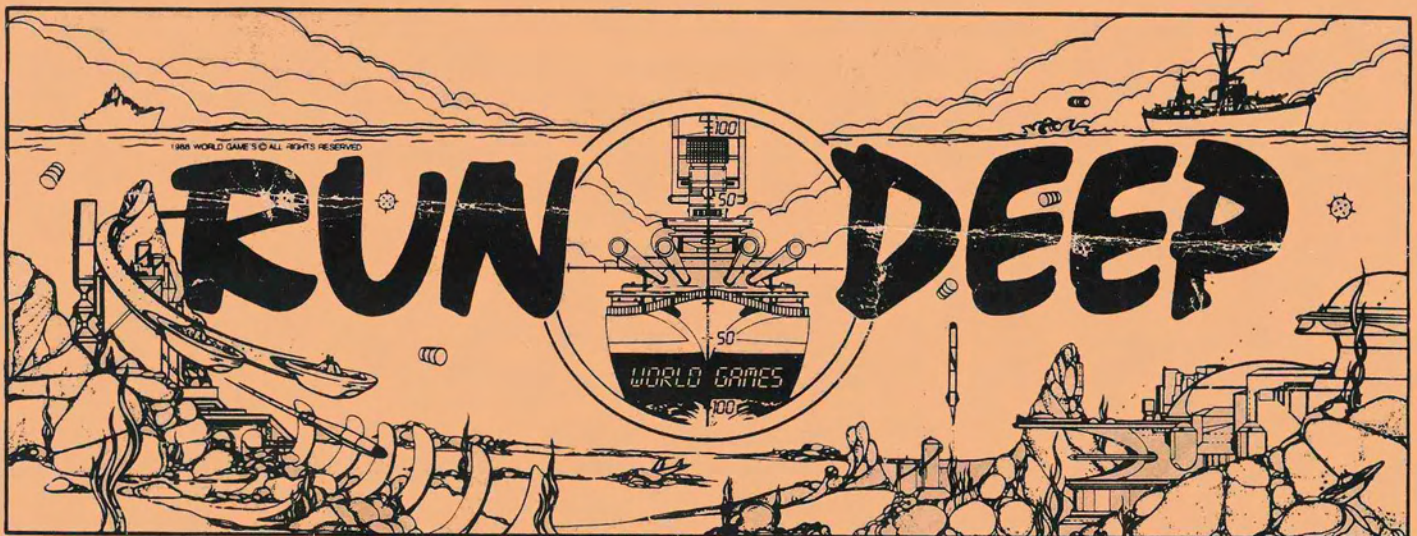

RUN DEEP™ INSTRUCTION MANUAL



**World Games
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IMPORTANT F.C.C. WARNING

WARNING

This equipment generates, and can radiate radio frequency energy and if not installed and used in accordance with the instruction manual, may cause interference to radio communications. As temporarily permitted by regulation it has not been tested for compliance pursuant to subpart J of part 15 of FCC rules, which are designed to provide reasonable protection against such interference. 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 necessary to correct the interference.

POWER REQUIREMENTS		MONITOR REQUIREMENTS
+ 5 VDC +12 VDC	7 amp minimum 1 amp minimum	Vertical Mount Raster Scan Negative Composite Sync

PREPARING THE CABINET

1. Remove the old P.C. board
2. Remove the control panel
3. Remove the marquee
4. Remove any other graphics
5. Remove the old wire harness

NOTE: If the power supply in the existing game does not clearly (1) identify the ground, +5 and +12 voltages, you will need to do so. This may be done by following the wire harness to the power supply section of the game and using a volt-ohm meter. With the meter set on the D.C. volt scale, put the black lead on the ground wire, (usually black) and the other lead on the other wires until you can identify the +5 and +12 volts. Label these for further reference.

NOTE: In installing the conversion kit, it will be necessary to (2) splice into the existing wires so we will need to save all existing connections. Cut the wire about six inches back of the current connectors to save them for future use.

NOTE: Never under any circumstances perform any portion of the installation with the power on.

INSTALLING THE NEW GAME

1. Attach the included mounting hardware to the Run Deep P.C. board, and attach it to the cabinet as far away from the power supply as possible.
2. Connect the wire harness to the P.C. board. Making sure the side labeled "Parts Side" is facing up.

