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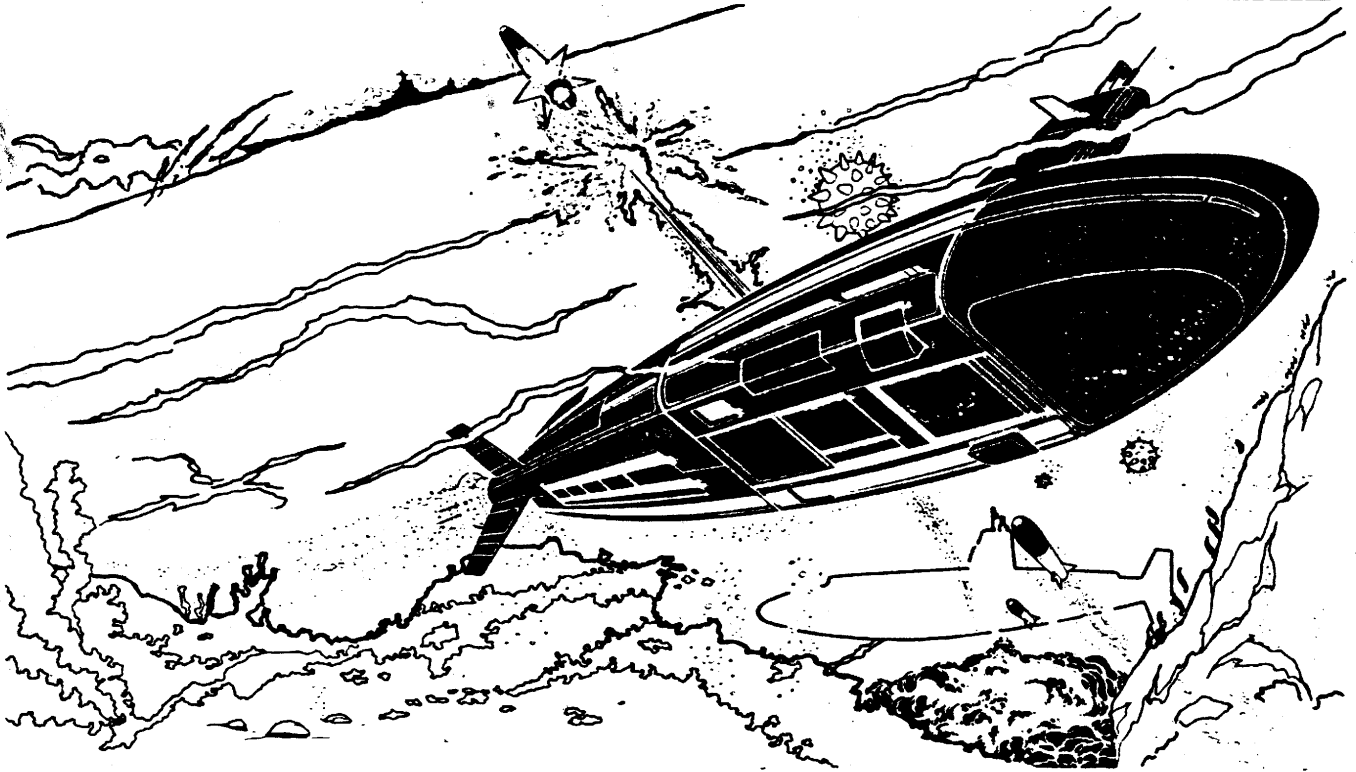
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FLIPPERSPILL.COM

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.)

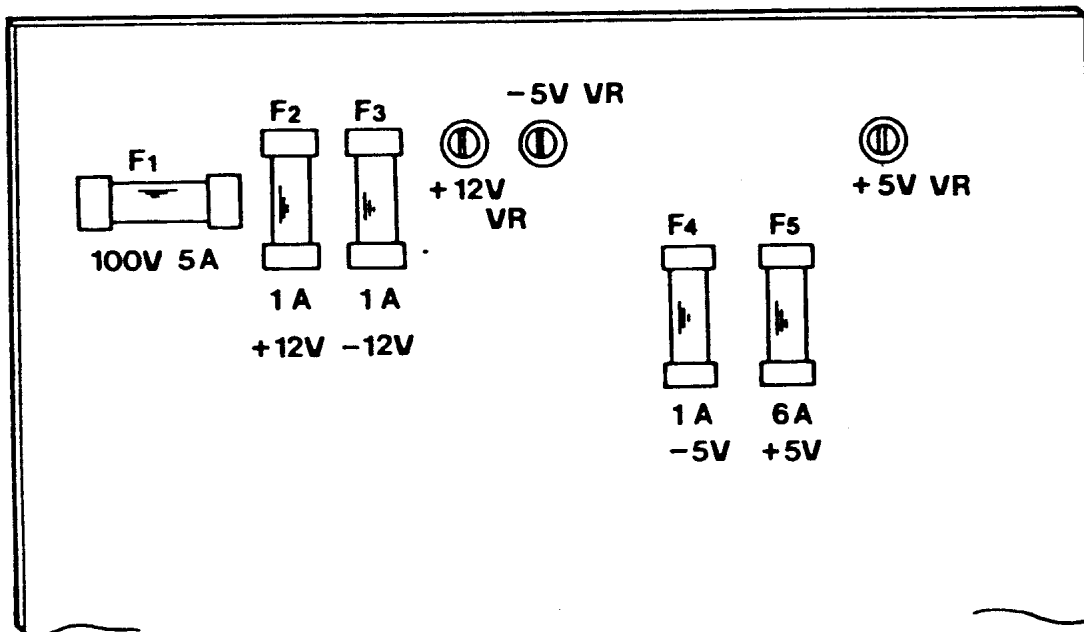


Fig. 3

- 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.

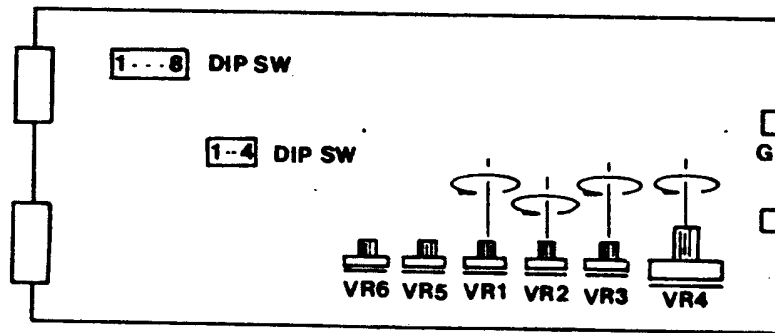


Fig. 4

- * 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.

