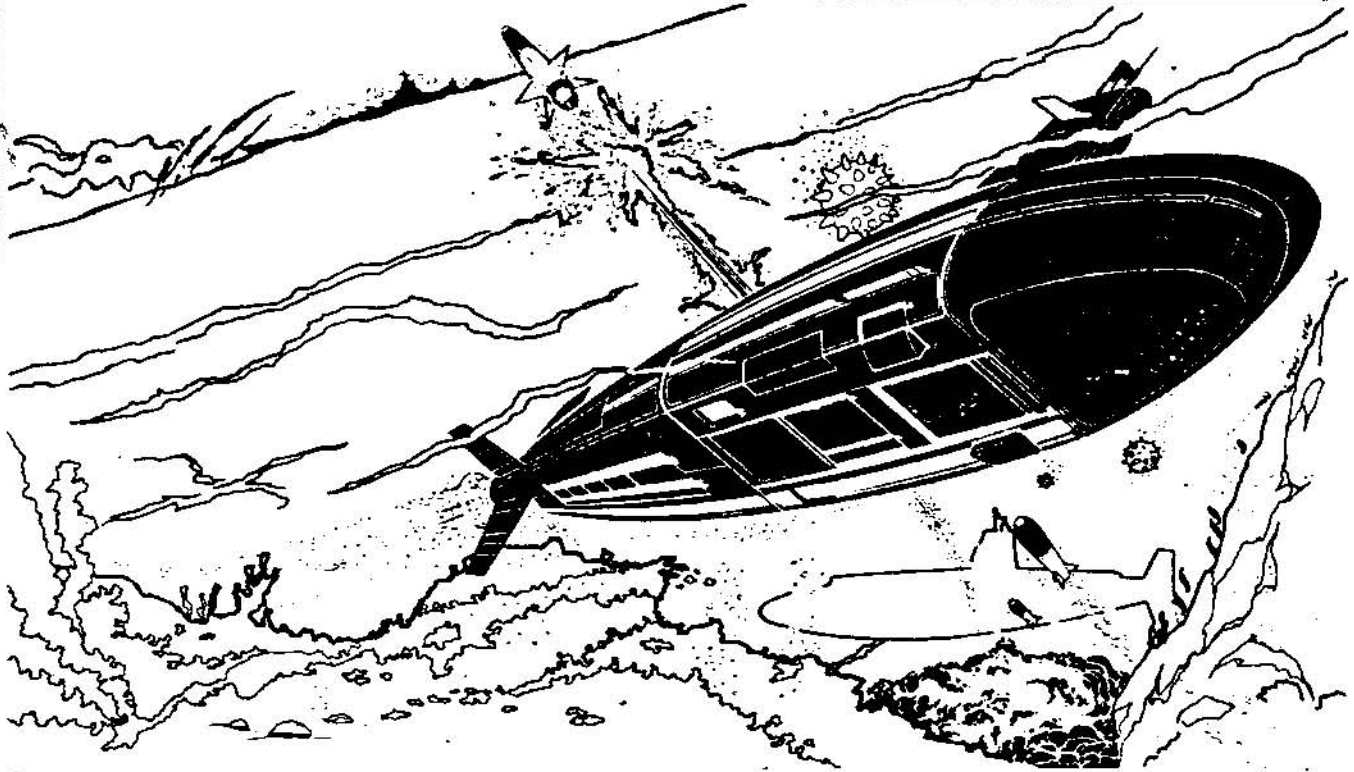


POLARIS™

COLOR







SERVICE INSTRUCTIONS AND PARTS CATALOG



TAITO CORPORATION

5. Play Instructions

- o Insert coin(s).
- o Select game 1 or 2 players.
- o Shoot jet planes  , frigates  , enemy subs  , and airplanes  for points, while avoiding enemy attack.
- o Scoring:



??? Pts.



??? Pts.



100 Pts.



50 Pts.



30 Pts.



10 Pts.

- o In a two player game, play alternates between the two after each missing.

Additional Information:

- o Homing missiles and mines cannot be destroyed.
- o When a anti-sub airplane is hit, some mystery points (500, 1000, 1500, or 2000 points) are scored.
- o When an enemy sub is hit, some mystery points (300, 500, 700, or 900 points) are scored.
- o When score exceeds 5,000 points, one sub is added with music.
- o As the frame progresses, the bonus points increase from 1,000 to 9,000 points.
- o Game is over when all of player8s subs have been destroyed.

6. Adjustments on Switching Regulator PC Board

(See Fig. 3)

Caution: The line voltages should be set within the limit.
Failure to do so may result in destruction of the IC's.

o To check the output voltage, measure them on the G-connector or the T-connector.

(See the cable block diagram, in this manual.)

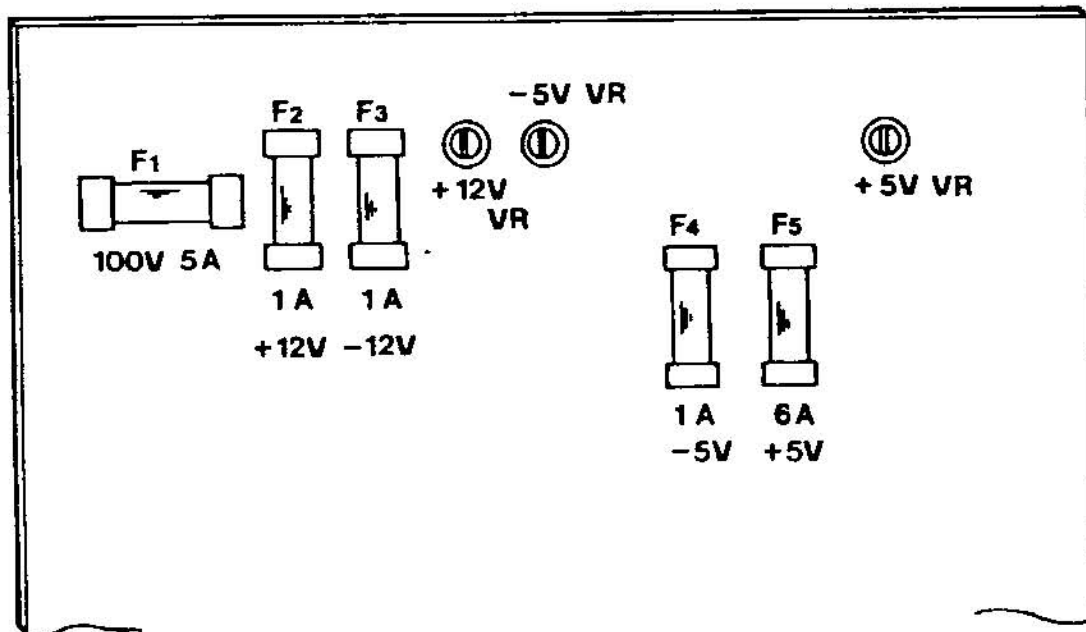


Fig. 3

- o +5V VR ... Pot for adjusting +5V DC line voltage
(Adjustable range: +4.5V to +5.5V DC)
Set approx. +5V.
- o -5V VR ... Pot for adjusting -5V DC line voltage
(Adjustable range: -5.5V to -4.5V DC.)
Set approx. -5V.
When the +5V line has no load, this -5V
voltage is not present on the line.
- o +12V VR .. Pot for adjusting +12V DC line voltage
(Adjustable range: +10.3V to +13.2V DC)
Set approx. +12V.

7. Adjustments on Game PCB (See Fig. 4 and Table 1 - 3)

- o To decrease the sounds turn each pot as shown by the arrowhead.

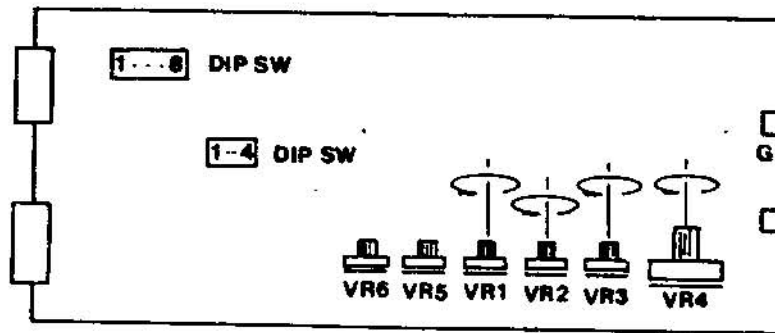


Fig. 4

- * VR1 ... Pot for adjusting the effective sounds; firing sounds, anti-sub airplane nose diving sounds, bomb hit sounds, jet plane hit sounds, and frigate hit sounds.
- * VR2 ... Pot for adjusting frigate appearing sounds and enemy sub hit sounds.
- * VR3 ... Pot for adjusting the music produced when bonus points are scored or an extended play is awarded.
- * VR4 ... Pot for adjusting the total sounds.
- * VR5, VR6 ... These pots are for adjusting the solid-state modules, which are for factory adjustments.

Setting of DIP Switches:

DIP SW1

- * SW1, SW2 ... Switches for changing the number of player's subs (POLARIS)

Polaris	3	4	5	6
SW 1	ON	OFF	ON	OFF
SW 2	ON	ON	OFF	OFF

Table 1

This number is preset at "3" at the factory.

