

# POT .0. GOLD



VERSION 3.50

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**OPERATIONAL / TECHNICAL MANUAL**

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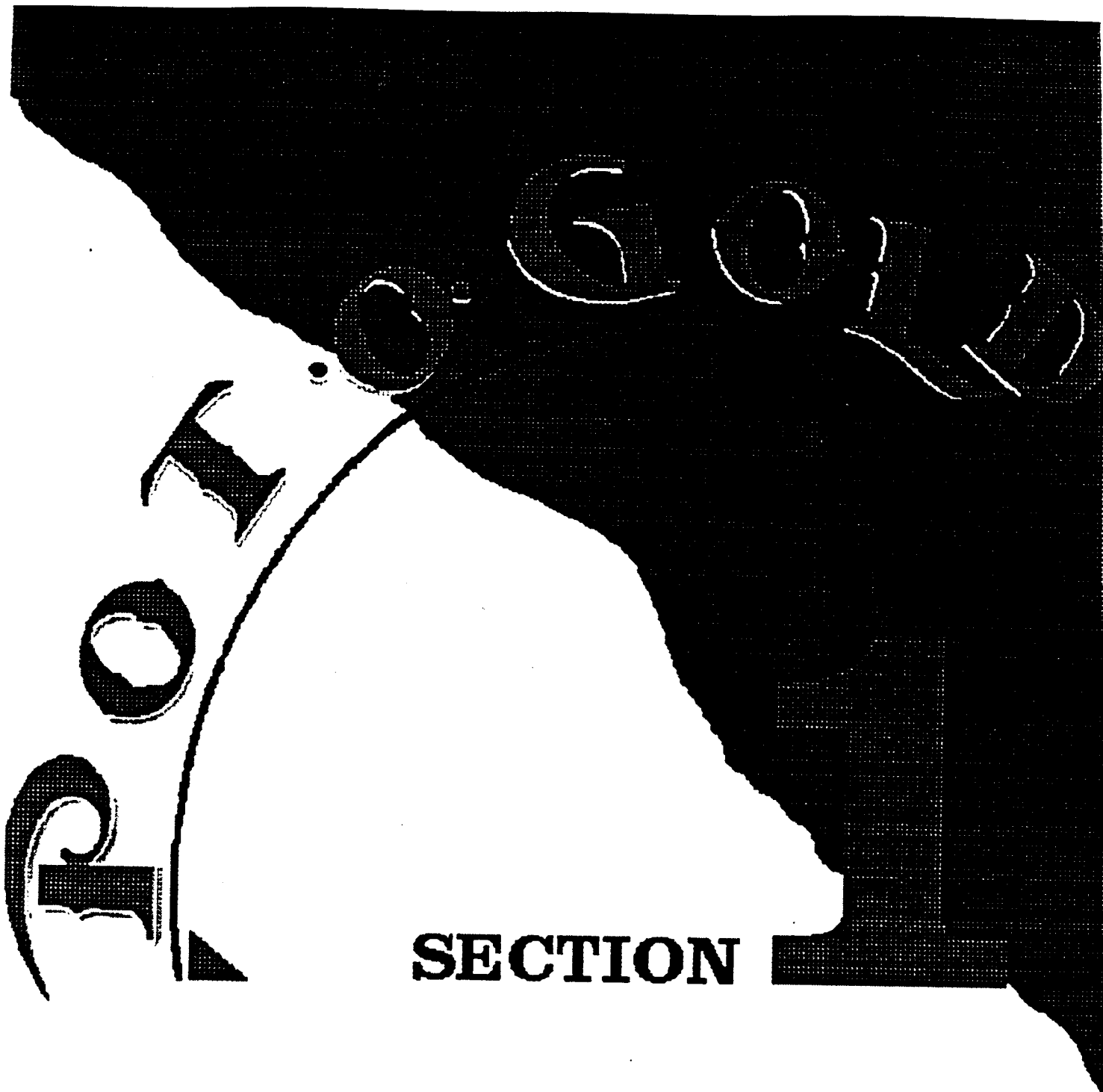
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## INTRODUCTION

# Introduction

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Congratulations on your purchase of the most advanced piece of gaming equipment ever produced. By choosing the U.S. Games, Inc. Pot-O-Gold machine, you have tapped into a vast resource of engineering and manufacturing capabilities, geared 100% to your profitability. We have spent years developing the Pot-O-Gold family of products into what we believe are the best machines in the world. To take full advantage of your investment, please take the time to thoroughly review this manual. If you have any questions, concerns or comments, don't hesitate to contact our Customer Service/Technical Support Hotline at 1-800-448-4263.

## About This Manual

The basic format of this manual is as follows:

Each of the Sections contains one or more Chapters. Each Chapter breaks down into Topics. Each page is marked with the following:

- a) The Section number
- b) The Chapter number
- c) The Chapter description
- d) A page number that restarts to 1 for each new Chapter

## Chapter 1: General Information

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Throughout this manual, several terms and conventions are used that might not seem self-evident. Below is a partial list of these:

### 1. **Player Select Screen**

When the Player Select feature is enabled, this is the Screen that displays all the games available for play.

### 2. **Gamescreen**

Once a player touches one of the game buttons in the Player Select Screen, the appropriate Gamescreen is displayed. This is the screen displayed during actual game play. This is the only screen displayed when the Player Select feature is disabled.

### 3. **"Credit" Register**

The displayed amount of credit(s) available for game play.

### 4. **"Bet" Register**

The monetary value of the Current Wager, or the number of credits wagered.

### 5. **"Wins" Register**

The displayed amount of credit(s) won in the last completed game.

### 6. **"Last" Register**

The displayed amount of credit(s) won in the previous game (prior to the amount won that is displayed in the "Wins" register).

### 7. **Error Flag**

One of 32 errors that can be triggered. Some are not really errors, but merely exception conditions. All errors show up in the lower left corner of the screen, and are cleared by momentarily engaging the Attendant keyswitch.

### 8. **Attendant Keyswitch**

The attendant keyswitch comes from the factory set up for a #754 key. The attendant keyswitch has two major functions; to clear error flags, and to set the Out of

## 11. Numeric Keypad

In the Configuration Screens, some of the function buttons require input of numeric data (the machine number, for instance). When the function button is activated, a numeric keypad pops up on the screen to allow for the entry of the data. It functions just like a calculator keypad.

## 12. Various Machine Modes

The machine can be in any one of five operational modes within the two main state modes (Gameplay & Diagnostics). The operational modes really only matter when in the Gameplay mode. The five operational modes are:

### A. Demo

In the Demo mode, no money is required to play the machine. Whenever the credit register is less than the amount being played, \$50.00 is added to the credit register. In this mode, hard meters are not incremented, no money is accepted, and the Cash Out button is disabled. Accounting is not affected in the Demo mode.

### B. Normal

This is the standard operating mode.

### C. Tournament

In the Tournament mode, no money is required to play the machine. This mode is the same as the Demo mode in that hard meters are not incremented, no money is accepted, and the Cash Out button is disabled. Accounting is also not affected in the Tournament mode.

### D. Disabled

This mode can be set either manually (from the Diagnostics mode), or by a host system. In this mode, no money is accepted, and the machine can not be played.

### E. Out of Order

This mode is much like the Disabled mode, but is set and cleared by engaging the Attendant keyswitch for 5 seconds.



**NOTE:**  
Improper setting of these switches can result in multiple errors, as the I/O functions on the edge connectors are completely remapped.

**13. Dipswitches**

On the T340 Logic board, there is a bank of 8 dipswitches. From Left (1) to Right (8) the functions are as follows:

**a. Dipswitches 1, 2 and 3**

Set the board up for use in a particular style cabinet, per the table below.

Dipswitch			Cabinet Style
1	2	3	
Down	Down	Down	13" Wooden Pushbutton
Up	Down	Down	19" Wooden Touchscreen
Down	Up	Down	19" Casino Style Touchscreen
Up	Up	Down	13" Casino Style Pushbutton
Down	Down	Up	19" Sit Down Touchscreen
Up	Down	Up	Cluster Controller
Down	Up	Up	Invalid
Up	Up	Up	Invalid

**b. Dipswitch 4**

Up = Microtouch touchscreen

Down = Interaction Systems Touchscreen

**c. Dipswitch 5**

Up = tells the software to expect, use and test a USG Data<sup>3</sup> in position U10. This feature is NOT supported in the system firmware, so this switch should always remain Down.

Down = tells the software to ignore U10.

**d. Dipswitch 6**

Up = Used only on boards installed in 13" wooden pushbutton machines. Tells the software to program the 34010 MPU Video registers for a 25 MHz clock. U52 MUST be a 25 MHz TTL oscillator, or there will be no horizontal lock.

Down = Used on all other cabinet styles. Tells the software to program the 34010 Video Registers for a 22.1184 MHz clock. U52 must be a 22.1184 MHz TTL oscillator, or the picture will tear horizontally.

**e. Dipswitch 7**

Up = Fools the software into thinking that someone's always pushing the PLAY button.

Down = Autoplay off.

**WARNING:**

This switch is the single most powerful and dangerous function switch in the system!

**f. Dipswitch 8**

Up = In this position, the following conditions apply:

f.1. When the machine first boots up, it goes into the Diagnostics mode instead of out to the Gameplay mode.

f.2. Normally, if there is a problem with the printer, or no printer is connected, a "Printer Error" flag is set. This error is disabled when switch #8 is active (up). This assumes that the printer type is set to anything other than "NO PRINTER" in the Terminal Config screen.

f.3. Restricted (Purple) buttons become Keyed (Red) buttons.

It should now be obvious that this dipswitch should not be taken lightly. As an aid to personnel in identifying a situation where dipswitch #8 was left UP, a flashing border message is displayed at all times when in the Gameplay mode.

**14. Lockout**

The term "Lockout" is actually used in the reverse sense of its English definition. If we say that the lockout is engaged, we mean that the machine will accept money. If the lockout is disengaged, the machine will NOT accept any money. The reasoning for this carries over from the use of mechanical coin acceptors. These acceptors have a lockout coil that, when at rest (when no power is applied to the coil) its armature falls into the path of the coin mechanism, diverting all coins to the reject side. When power is applied to the lockout coil, it pulls (engages) the armature, taking it out of the coin path.

It is important to note that the machine will NOT accept money (the lockout will "drop out") under the following conditions:

1. Any of the three doors (Main, Cash or Logic) are open.
2. An error flag is set.

3. The Max Cash In (described later) has been exceeded.
4. A ticket is pending or being printed.
5. The machine is in Diagnostics mode (except for the Money Tests Screen).
6. The machine's Operational Mode is anything other than Normal.

There are certainly a thousand other items that have not been mentioned here. Read on and hopefully all will be explained.

## Unpacking from the Re-usable Box

### NOTE:

This discussion applies to both casino style and sit-down machines, unless otherwise noted.

### NOTE:

If your machine(s) arrived via dedicated truck, please disregard these unpacking instructions.

### NOTE:

Do not attempt to truck the machine from the front! You not only risk marring the finish, but the drop bowl cannot withstand the weight.

## Chapter 2: Installation

### Unpacking from the Re-usable Box

Machines shipped from the factory are packaged in a custom, re-usable box. Each box is marked with the model number, serial number, Terminal ID, origin and destination of the machine inside.

To unpack the machine:

A. First locate the four plastic retention clips.

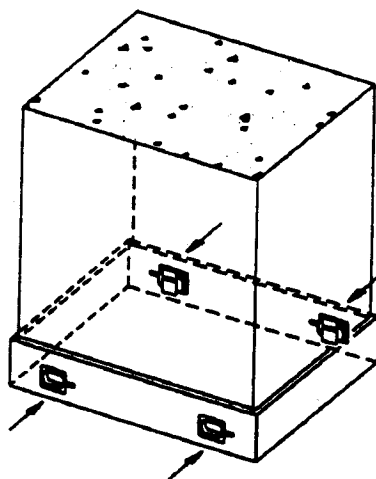
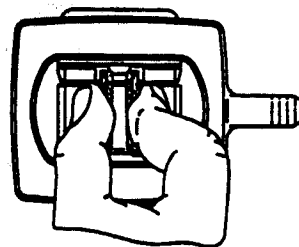


fig. 2.1

B. Squeeze the two inside tabs of each clip and pull towards you to disengage the clip from the box.

fig. 2.2



C. Next, slide the shell up over the machine. The machine is covered with a plastic bag.

Do not cut it. Simply slide it up and off the machine.

If you are going to move the machine with a hand truck, unfold only one of the side flaps of the box bottom. This will allow you to roll up to the machine without destroying the box bottom. Once the casino style machine is free of the box, it can be safely trucked from either side or the back. The sit-down machine should be trucked from the right side (if you are facing the machine).

**Installing onto the Base****NOTE:**

Do not attempt to install any machine on a base made from particle board, unless you can absolutely verify that the glue is 100% waterproof.

**NOTE:**

These instructions do not apply to multiple machine bases or carousels.

**NOTE:**

Do not attempt to lift a machine if you have back problems. Always wear appropriate weight lifting harnesses. The Pot-O-Gold 19" Casino Style Touchscreen machine weighs close to 300 pounds! Always observe standard lifting procedures (use the legs, not the back).

**Opening the Main Door (Casino Style Machines)****Installing onto the Base (Casino Style Machines)**

Before installing the machine onto the base, ensure that the base is both level AND stable. All high quality bases have leg levelers installed in all four corners. Adjust them appropriately, then move the base to a location you can get behind. Position the machine face-front directly **BEHIND** the base. Tilt the machine back until it reaches its balancing point. From here on out this is a 2 person job. If you have never lifted a Pot-O-Gold machine before, test the weight by positioning yourselves on either side of the machine and lifting up a few inches, then back down. Be sure one hand is properly supporting the back of the machine, while the other is grasping the bottom, not the drop bowl. When ready, lift the machine and move towards the base. Since the machine is tilted back at a 45 degree angle, the front edge should clear the rear edge of the base. Don't be alarmed if the bottom of the machine makes contact with the rear edge of the base. Just ensure that it does so past the midway point towards the back of the machine. It will then be safe to tilt the machine upright while sliding it forward onto the base.

Note that sit-down machines are not installed onto any type of base.

**Opening the Main Door (Casino Style Machines)**

With the machine now squarely set on top of the base, it is safe to open the main door. Locate a set of keys, which should be in the coin bowl. For casino installations, check with a U.S. Games representative for the location of keys.

The keys are color-coded per the table below:

Color	#	Lock Description
White	72351	Main Door
Orange	5424	Bill Acceptor Door
Blue	2203	Logic Cage
Green	754	Attendant's Keyswitch
Red	2205	Supervisor's Keyswitch

To open the main door, follow these simple steps:

1. While standing in front of the machine, insert the white key into the main door lock, which is located on the right side of the door. Turn the key.
2. Locate the upper right corner of the black plastic monitor bezel, where it meets the metal door. Apply a small amount of upwards pressure with your left hand, and hold.
3. Insert your index finger into the lifting recess, located just below the lock. Lift the recess until it tops out.
4. The door should now swing freely.

To close the door: (you should be able to use the reverse procedure). The main door key must be turned for the door to close, otherwise the locking bar can't properly engage the cabinet. **Something to remember;** because this is a touch screen device, the door cannot simply glide shut. The bezel on the door must apply pressure to the gasketing, to provide the necessary seal. This is why it helps to apply a small amount of "closing pressure" to the door while lifting and lowering the locking bar recess.

### Opening the Main Access Panel (Sit-Down Machines)

To open the Main Access panel, simply locate a set of keys, which were shipped separately. (The keys are color-coded per the table shown below). Use the white key to unlock the panel, then pull towards you until the padded rail comes free.

Color	#	Lock Description
White	72351	Main Access Panel, Cable Door, LED Sign, AC Distribution Panel, Printer/Hopper Door, Coin Mech.
Orange	5424	Bill Acceptor Door, Cash Door
Blue	2203	Logic Cage (Located inside the Main Access Area)
Green	754	Attendant's Keyswitch
Red	2205	Supervisor's Keyswitch

**NOTE:**

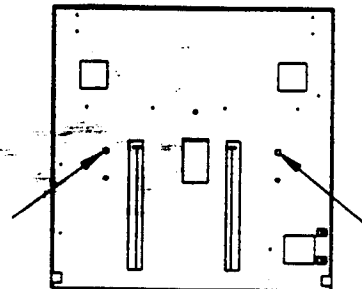
Remember to have the white key turned before attempting to close the door.

### Opening the Main Access Panel (Sit-Down Machines)

**Bolting The Machine Down  
(Casino Style Machines)****Bolting The Machine Down**

With the door open, slide the machine until you can see that the holes in the bottom of the cabinet match up with the holes in the base. Drop two bolts through the two holes referenced in fig. 2.3, and tighten appropriately, depending on the style base. If necessary, you can remove the Hopper/Printer by simply grasping the handle and pulling towards you.

fig 2.3



To replace the hopper/printer, reverse the procedure.

**Installing the Change Candle  
(Casino Style Machines)****Installing the Change Candle (Casino Style Machines)**

~~Unwrap the change candle from~~ the bubble pack. Right now, the only thing holding the seven plastic pieces together is the wing nut. The key to installing the change candle is to keep the cap compressed against the tiers and the plastic base, even after removing the wing nut. For those with small hands who cannot cradle the candle in one hand while removing the nut with the other, the easiest way to proceed is to set the edge of the change candle base on the front top edge of the main cabinet, and apply pressure to the top of the candle with one hand, while spinning the wing nut off with the other.

With both hands holding the candle together, position it onto the hole pattern formed in the top of the cabinet. The plastic bolt goes through the rear hole, and the harness goes through the front. Keeping one hand on the change candle cap, reach in behind the meter housing and re-install the wing nut until it's tight. Connect the connector.

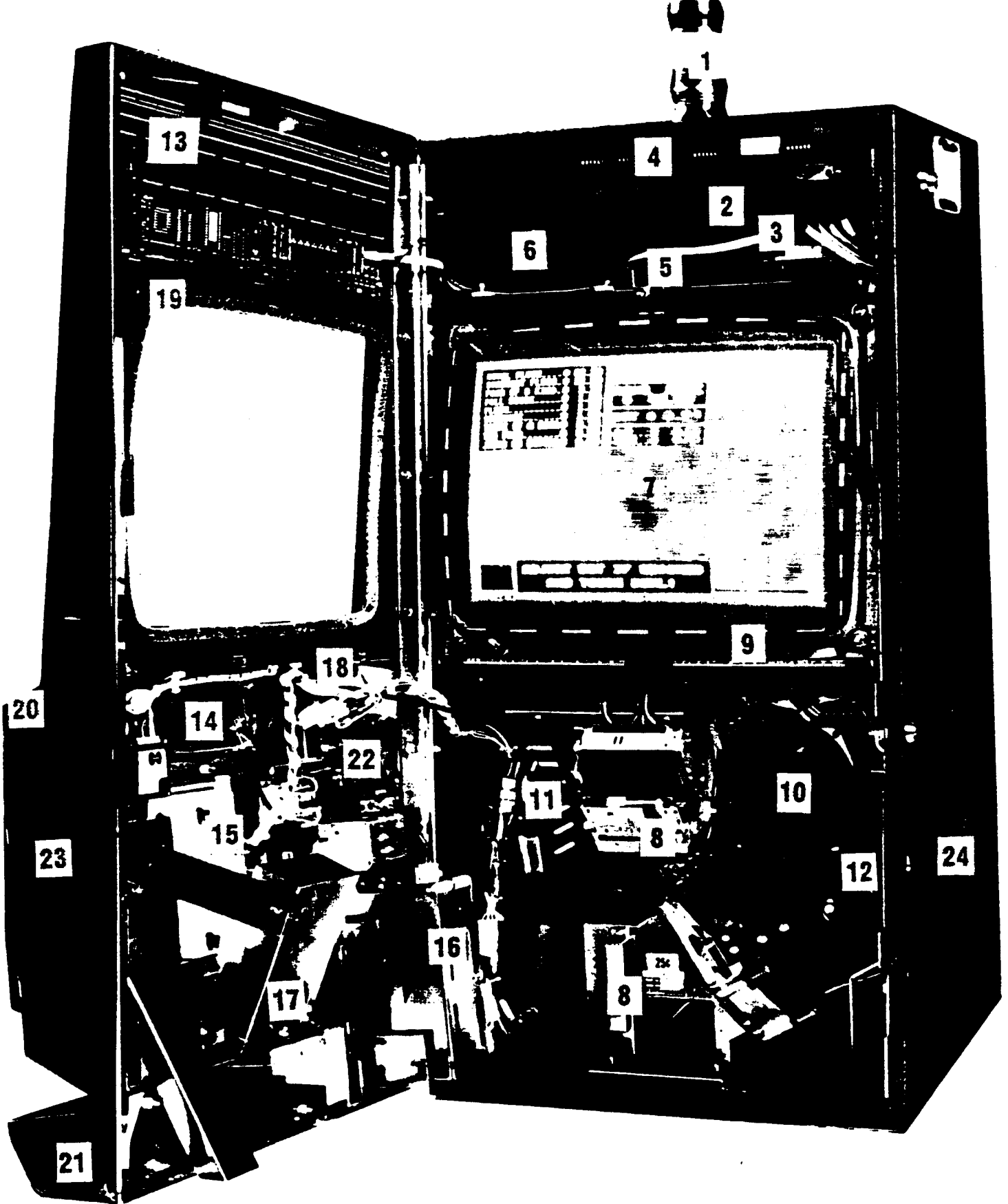
**Installing the Change Candle  
(Sit-Down Machines)****Installing the Change Candle (Sit-Down Machines)**

Using the white key, unlock the LED sign. Pull the

front panel of the LED up and towards you until it comes free. Next, unwrap the change candle from the bubble pack. Right now, the only thing holding the seven plastic pieces together is the wing nut. The key to installing the change candle is to keep the cap compressed against the tiers and the plastic base, even after removing the wing nut. For those with small hands who cannot cradle the candle in one hand while removing the nut with the other, the easiest way to proceed is to set the edge of the change candle base on the front top edge of the LED, and apply pressure to the top of the candle with one hand, while spinning the wing nut off with the other.

With both hands holding the candle together, position it onto the hole pattern formed in the top of the cabinet. The plastic bolt goes through the rear hole, and the harness goes through the front. Keeping one hand on the change candle cap, re-install the wing nut until it's tight. Now connect the connector and replace the front panel of the LED sign.





1. Change Candle 2. Attendant Keyswitch 3. Supervisor's Keyswitch 4. Hard Meter Bracket 5. Logic Cage 6. Power Supply 7. Monitor 8. Printer/Hopper 9. Touchscreen Controller 10. Speaker 11. Bell 12. AC Distribution Box 13. 9 Color LED Sign 14. Back-Channel Assembly 15. Belly Glass 16. Bill Acceptor 17. Ticket Chute 18. Call Attendant Switch 19. Bezel 20. Coin Head 21. Drop Bowl 22. Card Reader Bezel 23. Main Door 24. Locking Bar Recess

### 3.1 Cabinet Overview

## Chapter 3.1

### Casino Style Cabinet Overview

#### Main Cabinet

#### Main Cabinet

Refer to Fig. 3.1 during the discussion.

#### External

#### 1. Change Candle

The change candle has 3 tiers per the list below:

A. Tier 1 = Red Flashes when there is a winner of a particular value.

B. Tier 2 = White Flashes whenever any door is open or any error flag is set.

C. Tier 3 = Blue Lights steady when an internal communications error has taken place. Also lights steady when any message appears at the top of the screen while in the Gameplay mode (i.e., when any door- Main, Cash or Logic- has been opened, when Dipswitch number 8 is UP, or after a power up). In the case of a door opening or power up, one complete game must be played before the blue light will go off, even after the door is closed. Flashes in conjunction with tier 2 when the Call Attendant switch is activated.

#### 2. Attendant Keyswitch

Used to clear errors.

#### 3. Supervisor's Keyswitch

Gains access to the Operator Menu. Also allows configurable registers to be changed.

#### Internal

The top section of the main cabinet is referred to as the Logic Area. The following sub-assemblies are mounted here.

#### 4. Hard Meter Bracket

There are either four or five hard meters mounted to the hard meter bracket. The left-most meter will

**NOTE:**

High voltage near these sub-assemblies.

always be Meter A, while the right-most will be Meter D or E. For a full description of these meters, refer to Section 3, Chapter 4, Terminal Config. Note that the Main Door Switch is also mounted on this bracket.

**5. Logic Cage**

The Turbo340 logic board is located within this cage. The Turbo340 board is the main logic board, and contains all the software to make the machine function.

**6. Power Supply**

The power supply is sometimes referred to as the switching regulator. It converts the 120 VAC (Volts of Alternating Current) coming in from the wall outlet to the +5, +12, and -12 VDC (Volts of Direct Current) needed to run most of the internal components of the machine.

7. The monitor area contains one item; the monitor. The monitor used is a high rel, casino-grade type fitted with a capacitive touchscreen. It has been specially modified to work with the unique sync and video signals produced by the Turbo340 board.

The Lower Cabinet Area houses the following sub-assemblies:

**8. Hopper/Printer**

There may be either a hopper or a printer in this location. There may also be a combination of the two, in which case the hopper will fit into this area, while the printer will be mounted directly above.

**9. Touchscreen Controller**

(On models using an ISI touchscreen) The touchscreen controller connects to the touchscreen glass and translates its signals into serial data that gets sent to the Turbo340 board.

**10. Speaker**

An 8-Watt speaker is used to minimize distortion coming from the Yamaha FM synthesizer on the Turbo340 board.

**11. Bell**

The bell is used to indicate large wins.

**CAUTION!**

Use extra care when working around the AC Distribution Box. It contains 120VAC at every connector. Also note that the fuses and connectors mounted to the left of the main power switch ARE ALWAYS LIVE whenever the line cord (main power cord) is plugged in. If in doubt, be safe, not sorry! Unplug the machine from the wall.

**Main Door****CAUTION!**

High voltage near these sub-assemblies.

**12. AC Distribution Box**

The AC distribution box is the main connection point for all the high voltage in the machine. The line cord plugs into the Power Entry Module, which is located at the bottom left corner. The main power switch for the machine is located near the center. Each main feed has its own fuse.

**Main Door****Internal**

Refer to Fig. 3.1 during this discussion.

**13. 9 Color LED Sign**

The LED Sign is used to display the current progressive amount.

**14. Back-channel Assembly**

The back-channel assembly holds the electronic coin comparator and routes coins to their appropriate destination.

**15. Belly Glass**

The machine comes standard with an incandescent belly glass lamp board, which allows for animation. If desired, it can be replaced with a fluorescent assembly.

**16. Bill Acceptor**

The bill acceptor comes with a 600 note magazine, which is the largest capacity that will fit and still clear the hopper/printer. Note that the bills are not accessible by opening the Main Door. The bill door must be opened.

**17. Ticket Chute**

The ticket chute guides tickets from the printer to the drop bowl. It can be replaced with a cover plate for machines without printers.

**External****18. Call Attendant Switch**

When activated, the call Attendant switch flashes the two lower tiers of the change candle.

**19. Bezel**

The bezel provides the ability to seal the door where it meets the monitor.

**20. Coin Head**

The coin head is engraved with the appropriate denomination coin. It can also have the casino's name engraved on it, in some markets, at a nominal extra charge.

**21. Drop Bowl**

The drop bowl holds coins and/or printed tickets.

**22. Card Reader Bezel**

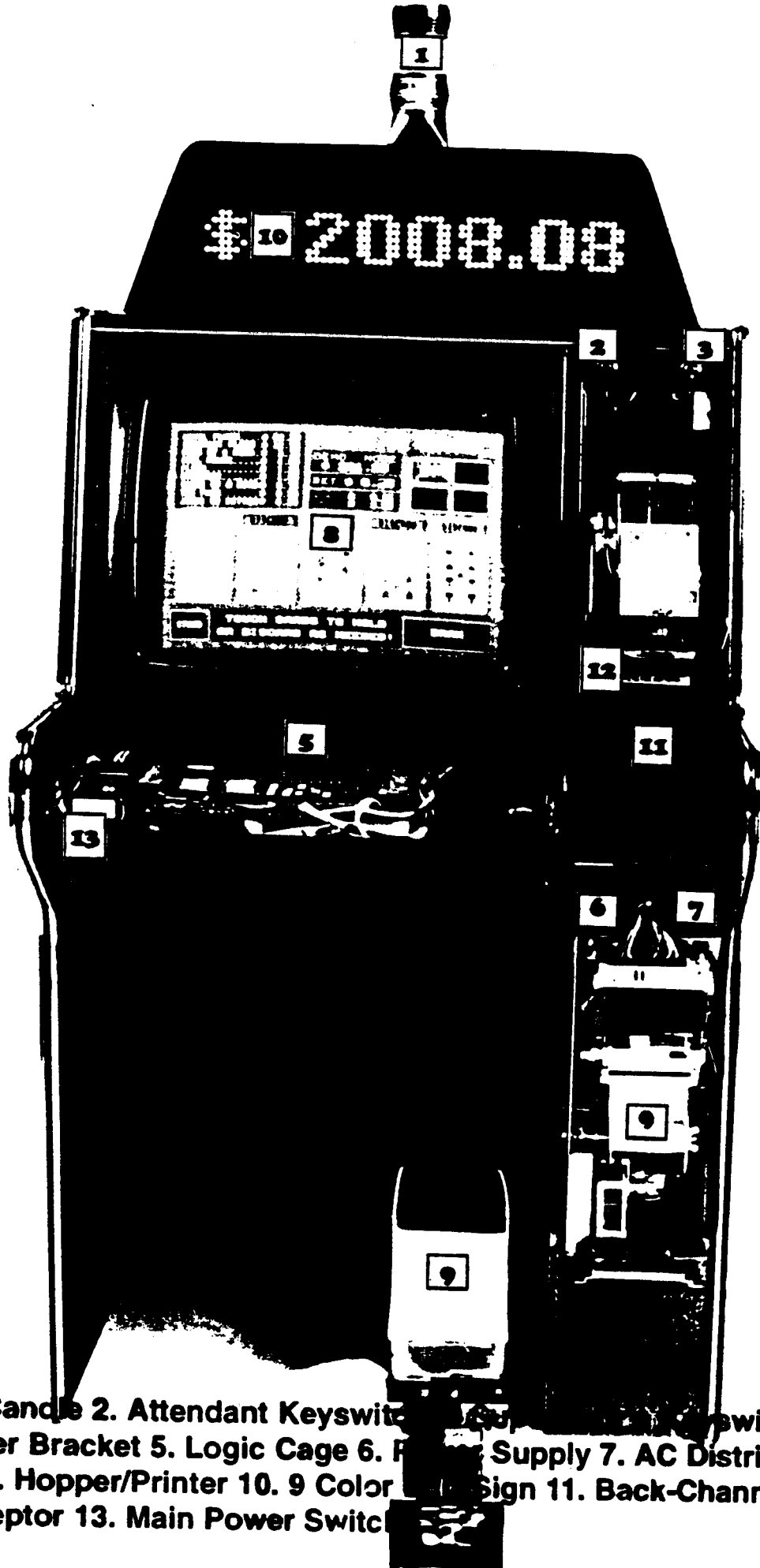
Used to mount a player tracking card reader.

**23. Main Door Lock**

The main door lock takes the white key.

**24. Locking Bar Recess**

With the key turned, the locking bar recess is lifted to disengage the locking bar from the cabinet, so the door can be pulled open.



1. Change Candle 2. Attendant Keyswitch 3. Coin Slot 4. Hard Meter Bracket 5. Logic Cage 6. Power Supply 7. AC Distribution Box  
 8. Monitor 9. Hopper/Printer 10. 9 Color LED Sign 11. Back-Channel Assembly  
 12. Bill Acceptor 13. Main Power Switch

# Chapter 3.2: Sit-Down Cabinet Overview

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Refer to Fig. 3.2.1 during this discussion.

## 1. Change Candle

The change candle has 3 tiers per the list below:

**A. Tier 1 = Red Flashes** when there is a winner of a particular value.

**B. Tier 2 = White Flashes** whenever any door is open or any error flag is set.

**C. Tier 3 = Blue Lights steady** when an internal communications error has taken place. Also lights steady when any message appears at the top of the screen while in the Gameplay mode (i.e., when any door- Main, Cash or Logic- has been opened, when Dipswitch number 8 is UP, or after a power up). In the case of a door opening or power up, one complete game must be played before the blue light will go off, even after the door is closed. Flashes in conjunction with tier 2 when the Call Attendant switch is activated.

## 2. Attendant Keyswitch

Used to clear errors.

## 3. Supervisor's Keyswitch

Gains access to the Operator Menu. Also allows configurable registers to be changed.

## 4. Hard Meter Bracket (Not Shown)

There are either four or five hard meters mounted behind the Bill Acceptor. The left-most meter will always be Meter A, while the right-most will be Meter D or E. For a full description of these meters, refer to Appendix D.

## 5. Logic Cage

The Turbo340 logic board is located within this cage. The Turbo340 board is the main logic board, and con-

**NOTE:**

High voltage near these sub-assemblies.

**CAUTION!**

Use extra care when working around the AC Distribution Box. It contains 120VAC at every connector. Also note that the fuses and connectors mounted to the left of the main power switch ARE ALWAYS LIVE whenever the line cord (main power cord) is plugged in. If in doubt, be safe, not sorry! Unplug the machine from the wall.

tains all the software to make the machine function.

**6. Power Supply**

The power supply is sometimes referred to as the switching regulator. It converts the 120 VAC (Volts of Alternating Current) coming in from the wall outlet to the +5, +12, and -12 VDC (Volts of Direct Current) needed to run most of the internal components of the machine.

**7. AC Distribution Box**

The AC distribution box is the main connection point for all the high voltage in the machine. The line cord plugs into the Power Entry Module, which is located in a locked drawer behind the machine. The Power Entry Module is then connected to the AC Distribution Box. Note that each main feed has its own fuse.

**8. Monitor**

The monitor area contains one item; the monitor. The monitor used is a high rel, casino-grade type fitted with a capacitive touchscreen. It has been specially modified to work with the unique sync and video signals produced by the Turbo340 board.

**9. Hopper/Printer**

There may be either a hopper or a printer in this location. (The printer is shown in place, while the hopper is pictured in front of the machine).

**10. 9 Color LED Sign**

The LED Sign is used to display the current progressive amount.

**11. Back-channel Assembly**

The back-channel assembly, which holds the electronic coin comparator and routes coins to their appropriate destination, is mounted to the Printer/Hopper door.

**12. Bill Acceptor**

The bill acceptor comes with a 600 note magazine, which is the largest capacity that will fit and still clear the hopper/printer.

**13. Main Power Switch**

This switch is used to power the machine up and down.



## Chapter 4: Powering Up the Machine

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### Plugging in the Line Cord

### Plugging in the Line Cord

The machine is shipped with the line cord plugged into the power entry module for casino style machines. Sit-down machines come with the power cord in the cable drawer. If it is more convenient to work from the wall to the machine, you can simply unplug the line cord. It has a standard IEC 320 connector. Either way, untwist the wire tie and plug the machine into a GROUNDED 120VAC outlet. The outlet **MUST** be grounded: Do not attempt to power the machine up if the ground prong is missing from the line cord. Do not use a cheater plug. Have the outlet replaced by a qualified electrician if the ground is missing. An inexpensive line analyzer can be obtained from any Radio Shack store. The part number is 22-101. The line analyzer will tell you if there are any abnormalities with the wiring of the outlet.

### Some Background

The reason the ground is so important is not simply because of the danger of an accident, but because without it, the whole cabinet floats at 60VAC! The incoming 120VAC can contain a lot of noise generated from things like neon signs and refrigeration compressors. Also, the machine itself generates some noise of its own, so a filter is necessary. This EMI/RFI (Electro-Magnetic Interference/Radio Frequency Interference) filter captures noise riding on the Hot and Neutral lines and shunts it to earth ground. The conductors (which are coils, in this case) are connected to the incoming AC. On the output side of the coils are two capacitors. One side of each capacitor is tied to its respective coil, while the other sides are tied together, then to the earth ground tie point. All the sheet metal in the cabinet is also tied to this same earth ground tie-point. So, if the earth ground tie-point is left floating with no connection to ground, there is a leakage path through the capacitors, providing a limited-current capacity circuit potential of 60VAC!

### WARNING!

Severe shock hazard exists if not plugged into a grounded outlet.

**Initial Power Up****Initial Power Up**

With the machine plugged into the grounded outlet, turn it on by flipping the Main Power Switch (located on the AC Distribution Box) up.

When the machines are shipped from the factory, Dipswitch #8 is left Up (active), and the Turbo340 board is put into an initialization mode. This is done by intentionally corrupting all 10,752 triple redundancy registers located in the USG Data<sup>3</sup>. The monitor will come up displaying the screen shown in fig. 4.1. Momentarily

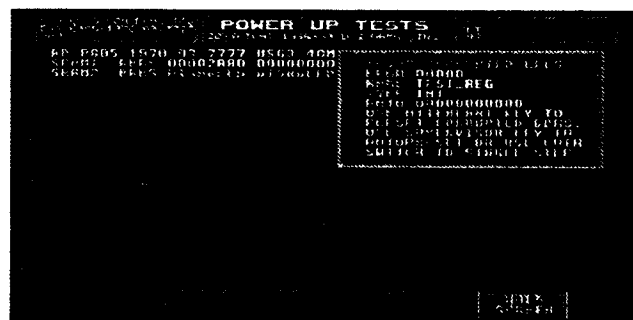


fig. 4.1

engage the supervisor's keyswitch with the red key. The system will now go through and preset all the registers back to their factory defaults. For a quick reference guide to what those defaults are, refer to Appendix B. After presetting the registers, the system will perform the normal power up tests, and then go into the Operator Menu. There are up to 36 Gateway Buttons in the Operator Menu screen that will get you into the various Configuration, Accounting and Diagnostic screens. For detailed information about these screens, refer to Section 3, Software Reference.

**Aligning the Touchscreen**

The first order of business in setting up the machine is aligning the touchscreen. Before doing this, however, the position and size of the picture must be checked. Locate the gateway button marked MONITOR ADJUST on the right side of the Operator Menu and touch it. You will see a cross-hatch pattern like the one shown in fig. 4.2. You should be able to see all four border lines.

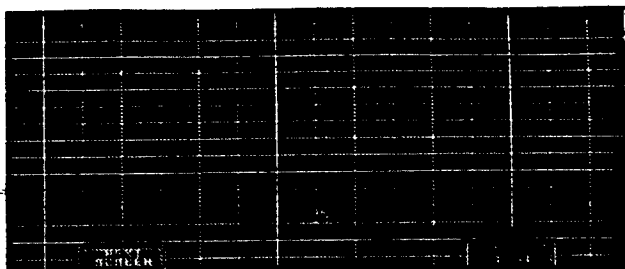


fig. 4.2

With the door closed and locked, you should be able to touch just outside of the four corners. If you can't, you will need to adjust the image size and/or position. To do this, locate the monitor's remote control board, which is mounted to the underside of the monitor shelf. Refer to fig. 4.3 for the location of each adjustment knob. Adjust the picture until it is correct, then exit out to the Operator Menu.

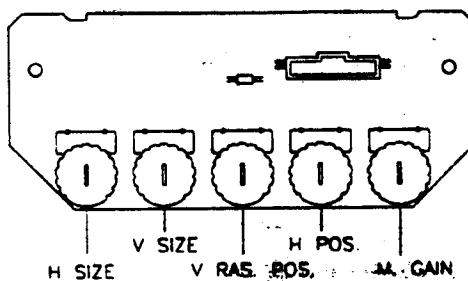


fig. 4.3

The gateway button in the upper right-most corner of the Operator Menu is marked TOUCHSCREEN. Touch it, and you will go into the Touchscreen Tests screen. Touch the screen square in the middle. You should see a white zero with a dot in the middle of it. This zero should come up right under your finger. Now touch near the upper left and right corners of the screen. Calibration errors are worst near the edges of the screen. When the machines are aligned in Atlanta, Georgia, they are very accurate. But major changes in humidity and other environmental conditions will cause mis-alignment.

