

*PlayChoice*TM

UPRIGHT

NO: PCHU-MG5

Nintendo[®]

OPERATION MANUAL

WARNING

This equipment generates, uses and can radiate radio frequency energy, and if not installed and used in accordance with the instructions manual, may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.

WARNING

Use of non-Nintendo parts or modifications of your Nintendo game circuitry may adversely affect the safety of your game, and may cause injury to your players.

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INSERTS:

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WARNING

Check before plugging the game in.

I. LOCATION SETUP

Playchoice – Upright is shipped ready for operation. Please check the following to insure proper operation.

- (1) Check the exterior of the game for shipping damage, dents, chips, or broken parts.
- (2) Remove the screws on the rear door panel.
- (3) Unlock and open the rear door panel, as well as the service door, and inspect the interior of the game as follows:
 - a) **Check that all the plug-in connectors are firmly connected.**
 - b) **Check all main subassemblies (monitor, power supply, control panel, etc.) to ensure they are securely mounted.**

A. Game installation

- (1) Requirements

Amperage: 1.2 AMPS
Temperature: 0 to 38 degrees Celsius (32 to 100 degrees Fahrenheit)
Humidity: Not over 95% relative
Space required: $32\frac{3}{8} \times 23\frac{3}{4}$
Height: $68\frac{3}{8}$

B. Voltage selection for the Video Monitor

Before plugging in your game, make sure the terminal block of the power transformer is correct for your location's line voltage. See figure 1.

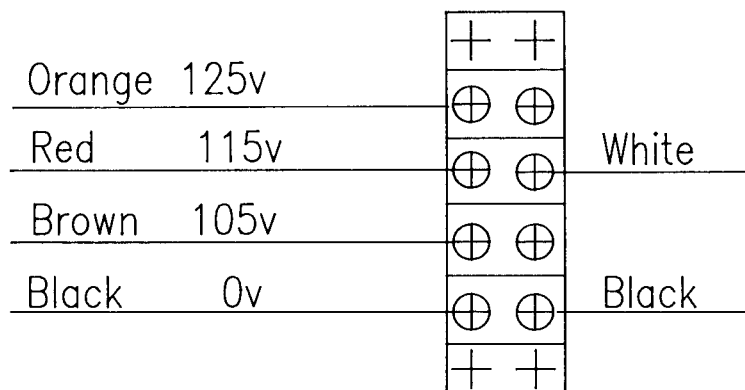


Fig. 1

C. Power on/off switch

A power on/off switch is located in the rear of the game at the bottom center of the cabinet.

WARNING

Please be sure you use a grounded outlet for this game. Failure to do so may result in destruction of electronic components.

D. Grounding of Game (Use only if 3 wire outlet is unavailable.) See Fig. 2

- (1) A grounding wire should be connected to a grounding bar or a metal pipe which is firmly inserted into the ground.
- (2) Do not connect the grounding to a water pipe, because polyvinyl-chloride pipes are sometimes used in water lines, and the electronic continuity to the ground may be interrupted.
- (3) Absolutely do not connect the grounding wire to a gas pipe, as this can be extremely dangerous.

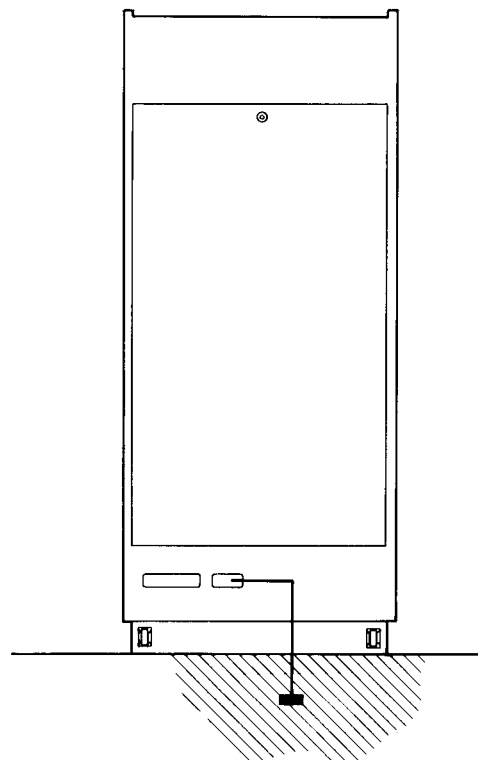


Fig. 2

II. VIDEO MONITOR ADJUSTMENTS

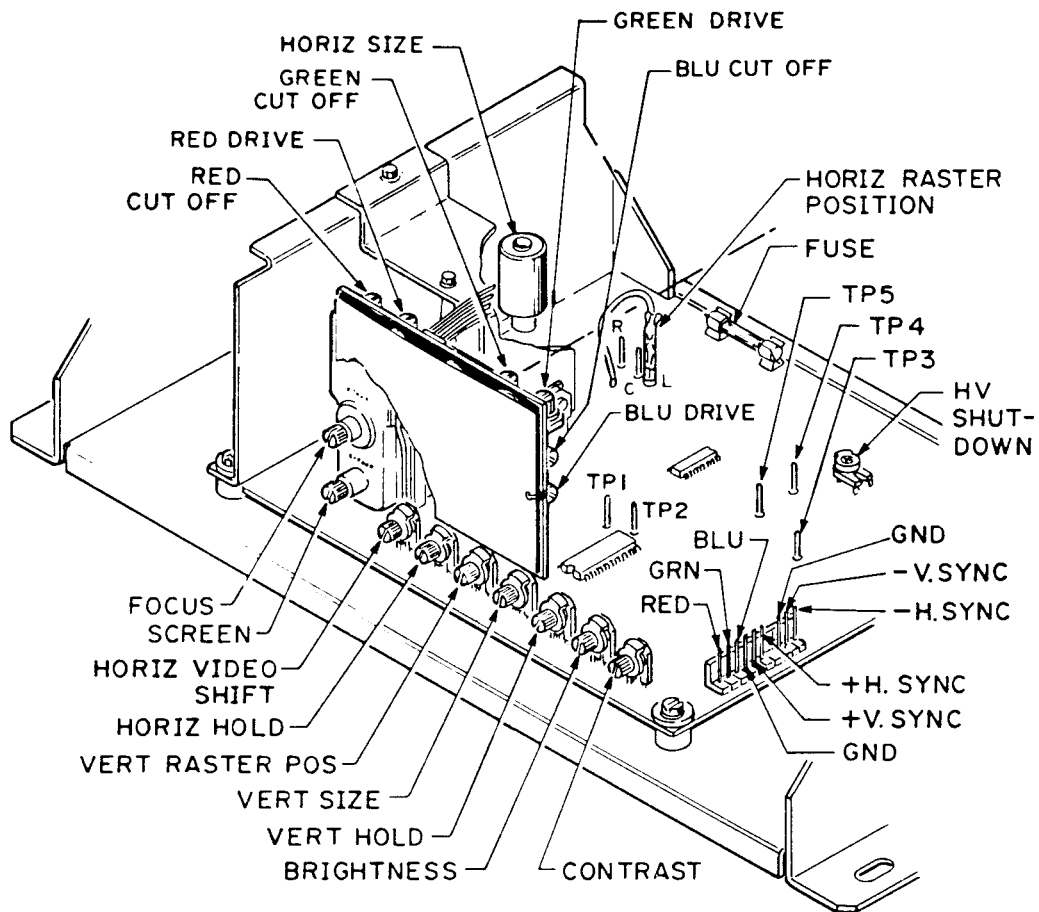


Fig. 3

—WARNING—

Do not touch the inside of the Video Monitor.
It contains many parts supplied with high voltage.

III. MAINTENANCE AND REPAIR

A. Fuse Replacements

This game contains 2 fuses. Replace fuses only with the same type as listed below.

Specification of Fuses

| | |
|------------------------|---------------------|
| (1) Main Fuse | U.S. : 5A 125v/250v |
| (2) Video Monitor Fuse | 2.0A 125V SB |

B. Cleaning

The exterior of the game, all metal parts and all glass parts can be cleaned with a nonabrasive cleanser.

C. Operation Panel

(1) Operation Panel Removal

Before repairing or replacing any switches or 8 way Controllers on the Operation Panel, unplug the game. Open the Service Door, and reach through the opening, and unlock the Clamps, located at each end on the underside of the Operation Panel.

(2) Micro-switch Replacement

Whenever you replace any micro-switch on the Operation Panel, a switch gap adjustment is needed as shown in Fig. 4. This adjustment is not necessary for the player option buttons.

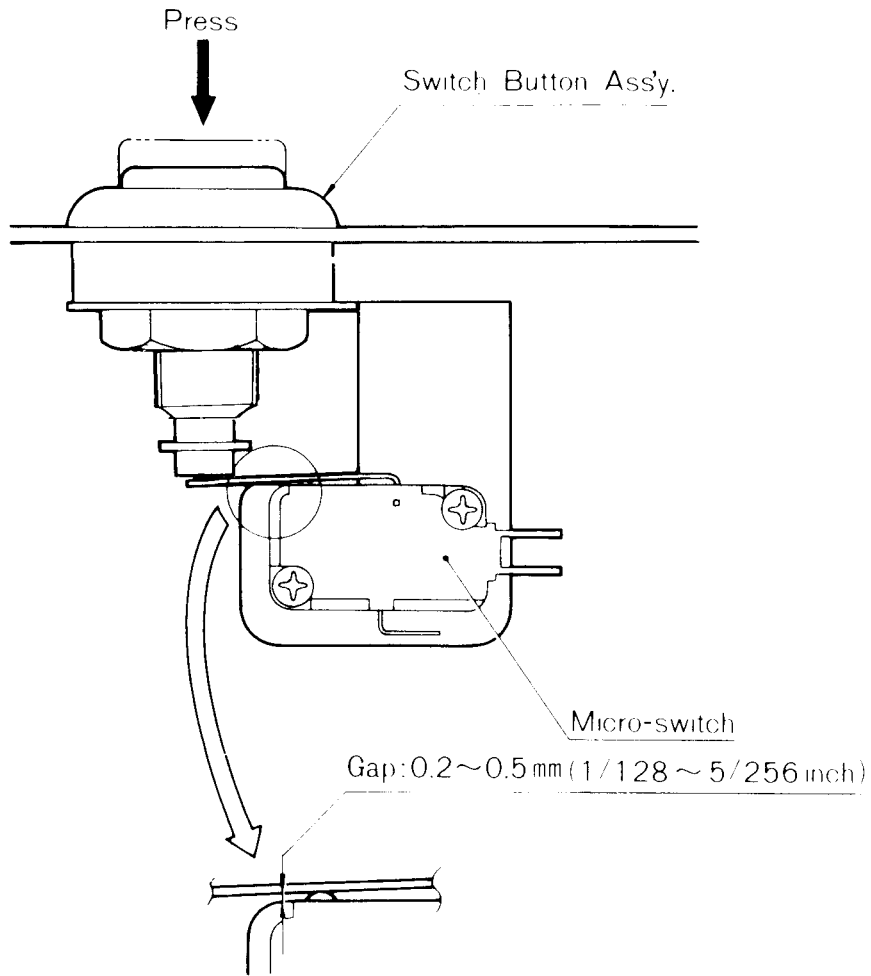


Fig. 4 Switch gap adjustment

(3) Lubrication for 8 way Controller

To maintain the 8 way Controller in good condition, lubricate the ball socket and 8 way Guide Plate approx. every 3 months. See Fig. 5.

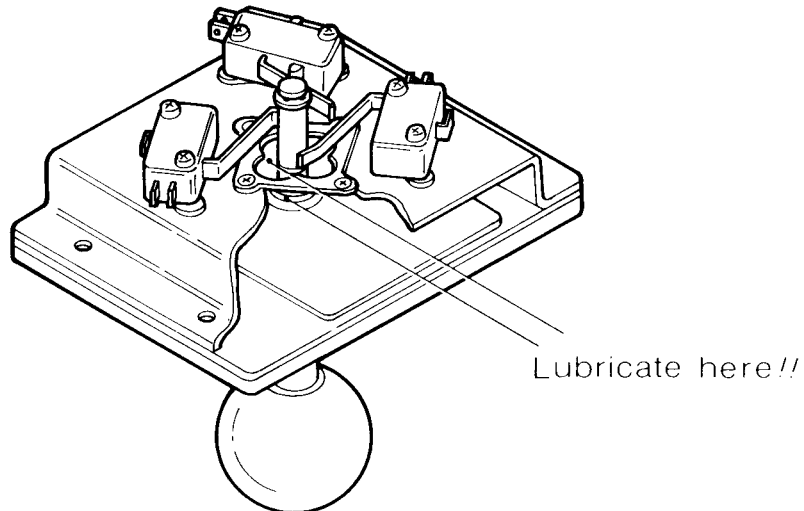


Fig. 5 Lubrication points

D. Front Screen and Video Monitor Removal

(1) Front Screen Removal

To remove the Front Screen, first remove the Control Panel by reaching through the Service Door and releasing the Control Panel Clasps. Pull the bottom of the Front Screen toward you allowing it to drop into the slots. Then pull out toward center of game. See Fig. 6

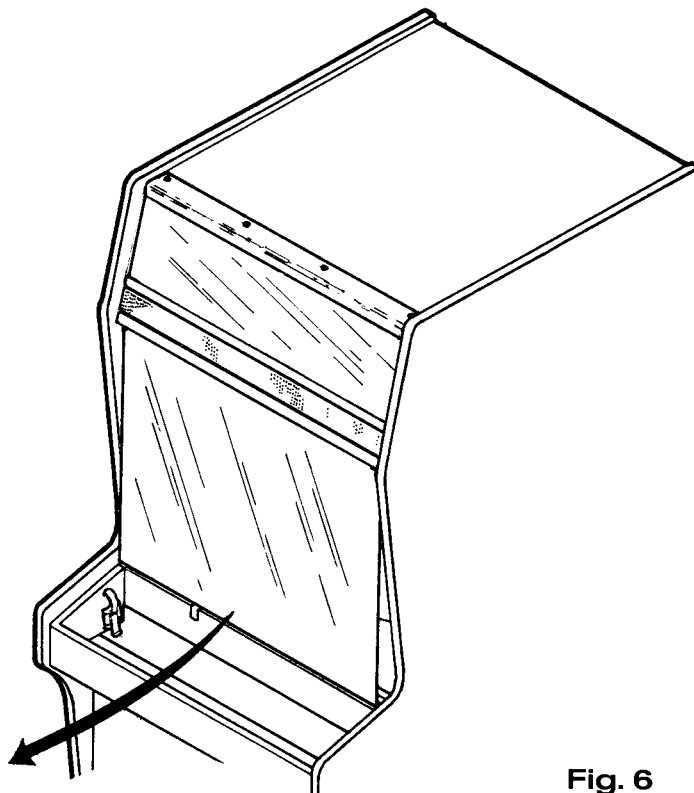


Fig. 6

(2) Video Monitor Removal

If you need to remove the Video Monitor, follow the instructions listed below. But the following procedure should only be performed by an experienced service technician.

WARNING

It is recommended the game be left unplugged for at least one hour before removing the Video Monitor. This will probably discharge the CRT, but extreme caution is still necessary.

- (a) Make sure game is unplugged.
- (b) Remove back door and unplug all the harnesses and cables from the Video Monitor.
- (c) Standing at the front opening of the game, remove the four mounting machine screws and flat washers. See Fig. 7.
- (d) Carefully lift the Video Monitor and pull out toward you.

WARNING

Use extreme caution and do not touch electrical parts of the yoke area with your hands or with any metal object in your hands.

Remove the four mounting bolts and flat washers

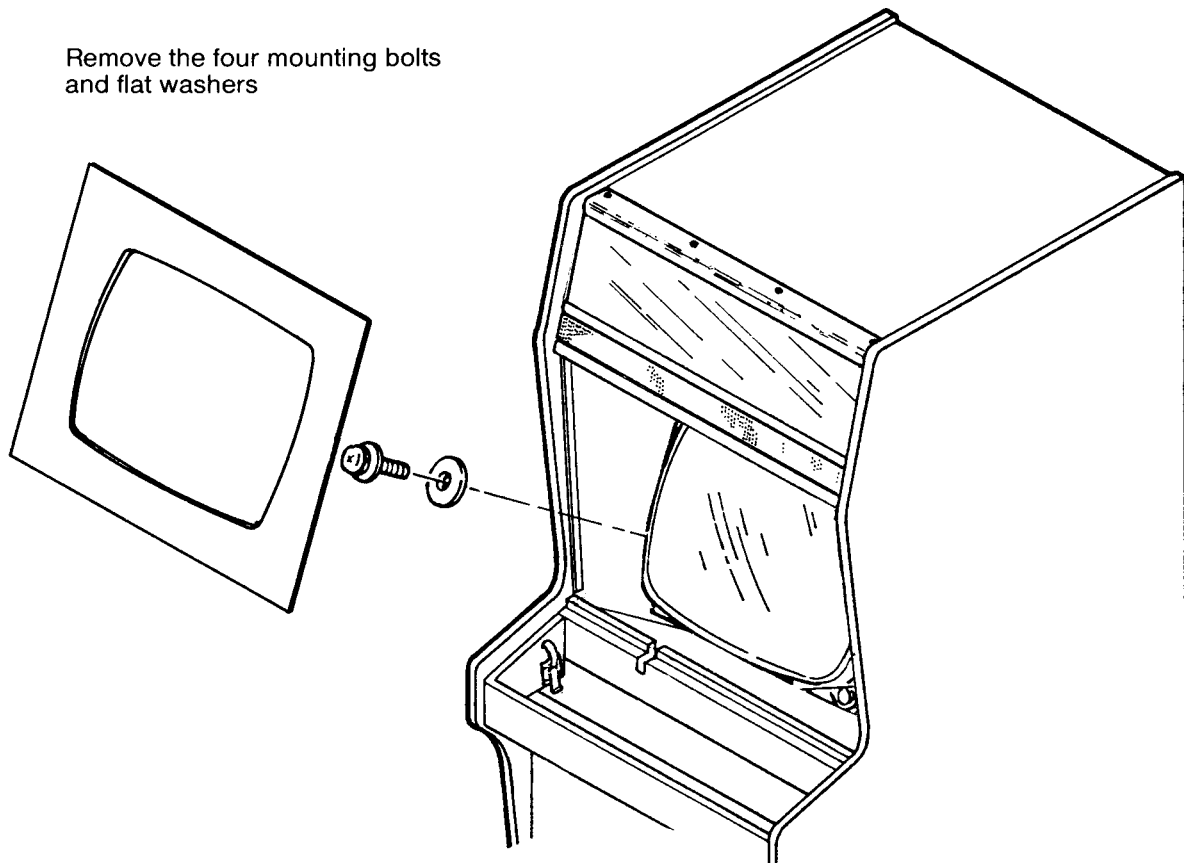


Fig. 7

E. Game PCB Removal

- (1) Make sure the game is unplugged!!
- (2) Open the rear door panel.
- (3) Remove the 36 pin and 44 pin edge connectors from the right side of the FCC-PCBs on the shield cover.
- (4) Pull out the 6 fasteners located on the perimeter of the shield cover. See Fig. 8
- (5) Remove the 56 pin FCC short harnesses from the game P.C. board.
- (6) Remove the game PCB from the shield cage by carefully sliding it straight out of the wooden PCB guides.

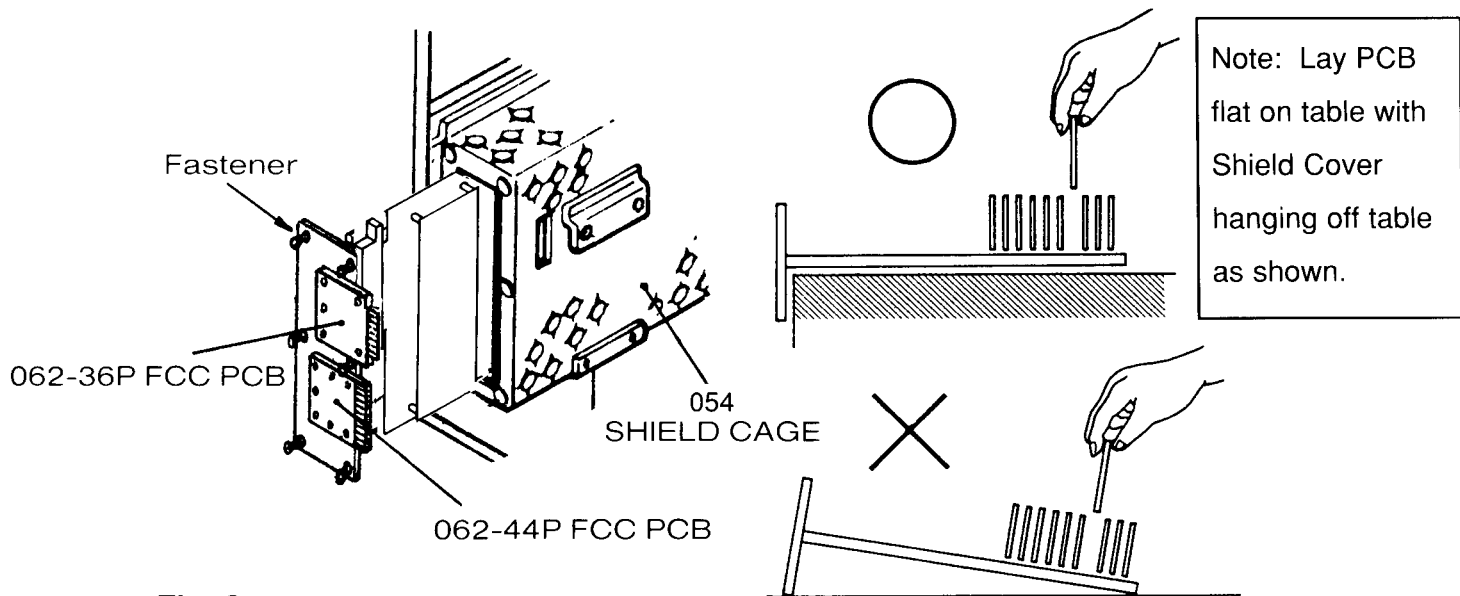


Fig. 8

WARNING

A reversed connector will damage your PCB! If the connectors don't slip on easily, don't force them!

IV. RADIO FREQUENCY INTERFERENCE

In order to protect against the RFI radiated from this equipment, please comply with the following.

