namco®

GREAT SLUGGERS™

Operators Manual

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Great Sluggers™

VIDEO GAME CONVERSION KIT

1.0 SPECIFICATIONS

GAME NAME	GREAT SLUGGERS™
MONITOR ORIENTATION:	Horizontal
CONVERSION OPTIONS:	2-Player upright
CONTROL PANEL TYPE:	2-player - 4 buttons per player
CONTROLS SUPPLIED WITH KIT:	
8-way Joystick	2
Start buttons	2
Game function buttons	6
EDGE CONNECTORS REQUIRED:	JAMMA Standard
	(56-pin edge connector, 3.96 mm pitch)
	(48-pin edge connector, 2.54 mm pitch
	Optional for stereo sound)
POWER SUPPLY REQUIRED:	+5 Volts DC @ 4.8 Amps
	+12 Volts DC @ 1.0 Amps

Note: Specifications may change without prior notice. Modification and/or alteration of the Great Sluggers™ game with kits or parts not supplied by NAMCO may void the warranty.

Use only a JAMMA standard harness, as any modification, such as filing the edges of the Printed Circuit Board, may cause operational problems and also void the warranty.

1.1 Game Description

Great Sluggers™ is a one or two-player interactive baseball game. The MLBPA logo on the game proudly displays NAMCO's right to use all major league players belonging to the Major League Baseball Players Association. A new addition to baseball games is the use of current 1994 team rosters. These up-to-date rosters feature hot new rookies and big trades that aren't included in games with old rosters!

Great Sluggers™ features an operator selectable "favorite team" from a list of 28 teams. This is generally the "hometown favorite" (no "favorite team" may also be selected). This feature slightly improves the performance of the selected team... something of a home field advantage!

After at least one game has been played, list called "Form of Today's Key Fielders" and "Form of Today's Key Pitchers" will appear in Attract mode. This list shows what players are "hot" or "in the zone." Smart players will keep their eyes on this data to get the edge on their opponent!

1.1.1 Game Modes

- 1-Player Game - Play against the computer. Pay by the inning.
- 2-Player Game - Play against the computer. Pay by the inning.
- 1-Player Complete Game - 9-inning discount (max. of 15 innings) for paying before game start.
- 2-Player Complete Game - Each receive a 9-inning discount (max. of 15 innings) for paying before game start.
- Season Mode - All games begin in the 7th inning. Win the final three games of the season, win all the divisional playoffs and go all the way to the World Championship!

1.1.2 Game Controls

Each player has:

- One Start button
- One 8-Way Joystick
- Three buttons for both at-bat and fielding situations

Pitching/Fielding - The joystick and buttons are used to pitch, pickoff runners, move fielders, throw or run to any base, and relieve pitchers.

Batting - The joystick and buttons are used to position the batter in the batters box, swing, steal, bunt, advance or return to any base, and call for a pinch hitter or pinch runner.

1.2 Game Play

At game start, the player(s) make the following choices:

1. Team selection
2. First at-bat
3. Starting pitcher
4. Batting order
5. "Fully-automatic" or "manual" fielding
6. "Traditional" or "Modern" stadium
7. Background music "BGM" or no background music "No BGM"

Great Sluggers™ includes some game play secrets for players to learn to get the upper hand on the opponent. Be observant!

Standard baseball rules apply. A game will be called if either player is winning by 20 runs. After completed games, the "NAMCO Sports News" reviews the game in summary and displays player statistics.

2.0 GAME CONVERSION OVERVIEW

The Great Sluggers™ kit allows conversion of most 2-player upright video game cabinets to a NAMCO Great Sluggers™ game. Conversion consists of several steps, including:

- Changing the Game PC Board
- Modifying the control panel
- Replacing the Marquee graphics panel
- Replacing the Cabinet side graphics

This manual provides step-by-step instructions for the conversion of existing games, and then describes the adjustments, tests, and troubleshooting associated with your new Great Sluggers™ game.