Follow the procedure outlined below to realign an ISI touchscreen. If you have a MicroTouch touchscreen, follow the procedure at the end of this chapter.

- A. Touch the screen in such a way as to have the zeros showing up on the START SKEW ALIGN button (as in fig. 4.4).

**NOTE:**

For Sit-Down Machines, the monitor's remote control board is located in the Main Access Area.

**Aligning the ISI Touchscreen****NOTE:**

This procedure applies to ISI touchscreens only. The type of touchscreen in your machine will be shown at the top of the Touchscreen Tests Screen.

than where the lines intersect. Still touch directly on the other prompts. Now that the touchscreen is aligned, exit out of the Touchscreen Testscreen. The machine is now ready to be configured. Some general operating principles are discussed in the next chapter, but they assume that the factory defaults will be in use. To find out more about changing configuration options, refer to Section 3, Software Reference.

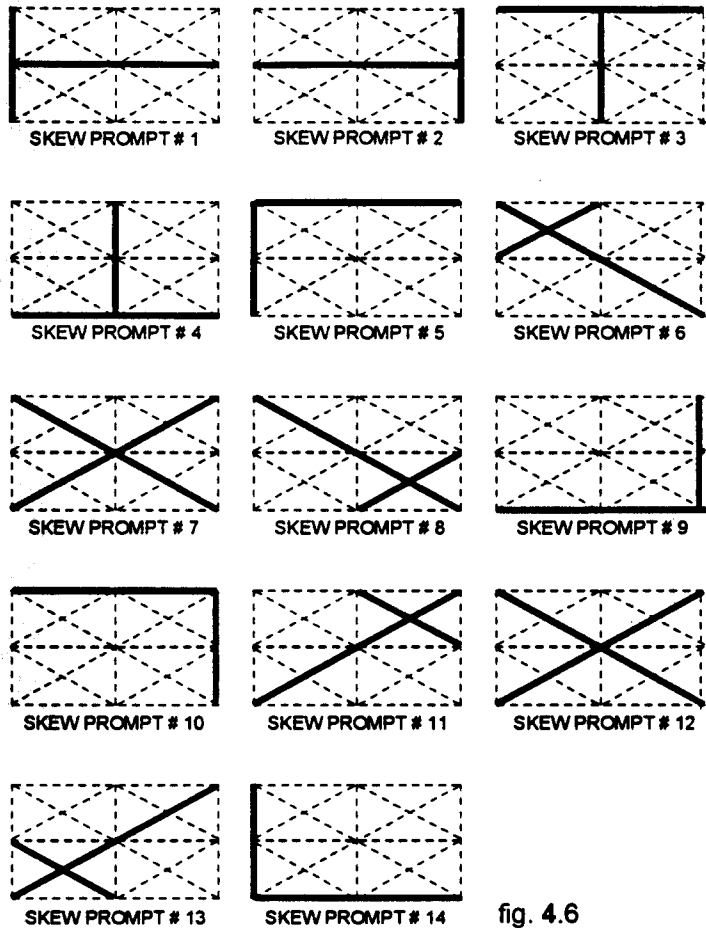


fig. 4.6

**Aligning the Microtouch Touchscreen**

To align the Microtouch touchscreen, follow this procedure:

- A. Touch the screen so that the white zeros appear on the "START TOUCH CALIBRT" button (as in fig. 4.7).

fig. 4.7



B. Be sure that the last place you touch is over the button, then don't touch anymore.

C. Momentarily engage the Supervisor's keyswitch. You will be brought to the Touch Calibration screen. (See fig. 4.8). The only text on the screen should read "TOUCH SPOT TO CALIBRATE FIRST POINT." (See fig. 4.9).

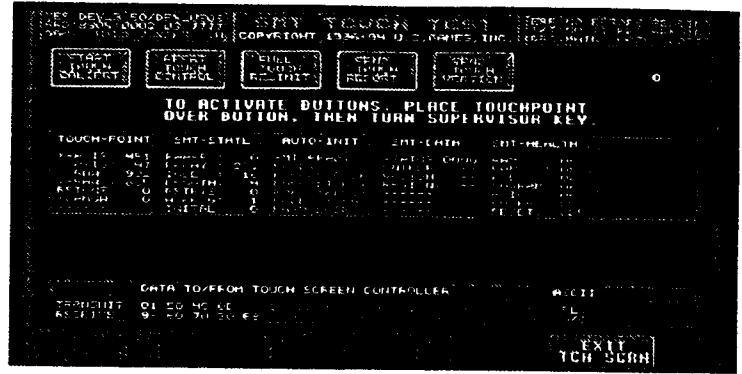


fig. 4.8

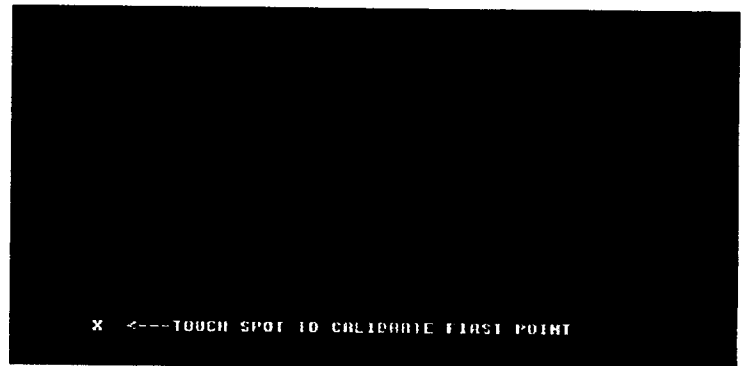


fig. 4.9

D. Temporarily close and lock the main door, being careful NOT to touch the screen. You should be standing square in front of the machine, not off to one side, and you should have your arms against your sides. With your active hand, reach out with your index finger only, and touch the screen for 1/2 second on the "X" mark, which appears near the bottom left corner of the screen. If the touch point was successful, the text should now read "TOUCH SPOT TO CALIBRATE SECOND POINT," and another "X" mark will appear near the upper right corner of the screen. Touch the mark as before. Be sure not to touch anything with your inactive hand during the alignment procedure as the touchscreen is very sensitive in this mode.

After the procedure is complete, you will be returned to the previous screen where you should test your work. Once the touchscreen is aligned, exit out of the Touchscreen Testscreen. The machine is now ready to be configured. Some general operating principles are discussed in the next chapter, but they assume that the factory defaults will be in use. To find out more about changing configuration options, refer to Section 3, Software Reference.

## Chapter 5 : Configuration Basics

Machines shipped on or after 10/01/92 have 1 meg Data<sup>3</sup>s installed in the T340 logic board. Any machine with a 1 meg Data<sup>3</sup> can be either a Master or a Slave. A full discussion of a Master machine and the differences between Masters and Slaves follows.

### Machine Banking

#### Machine Banking

Every Pot-O-Gold machine has a multiple partitioned, multi-tasking, interrupt driven, imbedded operating system. Two of the partitions are labeled Master and Slave. The Slave partition interfaces directly with each game that is being played on the machine. In Poker, for instance, when a patron presses the DEAL button, the Slave partition is responsible for getting the cards needed to play the game. It does this by issuing a request out on the USGRS422 inter-machine bus. This full duplex, cross-monitored serial communications bus allows machines to be banked together for Multiple-Player-Dependent (MPD) operation. There are two sides to the bus; Master and Slave. Slaves issue requests to the Master on the Slave channel, and receive responses on the Master channel. RS422 is used because it is a rugged, industrialized multi-drop hardware protocol. All machines ride (i.e., communicate) on the same set of wires. Each machine has a unique electronic serial number (called the Terminal ID) embedded in its T340 logic board. This Terminal ID is used to address each machine independently. This structures and organizes the communications pathways. Also, through the use of cross-monitoring, the slave terminals can properly monitor their side of the bus, and will only attempt communications if the bus is idle. This eliminates any chance for bus contention. Even if the machine is being operated stand-alone, and is configured as a Master, all of the inter-machine communications still take place. The Master partition within the same machine is simply enabled, and responds to the Slave partition's requests. Therefore, Masters are responsible for controlling game play. They issue cards, keno balls, pulltabs, etc..

#### NOTE:

This is why it is important to leave the Master machine turned on at all times. On a multiple-machine bank, if the Master is turned off or disconnected, the rest of the bank won't play.

**NOTE:**  
Although the illustration in fig. 5.1 shows casino style machines, this discussion also applies to sit-down machines.

They also calculate and track each game's integrated progressive, when enabled.

The physical implementation of a Pot-O-Gold bank is shown in fig. 5.1. There is an RS422 bracket just to the right of the speaker and above the A.C. Distribution Box. (For Sit-Down Machines, the RS422 bracket is in

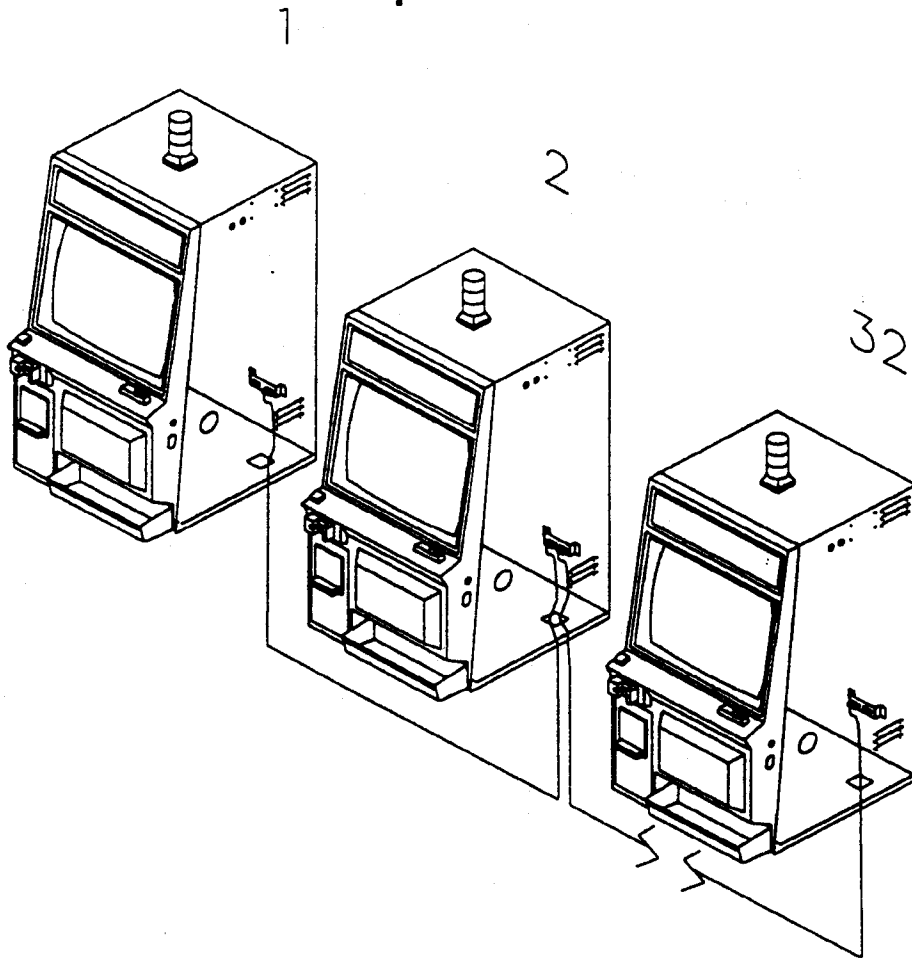


fig. 5.1

**NOTE:**  
When connecting the inter-machine cables, be sure to properly tighten the jackscrews on the DE15 connectors. If one gets knocked off, all the machines from that point on (away from the Master) won't play.

the cable drawer). The two DE15 connectors are wired in parallel, with a tap that goes to the T340 logic board. An inter-machine cable is used to connect each machine to the next. It doesn't matter which connector is used for a particular cable, since the connectors are wired in parallel. Also, a slave machine can be turned off, and the rest of the machines on the bank will still be able to communicate with the Master. The exception to this is in large banks (the maximum bank size is 32 machines), when all but one or two machines are shut off. This presents enough of an unterminated wire length to cause communications problems, since the lines are not completely biased when the driver circuits are not powered.



Assuming that you have physically placed and connected a group of Pot-O-Golds together, the next step is to test the M/S (Master/Slave) Link. Before this can be done, one of the machines (usually on the "left" end of the bank) must be designated as the Master.

From the Operator Menu, go into Main Config by touching the Gateway button. The function button in the upper left corner of the screen is labeled SYSTEM. Note that there are two settings, Master and Slave, and that Slave is highlighted. Engage the supervisor's keyswitch with the red key and touch the button. The Master setting is now highlighted.

On all the machines, go into the Local Net Tests screen. This screen is accessed from the Operator Menu. You should see what is shown in fig. 5.2.

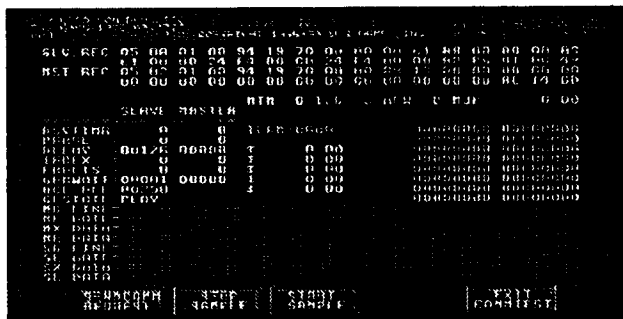


fig. 5.2

The function button in the lower left corner of the screen is labeled SENDCOMM REQUEST. On the Master machine first, then on each Slave machine, hit this button. You should see the pattern shown in fig. 5.3

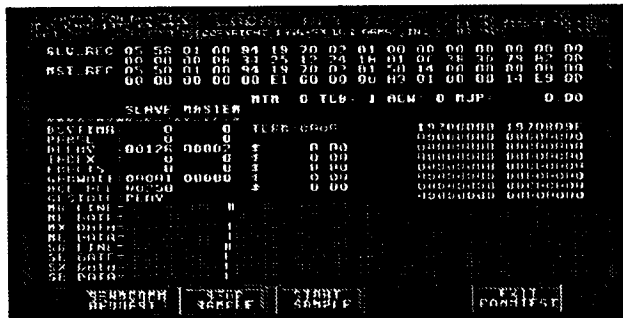


fig. 5.3

on the hash-mark scope located on the lower half of the screen. This yellow line shows the status of the

various signals. For a detailed explanation of this scope, refer to Section 3, Software Reference. If you instead see the pattern shown in fig. 5.4, this indicates that the machine is not communicating with the Master.

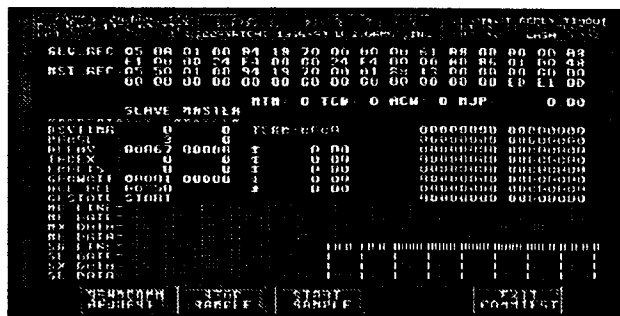
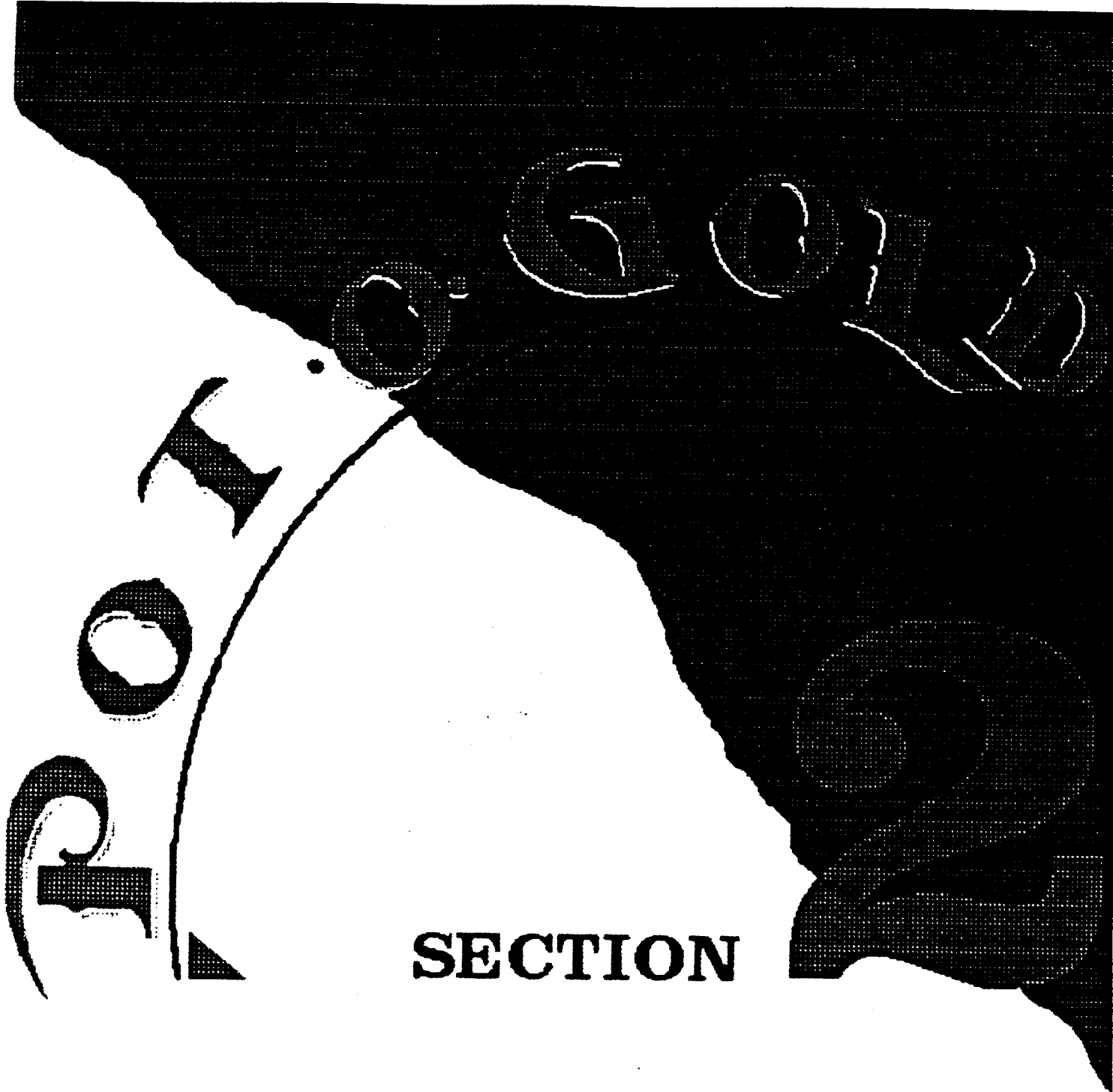


fig. 5.4

You will undoubtedly see that a Master Reply Timeout Error flag has been set, indicated by the message in the right caption box at the top of the screen.

At this point, the machines are actually ready to go live. Obviously, there are other testing procedures, such as on-line DCS tests, hopper tests, etc., which must be performed before the machines can be played. This text assumes the factory defaults will be in use. To re-configure the bank with non-factory settings, you should first thoroughly review Section 3, Software Reference. It explains the ramifications of all configuration settings, as well as the procedure of Transferring Master Config data to Slave machines.



**SECTION**

---

**OPERATION**

# Chapter 1 : General Information

---

## Overview

### Overview

Once the machine is properly configured, the amount of work required to keep it operating correctly is minimal. There are some features and functions of the machine that, if used properly, will make life easier. Many of these are operator-configurable, as each location may or may not desire a particular feature. For detailed descriptions of these options, refer to the reference section. This section is dedicated to outlining basic operating procedures. During the discussions, it is assumed that you are capable of maneuvering around in diagnostics, and are familiar with the button procedures and security conventions.

## Recommended Key Distribution

### Recommended Key Distribution

Key distribution is obviously a serious matter. Careful thought and consideration from the beginning will prevent major nightmares down the road. As a general rule, stay on the conservative side. When the machines are shipped from the factory, they have our standard locks installed. Since everybody gets the same locks, it is a good idea to change them out with locks that you purchase directly from a lock manufacturer. Just remember:

- 1) The locks installed at the factory fall under the classification of "Medium Security Tubular Camlocks." Any locks you purchase should have the same or higher security classification, or they will be subject to picking, etc..
- 2) Throughout this manual, we use the key color to identify which key to use in a particular situation. The plastic jackets can be removed from the factory keys and installed on the new keys. You can also purchase the jackets separately, or have them pre-installed on your new keys. Just remember to follow the same color-coding scheme, so you don't have to constantly translate.

Normally the following distribution scheme will suffice for a location, whether the machines are owned

**NOTE:**  
Base Drop Door falls under this class as well.

by the casino, or by a route operator.

**A. White - Main Door/Main Access**

Any technician or supervisor certified by U.S. Games at the Operator Level or above. Basic Level 3.

**B. Orange - Bill Door**

Any bondable employee charged with the task of removing money from the machine for either collection purposes, Voucher Bank purposes, or for clearing bill acceptor jams. Basic Level 2.

**C. Blue - Logic Cage**

Any technician or supervisor certified by U.S. Games at the Operator Level or above. Basic Level 4.

**D. Green - Attendant Keyswitch**

Any employee charged with the task of monitoring the machines for general, proper operation. At a bare minimum, this employee should be given a copy of the Attendant Error Clearing Procedures list (see Appendix A). The list describes each of the 32 errors, and the appropriate actions that an attendant should take to correct them. Basic Level 1.

**E. Red - Supervisor's Keyswitch**

This key falls under Basic Level 3, which is reserved for certified technicians and supervisors. **Something to Remember:** If in doubt; over-train, don't under-train. From past experience, we have found that lack of training, not malice, has caused the greatest number of problems.

## Chapter 2 : Cash Collection/Auditing

### Performing a Pull

#### Performing a Pull

Removing cash from the machine is normally referred to as any one of the following:

- 1) Pull
- 2) Drop
- 3) Collection

Depending on whether the machine has a printer or hopper, the collection procedure varies radically. For machines with hoppers, the collection procedure will be dictated by the on-line DCS. For machines with printers, use the following instructions as a basic guideline. Customize them to your needs.

1) Assuming only one pull a day, and that general accounting data is also desired:

A. Using the orange key, open the bill door and remove the bills through either of the side openings. Close the bill door.

B. Open the base and remove the quarters. Close the base.

C. Using the red key, go to the Operator Menu and select TERMINL AUDIT.

D. Turn and hold the red key, then hit the button marked "PRINT COMBO TICKET AND CLR."

E. A collection ticket will be printed that looks like the one in fig. 2.1 (see next page).

A. Using the orange key, open the bill acceptor door and remove the stacker. Take the cash and replace the stacker. Close the bill acceptor door.

B. Open the cash drawer and remove the quarters.

C. Using the red key, go to the Operator Menu and select TERMINL AUDIT.

### Casino Style Machines

### Sit-Down Machines

**REMEMBER:**  
 This information is NOT cleared until the Audit screen is exited in the normal way.

- D. Turn and hold the red key, then hit the button marked "PRINT COMBO TICKET AND CLR."
- E. A collection ticket will be printed that looks like the one in fig. 2.1.

```

* U.S. GAMES, INC. VER:USG_350A/ROM US16 *
TERM#000001 BANK#01

<<U.S. GAMES, INC.>>
**** VALID ON DATE OF ISSUE ONLY! ****
LICENSE#0005 TERMINAL#0000 DR#03 MK#0350

*****
10:39:36 ** 04/11/95
<<<< MASTER >>>>
TICKET#00000001 CREDIT#0.25 GANTYP:9500
*** DAILY TICKET ***
*****
DESCRIPTION MASTER PERIOD DAILY
-----
CASH IN $ 409.25 409.25 409.25
CASH OUT $ 0.00 0.00 0.00
CASHPLAY $ 3078.75 3078.75 3078.75
CASH WON $ 2669.75 2669.75 2669.75
NET HOLD $ 409.25 409.25 409.25
ADJ HOLD $ 409.00 409.00 409.00
OUT/HOLD % 8/100 8/100 8/100
HIT RATIO% 63.4% 63.4% 63.4%
CASH WON % 86.7% 86.7% 86.7%
BILL/COINS 96/ 4 96/ 4 96/ 4
LAST CLEAR 16:16:30 16:16:30 16:16:30
           04/06/95 04/06/95 04/06/95

*****
*COLLECTION TICKET*
*****
DENOMINATION QUANTITY CASH AMOUNT
-----
$ 1.00 BILLS 00000009 $ 9.00
$ 2.00 BILLS 00000000 $ 0.00
$ 5.00 BILLS 00000017 $ 85.00
$10.00 BILLS 00000000 $ 0.00
$20.00 BILLS 00000015 $ 300.00
TOTAL BILLS 00000041 $ 394.00
COIN A $0.25 00000061 $ 15.25
COIN B $0.25 00000000 $ 0.00
TOTAL BOTH 00000102 $ 409.25

*****
CREDIT BALANCE: 00000001 $ 0.25

*****
VOID IF MUTILATED VAL# 00000000
*** COPYRIGHT 1986-95 U.S.GAMES, INC. ***
    
```

fig. 2.1

- F. Hit the button marked EXIT AUDIT. Note that you do not actually exit. The first actuation of the button performs the actual clear of both the Daily column and the Cash-In-Game statistics. The stats are not really cleared when the ticket is printed so that if the printer gets jammed or runs out of paper, the machine can be powered down while still in the Audit screen, then powered up to correct the printer problem. The Audit screen can then be re-entered and the ticket printed without the loss of data.

## Handling Errors

### NOTE:

All errors will flash "CALL ATTENDANT." It's the OTHER Message being flashed that is important to remember.

## Recall History

## Handling Errors

There are 32 individual errors that can occur during operation. Some are not really errors, just exception conditions. For a detailed explanation of each error, see the software reference section under Error Stats. Errors show up in the lower left corner of the screen, when the machine is in the Gameplay Mode. When it's in the Diagnostics Mode, the errors show up in the upper right hand corner. When in the Gameplay Mode, a yellow window is displayed that alternately flashes between "CALL ATTENDANT" and the specific error condition. It is very important to look at the window to determine the specific error that is pending. Depending on which error it is, different procedures apply. All errors are cleared with the Attendant Keyswitch (Green key). Not all errors should be cleared by attendants. Some require that a technician or supervisor be notified first. See Appendix A for an example of an "Attendant Error Clearing Procedure List." This list describes what should be done by an attendant when confronted with a particular error.

## Recall History

This subject is explained in full detail in the reference section, under Software Reference - Recall History. However, a brief discussion of its use is in order here.

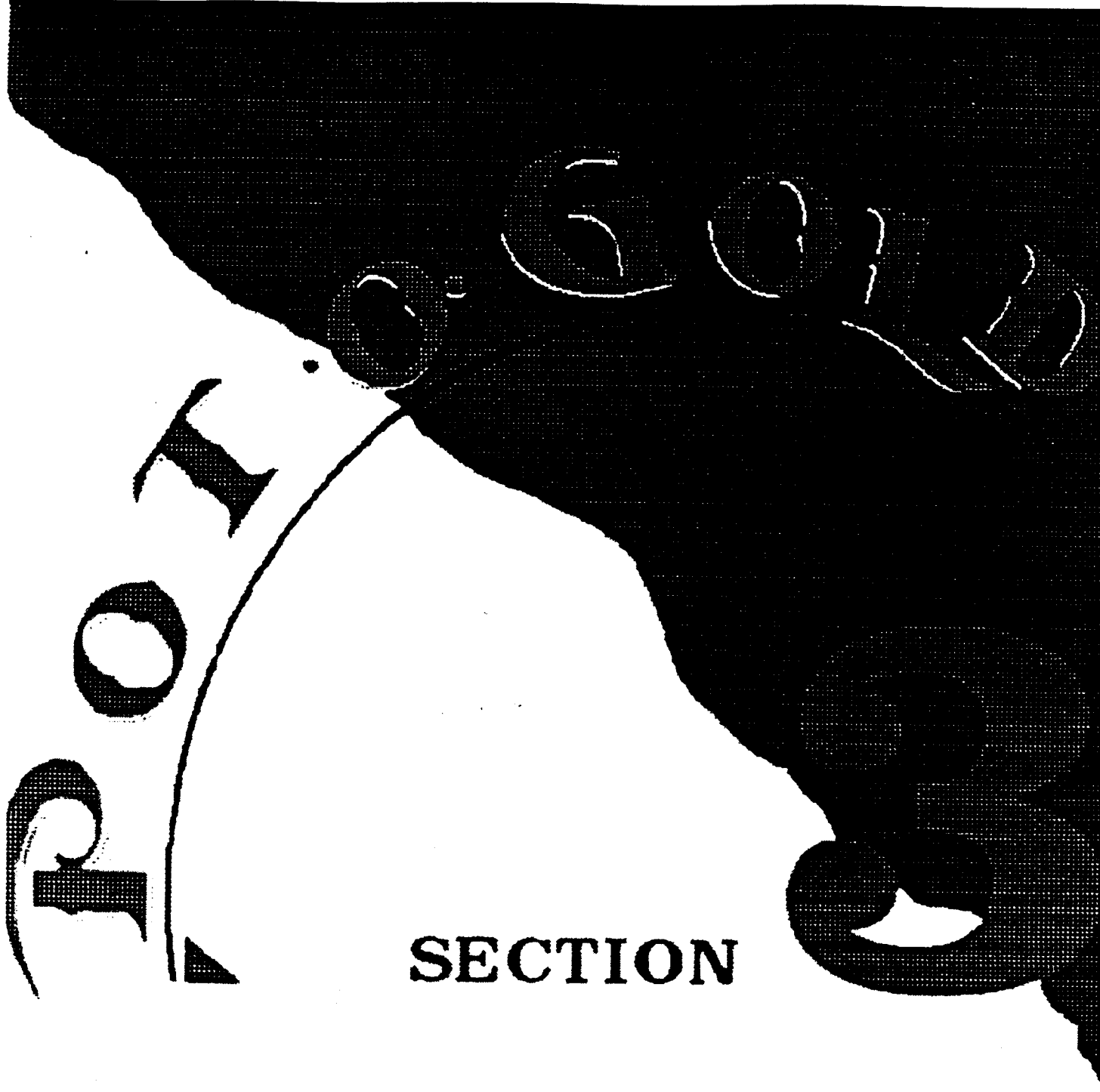
Probably the single most common problem that will arise during operation of a machine is a customer complaint regarding the bill validator. Customers will say that they put a \$20.00 bill in, and did not get any credit, or got the wrong credit. The vast majority of the time the bill was rejected and landed on the floor without being noticed. Or the customer may have only thought it was a twenty, when it was actually a ten. To distinguish between fraud, honest mistakes and machine malfunction, the Recall History screen is invaluable. This screen is accessed while in the Diagnostics Mode, from the Operator Menu. In the Recall History screen, the last 16 (or 15, in the case of Games Played) occurrences of twelve different event categories can be viewed, per the list below:



- A. Games Played and Won**
- B. Coins Inserted**
- C. Bills Accepted**
- D. Vouchers Printed**
- E. Hopper Activities**
- F. Power Ups and Downs**
- G. Hand Pays**
- H. Jackpot Wins**
- I. Hopper Fills**
- J. Door Openings and Closings**
- K. Errors**
- L. Master Jackpots**

In the example of the bill validator; if a customer claimed that a twenty dollar bill was inserted and accepted, but only one dollar of credit was issued, the following procedure could be used:

With both the red and orange keys in your possession, go into the Recall History screen and press the button marked "Bills-In." The last 16 bills accepted will be displayed, with the top line being the most recent. To verify the claim, look at the top line. If it says \$1.00, open the bill door and swing the stacker magazine out to view the last bill stacked. If the top line says \$20.00, note the time/date stamp value over on the right. Next, hit the button marked "Bet/Wins." Looking at the time/date stamp of the last 8 games played, determine if they come after the \$20.00 bill was inserted. Obviously, if the customer inserted money, played some games (perhaps \$19.00 worth), then realized a shortage, that's a bit too late.



# SECTION

---

▼ SOFTWARE REFERENCE

# Chapter 1 : Overview

---

We are very proud of what we have accomplished at U.S. Games. The Pot-O-Gold machine represents many man-years of intense research and development, especially with respect to the software. We have taken an approach that differs significantly from most other manufacturers. Instead of developing individual software versions for the different markets we service, we have developed a system of controls that allows us to carry all of the features from the previous version of software to the current one. This means we have a linear design path, which is far superior to the traditional branch methodologies. We are capable of supporting all of our different markets, all of the different cabinet styles, and all of our previous customers with ONE version of system software, dubbed the "Gold Standard." Installed on each T340 logic board are four 1 Megabit EPROMS which comprise two 16 bit banks. The chips designated U3 and U7 form one set, and U4 and U8 comprise the other. Two chips are used because the system bus is 16 bits wide, while the chips are only 8 bits wide. These four chips make up the system firmware. A version number is assigned to each new release.

Since the system is so standardized, there must be a way to customize what is presented to the operator and the patron. The chips in locations U5 and U9 do this. These are the Gameroms, and they hold all of the information necessary to properly configure the system side. Essentially, a different Gamerom set is generated for each new market. The set offers only those features appropriate to that market. This is why the layout of some of the diagnostics screens looks like swiss cheese. Options and functions not supported by a particular market are omitted, and the Gamerom for each market is given a unique version name. So, the overall firmware set then consists of 4 system EPROMS and 2 Gamerom EPROMS.

In the following chapters, there are detailed descriptions of the various screens that can be found in the Diagnostics mode. The text assumes familiarity with the terms and conventions described in Section 1, Chapter 1.

# Chapter 2 : Operator Menu



fig. 2.1

## Functional Description

## Functional Description

This is the root screen for the Diagnostics Mode, and is the screen that comes up after momentary activation of the supervisor's keyswitch. It is from this screen that you have access to various other screens which are used for terminal configuration, accounting and diagnostics. You access these through the Gateway buttons shown in fig. 2.1.

At the top of all screens, there are two caption boxes. The one on the left is shown in fig. 2.2. The top line displays the System and Gameraom firmware version numbers. The second line shows the following T340 board information, separated by colons:

A. The License I.D. (This is not the casino's machine license, but the manufacturer's license in certain markets.)

B. The terminal I.D.

C. The Board rev.

D. The U.S. Games Market Code.

The third line displays the name of the last game



fig 2.2

```

ERR: NO ERRORS PENDING
TICK: NO TICKET PENDING
DRS: MAIN CASH LOGIC

```

fig. 2.3

```

MAIN
CONFIG

```

```

TERMINL
CONFIG

```

```

GAME
CONFIG

```

```

TICKET
CONFIG

```

played, and the System mode (Master or Slave). This Letter will be printed in Green if there is a 1 Meg. Data<sup>3</sup> installed. It will be printed in Red if there is a 256K Data<sup>3</sup> installed.

The right box displays the information shown in fig. 2.3. The top line shows any pending error flags. The second line shows any pending tickets. The third line displays the status of the three monitored doors. If the label is flashing, the door is believed to be open.

In between the two caption boxes is the title box. This will always tell you what screen you're in. From the Operator Menu, the following screens may be accessed:

#### Main Config

This screen is used to configure general machine options. See Chapter 3.

#### Terminl Config

This screen is used to configure the physical aspects of the machine. This screen also shows the status of the dipswitches. See Chapter 4.

#### Game Config

This screen contains subordinate screens that are used to configure all options for all available games. See Chapter 5.

#### Ticket Config

This screen is used to view the ticket header, set ticket options and diagnose printer problems. See Chapter 6.

## **PROGRSV CONFIG**

### **Progressive Config**

This screen is only used by supervisors in situations where it is necessary to preset a progressive to a particular value. See Chapter 7.

## **ATTRACT CONFIG**

### **Attract Config**

This screen is used to configure options which affect the Attract Mode. See Chapter 8.

## **TERMINL AUDIT**

### **Terminal Audit**

This is the main accounting screen. Audit tickets are printed in this screen for machines with printers. See Chapter 9.

## **ERROR STATS**

### **Error Stats**

Information on any of the 32 errors can be found in this screen. Errors can also be cleared in this screen. See Chapter 10.

## **EVENTS LOG**

### **Events Log**

This screen is only used on machines connected to the U.S. Games, Inc. VISIONS on-line DCS.

## **RECALL HISTORY**

### **Recall History**

The last 16 occurrences of 12 different event categories can be viewed here. See Chapter 11.

## **CASINO BOOKS**

### **Casino Books**

This is the soft meter screen for machines with hoppers. The register labels have been renamed to follow casino terminology. See Chapter 12.

**MONEY  
TESTS****Money Tests**

This screen is used to diagnose problems with the coin mech, bill acceptor and hopper without corrupting the integrity of the accounting data. See Chapter 13.

**LOCLNET  
TESTS****Loclnet Tests**

This screen is used to test and debug the USGRS422 inter-machine bus. See Chapter 14.

**SOUND  
TESTS****Sound Tests**

This screen is primarily used to diagnose problems with the audio system components. See Chapter 15.

**CARD  
READER****Card Reader**

This screen is only used on machines connected to the U.S. Games, Inc. VISIONS on-line DCS.

**LEDSIGN  
TESTS****Ledsign Tests**

This screen is primarily used on machines with optional 9-color bit-mapped LED Progressive display. See Chapter 16.

**GAME  
TABLE****Game Table**

This screen is used to verify the contents of the Gameroms, and the Gamerom Mapping.

**SERIAL  
PORTS****Serial Ports**

This screen is used to view the activities occurring on the eight serial ports of the T340 logic board. See Chapter 17.

## **EPRM CHKSUMS**

### **Eprom Checksums**

This screen is used to verify the integrity of the firmware. See Chapter 18.

## **PALETTE TESTS**

### **Palette Tests**

This screen is used to diagnose problems with the T340's color circuitry. See Chapter 19.

## **34010 REGS**

### **34010 Regs**

This screen is primarily used by U.S. Games, Inc. Software Engineers, but can give insight to low-level system diagnostics.

## **HRDWARE TESTS**

### **Hardware Tests**

This screen shows the status of all the parallel I/O nodes. It also allows you to test the change candle and bell. See Chapter 20.

## **MODEM TESTS**

### **Modem Tests**

This screen is only used on machines connected to the U.S. Games, Inc. VISIONS on-line DCS, or other systems capable of dial-up communications.

## **MEMORY EXAMINE**

### **Memory Examine**

This screen is used to view the contents of the system DRAM. See Chapter 21.

## **PULLTAB STATS**

### **Pulltab Stats**

This screen is used to verify the remaining contents of pulltab boxes open within the system.

## **TOUCH SCREEN**

### **Touch Screen**

This screen allows you to test, diagnose and cure problems with the touchscreen. See Chapter 22.



**MONITOR  
ADJUST**

**FACTORY  
TESTS**

**Monitor Adjust**

There are multiple test patterns on this screen that aid in properly aligning the picture on the monitor. See Chapter 23.

**Factory Tests**

This screen contains sensitive, highly volatile functions which, for example, could completely wipe out the data stored in the USG Data<sup>3</sup>. See Chapter 24.

ERRORS  
VERBOSE

not match the one stored in the Master.

This button changes the way errors are displayed. When set to Verbose, error messages show up with English descriptions. When set to code numbers, a number from 1 to 32 is used to identify the error. This message is only shown when the machine is in the gameplay mode, alternately flashing the message "CALL ATTENDANT."

MENU  
GRAPHIC

This button determines which type of Player Select Menu will appear. There is a graphical as well as a text only menu.

MENUCLR  
BLUE

When set to blue, the Player Select Screen will have a blue background. Set it to black to have a black background.

DISPLAY  
DOLLARS

This button determines whether money-related registers (such as Credit, Bet, Wins, etc.) are displayed in dollars and cents or as credits on game play screens.

BGLAMPS  
PATTERN1

This button affects how the belly glass lamps flash. The lamps can be set to be all on, all off, or to sequence through any one of three patterns.

