



1-410 632 4802



DIGITAL CONTROLS-404 441 3332

Digital Controls, Inc.  
5555 Oakbrook Parkway  
Suite 200  
Norcross, Georgia 30093

1404-555 1222



## TABLE OF CONTENTS

	<u>PAGE</u>
WARRANTY	1-2
INTRODUCTION	3
<u>SECTION 1-DESCRIPTIONS</u>	
1.1 General	5
1.2 Top Assembly	5
1.3 Base Plate Assembly	5
1.4 CPU Board Assembly	5
1.5 Switch Plate Assembly	6
1.6 Coin Mechanism	6
1.7 Coin Counter	6
1.8 Keyboard Assembly (Optional)	6
<u>SECTION 2-CHECK OUT PROCEDURES</u>	
2.1 General	7-9
<u>SECTION 3-OPERATION INSTRUCTIONS</u>	
3.1 General	11
3.2 Controls, Indicators, & Preliminary Routines	11
3.2.1 Controls	11
3.2.2 Indicators	11
3.2.3 Game and Player Selection Routines	12
3.2.4 Enter Bet Routine	12-13
3.3 Blackjack	13-14
3.4 Poker	14-15
3.5 Dice (Craps)	15-16
3.6 Hi-Lo	16-17
<u>SECTION 4-OPTIONAL OPERATIONS</u>	
4.1 General	19
4.2 Game Selection Options	19
4.3 Number of Hands Options	20
4.4 Costs Per Game Options	20
4.5 Fifty Cycle Operation	20
4.6 Automatic Play Option	20-21
4.7 Keyboard Option	21
4.8 Keyboard Operation	21-23
<u>SECTION 5-FAULT ISOLATION</u>	
5.1 General	25

	<u>PAGE</u>
<u>SECTION 6-MAINTENANCE</u>	
6.0 General	31
6.1 Accessibility	31
6.2 Top Assembly Removal	31
6.3 Adjustment Controls	31-32
6.3.1 Power Supply Controls	32
6.3.2 Neck Board Controls	32
6.3.3 Volumn Control	33
6.4 Removal and Replacement	33
6.4.1 Main Fuse	33
6.4.2 Button Lamps	33
6.4.3 Button Switches	33-34
6.4.4 CPU Assembly	34
6.4.5 Coin Mechanism	34
6.5 Theft Protection	35
 <u>SECTION 7-PARTS LISTS</u>	
7.1 General	37-45
 <u>LIST OF ILLUSTRATIONS</u>	
Figure 1-CPU Board Assembly	24
Figure 2-Coin Mechanism - Exploded View	36
Figure 3-"LITTLE CASINO" - Color CRT Block Diagram	47
Figure 4-"LITTLE CASINO" - Location of Adjustment Controls	48
 <u>LIST OF TABLES</u>	
Table 1 - "LITTLE CASINO" - Fault Isolation	26-29

**"LITTLE CASINO"**  
**MANUFACTURER'S LIMITED WARRANTY**

A. Digital Controls, Inc. (DCI) warrants "LITTLE CASINO" video game machines to be free of defects in materials and workmanship to the following extent only:

- (1) DCI warrants that all parts, (including fuses, lamps, and power cables) will be free from defects in materials and workmanship, under normal use and service, for a period of ninety (90) days from date of shipment by DCI.
- (2) This limited warranty does not apply to or cover any product that has been misused, mishandled, modified, or damaged by fire, flood, acts of God, or other casualties beyond the control of DCI. DCI shall also not be responsible for any damages that have resulted from the failure of purchaser to clean switches and adjust the coin rejecter, which are the obligations of purchaser.

B. The sole liability of DCI under this limited warranty shall be, at DCI's option, to repair or replace the product returned to DCI during the warranty period, provided that:

- (1) DCI is promptly notified upon discovery by purchaser that product is defective;
- (2) Said defective product is returned prepaid to DCI's plant located at 5555 Oakbrook Parkway, Suite 200, Norcross, Georgia 30093 and;

- (3) DCI's examination of said product discloses to its satisfaction that such alleged defects exist and were not caused by factors set forth in A. (2) above.

The product will be returned to purchaser, freight collect. For minor repairs that may be covered by this limited warranty, please contact distributor for service prior to shipment to factory since certain minor warranty repairs may be performed by distributor.

- C. DCI reserves the right to change, improve, or modify the "LITTLE CASINO" product and/or part or component thereof at any time without incurring any obligation to install the same on any units previously manufactured or sold. THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, GUARANTEES, OR AGREEMENTS, EXPRESSED, OR IMPLIED. NO OTHER PERSON, AGENT, AUTHORIZED SERVICE CENTER OR COMPANY IS AUTHORIZED TO CHANGE, MODIFY, OR EXTEND ITS TERMS IN ANY MANNER. In no event shall DCI be liable for loss of profits, loss of use, incidental or consequential damages. "LITTLE CASINO" is a registered trademark of Digital Controls, Inc.

## INTRODUCTION

Digital Controls, Inc. proudly welcomes you to the ever-growing list of thrilled "LITTLE CASINO II" owners.

"LITTLE CASINO II" is an exceptionally unique Color Video Game Machine which enables one or two players to play not one, not two, not three, but all four of the following Live Casino Games:

- A. BLACKJACK
- B. POKER
- C. DICE (CRAPS)
- D. HI-LO

"LITTLE CASINO II" arrives fully assembled, pre-tested, and ready for play.

"LITTLE CASINO II" can be installed on a bar, a table top, or any location because of the unique swivel base feature which allows for ease of accessibility, mounting, and theft protection.

Advanced technology, quality, durability, and attractiveness have been incorporated to provide many hours of fun and to ensure low maintenance and long life for "LITTLE CASINO II" Color Video Game Machines.

This manual provides operation and maintenance instructions for the "LITTLE CASINO II" Color Video Game Machines with serial numbers which include the letter "C" and above. All game rules, options, and odds charts are also included.

This manual and the software supplied with "LITTLE CASINO II" are copyrighted. All rights are reserved. Neither this document nor the software may be reproduced in any form without prior consent in writing from Digital Controls, Inc.





## SECTION I - DESCRIPTION

### 1.1 GENERAL

This section contains descriptions and leading particulars for the "LITTLE CASINO II" Video Game Machine. "LITTLE CASINO II" contains six major assemblies:

- A. Top Assembly (cabinet)
- B. Base Plate Assembly
- C. CPU Board Assembly
- D. Switch Plate Assembly
- E. Coin Mechanism
- F. Coin Counter
- G. Keyboard (optional)

All assemblies are easily visible and accessible when top is removed.