Before starting the conversion, familiarize yourself with 5-1 Location of Controls and Connectors on the Game PCB, Figure 5-2 Player Control Panel, and Tables 5-1 JAMMA Connector Wiring and 5-2 Extended Connector Wiring.

3.0 PRECAUTIONS

3.1 Installation Precautions

This game is designed for indoor use only. It should not be installed outdoors or under the following conditions:

1. In areas directly exposed to sunlight, high humidity, direct water contact, dust, high heat, or extreme cold.

2. In areas that would present an obstacle in case of emergency, i.e., near fire equipment or emergency exits.

3. On an unstable surface or subject to floor or other vibration.

3.2 Handling Precautions

1. AC Power should always be turned OFF, and the game unplugged, before replacing any parts.

2. When unplugging the game from an electrical outlet, always grasp the plug, not the line cord.

3. The cabinet should be grounded with a securely connected ground line.

4. The monitor includes areas of high voltage. Care should be taken at all times to avoid electrical shock whenever inspecting or adjusting the game.

5. DO NOT attempt to repair the Printed Circuit Board (PCB) on site. It contains sensitive integrated circuit chips that could easily be damaged by even the small internal voltage of a multi-meter. Always return the PCB to your distributor for any repairs.

6. Always return the levelers to the extreme "up" position before moving the game.

7. Adjustment is required whenever the game PCB is replaced.

4.0 INSPECTION

The Great Sluggers™ Kit carton should be inspected carefully upon receipt to insure that the kit is complete and was delivered in good condition. The complete kit should contain the following:

1. NAMCO Game Printed Circuit Board

2. FCC Foil Shield

3. New game controls:

    a. 8-way joystick   2

    b. Start button (white P1)   2

    c. Start button (white P2)   2

    d. Button 1 – (Red)   2

    e. Button 2 – (Blue)   2

    f. Button 3 – (White)   2

    g. Button ID Tags (A, B, & C)   6

4. Monitor Bezel

5. Monitor Bezel Instruction Panel

6. Control Panel

7. Header Decal

8. Cabinet side graphics (left and right sides)

9. 4 PCB Mounting feet

10. Ferrite Clamps and Housing

11. FCC Label

12. This manual

5.0 INSTALLATION

5.1   Electronics

```
                          Warning!

Be sure the power cord is disconnected before starting installation!
```

5.1.1   Installing the game PCB

1. Carefully disconnect the edge connector(s) from the existing game PCB.

2. Remove the existing game PCB from the cabinet.

3. Install the NAMCO Game PCB in the same location as the old PCB, using the mounting feet and hardware supplied with the kit.

