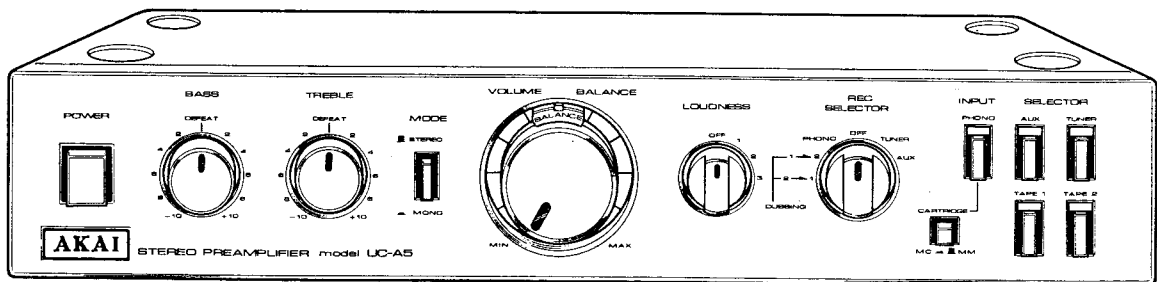
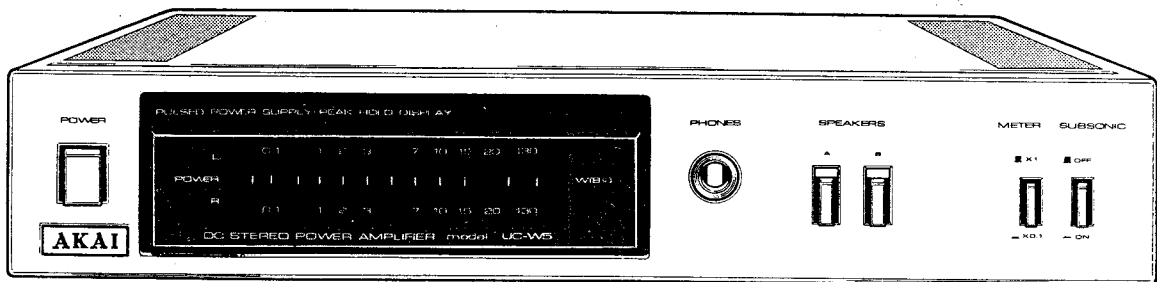


AKAI SERVICE MANUAL

UC-W5
UC-A5



DC STEREO POWER AMPLIFIER

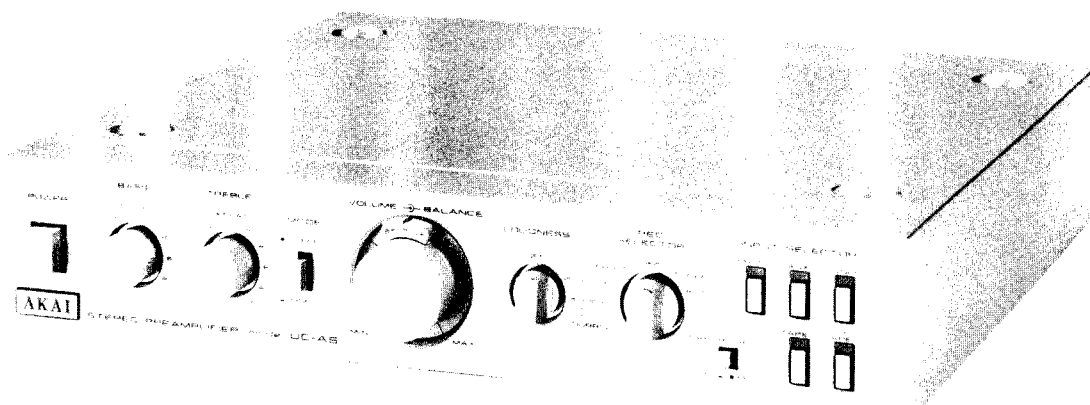
MODEL **UC-W5**

STEREO PRE AMPLIFIER

MODEL **UC-A5**



UC-W5



UC-A5

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SECTION 1
STEREO PRE AMPLIFIER

MODEL **UC-A5**

ALSO APPLICABLE TO BLACK PANEL MODEL

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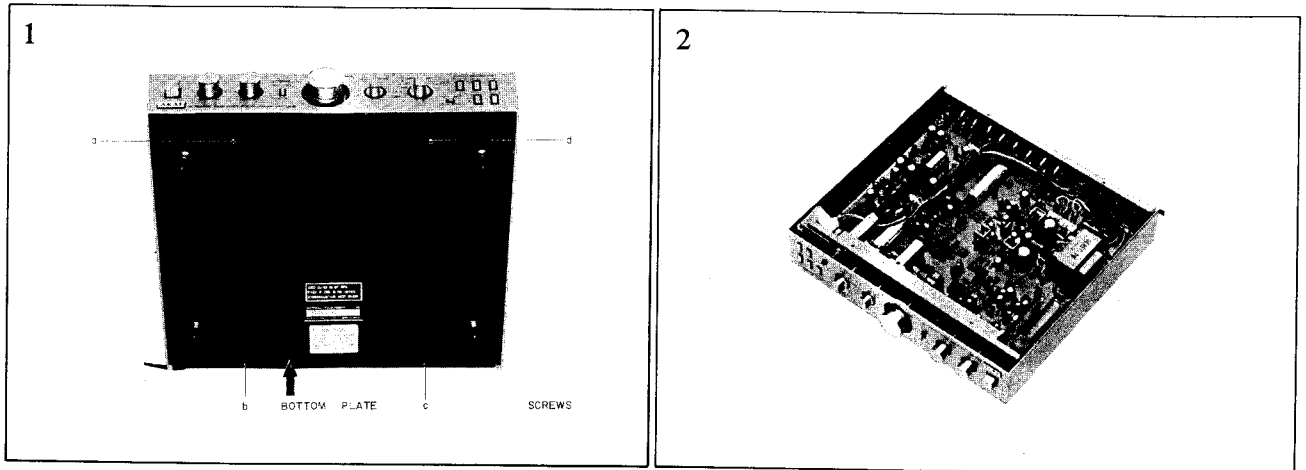
I. TECHNICAL DATA

| | | | | | | | | | |
|---|--|-----------|-----------|---------|-----------|---------|-----------|---------|---------|
| INPUT SENSITIVITY/IMPEDANCE/ SIGNAL TO NOISE RATIO (IHF "A") PHONO (MM) (MC) TUNER TAPE PLAY 1/2 | 3 mV/47 kohms/82 dB 0.08 mV/10 ohms/70 dB 150 mV/100 kohms/102 dB 150 mV/100 kohms/102 dB | | | | | | | | |
| OUTPUT LEVEL/IMPEDANCE TAPE REC 1/2 PRE OUT | 150 mV/600 ohms 1 V/600 ohms | | | | | | | | |
| PHONO MAX. INPUT LEVEL (1 kHz) PHONO (MM) (MC) | 330 mV 8 mV | | | | | | | | |
| FREQUENCY RESPONSE TUNER/AUX TAPE PLAY 1 & 2 PHONO (RIAA curve deviation) | 2 Hz to 100 kHz \pm 1 dB 30 Hz to 15 kHz \pm 0.2 dB | | | | | | | | |
| TOTAL HARMONIC DISTORTION (20 Hz to 20 kHz) TUNER/AUX TAPE PLAY 1 & 2 (Volume Max.) PHONO (REC OUT) REC OUT | 0.005% at output 5 V 0.005% at output 5 V | | | | | | | | |
| TONE CONTROL BASS TREBLE | \pm 8 dB at 100 Hz \pm 8 dB at 10 kHz | | | | | | | | |
| LOUDNESS CONTROL | <table border="0"> <tr> <td>at 100 Hz</td> <td>at 10 kHz</td> </tr> <tr> <td>1. 3 dB</td> <td>1. 2.5 dB</td> </tr> <tr> <td>2. 6 dB</td> <td>2. 5.0 dB</td> </tr> <tr> <td>3. 9 dB</td> <td>3. 8 dB</td> </tr> </table> (Volume Control set at -30 dB) | at 100 Hz | at 10 kHz | 1. 3 dB | 1. 2.5 dB | 2. 6 dB | 2. 5.0 dB | 3. 9 dB | 3. 8 dB |
| at 100 Hz | at 10 kHz | | | | | | | | |
| 1. 3 dB | 1. 2.5 dB | | | | | | | | |
| 2. 6 dB | 2. 5.0 dB | | | | | | | | |
| 3. 9 dB | 3. 8 dB | | | | | | | | |
| CHANNEL SEPARATION (AUX) | 70 dB (Shorted Circuit) | | | | | | | | |
| POWER REQUIREMENTS | 100 V, 50/60 Hz for Japan 120 V, 60 Hz for USA and Canada 220 V, 50 Hz for Europe except UK 240 V, 50 Hz for UK and Australia 110 V, 220/240V, 50/60 Hz internally switchable for other countries | | | | | | | | |
| POWER CONSUMPTION | U/T, CSA, AAL 20 W JPN 13 W | | | | | | | | |
| DIMENSIONS (W x H x D) | 280 x 56 x 281 mm (11.0 x 2.2 x 11.1 inch) | | | | | | | | |
| WEIGHT | 2.6 kg (5.7 lbs) | | | | | | | | |

* For improvements purposes, specifications and design are subject to change without notice.

II. DISMANTLING OF UNIT

In case of trouble, etc. necessitating dismantling, please dismantle in the order shown in the Photographs. Reassemble in reverse order.



III. CONTROLS

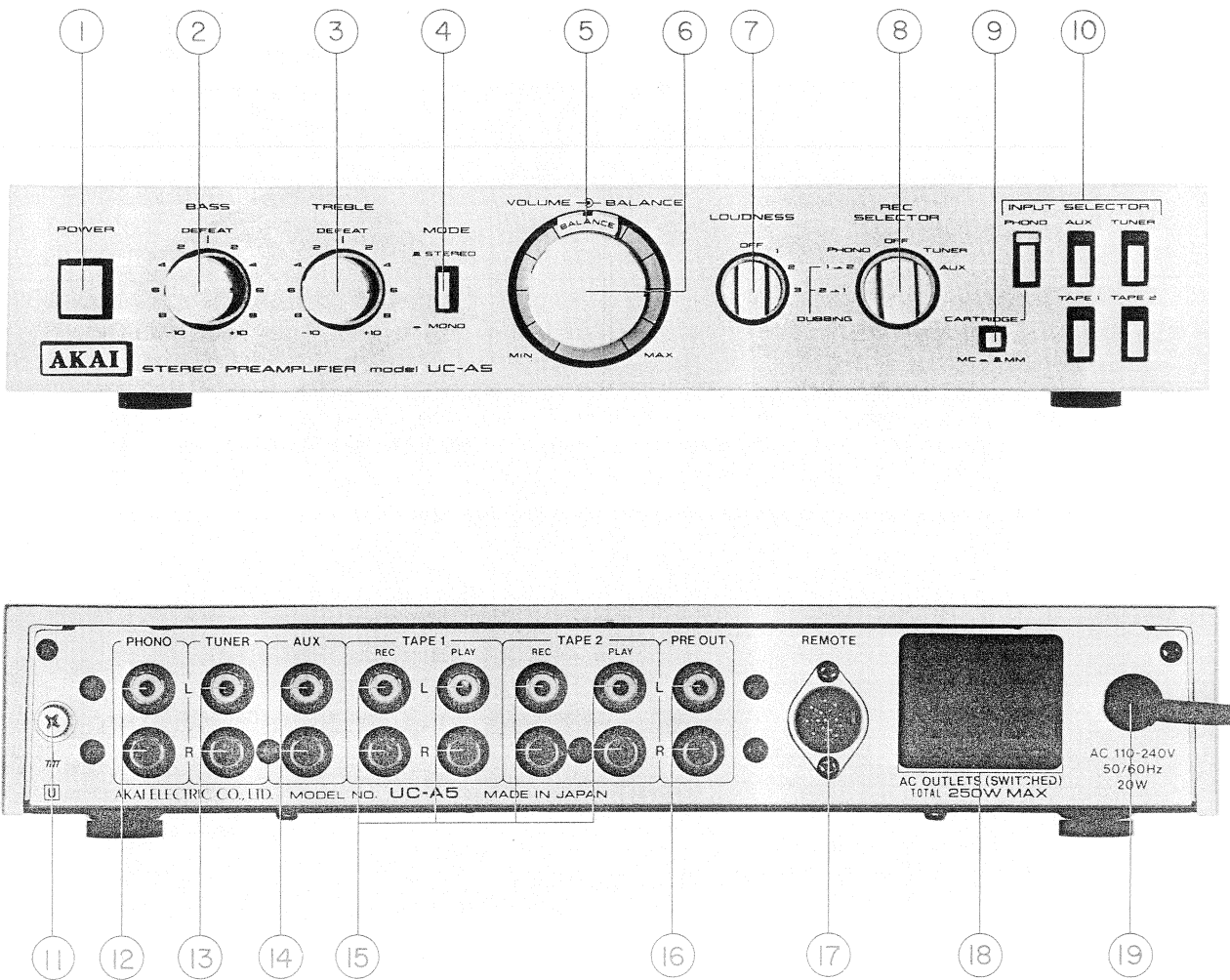


Fig. 1 Controls

- | | |
|---|---|
| <ol style="list-style-type: none"> 1. POWER SWITCH 2. BASS TONE CONTROL 3. TREBLE TONE CONTROL 4. MODE SELECTOR 5. BALANCE CONTROL 6. VOLUME CONTROL 7. LOUDNESS SWITCH 8. REC SELECTOR 9. CARTRIDGE 10. INPUT SELECTOR | <ol style="list-style-type: none"> 11. GROUND TERMINAL 12. PHONO TERMINALS 13. TUNER TERMINALS 14. AUX TERMINALS 15. TAPE 1 and TAPE 2 TERMINALS 16. PRE-OUT TERMINALS (OUTPUT) 17. REMOTE CONTROL 18. AC OUTLETS (Some of these are not equipped with this facility) 19. AC POWER INPUT CORD OR INLET |
|---|---|