- o SW3 ... Switch for Game Style

SW 3	ON	Upright Version
	OFF	T T Version

Table 2

As this game is an upright version, this switch should be set at "ON" position.

- o SW4 ... Switch for checking game features

When this switch is set at "OFF" position, no hits are made if bombs hit player's sub.

Normally, this switch should be set at "ON" position.

- o SW5 ... Switch for demonstration sounds

Effective sounds for appealing to the customers can be produced. (Polaris sounds)

SW 5	ON	No sounds are produced.
	OFF	Sounds are produced.

Table 3

- o SW6,SW7 ... These switches are not used in this game, and should be set at "OFF" positions.

- o SW8 ... Switch for Preset Mode

When this switch is set at "OFF" position, the check can be mode. When checking, each switch should be set first. Normally this switch should be set at "ON" position.

1 PLAYER START SW ... 1P's points are increased by 50 points.

2 PLAYER START SW ... 2P'S points are increased by 50 points.

1 PLAYER UP SW The levele becomes high.

1 PLAYER FIRE SW The game starts.

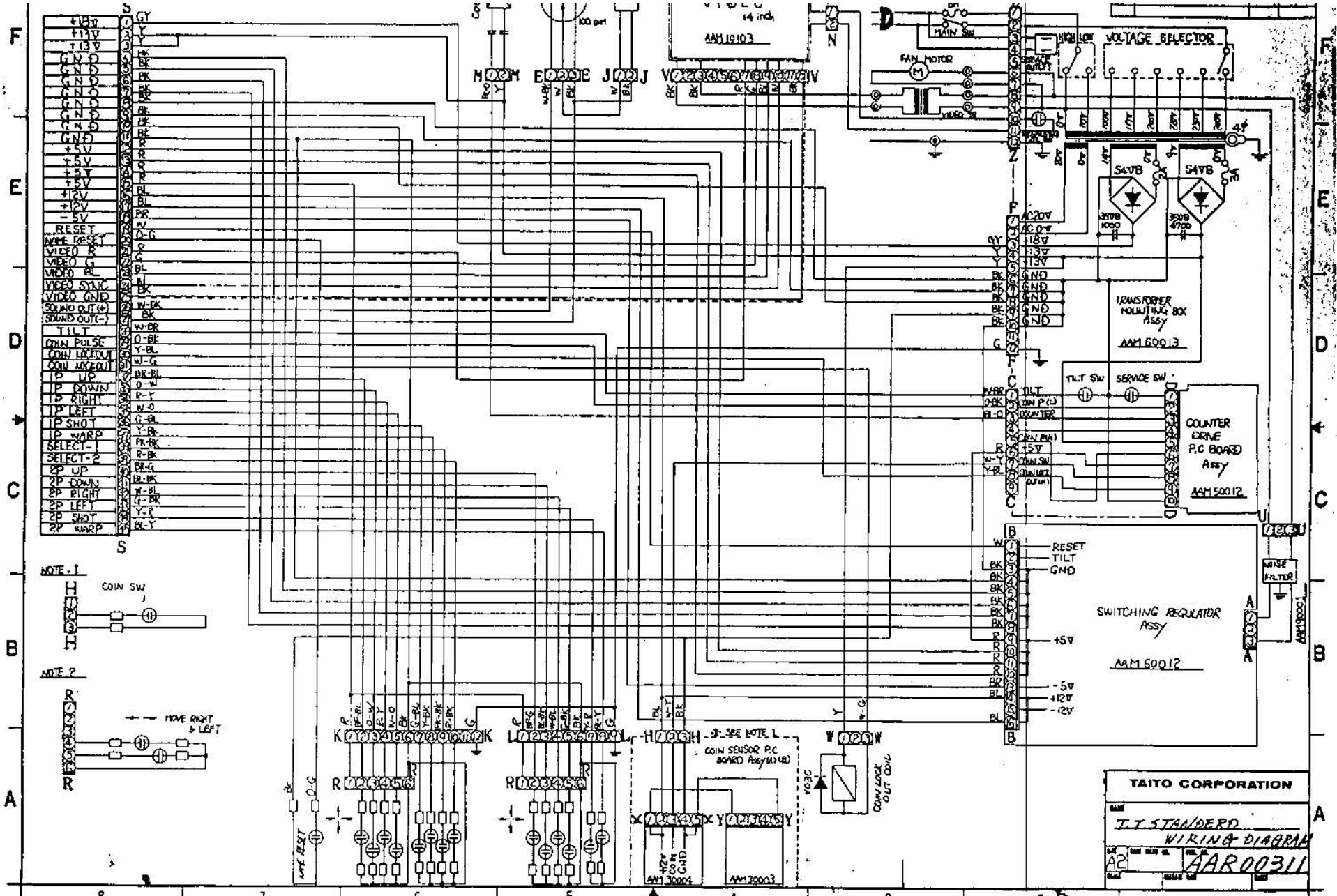
DIP SW2

- o SW1-SW3 ... These switches are not used and ahold be set "OFF" positions.

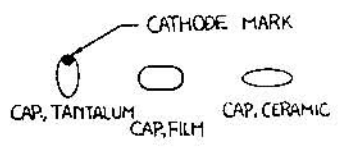
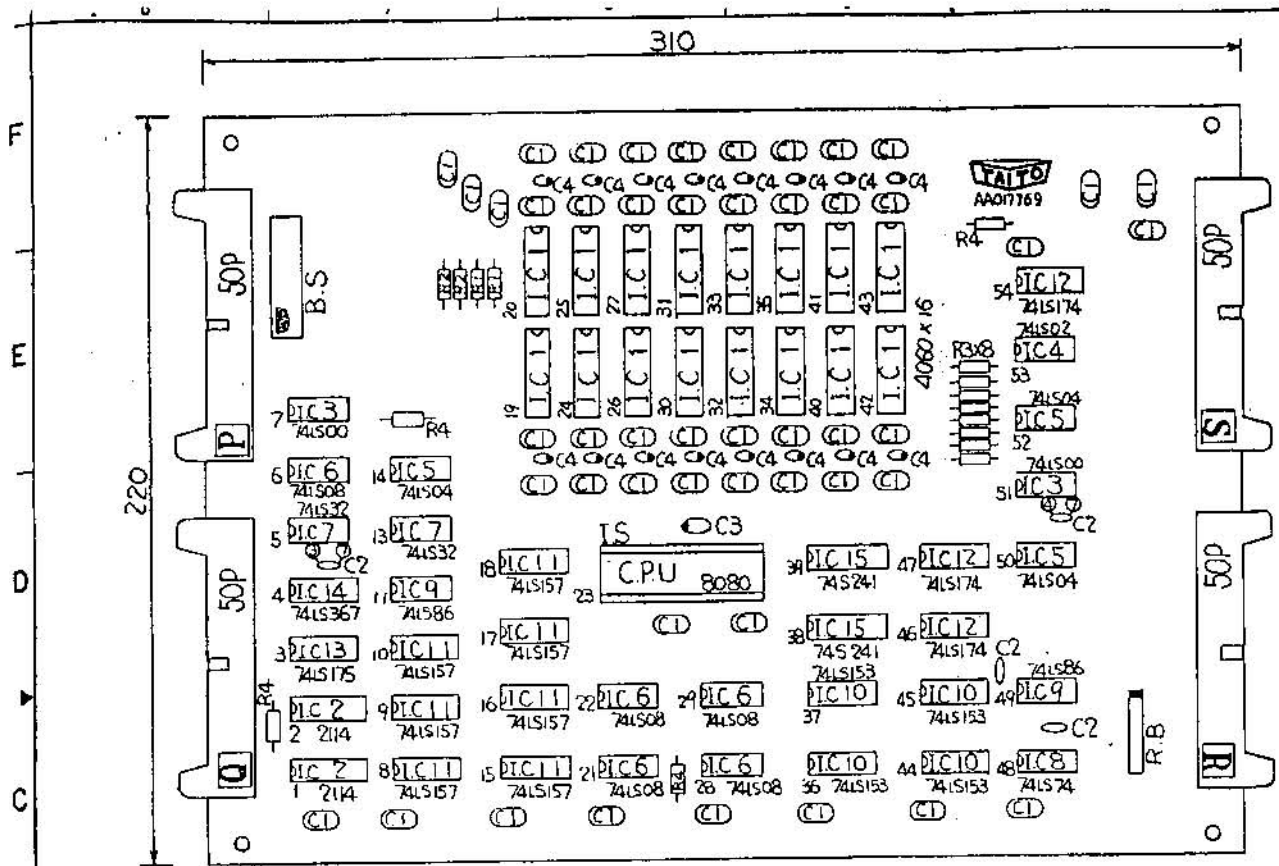
- o SW4 ... Switch for Screen Inversion

"ON" ... Inversion "OFF" ... No Inversion

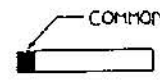
Normally, this switch should be set at "OFF" position.



TAITO CORPORATION
 TAITO STANDARD
 WIRING DIAGRAM
 AAR00311



NOTE - 1. CAP.