4. Connect the JAMMA harness to the game PCB.

5. Install the FCC Foil Shield around the PCB.
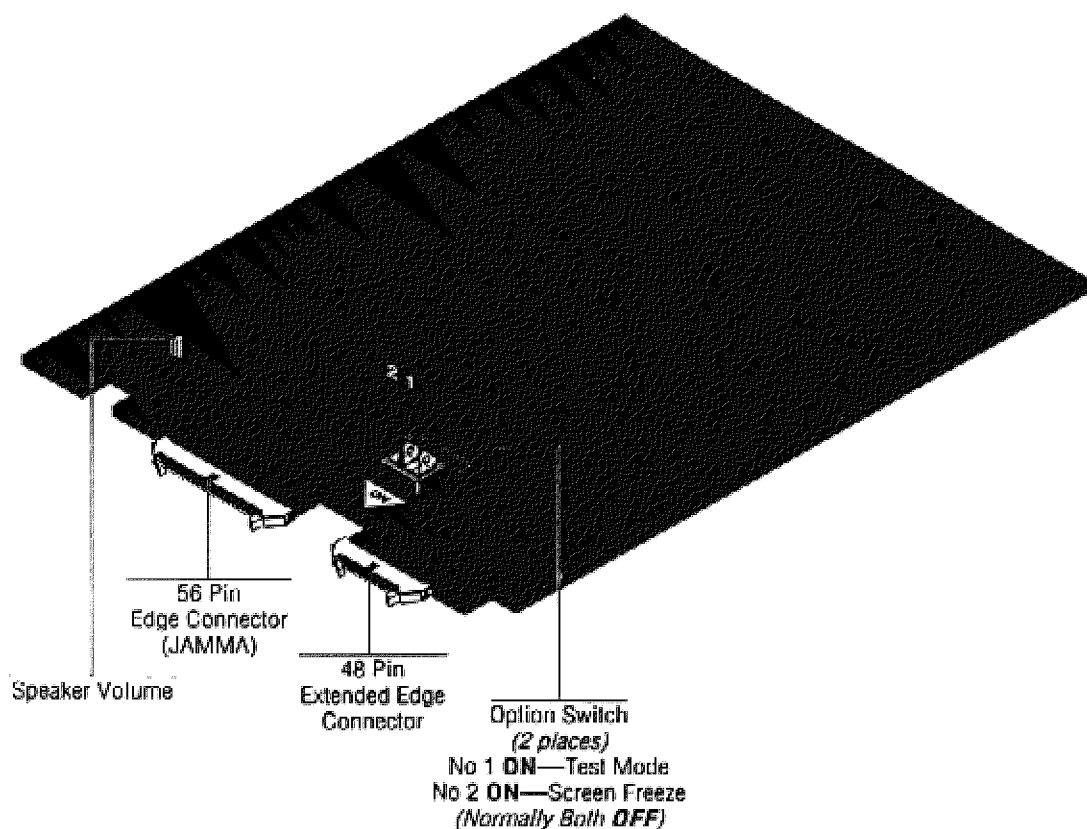
Figure 5-1 Location of Controls and Connectors on PCB

5.1.3 Connecting the speakers

1. The Speaker connection on the 56-pin JAMMA connector is for the Left
    Speaker only. Monaural cabinets use only the left speaker connection. Connect
    the wires from pins K and 10 of the JAMMA connector to the Left speaker, using
    the Yellow/Red wire to the positive (+) terminal, and the Yellow/Green wire to
    the negative (-) terminal.

2. On stereo cabinets, connect wires from pin A1 of the Extended (48-pin) connec-
    tor to positive (+) terminal of the Right speaker, and from B1 to the negative (-)
    terminal. Use a DDK 225-100242-2314 connector to mate with the 48-pin
    connector

3. If you are installing in a mono cabinet, enter Test Mode (by setting DIP SW1 to
    On) and select "Mono" from the Game Options Screen. Leaving the sound set to
    Stereo in a mono cabinet will not affect game playability.

Refer to Table 5-1 for more information regarding connector wiring.

5.1.4 Installing the FCC Ferrite Clamp

Open the Ferrite Clamp and install it around the JAMMA harness as close to the
Game PCB as possible.

