MYSTIC RIDERS

MANUAL

****

CONTENTS

1. P.C.BOARDS SPECIFICATIONS

POWER SUPPLY:

VOLTAGE   5V ± 5%
             12V ± 10%

AMPERE   5V MAX. 5A
   12V MAX. 1A

MONITOR INTERFACE:

VIDEO SIGNALS ··· TTL POSITIVE
SYNC SIGNALS ··· TTL NEGATIVE (COMPOSITE SYNC)
HORIZONTAL FREQUENCY   ··· 15.723KHz
H.PERIOD   ··· 63.6 μ s
H.BLANK   ··· 15.6 μ s
H.SYNC PULSE   ··· 6.0 μ s
VERTICAL FREQUENCY   ··· 60.0Hz
V.PERIOD   ··· 16.663ms
V.BLANK   ··· 1.40ms
V.SYNC PULSE   ··· 318 μ s

TOLERABLE:	WHILE OPERATING	IN STORAGE
TEMPERATURE	0 TO 50 ℃	-5 TO 60 ℃
RELATIVE HUMIDITY	20 TO 70%	NO MORE THAN 80%
VIBRATION	NO MORE THAN 0.5G	NO MORE THAN 1.0G
DROPPING DISTANCE	NO MORE THAN 0 cm	(When Packed) NO MORE THAN 50 cm