### 1.2 TOP ASSEMBLY

The Top Assembly (cabinet) not only serves as a cover for the machine, but also contains the Coin Mechanism, the Switch Plate Assembly, and miscellaneous hardware.

### 1.3 BASE PLATE ASSEMBLY (Bottom)

The Base Plate Assembly contains the Mother Board Assembly, Monitor Board, 10" Color CRT, Power Supply, Speaker, Swivel Mechanism, and other miscellaneous hardware.

### 1.4 CPU BOARD ASSEMBLY

The CPU Board Assembly is the heart of your machine. All game options, game programs, and sound generation are generated by the CPU Board, which contains a Microprocessor Chip, Sound Chip, Option Selection Switches, ROMS, Battery Back-up Circuit, and miscellaneous hardware.

1.5 SWITCH PLATE ASSEMBLY

The Switch Plate Assembly mounts in the lower front of the cabinet and contains five player push button controls and miscellaneous hardware.

1.6 COIN MECHANISM

The Coin Mechanism mounted in the Top Assembly, accepts proper coin deposits to begin play.

1.7 COIN COUNTER

The Coin Counter mechanically records the number of coins deposited.

1.8 KEYBOARD (Optional)

The Keyboard may be used to enter custom information for display such as advertising, special comments, scores of previous games, names of players, game records, etc.

## **SECTION 2 - CHECKOUT PROCEDURES**

### 2.1 GENERAL

Prior to operating your "LITTLE CASINO II" perform the following procedures:

- A. Remove "LITTLE CASINO II" from shipping container.
- B. Remove owner's manual and verify that the serial number of your machine is included in the serial numbers listed in the introduction.

#### **NOTE**

The Serial Numbers of your "LITTLE CASSINO II" are located on the outside of the rear door and on the inside of the coin box door. Prior to operating or maintaining your machine, verify that the Serial Numbers included in the owner's manual include the Serial Numbers of your "LITTLE CASINO II".

- C. Inspect for shipping damages, spare parts, and keys.
- D. Place "LITTLE CASINO II" on a firm, level surface; the unit should swivel evenly from side to side.
- E. Place the Power Switch (on rear of machine) to the OFF position (right).

### **WARNING**

Always exercise extreme caution when inserting the power cable into an AC outlet; do not touch AC plug contacts. The Warning Label on the rear cash box door indicates the proper power input required by each unit.

- F. Connect power cord to proper AC outlet; place Power Switch to the ON Position (left). Audible sounds and visual images in vivid color should be present within seconds.
- G. Observe the image you first see; it is a test pattern which indicates that "LITTLE CASINO II" is performing a memory test. After a few seconds, the test pattern gives way to the banner.
- H. "LITTLE CASINO II" is ready for play; see Operating Instructions.

### **NOTE**

Occasionally, due to rough shipments, minor adjustments or other maintenance may be required. For specific fault isolation and maintenance, see Sections 4 and 6 of this manual.

- I. If any of the preliminary procedures fail, notify your distributor for advice and assistance.



## SECTION 3 - OPERATING INSTRUCTIONS

### 3.1 GENERAL

"LITTLE CASINO II" enables one or two player(s) to play four Live Casino Type Games:

- A. BLACKJACK
- B. POKER
- C. DICE (CRAPS)
- D. HI-LO

### 3.2 CONTROLS, INDICATORS, AND PRELIMINARY ROUTINES

All four games utilize the same operating controls, indicators, and pre-game routines.

#### 3.2.1. CONTROLS

The five white Push-Button Switches (Buttons), located on the "LITTLE CASINO II" front panel, are the only controls required to play any of the skillfully pre-programmed games.

The Buttons are illuminated by red internal lamps whenever a selection is made or a response is solicited.

Since "LITTLE CASINO II" uses the same five controls for all games and options, no permanent labels are required.

#### 3.2.2. INDICATORS

The lower section of the screen displays signs to indicate each Button's current function. The action identifying signs appear directly over their corresponding Button. Un-lighted Buttons are not used to respond to current action.

### 3.2.3. GAME AND PLAYER SELECTION ROUTINES

When the first coin is inserted, "LITTLE CASINO II" instructs the player(s) to select one of the four games displayed on the screen. Inserting a second coin activates the two player option; the player(s) should press the appropriate Button for a one or two player game. Additional coins will be credited toward starting the next game(s). As many as fifteen game credits may be pre-deposited; each coin deposit is verified by a ringing sound. After selecting a one or two player game, each player is allocated a number of points and a number of hands of cards or rolls of dice (depending on the selected game).

### 3.2.4. ENTER BET ROUTINE

"LITTLE CASINO II" starts play by requesting player one to ENTER BET. All five buttons illuminate; each Button represents a different function. The function of the first three Buttons (left to right) are identified as 100's, 1,000's, and ALL respectively; these represent the betting denomination values. Each time one of the betting Buttons is depressed, the bet will increase by an increment of that denomination; for example, press the 1,000's Button three times to increase the bet by three



thousand. The ALL Button, obviously, bets all of the player's remaining points. The fourth Button (from the left) functions to cancel the bet whenever the player changes a decision or makes an entry error. The game does not allow a bet of more points than are available to the player. After the player has entered his bet, the fifth Button (from the left) functions to DEAL or ROLL. The fifth Button deals for POKER, BLACKJACK, and HI-LO and rolls for CRAPS. The game continues until all player(s) use all allocated points or play all allocated hands.

### 3.3. BLACKJACK

To play BLACKJACK, perform the following instructions: Deposit proper coin(s) and press BLACKJACK Button: press the illuminated DEAL Button. "LITTLE CASINO II" deals two hands; the dealer's and the player's. The dealer's hand is the lower AREA with the word DEALER to the left; the player's hand is in the upper AREA with the word PLAYER to the left. The dealer's first card is face down. After the cards are dealt, player one has the following five options:

- |    |          |  |
|----|----------|--|
| A. | HIT      | TAKE ONE MORE CARD   |
| B. | STAND    | TAKE NO MORE CARDS   |
| C. | DBL-DOWN | DOUBLE DOWN--TAKE<br>ONE MORE CARD AND<br>STAND WITH BET DOUBLED |

- D.        SPLIT        ALLOWS PLAYER TO PLAY  
TWO SEPARATE HANDS WHEN  
FIRST TWO CARDS ARE IDENT-  
ICAL (EXAMPLE: TWO JACKS;  
TWO FOUR(S); ETC.)
  