TRANSFER  
MASTER  
CONFIG

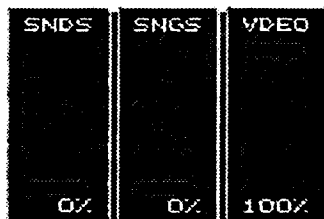
Activation of this button will cause the Slave Partition in the machine to issue a request to either the Master machine or internal partition for a configuration packet. It is not necessary to use this button on a Master machine, but no harm will be done if it is used. This button is primarily used on Slave machines. Full configuration procedures are only necessary on the Master machine. Once the Master is set up the way you want it, this button is activated on each Slave machine, which will copy the configuration information in the Master to the Slave. Every configurable register except for SystemMode, Bank Number and Machine Number will be

#### NOTE:

If the factory defaults are changed in any way on the Master, it will be necessary to grab (i.e., transfer) the Master's config. data. **ALL MACHINES IN A BANK MUST BE CONFIGURED IDENTICALLY.** If in doubt, activate this function. It can be used at any time during normal operation or set-up.

copied. Upon activation of this function, the machine will reset to re-initialize dynamic variables stored in DRAM.

These three "Software Slide Pots" are used to set the level of incident sounds, songs, and monitor brightness. Touch directly on the button you wish to change. Slide your finger up or down, and the slide bar will follow.



This button is used to set the monetary value of credits in the system. This is separate from Game Credits, which are set independently for each game. This Register should always match the value for Coin A in machines with hoppers.



This button sets the monetary value of each coin accepted by the coin mech. It tells the system how much credit to issue for each pulse. The value of this register should match that of the system credit value. It should also match the denomination of both the coin head and hopper.



This button sets the monetary value reflected in each increment of the mechanical meters. There are five mechanical meters installed. From left to right they track; Coin In, Coin Out, Handle, Drop, and Credits Canceled. This assumes that the METERS register in Terminal Config. is set to SDS. If set to VLT, the meters track Credits In, Credits Out, Credits Played, Credits Won, and Games Played.



This button sets the baud rate that will be used when communicating with the Visions host.



This button is used to set the amount of tournament credit available to the player at the beginning of a tournament. For a more detailed discussion of the Tournament Mode, refer to Chapter 4, Terminal Config.



```
MAXIMUM  
CASHOUT  
$ 0
```

This button determines the maximum amount that can be cashed out with any one activation of the Cashout button in the Gameplay Mode. It is used primarily on ticket based machines in markets that have caps on voucher values. An example of this feature would be setting it to \$125.00. If a patron had \$400.00 on the machine and hit the Cashout button, a voucher would be printed for \$125.00, and there would be \$275.00 left on the credit register. Another activation of the Cashout button would result in another \$125.00 voucher, leaving \$150.00 on the credit register. This process would continue until the total value in the credit register was less than the value set for Maximum Cashout, at which time the balance would be printed. This button can be used on machines with hoppers, as well. The maximum value is \$99,999.00, and setting the register to \$0.00 disables the function.



```
HOPFILL  
COINS  
0
```

This button is only used in environments where internal machine tracking of the hopper coin level is desired. This button sets the value for the number of coins that are used when performing a hopper fill. When doing a hopper fill, the attendant or technician/supervisor activates the Hopper fill button in the Money Tests Screen, which adds the number of coins set here to the internal hopper escrow counter, which is used to track the hopper coin level. The counter, in conjunction with the hopper low probe, can signal the on-line DCS of an impending hopper empty situation, before it actually occurs. This system is also used to determine whether or not a long absence of "Coin Outs" with the hopper activated is due to a jam or a hopper empty condition.



```
S.D.S.  
BAUD  
20
```

When the METERS register in Terminal Config is set to SDS, this button determines the frequency of the clock signal. The setting represents cycles per second. For more information on the Pot-O-Gold's SDS signal specifications and messages, see Appendix D.

BANK  
NUMBER 1

MACHINE  
NUMBER 1

MAXIMUM  
PROGWIN  
\$ 0.

SPECIAL  
WIN AT  
\$ 1200.

MAXIMUM  
TICKET  
\$ 100.

This button sets the Bank I.D. number, which associates this machine with other machines that are connected to it via the USGRS422 bus. For more information, refer to SYSTEM mode at the beginning of this chapter.

This button is used to uniquely identify a machine within a location. It is separate from the Terminal I.D., which is used by the internal system. This number can be an Asset Control number, or a number set according to physical grouping. It can be set to any number between 0 and 999,999 for most Gameroms.

This button should be used primarily in markets where there is a maximum payout. It caps the progressive values for all games to the value set here. Progressive amounts accrued beyond this value are escrowed towards the next progressive. It is certainly possible to set this value such that the escrowed amount would continue to rise, and that progressive amounts would never deplete the amount escrowed. This has multiple ramifications, such as reduced actual payout percentage and the effective loss of a prize that grows in value. **Setting this number to zero disables the function.**

This button is used to lock the machine up and force a cashout of any One Win. Note that only the Win is cashed out. Any credit that was on the machine prior to the win will be left on the machine. This button is normally set to \$1,200.00, the point at which a W2G form is required.

This button sets the maximum voucher value that can be printed without an attendant, on machines with printers. If a person hits the Cash Out button when there is a credit value higher than the value set here, the machine will lock up in a "Big Win" error. An attendant must then come over and manually reset the machine using the green key. The voucher will then be printed. In this way, an employee of the establishment has witnessed that the voucher was printed by the machine. The standard default value for this register is \$100.00, but it can be set as low as desired. Obviously, the lower the value, the higher the security, but at the cost of higher employee involvement.

MAXIMUM  
HOPPOUT  
\$ 250.

LAST  
TIMESSET  
FIELD

NEXT  
TIMESSET  
FIELD

LOWER  
TIME  
VALUE

RAISE  
TIME  
VALUE

TOPTIER  
FLSH AT  
\$ 1.00

RING  
BELL AT  
\$ 20.00

MAXIMUM  
CASH IN  
\$ 1000.

This button sets the maximum amount that the hopper will even attempt to payout when the Cashout button is hit (on machines with hoppers). An example of this feature is when the button is set at \$100.00. On a quarter machine, this is obviously 400 coins. If the patron has 400 credits on the machine, and hits the Cashout button, the hopper will activate and dispense 400 coins, assuming they are available. If the patron instead has 401 credits when the Cashout button is activated, the machine will lock up in a Hand Pay Exception Condition, which will require an attendant to log the amount to be paid, which is displayed in the Error Flag Window, and then reset the machine using the Green key.

These two buttons are used to position the cursor in the Time/Date window. The cursor is indicated by the green text. This is the field that will be modified by activation of the Lower Time Value and Raise Time Value buttons.

These two buttons are used to set the correct time and date. They change the value of the field pointed to by the cursor, which is positioned by using the Last Timeset Field and Next Timeset field buttons

Any single win over the value set here will flash the red tier of the change candle. Valid values are from \$0.00 (disabled) to \$999.99.

Any single win over the value set here will ring the bell. Valid values are from \$0.00 (bell rings for any winner) to \$999.99.

This button sets the value at which, when the amount of credit on the machine exceeds the value set here, the system will drop the lockout out and will not accept any more money. This is simply an added security feature, to protect against bill validator fraud. If someone figured out a way to beat the bill validator, having this function set to a low value (say \$100.00) would cap your potential single hit losses. The concept here is "If you've got \$100.00 on the machine why do you need to put more money in?!" Recommended values are in the range between \$50.00 and \$1,000.00.

MAXIMUM  
CREDIT  
\$ 5000

This button sets the maximum amount of credit that can be on the machine before the machine locks up in an error, which will require an attendant to come over and clear the machine, which will result in a forced cash out of the entire credit value.

# Chapter 4 : Terminal Config.

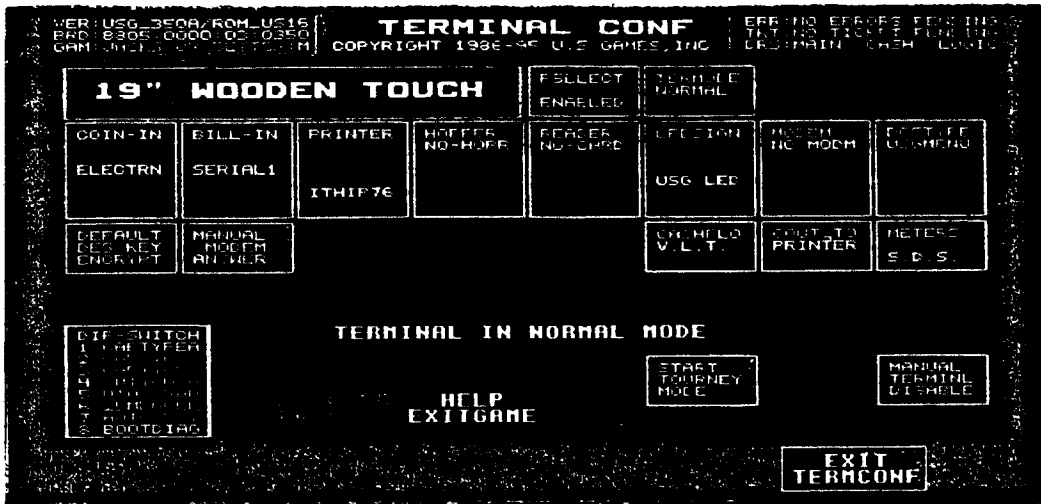


fig. 4.1

## Functional Description



## Functional Description

This screen is used to configure the physical aspects of the machine. This screen also shows the status of the dipswitches. Because the same software is used in all the different cabinet styles (which are wired differently, depending on the peripherals installed), the software must be told what to expect from the hardware. The following functions are provided:

This button determines whether or not the Player Select feature will be active. When Player Select is disabled, only one game is available for play on the machine. The game to be played is selected in the Game Config screen (see Chapter 5).

When Player Select is enabled, a third screen is added in the Gameplay mode. Fig. 4.2 shows the Player Select Screen that will appear if "TEXT" is selected for MENUTYPE in Main Config. (For more information, see Chapter 3).



fig. 4.2





Fig. 4.3 shows the Player Select Screen that will appear if "GRAPHIC" is selected for MENUTYPE in Main Config. (For more information, see Chapter 3).

The Player Select Screen contains up to ten or 12 Game Select buttons (depending on the Menu type selected) which, when activated, bring the player to the

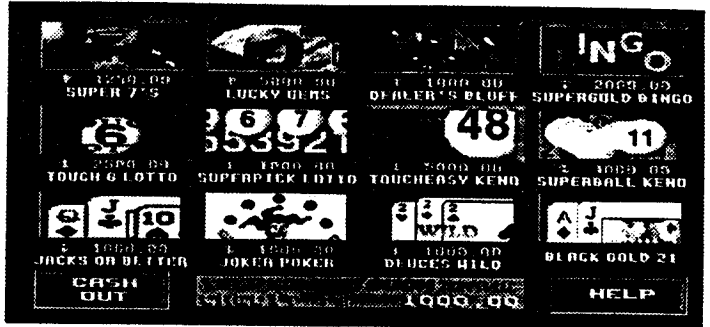


fig. 4.3

appropriate Gamescreen for the game to be played. The number of games offered is controlled from the Game Config screen.

When Player Select is enabled, an Exit Game button will appear on all of the game screens. Touching this button will allow the Player to return to the Player Select Menu, where they may cash out.

This button selects the Terminal (machine) Operational mode. There are actually five operational modes within the two main State modes (Gameplay and Diagnostics). The operational modes really only matter when in the Gameplay mode. When set to Normal, the machine will accept money, allow wagers, and dispense coins or vouchers. When set to Demo or Tournament, no money will be accepted and the machine will not dispense coins or vouchers. Also, the hard meters are not incremented when a game is played.

To play a game in the Demo Mode, the player simply touches the screen once, which adds \$50.00 in "Demo Dollars" to the credit register. Subsequently, any time the amount played exceeds what is left in the credit register, \$50.00 in Demo Dollars is added to the credit register.

For more information on playing games in the Tournament Mode, refer to the discussion of the "Start

**NOTE:**

The Out of Order mode cannot be set while in the diagnostics mode. Going to diagnostics automatically clears the Out of Order mode.

COIN-IN  
ELECTRN

Tourney Mode" button near the end of this chapter.

The machine can also be in two other modes that will not allow gameplay. The Disabled mode is described at the end of this chapter, and is set using the Manual Terminal Disable button. The Out of Order mode is used by attendants to remove a machine from play, either to hold the machine for a customer, or because of a malfunction. To set the Out of Order mode, turn and hold the green key for five seconds while in the Gameplay mode, until the Out of Order screen comes up. To clear the Out of Order mode, again turn and hold the green key until the screen clears. Or use the red key to jump to Diagnostics, then exit back out to the Gameplay mode.

This button specifies the type of coin mech. installed in the machine. Note that it should be set to electronic for 19CSTS machines, which means that a CC40 coin comparator is being used.

BILL-IN  
SERIAL1

The type of bill acceptor interface is determined by this button. The Pot-O-Gold machine does not use a pulse interface. It communicates serially with the bill acceptor. When set to serial 1, the information is transferred once. When set to serial 3, the information is transferred three times.

PRINTER  
CTZNB14

Many different printer types are supported by the software, although not all printers are available in all cabinet styles. Even 19CSTS machines with hoppers can have printers installed. Some casinos temporarily install printers so they can print Gamestat tickets (See Chapter 5).

HOPPER  
NO-HOPR

This button defines the type of hopper installed.

READER  
NO-CARD

This button should always be set to NO CARD unless a VISIONS on-line DCS is in use.

LED-SIGN

USG LED

MODEM  
NO MODEM

DCSTYPE  
USGMENU

DEFAULT  
DES KEY  
ENCRYPT

MANUAL  
MODEM  
ANSWER

CASHFLO  
V.L.T.

This button defines the type of LED display installed. This button should be set to No-Sign for machines without the integrated progressive feature.

This button determines whether or not this machine will expect, test and issue commands to a modem. When set to Slave, the T340 does not attempt to configure a modem, and does not expect to monitor certain modem-related signals. When set to Master, the T340 will send configuration commands to the modem. It will do this at the time the machine boots up. The modem is useful for remote diagnostics via cellular telephone.

This button determines the protocol of serial data being sent out of the T340 modem port. It should be left at USGMENU.

This button is only used when a VISIONS on-line DCS is monitoring the machine.

This button is only used when a VISIONS on-line DCS is monitoring the machine.

This button is used to determine how wagering takes place *in Poker games only*. In CINCOUT mode, coins inserted while a Poker game is selected will go to the Coins In register and will be displayed in the Coins In area of the screen. Bills inserted, game winnings and coins inserted while in the Game Menu will still go to the Credit register.

To wager from the Credit register, the player touches either the BET 1 CREDIT or BET MAX CREDIT button, as desired. The appropriate amount is removed from CREDIT and added to COINS-IN. Note that if the COINS-IN amount reaches the MAX BET amount, the game automatically starts. In this mode, also, **once a Player has placed a bet, the game must be played.**

When set to VLT, money put into the machine in any form will go to credit, and wagering in Poker will be

COUT\_TO  
PRINTER

#### NOTE:

Improper setting of this switch in a printer-based machine will cause credit to be posted to the hopper's cash out escrow register. If this occurs, the register must be cleared in Factory Tests. For more information, see Chapter 24 of this section.

METERS  
V.L.T.

START  
TOURNEY  
MODE

the same as for all other games.

This button determines whether Cash Outs are routed to the Printer or to the Hopper. In hopper-based machines, even with Cash Outs routed to the hopper, the system looks for a printer before going to a manual Hand Pay. An example of this follows:

In Main Config, set Maximum Ticket to \$500.00. Set Max Hopper Out to \$100.00.

In Terminal Config, set Printer to either CTZN614 or CTZN617, which are the only two printers that can co-exist with a hopper. Set Hopper to 1200 coin. Set COUT\_TO to Hopper.

The following rules now apply:

- a) Cash Outs of \$100.00 or below are directly paid by the hopper.
- b) Cash Outs of \$100.01 to \$500.00 will result in a voucher being printed automatically, without attendant intervention.
- c) Cash Outs of \$500.01 and above will result in the machine locking up in a BIG WIN error. An attendant must then reset the machine using the green key, which will result in a voucher being printed.

There are 5 hard meters installed in casino style machines with hoppers. There are actually 7 hard meter drive signals coming from the T340 logic board, however. The meters are labeled A-G. Meter A is the left-most meter on the meter bracket. Meter D or E will be the right-most. F and G are not physically implemented. This button determines the functionality of the meters. For a complete description of the Meters, see Appendix D.

This button is activated at the beginning of tournament play. Some casinos regularly bank machines together for Player vs. Player tournaments. Each Player begins with the same amount of credit (this amount is set in Main Config). Once the Tournament Mode has been selected and the Players begin, gameplay goes on for a

**IMPORTANT:**  
When running a game in the Tournament Mode, it is essential that the game's integrated progressive be **DISABLED!**



**NOTE:**  
Improper setting of these switches can result in multiple errors, as the I/O functions on the edge connectors are completely remapped.

specified amount of time. At the end of this time period, the Player with the most tournament "money" wins, and the casino deactivates the Tournament Mode by touching the Termode button described earlier in this chapter. The machine will then return to the Normal Mode.

The Tournament Mode works just like the Demo Mode, except that credit is not added to the machine after the initial amount set in Main Config is given to the Player. Also, the Player's current amount of credit appears on the LED sign, instead of the progressive amount. (It is important to note here that the progressive for the tournament game being played should be disabled!)

Accounting is in no way affected by running the Tournament Mode. As mentioned above, to return to the Normal Mode, simply touch the Termode button once. The text appearing just above the "Start Tourney Mode" button will always let the operator know what mode the machine is currently in.

This button is used by technicians and supervisors to disable a machine in such a way that an attendant cannot clear it. Unlike the Out of Order mode, this mode is held in battery-backed memory. Turning the machine off or engaging the attendant keyswitch will not affect this mode. This mode is especially useful on Master Machines, as communications are not affected.

Once this button is activated, the Disabled mode is set. To clear the machine back to Normal mode, activate the TERMODE button, described earlier in this chapter.

On the T340 Logic board, there is a bank of 8 dipswitches. From left (1) to Right (8) the functions are as follows:

Dipswitch			Cabinet Style
1	2	3	
Down	Down	Down	13" Wooden Pushbutton
Up	Down	Down	19" Wooden Touchscreen
Down	Up	Down	19" Casino Style Touchscreen
Up	Up	Down	13" Casino Style Pushbutton
Down	Down	Up	19" Sitdown Touchscreen
Up	Down	Up	Cluster Controller
Down	Up	Up	Invalid
Up	Up	Up	Invalid

**WARNING:**

This switch is the single most powerful and dangerous function switch in the system!

**a. Dipswitches 1, 2 and 3**

Set the board up for use in a particular style cabinet, per the table below.

**b. Dipswitch 4**

Up = Microtouch touchscreen

Down = Interaction Systems touchscreen

**c. Dipswitch 5**

Up = tells the software to expect, use and test a USG Data<sup>3</sup> in position U10. This feature is NOT supported in the current system firmware, so this switch should always remain Down.

Down = tells the software to ignore U10.

**d. Dipswitch 6**

Up = Used only on boards installed in 13" wooden pushbutton machines. Tells the software to program the 34010 MPU Video registers for a 25 MHz clock. U52 MUST be a 25MHz TTL oscillator, or there will be no horizontal lock.

Down = Used on all other cabinet styles. Tells the software to program the 34010 Video Registers for a 22.1184 MHz clock. U52 must be a 22.1184 MHz TTL oscillator, or the picture will tear horizontally.

**e. Dipswitch 7**

Up = Fools the software into thinking that someone's always pushing the PLAY button.

Down = Autoplay off

**f. Dipswitch 8**

Up = In this position, the following conditions apply:

**f.1.** When the machine first boots up, it goes into the Diagnostics mode instead of out to the Gameplay mode.

**f.2.** Normally, if there is a problem with the printer, or no printer is connected, a "Printer Error" flag is set. This error is disabled when switch #8 is active.

**f.3.** Restricted (Purple) buttons become Keyed (Red) buttons.

It should now be obvious that this dipswitch should not be taken lightly. As an aid to personnel in identifying a situation where dipswitch #8 was left UP, a flashing border message is displayed at all times when in the Gameplay mode.

The status of all 8 dipswitches is shown here as follows:

- A. Red = Disabled/Off/Switch towards Board
- B. Green = Active/ON/Switch Away from Board



# Chapter 5 : Game Config.

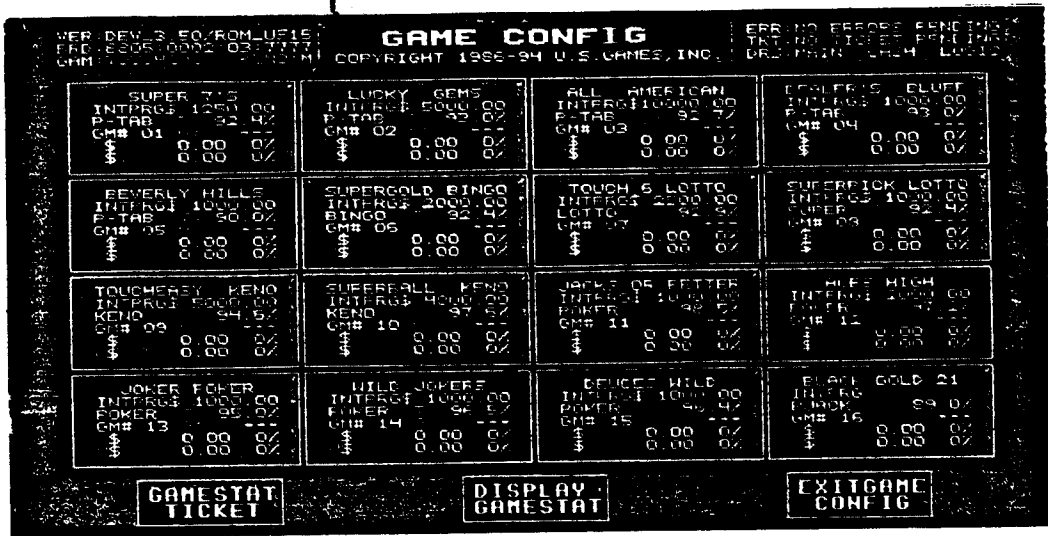


fig. 5.1

## Functional Description

## Functional Description

This screen contains Gateway Buttons which allow access to subordinate windows used to configure all options for all available games. Each game in the system has its own set of configurable registers. There is, therefore, a separate Config Window for each game. Access to this Window is attained by simply touching the appropriate Gateway Button here in the Main Game Config Screen. Once the Config Window has been accessed, the operator has the ability to change paytables, payouts, progressive and credit values, as well as options which affect the look and feel of each game.

In this screen a green square indicates a game which is enabled and will be available to the player, provided Player Select is enabled in Terminal Config. A game is enabled or disabled in the appropriate Config Window.

If Player Select is enabled, every green square up to a maximum of ten or twelve, depending on the type of Player Select Menu chosen in Main Config, will appear in the Game Menu. The order in which the



**DISPLAY  
GAMESTAT**

enabled games appear here is the same order in which they will appear in the Menu.

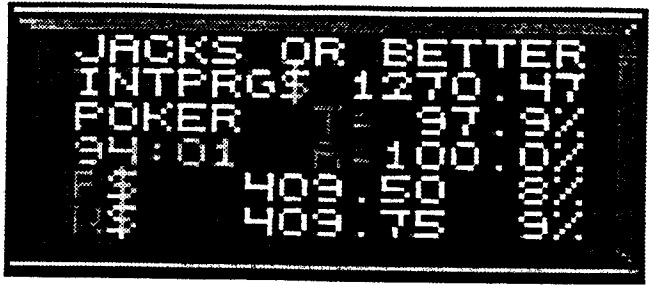


fig. 5.2

If Player Select is not enabled, we recommend that only one game be turned on. All other games should be turned off if you choose to disable the Player Select feature.

Fig. 5.2 shows a close-up of one of the Game Config Gateway Buttons. On the top line, the Gateway button displays the Gamename as it will appear on the Player Select Menu. The second line indicates the status of the integrated progressive which will either indicate the value of the progressive or read "disabled." The left side of lines three and four are used primarily by the software engineers at U.S. Games. They show the internal Gametype and Gamecode. The right side of lines three and four show the Target and current Actual win percentages. The fifth line down shows the total amount Played on this particular game, in dollars and cents, and the percentage that amount represents when compared with the total amount played on all games. Line six shows the same, but for the amount Won.

When this button is actuated with the red key engaged, the Game Statistics will be displayed, as in Fig. 5.3. From left to right, the following information is shown: the Game Name (enabled games are shown in green, disabled games in red), number of games played, number of "high bet" plays (i.e., bets high enough to meet jackpot eligibility requirements), number of games won, hit percentage (i.e., percentage of the total games played resulting in some type of winner), total amount of cash played, total amount of cash won, and the actual payout percentage. These totals do not include double-up statistics.

Information on Double-Ups is shown near the bottom of the screen. The total number of double-ups is shown, followed by how many were won and how many resulted in

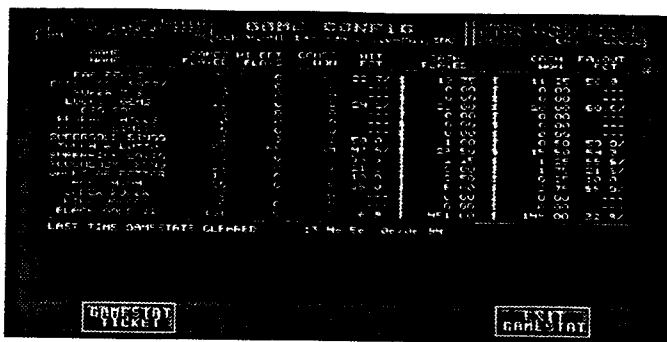


fig. 5.3

a "push" (tie). This information is followed by the total cash bet and total cash won on double-ups.

```

-----
* U.S.GAMES, INC. VER:USG_350A/ROM US16 *
  TERM#000001 - BANK#01
<<U.S. GAMES, INC.>>
***** VALID ON DATE OF ISSUE ONLY! *****
LICENSE#0005 TERMINAL#0000 BR#03 RK#0350
10:40:36 ** 04/11/95
TICKET#000000! CREDIT#48.25 BANTYP#9500
**GAME STAT TICKET**
-----
ON  GAMENAME      PROG  PROGRASE  PROGVALUE
-----
01# SUPER 7'S      ** 1250.00 $ 1250.00
02# LUCKY GERS     ** 5000.00 $ 5000.00
03# ALL AMERICAN  **10000.00 $ 10000.00
04# DEALER'S BLUFF ** 1000.00 $ 1000.00
05# BEVERLY HILLS ** 1000.00 $ 1000.00
06# SUPERGOLD BINGO ** 2000.00 $ 2000.00
07# TOUCH & LOTTO ** 1000.00 $ 2346.22
08# SUPERPICK LOTTO ** 5000.00 $ 1025.02
09# TOUCHHEASY KENO ** 5000.00 $ 5000.00
10# SUPERBALL KENO ** 4000.00 $ 4000.00
11# JACKS OR BETTER ** 1000.00 $ 1000.00
12# ACES HIGH      ** 2000.00 $ 2000.00
13# JOKER POKER   ** 1000.00 $ 1001.56
14# WILD JOKERS   ** 1000.00 $ 1000.00
15# DEUCES WILD   ** 1000.00 $ 1000.00
16# BLACK GOLD 21 $      0.00 $      0.00
-----
ON  CASH-PLAYED  XTOT      CASH-WON  XTOT
-----
01# $           0.00 0X $           0.00 0X
02# $           0.00 0X $           0.00 0X
03# $           0.00 0X $           0.00 0X
04# $           0.00 0X $           0.00 0X
05# $           0.00 0X $           0.00 0X
06# $           0.00 0X $           0.00 0X
07# $          2155.50 70X $          1891.50 71X
08# $           834.25 27X $           695.00 26X
09# $           0.00 0X $           0.00 0X
10# $           0.00 0X $           0.00 0X
11# $           0.00 0X $           0.00 0X
12# $           0.00 0X $           0.00 0X
13# $           78.00 2X $           51.25 1X
14# $           0.00 0X $           0.00 0X
15# $           0.00 0X $           0.00 0X
16# $           11.00 0X $           10.75 0X
-----
TOT $          3078.75 100X $          2648.50 100X
-----
ON  TARGET  ACTUAL  HITX  CASH-EARNED  XTOT
-----
01# 92.4X --- --- $           0.00 0X
02# 93.0X --- --- $           0.00 0X
03# 92.7X --- --- $           0.00 0X
04# 93.0X --- --- $           0.00 0X
05# 90.0X --- --- $           0.00 0X
06# 92.4X --- --- $           0.00 0X
07# 92.9X 87.7X 88.3X $          264.00 61X
08# 92.4X 83.3X 40.4X $          139.25 32X
09# 94.6X --- --- $           0.00 0X
10# 97.6X --- --- $           0.00 0X
11# 96.5X --- --- $           0.00 0X
12# 97.2X --- --- $           0.00 0X
13# 95.0X 65.7X 31.7X $           26.75 6X
14# 96.5X --- --- $           0.00 0X
15# 96.4X --- --- $           0.00 0X
16# 89.0X 97.7X 75.0X $           0.25 0X
-----
      86.0X 63.5X $          438.25 100X
-----
DBL-UPS PLAYS      51.25 MON#      72.25
-----
LAST CLEAR GAMESTATS..16:16:30 04/06/95
VOID IF MUTILATED      VAL# 00000000
*** COPYRIGHT 1986-95 U.S.GAMES, INC. ***
-----

```

fig. 5.4

**GAMESTAT  
TICKET**

At the bottom of the screen, the time and date of the last clear is shown.

When this button is actuated with the red key engaged, a Game Statistics Ticket, like the one in fig. 5.4, will be printed. This ticket contains the following information:

The GameNumber and Gamename (Games shown in red and/or with an asterisk beside the game number are enabled), an asterisk to the right of the Gamename if there is a progressive option, the progressive base (i.e., the value at which the progressive begins), and the current value of the progressive.

In the middle of the ticket, the total cash played and cash won are shown for each game, along with the percentages these amounts represent when compared with all the other games.

At the bottom of the ticket, the target and actual win percentages are shown, followed by the hit percentage (i.e., the percentage of games played which have resulted in some type of winner), the cash earned, and the percentage of cash earned compared to all other games.

After this, cash played and cash won for Double-Ups appears.

Finally, the time and date that the game statistics were last cleared are shown.

A more detailed examination of all the available gametypes follows. Some Gameroms will contain at least one of every gametype, while others may have only a single game.

It is important to note here that, when touching any Card Game Config Gateway button for the first time after a power up, there will be a brief delay as graphics sets are decoded. Subsequently, the Config Screen will appear more rapidly.

# Chapter 5.5 Supergold Bingo Config.

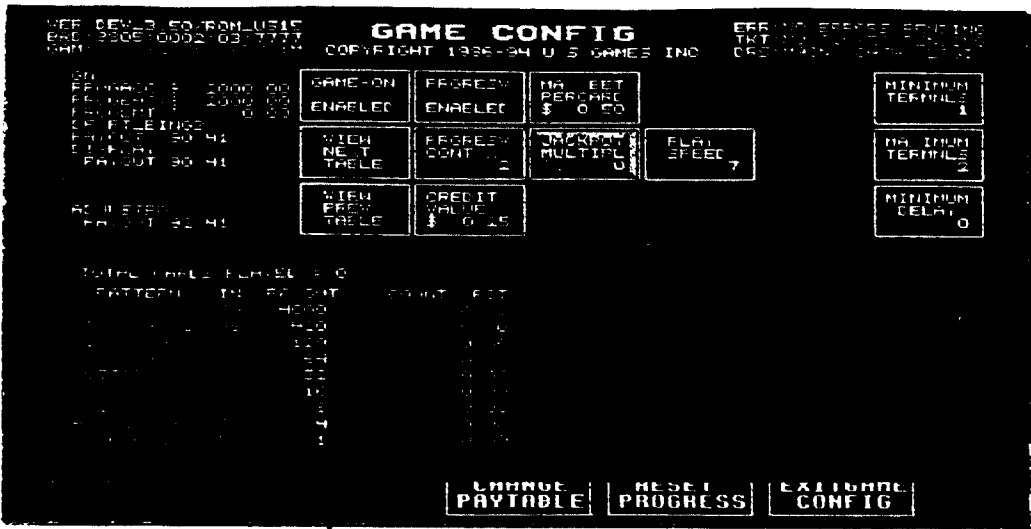


fig. 5.5.1

## Functional Description

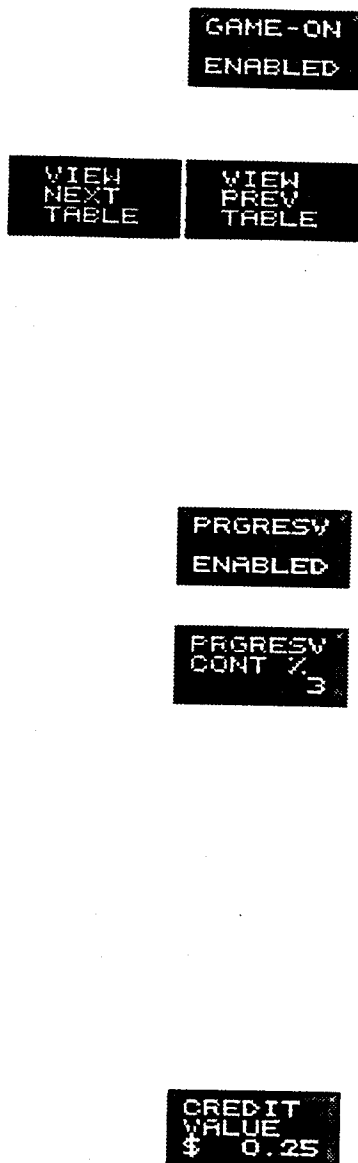
### Functional Description

This window allows the operator to configure and view statistics for the Supergold Bingo Game



fig. 5.5.2

fig. 5.5.2 shows the Game Parameter Display Box. The first line shows the Game Name as it will appear on the Game Button in the Player Select Menu. The second line displays the progressive accumulator. This battery backed-up register will always retain and show the current value of the progressive. Line three shows the progressive base, or the value at which the progressive begins. Line four indicates the progressive limit, or the maximum value the progressive is allowed to attain in locations where a cap is desired. The fifth line shows the header label of the internal



data file, which is used by U.S. Games, Inc. software engineers. The sixth line shows the target win percentage. Line eight is used to display the win percentage of the preview payable, which is selected using the View Next and View Previous Table buttons, described later in this chapter. Finally, at the bottom of the box, the adjusted payout shows the base payout plus the progressive.

This button is used to manually enable or disable the game.

These buttons are used to view and select from among the five paytables pre-stored for this game. To view the different paytables, touch the View Next Table or View Previous Table button, as appropriate. Once the desired payable has been selected, turn and hold the red key, then touch the Change Paytable button. The new payable is now set.

This button is used to enable (i.e., "bank") or disable the progressive feature.

This button is used to set the percentage of the total cash played that will be contributed to the progressive. This setting is only relevant for Master machines. It is important to note that a slave may show a different value here than that set in the Master, but the Master truly controls the percentage. To change the percentage value on the Master, turn and hold the red key, then touch the progressive contribution % button. A keypad will pop up. Press clear, the new percentage desired, then enter. The keypad will disappear and the new percentage will be shown on the PROGRESV CONT % button.

This button selects the monetary value of a credit for this particular game. This value should always remain at \$.25, unless the factory is consulted first. If a change is deemed necessary, turn and hold the red key, then touch the button. A keypad will pop up. Press clear, the new value (in pennies), and enter. Note that in the upper left corner of the keypad box, maximum and minimum credit values appear.

MAX BET  
PER CARD \$0.50

This button sets the monetary value of each active card (a player may activate between one and four cards). To change the card value, turn and hold the red key, then touch the button. A key pad will pop up. Follow the same procedure as that described above for the Credit Value change. Again, maximum and minimum values are shown in the upper left corner of the keypad box. Note that the value set here will determine the progressive base, shown in the Game Parameter Display Box.

Once the progressive base, in addition to the payable, has been set, there may be an incorrect value in the progressive accumulator. To rectify this, the progressive must be reset. To do this, turn and hold the red key, then hit the RESET PROGRESS button at the bottom of the screen. Resetting the progressive sets the accumulator to the base value.

This button sets the play speed. The slowest is zero, while the fastest is seven.

PLAY SPEED 7

MINIMUM TERMINLS 1

MAXIMUM TERMINLS 2

MINIMUM DELAY 0

These three buttons are used in Multiple Player Dependent (MPD) environments. These buttons are relevant for Master Machines only, and the values for each are changed by turning and holding the red key while touching the appropriate button. The familiar keypad will pop up and the values may be changed following the usual procedure.

Minimum Terminals sets the minimum number of terminals that must be on line, in the active mode, before the Master will allow the game to be played. If set to two, for example, when a player hits the "Play" button, a message will be appear which reads "Please Wait For Second Player." When a second player then hits the "Play" button, the game will commence, with both players getting the same numbers from the Master. Maximum Terminals, conversely, determines the maximum number of players allowed to participate in a game. Minimum Delay determines how much time will elapse before play will begin, after the minimum player requirement has been met. Note that the delay is normally set to zero.

# Chapter 5.1 Poker Config.

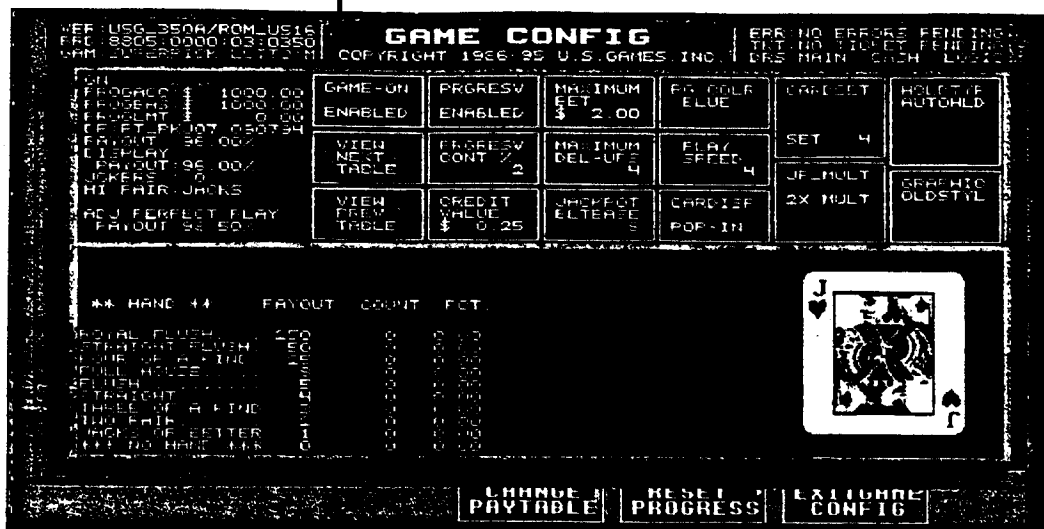


fig. 5.1.1

## Functional Description

### Functional Description

This window allows the operator to configure and view statistics for the Poker Game. Since the Config Windows for all Poker games have the same format, only one will be discussed.

