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OPERATION MANUAL

TUB-UP

Nintendo

C O N T E N T S

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C A U T I O N S

1. P.C. Board should not be exposed direct to the sun. Direct sunshine is very harmful to LSI (memory element).
2. P.C. Board to be stored or transported should be wrapped by a conductive pouch or aluminum foil, because LSI and IC used in the machine are semiconductor integrated circuits of which basic element is MOS-FET.
3. When images on the Video Monitor Screen are disturbed by powerful noise or other electrical causes, turn the main power off once and then on again.

1. SPECIFICATIONS

- (1) Power Consumption : 103 W
- (2) Size : 600(W) × 880(D) × 1700(H)mm.
- (3) Weight : 108 Kgs.
- (4) Number of Player : 1 or 2 person(s)
- (5) Number of Submarine : 3 – 6 (Adjustable)
- (6) Accessories : Operation Manual : 1 copy
Key for Back Door : 2 pcs.
Key for Coin Box Door : 2 pcs.
Fuse : 3 pcs.
120V 4AX2, 0.3AX1
220V–240V 4A, 2A, 0.3A

NOTE: Specifications are subject to change for improvement without notice.

2. INSTALLATION OF THE MACHINE

2-1 Cautions on installation

- (1) The power cord of the machine should not be connected to a wall outlet together with large load unit(s) such as motor, cooler, etc.
- (2) Turn the power off before setting and removing the P.C. Board and connectors. Carefully handle them.
- (3) Do not touch IC, LSI and other electronic parts on P.C. Board. Do not use a tester or the like on them. (They may be damaged by the inner voltage of the instruments.)
- (4) When exchanging a fuse, use a new one of the prescribed capacity.
- (5) The machine should be installed where it is not hot, keeping away from a heating appliance and direct sunshine.
- (6) The machine should be installed where it is not wet and dusty.
- (7) Do not touch the inside of the video monitor which has high tension units. Inform service station, if necessary.

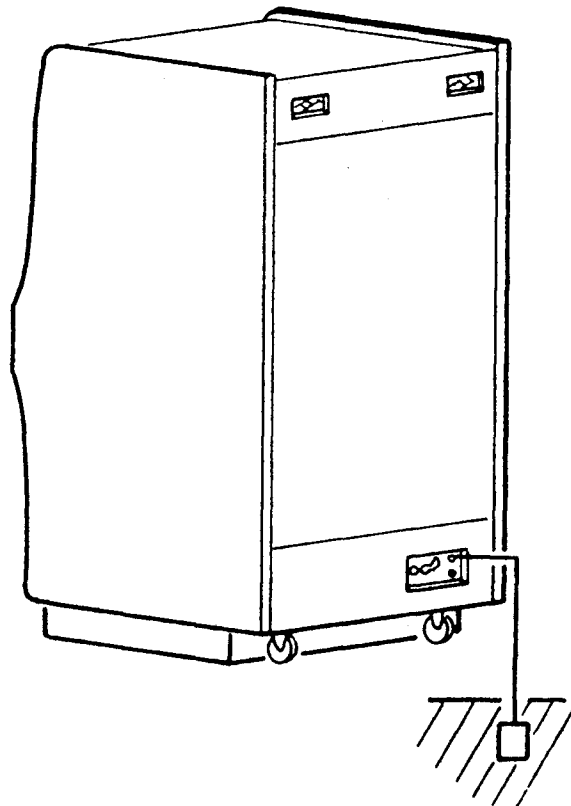
2-2 Earthing of machine

- (1) When the machine is installed in a wet place, it should be grounded to avoid accident by an electric shock.

- a) Connect an earthing wire to the earthing terminal of the machine.
- b) The opposite end of the earthing wire should be connected to an earthing bar which is firmly inserted into the ground.

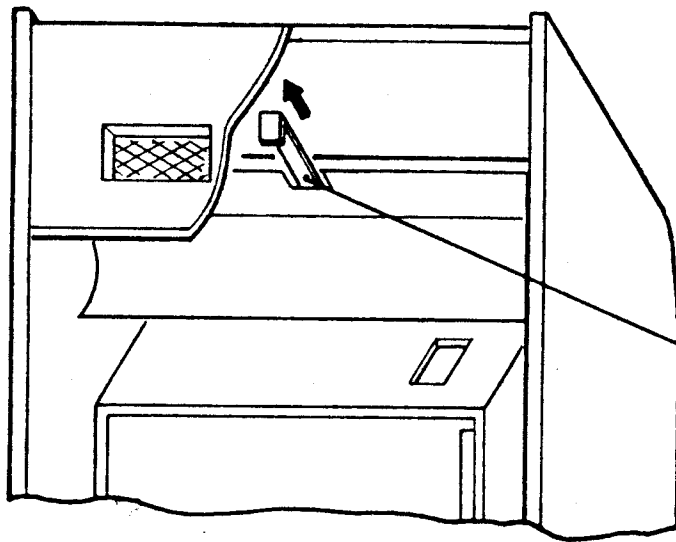
(2) Cautions

- a) Do not connect the earthing wire to a water-pipe, because polyvinyl-chloride pipes are sometimes used in the water lines and, if so, the electronic continuity is cut at the points.
- b) Do not connect the earthing wire to the gas pipe absolutely. That is very dangerous.



3. MAINTENANCE AND INSPECTION

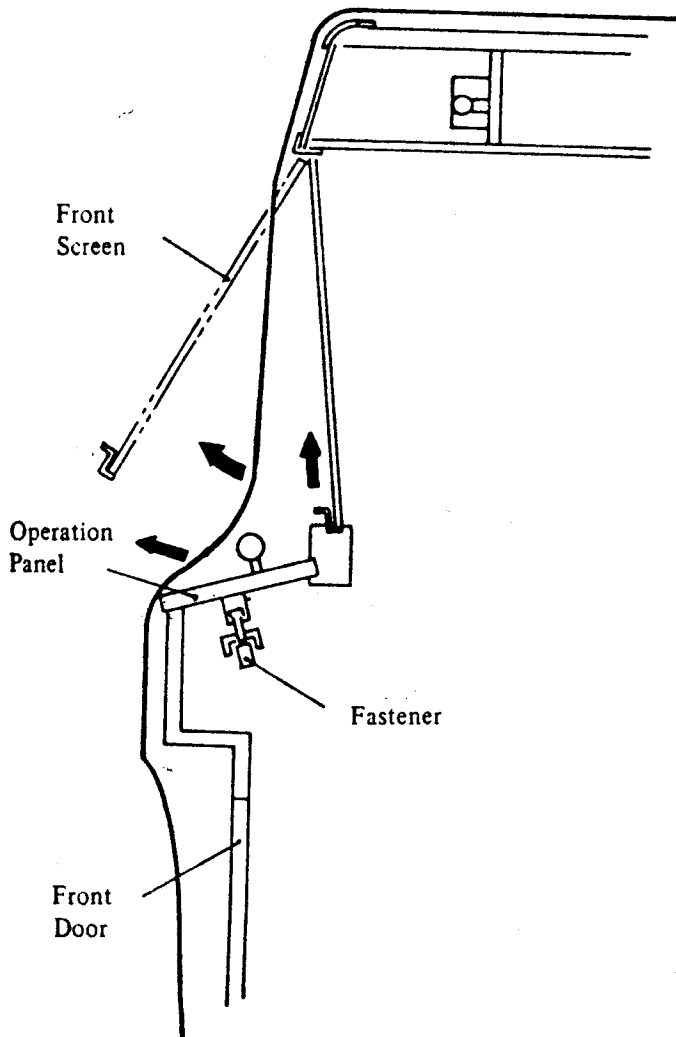
3-1 Dismounting of front screen



Opening the back door, pull the front screen clamp which is mounted under the top plate. Pull the front screen upward while pushing and then pull toward you.