NOTE - 2. RESISTOR BLOCK

REVISED			
ITA	DESCRIPTION	DATE	APPROVED

47						
46						
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39						
38						
37						
36						
35						
34						
33	R.B	AAT 5504	RESISTOR BLOCK	4700m	8elems	1
32	R4	51765	RES. CARBON	1Kohm	1/4W 5%	4
31	R3	51763		330		8
30	R2	51745		150		2
29	R1	51729	RES. CARBON	330ohm	1/4W 5%	2
28	C4	41425	CAP. TANTALUM	56G25	-1E	16
27	C3	41424	CAP. TANTALUM	56G16	-22E	1
26	C2	41318	CAP. CERAMIC	50V	100PF	4
25	C1	41244	CAP. FILM	TDY-H-104		49
24	IC5	35001	BUS DRIVER	74LS241		2
23	CPU	3400	C.P.U	74LS8080		1
22	IC4	33203	L.S. IC	74LS367		1
21	IC3	33128		74LS175		1
20	IC2	33127		74LS174		3
19	IC11	33112		74LS157		7
18	IC10	33108		74LS153		4
17	IC9	33062		74LS86		2
16	IC8	33051		74LS24		1
15	IC7	33027		74LS32		2
14	IC6	33009		74LS08		5
13	IC5	33005		74LS04		3
12	IC4	33003		74LS02		1
11	IC3	33001	L.S. IC	74LS00		2
10	IC2	32156	STATIC RAM	2114-4		2
9	IC1	AAT 32001	DYNAMIC RAM	74SA060AM		16
8	IS	AAO 55812	I.C SOCKET	40P		1
7	SOP	55154	ANGLE PIN HEADER	PS-50PA		4
6	S	17652	CONNECTOR STICKER	S		1
5	R	17659		R		1
4	Q	17656		Q		1
3	P	AAO 17653	CONNECTOR STICKER	P		1
2	B.S	RT0	P.C BOARD STICKER			1
1		AAO 17769	C.P.U. PC BOARD (R)			1

PARTS LIST

TAITO CORPORATION

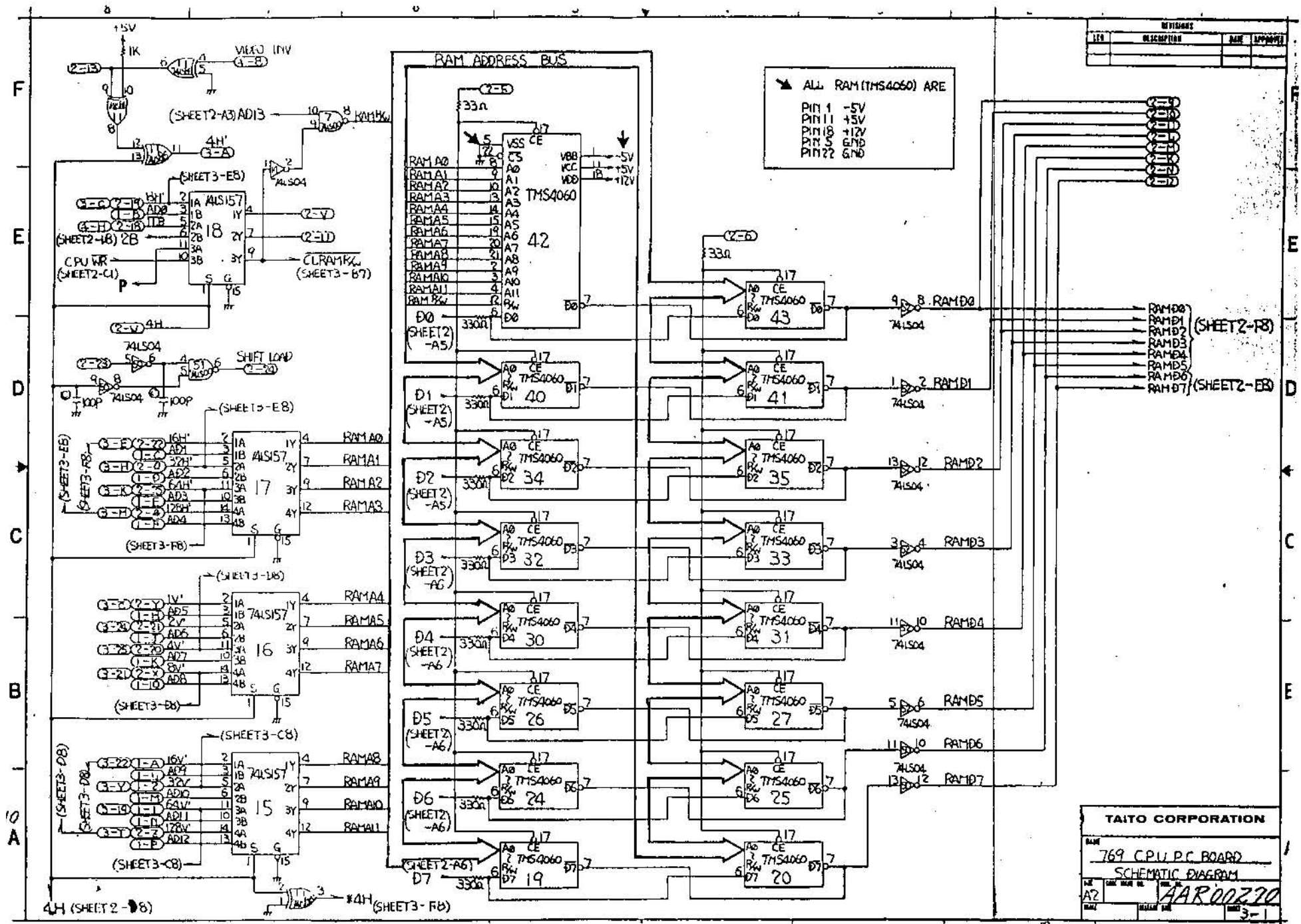
NAME: T.T. SPACE CHASER
769-C.P.U. PC BOARD ASSY