- E.        INSURE        THIS ALLOWS PLAYER TO  
INSURE BET AGAINST A  
DEALER BLACKJACK--ONLY  
ALLOWED WHEN THE DEALER  
HAS AN ACE SHOWING

After the player plays his hand, the dealer reveals his hand, draws (if necessary) and the winner is picked and points are paid. A BLACKJACK hand is worth one and one half (1½) times the points bet. If two players are playing, "LITTLE CASINO II" enables the second player to begin play now; otherwise, "LITTLE CASINO II" returns to the ENTER BET routine.

#### 3.4 POKER

"LITTLE CASINO II" plays five-card draw POKER where the player plays his hand against the odds. Two players cannot play against each other, but must play their hands against the odds table and then compare scores at the end of the game. To play POKER, deposit proper coin(s) and press POKER Button. Enter your bet and press the illuminated DEAL Button. "LITTLE CASSINO II" deals five cards. The player has time to observe the cards dealt to him and to choose from the options available to him; he may keep his entire hand or discard one, two, three, four, or all of his cards.

If the player's entire hand is satisfactory, pressing the PLAY Button instructs "LITTLE CASINO II" to evaluate the hand as it is and to give the appropriate number of points to the player;

however, if the player has some cards to discard and others to keep, each card must be evaluated separately. "LITTLE CASSINO II" individually flashes each card on the screen; the player responds to each flashing card by pressing either KEEP IT or DISCARD. If the player wants to discard all five cards, he simply hits the DISCARD Button when each card flashes on the screen. If the player wants to change his decision or finds that he has made an entry error, the CANCEL Button should be pressed to return the original hand--provided the PLAY Button has not already been pressed. When the player has responded to all cards, pressing the PLAY Button replaces all discarded cards with new cards. "LITTLE CASINO II" rates the hand and awards points as indicated by the following odds chart:

A.	ROYAL FLUSH	200 to 1
B.	STRAIGHT FLUSH	100 to 1
C.	FOUR OF A KIND	40 to 1
D.	FULL HOUSE	10 to 1
E.	FLUSH	8 to 1
F.	STRAIGHT	5 to 1
G.	THREE OF A KIND	3 to 1
H.	TWO PAIR	2 to 1
I.	ONE PAIR	1 to 1

After the hand is over and points have been awarded, player two begins the ENTER BET routine. After player two has completed his hand, the play returns to player one and so on.

### 3.5 DICE (CRAPS)

To play the game of CRAPS, deposit proper coin(s), press the CRAPS Button and the illuminated ROLL Button; "LITTLE CASINO II" rolls two dice. If the first roll is a seven or eleven, the player automatically wins. If the first roll is a two, three,

or a twelve, the player loses. If any other number comes up on the first roll, then the point made is the point to make in the following rolls. The player then bets on whether or not he will make his point. The dice will continue to roll until the point is made or until a seven comes up. If a seven is rolled before the player makes his point, he "craps out". If he bets WILL MAKE POINT and does not make the point, he loses. If he bets WILL MAKE POINT and does make the point, he wins. If he bets WON'T MAKE POINT and does not make the point, he wins. If he bets WON'T MAKE POINT and makes the point, he loses.

The game returns to the ENTER BET routine after the completion of every bet. Play continues until all rolls are used or until all points are lost. If two players are playing, they simply alternate turns until all rolls and/or points are spent.

### 3.6 HI-LO

Whenever HI-LO is the selected game, deposit coin(s) and press HI-LO Button; place an initial bet in the ENTER BET routine and press the DEAL Button. Three cards are dealt face down; the first and third cards are then turned over leaving the middle card unturned. The player must bet the chances of the middle card falling somewhere between the two cards showing and to place an additional bet accordingly. For example, if the two cards showing are a two and an ace (aces are always high), there is an eleven card spread between them. The chances are very good that the middle card will fall between the two and the ace. However, if another two or ace is dealt once the middle card is turned over, the player loses.

When placing an additional bet on the hand, the player has several options. He can bet in increments of 100 or 1,000 points, or he can DOUBLE his initial bet provided he has

enough points remaining to cover his bet. If the player does not think his hand is good, he can FOLD, which results in an automatic loss of half of the initial bet. If he thinks he may have a winning hand, but does not want to place another bet on it, he simply presses the DEAL Button. There are two types of hands that do not allow for additional bets. First, if the two cards showing are consecutive numbers, there is no card spread between them. Therefore, the hand is treated as an automatic loss, and the player loses his entire hand.

Secondly, if the two cards showing are the same number, they are labeled A PAIR and treated as a draw. The player gets his entire bet back, but that particular hand is counted as one that has been played. The one exception to this type of hand occurs when a pair of aces are dealt. The player then has the option to bet on the unturned card being another ace. If a third ace is revealed, the player is awarded the highest number of points allowed by the odds chart.

"LITTLE CASINO II" uses the following odds chart when awarding points:

A.	ONE-CARD SPREAD	-9 to 1
B.	TWO-CARD SPREAD	-5 to 1
C.	THREE-CARD SPREAD	-4 to 1
D.	FOUR-CARD SPREAD	-3 to 1
E.	FIVE-TO-ELEVEN CARD SPREAD	-2 to 1
F.	3 ACES	100 to 1



## SECTION 4 - OPTIONAL OPERATIONS

### 4.1 GENERAL

Your "LITTLE CASINO II" is pre-set to play all pre-programmed games; however, if you desire you may alter any of the following by simply changing switch position(s) of SW1, SW2, and SW3, on the CPU Assembly Board (see Figure 1):

- A. GAME SELECTION
- B. NUMBER OF HANDS PER GAME
- C. COST PER GAME
- D. FIFTY CYCLE OPERATION
- E. AUTOMATIC PLAY

### 4.2 GAME SELECTION OPTIONS

Game selections are controlled by the eight-switch DIP PACK, SW1. Game select switch designations are as follows:

SWITCH 1	NOT USED
SWITCH 2	BLACKJACK
SWITCH 3	CRAPS
SWITCH 4	POKER
SWITCH 5	GAME 5 (NOT READY)
SWITCH 6	NOT USED
SWITCH 7	HI-LO
SWITCH 8	BANNER SOUND

All switches are enabled when placed in the ON position and disabled when placed in the OFF position. Switches 2, 3, 4, 5, and 7 select which games your machine plays; Switch 8 controls the sound for the banner whenever the machine is in the idle mode.