IV. PRINCIPAL PARTS LOCATION

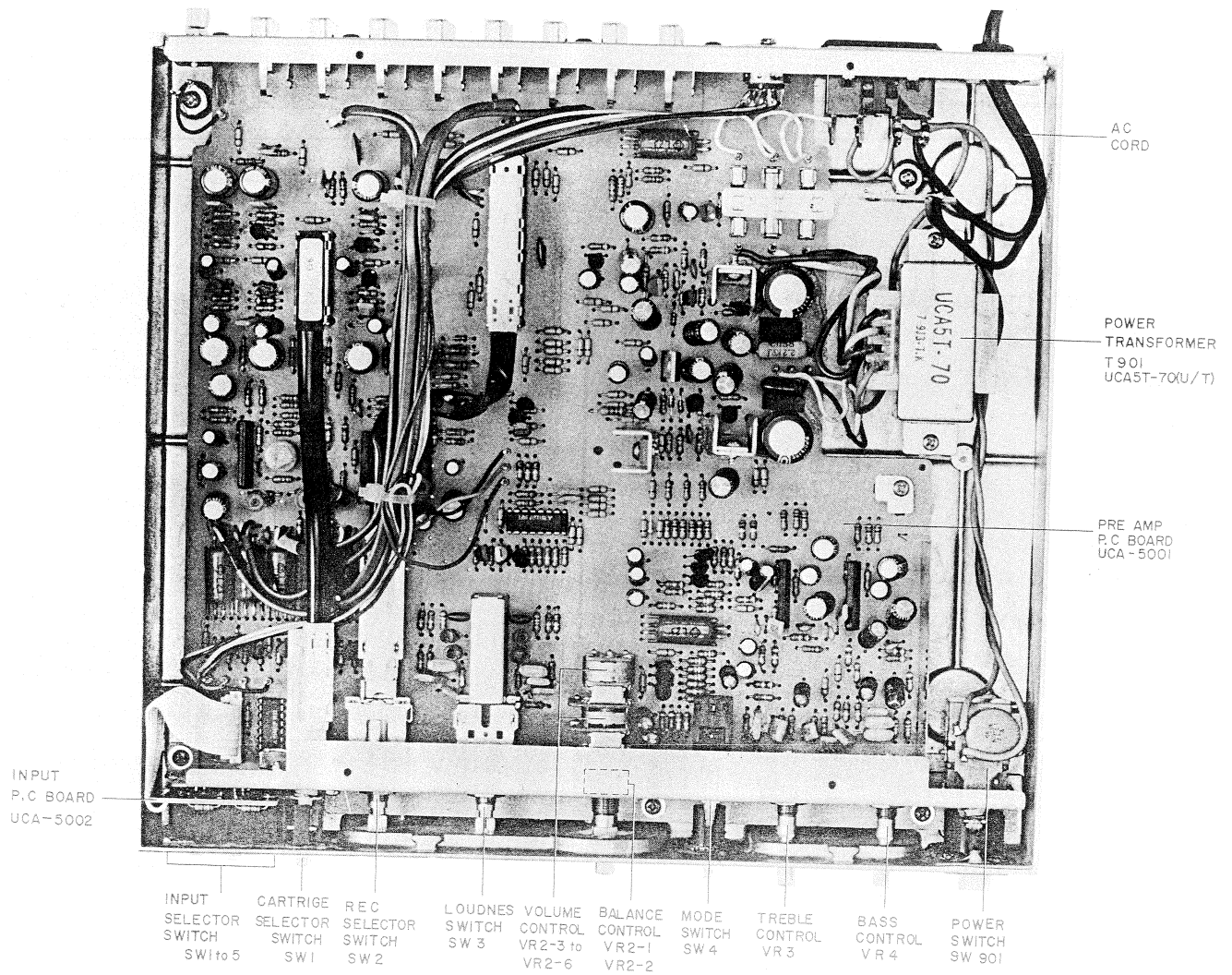


Fig. 2 Rear View

V. VOLTAGE CONVERSION

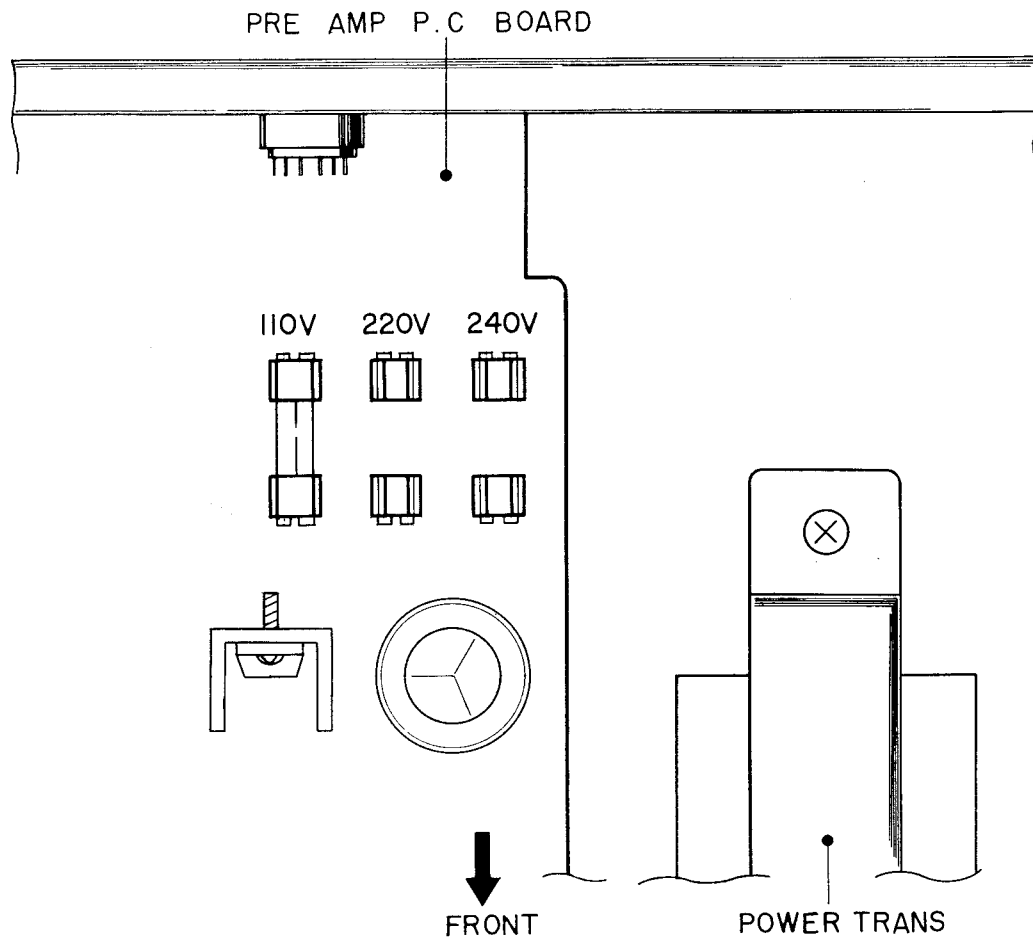


Fig. 3 Voltage Conversion (U/T Model)

1. U/T Model (Refer to Fig. 3)

- 1) Switch OFF power and remove power cord from mains supply.
- 2) Loosen holding screws and remove bottom panel.
- 3) Remove existing Line Voltage Fuse and insert required Line Voltage Fuse in the proper fuse holder.
110 V : 500 mA
220 V : 250 mA
240 V : 250 mA

2. Models other than U/T

No voltage conversion.

VI. ADJUSTMENT

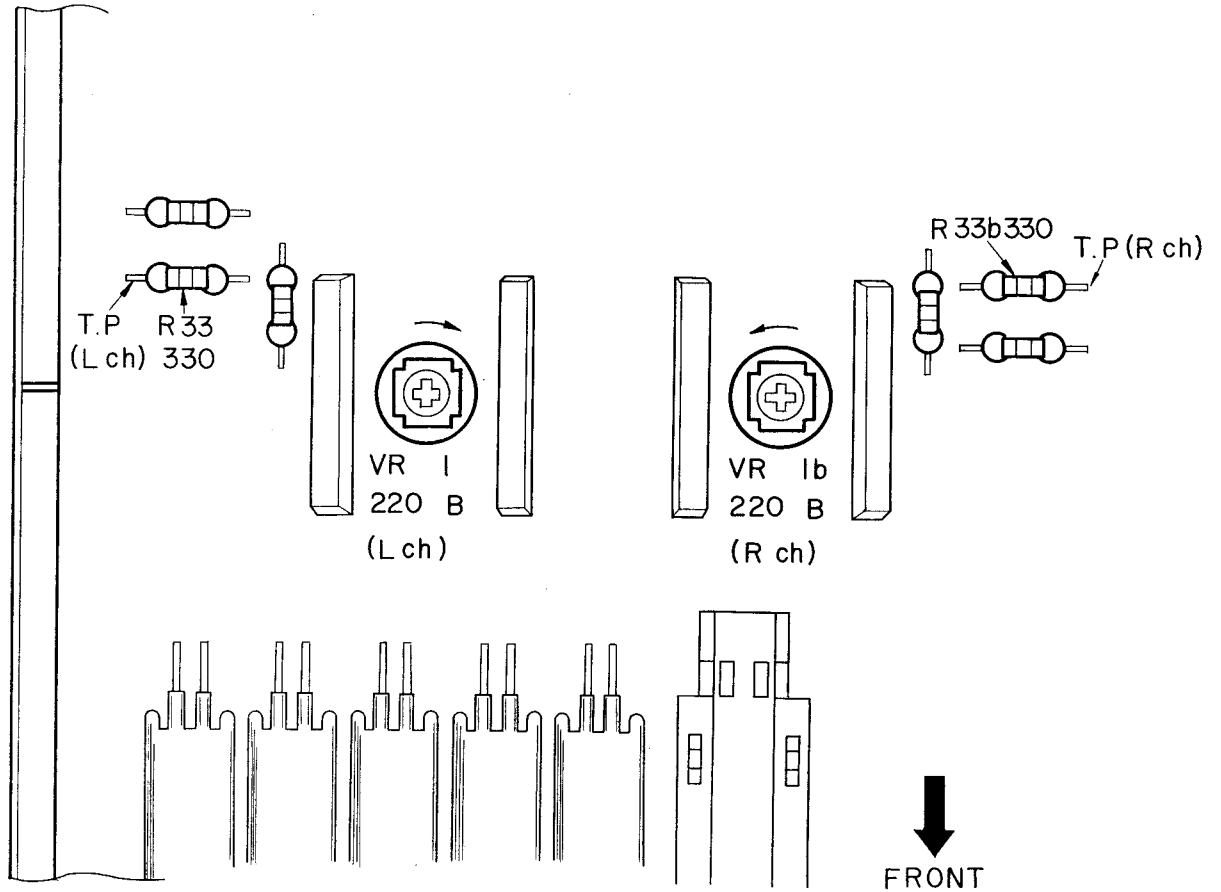


Fig. 4 Adjustment Points

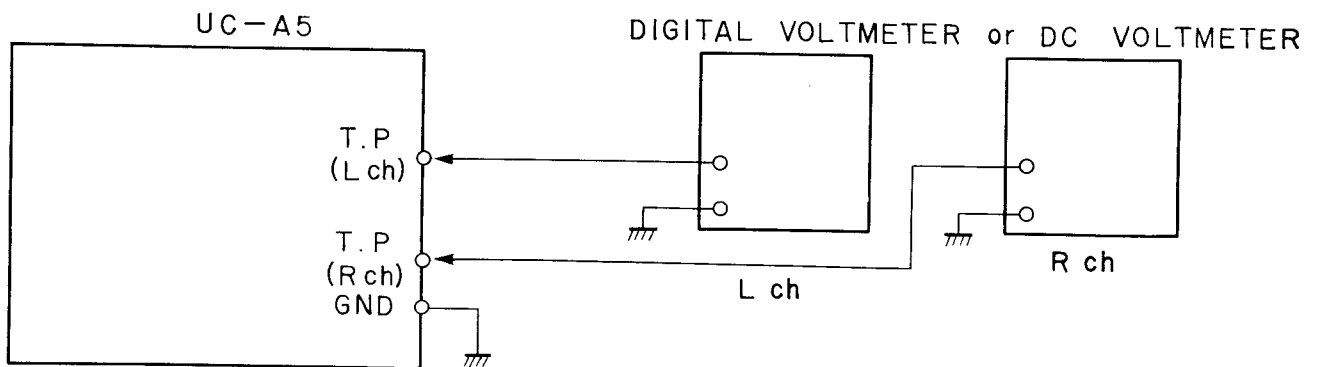


Fig. 5 Instrument Connections

1. CENTER OFF-SET VOLTAGE ADJUSTMENT (Refer to Figs. 4, 5)

Connect the Digital Voltmeter or DC Voltmeter between T.P and Ground. Adjust the VR 1 (220 B) so that Voltmeter reading is 0 ± 50 mV.

VII. CLASSIFICATION OF VARIOUS P.C BOARDS

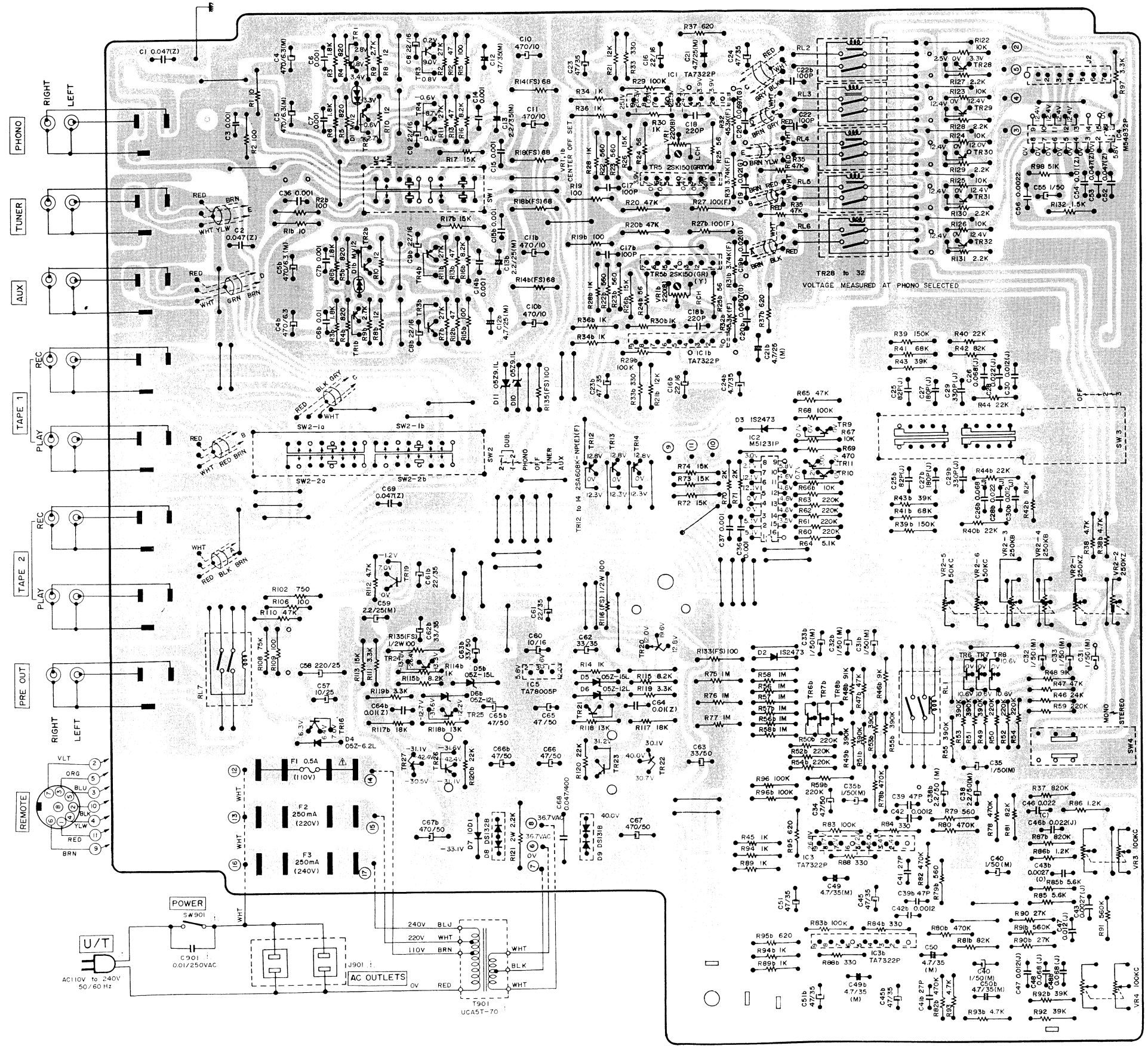
1. P.C BOARD TITLE AND IDENTIFICATION NUMBERS

| P.C Board Title | P.C Board Number |
|-------------------|------------------|
| Pre Amp P.C Board | UCA-5001 |
| Input P.C Board | UCA-5002 |

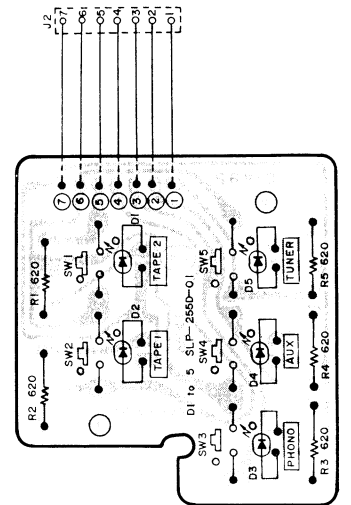
2. COMPOSITION OF VARIOUS P.C BOARDS

PRE AMP P.C BOARD UCA-5001 (2ED) and INPUT P.C BOARD UCA-5002

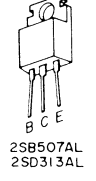
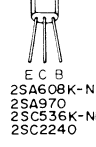
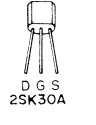
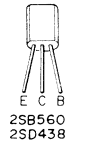
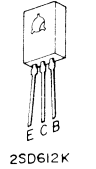
WARNING: Δ INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS.
 AVERTISSEMENT: Δ IL INDIQUE LES COMPOSANTS CRITIQUES DE SÛRETÉ. POUR MAINTENIR LE DEGRÉ DE SÛRETÉ DE L'APPAREIL, NE REMPLACER LES COMPOSANTS DONT LE FONCTIONNEMENT EST CRITIQUE POUR LA SÛRETÉ QUE PAR DES PIÈCES RECOMMANDÉES PAR LE FABRICANT.



