



## INSTRUCTION MANUAL

# LEE TREVINO'S *Fighting* Golf



**HORIZONTAL MONITOR CONVERSION KIT**

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# OPERATOR NOTICE

Fighting Golf has 2 completely different styles of game play.

Standard Setting:

Player must depress the "A" button once to complete his swing.

Optional Setting:

Player must depress "A" button three times to complete his swing. (This setting recommended for the more avid golf locations).

Should you choose to set Fighting Golf on the Optional setting, SNK has provided an extra set of decals for the optional version.

To change the game play style to the option of depressing the button 3 times change position #4 on dipswitch #1 to the off position.

We believe with these 2 styles of game play, Fighting Golf will earn well in any location it is placed.

Should you have any questions regarding the styles of game play, please contact SNK Corporation of America (408) 736-8844.

## OPTIONAL COCKTAIL TABLE SETTING

Fighting Golf offers a feature for a cocktail table setting. The screen will flip for the 2nd player. The control panels are laid out the same on both sides as in Part C, of Part IV Installation Procedures, except the 1 & 2 player control wires are separately run to their respective controls. The upright version utilizes one joystick and 1 & 2 player controls are shorted together.

# FCC WARNING

This equipment operates, uses and can radiate radio frequency energy and if not installed and used in accordance with the instruction manual, may cause interference to radio communications.

It has been tested and found to comply with the limits for a class "A" computing device pursuant to sub-part J of part 15 of F.C.C. rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment.

Operation of this equipment in a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.

SNK Corporation recommends a grounded 3 wire outlet to be used for supplying power.

## NOTICE:

Specifications and modifications may be changed without advance notice or warning.

# GENERAL INFORMATION

## INTRODUCTION

Fighting Golf is a Z80 microprocessor based coin-operated electronic game conversion kit for horizontal monitors that makes extensive use of digital integrated circuitry and television monitor concepts. This manual is designed for the use of technicians who possess a general knowledge of solid-state circuitry and video monitor theory. Any individual NOT knowledgeable in these areas SHOULD NOT attempt to install the electronic portions of this conversion kit into a cabinet.

## GAME PACKAGE CONTENTS

- 1 - Main Printed Circuit Board (PCB) Assembly
- 1 - PCB Shield (F.C.C. Compliance)
- 1 - SNK Wire Harness
- 1 - Joystick (8 way) Standard
- 1 - Marquee
- 1 - Control Panel Overlay
- 2 - Side Graphic Decals
- 1 - Monitor Card
- 10 - Control Buttons
- 1 - Instruction Manual
- 1 - Set of Optional Instruction Stickers

Inspect the entire contents of your game package to assure it is complete and in satisfactory condition. If any damages have occurred during shipment, please notify your SNK distributor immediately.

## WARNING

Do not attempt to troubleshoot or repair the PCB if it is found to be faulty or your warranty may be voided and repair charges will be more costly. Always contact an authorized SNK distributor or the SNK Service Manager to troubleshoot your PCB problems.

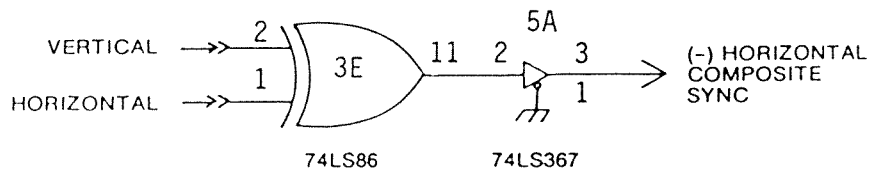
Whenever you change parts or insert/disconnect the edge connector, always check to make sure the power is off! After you are sure the power is off, wait approximately 10 seconds before proceeding to remove the edge connector to allow time for the power supply to discharge.

Always use caution to stay clear of the high voltage sections to avoid the possibility of electrical shock.

# REQUIREMENTS

## A. MONITOR:

This game requires a HORIZONTALLY MOUNTED RASTER SCAN type monitor with composite sync. If your monitor is one which requires separate syncs, they may be found at the sync combination chip (IC #3E, 74LS86) on the BOTTOM PCB.



