

MAB  
SYSTEMS  
LIMITED

**ADVANCED  
BINGO  
CONTROLLER**

**PRIZE BINGO  
OPERATOR'S MANUAL**

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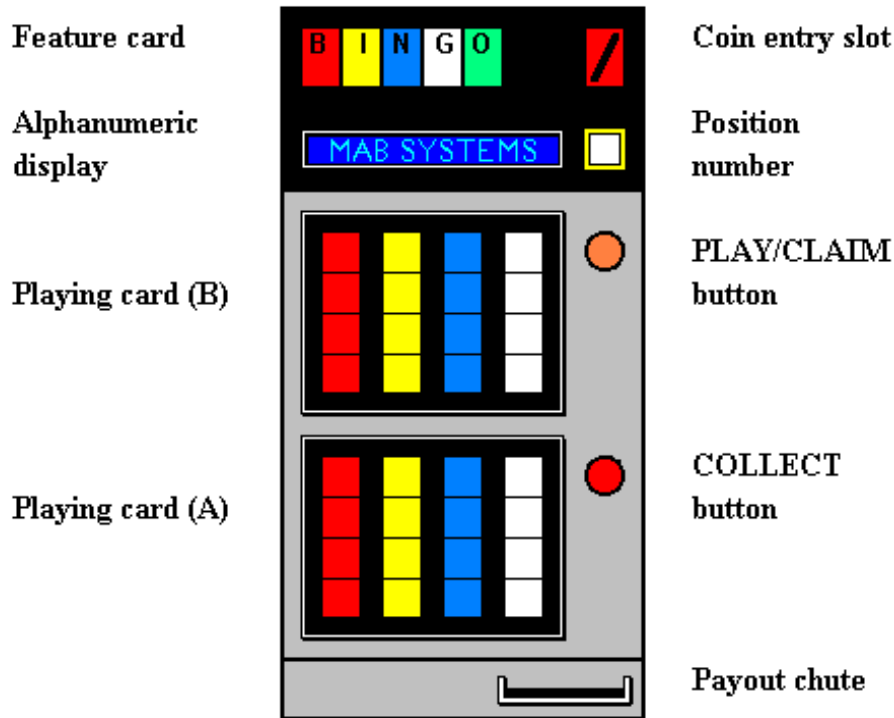
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## Chapter 1. INTRODUCTION

The Advanced Bingo Controller and its associated equipment provide automation for Prize Bingo. Figure 1.1 shows an example Prize Bingo playing position to illustrate some of the features that are available.



*Fig.1.1 - Typical playing position*

The playing positions are controlled by small "slave" units within the cabinet. These slaves communicate with the Controller unit in the caller's console.

Each position is of course numbered for identification and can have one, two, three or four cards that can be played one after another or all at once, as required. The cards can have lamps fitted behind them so that they light up as the player brings them into play. The position can be fitted with coin entry mechanisms that accept coins of various denominations, including tokens, and there can be a payout chute so that winnings can be paid directly to the player.

Another optional item is the "feature" card. This is a card consisting of just one line of five numbers. These do not have shutters like the normal card: the numbers light up from behind when they are called, either automatically or else in response to the player pressing a HOLD button.

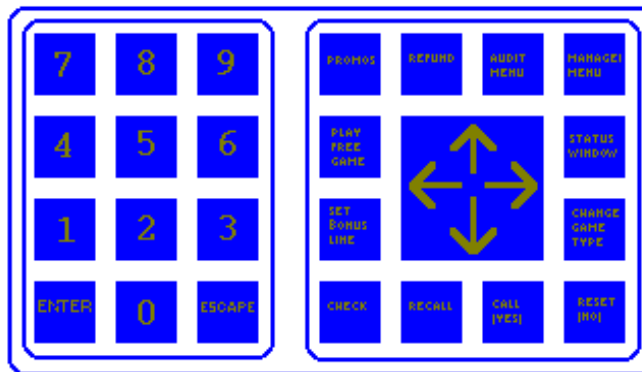
Players can claim by pressing a button on the playing unit. The slave notifies the Controller of the claim and a message pops up in front of the operator. The operator can check the card there and then because the Controller knows the numbers on all the cards and it knows which position made the claim.

When a player wins a game the Controller automatically works out the prize money, including special features such as bonuses, and can credit the winnings directly to the player's position.

Playing positions can also be fitted with an alphanumeric display that can show brief messages.

An operator working at a caller's console controls the bingo rig. A typical console will feature a video display and a keyboard, plus extra buttons for common operations such as "CALL" and "RESET". These extra buttons do exactly the same as the buttons on the keyboard but they are brought out separately for the operator's convenience. The video display that the operator looks at is not the same as the one the public see. Fig.1.2 shows the normal keyboard. The functions of the various keys are explained where needed in the text of this manual.

**ABC CALLERS KEYBOARD**

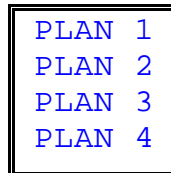


*Fig.1.2 - Caller's Keyboard*

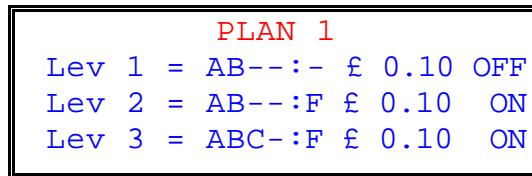
## Chapter 2. OPERATION

### Setting Assignment Level

When you switch on the MAB Systems Prize Bingo System the first thing that will appear are the assignment plans. If your installation has two or more assignment plans set up, then before the session begins the Controller prompts you to select which one you wish to use. A short menu presents you with the options (Fig.2.1) and an extra panel in the top right of the screen (Fig.2.2) shows a reminder of the details of the option currently under the cursor.



*Fig.2.1 - Select the Assignment Plan*



*Fig.2.2 - Assignment Plan Details*

Use the up and down keys to move the red highlight to the required assignment plan and then press ENTER to proceed with the session. There is an explanation of Assignment Plans and instructions for setting them up in Chapter 9 (The Engineer's Menu) under Play Management. If you have only one assignment plan set up then the Controller will omit this stage, and will bring your assignment plan into play automatically.

After you have selected the Assignment Plan the Controller will send the settings to all the playing positions in the rig. If the Controller decides that one of the playing positions is not communicating correctly it will display a screen called the List of Non-Responding Boards. Any board is identified by a number, such as 1:23. If the List of Non-Responding Boards appears, press ENTER to tell the Controller to try again. If the same board continues to register as a non-responding board then make a note of the number - or press CHECK to copy what you see on screen to the printer - and then press ESCAPE to continue. If one board regularly features on the list of non-responding boards then this indicates a fault, either in the machinery or in the programming, which should be reported to the Engineer.

The Controller now sends all the settings to the rig. Once this is complete you are ready to begin playing a session.

## Chapter 7. THE AUDIT MENU

You can get the Audit Menu by pressing the AUDIT MENU key, or alternatively from the Extra Menu option in the Caller's Menu. When the Audit Menu is selected you shall be confronted with an information box (Fig.7.1).

To proceed with the normal  
Audit printout press CHECK key.  
Pressing the ESCAPE key will  
Display an audit summary view.

Fig.7.1 - Information Box

If the escape key is pressed the Audit Information will be revealed.

### AUDIT INFORMATION

When you select the Audit Summary option the Controller shows a display of records of money and game information (Fig.7.2).

Cash in	£	1.60	£	1.60
Tokens in	£	0.00	£	0.00
Extras in	£	5.40	£	5.40
Cash refnd	£	5.06	£	5.06
Token refnd	£	0.00	£	0.00
Promotions	£	10.00	£	10.00
Nett in	£	1.60	£	1.60
Paybacks	£	13.00	£	13.00
Jackpots	£	0.00	£	0.00
Vouchers	£	0.00	£	0.00
Nett out	£	13.00	£	13.00
Total refill	£	0.00	£	0.00
Total empty	£	0.00	£	0.00
Exchanges	£	0.00	£	0.00
Daily refill	£	0.00	£	0.00
Line games		48		48
House games		1		1
Free games		2		2
Players		10		10
Winners		0		
Day prcnt payed		0.00		
Week prcnt paid		0.00		
Week prcnt payd		0.00		
Security No.		314		
Total refills		0		
Total empties		0		

Fig.7.2 - Audit Information

The first column relates to the daily session and the second to the weekly figures. There is a third column of permanent accumulated figures: this can optionally be printed out but does not appear on the screen.

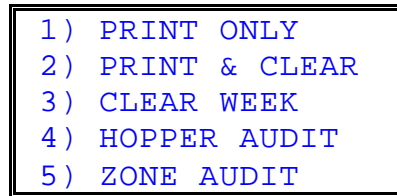
Only part of this information can fit on the screen at once, so you can bring the rest into view by pressing the Up and Down keys. Fig.7.2 shows the standard, complete audit information screen.

**Security Number.** The Security Number counts the number of times you have printed out the Audit information.. This is a security feature, allowing you to be sure that you have a complete sequence of audit printouts, with none missing.

Press the ENTER key to obtain the Audit Menu and press the ESCAPE key to exit.

#### AUDIT MENU.

You bring up the menu associated with the Audit information (Fig.7.3) by pressing the ENTER key.



*Fig.7.3 - Audit Menu*

As usual, to select an option you press the corresponding number key or else move the highlight bar to the option with the Up and Down keys and then press ENTER. When you have finished with this menu press ESCAPE.

#### 1) Print Only.

This option prints out a copy of the audit information (Fig.7.2). When you produce a printout this adds one to the Security Number. The first two columns, session and period, are always printed, but the figures for the overall column are printed only if requested - via the option Audit Functions, option 2 in page 2 of the Engineer's Menu.

#### 2) Print & Clear.

This option prints out a copy of the audit information and then clears the session and period figures down to zero. The overall figures cannot be cleared through the Audit menu.

#### 3) Clear Week.

This option clears the column of weekly figures in the audit information to zero.

#### 4) Hopper Audit.

This option makes the Controller contact all the slave units on the rig, asking for a count of all tokens/coins in the payout hoppers. The screen shows a list of the positions with the values of the tokens/coins at each, plus a grand total at the bottom of the screen. If there are too many positions to fit on the screen all at once you can use the Up and Down keys to bring more of the information into view. Press CHECK to get a printout showing all the figures and the grand total. Press ESCAPE to return to the Audit Menu.

#### 5) Zone Audit.

This option reports figures from the rig broken down into Zones. When you select this option there will be a brief pause while the Controller communicates with the rig to assemble the required information. The figures are displayed on screen one zone at a time (Fig.7.4)

ZONE AREA # 1	Zone Title		
Coin-1 ( 0)	= £	0.00	
Coin-2 ( 0)	= £	0.00	
Coin-3 ( 0)	= £	0.00	
Coin-4 ( 0)	= £	0.00	
Coin-5 ( 0)	= £	0.00	
Coin-6 ( 0)	= £	0.00	
Coin-7 ( 0)	= £	0.00	
Coin-8 ( 0)	= £	0.00	
Total	£	0.00	
Cash-ref	£	0.00	
Tok-ref	£	0.00	
Promotes	£	0.00	
Paybacks	£	0.00	
Refills	£	0.00	

Fig.7.4 - Zone Audit Display

To see the Zone audit figures for the other zones use the Up and Down keys to scroll the information up or down the screen. There are sixteen possible zones - you can set up however many you require, as explained below. The Zone Audit Display has its own brief menu (Fig.7.5) that you activate by pressing ENTER. The options in this menu are described below.

- |                    |
|--------------------|
| 1) PRINT ONLY      |
| 2) PRINT AND CLEAR |
| 3) DEFINE AREAS    |

Fig.7.5 - Zone Audit Menu

**1) Print Only.** This option writes the figures from any zones that you have set up to the printer. It does not attempt to print any zones that you have not set up.

**2) Print and Clear.** This option prints the figures from any zones that have been set up and then gives you the option of clearing the figures in the zone audit to zero: in response to the Clear Figures Prompt (Fig.7.6) press ENTER to clear the figures in the zone audit or any other key to leave them as they are. Naturally you will not want to clear the figures if there was some fault in the printout.