- SW 1 CARTRIDGE
- SW 2 REC SELECTOR
- LOUDNESS
- BALANCE
- VOLUME
- MODE
- TREBLE
- BASS

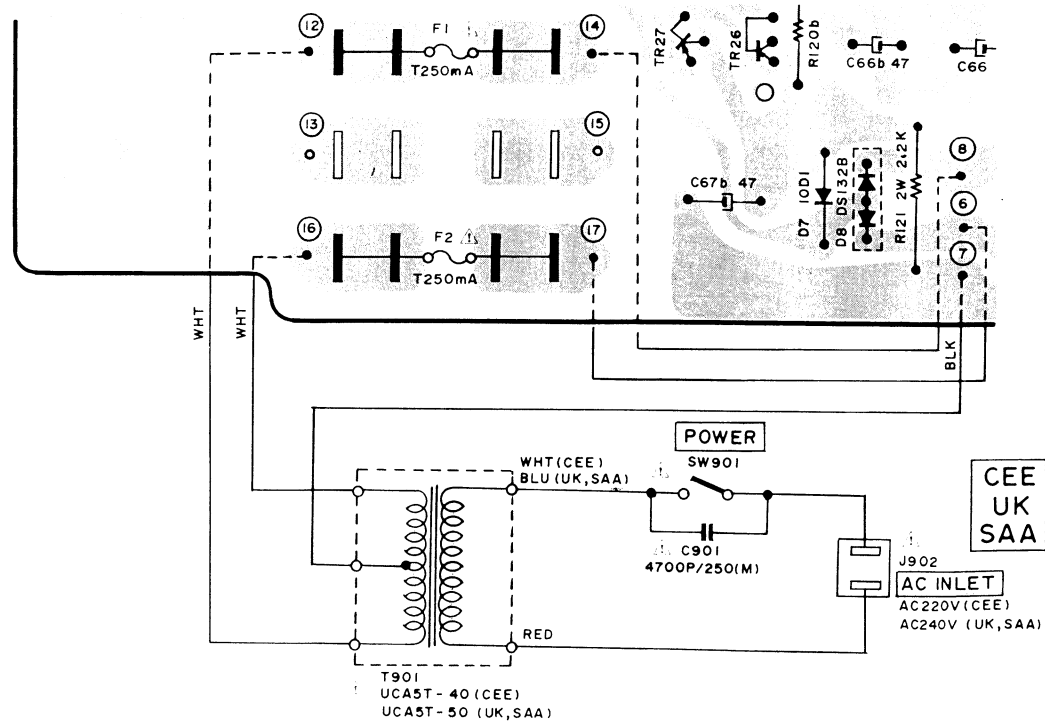
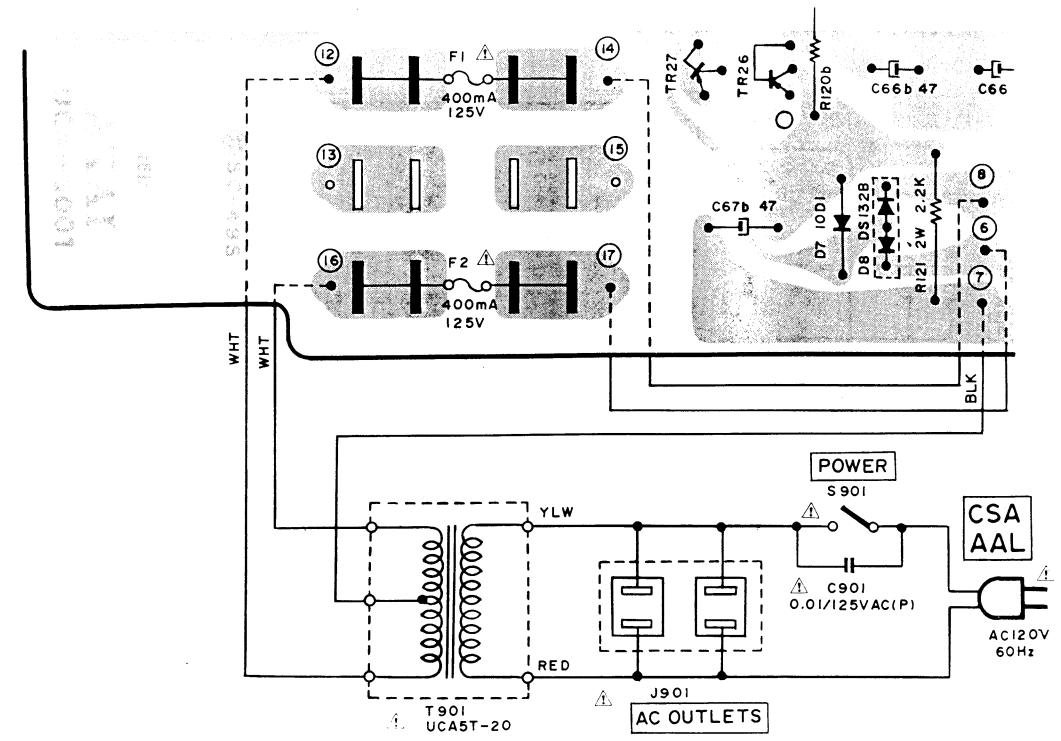
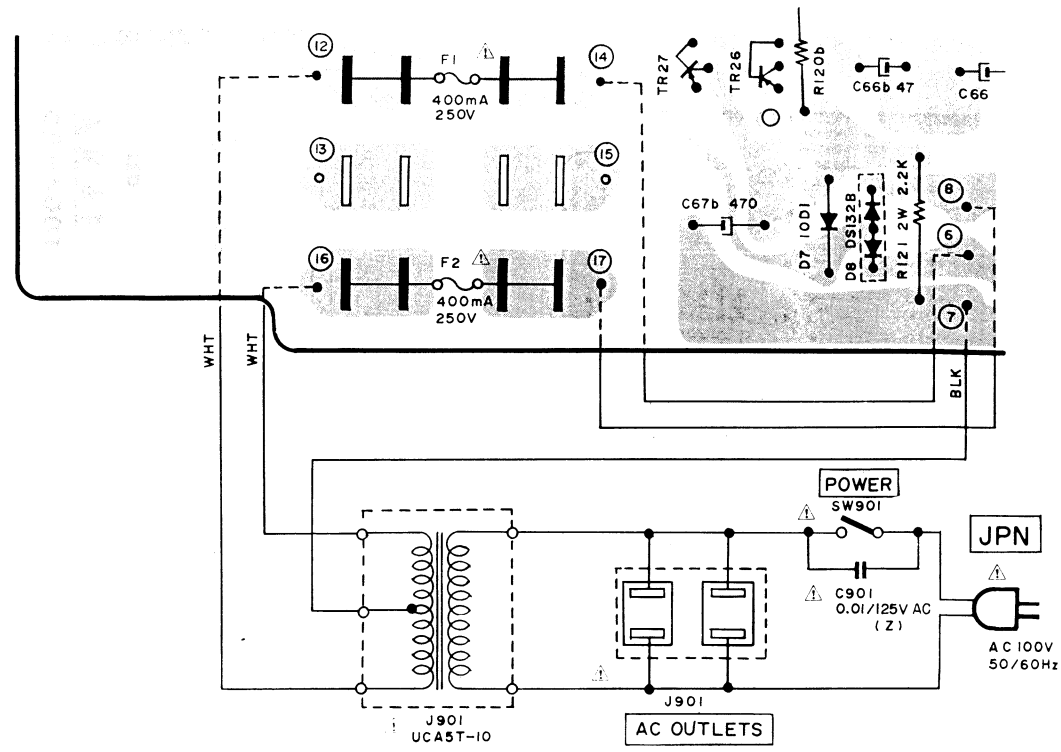


INPUT P.C BOARD UCA-5002



- TR1,4 25A970(GR)(BL)
- TR2,3 25C2240(GR)(BL)
- TR6 to 8 25K30A(Y)(GR)
- TR9 to 11 25C536K-NP(E)(F)
- 19,21,23 25C536K-NP(E)(F)
- TR6 25D43B(E)(F)
- TR20 25D612K(E)(F)
- TR22 25D313AL(D)(E)(F)
- TR24 25B560(E)(F)
- *TR12 to 14 25A608K-NP(E)(F)
- 25 25C536K-NP(E)(F)
- TR27 25B507AL(D)(E)(F)

PRE AMP P.C BOARD UCA-5001



WARNING: ⚠ INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS.

AVERTISSEMENT: ⚠ IL INDIQUE LES COMPOSANTS CRITIQUES DE SÛRETÉ. POUR MAINTENIR LE DEGRÉ DE SÛRETÉ DE L'APPAREIL, NE REMPLACEZ LES COMPOSANTS DONT LE FONCTIONNEMENT EST CRITIQUE POUR LA SÛRETÉ QUE PAR DES PIÈCES RECOMMANDÉES PAR LE FABRICANT.

SECTION 2

DC STEREO POWER AMPLIFIER

MODEL **UC-W5**

ALSO APPLICABLE TO BLACK PANEL MODEL

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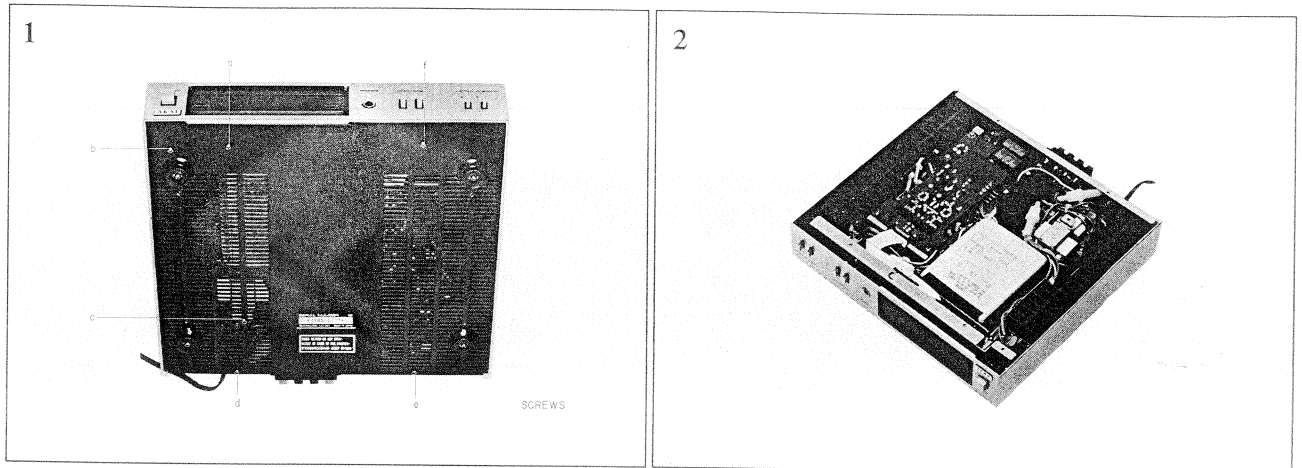
I. TECHNICAL DATA

| | |
|--|--|
| INPUT SENSITIVITY/IMPEDANCE MAIN IN | 1 V/47 kohms |
| RATED POWER OUTPUT 2-CHANNELS DRIVEN | 35 watts per channel, minimum RMS, at 8 ohms from 20 to 20,000 Hz with no more than 0.01% T.H.D. |
| TOTAL HARMONIC DISTORTION | 0.01% at rated power output |
| INTERMODULATION DISTORTION | 0.01% at rated power output |
| POWER BANDWIDTH (IHF) | 6 Hz to 60 kHz/8 ohms (T.H.D.: 0.05%) |
| SIGNAL TO NOISE RATIO (IHF "A") | 115 dB |
| RESIDUAL NOISE (IHF "A" ohms) | Less than 0.05 mV |
| DAMPING FACTOR | More than 100 (1 kHz, 8 ohms) |
| OUTPUT (Required load impedance) SPEAKERS PHONES | A, B (4 to 16 ohms)/A + B (8 to 16 ohms) to 8 ohms |
| FREQUENCY RESPONSE SUBSONIC FILTER | DC to 100 kohms, +0 dB, -0.5 dB 6 dB/oct at 18 Hz |
| METER × 0.1 × 1 | 0.01 to 13 W (at 8 ohms) 0.1 to 130 W (at 8 ohms) |
| POWER REQUIREMENTS | 100V, 50/60 Hz for Japan 120V, 60 Hz for USA and Canada 220V, 50 Hz for Europe except UK 240V, 50 Hz for UK and Australia 110V – 120/220/240V, 50/60 Hz internally switchable for other countries |
| POWER CONSUMPTION | U/T, CSA, AAL 160W, JPN 95W |
| DIMENSIONS | 280 (W) × 56 (H) × 284 (D) mm (11.0 × 2.2 × 11.2 inches) |
| WEIGHT | 3.4 kg (7.5 lbs) |

* For improvements purposes, specifications and design are subject to change without notice.

II. DISMANTLING OF UNIT

In case of trouble, etc. necessitating dismantling, please dismantle in the order shown in the Photographs. Reassemble in reverse order.



III. CONTROLS

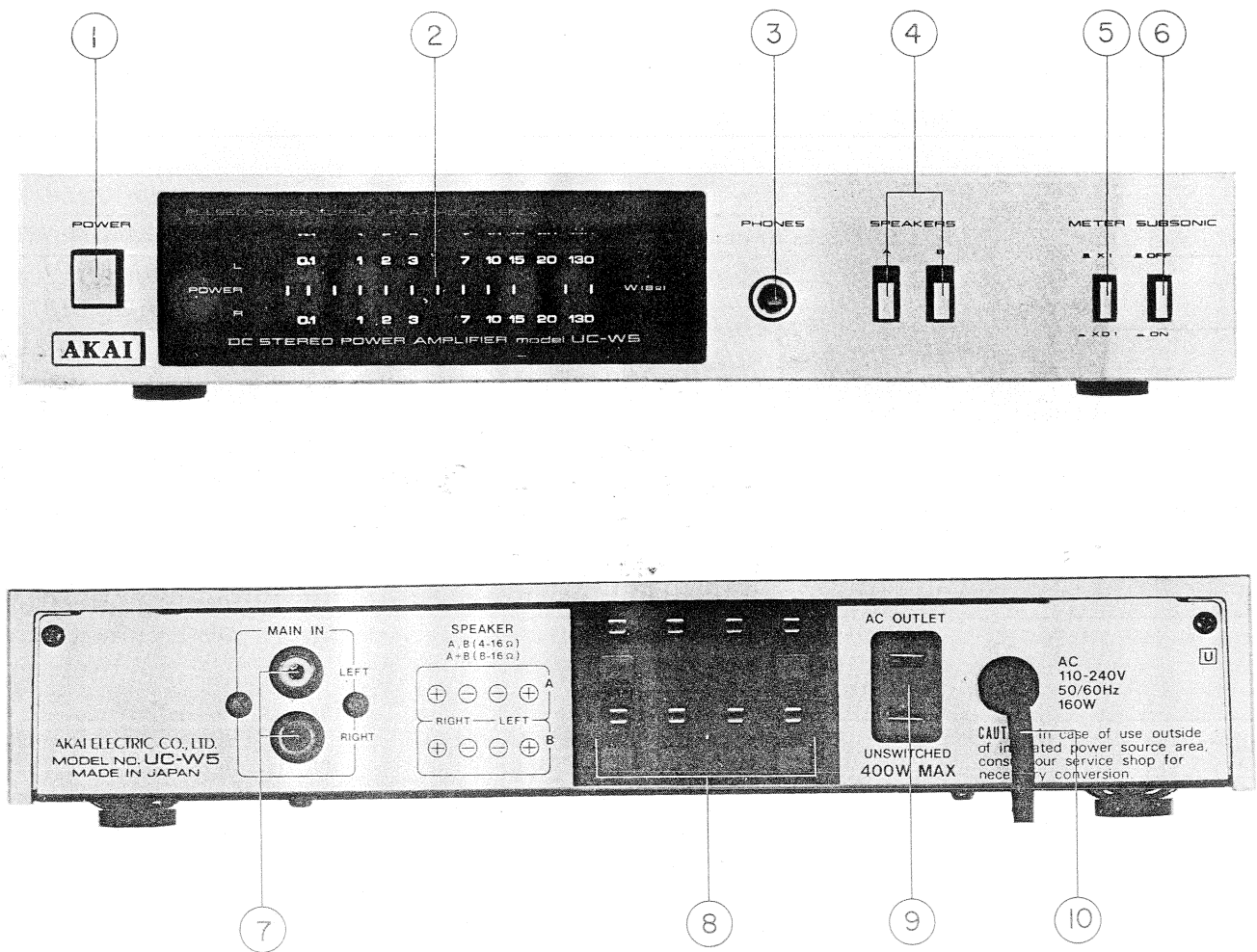


Fig. 1 Controls

- | | |
|---|--|
| <ol style="list-style-type: none"> 1. POWER SWITCH 2. POWER METER 3. PHONES JACK 4. SPEAKERS SWITCHES 5. METER SWITCH 6. SUBSONIC FILTER SWITCH | <ol style="list-style-type: none"> 7. MAIN IN TERMINALS (INPUT) 8. SPEAKER TERMINALS 9. AC OUTLET : UNSWITCHED (Some models are not equipped with this facility) 10. AC POWER INPUT CORD (Some models are equipped with an AC INLET) |
|---|--|