- (A) Do not use non-Nintendo parts!
- (B) Do not modify your game circuitry!
- (C) Do not modify the wiring harness and connections!
- (D) Connect this game only to a grounded 3-wire outlet.
- (E) After servicing the Game PCB, shut the Shield Cover completely with the Fasteners. See Fig. 8.

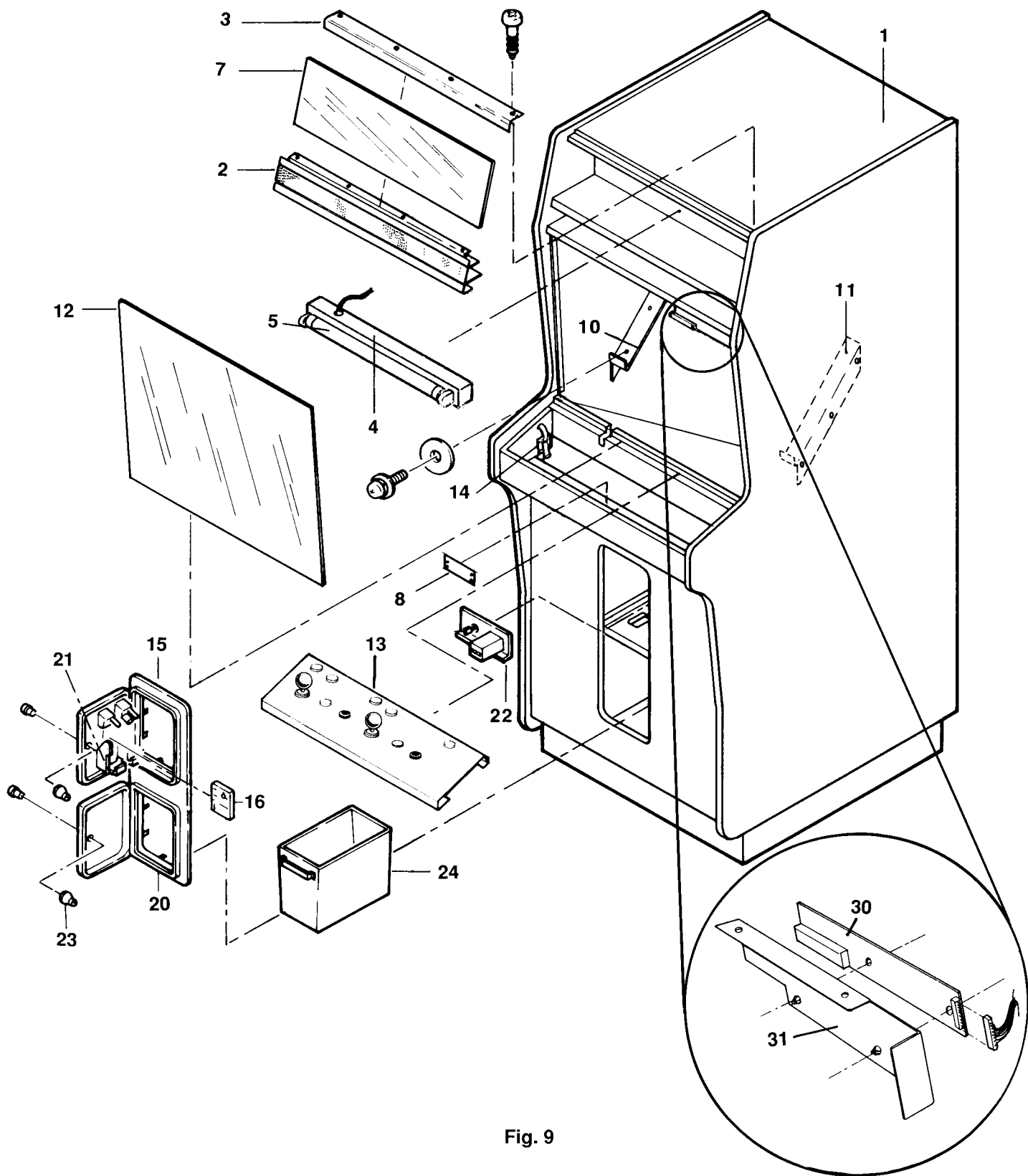


Fig. 9

V. REORDER PARTS LIST

Cabinet Assembly - Front View (Fig. 9)

| ITEM | ORDER NO. | DESCRIPTION | REMARKS |
|------|-----------|----------------------------|---------------------|
| 1 | 19283 | Cabinet | |
| 2 | 1088 | Speaker Grill | Same as MGSU-01-49 |
| 3 | 3295 | Top Trim | |
| 4 | 19050 | Fluorescent Lamp 21" | |
| 5 | 10951 | Fluorescent Lamp Only 15w | |
| 6 | 19048 | Overlay, Name Plate w/Logo | |
| 7 | 1107 | Name Plate Plexi | Same as MGSU-01-24 |
| 8 | 3289 | Control Panel Retainer | |
| 9 | 593 | T-Molding Black | Same as MDSA-01-72 |
| 10 | 576 | Monitor Mtg. Bracket Left | Same as TPPU-01-50 |
| 11 | 577 | Monitor Mtg. Bracket Right | Same as TPPU-01-51 |
| 12 | 6376 | Front Screen (Glass) | Same as MGSA-01-23 |
| 13 | 7927 | Control Panel Assy | Same as PCKG-23-60 |
| 14 | 3051 | Draw Latch (Control Panel) | |
| 15 | 19052 | Door Assy. Complete | |
| 16 | 19264 | Coin Selection | |
| 17 | 8487 | Coin Slot 25¢ | Same as PCKCT-01-09 |
| 18 | 19265 | CoinSwitch w/Wire | |
| 19 | 19267 | Door Frame | |
| 20 | 19268 | Door Lower | |
| 21 | 19269 | Door Upper | |
| 22 | 19277 | Screw Door Hinge | |
| 23 | 19270 | Lock w/Cam | |
| 24 | 19053 | Cash Box (plastic) | |
| 25 | 11151 | Game Counter | |
| 27 | 19064 | Service Switch | |
| 28 | 7932 | Side Decal (PCKG) | Same as PCKG-61-12 |
| 29 | 19047 | Side Decal Large Logo | |
| 30 | 8496 | Led PCB Assy | Same as PCKG-24-01 |
| 31 | 3927 | Bracket Led PCB | Same as PCKCT-01-18 |
| 32 | 4468 | Card Spacer KGLS-4 | |

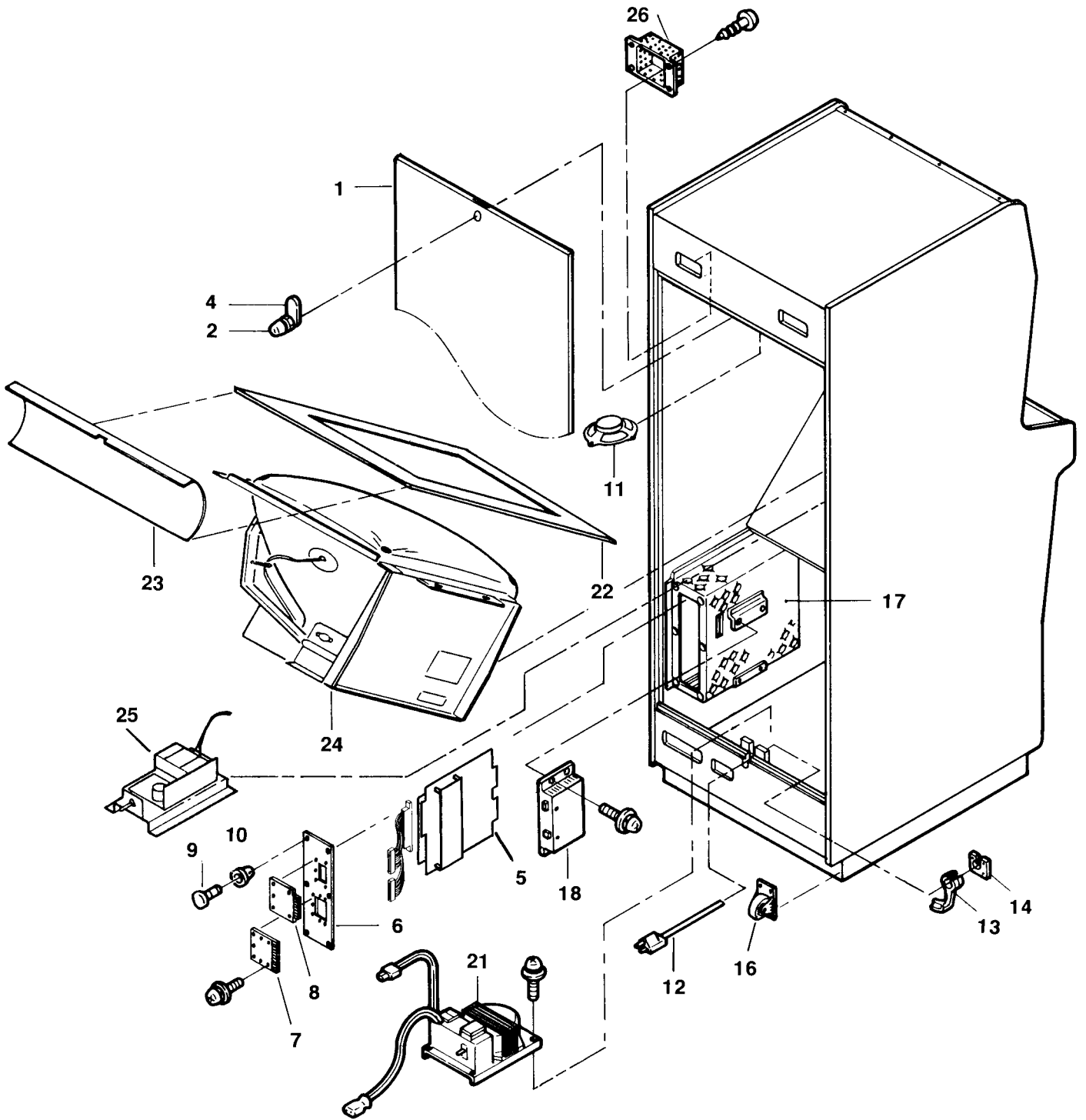


Fig. 10

Cabinet Assembly - Back View (Fig. 10)

| ITEM | ORDER NO. | DESCRIPTION | REMARKS |
|------|-----------|-------------------------------|-----------------------|
| 1 | 7070 | Back Door | Same as MGSA-01-05 |
| 2 | 3050 | Lock Back Door (Key 6510) | Same as TKGU-01-03 |
| 3 | 633 | Key Back Door Only (Key 6510) | Same as TKGU-01-03-01 |
| 4 | 605 | CamA-Type (BackDoor Lock) | Same as TKGU-01-05 |
| 5 | 8510 | PCB PCK1-CPU Assy | Same as PCKU-21-01 |
| 6 | 6888 | Shield Cover Cage w/o PCB | Same as MDSU-01-01-11 |
| 7 | 19244 | PCB 44 Pin FCC | |
| 8 | 1037 | PCB 36 Pin FCC | Same as MDSU-01-01-13 |
| 9 | 1034 | Fastener Nylatch | Same as CHPU 23-25 |
| 10 | 1033 | Fastener Nylatch Grommet | Same as CHPU 23-24 |
| 11 | 612 | Speaker 16 cm 8-ohm | |
| 12 | 3063 | Power Cord | Same as TKGU-01-43 |
| 13 | 455 | Strain Relief Bushing | Same as TKGU-01-10 |
| 14 | 3056 | Strain Relief Plate | Same as TKGU-01-65 |
| 15 | 19282 | Manual, Op | |
| 16 | 609 | Caster | Same as TKGU-01-30 |
| 17 | 1029 | Shield Cage | Same as CHPU-01-01-10 |
| 18 | 8931 | Power Supply SA40-1304 | |
| 19 | 8761 | Base Power Supply | |
| 20 | 8762 | Cover Power Supply | |
| 21 | 19127 | ISO Transformer Assy. | |
| 22 | 566 | Bezel, Monitor | Same as MGSP-01-67 |
| 23 | 7054 | Bezel, Blind | |
| 24 | 19061 | Monitor 19" (Wells Gardner) | |
| 25 | 19123 | Audio Amp Assy. | |
| 26 | 624 | Vent Grill | Same as TKGU-01-61 |
| 27 | 450 | Fuse 5A 125v | Same as TKGU-11-08 |

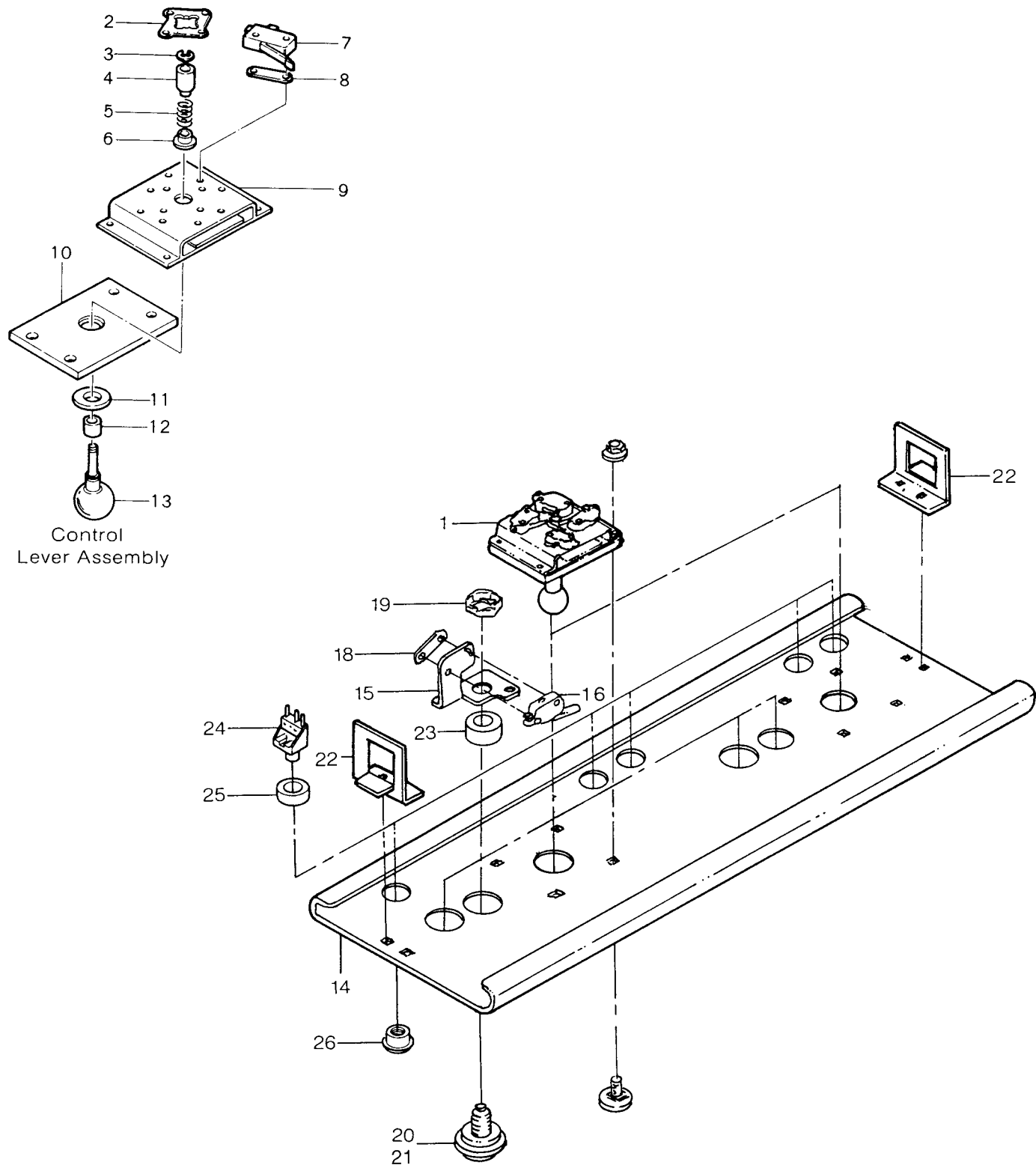
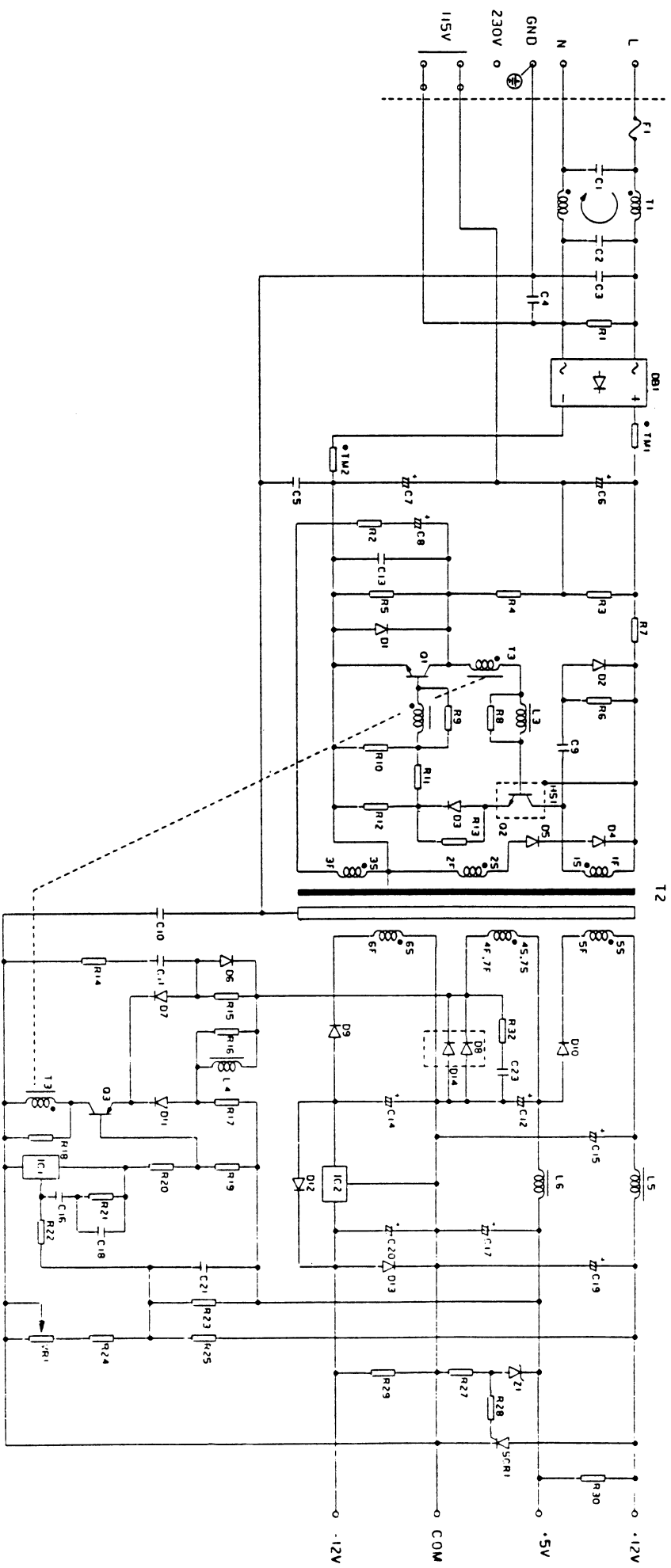


Fig. 11

Operation Panel Assembly

| ITEM | PART NO. | ORDER NO. | DESCRIPTION |
|------|------------|-----------|--------------------------------|
| 1 | MDST-14-12 | 773 | 8 Way Control Lever Assembly |
| 2 | TNX-23-18 | 808 | 8 Way Guide Plate |
| 3 | TKGU-23-23 | 813 | E Ring 4 |
| 4 | TKGU-23-21 | 811 | Switch Collar |
| 5 | TKGU-23-22 | 812 | Lever Spring |
| 6 | TKGU-23-20 | 810 | Spring Stopper |
| 7 | TKGU-23-13 | 804 | Micro Switch |
| 8 | TKGU-23-17 | 807 | Switch Spacer |
| 9 | TKGU-23-16 | 806 | Bearing Bracket |
| 10 | TMAU-12-15 | 784 | Lever Plate |
| 11 | TMAU-12-14 | 783 | Control Knob Plate |
| 12 | TMAU-12-16 | 785 | Control Knob Collar 8L |
| 13 | TMAU-11-18 | 778 | Knob with Shaft 80.5L |
| 14 | PCKG-12-11 | 7928 | Operation Panel Base |
| 15 | TKGU-23-12 | 803 | Switch Button Bracket |
| 16 | TMAU-34-18 | 821 | Micro Switch VL 12L (Straight) |
| 17 | MDSU-12-17 | 896 | Black Sponge, 2 x 10 x 580L |
| 18 | TKGU-23-26 | 814 | Nut Plate |
| 19 | TKGU-23-34 | 818 | Pal Nut M16 |
| 20 | MDST-12-21 | 932 | Button Assembly (Black) |
| 21 | MDST-12-17 | 854 | Button Assembly (Crimson) |
| 22 | TMAK-11-19 | 865 | Operation Panel Fastener |
| 23 | TMAU-12-18 | 943 | Collar — 34 x 28 x 7H |
| 24 | MDSA-23-31 | 935 | Micro Switch P163C3RU (Red) |
| 25 | MDSA-23-29 | 933 | 062U Switch Collar |
| 26 | MDSA-23-30 | 934 | 062U Switch Bezel |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------|--|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| R | | R1 | R2 | R3 | R4 | R5 | R7 | R6 | R8 | R9 | R10 | R11 | R12 | R13 | R14 | R15 | R32 | R16 | R17 | R18 | R19 | R20 | R21 | R22 | R23 | R24 | R25 | R27 | R29 | R30 |
| C | | C1 | C2 | C3 | C4 | C6 | C7 | C5 | C8 | C13 | C9 | C10 | C11 | C23 | C12 | C14 | C15 | C16 | C17 | C20 | C18 | C19 | C21 | | | | | | | |
| T/L | | T1 | T1 | T2 | T3 | L3 | L4 | L5 | L6 | | | | | | | | | | | | | | | | | | | | | |
| D/O | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MISC | | F1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |



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| | | | | | |
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| 2 | ADD D14 DELETE C24 R28 R31 | GGNG | FUM | 23/05/85 | ECN |
| 1 | REL. DRAWING | GGNG | CHAM | 25/1/85 | |
| ISSUE | REVISIONS | APPD | CHK | DATE | ECN |