## B. POWER SUPPLY:

SNK recommends the use of a switching type power supply with minimum current ratings as stated below:

| <u>Voltage</u> | <u>Amperage</u> |
|----------------|-----------------|
| +12 VDC        | 1A              |
| + 5 VDC        | 8A              |
| - 5 VDC        | 1A              |
| Ground         |                 |

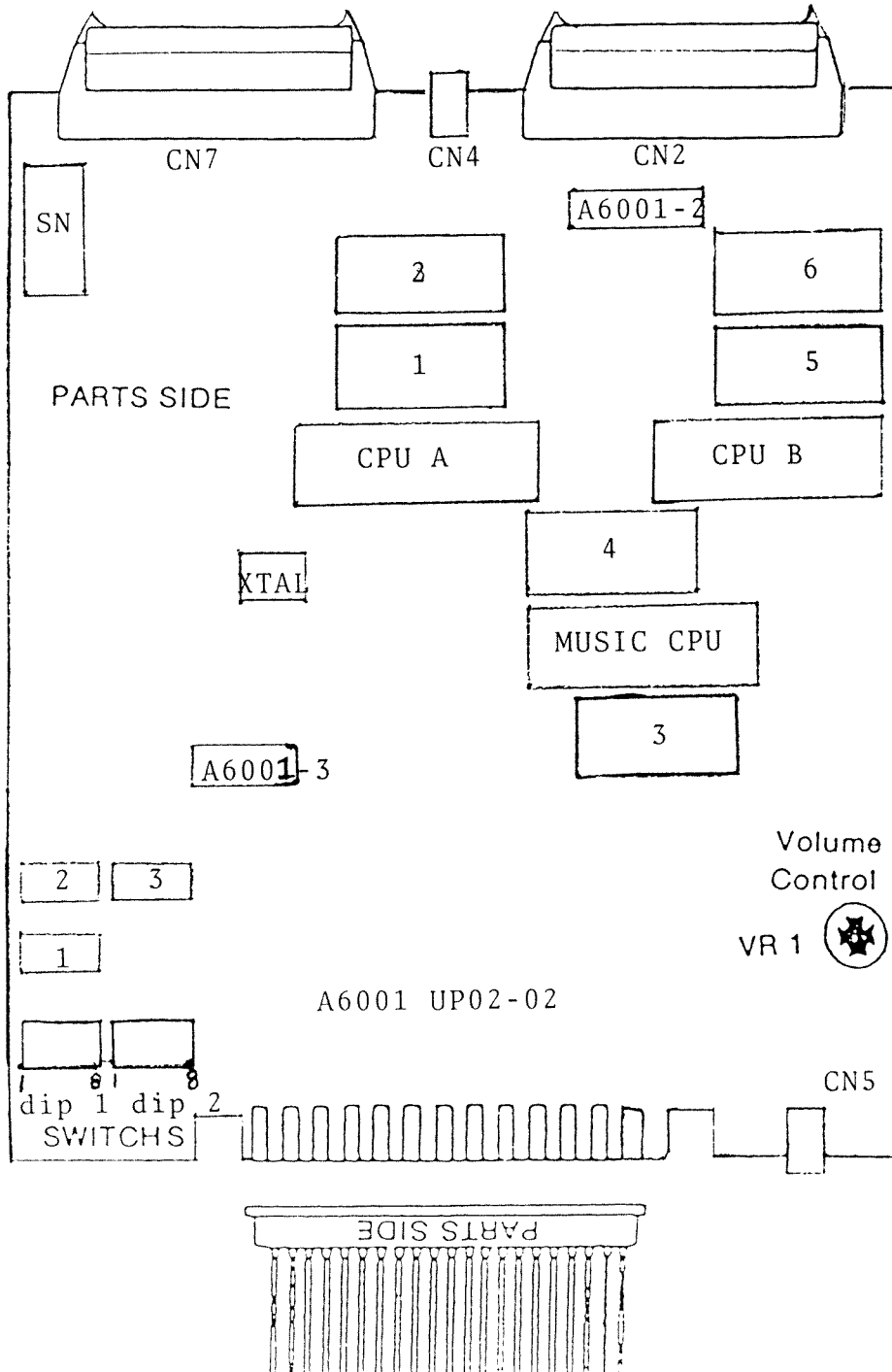
Note: The 5 volt line should be measured with a voltmeter at the PCB connector CN4 or CN5 when adjustment of the 5 volt supply is being made.