IV. PRINCIPAL PARTS LOCATION

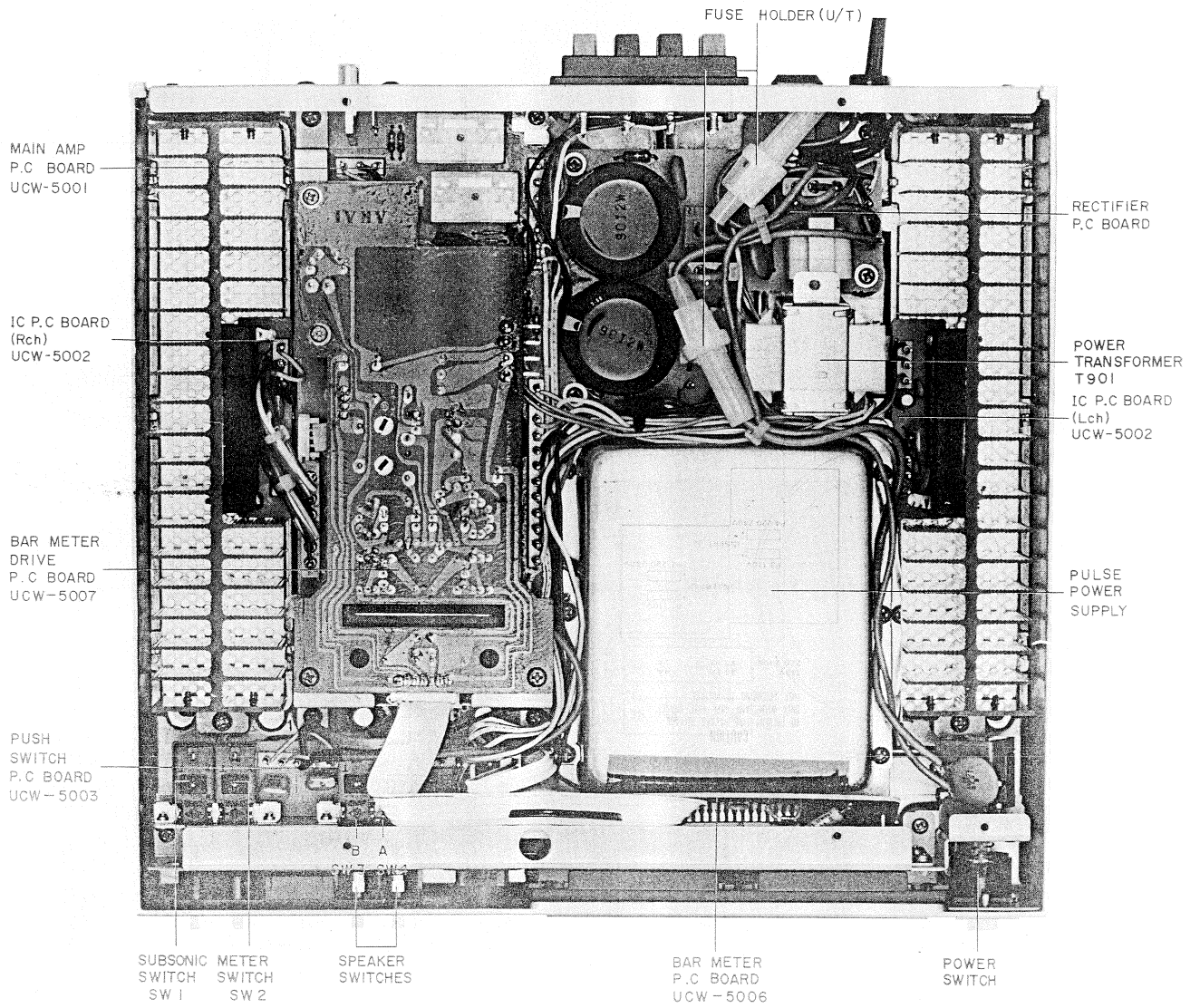


Fig. 2 Rear View

V. VOLTAGE CONVERSION

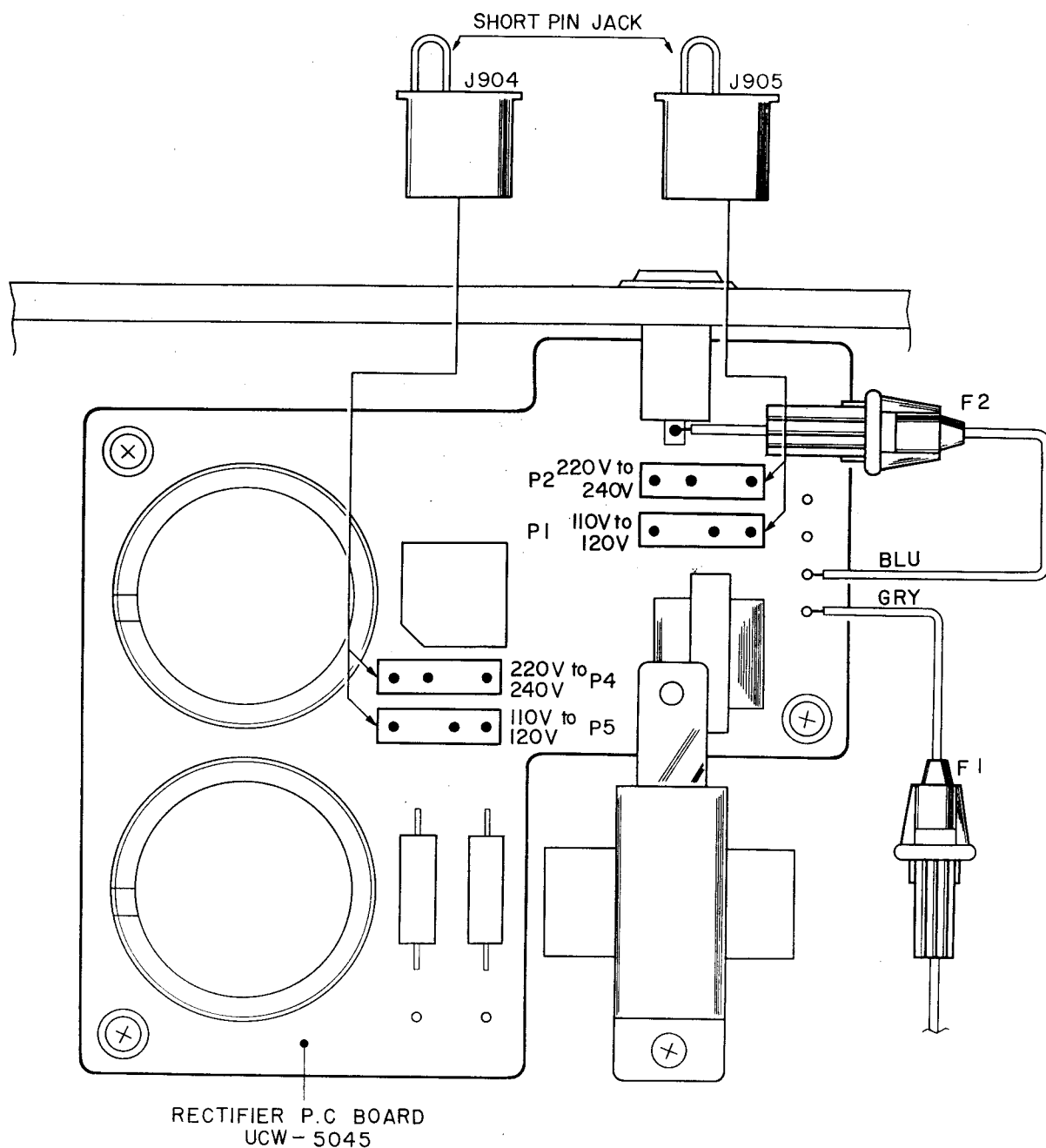


Fig. 3 Voltage Conversion (U/T Model)

1. U/T Model (Refer to Fig. 3)

- 1) Switch OFF the power supply and remove the power cord from the mains supply.
- 2) Loosen the holding screws and remove the bottom panel.
- 3) Insert the short pin jacks J904 and J905 (Refer to Fig. 3).
- 4) Change the fuse (F 1, F 2) : 4 A for 110 V to 120 V and 2 A for 220 V to 240 V.

2. Models other than U/T

No voltage conversion.

VI. OPERATION OF PULSE POWER CIRCUIT

The Pulse Power Circuit is composed of a high-voltage rectifier circuit, oscillator starting circuit, inverter circuit (blocking oscillator circuit), transformer circuit, rectifier circuit and smoothing circuit as shown below.

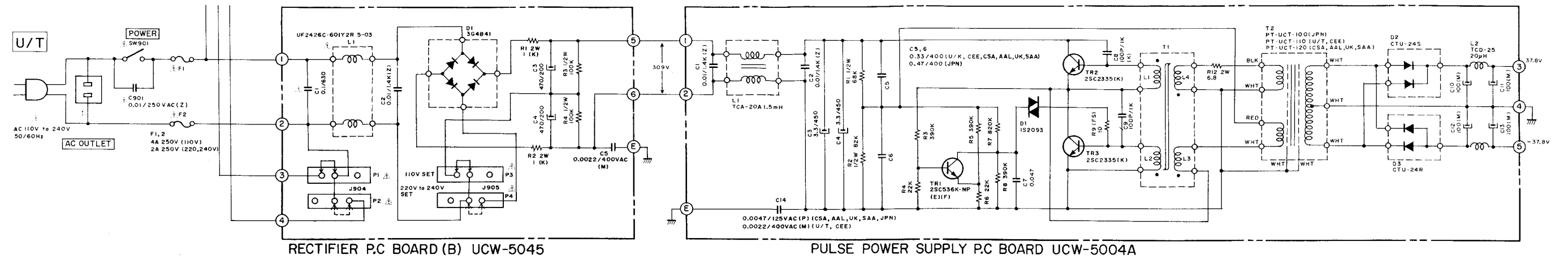
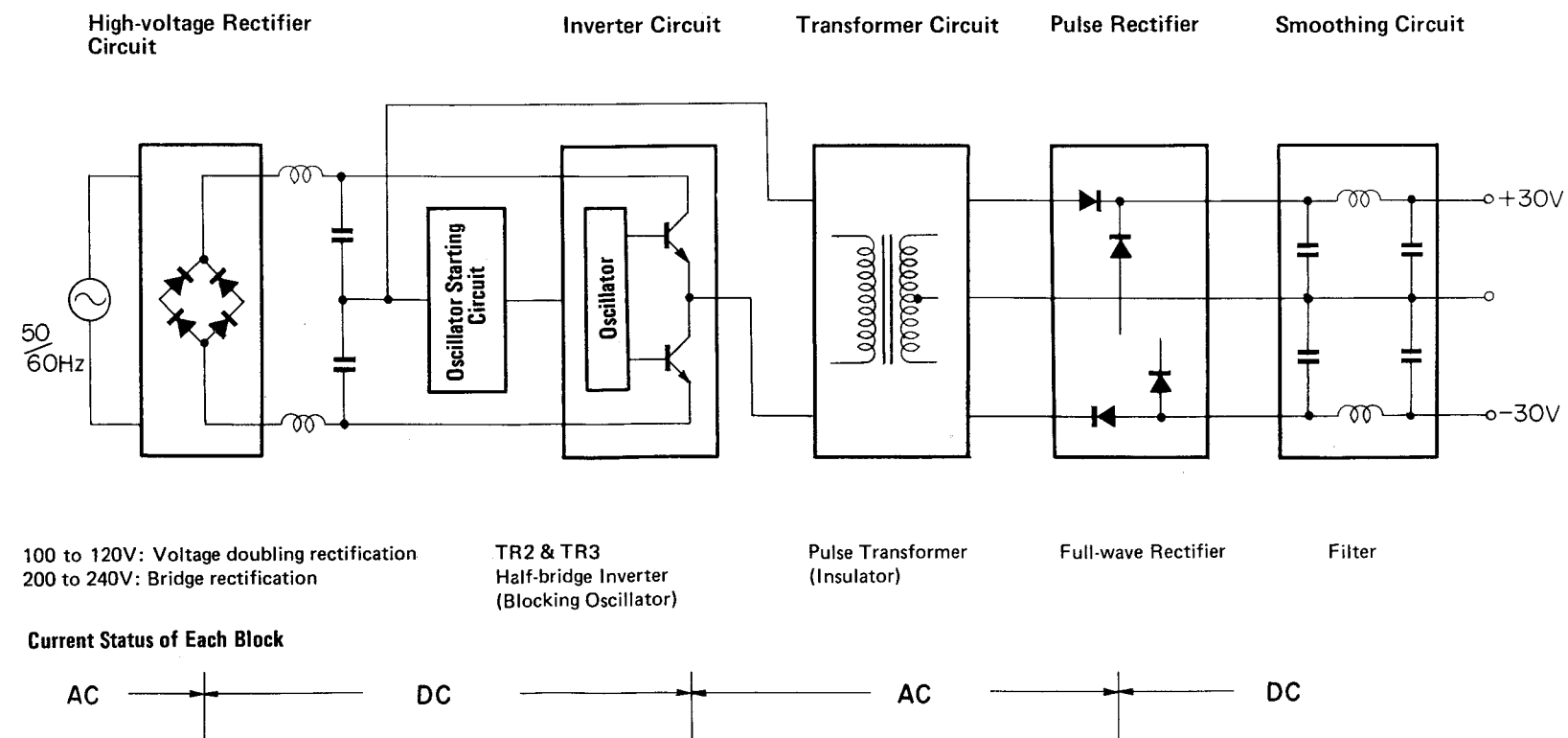


Fig. 4 Schematic diagram for power section

1. HIGH-VOLTAGE RECTIFIER CIRCUIT

Either the voltage doubling rectifier system, or the bridge rectifier system is selected according to the difference in the power supply voltage. That is, voltage doubling rectification is adopted for input voltage of 100 to 120V (for the U.S. Canada and Japan), while bridge rectification is adopted for those of 220 to 240V (for Europe, etc.), to obtain a DC voltage of approximately 300V.



Voltage and Current Characteristics

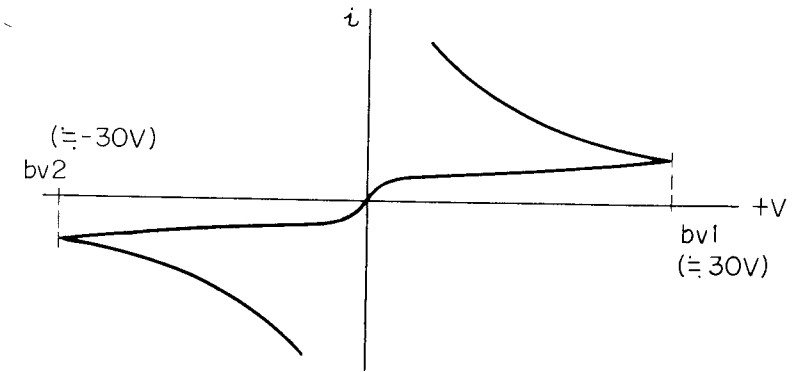


Fig. 6 Diode characteristics

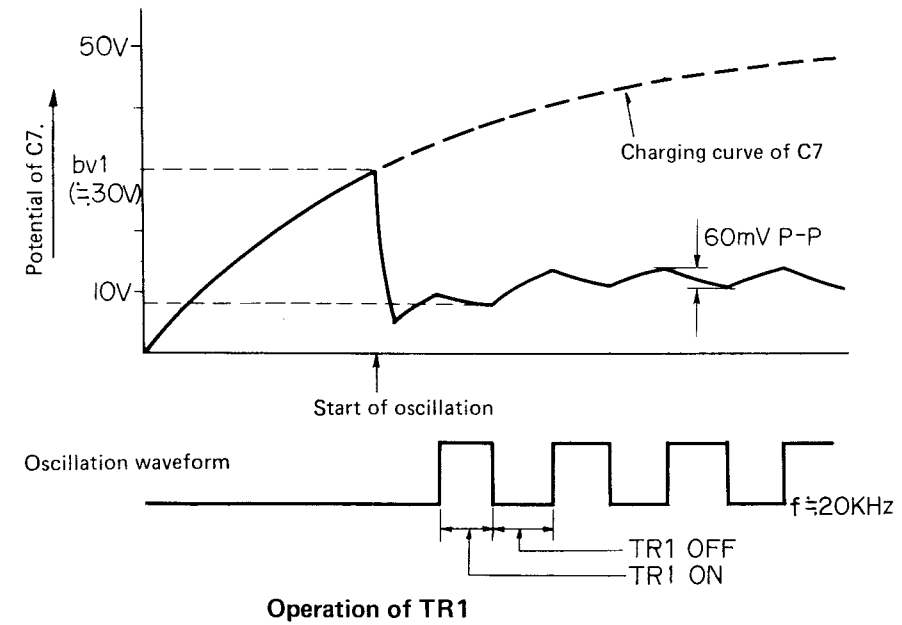


Fig. 7 Operation of TR1

2. OSCILLATOR STARTING CIRCUIT

At power switch-on, this circuit creates an initial pulse which starts the inverter circuit of the next stage. D1 is a double-directional trigger diode that quickly turns on when the voltage at both ends exceeds the breakover voltage (approx. 30V) as breakdown voltage flows through it. When the potential of C7 is raised to about 30V by switching-on the power, it will cause a positive trigger pulse to be applied to the base of TR3, thereby starting oscillation.

During oscillation, 20 kHz and 300 Vp-p square waves will appear at the intersecting point of TR2 and TR3, so that TR1 will repeat the 20 kHz switching operation. That is, the potential of C7 will be discharged when it is turned on, whereas C7 will be charged when turned off. For this reason, the potential of C7 will not reach the break-over voltage of D1, as can be seen from Fig. 7, so that D1 will be in a high-impedance state. And the operations of these circuits are absolutely unrelated to those of other circuits.

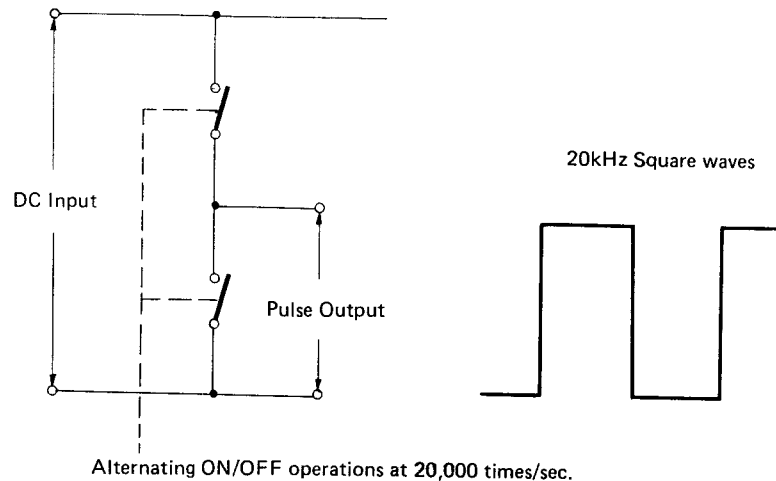


Fig. 8 Principle diagram of inverter

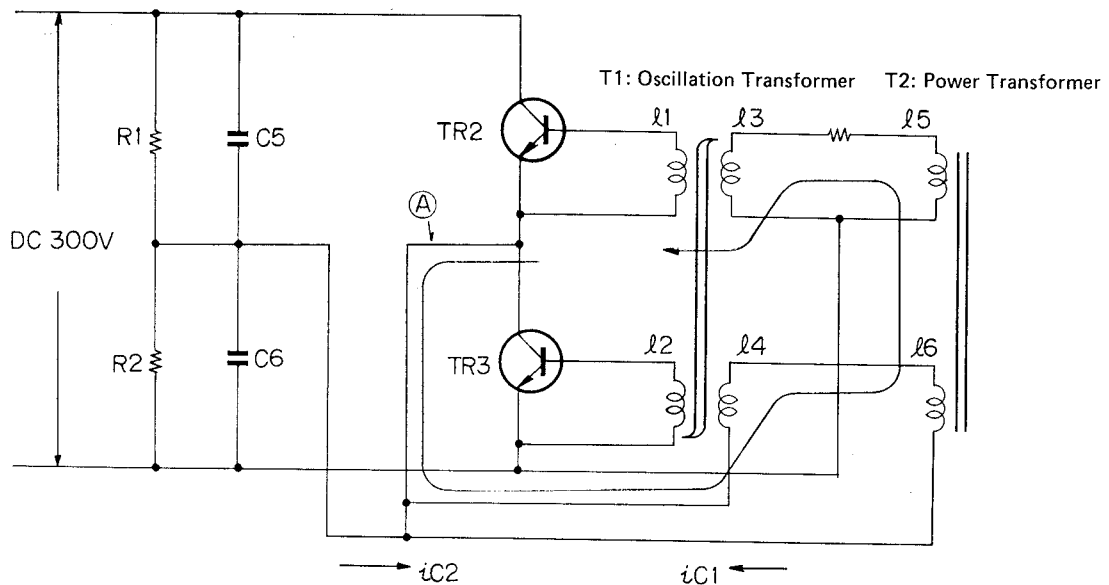


Fig. 9 Basic schematic diagram

3. INVERTER CIRCUIT (BLOCKING OSCILLATOR CIRCUIT)

This circuit functions to convert DC voltage into pulsating alternating voltage. By turning on TR2 and TR3 alternately, it causes pulse (square waves) to be generated at the intersecting point of TR2 and TR3. The 300V is divided into 150V and applied to the mid-point of C5 (R1) and C6 (R2). (This will be referred as the mid-point hereinafter.)