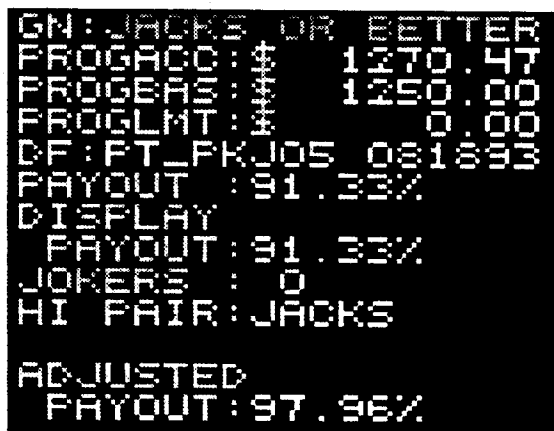


fig. 5.1.2

fig. 5.1.2 shows the Game Parameter Display Box. The first line shows the Game Name as it will appear on the Game Button in the Player Select Menu. The second line displays the progressive accumulator. This battery backed-up register will always retain and show

GAME-ON  
ENABLED

VIEW  
NEXT  
TABLE

VIEW  
PREV  
TABLE

PRGRESV  
ENABLED

PRGRESV  
CONT %  
3

the current value of the progressive. Line three shows the progressive base, or the value at which the progressive begins. Line four indicates the progressive limit, or the maximum value the progressive is allowed to attain in locations where a cap is desired. The fifth line shows the header label of the internal data file, which is used by U.S. Games, Inc. software engineers. The sixth line shows the target win percentage. Line eight is used to display the win percentage of the preview payable, which is selected using the View Next and View Previous Table buttons, described later in this chapter. The ninth line indicates whether or not jokers will be in the deck. The tenth line describes the minimum requirements for a winning hand. Finally, at the bottom of the box, the adjusted payout shows the base payout plus the progressive and any jackpot multiplier. It is important to note that, for Poker, this number represents the maximum payout percentage, assuming perfect play. The mean average payout is usually four to six points lower.

This button is used to manually enable or disable the game.

These buttons are used to view and select from among the five paytables pre-stored for each game. To view the different paytables, touch the View Next Table or View Previous Table button, as appropriate. Once the desired payable has been selected, turn and hold the red key, then touch the Change Paytable button, which is located at the bottom of the screen. The new payable is now set.

This button is used to enable (i.e., "bank") or disable the progressive feature.

This button is used to set the percentage of the total cash played that will be contributed to the progressive. This setting is only relevant for Master machines. It is important to note that a slave may show a different value here than that set in the Master, but the Master truly controls the percentage. To change the percentage value on the Master, turn and hold the red key, then touch the progressive contribution % button. A keypad will pop up. Press clear, the new percentage desired, then enter. The keypad will disappear and the new percentage will be shown on the PRGRESV CONT % button.



CREDIT  
VALUE  
\$ 0.25

MAXIMUM  
BET  
\$ 5.00

MAXIMUM  
DBL-UPS  
4

JACKPOT  
BETBASE  
8

BG CLR  
BLUE

This button selects the monetary value of a credit for this particular game. To change the credit value, turn and hold the red key, then touch the button. A keypad will pop up. Press clear, the new value (in pennies), and enter. Note that in the upper left corner of the keypad box, maximum and minimum credit values appear.

This button sets the maximum amount of money that can be wagered in any one gameplay. To change the maximum bet value, turn and hold the red key, then touch the button. A key pad will pop up. Follow the same procedure as that described above for the Credit Value change. Again, maximum and minimum values are shown in the upper left corner of the keypad box.

This button sets the maximum number of times a player will be allowed to double up in the event of a win. To change this number, turn and hold the red key, then touch the button. The keypad will pop up. Press clear, enter the number of times double ups will be permitted, then enter.

This button sets how many credits a player must bet in order to be eligible for the jackpot (progressive) and the jackpot multiplier, described later in this chapter. To change this value, turn and hold the red key. Follow the procedure described above to enter a new value on the keypad. Note that the jackpot bet base will determine the progressive base, shown in the Game Parameter Display Box.

Once the progressive base, in addition to the payable, has been set, there may be an incorrect value in the progressive accumulator. To rectify this, the progressive must be reset. To do this, turn and hold the red key, then hit the RESET PROGRESS button at the bottom of the screen. Resetting the progressive sets the accumulator to the base value.

When set to Blue, the Gamescreen background is set to blue. When set to Black, the background is black. Active buttons are a bright red, while inactive buttons are a dark red (See fig. 5.1.3).

PLAY SPEED 3

CARDISP SPIN-IN

CARDSET SET 4

JP\_MULT 2X MULT

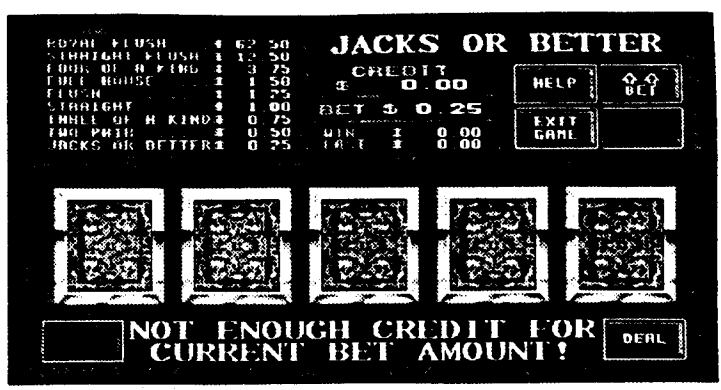


fig. 5.1.3

This button sets the deal speed. The slowest is zero, while the fastest is seven. The default value is always 4.

This button determines whether dealt and drawn cards will spin onto the screen, or simply appear. Note that the spin setting should not be used with certain hold modes. The various hold modes are described shortly.

This button selects one of four graphics sets to be used on the cards for this Game. Examples are shown in figs. A.1-A.4.



fig. A.1



fig. A.2

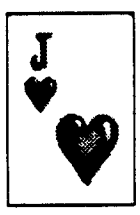


fig. A.3



fig. A.4

This button is used to multiply the jackpot (progressive) base, if desired. Even if the progressive is turned off, this button is used to multiply the value of the top prize, and will affect your overall payout percentage.

As an example, if the 2X multiplier is selected by turning and holding the red key, then touching the button, the jackpot base will double (i.e., the progressive will begin at a higher value). As with any change in the progressive bet base, any change in the jackpot multiplier necessitates resetting the progressive, as previously explained. It is important to note that the adjusted payout increases as the multiplier increases.

HOLDTYP  
AUTOHLD

This button selects the style of play sequencing that is used. There are five possibilities:

- 1) With Autohold set, a box appears above each card, indicating the machine's recommendations on whether it will be automatically discarded or held. To change the designation on a particular card, the card must be touched before the Draw button is hit.
- 2) With Recallauto set, after the first five cards are dealt, hold markers are displayed for those cards that the machine believes should be held. If any card is touched, those markers disappear. Touched cards will then be discarded, unless re-touched, when the Draw button is hit. Note that Recallauto works best with cards that pop in.
- 3) With Hold Game set, the machine will automatically hold all cards. To discard, a particular card must be touched.
- 4) With Discard Game set, the machine will automatically discard all cards. To hold, a card must be touched. (A "HELD" marker will appear and disappear above the cards as they are touched.)
- 5) With Recallhold set, no hold or discard markers appear. Any touched cards will be discarded, unless re-touched, when the Draw button is hit. However, if NO cards are touched, all will be discarded. As with Recallauto, Recallhold works only with cards that pop in.

GRAPHIC  
OLDSTYL

This button is used to set the graphics mode for Poker games. The New Style contains an extended payable with multiple columns showing the payable for different bet amounts, with the current bet amount highlighted.

Fig. 5.1.4 shows the New Style game screen, while fig. 5.1.5 shows the Old Style screen. (See following page.)

**NOTE:**

In Credit Mode, five columns of payable data are shown on the New Style screen, while in Cash Mode, only three columns are shown.

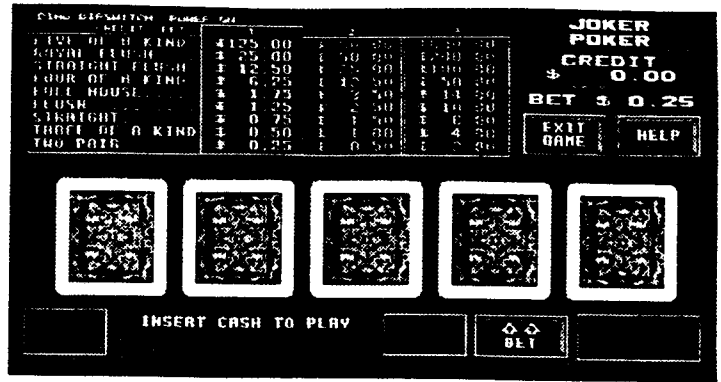


fig. 5.1.4

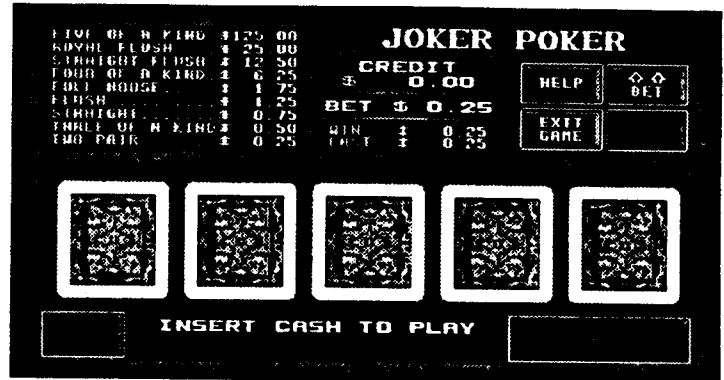


fig. 5.1.5

The Gamestats display is shown in fig. 5.1.6. The left column shows the paytable tier descriptions, or “rankings.” The next column displays the return values for each tier. These are multiples of the credit value. The third column displays how many times each tier has been hit during the course of operation. The right-most column displays the occurrences as a function of percentage compared to all occurrences.

** HAND **	PAYOUT	COUNT	PCT.
ROYAL FLUSH	4125	00000000	00000000
STRAIGHT FLUSH	425	00000000	00000000
FOUR OF A KIND	625	00000000	00000000
FULL HOUSE	175	00000000	00000000
FLUSH	125	00000000	00000000
STRAIGHT	75	00000000	00000000
THREE OF A KIND	50	00000000	00000000
TWO PAIR	25	00000000	00000000
JACKS OR BETTER	25	00000000	00000000
*** NO HAND ***		00000000	00000000

fig. 5.1.6

Note that, for some customers, the “COUNT” and “PCT” fields will show all zeros. This is because all the battery backed-up RAM was designated for other uses. This will always be the case when eight pulltab games are present.

# Chapter 5.2 Superpick Lotto Config.

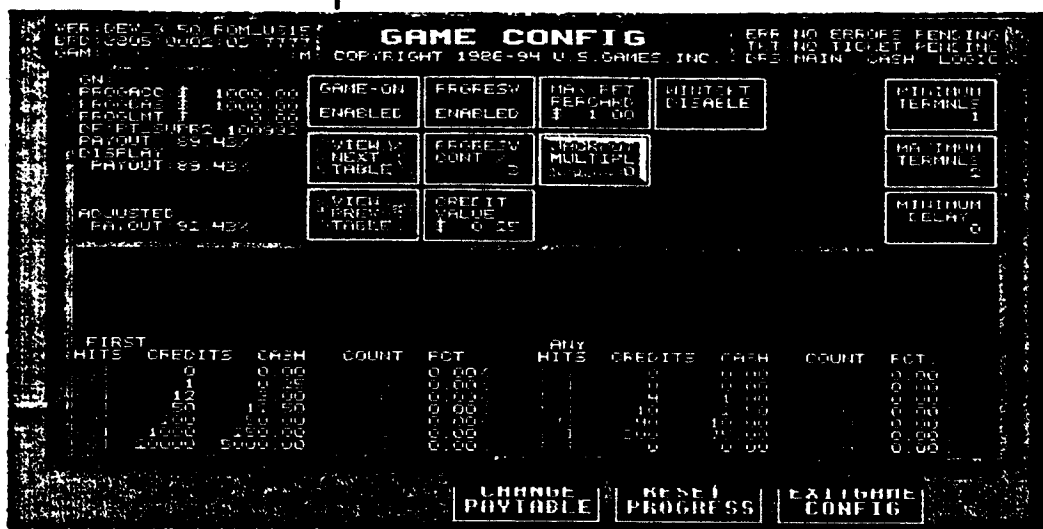


fig 5.2.1

## Functional Description

### Functional Description

This screen allows the operator to configure and view statistics for the Superpick Lotto Game.

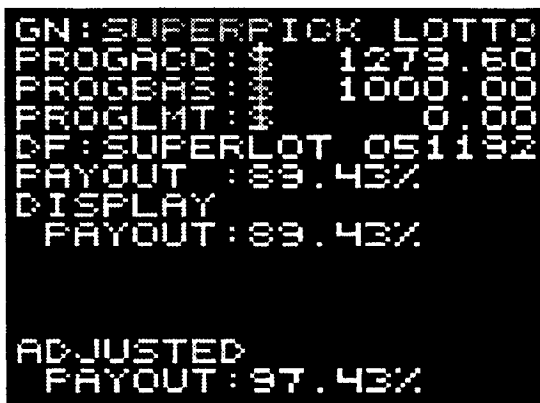
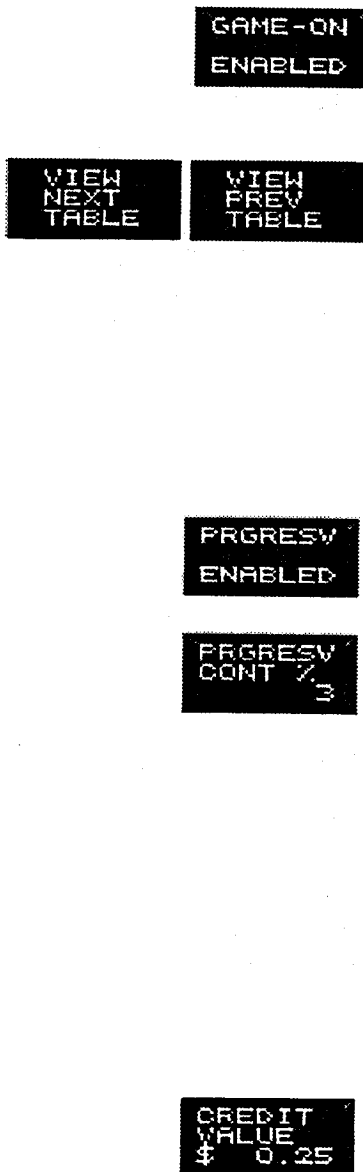


fig. 5.2.2

Fig. 5.2.2 shows the Game Parameter Display Box. The first line shows the Game Name as it will appear on the Game Button in the Player Select Menu. The second line displays the progressive accumulator. This battery backed-up register will always retain and show the current value of the progressive. Line three shows the progressive base, or the value at which the progressive begins. Line four indicates the progressive limit, or the maximum value the progressive is allowed to attain in locations where a cap is desired.



The fifth line shows the header label of the internal data file, which is used by U.S. Games, Inc. software engineers. The sixth line shows the target win percentage. Line eight is used to display the win percentage of the preview payable, which is selected using the View Next and View Previous Table buttons, described later in this chapter. Finally, at the bottom of the box, the adjusted payout shows the base payout plus the progressive.

This button is used to manually enable or disable the game.

These buttons are used to view and select from among the five paytables pre-stored for this game. To view the different paytables, touch the View Next Table or View Previous Table button, as appropriate. Once the desired payable has been selected, turn and hold the red key, then touch the Change Paytable button. The new payable is now set.

This button is used to enable (i.e., "bank") or disable the progressive feature.

This button is used to set the percentage of the total cash played that will be contributed to the progressive. This setting is only relevant for Master machines. It is important to note that a slave may show a different value here than that set in the Master, but the Master truly controls the percentage. To change the percentage value on the Master, turn and hold the red key, then touch the progressive contribution % button. A keypad will pop up. Press clear, the new percentage desired, then enter. The keypad will disappear and the new percentage will be shown on the PRGRESV CONT % button.

This button selects the monetary value of a credit for this particular game. This value should always remain at \$.25, unless the factory is consulted first. If a change is deemed necessary, turn and hold the red key, then touch the button. A keypad will pop up. Press clear, the new value (in pennies), and enter. Note that in the upper left corner of the keypad box, maximum and minimum credit values appear.

MAX BET  
PER CARD  
\$ 1.00

This button sets the maximum amount of money that the player may wager on any one card. To change the maximum bet value, turn and hold the red key, then touch the button. A key pad will pop up. Follow the same procedure as that described above for the Credit Value change. Again, maximum and minimum values are shown in the upper left corner of the keypad box. Note that the value set here will determine the progressive base, shown in the Game Parameter Display Box. Another important point to remember is that in order to be eligible for the progressive, a player must wager the Max Bet set here.

Once the progressive base, in addition to the payable, has been set, there may be an incorrect value in the progressive accumulator. To rectify this, the progressive must be reset. To do this, turn and hold the red key, then hit the RESET PROGRESS button at the bottom of the screen. Resetting the progressive sets the accumulator to the base value.

WINTKT  
DISABLE

This button determines whether a voucher will automatically be printed with each winning game. Note that this function should always be DISABLED.

MINIMUM  
TERMNLS 1

MAXIMUM  
TERMNLS 10

MINIMUM  
DELAY 0

These three buttons are used in Multiple Player Dependent (MPD) environments. These buttons are relevant for Master Machines only, and the values for each are changed by turning and holding the red key while touching the appropriate button. The familiar keypad will pop up and the values may be changed following the usual procedure.

Minimum Terminals sets the minimum number of terminals that must be on line, in the active mode, before the Master will allow the game to be played. If set to two, for example, when a player hits the "Play" button, a message will appear which reads "Please Wait For Second Player." When a second player then hits the "Play" button, the game will commence, with both players getting the same numbers from the Master. Maximum Terminals, conversely, determines the maximum number of players allowed to participate in a game. Minimum Delay determines how much time will elapse before play will begin, after the minimum player requirement has been met. Note that the delay is normally set to zero.

FIRST					ANY		
HITS	CREDITS	CASH	COUNT	PCT.	HITS	CREDITS	CASH
0	0	0	0	0	0	0	0
1	1	0	0	0	0	0	0
2	5	0	0	0	0	0	0
3	20	0	0	0	0	0	0
4	100	0	0	0	0	0	0
5	1000	0	0	0	0	0	0
6	20000	0	0	0	0	0	0

fig. 5.2.3

The Gamestats display is shown in fig. 5.2.3. The five left columns display information about “first” hits (i.e., hits which occur in the same order as the balls were drawn by the Master). The left-most (first) column lists the number of hits (0-6). The second column displays the payout value, in credits, for the corresponding number of hits. The third column displays the payout value, in cash, for the corresponding number of hits. The fourth column shows how many times each number of hits has occurred. Finally, the fifth column shows the occurrences as a function of percentage compared to all occurrences.

The five right-most columns display the same information as described above, but for “any” hits ( i.e., hits that do not form a contiguous line from the leftmost digit).

Note that, for some customers, the game play statistics will show all zeros. This is because all the battery backed-up RAM was designated for other uses. This will always be the case when eight pulltab games are present.



# Chapter 5.3 Touch 6 Lotto Config.

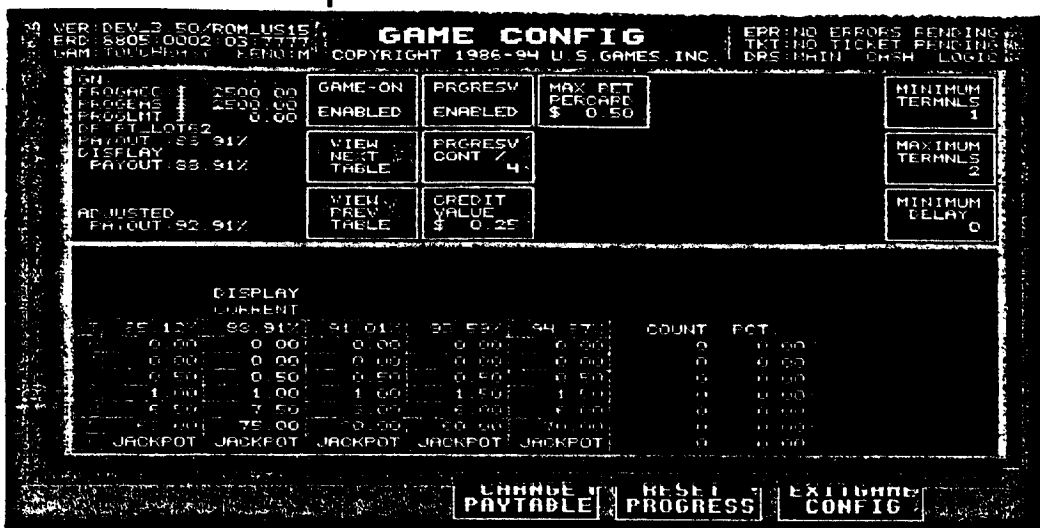


fig. 5.3.1

## Functional Description

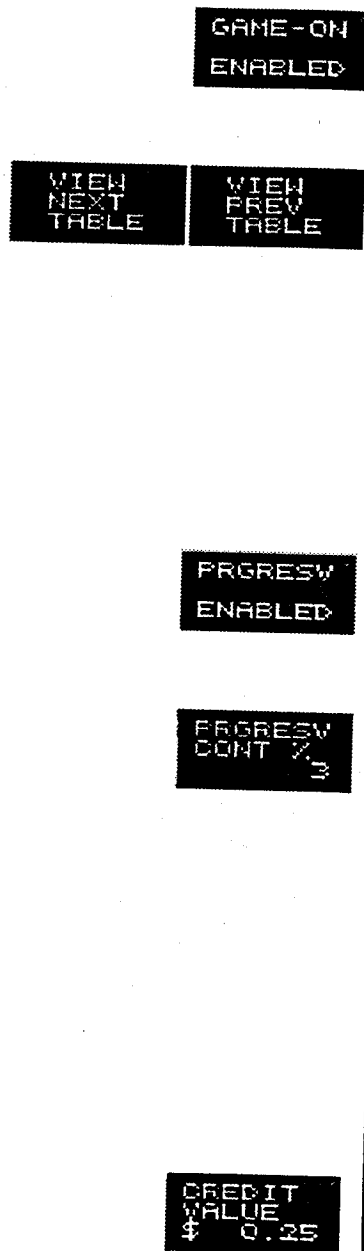
## Functional Description

This screen allows the operator to configure and view statistics for the Touch 6 Lotto Game. Fig. 5.3.2



fig. 5.3.2

shows the Game Parameter Display Box. The first line shows the Game Name as it will appear on the Game Button in the Player Select Menu. The second line displays the progressive accumulator. This battery backed-up register will always retain and show the current value of the progressive. Line three shows the progressive base, or the value at which the progressive begins. Line four indicates the progressive limit, or the maximum value the progressive is allowed to



attain in locations where a cap is desired. The fifth line shows the header label of the internal data file, which is used by U.S. Games, Inc. software engineers. The sixth line shows the target win percentage. Line eight is used to display the win percentage of the preview payable, which is selected using the View Next and View Previous Table buttons, described later in this chapter. Finally, at the bottom of the box, the adjusted payout shows the base payout plus the progressive.

This button is used to manually enable or disable the game.

These buttons are used to select from among the five paytables pre-stored for this game. The paytables are shown at the bottom of the screen. To select a different payable, touch the View Next Table or View Previous Table button, as appropriate. The "Display" marker will move to highlight the payable you have chosen. (See fig. 5.3.3). Once the desired payable has been selected, turn and hold the red key, then touch the Change Paytable button. The new payable is now set.

This button is used to enable (i.e., "bank") or disable the progressive feature.

This button is used to set the percentage of the total cash played that will be contributed to the progressive. This setting is only relevant for Master machines. It is important to note that a slave may show a different value here than that set in the Master, but the Master truly controls the percentage. To change the percentage value on the Master, turn and hold the red key, then touch the progressive contribution % button. A keypad will pop up. Press clear, the new percentage desired, then enter. The keypad will disappear and the new percentage will be shown on the PRGRESV CONT % button.

This button selects the monetary value of a credit for this particular game. This value should always remain at \$.25, unless the factory is consulted first. If a change is deemed necessary, turn and hold the red key, then touch the button. A keypad will pop up. Press clear, the new value (in pennies), and enter. Note that in the upper left

MAX BET PER CARD  
\$ .50

corner of the keypad box, maximum and minimum credit values appear.

This button defines the value of each Lotto ticket. The player may not adjust the bet value, as in Superpick Lotto. For example, if Max Bet Per Card is set to \$.50, each card that is turned on by the player will be valued at \$.50. The player may increase the bet only by playing more cards.

To change the maximum bet value, turn and hold the red key, then touch the button. A key pad will pop up. Follow the same procedure as that described above for the Credit Value change. Again, maximum and minimum values are shown in the upper left corner of the keypad box. Note that the value set here will determine the progressive base, shown in the Game Parameter Display Box.

Once the progressive base, in addition to the paytable, has been set, there may be an incorrect value in the progressive accumulator. To rectify this, the progressive must be reset. To do this, turn and hold the red key, then hit the RESET PROGRESS button at the bottom of the screen. Resetting the progressive sets the accumulator to the base value.

MINIMUM TERMINLS  
1

MAXIMUM TERMINLS  
100

MINIMUM DELAY  
0

These three buttons are used in Multiple Player Dependent (MPD) environments. These buttons are relevant for Master Machines only, and the values for each are changed by turning and holding the red key while touching the appropriate button. The familiar keypad will pop up and the values may be changed following the usual procedure.

Minimum Terminals sets the minimum number of terminals that must be on line, in the active mode, before the Master will allow the game to be played. If set to two, for example, when a player hits the "Play" button, a message will appear which reads "Please Wait For Second Player." When a second player then hits the "Play" button, the game will commence, with both players getting the same numbers from the Master. Maximum Terminals, conversely, determines the maximum number of players allowed to participate in a game. Minimum Delay determines how much time will elapse before play will begin, after the

minimum player requirement has been met. Note that the delay is normally set to zero.

The Gamestats display is shown in fig. 5.3.3. Here the five different paytables stored for this game are shown. As the Raise and Lower Gameodd Table buttons are hit, the "Display" marker will move to highlight the selected payable. The "Count" column shows how

	DISPLAY						
	CURRENT						
1	81.00	82.84	85.12	88.81	91.017	COUNT	PCT.
2	0.00	0.00	0.00	0.00	0.00	2177	15.46
3	0.00	0.00	0.00	0.00	0.00	8808	59.63
4	0.25	0.25	0.25	0.25	0.25	4814	32.68
5	0.50	0.50	0.50	0.50	0.50	1522	10.61
6	1.50	3.00	3.25	3.75	4.00	125	1.28
7	20.00	30.00	34.00	37.50	40.00	4	0.02
8	JACKPOT	JACKPOT	JACKPOT	JACKPOT	JACKPOT	0	0.00

fig. 5.3.3

many times each number of hits has occurred. Finally, the "Pct." column shows the occurrences as a function of percentage compared to all occurrences.

Note that, for some customers, the "COUNT" and "PCT" fields will show all zeros. This is because all the battery backed-up RAM was designated for other uses. This will always be the case when eight pulltab games are present.

# Chapter 5.4 Toucheasy Keno Config.

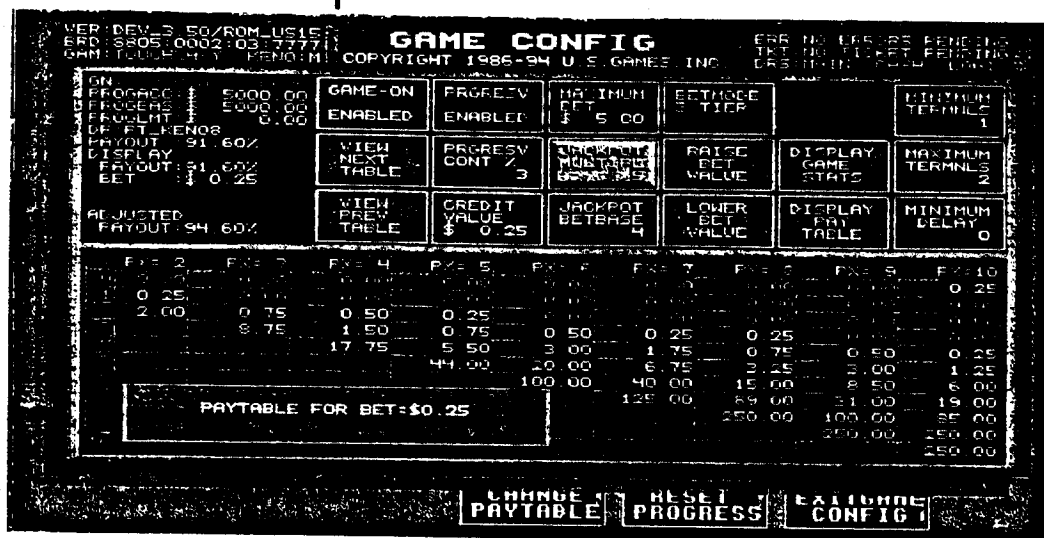


fig. 5.4.1

## Functional Description

## Functional Description

This window allows the operator to configure and view statistics for the Toucheasy Keno Game.



fig. 5.4.2

fig. 5.4.2 shows the Game Parameter Display Box. The first line shows the Game Name as it will appear on the Game Button in the Player Select Menu. The second line displays the progressive accumulator. This battery backed-up register will always retain and show the current value of the progressive. Line three shows the progressive base, or the value at which the progressive begins. Line four indicates the progressive limit, or the maximum value the progressive is allowed to attain in locations where a cap is desired. The fifth line shows the header label of the internal

corner of the keypad box, maximum and minimum credit values appear.

This button sets the maximum amount of money that can be wagered in any one gameplay. To change the maximum bet value, turn and hold the red key, then touch the button. A key pad will pop up. Follow the same procedure as that described above for the Credit Value change. Again, maximum and minimum values are shown in the upper left corner of the keypad box.

This button sets how many credits a player must bet in order to be eligible for the jackpot (progressive). To change this value, follow the procedure described above to enter a new value on the keypad. Note that if the Betmode, described next, is set to Linear, the jackpot bet base will determine the progressive base, shown in the Game Parameter Display Box. If the Mode is set to 3 Tier, the progressive base is fixed.

This button is used to multiply the jackpot (progressive) base, if desired. Even if the progressive is turned off, this button is used to multiply the value of the top prize, and will affect your overall payout percentage.

As an example, if the 2X multiplier is selected by turning and holding the red key, then touching the button, the jackpot base will double (i.e., the progressive will begin at a higher value). As with any change in the progressive bet base, any change in the jackpot multiplier necessitates resetting the progressive, as previously explained. It is important to note that the adjusted payout increases as the multiplier increases.

This button sets the Betmode. The 3 Tier mode uses a multiple tier payable. When the bet value is 1, 2 or 3 credits, the first tier is used. When the bet value is 4, 8, 12 or 16 credits, the second tier is used, and offers a slightly higher payout for the player than the first tier. (Note that once 4 credits have been reached, the next bet value jumps to 8 credits, rather than 5). Finally, if the bet value is 20 credits, the third tier is used, offering an even higher payout. If the 3 Tier mode is used, the progressive base is always \$5000.

The Linear mode uses only the first tier of the payable described above. In this mode, with the credit value set to a quarter, the bet value will be in multi-

MAX BET  
PERCARD  
\$ 1.00

JACKPOT  
MULTIPLIER  
5

JACKPOT  
MULTIPLIER  
4

BETMODE  
3 TIER

# Chapter 5.6 Black Gold 21 Config.

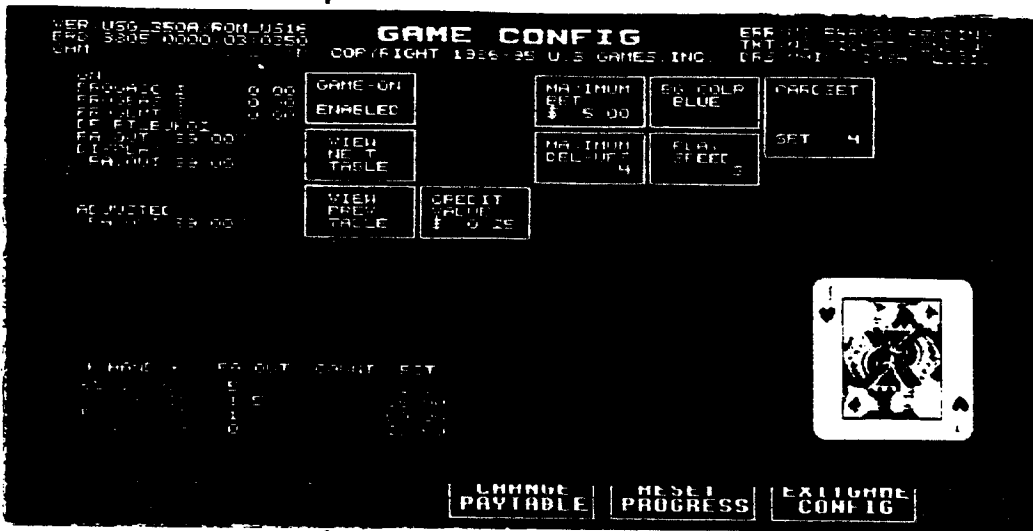


fig. 5.6.1

## Functional Description

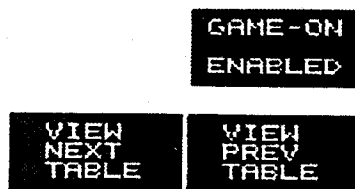
## Functional Description

This window allows the operator to configure and view statistics for the Black Gold 21 Game.



fig. 5.6.2

fig. 5.6.2 shows the Game Parameter Display Box. The first line shows the Game Name as it will appear on the Game Button in the Player Select Menu. The second, third and fourth lines display information about this game's progressive, which is not enabled. The fifth line shows the header label of the internal data file, which is used by U.S. Games, Inc. software engineers. The sixth line shows the target win percentage. Line eight is used to display the win percentage of the preview payable, which is selected using the View Next Table and View Previous Table buttons.



described later in this chapter. Finally, at the bottom of the box, the adjusted payout shows the base payout plus the progressive. In the case of Black Gold 21, the adjusted payout is always the same as the base payout.

This button is used to manually enable or disable the game.

These buttons are used to view and select from among the five paytables pre-stored for each game. To view the different paytables, touch the View Next Table or View Previous Table button, as appropriate. Once the desired paytable has been selected, turn and hold the red key, then touch the Change Paytable button, which is located at the bottom of the screen. The new paytable is now set.

This button selects the monetary value of a credit for this particular game. To change the credit value, turn and hold the red key, then touch the button. A keypad will pop up. Press clear, the new value (in pennies), and enter. Note that in the upper left corner of the keypad box, maximum and minimum credit values appear.

This button sets the maximum amount of money that can be wagered in any one gameplay. To change the maximum bet value, turn and hold the red key, then touch the button. A key pad will pop up. Follow the same procedure as that described above for the Credit Value change. Again, maximum and minimum values are shown in the upper left corner of the keypad box.

This button sets the maximum number of times a player will be allowed to double up in the event of a win. To change this number, turn and hold the red key, then touch the button. The keypad will pop up. Press clear, enter the number of times double ups will be permitted, then enter.

When set to Blue, the Gamescreen background is blue. When set to Black, the background is black. Active buttons are a bright red, while inactive buttons are a dark red (See fig. 5.6.3).



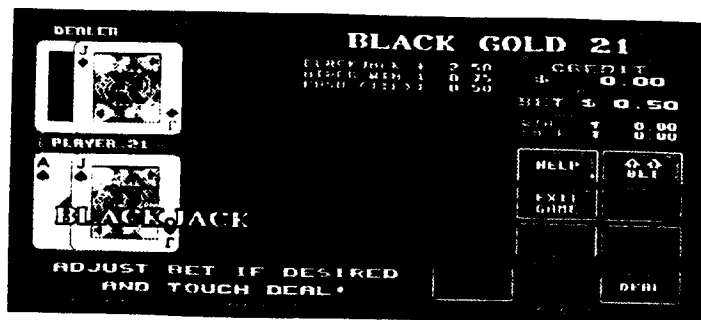


fig. 5.6.3



This button sets the deal speed. The slowest is zero, while the fastest is seven.



This button selects one of four graphics sets to be used on the cards for this Game. Examples are shown in figs. A.1-A.4.



fig. A.1



fig. A.2



fig. A.3



fig. A.4

The Gamestats display is shown in fig. 5.6.4. The left column shows the payable tier descriptions. The next column displays the return values for each tier.

* HAND *	PAYOUT	COUNT	PCT.
BLACKJACK	5	1	2.56%
OTHER WIN	1.5	19	48.71%
PUSH (TIE)	1	1	2.56%
*NO WIN*	0	18	48.15%

fig. 5.6.4

These are multiples of the credit value. The third column displays how many times each tier has been hit during the course of operation. The right-most column displays the occurrences as a function of percentage compared to all occurrences. Note that, for some customers, the "COUNT" and "PCT" fields will show all zeros. This is because all the battery backed-up RAM was designated for other uses. This will always be the case when eight pulltab games are present.

**NOTE:**  
Because the blackjack cards overlap on the Gameplay screen, card set 4 is recommended, while sets 1 and 2 should not be used.

## Chapter 5.7 Pulltab Config.

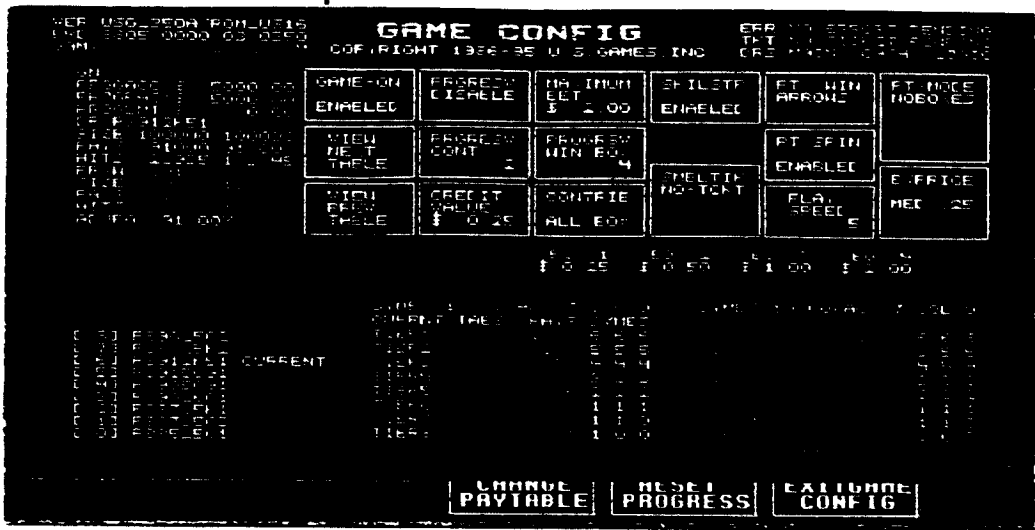


fig. 5.7.1

### Functional Description

### Functional Description

This window allows the operator to configure and view statistics for the Pulltab Game. Since the pulltab Config Windows all have the same format, only one will be discussed. Before discussing configuration options, some background information on the Pot-O-Gold video pulltab games is necessary.

Our games were developed to be played just like paper pulltabs, with the tabs being drawn from one or more boxes. Once a tab has been purchased, it is no longer available, and the odds of purchasing a particular pulltab, provided it is still available, go up.

In many jurisdictions, purchasing from boxes is required. (For a more detailed explanation of how boxes are used, refer to the discussion of PT\_MODE later in this chapter) However, some jurisdictions require NO BOXES. This means that every time a pulltab is purchased, it is replaced by another and the odds of purchasing a particular pulltab remain constant.