5.2   Player Controls

Player 2, START Button

Player 1, START Button

Player 1, Joystick

Player 1, Button 1

Player 1, Button 2

Player 1, Button 3

Player 2, Button 1

Player 2, Button 2

Player 2, Button 3

Player 2, Joystick
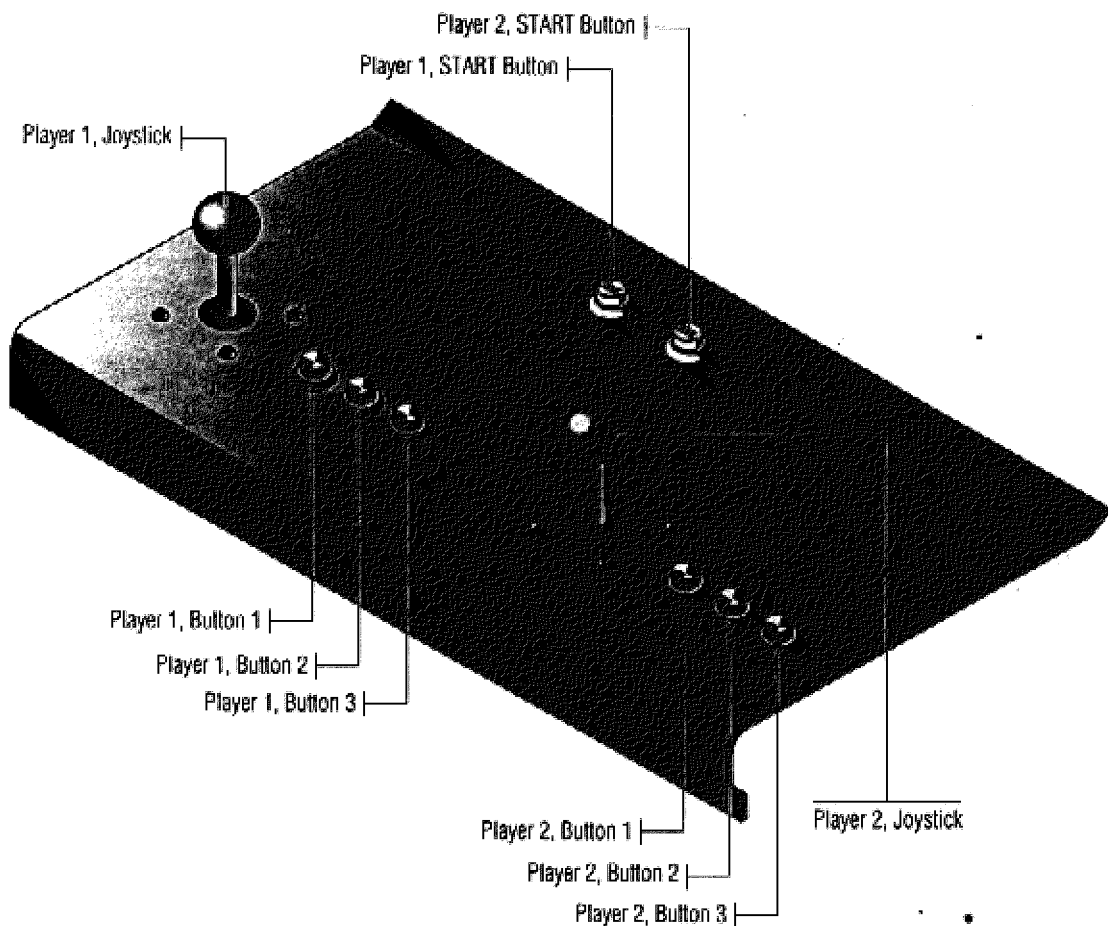
Figure 5-2 Player Control Panel

5.2.1   Modifying the control panel

1. Remove the overlay from the old control panel to provide a smooth clean surface on which to mount the new overlay.

2. Apply the Control Panel Overlay from the kit, and cut openings in it to match the control panel holes.

3. As an option, cut a piece of acrylic as shown in Figure 5-2, or use the existing cabinet control panel as a guide.

4. Using the Control Panel Overlay as a guide, cut and drill mounting holes for the Start buttons, Joysticks, and Player buttons.

5. Mount the Start Buttons, Joysticks, and Player Buttons as shown in Figure 5-2. Remember to place the Button ID Tags on the Buttons before mounting them. Besure to install the ID Tags because the game instructions refer to them.

5.2.2   Wiring the Control Panel

Connect the JAMMA wiring harness to the controls as shown in Table 5-1.