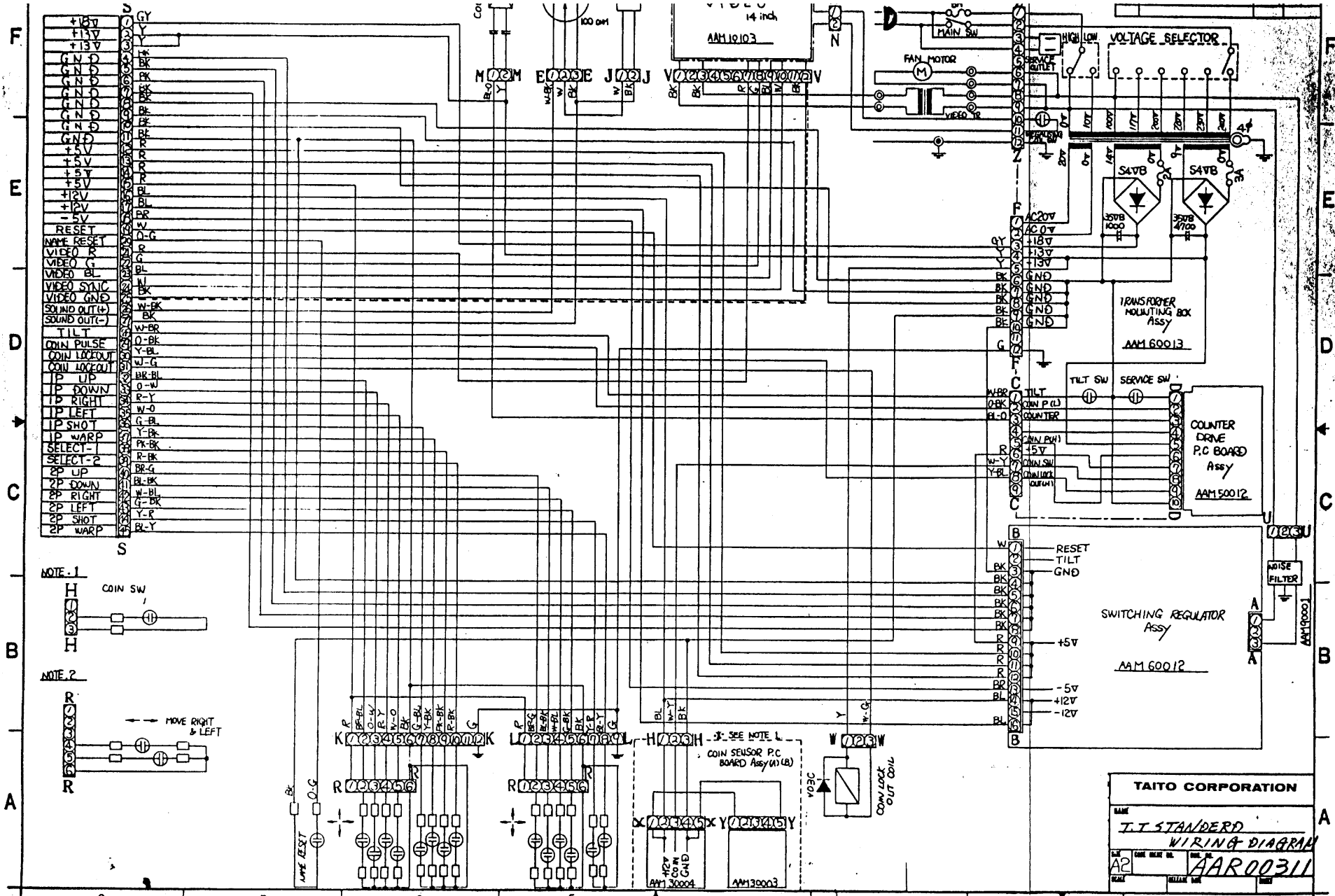
DIP SW2

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

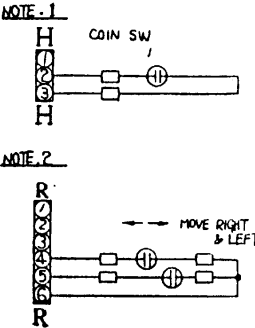
- o SW4 ... Switch for Screen Inversion

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

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



- RESET
- NAME RESET
- VIDEO R
- VIDEO G
- VIDEO BL
- VIDEO SYNC
- VIDEO GND
- SOUND OUT(+)
- SOUND OUT(-)
- TILT
- COIN PULSE
- COIN LOCKOUT
- COIN LOCKOUT
- 1P UP
- 1P DOWN
- 1P RIGHT
- 1P LEFT
- 1P SHOT
- 1P WARP
- SELECT-1
- SELECT-2
- 2P UP
- 2P DOWN
- 2P RIGHT
- 2P LEFT
- 2P SHOT
- 2P WARP

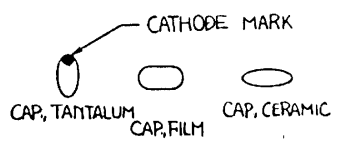
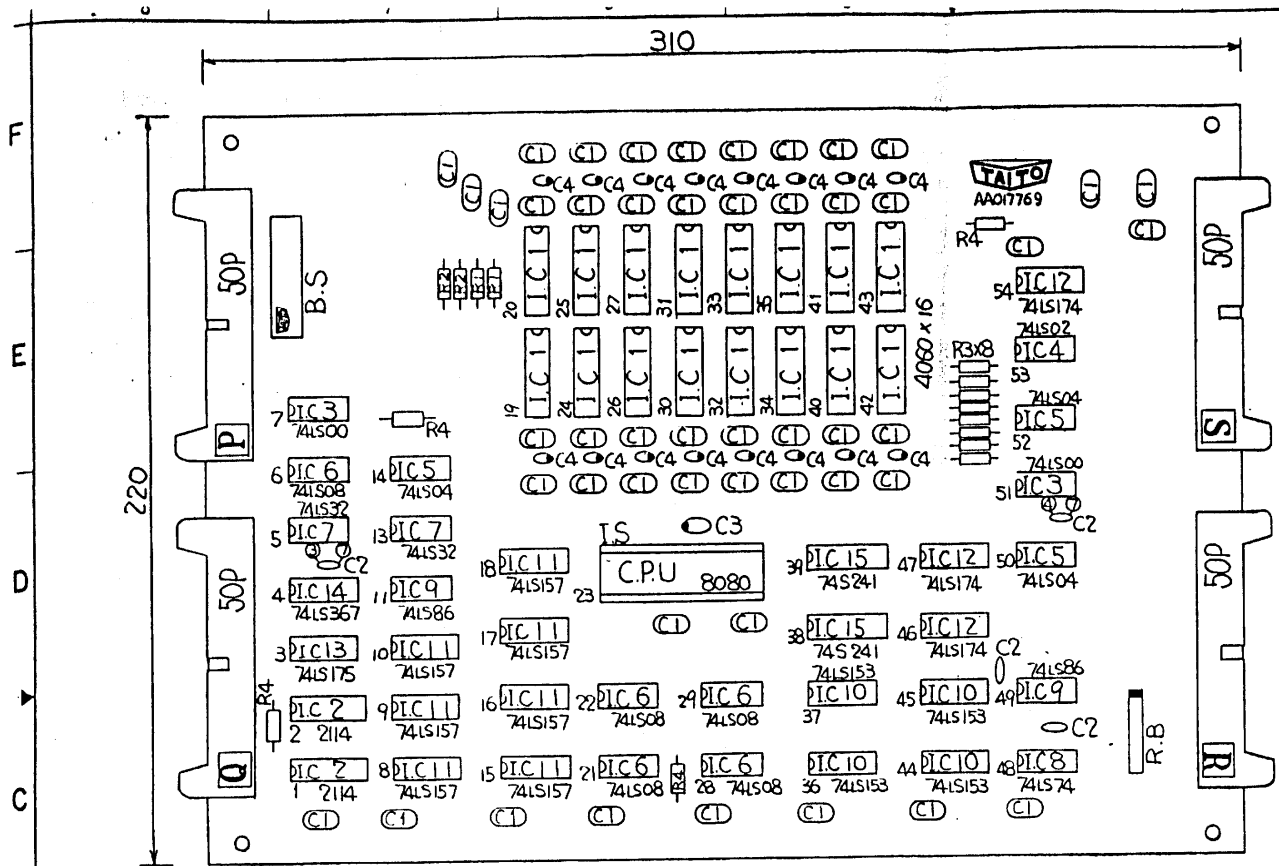


TAITO CORPORATION

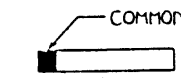
NAME
I.T STANDARD
WIRING DIAGRAM

DATE
A2

SCALE
AAR00311



NOTE - 1. CAP.