Front Screen Clamp

3-2 Dismounting of operation panel

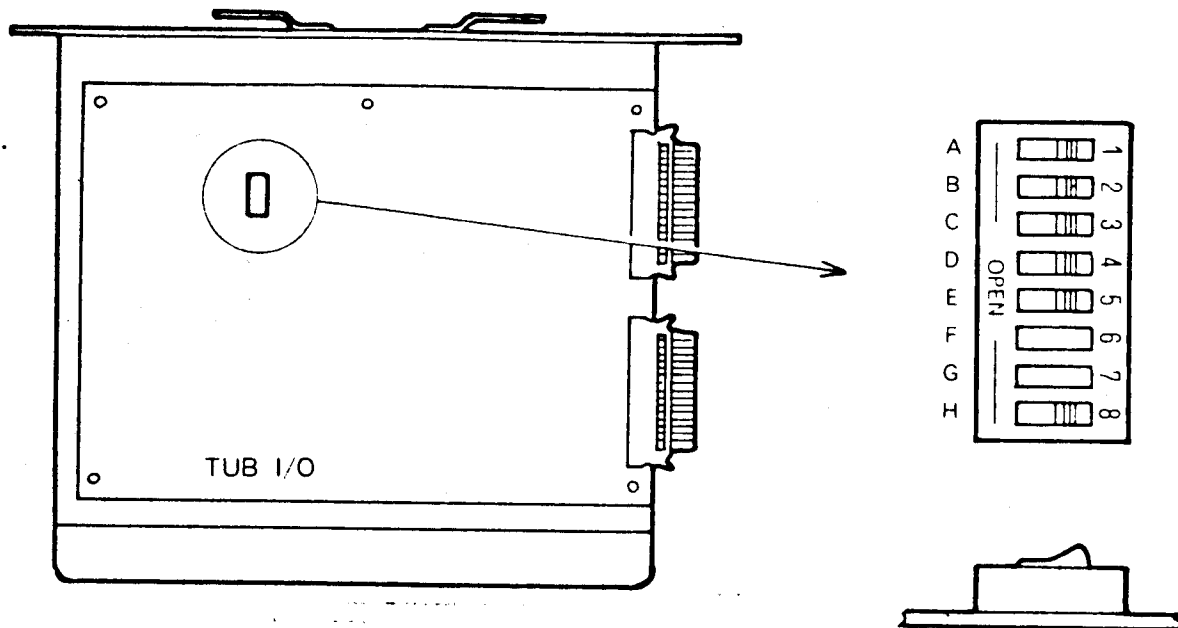


To dismount the operation panel for maintenance or inspection of the Control Lever Ass'y or Micro Switch, open the front door and unfasten the fastener.

4. POINTS AND METHODS OF ADJUSTMENT

4-1 I/O P.C. Board

The number of submarine, score level and the number of coin can be set with the switches on I/O P.C.Board according to the diagram below.



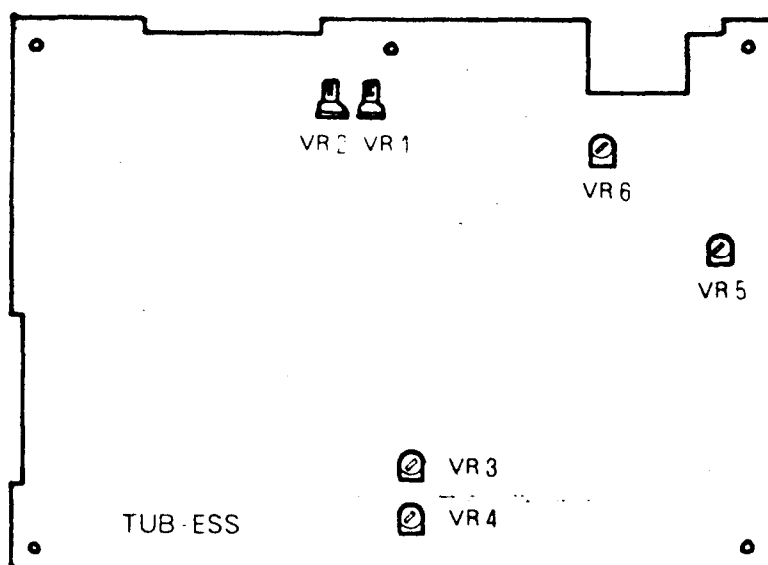
The switch is OFF
(Bottom view)







| | A | B | C | D | E | F | G | H |
|---------------------------------|-----|-----|-----|-----|-----|---|---|-----|
| Number of submarine | | | | | | | | |
| 3 | OFF | OFF | | | | | | |
| 4 | ON | OFF | | | | | | |
| 5 | OFF | ON | | | | | | |
| 6 | ON | ON | | | | | | |
| Score level for extra submarine | | | | | | | | |
| 5,000 points | | | OFF | OFF | | | | |
| 6,000 points | | | ON | OFF | | | | |
| 8,000 points | | | OFF | ON | | | | |
| 10,000 points | | | ON | ON | | | | |
| Coinage | | | | | | | | |
| 1 coin / 1 play | | | | | OFF | | | |
| 2 coins/ 1 play | | | | | ON | | | |
| Table / Up-Right | | | | | | | | |
| Table | | | | | | | | OFF |
| Up-Right | | | | | | | | ON |

* Switch F and G have no function.

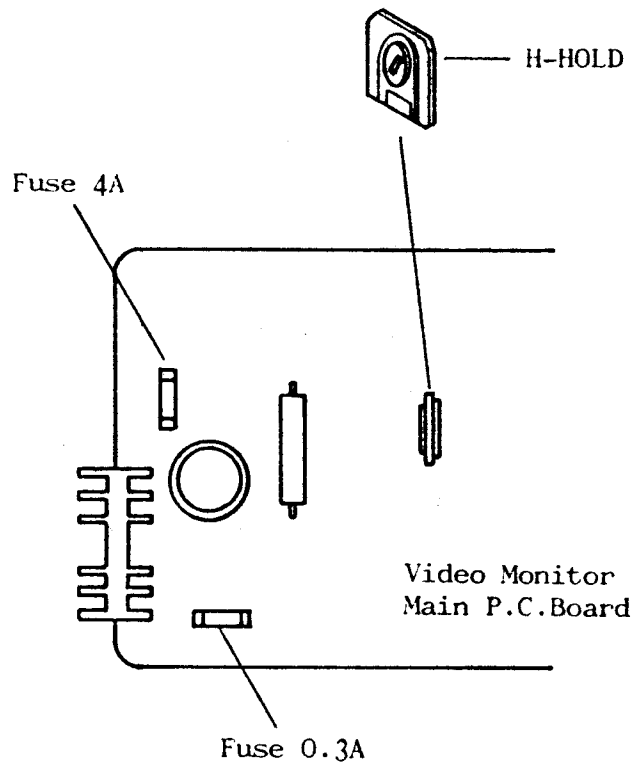
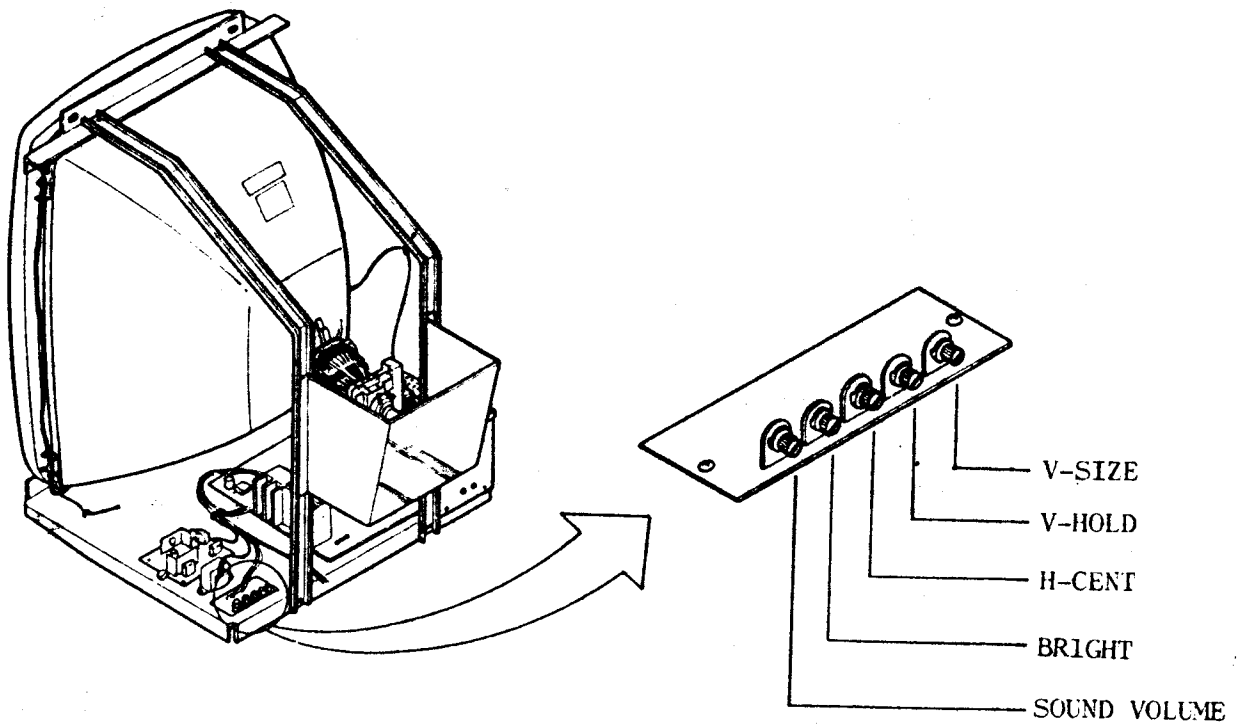
4-2 ESS P.C. Board

Semi-fixed resistors, VR1 to VR6 on ESS P.C.Board are used to adjust video monitor screen and sound balance.