HORIZONTAL FREQUENCY   15.723KHz

H.PERIOD $\cdots\cdots\cdots\cdots\cdots$ 63.6 μ sec

6.0 μ sec

H.SYNC PULSE

H.BLANKING   4.8 μ sec

15.6 μ sec

H.BLANK
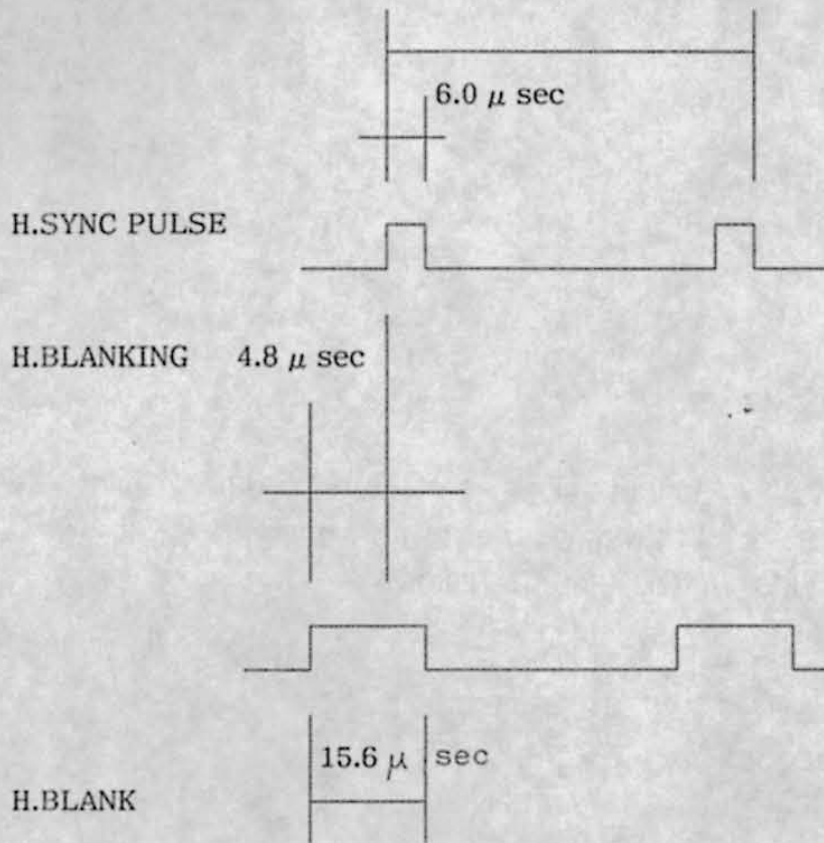
VERTICAL FREQUENCY   60.00Hz

V.SYNC PULSE   16.663msec

318 μ sec

V.BLANKING

512 μ sec

1.400 μ sec
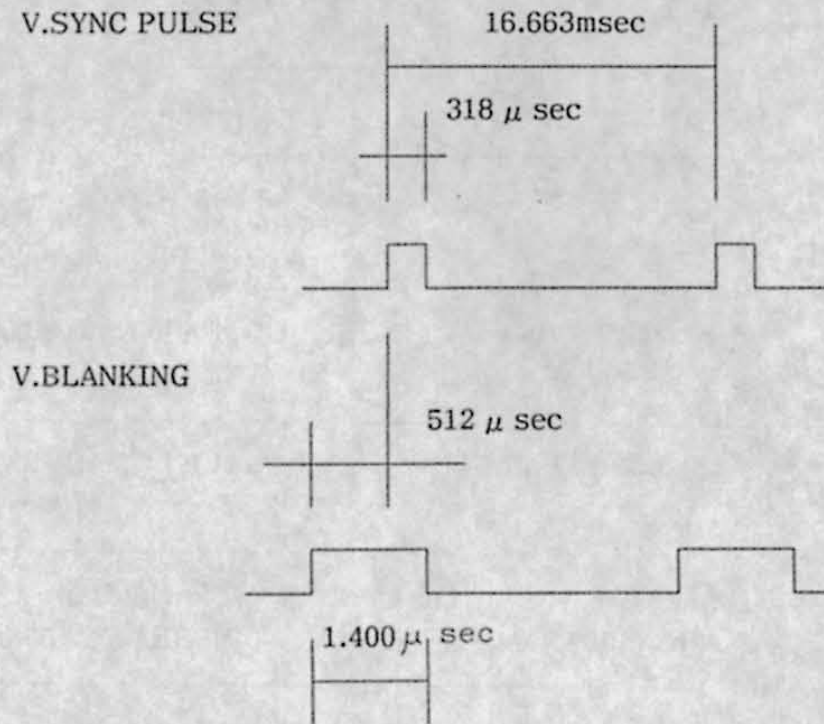
2. DIP SWITCHES

		SW 1							
		1	2	3	4	5	6	7	8
NUMBER OF RIDERS GIVEN AT START	3	OFF	OFF						
	2	ON	OFF						
	4	OFF	ON						
	5	ON	ON						
DIFFICULTY	NORMAL			OFF	OFF				
	EASY			ON	OFF				
	HARD			OFF	ON				
	VERY HARD			ON	ON				
EXTRA RIDERS GIVEN AT POINTS	200,500,900 x 1,000					OFF			
	150,350,600 x 1,000					ON			
CONTINUE MODE	YES						OFF		
	NO						ON		
SOUND IN ATTRACTIVE MODE	NO							OFF	
	YES							ON	
DIAGNOSTIC TEST	NO								OFF
	YES								ON

Use an upright or table cabinet equipped with a horizontally positioned CRT monitor and two control units on one side, each unit consisting of an 8-way joystick and two push button switches as illustrated below:
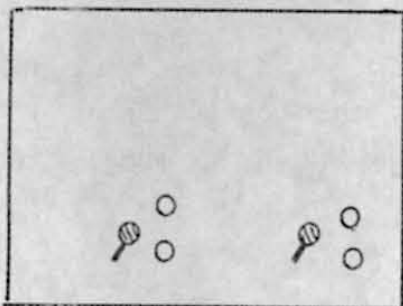
			SW 2							
			1	2	3	4	5	6	7	8
FLIP PICTURE	NO		OFF							
	YES		ON							
COIN MODES	MODE 1	1 COIN 1 PLAY				OFF	OFF	OFF	OFF	OFF
		2 COINS 1 PLAY				OFF	ON	OFF	OFF	OFF
		3 COINS 1 PLAY				OFF	OFF	ON	OFF	OFF
		4 COINS 1 PLAY				OFF	ON	ON	OFF	OFF
		5 COINS 1 PLAY				OFF	OFF	OFF	ON	OFF
		6 COINS 1 PLAY				OFF	ON	OFF	ON	OFF
		1 COIN 2 PLAYS				OFF	OFF	ON	ON	OFF
		1 COIN 3 PLAYS				OFF	ON	ON	ON	OFF
		1 COIN 4 PLAYS				OFF	OFF	OFF	OFF	ON
		1 COIN 5 PLAYS				OFF	ON	OFF	OFF	ON
		1 COIN 6 PLAYS				OFF	OFF	ON	OFF	ON
		2 COINS 3 PLAYS				OFF	ON	ON	OFF	ON
		3 COINS 2 PLAYS				OFF	OFF	OFF	ON	ON
		4 COINS 3 PLAYS				OFF	ON	OFF	ON	ON
		CONTINUE COIN				OFF	OFF	ON	ON	ON
		FREE PLAY				OFF	ON	ON	ON	ON
	MODE 2	* A	1 COIN 1 PLAY			ON	OFF	OFF		
			2 COINS 1 PLAY			ON	ON	OFF		
			3 COINS 1 PLAY			ON	OFF	ON		
			5 COINS 1 PLAY			ON	ON	ON		
		** B	1 COIN 2 PLAYS			ON			OFF	OFF
			1 COINS 3 PLAYS			ON			ON	OFF
			1 COINS 5 PLAYS			ON			OFF	ON
			1 COINS 6 PLAYS			ON			ON	ON

* COIN CHUTE A   ** COIN CHUTE B

- Please turn off the power switch before changing the DIP SW setting, or the change may not take effect.
- Continue Coin is the mode which starts the game with 2 coins, but continues it with 1 coin alone. When this mode is set, no other coin modes can be set. For two players, 4 coins to start, 2 coins to continue in this mode.
- DIP SW3 is not used.

