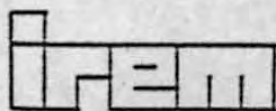


SPARTAN X

MANUAL



IREM CORPORATION

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"SPARTAN X" DIP SWITCH SETTING

DIP SW #1

OPTION		SW	1	2	3	4	5	6	7	8
DIFFICULTY	EASY		OFF							
	DIFFICULT		ON							
DECREASE OF ENERGY	SLOW			OFF						
	FAST			ON						
NUMBER OF FIGHTERS	2				ON	OFF				
	3				OFF	OFF				
	4				OFF	ON				
	5				ON	ON				
COIN MODE	* MODE 2 DIP SW 2's 3 ON	SELECTOR A	1 COIN 1 PLAY				OFF	OFF		
		2 COINS 1 PLAY				ON	OFF			
		3 COINS 1 PLAY				OFF	ON			
		FREE PLAY				ON	ON			
	SELECTOR B	1 COIN 2 PLAYS							OFF	OFF
	1 COIN 3 PLAYS								ON	OFF
	1 COIN 5 PLAYS								OFF	ON
	1 COIN 6 PLAYS								ON	ON
	** MODE 1 DIP SW 2's 3 OFF	1 COIN 1 PLAY					OFF	OFF	OFF	OFF
	2 COINS 1 PLAY					ON	OFF	OFF	OFF	OFF
	3 COINS 1 PLAY					OFF	ON	OFF	OFF	OFF
	4 COINS 1 PLAY					ON	ON	OFF	OFF	OFF
	5 COINS 1 PLAY					OFF	OFF	ON	OFF	OFF
	6 COINS 1 PLAY					ON	OFF	ON	OFF	OFF
	1 COIN 2 PLAYS						OFF	OFF	OFF	ON
	1 COIN 3 PLAYS						ON	OFF	OFF	ON
1 COIN 4 PLAYS						OFF	ON	OFF	ON	
1 COIN 5 PLAYS						ON	ON	OFF	ON	
1 COIN 6 PLAYS						OFF	OFF	ON	ON	
FREE PLAY						ON	ON	ON	ON	

NOTE: * For a cabinet with a single coin selector or with two coin selectors for the same value coin, Switch 3 of Dip Switch 2 must be OFF.

** For a cabinet with two coin selectors for two different value coins, Switch 3 of Dip Switch 2 must be ON.

DIP SW #2

OPTION		SW	1	2	3	4	5	6	7	8
FLIP PICTURE	NO		OFF							
	YES		ON							
CABINET TYPE	TABLE			OFF						
	UPRIGHT			ON						
COIN MODE SETTING	MODE 1				OFF					
	MODE 2				ON	ALWAYS		ALWAYS		
*FREEZE PICTURE	NO					OFF	OFF	OFF		
	YES					ON	ON	ON		
NO DEATH MODE	NO								OFF	
	YES								ON	
TEST MODE	NO									OFF
	YES									ON

NOTE: * Press 2-Player start button to freeze picture. Press 1-Player start button to let it move again.

PCB SPECIFICATIONS

POWER SUPPLY :