NOTE - 2. RESISTOR BLOCK

REVISIONS			
LTG	DESCRIPTION	DATE	APPROVED

REV	SYM	VAL	DESCRIPTION	QTY	REV
47					
46					
45					
44					
43					
42					
41					
40					
39					
38					
37					
36					
35					
34					
33	RB	AAT 55041	RESISTOR BLOCK 470ohm 8elements	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 SSG 25-1F	16	
27	C3	41424	CAP. TANTALUM SSG 16-22F	1	
26	C2	41318	CAP. CERAMIC 50V 100PF	4	
25	C1	41244	CAP. FILM TDY-IH-104	49	
24	IC5	35001	BUS DRIVER 74S241	2	
23	CPU	34001	C.P.U. TMS8080	1	
22	IC4	33203	L.S. I.C. 74LS367	1	
21	IC3	33128	↑ 74LS175	1	
20	IC2	33127	↑ 74LS174	3	
19	IC1	33112	↑ 74LS157	7	
18	IC0	33108	↑ 74LS153	4	
17	IC9	33062	↑ 74LS86	2	
16	IC8	33051	↑ 74LS74	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. I.C. 74LS00	2	
10	IC2	32156	STATIC RAM 2114-4	2	
9	IC1	32091	DYNAMIC RAM TMS4060M	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	BS	RT0 17651	P.C BOARD STICKER	1	
1		AAO 17769	C.P.U. PC BOARD (B)	1	