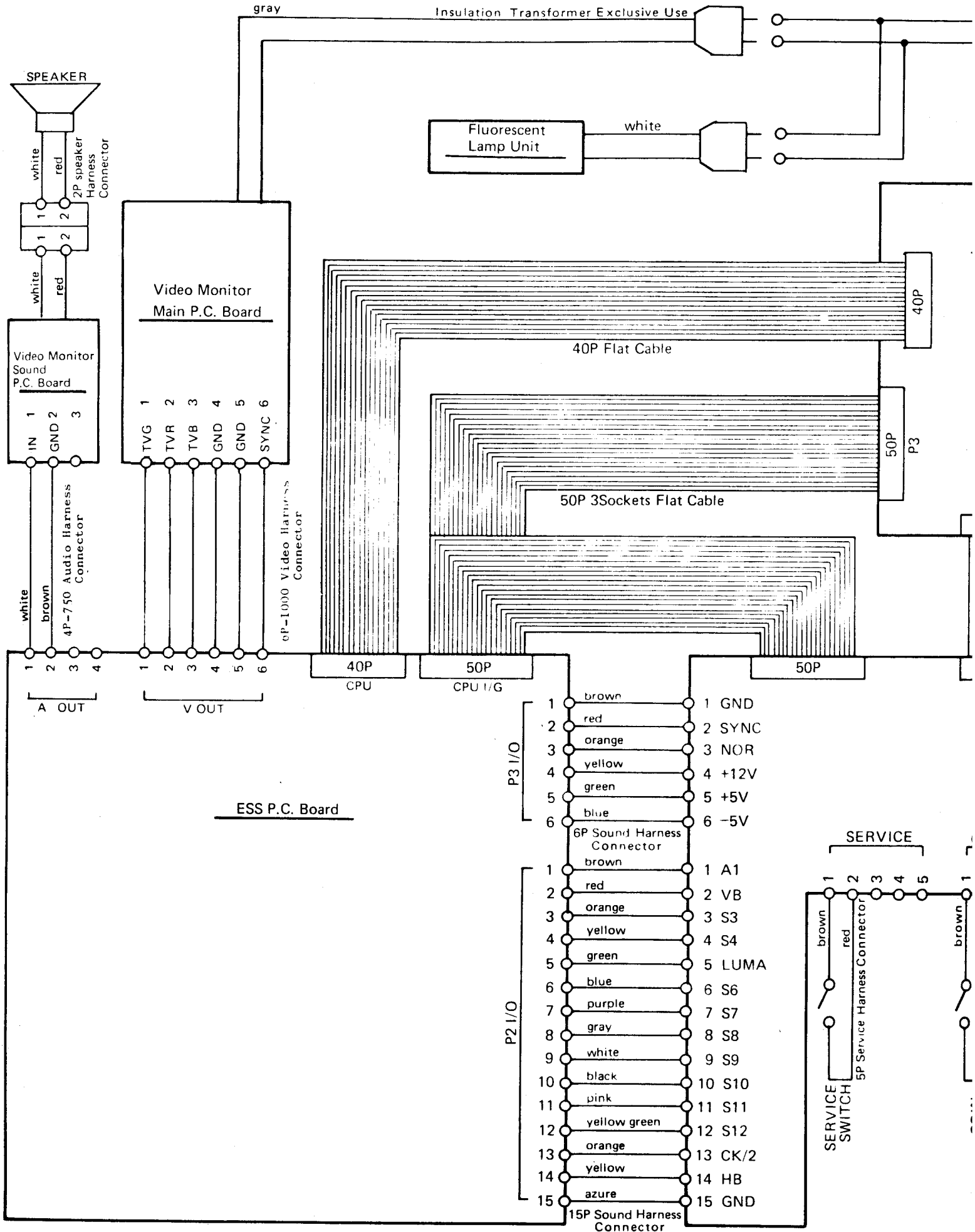
| | | | |
|-----|--|--|---|
| VR1 | 300K Ω 1/5W vertical type red knob | To adjust brightness of sun glow in back- ground |  Turn left to increase brightness. |
| VR2 | 300K Ω 1/5W vertical type blue knob | To adjust brightness of sea in background |  - ditto - |
| VR3 | 2K Ω 1/5W plain type | To adjust height of the sea in background |   |
| VR4 | 30K Ω 1/5W plain type blue knob | To adjust height of the waves in back- ground |   |
| VR5 | 10K Ω 1/5W plain type | To adjust sound volume balance between sound(firing, explosion, etc.) and melodies | |
| VR6 | 1K Ω 1/5W plain type | To adjust tone of firing sound | |

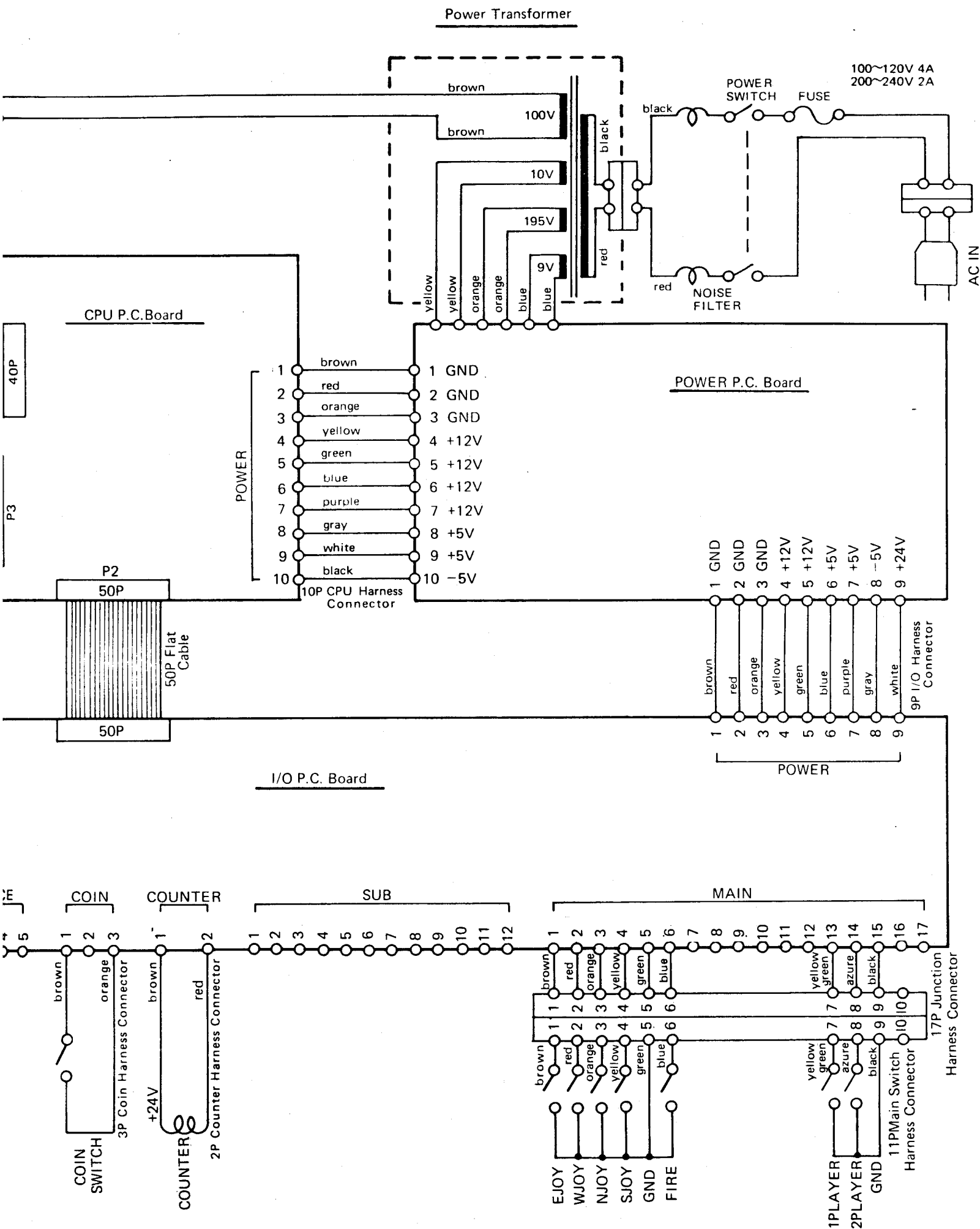
4-3 VIDEO MONITOR



NOTE : Do not touch the inside of the Video Monitor in which many parts are supplied with high tension.