NOTE: The Run Deep wire harness is divided into six smaller bundles. These bundles are all labeled for easy reference.

3. Find the bundle labeled power and connect the wires to the power supply in this manner.

Power
Supply

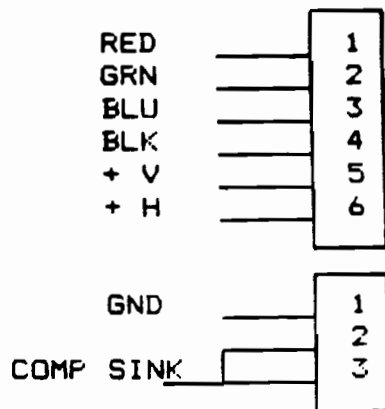
1. Red wires to +5 V.D.C.
2. Yellow wires to +12 V.D.C.
3. Black wires to ground.

4. Next find the bundle labeled video and connect the Monitor wires to the monitor in this manner.

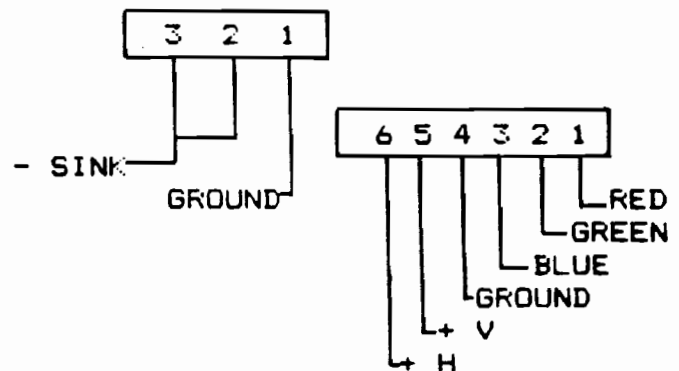
Monitor

1. Red wire to red input
2. Green wire to green input
3. Blue wire to blue input
4. Black wire to ground input
5. White wire to sync input

NOTE: Run Deep generates a negative composite sync signal. Composite means there will be only one sync wire supplied. If the monitor in your game requires two sync wires, you will need to splice the one sync wire into two parts and connect one part each to the horizontal and vertical sync inputs. Further, if the monitor can accept both a positive and a negative sync signal, then connect the sync wires to the negative section only. If further help is needed please refer to the following diagram.



WELLS GARNER



ELECTRO HOME

INSTALLING THE NEW GAME

5. **Speakers** Now find the small two wire bundles labeled speakers, and connect them to the two speaker wires from the cabinet. If you notice a hum in the sound of your Run Deep game you may want to reverse the connection on these two wires to reduce the hum.

6. **Coin Door** Next find the bundle labeled coin door and connect it to the coin door in this manner.

1. Black wire to the ground or common side of the coin switch(s).
2. Violet wire to the other side of the coin switch. If the coin switch on your game has 3 terminals make sure to connect this wire to the terminal marked N.O.
3. The tan wire is a second coin switch wire. This should be hooked up in the same manner as the first coin wire if you wish to use two separate coin switches. In most cases, both coin switches on a game would be wired together thus making this wire unnecessary.
4. The red wire is a +5 volt line. If you wish to use a coin meter make sure to use a 5 or 6 volt meter. Connect the +5 to one side of the meter and connect another wire providing a coin "pulse" to the other side.

NOTE: Always make sure to use a diode when connecting a coin meter to prevent any chance of damage to the P.C. board.

7. **Control Panel**

1. Remove the old joystick and buttons.
2. Make the position for any new holes, if necessary.
3. Drill the new holes.
4. Using the control panel as a template, cut the included lexan to the correct size, and mark the location of the button holes.

NOTE: It is advisable to include some 3/16" or 1/4" holes towards the outside corners of the plexi. These will be used to help secure the plexi to the control panel to avoid any chance of breaking in the future.

