

★ RUSH 'N ATTACK™ CONVERSION KIT ★

INSTRUCTION MANUAL



Konami Inc.

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Ben Har-El

President

Dear Operator:

There are 1.5 Million CHILDREN REPORTED MISSING each year in America. Some of these children are players in our Arcades.

We at Konami feel that it is our responsibility to participate in combating this Real and Growing problem. Won't You Help Us Find The Children?

Konami is working in cooperation with CHILD FIND, INC., a not-for-profit corporation organized to aid parents, legal authorities and the F.B.I. in the finding of missing children. In an effort to do so, we have attached to our kits and video games, a poster and a decal showing photos of children that are listed with Child Find as missing.

Because of the tremendous exposure your gameroom or location can provide, we ask that you PROMINENTLY DISPLAY the posters and place the decals on each of the Konami games. We, and the parents of these children are very grateful for any help that you give us in assisting this extremely important program.

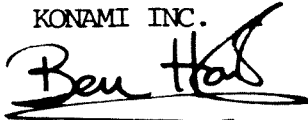
If it is possible for you to assist Child Find further by sending a tax deductible donation or if you would like to volunteer any time or services, please contact Child Find at:

CHILD FIND, INC.
P. O. BOX 277
New Paltz, NY 12561
Phone: (914) 255-1848

Again, thank you very much for helping us to help find the children. We deeply appreciate your concern and cooperation.

Best regards,

KONAMI INC.



Ben Har-El
President

PLEASE DON'T FORGET TO DISPLAY THE POSTERS AND DECALS!

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CONVERSION KIT CONTENTS:

- **MAIN PRINTED CIRCUIT BOARD**
- **P.C.B. CAGE (FCC REQUIRED)**
- **CONNECTING WIRING HARNESS**
- **6 SETS — BUTTON ASSEMBLIES**
- **8-WAY JOYSTICK**
- **MARQUEE (HEADER)**
(1/8" acrylic sheet)
- **ONE SET SIDE PANEL GRAPHICS (left & right)**
- **CONTROL PANEL OVERLAY**
- **CONTROL PANEL DECALS**
instruction decals/button decals (2 sets)
- **FCC WARNING LABEL**
- **MANUAL**
- **REGISTRATION CARD**

REPLACEMENT ACCESSORIES ARE AVAILABLE THROUGH YOUR DISTRIBUTOR.

THIS KIT USABLE FOR COCKTAIL AND UPRIGHT VIDEO GAMES WITH A RASTAR SCAN MONITOR WHICH IS OR CAN BE MOUNTED HORIZONTALLY.

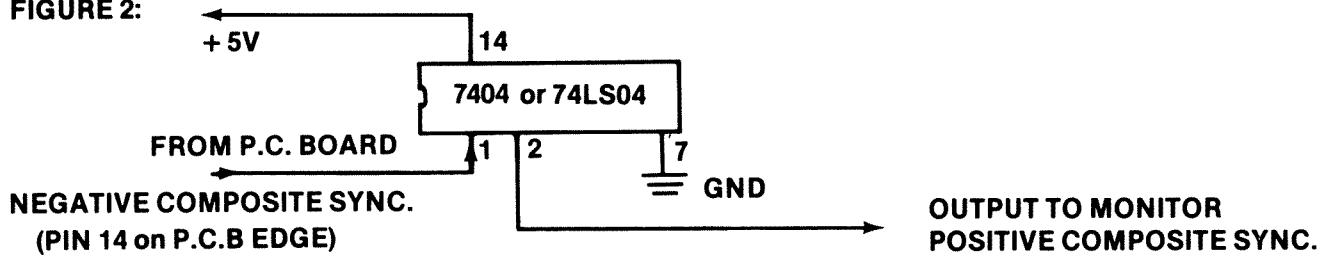
RUSH 'N ATTACK: MONITOR SPECIFICATIONS

Rush 'N Attack requires a horizontally mounted monitor. It also generates composite negative sync. If your monitor is composite positive sync, you will have to change to composite negative sync.

- (1) To alternate composite positive sync to composite negative sync, use 7404 IC or 74LS04 IC. The signal on the output pin from the P.C.B. is a combination of H-sync and V-sync.

NOTE: Please refer to Figure 2.