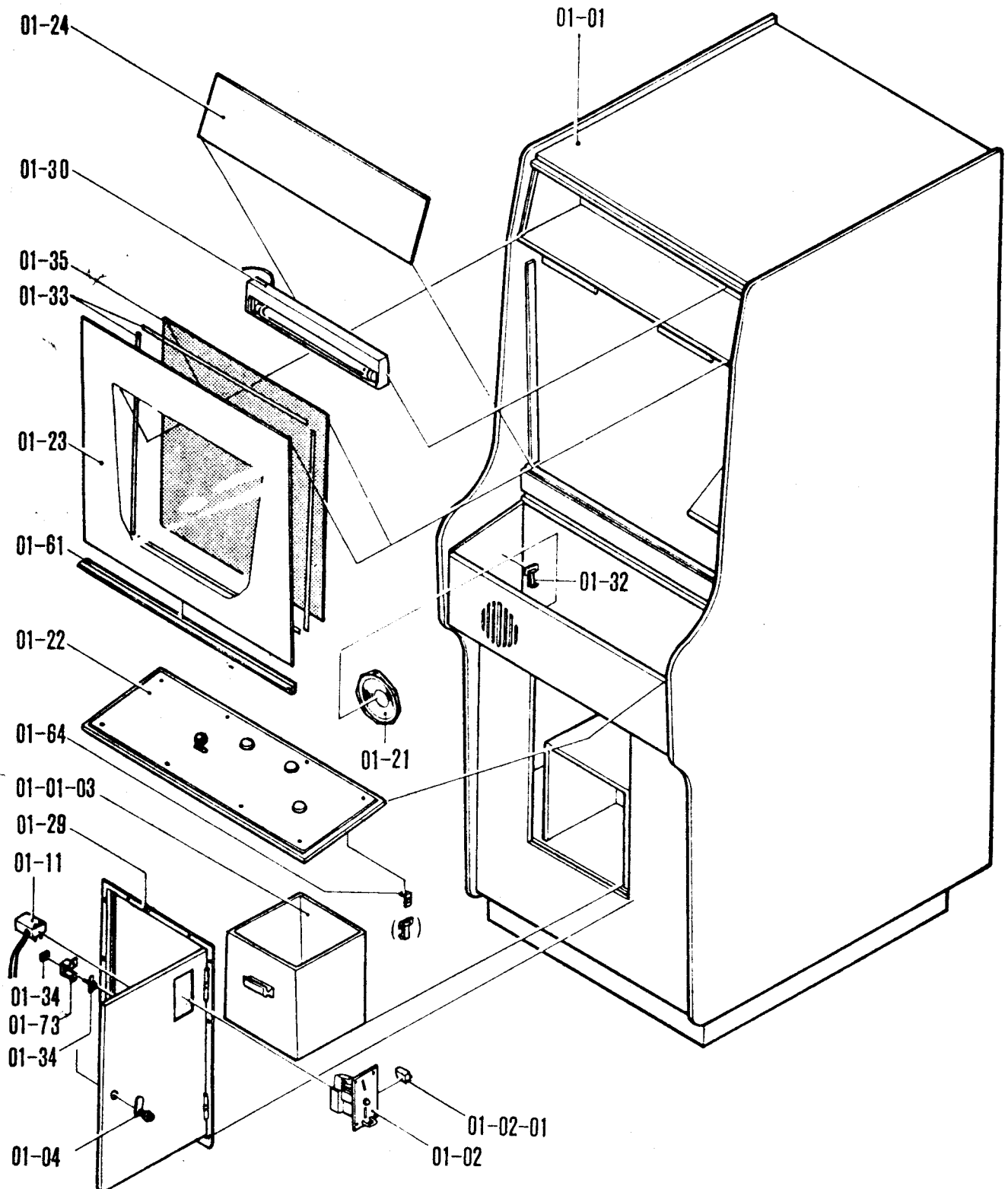
5. WIRING and CONNECTION

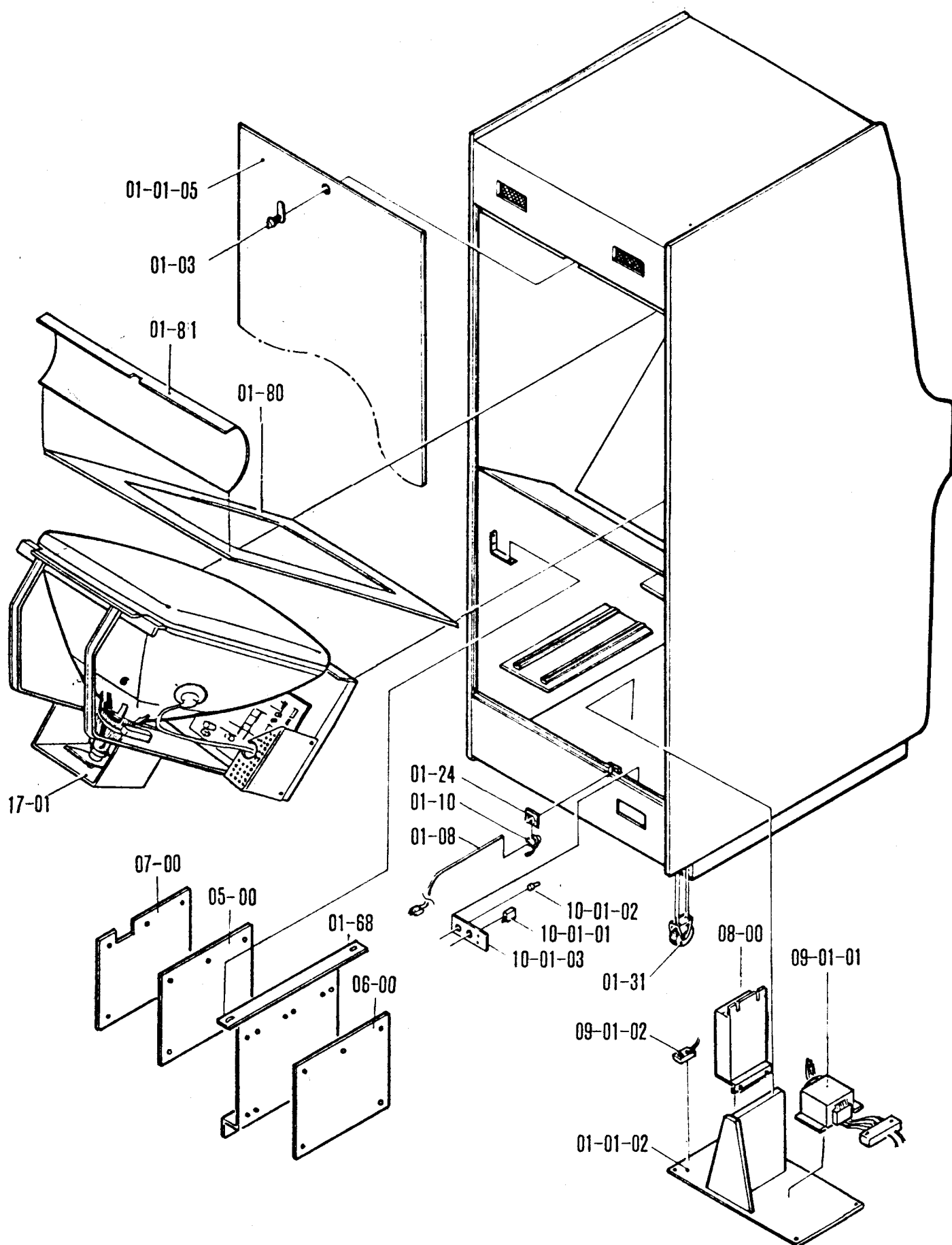




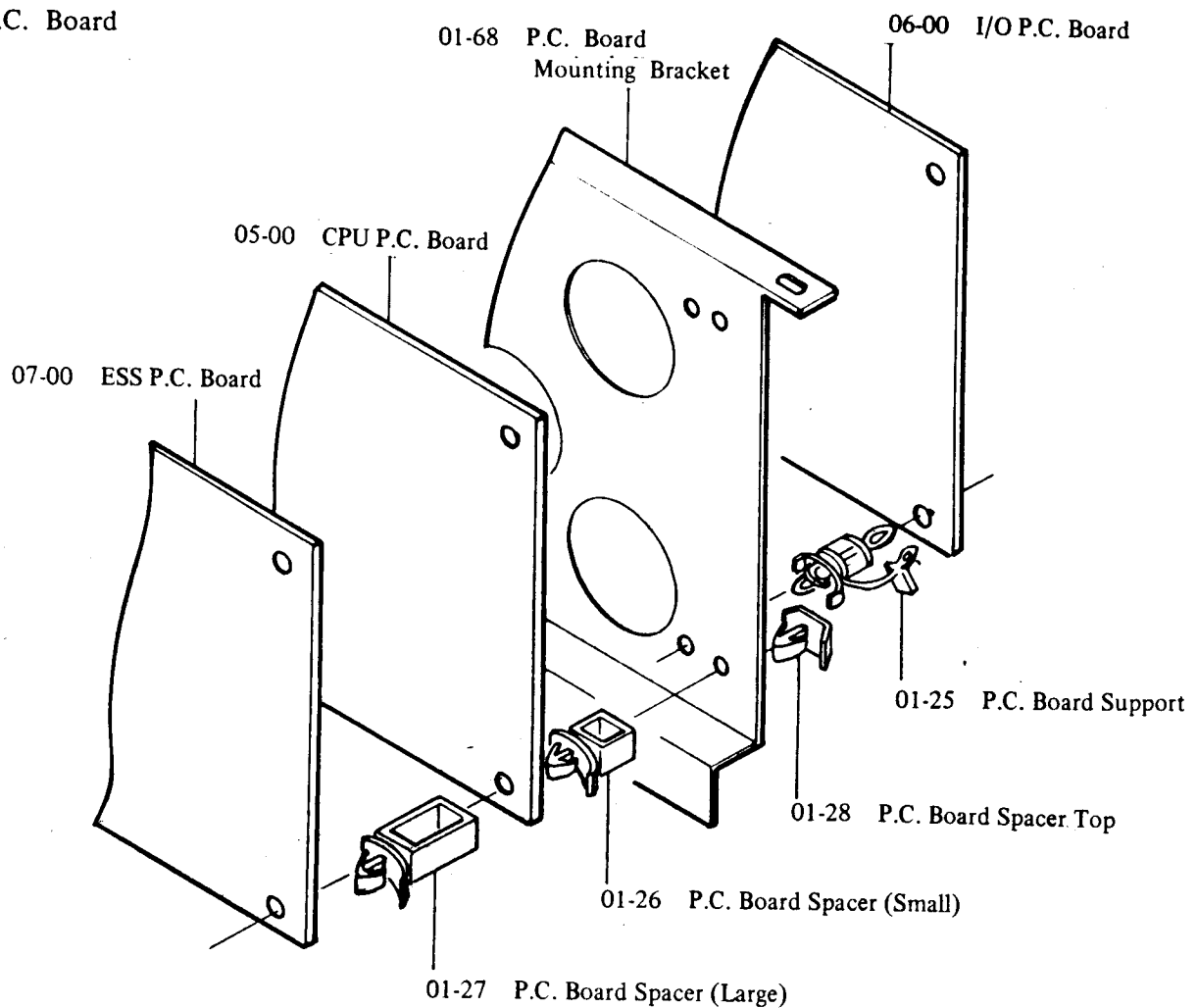
6. NAME OF EACH PARTS

6-1 Body



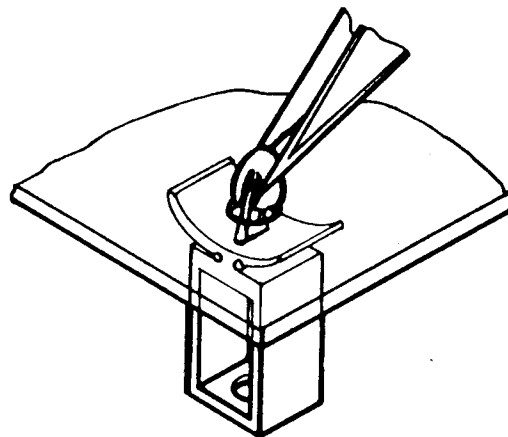


(2) P.C. Board