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| | | | | | |
|-----------|-----------|----|----|----|-----------------|
| DESIGNER | DATE | DD | MM | YY | TITLE |
| DANNY NG | 28 SEP 84 | | | | CIRCUIT DIAGRAM |
| CHK | DATE | DD | MM | YY | PART NO |
| CHAM | 25 JAN 85 | | | | |
| APPD | DATE | DD | MM | YY | MATERIAL |
| GGNG | 26 JAN 85 | | | | |
| SCALE | | | | | |
| FINISH | | | | | |
| COMPANY | | | | | |
| ASTEC | | | | | |
| LOCATION | | | | | |
| HONG KONG | | | | | |
| SHEET | | | | | |
| 1 OF 1 | | | | | |

Power Supply (SA40-1304)

| ORDER NO. | DESCRIPTION (REFERENCE DESIGNATIONS & LOCATIONS) | |
|-----------|--|-------------|
| 18317 | RECTIFIER, DIODE RGP 10B | D9 |
| 18318 | RECTIFIER, DIODE1N 4001 GP | D12-13 |
| 18319 | RECTIFIER, DIODE GP10A | D3 |
| 18320 | RECTIFIER, BRIDGE KBP08 | DB1 |
| 2076 | RES, CARBON 10 OHM 1/4 W 5% | R10-R28-R32 |
| 2078 | RES, CARBON 1/4 W 5% | R5 |
| 18321 | RES, CARBON 15 OHM 1/4 W + 5% | R11 |
| 2103 | RES, CARBON 22 OHM 1/4 W 5% | R27 |
| 2111 | RES, CARBON 27 OHM 1/4 W 5% | R8 |
| 2112 | RES, CARBON 270 OHM 1/2 W + -5% | R15-R16 |
| 2121 | RES, CARBON 330 OHM 1/4 W 5% | R18-R21 |
| 7247 | RES, CARBON 47 OHM 1/4 W 5% | R14 |
| 2133 | RES, CARBON 470 OHM 1/4 W 5% | R22 |
| 2136 | RES, CARBON 470K OHM 1/2 W 5% | R1 |
| 4713 | RES, CARBON 56 OHM 1/4 W 5% | R19 |
| 18322 | RES, CARBON 5.6 OHM 1/4 W +/-5% | R13 |
| 2148 | RES, CARBON 68 OHM 1/4 W 5% | R20-R9 |
| 18323 | RES, CARBON 8.2 OHM 1/4 W +/-5% | R17 |
| 18324 | RES, M.FILM .75 OHM 1 W +/-5% | R12 |
| 18325 | RES, M.FILM 1 OHM 1 W +/-5% | R7 |
| 18326 | RES, M.FILM 18 OHM 1/4W +/-1% | R25 |
| 18327 | RES, M.FILM 2.7 OHM 1/4W +/-1% | R24 |
| 18328 | RES, M.FILM 8.2 OHM 1/4W +/-1% | R23 |
| 1997 | RES, OXIDE 100K OHM 1 W +/-5% | R3-R4 |
| 18239 | RES, OXIDE 120 OHM 2 W +/-5% | R6-R29 |
| 18330 | RES, WIRE WD 15 OHM 5 W +/-5% | R30 |
| 18331 | RES, WIRE WD 33OHM 3 W +/-5% | R2 |
| 18292 | CAP, CERAMIC 100 PF 3KV +/-20% | C9 |
| 18293 | CAP, CERAMIC .01 MF 100V + 80 - 20% | C23 |
| 18294 | CAP, CERAMIC 330P 100V +/-20% | C18 |
| 18295 | CAP, ELECTRO 100 MF 25V +/-20% RADIAL | C14 |
| 18296 | CAP, ELECTRO 1000 MF 16V +/-20% RADIAL | C20 |
| 18297 | CAP, ELECTRO 1000 MF 10V+/-20% RADIAL | C15 |
| 18298 | CAP, ELECTRO 100 MF 10V +/-20% RADIAL | C17 |
| 18299 | CAP, ELECTRO 220 MF 10V+ 100 - 10% RADIAL | C8 |
| 18300 | CAP, ELECTRO 2200MF 16V +/-20% RADIAL | C12 |
| 18301 | CAP, ELECTRO 470 MF 16V +/-20% RADIAL | C19 |
| 18302 | CAP, POLYESTER .01 MF 50V +/-5% | C13 |
| 18303 | CAP, MP .1 MF 250V +/-20% | C1-C2 |
| 18304 | CAP, POLYESTER 2200P 250V +/-20% | C3-C4 |
| 18305 | CAP, POLYESTER .022 MF 50V +/-20% | C16 |
| 18306 | CAP, MP 0.022 MF 250V +/-20% | C10 |
| 18307 | CAP, POLYESTER .22 MF 100V +/-20% | C11-C21 |

Power Supply (SA40-1304) - continued

| ORDER NO. | DESCRIPTION (REFERENCE DESIGNATIONS & LOCATIONS) | |
|-----------|--|-----------|
| 18308 | CAP, MPR 2200P 250V = +/-20% | C5 |
| 18309 | FUSE, F2A 250V (SA40-1304) | F1 |
| 18310 | CONN. 4 PIN (SA40-1304) | TB2 |
| 7161 | TRANSISTOR, 2SC 2120 | Q1 |
| 18311 | TRANSISTOR, 2SB 561 | Q3 |
| 18312 | REGULATOR, 431 | 1C1 |
| 18313 | DIODE, SI IN4606 | D11-D6-D7 |
| 18314 | DIODE, ZENER 5.6V 240 MA +/-5% | Z1 |
| 18315 | RECTIFIER, DIODE RGP10A | D1 |
| 18316 | RECTIFIER, DIODE RGP10J | D2-D4-D5 |
| 18322 | RES, VARIABLE 1K OHM TOP ADJUST | VR1 |
| 18333 | THERMIST, 84 +/-20% | TMI-TM2 |
| 18334 | COIL, CHOKE 1.5 MH | L4 |
| 18335 | COIL, CHOKE 2.2 UH | L3 |
| 18336 | TRANSFORMER, CONTROL ASSY | T3 |
| 18337 | TRANSFORMER, POWER AC8154 | T2 |
| 18338 | TRANSFORMER, COM MODE ASSY | T1 |
| 18339 | COIL, CHOKE ASSY0 | L5 |
| 18340 | COIL, CHOKE FILTER | L6 |
| 18341 | RECTIFIER, HEAT SINK ASSY | D10 |
| 18342 | TRANSISTOR, 2SD1494 HEAT SINK ASSY | Q2 |
| 18343 | REGULATOR, UA7912 | IC2 |
| 18344 | DIODE, SKCE 12CTQ035 | D8 |
| 18345 | SCR, 2N6395 | SCR1 |

Wiring Harness

| ORDER NO. | DESCRIPTION | REMARKS |
|-----------|---------------------------------|--------------------|
| 2357 | 44 Pin FCC Harness | Same as MDSU-41-12 |
| 2356 | 36 Pin FCC Harness | Same as MDSU-41-11 |
| 8968 | 44 Pin Edge Connector Harness | Same as MGSU-41-13 |
| 7933 | 36 Pin Edge Connector Harness | Same as PCKG-41-11 |
| 2337 | 15 Pin Switch Harness | Same as MGSU-42-11 |
| 7934 | 12 Pin Switch Harness | Same as PCKG-41-11 |
| 19107 | Audio PCB Harness | |
| 19109 | Coin Counter Harness | |
| 19116 | Service Switch Harness | |
| 19106 | 9 Pin Power Harness (Astec) | |
| 19101 | 2 Pin Lamp Plug | |
| 19102 | 3 Pin Monitor | |
| 19114 | Power Supply AC Harness (Astec) | |
| 19259 | 12v Power Supply AC Harness | |
| 19105 | 6 Pin Video Harness | |
| 19129 | Transformer Assembly Harness | |
| 19128 | 4 Pin Coin Harness | |
| 19099 | 2 Pin AC Input Harness | |
| 19103 | 3 Pin Transformer Harness | |
| 19110 | Fuse Harness (Black) | |
| 19111 | Noise Filter Harness (Black) | |
| 19112 | Noise Filter Harness (White) | |
| 19113 | Noise Filter Harness (Green) | |
| 19117 | Terminal Block Harness (Black) | |
| 19118 | Terminal Block Harness (Red) | |
| 19119 | Terminal Block Harness (Brown) | |
| 19120 | Terminal Block Harness (Orange) | |

Main PC Board

| PART NO. | ORDER NO. | DESCRIPTION (Reference Designations and Locations) |
|------------|-----------|--|
| PCKU-21-01 | 7929 | PCK1 CPU Complete PCB Assembly |
| PCHU-21-11 | 946 | Z80A Microprocessor (5X) |
| PCHU-21-12 | 945 | RP2A03E Microprocessor (1H) |
| PCHU-21-13 | 4460 | RP2C03B PPU (3H) |
| PCKU-21-14 | 7936 | 27128 16K-Byte EP-ROM 300ns PCK 1-C-8T (8T) |
| PCKU-21-15 | 7937 | 2764 8K-Byte EP-ROM 300ns PCK 1-C-8K (8K) |
| PCKU-21-16 | 7938 | 2764 8K-Byte EP-ROM 300ns PCK 1-C-8M (8M) |
| PCKU-21-17 | 7939 | 2764 8K-Byte EP-ROM 300ns PCK 1-C-8P (8P) |
| PCHU-21-18 | 2060 | TMM2115BP-15 2K-Byte RAM 150ns (2K) |
| PCHU-21-19 | 2061 | HM6116 ASP-20 2K-Byte RAM 200ns (4K, 8R, 8V) |
| PCHU-21-20 | 4811 | TC5517 CPL-20 2K-Byte C-MOS RAM 200ns (8W) |
| PCKU-21-21 | 7940 | N82S129N 256x4-Bit Bipolar ROM PCK1-C-6D (6D) |
| PCKU-21-22 | 7941 | N82S129N 256x4-Bit Bipolar ROM PCK1-C-6E (6E) |
| PCKU-21-23 | 7942 | N82S129N 256x4-Bit Bipolar ROM PCK1-C-6F (6F) |
| PCHU-21-24 | 2189 | 74LS00 Quad 2-Input NAND (5H, 8J, 6U) |
| PCHU-21-25 | 2190 | 74LS02 Quad 2-Input NOR (4U) |
| PCHU-21-26 | 2191 | 74LS04 Hex Inverters (8D, 3G, 8G, 5J, 7R, 7Y, 4Z) |
| PCHU-21-27 | 2193 | 74LS08 Quad 2-Input AND (7X) |
| PCHU-21-28 | 2195 | 74LS11 Triple 3-Input AND (5P) |
| PCHU-21-29 | 2196 | 74LS14 Hex Schmitt Inverters (4V) |
| PCHU-21-30 | 2202 | 74LS32 Quad 2-Input OR (7C, 5T) |
| PCHU-21-31 | 2203 | 74LS42 4 To 10 Decoders (4T) |
| PCHU-21-32 | 2204 | 74LS55 2-Wide 4-Input AND-OR-INVERT Gates (5K) |
| PCHU-21-33 | 2205 | 74LS74A Dual "D" Flip-Flops (P, CL) (7J, 7K, 5M) |
| TPP2-06-20 | 2208 | 74LS86 Quad 2 Input EX-OR (4M) |
| PCHU-21-34 | 2210 | 74LS109A Dual J-K Flip-Flops (PLE, CL) (4Y) |
| PCHU-21-35 | 2216 | 74LS139 Dual 2 To 4 Decoders (7H, 2L, 6T) |
| PCHU-21-36 | 2220 | 74LS157 Quad 2 To 1 Data Selectors (7S, 7T, 7U, 7V) |
| PCHU-21-37 | 2223 | 74LS161A 4-Bit Binary Counters (6H, 6J, 6K, 6L, 6M, 4R) |
| PCHU-21-38 | 2225 | 74LS164 8-Bit Shift Registers (8H, 5Q) |
| PCHU-21-39 | 2226 | 74LS165A 8-Bit Shift Registers (8B, 8C, 7F) |
| PCHU-21-40 | 2228 | 74LS175 Quad "D" Flip-Flops (CL) (4S) |
| PCHU-21-41 | 2229 | 74LS194A 4-Bit Shift Registers (6Q, 6R) |
| PCHU-21-42 | 2230 | 74LS240 Octal Bus Inverters (TS) (5A, 6A, 7B) |
| PCHU-21-43 | 2232 | 74LS244 Octal Buffers & Line Drivers (TS) (6B, 1L, 2M, 3M, 8S, 5V, 6V) |
| PCHU-21-44 | 2233 | 74LS245 Octal Bus Transceivers (TS) (1K, 6Z) |
| PCHU-21-45 | 2235 | 74LS259 8-Bit Addressable Latches (7D, 7E) |
| PCHU-21-46 | 2239 | 74LS299 8-Bit Shift/Storage Registers (7L, 7N, 7Q) |
| PCHU-21-47 | 2242 | 74LS367A Hex Bus Drivers (4L) |
| PCHU-21-48 | 2243 | 74LS368A Hex Bus Drivers (8E, 8F, 5S) |
| PCHU-21-50 | 2247 | 74LS377 Octal "D" Flip-Flops (6P) |
| PCHU-21-51 | 2267 | 74S04 Hex Inverters (2G, 6N) |
| PCHU-21-52 | 2259 | 7437 Quad-2-Input NAND Buffers (4X) |
| PCHU-21-53 | 2278 | 75471 Dual Peripheral AND Drivers (6C) |
| PCHU-21-54 | 4812 | 74HC10 Triple 3-Input NAND C-MOS (8Y) |
| PCHU-21-55 | 8004 | TC74HC373 Octal 3-State D-Latches C-MOS (3K) |
| PCKU-21-55 | 1143 | PST518A Low Voltage Detector (7Z) |
| PCHU-21-56 | 1445 | LM324 Quad Operational Amplifiers (3E) |
| PCHU-21-57 | 1443 | LM3900 Quad Operational Amplifiers (1E) |

Main PC Board - continued

| PART NO. | ORDER NO. | DESCRIPTION (Reference Designations and Locations) |
|-------------|-----------|--|
| PCKU-21-57 | 7943 | TC 4053BP Triple 2-Channel Multiplexer C-MOS (5C) |
| PCHU-21-58 | 735 | CD 406 6B Quad Analog Switches C-MOS (3C) |
| PCHU-21-59 | 2178 | 2SA933 Silicon PNP Transistor (Q11, Q12, Q14, Q15, Q17, Q18) |
| PCHU-21-60 | 2179 | 2SA1015 Silicon PNP Transistor (Q3, Q5, Q7, Q20) |
| PCHU-21-61 | 2184 | 2SC1740 Silicon NPN Transistor (Q8~Q10, Q13, Q16, Q19, Q20~Q26) |
| PCHU-21-62 | 2185 | 2SC1815 Silicon NPN Transistor (Q1, Q2, Q4, Q6) |
| PCHU-21-63 | 1003 | ES1F Diode (D1) |
| PCHU-21-64 | 1012 | 1S5277B Diode (D3, D4) |
| PCHU-21-65 | 4813 | EG01Y Diode (D2) |
| PCHU-21-66 | 1002 | DAN401 Quad Cathode-Common Diode Array (DA1~DA8) |
| PCHU-21-67 | 4817 | 1.0f 5.5V Electric Double Layer Capacitor (EEC F5R 5U105) (C3) |
| PCHU-21-68 | 680 | 68pf 50V Ceramic-Disc Capacitor (C44) |
| PCHU-21-69 | 663 | 100pf 50V Ceramic-Disc Capacitor (C35, C36, C45, C71) |
| PCHU-21-70 | 669 | 180pf 50V Ceramic-Disc Capacitor (C11, C39) |
| PCHU-21-71 | 675 | 330pf 50V Ceramic-Disc Capacitor (C2, C6, C40, C41) |
| PCKU-21-71 | 7945 | 470pf 50V Ceramic-Disc Capacitor (C12) |
| PCHU-21-72 | 664 | 1000pf 50V Ceramic-Disc Capacitor (C5) |
| PCHU-21-73 | 665 | 0.01uf 50V Ceramic-Disc Capacitor (C4, C22, C38, C43, C80~C83, C86~C89, C91, C92, C94~C101, C103~C108, C110~C120, C122~C126, C128, C130~C144, C146, C148~C156, C158~C163, C165~C187) |
| PCHU-21-74 | 4815 | 0.047uf 50V Ceramic-Disc Capacitor (C15~C17) |
| PCHU-21-75 | 655 | 0.2uf 12V Ceramic-Disc Capacitor (C21) |
| PCHU-21-76 | 716 | 0.047uf 50V Film Capacitor (C33, C34) |
| PCHU-21-77 | 685 | 1uf 16V Al Electrolytic Radial Cap. (C7, C8) |
| PCHU-21-78 | 689 | 3.3uf 16V Al Electrolytic Radial Cap. (C13, C14, C25, C28, C31, C32) |
| PCHU-21-79 | 683 | 10uf 16V Al Electrolytic Radial Cap. (C23, C24, C26, C27, C29, C30, C37, C42) |
| PCHU-21-80 | 688 | 33uf 16V Al Electrolytic Axial Cap. (C9) |
| PCHU-21-81 | 4818 | 47uf 16V Al Electrolytic Radial Cap. (C47~C50) |
| PCHU-21-82 | 684 | 100uf 16V Al Electrolytic Axial Cap. (C46) |
| PCHU-21-83 | 4819 | 100uf 25V Al Electrolytic Axial Cap. (C70) |
| PCHU-21-84 | 687 | 220uf 16V Al Electrolytic Axial Cap. (C1) |
| PCHU-21-85 | 691 | 470uf 16V Al Electrolytic Axial Cap. (C20) |
| PCHU-21-86 | 4820 | 3.3uf 16V Tantalum Electrolytic Cap. (C85, C90, C93, C102, C109, C121, C127, C145, C157) |
| PCHU-21-87 | 2075 | 0 Ohm Shunt Lead (R99) |
| PCHU-21-88 | 2076 | 10 Ohm 1/4W \pm 5% Resistor (R7) |
| PCHU-21-89 | 2120 | 33 Ohm 1/4W \pm 5% Resistor (R32, R37) |
| PCHU-21-90 | 2137 | 51 Ohm 1/4W \pm 5% Resistor (R8, R19, R23, R27, R31) |
| PCHU-21-91 | 2077 | 100 Ohm 1/4W \pm 5% Resistor (R17, R68, R69, R73) |
| PCHU-21-92 | 2082 | 110 Ohm 1/4W \pm 5% Resistor (R3) |
| PCHU-21-93 | 2121 | 330 Ohm 1/4W \pm 5% Resistor (R13, R14, R18, R21, R25, R29, R36, R90, R91, R97, R98, R110, R111, R112) |
| PCHU-21-94 | 2138 | 510 Ohm 1/4W \pm 5% Resistor (R46, R56, R66) |
| PCHU-21-95 | 2155 | 820 Ohm 1/4W \pm 5% Resistor (R1, R2) |
| PCHU-21-96 | 2078 | 1K Ohm 1/4W \pm 5% Resistor (R94~R96, R120~R131) |
| PCHU-21-97 | 2099 | 2K Ohm 1/4W \pm 5% Resistor (R15, R87, R109) |
| PCHU-21-98 | 2105 | 2.2K Ohm 1/4W \pm 5% Resistor (R35, R40, R42, R50, R45, R52, R55, R60, R62, R65) |
| PCHU-21-99 | 2134 | 4.7K Ohm 1/4W \pm 5% Resistor (R43, R53, R63) |
| PCHU-21-100 | 2139 | 5.1K Ohm 1/4W \pm 5% Resistor (R4, R5, R22, R26, R30, R88, R89) |
| PCHU-21-101 | 2152 | 7.5K Ohm 1/4W \pm 5% Resistor (R16) |

