

# Cheeky Mouse

Operation, Maintenance  
and Service Manual

**UNIVERSAL**

**Thank you very much for your purchase of the CHEEKY MOUSE. Carrying a CPU, the CHEEKY MOUSE is a game machine of the newest type with many features and functions.**

**This manual describes how to make the most of such features and functions, so please read it carefully in order to make the best use of the machine.**

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### — WHEN ORDERING PARTS —

Since each component part is indicated by block, definitely specify both the corresponding Fig. No. and part No. within the Fig. when placing an order for it.

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## I. FEATURES OF THIS MACHINE

1. The game packs in excellent features capturing the hearts of players.
2. The lever control system is simple to handle.
3. At the flick of a dip switch, you can select among extended play, the number of men, and time of appearance of an additional man, etc.
4. High score for the day is always displayed on the screen.
5. Finely designed cabinet and fascinating acoustic effects.

## **II. HOW TO HANDLE AND MAINTAIN THIS MACHINE**

1. Since the UNIVERSAL's CHEEKY MOUSE employs a color TV receiving set, be careful not to shake it during transit and when carrying it about.
2. Install it at a location which is not exposed to direct sunlight. In order to prevent the inside temperature rising, avoid as much as possible a location near a heater, etc.
3. Since the grounding terminal is visible, be sure to connect it to a grounding conductor.
4. Insert the power cord into the outlet and turn on the switch.
5. Even if the solid-state module seems to be out of order, do not check the circuit by means of a circuit tester, etc., since the internal voltage of the tester, etc. may sometimes break down the IC.
6. Make sure the machine is well ventilated. If the temperature of the IC and transistor is lower than 60°C, they function normally and may be considered reliable. If it exceeds 60°C, their performance cannot be guaranteed.
7. Make sure that the connector, etc. is not disconnected.
8. Whenever connecting the power cord of the solid-state module to, or disconnecting it from, the outlet, be sure to turn the power off.
9. Although the products of UNIVERSAL are manufactured with the utmost care, they may develop malfunctions when used for long periods. So, be sure to check this machine daily.

### III. HOW TO PLAY

1. There are 32 mice on the upper side of the screen. They come out of their lair one after another. Control the lever to move the man from side to side, wiping them out with the hammer.
2. A pest appears everytime 40 mice have been killed. The pest moves toward the man when it reaches the floor. When the man touches it, he falls down. (Since there are 32 mice on one screen, a pest may not appear on the present screen. 2 pests appear for 3 screens cleared; then they will increase to 8 at the rate of one for 3 screens each.)
3. When the mouse reaches the floor, it bites out of it so that cheese can be taken under it. (Then, it either returns to its lair taking cheese in its mouth, or comes back to take cheese once again from the hole in the floor.) When all the 8 pieces of cheese are taken away, the man falls down.
4. An increasing number of mice appear on the screen at an accelerated speed, according to the number of screens. (In such case, you will fail to kill them unless you hit them one after another when they arrive on the floor.)
5. The number of window/s at the center of the screen is 0 at the screen, 1 at the 2nd screen, 2 at the 3rd screen, 3 at the 4th screen and then it returns to 0 at the 5th screen.
6. When all the pieces of cheese are taken away, or when the man falls down by touching the pest, the next play starts with 8 pieces of cheese. When all 3 men fall down, the game is over. (The number of men can be changed from 3 to 6 by using dip switches.)
7. Scoring 3000 points awards another man. (The number of points can be changed from 3000 to 4500 or 6000.)
8. Score

No. of screens	Mouse	Mouse at it returns to its lair	Pest
1 - 2	20	40	100 pts
3 - 4	30	60	150 pts
5 - 6	40	80	200 pts
7 - 8	50	100	250 pts
9 - 10	60	120	300 pts
11 - 12	70	140	
13 - 14	80	160	
15 - 16	90	180	
33 - 17	100	200	

## IV. VARIOUS OPTIONAL SETTINGS

### A. POSITIONS OF DIP SWITCHES

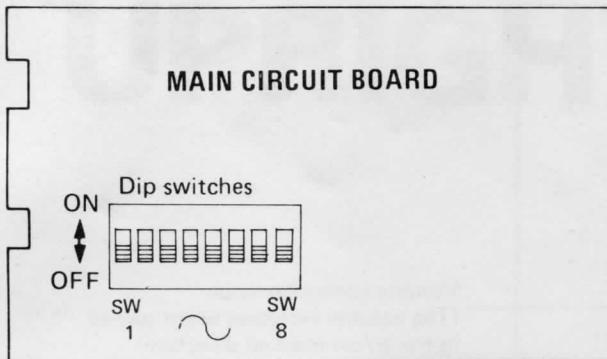


Fig. 1 Positions of Dip Switches

### B. SETTING THE OPTION (DIP SWITCHES)

#### 1. Setting the number of men

No. of men	SW1	SW2
2	ON	ON
3	OFF	ON
4	ON	OFF
5	OFF	OFF

(Set at 3 men when shipped)

#### 4. Sound when the game is over

Sound	SW6
not made	ON
made	OFF

#### 5. Setting the required score for an additional score

Score	SW7	SW8
No extra pts	ON	ON
3000 pts	OFF	ON
4500 pts	ON	OFF
6000 pts	OFF	OFF

(Set at 3000 pts when shipped)

#### 2. Setting the game charge

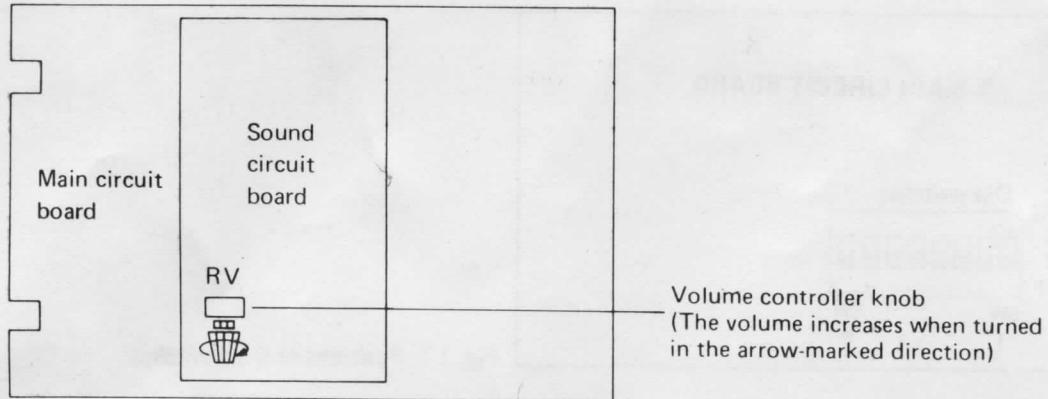
Coin, Credit	SW3	SW4
1 coin 2 credits	ON	ON
1 coin 1 credit	OFF	ON
2 coins 1 credit	ON	OFF
1 coin 1 credit	OFF	OFF

#### 3. Change-over setting of game mode

The game may be enjoyed either as an upright or table type.

Type	SW5
For table use	ON
For upright use	OFF

(The switch input is of a negative logic.)

**C. VOLUME CONTROLLER KNOB**

**Fig. 2 Position of Volume Controller Knob**

**V. TV MONITOR****A. ADJUSTMENT OF TV PICTURE SCREEN**

Since the TV picture screen has been factory-adjusted to optimum conditions at the time of shipment, it needs no adjustment as a rule. If it should by chance need adjustment, adjustment is possible to some extent by manipulating the knobs which appear in the wiring drawing (22"), (13").