#### 4.3 NUMBER OF HANDS OPTIONS

The number of hands to be played is controlled by Switches Number 1 and 2 of the eight-switch DIP PACK, SW2. The combinations of the first two switches for selecting number of hands to be played are as follows:

SWITCH #1 OFF - SWITCH #2 OFF - 3 HANDS  
SWITCH #1 ON - SWITCH #2 OFF - 4 HANDS  
SWITCH #1 OFF - SWITCH #2 ON - 5 HANDS  
SWITCH #1 ON - SWITCH #2 ON - 6 HANDS

#### 4.4 COST PER GAME OPTIONS

The cost per game is controlled by switches 3 and 4 of the eight-switch DIP PACK, SW2. The switch combinations for selecting the costs per game are as follows:

SWITCH #3 OFF - SWITCH #4 OFF - 25¢ PER GAME  
SWITCH #3 OFF - SWITCH #4 ON - 50¢ PER GAME  
SWITCH #3 ON - SWITCH #4 OFF - 25¢ FOR 2 GAMES  
SWITCH #3 ON - SWITCH #4 ON - 50¢ FOR 2 GAMES

#### 4.5 FIFTY CYCLE OPERATION

Whenever a fifty cycle input power source is used, place switch position 8 of SW2 in the ON position. Position 8 of SW2 is placed in the OFF position otherwise.

#### 4.6 AUTOMATIC PLAY OPTION

Whenever Position 8 of the eight-switch DIP PACK, SW3, is placed in the ON position, "LITTLE CASINO II" continuously plays automatically. In the automatic mode, all games consecutively play; all pre-programmed information will be displayed in the sequence in which programmed.



Player (operator) has no control over play until Position 8 of SW3 is placed in the OFF position.

#### 4.7 KEYBOARD OPTION

The optional Keyboard may be used to enter custom information for display by "LITTLE CASINO II". Advertising, scores of previous games, names of players, game records, jokes, etc. can be displayed when "LITTLE CASINO II" is in the Automatic Play (or Advertising) Mode.

#### 4.8 KEYBOARD OPERATION

Prior to operating the Keyboard, perform the following procedure:

- A. Place Power Switch in the OFF position.
- B. Connect Keyboard cable to the nine-pin Jack on the rear of "LITTLE CASINO II".
- C. Place power switch in the ON position.
- D. Observe top section of screen for display of message instruction codes and descriptions:

1. The following codes and descriptions should appear in top section of screen:

##### CODE - DESCRIPTIONS

C - CENTER LINE OF MESSAGE  
E -ERASE LINE OF MESSAGE  
R - REVIEW LINE OF MESSAGE  
T - TYPE IN LINE OF MESSAGE  
X - INTERCHANGE TWO MESSAGES  
Z - ZERO TOP TEN -- ELIMINATES ALL  
PREVIOUSLY ENTERED TOP TEN SCORES

- E. Select desired message location - fields 1 through 6.
- F. Confirm desired location by typing "y".
- G. Type desired message(s) in desired field.

NOTE

Move horizontal and vertical cursors  
to desired position of next character.

- H. Press RETURN when satisfied with message.

NOTE

If message is too lengthy for one  
field, enter message in fields 1 and  
2 consecutively or in fields 5 and 6  
consecutively.

- I. Disconnect Keyboard cable to resume normal operation.

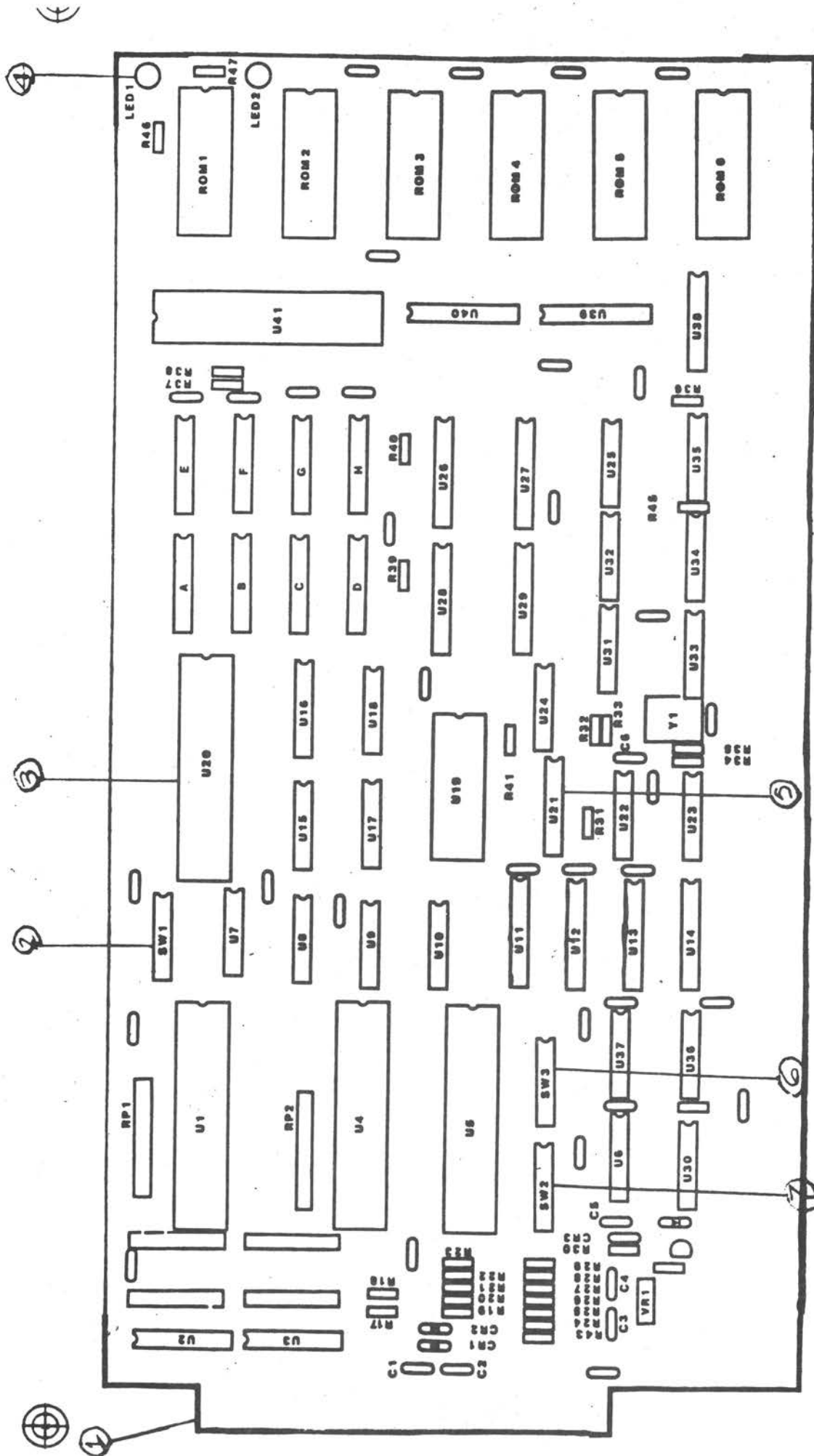
NOTE

Custom messages entered for display  
by "LITTLE CASINO II" during the  
advertising (Automatic Play) mode  
will be displayed as follows:

- A. Message(s) entered in fields  
1 and 2 will be displayed be-  
fore BLACKJACK when in  
the advertising mode.
- B. Message(s) entered in field  
3 will be displayed between  
BLACKJACK and POKER.