Main PC Board - continued

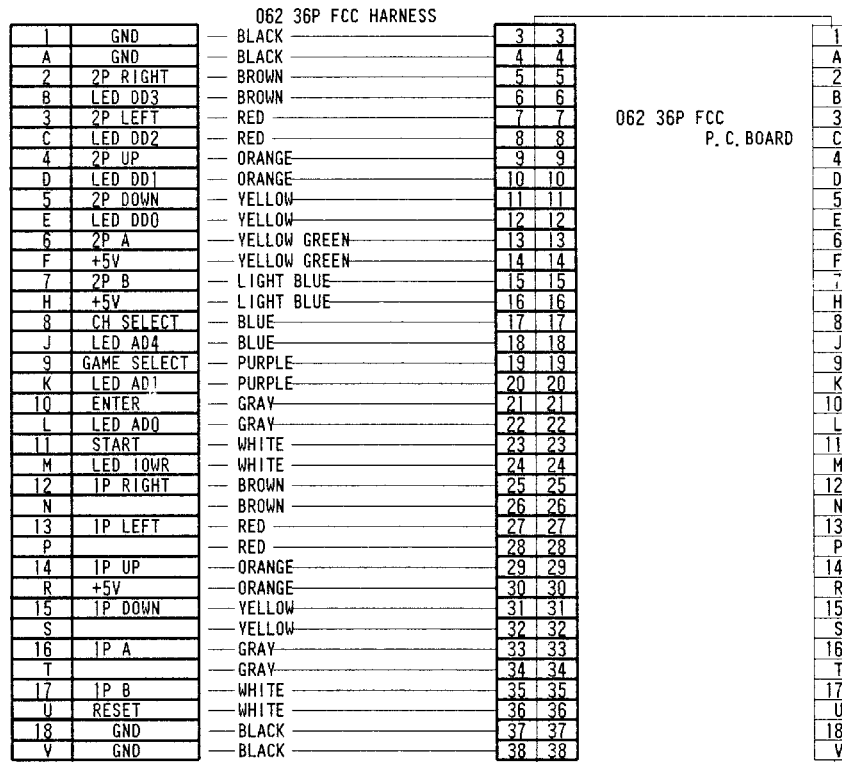
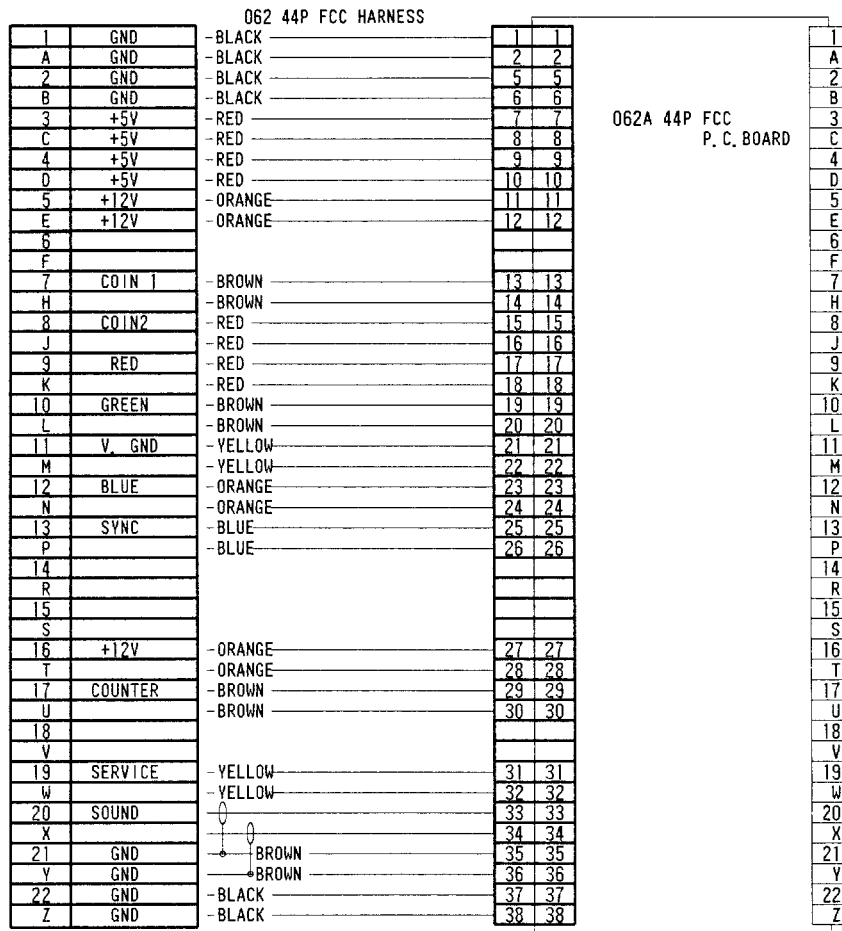
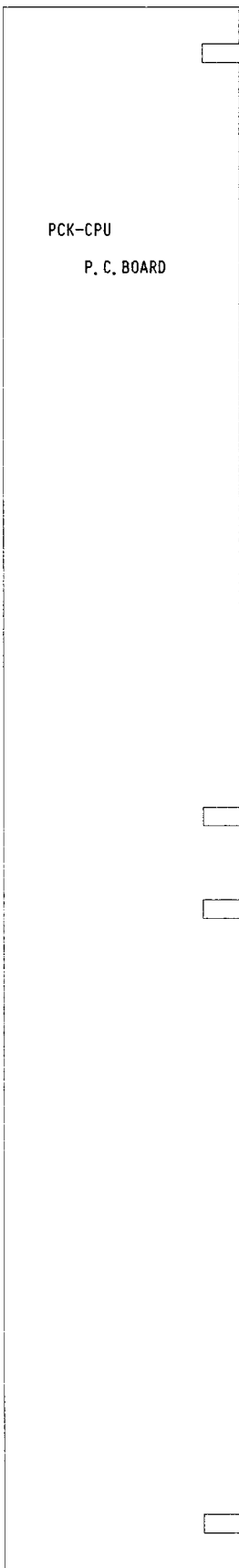
| PART NO. | ORDER NO. | DESCRIPTION (Reference Designations and Locations) |
|-------------|-----------|---|
| PCHU-21-102 | 2079 | 10K Ohm 1/4W \pm 5% Resistor (R12, R34, R38, R41, R44, R51, R54, R61, R64, R74, R82, R83, R92, R93, R100~R102, R104, R106, R108) |
| PCHU-21-103 | 2086 | 12K Ohm 1/4W \pm 5% Resistor (R71) |
| PCHU-21-104 | 2100 | 20K Ohm 1/4W \pm 5% Resistor (R6, R39, R70, R72, R103, R, 105, R107) |
| PCHU-21-105 | 2080 | 100K Ohm 1/4W \pm 5% Resistor (R33, R75) |
| PCHU-21-106 | 2101 | 200K Ohm 1/4W \pm 5% Resistor (R9~R11) |
| PCHU-21-107 | 2126 | 360K Ohm 1/4W \pm 5% Resistor (R79) |
| PCHU-21-108 | 2154 | 750K Ohm 1/4W \pm 5% Resistor (R78, R80, R84) |
| PCHU-21-109 | 2081 | 1M Ohm 1/4W \pm 5% Resistor (R76, R85) |
| PCHU-21-110 | 2097 | 1.8M Ohm 1/4W \pm 5% Resistor (R81) |
| PCHU-21-111 | 2107 | 2.2M Ohm 1/4W \pm 5% Resistor (R77, R86) |
| PCHU-21-112 | 2068 | Hex 5.1K Ohm Series Resistor Array (RM1, RM16) |
| PCHU-21-113 | 2065 | Octal 1K Ohm Series Resistor Array (RM5, RM8~RM10, RM13) |
| PCHU-21-114 | 2071 | Quad 68 Ohm Parallel Resistor Array (RM6, RM7, RM11, RM12, RM14, RM15) |
| PCHU-21-115 | 4821 | NT-01 Resistor Array (RM2~RM4) |
| PCHU-21-116 | 2290 | 500 Ohm Variable Resistor, Red Cap (VR1) |
| PCHU-21-117 | 2289 | 500 Ohm Variable Resistor, Green Cap (VR2) |
| PCHU-21-118 | 2279 | 500 Ohm Variable Resistor, Blue Cap (VR3) |
| PCHU-21-119 | 2411 | 8MHZ Crystal (X1) |
| PCHU-21-121 | 2414 | 21.47727 MHz Crystal (X2, X3) |
| PCHU-21-123 | 2174 | 8-Station, Single-Throw, DIP Bit Switch (SW1, SW2) |
| PCHU-21-124 | 4823 | MINI-BIT Header (SW3) |
| PCHU-21-125 | 2166 | 16 Pin DIP IC Socket (S6~S8) |
| PCHU-21-126 | 2171 | 28 Pin DIP IC Socket (S2~S5) |
| PCHU-21-127 | 2172 | 40 Pin DIP IC Socket (S1, S9, S10) |
| PCHU-21-129 | 4880 | 96 Pin DIN Connector Receptacle (CH1~CH10) |
| PCHU-21-130 | 4825 | GL-3HD1 Visible Light Emitting Diode (LED1) |

PCK 1 - LED PCB Assembly

| PART NO. | ORDER NO. | DESCRIPTION (Reference Designations) | |
|------------|-----------|--|-------------|
| PCKU-24-11 | 7947 | 74HCT138 3 TO 8 Demultiplexer | (U5) |
| PCKU-24-12 | 7948 | LR74HC4511/TC74HC4511P BCD to 7 Segment Latch Decoder /Driver | (U1~U4) |
| TPP2-07-32 | 7142 | 1S5277B Diode | (D1~D3) |
| TPP2-07-33 | 1002 | DAN401 Quad Cathode-Common Diode Array | (DM1) |
| CHPU-22-56 | 663 | 100 pf. 50V Ceramic-Disc Capacitor | (C7~C10) |
| CHPU-21-62 | 665 | 0.01 uF 50V Ceramic-Disc Capacitor | (C2~C6) |
| TPP2-07-39 | 688 | 33uF 16V Al Electrolytic Axial Cap. | (C1) |
| TPP2-07-63 | 2065 | Octal 1K Ohm Series Resistor Array | (RM1) |
| PCKU-24-16 | 7950 | EI 12 pin Plug Connector Right Angle | (P1) |
| PCKU-24-17 | 7949 | GL-8E040 7-Segment Visible Light Emitting Diode | (LED1~LED4) |

K700 Monitor Parts

| PART NO. | ORDER NO. | DESCRIPTION |
|-----------|-----------|-----------------------------------|
| MON-20-01 | 8558 | IC, Regulator STR 3123 |
| MON-20-02 | 8559 | IC, Video UPC 1397 NEC |
| MON-20-03 | 8560 | IC, Horiz Vert LA7823 |
| MON-20-04 | 8561 | IC, Vert Output UPC 1378 |
| MON-21-01 | 8562 | Diode, D1 Fast SW RU-2 |
| MON-21-02 | 8563 | Diode, S1 1A 600v |
| MON-21-03 | 8564 | Diode, GFE 10R |
| MON-22-01 | 8565 | Transistor, NPN CC |
| MON-22-02 | 8566 | Transistor, 2SD1398 |
| MON-22-03 | 8567 | Transistor, 2SC2068 |
| MON-23-01 | 8568 | Coil, Width — T0DAI |
| MON-23-02 | 8569 | Coil, Lin — T0DAI |
| MON-24-01 | 8570 | Transformer, Flyback |
| MON-24-02 | 8571 | Transformer, Horiz Driver |
| MON-25-01 | 8572 | Res, Variable 2K ohm |
| MON-25-02 | 8573 | Res, Variable 10K ohm |
| MON-25-03 | 8574 | Res, Variable 200 ohm |
| MON-25-04 | 8575 | Res, Variable 200K ohm |
| MON-25-05 | 8576 | Res, Variable 100 ohm |
| MON-25-06 | 8577 | Res, Trim Pot 2K ohm 0.3w |
| MON-25-07 | 8578 | Res, Trim Pot 200 ohm |
| MON-26-01 | 8579 | Cap, Electrolytic 1.0 UF 50V |
| MON-26-02 | 8580 | Cap, Electrolytic 10 UF 25V |
| MON-26-03 | 8581 | Cap, Electrolytic 22 UF 160v |
| MON-26-04 | 8582 | Cap, Electrolytic 47 UF 25V |
| MON-26-05 | 8583 | Cap, Electrolytic 470 UF 516V |
| MON-26-06 | 8584 | Cap, Electrolytic 1000 UF 16V |
| MON-26-07 | 8585 | Cap, Electrolytic 1000 UF 25V |
| MON-26-08 | 8586 | Cap, PolyPro PP6100 2% 1500V |
| MON-26-09 | 8587 | Cap, PolyPro .39 UF 5% 200V |
| MON-26-10 | 8588 | Cap, .1 20% 125v AC |
| MON-26-11 | 8589 | Cap, Disc .0015 10% 500v |
| MON-26-12 | 8590 | Cap, Disc .0022 10% 500v |
| MON-27-01 | 8591 | Res, M. Oxide 3.9K 5% |
| MON-27-02 | 8592 | Res, 2.7 ohm 5% 7w |
| MON-27-03 | 8593 | Res, Thermister |
| MON-28-01 | 8594 | Fuse, 1.5 A |
| MON-29-01 | 8595 | Plug, 2 Pin |
| MON-29-02 | 8596 | Plug, 4 Pin |
| MON-30-01 | 19279 | Picture tube, 19" (Wells-Gardner) |
| MON-30-02 | 19280 | Yoke, Deflection (Wells-Gardner) |
| MON-30-03 | 19281 | Coil, Degaussing (Wells-Gardner) |

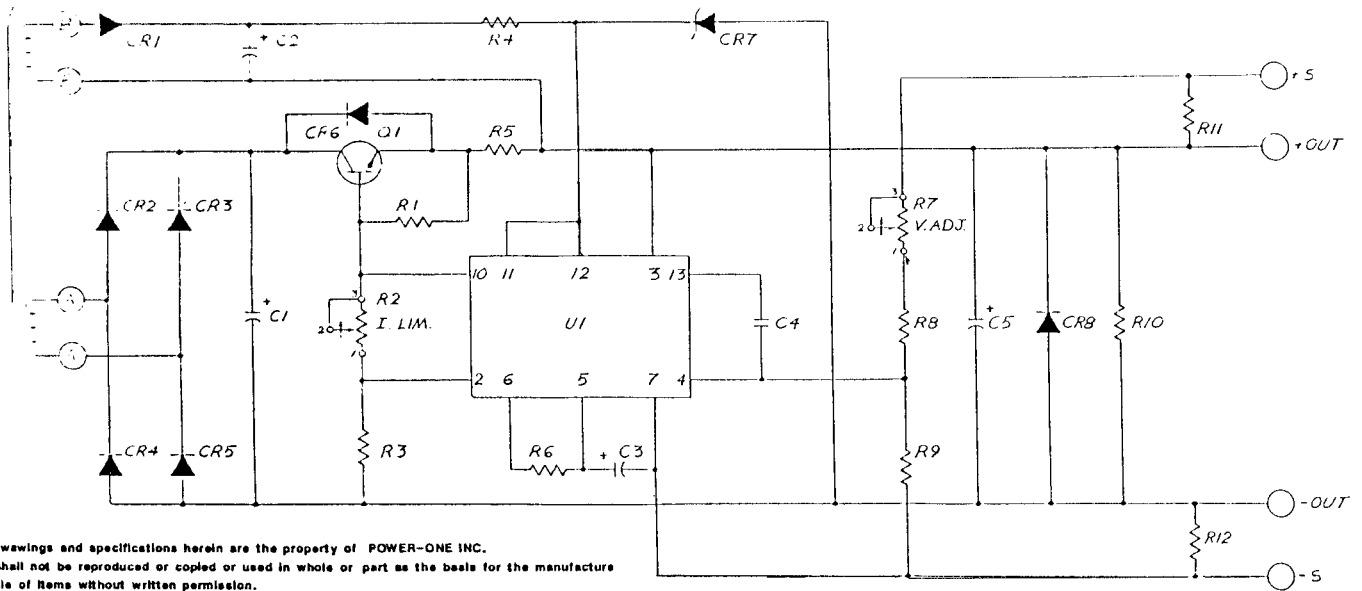


44P Edge Harness Connector

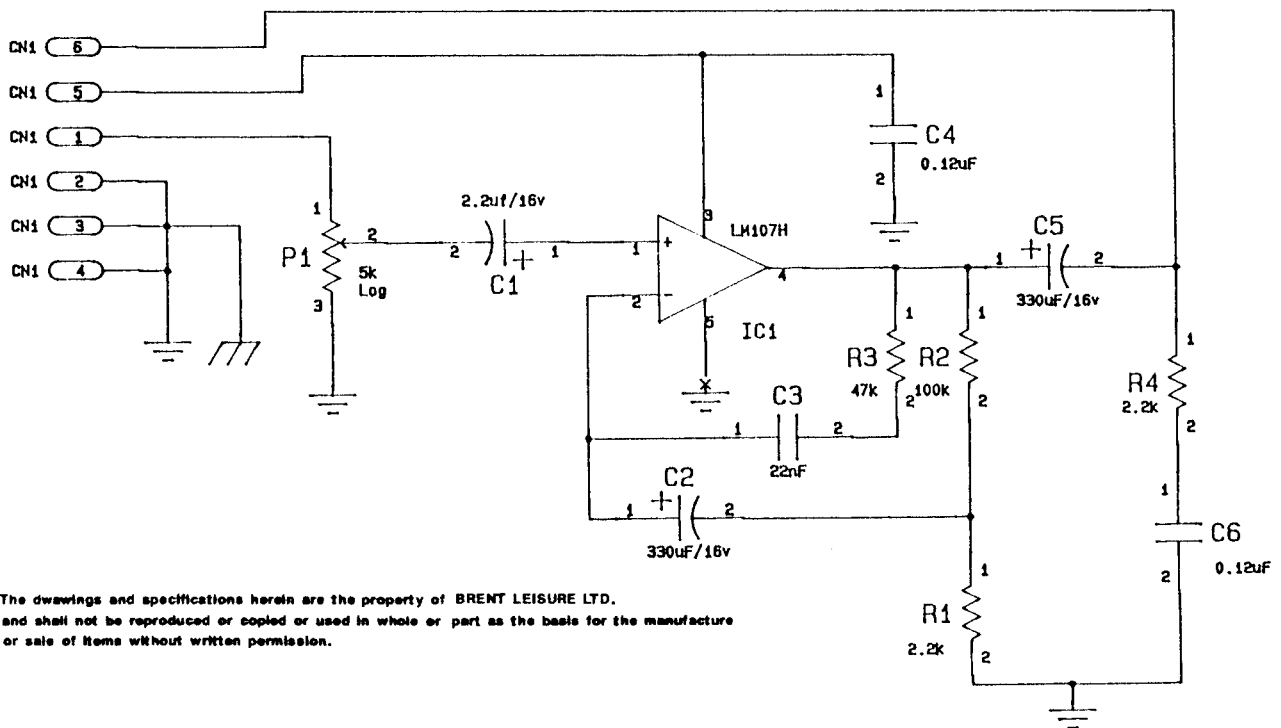
36P Edge Harness Connector

| WIRING DIAGRAM | |
|---------------------------|---------------------|
| SCALE: | DRAWN BY: H. KAMADA |
| DATA:02/07/90 | APPROVED BY: |
| MODEL: PCK-UP FCC HARNESS | |
| Nintendo of America Inc. | |

Audio Power Supply



Audio Amplifier



PRINTED IN U.S.A.

Self-Test and Bookkeeping

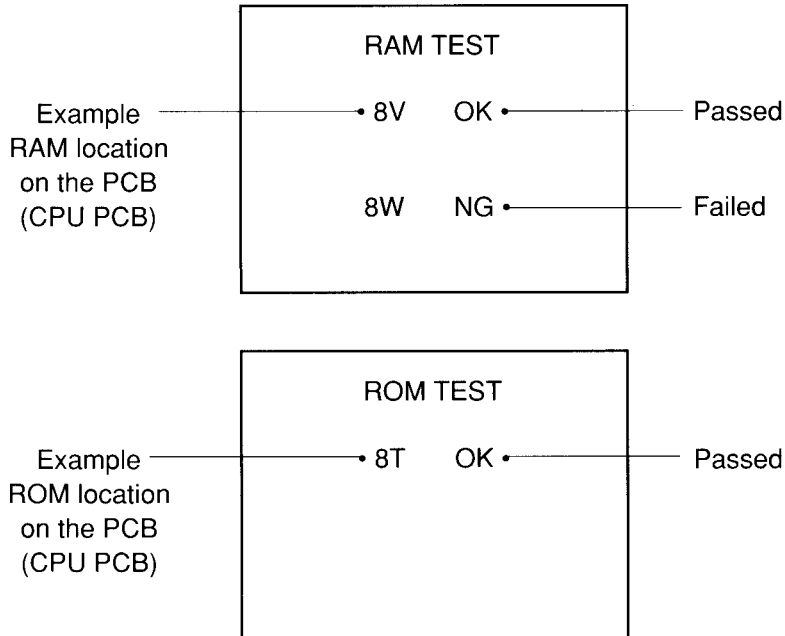
A. Self Test Mode

There are three ways to enter the self-test mode from which the bookkeeping can be accessed.

1. Press the SERVICE switch and ENTER buttons simultaneously during either GAME or ATTRACT modes.
2. With the main power switch in the "OFF" position press and hold the SERVICE switch. While continuing to depress the SERVICE switch, set the main power switch to the "ON" position.
3. With the main power switch in the "OFF" position set DIP switch H (SW1) to "ON" then set the main power switch to the "ON" position.

The Self-Test will advance automatically until the "Option Switch" chart is displayed. Follow the on Screen instructions to exit the Self-Test mode.

Self-Test



B. Bookkeeping Mode

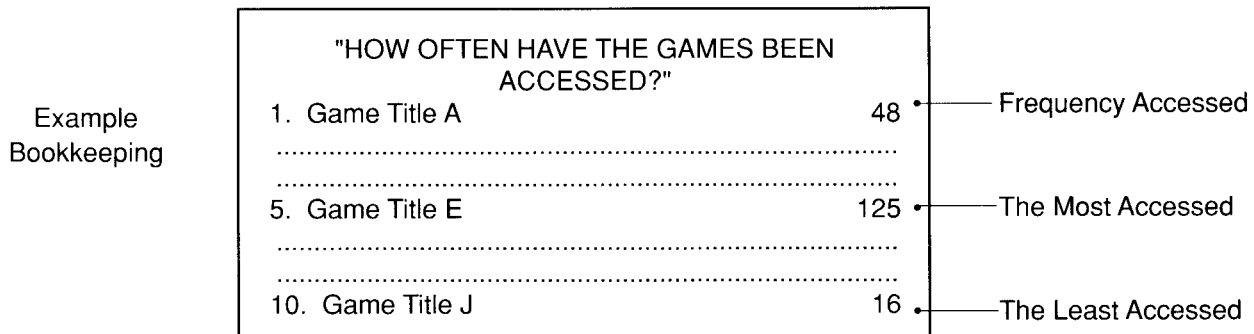
1. Enter Bookkeeping Mode

To enter the Bookkeeping Mode, follow method 1 or 2 of the Self-Test as described above.

2. Reset Bookkeeping

With the Bookkeeping (as diagramed below) on the screen hold the SERVICE switch in and press ENTER.

Bookkeeping



PRIME TIME (bonus) for 2 COINS

When using PRIME TIME (bonus) for 2 COINS, both SW1 and SW2 must be adjusted for proper game operation

Prime Time bonus %

| SW1 | PRIME TIME BONUS % | TOTAL PRIME TIME = XXXX | Toggle Settings | | | | | |
|--|-----------------------|-------------------------------|-----------------|-----|-----|-----|-----|-----|
| | | | A | B | C | D | E | F |
| Displayed on Video Monitor as follows : <div style="border: 1px solid black; padding: 5px; width: fit-content;"> Regular Time 1 COIN = 300 PRIME TIME 2 COINS = 600^{XXXX} </div> | 8% | 650 | O N | O N | O N | OFF | OFF | OFF |
| | 17% | 700 | OFF | OFF | OFF | O N | OFF | OFF |
| | 25% | 750 | O N | OFF | OFF | O N | OFF | OFF |
| | 33% | 800 | OFF | OFF | OFF | OFF | O N | OFF |
| | 42% | 850 | O N | OFF | OFF | OFF | O N | OFF |
| | 50% | 900 | OFF | O N | OFF | OFF | O N | OFF |
| | 58% | 950 | O N | O N | OFF | OFF | O N | OFF |
| | 67% | 1000 | OFF | OFF | O N | OFF | O N | OFF |
| | 75% | 1050 | O N | OFF | O N | OFF | O N | OFF |
| | 83% | 1100 | OFF | O N | O N | OFF | O N | OFF |
| | 92% | 1150 | O N | O N | O N | OFF | O N | OFF |
| | 100% | 1200 | OFF | OFF | OFF | O N | O N | OFF |

*

EXAMPLE. Displayed as

Regular Time 1 COIN = 300(3min.)
 700(7min.)
 PRIME TIME 2 COINS = 600(6min.)