5. Drill the holes.

INSTALLING THE NEW GAME

6. To remove any burrs from the new holes use a fine toothed file.
7. Now remove the old control panel overlay from the panel, and install the new World Games overlay.
8. Locate and install the button labels and instructions in their correct places.
9. Place the new cover over the panel and install the new buttons and joysticks.
10. To connect the control panel, now locate the portion of the wire harness labeled. Cont. #1 and connect it in this manner.
 1. Black wire to one side of the buttons, (it doesn't matter which sides). You must now make a continuous loop with this ground wire between all of the buttons.
 2. Brown to the one player start button.
 3. Red to the two player start button.
 4. Blue to the joystick RIGHT POINT.
 5. Green to the joystick LEFT POINT.
 6. Orange to the joystick UP POINT.
 7. Yellow to the joystick DOWN POINT.
 8. Violet to the shoot left button.
 9. Gray to the shoot right button.
8. Control Panel #2.

These wires are to be connected in the same fashion. Please follow the same wire colors.
9. Marquee Installation.
 1. Using the old marquee sign as a template, cut the Run Deep marquee to the proper size. This may be done on a table saw, or with a jigsaw with a plexiglass blade, or by deeply scoring the marquee with a razor knife and breaking it on the corner of a table.

RUN DEEP DIP SWITCH INSTRUCTIONS

DIP SWITCH #1			1	2	3	4	5	6	7	8
COIN	1 COIN	1 PLAY	OFF	OFF						
PRICING (1)	1	2	ON	OFF						
COIN	1	3	OFF	ON						
PRICING (1)	1	4	ON	ON						
COIN	1	1			OFF	OFF				
PRICING (2)	2	1			ON	OFF				
	3	1			OFF	ON				
	4	1			ON	ON				
NOT USED								OFF		
ALWAYS OFF								ON		
STARTING LEVEL	STAGE 1								OFF	
	STAGE 4								ON	
DEMO SOUND	WITHOUT									OFF
	WITH									ON
SCREEN INVERSION	(NORMAL)									OFF
	(INVERSION)									ON

DIP SWITCH #2			1	2	4	5	6	7	8	
DIFFICULTY	NORMAL		OFF	OFF						
	EASY		ON	OFF						
	DIFFICULT		OFF	ON						
	MOST DIFFICULT		ON	ON						
# OF PLAYER'S LIFE		3			OFF	OFF				
		4			ON	OFF				
		5			OFF	ON				
BONUS POINT	50,000	70,000					OFF	OFF		
	60,000	80,000					ON	OFF		
	80,000	100,000					OFF	ON		
	50,000	only					ON	ON		
TEST MODE			OFF						OFF	
			ON							ON

RUN DEEP
EDGE CONNECTOR

Wire Color	Solder Side	No.	No.	Component Side	Wire Color
BLACK	GND	A	1	GND	BLACK
BLACK	GND	B	2	GND	BLACK
RED	+5V	C	3	+5V	RED
RED	+5V	D	4	+5V	RED
BLUE	NOT USED	E	5	NOT USED	BLUE
YELLOW	+12V	F	6	+12V	YELLOW
	(POST)	H	7	(POST)	
		J	8		
	-	K	9	-	
BLACK	SPEAKER (-)	L	10	SPEAKER (+)	WHITE
		M	11	-	
GREEN	VIDEO - GREEN	N	12	VIDEO - RED	RED
WHITE	VIDEO - SYNC	P	13	VIDEO - BLUE	BLUE
	-	R	14	VIDEO - GND	BLACK
	-	S	15	-	
TAN	COIN SWITCH - 2	T	16	COIN SWITCH - 1	VIOLET
RED	2P START	U	17	1P START	BROWN
ORANGE	2P CONTROL - UP	V	18	1P CONTROL - UP	ORANGE
YELLOW	2P CONTROL - DOWN	W	19	1P CONTROL - DOWN	YELLOW
GREEN	2P CONTROL - LEFT	X	20	1P CONTROL - LEFT	GREEN
BLUE	2P CONTROL - RIGHT	Y	21	1P CONTROL - RIGHT	BLUE
VIOLET	2P CONTROL - SHOOT LEFT	Z	22	1P CONTROL - SHOOT LEFT	VIOLET
GRAY	2P CONTROL - SHOOT RIGHT	a	23	1P CONTROL - SHOOT RIGHT	GRAY
	-	b	24	-	
	-	c	25	-	
	-	d	26	-	
BLACK	GND	e	27	GND	BLACK
BLACK	GND	f	28	GND	BLACK