Check the figures have been printed correctly. Press ENTER to confirm or any other key to abandon clear.
---

Fig.7.6 - Clear Figures Prompt

**3) Define Areas.** This option allows you to set up Zones, explained below in the ZONES section.

## ZONES.

The Controller allows you to create up to 16 Zones. A Zone is a list of playing positions, grouped together for auditing purposes. During play the Controller maintains separate audit figures for the positions in each of the zones and these figures are accessible through the Audit Menu.

**Define Areas.**

To create a Zone select the option Define Areas from the Zone Audit Menu, accessible in the Audit Menu.

```
POSITIONS IN ZONE # 1 ( 6)
  10 to 15,
Start position no. = 16
End position no.   = 17
Zone audit area    = 1
```

*Fig.7.7 - Define Zone Areas*

The screen display (Fig.7.7) shows a list of positions in one of the Zones. Press the Left and Right arrow keys to see the positions in the other zones. To add one or more positions to a zone, or to remove one or more positions from a zone, use the Up and Down keys to the correct lines in the display and type in the starting position and the ending position concerned, and the number of the Zone where the change is required: then press either CALL(YES) to add the specified positions to the zone or else RESET(NO) to remove the specified positions. For example, Fig.7.7 shows how the screen would look before pressing CALL to add positions 16 and 17 to Zone 1.

Press ESCAPE to return to the Zone Audit Menu.

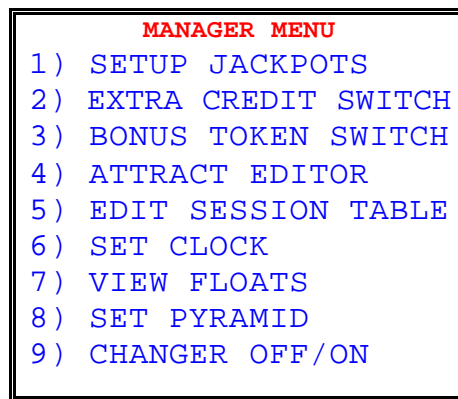
## Chapter 8. THE MANAGER'S MENU

You activate the Manager's Menu by pressing the `MANAGER MENU` key, or alternatively by selecting option 2 from the Extra Menus option in the Caller's Menu. You might have to type in the Security Code number.

As usual, with these menus to select an option you press the Up and Down keys to move the highlight bar to the option you require and then press `ENTER`, or else type the number key. When you have finished working with the menu press `ESCAPE`.

### MANAGER'S MENU

The Manager's Menu is shown in Fig.8.1. To return to the Caller's Game Display press the `ESCAPE` key.



*Fig.8.1 - Manager's Menu*

#### 1) Setup Jackpots

The Controller can save up to a maximum of 32 “frames” of settings for Jackpots and related features per plan. To set the frames of other plans the specific plan must be in current operation.

The frames turn on automatically if certain preferences are satisfied, such as the Auto-JP Player Level (explained below). If a number of frames have similar settings then only the first frame it comes across will be activated. Specific frames can be turned on in the Setting Game Type menu under Force A Jackpot.

The information within a frame is shown in Fig.8.2. You use the Up and Down keys to move the highlight to the line that you want to alter. For the numeric values you change the settings with the number keys: for the others you make changes by pressing `ENTER`. The settings are explained individually below.

You can move through each of the 32 frames by pressing `RESET` to go forward or `CALL` to go backwards. Press the `CHECK` key to obtain a print out of all 32 frames and press `ESCAPE` to return back to the Managers menu.

Frame 1 :	BIG JACKPOT	(20P)
Minimum value	£	100.00
Maximum value	£	150.00
Current value	£	125.00
Reserve jackpot frame		0
Generation percentage		10.00%
Auto-jp player level		200
Jackpot number		50
Current No. required		ON
Winning line(s)	-----H-----	
Winning card(s)		AB--
Winning level(s)		-2-
Single winner only		YES
Divide win on multiwin		YES
Split win value	£	1.00
Free games only		NO
Rounding value	£	1.00
Create a fuss		YES
Gift supplement		OFF
Special shape		ON

Fig.8.2 - Jackpot Frame Settings

**Frame 1 :** Pressing ENTER whilst highlighting the frame title will let you edit the title. An explanation of how to edit text can be found in Chapter 9 under 9.4 ENTERING TEXT.

**Minimum Value.** Each Jackpot has a Minimum Value setting. When the Jackpot is won it is brought back up to this minimum amount - the funds required are borrowed from the float.

**Maximum Value.** Each Jackpot has a Maximum Value setting. When the Jackpot reaches this value it stops accumulating, and any further funds that would have gone onto it are sent into the float instead.

**Current Value.** In the third line of the Jackpot settings you can set the Jackpot value to any required amount.

**Reserve Jackpot Frame.** When the Jackpot is won it can be replaced by a reserve jackpot. This setting is the number of the jackpot to be used as reserve. Leave this as zero if you do not wish to use a reserve. You may opt to use Jackpot frame 2 as the reserve for frame 1 (the Mini Jackpot) and Jackpot frame 4 as the reserve for frame 3 (the Big Jackpot).

**Generation Percentage.** Funds are generated for the jackpot as a percentage of the Cash stake not the Total stake (the Total stake includes tokens and extras as well as cash). The percentage you require can be entered using the numeric keys. The funds generated will be added to the Current value as long as it is below the Maximum value

**Auto-JP Player Level.** The Auto-JP player level setting has two optional conditions; the minimum number of players in the game before the Jackpot becomes active or the minimum amount of Total stake before the jackpot becomes active. Pressing ENTER whilst this option is highlighted will change between the two conditions. Only one of the conditions applies to the

jackpot at any one time, the chosen condition is shown on the Jackpots Setup display. For example, if the minimum number of players is set to 20 then the Jackpot will become active only when 20 or more players are in the game. Set this to zero if you wish the jackpot to be active no matter how many players are in the game. The same principle applies to the minimum amount of Total stake.

**Jackpot Number.** The Jackpot Number in the settings is the greatest number of calls within which the Jackpot can be won: for example, if the Jackpot number is set to 20 the Jackpot can be won only if 20 or less numbers are out.

**Current No. Required.** For a player to win, the current number must be included in their winning line. Pressing ENTER turns this ON or OFF.

**Winning Line(s).** This lists the win lines that the Controller will allow for a Jackpot Win. The Jackpot Setup screen shows an initial for each of the lines that are turned on; to change these, press ENTER to pick this option and the screen will show a check list of the possible lines (Fig.8.3).

FIRST COLUMN	OFF
SECOND COLUMN	OFF
THIRD COLUMN	OFF
FOURTH COLUMN	OFF
FIFTH (5x5)	OFF
TOP LINE	OFF
BOTTOM LINE	OFF
DIAGONALS	OFF
FOUR CORNERS	OFF
FULL HOUSE	ON
LUCKY SQUARE	OFF
BONUS	OFF
FEATURE	OFF
GOLDEN BALL	OFF
BIG FOUR	OFF
SPECIAL LINES	OFF

Fig.8.3 – Jackpot Win Lines

The respective initials for the jackpot lines from top to bottom are:

1, 2, 3, 4, 5, T, B, D, 4, H, L, b, f, G, 4, S

The lines marked ON will be accepted by the Controller as Jackpot Win lines. To change a line from ON to OFF and back, move the highlight bar to it and press ENTER. Then press ESCAPE to return to the Jackpot Setup Screen.

**Winning Card(s).** Where you are playing more than one card per position you have the option of allowing a Jackpot Win only on certain cards - for example, only on the player's top card. Move to this option and press the number keys 1, 2, 3 or 4 to change the settings. If you set this to ABCD, for example, all cards can win a jackpot: or if you have three cards per position then a setting of --C- will allow a jackpot only on the top card.

**Winning Level(s).** This allows a Jackpot Win only on certain levels of play. To change the levels, highlight this option and press the number keys 1,2 or 3. For example, a setting of - - 3 will allow a jackpot only on the third level of play.

**Single Winner Only.** If this option is YES it means that this jackpot can only be won if there is a single winner. If the option is NO multiple winners are allowed.

**Divide Win on Multiwin.** The jackpot can be split between the number of winners if the option is YES, if it is NO see Split Win Value.

**Split Win Value.** If there are multiple winners of the jackpot then each of the winners receive the amount entered here. This option is only applicable if the Divide Win on Multiple and the Single Winner Only option is NO.

**Free Games Only.** This option enables free game frames. If a free game is chosen then an applicable frame with the Free Games Only option at YES will become active.

**Rounding Value.** For display purposes, and whenever a jackpot is won, the actual jackpot amount is rounded to the nearest multiple of the rounding figure.

**Create a Fuss.** A jackpot win will enable audio and visual celebration from the system, such as a song being played, if this choice is selected.

**Gift Supplement.** When this option is ON a gift can be won as well as the jackpot. When a player wins and their card has been checked, pressing RESET will call up the Gift menu which has a selection of possible gifts. The Gift menu can be edited from the Engineers menu under Gift Names and Values in Chapter 9.

**Special Shape.** If the setting is ON a shape of free squares are enabled for this jackpot. The shape of the free squares can be altered by the Set Valid Status option in the Engineers menu, Chapter 9.

Note, that when a jackpot is enabled some of its game features can be overridden from the Game Type menu.

## 2) Extra Credit Switch

This option (Fig.8.4) lets you switch the Extra Credit facility on and off. Press ENTER to switch between ON and OFF then press ESCAPE to return to the menu. When this option is On, coins can generate extra credit in addition to their face value, as set in the Engineers Menu under Play Management.



Extra Credit = ON

*Fig.8.4 - Extra Credit Switch*

## 3) Bonus Token Switch

This option (Fig.8.5) lets you switch the Bonus Token facility on and off. Press ENTER to switch between ON and OFF and then press ESCAPE to return to the menu. When this option is ON a bonus token is awarded after a set number of token entries. The number of token entries can be altered through the Engineers menu under Bonus Token Setup, which is explained in Chapter 9.

Bonus Tokens = OFF

Fig.8.5 – Bonus Token Switch

#### 4) Attract Editor

This option allows you to create the text that will be written in the alphanumeric displays. The alphanumeric display is split up into four frames where each frame can hold 16 characters. The Attract Editor lets you enter a message for each of the frames, the messages are termed Message : 1 to Message : 4. To move through the messages press the ESCAPE key. An explanation of how to enter text can be found in Chapter 9 beneath 9.4 Entering Text. Note that the alphanumeric displays currently supplied employ only upper case letters, and that the full stop must not be used in the text (the display interprets it as a control character).

Once the four messages have been entered there is a choice of 3 different display effects: Scan, Jump and Fade.

**Scan.** The messages are circulated from left to right, one after the other on the display.

**Jump.** The messages are flashed on one after the other.

**Fade.** The messages are flashed on one after the other but they fade as they appear and disappear.

Press ENTER to rotate through the styles, when you have made your selection press the ESCAPE key to return to the Managers menu.

#### 5) Edit Session Table

You select this option to create a session - a list of game types - that you can play through by selecting "SESSION" in the Game Types menu. When you select this option the screen will show a list of games (Fig.8.6).

```
1 * Any One line
2 Feature line ON
3 Lucky square ON
4 Golden ball ON
5 Bonus Game 1
6 --- Play ---
7 Bonus Game 2
8 --- Play ---
9 *** End ***
```

Fig.8.6 - Session List

PLAY denotes the end of a single game; all the game types before PLAY are included in one game. Each game type can be turned ON and OFF if possible. For example, in Fig.8.6 the first game includes any one line, feature line, lucky square, golden ball and the first column bonus line. The second game is the same except the bonus line is the second column, when the END is reached the session starts from the beginning again. To turn off any of the game types for the next game, place the appropriate game in the next game list but have it turned OFF.