# UPRIGHT TYPE



## VI. UPRIGHT TYPE PARTS CATALOG

### A. COMPONENT PARTS RELATED TO CABINET (OUTSIDE)

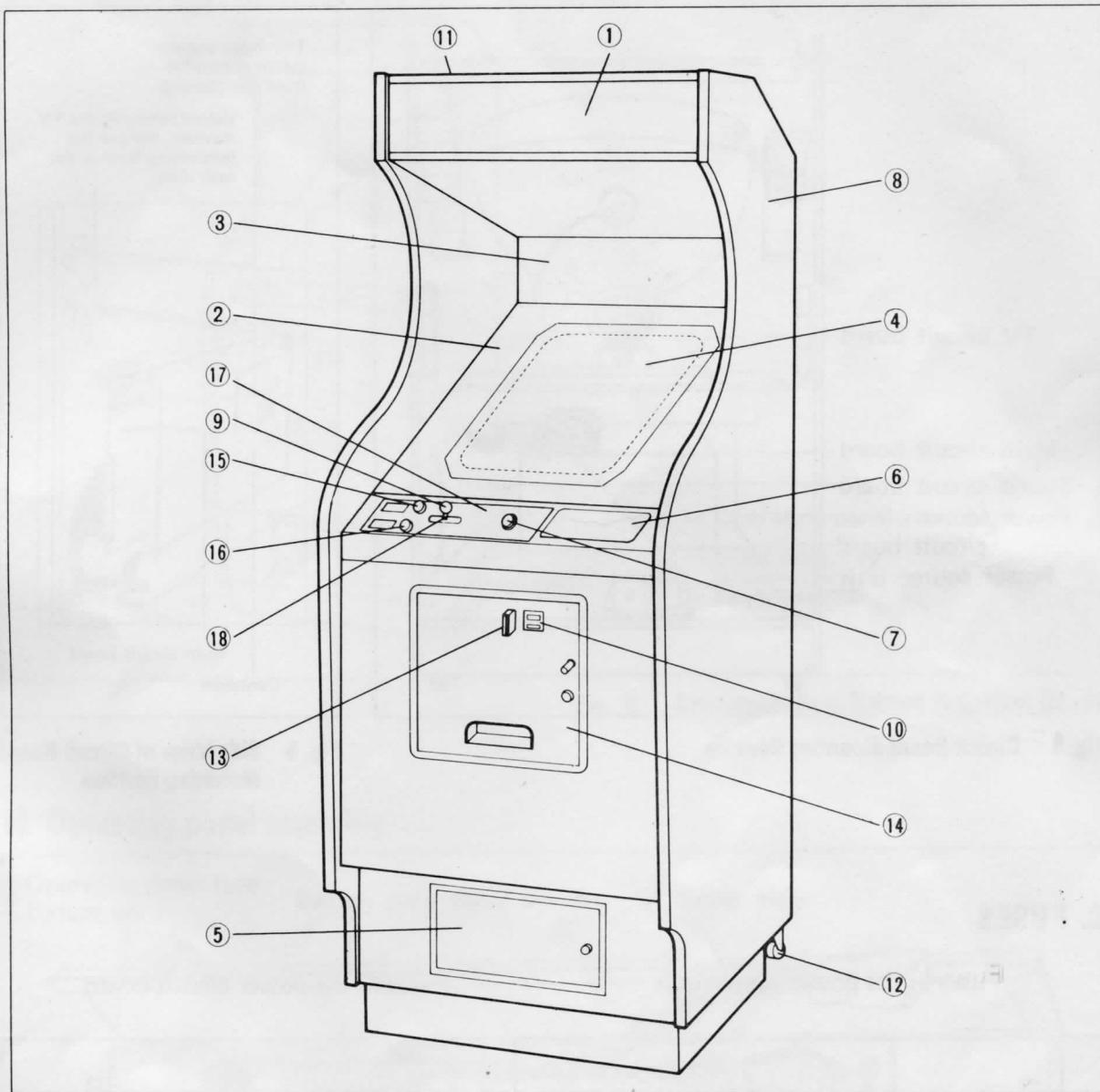
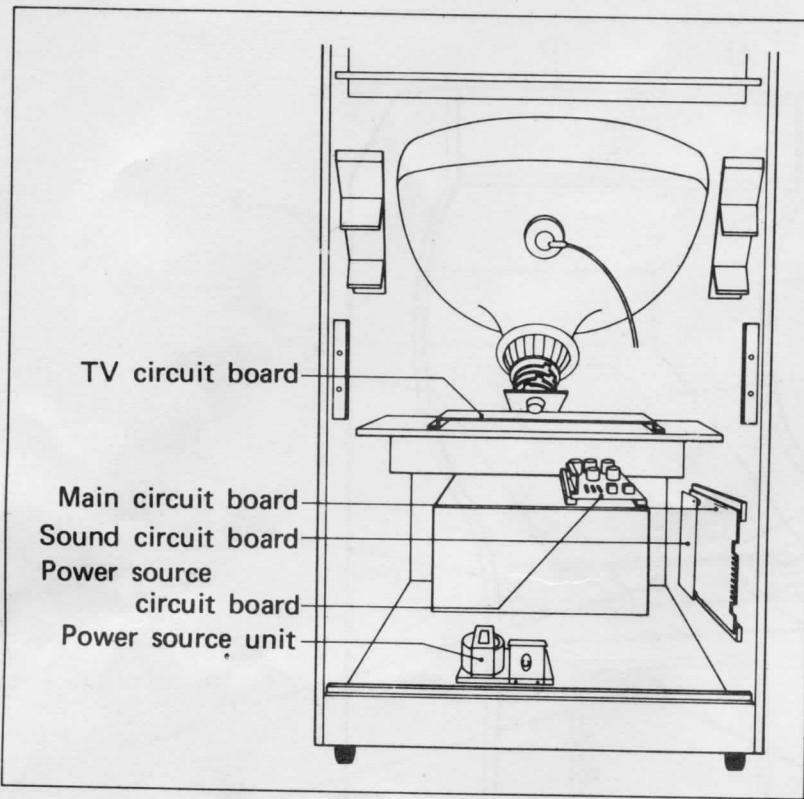
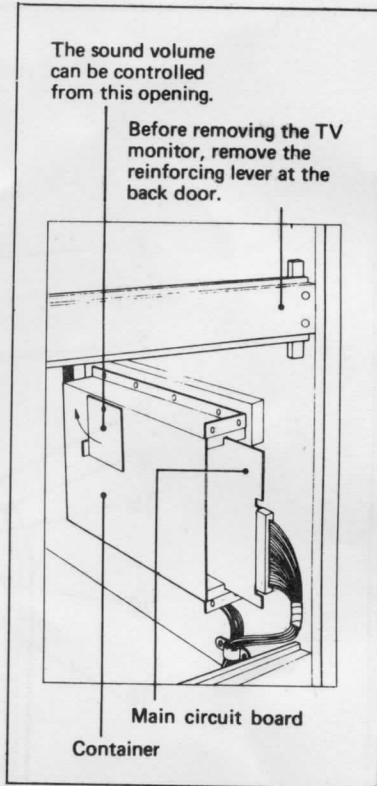


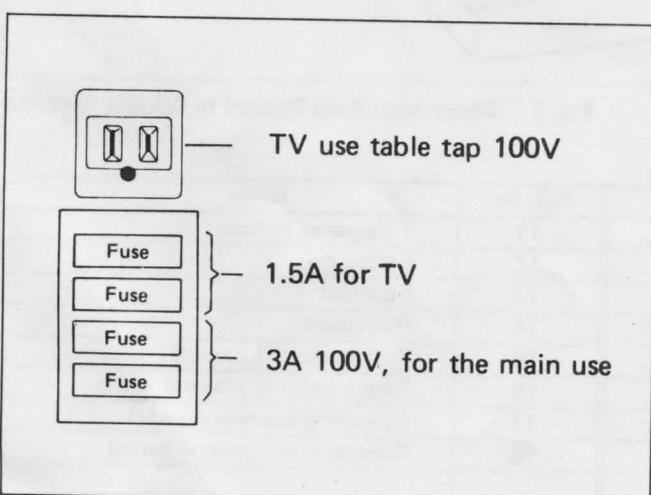
Fig. 3 Component Parts Related to Cabinet (Outside)

#### OUTSIDE CABINET PARTS LIST

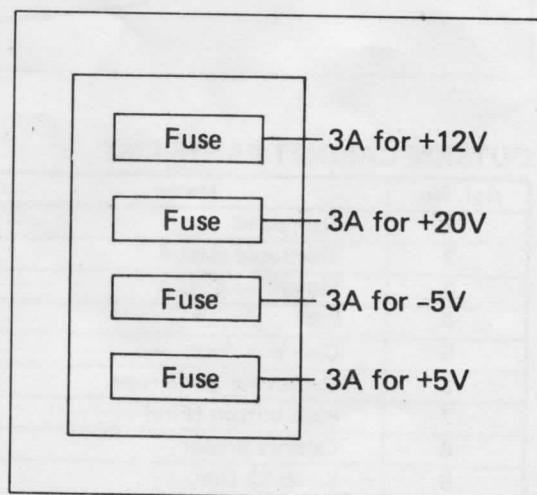
Ref. No.	Name	Ref. No.	Name
1	Title panel	11	Title panel fixture
2	Illustrated glass A	12	Caster
3	Illustrated glass B	13	Coin slot
4	CRT	14	Main door
5	Cash box door	15	Push button (1 player)
6	Sticker for game rules	16	Push button (2 players)
7	Push button (Fire)	17	Operating indication panel
8	Cabinet proper	18	Control lever (general name)
9	Knob 32-Dim.		
10	Coin indication panel		

