". If there are any faulty lamps detected the message will read "3.1:LMP 127 FAULT", the faulty lamps can then be stepped through using RH3 and RH2.

Note: Reel lamps and coin lamps are not included in this test.

## Lamps [3.2]

When you enter the test the top and bottom lamps will flash on and off.

- Press LH1 to go to the independent step test.
- Press RH2 to step forward
- Press RH3 to step backwards. The lamp number will be displayed on the Alphanumeric


## I nputs [4.1]

This test registers the change of state of any input into the machine. E.g.; if HOLD is pressed the display should read "4.1:HOLD ON", and when released "4.1:HOLD OFF". All possible inputs should be included, i.e. inputs, level switches etc.

## Dils [4.2]

On entering this test the state of these inputs will be depicted in binary format, e.g. 1 for $0 n, \varnothing$ for Off. All inputs being displayed together.
If an alphanumeric is not present then the Dil switches will be split into banks and displayed as A1, B2 etc.

## Alphanumeric [5.1]

When this test is entered the display will clear. Each character of the display will then be stepped through automatically. Once completed press RH3, or RH2 to toggle between the two tests. All segments will then be tested simultaneously by cycling through " 0 ", " $X$ " and " + ".

## Meters [6.1]

Pressing LH1 will cause 5 pulses to each meter in turn. The refill key is now not required for this test.

## Comms [7.1]

This test verifies the operation of the communication port, irrespective of whether the EPROM is configured for use with Datapak or not.
To perform the test a two byte message will be transmitted, e.g. "AA" and the port polled for a reply.
If it receives an "ACK" then a Datapak is connected to the port, and the following message displayed "7.1: DPAK PASS".
If it receives the same message back the message below will be displayed "7.1: PORT PASS".
If neither of the above messages are received then the machine has failed test and the display will read "7.1: PORT FAIL".
If there is more than one communications port then "BUTTON 1 " and "BUTTON 2 " will be available to navigate through the available port. They are identified as follows: "7.1: COMMS PORT 1".

## Audio [8.1]

This tests the sound generation of the machine. The test will cycle through all available channels playing a short tune. The channel under test will be displayed as follows:
"8.1: SOUND CHAN 1".

## Volume [8.2]

On entering this test the alphanumeric will display "8.2: VOL MAIN 50PC". Where "MAIN" refers to the tune(s) for which the volume is being adjusted and the " 50 PC" is the volume level expressed as a \% of maximum.

- Press LH1 to reduce the volume.
- Press LH2 to increase the volume.
- To reset levels as they were on entry, press LH1 and LH2 together. The message "8.2: VOLS RESET" will be displayed, until the buttons are released.


## Keys [9.1]

This test reads and displays both the percentage and stakes \& prizes key settings. The current setting will then be displayed. This is dependant on the EPROM configuration i.e. whether keys, DIL switches or fixed settings are used. On entry the machine will display which configuration is used, e.g. PC FXD STK KEY

## Where

PC FXD = fixed percentage
STK KEY = stake \& prizes determined by key
PC DIL STK DIL
Where
PC DIL = \% DIL switchable
STK DIL = stake \& prizes determined by DIL
The current setting will then be displayed.
"9.1: 84PC 25P 10.00".

## Extended Tests

Note: $\quad$ This test is entered by pressing and holding the Red Test Button situated next to the hoppers, then press function switch and release, there should be three audio bleeps heard.

## Clear Memory [9.2]

Upon entering the test LH1 will flash. Hold down LH 1 and a countdown from 5 to 0 will start, wherein upon reaching 0 the RAM will be cleared and an audible noise will sound.
Note: $\quad$ When a different game card is inserted, the RAM will clear automatically. Error 4.2 will be displayed on the alphanumeric until the RAM clear is complete.

This test has been incorporated to generate a hard copy of the statistical meters. Connect a printer to the control port of the MPU.

- Press the RH1 button the start the print.


## Photo [9.4]

On entering this test all lamps will be illuminated. In addition a suitable message will be displayed on the alphanumeric and reels will spin to top of reel band, position 1.