○ Removing P.C. Board Spacer

Press the claw with a pincette, as illustrated, and pull out the P.C. Board.

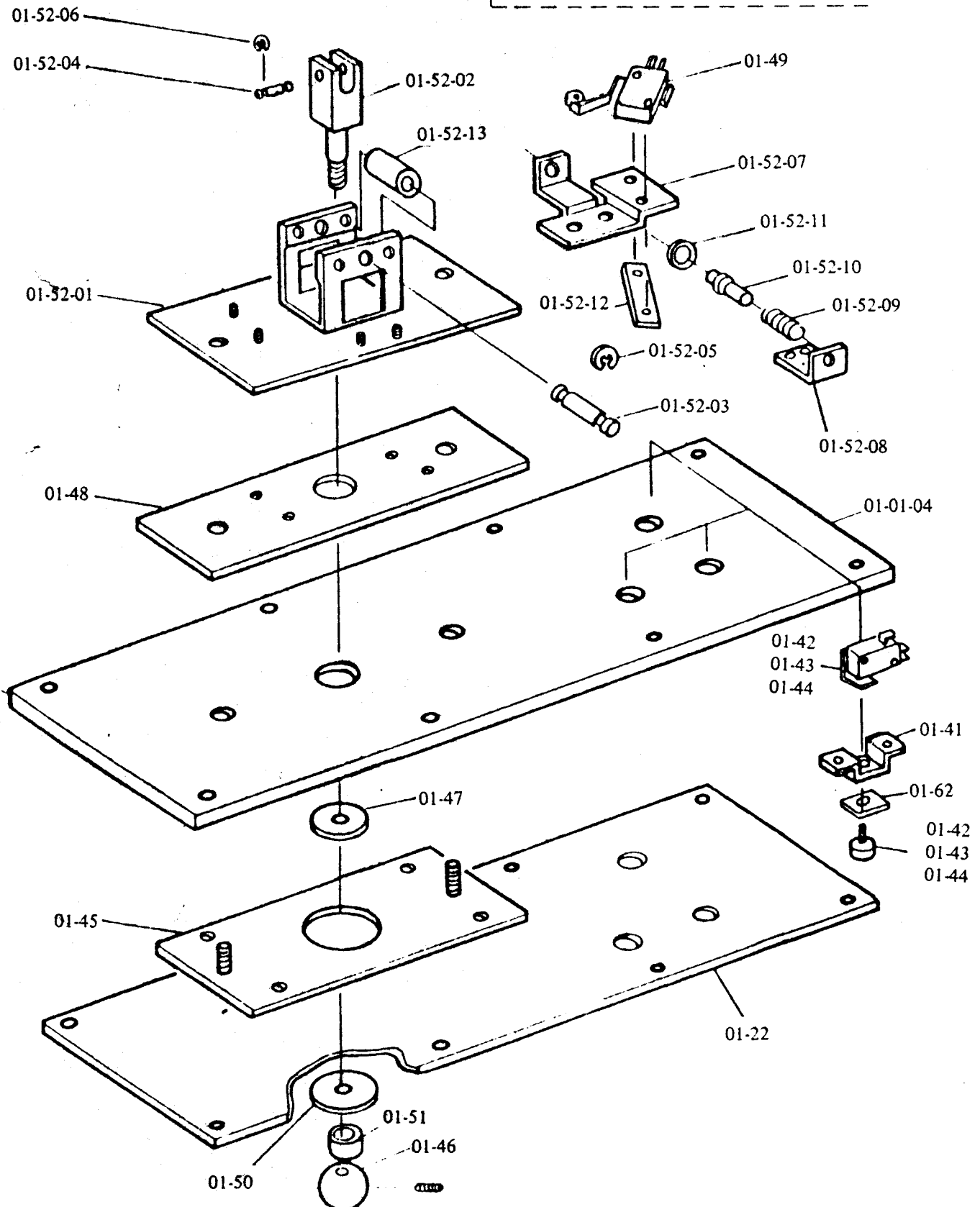
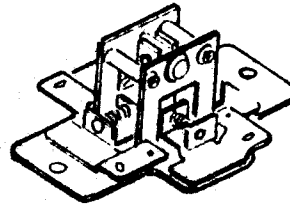


(3) Operation Panel Assembly

Following lubricating oil is used.