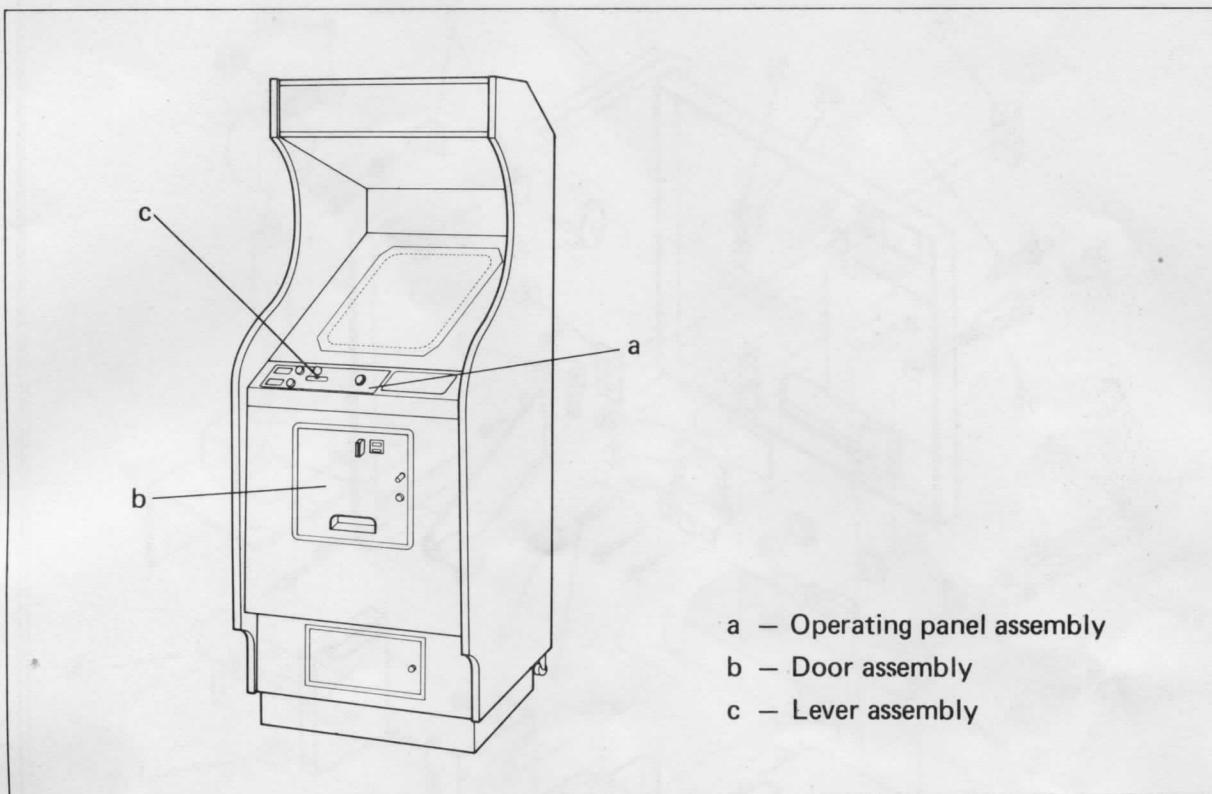
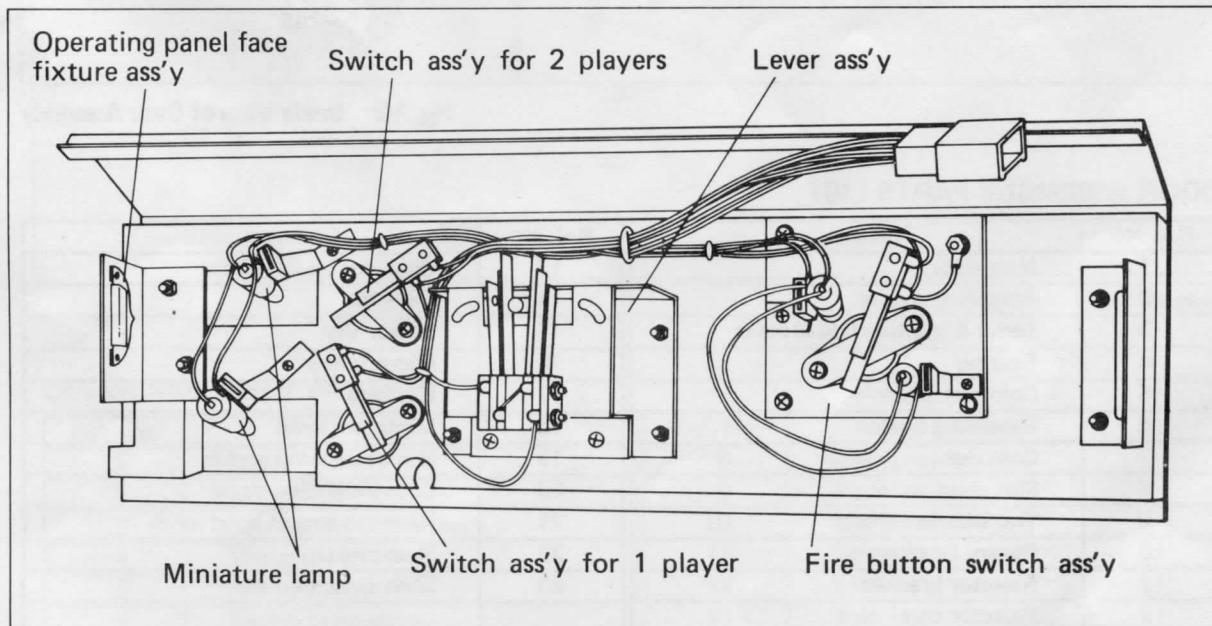
**B. DRAWING OF CIRCUIT BOARD MOUNTING POSITIONS****Fig. 4 Circuit Board Mounting Position****Fig. 5 Side View of Circuit Board Mounting Position****C. FUSES**

Fuses in the power source unit

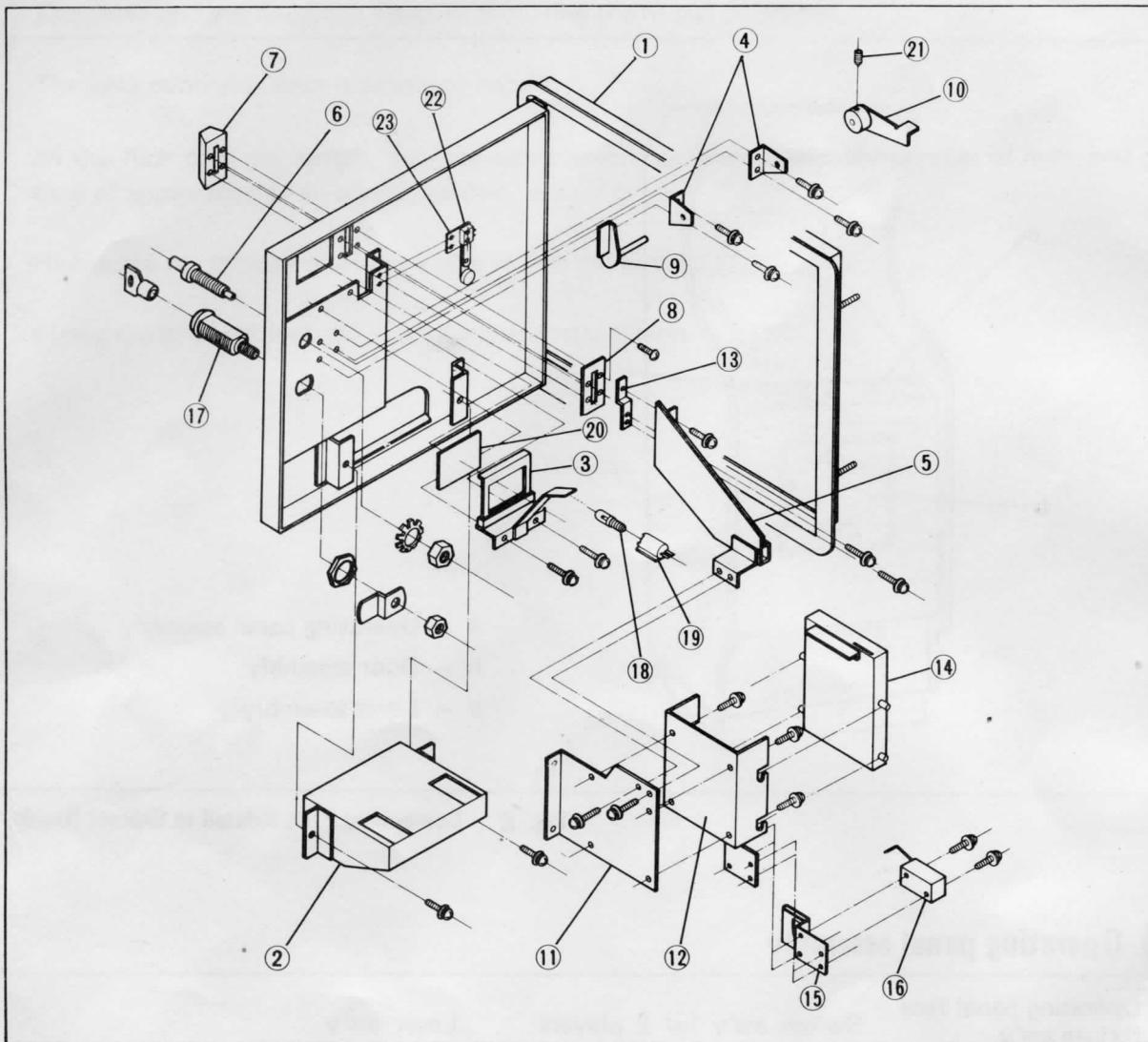
**Fig. 6 Fuses in the Power Source Unit**