Throughout this chapter, the word "box" is used from the original terminology. If PT\_MODE is set to NO BOXES, however, "box" should be taken to mean a

pulltab of a certain value.

```

GN: LUCKY GEMS
PRG: 5000.00
PRG: 5000.00
PRG: 0.00
PRG: 0.00
PRG: 100000
PRG: 51.00%
PRG: 1:3.45
PRG: 100000
PRG: 51.00%
PRG: 1:3.45
PRG: 51.00%
  
```

fig. 5.7.2

Fig. 5.7.2 shows the Game Parameter Display Box. The first line shows the Game Name as it will appear on the Game Button in the Player Select Menu. The second line displays the progressive accumulator. This battery backed-up register will always retain and show the current value of the progressive. Line three shows the progressive base, or the value at which the progressive begins. Line four indicates the progressive limit, or the maximum value the progressive is allowed to attain in locations where a cap is desired. The fifth line shows the deal number, which provides the following information:

```

D8:F8912K51
  
```

fig. 5.7.3

The first letter, "D," indicates a Deal. (Note that other letters, such as P, M and C, may be used). The next digit indicates the number of win lines in the deal. In the case of the example shown in fig. 5.7.3, the number of win lines is eight. The following two digits represent the payout percentage which, in our example, is 89. The next three figures represent the monetary value of the top prize at the \$2 bet level. (For deals beginning with "P," the value of the top prize is a direct ratio of payout to max bet. For example, if the deal shown above began with a "P," and the max bet were \$2, the top prize would be 5000, since the top prize pays 2500 to 1.) Note that "C" represents one hundred dollars, while "K" represents one thousand. The top prize in our example deal is \$2,500. The final digit is a unique identifier, because there may be more than one deal with the same payout

percentage, top prize and number of win lines. The sixth line of the Game Parameter Display Box shows the deal size, or the number of pulltabs in each box of the deal. The odds of hitting the progressive depend on the deal size. If, for example, there are 100,000 tabs in the deal, then the odds of hitting the progressive are 1 in 100,000. Line seven shows the amount that should be paid out, assuming that the pulltabs sell for a dollar. To the right of this amount the payout percentage appears. Note that in the deal number described above the payout percentage is shown as a whole number, but on this line the exact percentage appears to two decimal places. Line eight shows the number of hits, or unique winning pulltabs, in the deal. To the right of this number the ratio of hits to total pulltabs is displayed. Lines nine through twelve display the same information (i.e., deal number, size, payout and hits), but for the preview deal, described in more detail below. Finally, the thirteenth line represents the adjusted payout, which is simply the base payout (line seven) plus the progressive.

GAME-ON  
ENABLED

This button is used to manually enable or disable the game.

VIEW  
NEXT  
TABLE

VIEW  
PREV  
TABLE

These buttons are used to view and select from among the different deal paytables pre-stored for each game. To view the different deals, touch the View Next Table or View Previous Table button, as appropriate. The preview deals will appear in the bottom right corner of the screen. They are also printed for your convenience in Appendix C of this manual. Once the desired deal has been selected, turn and hold the red key, then touch the Change Paytable button. The new deal is now set. Note that whenever the deal is changed, the progressive base shown in the Game Parameter Display Box may also change. Once the progressive base, in addition to the paytable, has been set, there may still be an incorrect value in the progressive accumulator. To rectify this, the progressive must be reset. To do this, turn and hold the red key, then hit the RESET PROGRESS button at the bottom of the screen. Resetting the progressive sets the accumulator to the base value.

#### WARNING:

If you change the deal in the middle of a box, provided boxes are being run, all the boxes for that game will be flushed! We strongly suggest that deal changes be made with extreme caution. Flushing the boxes could cause short term changes in your payout percentage, and may adversely affect either your casino or your players.



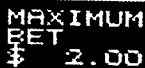
PRGRESV  
ENABLED



PRGRESV  
CONT % 3



CREDIT  
VALUE  
\$ 0.25



MAXIMUM  
BET  
\$ 2.00



PROGRESV  
WIN BOX 4

This button is used to enable (i.e., "bank") or disable the progressive feature.

This button is used to set the percentage of the total cash played that will be contributed to the progressive. This setting is only relevant for Master machines. It is important to note that a slave may show a different value here than that set in the Master, but the Master truly controls the percentage. To change the percentage value on the Master, turn and hold the red key, then touch the progressive contribution % button. A keypad will pop up. Press clear, the new percentage desired, then enter. The keypad will disappear and the new percentage will be shown on the PRGRESV CONT % button.

This button selects the monetary value of a credit for this particular game. This value should remain at a quarter, unless nickel pulltabs will be offered. To change the credit value, turn and hold the red key, then touch the button. A keypad will pop up. Press clear, the new value (in pennies), and enter. Note that in the upper left corner of the keypad box, maximum and minimum credit values appear.

This button sets the maximum amount of money that can be wagered on any one pulltab. The value set here may be higher than the box price, described later in more detail, and is used in conjunction with the box price to set the number and value of boxes which will be available to players. (See discussion of the box price button for more information). To change the maximum bet value, turn and hold the red key, then touch the button. A key pad will pop up. Follow the same procedure as that described above for the Credit Value change. Again, maximum and minimum values are shown in the upper left corner of the keypad box.

This button determines the price of the progressive pulltab. The progressive pulltab should always be in the most expensive box, if boxes are being run, and will pay an amount equal to the top prize, if the progressive is disabled. If the progressive is enabled, the value of the pulltab will be the value of the top prize, plus any money contributed towards the progressive.

CONTRIB  
ALL BOX

This button is used to determine whether contributions to the progressive will come from all boxes (prices), or only from the box in which the progressive is found.

SKILSTP  
ENABLED

This button is used to enable and disable the skillstop feature. If skillstop is enabled *and* the spin feature (described below) is enabled, the player has a choice of touching the reels individually to stop the spinning, or touching the bar to stop all spinning at once. Note that the player cannot affect the final outcome of the game.

SMBLTICK  
NO-TCKT

The symbol ticket button is used to determine when, and if, a ticket will be printed, and is only useful if a Fujitsu printer is installed in the machine. When set to "NO-TCKT," no tickets will be printed. When set to "WINONLY," a ticket will be printed only when a player wins. When set to "ANYPLAY," a ticket will be printed after every play. The tickets printed can actually show the pulltab symbols, depending on the type of printer used.

PT WIN  
ARROWS

This button is used to select which graphic symbol, either pointer arrows or lines, will indicate a win line.

PT SPIN  
ENABLED

This button is used to determine whether the pulltabs will spin or have covers. When this feature is disabled, the pulltabs will have covers. When enabled, the symbols will spin, simulating a 9-reel slot machine.

PLAY  
SPEED 5

This button determines the amount of time the pulltabs will spin or how long it takes for the covers to be removed. One is the longest time, while seven is the shortest. We recommend this value remain at five for both covers and spinning.

PT-MODE  
NOBOXES

This button is used to set the pulltab mode. Recall that setting this mode to NO BOXES means that the pulltabs are constantly being replaced so that the odds of purchasing any one pulltab remain the same. When drawing from boxes, once the tab has been purchased, it is no longer available.

**NOTE:**  
 In some jurisdictions, running boxes is a legal requirement, while in others NO BOXES must be used. For an explanation of the difference between boxes and no boxes, refer to page 1 of this chapter.

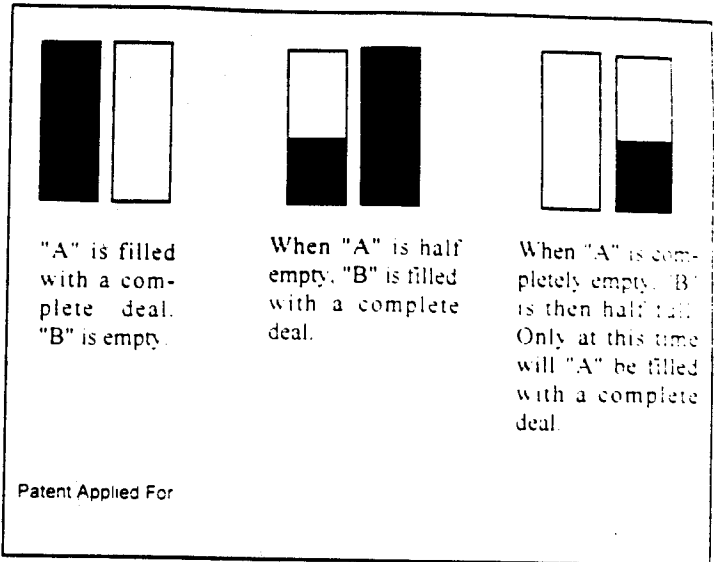


fig.5.7.4

In jurisdictions where boxes are legal, we recommend setting the mode to 2BXDEAL. Fig. 5.7.4 illustrates how the machine works internally when set to the 2BXDEAL mode

1. A partitioned box exists for each price level.
2. At start up, the "A" side is filled with a complete deal.
3. As pulltabs are purchased, the "A" side is depleted.
4. When "A" is half empty, "B" becomes filled with a complete deal. From this point forward the machine continuously toggles back and forth, drawing one tab from "A," one tab from "B." When "A" is completely empty, "B" then is half full. Only at this time will "A" be filled with a complete deal. This means that at certain times there could be TWICE as many winners than are displayed on the flare.

This button is used to set the price ranges of the various boxes. The settings are as follows:

Setting	Box1	Box 2	Box 3	Box 4
LOW .05	.05	.25	.50	1.00
MED .25	.25	.50	1.00	2.00
HIGH \$1	1.00	2.00	5.00	10.00

As mentioned, maximum bet may be used in conjunction with this feature to determine how many boxes will be available to the players, and the price structure of the boxes. For example, if ten dollars seems too high for the players at a particular location, but five dollars seems reasonable, the HIGH \$1 setting should be chosen. To eliminate the fourth (\$10) box, simply go to max bet, and change the value to \$5. Box 4 (shown at the right center of the screen) will now show N/A. You are left with three boxes worth one, two and five dollars. If the progressive is enabled, be sure now to change the progressive win box to three, so the progressive pulltab will be in the five dollar box!

Also note that the value selected in the box price must be a multiple of the credit value. For example, if you select the LOW .05 setting here, the first box will be worth a nickel. But if each credit is worth one quarter (more than a box itself), you will see a "CREDIT VALUE BOX PRICE MISMATCH" flashing to the left of the four box prices. (See fig. 5.7.5 below).

CREDIT VALUE	BOX 1	BOX 2	BOX 3	BOX 4
BOX PRICE	\$ 0.05	\$ 0.25	\$ 0.50	\$ 1.00
MISMATCH!				PROGRESV

fig. 5.7.5

It is important to note here that, as with changing the deal, changing the box price and the progressive win box also changes the progressive base. Any time the progressive base changes, the progressive must be reset. For information on resetting the progressive, see the discussion on the View Next and View Previous Table buttons.

The Gamestats display is shown in fig. 5.7.6. On the left you will see all the different deal numbers. The current deal will be shown in white, while all others will be in yellow. If you are previewing the deals, "PREVIEW" will appear in red beside the deal you are currently previewing.



The screenshot shows a terminal-style display with the following data:

ED: 1	ED: 2	ED: 3	ED: 4
\$0.25	\$0.50	\$1.00	\$2.00
PROGRESS			
121	122	123	124
101	102	103	104
81	82	83	84
61	62	63	64
51	52	53	54
41	42	43	44
31	32	33	34
21	22	23	24
07	08	09	10

SINCE 10	COVAL	T COLLS	SINCE 10	COVAL	T COLLS
CURRENT	TIER	FRAG	PREV	TIER	FRAG
TIER1	1	100	TIER1	1	100
TIER2	1	100	TIER2	1	100
TIER3	1	100	TIER3	1	100
TIER4	1	100	TIER4	1	100
TIER5	1	100	TIER5	1	100
TIER6	1	100	TIER6	1	100
TIER7	1	100	TIER7	1	100
TIER8	1	100	TIER8	1	100

fig. 5.7.6

In the center of this display you will see information for the current deal. "Syms" indicates the number of symbols, which should always be 10. "Coval" lets you know the number of the coverall symbol in the set of ten. To view the symbol set, you can exit GAME CONFIG and go into MEMORY EXAMINE. The ten symbols will be displayed, after you touch the DSP DRAM 04200000 button, with number one being on the top left, and number ten on the bottom right. Note that the pulltab game for which you wish to view the symbols must be the last game played.

Beneath this, information for the current deal is shown. From left to right you will see the tier number, followed by the number of tabs in the tier, how much each tab in that tier pays, and the symbols that will be shown for that tab. (Note that if there is only one of the top tier pulltab, that pulltab's normal viewing symbol combination will never be shown to the player when the player is purchasing pulltabs from the progressive box. When this pulltab is purchased, the normal symbols are replaced at the last second with the coverall symbols. This is strictly a graphics feature, to let the player know that he or she has won the progressive.) Tier 1 is always the highest paying, and has the fewest number of winning tabs, while Tier 8 is the lowest paying (per pulltab), with many more winners.

On the right side of this display, all the information described above for the current deal is shown for the preview deal. All deals are included in Appendix C of this manual for your quick reference.

# Chapter 5.8 Superball Keno Config.

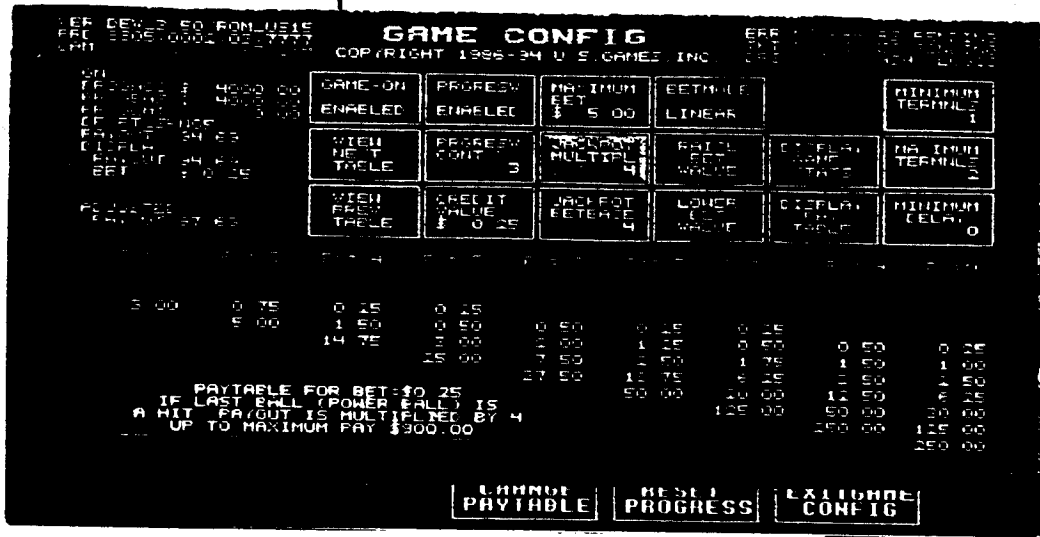


fig 5.8.1

## Functional Description

### Functional Description

This window allows the operator to configure and view statistics for the Superball Keno Game

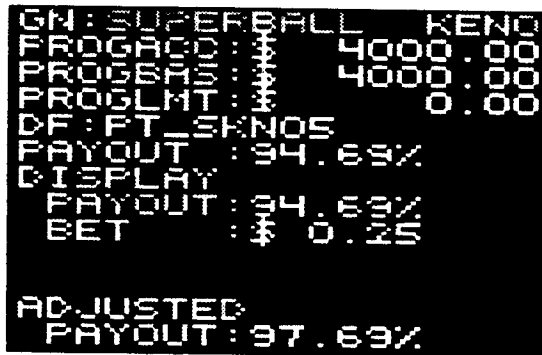
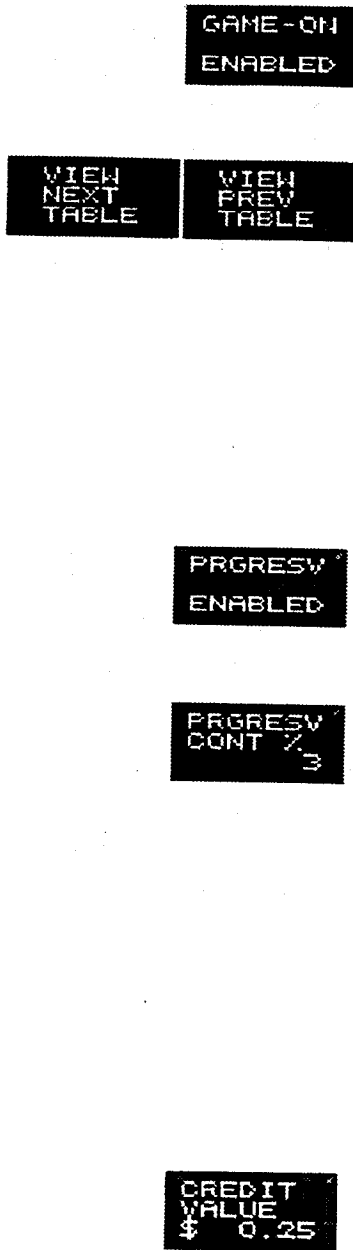


fig 5.8.2

Fig. 5.8.2 shows the Game Parameter Display Box. The first line shows the Game Name as it will appear on the Game Button in the Player Select Menu. The second line displays the progressive accumulator. This battery backed-up register will always retain and show the current value of the progressive. Line three shows the progressive base, or the value at which the progressive begins. Line four indicates the progressive limit, or the maximum value the progressive is allowed to attain in locations where a cap is desired. The fifth line shows the header label of the internal



data file, which is used by U.S. Games, Inc. software engineers. The sixth line shows the target win percentage. Line eight is used to display the win percentage of the preview paytable, which is selected using the View Next and View Previous Table buttons, described later in this chapter. The ninth line indicates the bet value, which is changed by adjusting the Raise Bet Value and Lower Bet Value buttons, described later. Finally, at the bottom of the box, the adjusted payout shows the base payout plus the progressive.

This button is used to manually enable or disable the game.

These buttons are used to view and select from among the five paytables pre-stored for this game. To view the different paytables, touch the View Next Table or View Previous Table button, as appropriate. The paytable will appear in the lower half of the screen. Once the desired paytable has been selected, turn and hold the red key, then touch the Change Paytable button. The new paytable is now set.

This button is used to enable (i.e., "bank") or disable the progressive feature.

This button is used to set the percentage of the total cash played that will be contributed to the progressive. This setting is only relevant for Master machines. It is important to note that a slave may show a different value here than that set in the Master, but the Master truly controls the percentage. To change the percentage value on the Master, turn and hold the red key, then touch the progressive contribution % button. A keypad will pop up. Press clear, the new percentage desired, then enter. The keypad will disappear and the new percentage will be shown on the PRGRESV CONT % button.

This button selects the monetary value of a credit for this particular game. This value should always remain at \$.25, unless the factory is consulted first. If a change is deemed necessary, turn and hold the red key, then touch the button. A keypad will pop up. Press clear, the new value (in pennies), and enter. Note that in the upper left

corner of the keypad box, maximum and minimum credit values appear.

This button sets the maximum amount of money that can be wagered in any one gameplay. To change the maximum bet value, turn and hold the red key, then touch the button. A key pad will pop up. Follow the same procedure as that described above for the Credit Value change. Again, maximum and minimum values are shown in the upper left corner of the keypad box.

This button is used to multiply the jackpot (progressive) base, if desired. Even if the progressive is turned off, this button is used to multiply the value of the top prize, and will affect your overall payout percentage.

As an example, if the 2X multiplier is selected by turning and holding the red key, then touching the button, the jackpot base will double (i.e., the progressive will begin at a higher value). As with any change in the progressive bet base, any change in the jackpot multiplier necessitates resetting the progressive, as previously explained. It is important to note that the adjusted payout increases as the multiplier increases.

This button sets how many credits a player must bet in order to be eligible for the jackpot (progressive). To change this value, follow the procedure described above to enter a new value on the keypad. Note that if the Betmode, described next, is set to Linear, the jackpot bet base will determine the progressive base, shown in the Game Parameter Display Box. If the Mode is set to 3 Tier, the progressive base is fixed.

This button sets the Betmode. The 3 Tier mode uses a multiple tier payable. When the bet value is 1, 2 or 3 credits, the first tier is used. When the bet value is 4, 8, 12 or 16 credits, the second tier is used, and offers a slightly higher payout for the player than the first tier. (Note that once 4 credits have been reached, the next bet value jumps to 8 credits, rather than 5). Finally, if the bet value is 20 credits, the third tier is used, offering an even higher payout. If the 3 Tier mode is used, the progressive base is always \$5000.

The Linear mode uses only the first tier of the payable described above. In this mode, with the credit value set to a quarter, the bet value will be in multi-

MAXIMUM  
BET  
\$ 5.00

2X  
MULTIPLIER

JACKPOT  
BETBASE  
4

BETMODE  
3 TIER

RAISE BET VALUE	LOWER BET VALUE
-----------------------	-----------------------

DISPLAY  
GAME  
STATS

DISPLAY  
PAY  
TABLE

MINIMUM  
TERMNLS  
1

MAXIMUM  
TERMNLS  
10

MINIMUM  
DELAY  
0

ples of a quarter. For example, the linear mode may have a bet value of 5 credits. Again, note that in this mode the jackpot bet base sets the value of the progressive base, while in the 3 Tier mode, the progressive base is fixed.

Once the progressive base, in addition to the paytable, has been set, there may be an incorrect value in the progressive accumulator. To rectify this, the progressive must be reset. To do this, turn and hold the red key, then hit the RESET PROGRESS button at the bottom of the screen. Resetting the progressive sets the accumulator to the base value.

These two buttons are used for display purposes only. By raising and lowering the bet value, the paytable display at the bottom of this screen will show the returns for that specific bet amount.

This button, when touched, will show how many times each number of hits/picks has occurred in the past history of the game.

This button, when touched, will show the paytable in the lower half of the screen. (Refer to fig. 5.8.1)

These three buttons are used in Multiple Player Dependent (MPD) environments. These buttons are relevant for Master Machines only, and the values for each are changed by turning and holding the red key while touching the appropriate button. The familiar keypad will pop up and the values may be changed following the usual procedure.

Minimum Terminals sets the minimum number of terminals that must be on line, in the active mode, before the Master will allow the game to be played. If set to two, for example, when a player hits the "Play" button, a message will appear which reads "Please Wait For Second Player." When a second player then hits the "Play" button, the game will commence, with both players getting the same numbers from the Master. Maximum Terminals, conversely, determines the maximum number of players allowed to participate in a game. Minimum Delay determines how much time will elapse before play will begin, after the minimum player requirement has been met. Note that the delay is normally set to zero.

# Chapter 6: Ticket Config.

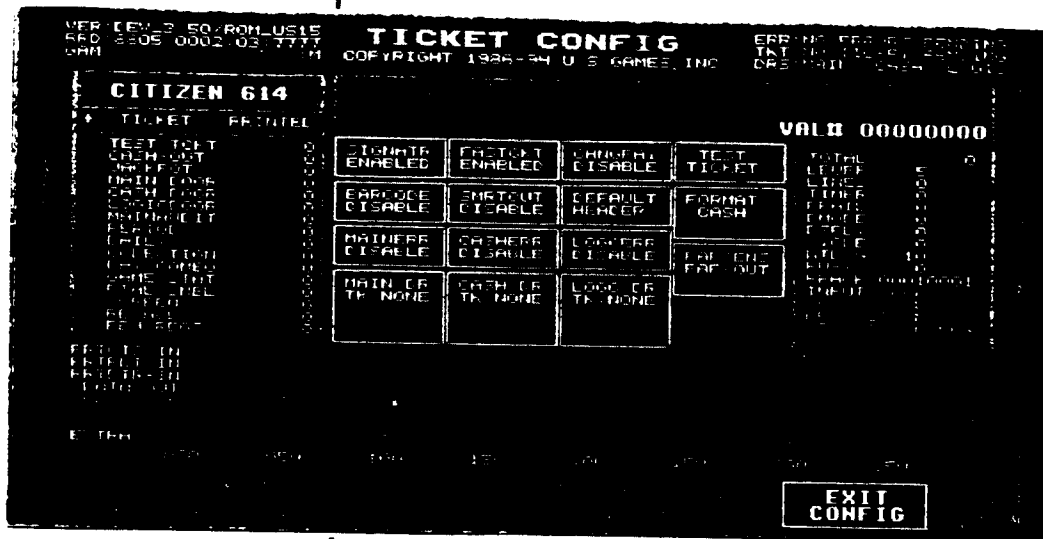


fig. 6 1

## Functional Description

### Functional Description

The Ticket Config screen allows the operator to perform both configuration and diagnostic functions, and is very useful for troubleshooting, as will be demonstrated later in this chapter.

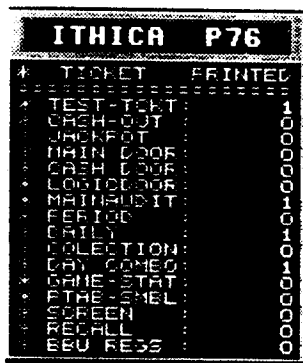


fig. 6 2

Fig. 6.2 shows the Ticket Stats Window, which appears in the upper left side of the screen. At the top of this window, in purple, the type of printer being used in this machine is shown. (Recall that the type of printer is selected in Terminal Config). Below this is a list of each possible type of ticket, along with how many times each type of ticket has been printed in the life of the machine. Below is a brief description of the different ticket types.

Ticket Type	Means of Printing	Basic Info Contained
<b>TEST-TCKT</b>	In Ticket Config, touch the Test Ticket Button.	Header and label. Used to verify proper printer operation, and to prep the printer for regular tickets.
<b>CASH-OUT</b>	Activate the Cash Out button in the Gameplay mode with a credit balance on the machine	Amount to be paid.
<b>JACKPOT</b>	Clear the jackpot error.	Same as CASH-OUT, but for progressive wins.
<b>MAIN DOOR CASH DOOR LOGIC DOOR</b>	Open the appropriate door, with either Short or Long set for the door ticket.	Short tickets just show that the door was opened. Long tickets give an accounting snapshot as well.
<b>MAIN AUDIT</b>	Activate the Audit Ticket Button in Terminal Audit.	Full accounting information, minus collection stats and game stats. Non-clearing.
<b>PERIOD</b>	Activate Clear Period Button in Terminal Audit.	Main Accounting information. Clears the Period Column.
<b>DAILY</b>	Activate the Clear Daily Button in Terminal Audit.	Same as Period, but clears the Daily Column.
<b>COLLECTION</b>	Activate the Collect Button in Terminal Audit.	Cash-In-Game statistics. Clears the information from the registers.
<b>DAY COMBO</b>	Activate the Combo Button in Terminal Audit.	Same as DAILY and COLLECTION, but all in one ticket.

Ticket Type	Means of Printing	Basic Info Contained
<b>PTAB-SMBL</b>	Play pulltabs with symbol tickets enabled, and Fujitsu printer installed.	Graphic representation of pulltab.
<b>SCREEN</b>	Activate both key switches, then trip the coinswitch with a Citizen 617 installed.	Prints a partial snapshot of the current screen.
<b>RECALL</b>	Not Implemented	Will print recall history information.
<b>BBU REGS</b>	Not Implemented	Prints out the values stored in the first 256 registers.



fig. 6.3

Fig. 6.3 shows the ticket header window which, when the machine is initialized, will be showing the factory default header. This default header usually reads "FOR DEMO ONLY" or "U.S. GAMES." The header is the text that appears at the top of every printed ticket.

To customize the text, turn and hold the red key, then touch the Ticket Header Window. An alphanumeric keypad will pop up. (See fig. 6.4). Four important buttons on the keypad are at the bottom right. They are, from right to left, "ENTER," which you press when you are done, the forward space button, the back space button, and the erase button.

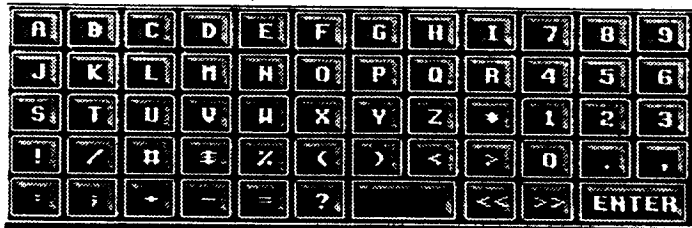


fig 6.4

When the ticket header window is touched, a cursor, indicated by a blinking red line, will appear beneath the top left most character in the window. Simply begin



**NOTE:**  
 Always print two test tickets after a header change to ensure that the new header is being printed properly.

**NOTE:**  
 Except for the "Test Ticket" button, all buttons on this screen require that the red key be engaged before the feature may be accessed.

**SIGNATR  
 ENABLED**

**FASTCKT  
 ENABLED**

**CHNGPAY  
 DISABLE**

**TEST  
 TICKET**

typing the text you would like to appear at the top of every ticket, and press "ENTER" when you are done.

It is important to note here that the header of each ticket is printed at the end of the previous ticket, so the first ticket printed after a header change will show the old header information. For this reason, you should always print two test tickets, described shortly, after a header change: one to get rid of the ticket with the old header, and one to verify that the new header is now being printed.

The signature button determines whether or not the printer will print an extra line with an X on the left margin on all vouchers. This feature is enabled when a location prefers to have their customers sign their vouchers, indicating that they have been properly paid.

The fast ticket feature should remain enabled. When enabled, more header text lines will be printed on the previous ticket, requiring less time for each ticket to print.

When the change payable feature is enabled, any time the payable is changed in one of the Game Config Screens, a period ticket will be printed, the period column cleared, and then another period ticket will be printed.

The test ticket button is the only unlocked button on this screen. To print a test ticket, like the one in fig 6.5, simply touch the button. A test ticket should be printed any time the game number, bank number or the header is changed.

10:12:02 \*\* 04/11/95  
 TICKET#00000001 CREDIT=\$0.25 GANTYP:9500  
 \*\* TEST TICKET \*\*

VOID IF NUTILATED VAL# 00000000  
 \*\*\* COPYRIGHT 1986-95 U.S.GAMES, INC. \*\*\*

\* U.S.GAMES, INC. VER:USG\_350A/ROM US16 \*  
 TERM#0000001 BANK#01

<<U.S. GAMES, INC.>>  
 \*\*\*\*\* VALID ON DATE OF ISSUE ONLY! \*\*\*\*\*

fig. 6.5

BARCODE  
DISABLE

SMARTCUT  
DISABLE

DEFAULT  
HEADER

FORMAT  
CASH

The barcode feature is only supported with an Ithaca Peripherals or Fujitsu printer. This feature should remain DISABLED.

The smartcut feature is only supported with Star Micronics printers, and should remain DISABLED.

Touching the Default Header button will return the header to the factory default.

The format button determines whether monetary registers printed on audit and other tickets will be shown in dollars and cents, as in fig. 6.6, or in multiples of the system credit value, as in fig. 6.7.

```

* U.S. GAMES, INC. VER:USG_350A/ROM US16 *
TERM#000001 BANK#01

<<<<U.S. GAMES, INC.>>
***** VALID ON DATE OF ISSUE ONLY! *****
LICENSE#000001 TERM#000001 BANK#01

*****
10:12:48 ** 04/11/95
<<<< MASTER >>>>
TICKET#00000002 CREDIT=#0.25 GAMTYP:9500
** AUDIT TICKET **
*****
DESCRIPTION MASTER PERIOD DAILY
CASH IN $ 409.25 409.25 409.25
CASH OUT $ 0.00 0.00 0.00
CASHPLAY $ 3078.75 3078.75 3078.75
CASH WON $ 2569.75 2569.75 2569.75
NET HOLD $ 409.25 409.25 409.25
ADJ HOLD $ 409.00 409.00 409.00
OUT/HOLD $ 0/100 0/100 0/100
HIT RATIO $ 63.45 63.45 63.45
CASH WON % 86.7% 86.7% 86.7%
BILL/COUNT %/ 4 %/ 4 %/ 4
LAST CLEAR 16:16:30 16:16:30 16:16:30
04/06/95 04/06/95 04/06/95

<<<< AVERAGES >>>>
AVG WAGER $ 1.07 1.07 1.07
$ BTWN OUT 409.25 409.25 409.25
AVG CASHOUT 0.00 0.00 0.00

*****
))) CURRENT CASH BALANCE $ 0.25 (((
LAST CASH TICKET $ --- VAL#00000000
CASHTICK#00000000 LAST ---/---/---
*****

LAST ACTIVE GAME.....SUPERPICK LOTTO

<<<< ACCESES >>>>
POWERUPS#00000001 LAST 16:16:32 04/06/95
MAINDOOR#00000000 LAST ---/---/---
CASHDOOR#00000000 LAST ---/---/---
LGTDOOR#00000000 LAST ---/---/---

<<<< FAULTS >>>>
CASH #00000000 LAST ---/---/---
MEMORY #00000000 LAST ---/---/---
COMMUNIC#00000000 LAST ---/---/---

VOID IF MUTILATED VAL# 00000000
*** COPYRIGHT 1986-95 U.S.GAMES, INC. ***

```

fig. 6.6

```

* U.S. GAMES, INC. VER:USG_350A/ROM US16 *
TERM#000001 BANK#01

<<<<U.S. GAMES, INC.>>
***** VALID ON DATE OF ISSUE ONLY! *****
LICENSE#000001 TERM#000001 BANK#01

*****
10:42:58 ** 04/11/95
<<<< MASTER >>>>
TICKET#00000003 CREDIT=#0.25 GAMTYP:9500
** AUDIT TICKET **
*****
DESCRIPTION MASTER PERIOD DAILY
CASH IN $ 1637 0 0
CASH OUT $ 0 0 0
CASHPLAY $ 12315 0 0
CASH WON $ 10679 0 0
NET HOLD $ 1637 0 0
ADJ HOLD $ 1636 0 0
OUT/HOLD $ 0/100 ---/---/---
HIT RATIO $ 63.45 --- ---
CASH WON % 86.7% --- ---
BILL/COUNT %/ 4 ---/---/---
LAST CLEAR 16:16:30 10:42:42 10:42:42
04/06/95 04/11/95 04/11/95

<<<< AVERAGES >>>>
AVG WAGER $ 4 0 0
$ BTWN OUT 1637 0 0
AVG CASHOUT 0 0 0

*****
))) CURRENT CASH BALANCE $ 1 (((
LAST CASH TICKET $ --- VAL#00000000
CASHTICK#00000000 LAST ---/---/---
*****

LAST ACTIVE GAME.....SUPERPICK LOTTO

<<<< ACCESES >>>>
POWERUPS#00000001 LAST 16:16:32 04/06/95
MAINDOOR#00000000 LAST ---/---/---
CASHDOOR#00000000 LAST ---/---/---
LGTDOOR#00000000 LAST ---/---/---

<<<< FAULTS >>>>
CASH #00000000 LAST ---/---/---
MEMORY #00000000 LAST ---/---/---
COMMUNIC#00000000 LAST ---/---/---

VOID IF MUTILATED VAL# 00000000
*** COPYRIGHT 1986-95 U.S.GAMES, INC. ***

```

fig. 6.7

This button determines whether or not the machine will lock up in a "Main Door Open" error, whenever the Main Door to the machine is opened.

MAIN DOOR  
DISABLE

This button is the same as the previous button, but for the Logic Door.

```

TOTAL: 128
LBUFF: 0
LINES: 0
TIMER: 0
PFAIL: 0
DMDCE: 0
RSPLY: 0
CYCLE: 0
WTCOG: 0
BUSY: 1
FEACK: 00000000
INPUT: ACK
PRT-CTS-IN NORM
PRT-FLT-IN NORM
PRT-CTR-IN NORM
  
```

fig. 6.10

Fig. 6.10 shows the Ticket Register Window, used primarily by U.S. Games, Inc. software engineers. The various lines in the Window are described briefly below:

TOTAL represents the total number of lines sent to the printer since all the BBU's were last cleared. (This figure does not include the last ticket printed).

LBUFF represents the number of lines sent to the print buffer of the current ticket, or of the last ticket if no ticket is currently being printed. This includes one line before the "cut paper" command.

LINES indicates the number of lines sent to the printer on the current ticket, or on the last ticket if no ticket is currently being printed.

When printing tickets, the TIMER will begin at a predetermined value and count down to zero. When no ticket is being printed, the TIMER should show 0. If the TIMER stalls out at any number other than 0, a printer problem is indicated.

The PFAIL flag is set (i.e., shows a value other than 0) when the machine is in the middle of printing a ticket and the power fails. When power is restored, "REPRINT! THE ABOVE MAY NOT BE A COMPLETE TICKET. BELOW IS THE VALID REPRINTED TICKET" will be printed, followed by the complete ticket which was being printed when the power failed. (See fig. 6.11).

```

*****
16:11:38 ***** 04/17/95
<<<<< MASTER >>>>>
TICKET#00000005 CREDIT=$0.25 GANTYP:9404
*****
AUDIT TICKET *****
DESCRIPTION MASTER PERIOD DAILY
*****

***<< REPRINT! >>***
THE ABOVE MAY NOT BE
A COMPLETE TICKET.
BELOW IS THE VALID
REPRINTED TICKET.

*****
16:11:52 ***** 04/17/95
<<<<< MASTER >>>>>
TICKET#00000005 CREDIT=$0.25 GANTYP:9404
*****
AUDIT TICKET *****
DESCRIPTION MASTER PERIOD DAILY
*****
CASH IN $ 1644 7 7
CASH OUT $ 0 0 0
CASHPLAY $ 12331 16 16
CASH MON $ 10687 8 6
NET HOLD $ 1644 7 7
ADJ HOLD $ 1644 8 8
OUT/HOLD % 0/100 0/100 0/100
HIT RATIO% 63.4% 50.0% 56.0%
CASH MON % 86.6% 50.0% 50.0%
BILL/COIN% 96/ 4 0/100 0/100
LAST CLEAR 16:16:30 10:42:42 10:42:42
04/06/95 04/11/95 04/11/95
*****
<<<<< AVERAGES >>>>>
AVG WAGER$ 4 2 2
$ BTHN OUT 1644 7 7
AVG CSHOUT 0 0 0
*****
))) CURRENT CASH BALANCE $ 0 (((
LAST CASH TICKET $ --- VAL#00000000
CASHTICK=00000000 LAST ---/---/---
*****
LAST ACTIVE GAME:..... DEUCES WILD
*****
<<<<< ACCESSES >>>>>
POWERUPS=00000005 LAST 16:11:46 04/17/95
MAINDOOR=00000002 LAST 10:48:10 04/11/95
CASHDOOR=00000005 LAST 10:47:54 04/11/95
LOGICDOOR=00000000 LAST ---/---/---
*****
<<<<< FAULTS >>>>>
CASH =00000001 LAST 17:30:00 04/11/95
MEMORY =00000000 LAST ---/---/---
COMMUNIC=00000000 LAST ---/---/---
*****
VOID IF MUTILATED VAL# 00000000
*** COPYRIGHT 1986-95 U.S.GAMES, INC. ***

```

fig. 6.11

DMODE and DSPLY will always show 0. They represent variables in the software that control the touchscreen keyboard, which allows users to change the ticket header. When the values are other than zero, the keyboard covers the Ticket Register Window.

CYCLE is a timer which counts down from 50 to zero every half second. The CYCLE timer works in conjunction with the watchdog counter, described next.

WTD0G, or the watchdog counter, runs only when the printer's handshaking lines vary from what the system believes to be normal. For instance, if one of the handshaking lines is supposed to be high, but drops low, a printer error will be generated when the watchdog timer runs through one full cycle, picked up from the CYCLE counter described above, with the error condition persisting.

BUSY indicates whether the printer is busy, and is useful only when the machine has a Star Micronics printer and the SMRTCUT (smart cut) feature is enabled.

FBACK is a binary representation of the first character in the buffer received by the printer.

INPUT is the last serial message received from the printer. This should read "ACK," or acknowledge. If the INPUT shows "NACK," or negative acknowledge, for longer than about two seconds, a problem or an exception condition is indicated. For example, the buffer may be full or the printer may be out of paper. A "NACK" will stop the TIMER and prevent the transmission of data.

The last three lines are the most important in the Ticket Register Window. On the left side of the last three lines, the three handshaking inputs coming from the printer are shown. Each label is in green if the line is active, and in red if the line is inactive. On the right side of these lines, the word NORM is printed in the color that the system expects to see from a good, working printer of the type specified in Terminal Config. Thus, with a good working printer installed, and the proper configuration, the left labels and right labels should all be printed in matching colors.