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Solder Side		Terminal		Component Side	
Wire Color	Description			Description	Wire Color
Black	GND	A	1	GND	Black
Black	GND	B	2	GND	Black
Red	+5 VDC	C	3	+5 VDC	Red
Red	+5 VDC	D	4	+5 VDC	Red
Yello	-5 VDC	E	5	-5 VDC	Yello
Orange	+12 VDC	F	6	+12 VDC	Orange
	Key	H	7	Key	
Blue/Green	Coin Counter 2	J	8	Coin Counter 1	Red/Green
Blue/Red	*Coin Lockout 2	K	9	*Coin Lockout 1	Green/Red
Yellow/Green	Left Speaker (-)	L	10	Left Speaker (+)	Yellow/Red
White/Green	Audio Gnd	M	11	Audio Gnd	White/Red
Green/Black	Video Green	N	12	Video Red	Red/Black
White	Video Sync	P	13	Video Blue	Blue/Black
Orange/Black	Service Switch 1	R	14	Video Gnd	Whit/Black
Green	*Tilt switch	S	15	Test Mode	Blue
Green/Blue	Coin Switch 2	T	16	Coin Switch 1	Red/Blue
Red/Yellow	2P Start Switch	U	17	1P Start Switch	Red/White
Green/Yellow	2P Up	V	18	1P Up	Green/White
Blue/Yellow	2P Down	W	19	1P Down	Blue/White
Black/Yellow	2P Left	X	20	1P Left	Black/White
Violet/Yellow	2P Right	Y	21	1P Right	Violet/White
Brown/Yellow	2P Button 1	Z	22	1P Button 1	Brown/White
White/Yellow	2P Button 2	a	23	1P Button 2	Yellow/White
Orange/Yellow	2P Button 3	b	24	1P Button 3	Orange/White
Gray/Yellow	2P Button 4	c	25	1P Button 4	Gray/White
Yellow/Black	*Service Switch 2	d	26	Undefined	
Black	GND	e	27	GND	Black
Black	GND	f	28	GND	Black

Table 5-1 JAMMA Connector Wiring

5.3   Graphics

> **NOTE:**
>
> **The pressure sensitive decals have a protective covering on their backs which must be removed before applying. Take care regarding the position of the decals as they stick very tightly and, once they have been applied, cannot be easily removed.**

5.3.1 Marquee Panel

1. Remove the existing marquee panel.

2. Trim the NAMCO GREAT SLUGGERS™ marquee to match the size of the existing marquee panel.

3. Place the NAMCO GREAT SLUGGERS™ marquee behind the acrylic marquee panel, and tape it at the top and bottom to secure it in place.

4. Replace the marquee and acrylic and mount securely with the existing cabinet hardware.

5.3.2 Monitor Bezel

1. Remove the glass panel protecting the monitor and remove the existing monitor bezel.

2. The new screen bezel is pre-printed on the back with guidelines for cutting out an opening based on most common game screens. Using the appropriate guidelines, or the old monitor bezel, cut the opening for the monitor.

3. Place the new screen bezel over the monitor face and add the NAMCO GREAT SLUGGERS™ Game Play instructions to the bezel. If possible, locate the instructions on the bezel below the monitor.

4. Replace the protective glass removed in step 1.
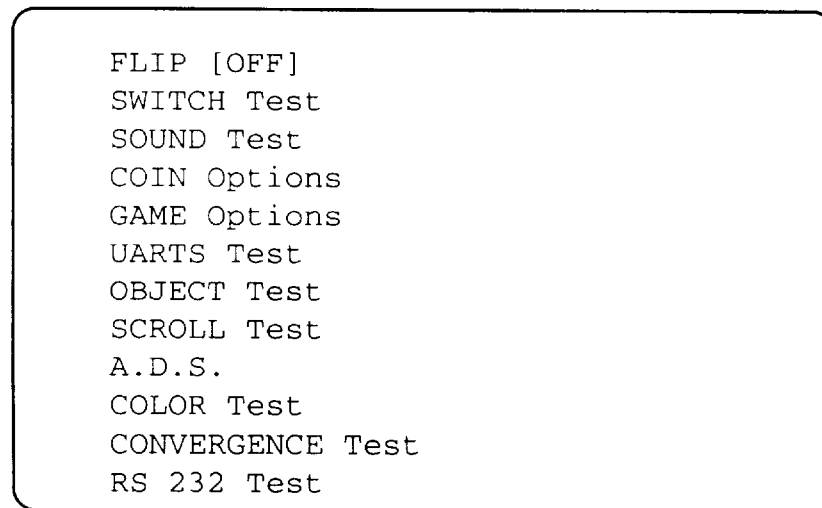
5.3.2 Cabinet Side Decals

There are two Cabinet Side Decals provided in the kit, one left, and one right. Remove the protective backing from the NAMCO GREAT SLUGGERS™ side decals and carefully apply them to the cabinet.