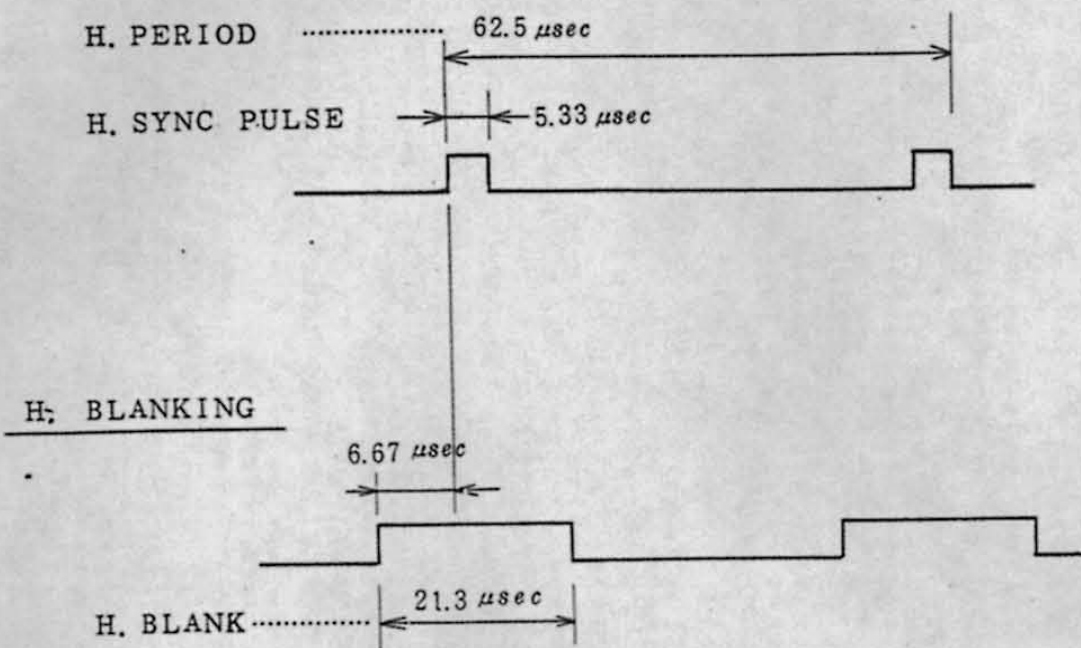
VOLTAGE 5V ± 5%
 12V ± 10%
 AMPERE 5V MAX 5A
 12V MAX 1.5A

MONITOR INTERFACE :

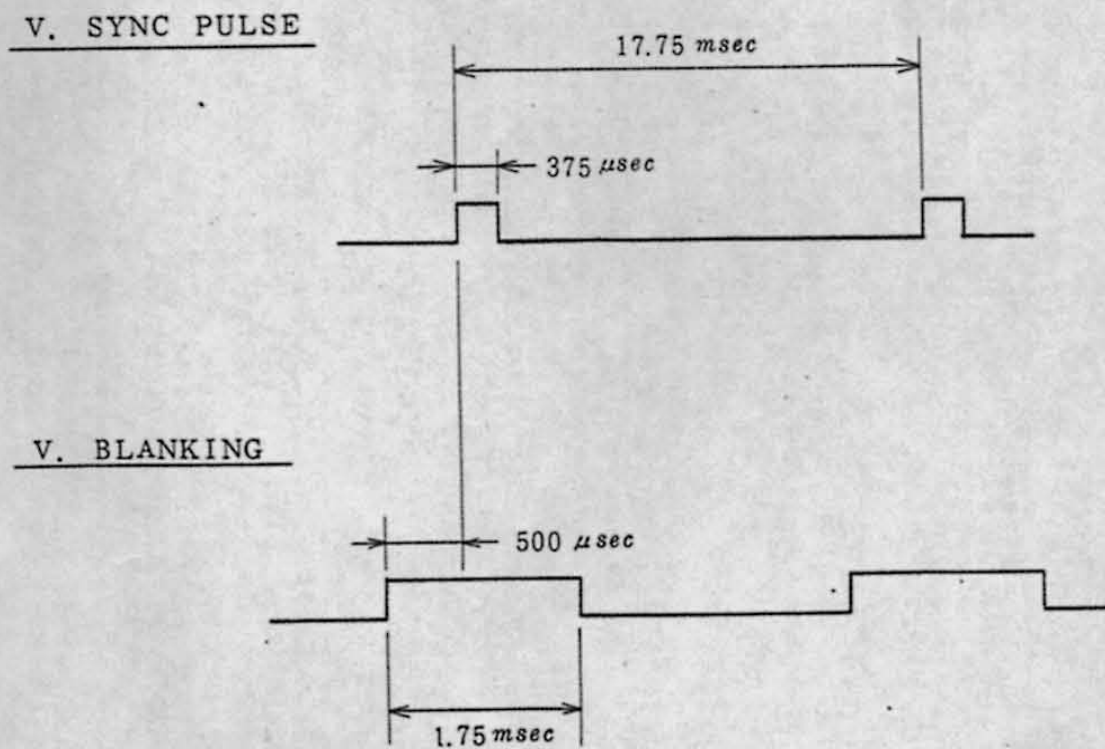
VIDEO SIGNALS.....TTL POSITIVE
 SYNC SIGNALS.....TTL NEGATIVE (COMPOSITE SYNC)
 HORIZONTAL FREQUENCY16.0 KHz
 H. PERIOD 62.5 μ s
 H. BLANK 21.3 μ s
 H. SYNC PULSE 5.33 μ s
 VERTICAL FREQUENCY 56.3 Hz
 V. PERIOD 17.75 ms
 V. BLANK 1.75 ms
 V. SYNC PULSE 375 μ s

