



愛高實業(香港)有限公司  
HICO INDUSTRIAL (HK) LIMITED

**PRODUCT  
SPECIFICATION**

**5-in-1  
Casino Game**

Product Code:	HCS-G027-0
Version:	1.3
Date:	8 September 2004

**Hong Kong 香港**

22<sup>nd</sup> Floor, Delta House, 3 On Yiu Street, Siu Lek Yuen, Shatin, N. T., Hong Kong  
香港新界沙田小瀝源安耀街三號匯達大廈二十二樓  
Tel: 26486862 Fax: 26373691 Email: [hico@hico.com.hk](mailto:hico@hico.com.hk)

**Shenzhen 深圳**

16/F., Times Plaza, 1 Prince Road, Shekou, Shenzhen, China  
深圳蛇口太子路一號新時代廣場十六樓  
Tel: (0755)26812638 Fax: (0755)6817308 Email: [sales@sz.hico.com.hk](mailto:sales@sz.hico.com.hk)

**Shanghai 上海**

Level 22, HSBC Tower, 101 Yin Cheng East Road, Pudong, Shanghai, China 200120  
上海市浦東新區銀城東路 101 號匯豐大廈二十二樓，郵編：200120  
Tel: (021)68411900 Fax: (021)68411444 Email: [sales@sh.hico.com.hk](mailto:sales@sh.hico.com.hk)

Room 833, No. 8 Huajing Road, Waigaoqiao Free Trade Zone, Pudong, Shanghai, China 200131  
上海市浦東外高橋保稅區華京路八號八三三室，郵編：200131  
Tel: (021)50462088 Fax: (021)50460960



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22/F., DELTA HOUSE, 3 ON YIU STREET, SIU LEK YUEN, SHATIN, N.T., HONG KONG.

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*5-in-1 Casino Game (HCS-G027-0)*

## DOCUMENT HISTORY

Date	Product Code	Version	Approved by	Revision Details
8 Sept., 2004	HCS-G027-0	1.3		<ul style="list-style-type: none"><li>• LCD common/segment layout diagram added</li><li>• Circuit diagram revised (Rev. 1.2)</li></ul>
17 May, 2004	HCS-G027-0	1.2	<b>OBSOLETE</b>	<ul style="list-style-type: none"><li>• Updated Baccarat section</li><li>• Added Score Reset section</li></ul>
29 Apr., 2004	HCS-G027-0	1.1	<b>OBSOLETE</b>	<ul style="list-style-type: none"><li>• Revised circuit diagram</li><li>• Added Document History</li><li>• Changed Shenzhen office address</li><li>• Added Sound Effect section</li><li>• Updated Black Jack section</li></ul>
6 Nov., 2003	HCS-G027-0	1.0	<b>OBSOLETE</b>	Original version



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## **GENERAL DESCRIPTION**

The device is a single-chip micro-controller that is preprogrammed for LCD game application featuring five casino games: Black Jack, Poker, Baccarat, Deuces, and Slot Machine.

## **FEATURES**

- Game 1 Black Jack
- Game 2 Poker
- Game 3 Baccarat
- Game 4 Deuces
- Game 5 Slot Machine
- Operating voltage: 3 volts
- 9 buttons' operation
- Built-in LCD driver of ¼ duty ¼ bias at VLCD 3 volt
- Melodies and Sound effects



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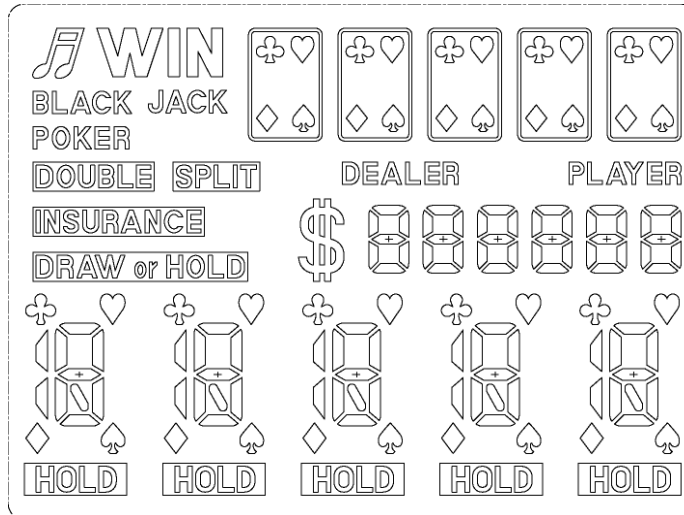
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## LCD PATTERN