Shin-etsu Silicon Grease
"SILICOLUBE G31L"

01-52 Control Lever Ass'y



7. PARTS LIST

1. Body

| No. | Name of Parts | Q'ty | Remarks | FOB Japan per pc. |
|---------------|---------------------------------------|------|---------|----------------------|
| TUBU-01-01 | Body | 1 | | |
| TUBU-01-01-02 | Transformer Base | 1 | | |
| TUBU-01-01-03 | Cash Box | 1 | | |
| TUBU-01-01-04 | Operation Panel Ass'y Base | 1 | | |
| TUBU-01-01-05 | Back Door | 1 | | |
| TUBU-01-02 | Coin Selector | 1 | | |
| TUBU-01-02-01 | Coin Switch | 1 | | |
| TUBU-01-03 | Back Door Lock | 1 | | |
| TUBU-01-04 | Front Door Lock | 1 | | |
| TUBU-01-08 | Power Cord | 1 | | |
| TUBU-01-10 | Strain Relief Bushing | 1 | | |
| TUBU-01-11 | Game Counter | 1 | | |
| TUBU-01-21 | Speaker | 1 | | |
| TUBU-01-22 | Operation Panel | 1 | | |
| TUBU-01-23 | Front Screen | 1 | | |
| TUBU-01-24 | Name Plate | 1 | | |
| TUBU-01-25 | P.C. Board Support | 5 | | |
| TUBU-01-26 | P.C. Board Spacer (Small) | 5 | | |
| TUBU-01-27 | P.C. Board Spacer (Large) | 5 | | |
| TUBU-01-28 | P.C. Board Spacer Top | 5 | | |
| TUBU-01-29 | Front Door Ass'y | 1 | | |
| TUBU-01-30 | Fluorescent Lamp Ass'y | 1 | | |
| TUBU-01-31 | Caster | 2 | | |
| TUBU-01-32 | Operation Panel Ass'y Fastener (A) | 2 | | |
| TUBU-01-33 | Double Backed Tape | 4 | | |
| TUBU-01-34 | Service Switch | 1 | | |
| TUBU-01-35 | Screen Filter | 1 | | |
| TUBU-01-41 | Switch Bracket | 3 | | |
| TUBU-01-42 | Fire Switch (red) | 1 | | |
| TUBU-01-43 | Player Switch (1-Player, Blue) | 1 | | |
| TUBU-01-44 | Player Switch (2-Player, Green) | 1 | | |
| TUBU-01-45 | Control Lever Ass'y Mounting Plate | 1 | | |
| TUBU-01-46 | Control Knob | 1 | | |
| TUBU-01-47 | Blind Plate | 1 | | |
| TUBU-01-48 | Vibration Proof Rubber | 1 | | |

| No. | Name of Parts | Q'ty | Remarks | FOB Japan per pc. |
|---------------|--------------------------------------|------|---------|----------------------|
| TUBU-01-49 | Control Switch | 4 | | |
| TUBU-01-50 | Control Lever Plate | 1 | | |
| TUBU-01-51 | Control Lever Collar | 1 | | |
| TUBU-01-52 | Control Lever Ass'y | 1 | | |
| TUBU-01-52-01 | Control Lever Ass'y Base | 1 | | |
| TUBU-01-52-02 | Control Lever | 1 | | |
| TUBU-01-52-03 | Control Lever Pin(Large) | 1 | | |
| TUBU-01-52-04 | Control Lever Pin(Small) | 1 | | |
| TUBU-01-52-05 | E Ring 8 | 2 | | |
| TUBU-01-52-06 | E Ring 4 | 2 | | |
| TUBU-01-52-07 | Slide Pin Bracket(Large) | 4 | | |
| TUBU-01-52-08 | Slide Pin Bracket(Small) | 4 | | |
| TUBU-01-52-09 | Compression Spring | 4 | | |
| TUBU-01-52-10 | Slide Pin | 4 | | |
| TUBU-01-52-11 | Nylon Washer | 4 | | |
| TUBU-01-52-12 | Nut Plate | 4 | | |
| TUBU-01-52-13 | Stay | 2 | | |
| TUBU-01-61 | Front Screen Frame(Lower) | 1 | | |
| TUBU-01-62 | Micro Switch Blind Plate | 3 | | |
| TUBU-01-64 | Operation Panel Ass'y Fastener(B) | 2 | | |
| TUBU-01-68 | P.C.Board Mounting Bracket | 1 | | |
| TUBU-01-73 | Service Switch Bracket | 1 | | |
| TUBU-01-74 | Strain Relief Bushing Plate | 1 | | |
| TUBU-01-80 | Blind Cardboard(Large) | 1 | | |
| TUBU-01-81 | Blind Cardboard(Small) | 1 | | |
| TUBU-17-01 | Video Monitor(20-5F) | 1 | | |
| TUB -05-00 | CPU P.C.Board | 1 | | |
| TUB -06-00 | I/O P.C.Board | 1 | | |
| TUB -07-00 | ESS P.C.Board | 1 | | |
| TUB -08-00 | Power P.C.Board | 1 | | |
| TUBU-09-01-01 | Power Trasformer Unit | 1 | | |
| TUBU-09-01-02 | 2P Table Tap | 1 | | |
| TUBU-10-01 | Power Switch Ass'y | 1 | | |
| TUBU-10-01-01 | Power Switch | 1 | | |
| TUBU-10-01-02 | Fuse Holder | 1 | | |
| TUBU-10-01-03 | Power Switch Plate | 1 | | |
| TUBU-11-01 | 10P CPU Harness Connector | 1 | | |
| TUBU-11-02 | 9P I/O Harness Connector | 1 | | |

| No. | Name of Parts | Q'ty | Remarks | FOB Japan per pc. |
|------------|--------------------------------------|------|---------|----------------------|
| TUBU-11-03 | 6P Sound Harness Connector | 1 | | |
| TUBU-11-04 | 15P Sound Harness Connector | 1 | | |
| TUBU-11-05 | 5P Service Harness Connector | 1 | | |
| TUBU-11-06 | 3P Coin Harness Connector | 1 | | |
| TUBU-11-07 | 11P Main Switch Harness Connector | 1 | | |
| TUBU-11-08 | 17P Junction Harness Connector | 1 | | |
| TUBU-11-09 | 2P Counter Harness Connector | 1 | | |
| TUBU-11-10 | 2P Speaker Harness Connector | 1 | | |
| TUBU-11-17 | 50P Flat Cable | 1 | | |
| TUBU-11-18 | 40P Flat Cable | 1 | | |
| TUBU-11-19 | 50P 3 Sockets Flat Cable | 1 | | |
| TUBU-11-20 | 4P-750 Audio Harness Connector | 1 | | |
| TUBU-11-21 | 6P-1000 Video Harness Connector | 1 | | |

2. CPU P.C. Board

| No. | Name of Parts | Q'ty | Remarks | FOB Japan per pc. |
|-----------|---------------------------|------|--|----------------------|
| TUB 05-00 | CPU P.C.Board | 1 | Complete Set | |
| TUB 05-01 | IC 74LS153 | 8 | Dual 4-Line to 1-Line Data Selector/Multiplexer | |
| TUB 05-02 | " 8216 | 2 | Buffer and Line Driver | |
| TUB 05-03 | " 74LS08 | 6 | Quadruple 2-Input Positive AND Gate | |
| TUB 05-04 | " 74LS32 | 1 | Quadruple 2-Input Positive OR Gate | |
| TUB 05-05 | " 74LS174 | 3 | Hex D-Type Flip Flop W/Reset | |
| TUB 05-06 | " MK4116 | 8 | RAM | |
| TUB 05-07 | " 74LS74 | 1 | Dual D-Type Edge-Triggered Flip Flop W/Set and Reset | |
| TUB 05-08 | " 74LS04 | 1 | Hex Inverter | |
| TUB 05-09 | " 74LS02 | 1 | Quadruple 2-Input Positive NOR Gate | |
| TUB 05-10 | " 74LS00 | 1 | Quadruple 2-Input Positive NAND Gate | |
| TUB 05-11 | " 74LS138 | 1 | 3-to 8-Line Decoder/Demulti- plexer | |
| TUB 05-12 | " 74LS139 | 1 | Dual 2-to 4-Line Decoder/ Demultiplexer | |
| TUB 05-13 | " C2708 | 9 | EP-ROM | |
| TUB 05-14 | " 74LS241(8216) | 2 | Octal Buffer/Line Driver/ Line Receiver W/3-State Output | |
| TUB 05-15 | Resistor | 2 | 33 Ω $\frac{1}{4}W \pm 5\%$ | |
| TUB 05-16 | " | 2 | 150 Ω " " | |
| TUB 05-17 | " | 8 | 1K Ω " " | |
| TUB 05-18 | Ceramic Capacitor | 43 | 0.1 μF 50V | |
| TUB 05-19 | " " | 8 | 0.2 μF " | |
| TUB 05-20 | " " | 2 | 120 pF " | |
| TUB 05-21 | " " | 1 | 330 pF " | |
| TUB 05-22 | Electrolytic Capacitor | 2 | 100 μF 16V | |
| TUB 05-23 | " | 2 | 220 μF 6.3V | |