Toggle A = OFF, B = OFF, C = OFF, D = ON, E = OFF, F = OFF,

I = OFF, J = OFF, K = OFF, L = ON, M = OFF, N = ON, O = OFF, P = ON

Seconds per Coin

| SW2 Play Time/Coin (sec) | Toggle Settings | | | | | | | | |
|-----------------------------|-----------------|-----|-----|-----|-----|-----|-----|-----|--|
| | I | J | K | L | M | N | O | P | |
| 4 min. (240) | OFF | OFF | O N | OFF | O N | O N | OFF | O N | |
| 3 min. 50 sec. (230) | OFF | O N | OFF | OFF | O N | O N | OFF | O N | |
| 40 sec. (220) | OFF | OFF | OFF | OFF | O N | O N | OFF | O N | |
| 30 sec. (210) | OFF | O N | O N | O N | OFF | O N | OFF | O N | |
| 20 sec. (200) | OFF | OFF | O N | O N | OFF | O N | OFF | O N | |
| 10 sec. (190) | OFF | O N | OFF | O N | OFF | O N | OFF | O N | |
| 3 min. (180) | OFF | OFF | OFF | O N | OFF | O N | OFF | O N | |
| 2 min. 50 sec. (170) | OFF | O N | O N | OFF | OFF | O N | OFF | O N | |
| 40 sec. (160) | OFF | OFF | O N | OFF | OFF | O N | OFF | O N | |
| 30 sec. (150) | OFF | O N | OFF | OFF | OFF | O N | OFF | O N | |
| 20 sec. (140) | OFF | OFF | OFF | OFF | OFF | O N | OFF | O N | |
| 10 sec. (130) | OFF | O N | O N | O N | O N | OFF | OFF | O N | |
| 2 min. (120) | OFF | OFF | O N | O N | O N | OFF | OFF | O N | |

* Factory Settings

PRIME TIME (bonus) for 4 COINS

When using PRIME TIME (bonus) for 4 COINS, both SW1 and SW2 must be adjusted for proper game operation

Prime Time bonus %

| SW1 | PRIME TIME | TOTAL PRIME TIME = XXXX | Toggle Settings | | | | | |
|--|------------|-------------------------------|-----------------|-----|-----|-----|-----|-----|
| | BONUS % | | A | B | C | D | E | F |
| Displayed on Video Monitor as follows : <div style="border: 1px solid black; padding: 5px; width: fit-content;"> Regular Time 1 COIN = 300 PRIME TIME 4 COINS = 1200^{XXXXX} </div> | 8% | 1300 | OFF | OFF | ON | OFF | OFF | OFF |
| | 17% | 1400 | ON | OFF | ON | OFF | OFF | OFF |
| | 25% | 1500 | OFF | ON | ON | OFF | OFF | OFF |
| | 33% | 1600 | ON | ON | ON | OFF | OFF | OFF |
| | 42% | 1700 | OFF | OFF | OFF | ON | OFF | OFF |
| | 50% | 1800 | ON | OFF | OFF | ON | OFF | OFF |
| | 58% | 1900 | OFF | OFF | OFF | OFF | ON | OFF |
| | 67% | 2000 | ON | OFF | OFF | OFF | ON | OFF |
| | 75% | 2100 | OFF | ON | OFF | OFF | ON | OFF |
| | 83% | 2200 | ON | ON | OFF | OFF | ON | OFF |
| | 92% | 2300 | OFF | OFF | ON | OFF | ON | OFF |
| | 100% | 2400 | ON | OFF | ON | OFF | ON | OFF |

EXAMPLE. Displayed as

Regular Time 1 COIN = 300(3min)
 1500(15min.)
 PRIME TIME 4 COINS = ~~1200(12min.)~~

Toggle A = OFF, B = ON, C = ON, D = OFF, E = OFF, F = OFF,

I = OFF, J = OFF, K = OFF, L = ON, M = OFF, N = ON, O = OFF, P = OFF

Seconds per Coin

| SW2 Play Time/Coin (sec) | Toggle Settings | | | | | | | | |
|-----------------------------|-----------------|-----|-----|-----|-----|-----|-----|-----|--|
| | I | J | K | L | M | N | O | P | |
| 4 min. (240) | OFF | OFF | ON | OFF | ON | ON | OFF | OFF | |
| 3 min. 50 sec. (230) | OFF | ON | OFF | OFF | ON | ON | OFF | OFF | |
| 40 sec. (220) | OFF | OFF | OFF | OFF | ON | ON | OFF | OFF | |
| 30 sec. (210) | OFF | ON | ON | ON | OFF | ON | OFF | OFF | |
| 20 sec. (200) | OFF | OFF | ON | ON | OFF | ON | OFF | OFF | |
| 10 sec. (190) | OFF | ON | OFF | ON | OFF | ON | OFF | OFF | |
| 3 min. (180) | OFF | OFF | OFF | ON | OFF | ON | OFF | OFF | |
| 2 min. 50 sec. (170) | OFF | ON | ON | OFF | OFF | ON | OFF | OFF | |
| 40 sec. (160) | OFF | OFF | ON | OFF | OFF | ON | OFF | OFF | |
| 30 sec. (150) | OFF | ON | OFF | OFF | OFF | ON | OFF | OFF | |
| 20 sec. (140) | OFF | OFF | OFF | OFF | OFF | ON | OFF | OFF | |
| 10 sec. (130) | OFF | ON | ON | ON | ON | OFF | OFF | OFF | |
| 2 min. (120) | OFF | OFF | ON | ON | ON | OFF | OFF | OFF | |

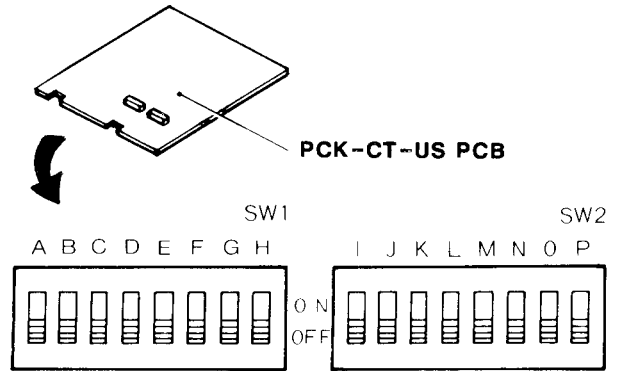
Game Settings

WARNING

All the Option Switch Settings MUST be done with Power Off.

| | | SW1 Toggle Settings | | |
|----------------|-----|---------------------|-----|---|
| | | G | H | |
| Attract music | O N | O N | | * |
| | OFF | OFF | | |
| Self-Test/Game | | | | |
| Game | | | OFF | * |
| Self-Test | | | O N | |

* RECOMMENDED SETTINGS



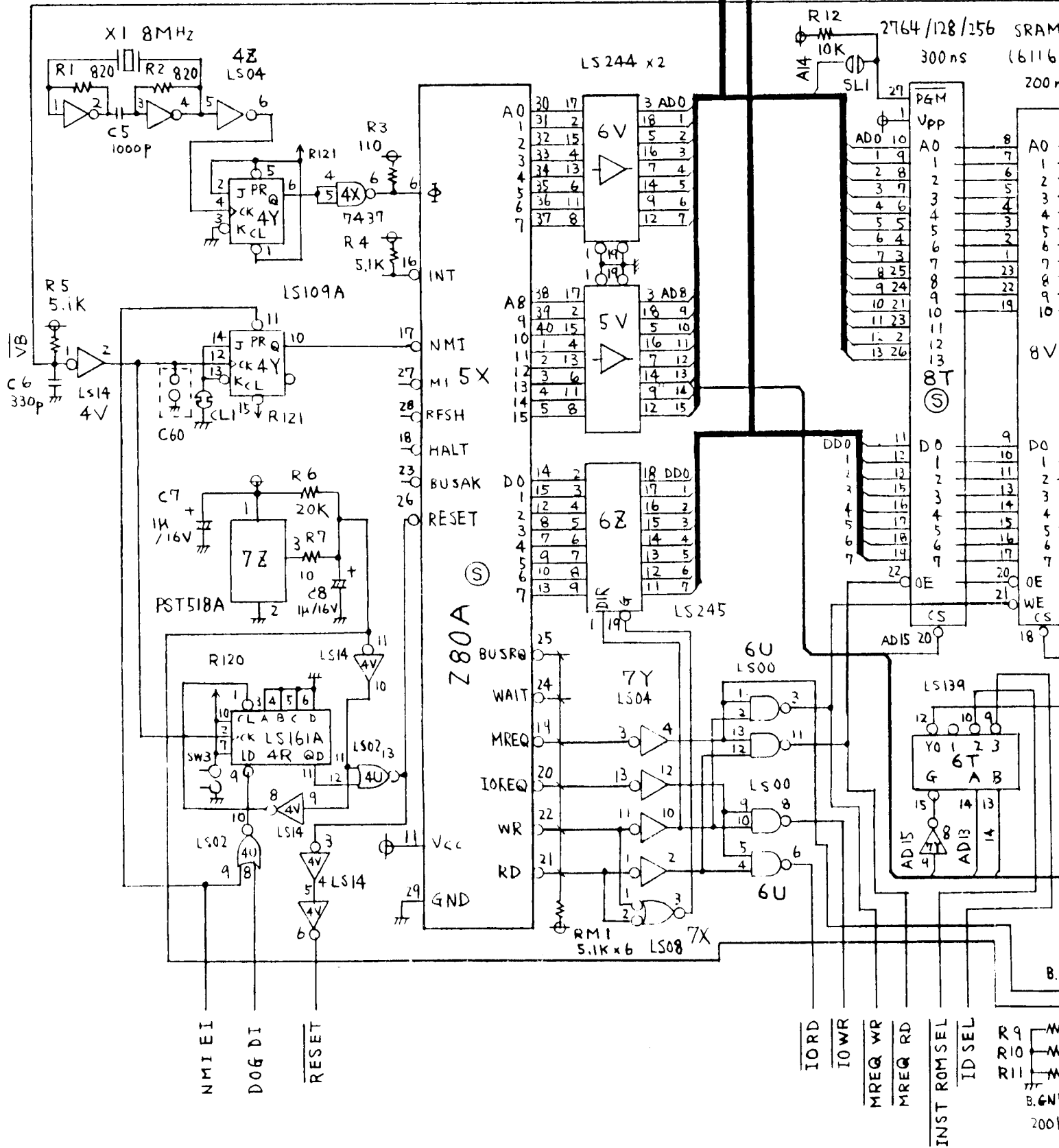
STANDARD TIME (no bonus)

No Prime Time

| SW1 | Toggle Settings | | | | | |
|---------------------------------|-----------------|-----|-----|-----|-----|-----|
| | A | B | C | D | E | F |
| Toggle A-Toggle F must be "OFF" | OFF | OFF | OFF | OFF | OFF | OFF |

Seconds per Coin

| SW2 Play Time/Coin | Toggle Settings | | | | | | | |
|--------------------|-----------------|-----|-----|-----|-----|-----|-----|-----|
| | I | J | K | L | M | N | O | P |
| Free Play | OFF | OFF | OFF | OFF | OFF | OFF | OFF | O N |
| 4 min. 50 sec. | OFF | O N | O N | O N | O N | O N | O N | O N |
| 40 sec. | OFF | OFF | O N | O N | O N | O N | O N | O N |
| 30 sec. | OFF | O N | OFF | O N | O N | O N | O N | O N |
| 20 sec. | OFF | OFF | OFF | O N | O N | O N | O N | O N |
| 10 sec. | OFF | O N | O N | OFF | O N | O N | O N | O N |
| 4 min. | OFF | OFF | O N | OFF | O N | O N | O N | O N |
| 3 min. 50 sec. | OFF | O N | OFF | OFF | O N | O N | O N | O N |
| 40 sec. | OFF | OFF | OFF | OFF | O N | O N | O N | O N |
| 30 sec. | OFF | O N | O N | O N | OFF | O N | O N | O N |
| 20 sec. | OFF | OFF | O N | O N | OFF | O N | O N | O N |
| 10 sec. | OFF | O N | OFF | O N | OFF | O N | O N | O N |
| 3 min. | OFF | OFF | OFF | O N | OFF | O N | O N | O N |
| 2 min. 50 sec. | OFF | O N | O N | OFF | OFF | O N | O N | O N |
| 40 sec. | OFF | OFF | O N | OFF | OFF | O N | O N | O N |
| 30 sec. | OFF | O N | OFF | OFF | OFF | O N | O N | O N |
| 20 sec. | OFF | OFF | OFF | OFF | OFF | O N | O N | O N |
| 10 sec. | OFF | O N | O N | O N | O N | OFF | O N | O N |
| 2 min. | OFF | OFF | O N | O N | O N | OFF | O N | O N |



X1 8MHz

4Z LS04

LS244 x2

2764/128/256 SRAM
300ns (6116)
200m

A0 1 2 3 4 5 6 7
A8 9 10 11 12 13 14 15
D0 1 2 3 4 5 6 7
Z80A

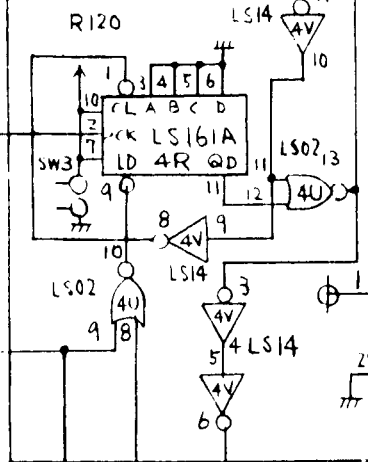
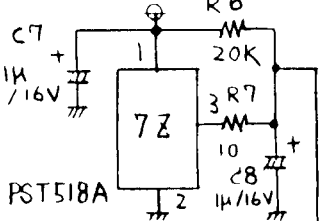
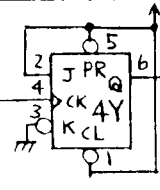
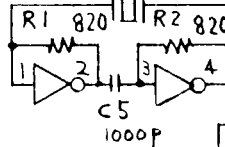
INT
NMI
MI 5X
RFSH
HALT
BUSAK
RESET
Vcc
GND

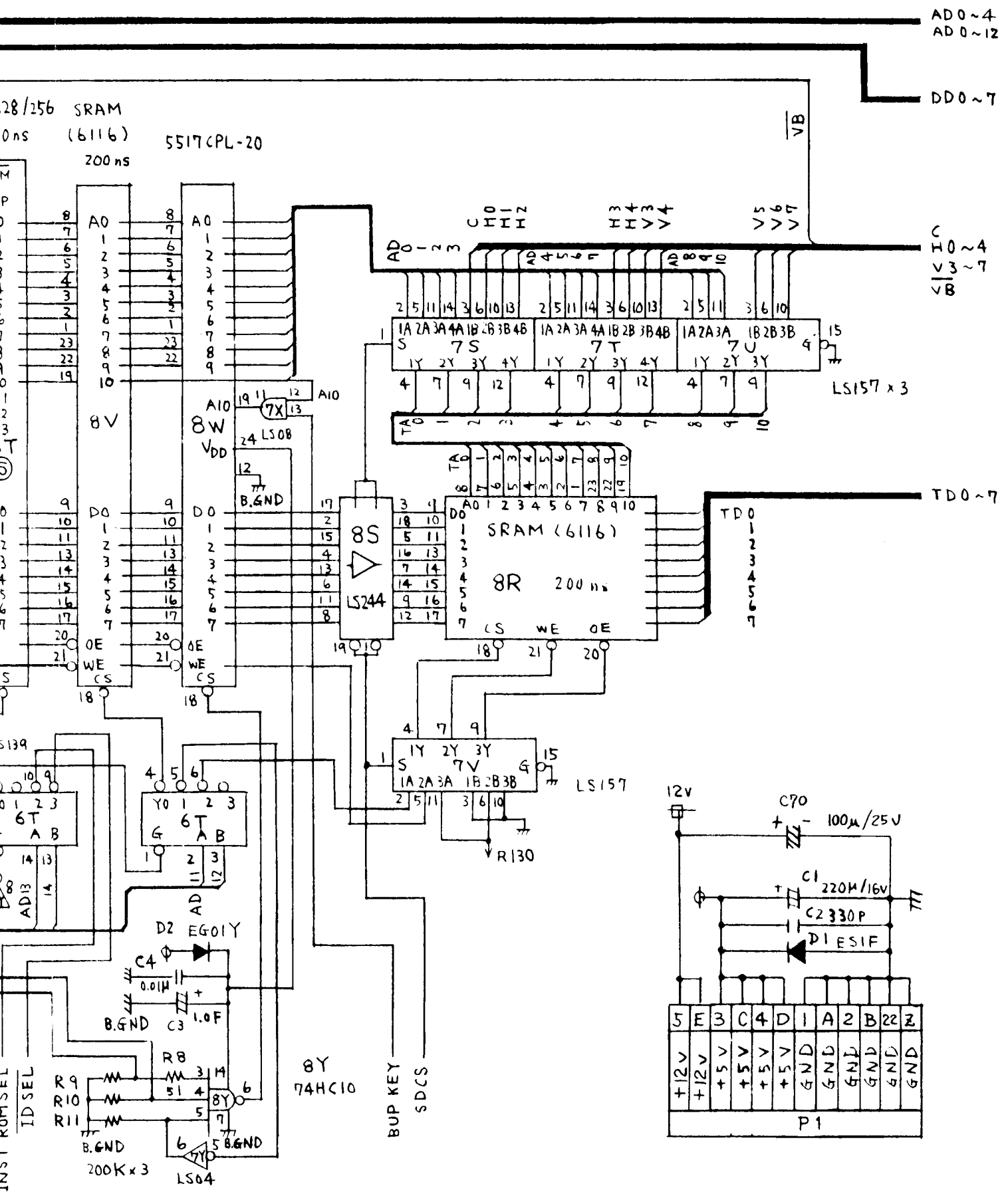
3 AD0 18 1
5 2
16 3
7 4
14 5
9 6
12 7
3 AD8 18 9
15 10
16 11
7 12
14 13
9 14
12 15
18 DDO 18 1
17 1
16 2
15 3
14 4
13 5
12 6
11 7
DD0 1 2 3 4 5 6 7
OE 20
WE 21
CS 18
AD15 20

