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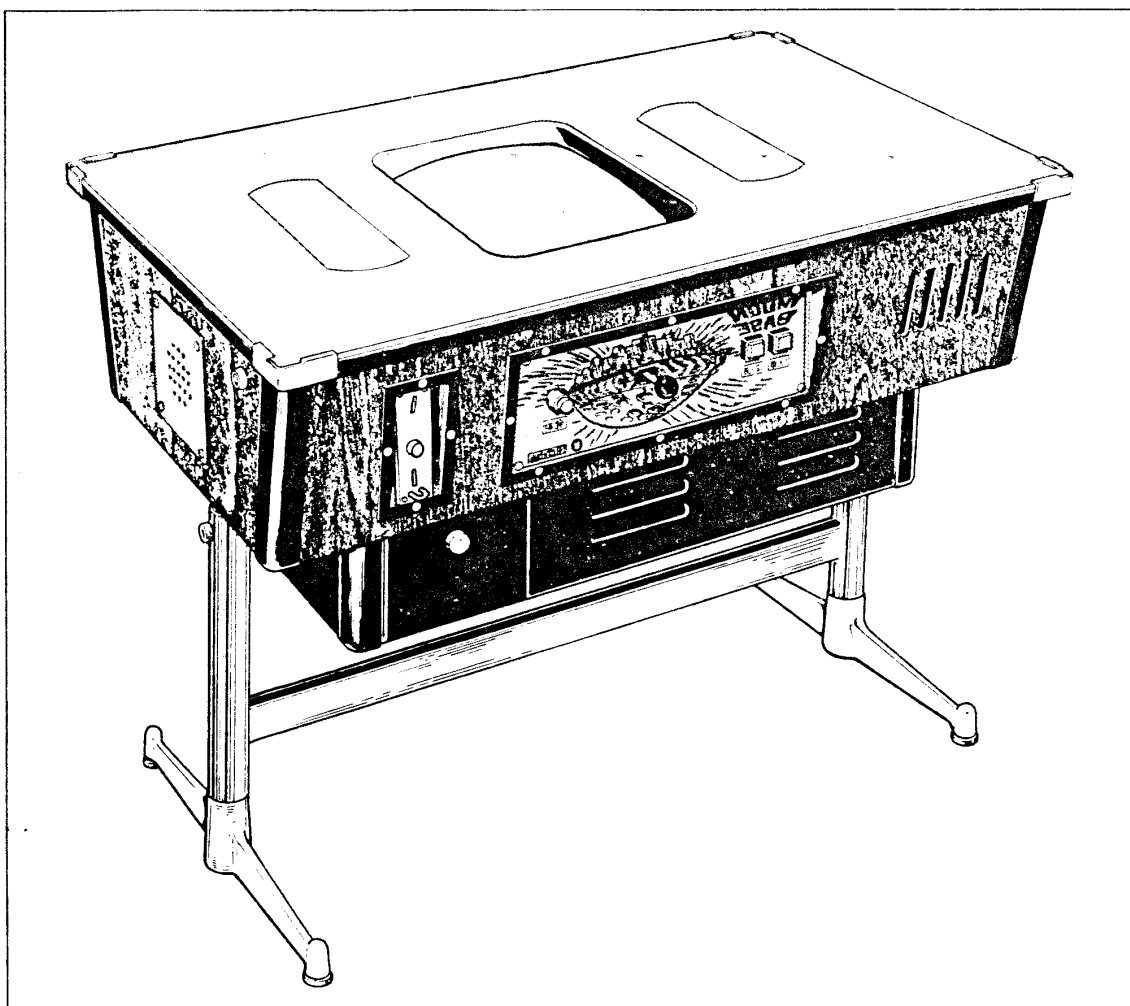
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MOON BASE

SERVICE INSTRUCTION



Nichibutsu

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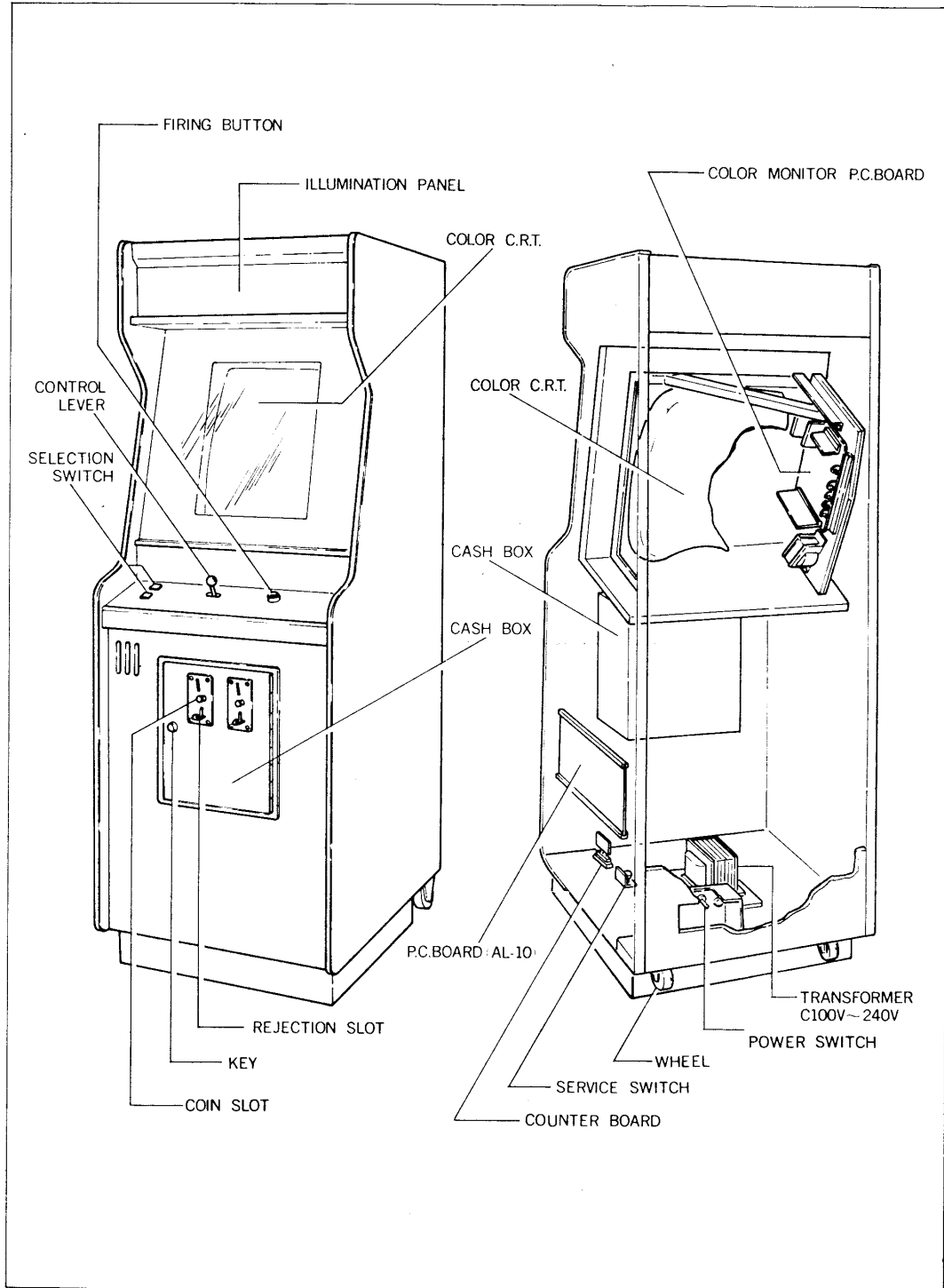
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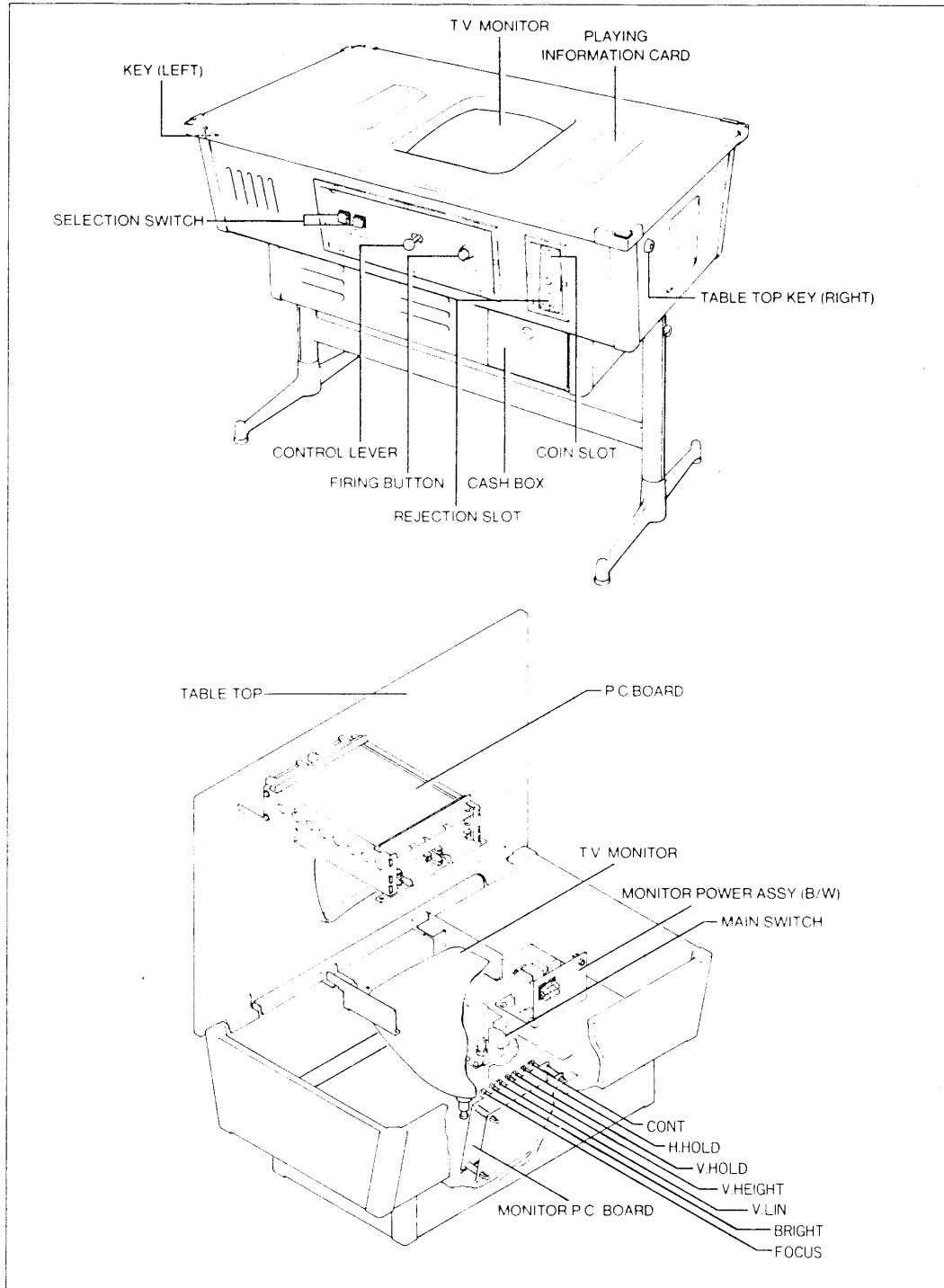
1

EACH PARTS NAME (UPRIGHT MODEL)



MOON BASE

EACH PARTS NAME (TABLE MODEL)



2 SPECIFICATIONS

Power Source	.....	100–240V (Variable)
Watt Consumption	.....	51 W (Black & White), 90 W (Color)
Coinage	.....	1 Coin Per Play
Player	.....	1 or 2 Players
Game Limit	.....	3 Lasers Per Game (Variable)
Cash Box Size	.....	Height: 140mm Width: 137mm Depth: 240mm
Dimensions	.....	Width: 836mm Length: 536mm Height: 600–740mm (5 Position Adjustable)
KEY	.....	Table Key 2 Sets Cash Box Key 1 Set
Fuse Rating	.....	2 At 2A, 2 At 8A.