To change an entry on the list, use the Up and Down keys to move the highlight bar to the required entry and then press ENTER: a new menu appears (Fig.8.7), showing the possible game types, and you select one of these by moving the highlight bar up or down and then pressing ENTER. If applicable another menu will appear asking whether you want the game ON or OFF. You can input up to a maximum of 64 entries. Press CHECK to mark the end of the session - this is indicated by "---End---" in the list.

```
Any one line
Full house
Feature line
Lucky square
Free game(s)
Bonus game
Golden ball
Big-4
--- Play ---
*** End ***
```

Fig.8.7 – Possible Game Types

Pressing ESCAPE will exit the Possible Game Types menu to the Session list and also from the Session list to the Managers menu.

### 6) Set Clock

This option sets the time and date in the clock that is fitted in the Controller. The screen will show the clock setting display (Fig.8.8) when selected.

```
1 2 3 4 5 6 7 8
Fri 15th Aug 1997 9:12:00 AM
```

Fig 8.8 - Setting the Clock

You use the number keys to change each of the clock settings. Press 1 to change the day of the week. Press 2 to change the day of the month. Press 3 to change the month. Press 4 to change the year - the years run from 1990 to 2009 then start at 1990 again. Press 5 to change the hour and 6 to change the minutes. Press 7 to set the seconds to zero. Press 8 to switch between a 12-hour clock and a 24-hour clock - if it is switched to the 12-hour clock then the time will be followed by "PM" or "AM". Press ENTER when the clock is right.

The date and time from this clock are used on the caller's display and the public display and also in printouts of auditing details. You can expect the clock in the Controller to lose or gain less than a minute per month.

### 7) View Floats

When you select this option the Controller asks all the positions on the rig for their hopper levels and it displays the results on the screen. If there is too much information to see on the screen at once you can move the display by pressing the Up and Down keys. The foot of the screen shows the total value over the whole rig. The screen is updated while you watch, so that if there are any changes you will see them as they happen. Press CHECK to get a copy of this information on the printer. Press ESCAPE to return to the menu.

### 8) Set Pyramid

The Pyramid facility is used in conjunction with some kind of token, the Pyramid, in the playing area. The player who "wins" the Pyramid is allowed to continue playing free until someone

else wins it, and the Controller automatically supplies promotions to the player's position at the end of each game to pay for these free games. When a player wins the Pyramid the Caller is notified by a message on the Game Status Box on the Callers screen.

The menu facility allows you to nominate the line or lines that will win the Pyramid: the display shows a list of possible wins, each of which you can switch ON or OFF for Pyramid wins. Move the highlight bar up and down, pressing ENTER to switch the options ON or OFF, and press ESCAPE to move on to the Pyramid Amount when you have selected your lines. (If you switch them all OFF then of course this switches off the Pyramid feature). The next display, Pyramid Amount, asks you to type in the amount to be credited to the Pyramid winner position at the end of each game. The amount is credited to Extras and is not refundable.

### 9) Changer OFF/ON

This option (Fig.8.9) lets you turn the Changer ON or OFF with a press of the ENTER key. In effect this decides whether the payouts come out of the changer or the bingo terminal. The ESCAPE key returns you back to the Managers menu.



Changer Turned OFF

*Fig.8.9 – Changer Payout Enable*

## Chapter 9. THE ENGINEER'S MENUS

You get the Engineer's Menus by selecting option 3 from the Extra Menus option in the

Caller's Menu. You might have to type in the Security Code number.

As usual, with these menus you press the Up and Down keys to move the coloured bar to the option you require and then press ENTER, or else select an option by typing the number key. When you have finished working with the menu press ESCAPE. Note that when you exit from the Engineer's Menu the Controller will do a Restart, exactly as if you had just switched it on. This is to make sure that all the changes in you might have made through the menus are fully implemented.

### ENGINEER'S MENU PAGE 1

The Engineer's Menu features three pages. The first page is shown in Fig. 9.1.

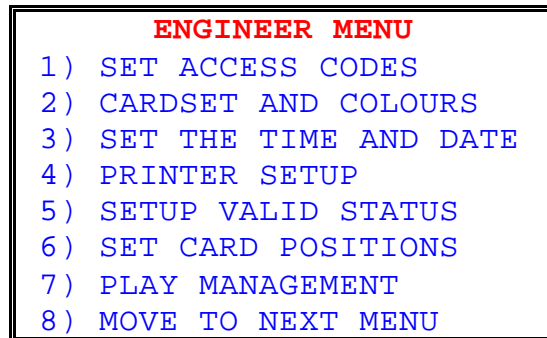


Fig.9.1 - Engineer's Menu, Page 1

To move on to the other pages of the Engineers Menu select option 8.

#### 1) Set Access Codes

This option (Fig.9.2) allows you to specify pass codes that will have to be typed in by anyone wishing to use the three menus, the Engineers, Managers and Auditors Menu. You can use the up and down keys to specify which menu and type in the security code number with the number keys. Note that the Engineer code also gives access to the Manager and Auditor menus and the Manager code also gives access to the Auditor menu. If you leave a code at zero then anyone can use the menu without having to type in a code. You will probably not want to leave the Engineers code at zero because that would allow anyone to gain access to any features of the Controller.

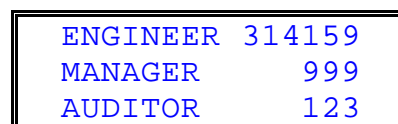


Fig.9.2 - Setting Access Codes

Press ESCAPE when you have finished changing the access codes.

#### 2) Cardset and Colours

This option lets you tell the Controller what set of cards is installed on the playing benches in the rig. The Controller needs this information to be able to check cards automatically. You are presented with three selections to make (Fig.9.3): the first is for a 4x4/5x5 (depending on which is chosen in the User Options Setup) card set, the second for a Feature line card set, and the third for a Paper-Bingo card set. You can simply skip past the options that do not apply to your installation. On each selection screen one line is picked out in red: if you wish to change the selection you move the red highlight bar with the up and down keys to the set you want to select and then press ENTER to make the selection. This will also move you on to move on to the next screen. If you press ESCAPE then you will move on to the next screen without selecting a new card set.

Title	Type	Cards
MAB Systems Set-1 4x4		156
SAL Bradford type	4x4	256
E.T. 4x4 SML (subset)	4x4	200
E.T. 4x4 Rainbow set	4x4	2000
Glenville 4x4 set	4x4	300
Thomas demo 4x4 set	4x4	8
Glenvil group	5x5	447
Coincheck BINGO #1	Feature	59
SAL Bradford type	Feature	56
E.T. Small Feature	Feature	81
Glenville Features	Feature	80

Fig.9.3 - Cardset Selection

The next screen within this option lets you set the colours for the columns in the cards in your installation. The screen will show a 4x4 (Fig. 9.4) card or a 5x5 card, depending on which cards have been previously selected.

1	16	31	46	61
2	17	32	47	62
3	18	33	48	63
4	19	34	49	64
5	20	35	50	65

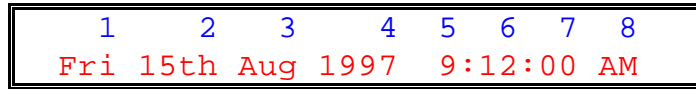
Fig.9.4 - Setting Card Colours

Press key 1 to alter the colours of the first column: the screen will step through the available colours. Press 2 to alter the colours of the second column, and so on. Press ESCAPE when you have the correct colours. The colours available are black, red, green, yellow, blue, magenta, cyan and white.

The colours for the feature line display are the same as the ones for the 5x5 card set.

### 3) Set the Time and Date

This option sets the time and date in the clock that is fitted in the Controller. The screen will show the clock setting display (Fig.9.5) when selected.



*Fig 9.5 - Setting the Clock*

You use the number keys to change each of the clock settings. Press 1 to change the day of the week. Press 2 to change the day of the month. Press 3 to change the month. Press 4 to change the year - the years run from 1990 to 2009 then start at 1990 again. Press 5 to change the hour and 6 to change the minutes. Press 7 to set the seconds to zero. Press 8 to switch between a 12-hour clock and a 24-hour clock - if it is switched to the 12-hour clock then the time will be followed by "PM" or "AM". Press ENTER when the clock is right.

The date and time from this clock are used on the caller's display and the public display and also in printouts of auditing details. You can expect the clock in the Controller to lose or gain less than a minute per month.

### 4) Printer Setup

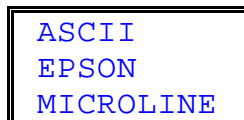
This option is used to change a variety of settings relating to printer output.

**Title for Main Printer.** This option changes the text that is used as a heading on output from the main printer. The method of entering text is explained below, in section 9.4. This title also appears on the public displays and on the audit display.

**Colour for Public Screen.** The title for the main printer is also displayed on the public screens and on the audit screen. At this point you can set the colour that will be used when it is displayed on the public video. Press key 1 to change the background colour and key 2 to change the foreground colour. Press key 3 to switch flashing on and off. This option has no effect on the output from the printer. Press ESCAPE to proceed when you are happy with the colours.

**Title for Voucher Printer.** This option changes the text that is used as a heading on vouchers printed by the voucher printer. The method for entering text is explained below, in section 9.4.

**Setting Main Printer Type.** This option lets you tell the Controller what sort of printer is connected as main printer. You use the up and down keys to move the red bar over the required type (Fig.9.6) and then press ESCAPE.



*Fig.9.6 - Setting Main Printer Type*

Naturally you should select Microline for a Microline printer and Epson for an Epson printer: but it is also usually worth selecting Epson even if the printer is not an Epson, because most printers will accept Epson style commands from the Controller. The only problems are likely to occur when the Controller asks for special features such as expanded print and bold text. If the printer cannot do these correctly then you should change this setting to ASCII, which tells the printer not to use special features. The actual information that is printed is the same whichever

main printer type you select.

**Setting Ticket Printer Type.** This option (Fig.9.7) tells the Controller what sort of printer is in use as the ticket printer.



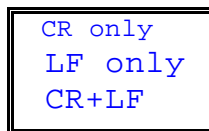
*Fig.9.7 - Setting Ticket Printer Type*

Standard is the Citizen iDP-560 or any compatible: Extended is the two-colour model with cutter (both supplied by Able Systems).

**Setting Form Length.** The form length is the number of lines the Controller will print before it tells the printer to start a new sheet. This is normally 66, but can vary with the printer type. Enter the required number and then press ENTER.

**Setting Ticket Length.** This option specifies the number of blank lines that are printed after each ticket. You can vary this amount to make the tickets match pre-printed paper. Type in the required number and then press ENTER.

**Setting Printer Line-Terminator.** When the printer reaches the end of a line of print it expects to be told to do a carriage-return (CR) or a line-feed (LF) or, most commonly, both (CR+LF): this varies with the printer. If your printer is printing successive lines one below the other then do not alter this option. If you find that it is leaving a blank line between lines of text then try changing this setting to CR or LF. If on the other hand you find that it is printing all lines on top of each other then try changing this setting to CR+LF. Use the up and down keys to select the required setting (Fig.9.8) and then press ESCAPE to proceed.



*Fig.9.8 – Setting Printer Line-Terminator*

**End-Of-Game Print Option.** The details of each game can be sent to the main printer at the end of the game to provide a permanent record. This option allows you to switch this printout on or off. Press ENTER to switch between ON and OFF then press ESCAPE to proceed.

**Winners Line Option.** If there are two or more winners in a game then a full list of winners will be printed on a separate line if this option is on. Press ENTER to switch between ON and OFF then press ESCAPE to proceed. This will bring back the Engineer's Menu.

## 5) Setup Valid Status

This option controls several settings concerned with the validation of cards.

**Setting Lucky Squares.** This stage lets you specify which squares will be deemed Lucky Square when you play the Lucky Square game type. You set the four possible cards A, B C and D individually. The screen display shows a picture of a card: you use the up and down keys to move the flashing square to a chosen number and press ENTER to switch it to a free square or back to a normal square. The lucky squares are printed in purple. If you wish you can have two or more lucky squares on a card. When you have selected the lucky squares for one card press ESCAPE to

move on to the next.