Fuses in the power circuit board

**Fig. 7 Fuses in the Power Circuit Board**

**D. COMPONENT PARTS RELATED TO CABINET (INSIDE)****Fig. 8 Component Parts Related to Cabinet (Inside)****a) Operating panel assembly****Fig. 9 Operating Panel Assembly**

**b) Door assembly and parts list**



**Fig. 10 Inside View of Door Assembly**

**DOOR ASSEMBLY PARTS LIST**

Ref. No.	Name	Ref. No.	Name
1	Main door	13	Coin slot shute holder
2	Returning soucer	14	Rejector
3	Lamp & plastic plate bracket	15	Sensor slot
4	Rearing	16	Micro switch
5	Coin slot shute	17	Key sets
6	Returning button	18	Miniature lamp
7	Coin slot	19	Miniature lamp socket
8	Slot plate	20	Coin indication panel
9	Transmission shaft	21	Hexagon socket head screw
10	Rotary bracket	22	Slam switch
11	Rejector bracket	23	Slam switch holder
12	Rejector case		

c) Lever assembly and parts list

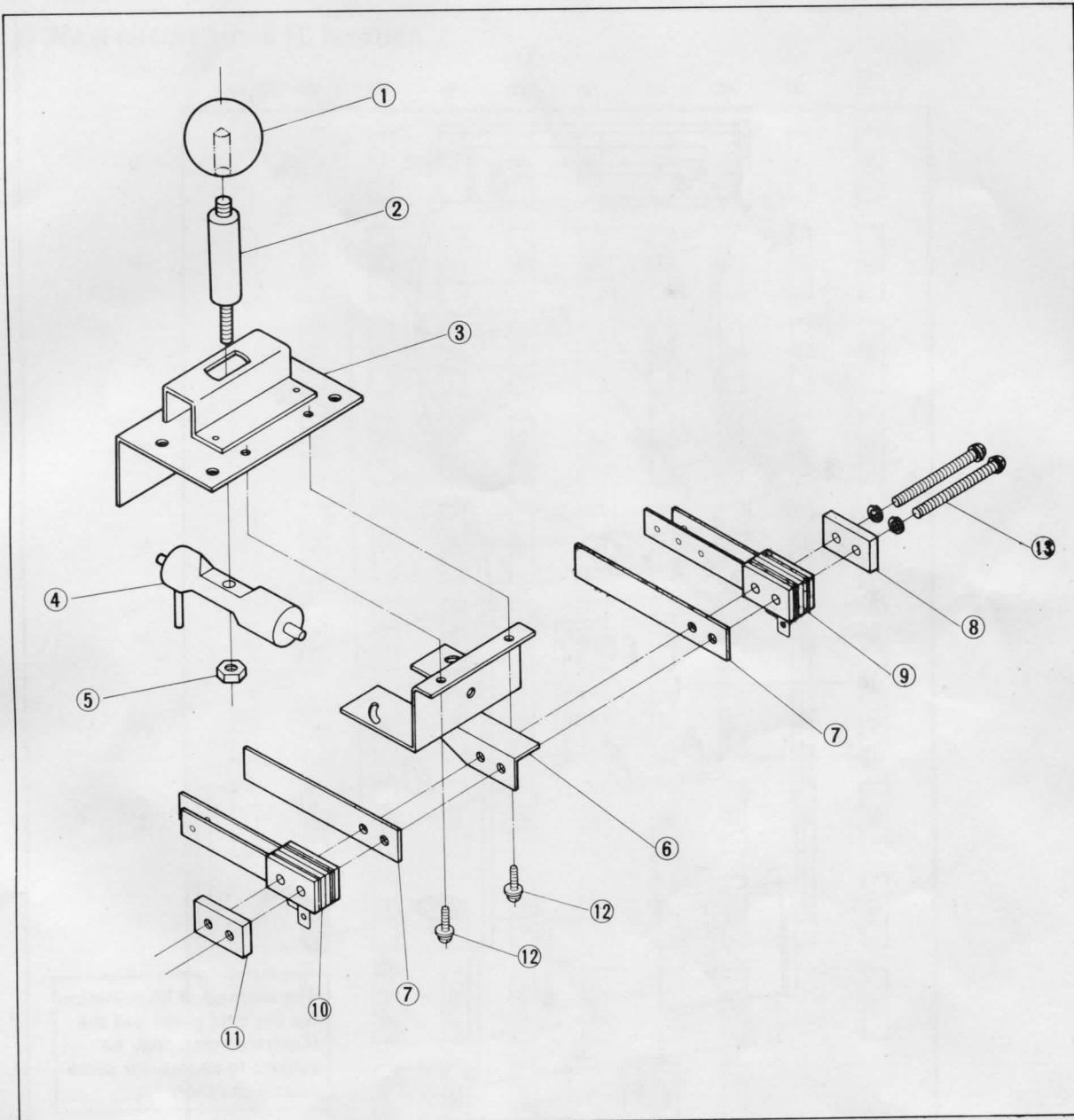


Fig. 11 Lever Assembly

**LEVER ASSEMBLY PARTS LIST**

Ref. No.	Name	Ref. No.	Name
1	Knob 32-Dim.	8	Spring holder
2	Lever shaft	9	Blades switch
3	Lever guide & stopper	10	Blades switch
4	Transmission bar	11	Spring holder with nut
5	Nut with stopper	12	Bolt
6	Switch bracket	13	Bolt
7	Spring		