Operating Voltage: 3V

Duty Cycle: 1/4

Bias: 1/4

Viewing Direction: 6 o'clock

Connection: Top and Bottom



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**KEY DESCRIPTIONS**

[On/Off] This key turns on or off the unit.

[Sound] This key turns on or off sound during game play.

[Game] This key allows player to select one of the five games: Black Jack, Poker, Baccarat, Slot Machine, and Deuces.

The display shows the following:

**SEL-1** represents Black Jack

**SEL-2** represents Poker

**SEL-3** represents Baccarat

**SEL-4** represents Deuces

**SEL-5** represents Slot Machine

[Start/Deal] When the player is selecting a game, press this key to start the selected game. During game play, press this key to draw a card.

[Key 1] ~ [Key 5]

Key	Making a bet	Black Jack	Poker	Baccarat	Deuces	Slot
Key 1		Insurance	Hold 1	Dealer	Hold 1	
Key 2			Hold 2	Tie	Hold 2	
Key 3		Double	Hold 3	Player	Hold 3	
Key 4	Bet Down	Stand	Hold 4	Bet Down	Hold 4	Bet Down
Key 5	Bet Up		Hold 5	Bet Up	Hold 5	Bet Up

When making a bet:

[Deal] Press [Deal] key to finish making a bet and start the game. If neither [Bet Up] or [Bet Down] is pressed, the previous amount will be used. The default amount is \$1.

[Bet Up] Press [Bet Up] to increase the bet by \$1. Maximum bet is \$100. Press and hold the key will auto-increment.

[Bet Down] Press [Bet Down] to decrease the bet by \$1. Minimum bet is \$1. Press and hold the key will auto-decrement.



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## OPERATIONAL INSTRUCTIONS

### 1. Power Up

When the unit is powered up or is reset, the default game is Black Jack and the default amount is \$2,000. Press [on/off] key to turn on or off the unit. If the unit is powered up after it has been shut down (i.e. by pressing [on/off] key), it will return to the previously selected game and player's amount will reset to \$2000.

The unit has an auto-off feature, which will automatically turn off the unit if there is no key activity for about 1 minute. Pressing [on/off] key will turn on the unit and the unit will return to its previous game state.

The following table summarizes the game state after power on:

	Power on after Reset	Power on after power off	Power on after Auto-off
Game	Black Jack	Previously selected	Resume previous game state
Amount	\$2000	\$2000	
Bet	\$1	\$1	

### 2. Make A Bet

When the dollar sign is flashing, the player can press [Bet Up] or [Bet Down] to show the bet last time. Player may press [Bet Up] to increase the bet by \$1 or press [Bet Down] to decrease the bet by \$1. Player may then press [Deal] to start the game. If neither [Bet Up] nor [Bet Down] is pressed when the game begins, the amount of bet from the previous game will be used. Player's amount will become the maximum bet if the player's amount is less than the bet.

### 3. Black Jack

Black Jack, or 21, is one of the most popular games in casino. The objective of Black Jack is that the player holds a hand value that is closer to 21 than that of the dealer, without going over 21.

In Black Jack, the cards are valued as follows:

- An Ace can count as either 1 or 11.
- The cards from 2 through 9 are valued as indicated.
- The 10, Jack, Queen, and King are all valued at 10.

The value of a hand is simply the sum of the point counts of each card in the hand. The suits of the cards do not have any meaning in the game. A black jack is a total of 21 in the first two cards.