LS139
Y0 1 2 3
G A B
AD15 4
AD13 14
14

IORD
IOWR
MREQ WR
MREQ RD
INST ROMSEL
IDSEL
R9
R10
R11
B.6N
200

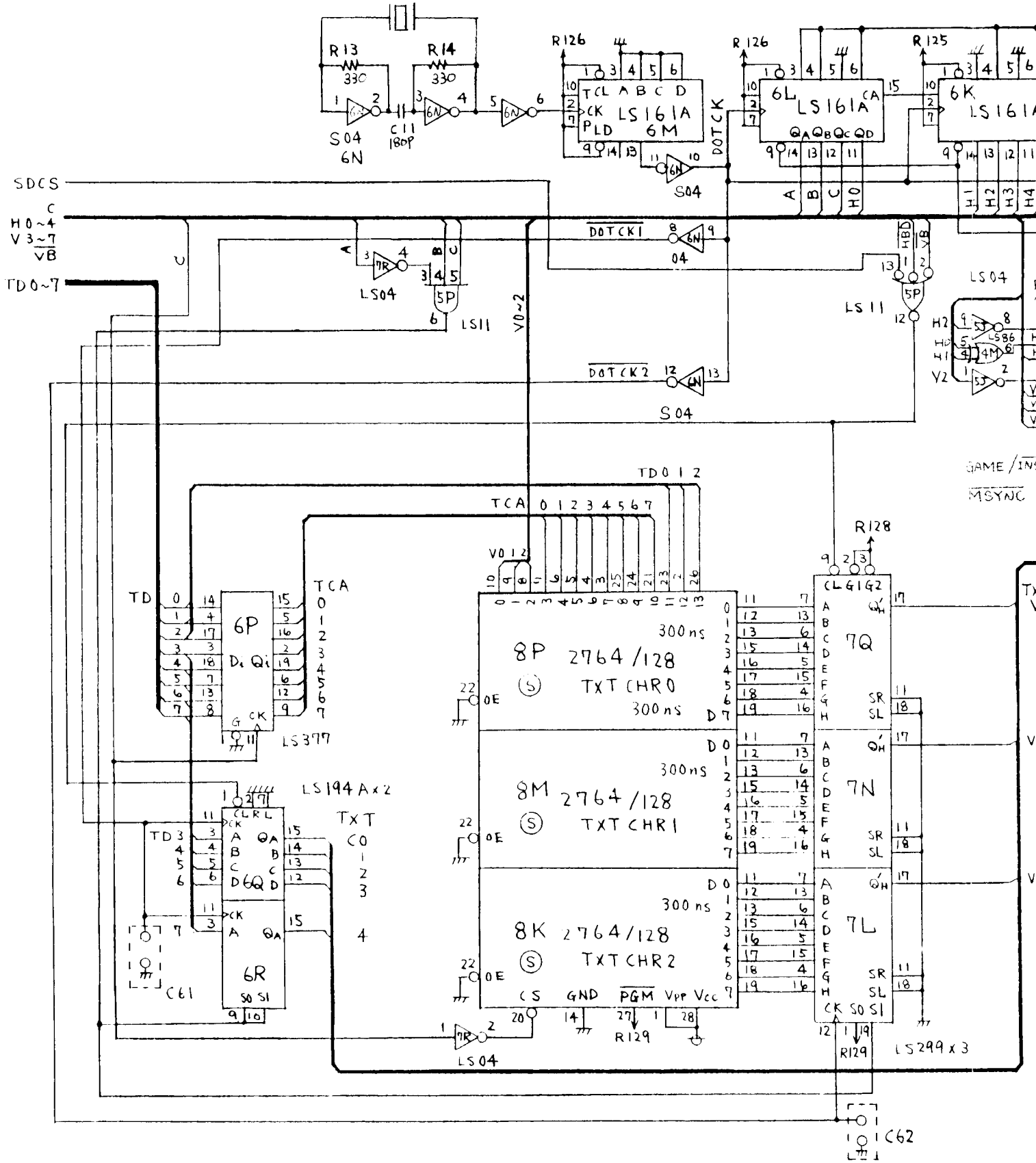
NMI EI
DOG DI
RESET





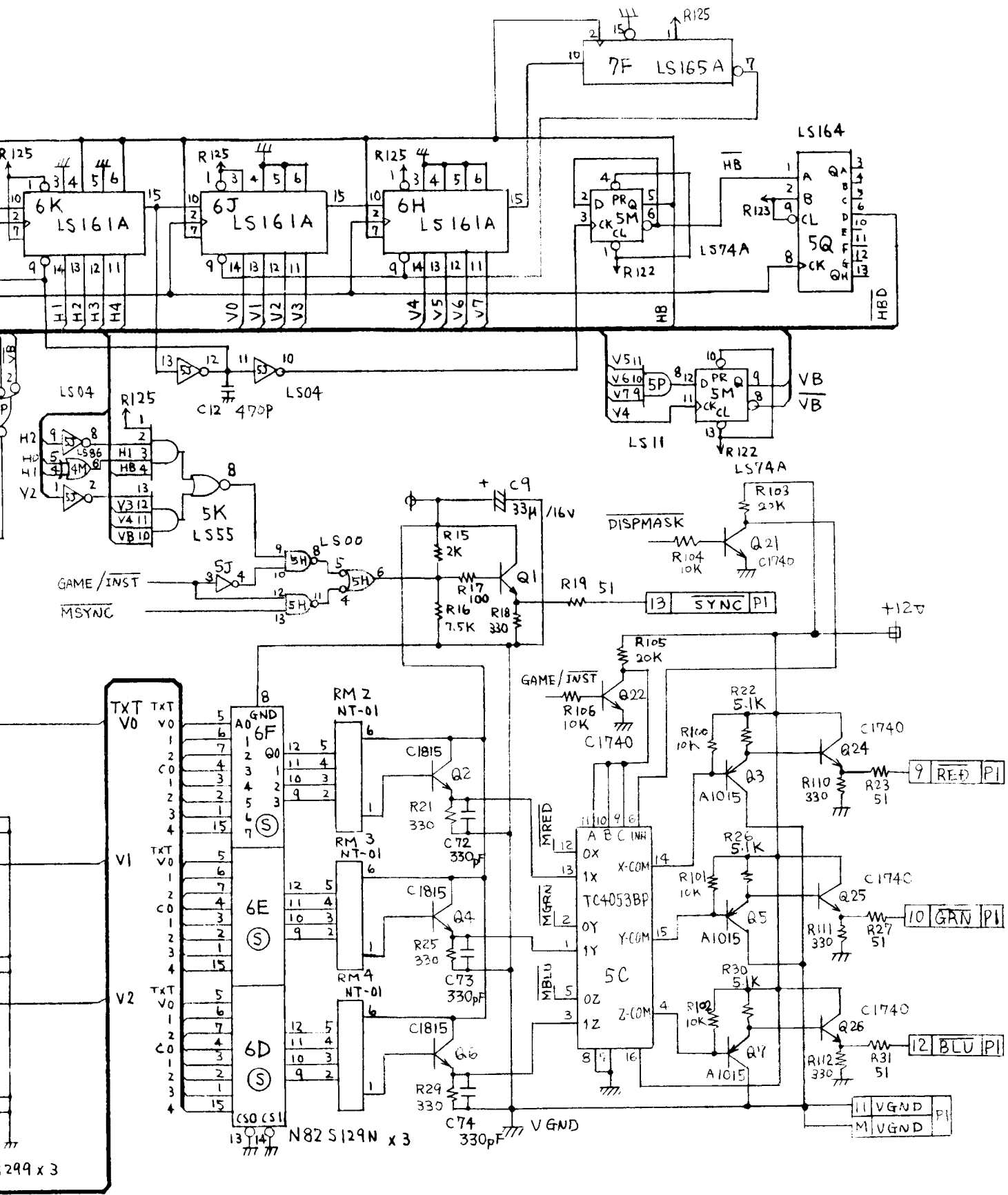
A PCK1-CPU SCHEMATIC
Sheet 1

X2: 21.47727 MHz

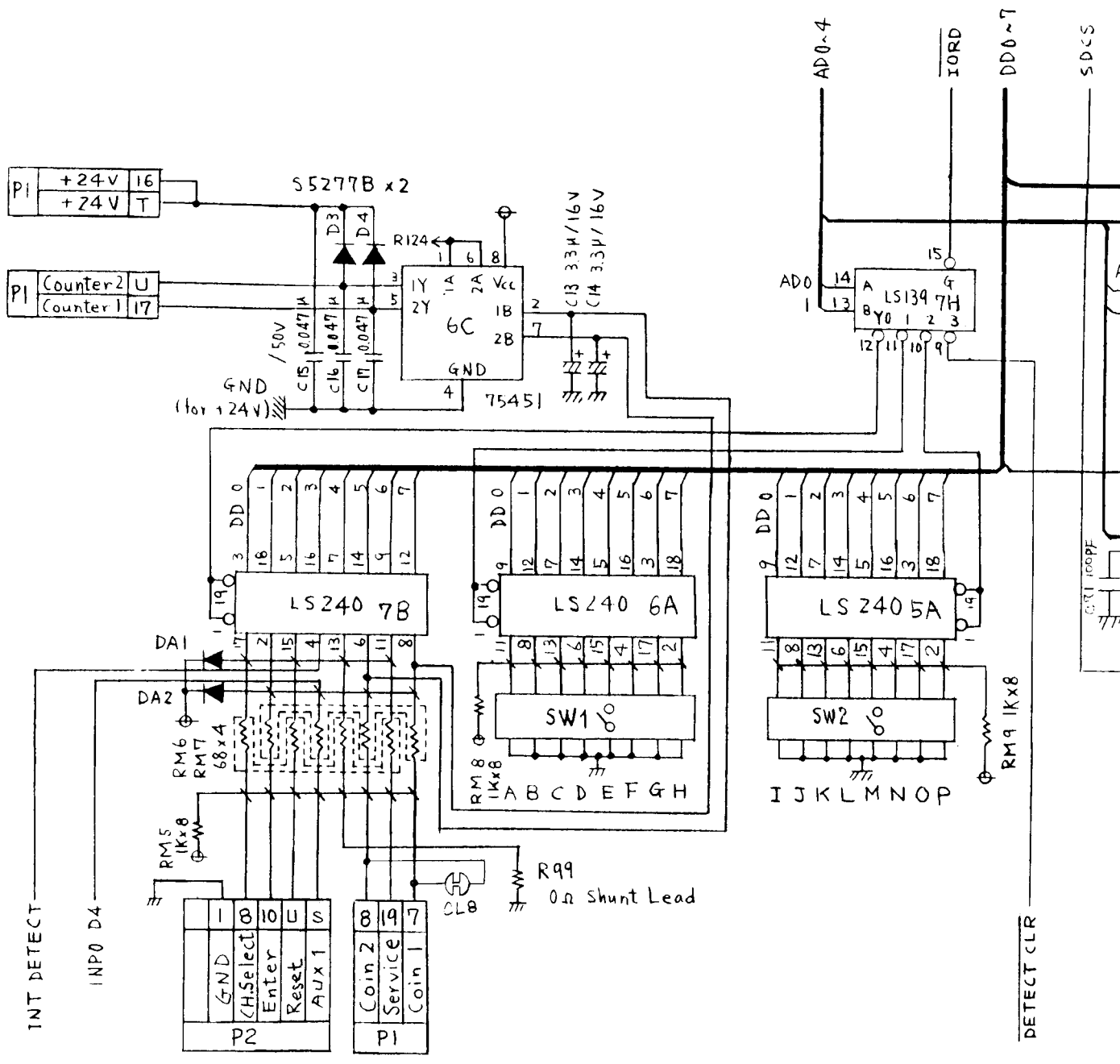


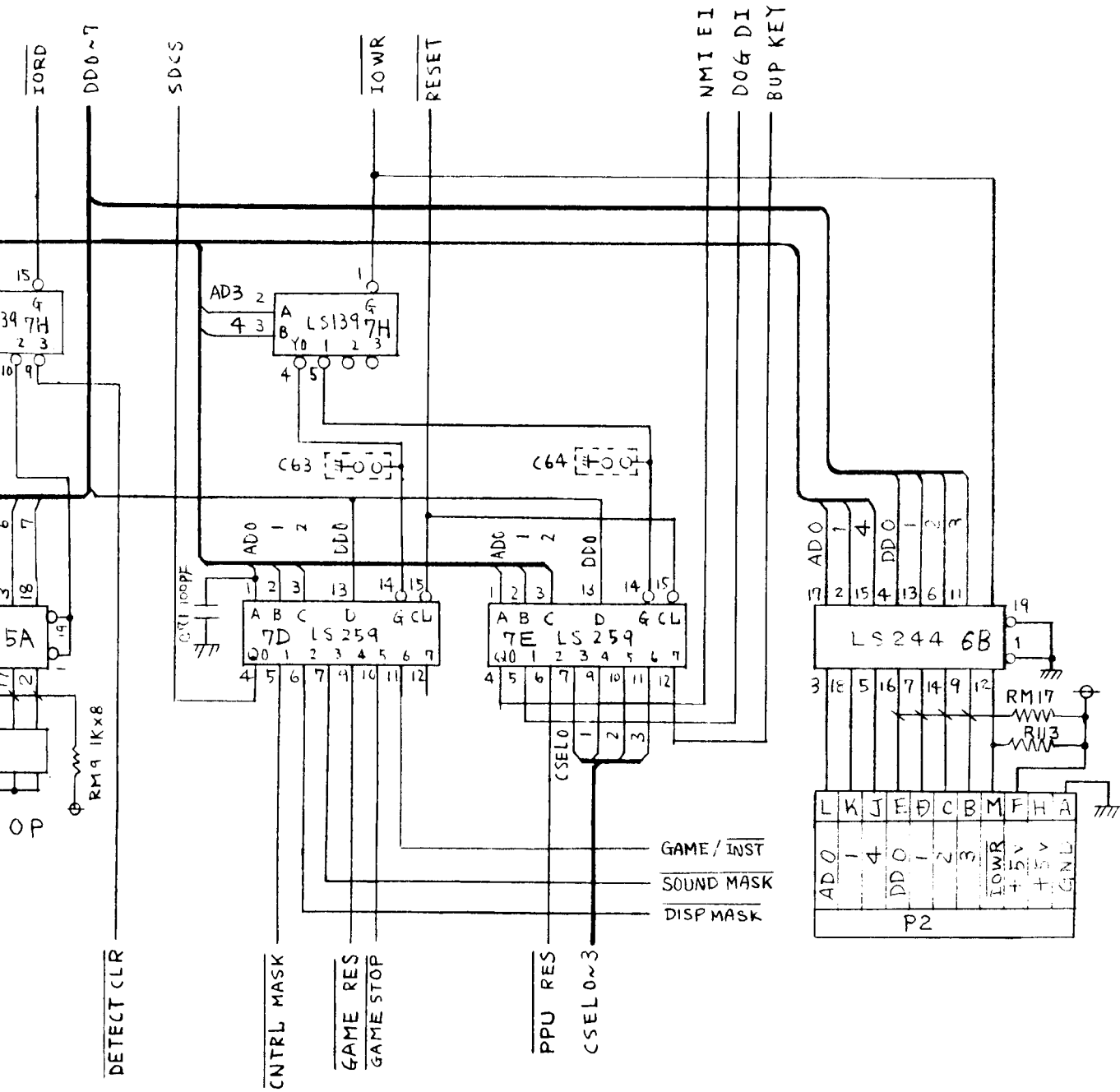
GAME / MSync

C62



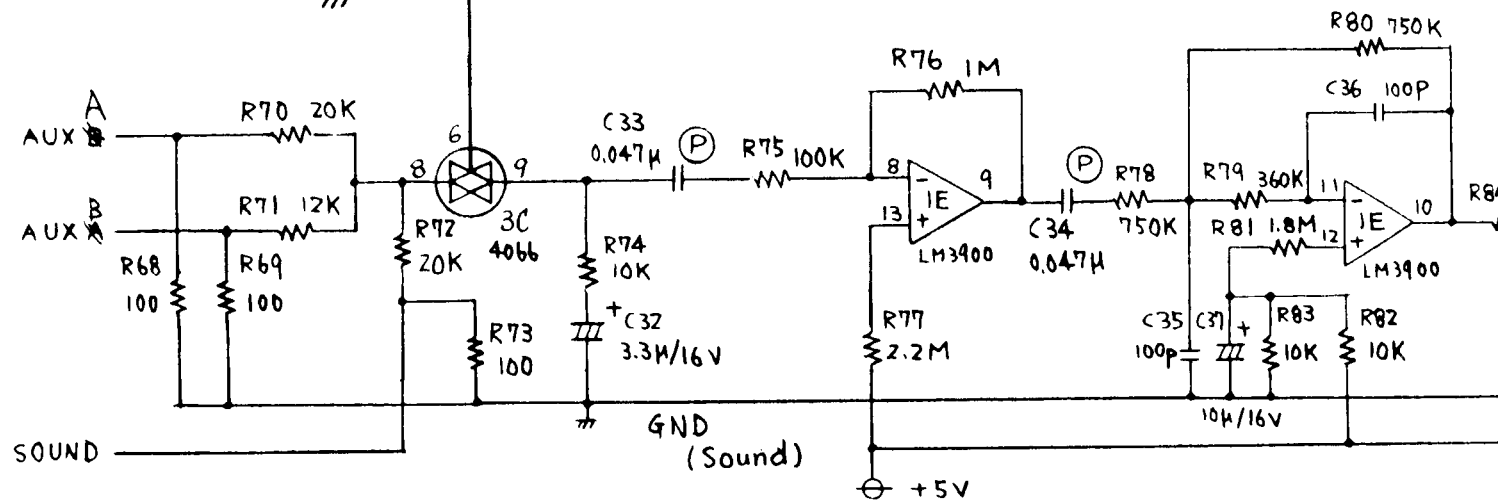
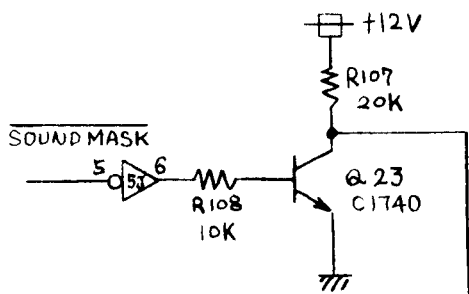
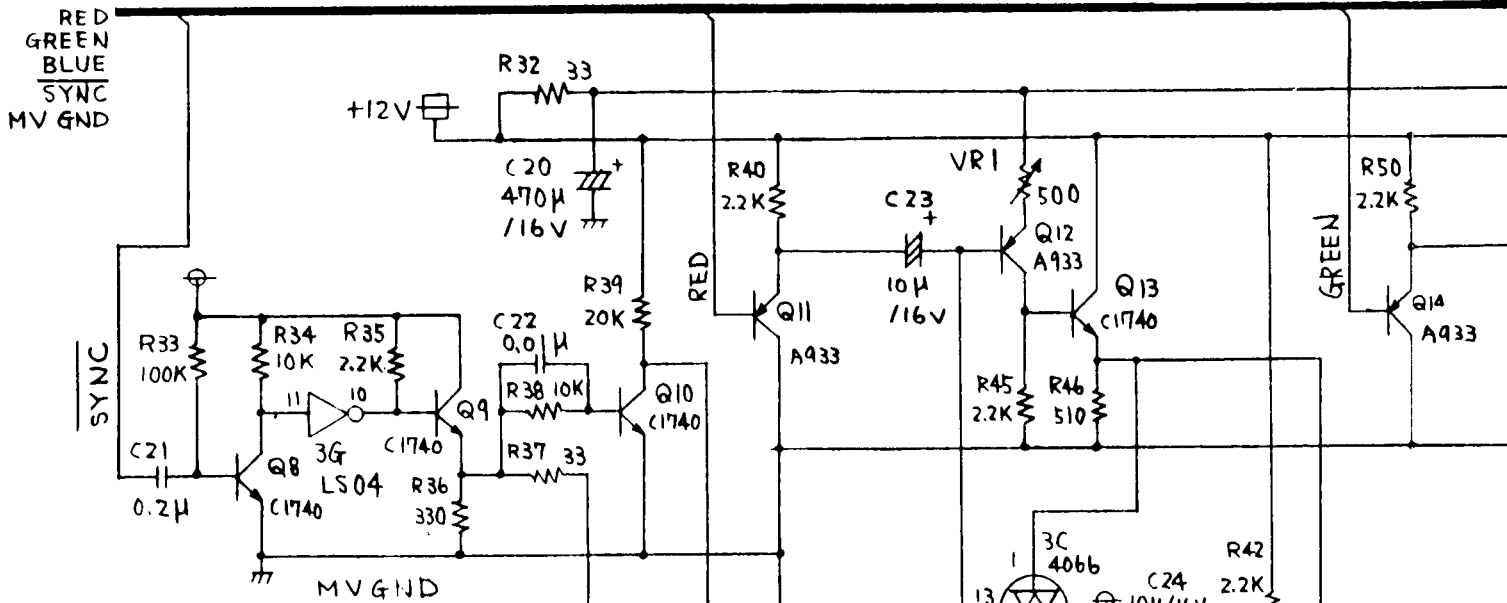
B PCK1-CPU SCHEMATIC
Sheet 2

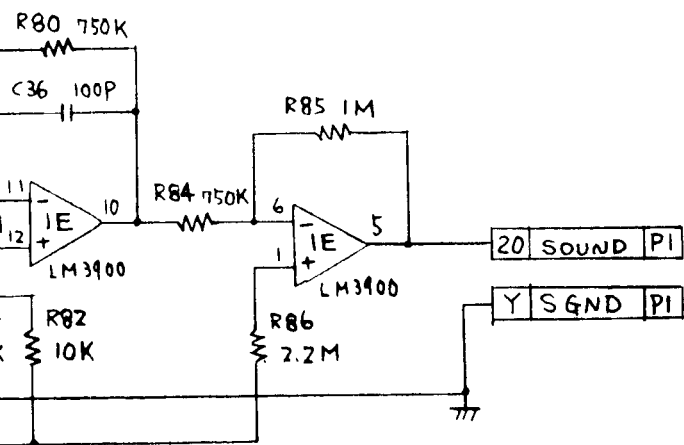
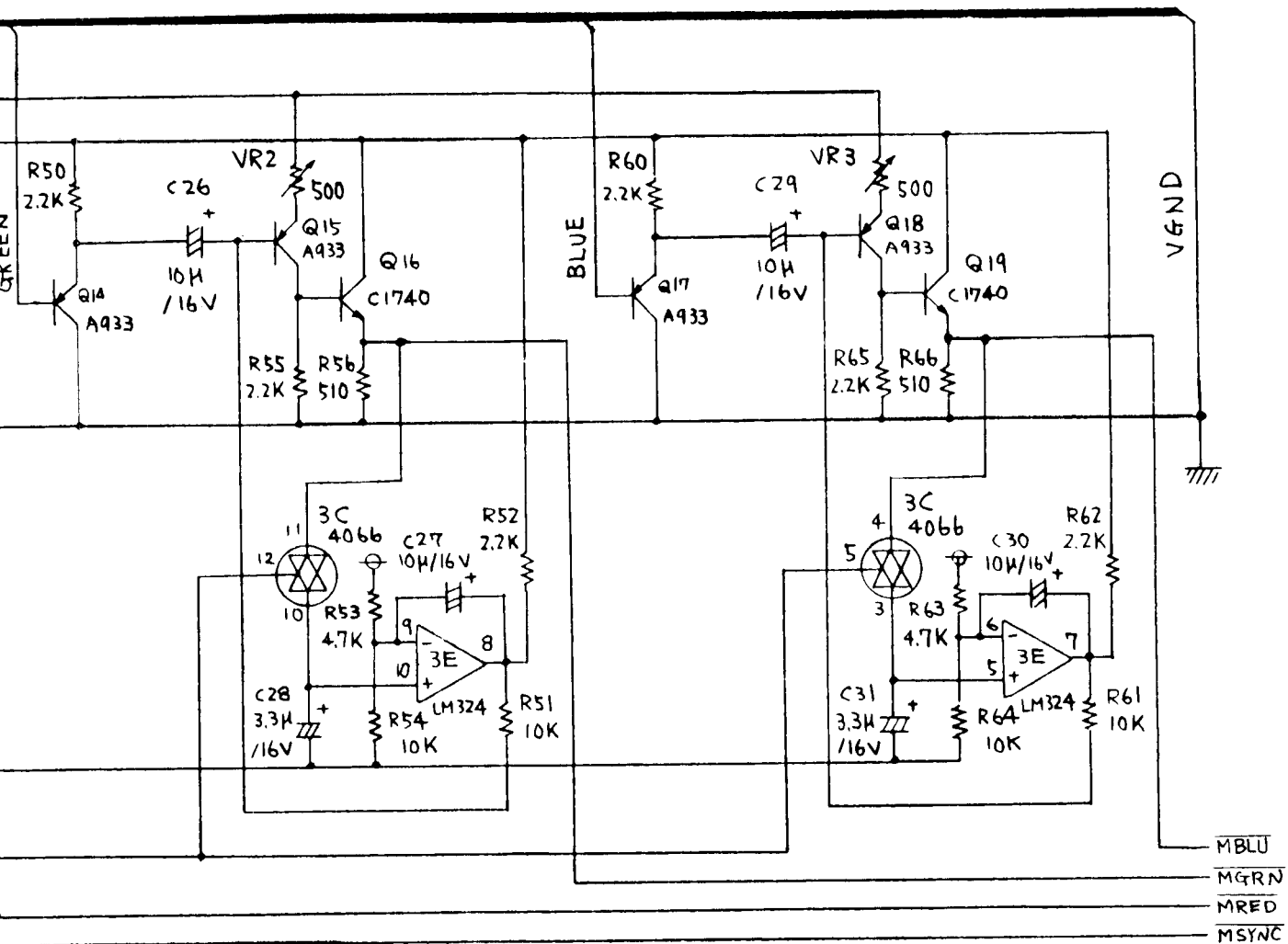