## E. COMPONENT PARTS RELATED TO SWITCHES IN THE CABINET

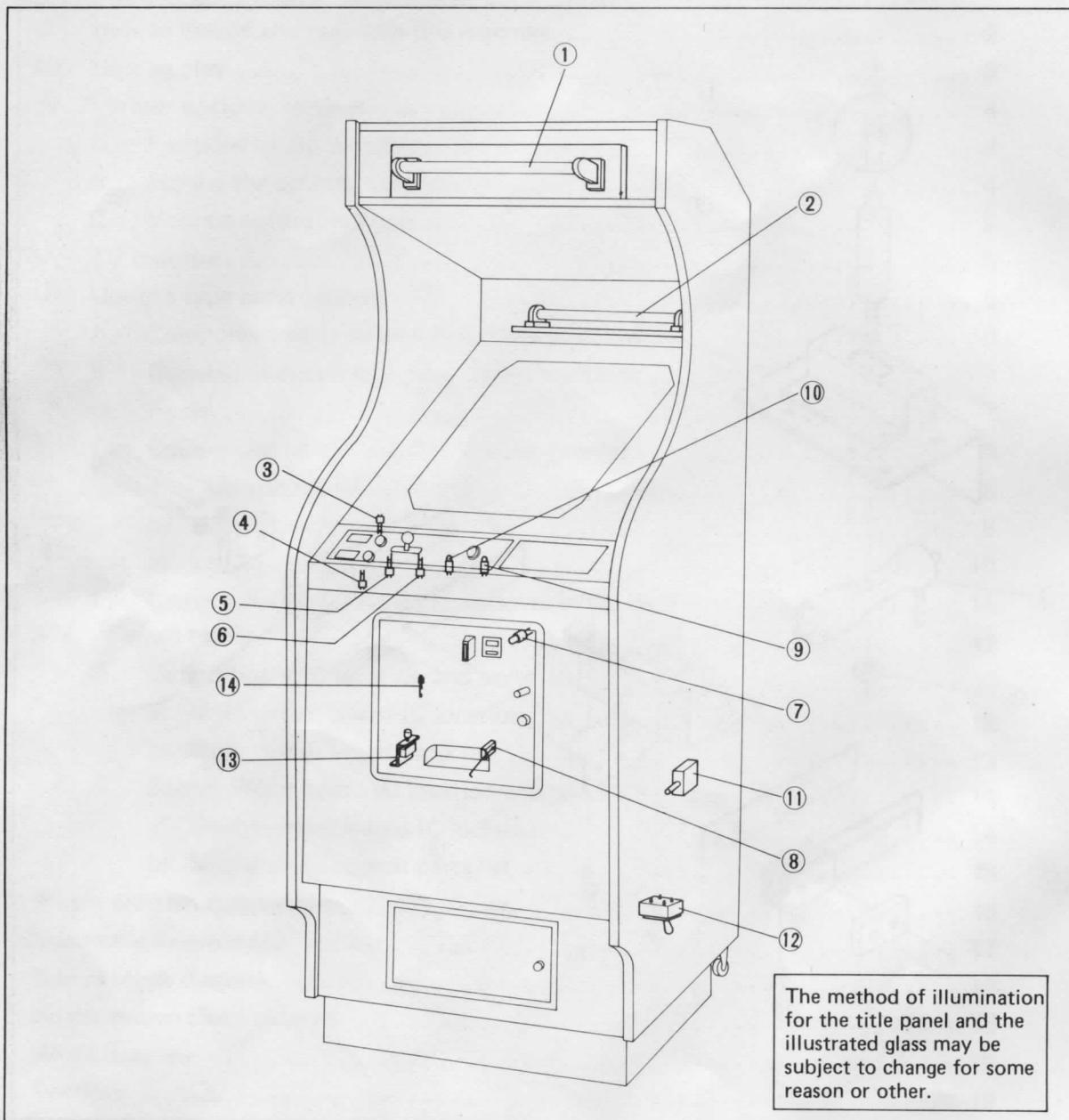


Fig. 12 Component Parts Related to Switches in the Cabinet

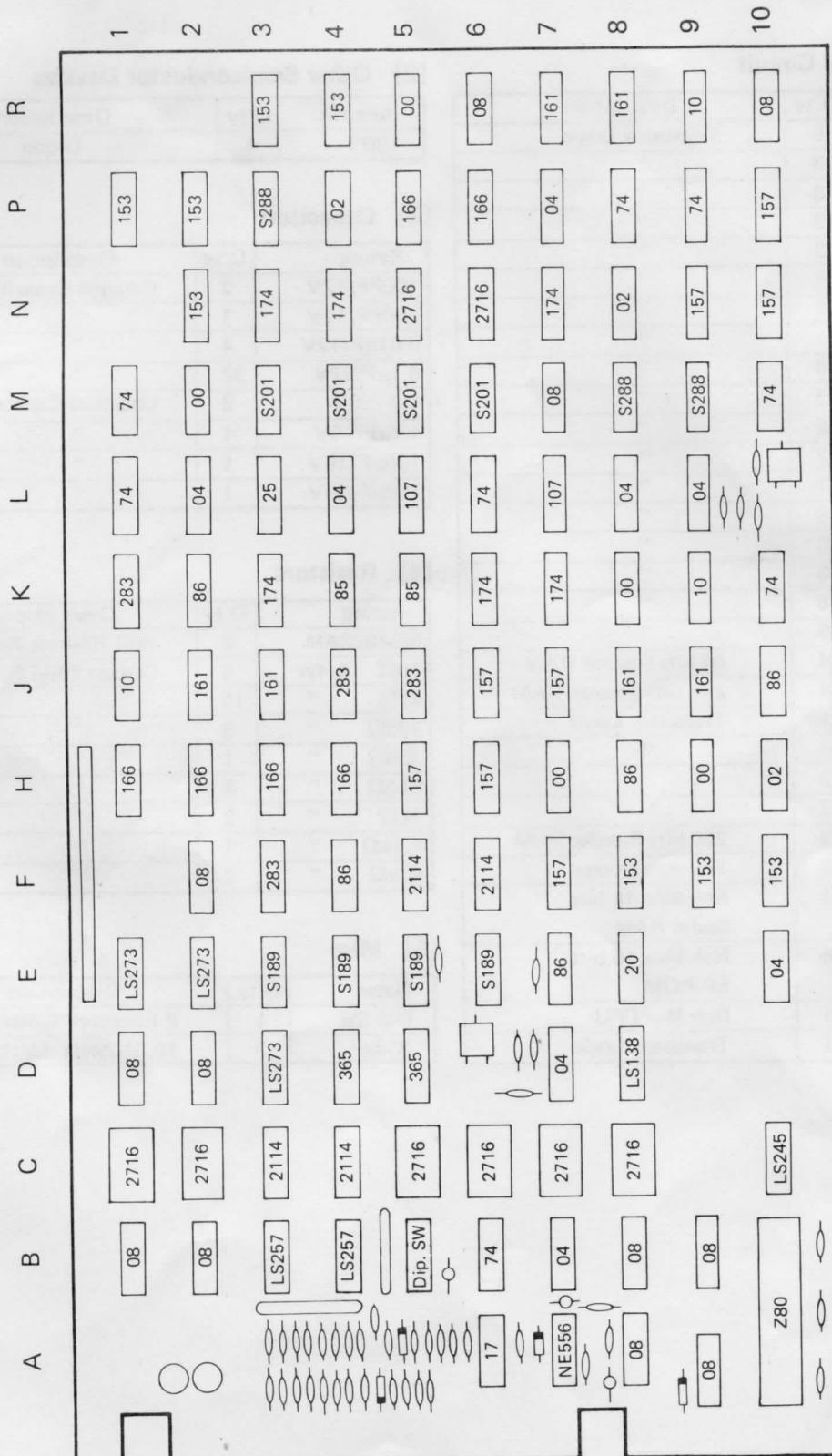
### INSIDE CABINET PARTS LIST

Ref. No.	Name	Ref. No.	Name
1	Fluorescent lamp assembly	8	Micro switch
2	Fluorescent lamp assembly	9	Miniature lamp assembly
3	Blades switch	10	Miniature lamp assembly
4	Blades switch	11	Door switch
5	Blades switch	12	Toggle switch
6	Blades switch	13	Micro switch
7	Miniature lamp assembly	14	Slam switch

## VII. CIRCUIT BOARD

## A. CIRCUIT BOARD IC LOCATION AND PARTS LIST

**a) Main circuit board IC location**



**Fig. 13 Main Circuit Board**

**b) Main circuit board parts list****[1] Integrated Circuit**

Item No.	Q'ty	Description
7400N	5	Transistor Logic
7402N	3	"
7404N	8	"
7408N	12	"
7410N	3	"
7417N	1	"
7420N	1	"
7425N	1	"
7474N	8	"
7485N	2	"
7486N	5	"
74107N	2	"
74LS138N	1	"
74153N	8	"
74157N	8	"
74161N	6	"
74166N	6	"
74174N	6	"
74S189N	4	64 bits Bipolar RAM
74S201N	4	256 bits Bipolar RAM
74LS245N	1	Transistor Logic
74LS257N	2	"
74LS273N	3	"
74283N	2	"
74S288N	3	256 bits Bipolar ROM
74365N	2	Transistor Logic
2114	4	Nch Mos 4k bits Static RAM
2716	8	Nch Mos 16 bits EP ROM
Z80	1	Nch Mos CPU
NE556	1	Transistor Logic

**[2] Other Semiconductor Devices**

Item No.	Q'ty	Description
10D1	4	Diode

**[3] Capacitors**

Rating	Q'ty	Description
100PF/12V	2	Ceramic Capacitor
150PF/12V	1	"
0.01μF/12V	4	"
0.1μF/12V	39	"
1μF/50V	2	Chemical Capacitor
4.7μF/16V	1	"
100μF/16V	1	"
100μF/25V	1	"