FIGURE 2:

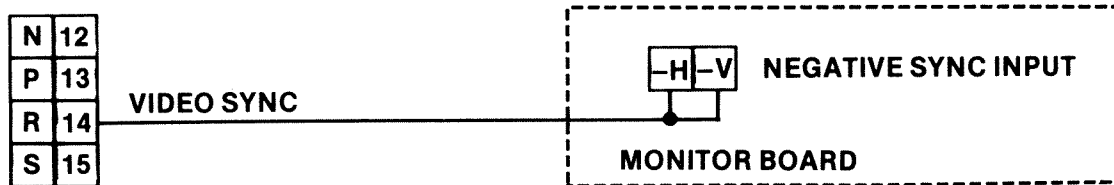


(+ 5V and GND should be taken out of the P.C. Board.)

- (2) Separate Sync modification for Rush 'N Attack if your monitor has "Separate Sync" input. (For example "Electrohome brand" and Wells-Gardner brand.")

Step 1

WIRING HARNESS

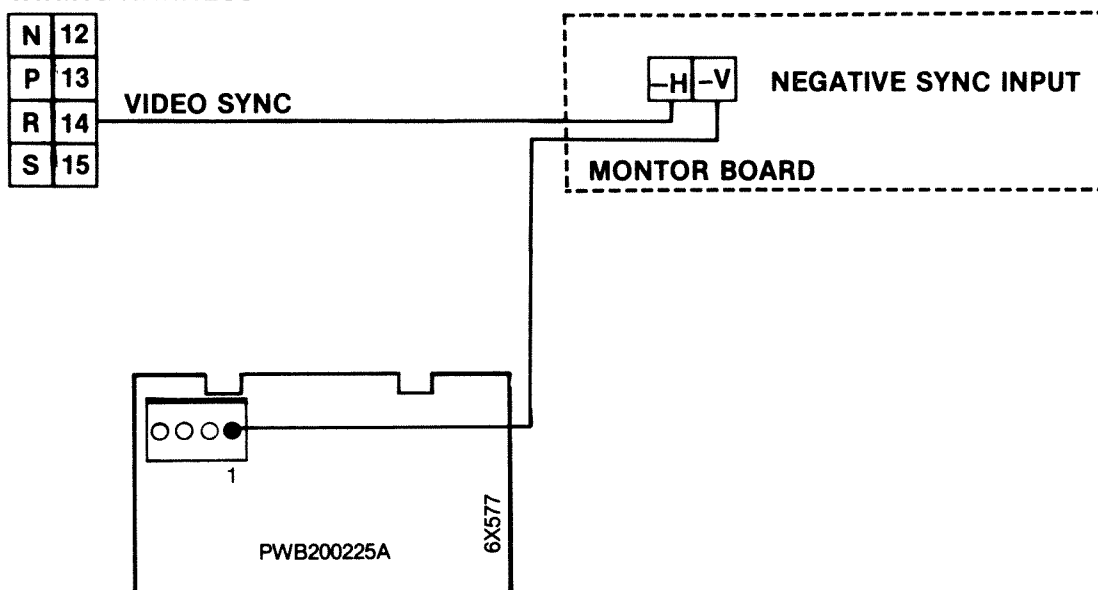


If the picture is still not stable...

Step 2

Prepare Hook-up wire. (For example "Electrohome brand.")

WIRING HARNESS



RUSH 'N ATTACK: MONITOR INFO.

SERVICE INSTRUCTIONS

NOTE: All monitors are equipped with automatic degaussing coils (L701) which demagnetize the picture tube every time the monitor is turned on after being off for a minimum of 5 minutes. Should any part of the chassis become magnetized it will be necessary to degauss the affected area with a manual degaussing coil. Move the coil slowly around the CRT face and all surrounding metal parts. Then slowly withdraw for a distance of 6 feet before turning off.

1.0 BLACK LEVEL CONTROL ADJUSTMENT

This control has been set at the factory and should not need further attention, however, when the game is connected a slight adjustment of VR201 may be necessary to obtain the proper black level (the black portion of the picture just extinguished).

2.0 VERTICAL SIZE (HEIGHT)

Location of this control is shown in Fig. 1. This control must be adjusted slowly, if necessary, until the picture or test pattern attains the correct vertical proportions.