# C. PCB SPECIFICATIONS:

## Operating requirements

Voltage +5.00 volts to 5.10 volts D.C., -5VDC, +12VDC.  
Amperage 7.5 amps  
Power 38.5 watts  
Temperature 0° to 30°C or 32° to 100°F  
Humidity 95% relative

## TOP PCB LAYOUT



# INSTALLATION PROCEDURES

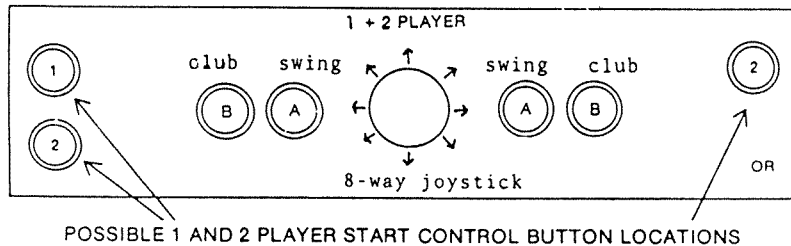
## A. PLACEMENT OF PCB:

Before mounting PCB, make certain that the wire harness has sufficient "slack/play" between the joystick and the PCB. Mount all four corners of the PCB to assure stability. Allow room for the PCB shield away from the power supply section. Before mounting, please check the wire harness layout.

## B. WIRE HARNESS LAYOUT:

Mark it, PARTS SIDE in order not to reverse connection which may cause damage to the PCB and/or power supply. Layout your wire harness from one player control panel to the PCB edge connector to assure that it is long enough. Remember that the voltage of an intermediate wire harness decreases by contact resistance, so please CONNECT ALL OF THE WIRES PROVIDED FOR THE SUPPLY VOLTAGES AND GROUNDS in order to assure sufficient voltage and to avoid contact burning on the PCB.

## C. CONTROL PANEL CONFIGURATION:



Control button A (green) is for swing  
Control button B (blue) is for club selection

Note: short 1 and 2 player controls together.

## D. POWER UP CHECKLIST:

1. Make sure that the Main Wire Harness is wired properly to the Power supply by measuring it with a volt meter.
2. Allow the Power Supply to discharge the voltage for about 10 seconds before connecting or disconnecting the edge connector.
3. Use crimp lugs on all CONTROLS and JOYSTICKS and only solder other connections.
4. Ground all wires and the control panel.
5. Adjust the Power Supply and the Monitor.
6. Check all Controls and set the Dip Switches.
7. Secure the Main Wire Harness with wire ties.



# DISPLAY TEST MODE

## A. SELF ROM CHECK

The memories are automatically self checked whenever power is applied. To enter the test mode, hold the test switch on when the power is turned on until PICTURE 0 is displayed. Press the test switch to continue the display tests or reapply power to start the game. You may also set the test switch on Dip 2, Switch 8 upon power up to enter the test mode.

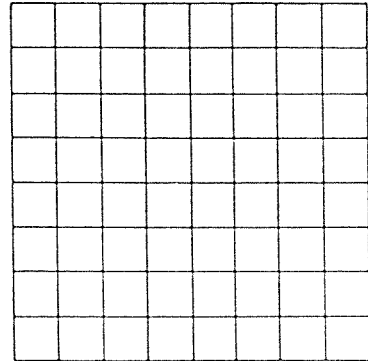
## B. PICTURE 0 - MODE CHECK

Set desired mode by setting the DIP SWITCHES on the PCB. (Refer to the OPTIONAL SETTINGS). When the switch turns on, the number of that BIT will change from 0 to 1. The actual mode will also be displayed.