First, a trigger pulse is applied to the base of TR3 by the oscillator starting circuit. This causes TR3 to turn on and a collector current i_{C2} to flow in from the mid-point. Since this current flows from l_6 to l_4 , current will also be induced in l_5 and l_3 . Therefore, this current will be fed back to coil l_2 of TR3's base, following flux variations in T1 (Troidal trans-

former) which accompany current variations in l_3 . As this loop is formed in a direction that realizes positive feedback, collector current i_{C2} will continue to increase with the increase in the base current of TR3. As a result, the current flowing through l_3 will also continue to increase, causing the flux density to become higher and to eventually reach saturation after the passage of a certain time. When the flux saturates so that the flux no longer varies, the l_3 to l_2 loop will be disconnected as a result. However, even after this positive feedback loop has been disconnected, collector current i_{C2} will continue to flow for a while, due to the action of the counter electromotive force that works in the direction that permits continued current flow. But, soon, the collector current will start to decrease rapidly.

TR2 ON (TR3 OFF) Period

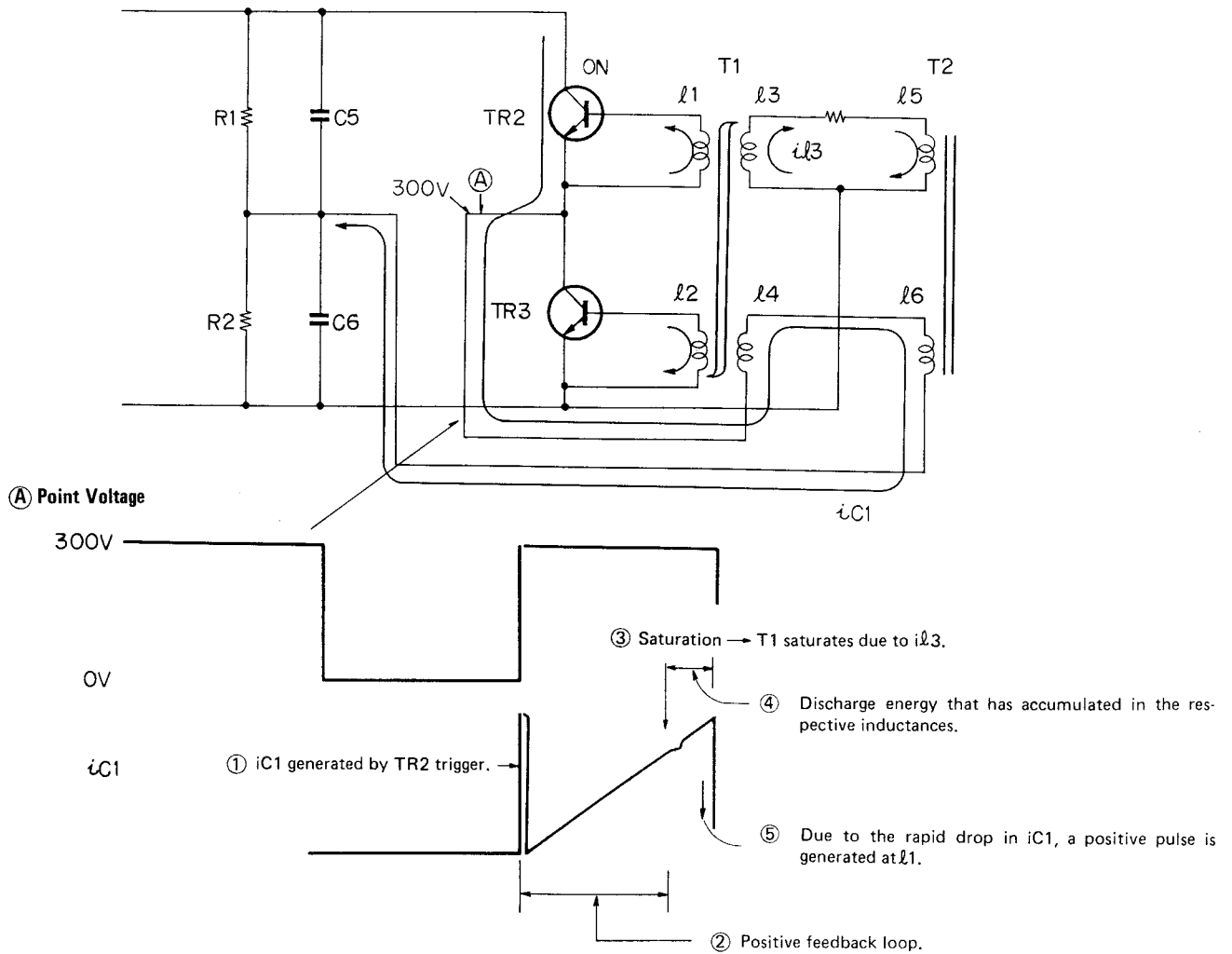


Fig. 10 TR2 turn-on period

During the above process, TR3 will be turned on, while TR2 will be "cut-off". This is because coil $l1$ of TR2's base is wound in a direction opposite to which $l2$ is wound, so that an inverse-direction voltage will be induced for TR2's base-emitter potential V_{BE} . For this reason, the potential of the intersecting point of TR2 and TR3 will become "0"V. When i_{C2} starts to decrease rapidly, the resultant flux variation will cause a positive pulse to be generated at $l1$, which, in turn, will cause TR2 to turn on and TR3 to be cut-off.

Likewise, when the collector (emitter) current i_{C2} flows in the order of $l4$ to $l6$ to mid-point, it will cause a positive feedback loop of $l6$ to $l5$ to $l3$ to $l1$ to be formed, so that a process similar to that just described will take place.

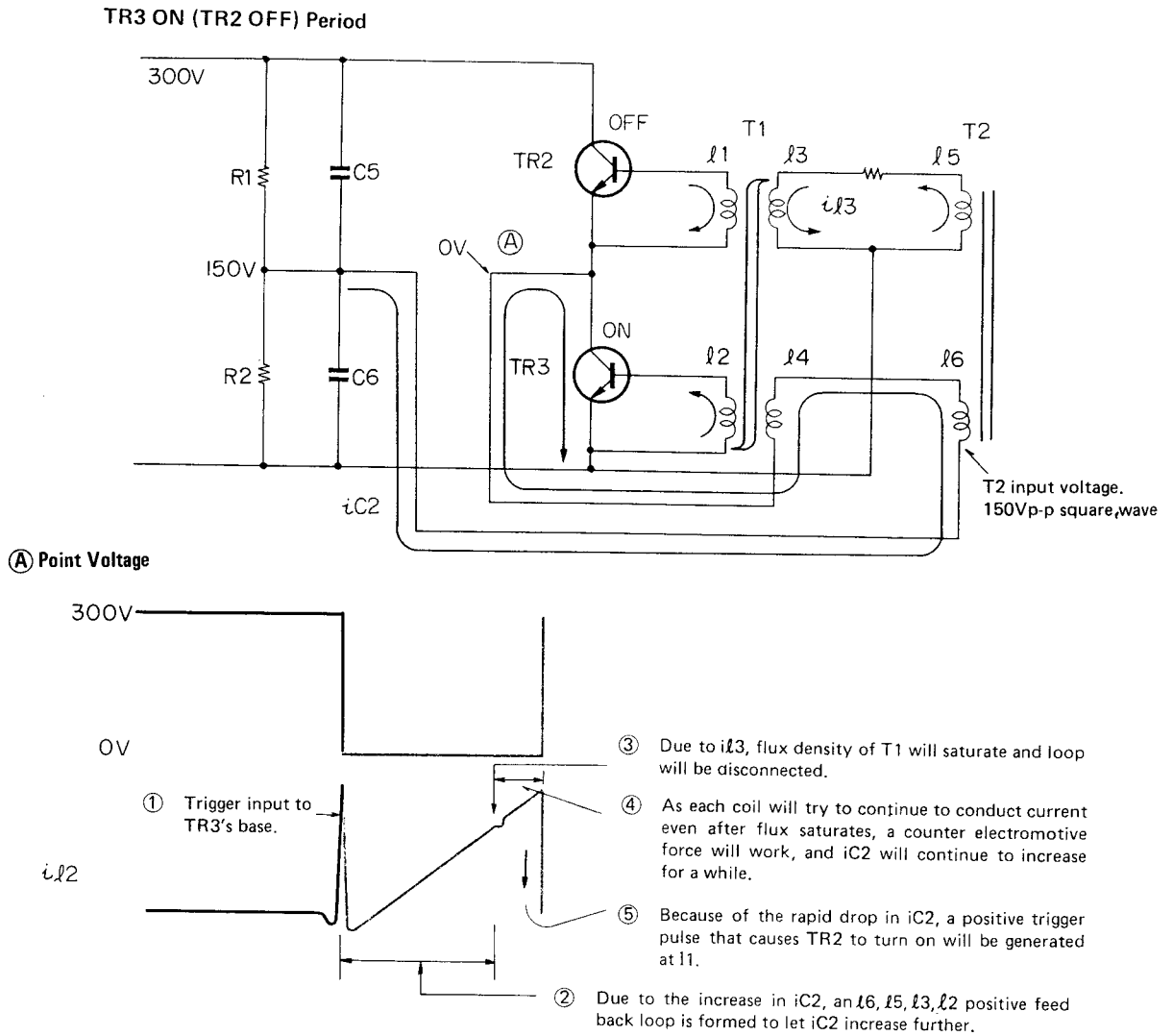


Fig. 11 TR3 turn-on period

In this way, TR2 and TR3 will be alternately turned on again and again, causing square waves to be generated. Fig. 11 gives the waveforms appearing at the respective sections during the serial process.

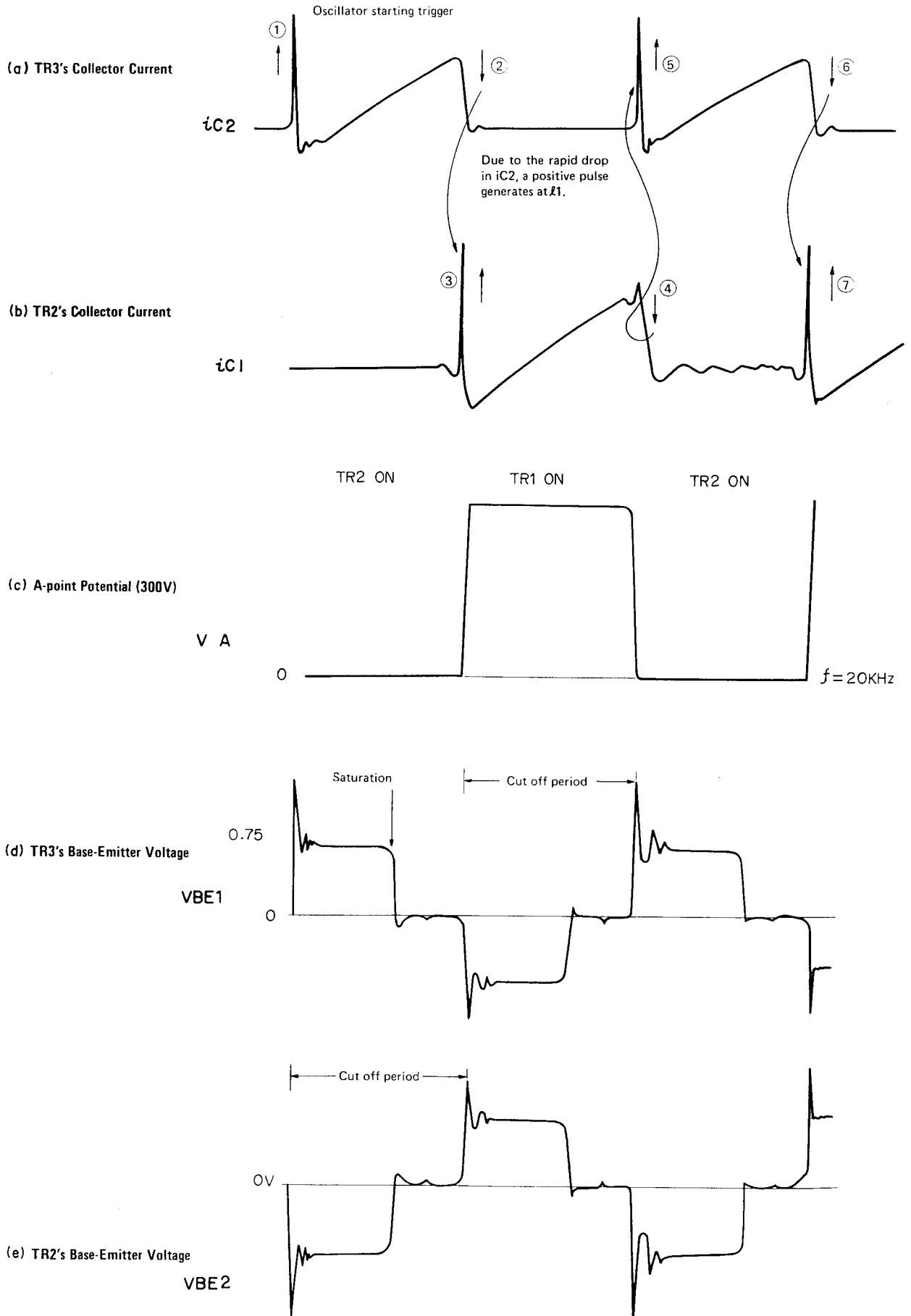


Fig. 12 Summary of waveforms appearing at each section

As shown in (d) and (e), the waveform of the base-emitter voltage of TR2 and TR3 will become "0"V upon saturation of T1's flux. In the meantime, the base current will flow in the direction similar to that before saturation, because of the counter electromotive force.

Meanwhile, by having a negative feedback applied at the high frequency range, the capacitor provided between the collector and base of TR2 and TR3 will function so as to hold down the wave height to an adequate level to prevent the peak values from rising above the maximum ratings of the respective transistors.

The oscillating frequency of this circuit is determined by such factors as the maximum flux density of T1 and the current flowing through ℓ_3 . It is ordinarily designed to be approximately 20kHz.

4. TRANSFORMER CIRCUIT

Although it is based on the same principle as that applied to general power transformers, the core material has been changed into ferrite material from the conventional electrical steel plate material to match the input waveform (square wave of approx. 20kHz). Owing to the high permeability and use of high frequencies, power loss is far less, than with conventional transformers. Therefore, it permits miniaturization of circuitry, which is the advantage of using a pulse power supply.

At the same time, the transformer circuit functions to insulate the secondary-side chassis potential from the AC input potential applied to the prime side.

5. RECTIFIER CIRCUIT

Although this is a full-wave rectifier circuit intended for use with both plus and minus power supplied, it employs first recovery diodes having a quick reverse recovery time (t_{rr}) to enable high-efficiency rectification of square waves. Ordinary rectifying diodes cannot be used in this circuit.

6. SMOOTHING CIRCUIT

Because of the high frequencies, it enables direct current having a low ripple factor to be obtained with a small-capacity electrolytic capacitor. Since it has to handle square waves and impulsive triggers, and because of large number of harmonics, the pulse power supply is formed into an LPF (smoothing circuit employing a choke coil. At the same time, to avoid interference caused by radiation and induction of electromagnetic waves, the pulse power circuit, excluding the high-voltage rectifier circuit, is enclosed in a shield case to ensure sufficient shield-off. Packing used for the shield case is made of conductive material if it has been damaged during servicing or for other reasons, it must be replaced with new packing. Otherwise, undesirable radiation from the damaged part may cause noise to generate in other circuits.