	OPERATING	STORAGE
TEMPERATURE RANGE	0 to 50 °C	- 5 to 60 °C
RELATIVE HUMIDITY	20 to 70 %	NO MORE THAN 80 %
VIBRATION RANGE	NO MORE THAN 0.5G	NO MORE THAN 1.0G
TOLERANCE FOR FALLING	NO MORE THAN 0 cm	(Packed) NO MORE THAN 50 cm

HORIZONTAL FREQUENCY 16.0 KHz



VERTICAL FREQUENCY 56.3 Hz



"SPARTAN X" 44 PIN EDGE-CONNECTOR

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Oben

GND	¹ 1	¹ 2	GND
GND	^B 3	² 4	GND
	^C 5	³ 6	
COIN COUNTER A	^D 7	⁴ 8	
1 P LEFT	^E 9	⁵ 10	2 P LEFT
1 P RIGHT	^F 11	⁶ 12	2 P RIGHT
1 P KICK	^H 13	⁷ 14	2 P KICK
2 P START	^J 15	⁸ 16	1 P START
	^K 17	⁹ 18	COIN COUNTER B
COIN B	^L 19	¹⁰ 20	COMP SYNC
+ 12 V	^M 21	¹¹ 22	+ 12 V
+ 12 V	^N 23	¹² 24	+ 12 V
SPEAKER (-)	^P 25	¹³ 26	SPEAKER (+)
1 P PUNCH	^R 27	¹⁴ 28	2 P PUNCH
RED	^S 29	¹⁵ 30	GREEN
BLUE	^T 31	¹⁶ 32	
2 P UP	^U 33	¹⁷ 34	2 P DOWN
1 P UP	^V 35	¹⁸ 36	1 P DOWN
SERVICE SW	^W 37	¹⁹ 38	COIN A
+ 5 V	^X 39	²⁰ 40	+ 5 V
+ 5 V	^Y 41	²¹ 42	+ 5 V
GND	^Z 43	²² 44	GND

DIAGNOSTIC MODE TESTS

Diagnostic program is activated by turning switch 8 of Dip switch 2 to the ON position and turning power switch ON. This diagnostic program is composed of 8 independent tests, first two (RAM test and ROM test) of which initiate automatically as power switch is turned ON. After these two tests end, TV monitor displays a list of the next six tests as described below when the 2-Player button is pressed:

- 01 DIP SWITCH
- 02 I-O PORT
- 03 SOUNDS
- 04 CHARACTER
- 05 COLOR
- 06 CROSS HATCH PATTERN

Move the joystick to position the cursor at the desired test and press the 1-Player button to start the test.

To return to test list: Press the 2-Player button (except when 02 I-O PORT test ends). As 02 I-O PORT test ends, move the joystick left (the 1-Player joystick for table type game) while pressing the 2-Player button.

When all the necessary testing is completed, turn power switch OFF and turn switch 8 of Dip switch 2 to the OFF position.

1. RAM TEST

If RAM is OK, "RAM OK" appears on TV monitor.

If RAM is at fault: "RAM NG XXXX YY ZZ"
(Faulty RAM address)(RAM input data)(RAM output data)
appears on TV monitor.

Press the 1-Player button to continue RAM TEST or

Press the 2-Player button to end this test and advance to ROM TEST.