REV. NO. RTN00005

DATE: / /

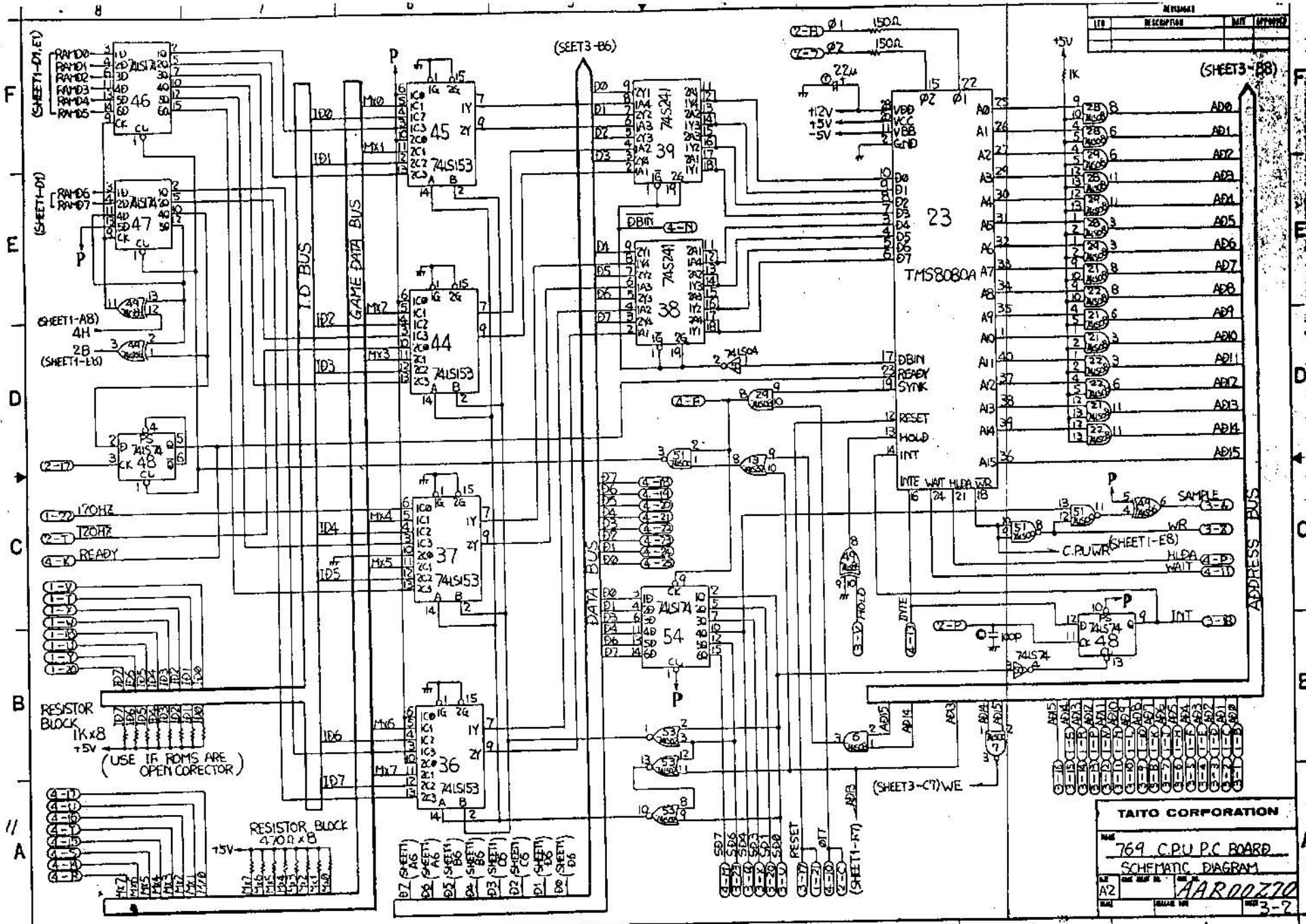
BY: / /

REV	DESCRIPTION	DATE	APPROVED



ALL RAM (TMS4060) ARE
 PIN 1 -5V
 PIN 11 +5V
 PIN 18 +12V
 PIN 5 GND
 PIN 22 GND

TAITO CORPORATION	
DATE	769 CPU P.C BOARD
SCHEMATIC DIAGRAM	
REV	AAR00220
DATE	3-1



REVISION			
REV	DESCRIPTION	DATE	APPROVED

TAITO CORPORATION

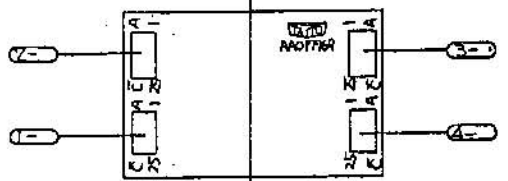
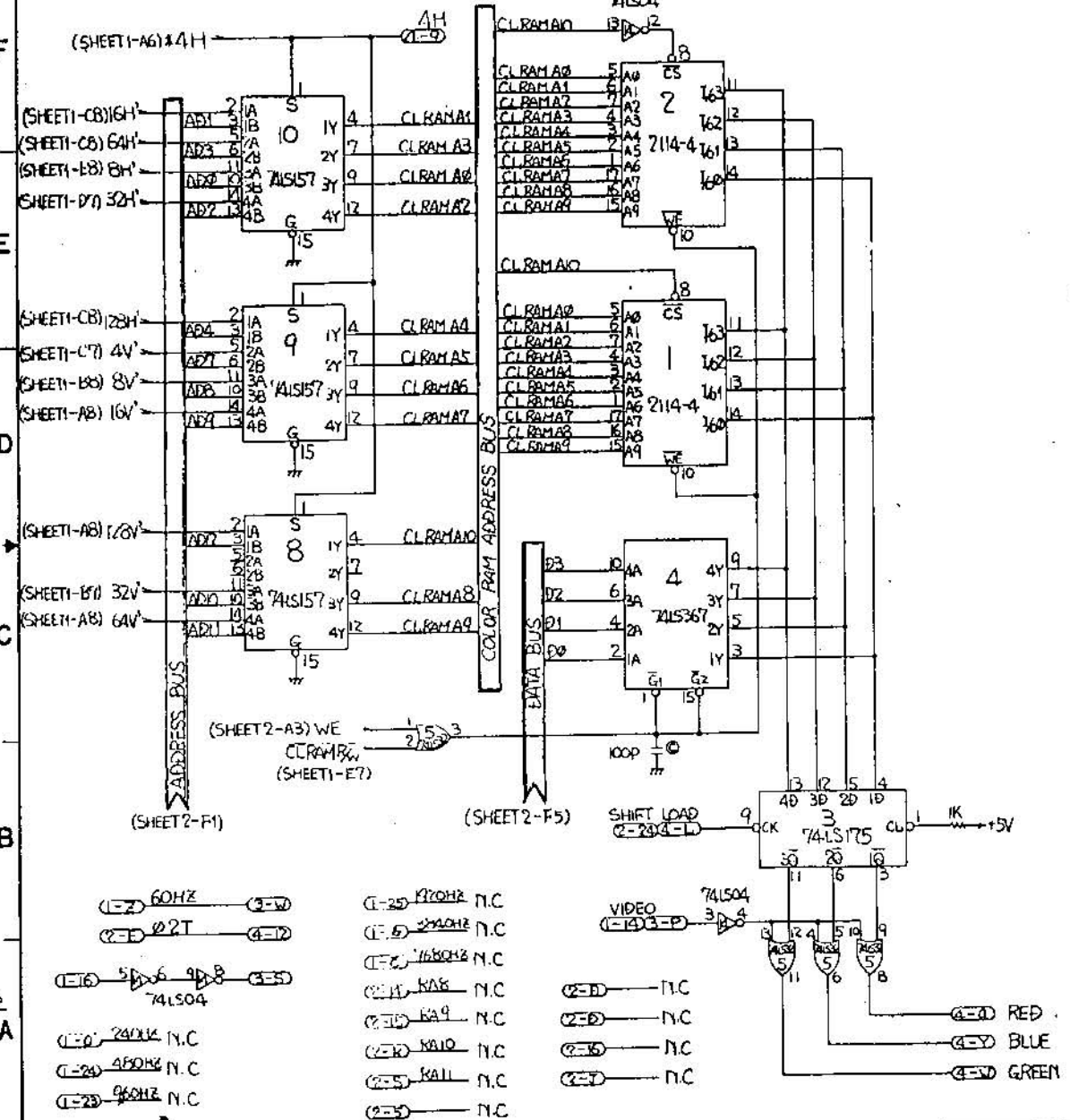
769 CPU PC BOARD
SCHEMATIC DIAGRAM

REV: A2
DATE: 1981.07.10
DRAWN BY: AAR0270
PAGE: 3-7

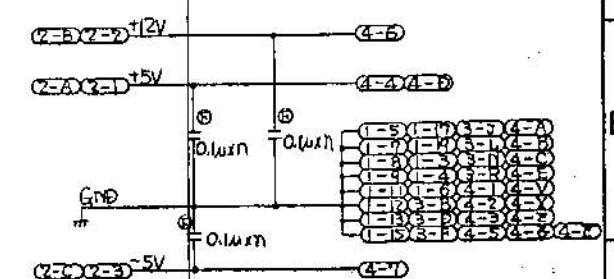
REVISIONS		
NO.	DESCRIPTION	DATE APPROVED

F
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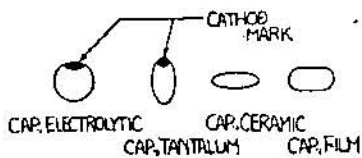
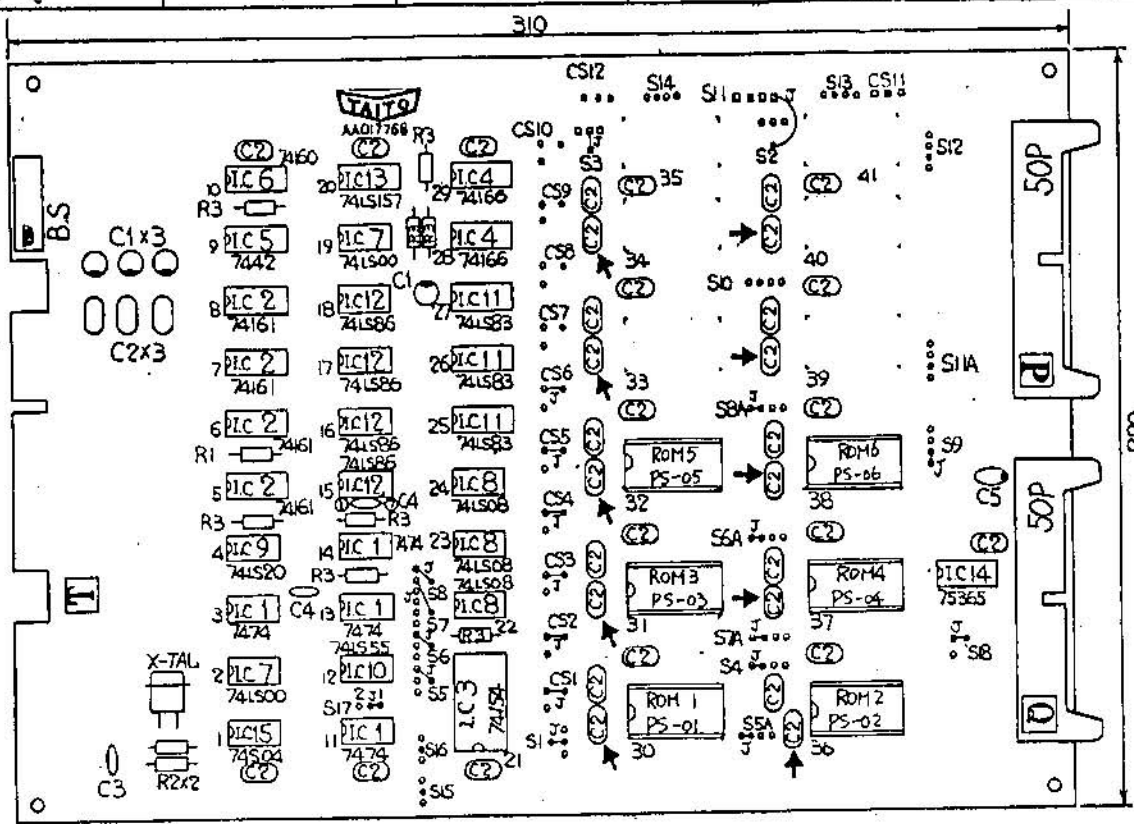


- ⊙ : CAP. TANTALUM
- ⊕ : CAP. FILM
- ⊖ : CAP. CERAMIC



TAITO CORPORATION
 769 - CPU PC BOARD
 SCHEMATIC DIAGRAM
 AAR00270
 3-3

6 4 3 2 1



NOTE-1. CAP.