PARTS LIST

TAITO CORPORATION

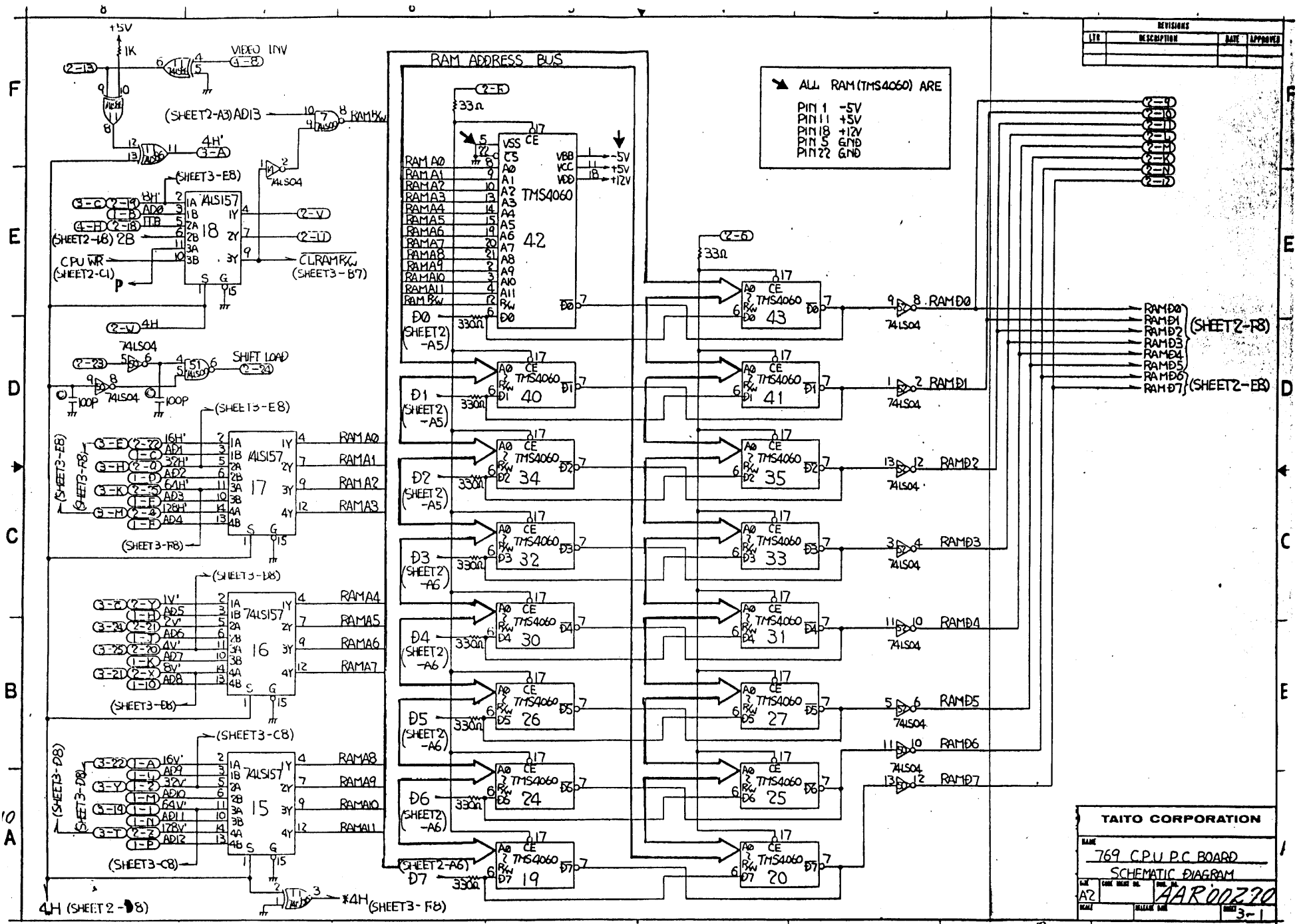
NAME: T. T. SPACE CHASER

769-C.P.U. PC BOARD ASSY

REV: RTN00005

DATE: / /

BY: / /

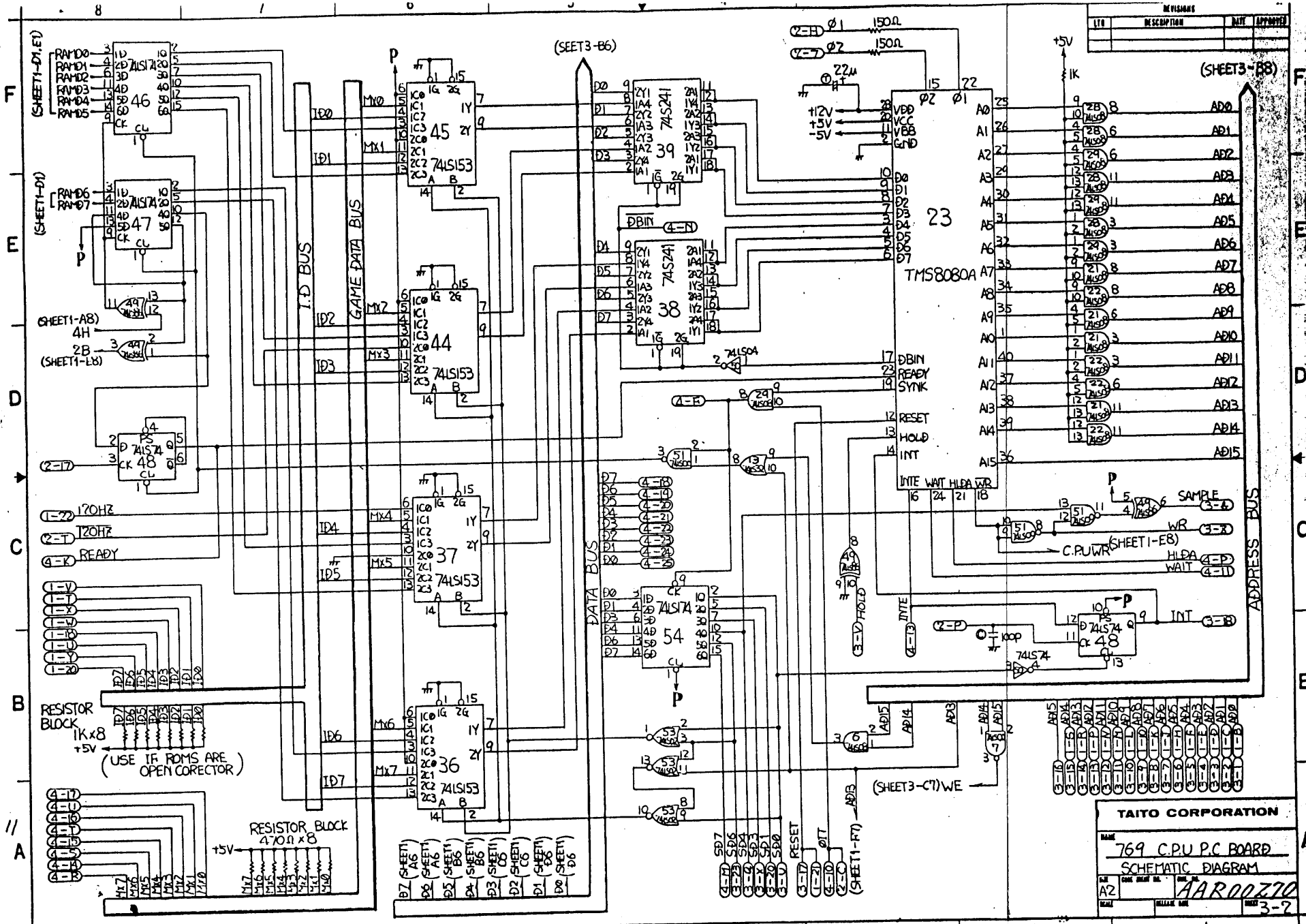


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NO.	DESCRIPTION	DATE	APPROVED

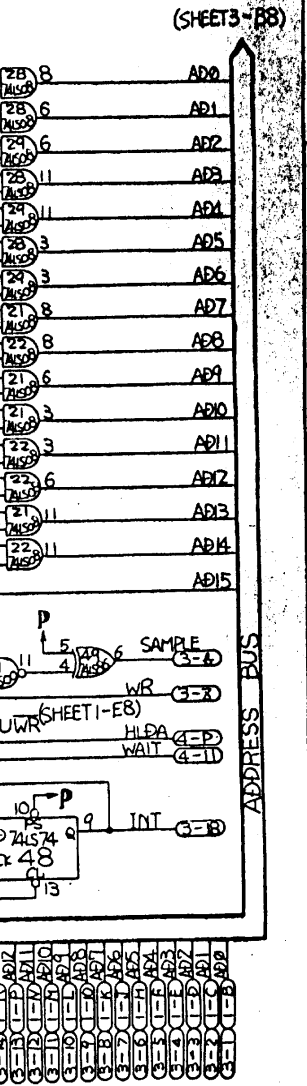
▲ ALL RAM (TMS4060) ARE
 PIN 1 -5V
 PIN 11 +5V
 PIN 18 +12V
 PIN 5 GND
 PIN 22 GND

RAMD0
 RAMD1
 RAMD2
 RAMD3
 RAMD4
 RAMD5
 RAMD6
 RAMD7 (SHEET2-E8)

TAITO CORPORATION			
NAME	769 CPU P.C BOARD		
	SCHEMATIC DIAGRAM		
DATE	DATE	NO.	NO.
A2			AAR00220
SCALE	SCALE	NO.	NO.
			3-1



REVISIONS			
LT#	DESCRIPTION	DATE	APPROVED



TAITO CORPORATION

DATE: 1982.08.14

769 CPU PC BOARD

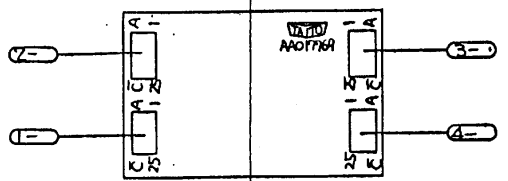
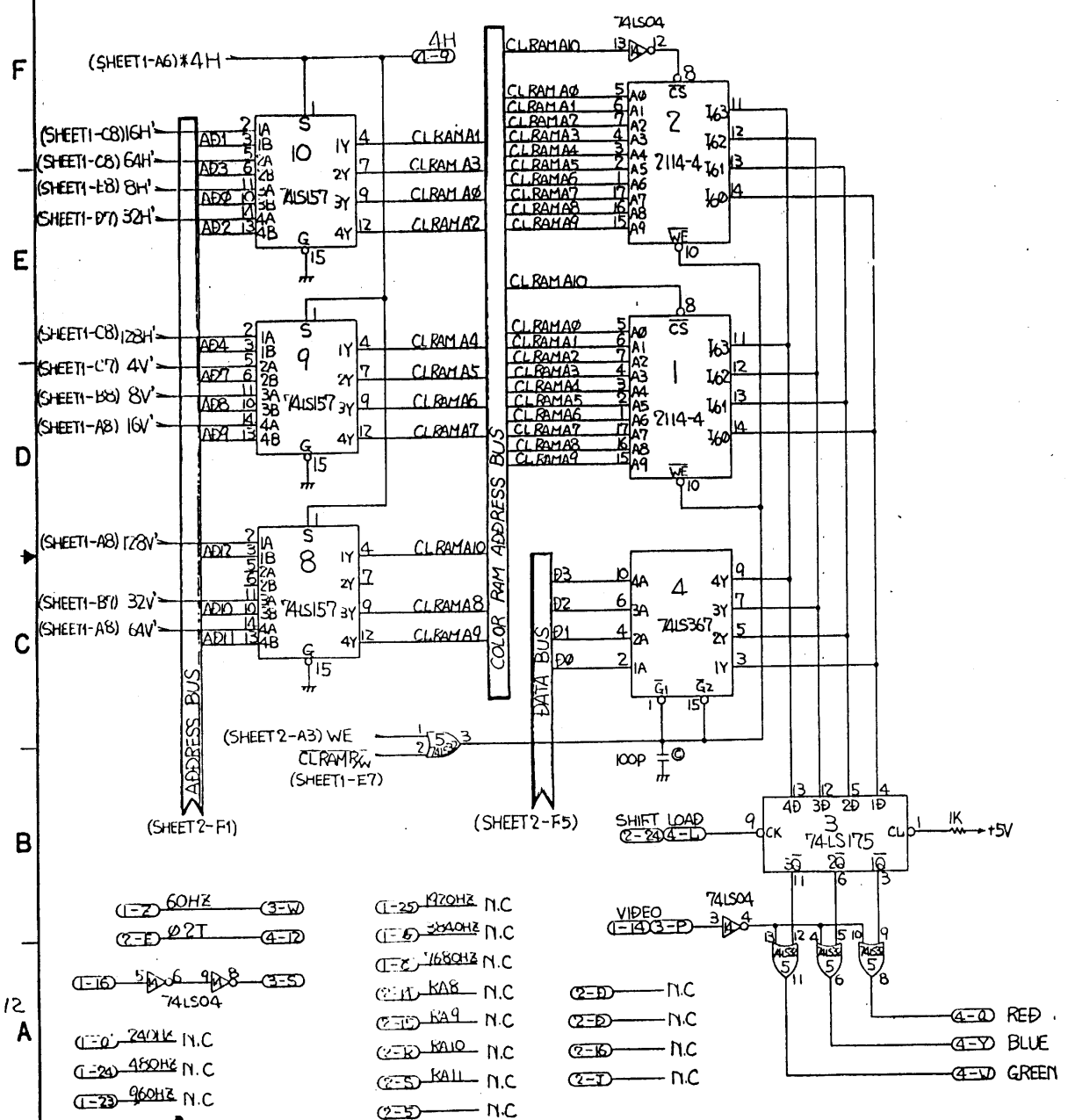
SCHMATIC DIAGRAM