These instructions and specifications may be changed without prior notification.





If this machine is reconstructed without our permission, we can not take responsibility for the machine.

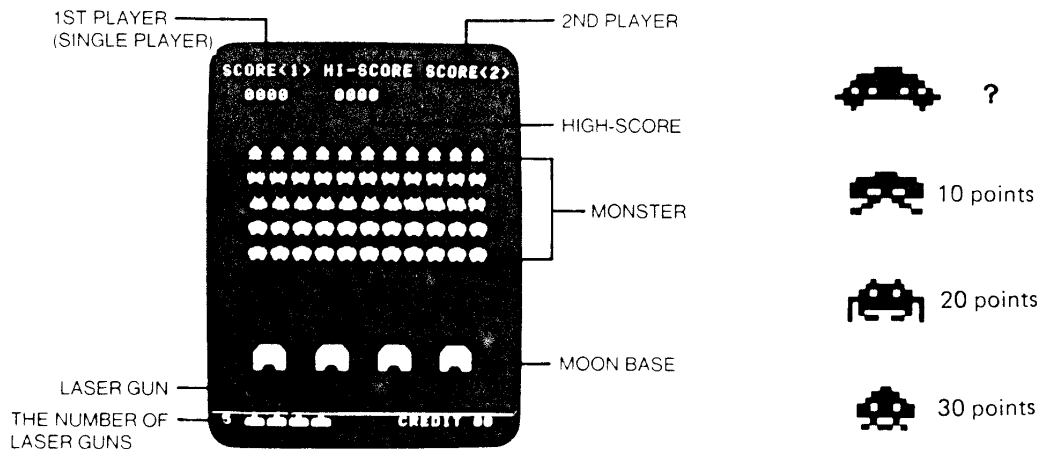
3 NOTES

- THE MOON BASE (ZETA) has a TV. Monitor and care must be taken in moving this fragile machine.
- To prevent the cabinet over-heating do not place THE MOON BASE (ZETA) directly in the sun or near heating.
- For a short time after connecting to power the picture may be temporarily distorted.
- Please do not check the solid state module with a tester even if you find out there is something wrong with it.
- The IC may be destroyed by the voltage of a tester.
- Disconnect the power supply before inserting or removing the P. C. Board.

MOON BASE

4 HOW TO PLAY

- The game may be played by one or two people.
- Insert coins.
- Select one or two player button.
- MONSTERS    appear on the screen with their sound of attack. Also moon bases which avoid the bombs from monsters and laser gun which attacks the monster appear below on the screen.
- Shooting down UFO  and monster by pushing firing button, sliding laser gun to the right or left by moving the control lever to avoid the bombs from monster.
- When the laser gun is destroyed by monster, the other player can play. (In case of double game)
- Monsters are coming down gradually to the moon bases moving to the right or left.
- Moon base is destroyed by laser or by the bombs from monster.
- The speed of monster's movement becomes faster as decreasing the number of monster.
- If shooting down UFO, ? points will be registered.
- If scoring over 1500 points (variable), one laser gun will be awarded with sound.
- The game is over when all laser guns being destroyed or moon base being occupied by monsters.
- On screen it indicates the number of coins in credit in the machine. (Coin stock: Up to 99)



5

ADJUSTMENT FOR P.C.BOARD (MB-3A)

When you adjust P. C. Board, disconnect the power source as there is HI-VOLTAGE portion on it.

- **SW 1, 2, 3**

Change switches for laser gun.

LASER GUN	SW. 1	SW. 2	SW. 3
3	ON	ON	ON
4	OFF	ON	ON
5	ON	OFF	ON
6	OFF	OFF	ON

3 laser guns when shipping.

- **SW 4**

Score change switch when one laser is awarded.

SCORE	SW. 4	LASER GUN
1500	ON	1
1000	OFF	1

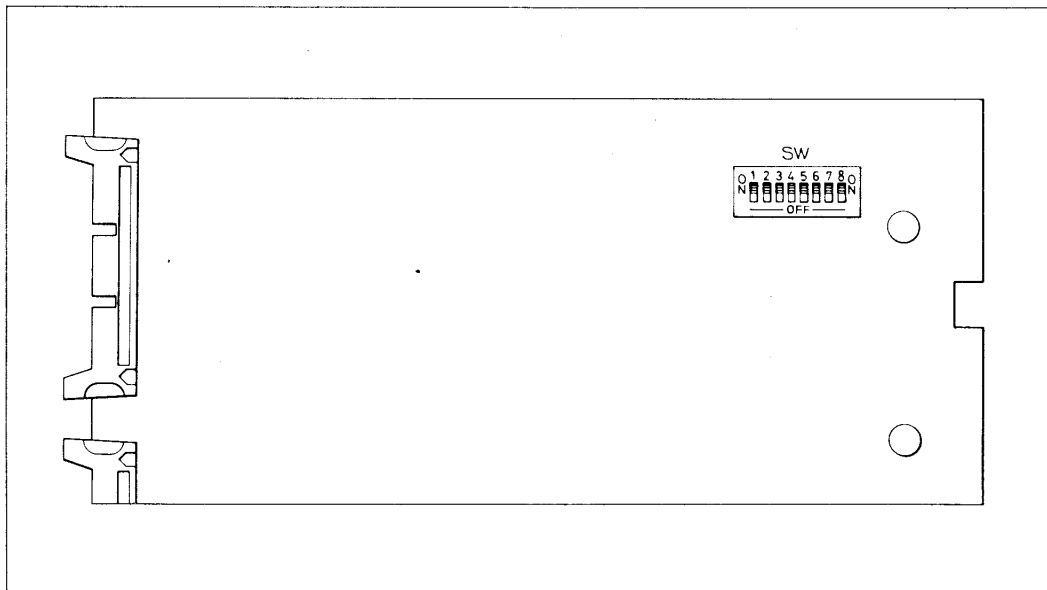
The score is set at 1500 points when shipping.

- **SW 5, 6, 7**

As the switches are used as a part of control circuit, set them all "ON" usually.

- **SW 8**

Indication switch for coinage. Coinage information is indicated by "ON" position.



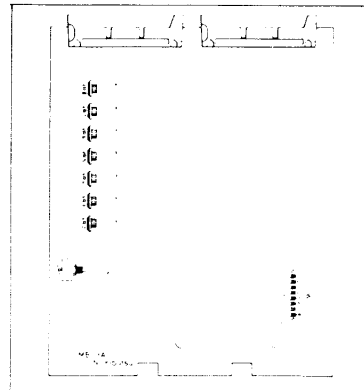
MOON BASE

6

ADJUSTMENT FOR SOUND P.C.BOARD

Each sound volume will become smaller in turning VR. 1–8 to the ARROW-MARK.

- VR. 1 : Sound volume of whole sound.
- VR. 2 : Sound volume of UFO's being destroyed.
- VR. 3 : Sound volume of monster's charging.
- VR. 4 : Sound volume of the beginning in extended play.
- VR. 5 : Sound volume of destroying the monster.
- VR. 6 : Sound volume of LASER-GUN's being destroyed.
- VR. 7 : Sound volume of LASER-GUN's shooting.
- VR. 8 : Sound volume of UFO.



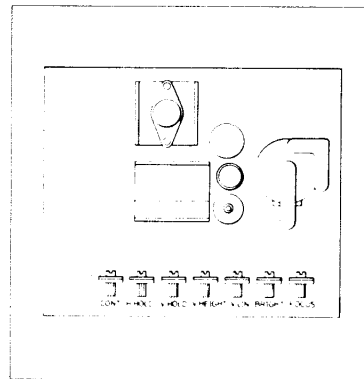
7

ADJUSTMENT FOR MONITOR P.C.BOARD

The Monitor is adjusted in best conditions when shipping. Adjust it as follows if there is need to do it.

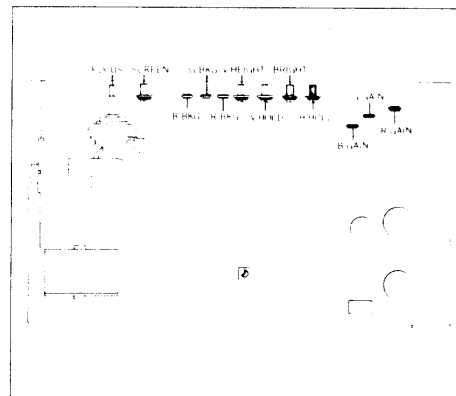
1) FOR BLACK & WHITE MONITOR

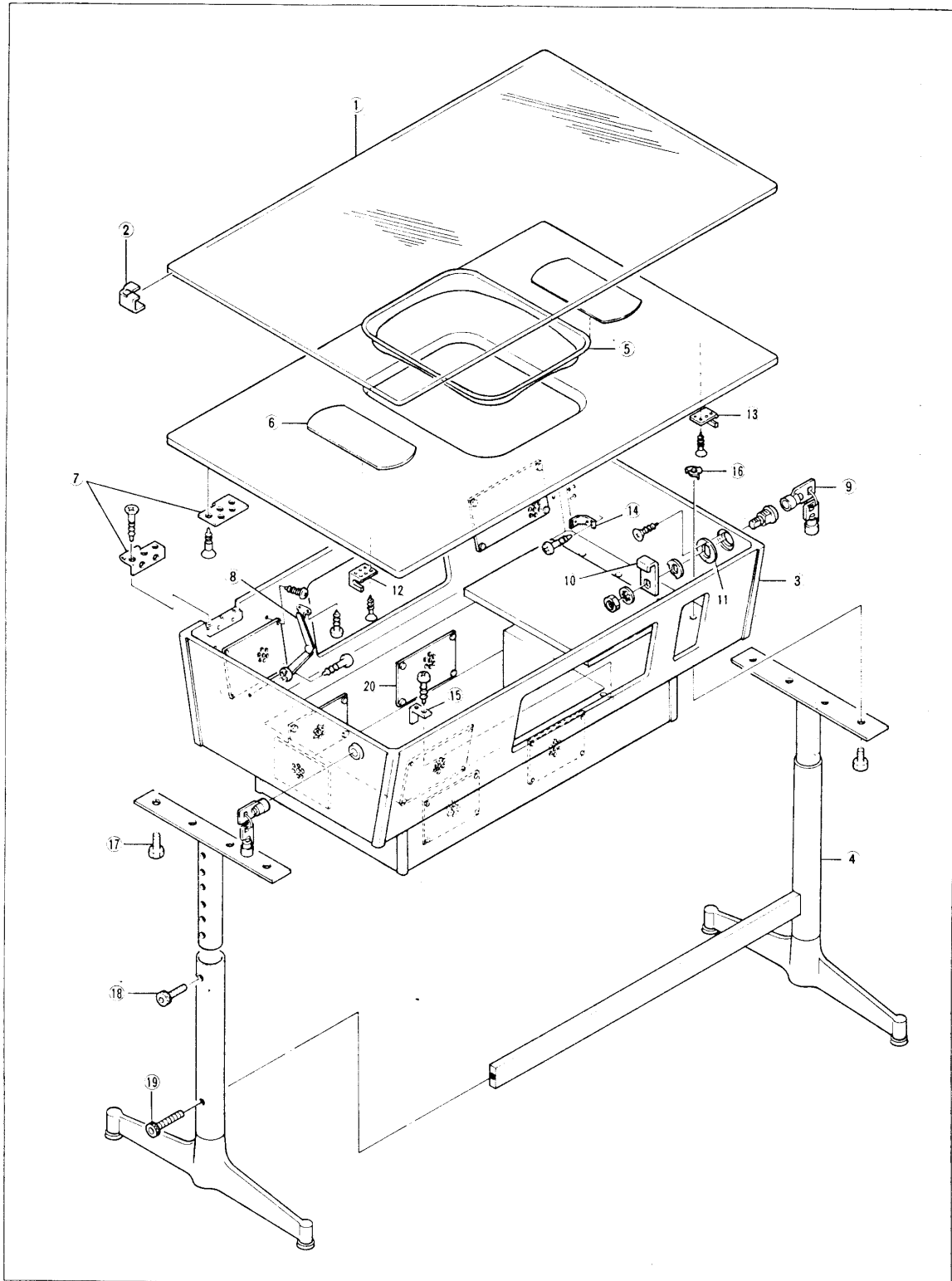
- CONT: Adjustment for black and white balance on the screen.
- H. HOLD: Adjustment for keeping the picture horizontally.
- V. HOLD: Adjustment for keeping the picture vertically.
- V. HEIGHT: Adjustment for Correct picture in edge portion.
- V. LIN: Adjustment for vertical linearity.
- BRIGHT: Adjustment for brightness of a picture.
- FOCUS: Adjustment for focus of a picture.