|               |   | DIP MODE               |   |   |   |      |   |   |   |               |   |
|---------------|---|------------------------|---|---|---|------|---|---|---|---------------|---|
|               |   | START 1                |   |   |   | NEXT |   |   |   |               |   |
| DIPSWITCH 1   |   | 1                      | 2 | 3 | 4 | 5    | 6 | 7 | 8 |               |   |
| VERSION       | 0 | -                      | - | - | - | -    | - | - | - | OVERSEA       |   |
| DISPLAY       | - | 0                      | - | - | - | -    | - | - | - | REVERSE       |   |
| CABINET       | - | -                      | 0 | - | - | -    | - | - | - | UPRIGHT       |   |
| GAME STYLE    | - | -                      | - | 1 | - | -    | - | - | - | 1 HIT         |   |
| COIN 1 - PLAY | - | -                      | - | - | 0 | 0    | - | - | - | 1             | 1 |
| COIN 2 - PLAY | - | -                      | - | - | - | -    | 0 | 0 | - | 1             | 6 |
| DIPSWITCH 2   |   | 1                      | 2 | 3 | 4 | 5    | 6 | 7 | 8 |               |   |
| SHOT TIME     | 0 | -                      | - | - | - | -    | - | - | - | 12 SECONDS    |   |
| BONUS HOLES   | - | 1                      | - | - | - | -    | - | - | - |               |   |
|               |   | Par 0/Birdie 1/Eagle 2 |   |   |   |      |   |   |   |               |   |
| GAME MODE     | - | -                      | 0 | 0 | - | -    | - | - | - | DEMO SOUND ON |   |
| PLAY HOLES    | - | -                      | - | - | 0 | 0    | - | - | - | 2 HOLES       |   |
| CONTINUE      | - | -                      | - | - | - | -    | 0 | - | - | ON            |   |
| TEST MODE     | - | -                      | - | - | - | -    | - | 0 | - | ON            |   |

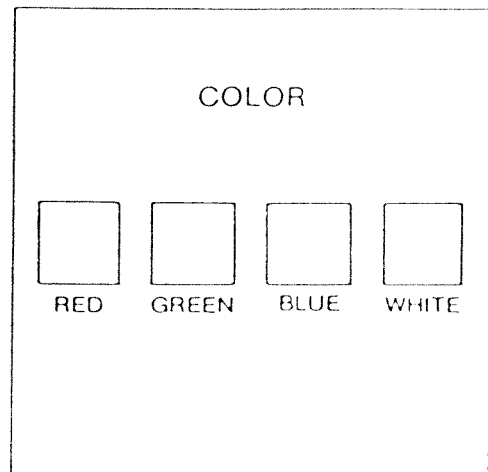
## C. PICTURE 1 - CROSS HATCH

Adjust the monitor for a SQUARE PATTERN throughout the display and on the edge of the monitor.



## D. PICTURE 2 - COLOR TEST

Assures that the correct colors are properly wired to the monitor.



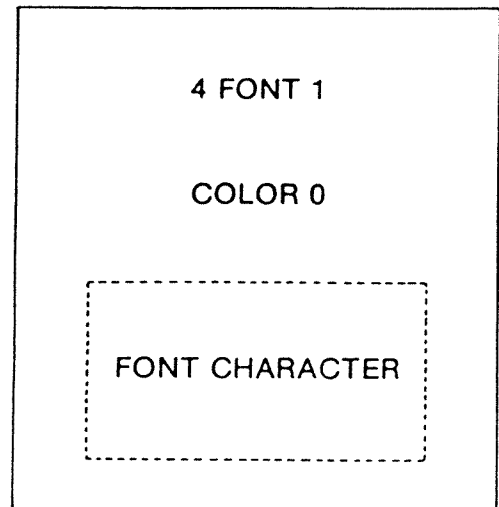
E. PICTURE 3 - CONTROL TEST

As a lever or switch turns on, 0 on the monitor will change to 1. Insert coin and confirm that the COIN changes from a 0 to 1. The service switch can also be checked here.

| 2 LEVER - COIN |   |          |   |
|----------------|---|----------|---|
| P1 UP          | 0 | P2 UP    | 0 |
| P1 DOWN        | 0 | P2 DOWN  | 0 |
| P1 LEFT        | 0 | P2 LEFT  | 0 |
| P1 RIGHT       | 0 | P2 RIGHT | 0 |
| P1 PUSH1       | 0 | P2 PUSH1 | 0 |
| P1 PUSH2       | 0 | P2 PUSH2 | 0 |
| COIN           | 0 | COIN2    | 0 |