REV: A2

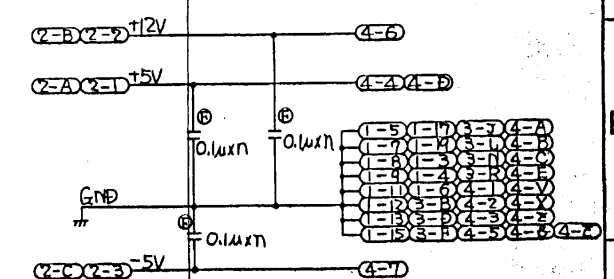
FILE NO: AAR00770

3-7

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED



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

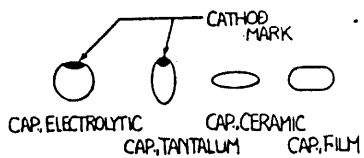
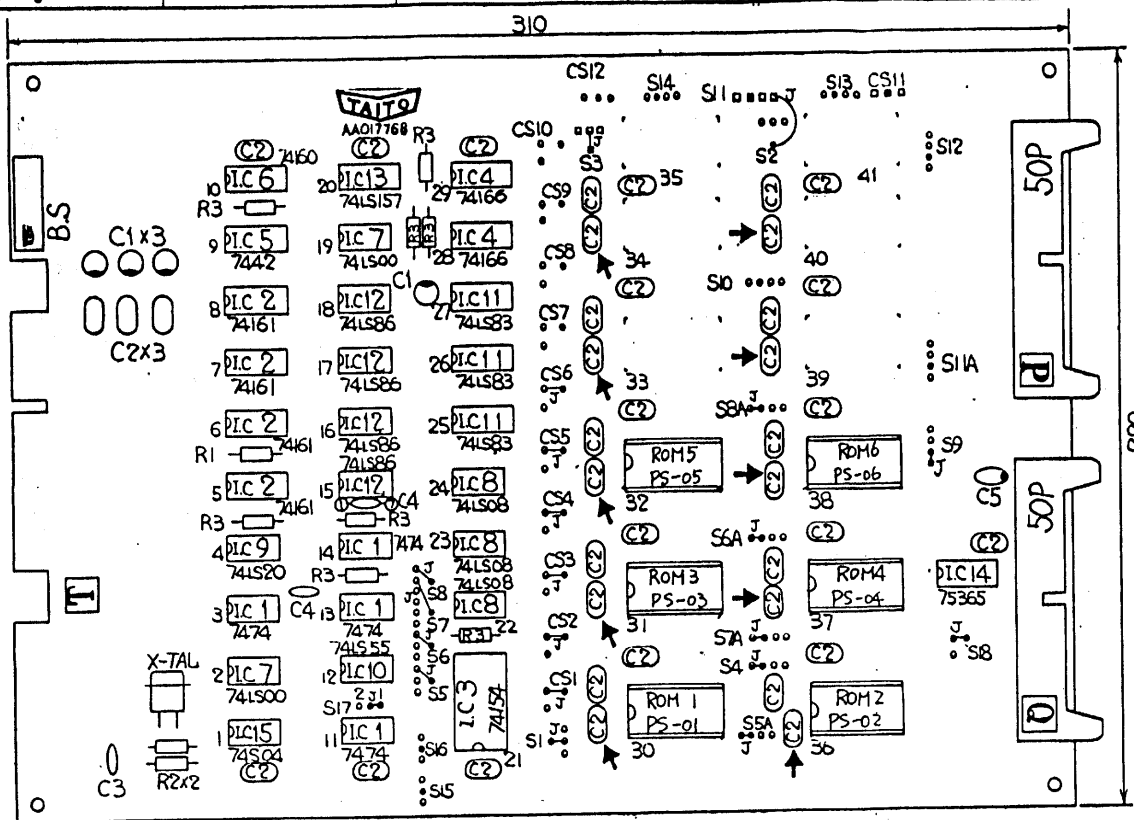


TAITO CORPORATION			
NAME	769 - CPU PC BOARD		
DATE	SCHEMATIC DIAGRAM		
REV	DATE	BLK. NO.	REV.
A2			
DATE	REV.	REV.	REV.

12
A

F
E
D
C
B
A

5 4 3 2 1



NOTE-1. CAP.

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

REVISIONS			
STD	DESCRIPTION	DATE	APPROVED

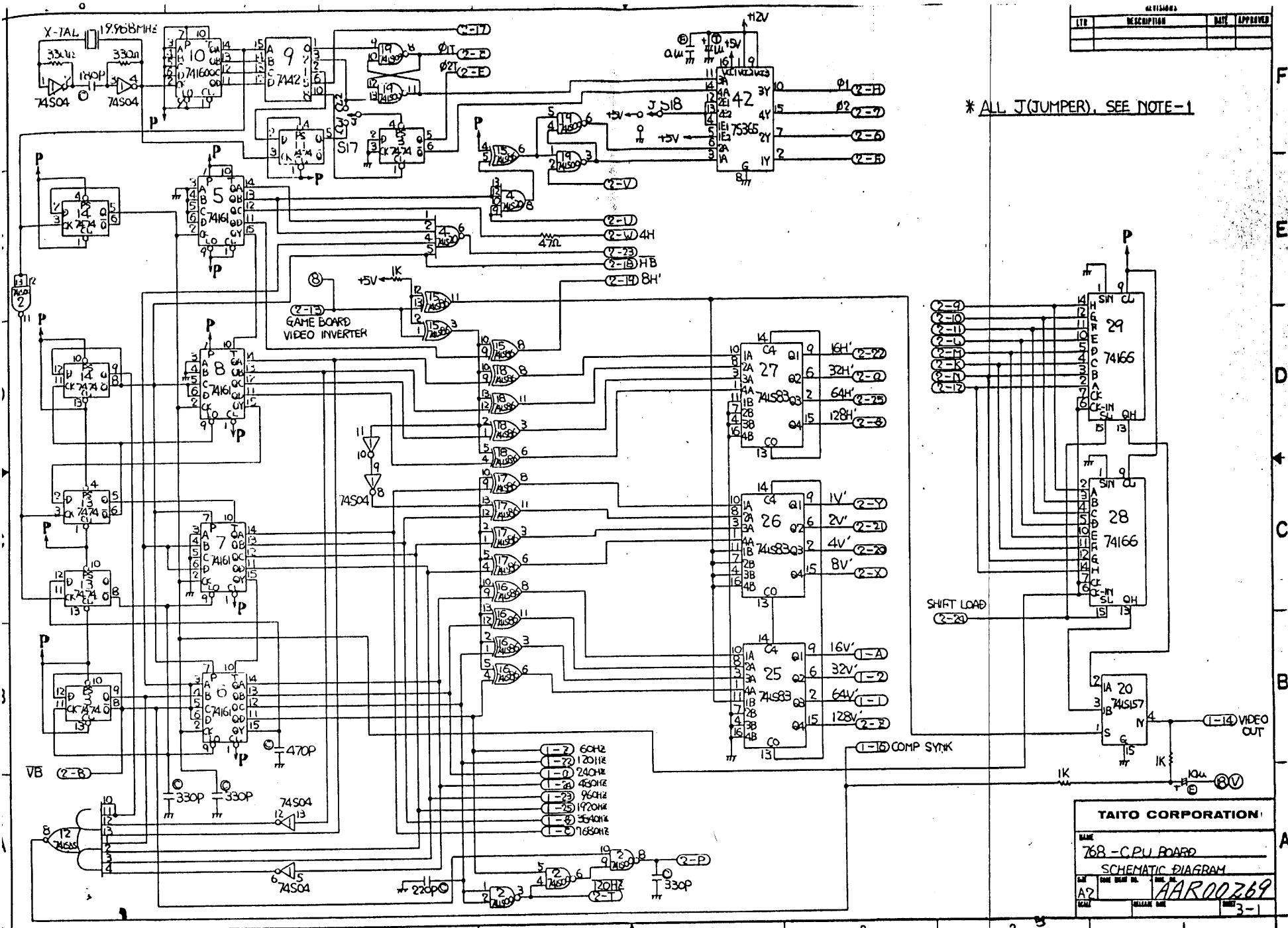
47						
46						
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42						
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39						
38	ROM6	PS0 90006	P-ROM	PS-06 (2716)	1	
37	ROM5	90005		PS-05	1	
36	ROM4	90004		PS-04	1	
35	ROM3	90003		PS-03	1	
34	ROM2	90002		PS-02	1	
33	ROM1	PS0 90001	P-ROM	PS-01 (2716)	1	
32	R3	AAT 51765	RES. CARBON	1KOH 1/4W 5%	8	
31	R2	51755		330	2	
30	R1	51733	RES. CARBON	47OHM 1/4W 5%	1	
29	C5	41436	CAP. TANTALUM	SSG 35-1F	1	
28	C4	41334	CAP. CERAMIC	470PF	2	
27	C3	41324	CAP. CERAMIC	180PF	1	
26	C2	41244	CAP. FILM	TPY-1H-104	30	
25	C1	41037	CAP. ELECTROLYTIC	25V-10uH	4	
24	IC15	38003	S	I.C	74S04	1
23	IC14	35007	MOS DRIVER		75365	1
22	IC13	33112	L.S	I.C	74LS157	1
21	IC12	33067			74LS86	4
20	IC11	33059			74LS83	3
19	IC10	33043			74LS55	1
18	IC9	33019			74LS20	1
17	IC8	33009			74LS08	3
16	IC7	33001	L.S	I.C	74LS00	2
15	IC6	32086	TTL	I.C	74160	1
14	IC5	32039			7447	1
13	IC4	32028			74166	2
12	IC3	32027			74154	1
11	IC2	32018			74161	4
10	IC1	AAT 32011	TTL	I.C	7474	4
9	X-TAL	AAO 69539	X-TAL		19.968MHZ	1
8	J	62639	TINNED COPPER WIRE	0.5φ	250	1
7	IS1	55787	I.C SOCKET	24P		6
6	50P	55134	ANGLE PIN HEADER	PS-50PA		2
5	T	17665	CONNECTOR STICKER	T		1
4	Q	17656		Q		1
3	P	AAO 17653	CONNECTOR STICKER	P		1
2	B.S	PS0 70004	P.C. BOARD STICKER			1
1		AAO 17768	C.P.U - P.C BOARD(A)			1