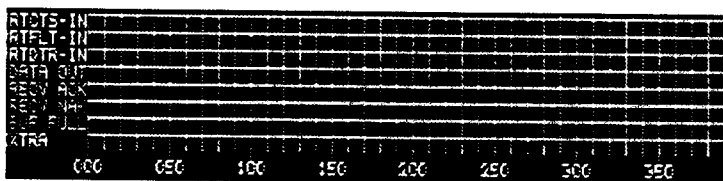


fig. 6.12

Fig. 6.12 shows the Digital Storage Oscilloscope for the Ticket Config Screen. This scope graphically plots the status of the signals and conditions labeled on the left side of the screen. We can view the status of the three handshaking lines, whether we are sending data out, whether we have received an acknowledge, or a negative acknowledge, and whether our buffer is full. A red line indicates a low signal level, while a green line indicates a high signal level.

# Chapter 7 : Progressive Config.

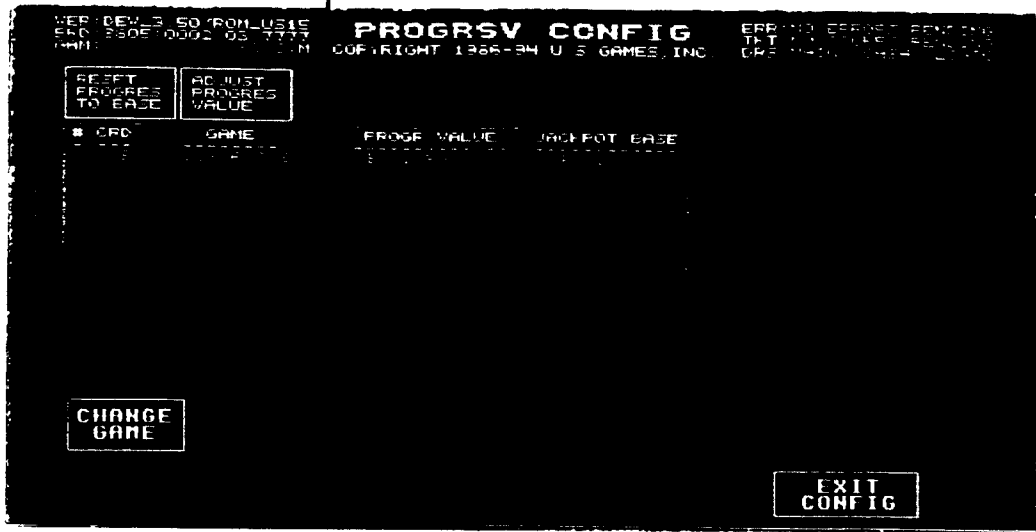


fig. 7.1

## Functional Description

### NOTE:

This screen should be used exclusively by supervisors!

## Functional Description

This screen is used to preset progressive jackpots to values other than their current value, or other than the base value established in Game Config. The screen is used, for instance, when a software upgrade has taken place, or when a machine has been out of operation. Only supervisors should ever access this screen.

GAME	PROGR VALUE	JACKPOT BASE
BAR-BELLIS	200 0075	200 00
BAR-BELLIS	1000 0000	1000 00
SUPER 7 BANT	1000 0000	1000 00
LEAGUE	1000 0000	1000 00
BIG TOPS	1000 0000	1000 00
GENERAL INTL	1000 0000	1000 00
QUICK DRAW	1000 0000	1000 00
SUPER GOLF	1000 0000	1000 00
TURKISH	1000 0000	1000 00
SUPER 100	1000 0000	1000 00
TRUCKING	1000 0000	1000 00
JACKPOT CENTER	1000 0000	1000 00
APES HIGH	1000 0000	1000 00
PIPER PAPER	1000 0000	1000 00
HILL JOHNS	1000 0000	1000 00
BLACK GOLD 21	0 0000	0 00

fig. 7.2

Figure 7.2 shows the Progressive Caption Box. The Game Name, current progressive value, and Jackpot bet base for up to sixteen different games appear in this box. Note that the game highlighted in green is the one affected by progressive adjustments.

This button is used to select the game for which the progressive will be adjusted. Each time the button is touched, the next game on the list will be highlighted in green. However, if there are fewer than 16 games



A rectangular button with the text "RESET PROGRESS TO BASE" in white capital letters on a dark background.A rectangular button with the text "ADJUST PROGRESS VALUE" in white capital letters on a dark background.**NOTE**

The Progressive value may be changed on Master machines only. If the Progressive Config screen is accessed on a Slave machine, the adjustment buttons do not appear, and the screen flashes the message "Progressive Config Can Only Be Done On A Master Machine."

the red "Empty Slots" will be checked for active games before the highlighting returns to the original game.

When the appropriate game has been selected, the progressive may be reset to its base value, or to some other value, using the buttons described below.

This button is used to reset the progressive to its base value. To reset the progressive, simply turn, and hold the red key, then touch the button.

This button is used to adjust the progressive to other than its base value. To adjust the progressive value, turn and hold the red key, then touch the button. A keypad will pop up. Enter the new value in dollars (pennies cannot be entered when adjusting the progressive value). Press ENTER when you are done, or ABORT if you do not wish to change the value. Maximum and Minimum values appear in the upper left hand corner of the keypad box.

# Chapter 8 : Attract Config.

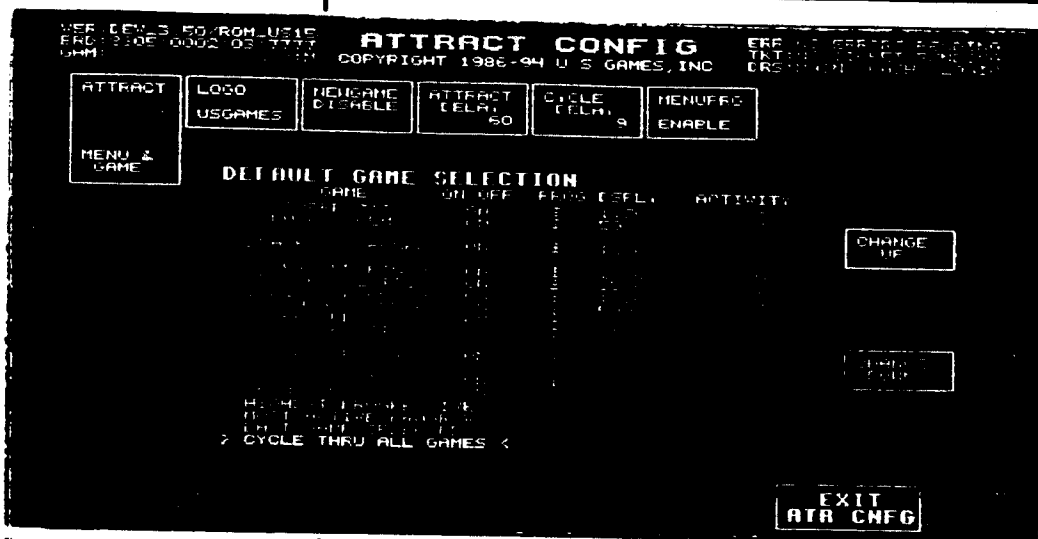


fig. 8 1

## Functional Description



## Functional Description

This screen is used to configure options for the Attract Mode, or the screen(s) displayed when there is no money in the machine.

This button is used to select which combination of screens will cycle on and off in the Attract Mode: the Player Select Menu only, Game Screen(s) only, or both.



This button is used to select or disable the logo screen in the Attract Mode. Either the U.S. Games logo, a single custom logo or multiple logos will be available here



This button is used to enable the "ALL NEW" screen in the Attract Mode. This "new" screen is useful when a software upgrade has taken place, to make customers aware of the new games.



This button is used to set the amount of time (in seconds) after the last screen touch before the game starts to cycle through the Attract Mode



This button is used to set the amount of time (in seconds) that a game screen or the menu screen will be displayed in the Attract Mode, before going on to





# Chapter 9 : Terminal Audit

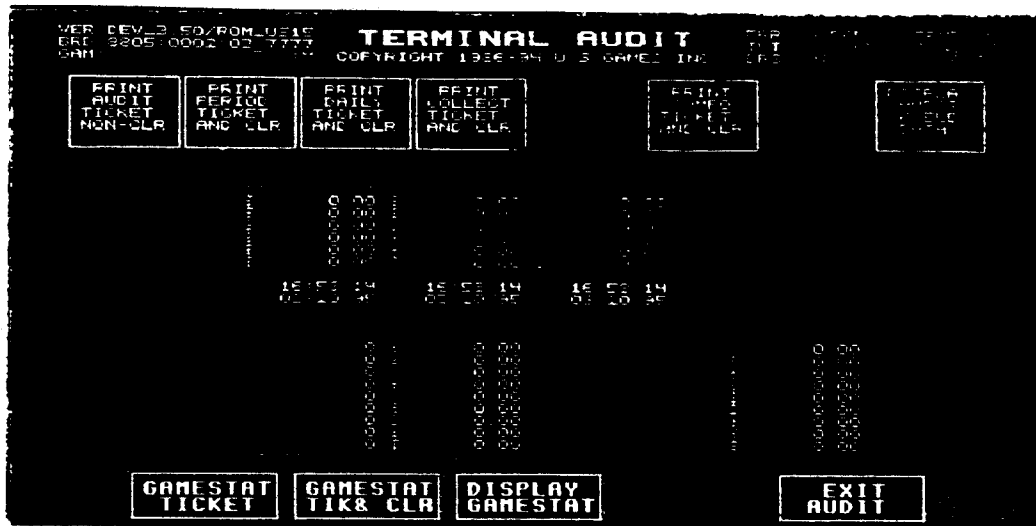


fig. 9.1

## Functional Description

## Functional Description

This is the main accounting screen for all types of machines. Accounting for machines with hoppers is also handled here. Audit and collection information can be viewed, as well as printed on tickets, in this screen. There are three independent sets of registers kept for the main accounting data. These are the Master, Period and Daily columns. The Master column reflects data generated since initialization, and this data cannot be cleared. The Period column reflects data accumulated over a period of time specified by the location. This can be daily, weekly, monthly, etc. The Period column can be cleared by touching the "PRINT PERIOD TICKET AND CLR" button described below. The Daily column is essentially the same as the Period Column and represents data accumulated over a period of time specified by the location. Again, this period can be a week or a month, etc., but is generally a day. This column can be cleared by touching the "PRINT DAILY TICKET AND CLR" button described below, and usually gets cleared at each collection.

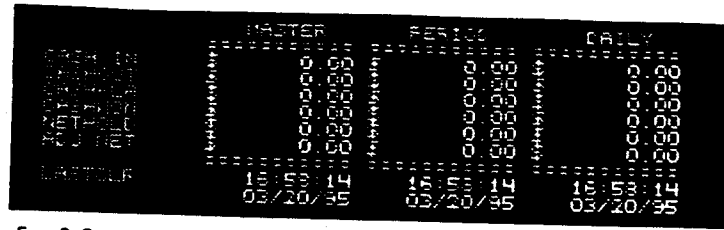


fig. 9.2

Figure 9.2 shows the main accounting data. For each column (Master, Period and Daily) the following registers are kept:

#### Cash In

Represents all moneys taken in through either the coin mech or the bill validator.

#### Cash Out

Represents the aggregate amount of all vouchers printed or coins dispensed. This amount does include hand pays.

#### Cash Played

Indicates the total amount of cash played on all active games.

#### Cash Won

Indicates the total amount of cash (in the form of credit) that has been won on all games played. Note that the percentage value shown to the right of the Daily column is the pay percentage (i.e., Cash Won as a percentage of Cash Played) for the Daily column.

#### Net Hold

This is simply the result of subtracting Cash Out from Cash In.

#### Adjusted Net

This represents Cash Played minus Cash Won.

#### Last Clear

This shows the time and date that the respective column was last cleared. This time and date stamp is printed on all tickets, and can be used to ensure that no one has cleared the machine since the last time it was officially cleared. If the time and date of the last clear does not match the time and date of the last official ticket, fraud may have occurred.

#### NOTE:

Net Hold and Adjusted Net may show different values if there is currently credit on the machine, or if there was credit on the machine when the column was last cleared.

#### NOTE:

If the time and date stamp of the last clear does not match the time and date of the last official ticket, fraud may have occurred!

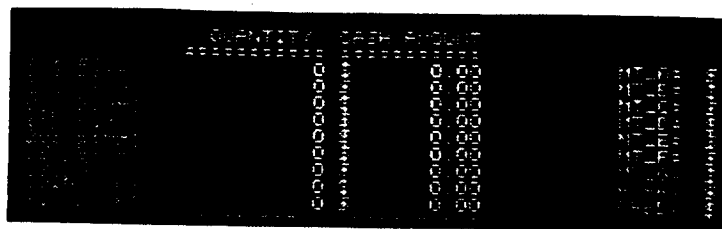


fig. 9.3

Fig. 9.3 shows the Cash In Game (CIG) statistics. The CIG stats are cleared whenever a Collection or a Combination Ticket is printed. The CIG stats indicate, from top to bottom, the integer number of 1, 2, 5, 10 and 20 dollar bills, followed by the total number of bills which should be in the stacker at the current time. This is followed by the integer number of coins in. (Note that COIN B is not functional in this software version). Finally, the last line shows the total integer number of coins and bills. The right-most column displays this same information, not as an integer number, but as a total dollar value.

PRINT  
AUDIT  
TICKET  
NON-CLR

This button is unlocked and is used to print an Audit Ticket without clearing any information. An Audit Ticket is shown in fig. 9.4 and provides a hard copy of the following information:

```

-----
* U.S.GAMES, INC. VER:USG_3500/ROM US16 *
TER#000001 BANK#01
-----
<<<< U.S. GAMES, INC. >>>>
**** VALID ON DATE OF ISSUE ONLY ****
LICENSE#0005 TERMINAL#0000 04003 #K00350
-----
*****
11:19:58 ** 04/12/95
<<<<< MASTER >>>>>
TICKET#00000004 CREDIT=40.25 GANTYP:9404
** AUDIT TICKET **
*****
DESCRIPTION MASTER PERIOD DAILY
-----
CASH IN $ 1644 7 7
CASH OUT $ 8 0 0
CASHPLAY $ 12331 16 16
CASH WON $ 10607 8 8
NET HOLD $ 1644 7 7
ADJ HOLD $ 1644 8 8
OUT/HOLD % 0/100 0/100 0/100
MIT RATIO% 63.4% 50.0% 50.0%
CASH WON % 86.6% 50.0% 50.0%
BILL/COIN% %/ 4 0/100 0/100
LAST CLEAR 16:16:30 10:42:42 10:42:42
04/06/95 04/11/95 04/11/95
-----
<<<<< AVERAGES >>>>>
AVG WAGER $ 4 2 2
$ BTM OUT 1644 7 7
AVG CSHOUT 8 8 8
-----
*****
))) CURRENT CASH BALANCE $ 0 ((
LAST CASH TICKET $ --- VAL#00000000
CASHTICK#00000000 LAST ---/--/--
*****
LAST ACTIVE GAME:..... DEUCES WILD
-----
<<<<< ACCESSSES >>>>>
POWERUPS#00000002 LAST 10:54:20 04/12/95
RAINDOOR#00000002 LAST 10:48:10 04/11/95
CASHDOOR#00000005 LAST 10:47:54 04/11/95
LGICDOOR#00000000 LAST ---/--/--
-----
<<<<< FAULTS >>>>>
CASH #00000001 LAST 17:30:00 04/11/95
MEMORY #00000000 LAST ---/--/--
COMMUNIC#00000000 LAST ---/--/--
-----
VOID IF MUTILATED VAL# 00000000
*** COPYRIGHT 1986-95 U.S.GAMES, INC. ***

```

fig. 9.4

The top line, from left to right, reads "U.S. Games Inc." followed by the software version number and the current Gamerom. The second line shows the machine number, as set in Main Config, then the bank number. The next two lines are the header, as set in Ticket Config. The next line shows the license code, the Terminal ID (i.e., the electronic serial number unique to every game), the board revision number and the market code.

The next line of text shows the time and date that the ticket was printed. The next, whether the machine is a Slave or a Master. The following line shows the sequential number of this ticket (for Audit Tickets, not all tickets), then the system credit value and the game-type of the last game played on this machine, which is only used by U.S. Games software engineers. The next line shows which type of ticket this is.

In the middle of the ticket the main accounting data is printed as it appears on the screen, with the addition of a few statistics. OUT HOLD represents the ratio of CASH OUT to NET HOLD. The sum of the two numbers should always be one hundred. HIT RATIO % represents the percentage of all games played which resulted in some type of winner. CASH WON % is the percentage of cash won relative to the amount of CASH PLAYED. The BILL COIN % ratio represents the ratio of the percentage of CASH IN to the machine in the form of bills versus the percentage of CASH IN in the form of coins. Here again the total should be 100.

After the main accounting data, information on the machine's AVERAGES is shown. This information is not shown on the screen, and is not available on any other ticket. The first line in the section shows the average amount of cash wagered per game, and gives a good indication of whether high or low rollers are playing this particular machine. The second line shows the amount of cash in since the last cash out, which indicates how often players are cashing out. The third line shows the average cashout value.

Next, the current cash balance on this machine is printed, followed by the last voucher ticket printed. The next line shows the number of the last ticket, and the

next line shows the number of the last ticket, and the time and date that the ticket was printed.

The name of the last active game is shown on the next line. This is followed by a section with information about machine ACCESSES. The first line of this section shows how many times the machine has been powered up, and the time and date of the last power up. The second line shows how many times the Main Door has been opened, and the time and date of the last occurrence. The last two lines are the same, but for the Cash and Logic Doors, respectively.

The next section provides information about FAULTS. The first line shows how many Cash faults have occurred, and the time and date of the last occurrence. The last two lines show the same information, but for faults in Memory and Communications.

Finally, there is the trailer portion of the ticket, which shows the validation number for this ticket (Audit tickets always have validation numbers of 0), followed by the U.S. Games, Inc. copyright notice.

This button is used to print a Period Ticket and Clear the Period Column. To print the ticket, turn and hold the red key, then touch the button. A Period Ticket is shown in fig. 9.5, and provides the same information as the first half of the Audit Ticket. Note that the Period Column is not actually cleared until you properly exit the Terminal Audit Screen.

PRINT  
PERIOD  
TICKET  
AND CLR

#### NOTE:

The Period and Daily registers may be cleared for hopper based machines, as well. To clear information, press the appropriate ticket and clear button. No ticket will be printed, but when the Exit Audit button is pressed, the information will be cleared.

```

-----
* U.S.GAMES, INC. VER:USG_350A/R0M US16 *
TERM0000001 BANK001
-----
<<U.S. GAMES, INC.>>
**** VALID ON DATE OF ISSUE ONLY! ****
LICENSE00005 TERMINAL00000 DR003 RK00350
*****
10:13:30 ** 04/11/95
<<<< MASTER >>>>
TICKET00000001 CREDIT=60.25 GANTYP:9500
** PERIOD TICKET **
*****
DESCRIPTION MASTER PERIOD DAILY
-----
CASH IN $ 409.25 409.25 409.25
CASH OUT $ 0.00 0.00 0.00
CASHPLAY $ 3078.75 3078.75 3078.75
CASH W0N $ 2669.75 2669.75 2669.75
NET HOLD $ 409.25 409.25 409.25
ADJ HOLD $ 409.00 409.00 409.00
OUT/HOLD $ 0/100 0/100 0/100
HIT RATIO% 63.4% 63.4% 63.4%
CASH W0N % 86.7% 86.7% 86.7%
BILL/COINS 96/ 4 96/ 4
LAST CLEAR 16:16:30 16:16:30 16:16:30
04/06/95 04/06/95 04/06/95
-----
VOID IF MUTILATED VAL# 00000000
*** COPYRIGHT 1986-95 U.S.GAMES, INC. ***

```

fig. 9.5

**NOTE:**  
 The Period Column is not actually cleared until you properly exit the Terminal Audit Screen.



This is because, while in the middle of printing the Period Ticket, the printer might run out of paper. If it does, you should shut the machine off without exiting the screen, replace the paper, then print the ticket. The information will not have been lost. When you have properly printed your Period Ticket and wish to exit Terminal Audit, the first time you touch the EXIT AUDIT button at the bottom of the screen, the Period Column will be cleared. Then you must touch EXIT AUDIT again to actually exit the screen.

This button is used to print a Daily Ticket and clear the Daily Column. To print the ticket, turn and hold the red key, then touch the button. A Daily Ticket is shown in fig. 9.6, and provides the same information as the Period Ticket. Note that the Daily Column is not actually cleared until you properly exit the Terminal Audit Screen. This is because, while in the middle of printing the Daily Ticket, the printer might run out of paper. If it does, you should shut the machine off, replace the paper, go back into Terminal Audit and print the ticket. The information will not have been lost.

```

-----
* U.S.GAMES,INC. VER:USG 350A/ROM US16 *
TERMN000001 BANKN01

<<U.S. GAMES, INC.>>
**** VALID ON DATE OF ISSUE ONLY! ****
LICENSE#00005 TERMINAL#00000 BR#03 MK#0350

*****
10:38:52 ** 04/11/95
<<<<< MASTER >>>>
TICKET#00000001 CREDIT=40.25 GANTYP:9500
*** DAILY TICKET ***
*****
DESCRIPTION MASTER PERIOD DAILY
-----
CASH IN $ 409.25 409.25 409.25
CASH OUT $ 0.00 0.00 0.00
CASHPLAY $ 3078.75 3078.75 3078.75
CASH WON $ 2669.75 2669.75 2669.75
NET HOLD $ 409.25 409.25 409.25
ADJ HOLD $ 409.00 409.00 409.00
OUT/HOLD % 0/100 0/100 0/100
HIT RATIO% 63.4% 63.4% 63.4%
CASH WON % 86.7% 86.7% 86.7%
BILL/COIN% 96/ 4 96/ 4 96/ 4
LAST CLEAR 16:16:30 16:16:30 16:16:30
04/06/95 04/06/95 04/06/95
-----
VOID IF MUTILATED VAL# 00000000
*** COPYRIGHT 1986-95 U.S.GAMES,INC. ***
-----

```

fig 9.6

When you have properly printed your Daily Ticket and wish to exit Terminal Audit, the first time you touch the EXIT AUDIT button at the bottom of the screen, the Daily Column will be cleared. Then you must touch EXIT AUDIT again to actually exit the screen.

PRINT  
COLLECT  
TICKET  
AND CLR

This button is used to print a Collection Ticket and clear the Cash In Game Stats. A Collection Ticket should be printed each time a collection is made. The supervisor would normally keep the ticket, while the money would go to the money room. The ticket acts as a receipt for the money turned in.

```

# U.S.GAMES,INC. VER:USG 350A/ROM US16 #
TERMN000001 BANKN01

<<U.S. GAMES, INC.>>
**** VALID ON DATE OF ISSUE ONLY! ****
LICENSE88885 TERMINAL0000 DR003 NK00350

*****
10:39:18 ** 04/11/95
<<<<< MASTER >>>>>
TICKET000000001 CREDIT=00.25 GANTYP:9500
*COLLECTION TICKET*
*****
DENOMINATION      QUANTITY  CASH AMOUNT
-----
$ 1.00 BILLS      00000009  $    9.00
$ 2.00 BILLS      00000000  $    0.00
$ 5.00 BILLS      00000017  $   85.00
$10.00 BILLS      00000000  $    0.00
$20.00 BILLS      00000015  $   300.00
TOTAL BILLS       00000041  $   394.00
COIN A $0.25      00000061  $   15.25
COIN B $0.25      00000000  $    0.00
TOTAL BOTH        00000102  $   409.25

CREDIT BALANCE:  00000001  $    0.25

VOID IF MUTILATED      VAL# 00000000
*** COPYRIGHT 1986-95 U.S.GAMES,INC. ***

```

fig 9.7

A Collection Ticket, which is printed when you turn and hold the red key, then touch the button, is shown in fig. 9.7. The ticket provides the same header information as the Period and Daily Tickets, but the CIG Stats are shown instead of the main accounting data. Note that the CIG Stats are not actually cleared until you properly exit the Terminal Audit Screen. This is because, while in the middle of printing the Collection Ticket, the printer might run out of paper. If it does, you should shut the machine off, replace the paper, go back into Terminal Audit and print the ticket. The information will not have been lost. When you have properly printed your Collection Ticket and wish to exit Terminal Audit, the first time you touch the EXIT AUDIT button at the bottom of the screen, the CIG stats will be cleared. Then you must touch EXIT AUDIT again to actually exit the screen.

This button is used to print a Combination (i.e., Daily and Collection) Ticket and Clear both the Daily Column and the Cash In Game Stats. To print the ticket, turn and hold the red key, then touch the button. A

PRINT  
COMBO  
TICKET  
AND CLR



Combination Ticket is shown in fig. 9.8.

```

* U.S.GAMES, INC. VER:USG 3500/ROM US16 *
TERM#000001 BANK#01

<<U.S. GAMES, INC.>>
**** VALID ON DATE OF ISSUE ONLY! ****
LICENSE#8885 TERMINAL#0000 DR#03 MK#0350

*****
10:39:36 ** 04/11/95
<<<<< MASTER >>>>>
TICKET#00000001 CREDIT=10.25 GARTYP:9500
*** DAILY TICKET ***
*****
DESCRIPTION MASTER PERIOD DAILY
-----
CASH IN $ 409.25 409.25 409.25
CASH OUT $ 0.00 0.00 0.00
CASHPLAY $ 3078.75 3078.75 3078.75
CASH MON $ 2669.75 2669.75 2669.75
NET HOLD $ 409.25 409.25 409.25
ADJ HOLD $ 409.00 409.00 409.00
OUT/HOLD $ 0/100 0/100 0/100
HIT RATIO% 63.4% 63.4% 63.4%
CASH MON X 86.7% 86.7% 86.7%
BILL/COIN% %/ 4 %/ 4 %/ 4
LAST CLEAR 16:16:30 16:16:30 16:16:30
           04/06/95 04/06/95 04/06/95

*COLLECTION TICKET*
*****
DENOMINATION QUANTITY CASH AMOUNT
-----
$ 1.00 BILLS 00000009 $ 9.00
$ 2.00 BILLS 00000000 $ 0.00
$ 5.00 BILLS 00000017 $ 85.00
$10.00 BILLS 00000000 $ 0.00
$20.00 BILLS 00000015 $ 300.00
TOTAL BILLS 00000041 $ 394.00
COIN A @.25 00000061 $ 15.25
COIN B @.25 00000000 $ 0.00
TOTAL BOTH 00000102 $ 409.25

CREDIT BALANCE: 00000001 $ 0.25

VOID IF MUTILATED VAL# 00000000
*** COPYRIGHT 1986-95 U.S.GAMES, INC. ***

```

fig. 9.8

Note that, on this ticket, both the main accounting data and the CIG stats are shown. Also, note that the Daily Column and CIG stats are not actually cleared until you properly exit the Terminal Audit Screen. This is because, while in the middle of printing the Combo Ticket, the printer might run out of paper. If it does, you should shut the machine off, replace the paper, go back into Terminal Audit and print the ticket. The information will not have been lost. When you have properly printed your Combo Ticket and wish to exit Terminal Audit, the first time you touch the EXIT AUDIT button at the bottom of the screen, the Daily Column and the CIG Stats will be cleared. Then you must touch EXIT AUDIT again to actually exit the screen.

DISPLAY  
AUDIT  
FIELD  
DATA

**NOTE:**

If COUT\_TO in Terminal Config is set to HOPPER, and your machine is ticket based, the machine will accumulate a non-zero value in the HOPR counter, and cannot be played until the Hopper Escrow Register is cleared in Factory Tests. For more information, see Chapter 24.

GAMESTAT  
TICKET  
DISPLAY  
GAMESTAT

This button is used to display the data as it appears in figure 9.1. Normally, if Dipswitch number 8 is down (or directed towards the board), when you enter this screen all the data will be hidden. This is because you may have to print a ticket during normal business hours and you do not wish to have all your accounting information displayed before the general public. You may print tickets without having the statistics displayed. However, if you want to view the information on the screen, touching this button will cause the data to be displayed.



fig. 9.9

Lines one through seven of fig. 9.9 show the hard meter counters, described in Appendix F. Line eight shows any type of credit that has been posted and is waiting to be paid out to the hopper. If there is ever a number other than zero shown here on ticket based machines (i.e., machines WITHOUT hoppers), you will get a Hopper Empty error over and over again, and the machine cannot be played. The only way to clear the error is to wipe out the machine's entire memory! Line nine shows the credit register, or the amount of credit currently on the machine.

For a brief description of each of the hard meters, refer to Appendix D.

When either of these two buttons are actuated with the red key engaged, a Game Statistics ticket, like the one in fig. 9.10, will be printed. (For an explanation of the information on the Gamestat ticket, refer to Chapter 5, Game Config). When the ticket is printed using the "Print Gamestat Ticket and Clear" button, the statistics will be cleared.



```

U.S.GAMES, INC. VER:USG_35A/RON US16 *
TERMINAL000001 - BANK001
<<U.S. GAMES, INC.->>
***** VALID ON DATE OF ISSUE ONLY! *****
LICENSED TO TERMINAL000001 BANK03 R000000000

10:48:36 ** 04/11/95
TICKETS000001 CREDIT=0.5 GWP:19500
**GAME STAT TICKET**

ON GAME/NAME PROB PROB/DATE PRODU/DATE
010 SUPER 7'S ** 1250.00 * 1250.00
020 LUCKY 6/70 ** 3000.00 * 3000.00
03 ALL AMERICAN ** 1000.00 * 1000.00
040 CALIF'S BLUFF ** 1000.00 * 1000.00
05 BEVERLY HILLS ** 1000.00 * 1000.00
06 SUPERBOWL BINGO ** 2000.00 * 2000.00
070 TOUCH & LOTTO ** 2500.00 * 2500.00
080 TOUCH-ON LOTTO ** 1000.00 * 1000.00
090 TOUCH-ON KENO ** 3000.00 * 3000.00
100 SUPERBOWL KENO ** 4000.00 * 4000.00
110 JACKS OR BETTER ** 1000.00 * 1000.00
12 ACES HIGH ** 3000.00 * 3000.00
130 JOKER POKER ** 1000.00 * 1001.56
14 WILD JOKERS ** 1000.00 * 1000.00
150 DEUCE'S WILD ** 1000.00 * 1000.00
160 BLACK GOLD 21 * 0.00 * 0.00

ON CASH-PLAYED XTOT CASH-WON XTOT
010 * 0.00 *
020 * 0.00 *
03 * 0.00 *
040 * 0.00 *
05 * 0.00 *
060 * 0.00 *
070 * 21.00 * 109.00
080 * 24.00 * 69.00
090 * 0.00 * 0.00
100 * 0.00 * 0.00
110 * 0.00 * 0.00
12 * 0.00 * 0.00
130 * 7.00 * 51.00
14 * 0.00 * 0.00
150 * 0.00 * 0.00
160 * 11.00 * 7.00

TOT $ 3878.75 100% * 2648.58 100%

ON TARGET ACTUAL HIT% CASH-EMERGED XTOT
010 92.4% --- --- *
020 92.4% --- --- *
03 92.4% --- --- *
040 92.4% --- --- *
05 92.4% --- --- *
060 92.4% --- --- *
070 87.7% 86.2% * 13.00
080 83.3% 40.4% * 13.00
090 92.4% --- --- *
100 92.4% --- --- *
110 92.4% --- --- *
12 92.4% --- --- *
130 65.7% 31.7% * 0.00
14 92.4% --- --- *
150 92.4% --- --- *
160 97.7% 75.8% * 0.00

86.8% 63.5% * 430.25 100%

DNL-UPS PLAYS 51.25 WOHM 72.25

LAST CLEAR GAMESTATS: 16:15:30 04/06/95

VOID IF MUTILATED VOID 00000000
*** COPYRIGHT 1986-95 U.S.GAMES, INC. ***
    
```

fig. 9.10

When this button is actuated with the red key engaged, the Game Statistics will be displayed, as in Fig. 9.11. From left to right, the following information is shown: the Game Name (enabled games are shown in green, disabled games in red), number of games played, number of "high bet" plays (i.e., bets high enough to meet jackpot eligibility requirements), number of games won, hit percentage (i.e., percentage of the total games played resulting in some type of winner), total amount of cash played, total amount of cash won, and the actu-



# Chapter 10 : Error Stats

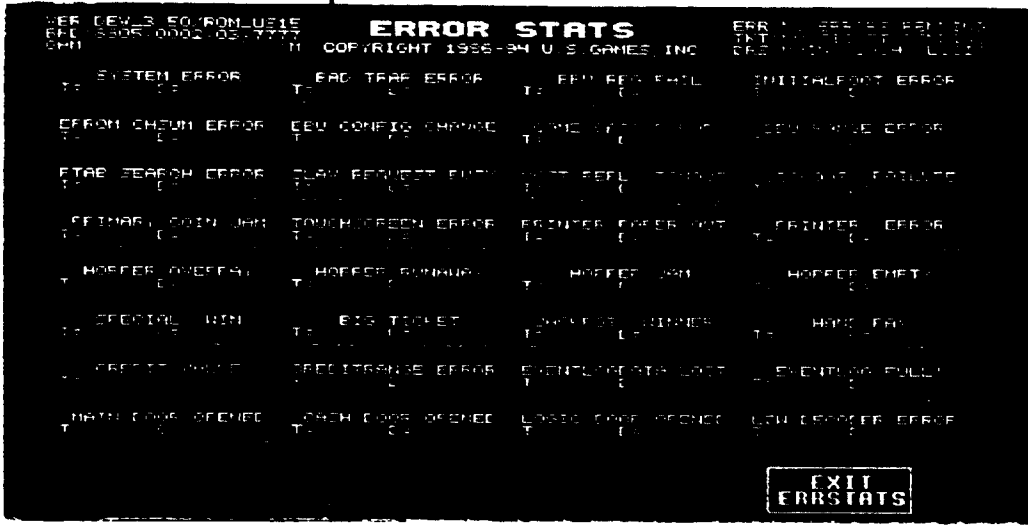


fig. 10.1

## Functional Description

### Functional Description:

This screen displays information on any of the 32 different errors that can be generated from within the system. Some are not really errors, just exception conditions.



fig. 10.2

Fig. 10.2 shows a close-up of one of the errors. The top line shows the error name. The second line displays the number of times this error has occurred since the board was initialized, and data that is relevant to the most recent occurrence. (This data is used only by U.S. Games, Inc. software engineers). The third line shows the time and date of the last occurrence. A brief description of each error follows:

## SYSTEM ERROR

### SYSTEM ERROR

Set whenever an internal system call results in the return of erroneous data. Indicates a T340 hardware problem

**BAD TRAP ERROR****BAD TRAP ERROR**

Set when the 34010 attempts to execute an illegal Op-code. Indicates a hardware problem on the T340 logic board.

**BBU REG FAIL****BBU REG FAIL**

If a BBU register is corrupted, the machine reboots itself and shows that the register is corrupted on the initial boot-up screen.

**INITIALBOOT ERROR****INITIALBOOT ERROR**

Set whenever any of the tests performed during initial power-up fail.

**EPROM CHSUM ERROR****EPROM CHSUM ERROR**

Set when the machine determines that the data in one or more of the EPROM chips has changed since the last boot up. This error may appear when any of the software chips are changed, or immediately after the battery back-up registers have been cleared. If this error is set at any time other than those listed above, a serious error may be indicated. This should be reported to U.S. Games, Inc. immediately, before the machine is played.

**BBU CONFIG CHANGE****BBU CONFIG CHANGE**

This error is set when entering a game if any of the configuration parameters have changed. It is intended to make the operator aware that the machine is no longer configured the way it was before. Note that this error will not be generated if Dipswitch = 8 is away from the board.

**GAME DATA ERROR****GAME DATA ERROR**

Set whenever the system software attempts to access gamedata and invalid values are returned, or whenever invalid configuration parameters are set.

**BBU RANGE ERROR****BBU RANGE ERROR**

Set whenever an algorithm generates a pointer to a Battery Backup register that is out of bounds.

**PTAB SEARCH ERROR****PTAB SEARCH ERROR**

Any one of numerous errors associated with pulltab boxes. This error should be reported to U.S. Games, Inc. personnel.

**SLAV REQUEST BUSY****SLAV REQUEST BUSY**

Setting of this error indicates a communication problem on the USGRS422 bus. This error is set when the slave partition cannot get out onto the bus, because another machine is tying up the Slave Busy line. This may be caused by damaged or improperly connected cables, or by a hardware problem on any T340 board on the bank of machines.

**MAST REPLY TIMEOUT****MAST REPLY TIMEOUT**

Set when the Slave attempts to communicate with the Master, but gets no response. The slave will retry 16 times before giving up and setting this error.

**LOCKOUT FAILURE****LOCKOUT FAILURE**

Set when the system senses a pulse on the coin switch input while the lockout is dropped out. The coin will not be credited.

**PRIMARY COIN JAM****PRIMARY COIN JAM**

Set when the system sees the coin switch input has been active for too long a period of time. Indicates possible stringing on mechanical coin mechanisms.

**TOUCHSCREEN ERROR****TOUCHSCREEN ERROR**

Set when touchscreen config. parameters are invalid.

**PRINTER PAPER OUT****PRINTER PAPER OUT**

Set when the system senses that the printer has run out

**PRINTER ERROR**

of paper, when the machine is using an Ithac. Peripherals or newer Citizen 617 Printer.

**PRINTER ERROR**

Set whenever any of the three handshaking signal from the printer do not agree with what the system says is normal for the particular printer type configured. The following are examples of conditions which can set a printer error:

- A. **Printer runs out of paper.**
- B. Printer jams.
- C. Printer senses an internal fault.
- D. Printer is not connected.

Note that this error will not be set while Dipswitch #8 is away from the board.

**HOPPER OVERPAY**

**HOPPER OVERPAY**

This error is set when the switch on the hopper chute indicates that more coins were sent out the chute than intended.

**HOPPER RUNAWAY**

**HOPPER RUNAWAY**

Hopper Overpay of three or more coins usually indicates that a hardware problem has caused the hopper to continue running after the logic board has attempted to stop it.

**HOPPER JAM**

**HOPPER JAM**

Set when the hopper out switch remains on for too long a period of time, indicating that either coins are caught in the hopper chute, or there is a hardware failure in the switch.

**HOPPER EMPTY**

**HOPPER EMPTY**

Set when the hopper is unable to return all the coins owed to a player. When sufficient coins are added and the error is cleared, the hopper will complete the pay-



**SPECIAL WIN**

out.

SPECIAL WIN

Set whenever a player has a single win that meets or exceeds the value set for Special Win in Main Config.

**BIG TICKET**

BIG TICKET

Set whenever a player hits the Cashout Button with a credit balance that meets or exceeds the value set for Maximum Ticket in Main Config. Note that this error will not be set if No Printer is selected in Terminal Config.

**JACKPOT WINNER!**

JACKPOT WINNER!

Set whenever a player hits a progressive jackpot.

**HAND PAY**

HAND PAY

Set whenever a player hits the Cashout Button with a credit balance that meets or exceeds the value set for Maximum Hoppout in Main Config. Note that this error will only be set when No Printer is selected in Terminal Config.

**CREDIT VALUE**

CREDIT VALUE

Set when the credit balance on the machine meets or exceeds the value set for Maximum Credit in Main Config.

**CREDITRANGE ERROR**

CREDITRANGE ERROR

Set whenever the credit balance exceeds \$10,000.00.

**EVENTLOGDATA LOST**

EVENTLOGDATA LOST

Not used in this software version.

**EVENTLOG FULL!**

EVENTLOG FULL!

Not used in this software version.

**MAIN DOOR OPENED**

## MAIN DOOR OPENED

Set whenever the main door is opened when the Main Door Error is enabled in Ticket Config.

**CASH DOOR OPENED**

## CASH DOOR OPENED

Set whenever the cash door is opened when the Cash Door Error is enabled in Ticket Config.

**LOGIC DOOR OPENED**

## LOGIC DOOR OPENED

Set whenever the logic door is opened when the Logic Door Error is enabled in Ticket Config.

