

LIFE FORCE: 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 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.

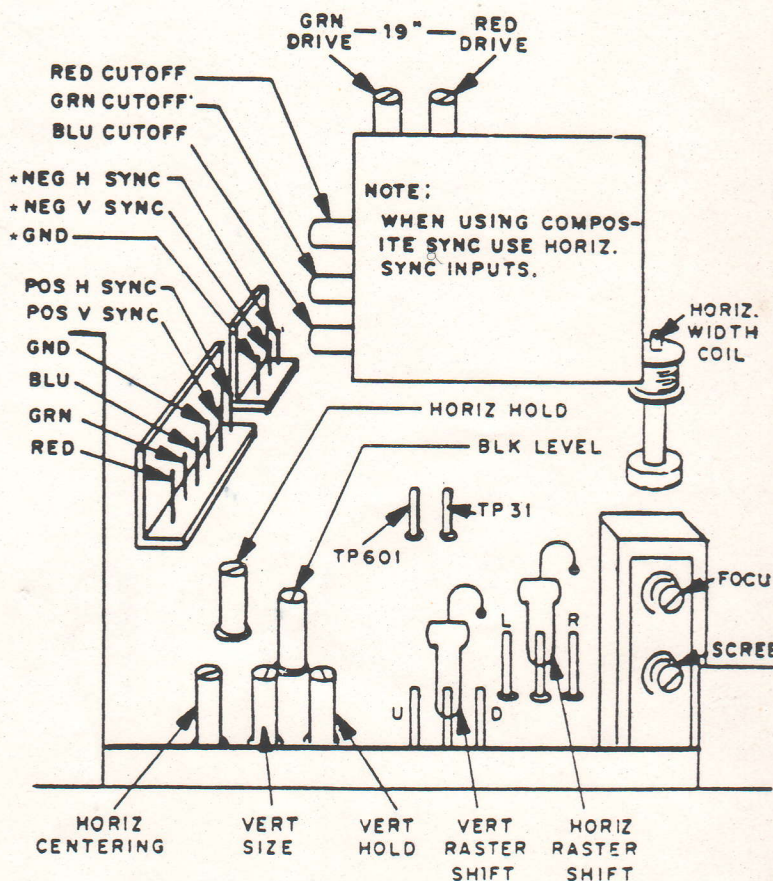


FIGURE 1

LIFE FORCE: WIRING HARNESS

WIRE COLOR KEY:

Solder Side ←

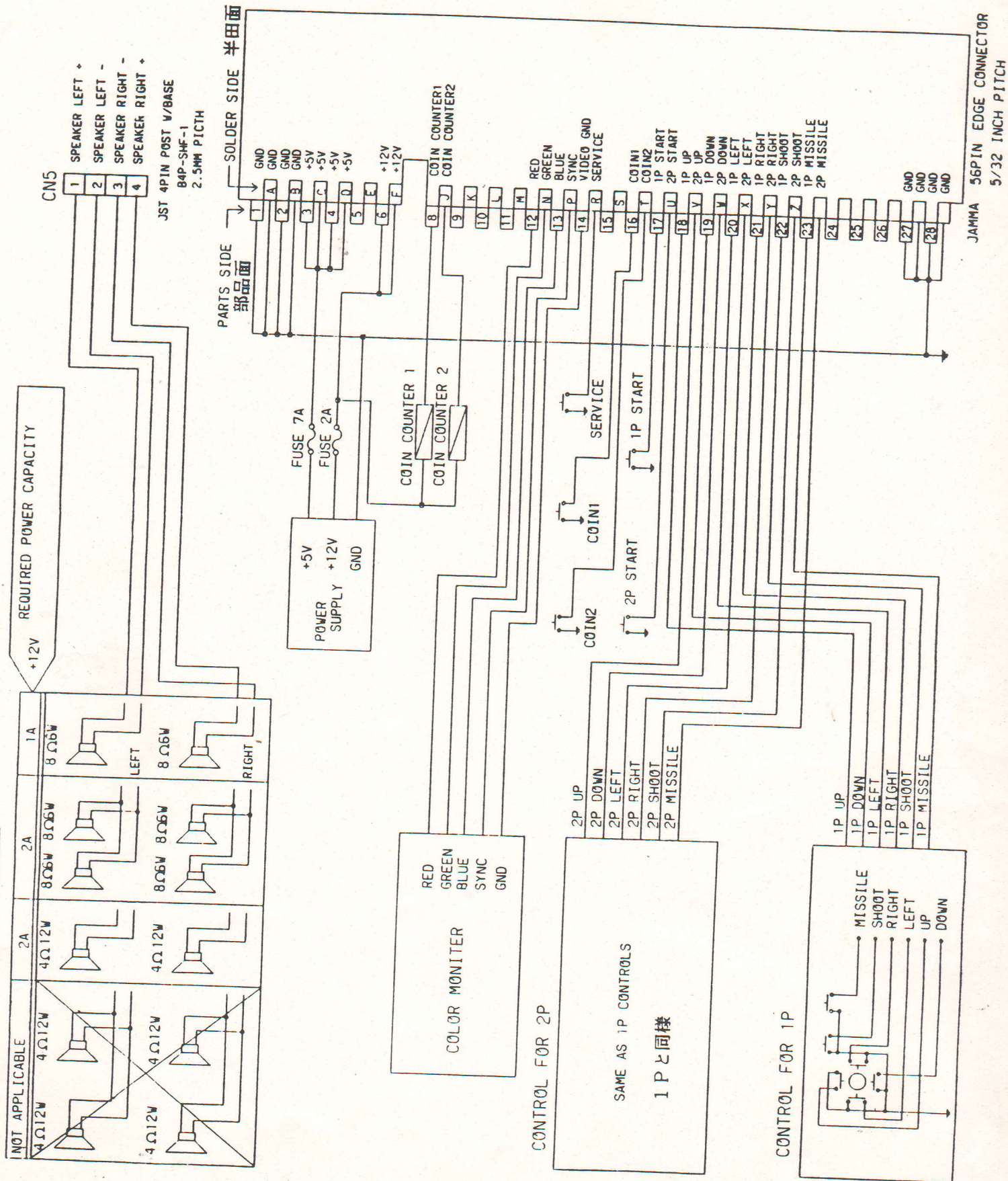
→ Parts Side

BLACK	GND	A	1	GND	BLACK
BLACK	GND	B	2	GND	BLACK
RED	+ 5V DC	C	3	+ 5V DC	RED
RED	+ 5V DC	D	4	+ 5V DC	RED
	(EMPTY)	E	5	(EMPTY)	
ORANGE	+ 12V DC	F	6	+ 12V DC	ORANGE
	*KEY	H	7	*KEY	
WHITE/RED	COIN COUNTER 2	J	8	COIN COUNTER 1	WHITE/BLACK
	(EMPTY)	K	9	(EMPTY)	
WHITE/GREEN	(Mono Speaker Output)	L	10	(Mono Speaker Output)	WHITE/BLUE
	(EMPTY)	M	11	(EMPTY)	
GREEN/WHITE	VIDEO GREEN	N	12	VIDEO RED	RED/WHITE
WHITE	VIDEO SYNC	P	13	VIDEO BLUE	BLUE/WHITE
YELLOW/BLACK	SERVICE SW	R	14	VIDEO GROUND	BLACK
	NOT USED	S	15	NOT USED	
YELLOW/RED	COIN 2	T	16	COIN 1	YELLOW/BLUE
WHITE/VIOLET	2P START	U	17	1P START	ORANGE/BLACK
WHITE/BROWN	2P UP	V	18	1P UP	WHITE/GRAY
ORANGE/WHITE	2P DOWN	W	19	1P DOWN	YELLOW/GRAY
ORANGE/RED	2P LEFT	X	20	1P LEFT	YELLOW/GREEN
ORANGE/GRAY	2P RIGHT	Y	21	1P RIGHT	ORANGE/BLUE
GRAY/RED	2P SHOOT	Z	22	1P SHOOT	GRAY/BLACK
GRAY/GREEN	2P MISSILE	a	23	1P MISSILE	GRAY/BLUE
	NOT USED	b	24	NOT USED	
	NOT USED	c	25	NOT USED	
	NOT USED	d	26	NOT USED	
BLACK	GND	e	27	GND	BLACK
BLACK	GND	f	28	GND	BLACK

(BASE COLOR/LINE COLOR)

*Cocktail Table or Dual Control
Upright Only

WIRING DIAGRAM



LIFE FORCE: TECHNICAL INFORMATION

IS THE HORIZONTAL SCAN ON YOUR MONITOR TOO SMALL?

Most of the Wells-Gardner monitors in the field are set for an active video signal of 50 micro seconds. Konami's LIFE FORCE active video signal is 40 micro seconds. Therefore if the horizontal scan is too small, an adjustment of the monitor is recommended. This may be solved simply and inexpensively. (Refer to your Wells-Gardner schematic.)

1. Change capacitor C365 on the monitor to .15 mf 200V polypropolene.
2. Add an 820 P.F. 1500V polypropolene capacitor across the horizontal output transformer Q352 from the collector to the emitter.
3. Cut the horizontal centering wire #30. (Usually yellow in color.)

STEREO/MONO SOUND INSTALLATION

Konami introduces stereo sound.

Please read instructions carefully. If your video cabinet doesn't utilize two speakers, follow instructions for mono output.

TECHNICAL INFORMATION

Adjusting Sound Volume

In stereo specifications, adjust volume of each speaker separately (L and R).