PARTS LIST

TAITO CORPORATION

NAME: T.T. POLARIS
P.S. - CPU PC BOARD ASSY

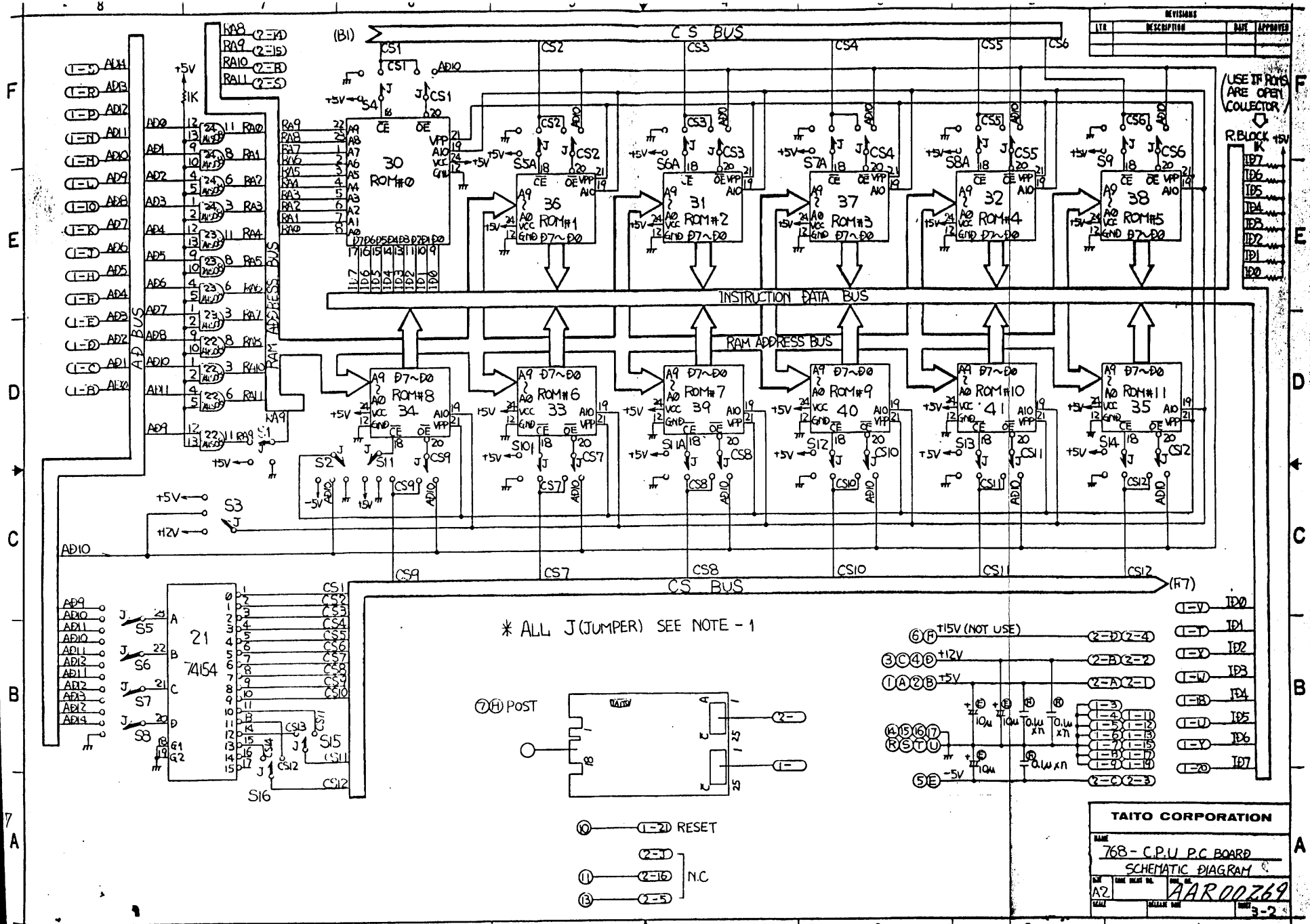
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DATE: PSN00002