**LZW DECODER ERROR**

## LZW DECODER ERROR

Set whenever the system attempts to decompress graphics data retrieved from the Gameroms, but finds that the data is not valid. This may occur immediately after changing software versions, but before the battery backed-up memory is cleared. If the error occurs at any other time, a hardware failure on the T340 logic board is indicated.

# Chapter 11 : Recall History

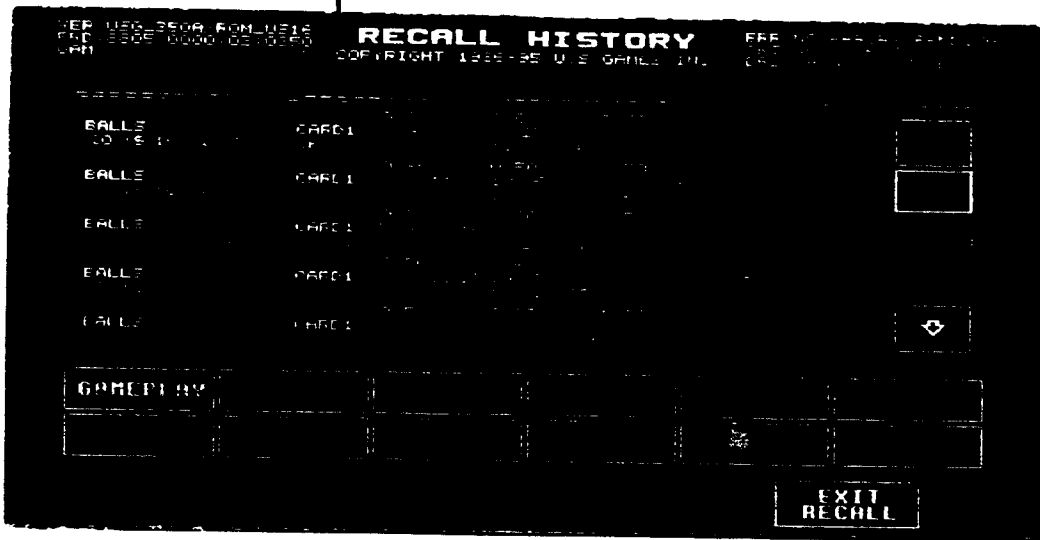


fig. 11.1

## Functional Description

## Functional Description

The last 16 occurrences of twelve different event categories can be viewed here. Viewing of these events can be used to settle customer claims, or to track machine malfunctions.

Below are brief descriptions of the information available for each event category:

### GAMEPLAY

### GAMEPLAY

In the Gameplay category, information for the five most recent games is shown. To view information for earlier games, simply touch the down arrow key shown in fig. 11.2 to scroll down. The fifteen most recent games may be viewed by using the up and down arrows. Note that the square between the two arrows indicates your position in the list.

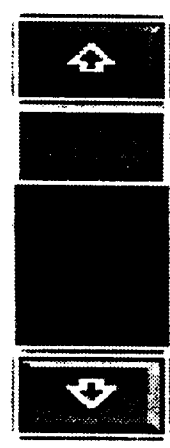


fig 11 2

**NOTE:**  
In the GAMEPLAY category, only information for the last 15 games may be displayed. For all other categories, information for the last sixteen events is shown.

In the Gameplay category the following information is shown for all games on the first line:

- 1) The name of the game Played.
- 2) The amount Wagered.
- 3) The amount Won.
- 4) The total amount of credit available on the machine before the game was played.
- 5) The Time and Date the game was played.

The next two lines show information specific to each game type. Brief descriptions follow:

- a. For **POKER** Games (see fig. 11.3)

```

1  POKER GOLD 21 $ 0.25 $ 0.00 $ 1.75 13:51:46 08/08/94
DEALT: 4H TD 5C 2D 7H
FINAL: TC TC 4H 2H 7H THREE OF A KIND DOUBLE-UPS: H 44

```

fig. 11.3

- i. The five cards originally dealt. The game's autohold system recommended keeping the cards shown in green, and discarding those shown in red, provided an AUTO-HOLD mode is enabled in Game Config.
- ii. Beneath the dealt hand, the final hand is shown. Cards that were drawn are shown in white, while cards that were held are shown in green. Beside the final hand, a description of the winning hand appears (e.g. Two of a Kind). If there was no winning combination, the words "No Hand" will appear.
- iii. To the right of the hand descriptions, information for Double-Ups, if any, is shown. The player's choice of high or low card is indicated by either an "H" or an "L." Beside the letter, separated by a colon, the card number and suit are shown. If the double-up resulted in a winner, this combination of symbols will appear in green. Otherwise, they will appear in red.

- b. For **BLACKJACK** games (see fig. 11.4)

```

1  BLACKJACK GOLD 21 $ 0.50 $ 0.00 $ 1.50 13:51:58 08/08/94
DEALER: 5C 6D TD :21
PLAYER: 3C 3S 7D :19 LOSE

```

fig 11.4

- i. The dealer's cards and point total.

ii. The Player's cards and point total. (Note that if the player split, there will be a "Left" hand followed by a "Right" hand, instead of a single "Player" hand.)

iii. Beside the Player's cards, the final outcome of the game is shown. There may be a "Win," "Lose," "Bust," or "Blackjack."

iv. To the right of the hand descriptions, information for Double-Ups, if any, is shown. The player's choice of high or low card is indicated by either an "H" or an "L." Beside the letter, separated by a colon, the card number and suit are shown. If the double-up resulted in a winner, this combination of symbols will appear in green. Otherwise, they will appear in red.

c. For **KENO** games (see fig. 11.5)

```
4 TOUCHKEY KENO $ 0.25 $ 0.00 $ 2.25 13:51:22 06/08/94
PICKS: 01 15 21 22 23 24 35 39 44 75 1 HIT
BALLS: 48 50 22 38 79 74 52 20 35 31 11 56 08 21 05 58 45 77 51 72
```

fig. 11.5

i. The player's picks. Hits appear in red, while non-hits are shown in yellow. To the right of the picks, the total number of hits is shown in magenta. For Superball Keno, if the last ball was a hit (i.e., a Superball), the letters SUPR will appear in pink beside the total number of hits.

ii. The third line shows all the balls drawn by the machine.

d. For the **TOUCH 6 LOTTO** game (see fig. 11.6)

```
5 TOUCH 6 LOTTO $ 1.50 $ 1.00 $ 3.75 13:50:34 06/08/94
BALLS: 10 21 15 7 4 8 OFF 3: 2 5 18 19 22 25 CARD4: 3 6 10 15 16 21
CARD1: 3 9 13 14 16 17 CARD2: 14 17 19 20 23 24
```

fig. 11.6

i. The six balls drawn by the machine.

ii. The Player's picks for up to four cards. Hits are shown in red, while non-hits are shown in yellow. Note that picks are also shown for cards which were not active during game play. In this case, picks are shown in gray, while "hits" are shown in purple.

e. For the **SUPERPICK LOTTO** game (see fig. 11.7)

```

6 SUPERPICK LOTTO $ 0.75 $ 0.00 $ 2.50 13:50:52 06/06/94
BALLS:3 0 2 2 4 9 CARD1:1 4 9 7 5 5 CARD2:7 7 0 5 7 4
CARD3:8 9 1 6 2 6 OFF 4:1 9 4 5 8 4

```

fig. 11.7

- i. The six balls drawn by the machine.
- ii. The Player's picks for up to four cards. Hits are shown in magenta, while non-hits are shown in yellow. Note that picks are also shown for cards which were not active during game play. In this case, all picks are shown in gray.

f. For **BINGO** games (see fig. 11.8)

```

1 SUPEROLD BINGO $ 0.50 $ 0.50 $ 0.50 16:04:52 02/06/94
CARD 0:$ 0.50 CARD 1:OFF
CARD 2:OFF CARD 3:OFF

```

fig. 11.8

- i. The total winnings for each active card. If a card was turned off, the word "OFF" appears in gray beside the card number.

g. For **PULLTAB** games (see fig. 11.9)

```

9 EAR-BELLE $ 0.25 $ 0.75 $ 3.25 13:50:12 05/06/94
PULLTAB # : 56
SYMBOLS - TOP: 9 2 5 MIDDLE: 1 1 1 BOTTOM: 5 6

```

fig. 11.9

- i. The pulltab number.
- ii. The bottom line shows the code numbers for the pulltab symbols. The top three symbols are followed by the middle three, then the bottom three, reading from left to right.



COINS-IN (See fig. 11.10)

- 1) The name of the last game played before the coin was accepted.
- 2) The monetary value of the coin.
- 3) The time and date the coin was accepted.

```

LAST GAME NAME COINS-IN TIME DATE
=====
1 JACKS OR BETTER $ 0.25 12:52:36 02/23/94

```

fig. 11.10

## BILLS-IN (See fig.11.11)

- 1) The name of the last game played before the bill was accepted.
- 2) The monetary value of the bill.
- 3) The time and date the bill was accepted.

LAST	GAMENAME	BILLS-IN	TIME	DATE
1	JACKS OR BETTER	\$ 1.00	16:55:00	02/08/94

fig.11.11

## TICKETS (See fig.11.12)

- 1) The ticket number.
- 2) The name of the last game played before the voucher was printed.
- 3) The amount of the voucher.
- 4) The validation number, which is printed on the voucher near the bottom right corner.
- 5) The time and date that the voucher was printed.

TICK#	GAMENAME	AMOUNT	VAL #	TIME	DATE
1	JACKS OR BETTER	\$ 3.50	5F510DD	12:52:38	02/23/94

fig.11.12

## HOPPER

Hopper events may appear in one of two formats. The first resembles the previous examples, and the following information is shown:

- 1) The name of the last game played before the particular hopper activity occurred.

LAST	GAMENAME	ACTIVITY	AMOUNT	TIME	DATE
1	25 SUPER 7'S	CSHOUT	\$ 2.50	10:43:42	05/22/95

fig.11.13

- 2) The monetary value of the coins involved.
- 3) The type of activity (e.g., Cashout).
- 4) The time and date of the activity.

The second format is as shown in fig. 11.13. Here, the type of activity appears first in red, followed by the status of the money involved. For example, if "Hopper

Empty" is shown. "Unpaid \$ XX.XX" will appear next, indicating the amount still to be paid out. Finally, the time and date of the event appear.



#### POWERUPS(DOWNS) (See fig 11.14)

- 1) The name of the last game played before the last power-down. If there was no previous power down, the first active game is used.
- 2) The time and date of the last power-up.
- 3) The time and date of the last power-down.

LAST GAME NAME	POWERUP-TIME	POWERUP-DATE	POWER-DOWN-TIME	POWER-DOWN-DATE
1 JACKS OR BETTER	15:45:34	02/22/94	15:45:34	02/22/94

fig.11.14



#### HANDPAYS (See fig. 11.15)

- 1) The name of the last game played before the last hand pay. (Recall that, for machines with hoppers, the requirements for a hand pay are established in Main Config under Maximum Hoppouts).
- 2) The monetary value of the last hand pay.
- 3) The validation number of the last hand pay. (The validation number appears beneath the flashing error message "HAND PAY/CALL ATTENDANT").
- 4) The time and date of the last hand pay.

LAST GAME NAME	HANDPAY	VALIDATION	TIME	DATE
1 JACKS OR BETTER	\$ 427.06	B347F690	10:52:22	02/21/94

fig.11.15



#### JPOTWINS (See fig 11.16)

- 1) The ticket number.
- 2) The name of the last game played before the jackpot was last hit.
- 3) The value of the last jackpot hit.
- 4) The validation number. This number is either printed on the voucher near the bottom right corner or is shown, with hopper based machines, beneath the error message "JACKPOT WINNER! CALL



ATTENDANT."

5) The time and date that the jackpot was last hit.

LAST GAME NAME	JPOTWIN	VALIDATION	TIME	DATE
1 JACKS OR BETTER	\$ 427.06	B75AB034	10:52:22	02/21/94

fig. 11.16

### HOPFILLS (See fig. 11.17)

- 1) The name of the last game played before the hopper was filled.
- 2) The number of coins added to the hopper.
- 3) The time and date that the hopper was last filled.

LAST GAME NAME	HOPFILLS	TIME	DATE
1 JACKS OR BETTER	1200 COINS	10:26:22	02/21/94

fig. 11.17

### DOORS (See fig. 11.18)

- 1) The name of the last game played before the change in door states was detected.
- 2) The name of the door, and whether it was opened or closed.
- 3) The time and date that the change in door states was detected.

LAST GAME NAME	DOOR ACCESSES	TIME	DATE
1 BLACK GOLD 21	MAIN DOOR CLOSED	17:20:42	02/17/94

fig. 11.18

### ERRORS (See fig. 11.19)

- 1) The name of the last game played before the error was set.
- 2) The error type.
- 3) The total number of times the error has occurred.
- 4) "Data" contains information used only by U.S. Games, Inc. software engineers.
- 5) The time and date that the error was last set.

LAST GAME NAME	ERROR-TYPE	COUNT	DATA	TIME	DATE
1 JACKS OR BETTER	HOST REPLY TIMEOUT	00001	00000000	13:49:29	02/06/94

fig. 11.19

**MSTR JACKPOT** (See fig. 11.20)

[Note that this category is relevant for Master machines only.]

- 1) The name of the game played for which the jackpot was hit.
- 2) The amount Won.
- 3) The terminal ID of the machine on which the jackpot was hit.
- 4) The time and date of the jackpot.

LAST	GAME/ID	AMOUNT	TERM ID	TIME	DATE
1	25 TOUCHES	2500	\$5217.44	0002	10:46:12 08/11/94

fig.11 20

Note that this category differs from all the others in that this screen shows progressive jackpots hit on the entire bank of machines while this machine has been a Master. All other categories are relevant only to the specific machine on which the screen is being viewed.

## Chapter 12 : Casino Books

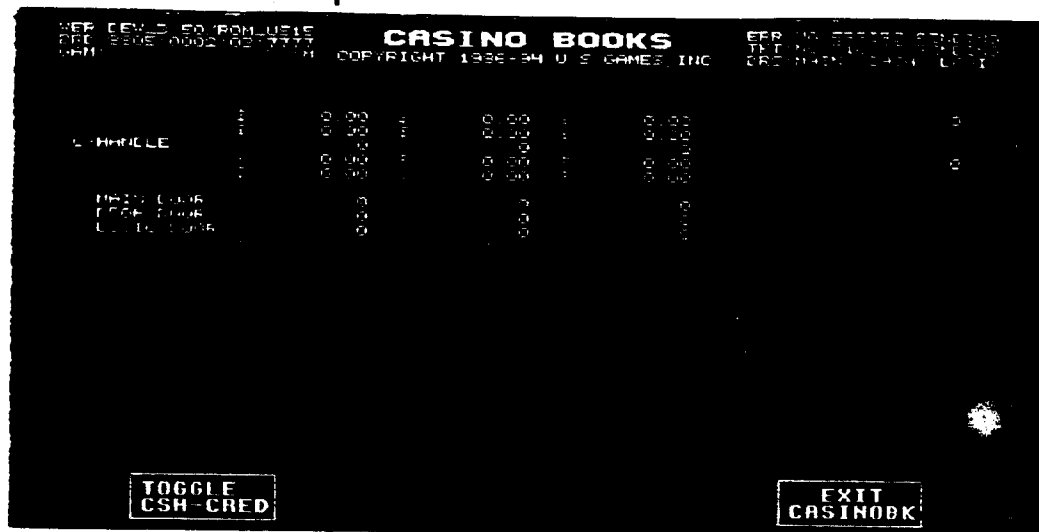


fig. 12.1

### Functional Description

### Functional Description

This Screen is used for accounting with hopper based machines. Audit and collection information can be viewed here. There are three independent sets of registers kept for the accounting data. These are the Master, Period and Daily columns. The Master column reflects data generated since initialization, and this data cannot be cleared. The Period column reflects data accumulated over a period of time specified by the location and may be cleared in Terminal Audit. (See Chapter 9, Terminal Audit). This Period can be daily, weekly, monthly, etc.. The Daily column is essentially the same as the Period Column and represents data accumulated over a period of time specified by the location. Again, this period can be a week or a month, etc., but is generally a day. The information in the Daily Column may be cleared in the Terminal Audit Screen. (See Chapter 9, Terminal Audit, for more information).

#### NOTE:

Coin In, Coin Out, Coin Drop and Credit Canceled may be displayed in the form of cash or credit by touching the appropriate button at the bottom of this screen.

Line A represents total coins in, which can be displayed as either cash or credits by touching the appropriate button at the bottom of this screen. Line B, conversely, shows the total coins paid out by the hopper. Line C, or "HANDI E.," indicates the total number of games played. Line D represents the total number of



**TOGGLE  
CSH-CRED**

coins diverted from the coin mech to the cash box. These coins are diverted when the hopper is full. When a collection is performed, the diverted coins are usually the ones collected, so that the hopper remains full. Note that Coin Drop also represents bills accumulated in the bill acceptor. Line E, or "~~Credit Canceled~~," represents money paid, not by the hopper, but by hand. (See Chapter 3, Main Config, for more information on Hand Pays).

On the right side of the screen, in purple, the number of games played since the last power up and since the last door closure are shown.

This button, when touched, will toggle back and forth to show accounting information in dollars and cents, and in the form of credits. (Remember that the credit value is set in Main Config.)

# Chapter 13 : Money Tests

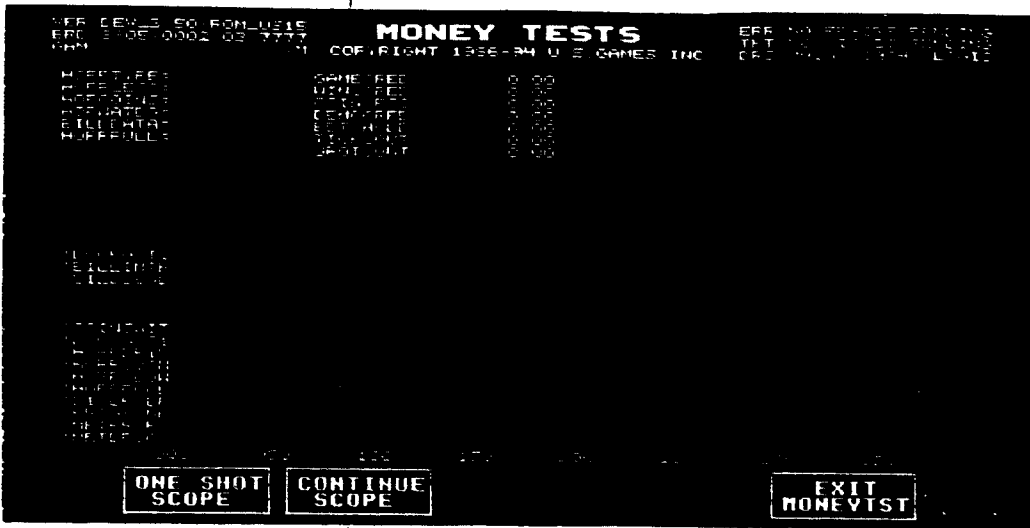


Fig 13.1

## Functional Description

### Functional Description

This screen is used to diagnose problems with the coin mechanism, the hopper and the bill validator, without corrupting the integrity of the accounting data.

At the top of this screen, two columns of registers are shown. Beginning with the register on the top left and reading down, the following information is shown:

#### HOPPTYPE

The type of hopper selected in Terminal Config is shown here. A one represents a 1200 coin hopper, while a two represents a 4500 coin hopper. A zero here indicates that there is no hopper.

#### HOPP\_ESC

Shows the monetary value, in pennies, of the amount the hopper is attempting or will attempt to pay out. In the event of an error, such as a hopper jam, this register may be checked to determine the amount owed the customer. Note that if the customer is paid by hand

the hopper will still attempt to pay out the amount shown in this register, whenever the error is cleared.

### **HOPCOINS**

Represents the integer number of coins the machine believes to be in the hopper. This number does not include coins in the cash box. This number is only valid when the location uses the fill button properly (see below).

### **HOPWATDG**

Counts up from zero to 1490, after which time an error will be set if the hopper's behavior varies from what the system believes to be normal. For example, if the hopper is attempting to dispense coins while empty, an error will be triggered when the HOPWATDG counter reaches 1490.

### **BILLDATA**

Represents serial data sent from the bill validator. For more detail on the possible codes that may appear in this register, refer to the !BILLDATA portion of the Digital Storage Oscilloscope discussion which follows.

### **HOPPFULL**

Will show a one if the hopper is full, and a zero if the hopper is not full. (Note that a zero here does not necessarily mean that the hopper is empty).

### **GAMECRED**

Indicates the monetary value, in dollars and cents, of credits on the machine which were received in the form of bills or coins, but have not yet been played. This applies when meters are set to VLT (for coins only).

**NOTE:**

The sum of GAMECRED, WIN\_CRED, and COIN\_ESC is the actual monetary value the player will see as credit when playing the game.

**WIN\_CRED**

When the meters are set to SDS, COIN\_ESC shows the monetary value, in dollars and cents, of credits on the machine which were the result of a win.

**COIN\_ESC**

Indicates the monetary value, in dollars and cents, of credits on the machine which were received in the form of coins. (when meters are set to SDS).

**DEMOCRED**

Indicates the monetary value, in dollars and cents, of **demo** credit on the machine. (Note that Demo credit is completely separate from actual credit).

**BET\_HOLD**

Is not supported in this software version.

**TICK\_OUT**

Represents the cash value of the ticket currently being printed (this register will show zero if there is no current ticket). This register is cleared only after the ticket is cut to ensure the preservation of data in the event of power loss.

**JPOT\_OUT**

Represents the cash value of the jackpot ticket currently being printed (this register will show zero if there is no current ticket). This register is cleared only after the ticket is cut to ensure the preservation of data in the event of power loss.

Fig. 13.2 shows a close-up of the 16 channel Digital Storage Oscilloscope (DSO). Each one of the 16 channels has two states: high and low. A green line indicates a high state whereas a red line indicates a low state. Whether or not a particular line is active when it is low is indicated by a "!" preceding its label.

**NOTE:**

Blue labels indicate T340 outputs. Yellow labels indicate T340 inputs. Purple labels indicate bill validator data.

on the left side of the DSO. With the exception of BILS1-20 and BILL ACK, all the lines indicate actual real world inputs and outputs.

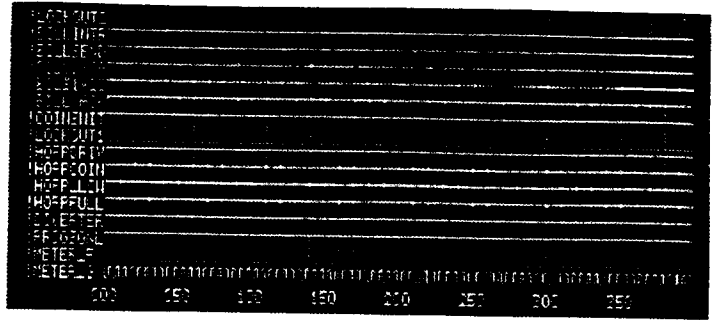


fig. 13.2

The following list gives a brief description of each line's function:

**!LOCKOUT2**

This line indicates the state of the Bill Acceptor lockout signal. When this line is red, the Bill Validator should accept money. Note that !LOCKOUT2 is only used on Pot-O-Gold model 19CSTS and 19SDTS machines.

**!BILLINTR**

This line goes low whenever the bill validator is holding a bill, and wishes to initiate communications with the T340 board.

**!BILLSEND**

This line is pulsed low in response to seeing !BILLINTR going active. This signal tells the bill acceptor that we are ready to receive data.

**!BILLDATA**

When the acceptor sees the !BILLSEND line pulse, it will send the denomination of the bill that it has read (but not yet accepted or stacked).

Valid data values are:

81 = \$1.00

82 = \$2.00

83 = \$5.00

84 = \$10.00



85 = \$20.00

8B = Slug-The bill will be returned.

Note that the normal sequence is to pulse our send line a second time, which instructs the bill acceptor to accept the bill. It will then interrupt us again, at which time we will pulse our send line again. The bill acceptor will then send one of the following codes:

89 = Accepted and Stacked, (i.e., OK to credit customer).

8A = Bill was returned to customer due to an internal bill acceptor condition. Do NOT credit.

8C = There has been an internal failure while trying to transport the bill to the stacker.

8D = The stacker is full, and the stacker punch cannot completely cycle to properly stack the bill. Note that the actual value of the received data can be viewed under the heading BILLDATA, which is located near the upper left corner of the screen.

### **!COINSWIT**

This line indicates the state of the coin switch. When the coin switch is closed, (as it is when a coin trips the mechanism) the line will dip. On models with CC40 coin comparitors, this line should never dip more than a single hash mark.

### **!LOCKOUTI**

This line indicates the status of the Coin Mech. Lockout signal. When red, the coin mech. should accept. On models using the CC40, the LED on the comparitor should be lit when this line is red.

### **HOPPDRIV**

This line indicates the status of the hopper motor drive.

### **!HOPPCOIN**

This line indicates the status of the hopper coin chute switch, which pulses whenever a coin leaves the hopper.

**HOPP\_LOW**

HOPP\_LOW and !HOPPFULL indicate the status of the hopper coin level. Both depend upon whether electrical contact between the coins and various sensors within the hopper is made. HOPP\_LOW and !HOPPFULL indicate when the coin level is low and when the hopper is full, respectively.

**!HOPPFULL**

See HOPP\_LOW, described above.

**!DIVERTER**

This line indicates the status of the diverter, which determines whether coins will be sent to the hopper, or to the cash box. When the line is low, coins go to the cashbox.

**!PROGSGNL**

Not supported in this software version.

**!METER\_F**

This line indicates the status of the SDS data, assuming that the meters are set to SDS in Terminal Config.

**!METER\_G**

This line shows the transmission of the SDS clock, assuming that the meters are set to SDS in Terminal Config.

In the center of the Money Tests screen, in red, the value of the last bill accepted is shown, then the maximum number of coins allowed per play appears, followed by the number of coins deposited since the last play. Only in certain regulated markets will the maximum number of coins show a value other than zero. A zero indicates that there is no restriction on the number of coins allowed per play.

**ONE SHOT  
SCOPE**

**CONTINUE  
SCOPE**

The DSO has two modes of operation. In the continuous mode, the cursor scans the field from left to right, overwriting previous data. If the ONESHOT SCOPE button is hit, the cursor will jump to the left margin and complete one scan, coming to rest at the right margin and leaving the data on the screen for inspection. Hitting the CONTINUE SCOPE button returns the DSO to continuous mode.

1-800-448-4263

Chapter 13: Money Tests

Software Reference

**SECTION 3**



MPD environments in Game Config.

**TCB** represents the Total Cash Bet in MPD environments. If five players were playing the Touch Six Lotto game, for example, this figure would be the sum of all their bets.

**ACW** represents Active Wins, or the number of jackpots hit in any one gameplay, in an MPD environment. Although simultaneous jackpot winners are rare, they are not unheard of. In the event of such an occurrence, the jackpot would be divided evenly among the winners.

**MJP** represents the Master Jackpot, or the value of the jackpot *when it was hit*. Note that this figure does not represent the progressive accumulator, discussed in more detail in Chapter 5, Game Config.

The registers in the center of the screen are used only by U.S. Games, Inc. software engineers for software development. However, beginning with GCSTATE on the left side, the lower half of this screen may be useful for testing and debugging inter-machine communications.

GCSTATE indicates the communication state of the current game (i.e., the status of the most recent game selected in the Player Select Menu). There are five possible states:

ERROR indicates an error in communications.

START indicates that a Slave has initiated communications.

ACK indicates that the game has been accepted by the Master, but play has not yet begun.

PLAY indicates that the Master has accepted the game, and play has begun.

MISS, in MPD environments, indicates that the minimum player requirement was not met within the allotted time. The player will be prompted to try again.

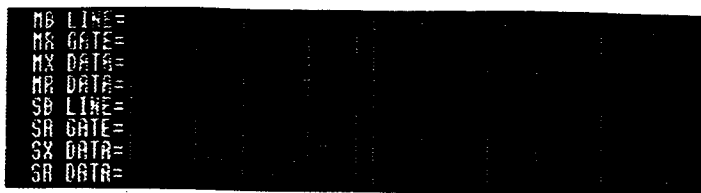


fig 14.2

At the bottom of the screen, as seen in figure 14.2, the following lines are shown:

**MB LINE** is the handshaking line set by the Master.

**MR GATE** relates to the status of the software and is used only by U.S. Games engineers.

**MX DATA** is the Master's data transmission line.

**MR DATA** is the Master's data reception line.

**SB LINE** is the handshaking line set by the Slave.

**SR GATE** relates to the status of the software and is used only by U.S. Games engineers.

**SX DATA** is the Slave's data transmission line.

**SR DATA** is the Slave's data reception line.

To view communications on the M-S link, touch the SENDCOMM REQUEST button at the bottom of the screen. The Slave will send a test packet to the Master.

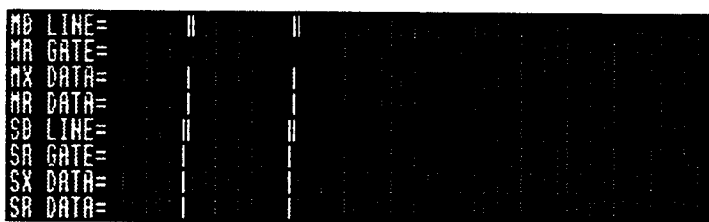


fig 14.3

If the Master and Slave are communicating properly, you should see the pattern shown in fig. 14.3. To freeze the pattern, touch the STOP SAMPLE button at the bottom of the screen. When you are done, touch the START SAMPLE button at the bottom of the screen before issuing another SENDCOMM REQUEST.

The pattern shown in fig. 14.4 will appear when the Slave tries unsuccessfully to initiate communications with the Master. The Slave attempts a transmission, as shown at the beginning of the pattern in fig. 14.4. When the attempt fails, the Slave leaves its handshaking line open, awaiting a reply from the Master. After a time, the Slave will drop its handshaking line to allow other Slaves to attempt communication with the Master. The Slave then attempts transmission again. After a few failures, a Master Reply Timeout error will be set. Note that the GCSTATE will now show an error. This error must be cleared in the Error Stats screen. (For more information on clearing errors, see Chapter 10, Error Stats).

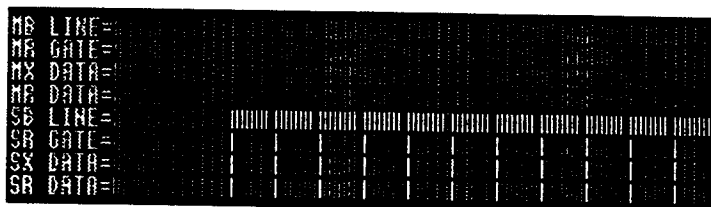


fig. 14.4

# Chapter 15 : Sound Tests

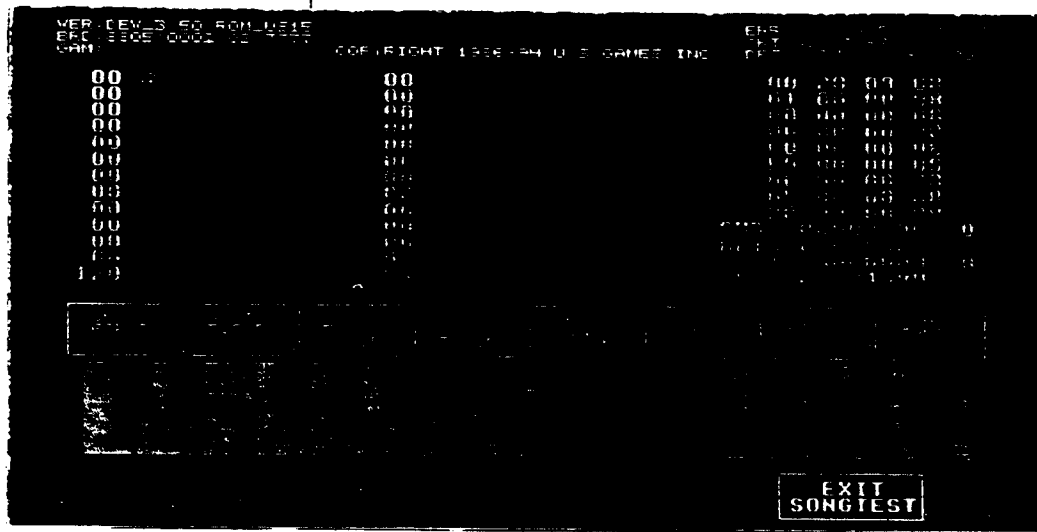


fig 15 1

## Functional Description

### Functional Description

This screen is primarily used to diagnose problems with the audio system components.

The two columns of information beginning at the top left corner of the screen relate to the original synthesizer used to compose the songs and sounds currently stored in the machine. The five blue buttons directly beneath these columns (Last and Next Field, Sub From and Add To Field, and Key on Origin) were used to create the sounds. These buttons cannot change the characteristics of songs currently stored, and no harm will be done if the values in these two columns are altered.

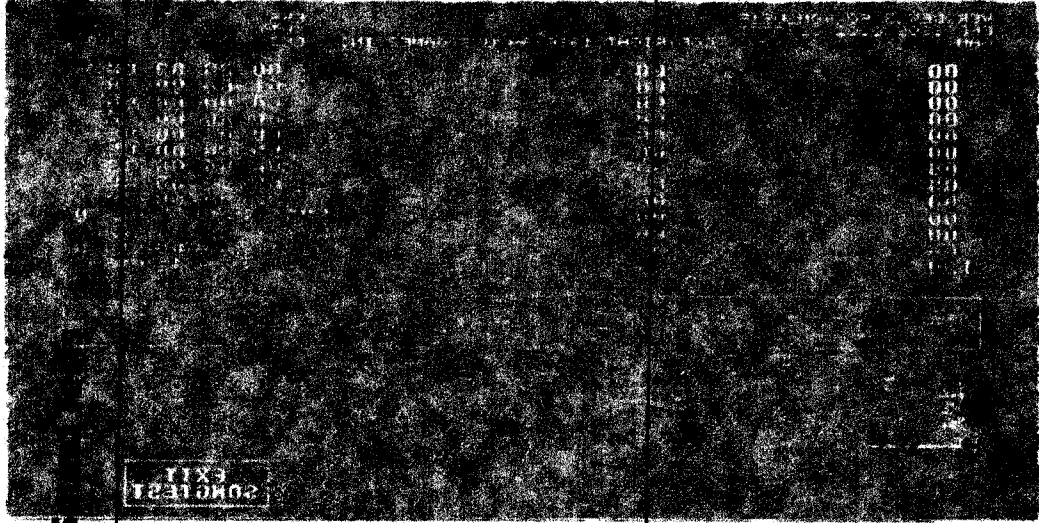
These buttons are used to select and play the various songs stored in the Pot-O-Gold. Simply touch the Next Song button, followed by the Play Song button to hear the first song.

Note that the third, right-most column at the top of the screen contains registers which change as the different songs are played. The numbers are simply a hexadecimal representation of data for each song. This infor-





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Chapter 15: Sound Tests

Software Reference

SECTION 3

Functional Description

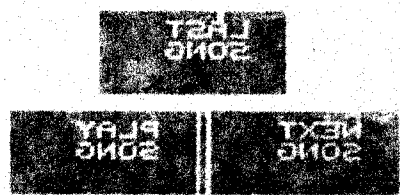
This screen is primarily used to diagnose problems with the audio system components.

The two columns of information beginning at the top left corner of the screen relate to the original source used to compose the songs and sound currently stored in the machine. The five blue buttons at the bottom and Add to Field and Key on Original are used to create the sounds. These buttons are used to change the characteristics of songs currently stored and no item will be done if the value in these two columns are altered.

These buttons are used to select and play the songs stored in the Pot-O-Gold. Simply touch the Next Song button, followed by the Play Song button to hear the first song.

Note that the third, right-most column at the top of the screen contains registers which change as the different songs are played. The numbers are simply a hexadecimal representation of data for each song. This is

Functional Description



# Chapter 16 : LED Sign Tests

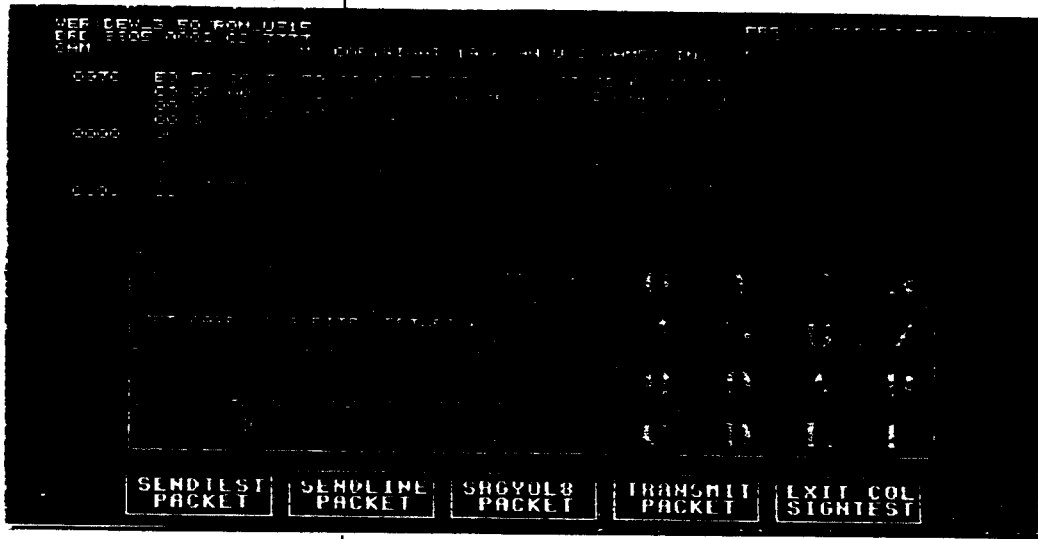


fig 16.1

## Functional Description

**NOTE:**  
This discussion applies to Dynamic and 9-color bit-mapped signs. If you have a RED-LED sign, refer to fig. 15.4.

**NOTE:**  
When testing the LED sign, the "NO SIGN" option should be selected in Terminal Config. When you have completed the testing, return to Terminal Config and select the appropriate sign.

**NOTE:**  
Depending on the software running the LED sign, the entire sign may or may not light up after the four green LEDs appear when performing a reset. Either way, the words "SIGN OK" or "POT-O-GOLD" should still appear within a few seconds.

## Functional Description

This screen is used to test and reset the LED sign. The first four lines at the top of the screen shown in fig 16.1 represent, in hexadecimal format, the output buffer (i.e., data being sent out to the LED sign). The next four lines represent the input buffer, or data received from the LED sign. The third group of four lines represents the auxiliary buffer, or data sent to the LED sign using the buttons on this screen.

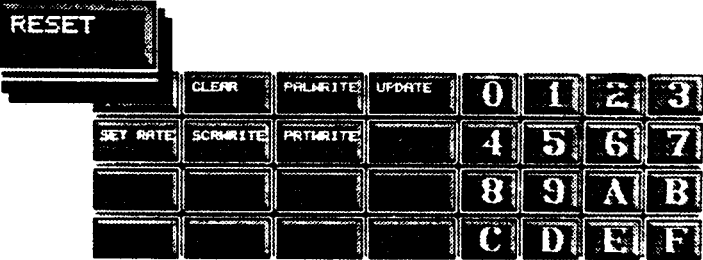


fig 16.2

To test the LED sign, press the reset button shown in the upper left corner of fig. 16.2. (The keypad shown to the right of the buttons in fig. 16.2 is used only by U.S. Games, Inc. software engineers to develop code for the sign). If the sign is working properly, four green LEDs will appear in the upper left corner of the sign. After a

**NOTE:**

Warning! Be sure to press the "CLEAR" button, followed by the "UPDATE" button, after performing this test! The transformer heats up quickly when all the LED's are lit. We recommend that the sign remain in this state for no more than 60 seconds at a time!

few seconds, the words "SIGN OK" or "POT-O-GOLD" will be displayed, indicating that the sign is functioning as expected.

To test the individual LED's for functionality, press the "SENDLINE PACKET" button at the bottom of the screen, followed by the "UPDATE" button. This will result in all the LED's being displayed at the same time.