3. I/O P.C. Board

| No. | Name of Parts | Q'ty | Remarks | FOB Japan per pc. |
|-----------|---------------|------|--|----------------------|
| TUB-06-00 | I/O P.C.Board | 1 | Complete Set | |
| TUB-06-01 | IC 75361A | 1 | Dual NAND TTL to Mos Driver | |
| TUB-06-02 | " 7416 | 2 | Hex Inverter Buffer Driver | |
| TUB-06-03 | " 74109 | 1 | Dual J-K Positive Edge Triggered Flip-Flop W/Set and Reset | |
| TUB-06-04 | " 74123 | 1 | Dual Retriggerable Monostable Multivibrator | |
| TUB-06-05 | " 74161 | 4 | Synchronous Presettable 4-Bit Binary Counter W/Direct Reset | |
| TUB-06-06 | " 74198 | 1 | 8 Bit Shift Register | |
| TUB-06-07 | " 74S04 | 1 | S Hex Inverter | |
| TUB-06-08 | " 74LS00 | 4 | Quadruple 2-Input Positive NAND Gate | |
| TUB-06-09 | " 74LS04 | 3 | Hex Inverter | |
| TUB-06-10 | " 74LS14 | 1 | Hex Schmitt Trigger Inverter | |
| TUB-06-11 | " 74LS20 | 1 | Dual 4-Input Positive NAND Gate | |
| TUB-06-12 | " 74LS26 | 1 | Buffer and Interface Gates Open Collector Output | |
| TUB-06-13 | " 74LS32 | 1 | Quadruple 2-Input Positive OR Gate | |
| TUB-06-14 | " 74LS42 | 1 | BCD-to-Decimal Decoder | |
| TUB-06-15 | " 74LS55 | 1 | 2-Wide 4-Input AND-OR- INVERTER Gate | |
| TUB-06-16 | " 74LS74 | 1 | Dual D-Type Edge-Triggered Flip-Flop W/Set and Reset | |
| TUB-06-17 | " 74LS86 | 4 | Quadruple 2-Input Exclusive OR Gate | |
| TUB-06-18 | " 74LS151 | 8 | 8-Line to 1-Line Data Selector/Multiplexer | |
| TUB-06-19 | " 74LS156 | 1 | 2-Line to 4-Line Decoder | |
| TUB-06-20 | " 74LS158 | 1 | Quadruple 2-Line to 1-Line Data Selectors/Multiplexers | |
| TUB-06-21 | " 74LS160 | 1 | Synchronous Presettable Decade Counter W/Direct Reset | |
| TUB-06-22 | " 74LS164 | 2 | 8-Bit Serial-In Parallel- Out Shift Register | |
| TUB-06-23 | " 74LS174 | 5 | Hex D-Type Flip-Flop W/Reset | |
| TUB-06-24 | " 74LS175 | 2 | Quadruple D-Type Flip-Flop W/Reset | |
| TUB-06-25 | " 74LS240 | 3 | Octal Buffer/Line Driver/ Line Receiver W/3-State Output | |

| No. | Name of Parts | Q'ty | Remarks | FOB Japan per pc. |
|-----------|---|------|--|----------------------|
| TUB-06-26 | IC 74LS368 | 3 | Hex Bus Driver W/3-State Output (Inverted) | |
| TUB-06-27 | Dip Switch | 1 | 76SB08 8P | |
| TUB-06-28 | Transistor | 5 | 2SC828 | |
| TUB-06-29 | " | 1 | 2SC1384 | |
| TUB-06-30 | Diode | 1 | IS1885 | |
| TUB-06-31 | " | 3 | IS1595 | |
| TUB-06-32 | " | 11 | IS2075 | |
| TUB-06-33 | Resistor | 4 | 51 Ω $\frac{1}{4}W$ | |
| TUB-06-34 | " | 4 | 100 Ω " | |
| TUB-06-35 | " | 6 | 330 Ω " | |
| TUB-06-36 | " | 5 | 390 Ω " | |
| TUB-06-37 | " | 1 | 510 Ω " | |
| TUB-06-38 | " | 7 | 1K Ω " | |
| TUB-06-39 | " | 4 | 7.5 K Ω " | |
| TUB-06-40 | " | 2 | 10K Ω " | |
| TUB-06-41 | " | 2 | 33K Ω " | |
| TUB-06-42 | Resistor Array | 3 | 1K Ω $\pm 5\%$ | |
| TUB-06-43 | " " | 3 | 4.7 K Ω " | |
| TUB-06-44 | " " | 6 | 68 Ω " | |
| TUB-06-45 | Dipped-Mica Capacitor | 1 | 180pF 50V | |
| TUB-06-46 | Ceramic Capacitor | 1 | 220pF " | |
| TUB-06-47 | " " | 1 | 330pF " | |
| TUB-06-48 | " " | 2 | 680pF " | |
| TUB-06-49 | " " | 1 | 1000pF " | |
| TUB-06-50 | " " | 2 | 0.01 μF | |
| TUB-06-51 | Electrolytic Capacitor | 2 | 33 μF 16V | |
| TUB-06-52 | " " | 1 | 47 μF " | |
| TUB-06-53 | " " | 1 | 100 μF " | |
| TUB-06-54 | " " | 2 | 220 μF 10V | |
| TUB-06-55 | Tantalum Capacitor | 1 | 3.3 μF 25V | |
| TUB-06-56 | " " | 25 | 10 μF 25V | |
| TUB-06-57 | " " | 1 | 33 μF 16V | |
| TUB-06-58 | Non-Polarized Electrolytic Capacitor | 5 | 4.7 μF 25V | |
| TUB-06-59 | Monolithic Ceramic Capacitor | 25 | 0.1 μF 50V | |
| TUB-06-60 | Crystal Oscillator | 1 | ST-5D 1225 20.160MHz. | |

4. ESS P.C. Board

| No. | Name of Parts | Q'ty | Remarks | FOB Japan per pc. |
|-----------|-----------------------|------|---|-------------------|
| TUB-07-00 | ESS P.C.Board | 1 | Complete Set | |
| TUB-07-01 | IC 74LS74 | 3 | Hex Inverter | |
| TUB-07-02 | " 8080A | 1 | 8 Bit Microprocessor | |
| TUB-07-03 | " 74LS367 | 3 | Hex Bus Driver W/3 State Output | |
| TUB-07-04 | " 8035 | 1 | 8 Bit Microprocessor | |
| TUB-07-05 | " 2708 | 1 | 1K Byte EP-ROM | |
| TUB-07-06 | " NE555 | 1 | Precision Timers | |
| TUB-07-07 | " 74LS05 | 2 | Hex Inverter with Open Collector | |
| TUB-07-08 | " LM324 | 2 | Operational Amplifiers | |
| TUB-07-09 | " 74LS32 | 1 | Quadruple 2-Input Positive OR Gate | |
| TUB-07-10 | " 74LS157 | 4 | Quadruple 2-Line to 1-Line Data Selector/Multiplexer | |
| TUB-07-11 | " 2114 | 1 | 4096 Bit Static RAM | |
| TUB-07-12 | " 74LS74 | 4 | Dual D-Type Edge Triggered Flip Flop W/Set and Reset | |
| TUB-07-13 | " 74LS175 | 2 | Quadruple D-Type Flip Flop W/Reset | |
| TUB-07-14 | " 74LS164 | 5 | 8 Bit Serial-In Parallel-Out Shift Register | |
| TUB-07-15 | " 74LS00 | 2 | Quadruple 2-Input Positive NAND Gate | |
| TUB-07-16 | " 74LS75 | 2 | Quadruple Bistable Latch | |
| TUB-07-17 | " DAC-08 | 1 | 8 Bit Digital-to-Analog Converter (CQ Rank) | |
| TUB-07-18 | " CA3080 | 2 | Operational Transconductance Amplifiers | |
| TUB-07-19 | " 74LS161 | 7 | Synchronous Presettable 4 Bit Binary Counter W/Direct Reset | |
| TUB-07-20 | " 74LS85 | 1 | 4 Bit Magnitude W/Exp | |
| TUB-07-21 | " 74LS20 | 1 | Dual 4-Input Positive NAND Gate | |
| TUB-07-22 | " 74LS10 | 2 | Triple 3-Input Positive NAND Gate | |
| TUB-07-23 | " 4049UB | 2 | C Mos Hex Inverter | |
| TUB-07-24 | " 74LS133 (74S133) | 2 | 13 NAND Gate | |
| TUB-07-25 | " 74LS86 | 1 | Quadruple 2-Input Exclusive OR Gate | |
| TUB-07-26 | " 74367 | 1 | Hex Buffer Gates and Drivers | |
| TUB-07-27 | " 4066 | 3 | C Mos Quad Bilateral Switch of Analog or Digital Signals | |