## Time [9.5]

This software enables the operator to monitor the settings of the Real Time Clock Pic RTC Pic). This software can be entered during the secret test routines or automatically after any clear down of the machine.

On initial entry into this test routine the date and time that is currently set, will be displayed on the alpha in the following configuration:-

$$
\text { hh. mm } \quad \text { dd/MM/yy }
$$

where: hh - hours (00-23) mm-minutes (00-59)
dd - date (1-31) MM - month (1-12) yy - year (00-99)

Once this test has been entered, hh will flash indicating that the displayed value can now be changed by using the LH2, LH3, LH4 and RH1 buttons which are also flashing. To set the required values, use the following button combinations:

| LH2 | When held along with LH3, this will decrease the displayed value. When held along with RH3, this will select the previous element (time or date etc.). |
| :---: | :---: |
| LH3 | This will increase the displayed value. |
| RH4 | This will select the next desired element (time or date etc.) that requires changing. |
| RH1 | This will set the displayed value on the alpha into the RTC and exit this test routine. |

## Note: $\quad$ When month 12 (December) is selected and the month is then increased, the month will

 automatically revert to the next month, month 1 (January).If an invalid date is set e.g. 31/02/97, this will automatically be changed to 28/02/97, therefore allowing no invalid calendar dates to be entered by mistake.

Once the start button has been pressed after selecting the desired values, the day is worked out from the date entered and the seconds will be set to 0 , this will then set the RTC and be displayed in the following manner:-

## DAY SET TO ddd

## SECONDS SET TO 0

Where ddd = SUN, MON, TUE, WED, THU, FRI and SAT.
As part of the power up messages the current time and date will be displayed, when the machine is initially powered up.

## Payout Percentage Test [9.6]

This test displays the actual payout percentage of the machine.

- Press RH1 to display the actual percentage


## Refill

## I nitiating Refill Mode

To enter refill mode the machine must be turned on and the refill key turned.
On entry "BACTA STD V1.0" will be displayed for 3 seconds. After this the refill mode menu is entered, from where all implemented refill routines are accessible.

The first refill routine will be displayed on initial entry, i.e. "REFILL". RH1, RH2 and RH3 will flash, to indicate the facility to action a routine or navigate through the refill mode menu.

## Actioning a Routine

RH1 is used to action the currently displayed routine. Once a routine is active RH1 will always be available in order to exit the routine and return to the refill menu.

## Viewing Available Routines

RH2 is used to increment the currently displayed refill routine to the next available routine and RH3 to decrement the currently displayed routine to the previous routine. Navigation from the first routine, to the last routine, using RH1 is allowed, as is the use of RH3 to move from the last routine to the first. The refill menu will always display the currently available routine as a 16 character message.

The function of RH1, RH2 and RH3 will remain constant throughout all the routines, i.e. RH1 to enter/exit a routine and RH2/RH3 to increment/decrement the current selection.

## Refill Procedures

## Refill

On entry the display will read "REFILL COINS".
Coins can now be refilled in the normal manner. For each coin entered the display will show the coin denomination and the number currently refilled, for example:
"REFILL 1PND=001"
where
"REFILL" is a 7 character field identifying the routine, "1PND $=$ " is a 5 character field displaying the denomination of the entered coin, " 001 " is a 3 character field displaying the count of the number of coins currently refilled.

Once the float level has been achieved for a particular coin then that coin will be locked out and thus returned to the pay out tray.

The mixing of different denomination coins during refill will have no effect on their respective coin count.

## Note:

This routine will be automatically actioned from the refill mode menu on detection of a valid coin being entered for refill.

## Volume Control

This routine allows all volume controls on the machine to be adjusted.
On entry the display will show the first available volume control, for example,
"VOL MAIN 50PC".

## where

"VOL" is a 3 character field identifying that this is a volume control,
"MAIN" is a 5 character field identifying the current volume control (or tune) for adjustment,
" 50 PC " is a 5 character field displaying the volume level as a percentage of full volume.
LH1 and LH2 will be used to adjust the volume down and up respectively. The buttons become inactive at their respective limits of 0 and 100 percent.