6.0 TEST MODE

The NAMCO GREAT SLUGGERS™ Game PCB includes a built-in Test Mode in help you verify that installation has been performed correctly before putting the game into service.

To enter Test Mode, set DIP Switch 1 to the ON position (refer to Figure 5-1 for location). The Test Menu screen will be displayed.

```
FLIP [OFF]
SWITCH Test
SOUND Test
COIN Options
GAME Options
UARTS Test
OBJECT Test
SCROLL Test
A.D.S.
COLOR Test
CONVERGENCE Test
RS 232 Test
```

Figure 6-1 Test Menu Screen

Use the Player 1 Joystick to select the desired item from the menu, then press the Player 1 A pushbutton to activate that choice. Press the Player 1 B Button to return to the Test Menu.

Set the DIP Switch to the OFF position to return to normal game play.

FLIP – Inverts the screen image, for use with cabinets with image-inverting mirrors.

SWITCH Test – Selecting this option causes the Switch Test Screen to be displayed.

SOUND Test – Selecting this option causes the Sound Test Screen to be displayed.

COIN Options – Selecting this option causes the Coin Options Screen to be displayed.

Game Options – Selecting this option causes the Game Options Screen to be displayed.

UARTS Test – Not used.

OBJECT Test – Selecting this option causes the Object Test Screen to be displayed.

SCROLL Test – Selecting this option causes the Scroll Test Screen to be displayed.

A.D.S. – Selecting this option causes the Game Data Screen to be displayed.

Color Test – Selecting this option causes the Color Test Screen to be displayed for monitor adjustment.

Convergence Test – Selecting this option causes the cross-hatch pattern screen to be displayed for monitor convergence adjustment.

RS-232C Test – Not used.

6.1   Switch Test Screen

The switch test screen can be used to verify that installation has been performed correctly, or to diagnose and locate problems with the player controls.

```
1P    0000              2P    0000
      +++                     +++
      + • +                   + • +
      +++   +++               +++   +++


1P    0000              2P    0000
      +++                     +++
      + • +                   + • +
      +++   +++               +++   +++
                        ANALOG0:00FF
      SERVICE SW: +     ANALOG1:00FF
         TEST SW: +     ANALOG2:00FF
           DIP 1: +     ANALOG3:00FF
           DIP 2: +     ANALOG4:00FF
                        ANALOG5:00FF
                        ANALOG6:00FF
                        ANALOG7:00FF

                        PADDLE0:0000
                        PADDLE1:0000
```