3.0 CIRCUIT PROTECTION

A 4.0A pigtail fuse, mounted on the Main Board has been provided to protect the Power Output Circuit.

4.0 FOCUS

Adjust the focus control, located on the HV unit (T352), for maximum over-all definition and fine picture detail.

5.0 HORIZONTAL HOLD CONTROL ADJUSTMENT, VR351 (See Fig. 1)

A warm-up period of at least five minutes should be allowed before alignment is carried out. With the monitor being driven from the game signal, short TP601 to TP31. Adjust VR351 until the picture stops sliding horizontally. Remove the short.

6.0 HORIZONTAL VIDEO POSITION

If the video is off center on the raster some compensation can be made by adjusting this control.

7.0 VERTICAL RASTER POSITION ADJUSTMENT

If the video is off center vertically, (short dimension of picture tube) some compensation can be made by moving the vertical raster position adjustment jumper to either positions "U" or "D".

8.0 HORIZONTAL RASTER POSITION ADJUSTMENT

If the video is off center horizontally (long dimension of the picture tube) some compensation can be made by moving the horizontal raster position adjustment jumper to either positions "R" or "L".

9.0 HORIZONTAL WIDTH ADJUSTMENT

The horizontal width coil is a hexagonal tuning tool adjustment. This control must be adjusted slowly, if necessary, until the picture or test pattern attains the correct horizontal proportions.

* KONAMI GAMES ARE ALL NEGATIVE COMPOSIT SYNC. USE THE THREE PIN CONNECTOR ON THE MONITOR.