- C. Message(s) entered in field 4 will be displayed between POKER and CRAPS.
- D. Message(s) entered in fields 5 and 6 will be displayed between CRAPS and HI-LO.

FIGURE 1 - CPU BOARD ASSEMBLY



LEGEND

- 1. Board Connector
- 2. Game Select Switch (SW1)
- 3. CRT Chip
- 4. Program Monitor Lamp
- 5. Video Shift Register
- 6. Switch (SW3) Automatic play
- 7. Cost and Number of Hands Switch (SW2)

## SECTION 5 - FAULT ISOLATION

### 5.1 GENERAL

This section contains detailed information for fault isolation of your "LITTLE CASINO II". Although your machine is constructed to provide many trouble free hours of operation, occasionally maintenance is required.

Refer to Table 1, "LITTLE CASINO II" Fault Isolation, whenever a malfunction occurs, and perform the following procedure(s):

- A. Locate your malfunction indication in Column One of Table 1.
- B. Column Two shows the probable cause of your problem.
- C. Column Three gives suggested or most-likely repair(s); refer to Section 4 and 6 for location of controls and indicator; adjustment procedures; removal procedures and replacement procedures.

**TABLE 1 - "LITTLE CASINO II" FAULT ISOLATION**

<u>INDICATION</u>	<u>PROBABLE CAUSES</u>	<u>SUGGESTED REMEDIES</u>
1. No audible sound:	Power cord disconnected	Ensure cord is connected
	Blown fuse	Replace fuse (See Section 6.4)
	Power switch in <u>OFF</u> position	Place power switch to <u>ON</u> POSITION
2. Screen does not illuminate	Improper Brightness and Contrast Control Settings	Adjust Brightness Control Settings (See Section 6.3)
	Faulty Monitor Board	Replace Monitor Board
3. No Audible	Volume Control maladjusted	Adjust volume control to desired sound level (See Section 6.3)
	Faulty Speaker	Replace Speaker
	Faulty sound chip	Replace Chip
	Switch 8 on Game Selection Board is <u>OFF</u> OR FAULTY	Set switch to <u>ON</u> POSITION or replace faulty switch

<u>INDICATION</u>	<u>PROBABLE CAUSES</u>	<u>SUGGESTED REMEDIES</u>
4. Vertical roll	Improper Vertical Hold Setting	Adjust Vertical Hold Control (See Section 6.3)
5. Horizontal Instability	Improper Horizontal Hold Setting	Adjust Horizontal Control (See Section 6.3)
6. Misaligned picture (image)position on screen	Improper setting of one or all picture positioning controls	Adjust Controls as required (See Section 6.3)
7. Lamp (any) does not illuminate	Faulty bulb	Replace bulb (See Section 6.4.2.)
	Faulty Associated Switch	Replace Switch (See Section 6.4.3.)
8. Improper game selection	Improper switch position for internal selected game	Ensure that all Selection Switches are in <u>ON POSITION</u> (See Figure 1 and Section 4.1)
	Faulty Game Selection Switch(es)	Replace Internal Switch SW1 on CPU Board

<u>INDICATION</u>	<u>PROBABLE CAUSES</u>	<u>SUGGESTED REMEDIES</u>
9. Improper Number of Hands selection	Improper Switch position for internal Number of Hands switch	Ensure that all Number of Hands selection switches are in proper position (See Section 4.2 and Figure 1)
	Faulty Number of Hands selection switch	Replace faulty switch
10. Improper Cost Per Game	Improper switch position for Cost Per Game Switch	Place internal Cost Per Game switch in <u>ON</u> position
	Faulty Cost Per Game Switch	Replace faulty switch. (See Sections 4.3 and 6)
11. Improper Number of Player Selection	Faulty one or two player push button switch	Replace faulty switch (See Section 6)
12. No sound or erratic sound	Faulty sound chip	Replace sound chip
	Faulty speaker	Check speaker wiring; replace faulty speaker
13. Indications 9 & 10 exist simultaneously	Faulty sound chip	Replace sound chip



	<u>INDICATION</u>	<u>PROABLE CAUSES</u>	<u>SUGGESTED REMEDIES</u>
14.	Machine scores improperly	Faulty Sound Chip	Replace sound chip
15.	No images, but game continues to play with good sound and proper selection is possible	Faulty CRT Chip	Replace CRT Chip
		Faulty Video Shift Register	Replace Video Shift Register
16.	Games plays without player (operator)	Incorrect setting of internal switch (SW3)	Ensure switch SW3 Position 8 is in <u>OFF</u> position
17.	Top ten player names and scores do not remain for display	Faulty Battery Back-up circuit on CPU Board	Replace Battery on CPU Board
18.	Custom messages will not display	Faulty Battery Back-up circuit on CPU Board	Replace Battery on CPU Board; replace U4 on CPU Board
19.	Cannot enter custom messages from key board	Faulty key board cable;	Replace Cable
		Poor Key Board cable connection	Secure Connection
		Faulty Key Board	Replace Key Board



## SECTION 6 - MAINTENANCE

### 6.0 GENERAL

This section contains maintenance instructions for "LITTLE CASINO II". Whenever a malfunction occurs, refer to Table 1, Section 5, Fault Isolation. Table 1 provides fault indications, probable causes, and repairs; refer to the procedures in this section that are referenced in Column 3 of Table 1.

### 6.1 ACCESSIBILITY

All assemblies are easily accessible after removing the Top Assembly.

### 6.2 TOP ASSEMBLY REMOVAL

To remove the top, remove the eight screws on the bottom base plate and the three screws on the rear; disconnect the top from the metal base plate. Unplug the 16-pin ribbon cable connector from the socket on the mother board, then disconnect the two molex connectors from the mother board for complete separation of the cabinet from the metal base. The cables have sufficient length for the top to set alongside the base should you desire to keep the game in operation.