## SECTION 3 - MAINTENANCE PROCEDURES

## Reset Volumes to Original Entry Levels

After an adjustment has been made, pressing and holding LH1 and LH2 together will reset all volumes to the levels they were at on entry to the test. The message "VOLS RESET" will be displayed once the levels are reset. The message will remain, on the display, until the buttons are released, when the current volume control will once more be displayed.

## Last Bank Recall

On entry the display will read, for example:
"LAST BANK $=10.00$ "
where
"LAST BANK $=$ " is a 12 character message identifying the routine
" 10.00 " is a 4 character field displaying the value, in decimal pounds, of the last bank value Collected.

## Last Win Recall

On entry the display will read, for example:
"LAST WIN = 10.00"
where
"LAST WIN =" is an 11 character message identifying the routine
" 10.00 " is a 4 character field displaying the value, in decimal pounds, of the last win awarded.

## The following routines will only be available if the service door is open or a nominated DIL

 switch is made.
## Hopper Level

On entry the display will read, for example:
" $\mathrm{H}=125.00 \mathrm{~F}=125.00$ "
where
" $\mathrm{H}=$ " is a 2 character field identifying the current hopper float level
" 125.00 " is a 5 character field displaying the current hopper float level, in decimal pounds
" $\mathrm{F}=$ " is a 3 character field identifying the float level of the machine
" 125.00 " is a 5 character field displaying the float level of the machine, in decimal pounds.

## Error Log

On entry the display will read, for example:
"ERR 1:0000"
where
"ERR" is a 3 character field identifying the error log
" 1 :" is a 3 character field displaying the position of this error in the log
" 0000 " is a 4 digit decimal error code.
The error $\log$ will provide a minimum of 16 entries and will operate as a rolling log, i.e. once full the next entry will overwrite the oldest. The log will display the errors in chronological order with the most recent error first.
If the error $\log$ is empty then the message "NO ERRORS" will be displayed.
RH2 and RH3 will be active to allow navigation through the error log. It will be possible to step from the last error to the first, using RH2, and first to the last, using RH3. If the error log is not full then using RH3 on the last entry will step immediately to the first, i.e. empty entries in the log will not be displayed.

## Display the Error Description

LH1 will be provided in order to display the standard 16 character message associated with the error code. This message will only be displayed while LH1 is pressed. When released the display will revert to the current error code, described above.

## Clear the Error Log

If LH2 is pressed and held down for 2 seconds then the error log will be cleared. The message "ERR LOG CLEARED" will be displayed after 2 seconds and will revert to "NO ERRORS" when the button is released.

[^0]A system alarm will sound if a fault or error occurs within the machine, wherein the associated fault is displayed on the alphanumeric display as one of the Error Codes shown below:-

## Error Codes

Note:
The error codes are displayed on the alphanumeric display and are standard to the industry. An alarm will sound simultaneously with the display of an error code.