**[4] Resistors**

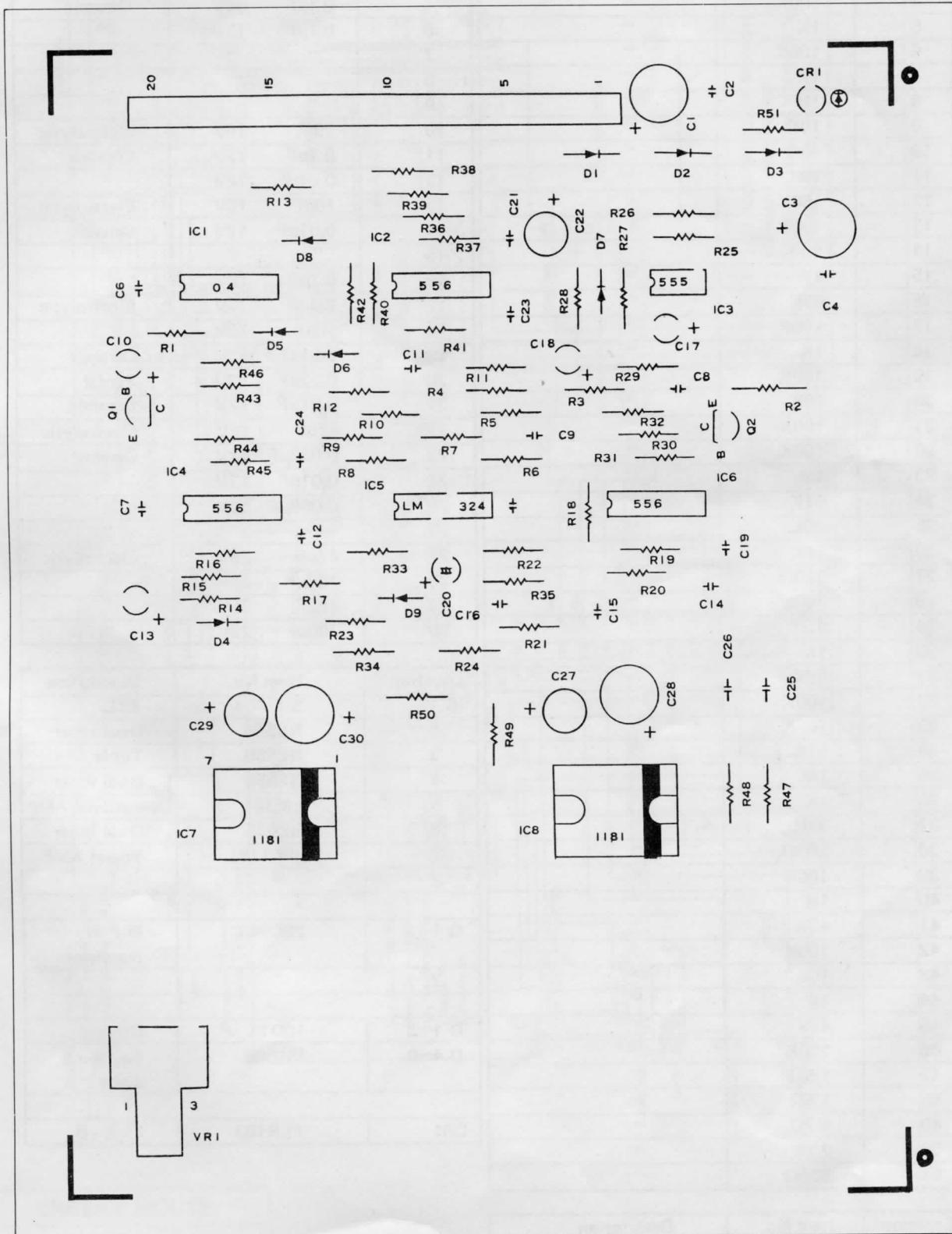
Rating	Q'ty	Description
MS1028AM	2	1kΩ Resistor Array
10Ω 1/4W	3	Carbon Solid Resistor
47Ω "	11	"
270Ω "	3	"
330Ω "	1	"
510Ω "	4	"
1kΩ "	2	"
4.7kΩ "	1	"
47kΩ "	2	"

**[5] Misc**

Name	Q'ty	Description
Dip SW	1	8 Elements Switch Array
X'-tal	2	10.816MHz, 5MHz

## B. SOUND CIRCUIT BOARD IC LOCATION AND PARTS LIST

**a) Sound circuit board IC location**



**Fig. 14 Sound Circuit Board**

# UNIVERSAL

## b) Sound circuit board parts list

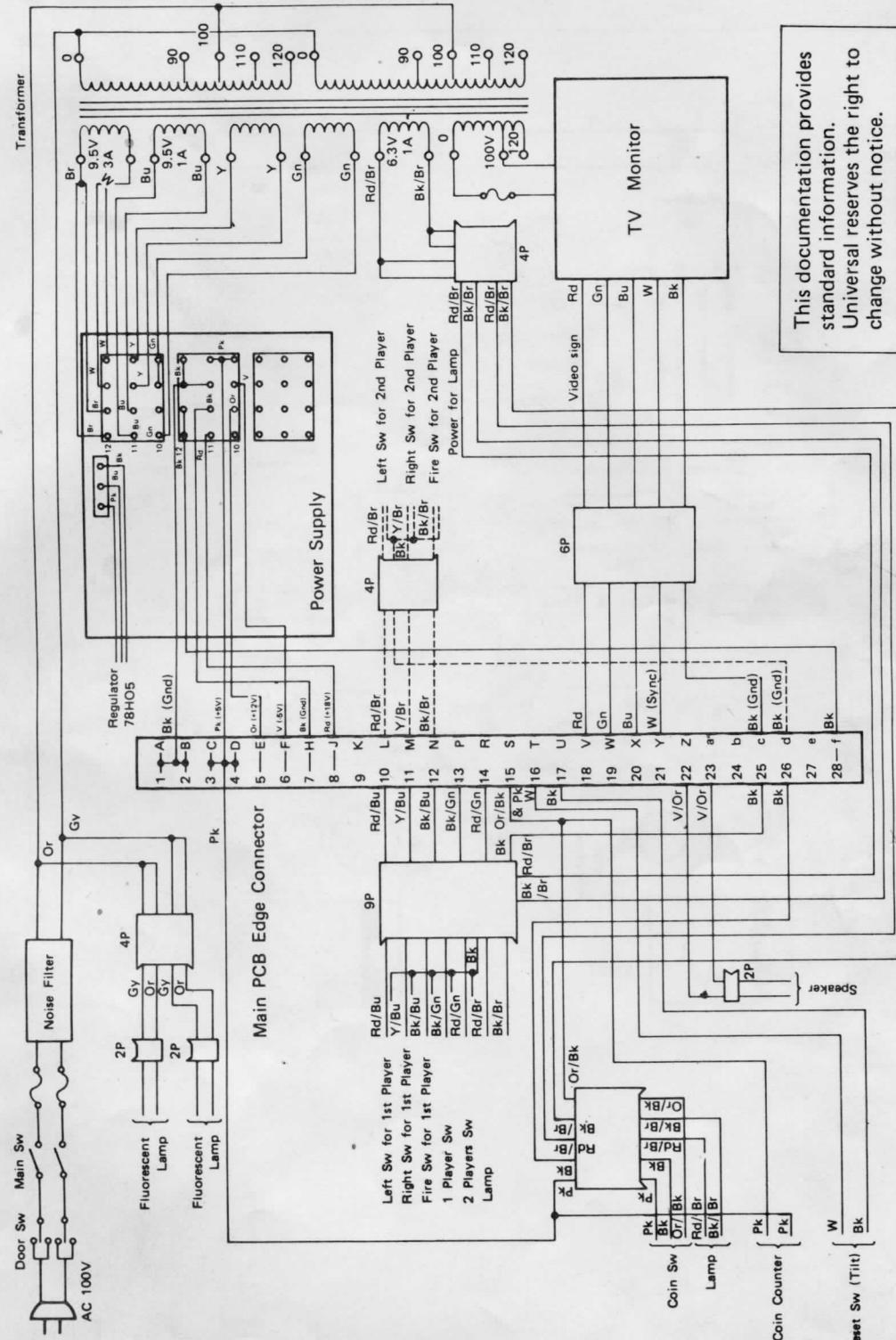
Location	Rating	Description
R1	10K	Carbon solid resistor
2	1M	"
3	1K	"
4	100K	"
5	1K	"
6	100K	"
7	1K	"
8	1M	"
9	10K	"
10	10K	"
11	10K	"
12	100K	"
13	100K	"
14	4.7K	"
15	1K	"
16	68K	"
17	100K	"
18	1K	"
19	150K	"
20	10K	"
21	100K	"
22	100K	"
23	1M	"
24	51K	"
25	20K	"
26	10K	"
27	220Ω	"
28	100K	"
29	4.7K	"
30	1K	"
31	68K	"
32	100K	"
33	100K	"
34	51K	"
35	1M	"
36	1K	"
37	33K	"
38	560Ω	"
39	100K	"
40	1K	"
41	47K	"
42	100K	"
43	10K	"
44	1K	"
45	47K	"
46	100K	"
47	1.5Ω	"
48	1.5Ω	"
49	4.7Ω	"
50	2.2K	"
51	330Ω	"

Location	Rating	Description
C1	100μF 16V	Electrolytic
2	0.1μF 12V	Ceramic
3	100μF 25V	Electrolytic
4	0.1μF 50V	Ceramic
6	0.1μF 12V	"
7	" "	"
8	" "	"
9	" "	"
10	10μF 16V	Electrolytic
11	0.1μF 12V	Ceramic
12	0.01μF 12V	"
13	10μF 16V	Electrolytic
14	0.01μF 12V	Ceramic
15	" "	"
16	0.1μF 12V	"
17	2.2μF 16V	Electrolytic
18	10μF 16V	"
19	0.01μF 12V	Ceramic
20	0.22μF 12V	Tantal
21	0.01μF 12V	Ceramic
22	47μF 16V	Electrolytic
23	0.033μF 12V	Ceramic
24	0.01μF 12V	"
25	0.068μF 50V	Mila
26	" "	"
27	47μF 25V	Electrolytic
28	100μF 25V	"
29	47μF 25V	"
30	100μF 25V	"