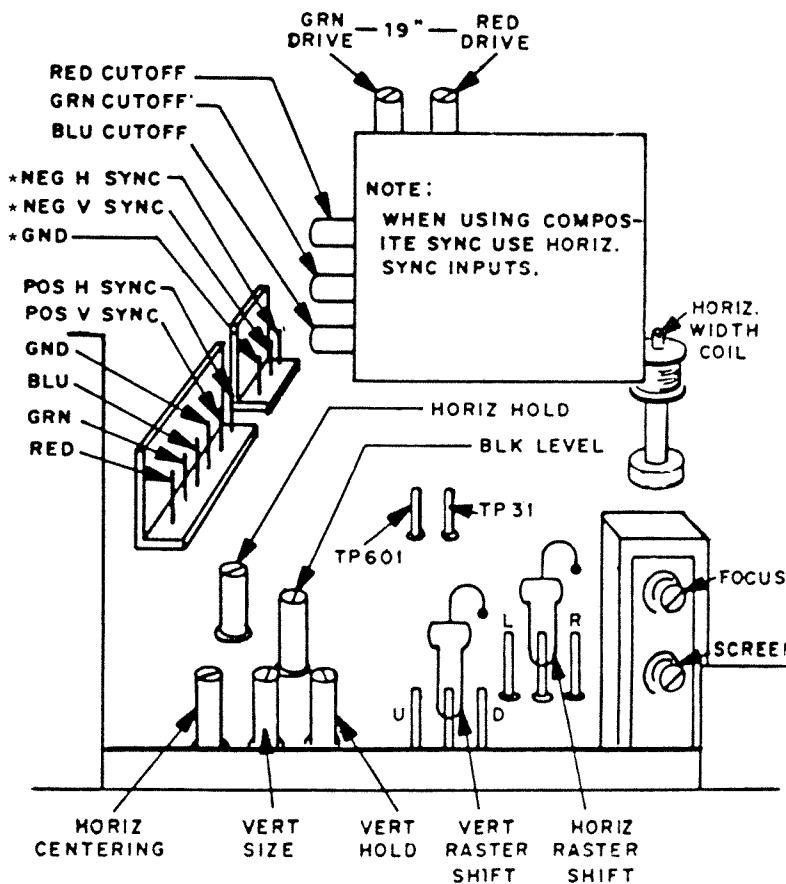


FIGURE 1

RUSH 'N ATTACK: WIRING HARNESS

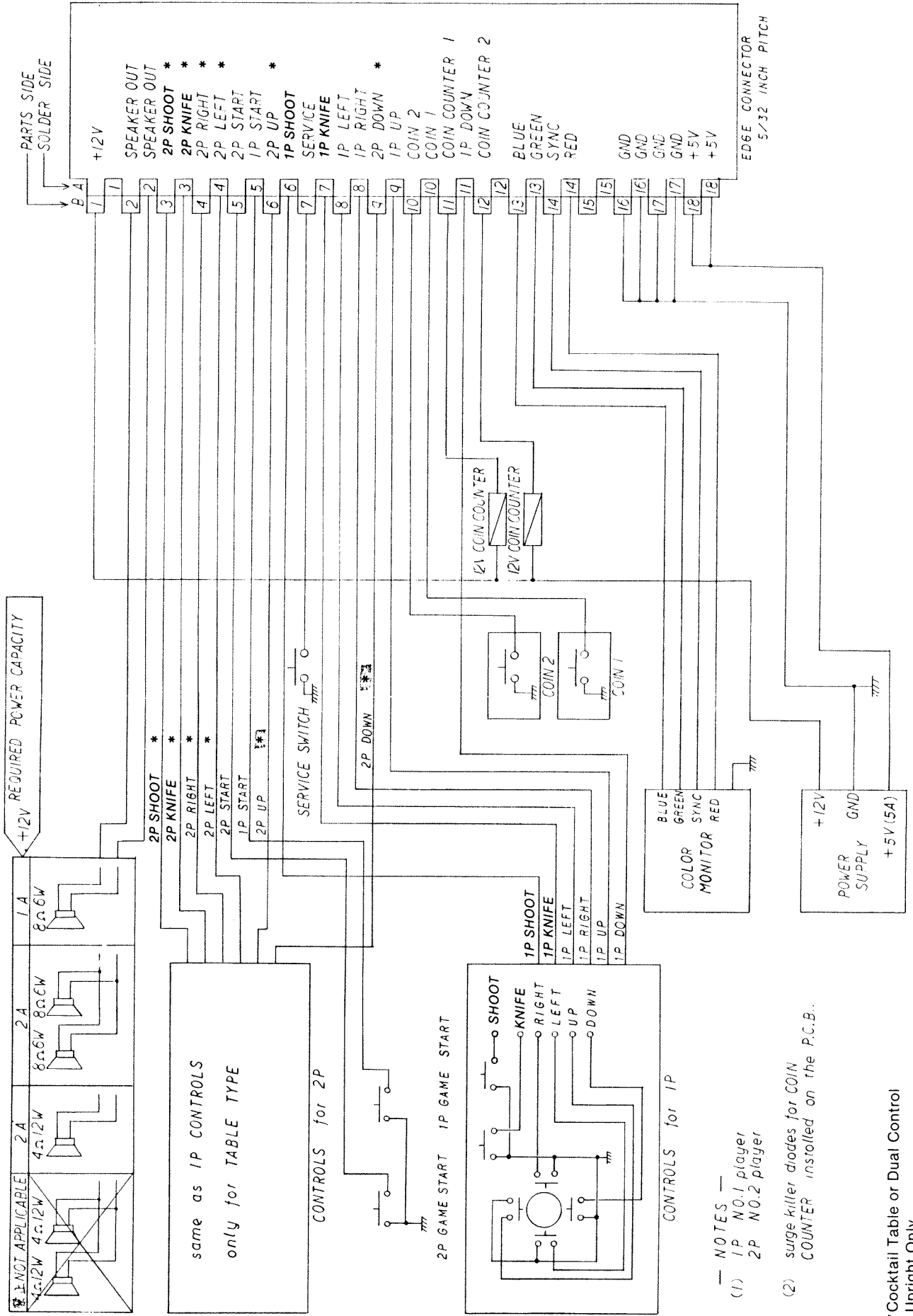
| WIRE COLOR KEY: | | Unlettered Side (Solder Side) | Lettered Side (Parts Side) |
|-----------------|-------------|----------------------------------|-------------------------------|
| | (EMPTY) | A | + 12V DC |
| RED/GREEN | SPEAKER OUT | B | SPEAKER OUT |
| RED/YELLOW | *2P KNIFE | C | 2P SHOOT* |
| BROWN/YELLOW | * 2P LEFT | D | 2P RIGHT* |
| VIOLET/WHITE | 1P START | E | 2P START |
| ORANGE/WHITE | 1P SHOOT | F | 2P UP* |
| RED/WHITE | 1P KNIFE | H | SERVICE SW |
| BLUE/WHITE | 1P RIGHT | J | 1P LEFT |
| BLACK/WHITE | 1P UP | K | 2P DOWN* |
| RED/GRAY | COIN 1 | L | COIN 2 |
| GRAY/WHITE | 1P DOWN | M | COIN COUNTER 1 |
| WHITE/PINK | (NOT USED) | N | COIN COUNTER 2 |
| GREEN/BROWN | VIDEO GREEN | P | VIDEO BLUE |
| RED/BROWN | VIDEO RED | R | VIDEO SYNC |
| | (EMPTY) | S | (NOT USED) |
| BLACK | GND | T | GND |
| BLACK | GND | U | GND |
| RED | + 5V DC | V | + 5VDC |
| | | | ORANGE |
| | | | ORANGE/GREEN |
| | | | ORANGE/YELLOW |
| | | | BLUE/YELLOW |
| | | | VIOLET/YELLOW |
| | | | BLACK/YELLOW |
| | | | ORANGE/GRAY |
| | | | BROWN/WHITE |
| | | | GRAY/YELLOW |
| | | | BLUE/GRAY |
| | | | GREEN/GRAY |
| | | | YELLOW/GRAY |
| | | | BLUE/BROWN |
| | | | WHITE/BROWN |
| | | | YELLOW/PINK |
| | | | BLACK |
| | | | BLACK |
| | | | RED |