Table of Error Messages

| Code | Sup | Description | Alpha mess | $\begin{aligned} & \text { Message } \\ & 12345678901234 \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: |
| 01 | 44 | Non Pay Out 100p cash | Y | PAY 100P ALM |
| 10 |  | General coin mech error (including unspecified coins) | Y | COIN MECH ERR |
| 11 |  | $£ 1$ coin mech fault | Y | MECH 100P ERR |
| 12 |  | 50p coin mech fault | Y | MECH 50P ERR |
| 13 |  | 20p coin mech fault | Y | MECH 20P ERR |
| 14 |  | 10p coin mech fault | Y | MECH 10P ERR |
| 15 |  | 20p token coin mech fault | Y | MECH 2OT ERR |
| 16 |  | Note acceptor errors | Y | MECH NOTE ERR |
| 19 |  | Strim alarm | Y | STRIM ALM |
| 20 |  | General reel errors | Y | GEN REEL ERR |
| 21 |  | Reel 1 fault | Y | REEL 1 ERR |
| 22 |  | Reel 2 fault | Y | REEL 2 ERR |
| 23 |  | Reel 3 fault | Y | REEL 3 ERR |
| 24 |  | Reel 4 fault | Y | REEL 4 ERR |
| 25 |  | Reel 5 fault | Y | REEL 5 ERR |
| 26 |  | Reel 6 fault | Y | REEL 6 ERR |
| 30 |  | General Lamp Failure | Y | GEN LAMP ERR |
| 31 |  | Multiplexor Alarm - row | Y | MUX ROW ERR |
| 32 |  | Multiplexor Alarm - column | Y | MUX COL ERR |
| 40 |  | General operational messages | $\begin{aligned} & \mathrm{Y} \\ & \mathrm{Y} \end{aligned}$ | GEN OPER ALM GEN OPER ERR |
| 41 |  | Refill mode entered | N | REFILL TURNED |
| 42 |  | Memory cleared | Y | MEM RESET ALM |
| 43 |  | Button stuck | Y | STUCK BUT ALM |
| 44 |  | No \% key | Y | NO \% KEY ERR |
| 45 |  | Options or \% changed | Y | NEW OPTS ALM |
| 46 |  | Call Attendant | N | CALL ATTENDANT |
| 47 |  | Refill required | N | REFILL NEEDED |
| 48 |  | On/Off tamper alarm | Y | ON/OFF ALM |
| 49 |  | No stakes/prizes key | Y | STAKE KEY ERR |
| 50 |  | General electronic problems | $\begin{aligned} & \mathrm{Y} \\ & \mathrm{Y} \end{aligned}$ | GEN ELEC ALM GEN ELEC ERR |
| 51 |  | EPROM failure | Y | EPROM ERR |
| 52 |  | PAL error | Y | PAL ERR |
| 53 |  | RAM check fail | Y | RAM ERR |
| 54 |  | H/W error | Y | H/W ERR |
| 55 |  | ESD/Sparking detected | Y | SPARKING ALM |
| 56 |  | Power supply fail | Y | PSU ERR |

## SECTION 4 - ALARMS/ERROR CODES

## Table of Error Messages Continued

| Code | Sup | Description | Alpha <br> mess | Message |
| :---: | :--- | :--- | :--- | :--- | :--- |
| 12345678901234 |  |  |  |  |

The further alarms are described as follows:-

## Mascot Alarm (where fitted)

If either of the door switch inputs are activated the machine will allow approximately 8 seconds within which the Mascot Alarm must be disarmed. If this time is exceeded then Mascot will go into a full alarm condition.

A period of 10 seconds is allowed after arming Mascot before the door switches are monitored. If this time is exceeded them Mascot will go into full alarm condition.

When Mascot is removed from a machine to be stored ready for a new installation, it is necessary to fully disarm the unit. This is accomplished by removing the battery disconnect link from pins 2 and 3 and replacing it on pins 1 and 2 . This will help to conserve the battery charge and stop the alarm from becoming armed during transit.

## Alarm Switch Wiring I nstructions

There are two alarm switches fitted within the machine. These are located behind the front door panel and at the rear of the machine, at the bottom left hand corner of the back door.

These switches are connected in series to the normally open terminals of each switch. Therefore, when both the front and rear doors are closed, both switches are made. Upon entering either door, the switch circuit is broken.

In order to terminate the switch wiring to the alarm, two tinned wire ends can be located to the bottom right of the MPU on the back door. Also at this location is a 12 v supply for providing a power source to the alarm. Connections are made via $2 \times 0.25$ " receptacles.

## Alarm Test Switch

To test the alarm switch wiring connections, replace the front door to make the switch connection. Using a Fluke meter or continuity testing device, place the test probes across the tinned wire ends. When the back door switch is depressed, continuity should be made. With the back door switch made and the front door removed, continuity will be broken.