**Setting Special Shape.** This stage lets you specify which squares will be given away free when you play a game with free squares. You set one card that acts for all four possible cards. The screen display shows a picture of a card: you use the up and down keys to move the flashing square to a chosen number and press ENTER to switch it to a free square or back to a normal square. The free squares are indicated by the letters "FR". If you wish you could have two or more free squares on a card. Note that the centre square of a 5x5 card is always considered free. When you have set the required free squares on the card press ESCAPE to move on to the next setting. Free squares are brought into play when required through the Setting Game Type menu via Shape.

**Setting Special Lines.** This stage lets you design your own shapes that you can use with the Special game type. The players have to light the shape you have designed to win. The screen display shows a picture of a card: you use the up and down keys to move the flashing square to a chosen number and press ENTER to select or deselect the square. The squares that will be in the special shape are shown in purple. Press ESCAPE to continue to the next stage.

**Feature Hold Button.** Normally the numbers on the Feature Line light up automatically as they are called: but you can alternatively use this setting to require the player to press a HOLD button to make the numbers light up. Press ENTER to switch the requirement On or Off. Press ESCAPE to proceed to the next stage.

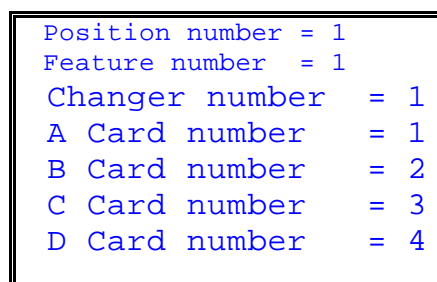
## 6) Set Card Positions

Before you can use the Controller to play Prize Bingo with the rig of players' positions you must teach the Controller where in the Rig each playing position is. This is the function of the option to Set Card Positions. This facility should normally be required only in a new installation.

Firstly, the Controller requests you to enter the number of cards per playing position. This can be from 1 to 4. To alter this number press a number key. Press ENTER or ESCAPE to proceed to the next stage.

The controller next offers you the opportunity of clearing all the current position programming stored in the controller. This would be appropriate for a new installation, but not if you are adding one or two positions to a rig that is already correctly programmed. Press YES to clear out the existing programming or press NO to proceed with the current programming intact.

At the next stage the Controller waits for the rigs to be programmed, to program the rigs just press the claim buttons on each position in turn, starting at position one. When a claim button is pressed the controller puts up a screen allowing you to amend the settings (Fig.9.9).



```
Position number = 1
Feature number = 1
Changer number = 1
A Card number = 1
B Card number = 2
C Card number = 3
D Card number = 4
```

*Fig.9.9 - Rig Activity*

This example shows the result for 4 cards per position. The Controller attempts to provide

settings for each position that follow on from the previous position: so, for example, if there are four cards per position and you have just entered the details for position 1 with cards 1, 2, 3 and 4, the controller will assume that the next position where a claim button is pressed is going to be position 2 with cards 5, 6, 7 and 8. As usual you can use the up and down keys to move to the various lines and the number keys to change the settings. Press ESCAPE after completing the settings for a position to proceed to the next position. Press ESCAPE again when all the positions are programmed in to move on to the next stage of programming.

In the final stage the Controller runs through its own internal test for consistency of the programming that has been entered and shows how many players, cards and features have been programmed (Fig.9.10).

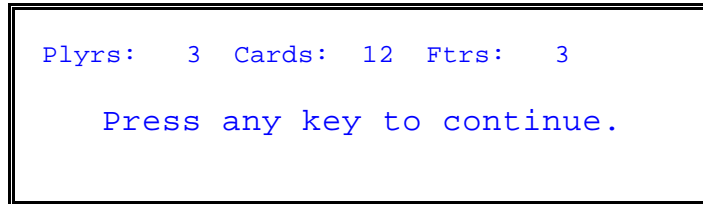


Fig.9.10 – Checking Program Validity

**7) Play Management**

This option involves a series of stages concerned with the way the Controller and the rig accept player's money and light cards.

**Setting Coin Values.** The first screen within this option is Setting Coin Values (Fig.9.11).

Coin	Value	Extra	Type
1	£ 1.00	£ 0.00	Cash
2	£ 0.50	£ 0.00	Cash
3	£ 0.20	£ 0.00	Cash *
4	£ 0.10	£ 0.00	Cash
5	£ 0.00	£ 0.00	Cash
6	£ 0.20	£ 0.00	Token
7	£ 0.00	£ 0.00	Cash
8	£ 0.00	£ 0.00	Cash

Fig.9.11 - Setting Coin Values

The coin mechanism at each playing position can accept up to eight different coins. In this table you tell the Controller the value of each coin. The Controller passes this information on the coin mechanisms each time you switch the rig on. For cash the value is the obviously the face value, but you can also add an extra value for promotional purposes. The extra value will only operate if the Extra Credit Switch is ON, as described in the Managers Menu Chapter 8. The table also records whether each coin is actual cash or a token - this information is used for auditing purposes. A \* can be created beside any of the coins by pressing the PROMO key, this indicates which coin is sent to the hopper. The hopper can only payout in one type of coin, therefore if two or more \* are indicated the hopper will become confused.

To change this table, use the arrow keys to move from one part to another. Type in the figures with the number keys, change between "Token" and "Cash" by pressing ENTER and change the \* on and off by pressing the PROMO key. Press ESCAPE when the table is correct. This will take you on to the next stage.

**Game Entry and Payout Parameters.** The next stage (Fig.9.12) concerns settings of importance to the slave units in the rig.

Players allowed up to call	3
Lockouts close on call	3
Player credit limit =	£10.00
Player bank limit =	£ 5.00
Payout coin value =	£ 0.20
Voucher value =	£ 1.00
Payback limit =	£ 5.00
Tune limit =	£ 5.00

*Fig.9.12 – Game Entry and Payout Parameters*

The first figure sets the number of calls before the players are no longer allowed to join the current game - for example, after the third number is called they can still put money in but they cannot light any more cards. The second figure sets the number of calls before the lockouts are closed - for example, after the third number is called, the coin mechanism will not let the players put any more money in or will reject the money if they do put some in. If you set this number to zero then the lockouts will be left permanently open - so that the players can put money in whenever they want to.

The **Player credit limit** is the highest amount that the Controller will let a player have on credit in the playing position: the Controller will tell the coin mechanism not to accept any more money if the player's credit goes up to this limit.

The **Player bank limit** is the maximum amount the player can bank in the playing position, once the limit is reached the amount banked will be paid out to the player. If the Player Bank Limit is set to zero then the Auto Payout System is enabled.

The **Payout coin value** is the value of the coins in the hopper i.e. the value of the coins that the winnings will be paid out in.

The **Voucher value** is the value of the vouchers used for winnings; there is only one type of voucher used.

**Payback limit** is the maximum amount of winnings that can be paid back in cash. Once the limit is reached the rest will be paid in vouchers, for example, a win of £8 will be paid out in £5 cash and £3 in vouchers.

The **Tune limit** is the amount that has to be won before a winning tune is played.

As usual you use the arrow keys to select the figure you wish to adjust and then make the adjustment with the number keys. Press ESCAPE to move on to the next stage.

**Setting Assignments.** The next four screens (Fig.9.13) set the four Assignment Plans.

Plan 1			
Level 1 =	AB--:-	£ 0.10	OFF
Level 2 =	ABC-:F	£ 0.20	ON
Level 3 =	ABCD:F	£ 0.30	ON

*Fig.9.13 - Assignment Plans*

This table is used to decide how much additional stake is required for each level of the validation, how many cards are to be lit at each stage, and whether the player's request (the button) is necessary or whether the level is activated automatically as soon as the player puts enough money in.

There are four assignment plans the operator can set up in this way. You use the arrow keys to move from one figure to another. The first column indicates the three levels, the second column sets which cards are lit, you press key 1 to switch card A on or off, 2 for card B, 3 for card C, 4 for card D and 5 for Feature (F). In the third column the stakes are set for the respective levels, you change the figures with the number keys. The fourth column is for the player request option, you press ENTER to switch between ON and OFF. Press ESCAPE to move on to the next plan.

For example, if you opt to use the following assignment plan:

Level 1 =	A---:-	£ 0.10	OFF
Level 2 =	AB--:-	£ 0.10	OFF
Level 3 =	AB--:F	£ 0.10	OFF

The first card will light up as soon as the player puts in 10p, the second card as well after the player inserts another 10p, and the feature after the player puts in another 10p.

Or if you opt to use the following assignment plan:

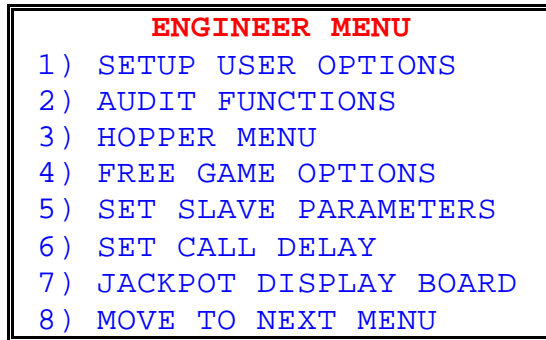
Level 1 =	AB--:-	£ 0.20	OFF
Level 2 =	ABCD:-	£ 0.30	ON
Level 3 =	ABCD:F	£ 0.20	ON

The bottom two cards will light up together as soon as the player has inserted 20p: to increase the stake level to level 2 and light an extra two cards the player must insert an additional 30p and press the PLAY button: to light the feature as well as the four cards the player must insert another 20p and press the PLAY button.

If you have two or more assignment plans set up then the Controller will ask the operator to select one when the machine is switched on. If you have just one plan set up and all the others are clear then the Controller will select that one plan automatically.

**ENGINEER'S MENU PAGE 2**

Fig.9.14 shows the second page of the Engineer's Menu, available as option 8 from the first page.

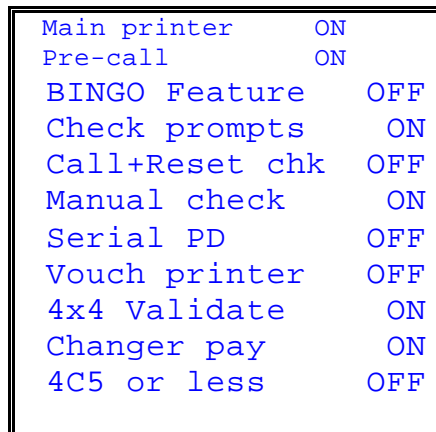


*Fig.9.14 - Engineer's Menu page 2*

When you have finished using this page of the menu press ESCAPE and the first page will return.

**1) Setup User Options**

The first facility on this menu allows you switch a number of settings On or Off from a table (Fig.9.15).



*Fig.9.15 - User Options Setup*

A red highlight bar indicates which setting is selected. Use the Up and Down keys to move the bar to the entry you wish to change: press ENTER to switch between On and Off. Press ESCAPE to return to the menu when the settings are correct.

Most of the options in the User Options Setup are self-explanatory but here's a description of some of the less obvious ones.

**Call+Reset chk.** If this option is OFF you can call if there are no players and reset before a winner occurs, if the setting is ON you can only call if there are players and reset after a win.

**Manual check.** When this setting is OFF you can only check if there is a prompt or claim, if it's ON you can check at any time including prompts and claims.

**Serial PD.** If you are using the MURCI serial display then this option should be turned ON, if you are using the ECM style display then the option should be OFF.

**4x4 Validate.** When this is ON the 4x4 card is chosen, when it's OFF the 5x5 card is selected.

**4C5 or Less.** 4C5 is a version of the KIM software, if this option is ON you can communicate with versions lower and including 4C5, if it's OFF you can only communicate to versions above 4C5.

## 2) Audit Functions

This option has three stages. Firstly you are given the choice of clearing all the figures in the audit records - session, period and overall figs: press CALL(YES) to clear the figures or RESET(NO) to retain the figures.

Next you can choose whether cash figures will be withheld (Fig.9.16) by pressing ENTER to turn the Cash inhibit ON or OFF.