NOTE-2. NOT USE THIS MARKED (M) CAPACITOR FOR 2716 & 2316B

ITEM	DESCRIPTION	QTY	APPROVAL
47			
46			
45			
44			
43			
42			
41			
40			
39			
38	ROM5 PS-05	1	
37	ROM4 PS-04	1	
36	ROM3 PS-03	1	
35	ROM2 PS-02	1	
34	ROM1 PS-01	1	
33	ROM6 PS-06	1	
32	RES. CARBON 330	2	
31	RES. CARBON 330	2	
30	RES. CARBON 47000	1	
29	CAP. TANTALUM SSG 35-1F	1	
28	CAP. CERAMIC 470PF	2	
27	CAP. CERAMIC 180PF	1	
26	CAP. FILM TRX-1H-104	32	
25	CAP. ELECTROLYTIC 25VB-10uF	4	
24	S I.C. 74S04	1	
23	MOS DRIVER 75365	1	
22	I.C. 74LS157	1	
21	I.C. 74LS86	4	
20	I.C. 74LS83	3	
19	I.C. 74LS55	1	
18	I.C. 74LS20	1	
17	I.C. 74LS08	3	
16	I.C. 74LS00	2	
15	I.C. 74160	1	
14	I.C. 7447	1	
13	I.C. 74166	2	
12	I.C. 74154	1	
11	I.C. 74161	4	
10	I.C. 7474	4	
9	X-TAL 19.968MHZ	1	
8	TINNED COPPER WIRE 0.5 #	250	
7	I.C. SOCKET 24P	6	
6	ANGLE PIN HEADER PS-50PA	2	
5	CONNECTOR STICKER T	1	
4	CONNECTOR STICKER Q	1	
3	CONNECTOR STICKER P	1	
2	P.C. BOARD STICKER	1	
1	C.P.U.-P.C. BOARD(A)	1	