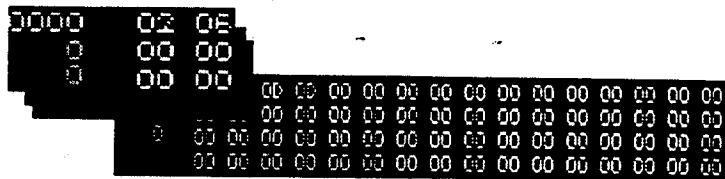


fig. 16.3

Aside from the buttons and procedures described above, useful diagnostics information is also contained in the input buffer. Normally, the first two numbers (reading from left to right) on the first line of the buffer should be 02 and 06. (See fig. 16.3). If, instead, the numbers are 02 and 05, there is a communications error, and a U.S. Games, Inc. technician should be contacted to resolve the problem.

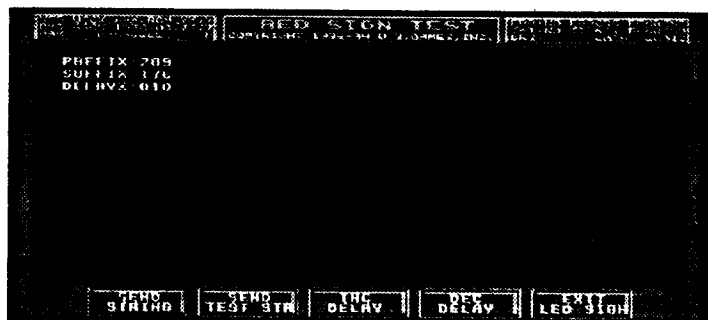


fig. 16.4

Fig. 16.4 shows the screen which will appear if RED-LED is selected in Terminal Config. The "SEND STRING" and "SEND TEST STR" buttons are used to verify communications with the sign. "INC DELAY" and "DEC DELAY" are not currently used.

# Chapter 17 : Serial Ports

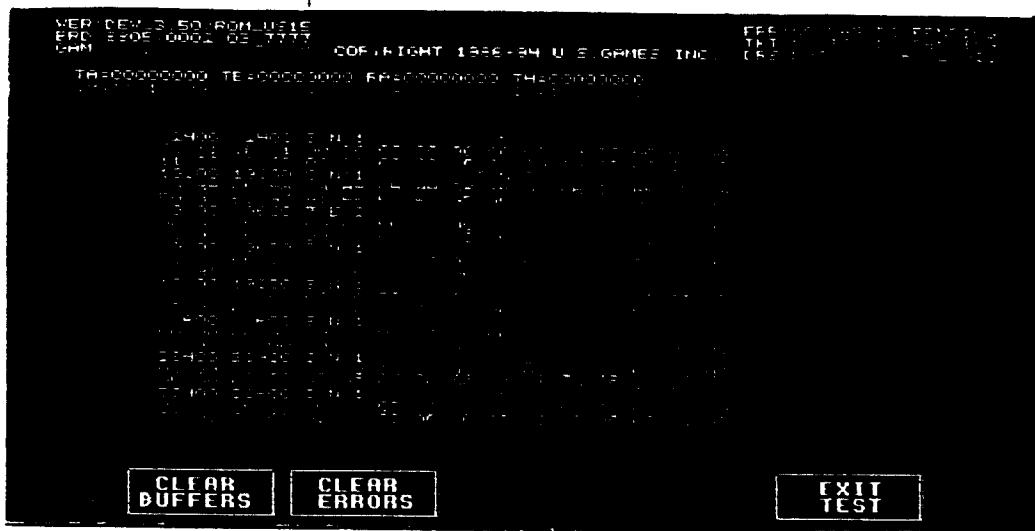


fig 17.1

## Functional Description

### Functional Description

This screen is used to view events on the eight serial ports of the T340 logic board.

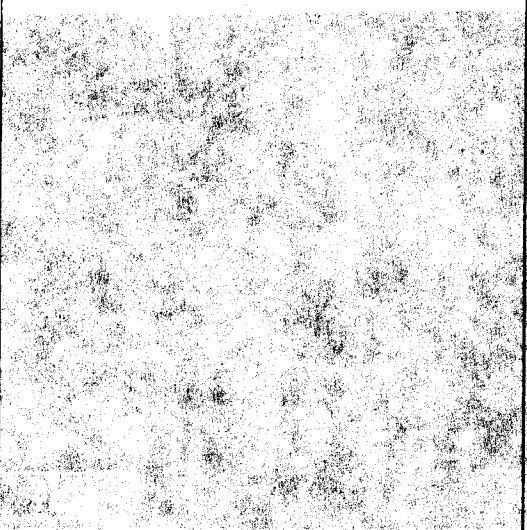
The four lines at the top of this screen are used only by U.S. Games, Inc. software engineers

PRINT:	2400:	2400:	8:	N:	1	FEQ	PUL	TRN	EMP	QVR	PAR	FRM	SRK
00	00	00	00	00	00	00	00	00	00	00	00	00	00
11	00	00	00	00	00	00	00	00	00	00	00	00	00

fig 17.2

Fig. 17.2 shows information for the printer's serial port. There are eight serial ports in all: printer, modem, card reader, touchscreen, LED display, bill acceptor, Master and Slave. Beside the label identifying the serial port, the following information is shown from left to right:

The incoming and outgoing baud rates, the number of bits per byte, the parity (either Odd, Even or None), and the number of stop bits. All this information will appear in yellow. The remaining items will appear in green if the condition exists, and red if it does not



These conditions are: Receiver Full, Transmitter Empty, Overflow Error, Parity Error, Framing Error and Break Error. Errors may be cleared by touching the CLEAR ERRORS button at the bottom of the screen.

The following two lines show a hexadecimal representation of data being transmitted or received, respectively, through the corresponding serial port. When inactive, the TRANS and RECEV labels will appear in blue. When active, the TRANS label will be red, while the RECEV label will be yellow. These buffers may be cleared by touching the CLEAR BUFFERS button at the bottom of the screen.



description. There are System chips, Data (or Gameraom) chips, and SRMS (i.e., Static Battery Backup RAMS). The chip shown in red is the one currently being checked, while all others appear in green.

The right column shows a hexadecimal representation of system data. Note that the value for the ROMS (U3, U4, U5, U7, U8 and U9) should remain the same. Only the RAM values (U6 and U10) will change. The last four hexadecimal characters, for the ROMS only, represent the number physically shown on the label of each chip. If the machine determines that the data in one or more of the EPROM chips has changed since the last boot up, an EPROM CHECKSUM ERROR will be set. This error may appear when any of the software chips are changed, or immediately after the battery backup registers have been cleared. If this error is set at any time other than those listed above, a serious error may be indicated. This should be reported to U.S. Games, Inc. immediately, before the machine is played. Note that this error will not be set if dipswitch #8 is away from the board.

# Chapter 19 : Palette Tests

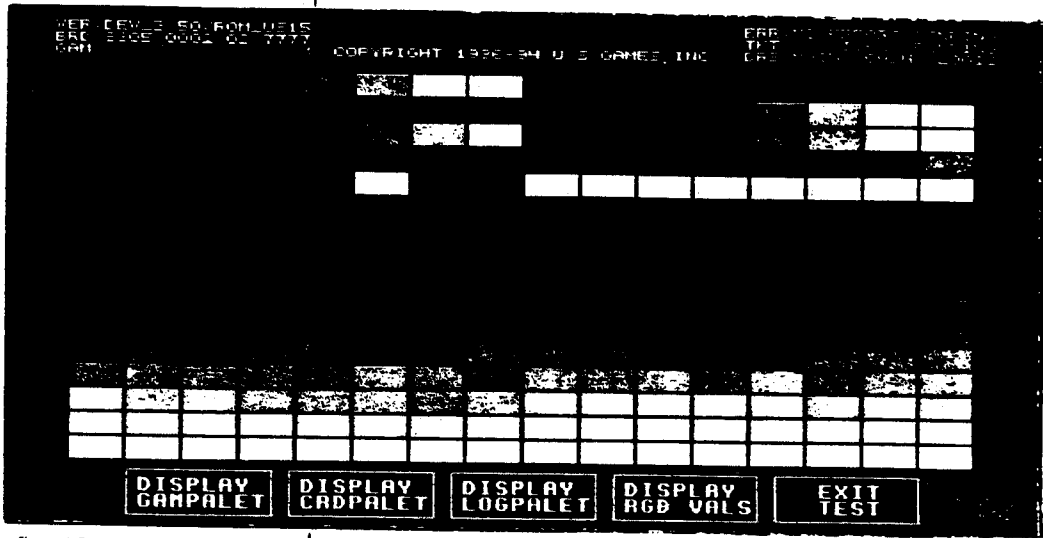


fig 19 1

## Functional Description

### Functional Description

This screen is used to diagnose problems with the T340 logic board's color circuitry. At any one time, up to 256 (out of a possible 262,144) colors may be displayed on the screen. There are three different palettes: one for non-card games, one for card games, and one for logos. To view the different palettes, touch the appropriate button at the bottom of this screen.

**DISPLAY  
GAMPALET**

Touching this button displays the palette for Pulltab, Keno, Bingo and Lotto games

**DISPLAY  
CADPALET**

Touching this button displays the palette for card games (Poker and Blackjack).

**DISPLAY  
LOGPALET**

Touching this button displays the palette for the current logo



**COL DATA  
DISABLED**

**NOTE:**

The palettes will not reflect colors accurately unless an appropriate screen (card game, non-card game or logo) has been previously accessed and displayed.

This button is used to display the actual "formula" for each color in the palette. To view information for the card game palette, for example, touch the COL DATA DISABLED button, followed by the DISPLAY CRD-PALET button. Three sets of numbers will appear on each colored square. These numbers represent the amount of red (left column), green (middle column) and blue (right column) used to compose this particular color. See fig. 19.2.

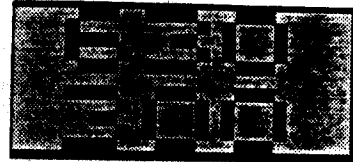


fig. 19.2

# Chapter 20 : Hardware Tests

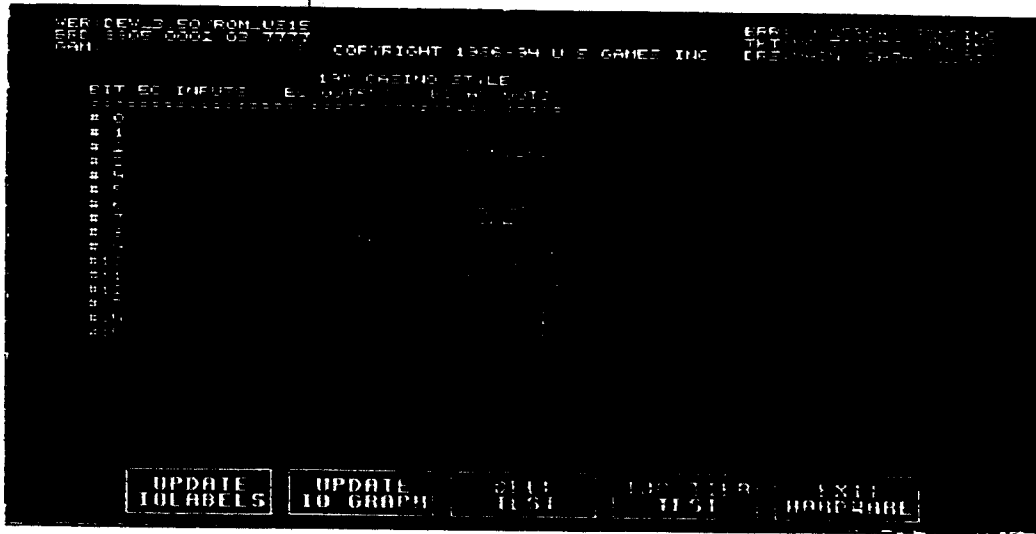


fig. 20.1

## Functional Description

## Functional Description

This screen shows the status of all the parallel I/O nodes, and has buttons which allow you to test the change candle and bell.

At the top of this screen, the cabinet type is shown in yellow. Beneath this, several columns are shown. From left to right they display: the bit number, the edge connector position of the specific input, the name of the input (e.g., Cash Door), the edge connector position of the output, the name of the output (e.g., Hopper Drive), the edge connector position of the auxiliary output, and the name of the auxiliary output. Note that various lamps and the change candle make up most of the auxiliary outputs. The five columns on the right side of this screen are used only by U.S. Games, Inc. software engineers.

### NOTE:

Labels shown in green indicate a low signal state, while labels shown in red indicate a high signal state. For example, when the MAIN DOOR input is shown in green, the system believes that the Main Door is open.

**UPDATE IOLABELS**

**UPDATE IO GRAPH**

**BELL TEST**

**TOP TIER TEST**

Touching this button will result in information being displayed in the form described above. (i.e., the machine will cycle through continuously, changing labels from red to green and vice versa as the states go high or low).

Touching this button will continuously display the above information in the form of a graph, as in fig. 20.2. The top third of the graph represents inputs, the middle third shows outputs, and the lower third shows auxiliary outputs, all as a function of time. While in this mode, the I/O labels will no longer change color.

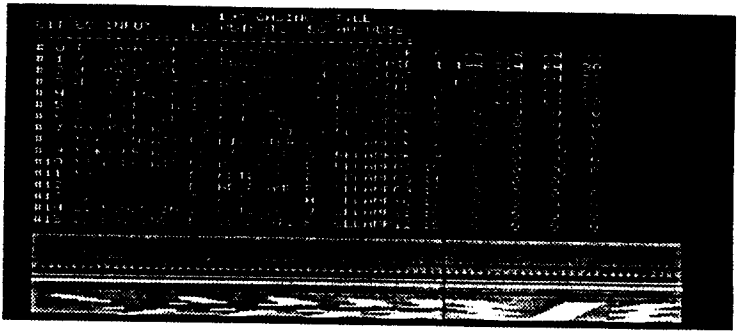


fig. 20.2

These two buttons are used to test the bell and the top tier of the change candle, respectively. Touching the appropriate button alternately toggles the output on and off.

# Chapter 21 : Memory Examine

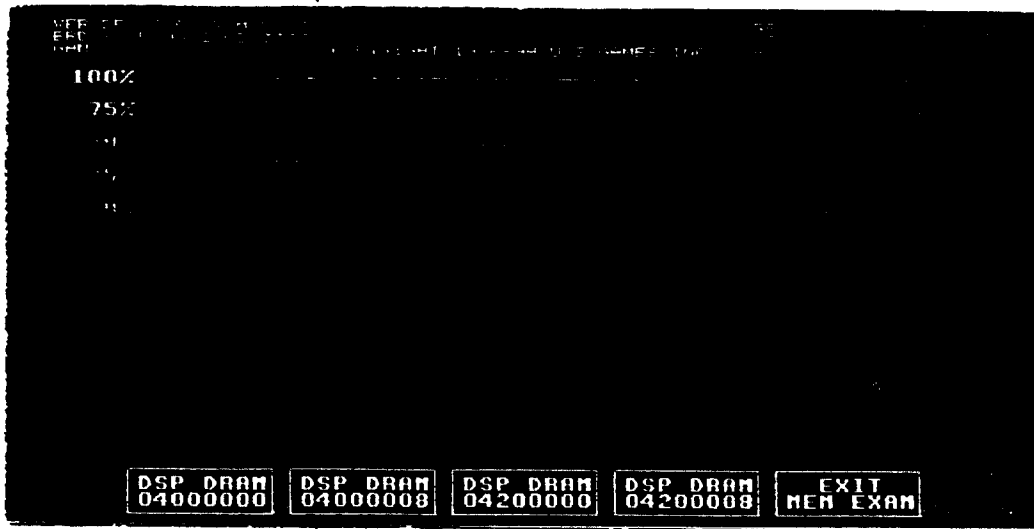


fig 21.1

## Functional Description

## Functional Description

This screen is used to view the contents of the system DRAM. When the screen is first accessed, the graph shown in fig. 21.1 is displayed. The position of the data on the scale of 0% to 100% indicates the amount of processing time being consumed by background tasks.

**DSP DRAM  
04000000**

Touching this button will show the logo most recently displayed in the Attract Mode. See fig. 21.2.



fig 21.2

### NOTE:

All graphics assets must first be decoded out in the Game Play Mode or the Attract Mode before they can be displayed here. For example, cards will not be displayed when you touch the DSP DRAM 04200000 button, unless a card game has been chosen from the Player Select Menu at least once.

**DSP DRAM  
04000008**

Touching this button will show various symbols associated with card games.

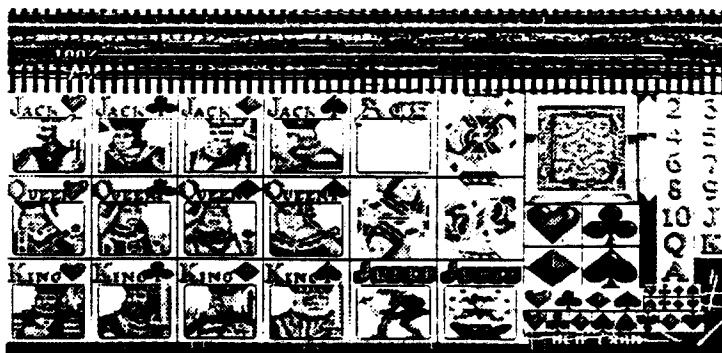


fig. 21.3

**DSP DRAM  
04200000**

Touching this button will display, at the top of the screen, the symbols of the most recently played pulltab game. At the bottom of the screen, cards from the most recent card game will be shown. See fig. 21.4.

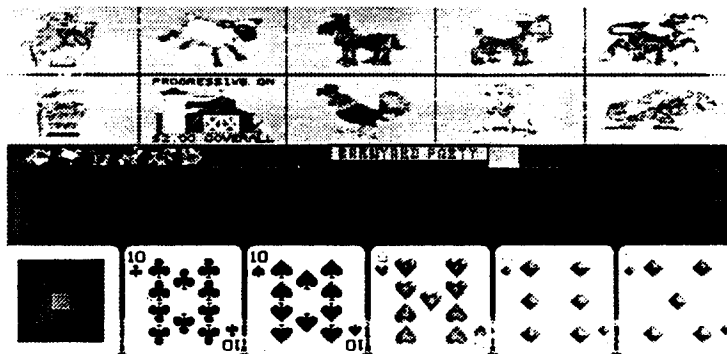


fig. 21.4

**DSP DRAM  
04200008**

Touching this button will display, at the top of the screen, the graphics associated with the most recent pulltab game. At the bottom of the screen, graphics associated with the most recent non-pulltab game are shown, as in fig. 21.5.



fig. 21.5

It is important to note here that colors shown in this screen may appear incorrect. For example, if the logo colors are correct, the colors of the card sets may appear strange. This is because all the colors are being shown in logo palette colors. To view the card set in the appropriate colors, you must select a card game from the Player Select Menu, then go back to the Memory Examine screen. The cards will now appear in the correct colors, but the logo will look strange. For more information on these colors, refer to Chapter 18, Palette Tests. Also note that it is perfectly normal for "garbage" to appear at the top of some of the screens. This is scratchpad data, not graphics.

1-800-448-4263

Chapter 21: Memory Examine

Software Reference

**3**  
**SECTION**

## Chapter 22 : Touch Screen

1-800-448-4263

Chapter 22: Touch Screen

Software Reference

SECTION 3

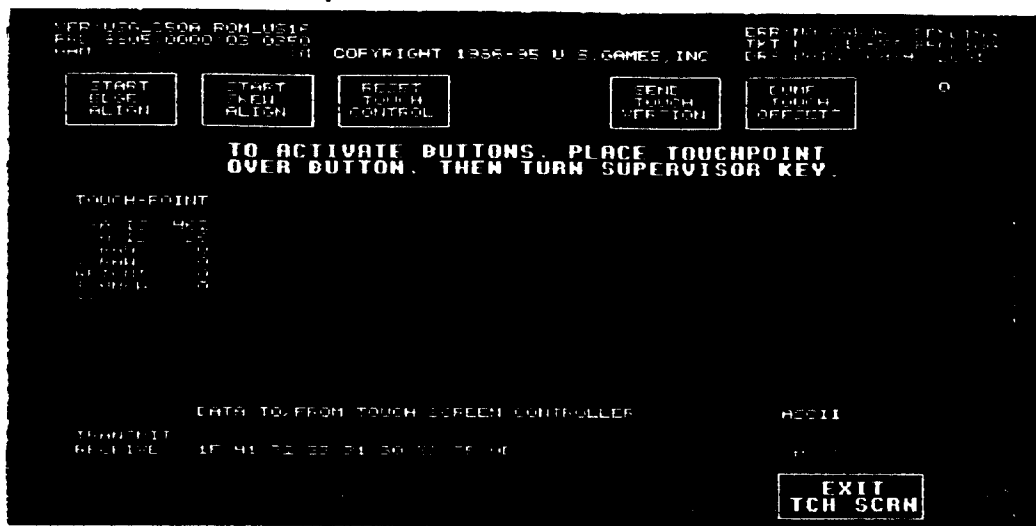


fig. 22.1

### Functional Description

### Functional Description

This screen allows you to test, diagnose and solve problems with the touchscreen. Fig. 22.1 shows the Touch Screen Tests screen for ISI touchscreens, while the Microtouch Tests screen is shown in fig. 22.7. The alignment testing procedure is the same for both ISI and Microtouch, but the actual alignment process differs.

To test the alignment of both the ISI and Microtouch screens, touch the screen square in the middle. You should see a white zero with a dot in the middle of it. This zero should come up right under your finger. Now touch near the upper left and right corners of the screen. Calibration errors are worst near the edges of the screen. When the machines are aligned in Atlanta, Georgia, they are very accurate. But major changes in humidity and other environmental conditions will cause mis-alignment

### Aligning the ISI Touchscreen

### Aligning the ISI Touchscreen

Touchscreen misalignment can be negligible to severe. If the screen is essentially aligned, you may skip the "Reset Touch Control" step described below

**NOTE:**

We recommend that you wait an additional thirty seconds after the "Reset Touch Control Complete" message appears before touching the screen again.

and proceed directly to "Start Skew Align." However, in extreme cases, the touchscreen may be so badly misaligned that you cannot exit your current screen or access the Touchscreen Tests screen. In that event, refer to the final portion of this chapter, "When the Screen does not Respond."

**Reset Touch Control**

If the screen is significantly misaligned or unstable, turn and hold the red key, then touch the "RESET TOUCH CONTROL" button at the top of this screen. To realign the touchscreen, follow this procedure:

- A. Touch the screen in such a way as to have the zero showing up on the Reset Touch Control button (as in fig. 22.2).



fig. 22.2

- B. Make sure that the last place you touch is over the button, then don't touch anymore.

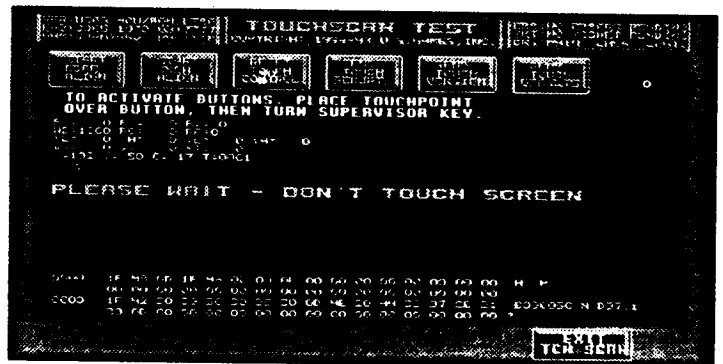


fig 22.3

- C. Momentarily engage the Supervisor's keyswitch. In the center of the screen, the words "Please Wait-Don't Touch Screen" will appear. (See fig. 22.3). Be very careful not to touch the screen. When the reset is complete, the words "Reset Touch Control Complete" will appear. Wait an additional 30



seconds before proceeding to Start Skew Align.

## Start Skew Align

To realign the touchscreen, follow this procedure:

A. Touch the screen in such a way as to have the zeros showing up on the START SKEW ALIGN button (as in fig. 22.4).



fig. 22.4

B. Make sure that the last place you touch is over the button, then don't touch anymore.

C. Momentarily engage the Supervisor's keyswitch. You will be brought to the Skew Alignment screen (See fig. 22.5). The only text on screen should read "SKEW PROMPT : 01."

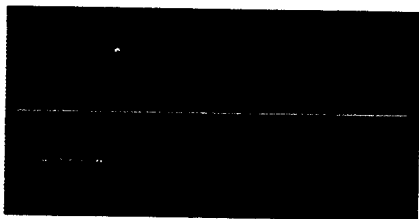


fig. 22.5

D. Temporarily close and lock the main door, being careful NOT to touch the screen. You should be standing square in front of the machine, not off to one side, and you should have your arms against your sides. With your active hand, reach out with your index finger only, and touch the screen for 1/2 second over where the two red lines intersect (half-way up the screen on the very left edge). If you were successful, the intersection should have moved over to the right side of the screen. The text should now say "SKEW PROMPT : 02." Refer to fig. 22.6 for the sequence of the skew prompts. There are 14 in all. Be sure not to touch anything with your inactive hand during the alignment procedure. The touchscreen is very sensitive in this mode.

**Aligning the Microtouch Touchscreen**

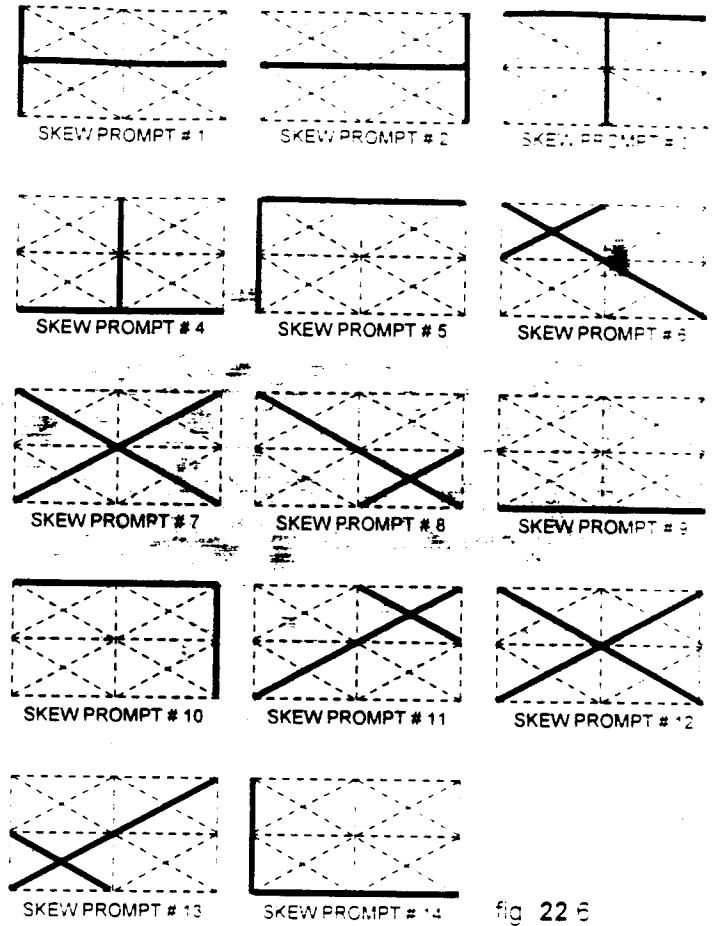


fig 22.6

Fig. 22.7 shows the Microtouch Touchscreen Tests screen. To perform an alignment, follow this procedure:

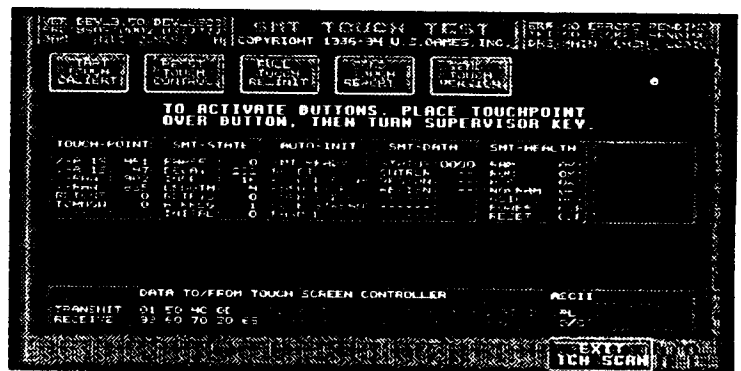


fig 22.7

A. Touch the screen so that the white zeros appear on the "START TOUCH CALIBRT" button (as in fig. 22.8).



fig. 22.8

B. Be sure that the last place you touch is over the button, then don't touch anymore.

C. Momentarily engage the Supervisor's keyswitch. You will be brought to the Touch Calibration screen. (See fig. 22.9). The only text on the screen should read "TOUCH SPOT TO CALIBRATE FIRST POINT."

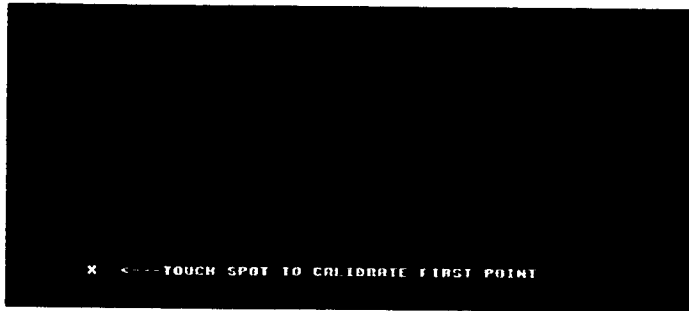


fig. 22.9

D. Temporarily close and lock the main door, being careful NOT to touch the screen. You should be standing square in front of the machine, not off to one side, and you should have your arms against your sides. With your active hand, reach out with your index finger only, and touch the screen for 1/2 second on the "X" mark, which appears near the bottom left corner of the screen. If the touch point was successful, the text should now read "TOUCH SPOT TO CALIBRATE SECOND POINT," and another "X" mark will appear near the upper right corner of the screen. Touch the mark as before. Be sure not to touch anything with your inactive hand during the alignment procedure as the touchscreen is very sensitive in this mode.

After the procedure is complete, you will be returned to the previous screen where you should test your work.

#### When the Screen does not Respond

Turn the machine off and set dipswitch number eight away from the board. Turn the machine back on, then turn and hold the red key while the machine goes

#### NOTE:

This discussion applies to both the Microtouch and ISI touchscreens.

through the Power Up Self Test. Continue holding the red key. The machine will bypass the Operator Menu and take you directly to the Touchscreen Tests screen where you can test the touchscreen. Be sure to release the key as soon as the test screen comes up, otherwise you will proceed on to the Skew Alignment Screen shown in fig. 22.5. To align the touchscreen, turn the red key again to bring up the Skew Alignment Screen. Follow the procedure as described in Item D of the Start Skew Align portion of this Chapter.

Any buttons not detailed in this chapter should be used only in consultation with a U.S. Games, Inc. technician.

## Chapter 23 : Monitor Adjust

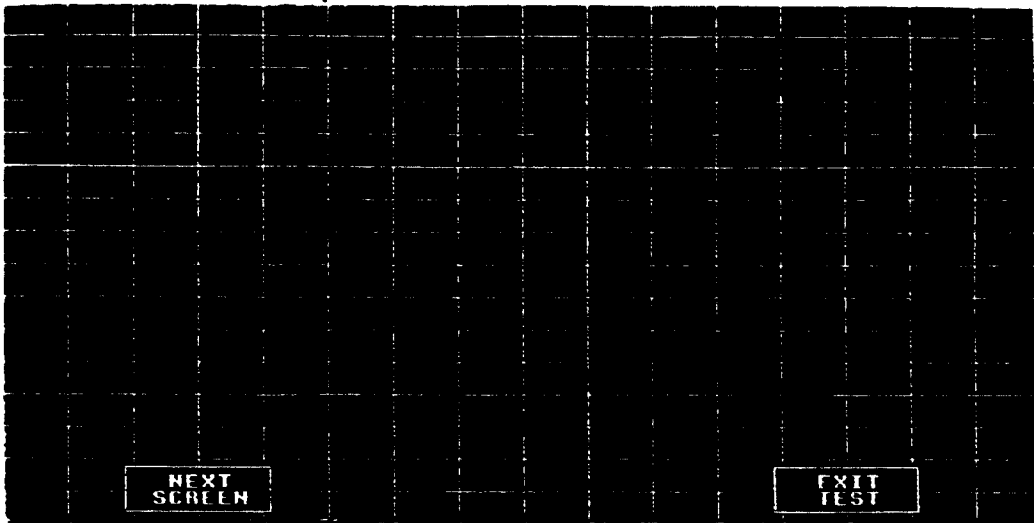


fig 23 1

### Functional Description

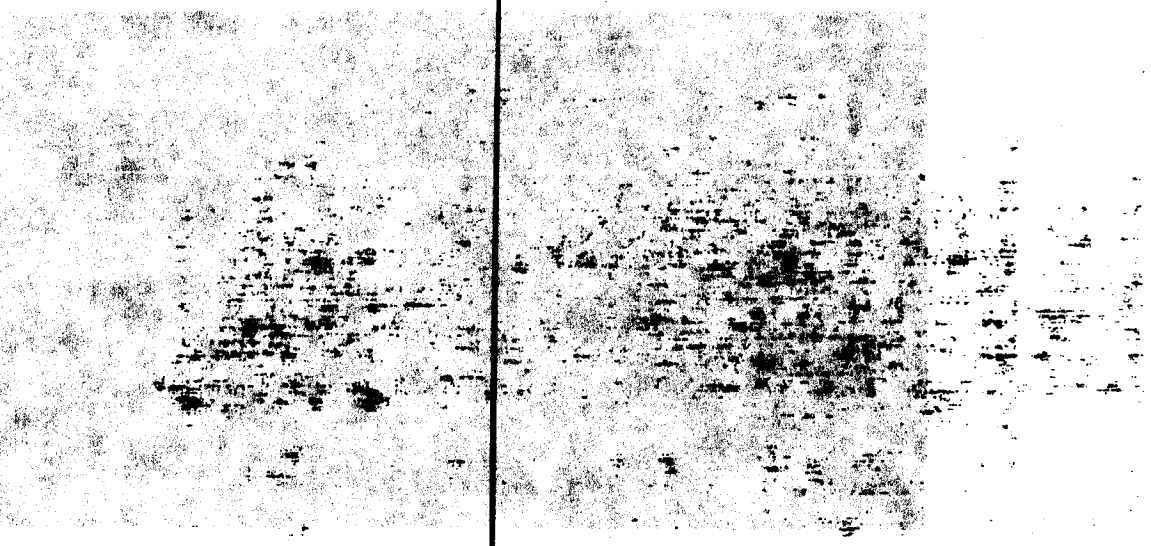
### Functional Description

This screen is used to properly align the picture on the monitor. Fig. 23.1 shows the screen that comes up when the Monitor Adjust gateway button is touched in the Operator Menu. Although there are eight other screens which can be accessed by pressing the "Next Screen" button shown at the bottom of fig 23 1, this first screen is the most useful.

Before attempting to align the touchscreen, the position and size of the picture must first be checked. (For more information on aligning the touchscreen, refer to Chapter 21). After touching the Monitor Adjust gateway button, observe the cross-hatch pattern shown in fig. 23.1. You should be able to see all four border lines and, with the door closed and locked, you should be able to touch just outside the four corners. If you cannot, you will need to adjust the image size and/or position.

To do this, locate the monitor's remote control board, which is mounted to the underside of the monitor shelf. Refer to fig. 23.2 for the location of each adjustment knob. The knobs control, from left to right, horizontal size, vertical size, vertical position, horizontal

position and master gain (brightness). Adjust the picture until it is correct. then exit back out to the Operator Menu to access the touchscreen alignment screen.



# Chapter 24 : Factory Tests

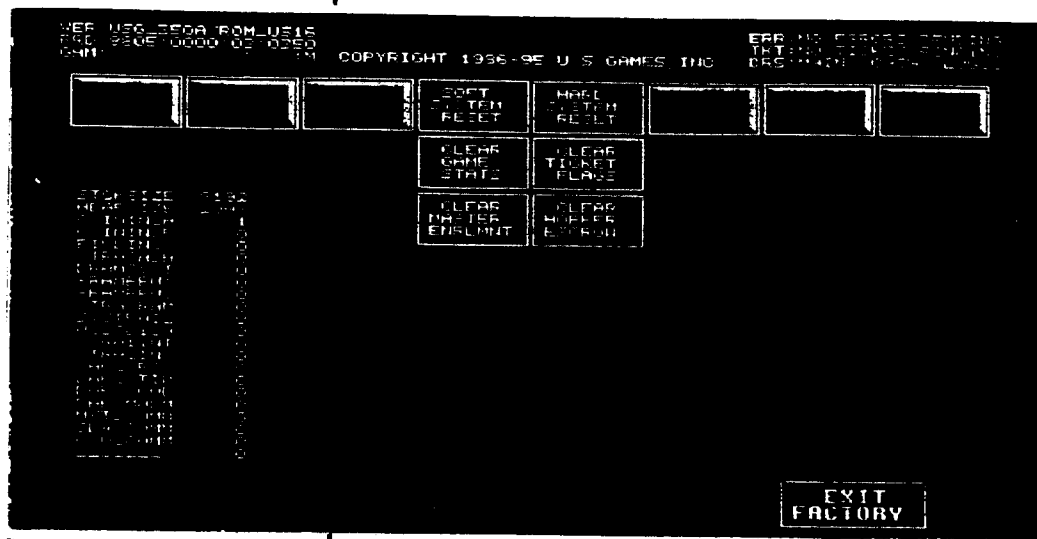


fig. 24.1

## Functional Description

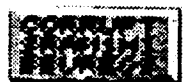
### Functional Description

This screen contains sensitive, highly volatile functions which, among other things, could completely wipe out the USG Data<sup>3</sup>. Note that this screen cannot be accessed from the Operator Menu unless dipswitch number eight is away from the board and the supervisor's key is used.

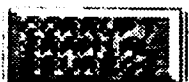
### Corrupting the Battery Backup Registers



This button is used to "corrupt," or wipe out, all data in the Accounting and Game Config registers *without affecting the pulltab deals*. To reset the registers turn and hold the red key, then touch the button



This button is used to reset the pulltab deals, without the loss of Accounting and Game Config data. The red key must be engaged to activate this button



Touch this button with the red key engaged to reset all the registers

Note that the three buttons at the top right of the screen are not currently used.

### Rebooting

There are two ways to reboot the system, without turning the machine off and then back on.



This button is used to reset the system software, a process that is analogous to pressing "CTRL/ALT/DEL" on a personal computer. When this button is touched with the red key engaged, the power up self tests screen will appear. The operator may confirm that the software is functioning properly by observing the results of tests on this screen.



This button is used to perform a hard system reset. Touching this button with the red key engaged allows the watchdog timer to overflow, resulting in a reset of the hardware components (e.g., the sound chip) on the T340 logic board. Again, this reset will bring up the power up self tests screen, and the operator may view the results of the various hardware component tests.

### Clearing Game Statistics



To clear or reset the game statistics in Game Config, turn and hold the red key, then touch this button. (For more information on the statistics stored in Game Config, refer to Chapter 5 of this section).

### Clearing Ticket Flags



Touching this button with the red key engaged will clear all ticket flags. This can be useful when, for example, there is a ticket pending but the machine has no printer.





### Clearing Master Enrollment Data

Touching this button will clear all Master Enrollment Data. The purpose of this function is to allow banks of machines to be moved and rearranged without clearing all of the Master machine's battery backed up memory.



### Clearing the Hopper Escrow Register

In the event that the hopper is unable to dispense coins, or if there is no hopper and the machine is attempting to payout via the hopper, touching this button will clear the credit in the Hopper Escrow Register. Since accounting and hard meters are adjusted only when coins are actually paid out by the hopper, neither of these is affected by touching this button.

After the button is touched, the machine will show a payout still pending. At this time, the hopper may be filled or repaired, or COUT\_TO in Terminal Config can be set to Printer to print a voucher. In any case, accounting will be done when the payout is made.