(BASE COLOR/LINE COLOR)

*Cocktail Table or Dual Control
Upright Only

RUSH 'N ATTACK

WIRING DIAGRAM



- NOTES —
 (1) 1P NO.1 player
 2P NO.2 player

(2) surge killer diodes for COIN COUNTER installed on the P.C.B.

*Cocktail Table or Dual Control Upright Only

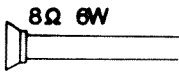
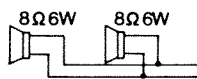
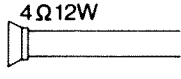
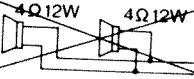
RUSH 'N ATTACK: TECHNICAL INFORMATION

(1) Required Power Capacity

+5V DC 7A or more.

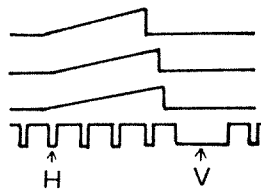
+12V DC See Figure 1 below

Figure 1:

| | | | | |
|--------------------------------|---|---|--|---|
| SPEAKER |  |  |  |  |
| Required Power Capacity | 12V 1A | 12V 2A | 12V 2A | Not Applicable |

(2) Signal output

R(red) analog, positive
 G(green) analog, positive
 B(blue) analog, positive
 Sync. H-V composite negative



DIAGNOSTIC PROCEDURES

AUTOMATIC SELF-TEST — Upon “Power On”, this system will automatically test ROMS and VIDEO RAMS. The screen will display pass or fail conditions as follows:

| TEST PASSED | TEST FAILED | IF TEST FAILS |
|-------------|-------------|---------------|
| RAM OK | RAM BAD | RAM = 10 E |
| ZRAM 1 OK | ZRAM 1 BAD | ZRAM 1 = 8 E |
| ZRAM 2 OK | ZRAM 2 BAD | ZRAM 2 = 8 E |
| ROM 1 OK | ROM 1 BAD | ROM 1 = 7 C |
| ROM 2 OK | ROM 2 BAD | ROM 2 = 8 C |
| ROM 3 OK | ROM 3 BAD | ROM 3 = 10 C |

DIP SWITCH SETTINGS

DIP SW No. 1 Settings

Coin 1 Switch Set

| SW | 4 | 3 | 2 | 1 | COIN | PLAY |
|----|-----|-----|-----|-----|-----------|------|
| • | OFF | OFF | OFF | OFF | 1 | 1 |
| | | | OFF | ON | 1 | 2 |
| | | | ON | OFF | 1 | 3 |
| | | | ON | ON | 1 | 4 |
| | OFF | ON | OFF | OFF | 1 | 5 |
| | | | OFF | ON | 1 | 6 |
| | | | ON | OFF | 1 | 7 |
| | | | ON | ON | 2 | 1 |
| | ON | OFF | OFF | OFF | 2 | 3 |
| | | | OFF | ON | 2 | 5 |
| | | | ON | OFF | 3 | 1 |
| | | | ON | ON | 3 | 2 |
| | ON | ON | OFF | OFF | 3 | 4 |
| | | | OFF | ON | 4 | 1 |
| | | | ON | OFF | 4 | 3 |
| | | | ON | ON | FREE PLAY | |