Location	Item No.	Description
IC 1	SN7404	TTL
2	NE556	Dual timer
3	NE555	Timer
4	NE556	Dual timer
5	LM324	Operational AMP
6	NE556	Dual timer
7	μPC1181	Power AMP
8	"	"
Q 1	2SC945	N-P-N transistor
2	"	"
D 1~3	10D1	Diode
D 4~9	IS1588	Switching diode
CR1	TLR103	L · E · D

Location	Item No.	Description
VR 1	RV16YD	1KΩ(B) Variable resistor

## WIRING DIAGRAM (CONNECTOR)

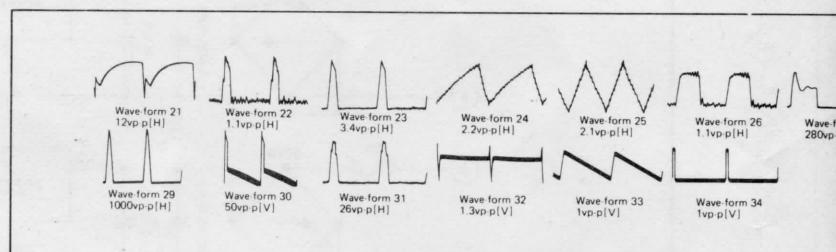
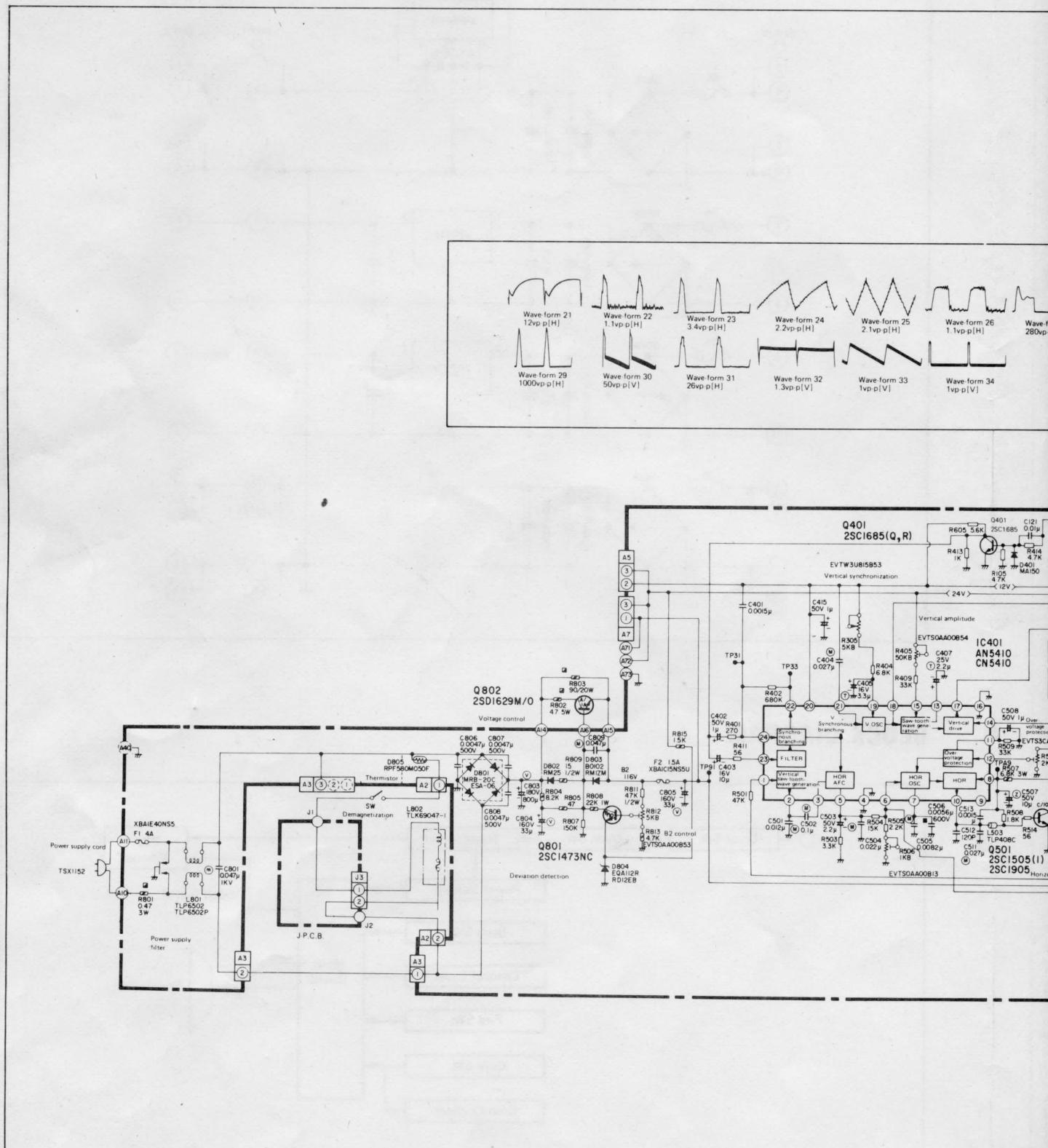


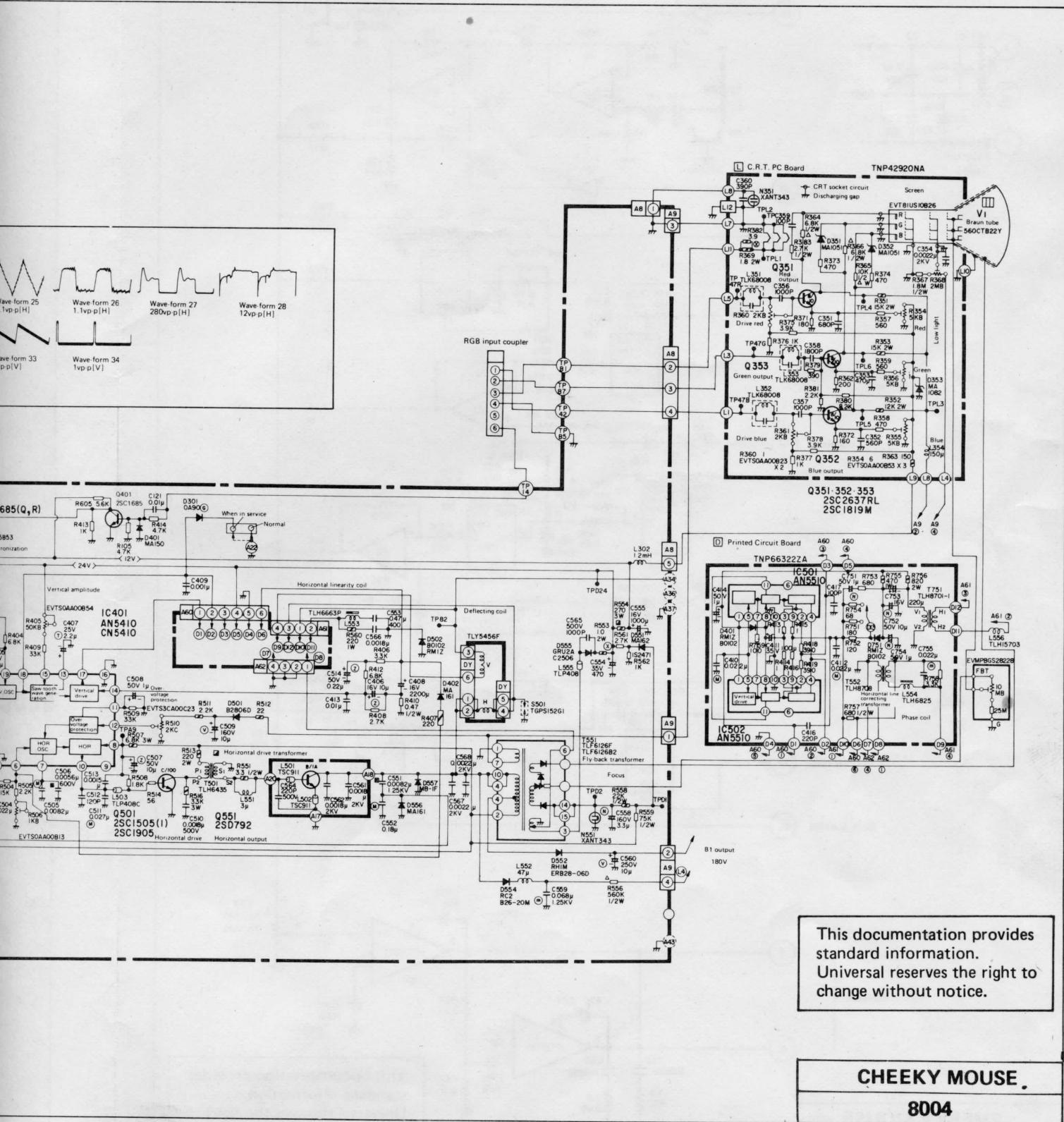
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Universal reserves the right to  
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CHEEKY MOUSE