C

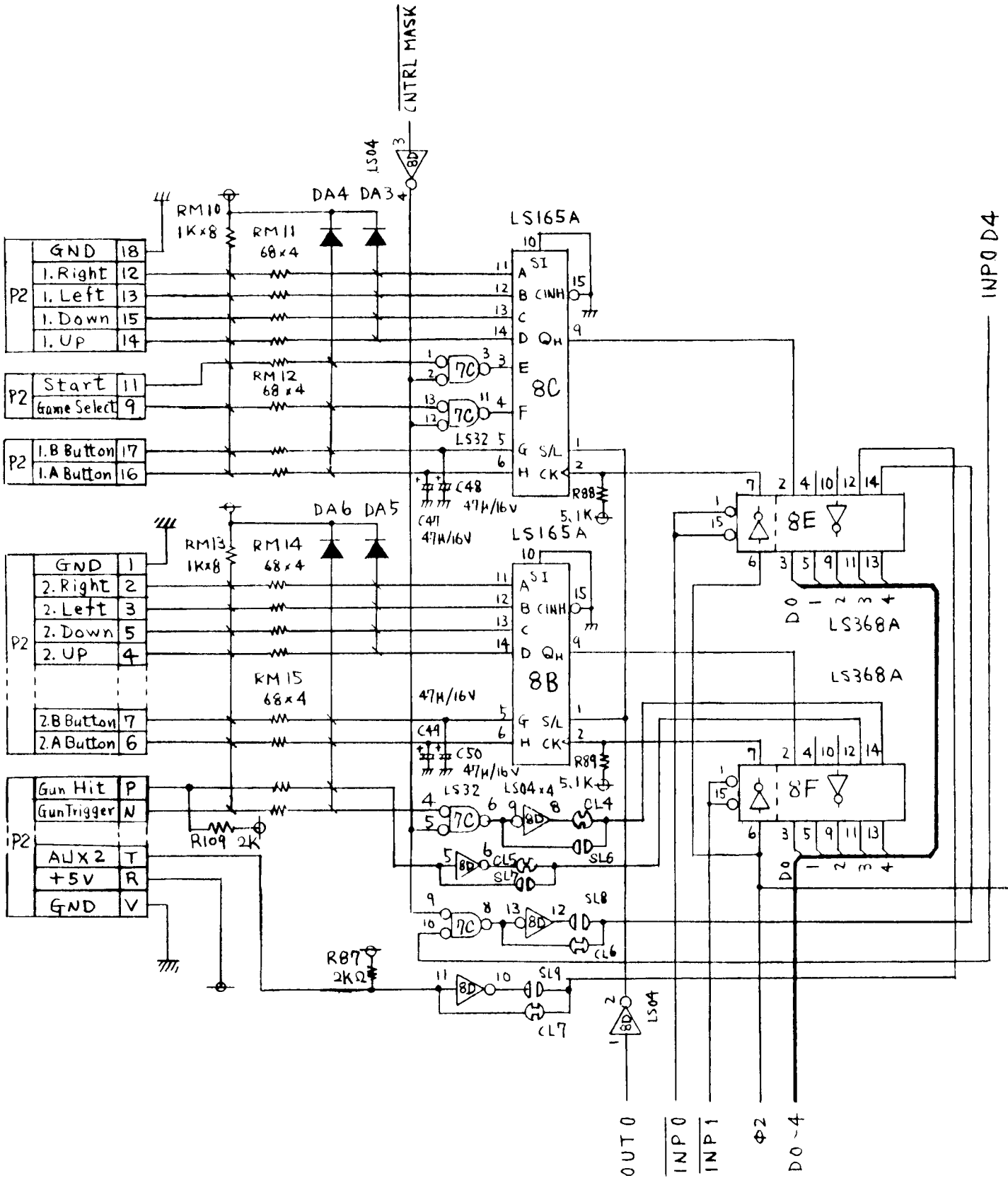
PCK1-CPU SCHEMATIC
Sheet 3

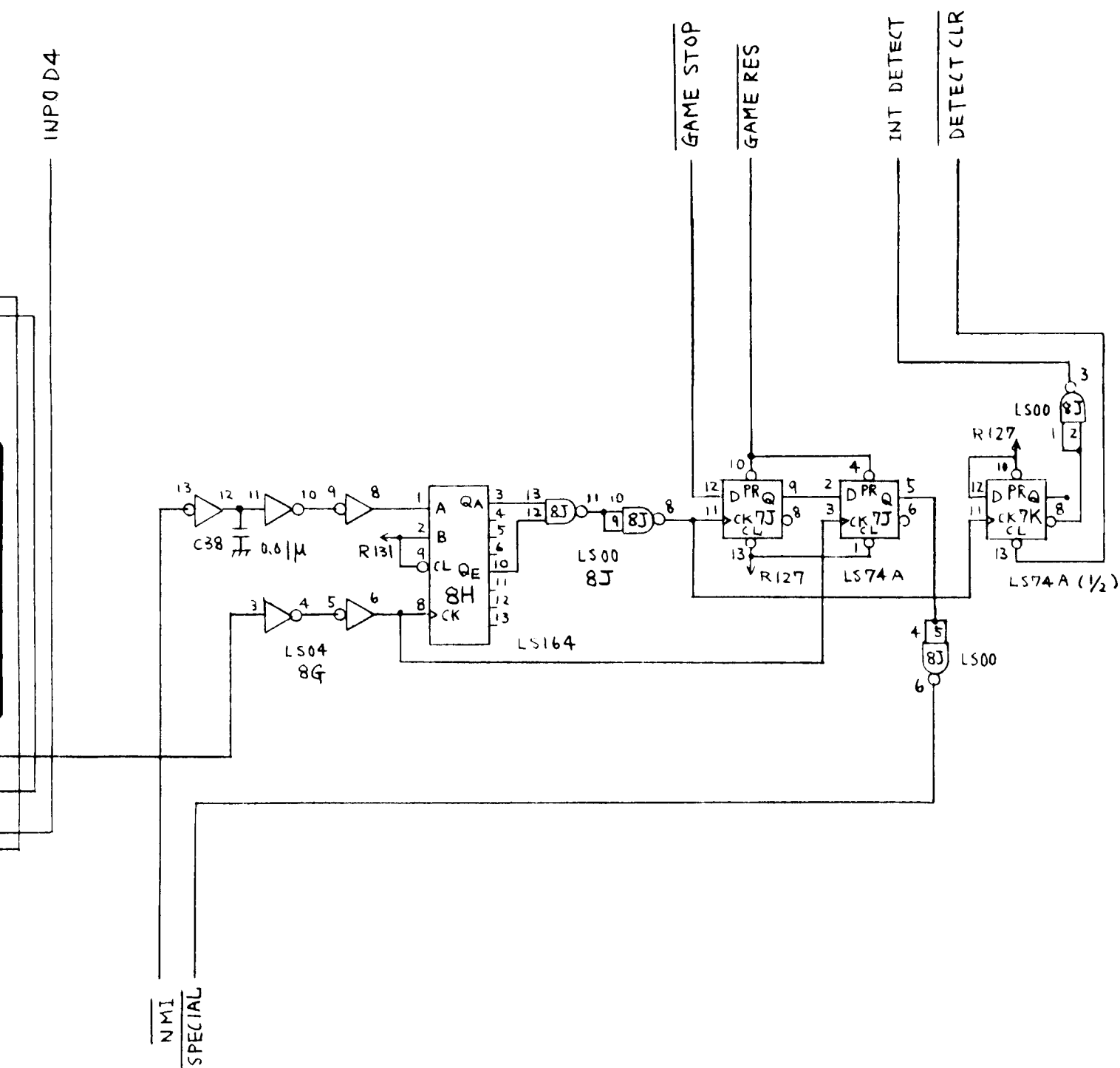




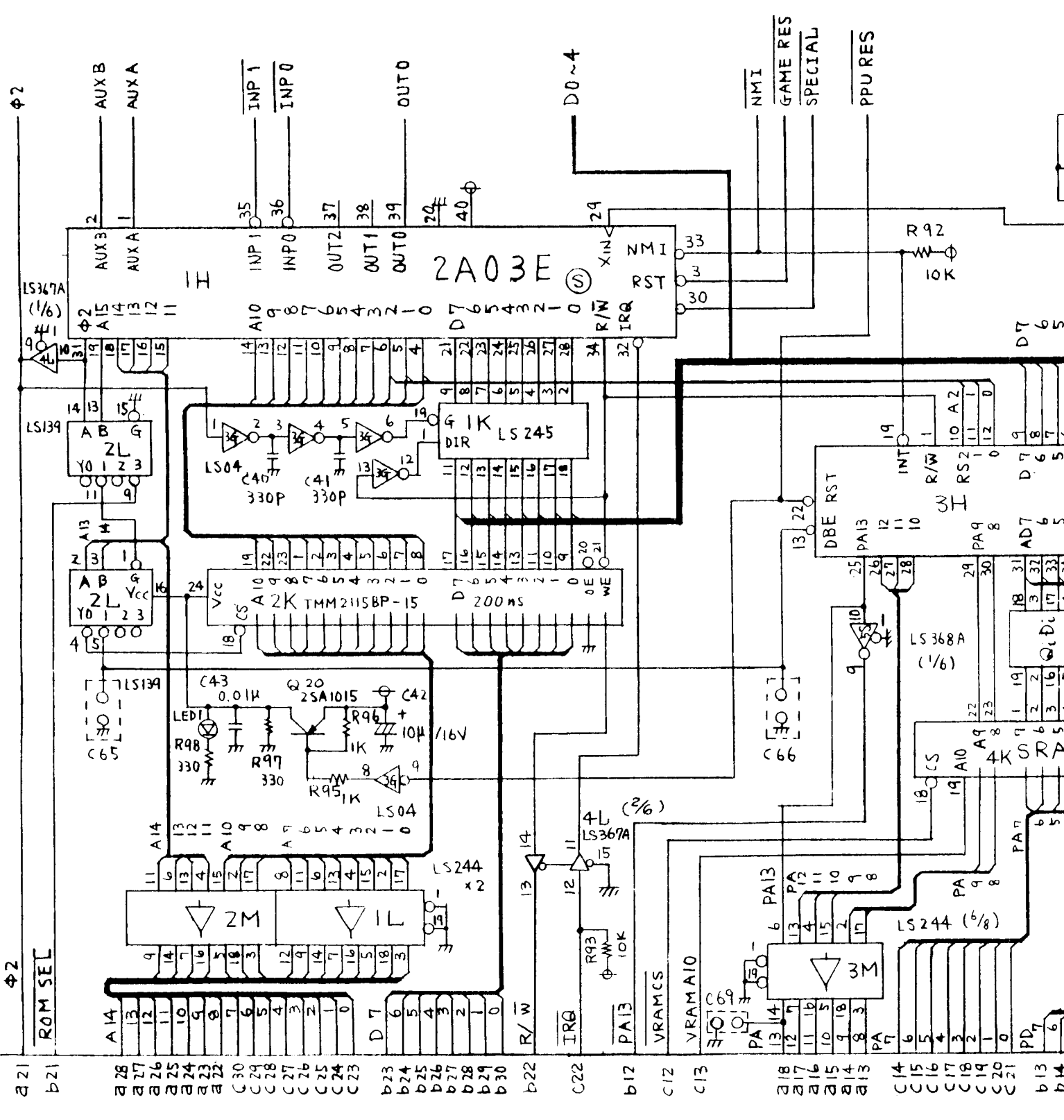
<NOTE>

- 1) LM324 ... 11 pin GND
4 pin +12V
- 2) ⊗ 4066 ... 7 pin GND
14 pin +12V
- 3) ⊗ 4066 ... 7 pin GND
& LM3900 ... 14 pin +5V

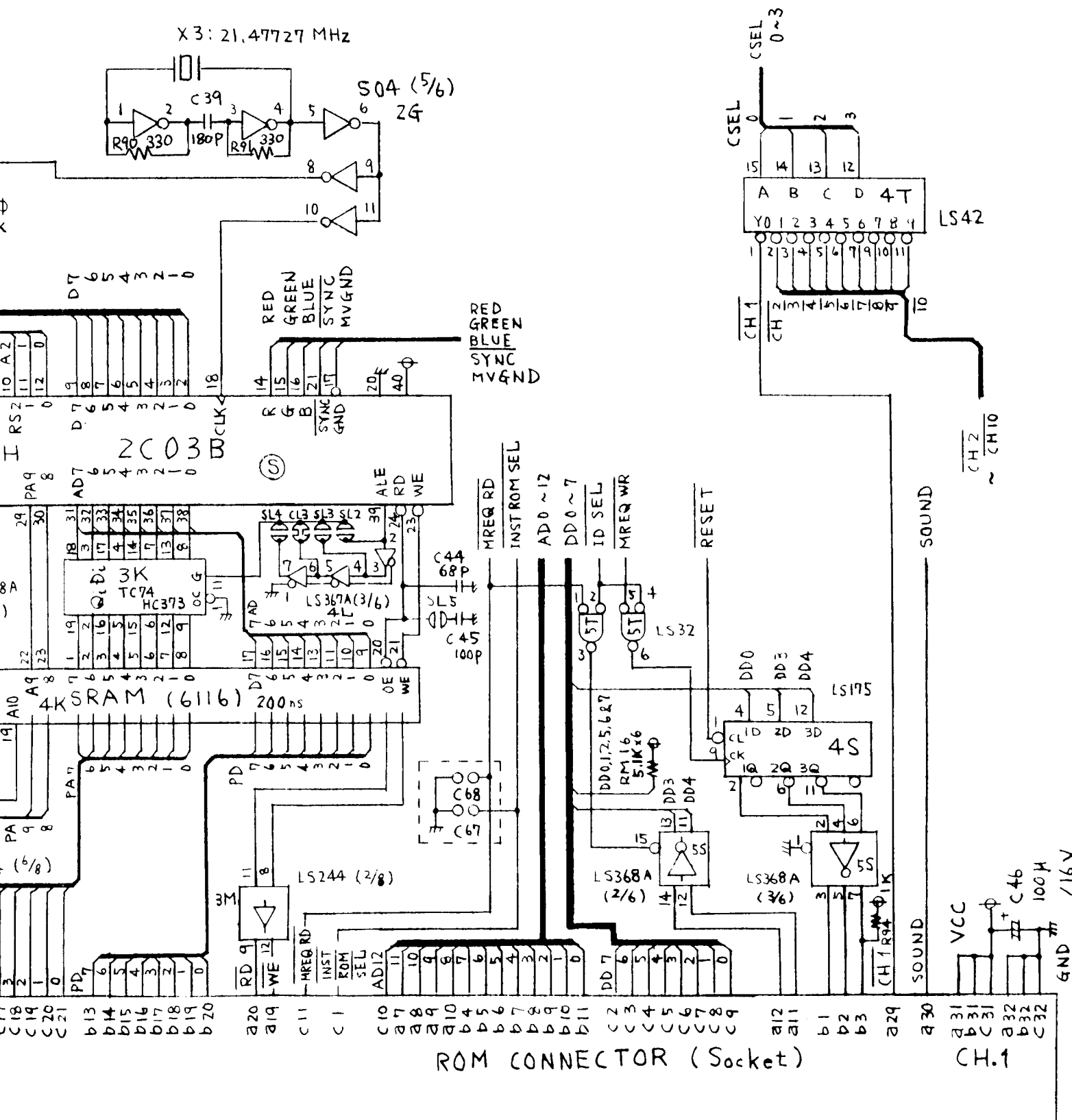




E PCK1-CPU SCHEMATIC
Sheet 5

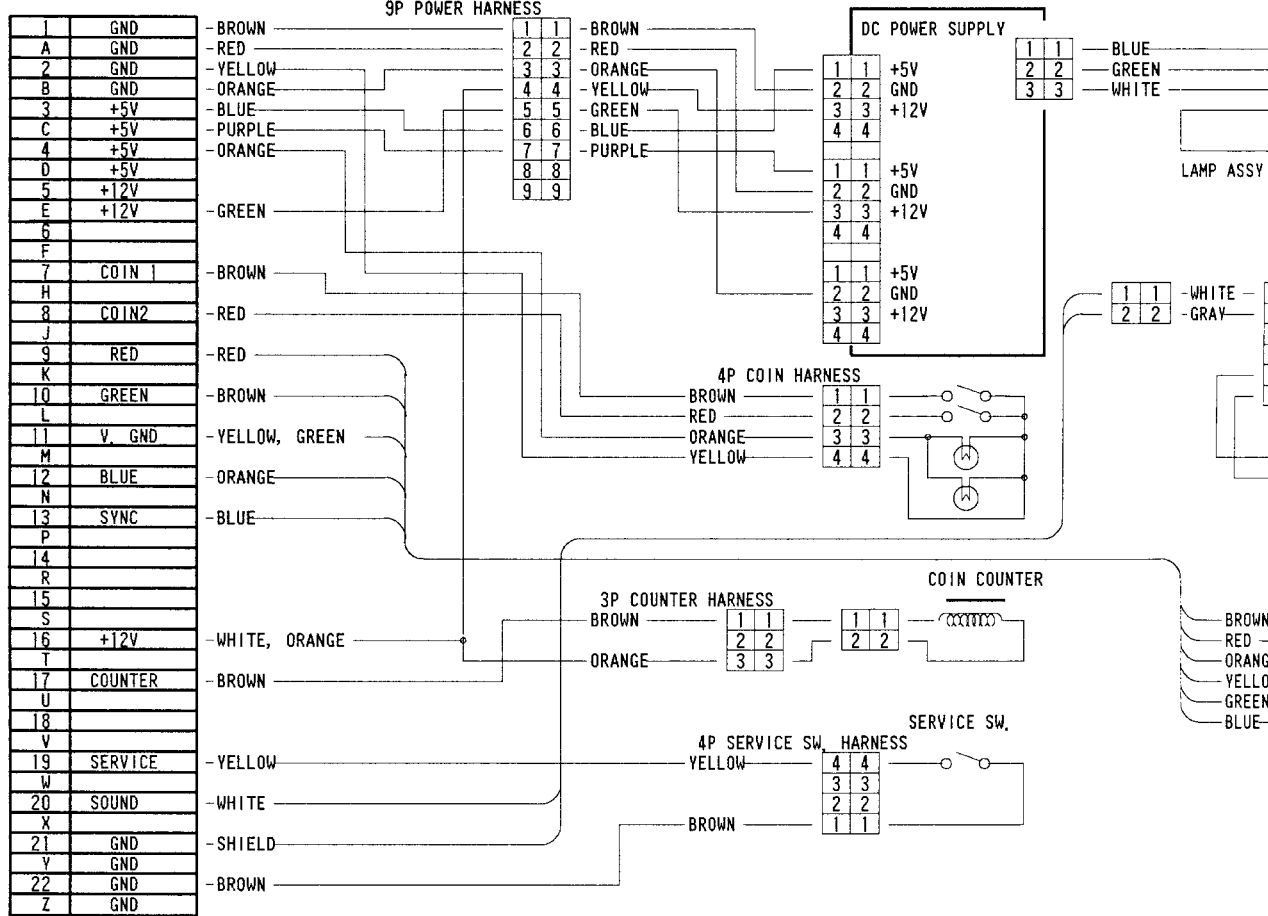


- a21
- b21
- a28
- a27
- a26
- a25
- a24
- a23
- a22
- c30
- c29
- c28
- c27
- c26
- c25
- c24
- c23
- b23
- b24
- b25
- b26
- b27
- b28
- b29
- b30
- b22
- c22
- b12
- c12
- c13
- a18
- a17
- a16
- a15
- a14
- a13
- c14
- c15
- c16
- c17
- c18
- c19
- c20
- c21
- b13
- b14
- b15