3. 56 PIN CONNECTOR

56 PIN CONNECTOR
CONFORMING TO JAMMA STANDARD (3.96 mm pitch)

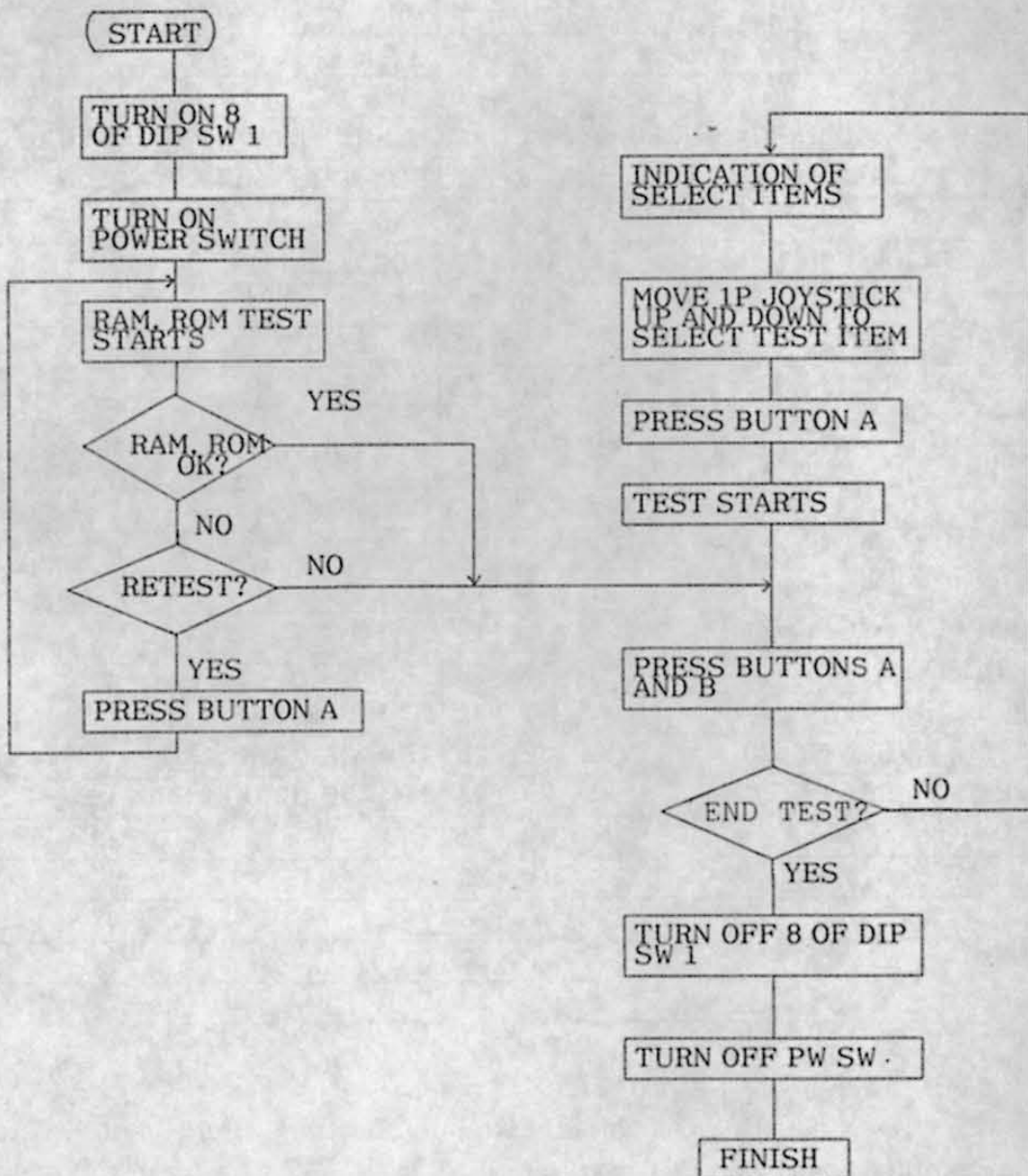| SOLDER SIDE			PARTS SIDE
GND	A	1	GND
GND	B	2	GND
+5V	C	3	+5V
+5V	D	4	+5V
	E	5	
+12V	F	6	+12V
MISINSERTION PREVENTING KEY	H	7	MISINSERTION PREVENTING KEY
COIN COUNTER B	J	8	COIN COUNTER A
GND	K	9	GND
SPEAKER (-)	L	10	SPEAKER (+)
	M	11	
VIDEO GREEN	N	12	VIDEO RED
VIDEO SYNC	P	13	VIDEO BLUE
SERVICE SW	R	14	VIDEO GND
	S	15	
COIN SW B	T	16	COIN SW A
2P START	U	17	1P START
2P UP	V	18	1P UP
2P DOWN	W	19	1P DOWN
2P LEFT	X	20	1P LEFT
2P RIGHT	Y	21	1P RIGHT
2P SW A (GUN SHOT)	Z	22	1P SW A (GUN SHOT)
2P SW B (BROOM SHOT)	a	23	1P SW B (BROOM SHOT)
	b	24	
	c	25	
	d	26	
GND	e	27	GND
GND	f	28	GND