## SECTION 5 - DIL SWITCHES

## DI L SWITCHES

Two sets of eight DIL switches (SW1 and SW2) are mounted on the MPU. By using these switches several control options are available for the machine. The available options are listed below:-

Options 1-8

| DIL Switch | Function | OFF | ON |
| :---: | :---: | :---: | :---: |
| 1 | Clear Credits on any Reset (Anti- <br> Fraud) | Yes | No <br> (3 resets) |
| 2 | - | - | - |
| 3 | Credit | Multi Credit | Single Credit |
| 4 | - | - | - |
| 5 | - | - | - |
| 6 | - | - | - |
| 7 | Pay Out Bank After Win | No | Yes |
| 8 | - | - | - |

Options 9-16

| DIL Switch | Function | OFF | ON |
| :---: | :---: | :---: | :---: |
| 9 | - | - | - |
| 10 | - | - | - |
| 11 | Bank Limit | $£ 50$ | $£ 25$ |
| 12 | Credit Limit | $£ 10$ | $£ 5$ |
| 13 | - | - | - |
| 14 | Free Credit (Demo) | Inhibit | Enable |
| 15 | Extended Refill | Inhibit | Enable |
| 16 | Attract Mode | Normal | Dim |

Option 12 - Price of Play Variations

| Price of Play | Credits | Displayed |
| :---: | :---: | :---: |
|  | Off | On |
| 5 p | 200 | 100 |
| 10 p | 100 | 50 |
| 20 p | 50 | 25 |
| 25 p | 40 | 20 |
| 30 p | 30 | 18 |

The functions of the remaining switches, including the wire colour and MPU pin connection for each, are detailed in the Switch Matrix.

## DI L SWI TCH FUNCTI ON DESCRI PTI ONS

## Clear Credits on Any Reset (Anti-Fraud) - Option 1

In order to prevent the player from gaining an advantage from powering the machine OFF and ON, a deterrent has been incorporated such that when this DIL switch is in the OFF position any reset will set both Bank and Play to zero. In the ON position a reset counter will trigger bank, credit and meter pulse clearance on the third reset within a 5 minute period. Furthermore any subsequent reset occurring within a 5 minute duration will also clear.

## Credits - Option 3

When in the ON position, only single credit play is allowed. When in the OFF position Multi Credit play is allowed.

## Pay Out Bank After Win - Option 7

The default position allows all wins to be accumulated into the Bank up to the level set by DIL Switch 2.3. If this switch is moved to the ON position any win obtained will be paid directly to the player.

## Bank Limit - Option 11

The bank limit is normally set (default) to $£ 50$. However, if there is a problem with security or strimming, operation of this switch to the ON position will reduce the maximum bank level to $£ 25$.

## Credit Limit - Option 12

The credit limit is normally set (default) to a maximum of ten pounds in value (refer to credit tables). If there is a problem with security or strimming this value can be reduced to a five pound maximum by selecting the DIL switch to the ON position.

## Free Credit Demo - Option 14

This option allows the machines to automatically re-credit when played in demonstration mode.

## Extended Refill - Option 15

Enabling this switch allows the user to access the extended refill routines without opening the service door.

## Distraction Attract Mode - Option 16

When switched ON the ZCA lamps will be dimmed.