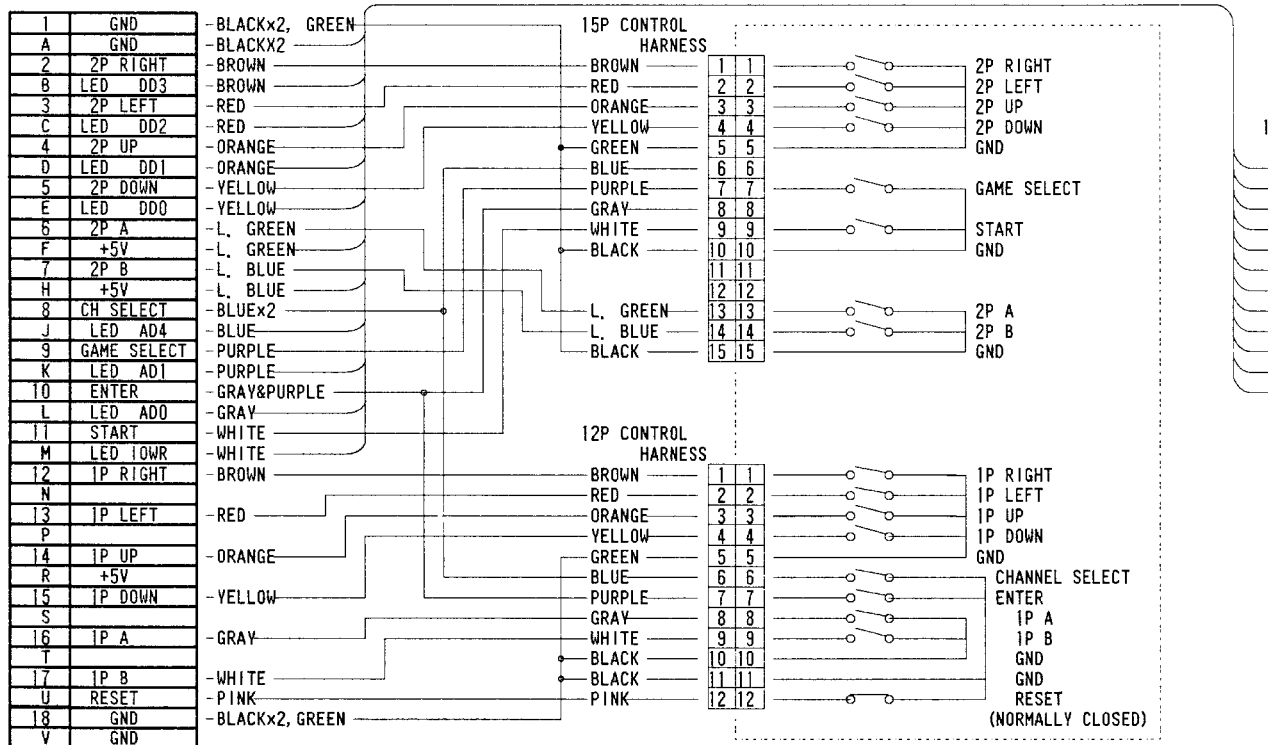


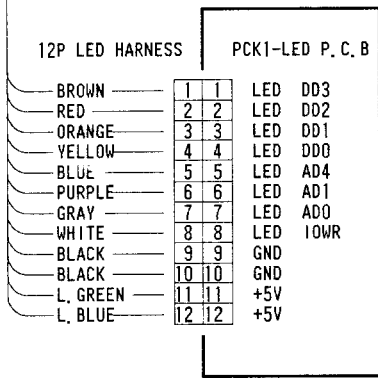
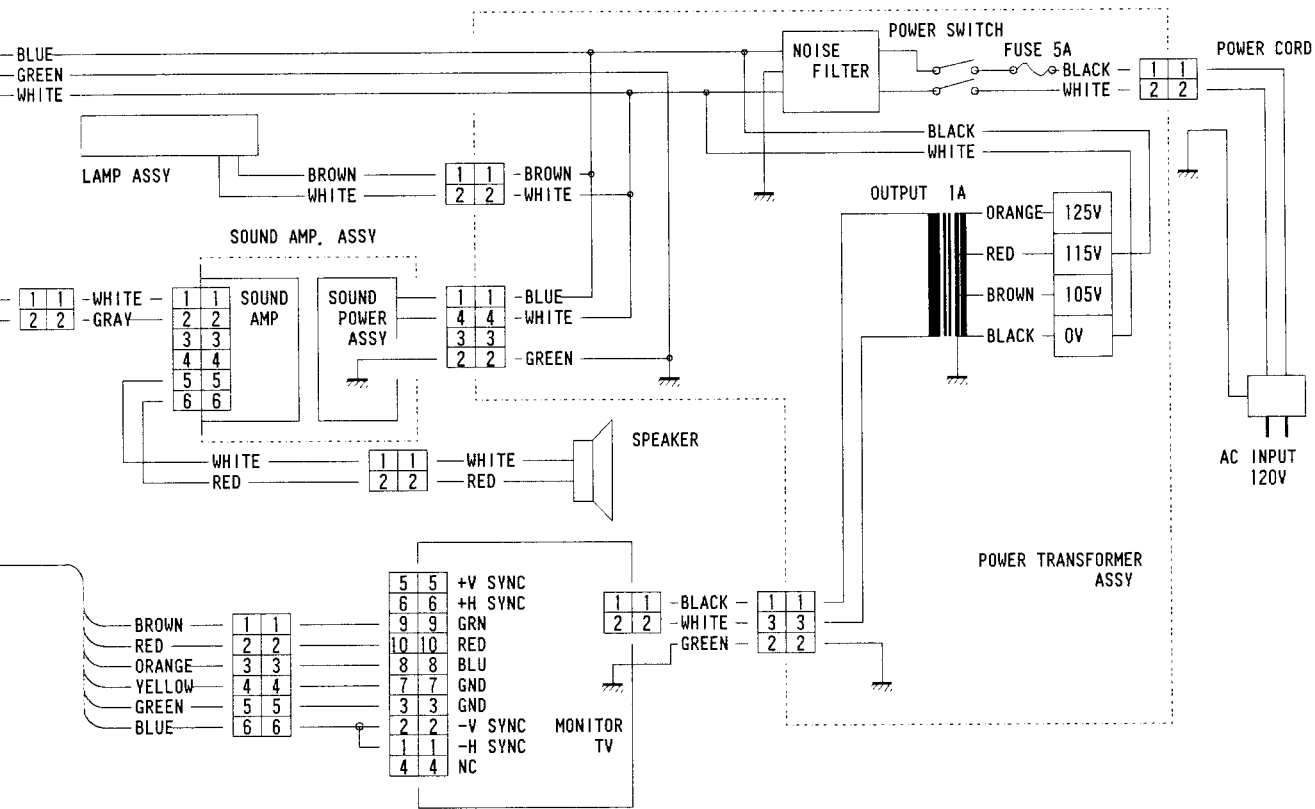
F PCK1-CPU SCHEMATIC
Sheet 6

UP44P-072A EDGE HARNESS



UP36P-080 EDGE HARNESS

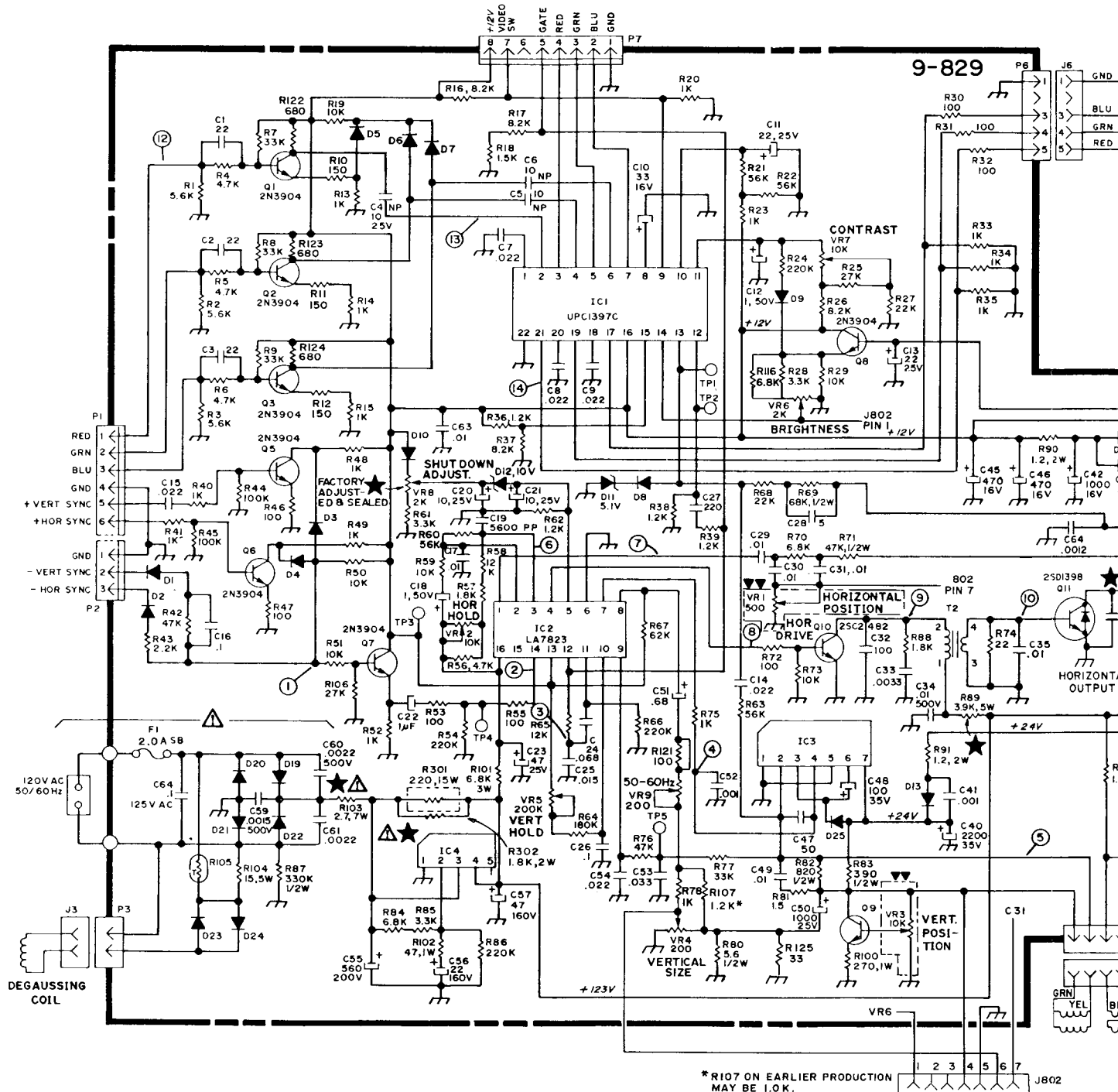




| WIRING DIAGRAM | |
|--------------------------|---------------------|
| SCALE: | DRAWN BY: H. KAMADA |
| DATE: 02/02/90 | APPROVED BY: |
| MODEL: PCK-UP | |
| Nintendo of America Inc. | |

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COLOR MONITOR SCHEMATIC DIAGRAM



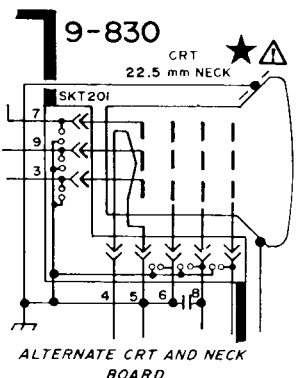
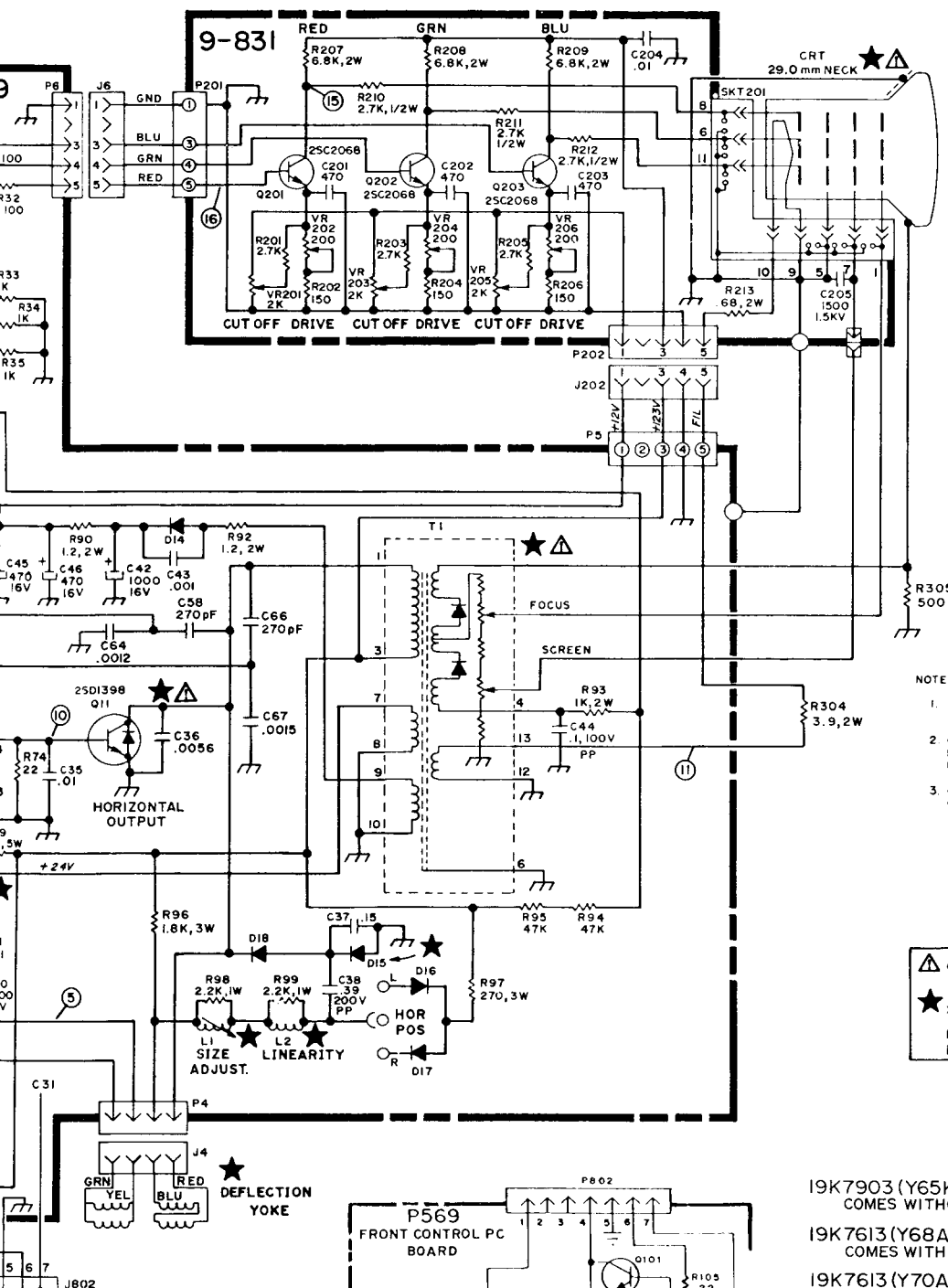
* R107 ON EARLIER PRODUCTION MAY BE 1.0K.

▼ COMPONENTS (VR1 & VR3) ENCLOSED ARE REMOVED WHEN USING P569 CONTROL BD.

SAMPLES OF PART MUST BE SUBMITTED TO WELLS GARDNER ELECTRONICS CORPORATION ENGINEERING DEPARTMENT FOR CHECK AND APPROVAL BEFORE PROCEEDING WITH PRODUCTION ON ORIGINAL ORDERS AND EVERY ISSUE.

D PART 100X0213-001

| TRK | APP'D BY | CHANGES |
|------|----------|---------|
| ORIG | | |

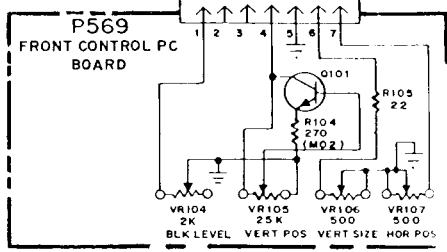


- NOTES:
1. ALL RESISTORS ARE IN OHMS, 1/4W, 5% UNLESS OTHERWISE INDICATED.
 2. CAPACITANCE VALUES LESS THAN 1 ARE IN MICROFARADS, ABOVE 1 IN PICOFARADS UNLESS OTHERWISE INDICATED.
 3. CIRCLED NUMBERS INDICATE LOCATIONS OF CERTAIN WAVEFORM READINGS.

CAUTION SAFETY CRITICAL COMPONENT.

X-RAY RADIATION RELATED COMPONENT.

REPLACE ONLY WITH SAME TYPE PARTS AS SHOWN IN PARTS LIST.



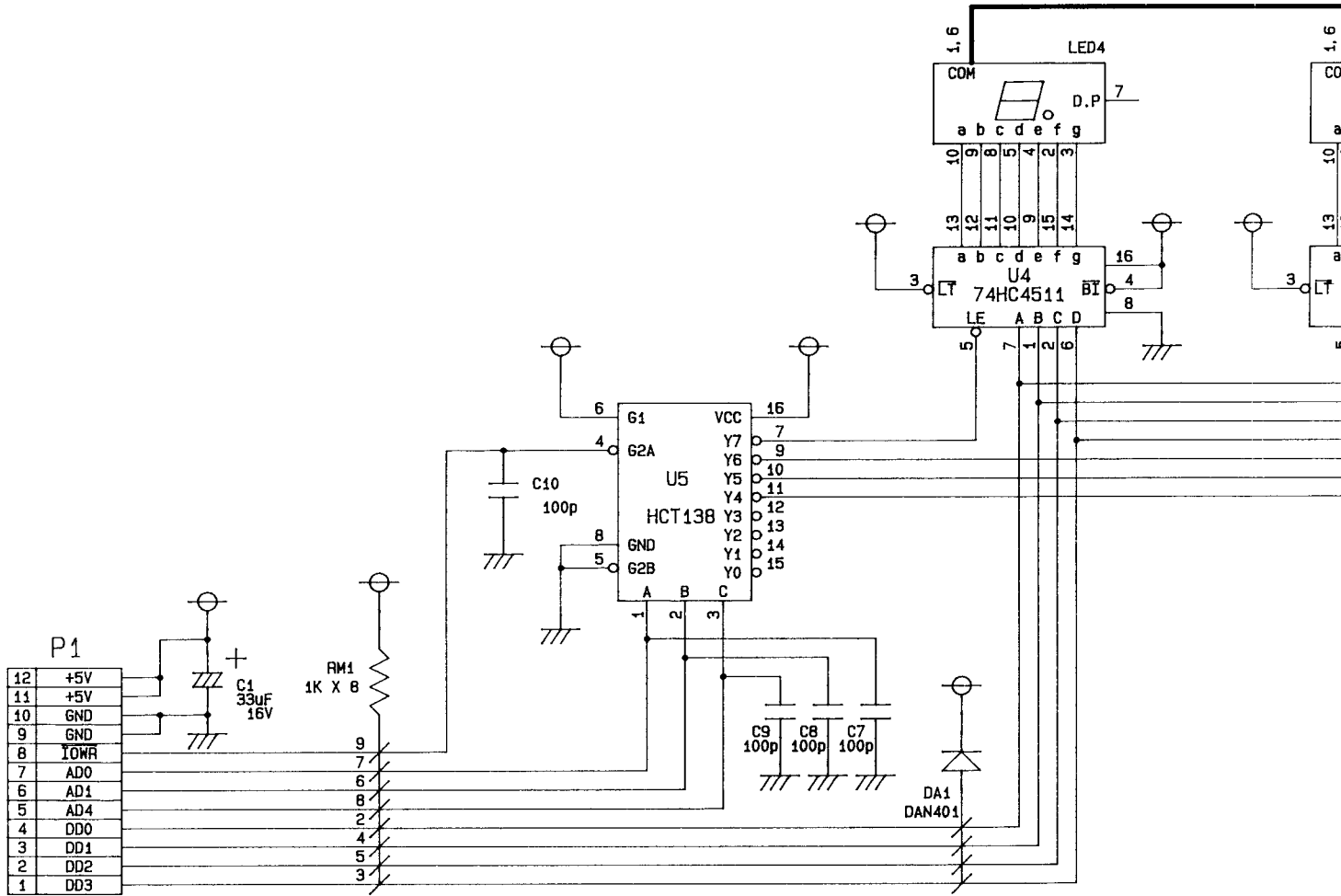
- 19K7903 (Y65K7903) COMES WITHOUT CONTROL BD.
- 19K7613 (Y68A7613) COMES WITH P569 & 9-830 NECK BD.
- 19K7613 (Y70A7613) COMES WITH P569 & 9-831 NECK BD.

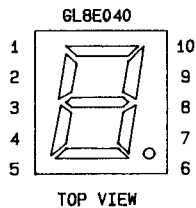
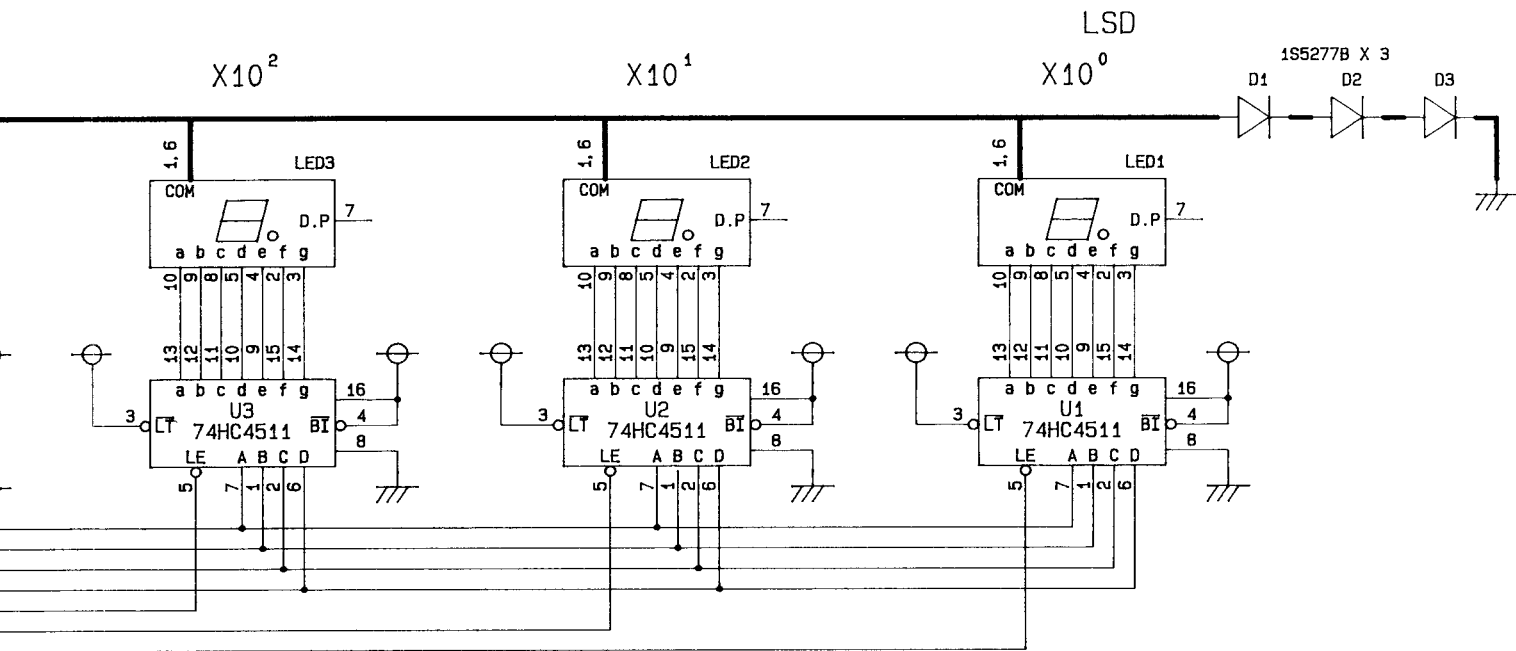
THE EXCLUSIVE USE OF DECIMAL DIMENSIONS ON THIS SHEET IS FOR CONVENIENCE IN CHECKING AND IS NOT TO BE CONSTRUED AS AN INDICATOR OF TIGHTER TOLERANCES THAN SPECIFIED BELOW UNLESS OTHERWISE SPECIFIED.

± 0.10 FOR ALL DIMENSIONS EXCEPT ROUND HOLES
 ± 0.02 FOR ALL ROUND HOLES AND ROUND PARTS
 ± 90° ON ANGULAR PARTS
 ALL THREADS TO BE CLASS 2B FIT.
 ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED.
 DO NOT SCALE THIS PRINT.

| | | |
|--------------------|---------------------------------|----------|
| FINISH | SCALE | DRAWN BY |
| MATERIAL | | CBH |
| NAME | ZENITH COLOR MONITOR SCHEM DIAG | |
| ASSOCIATE DRAWINGS | D PART NO 100X0213-001 | |

MSD
X10³





| | | |
|--------------------------|--------------|--------------------|
| SCALE: | APPROVED BY: | DRAWN BY T. HIBINO |
| DATE 08/04/88 | | REVISED |
| PCK-01-LED | | |
| Nintendo of America Inc. | | |