Cash inhibit = OFF

*Fig.9.16 – Cash Inhibit*

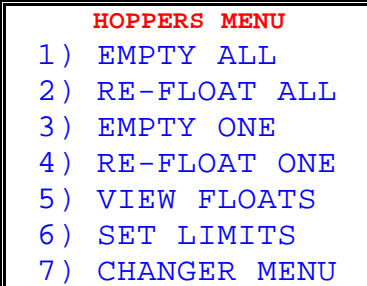
Press ESCAPE when you have the correct setting.

The next stage lets you decide whether or not the overall figures will be printed on the audit print or not. Press ENTER to switch between On and Off. Press ESCAPE to move on to the Zone Audit Titles.

The final stage is to set the Zone Audit Titles. The Auditing features allow you to create up to sixteen "zones". Each zone is one or more playing positions, treated as a unit for auditing purposes. This stage lets you type in names for the zones that will be used in the audit printouts; you can move through each zone title by pressing the ESCAPE key. The method of entering text is explained below, in Section 9.4.

## 3) Hopper Menu

This option lets you adjust the quantities of payout tokens in the hoppers at the playing positions. The facilities are available via a short menu (Fig.9.17).



HOPPERS MENU  
1) EMPTY ALL  
2) RE-FLOAT ALL  
3) EMPTY ONE  
4) RE-FLOAT ONE  
5) VIEW FLOATS  
6) SET LIMITS  
7) CHANGER MENU

*Fig.9.17 – Hoppers Menu*

**1) Empty All.** When you select this option the Controller instructs the rig to empty all the tokens out of all the hoppers. It presents you with a warning first (Fig.9.18): at this point press CALL(YES) to proceed with emptying, or any other key to cancel.

```
WARNING! This function will empty
ALL tokens/coins into the players
payout Trays. Do you really want to
empty the hoppers ? (Y/N).
```

Fig.9.18 – Empty Hoppers Warning

**2) Re-Float All.** You use this option when you have loaded all the payout hoppers in the rig with the same starting amount. As in the previous option there is a warning before you proceed: at this point press CALL(YES) to go ahead and re-float. Next you must type in the value of the new float and press ENTER. The Controller will notify all the slaves on the rig that the hoppers have been filled with the specified amount.

**3) Empty One.** This option allows you to empty a specified quantity of tokens from one particular position (Fig.9.19).

```
Player position = 1
Empty amount = £ 0.00
```

Fig.9.19 – Empty One Hopper

You first type in the position number and press ENTER. Then you have the option: either type in the amount of tokens you wish to empty from the position then press ENTER; or else press CHECK to instruct the position to empty all the tokens in the hopper.

**4) Re-float One.** This option allows you to adjust the float in the hopper at one specified position (Fig.9.20). Type in the position number where you are making the adjustment and press ENTER. Then, if you are adding an amount to the hopper, type in the amount you are adding and press the Up key. If you are removing an amount, type in the amount you are removing and then press the Down key; or, if you are leaving an amount in the hopper, type in the amount and press the RESET key. You can also press ESCAPE to cancel the change.

```
Player position = 1
Float adjust = £ 0.00
```

Fig.9.20 – Re-Float Position

**5) View Floats.** When you select this option the Controller asks all the positions on the rig for their hopper levels and it displays the results on the screen. If there is too much information to see on the screen at once you can move the display by pressing the Up and Down keys. The foot of the screen shows the total value over the whole rig. The screen is updated while you watch, so that if there are any changes you will see them as they happen. Press CHECK to get a copy of this information on the printer. Press ESCAPE to return to the menu.

**6) Set Limits.** This option (Fig.9.21) lets you set the maximum and minimum working levels for the hoppers in the rig. The Controller notifies the rig of these limits and if any hopper goes out of these limits during the game the rig notifies the Controller, so that a warning can be flashed on the Callers Game Display.

```
LOW THRESHOLD £ 5.00
HIGH THRESHOLD £20.00
```

Fig.9.21 – Hopper Level Thresholds

**7) Changer Menu.** Instead of the payouts coming out of the bingo terminals they can be sent to a changer. This option presents you with a menu (Fig.9.22) that can empty or re-float the changer.

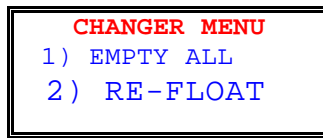


Fig.9.22 – Changer Menu

When Empty All is selected all the coins are emptied from the changer. Re-Float can only be chosen once you have emptied the changer, when you select Re-Float you will be asked to enter a New Float. Type in the new float and press ENTER, the re-float will be confirmed and you can now enter the float money into the changer. By pressing the ESCAPE key it is possible to exit without altering the float.

The box below the changer menu is a table of the dip switches (Fig.9.23). 1,2 and 3 define what coin is being used by the changer because the changer can only use one type of coin, for example, if the switches are arranged ON OFF OFF respectively, the changer uses 50p's. The dip switches 4 and 5 define which changer is connected to the playing position, for example, if 4 and 5 are switched ON OFF respectively then changer number 3 is connected to the playing position.

CHANGER ON-BOARD DIP SETTINGS					
1	2	3		4	5
off	off	off	=	5p	off off = pay #1
off	off	on	=	10p	off on = pay #2
off	on	off	=	20p	on off = pay #3
off	on	on	=	25p	on on = pay #4
on	off	off	=	50p	
on	off	on	=	60p	
on	on	off	=	£1.00	
on	on	on	=	£2.00	

Fig.9.23 – Table of Dip Switches

#### 4) Free Game Options

This option (Fig.9.24) lets you specify which particular cards will be given to the player when you elect to play a Free Game. You can chose which level to play at by pressing the number keys 1, 2 and 3. In addition you can decide whether or not to allow the player to pay for a higher level in addition to the free one in a free game: use the up and down keys to move the red highlight bar over the second line and press ENTER to change the setting. Similarly you can select whether the win in a free game is to be paid into the player's bank, like the winnings for an ordinary game, or instead into the player's credit to pay for further games. The Jpot level specifies what level the jackpot will be played at, therefore, in the example below, normal free games will be played at level 2 but free jackpot games will be played at level 3.

```
Free level   =      2
More levels  =      ON
Pay wins to  = CREDIT
Jpot level   =      3
```

*Fig.9.24 - Free Game Options*

Press **ESCAPE** when you have finished with this option, returning to the Engineers Menu.

### 5) Set Slave Parameters

This option sets the type of Payout, Coinmech and Display. To change the settings, select one of the setups using the arrow keys and press **ENTER** to cycle through the possible options. Press the **ESCAPE** key to return back to the Engineers Menu.

### 6) Set Call Delay

Setting the Call Delay forces the Caller to make a pause between the release of numbers, this helps to pace the game. Type in the required delay (Fig.9.25) - from zero up to 9.9 seconds. The Pre-call delay causes a delay between the Pre-call and the actual call. Press **ESCAPE** to bring back the menu.

```
Call Delay = 0.5 Secs.
Pre-call   = 1.0 Secs.
```

*Fig.9.25 - Setting Call Delay*

### 7) Jackpot Display Board

This option determines which jackpots are shown on the Jackpot Display Board (JDB). The JDB can show Jackpot Values and Jackpot Numbers. When you chose this option you will be shown a table as in Fig.9.26 but displaying the first 16 frames. To see the other 16 use the arrows to scroll down the list.

```
BIG JACKPOT   (20P) : line 1 a
MINI JACKPOT  (20P) : line 2 b
BIG FOUR      (30P) : line 0
GOLDEN BALL   (20P) : line 3
FEATURE       (30P) : line 4
LUCKY SQUARE (20P) : line 0
BONUS WIN     (30P) : line 0
FULL HOUSE    (10P) : line 0
```

*Fig.9.26 – Setting Jackpot Display Table*

You can allocate four lines to any of the 32 jackpot frames by highlighting your chosen frame and pressing a numeric key from 1 to 4. These four lines now hold the current value of the four chosen jackpots. Up to four of these lines can be shown on the JDB.

“a” and “b” hold the Jackpot Numbers of whatever lines they are placed on and these jackpot numbers are sent to the JDB.

For the JDB to show the correct Jackpot numbers to the corresponding Jackpot values, “a” and “b” should be placed next to the appropriate lines in the Setting Jackpot Display Table (Fig.9.26), if they aren't the Jackpot numbers will be wrong. For example, if the JDB shows two jackpots and line 1 and 2 are connected to the display, then the jackpots you want to be shown on

the JDB should be assigned line 1 and line 2 on the Setting Jackpot Display table. To show the corresponding Jackpot numbers, “a” and “b” should be positioned next to line 1 and 2 in the Setting Jackpot Display table.

Pressing the PROMO key will toggle “a” to appear on any of the lines and pressing the REFUND key will do the same to “b”.

### ENGINEER'S MENU PAGE 3

Fig.9.27 shows the third page of the Engineer's Menu, available as option 8 from the second page.

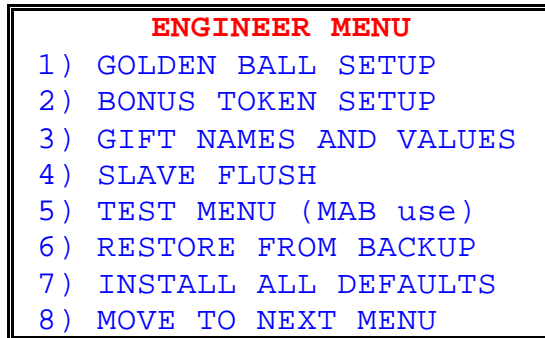


Fig.9.27 - Engineer's Menu, Page 3

When you have finished using this page of the menu press ESCAPE and the second page will return.

#### 1) Golden Ball Setup

This option sets the chance of the Golden Ball being selected (Fig.9.28). The lowest chance that can be entered is 1 in 9999 and to turn the Golden Ball off set the chance to zero. Use the numeric keys to input the chance and press ENTER.

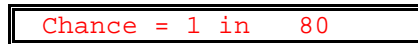


Fig.9.28 – Golden Ball Chance

#### 2) Bonus Token Setup

The number of tokens that have to be entered before a Bonus Token is generated can be set from this option (Fig.9.29). Enter the number of tickets using the numeric keys and press the ENTER key when you are finished.



Fig.9.29 – Bonus Token Setup

#### 3) Gift Names and Values

From this option the Gift menu can be edited. The name of the gift is entered on the left and the value of the gift is entered on the right. To enter a gift name, select a space on the left and press ENTER. The text editor will appear so you can enter the text as explained in section 9.4, press the ESCAPE key when you have finished editing the text. By moving to the corresponding place on the right a value for the gift can be inputted using the numeric keys.

When the Gift menu is finished to your satisfaction press the ESCAPE key to exit.

#### 4) Slave Flush

This option clears the RAM of one or more slave boards (Fig.9.30). To flush the RAM of a slave(s) enter its Position Number, Board Number or Drop Number and press ENTER, to flush all the boards press the RECALL button. To exit from this option without flushing press the ESCAPE key.

Position number	0
Board addr (0-31)	0
Drop number (1-8)	1

Fig.9.30 – Slave Flush

### 5) Test Menu (MAB use)

This option will present a Checkout Menu (Fig.9.31), but before you can access this menu you will have to enter a security code.

<b>CHECKOUT MENU</b>	
1) Sound chip	
2) Printer tests	
3) Ram flush	
4) EEPROM flush	
5) Slave flush	

Fig.9.31 – Checkout Menu

**1) Sound chip.** Selecting this option will produce a tone on the sound channels to test the sound chip.

**2) Printer tests.** This option will test the printer ports. There are 2 tests available, the first will produce a binary count on the main printer and the ticket printer and the second test produces a line of text on the main printer. Pressing the ESCAPE key will switch from Test 1 to Test 2 and from Test 2 to the Checkout Menu.