VII. ADJUSTMENT

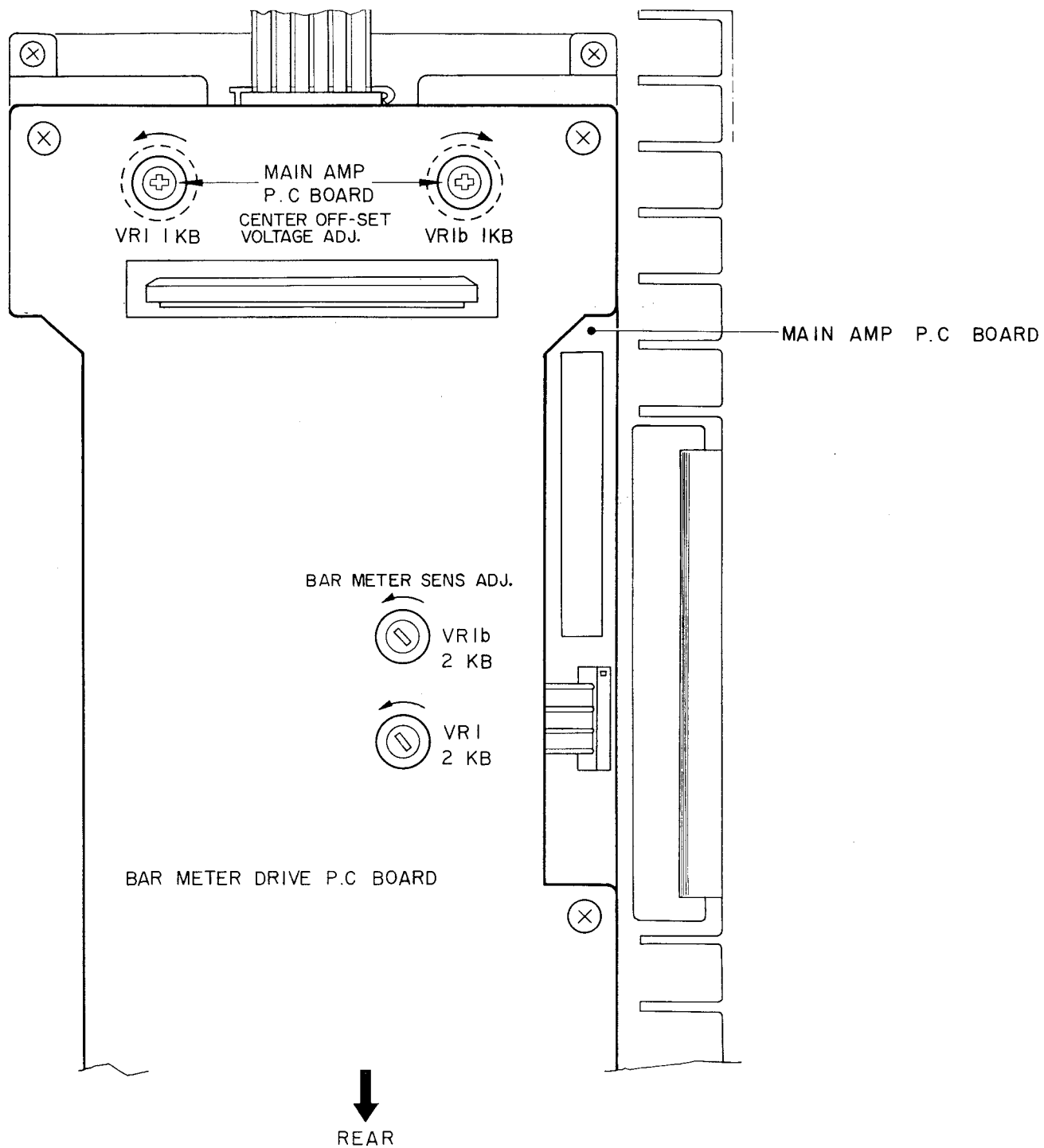


Fig. 13 Adjustment Points

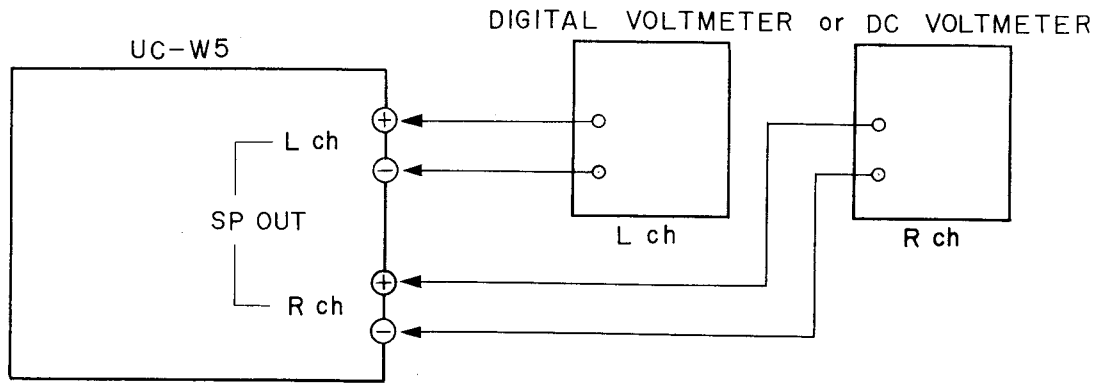


Fig. 14 Instrument Connections

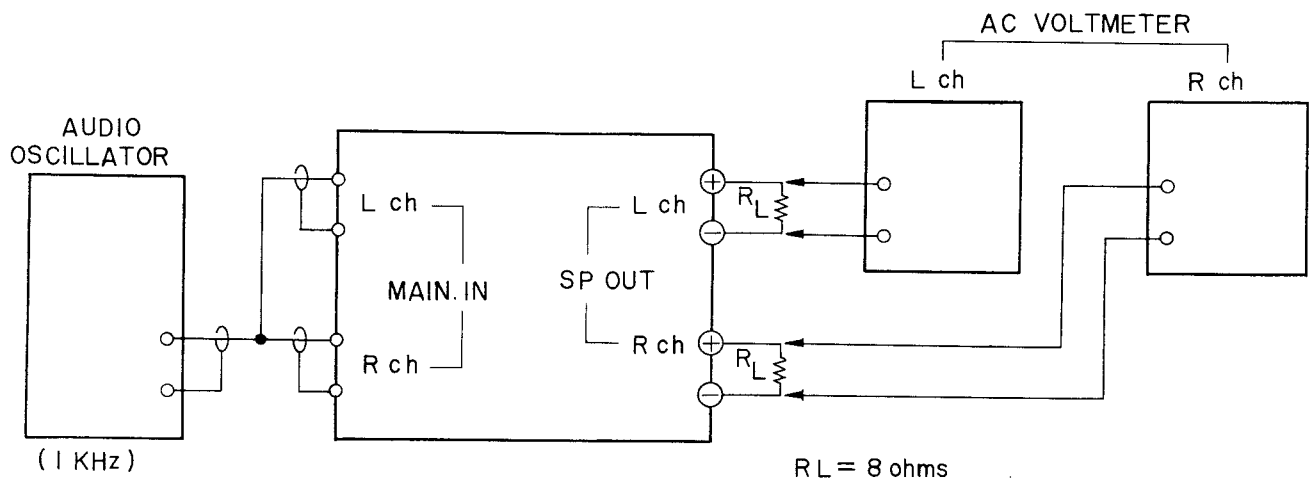


Fig. 15 Instrument Connections

**1. CENTER OFF-SET VOLTAGE
ADJUSTMENT (Refer to Figs. 13, 14)**

Connect the Digital Voltmeter or DC Voltmeter between SPEAKER terminals.
Adjust the VR1 (L-ch), VR1b (R-ch) on the Main P.C Board so that Voltmeter reads 0 ± 50 mV.

**2. BAR METER SENSITIVITY
ADJUSTMENT (Refer to Figs. 13, 15)**

Connect load resistors ($R_L = 8$ ohms) to the SPEAKER terminals, and input a sine wave of 1 kHz to the INPUT terminal.
Control the input signal level until the voltmeter connected to both ends of the load read 8.9V.
Under this condition, adjust VR1 (L-ch), VR1b (R-ch) on the Bar Meter Drive P.C Board so that the Bar Meter indicates 10W.

VIII. CLASSIFICATION OF VARIOUS P.C BOARDS

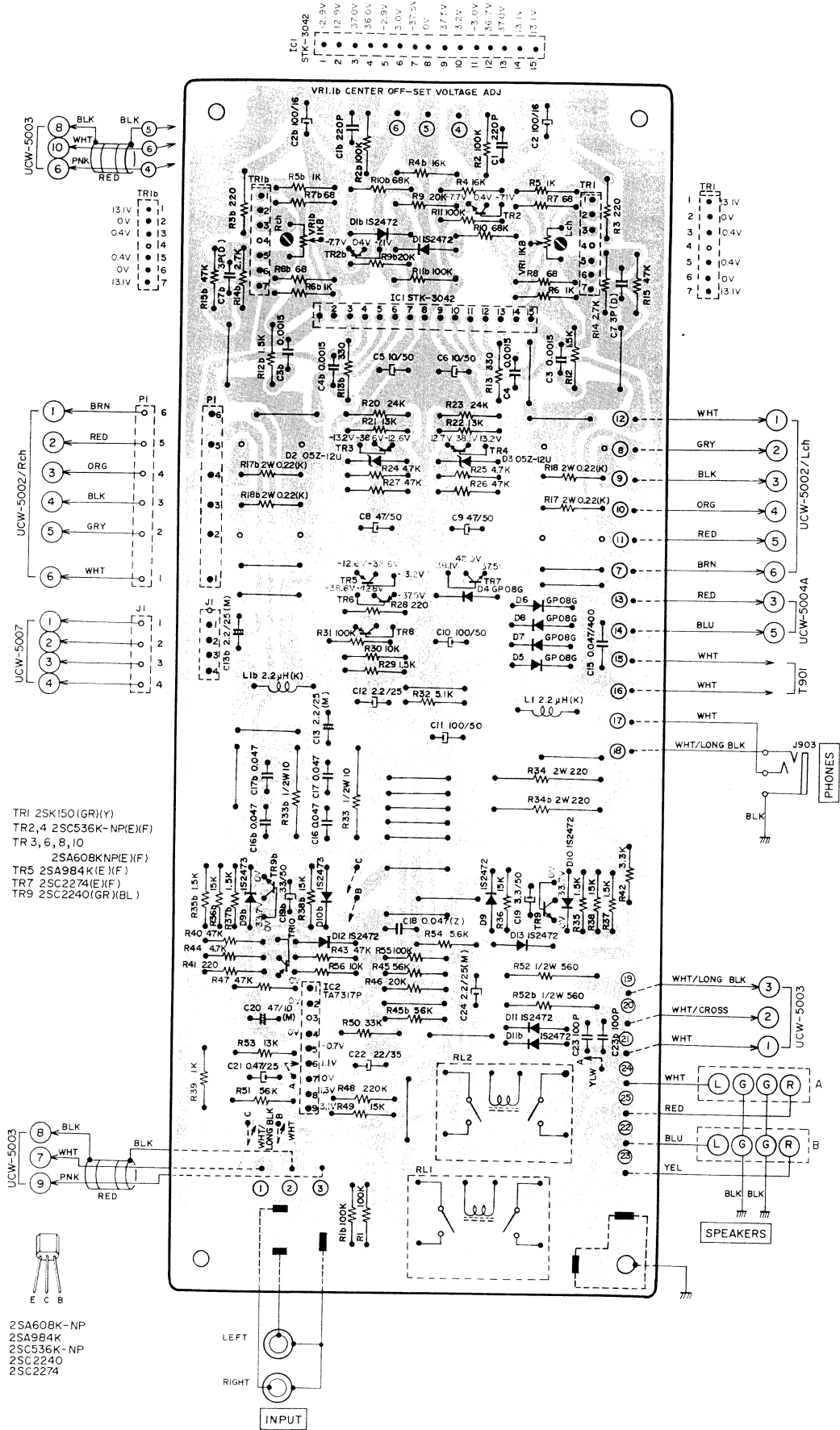
1. P.C BOARD TITLES AND IDENTIFICATION NUMBERS

| P.C Board Title | P.C Board Number |
|-------------------------------------|------------------|
| Main Amp P.C Board | UCW-5001 |
| IC P.C Board | UCW-5002 |
| Push Switch P.C Board | UCW-5003 |
| Pulse Power Supply P.C Board | UCW-5004A |
| Bar Meter P.C Board | UCW-5006 |
| Bar Meter Drive P.C Board | UCW-5007 |
| LED P.C Board | UCW-5044 |
| Rectifier P.C Board (U/T) | UCW-5045 |
| Rectifier P.C Board (CEE, UK, SAA) | UCW-5005 |
| Rectifier P.C Board (CSA, AAL, JPN) | UCW-5064 |

Chart-1

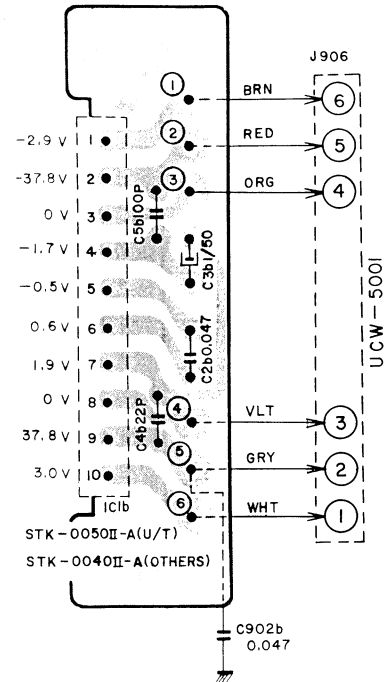
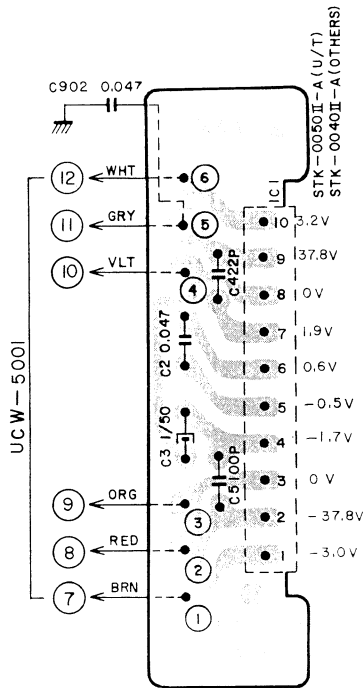
2. COMPOSITION OF VARIOUS P.C BOARDS

1) MAIN AMP P.C BOARD UCW-5001 (2ED)