PARTS LIST

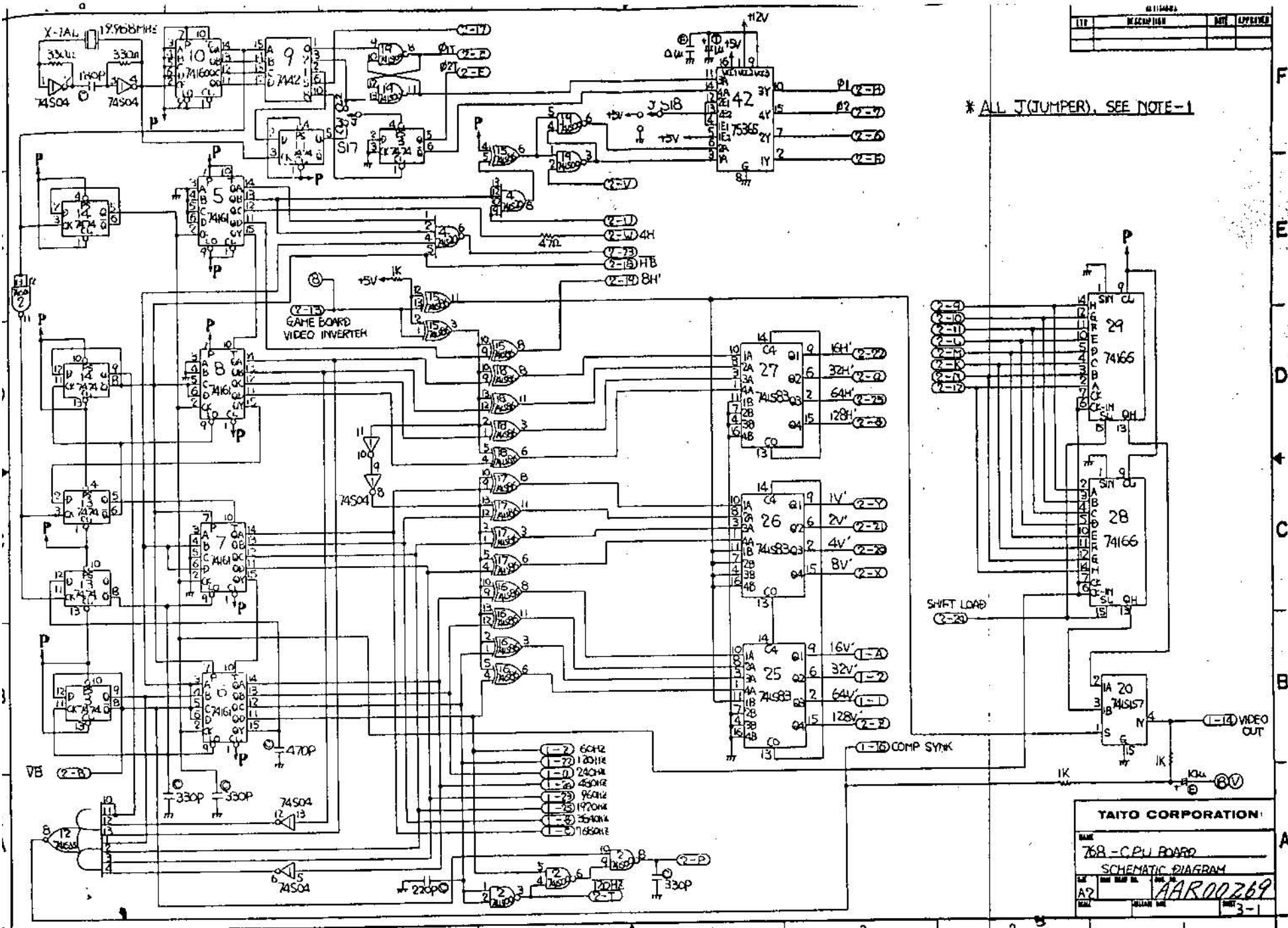
TAITO CORPORATION

NAME: T.T. POLARIS

P.S. - CPU PC BOARD ASSY

REV. NO. A2

PSN/00002



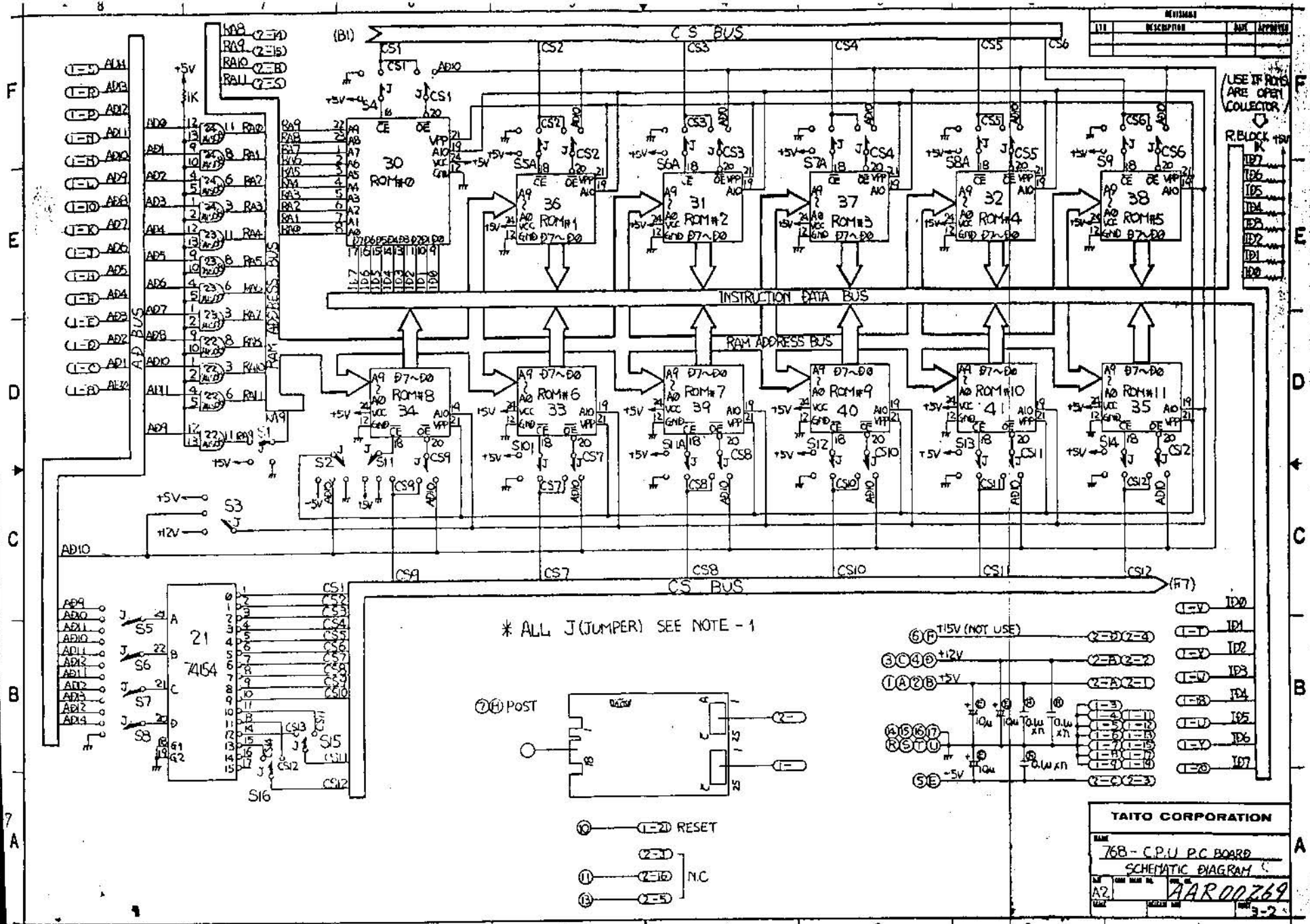
REV	DESCRIPTION	DATE	APPROVED

* ALL J(JUMPER). SEE NOTE-1

GAME BOARD VIDEO INVERTER

TAITO CORPORATION

768-CPU BOARD
SCHEMATIC DIAGRAM
AAR00269
3-1

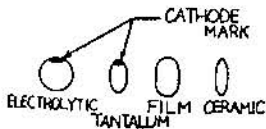
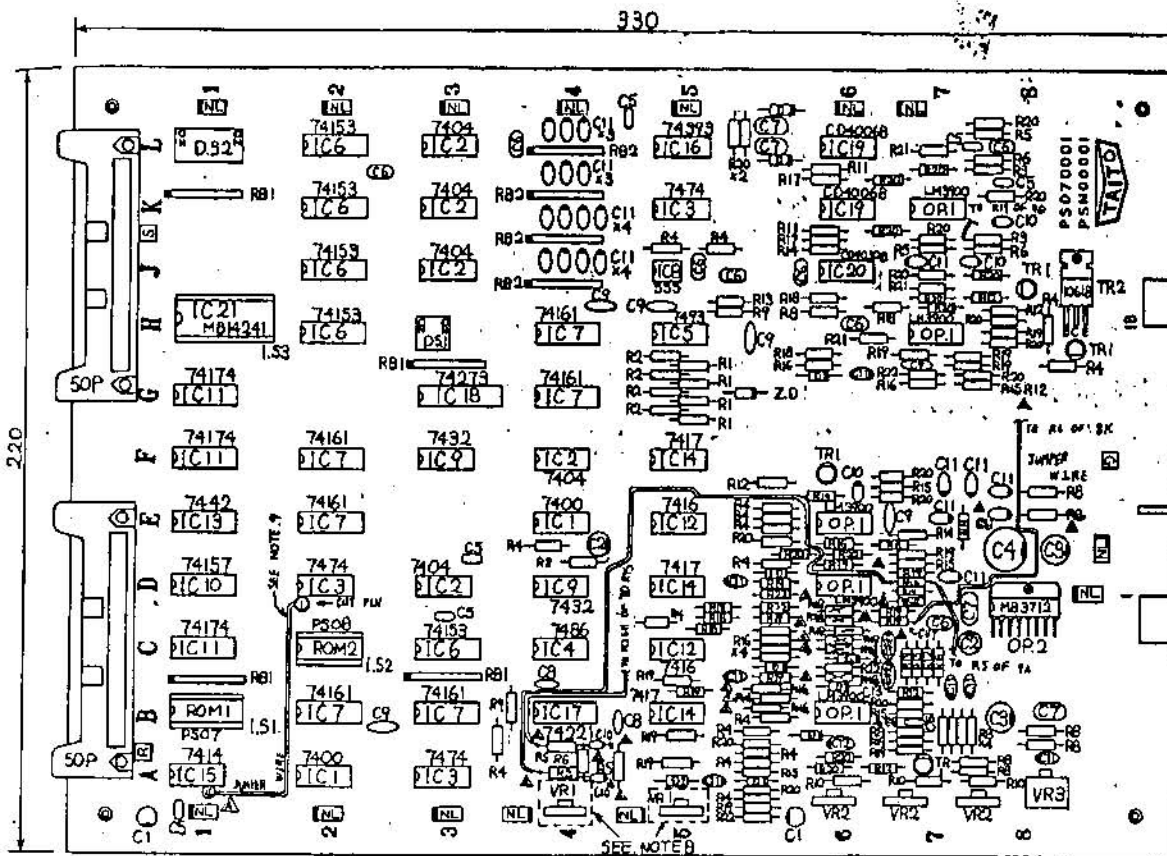


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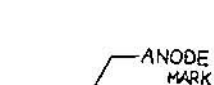
(USE IF PINS ARE OPEN COLLECTOR)
 RELOC

①	12V
②	12V
③	12V
④	12V
⑤	12V
⑥	12V
⑦	12V
⑧	12V
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⑯	12V
⑰	12V
⑱	12V
⑲	12V
⑳	12V

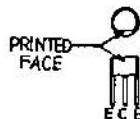
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DATE	SCHEMATIC DIAGRAM
REV	AAR00269
DATE	3-2



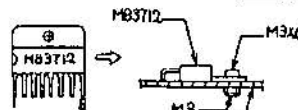
NOTE 1 CAP



NOTE 3 NOISE LIMIT



NOTE 5 TRANSISTOR

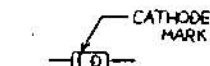


NOTE 7 MB3712

WRITING	
ADDRESS	ADDRESS
1A (R2)	74161 (R15)
4A (R3)	74161 (R15)
8R (R3)	74161 (R15)
1A (R15)	74161 (R15)

CUT THE 1st PLY OF IC 20

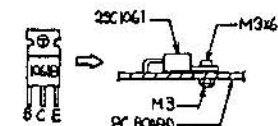
NOTE 9 JUMPER WIRE



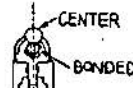
NOTE 2 DIODE



NOTE 4 RESISTOR BLOCK



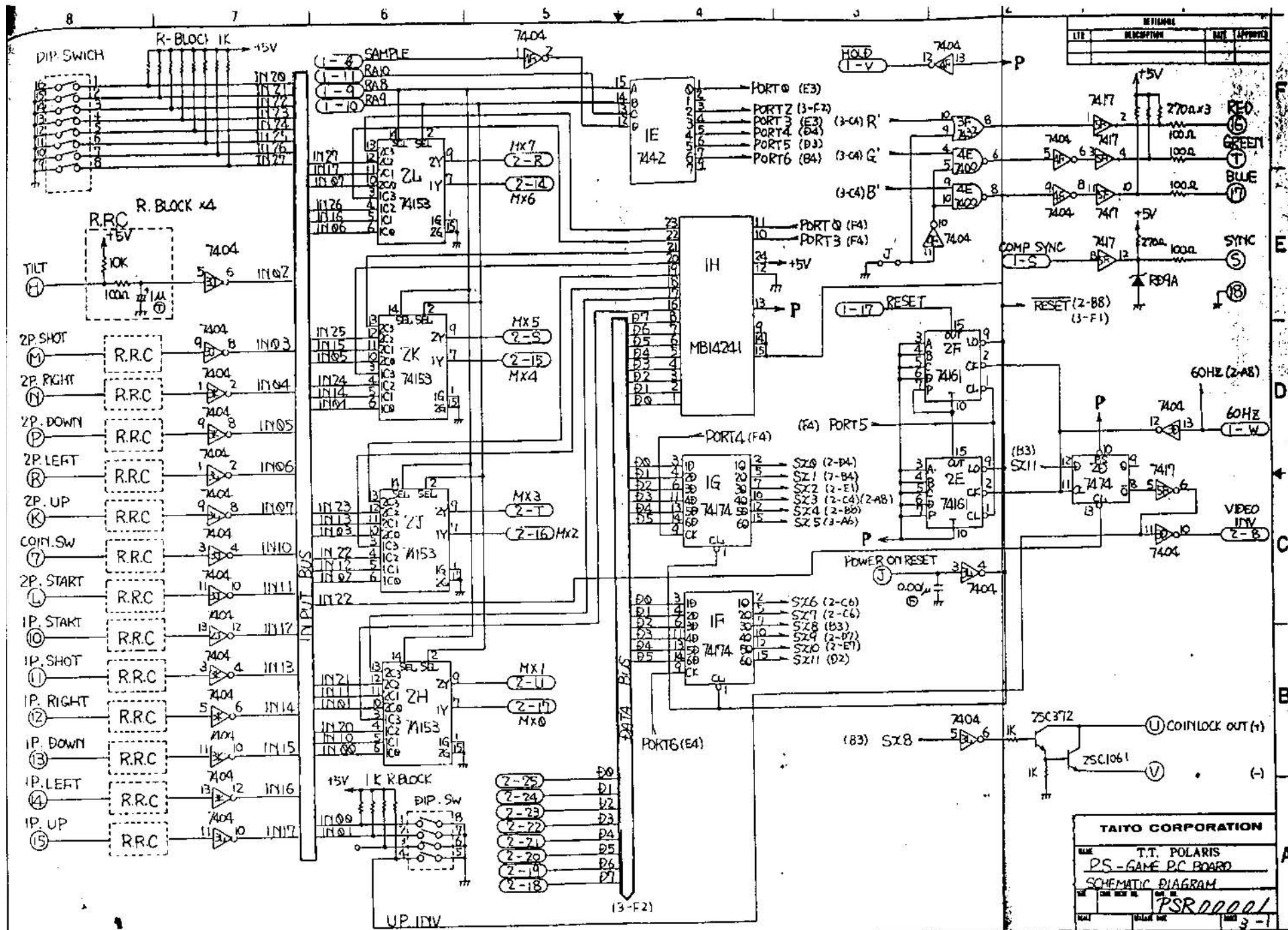
NOTE 6 TRANSISTOR (2SC1061)



NOTE 8 VARIABLE RES.