**3) RAM flush.** This option will clear the RAM of all current Engineers, Managers and Auditors settings.

**4) EEPROM flush.** This option will clear the EEPROM.

**5) Slave flush.** Refer to the explanation of the Slave Flush on Page 3 of the Engineers Menu.

### 6) Restore From Backup

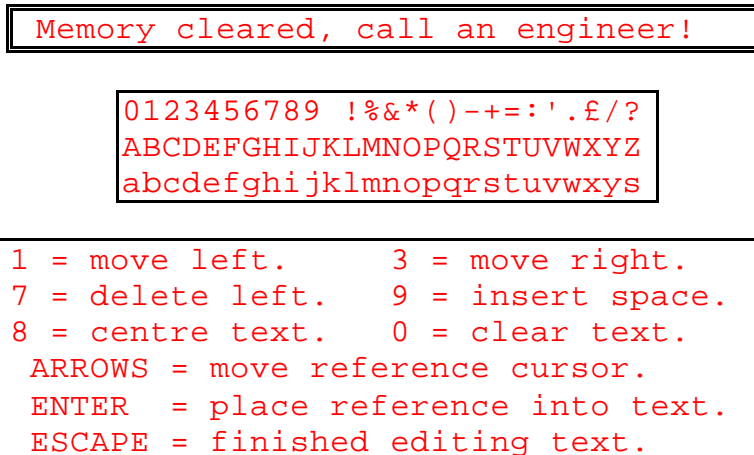
An EEPROM device is used to store a "backup" of the Engineer's and Manager's settings; the backup is updated whenever you exit from the Engineer's or Manager's menu. This option would be used by the engineer to restore vital settings in the event of a failure of the Controller's main memory.

### 7) Install All Defaults

This option enables the manufacturer to setup the default settings of a new controller.

## ENTERING TEXT

The Advanced Bingo Controller does not have a QWERTY keyboard, but it is sometimes necessary to enter text into it. To enter text you have to use the normal keypad and the text enter screen, Fig.9.32, is displayed whenever the Controller requires text entry.



*Fig.9.32 - Text Entering Screen*

The top box of the screen shows the line of text that is being entered. One letter will be indicated by the flashing red cursor. You move this text cursor right by pressing the number 3 key and left by pressing the number 1 key.

The centre box shows the characters that you can put into the text. One of these characters will be picked out by a flashing blue reference cursor. You move this reference cursor around the characters by pressing the arrow keys.

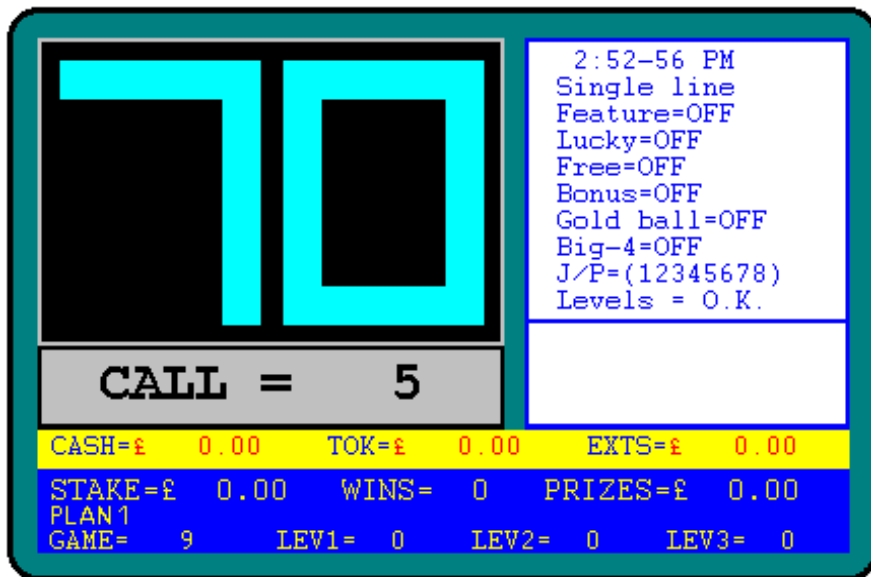
To add a letter into the text, move the reference cursor to the letter you want and then press ENTER. To insert a space into the text press 9 - this will add a space at the red cursor and push the rest of the text on the right one position further to make room. To delete a letter move the red cursor to the left of the offending letter and press 7. This will delete the letter on the left and pull the rest of the text on the right over one position to fill the gap. Key 0 clears all the text in the line so that you can start with a clear sheet. Key 8 puts the text into the centre of the line - this makes it look better if it has to appear on public display.

Note that the alphanumeric displays currently supplied employ only upper case letters, and that full stops must not be used in the text (the display interprets it as a control character).

Press ESCAPE to continue when you have finished editing the text.

## Playing the Game

Once the game session is under way the Caller's screen shows the Caller's Game Display (Fig.2.3).



*Fig.2.3 - Caller's Game Display*

This display has three areas. At the top left hand side the box contains the current number and the number of calls - this information will of course also be shown on the public screens for the players to see.

To the right of this is the "Status Window", explained in chapter 3.

Along the bottom is general information: the yellow section contains the amount staked in this game broken down into cash, tokens and extras. The blue region accommodates the total stake paid in, and the number of wins and prize money paid out from the previous game. Below this is the current plan in action, the game number and the number of people playing at the distinguished stake levels.

## Picking the Game Type

Before you begin playing the game, make sure that the correct Game Type is in force. The Game Type - for example "Single line" - determines what kind of win you are playing for. The Game Type is shown on the caller's screen in the Status Window (Fig.3.1) and on the public screen (Fig.2.4). The game types are explained in Chapter 4. When the required game type is selected you can begin the game by calling the first number.

## Calling Numbers

To call a number press the CALL key. If the "PRE-CALL" function is enabled the screen will give you a preview of the next number due to come out. This is the "PRE-CALL". If you are using 5x5 cards then the pre-call will also tell you the letter of the column the number will appear in - that is, "B", "I", "N", "G" or "O". The new number will not actually be called and displayed on the public screens until the pre-call time has expired. This means that you can announce the number before you let the public see it on the screens. A time delay between the calling of numbers can also be set up in the same manner as the pre-call time.

Note that the pre-call function can be switched on and off using the Setup User Option facilities and that the pre-call time and call delay can be adjusted using the Set Call Delay option in the Engineers Menu, explained in Chapter 9.

The Public Display (Fig.2.4) shows the number called in large figures. The colour of the figure matches the colour of the column on the cards where the number will be. These colours are customised for your installation through the Engineers Menu option Cardset and Colours. Along the top of the screen is a message that you can create yourself under the Engineers Menu option Printer Setup. The bottom of the screen shows the game type in play and the number of calls in the game so far.



*Fig.2.4 - Public Display*

### **Recalling Numbers**

To withdraw a called number and go back to the previous one press **RECALL**. The caller's screen and the public screen will show a return to the previous called number, except that the caller's screen shows that this is not a "CALL" but a "RECALL" of the previous number. If necessary you can press **RECALL** more than once, to go back further than the previous number. After you have done a recall the next time you press **CALL** you will go forward again to the number that was current before you did the **RECALL**. You can carry on calling numbers from there.

### **Checking a Card**

To check a card during a game press the **CHECK** key. Unless there is a claim or a prompt outstanding the Controller will ask you to type in the number of the card to be checked, and then press **ENTER**. The caller's screen will show a picture of the card (Fig.2.5).

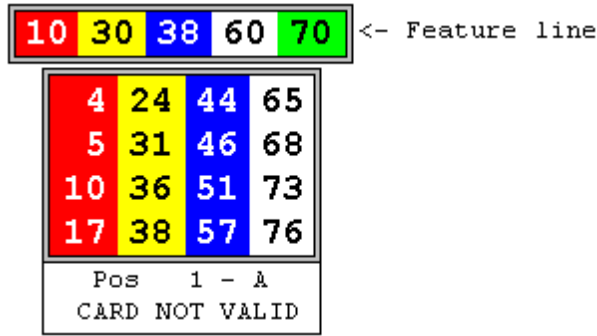


Fig.2.5 - Caller's Card Check Display

The Card Check Display shows the position number and the letter (A, B, C or D) identifying the card for rigs where there are two or more cards per position. Below that the display shows what sort of win the card has - ONE LINE, FULL HOUSE and so on. If the card does not have a win line then the line will say CARD NOT VALID. If the card has not been lit at the position, because the player has not put any money in or has put some money in but not pressed the button to join the game, then the message will say CARD NOT IN PLAY.

The box at the foot of the screen will show the winning position or positions and the prizes due to each position. It will also show a message if this win has been on the lowest number of calls so far this session.

The card in the card check on the caller's screen is also displayed on the public screens (Fig.2.6). The numbers that have not been called yet are printed in colour on a black background, and numbers that have been called are picked out by being printed in white on a coloured background - but if there is a winning line on the card then only the numbers in the line are picked out. If the current number is on the card then it flashes.

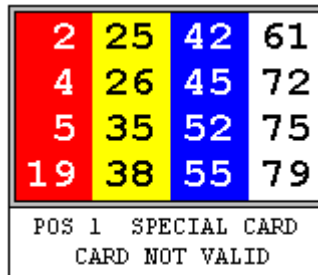
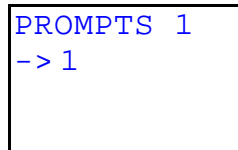


Fig.2.6 - Public Card Check Display

When you have checked one card you can check another by pressing the CHECK key again so that you can type in a new card number, as above: or you can bring back the display of the last number by pressing CALL.

### Prompts

When the Controller knows that a card currently in play has a winning line it will write a prompt (Fig.2.7) in the message box on the Caller's screen, specifying the position number that has the winning line.

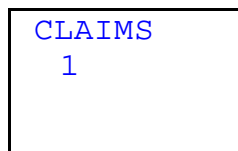


*Fig.2.7 - Prompt*

If there are two or more positions with winning lines then the prompt message in the message box will list them, with a small arrow against the list. You can move this arrow up and down the list to select the position you are interested in by pressing the Up and Down keys before you press the CHECK key: you will probably want to check a card only if the player has claimed.

### Claims

A player can make a claim directly through the Controller by pressing the CLAIM button at the playing position. When a player makes a claim the Controller notifies the operator with a message flashing in red in the message box on the on the Caller's screen (Fig.2.8). At this point you will press CHECK to check the cards at the position that made the claim. The Controller knows which position made the claim, so it can bring up the correct card automatically. If the claim was correct, the Controller will go straight for the winning card and display that. If the claim was not correct then the Controller will show the first card at the position: if there are two or more cards at the position then you can see the others by pressing the CHECK key again.



*Fig.2.8 - Claims*

### End of the Game

To finish a game press the RESET key. The caller's screen briefly displays the message "CONFIRM RESET". Press the RESET key again before the message goes and the game will be over and the Controller will return to the beginning for another game. If you do not press RESET a second time then the same game will continue - this is so that you do not press RESET and end a game accidentally.

At the end of the game the Controller can optionally print out a record of the numbers called in the game and the details of any cards checked. This facility is switched on through the Setup User Option "MAIN PRINTER" in the Engineers Menu. If you find that the Controller is taking an unusually long time to reset at the end of the game, this may be because you have the printer option switched on when you have no printer connected.

## Chapter 3. THE STATUS WINDOW

The box on the right of the Caller's Game Display, the Status Window, has a set of functions. You change the contents of this box by pressing the STATUS WINDOW key or the LEFT ARROW(←) key to step through the various alternatives as described below.

### Current Game Status

Fig 3.1 shows the Current Game Status as displayed in the Status Window.

```

  2:52-56 PM
Single line
Feature=OFF
Lucky=OFF
Free=OFF
Bonus=OFF
Gold ball=OFF
Big-4=OFF
J/P=(12345678)
Levels = O.K.

```

*Fig.3.1 - Current Game Status*

The top line of this box shows the time, if the Controller is fitted with a clock chip: otherwise it is blank. The next line shows the Game Type you are playing. The Controller will let you have various Game Types - Single Line, Special Shapes, Full House etc. How you make use of these Game Types is explained in Chapter 4. The Game Type is also displayed on the Public Display.

Below that is the status of the Features (On or Off), Lucky Square (On or Off), Free Game (On All/Prv/Crd/Alt or Off), Bonus Lines (On {specifying what kind of bonus line} or Off), Golden Ball Jackpot (On or Off) and the Big Four Jackpot (On or Off). The next line indicates which of the pre-set jackpots are currently active by highlighting the appropriate number. Only the first eight pre-set jackpots are shown. The line underneath that shows whether any token payout levels are low - if any positions are running low then you can see which positions they are by referring to the "System Status" box, described below.