2) FOR COLOR MONITOR

- H. HOLD: Adjustment for keeping the picture horizontally.
- V. LIN: Adjustment for vertical lineality.
- V. HOLD: Adjustment for keeping the picture vertically.
- BLUE DRIVE RED DRIVE: Adjustment for white balance in bright picture.
- BLUE, GREEN, RED, GAIN: Adjustment for white balance in dark picture.
- FOCUS: Adjustment for focus on picture.



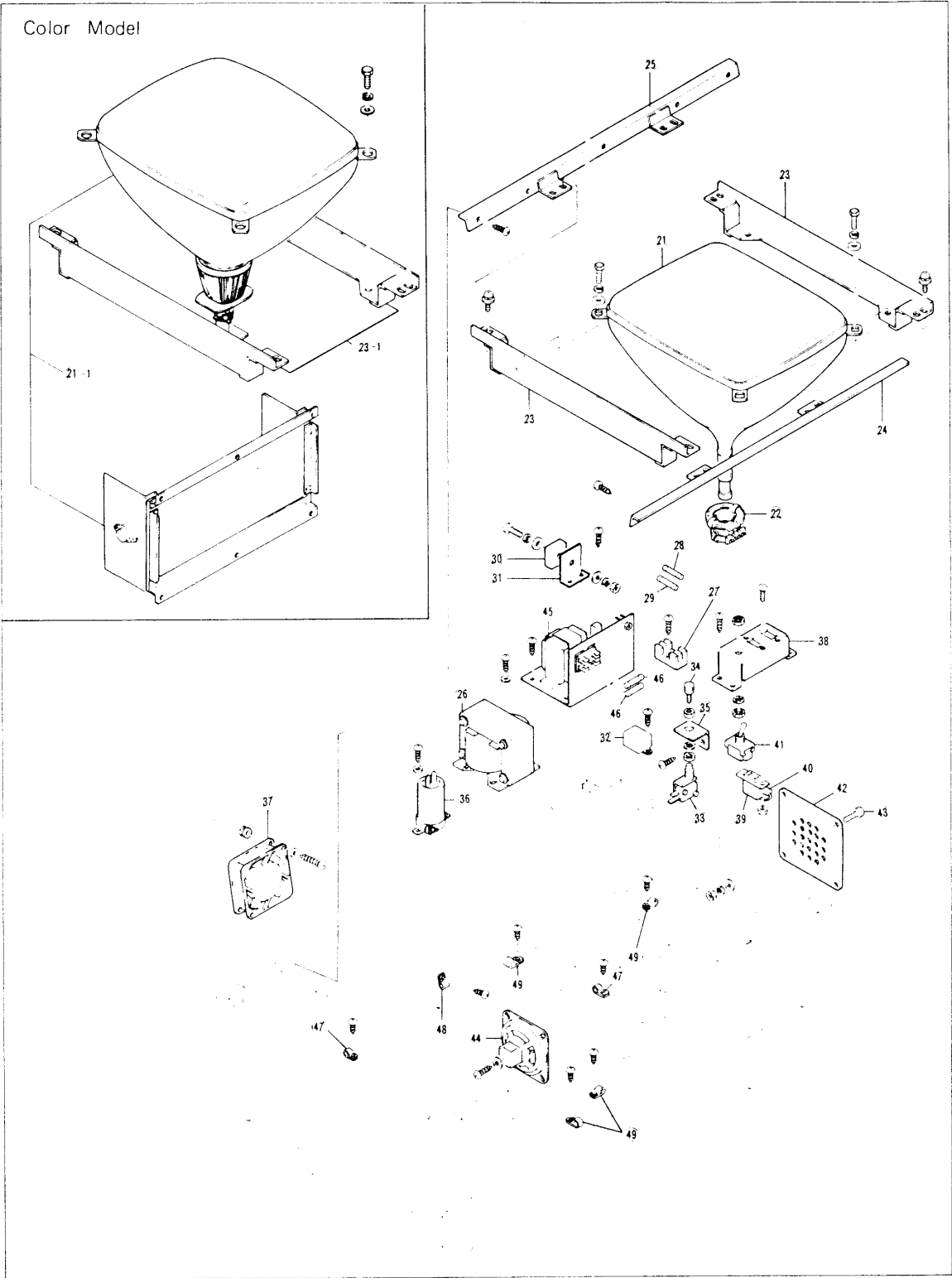


MOON BASE

8**EXTERIOR ASSEMBLY**

NO.	PARTS NO.	DESCRIPTION	UNIT PRICE (YEN)
1	MB-20001	Table Top Glass	12,000
2	TA-50002	Corner Bracket	900
3	MB-20002	Table Cabinet	29,000
4	TA-50004	Table Leg	18,000
5	TA-50015	TV, Mask	640
6	MB-20003	Playing Information Card	300
7	TA-50004	Hinge	730
8	TA-50046	Stay	550
9	PC-50085	Key (Set)	1,800
10	TA-50024	Key Lock Bracket	250
11	PC-50081	Key Metal Fittings	100
12	TA-50018	Key Lock Bracket (Left)	360
13	BP-10004	Key Lock Bracket (Right)	360
14	TA-50047	Corner Metal Fittings	120
15	TA-50048	Build Up Metal Fittings	100
16	TA-50092	Claw Nut (5mm ϕ)	40
17	TA-50054	Six-Angle Bolt	40
18	TA-50055	Cap Bolt (Small)	100
19	TA-50056	Cap Bolt (Big)	150
20	BP-10048	Punching Board	320

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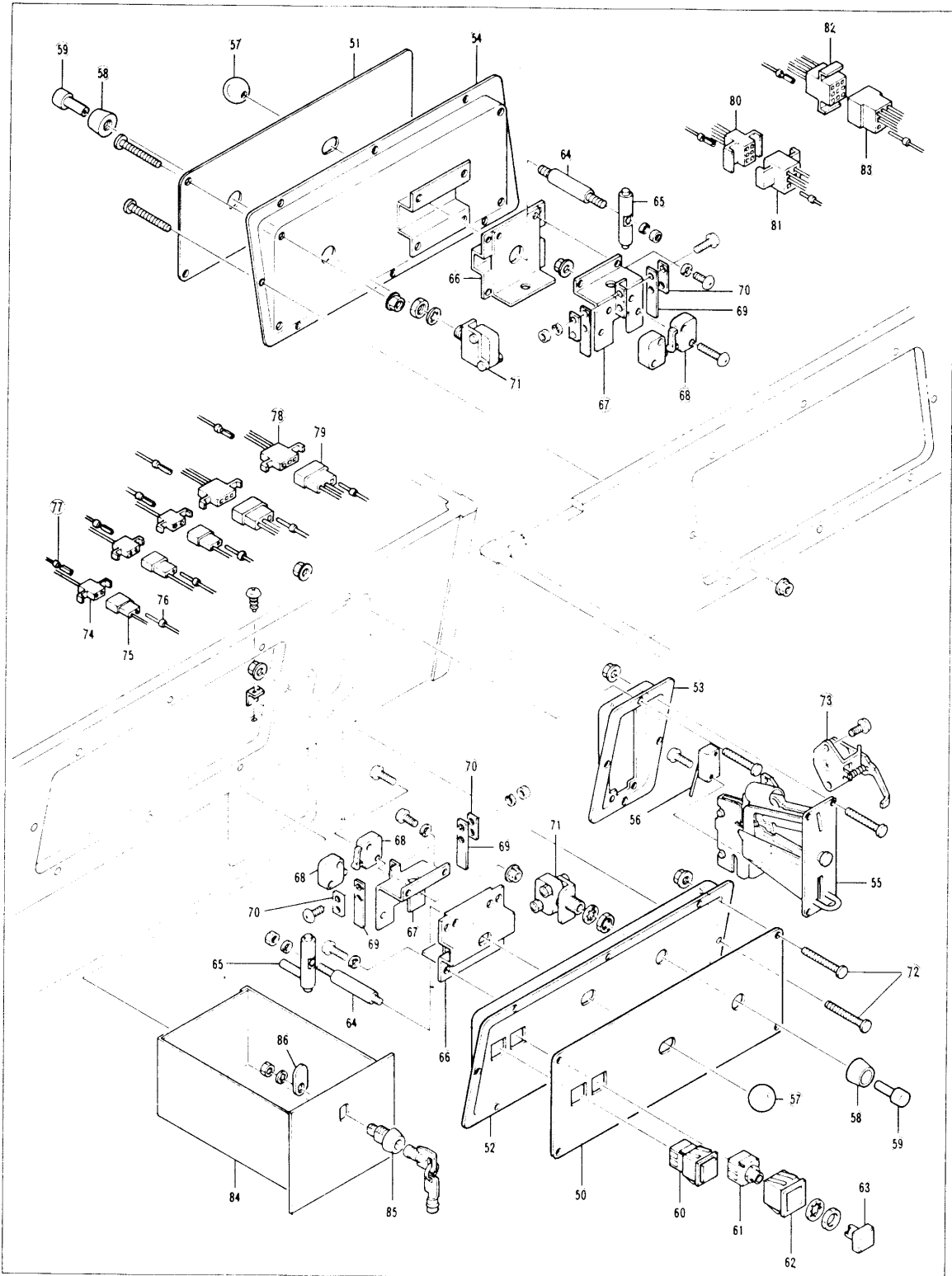
MOON BASE

9

VIDEO ASSEMBLY

NO.	PARTS NO.	DESCRIPTION	UNIT PRICE (YEN)
21	TA-50041	TV. Monitor	15,000
21-1	AL-20004	Color Monitor	12,900
22	TA-50042	Deflection Yoke	4,000
23	MB-20004	TV. Bracket (Left, Right)	2,100
23-1	MB-20004-1	TV. Bracket (Left, Right) Color Model	2,100
24	MB-20005	TV. Support Bracket (Front)	1,500
25	MB-20006	TV. Support Bracket (Rear)	1,400
26	MB-20007	A.C. Transformer	8,700
27	TA-50033	Fuse Holder	280
28	MB-20008	Fuse (10A)	70
29	PC -50052	Fuse (2A)	50
30	MB-20009	Rectifier	1,200
31	MB-20010	Rectifier Fin	290
32	TA-50036	Noise Filter	4,000
33	TA-50026	Service Switch	800
34	BP -50028A	Service Switch Button	100
35	BP -10011	Service Switch Bracket	140
36	MB-20011	Electrolysis Capacitor	1,500
37	MB-20012	Fan	7,500
38	BP -10014	Service Outlet Bracket	430
39	BP -10015	A.C. Service Socket	120
40	BP -10016	Oil Condenser	200
41	BP -10017	Power Source Switch	380
42	TA-50023	Speaker Cover	900
43	PC -50022	Speaker Bolt	20
44	TA-50020	Speaker	1,100
45	TA-50043	Monitor Power Assy.	40,000
46	TA-50053	Fuse (1A, 1.5A)	50
47	PC -50029	Nylon Clip (2H)	40
48	PC -50030	Nylon Clip (4H)	50
49	PC -50031	Nylon Clip (6H)	65