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8	1	PS-070001 PS-000001	
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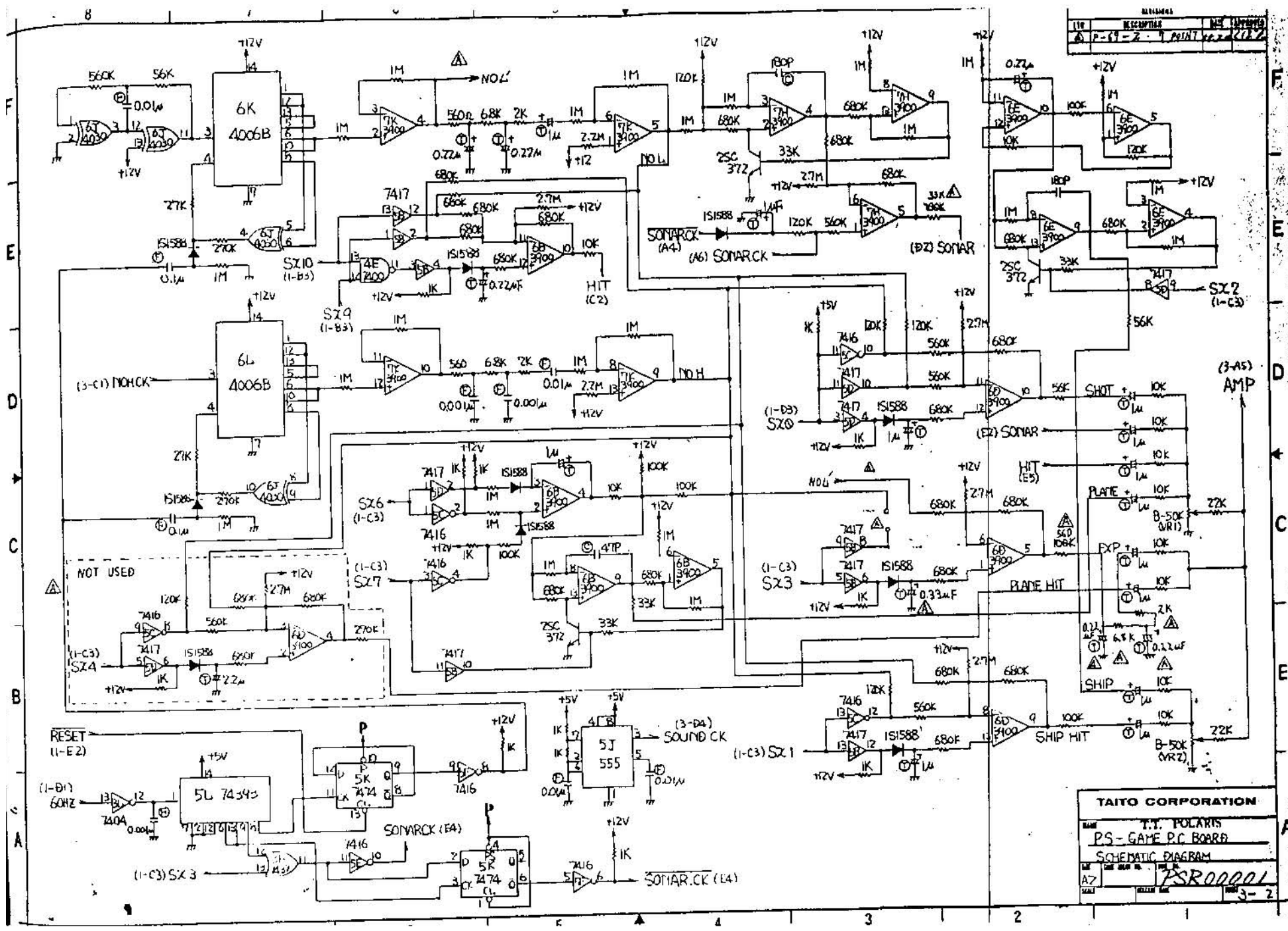
TAITO CORPORATION
PS-GAME PC BOARD Assy
PSN00001



TAITO CORPORATION

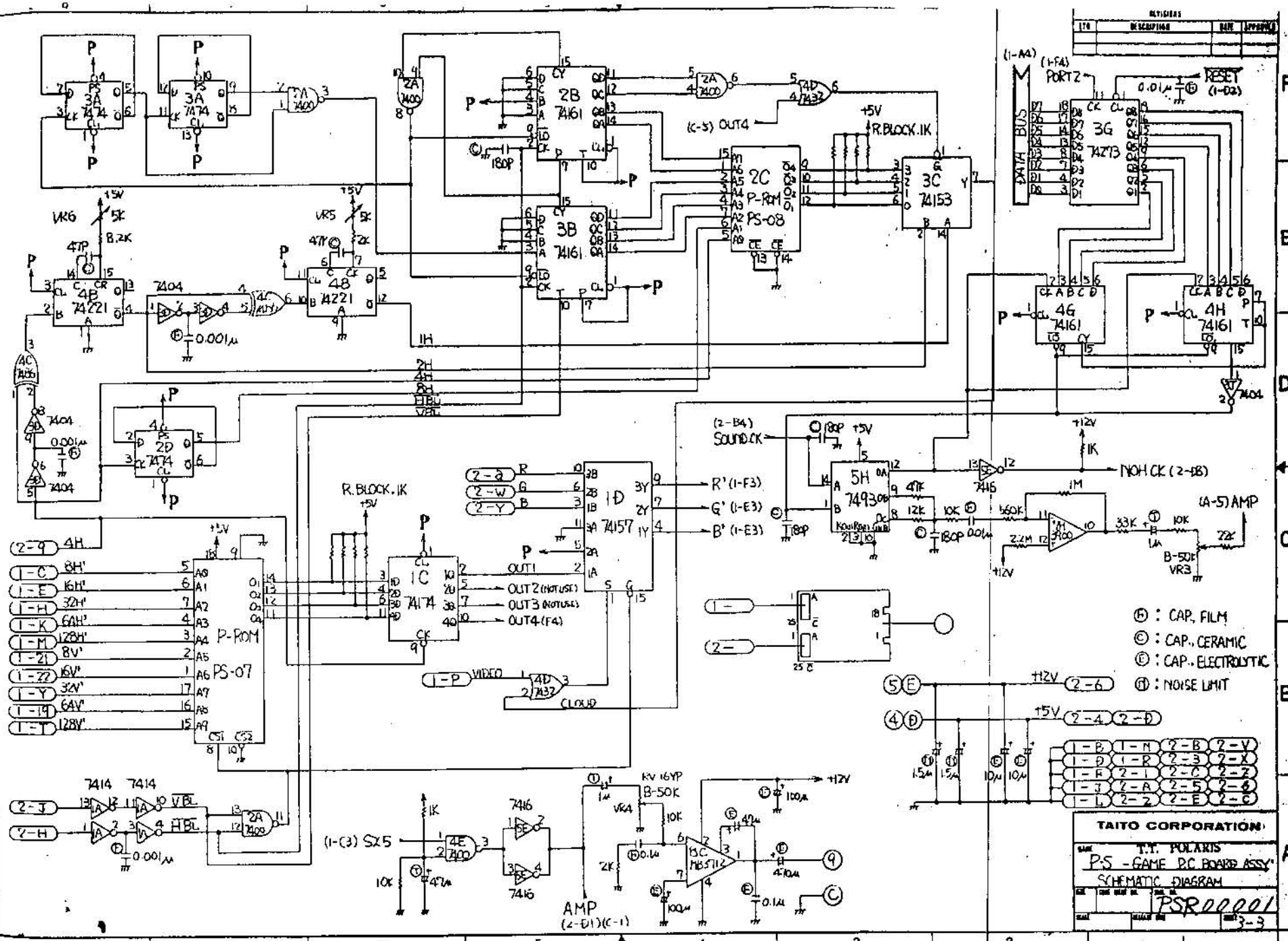
NAME: T.T. POLARIS
 PS-GAME PC BOARD
 SCHEMATIC DIAGRAM
 PSR00001