Once the player makes the bet, dealer will deal the cards to player. Player and dealer have two cards each. One of the dealer's cards will be exposed, showing its value. The following scenarios may occur:



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a.) Insurance: If dealer's exposed card is an Ace, dealer will offer "insurance" to player. Since dealer has a great chance of having a black jack, player may place insurance bet 1 times of the original bet. If the dealer has black jack, all the bets will be returned to player. If dealer does not have black jack, player will lose the insurance bet and the game will continue.

b.) Double: If the player's hand is 11 in the first 2 cards, one can place a double bet 1 times of the original bet. If the player's 3 cards have a total value that is higher than that of the dealer, player wins twice the amount of the bet.

It is possible that both scenarios may occur at the same time. The flashing logo will tell if player has the option. The player may choose one of the options available, or may decide not to choose.

If none of the above scenarios occur, player may press [Deal] to draw another card or press [Stand] to stop at the current hand. Once player chooses to "stand", it will become dealer's turn. The dealer must draw cards if dealer's hand is less than 17. The dealer will "stand" at the value of 17 or larger. If the player has black jack or 5 cards not over 21, player will win immediately.

The following table summarizes the payoff:

Black jack	2× bet
5 cards not over 21	1× bet
Player's hand wins	1× bet

**4. Poker (Show Hand)**

Once the bet is made, the player will draw 5 cards. The logo "DRAW or HOLD" will flash. Player may use the 5 [Hold] buttons to choose the cards to hold. When player presses [Hold] button, the logo "HOLD" underneath the card will show. Player may press [Deal] to finish the selection. The cards that are chosen not be held will be replaced. The payoff will be based on the player's hand as follows:

Pair (Jacks or higher)	1× bet
Two pairs	2× bet
Three of a kind	3× bet
Straight	5× bet
Flush	8× bet
Full house	35× bet
Four of a kind	100× bet
Straight flush	500× bet
Royal flush	1000× bet



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**5. Baccarat**

The player has the option to choose either betting on the banker hand winning, the player hand winning, or a tie between the two. Once the player makes a bet, 4 cards will be dealt: player takes the first and third card and dealer takes the second and fourth card. The goal of the player's two-card hand is to try and have a total that is close to 9. Tens and face cards count as 0, with the exception of the ace, which is worth 1. Cards 2 through 9 are worth their face value.

If the first two cards of a hand total 8 or 9, the hand is declared a "natural" and wins. In this case, the third card will not be dealt. The third card will be dealt based on the following rules:

a.) Player

Player's first 2 cards equal 0 – 5

Player will draw third card

Player's first 2 cards equal 6 – 9

Player will not draw third card

b.) Banker

If player does not draw the third card:

Banker's hand equal 0 – 5

Banker will draw third card

Banker's hand equal 6 – 9

Banker will not draw third card

If player draws a third card:

When banker's first 2 cards equal	Banker draws third card if player's third card is:
3	A, 2, 3, 4, 5, 6, 7, 9, 10, J, Q, K
4	2, 3, 4, 5, 6, 7
5	4, 5, 6, 7
6	6, 7
When banker's first 2 cards equal	Banker will:
2 or less	Draw third card
7 to 9	Not draw third card

When banker's and player's hands have the same value, it will be a "tie" and the payoff for a tie is 8:1. If the player places a bet "BANK" or "PLAY", neither bet wins nor loses.

The display shows the following when placing a bet on:

Banker: Display shows "BANK."

Tie: Display shows "PUSH."

Player: Display shows "PLAY."