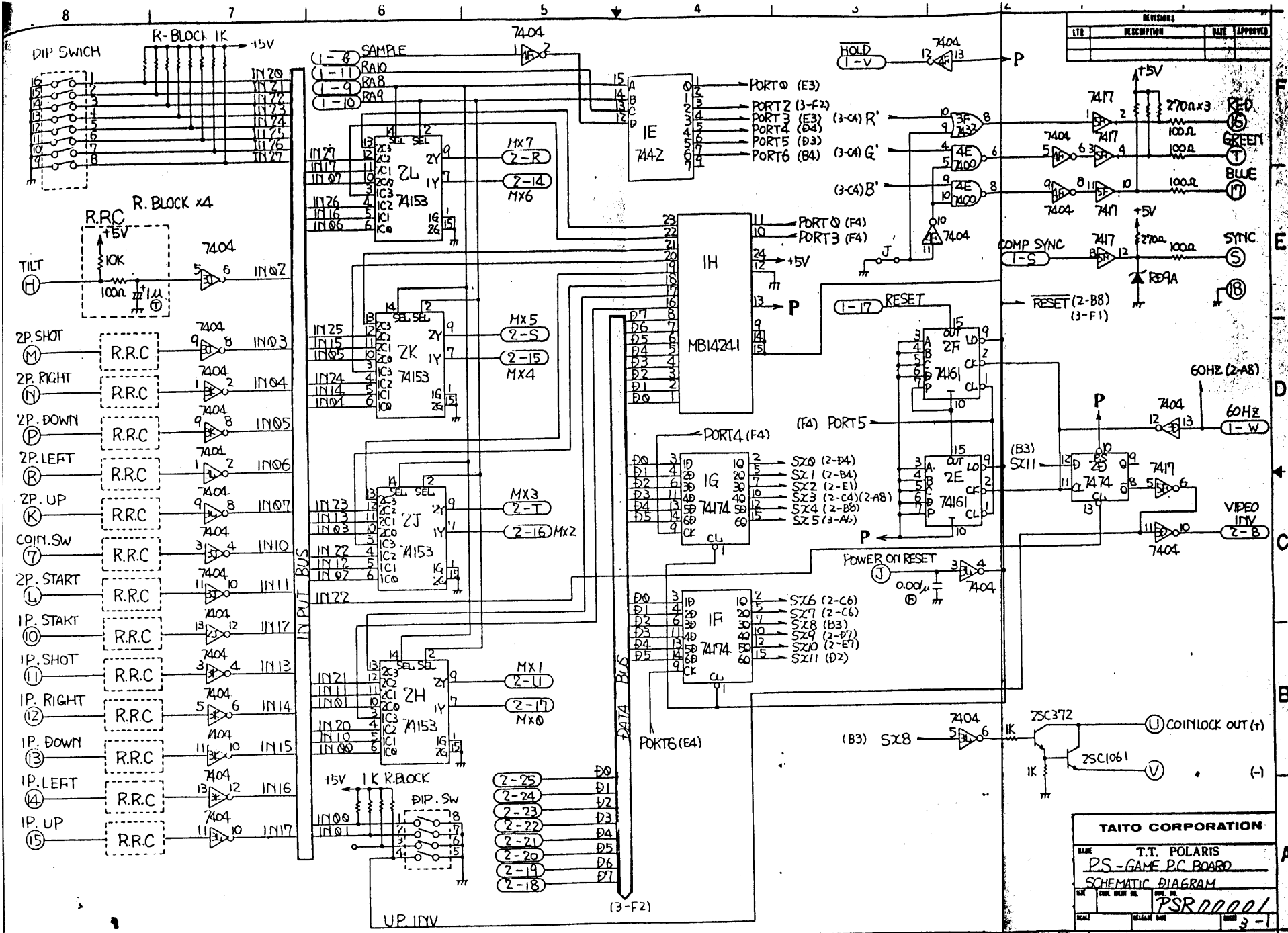


REVISION			
LT#	DESCRIPTION	DATE	APPROVED

* ALL J (JUMPER). SEE NOTE-1

TAITO CORPORATION			
NAME	768 - CPU BOARD		
	SCHEMATIC DIAGRAM		
DATE	REV. NO.	DES. NO.	
A2		AAR00269	
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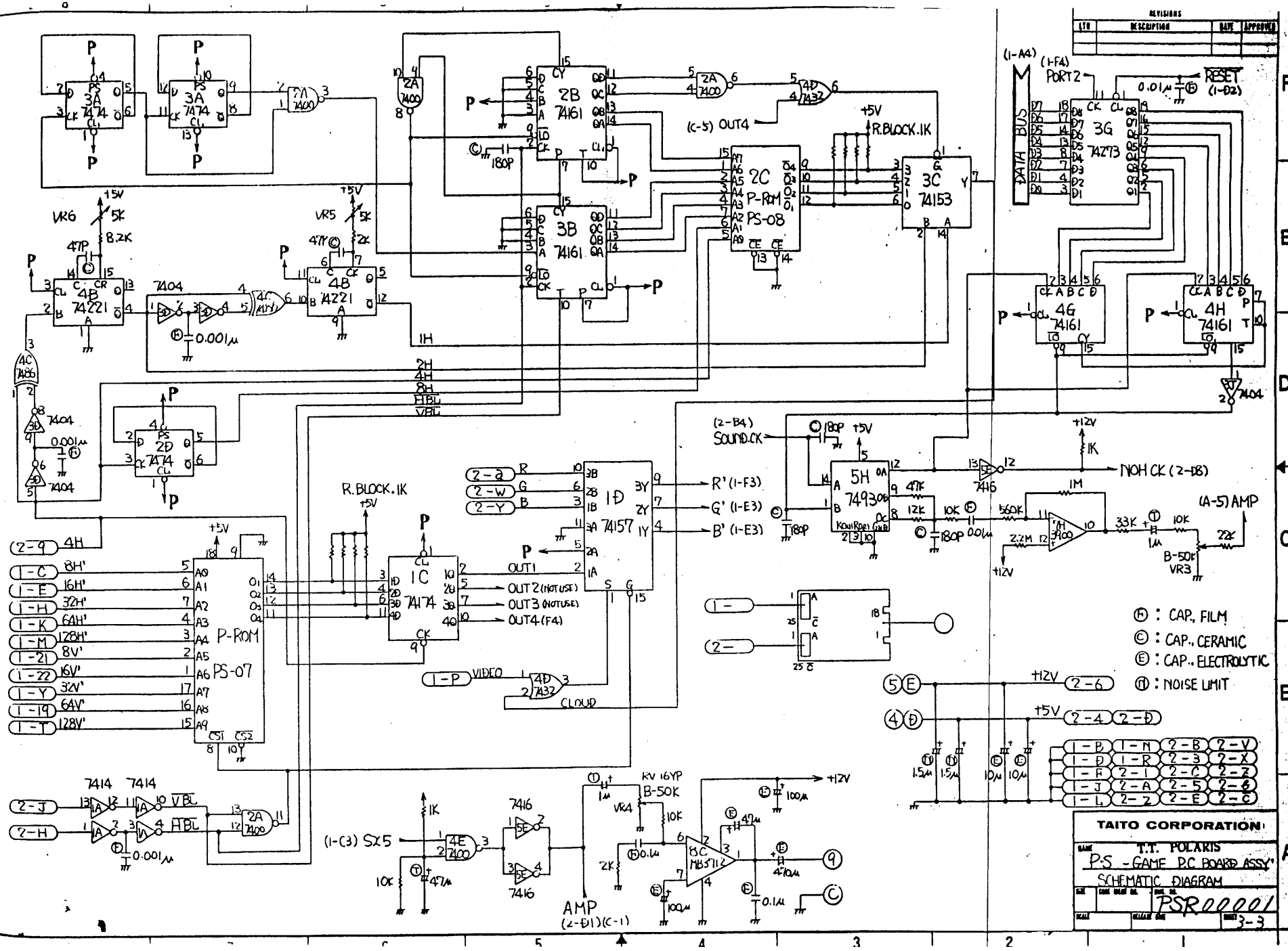