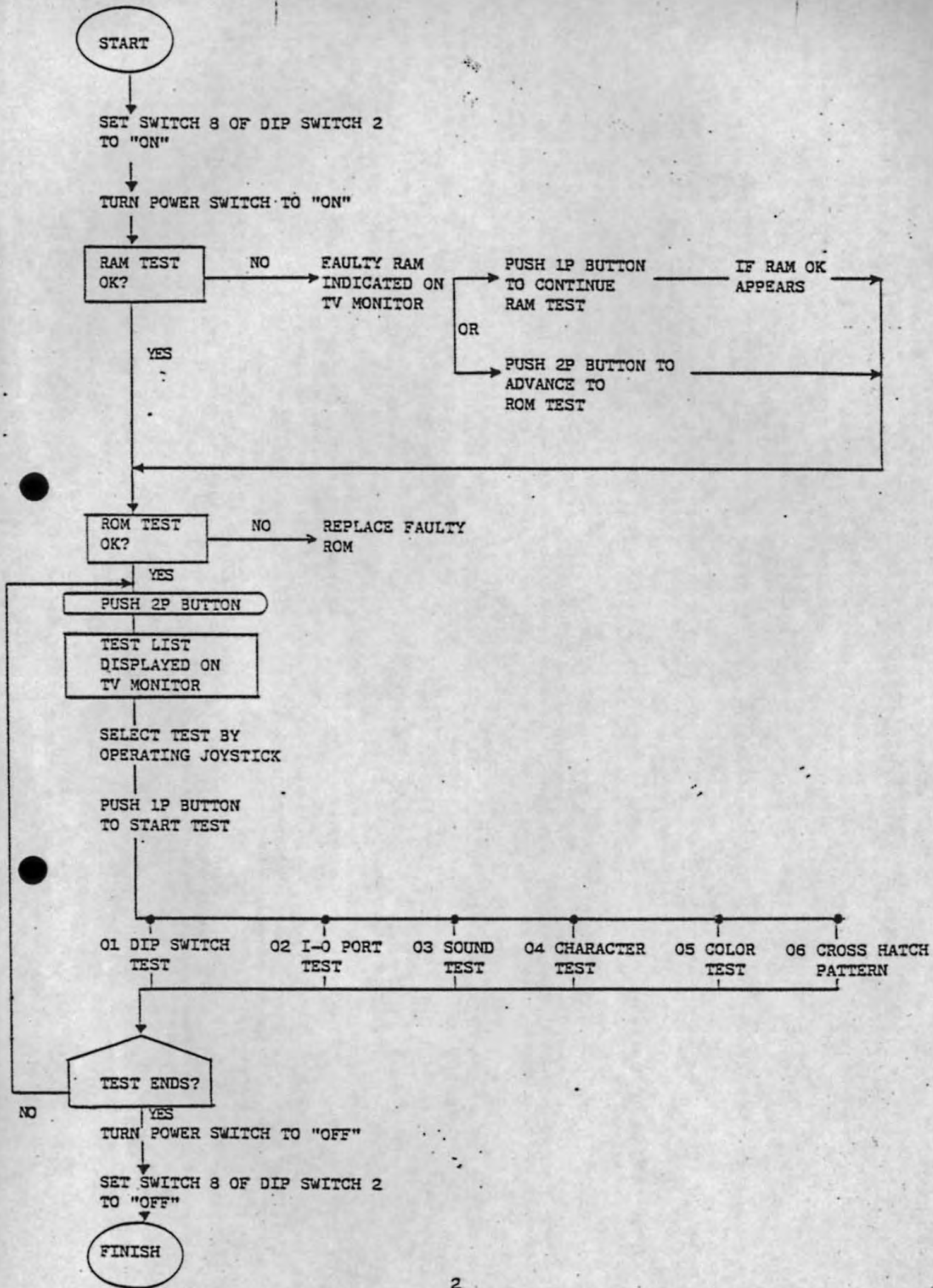
ROM TEST

If ROMs are OK, the following appears on TV monitor.

RAM	OK
ROM 0	OK
ROM 1	OK
ROM 2	OK
ROM 3	OK

If any of the ROMs are at fault, for instance, ROM 1, the following appears on TV monitor.

RAM	OK
ROM 0	OK
ROM 1	NG
ROM 2	OK
ROM 3	OK



3. DIP SWITCH TEST

While TV monitor displays the test list, control the joystick to position the cursor at 01 and press the 1-Player button.

This test shows the state of switches of Dip Switch 1 and 2 and the results of game adjustments.