**6. Deuces**

Once the bet is made, the player will draw 5 cards. The logo "DRAW or HOLD" will flash. Player may use the 5 [Hold] buttons to choose the cards to hold. When player presses [Hold] button, the logo "HOLD" underneath the card will show. Player may press [Deal] to finish the selection. The cards





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that are chosen not be held will be replaced. The card that has a face value of 2 will be treated as wild card. The payoff will be based on the player's hand as follows:

Three of a kind	2× bet
Straight	4× bet
Flush	6× bet
Full house	10× bet
Four of a kind	10× bet
Straight flush	20× bet
Five of a kind	50× bet
Royal flush with 2's	100× bet
4 deuces	500× bet
Royal flush	1000× bet

**7. Slot Machine**

Once the bet is made, the player may press [Deal] to start the game. Segments 'a', 'd', 'g' simulate the spinning. When the spinning stops, the payoff is as follows:

BAR	BAR	BAR	500× bet
BAR	BAR	BAR	
BAR	BAR	BAR	
BAR	BAR	BAR	50× bet
BAR	BAR	BAR	
BAR	BAR	BAR	10× bet
ANY BAR	ANY BAR	ANY BAR	2× bet

**8. Sound Effect**

- Game start
- Lost in Blackjack or Baccarat
- Win in Blackjack or Baccarat
- Tie in Blackjack or Baccarat
- Game over (when score is less than or equal to 0)
- Shuffling cards
- Key tone
- Alert tone when bet reaches minimum or maximum
- Drawing cards



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- Adding score
- Hint alert tone for Poker and Deuce
- Win in Poker and Deuce
- Lost in Poker and Deuce
- Spinning of Slot Machine

**9. Score Reset**

When the score reaches the maximum value of \$999,999, it will reset to \$0 regardless of the state of the game.

**10. LCD Pattern Assignment**

The diagram illustrates LCD patterns for various game states and symbols. It includes:

- Melody:** A musical note icon.
- WIN:** Large text with a musical note icon.
- BLACK JACK POKER:** Text for the game name.
- DOUBLE SPLIT:** Text for a game action.
- INSURANCE:** Text with the abbreviation "INSUR".
- DRAW or HOLD:** Text with the abbreviation "DRAW".
- DEALER:** Text above a row of six dice (D1-D6) and a dollar sign symbol.
- PLAYER:** Text above a row of five dice (D7-D11).
- Hold Patterns:** Five dice configurations (H1-H5) with labels A1-A10 and B1-B10, and a "HOLD" button below each.