| No. | Name of Parts | Q'ty | Remarks | FOB Japan per pc. |
|-----------|---------------------------|------|--|----------------------|
| TUB-07-28 | IC 74LS27 | 1 | Triple 3-Input NOR Gate | |
| TUB-07-29 | " 74121 | 1 | Mono Stable One Shot Multi Vibrator | |
| TUB-07-30 | " 7404 | 1 | Hex Inverter Gates | |
| TUB-07-31 | " 7400 | 1 | Quad 2-Input NAND Gates | |
| TUB-07-32 | " 75461(75471) | 2 | 2-Input AND Drivers | |
| TUB-07-33 | Transistor | 2 | 2SC1740 | |
| TUB-07-34 | " | 1 | 2SA733 | |
| TUB-07-35 | " | 14 | 2SC711 (E or F type) | |
| TUB-07-36 | " | 1 | 2SC 2320 (F type) | |
| TUB-07-37 | Diode | 1 | 1S1595 | |
| TUB-07-38 | " | 12 | 1SS 53 | |
| TUB-07-39 | Tantalum Capacitor | 2 | 4.7 μ F 16V | |
| TUB-07-40 | " | 1 | 47 μ F 16V | |
| TUB-07-41 | Electrolytic Capacitor | 22 | 1 μ F 50V | |
| TUB-07-42 | " | 3 | 3.3 μ F 50V | |
| TUB-07-43 | " | 2 | 10 μ F 16V | |
| TUB-07-44 | " | 2 | 4.7 μ F 35V | |
| TUB-07-45 | " | 2 | 22 μ F 16V | |
| TUB-07-46 | " | 2 | 33 μ F 16V | |
| TUB-07-47 | " | 4 | 220 μ F 16V | |
| TUB-07-48 | Ceramic Capacitor | 42 | 0.068 μ F 25V | |
| TUB-07-49 | " " | 1 | 0.001 μ F 50V | |
| TUB-07-50 | " " | 3 | 0.01 μ F 50V | |
| TUB-07-51 | " " | 1 | 0.022 μ F 50V | |
| TUB-07-52 | Mylar Capacitor | 4 | 0.1 μ F 50V | |
| TUB-07-53 | " " | 2 | 0.033 μ F 50V | |
| TUB-07-54 | " " | 1 | 0.01 μ F 50V | |
| TUB-07-55 | " " | 2 | 0.068 μ F 25V | |
| TUB-07-56 | " " | 1 | 0.0047 μ F 25V | |
| TUB-07-57 | Semi-Fixed Resistor | 1 | 30K Ω 1/5W Blue Knob | |
| TUB-07-58 | " | 1 | 300K Ω " Red Knob | |
| TUB-07-59 | " | 1 | 300K Ω " Blue Knob | |
| TUB-07-60 | " | 1 | 2K Ω " | |
| TUB-07-61 | " | 1 | 10K Ω " | |
| TUB-07-62 | " | 1 | 1K Ω " | |

| No. | Name of Parts | Q'ty | Remarks | FOB Japan per pc. |
|-----------|------------------|------|----------------------------|----------------------|
| TUB-07-63 | Resistor(Carbon) | 2 | 10 Ω $\frac{1}{4}W$ | |
| TUB-07-64 | " " | 3 | 51 Ω " | |
| TUB-07-65 | " " | 1 | 120 Ω " | |
| TUB-07-66 | " " | 3 | 270 Ω " | |
| TUB-07-67 | " " | 1 | 330 Ω " | |
| TUB-07-68 | " " | 1 | 470 Ω " | |
| TUB-07-69 | " " | 3 | 680 Ω " | |
| TUB-07-70 | " " | 16 | 1K Ω " | |
| TUB-07-71 | " " | 4 | 1.2 K Ω " | |
| TUB-07-72 | " " | 2 | 2K Ω " | |
| TUB-07-73 | " " | 2 | 2.4 K Ω " | |
| TUB-07-74 | " " | 3 | 3.9 K Ω " | |
| TUB-07-75 | " " | 1 | 4.3 K Ω " | |
| TUB-07-76 | " " | 11 | 4.7 K Ω " | |
| TUB-07-77 | " " | 4 | 5.6 K Ω " | |
| TUB-07-78 | " " | 1 | 6.2 K Ω " | |
| TUB-07-79 | " " | 30 | 10K Ω " | |
| TUB-07-80 | " " | 1 | 1.8M Ω " | |
| TUB-07-81 | " " | 6 | 15K Ω " | |
| TUB-07-82 | " " | 1 | 22K Ω " | |
| TUB-07-83 | " " | 1 | 30K Ω " | |
| TUB-07-84 | " " | 4 | 47K Ω " | |
| TUB-07-85 | " " | 1 | 8.2 K Ω " | |
| TUB-07-86 | " " | 3 | 100K Ω " | |
| TUB-07-87 | " " | 1 | 200K Ω " | |
| TUB-07-88 | " " | 1 | 270K Ω " | |
| TUB-07-89 | " " | 1 | 300K Ω " | |
| TUB-07-90 | " " | 2 | 470K Ω " | |
| TUB-07-91 | " " | 5 | 3.3 K Ω " | |
| TUB-07-92 | Resistor Array | 1 | 1K Ω 10 elements | |

5. Power P.C. Board

| No. | Name of Parts | Q'ty | Remarks | FOB Japan per pc. |
|-----------|-------------------------|------|-----------------------------|----------------------|
| TUB 08-00 | Power P.C.Board | 1 | Complete Set | |
| TUB 08-01 | Silicon Rectifier Diode | 1 | 4B4B41 4A Bridge | |
| TUB 08-02 | " " " | 2 | 1B4B41 1A Bridge | |
| TUB 08-03 | IC 3-D-0050 | 2 | Switching Regulator IC | |
| TUB 08-04 | " TA7089 | 1 | Regulator IC | |
| TUB 08-05 | " 78M24 | 1 | 24V Regulator IC | |
| TUB 08-06 | Transistor | 2 | 2SA1012 | |
| TUB 08-07 | " | 1 | 2SA817 | |
| TUB 08-08 | " | 1 | 2SC2562 | |
| TUB 08-09 | Resistor (Carbon) | 2 | 100 Ω $\frac{1}{4}W$ | |
| TUB 08-10 | " " | 5 | 1K Ω " | |
| TUB 08-11 | " " | 1 | 3.3 K Ω " | |
| TUB 08-12 | " " | 1 | 5.1 K Ω " | |
| TUB 08-13 | " " | 1 | 15K Ω " | |
| TUB 08-14 | " (Cement) | 1 | 0.03 Ω 2W | |
| TUB 08-15 | " " | 1 | 1 Ω " | |
| TUB 08-16 | " (Coil Winding) | 1 | 0.1 Ω 1W | |
| TUB 08-17 | " (Metal) | 1 | 100 Ω 2W | |
| TUB 08-18 | " " | 1 | 510 Ω 1W | |
| TUB 08-19 | Variable Resistor | 3 | B2 K Ω | |
| TUB 08-20 | " " | 2 | B50K Ω | |
| TUB 08-21 | Electrolytic Capacitor | 2 | 2200 μ F 16V | |
| TUB 08-22 | " " | 2 | 3300 μ F 16V | |
| TUB 08-23 | " " | 3 | 10 μ F 16V | |
| TUB 08-24 | " " | 1 | 1000 μ F 35V | |
| TUB 08-25 | " " | 1 | 1000 μ F 16V | |
| TUB 08-26 | " " | 1 | 47 μ F 25V | |
| TUB 08-27 | Mylar Capacitor | 1 | 1000pF 50V | |
| TUB 08-28 | Diode | 1 | CTB24 Shot Key Diode | |
| TUB 08-29 | " | 1 | IS1834 Fast Recovery Diode | |
| TUB 08-30 | Choke Coil | 1 | 3A 200 μ H | |
| TUB 08-31 | " " | 1 | 0.5A 400 μ H | |