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MOON BASE

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CONTROL PLATE ASSEMBLY

NO.	PARTS NO.	DESCRIPTION	UNIT PRICE (YEN)
50	MB-20013	Control Plate a (Front)	5,000
51	MB-20014	Control Plate (Rear)	5,000
52	MB-20015	Control Panel (Front)	1,900
53	MB-20016	Coin Selector Bracket	1,500
54	MB-20017	Control Panel (Rear)	1,600
55	TA-50009	Coin Selector	4,000
56	TA-50010	Micro Switch	1,200
57	MB-20018	Control Knob	600
58	MB-20019	Firing Button Base	130
59	MB-20020	Firing Button	110
60	TA-50029	Selection SW. Assy.	1,700
61	TA-50029A	Switch	1,200
62	TA-50029B	Switch Base	280
63	TA-50029C	Switch Button	200
64	MB-20021	Control Shaft	1,200
65	MB-20022	Control Lever	800
66	MB-20023	Control Base Bracket	1,200
67	MB-20024	Control Mounting Bracket	1,000
68	MB-20025	Control Micro SW.	900
69	MB-20026	Spring Plate	100
70	MB-20027	Spring Plate Bracket	80
71	MB-20028	Firing Micro Switch	1,200
72	PC-50022	Ornament Bolt	20
73	PC-50017	Coin Stopper (AC 100)	1,200
74	TA-50038	Socket Housing (2R)	60
75	TA-50037	Socket Housing (2P)	60
76	TA-50039	Pin	20
77	TA-50040	Pin	20
78	PC-50046	Socket Housing (3R)	80
79	PC-50045	Socket Housing (3P)	80
80	PC-50042	Socket Housing (6R)	130
81	PC-50041	Socket Housing (6P)	130
82	MB	Socket Housing (9R)	150
83	MB	Socket Housing (9P)	150
84	BP	Cash Box	3,000
85	PC-50085	Key (Set)	1,800
86	TA-50013	Key Lock Plate	50

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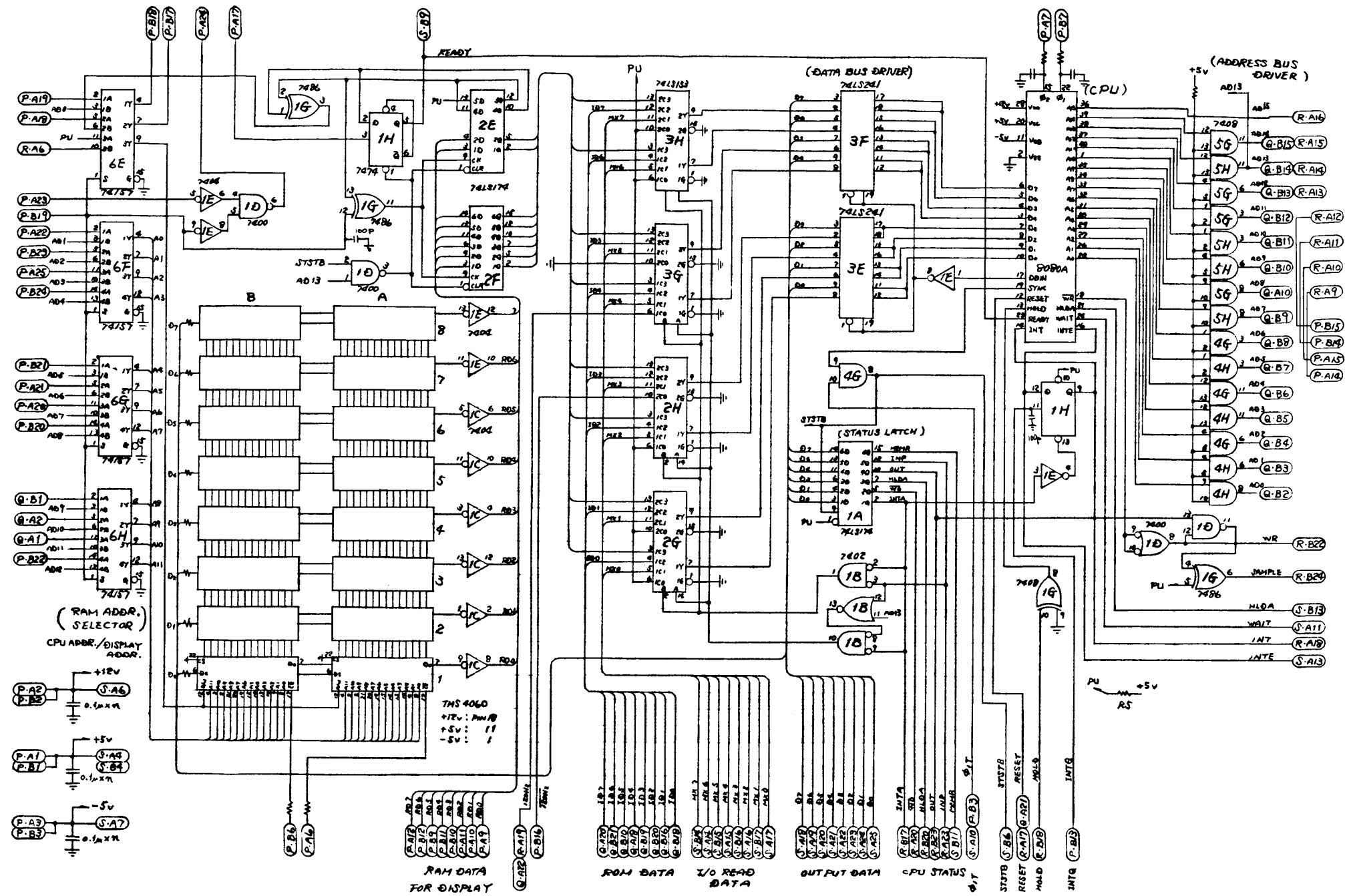
MOON BASE

11 PRINTED BOARD ASSEMBLY

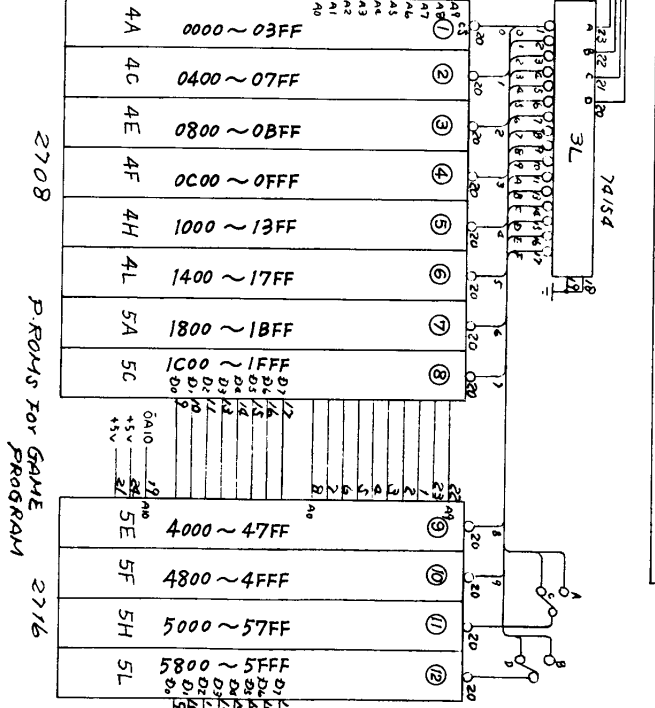
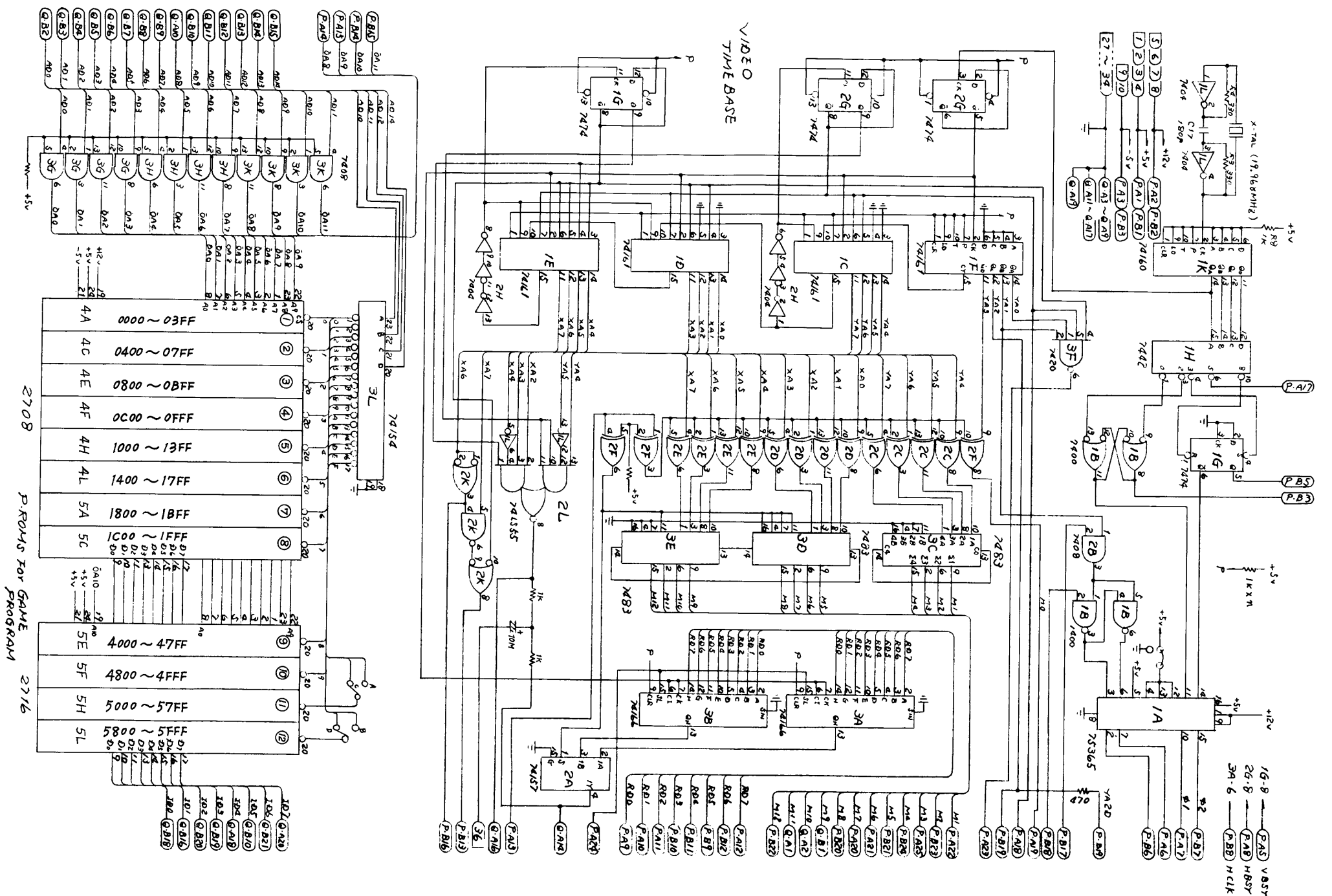
NO.	PARTS NO.	DESCRIPTION	UNIT PRICE (YEN)
87	MB-20029	MB-1 P. C. Board	118,000
88	MB-20030	MB-2 P. C. Board	90,000
89	MB-20031	MB-3 P. C. Board	68,000
90	MB-20032	Ribbon Code (50P)	2,000
91	PC -50035	Kel Connector (44P)	950
92	BP -10035	Guide Rail	300
93	MB-20033	MB-4 P. C. Board	40,000
94	MB-20034	Guide Rail Support Bracket (Upper)	500
95	MB-20035	Main P. C. Board Box	4,000
96	MB-20036	Guide Rail Support Bracket (Lower)	480
97	MB-20037	Amp. Connector (10P)	280
98	MB-20038	Amp. Connector (18P)	460
99	MB-20039	Amp. Connector (12P)	320
100	MB-20040	Monitor P. C. Board	40,000
101	BP -10047	Nylon Push	50
102	MB-20041	Monitor P. C. Board Mounting Bracket	600
103	BP -10043	Connector Bracket	450
104	BP -10042	Connector	950
105	MB-20042	MB-5 P. C. Board	3,000
106	TA -50035	Counter	2,600
107	MB-20043	Counter Bracket	1,200
108	PC -50051	Fush holder	300
109	PC -50052	Fuse	50
110	MB-20044	P. C. Board frame	450
111	BP -10041	Main Power SW.	380
112	AL-20004	Color Monitor Assy.	