DATE: 3-1



REV	DESCRIPTION	DATE	BY
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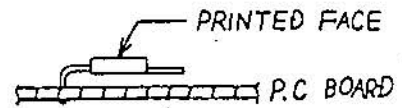
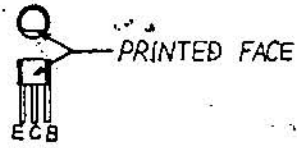
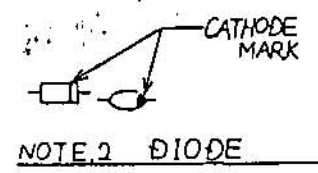
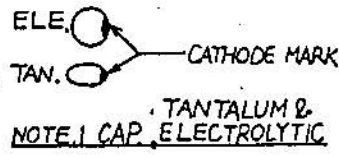
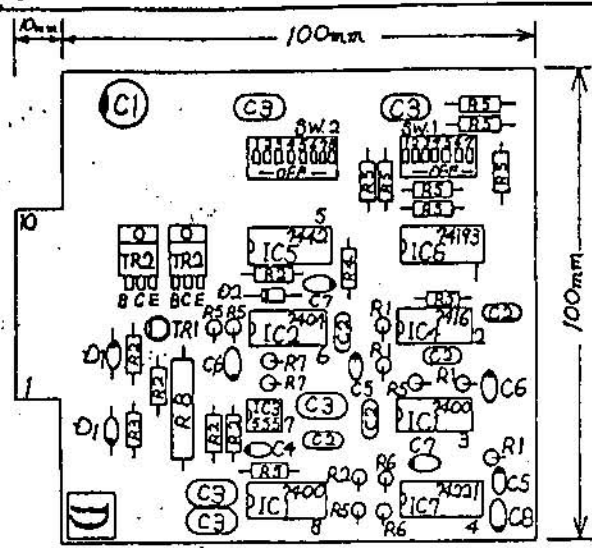
TAITO CORPORATION	
NAME: T.T. POLARIS	
PS-GAME P.C. BOARD	
SCHEMATIC DIAGRAM	
DATE: 1977	BY: PSR00001
SCALE: 1:1	REV: 3-2



REV	DESCRIPTION	DATE	APPROVED
1			

TAITO CORPORATION			
NAME	T.T. POLARIS		
PROJECT	PS - GAME PC BOARD ASSY		
SCHEMATIC	SCHEMATIC DIAGRAM		
REV		DATE	
1			
PSR00001			
3-3			

REVISIONS			
ITER	DESCRIPTION	DATE	APPROVED



NOTE.3 TRANSISTOR(2SC458)

NOTE.4 TRANSISTOR(2SC1061)

NOTE.5 THE RELATION BETWEEN COIN AND CREDIT.

	SW1							SW2							
	1	2	3	4	5	6	7	1	2	3	4	5	6	7	8
1COIN 1PLAY	ON	ON	ON	ON	ON	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF	ON	OFF
3COIN 1PLAY								OFF	ON	OFF					
3COIN 1PLAY									OFF	ON					
4COIN 1PLAY									OFF	OFF	ON				
1COIN 3PLAY	ON	OFF	OFF	OFF	OFF	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON
3COIN 3PLAY	OFF	ON													
1COIN 4PLAY	ON	ON													

ITEM NO	SYM	PART NO	QUANTITY	DESCRIPTION	BY
31	R8	AAT55033	1	WINDING RESISTOR 60HM 2W±10%	1
30	R7	51831	1	RES. CARBON 560KOHM 1/4W±5%	2
29	R6	51803	1	39K	2
28	R5	51789	13	10K	13
27	R4	51781	1	4.7K	1
26	R3	51777	1	3.3K	1
25	R2	51765	6	1K	6
24	R1	51741	4	RES. CARBON 100HM 1/4W±5%	4
23	C8	41438	1	CAP. TANTALUM SSG35-3R3F	1
22	C7	41421	2	SSG16-4R7F	2
21	C6	41419	2	SSG16-2R2F	2
20	C5	41418	2	SSG16-1F	2
19	C4	41414	1	CAP. TANTALUM SSG16-OR22F	1
18	C3	41244	5	CAP. FILM TDY-1H-104	5
17	C2	41238	5	CAP. FILM TDY-1H-103	5
16	C1	41021	1	CAP. ELECTROLYTIC 16VB47μ	1
15	IC7	32077	1	TTL IC 74221	1
14	IC6	32044	1	74193	1
13	IC5	32039	1	7442	1
12	IC4	32033	1	7416	1
11	IC3	32019	1	NE555V	1
10	IC2	32003	1	7404	1
9	IC1	32001	2	TTL IC 7400	2
8	D2	12025	1	DIODE 1S1588	1
7	D1	12002	2	DIODE V03C	2
6	TR2	V11030	2	TRANSISTOR 2SC1061-B	2
5	TR1	AAT11005	1	TRANSISTOR 2SC458-C	1
4	SW2	AAO52566	1	DIP SWITCH DSS-8	1
3	SW1	52560	1	DIP SWITCH DSS-7	1
2	D	17623	1	CONNECTOR STICKER D	1
1		AAO17766D	1	CREDIT P.C BOARD	1

PARTS LIST

TAITO CORPORATION

NAME: CREDIT P.C. BOARD ASSY.

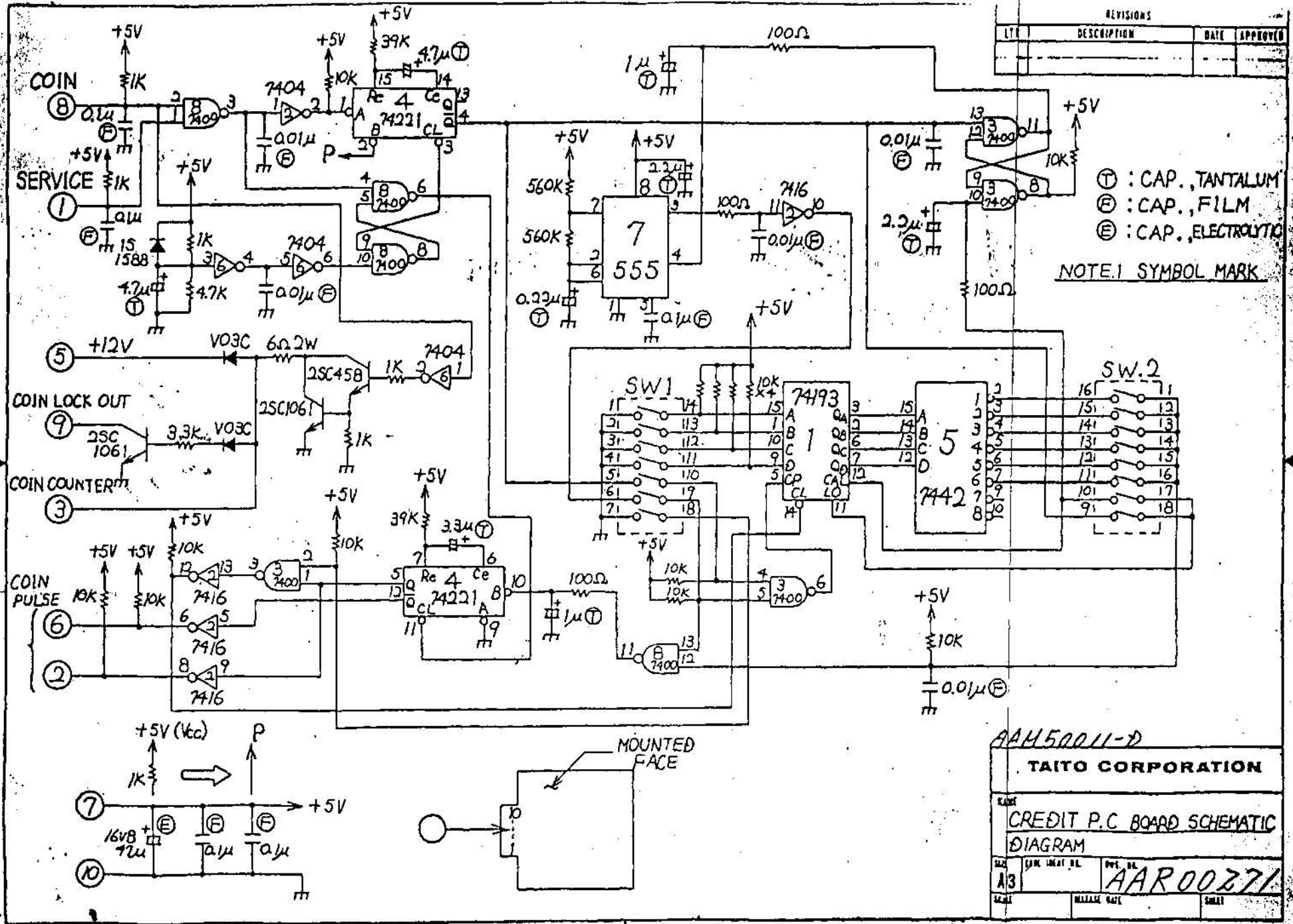
DATE: 1/1

SCALE: 1/1

FIG. NO: AAM50011-D

SHEET: 1

REVISIONS			
LT#	DESCRIPTION	DATE	APPROVED



AAH50011-D		
TAITO CORPORATION		
NAME	CREDIT P.C BOARD SCHEMATIC DIAGRAM	
SIZE	DATE	REV. NO.
A13		AAR00271
SCALE	RELEASE DATE	SHEET