REVISIONS			
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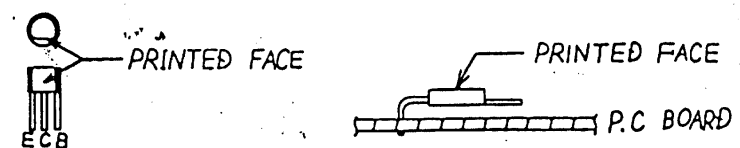
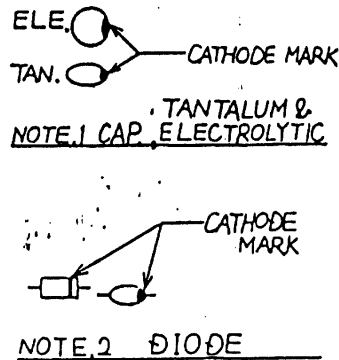
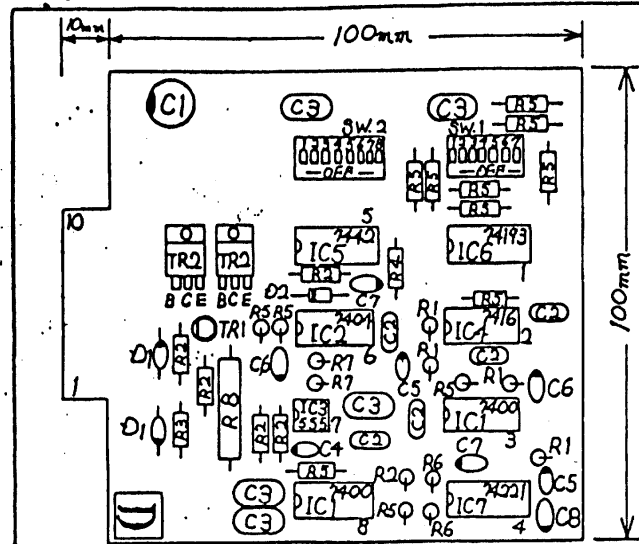
TAITO CORPORATION

NAME: T.I. POLARIS
 PS-GAME PC BOARD
 SCHEMATIC DIAGRAM
 PSR00001
 3-1



REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

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



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	∞	∞	∞	∞	∞	∞	∞	∞	∞	∞	∞	∞	∞
4COIN 3PLAY	ON	ON	∞	∞	∞	∞	∞	∞	∞	∞	∞	∞	∞	∞	∞

REVISIONS			
LT#	DESCRIPTION	DATE	APPROVED

31	R8	AAT55033	WINDING RESISTOR 60HM 2W±10%	1
30	R7	51831	RES. CARBON 560KOHM 1/4W±5%	2
29	R6	51803	39K	2
28	R5	51789	10K	13
27	R4	51781	4.7K	1
26	R3	51777	3.3K	1
25	R2	51765	1K	6
24	R1	51741	RES. CARBON 100OHM 1/4W±5%	4
23	C8	41438	CAP. TANTALUM SSG35-3R3F	1
22	C7	41421	SSG16-4R7F	2
21	C6	41419	SSG16-2R2F	2
20	C5	41418	SSG16-1F	2
19	C4	41414	CAP. TANTALUM SSG16-OR22F	1
18	C3	41244	CAP. FILM TDY-1H-104	5
17	C2	41238	CAP. FILM TDY-1H-103	5
16	C1	41021	CAP. ELECTROLYTIC 16VB47μ	1
15	IC.7	32077	TTL IC 74221	1
14	IC.6	32044	74193	1
13	IC.5	32033	7442	1
12	IC.4	32033	7416	1
11	IC.3	32019	NE555V	1
10	IC.2	32003	7404	1
9	IC.1	32001	TTL IC 7400	2
8	D2	12025	DIODE 1S1588	1
7	D1	12002	DIODE V03C	2
6	TR.2	V11030	TRANSISTOR 2SC1061-B	2
5	TR.1	AAT11005	TRANSISTOR 2SC458-C	1
4	SW.2	AAO52566	DIP SWITCH DSS-8	1
3	SW.1	52560	DIP SWITCH DSS-7	1
2	D	17623	CONNECTOR STICKER D	1
1		AAO1766D	CREDIT P.C BOARD	1

PARTS LIST

TAITO CORPORATION

NAME
CREDIT P.C BOARD ASSY.

SIZE
A3

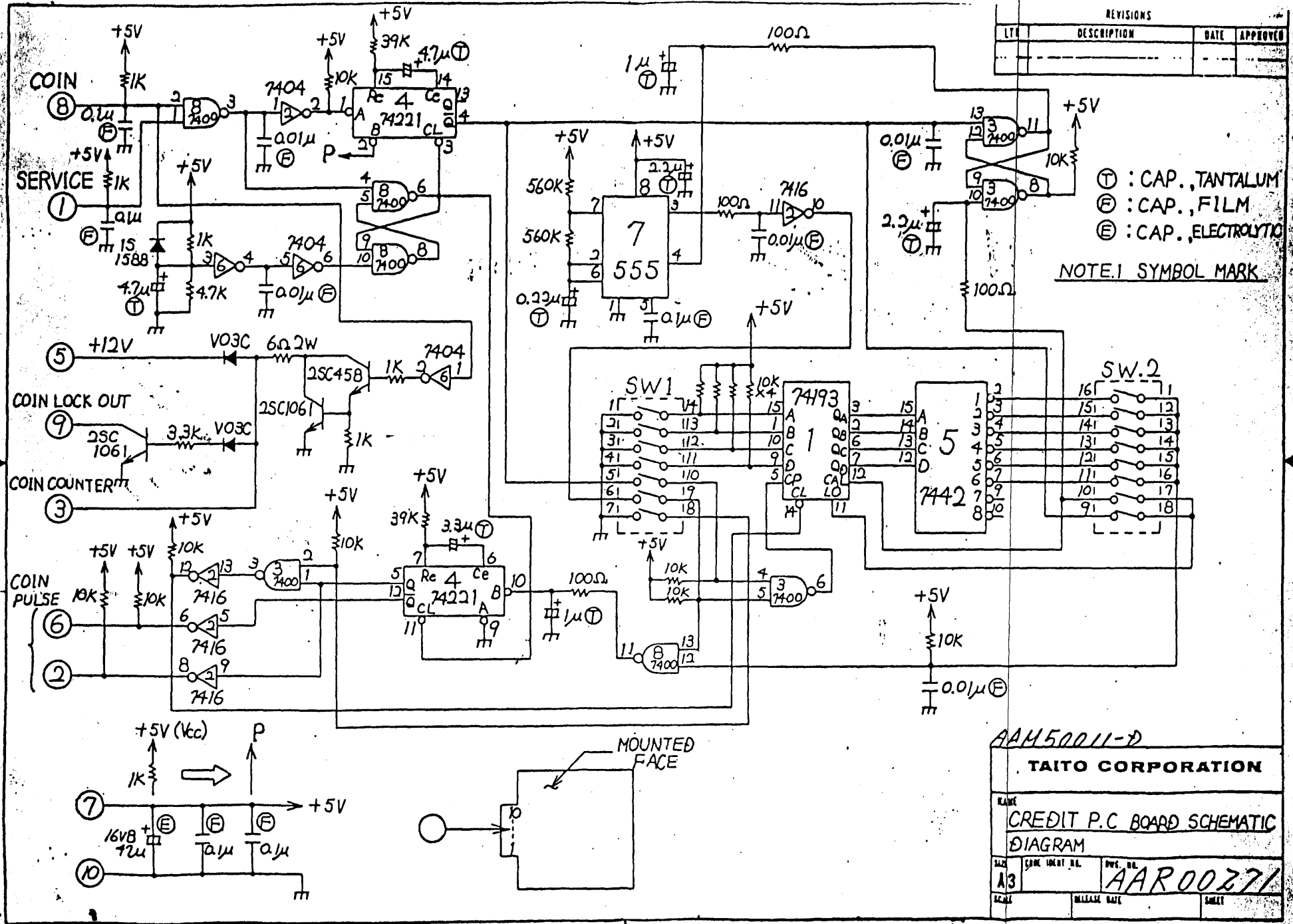
SCALE
1/1

FIG. NO.
AAM50011-D

REL. DATE

SHEET

REVISIONS			
LT#	DESCRIPTION	DATE	APPROVED



- ⊕ : CAP., TANTALUM
- ⊖ : CAP., FILM
- ⊙ : CAP., ELECTROLYTIC

NOTE.1 SYMBOL MARK

AAM50011-D			
TAITO CORPORATION			
NAME	CREDIT P.C. BOARD SCHEMATIC DIAGRAM		
SIZE	DATE	REV. NO.	AAR00271
SCALE	RELEASE DATE	SHEET	