Use two 8-way joysticks, each with two push button switches and a
horizontally positioned CRT monitor.

4. DIAGNOSTIC TEST

As soon as the number 8 of the DIP Switch 1 is turned "ON" and the Power Switch is turned on, the RAM, ROM Test starts. To finish the Tests, turn off the Power Switch and then the number 8 of the DIP Switch 1 "OFF".

* Use 1P JOYSTICKS, BUTTON A and BUTTON B in Test mode.

1) Test Procedures

```
                    ( START )
                        |
              ┌─────────────────┐
              │ TURN ON 8       │
              │ OF DIP SW 1     │
              └─────────────────┘
                        |
              ┌─────────────────┐
              │ TURN ON         │
              │ POWER SWITCH    │
              └─────────────────┘
                        |
              ┌─────────────────┐          ┌─────────────────┐
         ┌───▶│ RAM, ROM TEST   │          │ INDICATION OF   │◀──┐
         │    │ STARTS          │          │ SELECT ITEMS    │   │
         │    └─────────────────┘          └─────────────────┘   │
         │            |                            |             │
         │            |                   ┌─────────────────┐    │
         │          YES                   │ MOVE 1P JOYSTICK│    │
         │      ◇ RAM, ROM ◇─────┐        │ UP AND DOWN TO  │    │
         │        ◇  OK?  ◇      │        │ SELECT TEST ITEM│    │
         │            |          │        └─────────────────┘    │
         │          NO           │                |              │
         │            |          │        ┌─────────────────┐    │
         │      ◇        ◇   NO  │        │ PRESS BUTTON A  │    │
         │      ◇ RETEST? ◇──────┼──────┐ └─────────────────┘    │
         │      ◇        ◇       │      │        |               │
         │            |          │      │ ┌─────────────────┐    │
         │          YES          ▼      │ │ TEST STARTS     │    │
         │    ┌─────────────────┐       │ └─────────────────┘    │
         └────│ PRESS BUTTON A  │       │        |               │
              └─────────────────┘       │ ┌─────────────────┐    │
                                        └▶│ PRESS BUTTONS A │    │
                                          │ AND B           │    │
                                          └─────────────────┘    │
                                                  |              │
                                          ◇           ◇   NO     │
                                          ◇ END TEST? ◇──────────┘
                                          ◇           ◇
                                                  |
                                                 YES
                                          ┌─────────────────┐
                                          │ TURN OFF 8 OF DIP│
                                          │ SW 1            │
                                          └─────────────────┘
                                                  |
                                          ┌─────────────────┐
                                          │ TURN OFF PW SW ·│
                                          └─────────────────┘
                                                  |
                                          ┌─────────────────┐
                                          │ FINISH          │
                                          └─────────────────┘
```

2) RAM ROM Test

Although the picture does not appear on the screen and only various patterns appear on it for a while after turning on the power switch, RAMs for the picture are being tested during this time. RAM ROM Test will be done every time the power switch is turned on whether the test mode is set or not.

· If RAMs are found OK by the test, "RAM OK" and "ROM OK" will be displayed on the screen.

· If RAM(s) is (are) not good, "RAM NG" and a figure will appear on the screen. The figure underneath "RAM NG" indicates the location of the defective RAM(s).

· If ROM(s) is (are) not good, "ROM NG" will appear on the screen.