### 6.3 ADJUSTMENT CONTROLS (See Figure 4)

Ten adjustment controls are mounted on the monitor board. To gain access to the monitor board adjustment controls, open the right rear door of your machine. The controls, from top to bottom, are obviously visible, accessible, and labeled as follows:

(A) V. Size	Vertical Fine Tuning
(B) V. Hold	Vertical Sync
(C) H. SUB	Horizontal Linearity Adjustment
(D) H. POS	Moves entire Display Horizontally
(E) H. Size	Horizontal Fine Tuning
(F) V. POS	Moves Display Vertically
(G) BRIGHT	Fine Control for Brightness
(H) B	Fine tuning for BLUE
(I) G	Fine tuning for GREEN
(J) R	Fine tuning for RED

#### 6.3.1 POWER SUPPLY CONTROLS

The Power Supply contains a Screen Control and a Focus Control. The Screen Control is a coarse brightness adjustment; the Focus Control adjusts full screen sharpness. These controls are accessible through the hole in the bottom of base assembly (See figure 4).

#### 6.3.2. NECK BOARD CONTROLS

The Neck Board is a small PCB mounted around the yoke of the CRT. The three controls mounted on the Neck Board are coarse adjustments for RED, GREEN, and BLUE, respectively.

#### NOTE

Do not adjust controls on Neck Board; these controls have been factory pre-adjusted.

### 6.3.3. VOLUMN CONTROL

The volumn control varies the intensity of the audio; the volumn control is mounted on the base assembly to the lower left of the monitor board. Use a very small flat head screwdriver to adjust this control.

## 6.4 REMOVAL AND REPLACEMENT

### 6.4.1 MAIN FUSE

To replace the main fuse, disconnect the power cord, slide plastic fuse cover to left, and push the fuse pull switch to the left, fuse pops out. To install fuse, reverse removal procedure.

### 6.4.2. BUTTON LAMPS

If a Button Lamp fails during the starting banner, either the lamp is burned out or not making contact. To replace the lamp, remove the switch cover by inserting fingertips in grooves and pulling up. Fingernail grooves are provided on two sides to facilitate its removal. At this point, the lamp can be removed with a common straw or small long-nose pliers. Reverse the procedure for lamp replacement.

### 6.4.3. BUTTON SWITCHES

Front panel switch problems may be cleared by popping off the side of the switch and inspecting the switch contact blades for gapping or foreign particles. If the switch does require replacement, then the solder must be removed from the terminal lugs and the small

switch plate circuit board. The switch is released from the front panel by first removing the switch cap by grasping the fingernail grooves on the top and bottom, and pulling up and away from the panel. Next remove the bulb clip by flexing its two ears gently inward toward the bulb while pulling up on the clip. This will remove both the clip and the bulb simultaneously. There are now two screws visible. Using a regular screwdriver, back these screws out about four turns each. Then push down on the screws. The switch can now be removed through the front of the panel. When inserting the new switch through the panel, be sure to have the terminals aligned properly to facilitate repositioning the terminals. A small (25 watt) soldering iron is recommended to prevent overheating during soldering.

#### 6.4.4. CPU ASSEMBLY

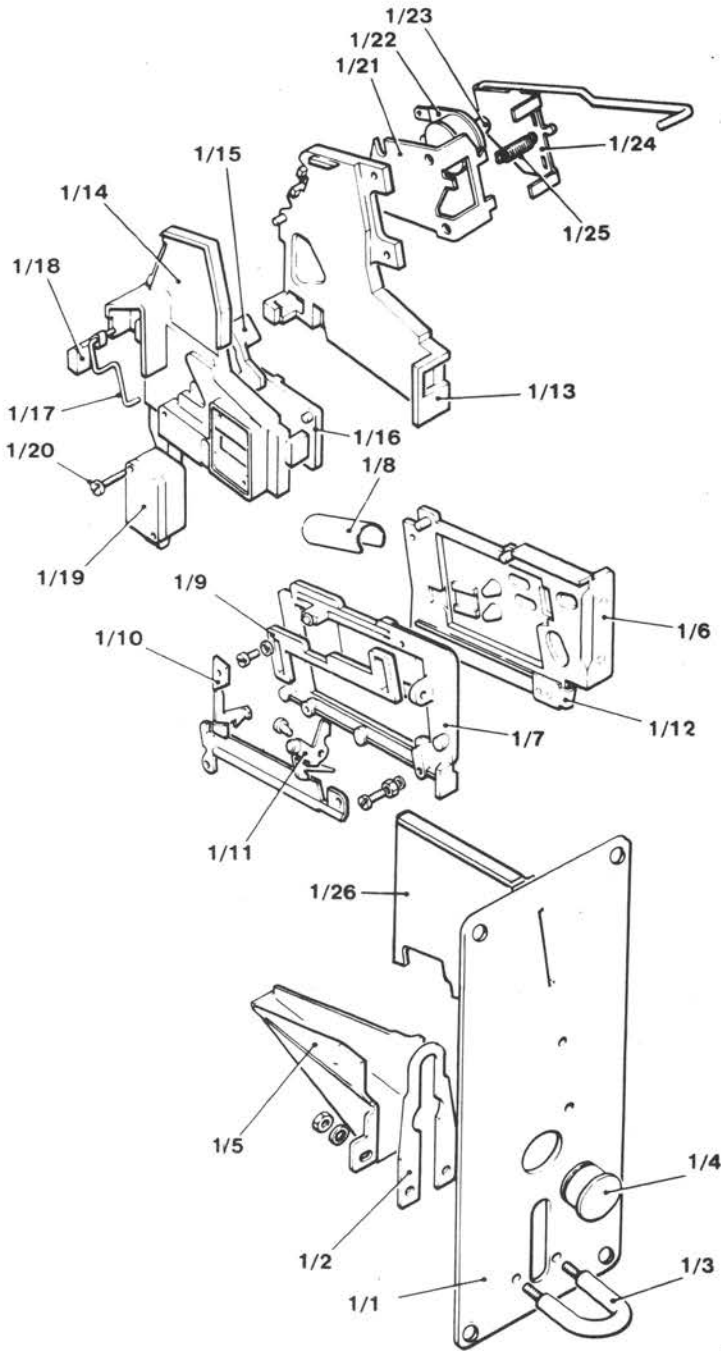
To remove CPU board, open the left rear door to gain access to the board. The board can be removed by pulling the cord holder; the CPU Board is vertically mounted on guides. (Disconnect the power cable prior to removing CPU Board).

#### 6.4.5. COIN MECHANISM

To remove the coin acceptor unit, remove the four Allen-head screws. The unit can then be pulled free and clear from the top assembly. To disassemble or reassemble the coin mechanism, see Figure 2.

6.5. THEFT PROTECTION

"LITTLE CASINO II" can be secured to a bar or countertop by attaching a cable or chain to the U bolt (located at the rear of the machine) and then secure the chain to the countertop or bar.