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**SCHEMATICS
WIRING FIGURES**



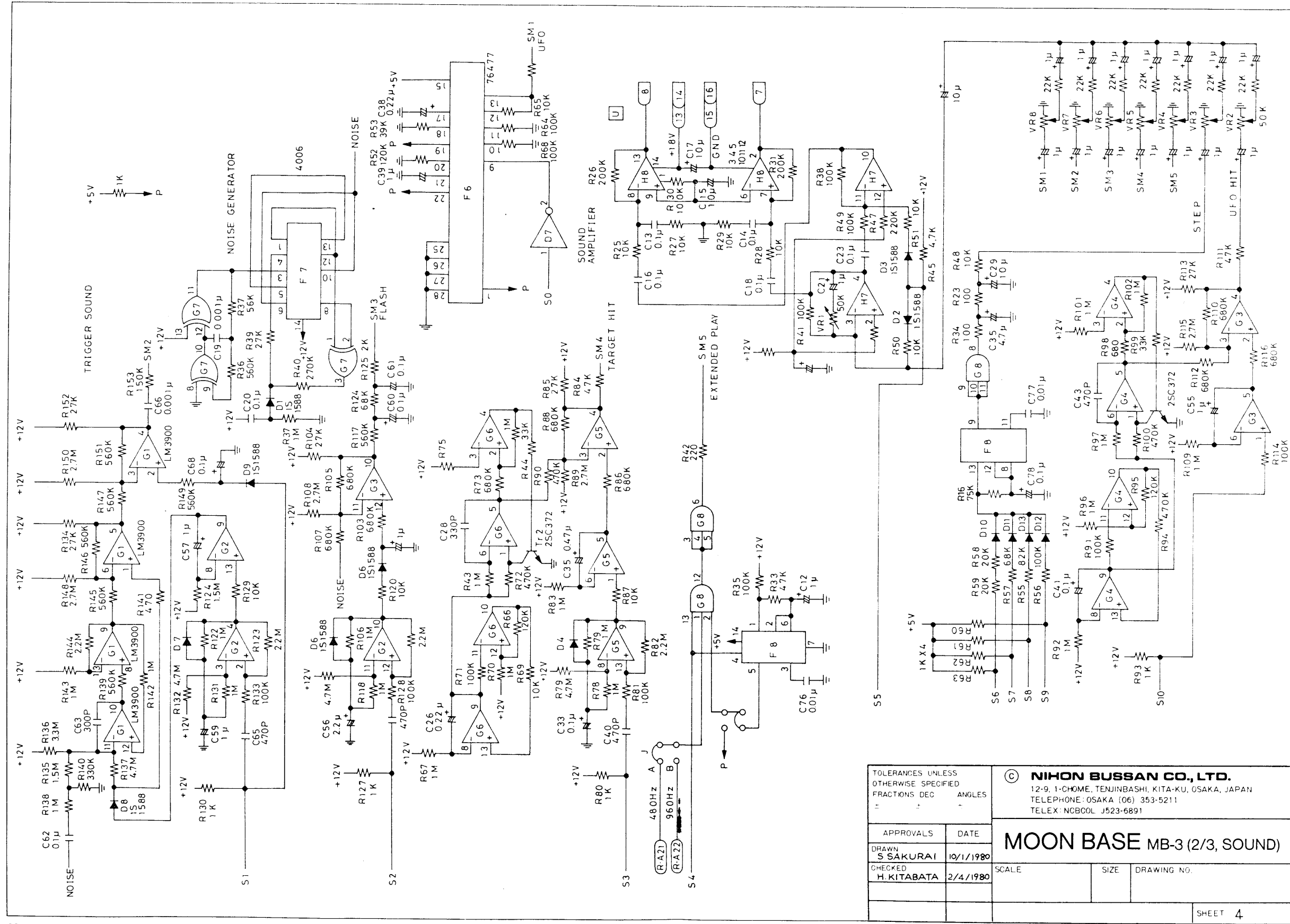
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APPROVALS	DATE	<h1>MOON BASE MB-1</h1>	
DRAWN S.SAKURAI	10/1/1980		
CHECKED H.KITABATA	2/4/1980		
SCALE	SIZE	DRAWING NO.	
		SHEET 1	



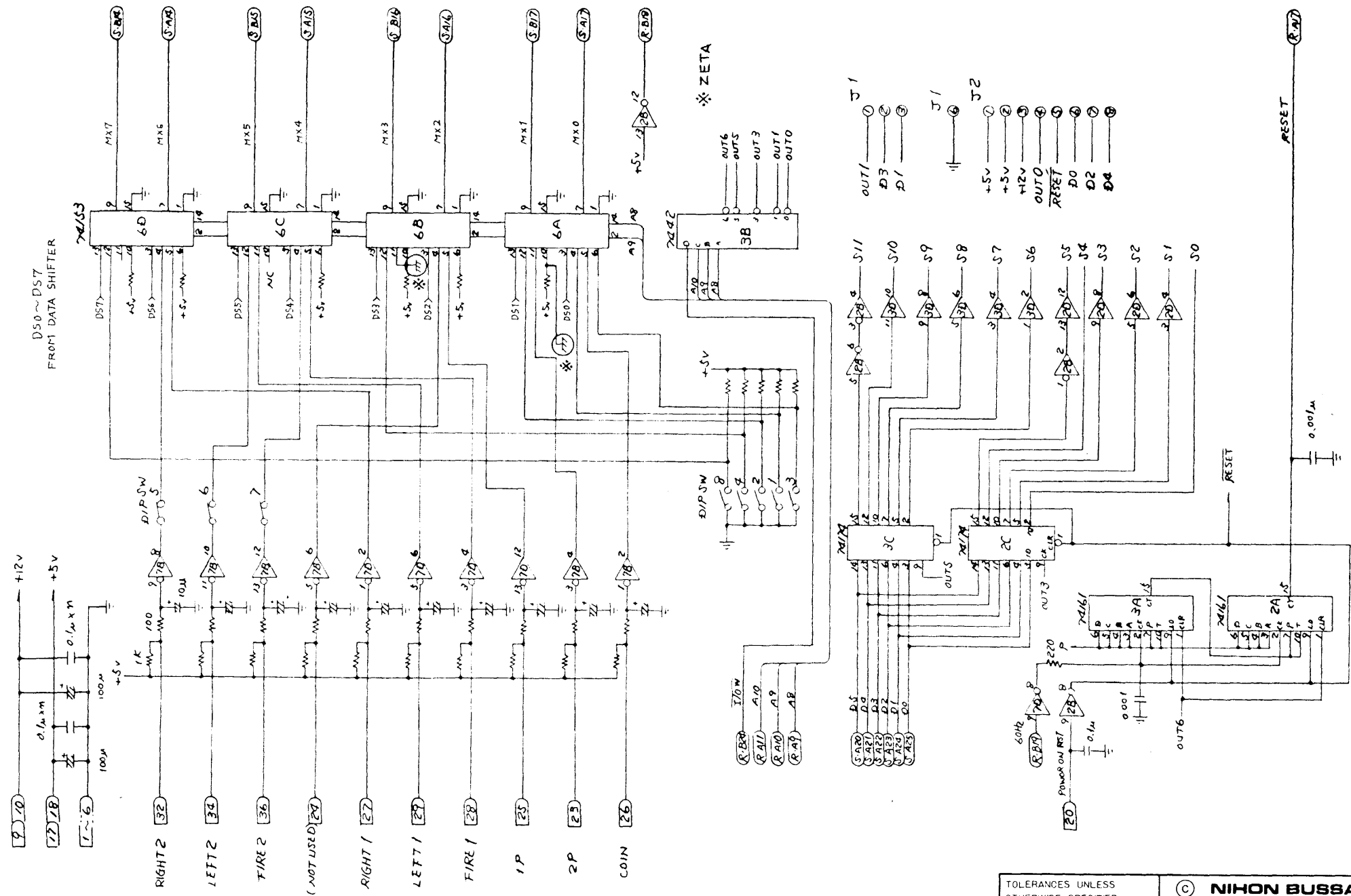
P.ROMS FOR GAME PROGRAM

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+		+		+	
APPROVALS	DATE	MOON BASE MB-2			
DRAWN S.SAKURAI	10/1/1980	SCALE	SIZE	DRAWING NO.	
CHECKED H.KITABATA	2/4/1980				
SHEET 2					