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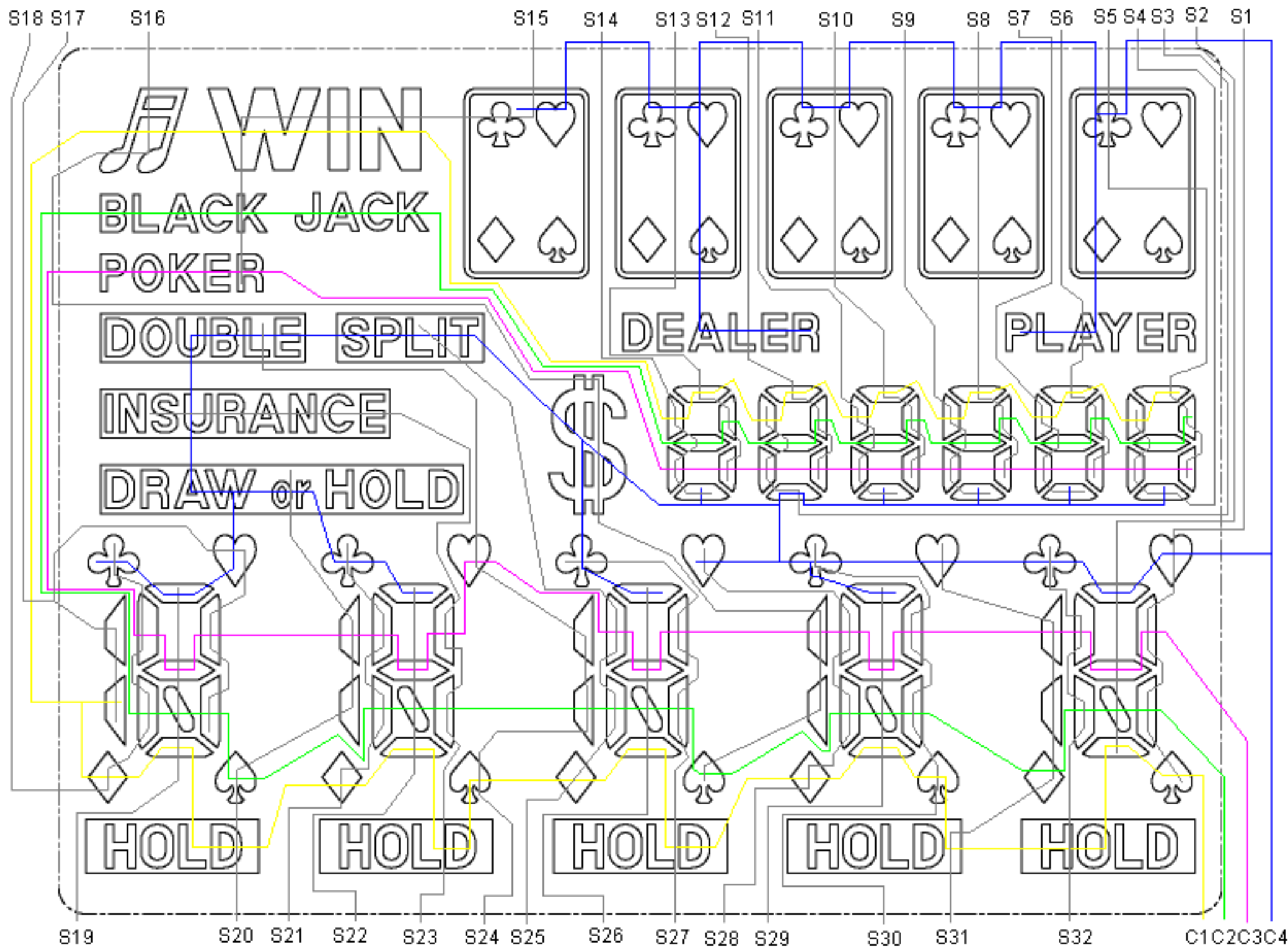
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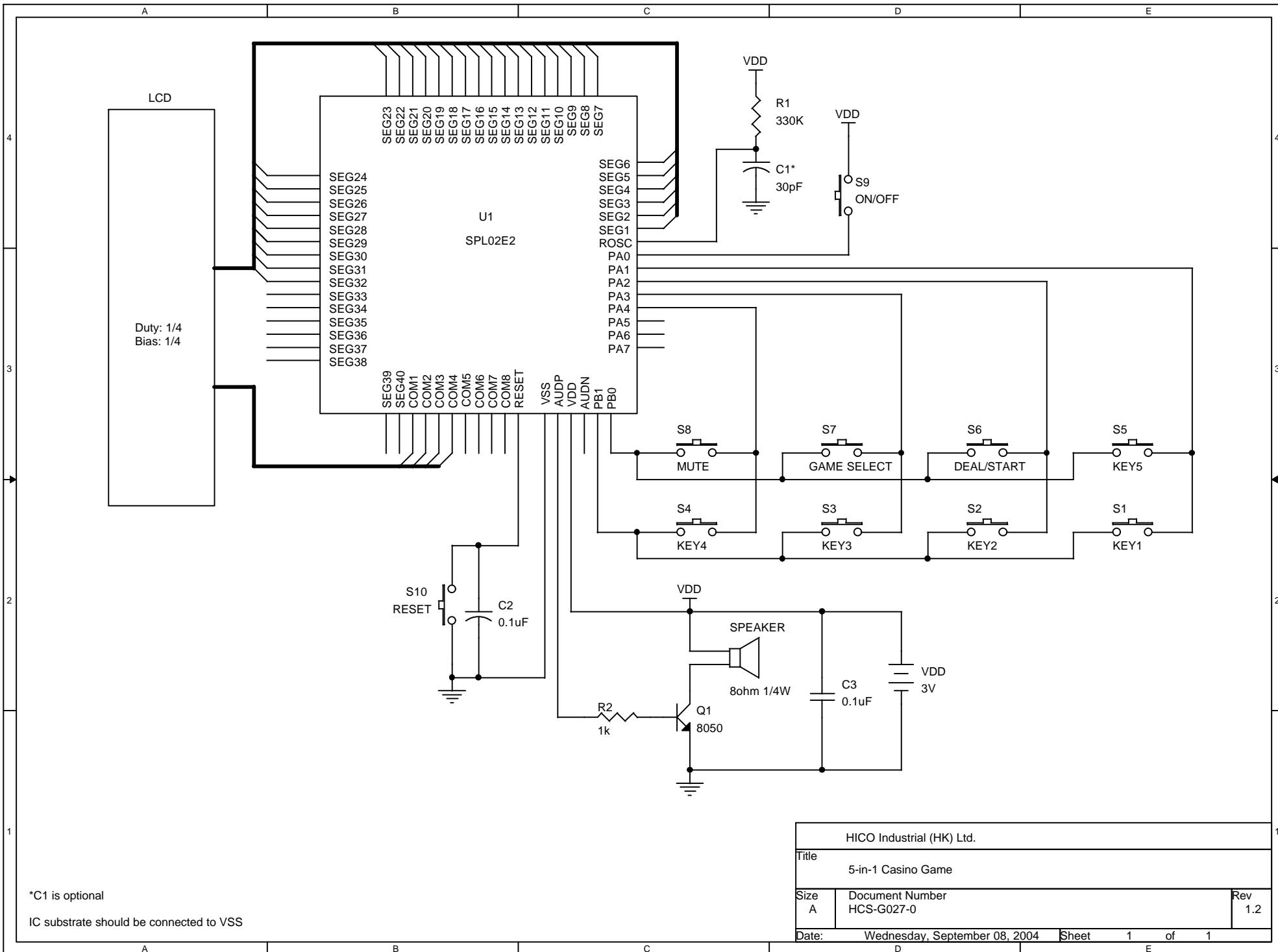
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LCD Assignment Table