## PARTS LIST

- 1/1 Front plate (state coinage)
- 1/2 Button Spring
- 1/3 U Bolt
- 1/4 Button
- 1/5 Return Shute
- 1/6 Magnet Side (state coinage)
- 1/7 Swinging Side
- 1/8 Bulldog Spring
- 1/9 Slider
- 1/10 Anti-tilt leg
- 1/11 Washer catcher
- 1/12 Button Stop
- 1/13 Fixed Side (M/Sw Brkt)
- 1/14 Removable Side (M/Sw Brkt)
- 1/15 Interlock
- 1/16 Coin Guide
- 1/17 Cradle (state coinage)
- 1/18 Cradle weight (state coinage)
- 1/19 Microswitch (state coinage)
- 1/20 M/Sw Screws (2)
- 1/21 Lockout bracket
- 1/22 Lockout Coil (state voltage)
- 1/23 Pole Piece
- 1/24 Lockout arm (state type)
- 1/25 Lockout spring
- 1/26 Top entry

FIGURE 2 - COIN MECHANISM - EXPLODED VIEW



**SECTION 7 - PARTS LIST**

7.1. GENERAL

To order replacement parts or request repair services, contact your distributor. See the Parts List in this section for included spare parts and parts of all assemblies.

**INCLUDED SPARE PARTS**

<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QUANTITY</u>
900014	Push Button Lamps	2
900035	Fuse (lamp)	1
800015	Allen Wrench	1
800001	Keys	2

TOP ASSEMBLY

<u>QUANTITY</u>	<u>DCI PART NUMBER</u>	<u>DESCRIPTION</u>
1X	050016	L.C.II Housing (Allied Plastics)
1X	050018	Switch Mounting Plate
1X	100013A	Switchplate P.C. Board (Red Mask)
3X	700001	Quick Connect Spade Lug
1X	700003	16 Pin Socket
10X	800007	Sharperts
10X	800008	Hex-Head 8-32 Screws X 1/2"
8X	800010	8 x 3/4 Phillips Screw Tushead
2X	800013	8 x 3/8 Phillips Head (Tapping)
	900005	Foam Strips
1X	900063	Coin Mechanism S-1 (Coin Controls, Ir.
5X	900064	01-421 Switch Body (E.A.O.)
5X	900066	01-9030 Lens (E.A.O.)
5X	900067	31-10.2 Red Boot (E.A.O.)
1X	900071B	Switchplate Over- lay 1 Blue Serigraph
1X	900071G	Switchplate Over- lay 1 Green Serigraph
5X	900073	01-903.1 12V Lamp (E.A.O.)
2X	950020	Serial Number Plate
1X	950050	End-cap Set
1X	950052	Shipping Box
1X	950053	"LITTLE CASINO II" Owner's Manual

BASE PLATE ASSEMBLY

<u>QUANTITY</u>	<u>DCI PART NUMBER</u>	<u>DESCRIPTION</u>
30"	010009	16 Conductor Ribbon Cable & Connector
1X	050017	Baseplate Unit (Mowtron)
1X	500002	Audio Gain Control 250K ohn 1 Watt
1X	650005	Isolation transformer Triad N-68X
2X	800001	Cam Lock
25X	800003	Fork Terminal #6 Stud; 22-16 AWG
1X	800005	U-Bolt
8X	800006	8-32 Hex Nuts
2X	800009	6-32 Hex Nuts
2X	800011	6-32 x 3/8" Pan Head Screw
4X	800016	4-40 Hex Nut
8X	800024	#6 Split Lock Washer
2X	800025	RA853 #6 Stud Size 22-18 AWG Insulated Ring Terminal
	900001	Try Wrap
	*900007	
	900003	Ty Down
4X	900006	Bumpons
3X	900013	Card Guide
	*900019	
1X	900024	SU2E1 Rotron Fan
2X	900025	Terminal Block 4-140
1X	900035	Fuse 3AG 1A slo-Blo
1X	900047	Power On/Off Switch

BASE PLATE ASSEMBLY

<u>QUANTITY</u>	<u>DCI PART NUMBER</u>	<u>DESCRIPTION</u>
1X	900059	32 ohn 1.5 Watt Speaker (Sampo)
1X	900068 *900075	EMI Line Filter Potter 7100-0003
1X	900077	Color Monitor, 10" SANWA
1X	950043	AC Line Cord (Double Molded)
1X	*900007	Coin Counter
1X	*900019	Lazy Susan Turn Tables
1X	*900075	Switching Power Supply- Chainwood FSC 603B
2X		½" 4-40 Bolt
2X		#4 Lock Washer
4X		10-32 Hex Nut
4X		#10 Flat Washer
4X		#10 Red Spacer
2X		4-40 x 3/8"
		#22 AWG Wire
		#18 AWG Wire
1X		Monitor Board- Supplied w/Color Monit
1X		RGB Connector- Supplied w/color Monit
1X		9 Pin D-Connector Socket Female for Keyboard
4X		Pins for Socket
1X		Fan Filter

CPU BOARD ASSEMBLY

<u>QUANTITY</u>	<u>DCI PART NUMBER</u>	<u>DESCRIPTION</u>
1X	100014B	Color L.C. CPU Board (Red Mask)
2X	200001	74LS00
2X	200002	74LS02
2X	200003	74LS04
1X	200004	74LS08
2X	200006	74LS27
2X	200007	74LS138
4X	200008	74LS157
1X	200009	74LS163
1X	200010	74LS166
2X	200011	74LS244
2X	200012	75LS245
2X	200013	74LS273
1X	200014	7404
1X	200015	7407
1X	200016	7425
1X	200017	Ay-3-8910
8X	200018	2114-3-RAM
1X	200019	SY6502
2X	200020	6821
1X	200021	2716 EPROM
1X	200022	TMS9937
1X	200023	74LS86
1X	200024	74LS175
6X	200026	2732A EPROM
1X	200042	75LS22
4X	200043	444 CMOS RAM
1X	250001	CA3081
2X	300004	2N2222 S.S. Metal TO-18