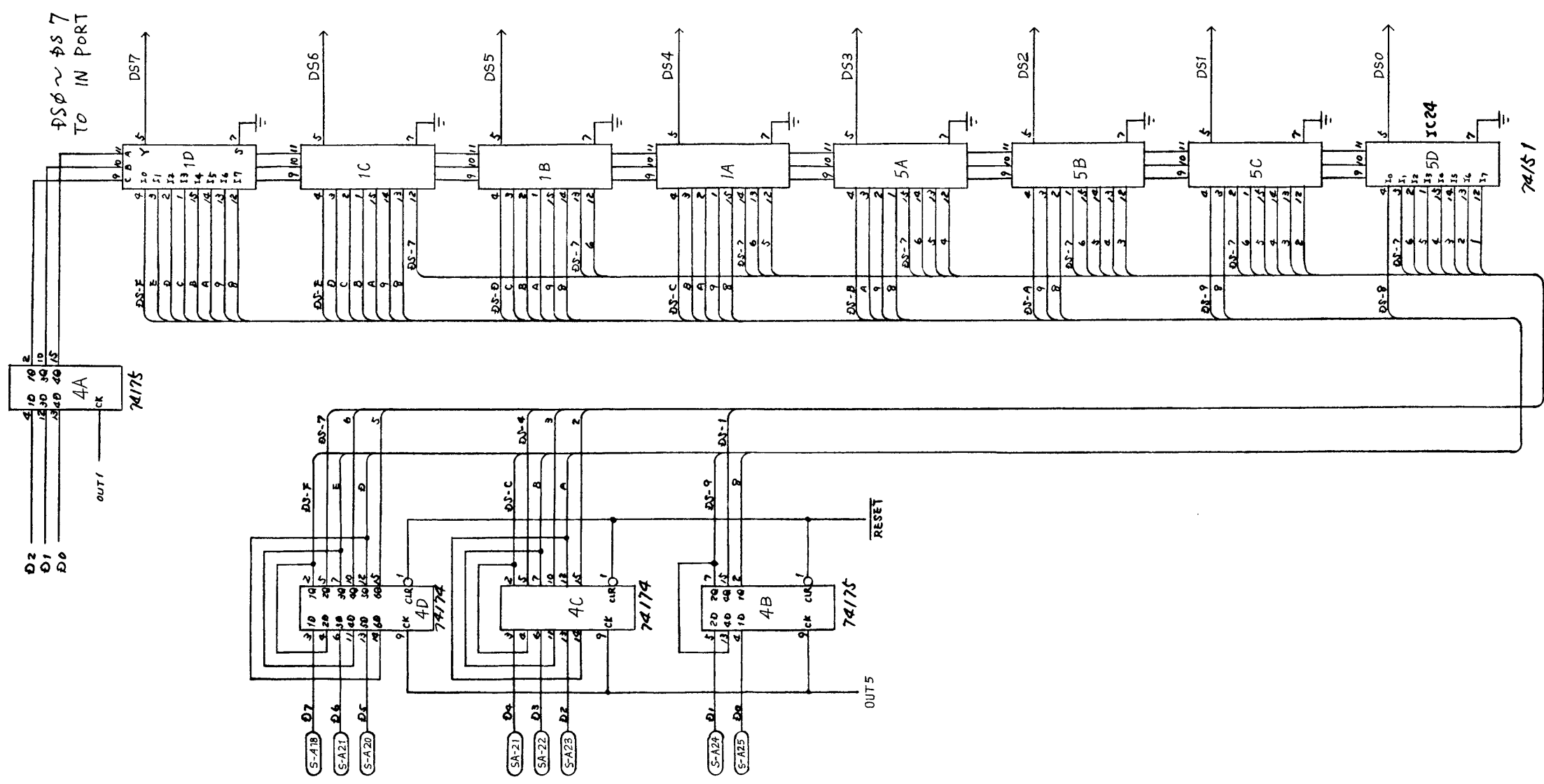
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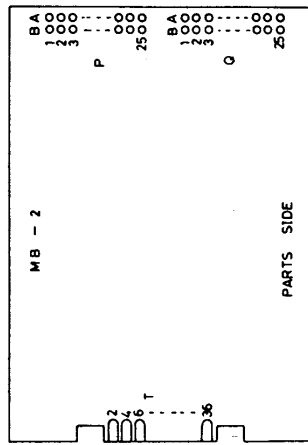
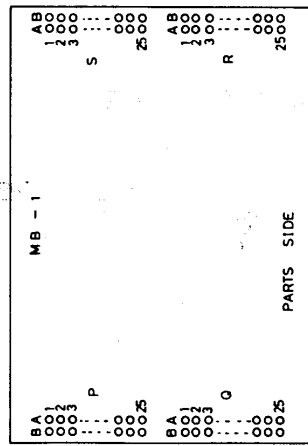
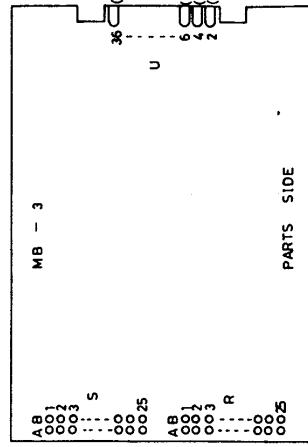
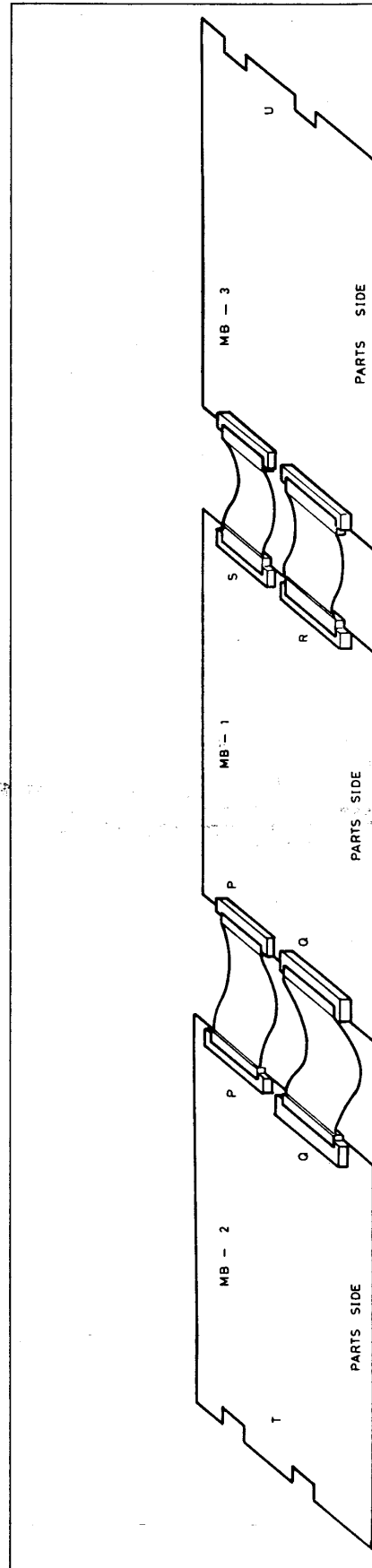
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APPROVALS	DATE	MOON BASE MB-3 (2/3, SOUND)			
DRAWN S SAKURAI	10/1/1980				
CHECKED H. KITABATA	2/4/1980	SCALE	SIZE	DRAWING NO.	
SHEET 4					



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APPROVALS	DATE	MOON BASE (1/3 V0 PORT)	
DRAWN S. SAKURAI	10/1/1980		
CHECKED H. KITABATA	2/4/1980		
SCALE	SIZE	DRAWING NO.	



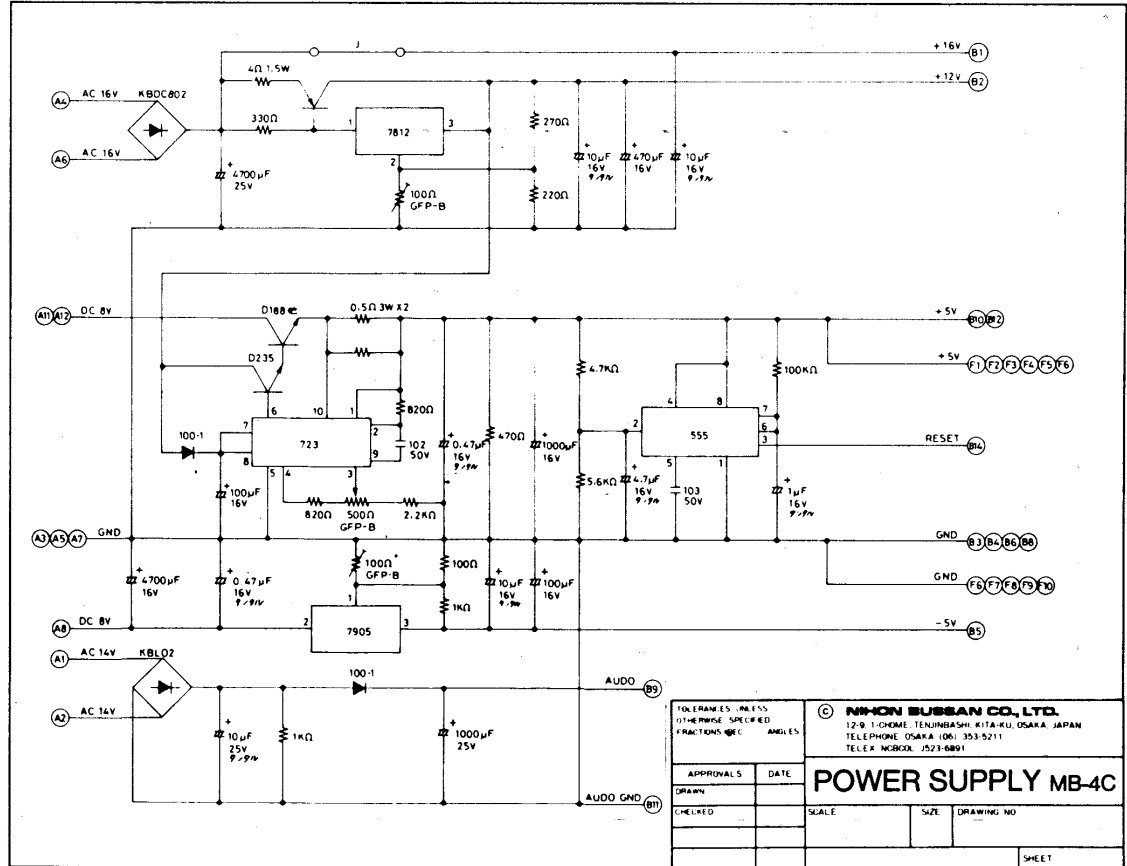
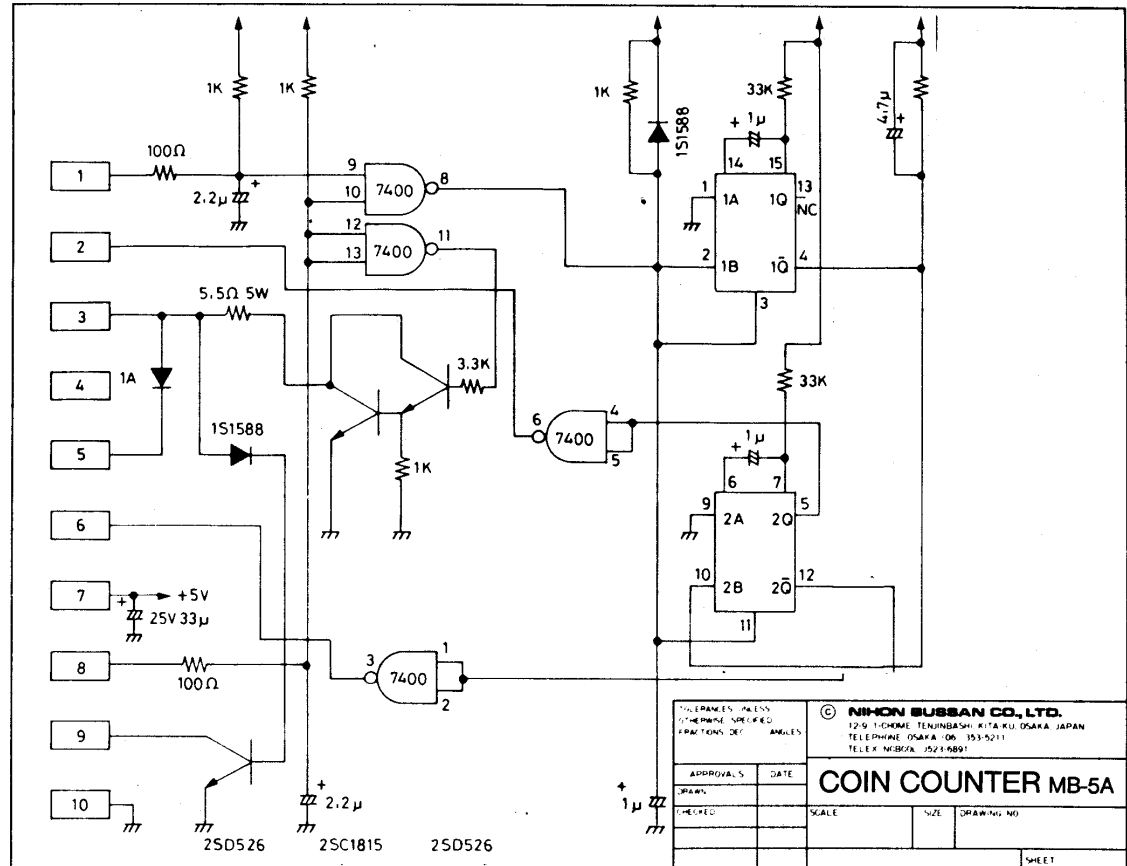
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APPROVALS	DATE	MOON BASE MB-3 (3/3 DATA SHIFTER)		
DRAWN S.SAKURAI	10/1/1980			
CHECKED H.KITABATA	2/4/1980			
		SCALE	SIZE	DRAWING NO.
				SHEET 5