Figure 6-2 Switch Test Screen

6.2   Coin Options Screen

The Coin Options Screen controls options related to game cost and the coin mechanisms. Numbers refer to items in Table 6-1.

```
                    COIN Options
                 [Defaults in GREEN]
1 ──────────── Game Cost
                    2 Coin 1 Credit
2 ──────────── Discount to Continue
                    Yes
3 ──────────── Coin1 Mech Value
                    1 Coin Counts as 1 Coin
4 ──────────── Coin2 Mech Value
                    1 Coin Counts as 1 Coin
5 ──────────── Coin3 Mech Value
                    1 Coin Counts as 1 Coin
6 ──────────── Coin4 Mech Value
                    1 Coin Counts as 1 Coin
7 ──────────── Bonus for Quantity Buy In
                    NONE
8 ──────────── FREE PLAY
                    NO
```
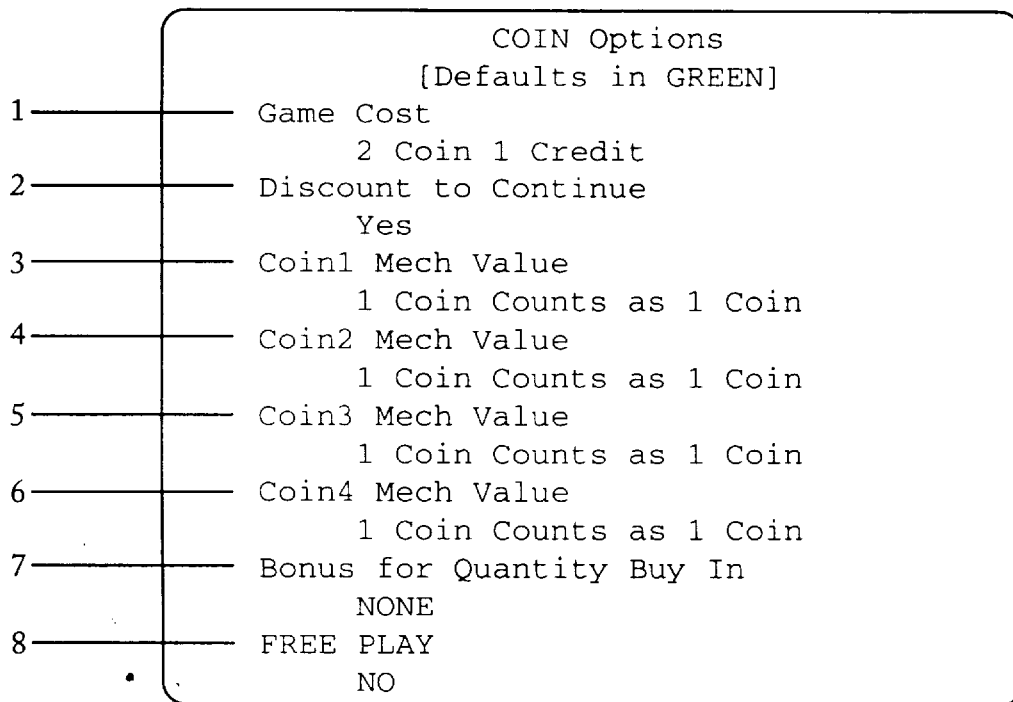
Figure 6-3 Coin Options Screen