Pad No.	LSI Name	COM1	COM2	COM3	COM4
1	SEG19	D7D	D7H	D7G	D7A
2	SEG20	H1	B2	E2	DRAW
3	SEG21	B3	D8E	D8F	A3
4	SEG22	D8D	D8H	D8G	D8A
5	SEG23	H2	D8C	D8B	INSUR
6	SEG24	B4	E3	A4	DOUBLE
7	SEG25	B5	D9E	D9F	SPLIT
8	SEG26	D9D	D9H	D9G	D9A
9	SEG27	H3	D9C	D9B	A5
10	SEG28	B7	D10E	D10F	A6
11	SEG29	D10D	D10H	D10G	D10A
12	SEG30	B8	D10C	D10B	A7
13	SEG31	H4	B9	E5	A8
14	SEG32	H5	D11E	D11F	A9
15	COM1	COM1	-	-	-
16	COM2	-	COM2	-	-
17	COM3	-	-	COM3	-
18	COM4	-	-	-	COM4
19	SEG1	B10	D11C	D11B	A10
20	SEG2	D11D	D11H	D11G	D11A
21	SEG3	D2F	D2G	D2E	D2D
22	SEG4	D6F	D6G	D6E	D6D
23	SEG5	D6A	D6B	D6C	T5
24	SEG6	D5A	D5B	D5C	PLAYER
25	SEG7	D5F	D5G	D5E	D5D
26	SEG8	D4A	D4B	D4C	T4
27	SEG9	D4F	D4G	D4E	D4D
28	SEG10	D3A	D3B	D3C	T3
29	SEG11	D3F	D3G	D3E	D3D
30	SEG12	D2A	D2B	D2C	DEALER
31	SEG13	D1A	D1B	D1C	T2
32	SEG14	D1F	D1G	D1E	D1D
33	SEG15	WIN	BJ	POKER	T1
34	SEG16	MELODY	B6	E4	DOLLAR
35	SEG17	E1	D7C	D7B	A2
36	SEG18	B1	D7E	D7F	A1





\*C1 is optional  
 IC substrate should be connected to VSS

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Size A	Document Number HCS-G027-0	Rev 1.2
Date:	Wednesday, September 08, 2004	Sheet 1 of 1