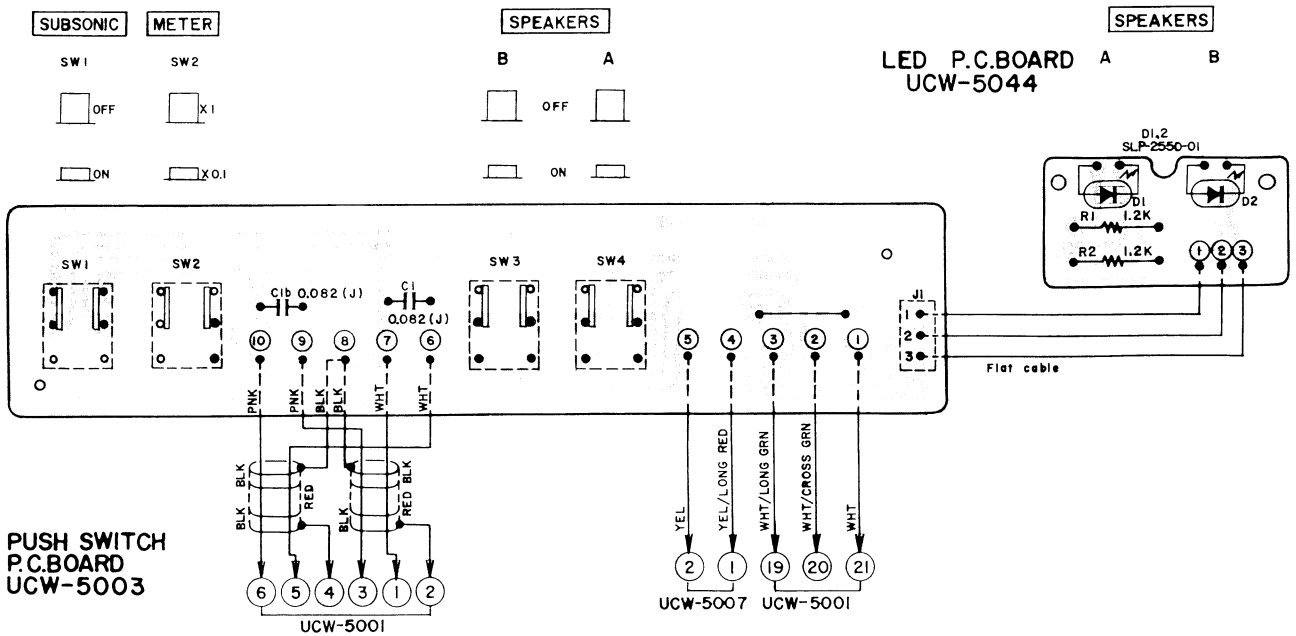


2) IC P.C BOARD (L-CH) UCW-5002

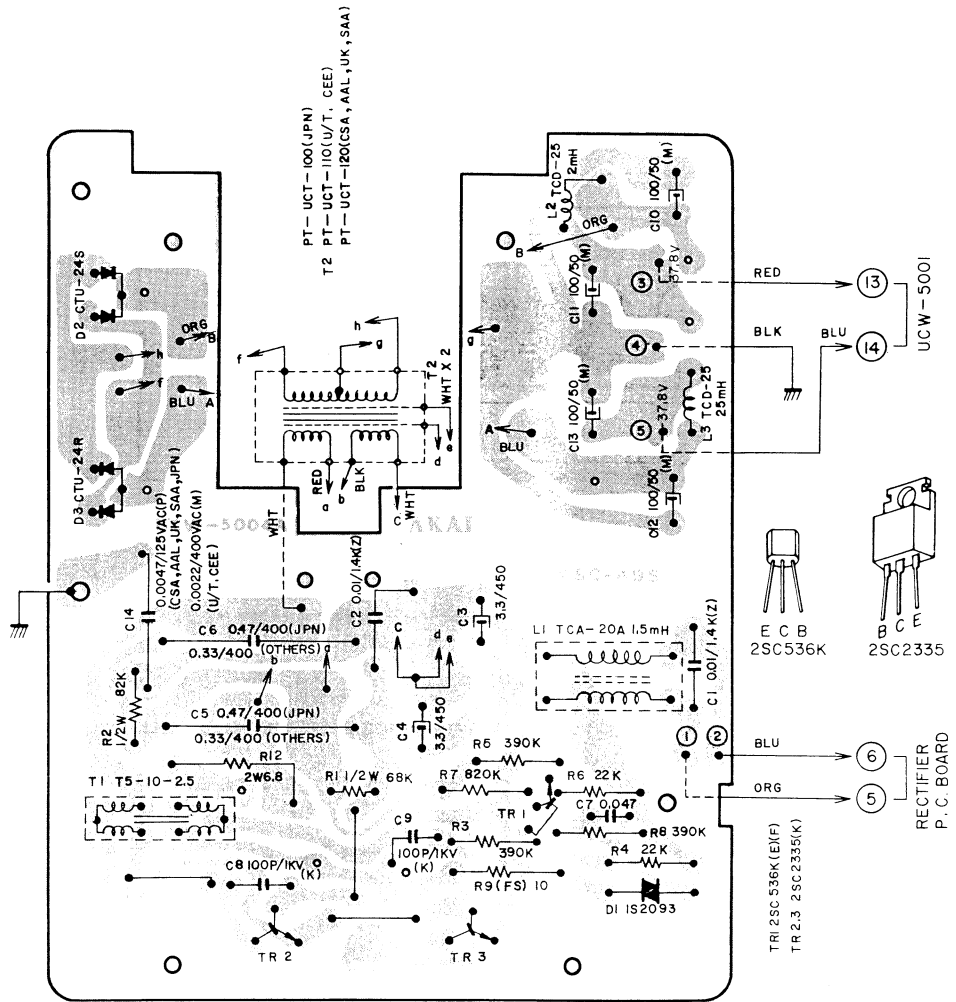
3) IC P.C BOARD (R-CH) UCW-5002



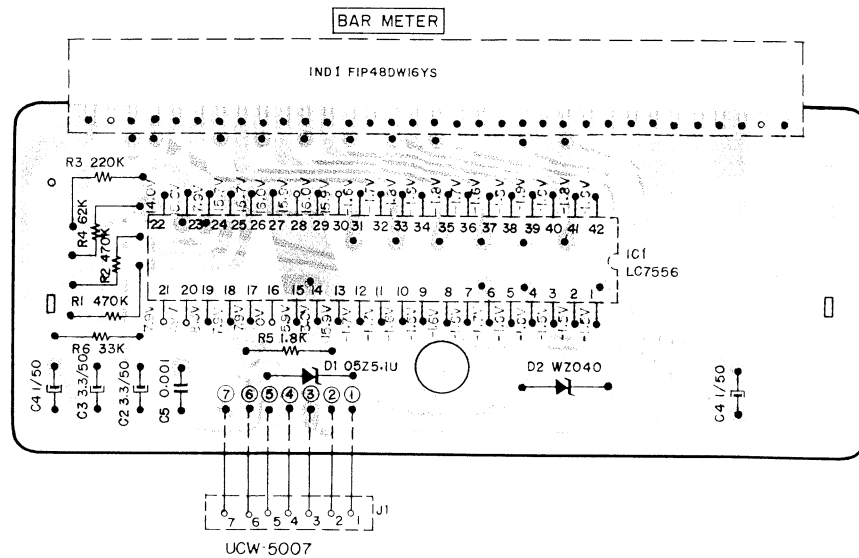
4) PUSH SWITCH P.C BOARD UCW-5003 and LED P.C BOARD UCW-5044



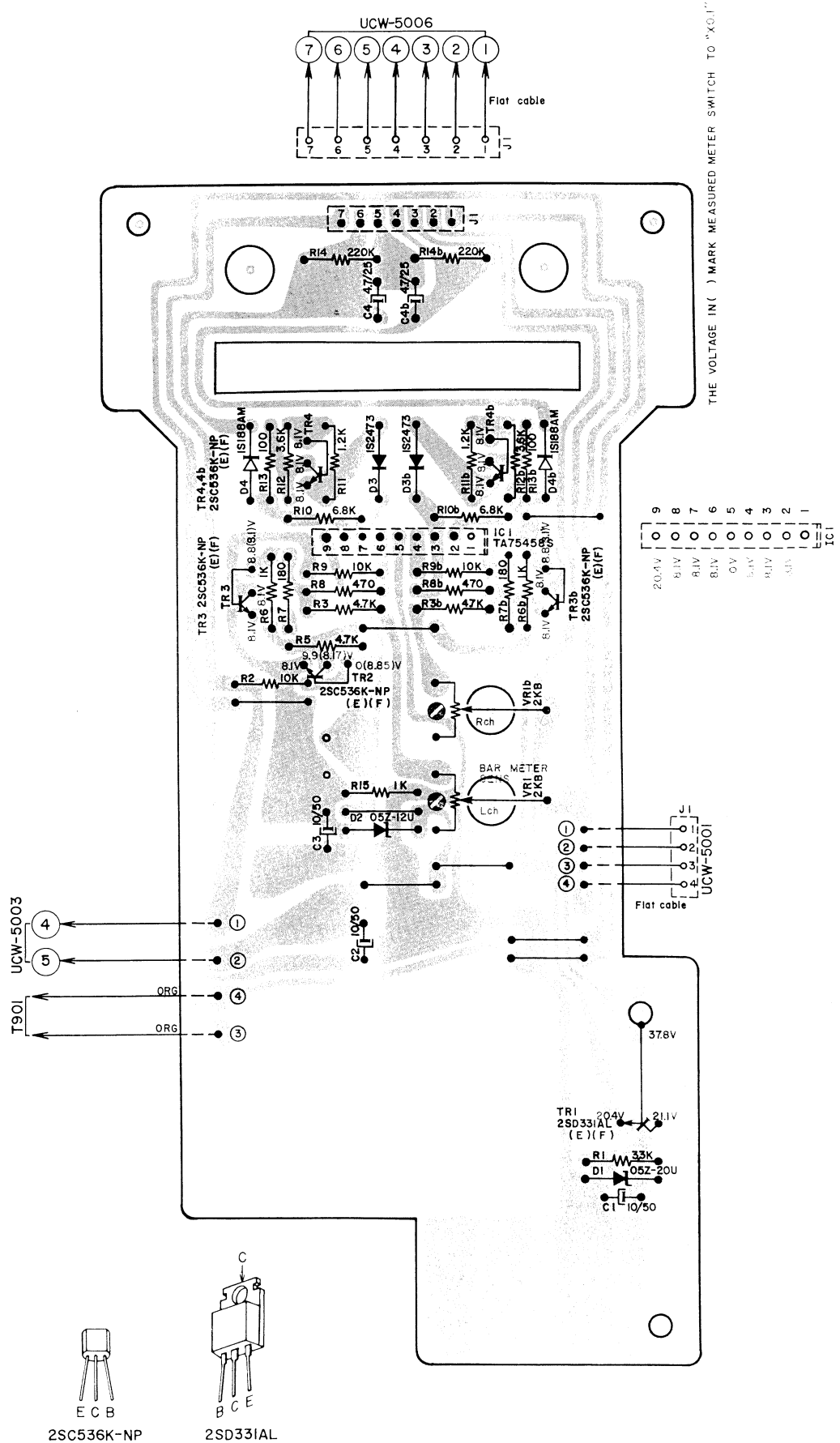
5) PULSE POWER SUPPLY P.C BOARD UCW-5004A



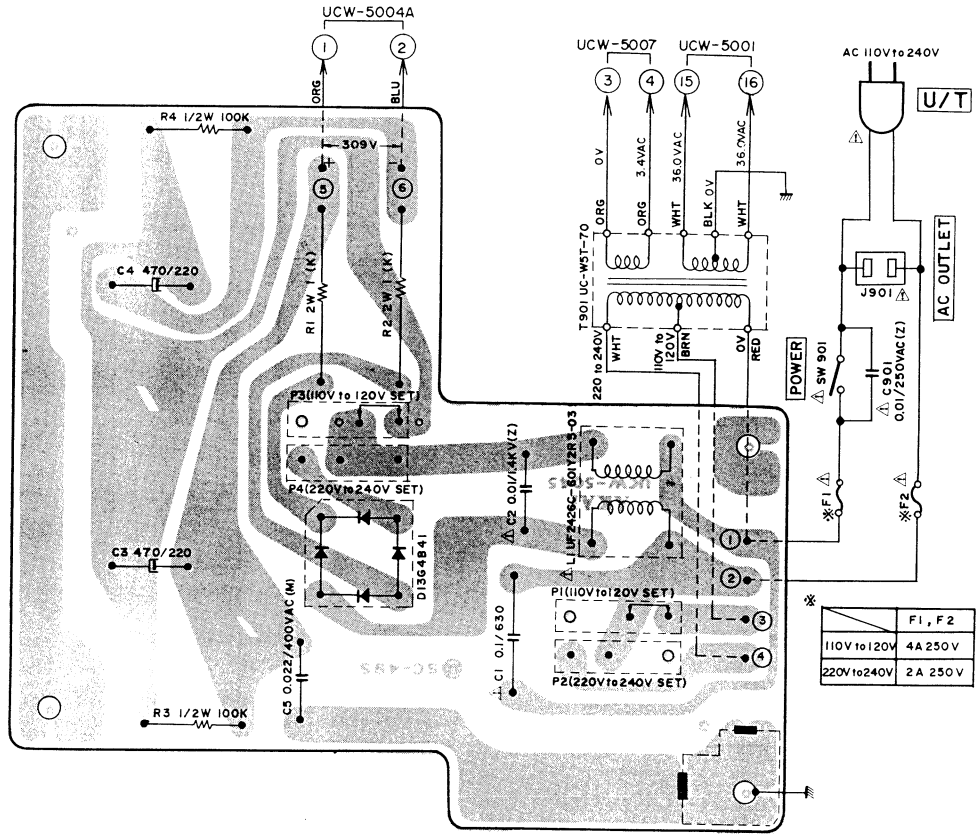
6) BAR METER P.C BOARD UCW-5006



7) BAR METER DRIVE P.C BOARD UCW-5007

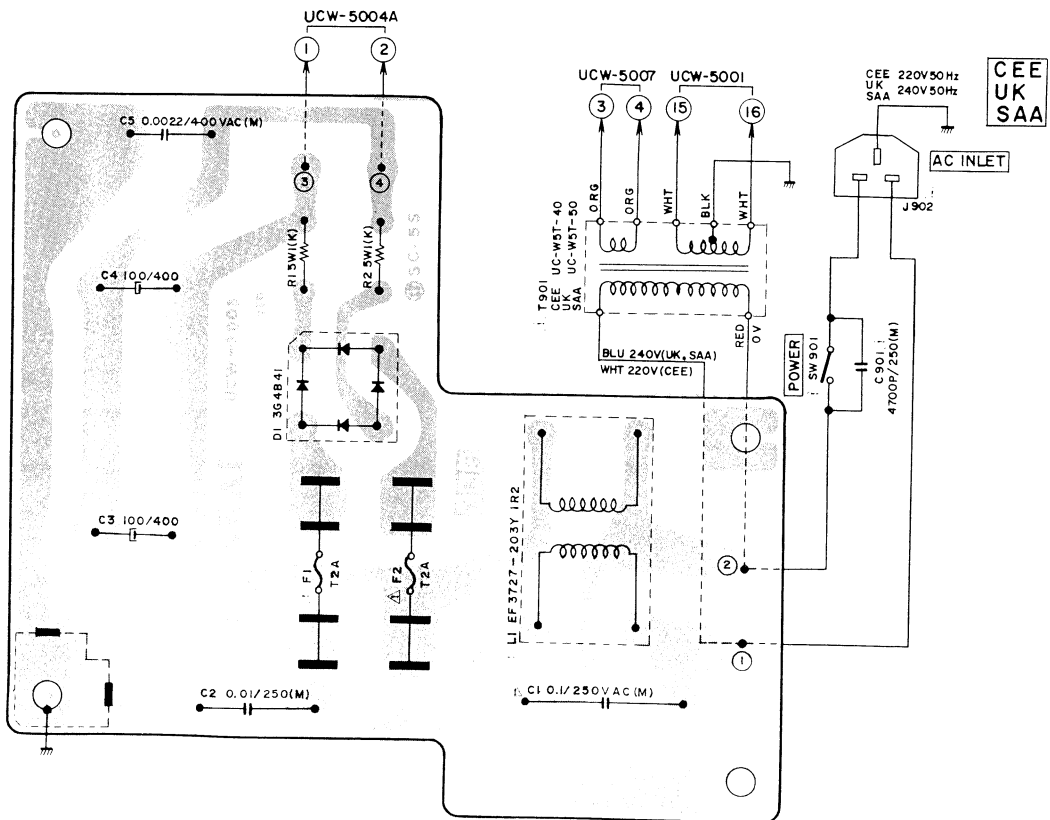


8) RECTIFIER P.C BOARD (U/T) UCW-5045

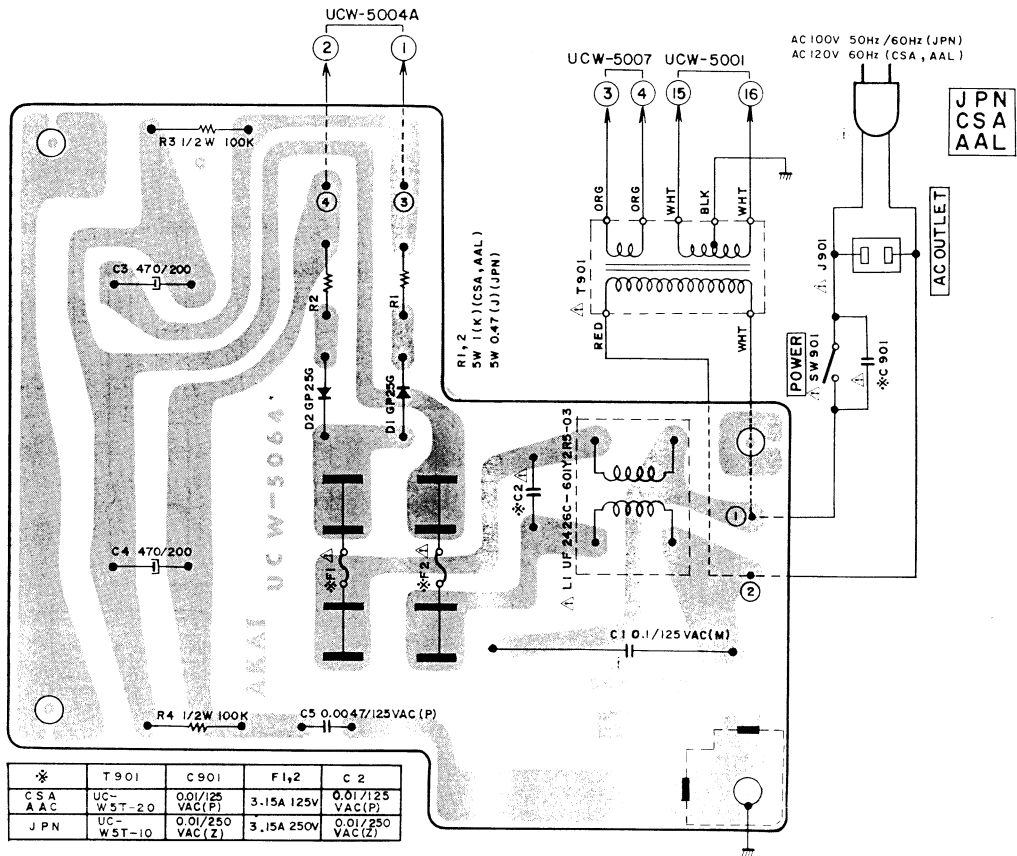


ASPINGS Δ INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS.
 AVERTISSEMENT Δ IL INDIQUE LES COMPOSANTS CRITIQUES DE SÛRETÉ. POUR MAINTENIR LE DEGRÉ DE SÛRETÉ DE L'APPAREIL, NE REMPLACEZ LES COMPOSANTS DONT LE FONCTIONNEMENT EST CRITIQUE QUE PAR DES PIÈCES RECOMMANDÉES PAR LE FABRICANT.

9) RECTIFIER P.C BOARD (CEE, UK, SAA) UCW-5005 (2ED)



10) RECTIFIER P.C BOARD (CSA, AAL, JPN) UCW-5064



WARNING: ALWAYS USE CARE IN REPAIRS. ALWAYS USE THE RECOMMENDED PARTS.
REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS.

AVERTISSEMENT: TOUJOURS UTILISER LA PRUDENCE EN RÉPARANT. TOUJOURS UTILISER LES PIÈCES RECOMMANDÉES PAR LE FABRICANT.
MAINTENIR LES CRITIQUES EN SÉCURITÉ SEULEMENT AVEC LES PIÈCES RECOMMANDÉES PAR LE FABRICANT.