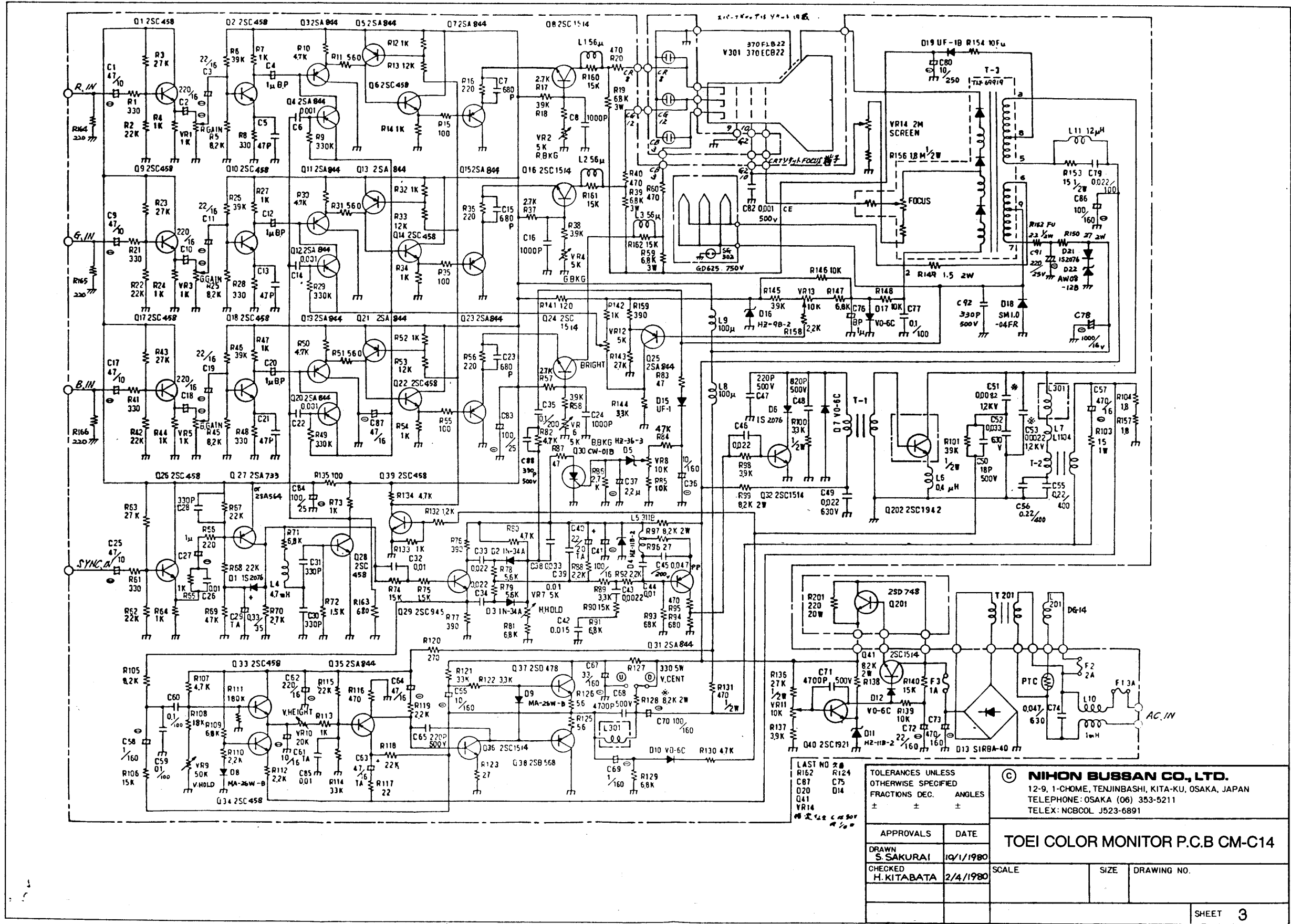


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MOON BASE
P-C-BOARD JOINING, CONNECTOR PIN ASSIGN

TOLERANCES UNLESS OTHERWISE SPECIFIED	ANGLES
FRACTIONS DEC	
APPROVALS	DATE
DRAWN H. KITABATA	
CHECKED	
SCALE	SIZE
	DRAWING NO.
	SHEET



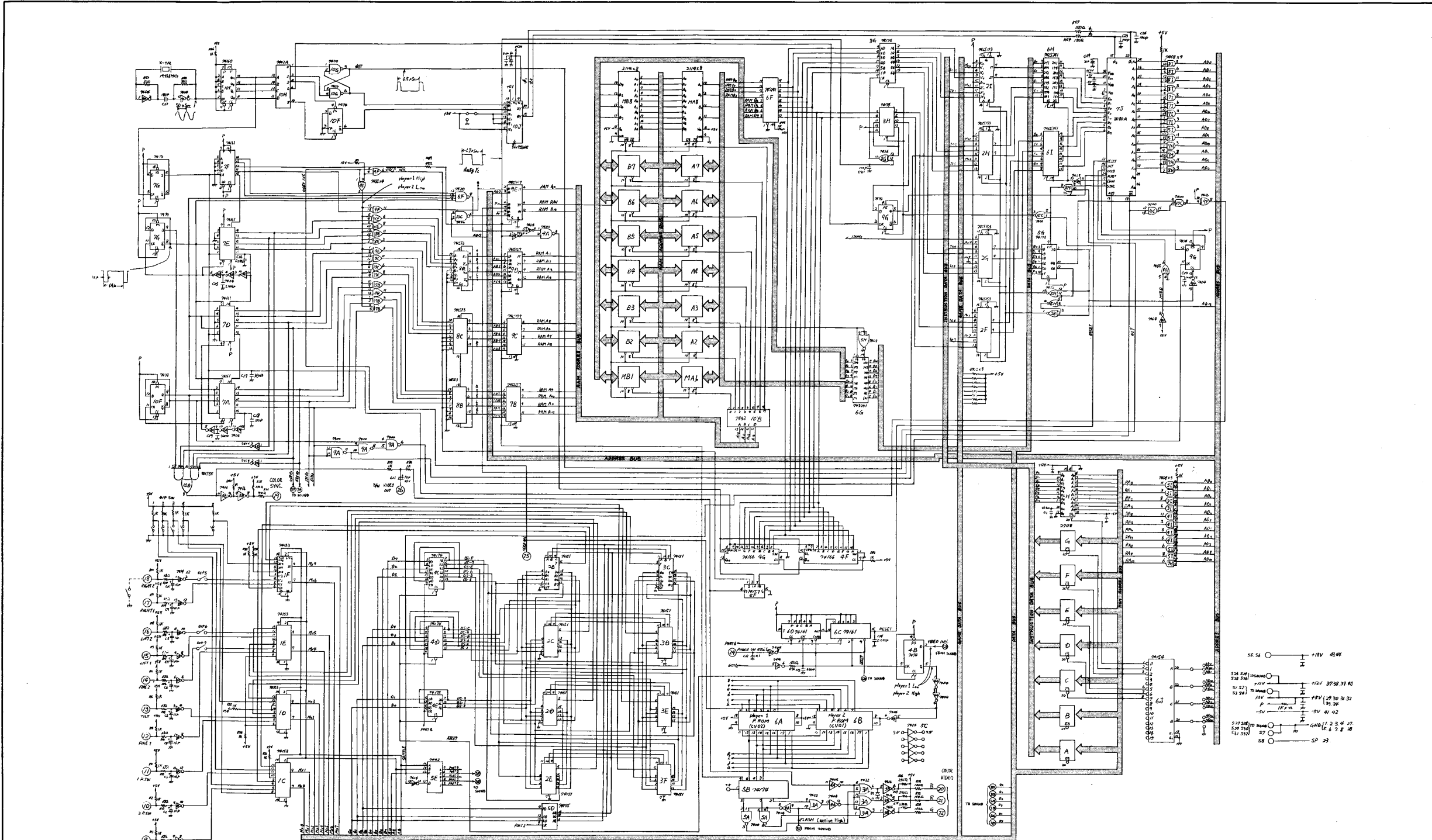


LAST NO 2#
 R162 R124
 C87 C75
 D20 D14
 Q41 Q14
 VR14

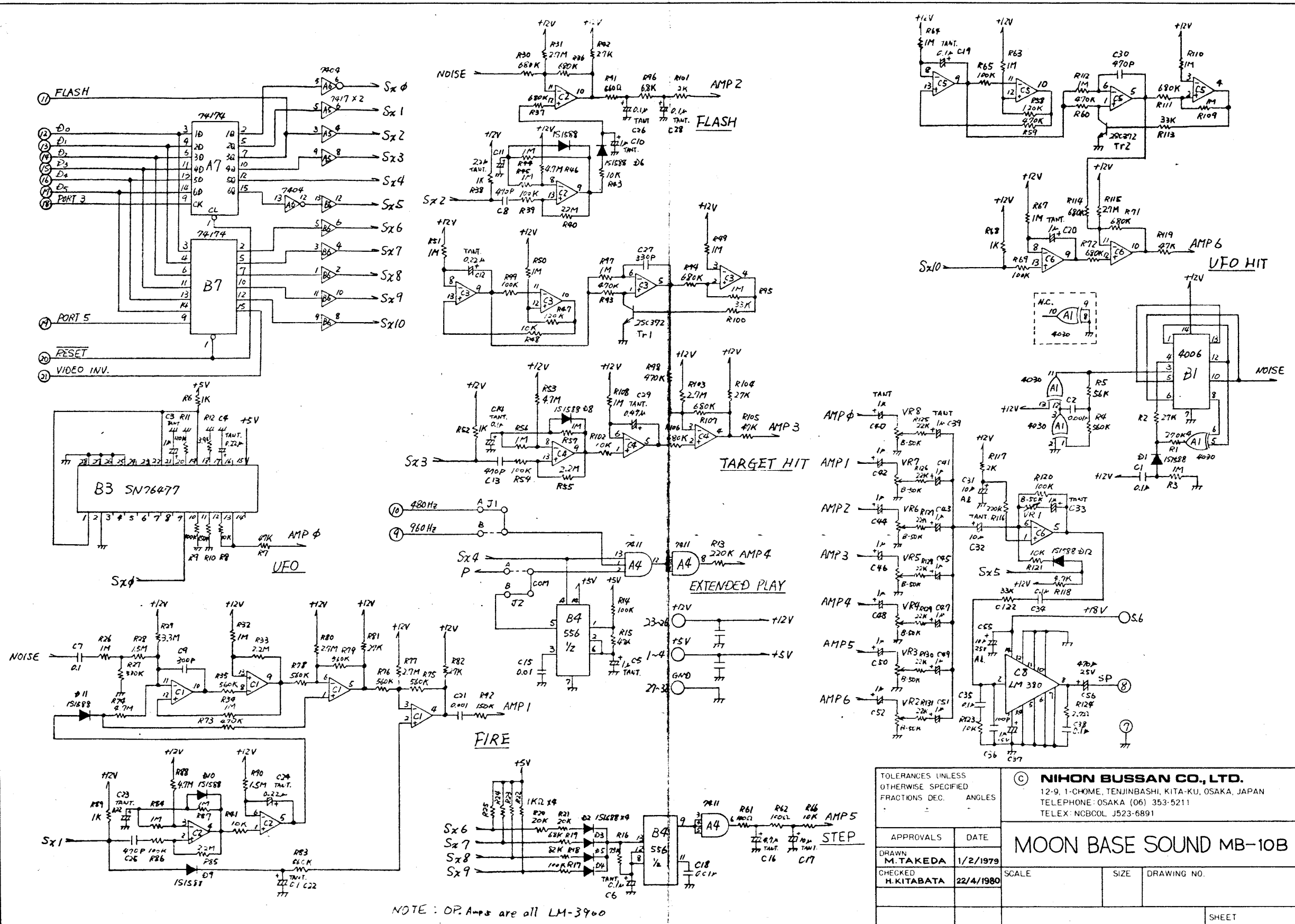
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 FRACTIONS DEC. ANGLES
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APPROVALS	DATE	TOEI COLOR MONITOR P.C.B CM-C14		
DRAWN S. SAKURAI	10/1/1980			
CHECKED H. KITABATA	2/4/1980	SCALE	SIZE	DRAWING NO.
SHEET 3				