CPU BOARD ASSEMBLY

<u>QUANTITY</u>	<u>DCI PART NUMBER</u>	<u>DESCRIPTION</u>
1X	300005	2N2907A S.S. Metal TO18
3X	400001	In4001 Diode
2X	400006	In5817 (or SDI03) Schottky Barrier diode
2X	450001	1K Resistor Network
2X	450002	270 Resistor Network
1X	450002	2.2K $\frac{1}{4}$ Watt Resistor
1X	450003	1K ohn $\frac{1}{4}$ Watt Resistor
2X	440004	470 ohn $\frac{1}{4}$ Watt Re- sistor
6X	450005	10K ohn $\frac{1}{4}$ Watt Re- sistor
5X	450006	270 ohn $\frac{1}{4}$ Watt Re- sistor
3X	450015	1 ohn $\frac{1}{4}$ Watt Re- sistor
1X	440021	270K $\frac{1}{4}$ Watt Re- sistor
28X	550001	0.1 mf Cap
1X	600006	4.7 mf 16V Electrolytic Cap
1X	600007	1.0 mf 16V Elec- trolytic Cap (Radial Ids)
1X	600008	470 mf 16V Elec- trolytic Cap (Axial Ids)
14X	700002	14 Pin Socket
9X	700003	16 Pin Socket
12X	700004	18 Pin Socket
6X	700005	20 Pin Socket
7X	700006	24 Pin Socket

CPU BOARD ASSEMBLY

<u>QUANTITY</u>	<u>DCI PART NUMBER</u>	<u>DESCRIPTION</u>
5X	700007	40 Pin Socket
1X	900017	RED LED
1X	900018	Crystal
1X	900062	CR-1/3 NP Battery
1X	950047	5034 Card Ejector (Thermalloy)

MOTHER BOARD ASSEMBLY

<u>QUANTITY</u>	<u>DCI PART NUMBER</u>	<u>DESCRIPTION</u>
1X	050020	Mother Board Holder (Sheet-metal)
1X	100012B	Red Mask
1X	700003	16 Pin Dip Socket
1X	700008	50-44SN-1 Edge Connector
17X	700012	02-09-1116
6X	700013	02-09-2116
1X	700017	09-18-5032 MMM Socket Molex
1X	700018	09-18-5031 FMM Socket
1X	700019	09-18-5037 MFM Socket
1X	700020	09-18-5062 MMMMFM Socket
1X	700024	03-09-1063 6 Pin Molex Connector
1X	700036	09-18-5039 MBF Socket
1X	700037	09-18-5063 MFMMFM Socket



**KEYBOARD ASSEMBLY**

<b><u>QUANTITY</u></b>	<b><u>DCI PART NUMBER</u></b>	<b><u>DESCRIPTION</u></b>
1X	700040	9 Pin D-Connector Hood
1X	900050	DCI Logo, White or Clear
1X	900069	Keyboard (Maxi Switch 262100)
1X	900070	Keyboard Enclosure
1X		9 Pin D-Connector Plug
4X		Pins for Above



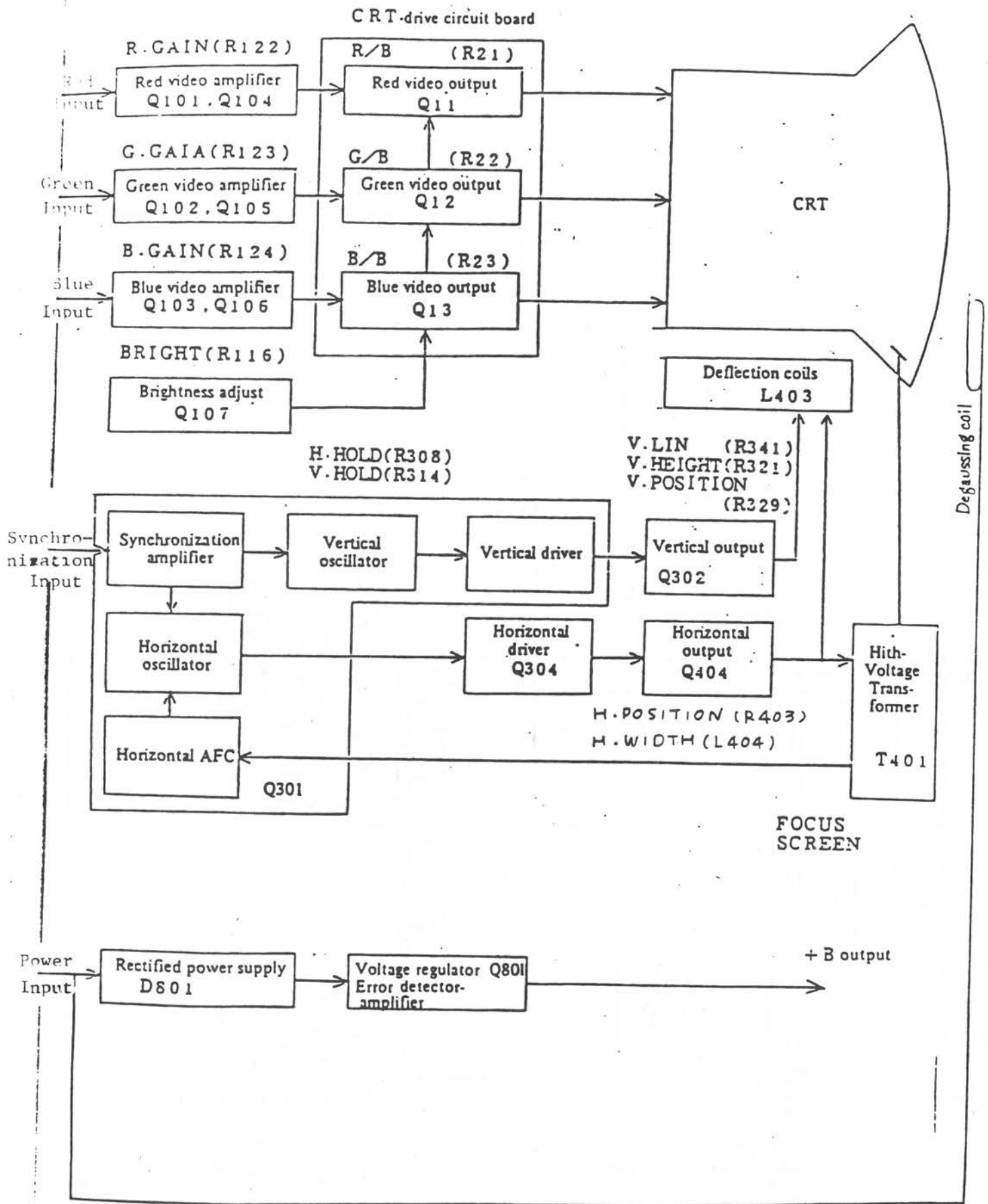


Figure 3 "LITTLE CASINO II" - COLOR CRT - BLOCK DIAGRAM

FIGURE 4 - "LITTLE CASINO II" LOCATION OF ADJUSTMENT CONTROLS