In monaural specifications, use R-volume switch to adjust volume. L-volume switch is irrelevant to volume. By R VOLUME.

HOW TO CHANGE TO MONAURAL/STEREO

*Note: Mono & Stereo sound *cannot* operate simultaneously.

For Mono Sound

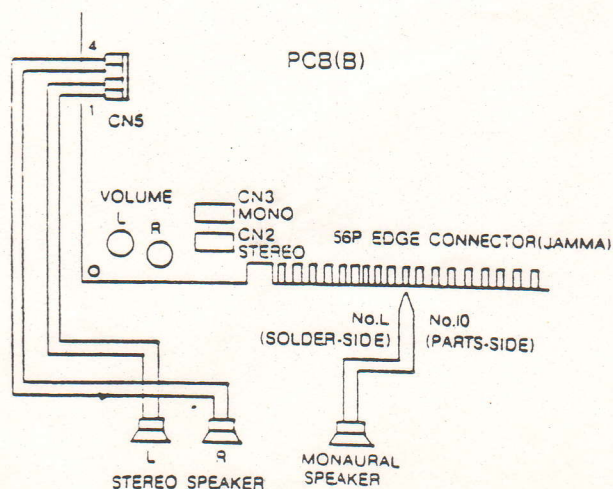
Use pin #10 and of the 56 pin edge connector to the speaker contacts.

Also connect Jumper connector into CN3.

For Stereo Sound

Use connector CN5 as your speaker output ports connect pins 1 & 2 to the left speaker pins 3 & 4 to the right speakers.

Also connect Jumper connector to CN2.

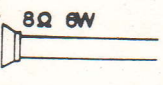
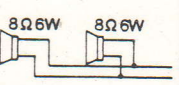
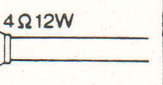
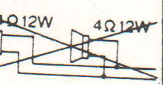


LIFE FORCE: TECHNICAL INFORMATION

(1) Required Power Capacity

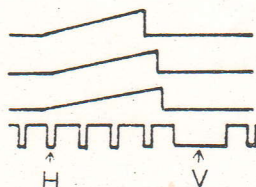
+ 5V DC 7A or more.
+ 12V DC See Figure 1 below.

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



PLAY INSTRUCTION

For one or two players.

Player can enter at any time.

3 ships per credit. Each coin slot can accept up to 9 credits per play.

To continue, insert coins BEFORE you lose your last ship.

(Note: The number of player's ships and the maximum credits per play can be changed by Dip Switch Settings.)

Move your space ship by 8-way joystick.

Destroy enemies by "Shoot" button.

Pick up the parts to increase your power.

- SPEED UP Five speed levels.
- MISSILE Press "Missile" button to launch.
- LASER Your forward rockets turn to deadly lasers.
- RIPPLE LASER Use "Shoot" button to fire.
- FORCE FIELD Protect your ship with barriers.
- MULTIPLE Increase your fire power by up to 4 times as much.

You can obtain multiple special powers but you cannot have LASER as well as RIPPLE LASER.

SELF TEST

A. How to start

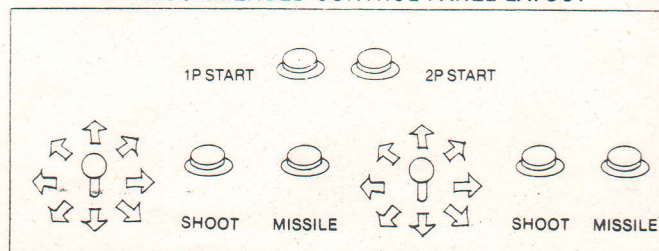
1. Turn on the SW3 of the DIP SW3.

B. Test Items

1. Conditioning of Picture Contortion
2. Color Conditioning
3. Control Check
4. Coin Counter Check
5. DIP SW SET
6. Sound Check

*To change items, push 1P start button.

RECOMMENDED CONTROL PANEL LAYOUT



DIP SWITCH SETTINGS

Life
Force

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

NUMBER OF COIN SLOTS

SW	3	NUMBER
•	OFF	SINGLE
	ON	TWO (SEPARATE)

MAXIMUM CREDITS FOR CONTINUATION

SW	4	5	MAXIMUM NUMBER
•	OFF	OFF	1
	ON	OFF	3
	OFF	ON	5
	ON	ON	9

DIFFICULTY OF THE GAME

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

• Shows normal setting

DIP SWITCH NO. 3 SETTINGS

Video Screen Flip

SW	1	
•	OFF	NORMAL
	ON	UPSIDE DOWN

MANUAL TEST

SW	3	MODE
•	OFF	GAME PLAY
	ON	TEST MODE

CHANGE OF TABLE OR UP-RIGHT

SW	4	TYPE
•	OFF	TABLE
	ON	UP-RIGHT

*SW 2 NOT USED