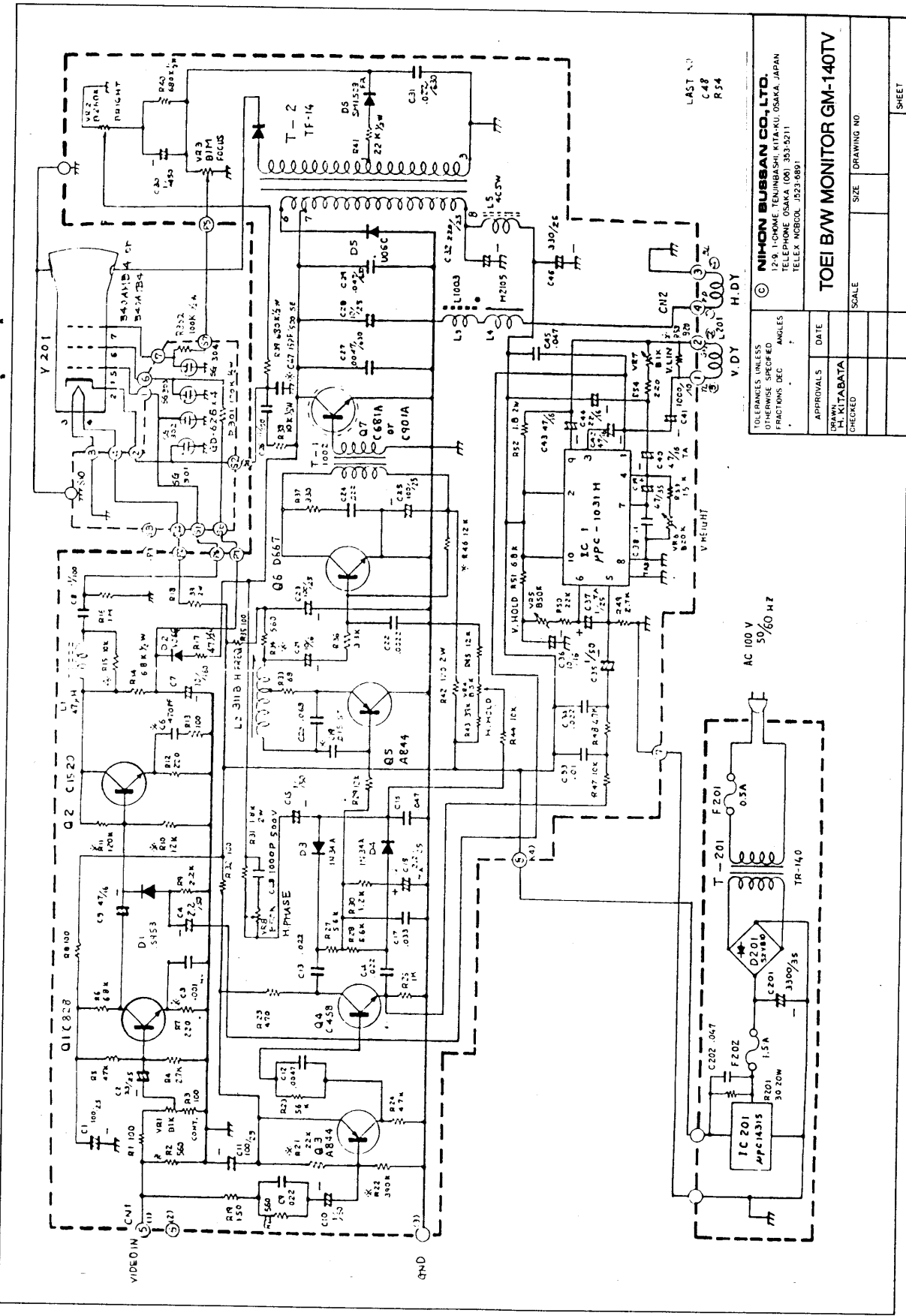


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APPROVALS	DATE	MOON BASE 1 PIECE BOARD				SCALE	SIZE	DRAWING NO.
DRAWN M. TAKEDA	1/2/1979							
CHECKED H. KITABATA	22/4/1980							SHEET



NOTE: OP. Amps are all LM-3900

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APPROVALS	DATE	MOON BASE SOUND MB-10B	
DRAWN M. TAKEDA	1/2/1979		
CHECKED H. KITABATA	22/4/1980	SCALE	SIZE
			DRAWING NO.
			SHEET



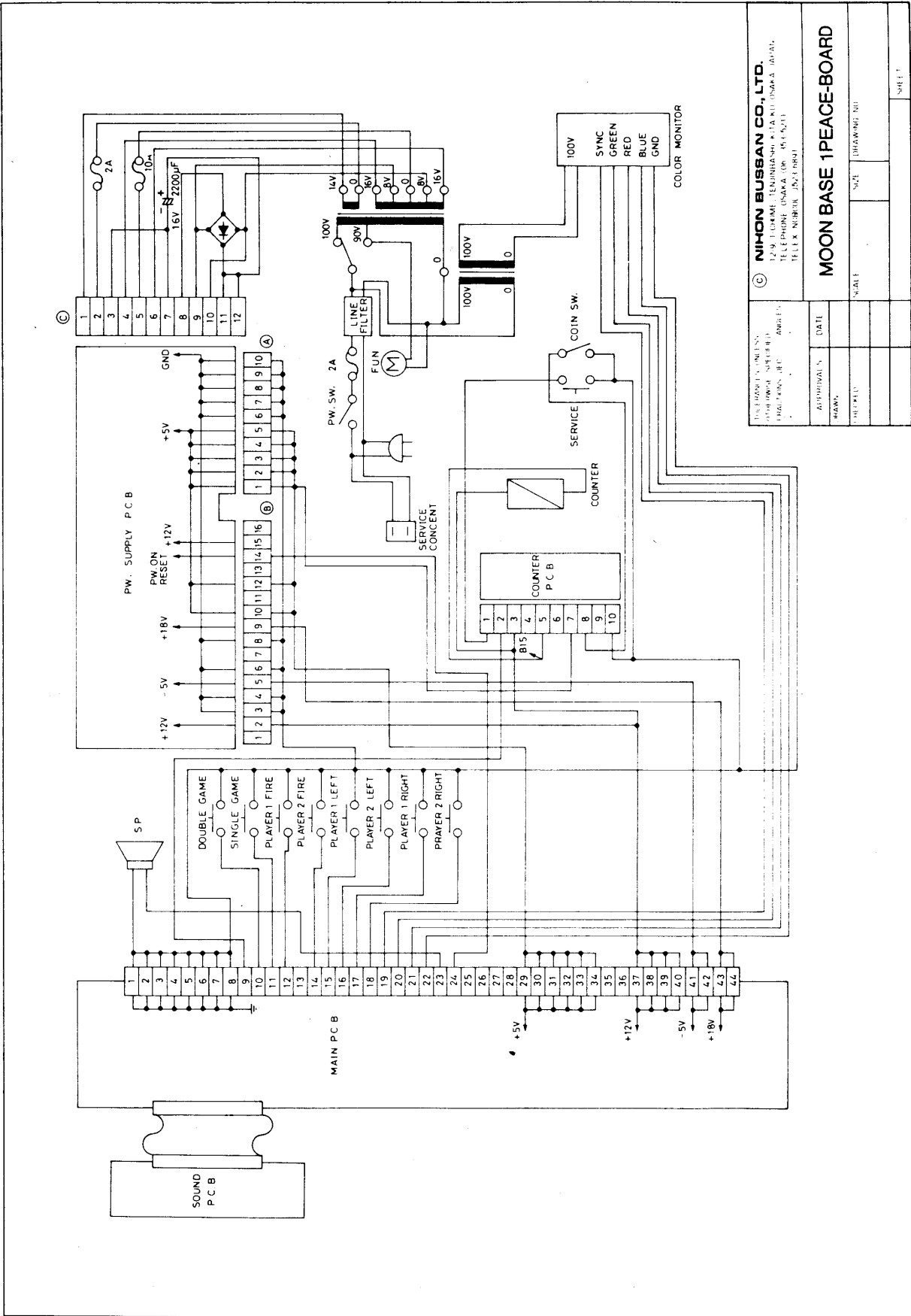
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 TELEPHONE OSAKA (06) 363-5211
 TELEX NOBBOOL 2523-6891

APPROVALS	DATE	SCALE	SIZE	DRAWING NO.	SHEET
DESIGNED BY HIKITABATA					
CHECKED					

TOLERANCES UNLESS OTHERWISE SPECIFIED IN ANGLES
 FRACTIONS DEC

TOEI B/W MONITOR GM-140TV

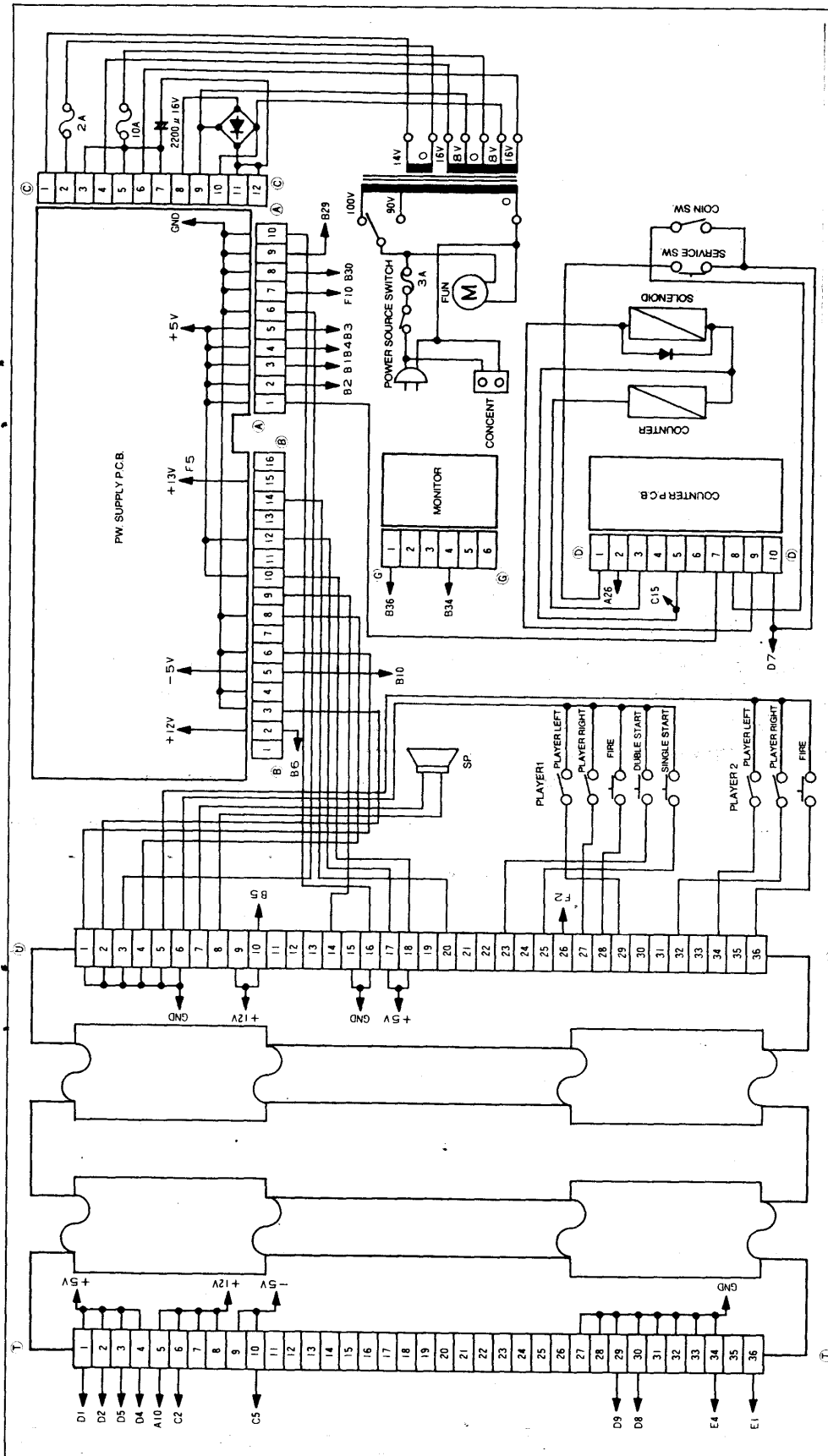
AC 100 V 50/60 HZ



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 TELEX: NIPPON 1041

DATE: _____
 DRAWN: _____
 CHECKED: _____
 APPROVED: _____
 SHEET: _____ OF _____
 DRAWING NO: _____
 SHEET: _____

MOON BASE 1 PCB-BOARD



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TOLERANCES UNLESS OTHERWISE SPECIFIED	ANGLES
FRACTIONS DEC	
APPROVALS	DATE
DESIGNED BY H. KITABATA	
CHECKED	
SCALE	SIZE
	DRAWING NO
	SHEET

MOON BASE 3PSPACE-BOARD