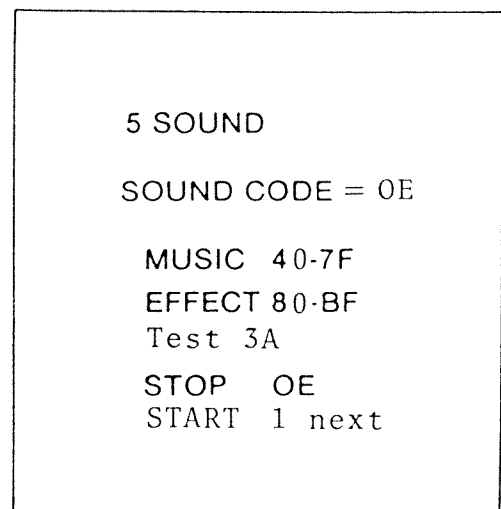
F. PICTURE 4 - FONT TEST

Confirm that the Characters are displayed on the monitor. There are eight different colors of characters that will be displayed 0 thru 7 automatically.



G. PICTURE 5 - SOUND CHECK

Set up the sound Code ("?" ) to 40-7F or 80-BF by moving the joystick. The music, and special effects will activate when you press Control Button A. If you want to stop the sound, set the Code to 0E and press Control Button A. To continue in test mode, depress start 1 control button.



# OPTIONAL SETTINGS

## DIP SW NO. 1

| ITEM          | SPECIFICATION   | 1          | 2   | 3          | 4   | 5   | 6   | 7 | 8 |
|---------------|-----------------|------------|-----|------------|-----|-----|-----|---|---|
| VERSION       | ENGLISH         | <b>OFF</b> |     |            |     |     |     |   |   |
|               | JAPANESE        | ON         |     |            |     |     |     |   |   |
| DISPLAY       | NORMAL PICTURE  |            | OFF |            |     |     |     |   |   |
|               | INVERSE PICTURE |            | ON  |            |     |     |     |   |   |
| CABINET STYLE | UPRIGHT         |            |     | <b>OFF</b> |     |     |     |   |   |
|               | COCKTAIL        |            |     | ON         |     |     |     |   |   |
| GAME STYLE    | OPTIONAL 3 HITS |            |     |            | OFF |     |     |   |   |
|               | STANDARD 1 HIT  |            |     |            | ON  |     |     |   |   |
| COIN 1        | 1 COIN 1 PLAY   |            |     |            |     | OFF | OFF |   |   |
|               | 2 COIN 1 PLAY   |            |     |            |     | ON  | OFF |   |   |
|               | 3 COIN 1 PLAY   |            |     |            |     | OFF | ON  |   |   |
|               | 4 COIN 1 PLAY   |            |     |            |     | ON  | ON  |   |   |

## DIP SW NO. 2

| ITEM             | SPECIFICATION          | 1          | 2         | 3          | 4          | 5             | 6   | 7          | 8   |
|------------------|------------------------|------------|-----------|------------|------------|---------------|-----|------------|-----|
| SHOT TIME        | 15 SECONDS             | <b>OFF</b> |           |            |            |               |     |            |     |
|                  | 12 SECONDS             | ON         |           |            |            |               |     |            |     |
| BONUS            | PAR 0/BIRDIE 1/EAGLE 2 | 2          | <b>ON</b> |            |            |               |     |            |     |
|                  | PAR 1/BIRDIE 2/EAGLE 3 | 3          | OFF       |            |            |               |     |            |     |
| ATTRACTION SOUND | WITH SOUND             |            |           | <b>OFF</b> | <b>OFF</b> |               |     |            |     |
|                  | W/O ATTRACT SOUND      |            |           | OFF        | ON         |               |     |            |     |
| MONITOR SETTING  | STOP VIDEO DISPLAY     |            |           | ON         | ON         | FOR TEST ONLY |     |            |     |
|                  | ENDLESS PLAY           |            |           | ON         | OFF        |               |     |            |     |
| PLAY HOLES       | 2 HOLES/COIN           |            |           |            |            | OFF           | OFF |            |     |
|                  | 3 HOLES/COIN           |            |           |            |            | ON            | OFF |            |     |
|                  | 4 HOLES/COIN           |            |           |            |            | OFF           | ON  |            |     |
|                  | 5 HOLES/COIN           |            |           |            |            | ON            | ON  |            |     |
| GAME PLAY        | CONTINUE PLAY          |            |           |            |            |               |     | <b>OFF</b> |     |
|                  | NON CONTINUOUS PLAY    |            |           |            |            |               |     | ON         |     |
| TEST MODE        |                        |            |           |            |            |               |     |            | OFF |
|                  |                        |            |           |            |            |               |     |            | ON  |