Switch Matrix

| Switch | Wire Colour | Plug/Pin | Switch Function |
| :---: | :---: | :---: | :---: |
| 1 | OR/BK | 6/8 | CANCEL |
| 2 | OR/BRN | 6/7 | HOLD |
| 3 | OR/RED | 6/6 | HOLD HI |
| 4 | OR/OR | 6/5 | HOLD LO |
| 5 | OR/YEL | 6/4 | HOLD 3 BUTTON |
| 6 | OR/GRN | 6/3 | EXCHANGE |
| 7 | OR/BU | 6/2 | START GAMBLE |
| 8 | - | - | - |
| 9 | OR/BLK | 5/8 | CASH BUTTON |
| 10 | OR/BRN | 5/7 | - |
| 11 | OR/RED | 5/6 | - |
| 12 |  |  |  |
| 13 |  |  |  |
| 14 |  |  |  |
| 15 |  |  |  |
| 16 |  |  |  |
| $17-40$ |  |  | NOTUSED |
| 41 | OR/BK-GY | $5 / 5$ | HOPPER VER 1 |
| 42 | OR/GN - GY | 5/21 | HOPPER VER 2 |
| 43 | OR/BN - GY | 5/7 | HOPPER LOW 1 |
| 44 | OR/RE - GY | 5/8 | HOPPER HIGH 1 |
| 45 | OR/BU - GY | 5/22 | HOPPER LOW 2 |
| 46 | OR/VI - GY | 5/23 | HOPPER HIGH 2 |
| 47 ( 48 |  |  |  |
| 48 |  |  |  |
| 49 |  |  | NOT USED |
| 50 |  |  | NOT USED |
| 51 |  |  | NOT USED |
| 52 |  |  | NOT USED |
| 53 | OR/BK | 6/1 | HOPPER DEFLOAT |
| 54 | OR/BN | 6/2 | REFILL |
| 55 |  |  | NOT USED |
| 56 | OR | 6/4 | CASH BOX DOOR |
| 57 | OR/YE | $6 \%$ | TOPDOOR |
| 58 |  |  | NOT USED |
| 59 |  |  | NOT USED |
| 60 |  |  | NOT USED |
| 61 |  |  | NOT USED |
| 62 |  |  | NOT USED |
| 63 | OR | 6/9 | HOPPER REFLOAT |
| 64 | OR/YE | 6/12 | TEST |

[^1]
## EPOCH Reel \& LED Listing Equates

| REEL MODULE <br> 1 | REEL 1 | REEL 2 | REEL 3 | REEL 4 |
| :---: | :--- | :--- | :--- | :--- |
|  | 257 | 258 | 259 | 292 |
|  | 273 | 274 | 275 | 276 |
|  | 289 | 290 | 291 | 260 |


| REEL MODULE <br> 2 (if applic.) | REEL 5 | REEL 6 | REEL 7 | REEL 8 |
| :---: | :---: | :---: | :---: | :---: |
|  | - | - | - | - |
|  | - | - | - | - |
|  | - | - | - | - |

B

## Part Numbers

| Part Number | Item Description | Quantity |
| :---: | :---: | :---: |
| AT000490 <br> AD001063 <br> EH400988 <br> EA300680 <br> AD001365 <br> AD001364 <br> EP940081 | Display/Feature Glass Items <br> $£ 15$ DISPLAY GLASS <br> PRICE OF PLAY \& \% <br> UPPER LAMPMASK ASSEMBLY <br> ALPHANUMERIC <br> £5 WARNING STICKER <br> £15 WARNING STICKER <br> MCPBL YELLOW BEZEL | $\begin{aligned} & 1 \\ & 1 \\ & 1 \\ & 1 \\ & 1 \\ & 1 \\ & 1 \end{aligned}$ |
| $\begin{array}{\|l\|l} \text { AL000489 } \\ \text { EH400989 } \end{array}$ | Lower Assembly Items <br> LOWER GLASS <br> LOWER LAMPMASK ASSEMBLY | $\begin{aligned} & 1 \\ & 1 \end{aligned}$ |
| EA900087 <br> AR001149/1 <br> AR001149/2 <br> AR001149/3 <br> AR001149/4 <br> EA900086 | Reel Assembly <br> 16 STOP 17 RM STARPOINT REEL <br> REEL BAND 1 <br> REEL BAND 2 <br> REEL BAND 3 <br> REEL BAND 4 <br> 12 STOP 17 RM STARPOINT REEL - <br> (Narrow Glass Mounted) | $\begin{aligned} & 3 \\ & 1 \\ & 1 \\ & 1 \\ & 1 \\ & 1 \end{aligned}$ |
| EP940089 <br> EP940149 <br> AB000434 | Buttons \& Button Panel <br> CPBL STARPOINT BUTTONS DCPBL STARPOINT BUTTONS BUTTON INSERTS | $4$ <br> 1 SET OF 7 |


[^0]:    ${ }^{1}$ The standard error messages are defined in document: BACTA standards, Error Message Text

[^1]:    SWITCHES 1-16 ARE CONNECTIONS ON FRONT DOOR ASSY PCB MODULE NO. EA100025 SWT RETURN GN 6/10
    SWT RETURN GN 5/10