Coin 2 Switch Set

| SW | 8 | 7 | 6 | 5 | COIN | PLAY |
|----|-----|-----|-----|-----|------------|------|
| • | OFF | OFF | OFF | OFF | 1 | 1 |
| | | | OFF | ON | 1 | 2 |
| | | | ON | OFF | 1 | 3 |
| | | | ON | ON | 1 | 4 |
| | OFF | ON | OFF | OFF | 1 | 5 |
| | | | OFF | ON | 1 | 6 |
| | | | ON | OFF | 1 | 7 |
| | | | ON | ON | 2 | 1 |
| | ON | OFF | OFF | OFF | 2 | 3 |
| | | | OFF | ON | 2 | 5 |
| | | | ON | OFF | 3 | 1 |
| | | | ON | ON | 3 | 2 |
| | ON | ON | OFF | OFF | 3 | 4 |
| | | | OFF | ON | 4 | 1 |
| | | | ON | OFF | 4 | 3 |
| | | | ON | ON | INVALIDITY | |

DIP SWITCH NO. 2 SETTINGS

THE NUMBER OF PLAYER'S LIFE

| SW | 1 | 2 | NUMBER |
|----|-----|-----|--------|
| • | OFF | OFF | 2 |
| | ON | OFF | 3 |
| | OFF | ON | 5 |
| | ON | ON | 7 |

SOUND IN ATTRACT MODE

| SW | 8 | SOUND |
|----|-----|-------|
| • | OFF | OFF |
| | ON | ON |

CHANGE OF TABLE OR UP-RIGHT

| SW | 3 | TYPE |
|----|-----|----------|
| • | OFF | TABLE |
| | ON | UP-RIGHT |

DIP SWITCH NO. 3 SETTINGS

Video Screen Flip

| SW | 1 | |
|----|-----|-------------|
| • | OFF | NORMAL |
| | ON | UPSIDE DOWN |

BONUS SET

| SW | 4 | 5 | FIRST | SECOND | THIRD |
|----|-----|-----|--------|---------|---------------|
| • | OFF | OFF | 30,000 | 70,000 | Every 70,000 |
| | ON | OFF | 40,000 | 80,000 | Every 80,000 |
| | OFF | ON | 50,000 | 100,000 | Every 100,000 |
| | ON | ON | 50,000 | 200,000 | Every 200,000 |

Single/Dual Control Upright

| SW | 2 | TYPE |
|----|-----|------------------------|
| • | OFF | SINGLE UPRIGHT CONTROL |
| | ON | DUAL UPRIGHT CONTROL |

Difficulty of the Game

| SW | 6 | 7 | DIFFICULTY |
|----|-----|-----|----------------|
| • | OFF | OFF | EASY |
| | ON | OFF | NORMAL |
| | OFF | ON | DIFFICULT |
| | ON | ON | VERY DIFFICULT |

*SW 3 & SW 4: NOT USED

•SHOWS NORMAL SETTING

USER INFORMATION
WARNING
F. C. C. REGULATION COMPLIANCE

THIS KIT IS INTENDED FOR USE ONLY ON COIN-OPERATED VIDEO GAMES MANUFACTURED AFTER OCTOBER 1, 1983 WHICH HAVE BEEN VERIFIED FOR COMPLIANCE WITH REQUIREMENTS IN PART 15 OF F.C.C. RULES FOR A CLASS A COMPUTING DEVICE.

IMPROPER CONNECTION OF THIS KIT OR CONNECTION TO ANY OTHER GAME NOT SO MANUFACTURED OR VERIFIED FOR COMPLIANCE MAY CAUSE UNACCEPTABLE INTERFERENCE TO RADIO AND T.V. RECEPTION, REQUIRING THE OPERATOR TO TAKE WHATEVER STEPS ARE NECESSARY TO CORRECT THE INTERFERENCE.

THE P.C. BOARD CAGE SUPPLIED WITH THIS CONVERSION KIT MUST BE UTILIZED AND TERMINATED TO GROUND AT THE TIME OF INSTALLATION.

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