Below this is another box, the Message Box, which will be empty at the start of the game. This will be used to show various messages during the game: it will show here, for example, if a player has claimed or if a player has won the Pyramid.

**Indicator Board**

The first alternative screen (Fig.3.2) shows an indicator board with the called numbers printed and the current number flashing.

..	..	3	4	5
..	..	..	..	..
..	..	..	..	..
16	..	18	..	..
..	..	..	24	..
26	..	..	29	..
..	32	..	..	..
..	..	..	..	..
41	42	43	..	45
46	..	..	..	..
..	..	53	54	..
..	57	..	..	..
61	62	63	..	65
66	..	..	..	..
..	..	73	..	..

Fig.3.2 - Indicator Board

Note that when you have this indicator board up on the caller's screen a large copy of the same information appears on the public screens.

**Jackpots**

The next alternative display (Fig.3.3) shows the first eight predefined Jackpots with their Current Jackpot Value and their Jackpot Number in brackets (explained in Chapter 8 The Manager's Menu under Setup Jackpots). This screen also shows the lowest number of calls so far in the session for a single line win and a full house win.

Jackpots	
1=£100.00	(50)
2=£200.00	(50)
3=£ 10.00	( 0)
4=£ 20.00	( 0)
5=£ 5.00	( 0)
6=£ 10.00	( 0)
7=£ 10.00	( 0)
8=£ 20.00	( 0)
lowest:line= 0	
lowest:full= 0	

Fig.3.3 - Jackpots

**Previous Wins**

The next alternative screen shows a history of wins - useful in disputes over winnings paid in previous games.

**Unlit Stations**

The next alternative screen shows a list of unlit stations.

**Session List**

The next alternative screen is the Session List. This will show the list of games in the session if you are playing a session. If you are not playing a session then this will say "Not playing session".

**System Status**

This box is available for the Controller to display various information. For example, if some of the positions are running low on tokens, this box will tell you the numbers of the positions. If there are no messages then this box will be empty.

If you press STATUS WINDOW again the screen returns to the original Current Game Status.

## Chapter 4. THE GAME TYPES

You have the option of changing the game type during or at the end of any game. Press the key marked CHANGE GAME TYPE or ENTER and you will see the SETTING GAME TYPE menu (Fig.4.1).

ANY LINE GAME		ON
FULL HOUSE GAME		OFF
FEATURE	ON/OFF	OFF
LUCKY	ON/OFF	OFF
FREE	ON/OFF	OFF
BONUS	ON/OFF	OFF
GOLDEN	ON/OFF	OFF
BIG-4	ON/OFF	OFF
CHANGE FREE		
CHANGE BONUS		
FORCE A JACKPOT		
SESSION	ON/OFF	OFF
SHAPE	ON/OFF	OFF
SPECIAL	ON/OFF	OFF
PYRAMID	ON/OFF	OFF

*Fig. 4.1 - Game Type Options*

You use the Up and Down keys to move the cursor bar through the options and press ENTER to select the one you want, or else press ESCAPE to exit without making a selection. At this point you can also press CALL to bring up the Caller's Menu, explained below in Chapter 5.

### Any Line Game

When you select this Game Type the Controller will allow a win for a card that has a complete line on it - the columns, rows and diagonals each count as lines, and the four corners also count as a "line".

### Full House Game

When you select this Game the Controller will allow a win only for a complete card.

### Feature

Selecting this option turns the Feature ON/OFF. When the Feature is switched ON, wins on the Feature Line are allowed in addition to wins on the normal cards.

### Lucky (Lucky Square)

This Game Type allows a normal win for any line but in addition awards a Lucky Square win if the current number falls on the Lucky Square on the winning card. You might, for example, nominate the top right hand number of the cards as the Lucky Square. Now if a player gets a winning line on a card and the current number is in the top right hand corner of that card then the Controller awards a Lucky Square Win.

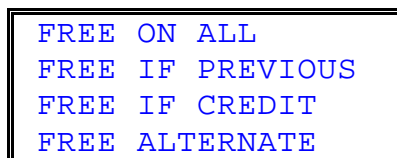
You nominate one or more squares as Lucky Squares through the Engineers Menu option "Setup Valid Status" (Item 5 on the first page of the Engineers Menu.)

### Free (Free Game)

You are able to give the players a free game by telling the Controller to light their cards for them. This option can turn the use of free games ON or OFF.

### Change Free

This option presents you with a short menu (Fig.4.2)



*Fig.4.2 - Free Game Menu*

"Free On All" lights cards on all the playing positions.

"Free If Previous" re-lights the cards at positions that were in play during the previous game.

"Free If Credit" light cards at positions that have credit (it does not of course use that credit).

"Free Alternate" tells the Controller that for a while each alternate game will be free. If you select his option the Controller will prompt you to type in the number of free games you want to play. If you type in 1 then you will get one free game, and so on. Press ENTER when you have typed the required number of free games to be played. Note that these are alternate free games - that is, every other game is an ordinary paid game. The game you start immediately after selecting Alternate Free Game will be a normal game (Any Single Line). The first free game will come next, and the Status Box will say "Free game 1". The next game will be Any Single Line, then the game after that will be "Free game 2" and so on.

In a Free Game the Controller lights one or more cards without charging any credit for them. The number of cards given free is determined through the Engineers Menu facility "Free Game Options", described in Chapter 9. This option also lets you decide whether or not the player will be allowed to light further levels (after the free ones) in exchange for credits, and whether the winnings in a free game will be paid into the player's bank or instead into the credit for further games. When a prize is paid to the player's credit for further games it is treated for auditing purposes as a promotion.

Note that you can turn on/off the free game option from the Caller's Game Display by pressing the PLAY FREE GAME key, as long as there are free games to play i.e. one of the four options on the Change Free Menu must have a free game count that is greater than zero. If not, the play free game key will not turn on/off the free game option.

### Bonus (Bonus Lines)

This option lets you turn on/off the bonus line facility by pressing the ENTER key.

### Change Bonus

This option presents you with a short menu (Fig.4.3) in which you can pick which line or lines are to count as Bonus Lines. You move the highlight cursor up or down to each line and press ENTER to switch each line between ON and OFF. You can have as many lines switched on as you require. The lines that are switched on will be allowed by the Controller as Bonus Win lines in the game. Press ESCAPE when you have finished nominating the required Bonus lines, and you will

return to the Setting Game Type menu.

FIRST COLUMN	ON
SECOND COLUMN	OFF
THIRD COLUMN	OFF
FOURTH COLUMN	OFF
FIFTH (5x5)	OFF
TOP LINE	OFF
BOTTOM LINE	OFF
DIAGONALS	OFF
FOUR CORNERS	OFF
LUCKY SQUARE	OFF
GOLDEN BALL	OFF
BIG FOUR	OFF

*Fig.4.3 - Bonus Line Menu*

Note that you can set the bonus facility on/off by pressing the SET BONUS LINE key from the Game Display.

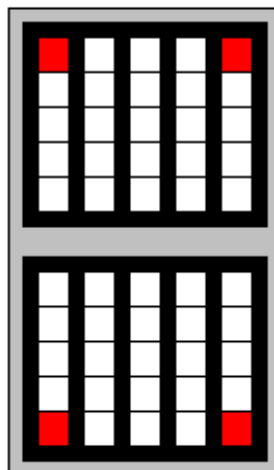
**Golden (Golden Ball Jackpot)**

When a player wins a game with the current ball being the Golden Ball they gain a special Golden Ball Jackpot. Therefore, this option turns On or Off the Golden Ball Jackpot.

The chance of the golden ball occurring can be changed via the Golden Ball Setup in the Engineers menu (Chapter 9).

**Big-4 (Big Four Jackpot)**

If a player covers the four corner numbers of a two card play (as indicated in red on Fig.4.4) then they will win the Big Four Jackpot . This option turns ON or OFF the Big Four Jackpot.



*Fig.4.4 – Big Four Jackpot*

**Force A Jackpot**

The Force A Jackpot menu (Fig.4.5) can be selected from the Setting Game Type menu or by pressing the RIGHT ARROW (→) key whilst showing the Callers Game Display.

1	BIG JACKPOT	(20P)	Forced on
2	BIG JACKPOT	(30P)	Auto-select
3	MINI JACKPOT	(20P)	Auto-select
4	GOLDEN BALL	(20P)	Forced on
5	LUCKY SQUARE	(30P)	Auto-select

*Fig.4.5 – Force A Jackpot Menu*

Once you are presented with the Force A Jackpot menu you can select any of the 32 pre-defined jackpots by using the ARROW keys to move up and down and the ENTER key to force one of them on. The selected jackpots are effective immediately once the user has returned to the Callers Game Display. If any of the first eight pre-defined jackpots are forced on, this will be shown in the Status Window on the jackpot indicator.

**Session**

Select this option to begin or resume a session - that is, a prearranged sequence of game types. The screen presents you with a list of games (up to 64). You can move the highlight bar up or down and then press ENTER to pick the place to start the session: or press RECALL to resume a session already in progress.

When you return to the Game Display, the game type for each game will be shown in the Status Window. When the end of a session is reached (indicated by "---End---" on the list) the Controller will start again at the beginning.

If the session is turned OFF the individual games will still be ON in the Setting Game Type menu as indicated in the Status Window.

A session can be created through the Manager's Menu option, described in Chapter 8.

The Controller will stop playing a session if you select any of the other Game Types from this menu.

**Shape**

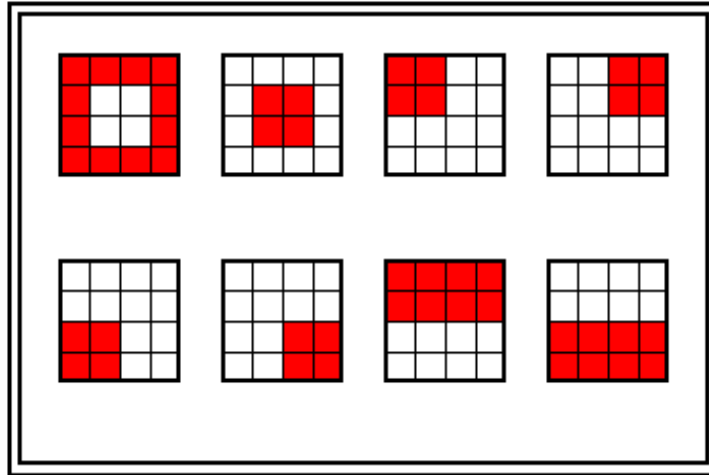
This option gives the player a shape of free squares on the playing card. The shape of the free squares can be altered by the Set Valid Status option in the Engineers menu, Chapter 9; any shape can be designed within the card parameters. A line that is completed by the free squares will become a winning line (Fig.4.6).



*Fig.4.6 – Shape of Free Squares*

**Special**

This option allows you to design winning patterns for the bingo cards. When you select this option it brings these patterns into play. The shape of the patterns can be created via the Set Valid Status option in the Engineers menu, Chapter 9. The screen below displays a picture of the possible shapes that can be designed (Fig.4.7)



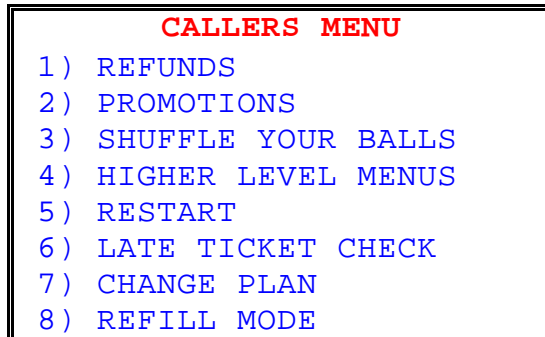
*Fig.4.7 – Example Patterns*

**Pyramid**

If the Game Type list (Fig.4.1) shows that Pyramid is Off you can switch it On by selecting this option from the menu and pressing ENTER: similarly if it is On you can switch it Off by selecting it again. The Pyramid facility is explained in The Managers Menu under Set Pyramid in Chapter 8.