6.3   Game Options Screen

The Game Option Screen controls options related to game play such as difficulty level, music in attract mode, etc. Numbers refer to Table 6-1
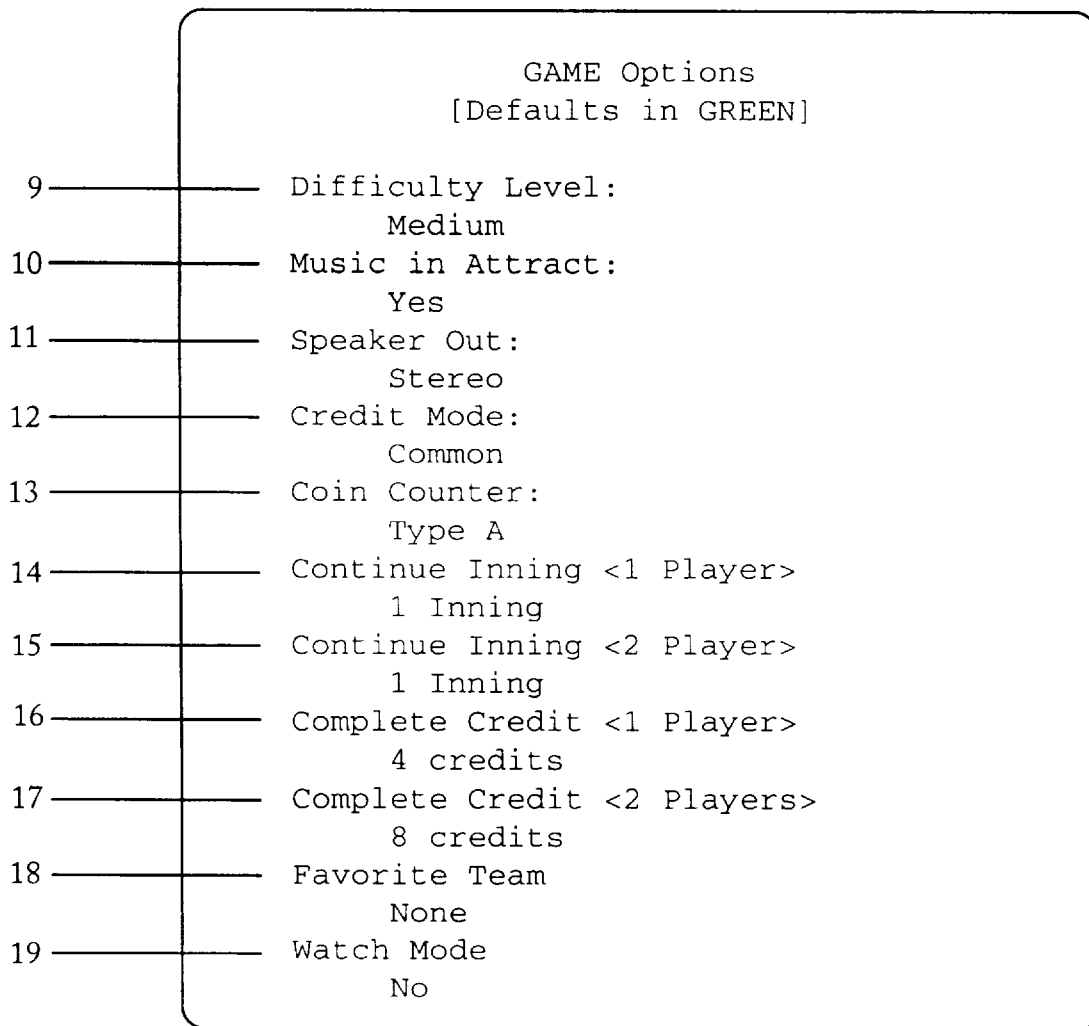
```
                    GAME Options
                  [Defaults in GREEN]

 9 ——————————  Difficulty Level:
                     Medium
10 ——————————  Music in Attract:
                     Yes
11 ——————————  Speaker Out:
                     Stereo
12 ——————————  Credit Mode:
                     Common
13 ——————————  Coin Counter:
                     Type A
14 ——————————  Continue Inning <1 Player>
                     1 Inning
15 ——————————  Continue Inning <2 Player>
                     1 Inning
16 ——————————  Complete Credit <1 Player>
                     4 credits
17 ——————————  Complete Credit <2 Players>
                     8 credits
18 ——————————  Favorite Team
                     None
19 ——————————  Watch Mode
                     No
```

Figure 6-4 Game Options Screen

6.5   Option Settings Table

	Item	Description (<< indicates factory setting)	
1	Game Cost	Number of coins required for one game (1 credit)	1 - 9 (default is 2)
2	Discount	50% Discount when continuing a game	Yes<< No
3	Coin 1 Mech	Count per coin	1 - 9 (default is 1)
4	Coin 2 Mech	Count per coin	1 - 9 (default is 1)
5	Coin 3 Mech	Not used	1 - 9 (default is 1)
6	Coin 4 Mech	Not used	1 - 9 (default is 1)
7	Bonus coin	One additional coin per the specified number of coins	None<< 2 Coins gives 3 credits 9 Coins gives 3 credits
8	Free Play	NO<< YES	
9	Difficulty	Medium<< (Easy - Medium - Hard)	
10	Attract Sound	YES<< NO (B.G. music erasable only)	
11	Speaker Out	Stereo << Mono	
12	Credit Mode	COMMON (Credit is common to both players) EACH ONE << (Credit is separate for P1 and P2)	
13	Coin Counter	A = 1 counter / B=2 counters<<	
14	Continue Inning 1-Player	1-3 Innings (default is 1 inning)	
15	Continue Inning 2-Player	1-3 Innings (default is 1 inning)	
16	Complete Credit 1-Player	1-9 Credits (default is 4)	
17	Complete Credit 2-Player	1-9 Credits (default is 8)	
18	Favorite Team	NONE << (Atlanta - Toronto, 28 teams)	
19	Watch Mode	NO<< YES	

Table 6-1 Option Settings Table