When RAMs and ROMs are found all good after completing this RAM ROM Tests, press 1P A and B buttons to go to the next test. In case any RAM(s) or ROM(s) is (are) found faulty after completing the test, press the 1P A and B buttons to retest.

3) SELECT AND START THE TEST ITEMS

The following test items are shown so that you may select a test item you want by moving the 1P joystick up and down. Selected item will be indicated in green.
  1. IN PORT
  2. SOUND
  3. CHARACTER
  4. SCREEN
  5. OPTION
  6. END

Press the button A to get the test indicated in green started.
Press the buttons A and B to end the same test.

4) PORT TEST

This test shows which DIP Switches, Buttons and Joysticks are turned "ON" and "OFF" in connection to the IN PORTS.

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
IN PORT 1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
IN PORT 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IN PORT 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	1	2	3	4	5	6	7	8
DIP SW 1	0	0	0	0	0	0	0	0
DIP SW 2	0	0	0	0	0	0	0	0
DIP SW 3	0	0	0	0	0	0	0	0

(0 - OFF, 1 - ON)

5) SOUND TEST

The screen shows the number of each sound and the test is done about whether the corresponding sound is given. Push down the 1P joystick to move over to the next sound's test.

SOUND OO

6) CHARACTER TEST

The player character is displayed on the screen.
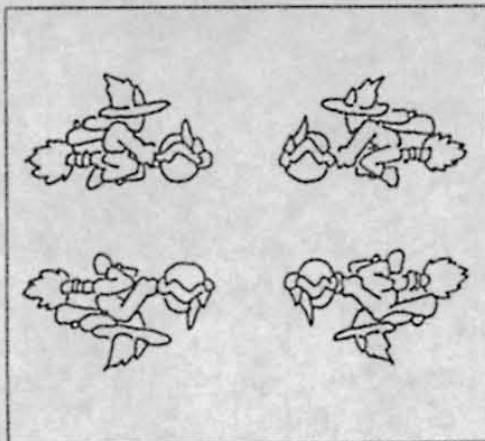
Make sure that the same character is shown in four different positions, each vertically and horizontally reversed, as shown on the left.

7) SCREEN TEST

By pressing the 1P joystick, the test can be advanced like 1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10 - 1.

1. The whole screen shows only BLUE color.
2.   "   RED
3.   "   MAGENTA
4.   "   GREEN
5.   "   CYAN
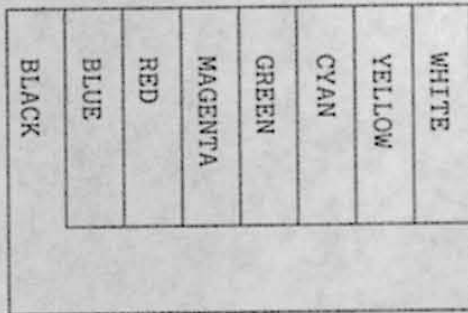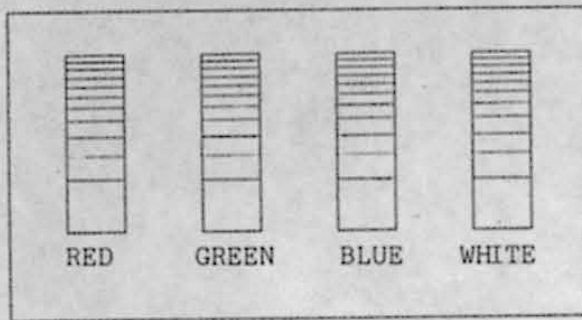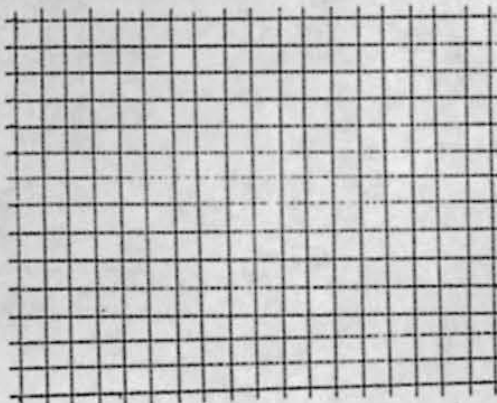6.   "   YELLOW
7.   "   WHITE
8. Figure A is displayed on the screen.
9. Figure B   "
10. Figure C   "

Figure A: A vertical color bar chart with columns labeled BLACK, BLUE, RED, MAGENTA, GREEN, CYAN, YELLOW, WHITE

Figure B: Four gradient bars labeled RED, GREEN, BLUE, WHITE, ranging from BRIGHTER (top) to DARKER (bottom)

15 Lines Figure C

20 Lines