**NOTE:** Bold face suggests factory recommended settings.

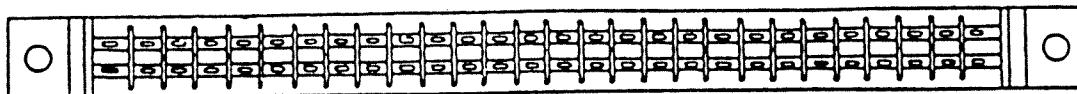


# MAIN HARNESS CONNECTIONS

## CONNECTOR CR7E - 56 DA - 3.96 E (HIROSE)

(1)

(28)



(A)

(f)

Color Key: Stripe / Background

| WIRE COLOR   | SOLDER SIDE         | PIN NAME<br>PIN # |    | PARTS SIDE          | WIRE COLOR   |
|--------------|---------------------|-------------------|----|---------------------|--------------|
| BLACK        | Ground              | A                 | 1  | Ground              | Black        |
| BLACK        | Ground              | B                 | 2  | Ground              | Black        |
| RED          | +5VDC               | C                 | 3  | +5VDC               | RED          |
| RED          | +5VDC               | D                 | 4  | +5VDC               | RED          |
| GREEN        | -5VDC               | E                 | 5  | -5VDC               | GREEN        |
| YELLOW       | +12VDC              | F                 | 6  | +12VDC              | YELLOW       |
|              |                     | H                 | 7  |                     |              |
|              |                     | J                 | 8  | Coin Counter 1 (-)  | BROWN        |
|              |                     | K                 | 9  |                     |              |
| WHITE        | Speaker (-)         | L                 | 10 | Speaker (+)         | WHITE        |
|              |                     | M                 | 11 |                     |              |
| LIGHT GREEN  | Video Green         | N                 | 12 | Video Red           | PINK         |
| GRAY/WHITE   | Video Sync          | P                 | 13 | Video Blue          | LIGHT BLUE   |
| VIOLET       | Service Switch      | R                 | 14 | Video Ground        | BLACK        |
| GRAY         | tilt/reset          | S                 | 15 | test switch         | ORANGE       |
|              |                     | T                 | 16 | Coin Switch 1       | white/violet |
| WHITE/BLACK  | Start Switch 2      | U                 | 17 | Start Switch 1      | white/black  |
| BROWN/BLACK  | 2P Control 1 UP     | V                 | 18 | 1P Control 1 UP     | white/brown  |
| RED/BLACK    | 2P Control 2 DOWN   | W                 | 19 | 1P Control 2 DOWN   | white/red    |
| ORANGE/BLACK | 2P Control 3 LEFT   | X                 | 20 | 1P Control 3 LEFT   | white/orange |
| YELLOW/BLACK | 2P Control 4 RIGHT  | Y                 | 21 | 1P Control 4 RIGHT  | white/yellow |
| GREEN/BLACK  | 2P Control 5 PUSH 1 | Z                 | 22 | 1P Control 5 PUSH 1 | white/green  |
| BLUE/BLACK   | 2P Control 6 PUSH 2 | a                 | 23 | 1P Control 6 PUSH 2 | white/blue   |
|              |                     | b                 | 24 |                     |              |
|              |                     | c                 | 25 |                     |              |
|              |                     | d                 | 26 |                     |              |
| BLACK        | Ground              | e                 | 27 | Ground              | BLACK        |
| BLACK        | Ground              | f                 | 28 | Ground              | BLACK        |



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