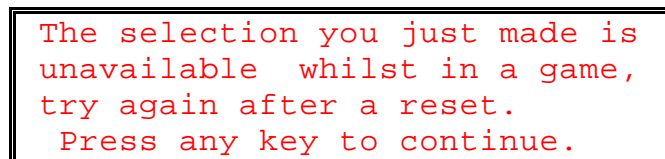
## Chapter 5. THE CALLER'S MENU

The Caller's Menu is available to the Caller at any time during play. Press the ENTER key to bring up the Game Type menu on the screen, then press CALL to bring up the Caller's Menu (Fig.5.1).



*Fig.5.1 - Caller's Menu*

As usual you use the Up and Down keys to move the red highlight to the option you want and then press ENTER, or else pick the option by pressing the corresponding number key. Note that some of these options will not work if you are halfway through a game: if you try to pick option 3, Shuffle Your Balls, for example, while you are in a game, then the Controller will announce that the option is not available during a game (Fig.5.2).

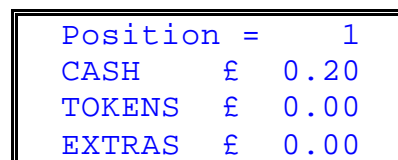


*Fig.5.2 - Option Not Available*

In this case just press any key and the screen will go back to the normal Game Display.

### 1) Refunds

This feature is used to refund any players with the cash and tokens at their positions. The Controller first asks you to type in the number of the position where the refund is required. You type in the position number, and the controller responds by showing the cash, tokens and extras at that position (Fig.5.3)



*Fig.5.3 - Refund*

You press ENTER to proceed with the refund or ESCAPE to cancel the refund.

Alternatively you can refund all the positions in one go. To do this, instead of typing in a position number press the RECALL key. The Controller will work its way around all the positions, refunding them all. When it has finished it will display on the screen the total cash and the total value of tokens that it has just refunded.

Note that you can come straight to this option from the Caller's Game Display by pressing

the REFUND key. This means that you can do a refund without having to go through the Caller's Menu.

## 2) Promotions

This feature is used to forward credit (extras) to a position for promotional purposes. The controller maintains an audit of all promotions. You type in the position and the amount of the promotion (Fig.5.4).

```
Promote position = 1
Promote amount = £ 1.00
```

*Fig.5.4 - Promotion*

Press ENTER to proceed with the promotion (the controller will say "Promote Confirmed") or else press ESCAPE to cancel the promotion. The controller will go back to let you type in another: press ESCAPE when you have finished with the promotions. When you make a promotion the details (position and amount) are written out on the printer - for example

```
Promotion to 2 of £ 1.00
```

You do not have to use the menu to do promotions: you can press the PROMOS key.

## 3) Shuffle Your Balls

This provides a demonstration that the random number generator in the Controller is working. It runs through the numbers shuffling them up, showing each one on the caller's display and on the public display as well. When it has finished the screen goes back to the ordinary game display.

Note that this option will not work whilst you are in a game.

## 4) Higher Level Menus

This option brings up the menu of Extra Menus, described in Chapter 6.

## 5) Restart

This facility causes the Controller to re-start itself as if you had just switched it on. This gives it a chance to update the Rig with any changes you have made.

## 6) Late Ticket Check

This enables the controller to check cards from the previous game in the case of a dispute. You will be asked to enter the number of the position you wish to check.

## 7) Change Plan

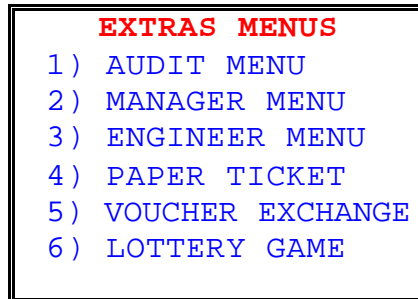
If there are 2 or more assignment plans set up, then this option lets you change between them. Use the up and down keys to highlight the plan you want and press ENTER to select it.

## 8) Refill Mode

If the hoppers are below their threshold value, then this option will allow them to be refilled without it being recorded as credit. Any position can be refilled by entering the appropriate position number or all of the positions can be refilled by pressing RECALL, this is known as a Global Refill. If a Global Refill is selected the Extra Credit Switch will be turned OFF so no credit is accumulated when inserting coins during the refill. Once the refill has finished the Extra Credit Switch will return to its previous state.

## Chapter 6. EXTRA MENUS

You can get the menu of Extra Menus (Fig.6.1) by selecting item 4 from the Caller's Menu, described in Chapter 5.



*Fig.6.1 - Extra Menus*

As usual you use the Up and Down keys to move the red highlight to the option you want and then press ENTER, or else pick the option by pressing the corresponding number key. Note that the Audit Menu, Manager Menu and Engineer Menu can be given "Restricted Access". When you select an item that has been given restricted access a box comes up on screen where you have to type the Security Code number and then press ENTER. If you do not know the Security Code number then you will not be able to use that option.

### 1) Audit Menu

The Audit Menu is explained in Chapter 7.

### 2) Manager Menu

The Manager's Menus are explained in Chapter 8.

### 3) Engineer Menu

The Engineer's Menus are explained in Chapter 9.

### 4) Paper Ticket

This function is used for PAPER BINGO. All the players will play one paper ticket at a time and each ticket has its own identification number. The Call, Reset, Recall and Check all work in the normal manner. There is no pre-call function. When checking a paper ticket the identification number of the ticket is entered. To exit paper bingo, reset the game and press the ESCAPE key.

### 5) Voucher Exchange

This exchanges the player's winnings, in tokens, to shopping vouchers. To carry out this process you will need to enter the position number and the amount exchanged.

### 6) Lottery Game

Selecting this option will initiate the Lottery Game. The sequence of numbers generated for this game will be printed out before the start, as they are not random when they are called. The Call, Recall and Check keys all work as normal and the game is free to all players. To exit the Lottery Game use the RESET key as in previous game types.

## Chapter 10. HARDWARE

This chapter provides a few details of the hardware of the Controller and associated equipment for reference.

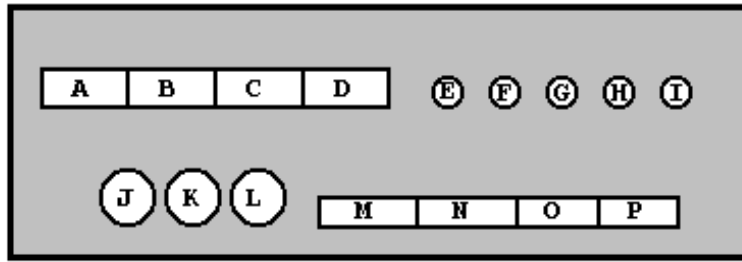
The main Controller consists of two boards, one called the ABC and the other the EKOS. The ABC board contains the program, card sets and the video channels. The EKOS contains the composite video channels, the 8 rig channels, and some spare sockets.

Within the player's cabinet there is a "Slave" board that controls four positions: each position can have up to four board lights, a 'win' light and an 'in play' light. The Slave board also controls a slide payout mechanism or a compact hopper. Another board, called the FALIC board, can be connected to drive a vacuum fluorescent display of 16 characters.

The KIM connects to a FALIC board and the coin mechanisms connect to this instead, giving a neater wiring solution. Before you attempt to program the rig, make sure that each slave board has its own address set on the DIL switch. A binary value, 0 to 31, has to be set on switches 1 to 5, with no duplicates on any one drop. Switch 7 sets the test.

The system can control 8 rigs of 32 slaves, each of which can have 4 players, giving a maximum of 1024 players each with up to four cards.

**ABC FRONT PANEL**



*Fig.11.1 - ABC Front Panel*

**Connector A**

General Input - 10-way Stocko. The inputs are TTL/CMOS compatible and are pulled low by 10k resistors. Input 1 is reserved for A/B switching: the rest are currently unassigned.

1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	----

Pin	
1	GND
2	Input 1
3	Input 2
4	Input 3
5	Input 4
6	Input 5
7	Input 6
8	n/c
9	n/c
10	5v

**Connector B**

General Output - 10-way Stocko. These lines are general TTL outputs, currently not assigned to any use.

1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	----

Pin	
1	GND
2	Output 1
3	Output 2
4	Output 3
5	Output 4
6	Output 5
7	Output 6
8	Output 7
9	Output 8
10	5v

**Connector C**

Printer interface - 16-way IDC.

15	13	11	9	7	5	3	1
16	14	12	10	8	6	4	2

Pin		Pin	
1	D0	2	GND
3	D1	4	GND
5	D2	6	GND
7	D3	8	SELECT
9	D4	10	BUSY
11	D5	12	GND
13	D6	14	n/c
15	D7	16	STROBE

**Connector D**

Printer interface - 16-way IDC. PSEL is a line that enables two printers to be used from one connector, providing the interface (DUPR) is used.

15	13	11	9	7	5	3	1
16	14	12	10	8	6	4	2

Pin	Pin
1 D0	2 GND
3 D1	4 GND
5 D2	6 GND
7 D3	8 PSEL
9 D4	10 BUSY
11 D5	12 GND
13 D6	14 n/c
15 D7	16 STROBE

**Connector E**

BNC: sound drive output.

**Connector F**

BNC: PD drive output, used to control a standard ECM type PD display.

**Connector G**

This output is the cashier's video composite drive (1vp-p). The BNC connector G is usually the cashier's output but it can be configured to drive a secondary public output which in a Prize Bingo installation is a typical number of public monitors.

**Connector H**

This output is the public video composite drive (1vp-p).

**Connector I**

This output is the caller's video composite drive (1vp-p).

**Connector J**

DIN connector (3-way). This drive is the RS485 feed for the remote displays which also feeds the ECM display interface equipment.

Pin	
1	RS485 +
2	GND
3	RS485 -

**Connector K**

DIN connector (3-way). This drive is the RS485 feed for one rig drop. This output is the same as channel #1 on the top board.

Pin	
1	RS485 +
2	GND
3	RS485 -

**Connector L**

DIN connector (8-way). This drive is the RS232 feed for external displays and modem.

Pin	
1	CTS
2	RTS
3	DSR
4	TX
5	RX
6	DRT
7	DCD
8	n/c

**Connector M**

Stocko. This is the cashier's keyboard input.

1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	----

Pin	
1	DATA 1
2	DATA 2
3	DATA 3
4	DATA 4
5	DATA 5
6	KEY PRESS
7	GND
8	VCC
9	n/c
10	n/c

**Connector N**

Stocko. This is the caller's keyboard input.

1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	----

Pin	
1	DATA 1
2	DATA 2
3	DATA 3
4	DATA 4
5	DATA 5
6	KEY PRESS
7	GND
8	VCC
9	n/c
10	n/c

**Connector O**

Stocko. This is the public video RGB output.

1	2	3	4	5	6	7	8
---	---	---	---	---	---	---	---

Pin	
1	GND
2	Horizontal/composite sync
3	Vertical sync
4	Intensity
5	Blue
6	Green
7	Red
8	5v

**Connector P**

Stocko. This is the caller's video RGB output.

1	2	3	4	5	6	7	8
---	---	---	---	---	---	---	---

Pin	
1	GND
2	Horizontal/composite sync
3	Vertical sync
4	Intensity
5	Blue
6	Green
7	Red
8	5v

## Chapter 11. TROUBLE SHOOTING

### PROBLEMS

I've set a Pre-Call time but nothing happens.

The Controller takes a long time to reset at the end of the game.

I cannot call numbers or reset the game.

How do I change between a 4x4 and a 5x5 cardset?

The rig doesn't appear to work.

### POSSIBLE SOLUTIONS

In the Setup User Options make sure that the Pre-Call facility is ON.

Make sure you have the printer option OFF while you don't have a printer connected.

Turn the Call+Reset chk in the Setup User Options OFF.

Turn the 4x4 Validate option in the SetupUser Options ON/OFF.

Make sure the power on the monitors is turned ON.