DIP SW	1	2	3	4	5	6	7	8	
DSW 1	0	0	0	0	0	0	0	0	1 = ON
DSW 2	0	0	0	0	0	0	0	1	0 = OFF

COIN MODE A	1	COIN	1	PLAY
COIN MODE B	1	COIN	2	PLAYS

BODY TYPE	UPRIGHT
DIFFICULTY	EASY
DECREASE	SLOW
FIGHTERS	3

4. I/O PORT TEST

When TV monitor displays the test list, control the joystick to position the cursor at 02 and press the 1-Player button.

This test checks if all the switches on the Control Panel and Coin Doors are working correctly. The following display appears.

INTERFACE 1	1	2	3	4	5	6	7	8	
READ DATA	0	0	0	0	0	0	0	0	
INTERFACE 2	1	2	3	4	5	6	7	8	
READ DATA	0	0	0	0	0	0	0	0	
INTERFACE 3	1	2	3	4	5	6	7	8	1 = ON
READ DATA	0	0	0	0	0	0	0	1	0 = OFF

TIMING n n n n

*TIMING starts at 0000 and adds one count approximately every second.

INTERFACE 1-1	...	1-Player Start Button
1-2	...	2-Player Start Button
1-3	...	Service Switch
1-4	...	Coin Switch A
INTERFACE 2-1	...	1P Joystick right
2-2	...	1P Joystick left
2-3	...	1P Joystick down
2-4	...	1P Joystick up
2-6	...	1P punch button
2-8	...	1P kick button
INTERFACE 3-1	...	2P Joystick right
3-2	...	2P Joystick left
3-3	...	2P Joystick down
3-4	...	2P Joystick up
3-5	...	Coin Switch B
3-6	...	2P punch button
3-8	...	2P kick button

To terminate this test and bring the test list back to TV monitor, move the joystick left while depressing the 2-Player button.

5. SOUND TEST

When TV monitor displays the test list, control the joystick to position the cursor at 03 and press the 1-Player button.

A table of sounds appears on TV monitor.

SOUNDS

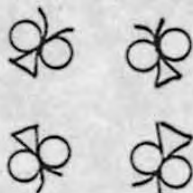
- 01 YELL OF PLAYER (JUMP-KICKS)
CREDIT ADDING SOUND
- 02 YELL OF PLAYER (PUNCHES, KICKS)
- 03 GROAN OF PLAYER OR ENEMY
- 04 LAUGHING VOICE OF ENEMIES-1
- 05 LAUGHING VOICE OF ENEMIES-2
- 06 BURSTING OF PAPER BALL
BURSTING OF DRAGON'S EGG
- 07 SHRIEK OF PLAYER
- 08 PLAYER RUNNING
- 09 HITTING SOUND (PUNCHES, KICKS)
- 10 SWISHING SOUND
- 11 BURSTING OF SNAKE POT
- 12 BITING SOUND
- 13 SOUND OF KNIVES, BOOMERANGS
- 14 COUNTING POINTS
- 15 GAME START
- 16 BGM
- 17 COMPLETION OF EACH PATTERN
- 18 COMPLETION OF GAME
- 19 GAME OVER
- 20 TIME UP WARNING
- 21 ADDITIONAL FIGHTER
MUSIC END

Select a sound by positioning the cursor with the joystick. Depressing the 1-Player button repeats the sound.

6. CHARACTER TEST

When TV monitor displays the test list, control the joystick to position the cursor at 04 and press the 1-Player button.

TV monitor displays four moths which are flipped vertically and horizontally as shown below.



7. COLOR TEST

While TV monitor displays the test list, control the joystick to position the cursor at 05 and press the 1-Player button.

This test comprises of five independent checkups. Pressing the 1-Player button brings each checkup to TV monitor.

- (1) A row of letters A through Z appears along with a row of numbers 0 thru 9 as shown below.

ABCDEFGHIJKLMNOPQRSTUVWXYZ
0123456789

- (2) BLUE field is displayed.
- (3) RED field is displayed.
- (4) GREEN field is displayed.
- (5) Color pattern appears on TV monitor as shown below.

C Y A N							
B L A C K							
BLACK	RED	GREEN	YELLOW	BLUE	PINK	CYAN	WHITE
W H I T E							

8. CROSS HATCH PATTERN TEST

Control the joystick to position the cursor at 06 and press the 1-Player button.

Cross Hatch Pattern is displayed as shown below.