8004

## **SCHEMATIC DIAGRAM (20" COLOR)**



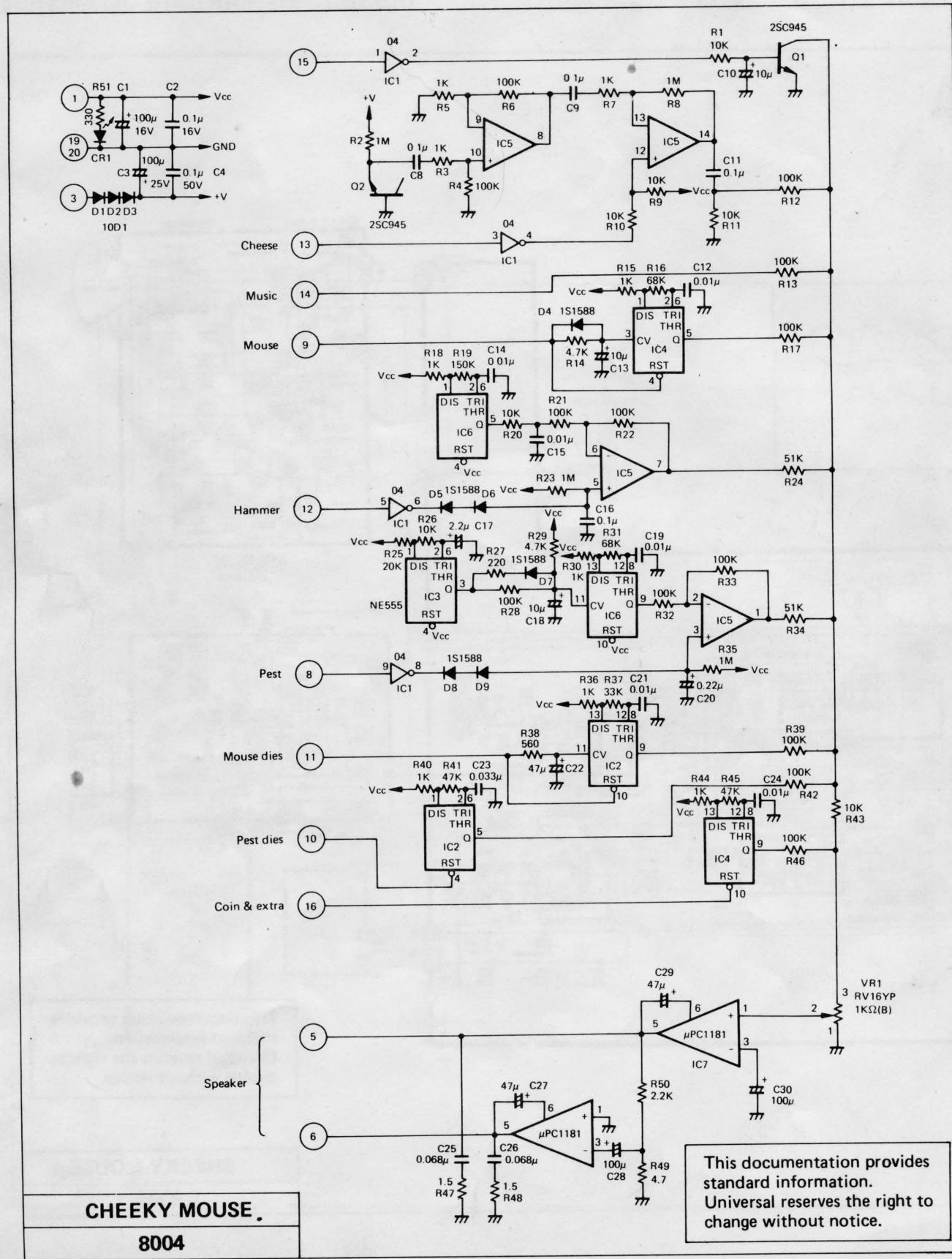


CHEEKY MOUSE.

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## SOUND BLOCK DIAGRAM

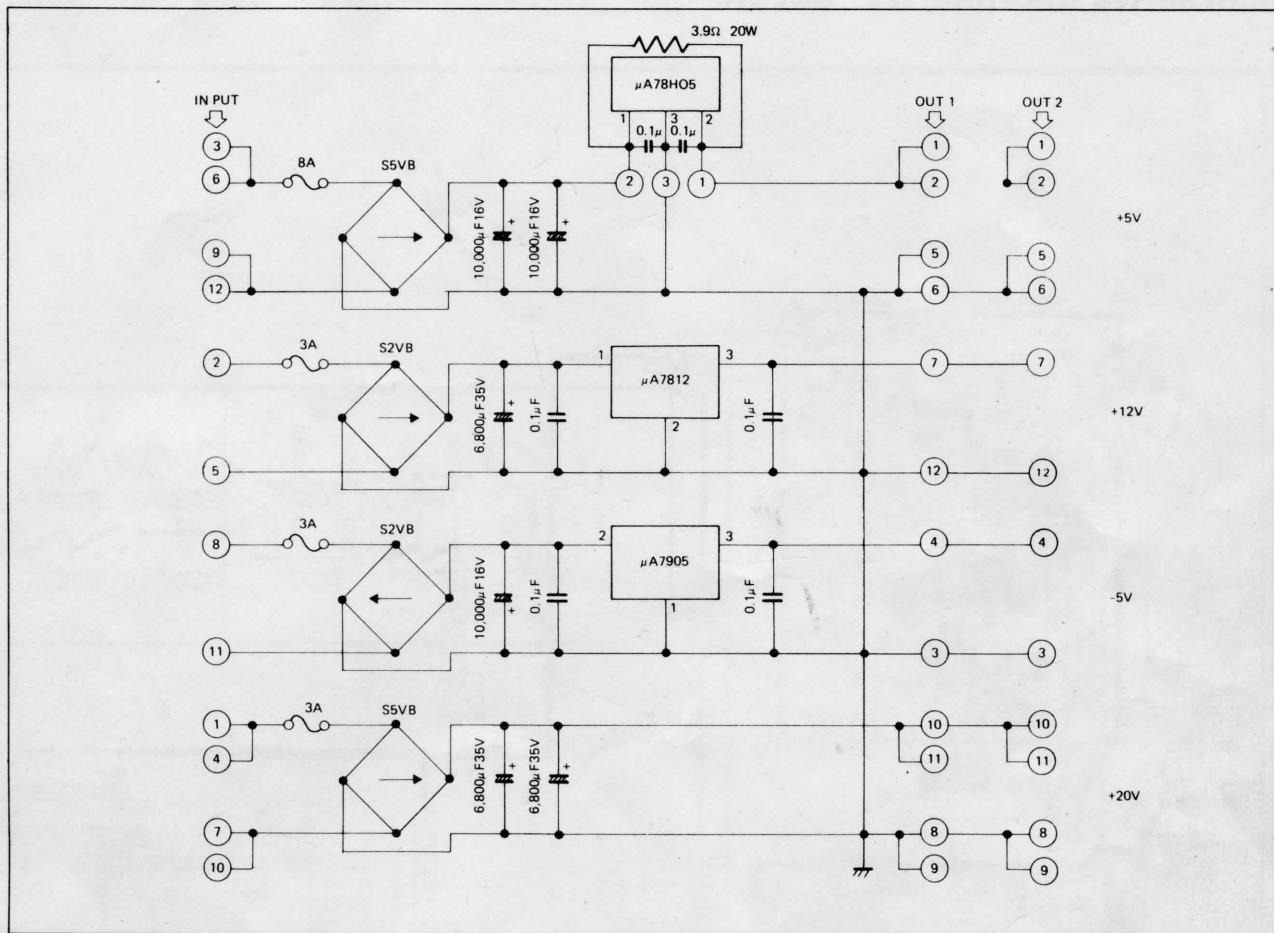


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## POWER SOURCE BLOCK DIAGRAM



## BLOCK DIAGRAM