SECTION 3

PARTS LIST

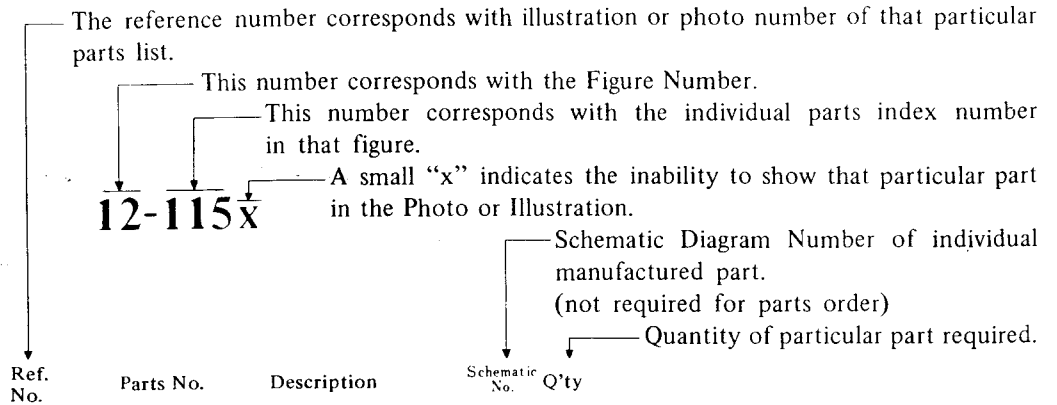
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| II. | MODEL UC-W5 | |
| | 1. RECOMMENDED SPARE PARTS LIST | 46 |
| | 2. MAIN AMP P.C BOARD (UCW-5001) BLOCK | 48 |
| | 3. PULSE POWER SUPPLY P.C BOARD (UCW-5004A) BLOCK. . | 48 |
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| | 5. BAR METER DRIVE P.C BOARD (UCW-5007) BLOCK . . . | 49 |
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Resistor and Capacitor which is not listed in this parts list, please refer to COMMON LIST FOR SERVICE PARTS.

HOW TO USE THIS PARTS LIST

1. This parts list is compiled by various individual blocks based on assembly process.
2. When ordering parts, please describe parts number, serial number, and model number in detail.
3. How to read List



| FLYWHEEL BLOCK #13 | | | | |
|--------------------|--------|----------------------------|--------|---|
| 12-115x | 800425 | Flywheel Block Assy. Comp. | RDG-13 | 1 |
| 12-116 | 244506 | Flywheel Only | RD-233 | 1 |
| 12-117x | 244754 | Felt, Flywheel | RD-275 | 1 |
| 12-118 | 251324 | Main Metal Case | RD-236 | 1 |
| 12-119 | 253080 | Main Metal | RD-237 | 1 |

4. The symbol numbers shown on the P.C. Board list can be matched with the Composite Views of Components of the Schematic Diagram or Service Manual.
5. Please utilize separate "Common List for Service Parts" for Resistor Parts orders.
6. The shape of the parts and parts name, etc. can be confirmed by comparing them with the parts shown on the Electrical Parts Table of P.C. Board:
7. Both the kind of part and installation position can be determined by the Parts Number. To determine where a parts number is listed, utilize Parts Index at end of Parts List.
It is necessary first of all to find the Parts Number. This can be accomplished by using the Reference Number listed at right of parts number in the Parts Index. (meaning of ref. no. outlined in Item 3 above).
8. Utilize separate "Price List for Parts" to determine unit price. The most simple method of finding parts Price is to utilize the reference number.

CAUTION:

1. When placing an order for parts, be sure to list the parts no., model no., and description. There are instances in which if any of this information is omitted, parts cannot be shipped or the wrong parts will be delivered.
2. Please be careful not to make a mistake in the parts no. If the parts no. is in error, a part different from the one ordered may be delivered.
3. Because parts number and parts unit supply in the Preliminary Service Manual (Basic Parts List) may be partially changed, please use this parts list for all future reference.

WARNING: INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS.

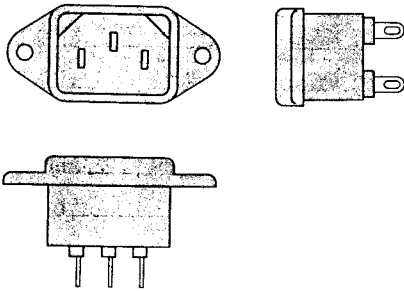
AVERTISSEMENT: IL INDIQUE LES COMPOSANTS CRITIQUES DE SURETE. POUR MAINTENIR LE DEGRE DE SECURITE DE L'APPAREIL, NE REMPLACER LES COMPOSANTS DONT LE FONCTIONNEMENT EST CRITIQUE POUR LA SECURITE QUE PAR DES PIECES RECOMMANDEES PAR LE FABRICANT.

AC INLET SYSTEM

This model is equipped with an AC INLET SYSTEM. Please refer to the AC INLET SYSTEM CHART below for the specific type. By the AC INLET SYSTEM, AC (mains) cord can be connected to and disconnected from the model because the model is provided with socket exclusively for AC (mains) cord on its main body. Please note, however, that certain models are not equipped with this system and has a built-in AC (mains) cord as before.

AC INLET SYSTEM CHART

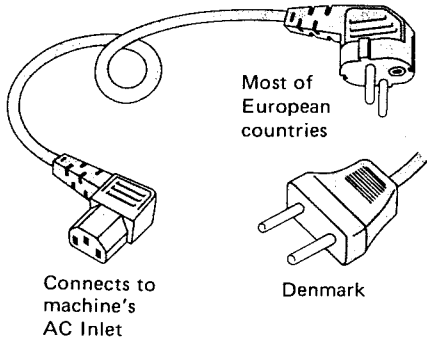
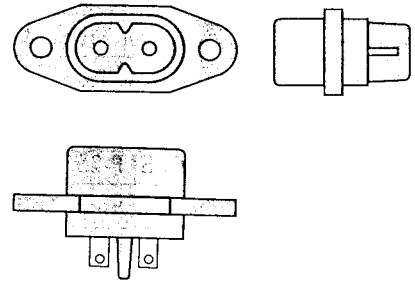
CLASS I



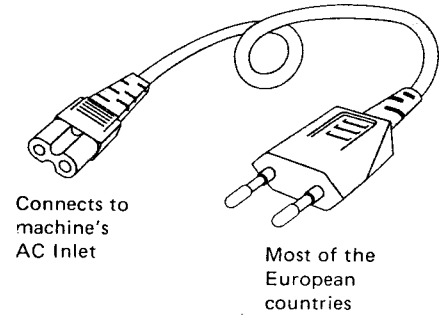
Picture 1
AC INLET
to be
installed
on machines

CLASS II

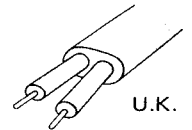
⊠ This mark indicating double insulation will be attached to machine's rear panel



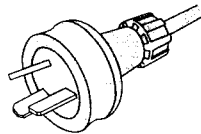
Picture 2
AC (mains)
cord



U.K.



U.K.



Australia
differs according
to wall socket



Australia
differs according
to wall socket

Parts List for AC (mains) Cord Set

| Standard | | Description | Type of AC Inlet | Parts No. |
|----------|------|-------------------------|------------------|-----------|
| Class I | CEE | Cord Set CEE (3 cores) | 3P | EW302993 |
| | BEAB | Cord Set BEAB (3 cores) | 3P | EW302994 |
| | SAA | Cord Set SAA (3 cores) | 3P | EW302996 |
| | U/T | Cord Set U/T (3 cores) | 3P | EW302646 |
| Class II | CEE | Cord Set CEE (2 cores) | 2P | EW638144 |
| | BEAB | Cord Set BEAB (2 cores) | 2P | EW302995 |
| | SAA | Cord Set SAA (2 cores) | 2P | EW302991 |
| | U/T | Cord Set U/T (2 cores) | 2P | EW302899 |

I. MODEL UC-A5

1. RECOMMENDED SPARE PARTS LIST

Because, if the parts listed below are on hand, almost any repair can be accomplished, we suggest that you stock these Recommended Spare Parts Items.

| Parts No. | Description | Notes |
|-----------|-------------------------------------|-------------------|
| BA324214 | Pre Amp P.C Board Comp. UC-A5 (CEE) | CEE, UK, SAA |
| BA324140 | Pre Amp P.C Board Comp. UC-A5 (CSA) | CSA, AAL |
| BA326066 | Pre Amp P.C Board Comp. UC-A5 (JPN) | |
| BA323398 | Pre Amp P.C Board Comp. UC-A5 (U/T) | |
| BT319372 | △ Power Trans. UCA5T-10 | JPN |
| BT323363 | △ Power Trans. UCA5T-20 | CSA, AAL |
| BT323364 | △ Power Trans. UCA5T-40 | CEE |
| BT323365 | △ Power Trans. UCA5T-50 | UK, SAA |
| BT323362 | △ Power Trans. UCA5T-70 | U/T |
| ED322773 | LED SLP-255D-01 | |
| ED315365 | Silicon Diode DS131B | |
| ED315366 | Silicon Diode DS132B | |
| ED316143 | Silicon Diode 1S2473-HS | |
| ED224526 | Silicon Diode 10D1 | |
| ED323057 | Silicon Varister MV12 | |
| ED323353 | Zener Diode 05Z-12L | |
| ED325115 | Zener Diode 05Z-15L | |
| ED323354 | Zener Diode 05Z-6.2L | |
| ED325080 | Zener Diode 05Z-9.1L | |
| EF310199 | △ Fuse 0.5A 250V | U/T |
| EF321323 | △ Fuse 250mA 250V | U/T |
| EF308848 | △ Fuse 400mA 125V | CSA, AAL |
| EF309389 | △ Fuse 400mA 250V | JPN |
| EF300586 | △ Fuse (EAWK) 250MAT | CEE, UK, SAA |
| EI323346 | IC M51231P | |
| EI323347 | IC M54832P | |
| EI323054 | IC TA7322P | |
| EI315243 | IC TA78005P | |
| EJ301513 | △ Inlet 2P | |
| EJ324119 | DIN Socket 8P TCS1080-01-101 | |
| EP323350 | Relay L-23M DC 12V | |
| ES315159 | △ Push SW. SDG1P | JPN |
| ES310839 | △ Push SW. SDG1P-E 5A/80A 250V | U/T, CEE, UK, SAA |
| ES665875 | △ Push SW. SDG1P-J TV-3 UL/CSA | CSA, AAL |
| ES324118 | Push SW. J-K2105 | |
| ES323368 | Remote Push SW. SSR24351D | |
| ES323369 | Remote Rotary Slide SW. SSR24602D | |
| ES323371 | Rotary Slide SW. SRZW44S | |
| ES323367 | Sensi Touch SW. KEC 10001 | |
| ET311792 | FET 2SK150 (GR) (Y) | |

| Parts No. | Description | Notes |
|-----------|---|--------------------|
| ET552870 | FET 2SK30A (Y) (GR) | |
| ET323529 | Transistor 2SA608K-NP (E) (F) | |
| ET305463 | Transistor 2SA970 (GR) (BL) | |
| ET323348 | Transistor 2SB507 (D) (E) (F) | |
| ET219868 | Transistor 2SB560 (E) (F) | |
| ET307195 | Transistor 2SC2240 (GR) (BL) | |
| ET316171 | Transistor 2SC536K-NP (E) (F) | |
| ET323366 | Transistor 2SD313AL (D) (E) (F) | |
| ET219857 | Transistor 2SD438 (E) (F) | |
| ET310148 | Transistor 2SD612K (E) (F) | |
| EV320326 | Double-Axial 6-Throw/Vol. 250KZ×2, 250KBM×2, 50KC×2 | |
| EV323373 | 2-Throw/Vol. GM70ED54A-100KC×2 | |
| EV324105 | 2-Throw/Vol. GM70ED55A-100KC×2 | |
| EW306427 | △ AC Cord (JPN) | |
| EW306428 | △ AC Cord (U/T) | |
| EW305691 | △ AC Cord CUL | |
| EW302995 | △ AC Cord Set BEAB 2 Cores | UK |
| EW315767 | △ AC Cord Set CEE 2 Cores | CEE |
| EW322401 | △ AC Cord Set SAA 2 Cores | |
| EZ631945 | △ Strain Relief SR-4N-4 | U/T, JPN, CSA, AAL |
| EZ225145 | △ 2-Throw AC Outlet | U/T, JPN, CSA, AAL |

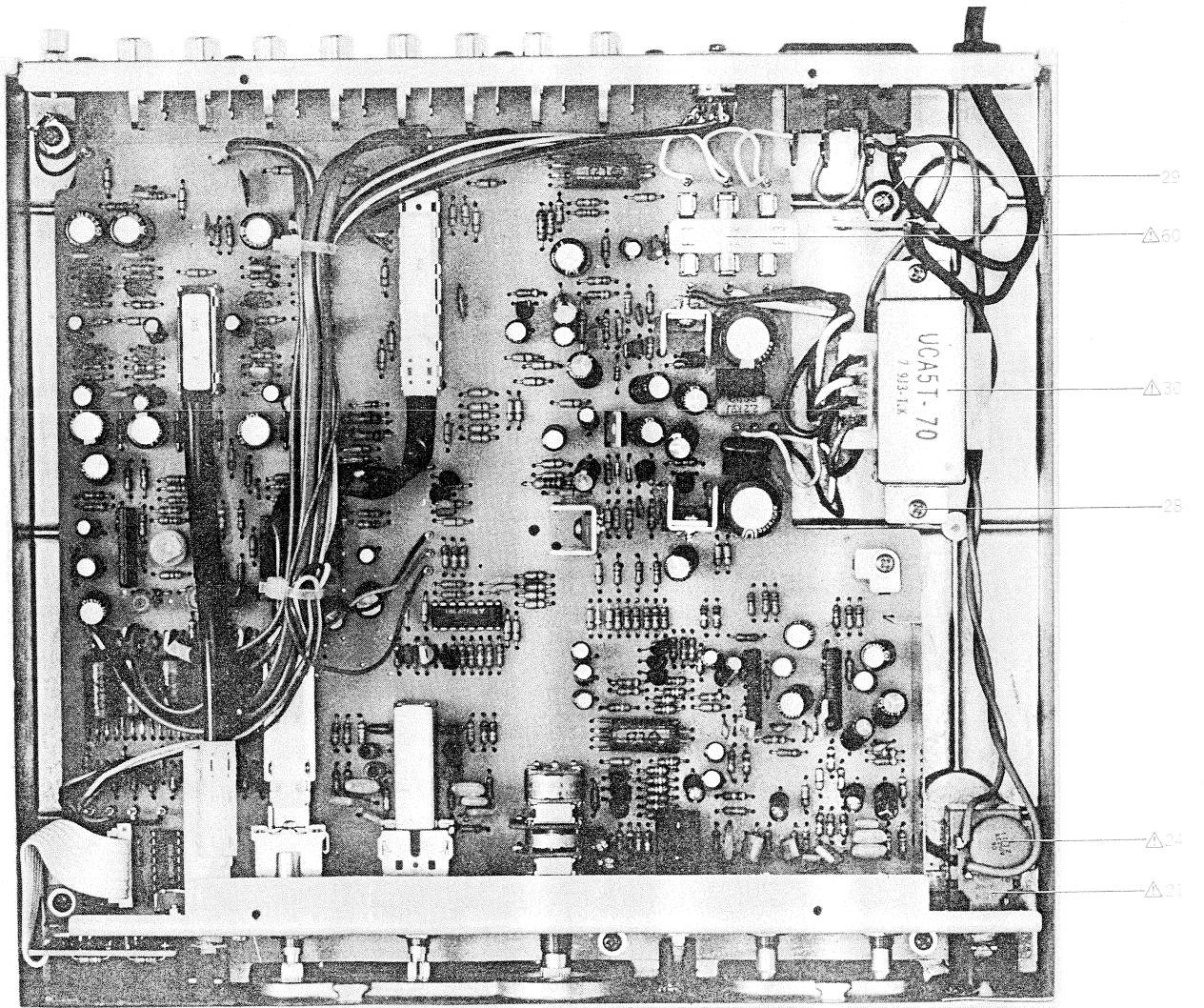
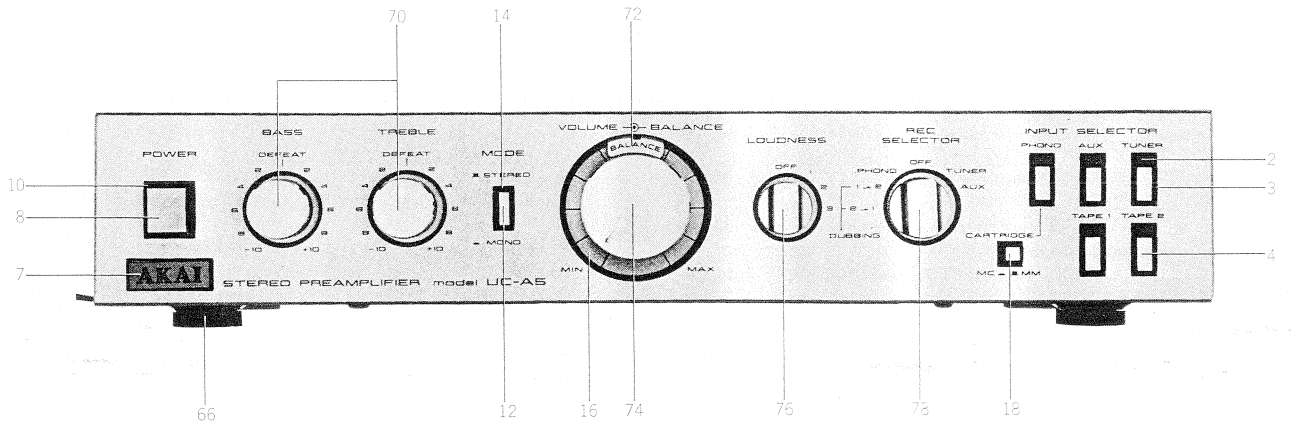
2. PRE AMP P.C BOARD (UCA-5001) BLOCK

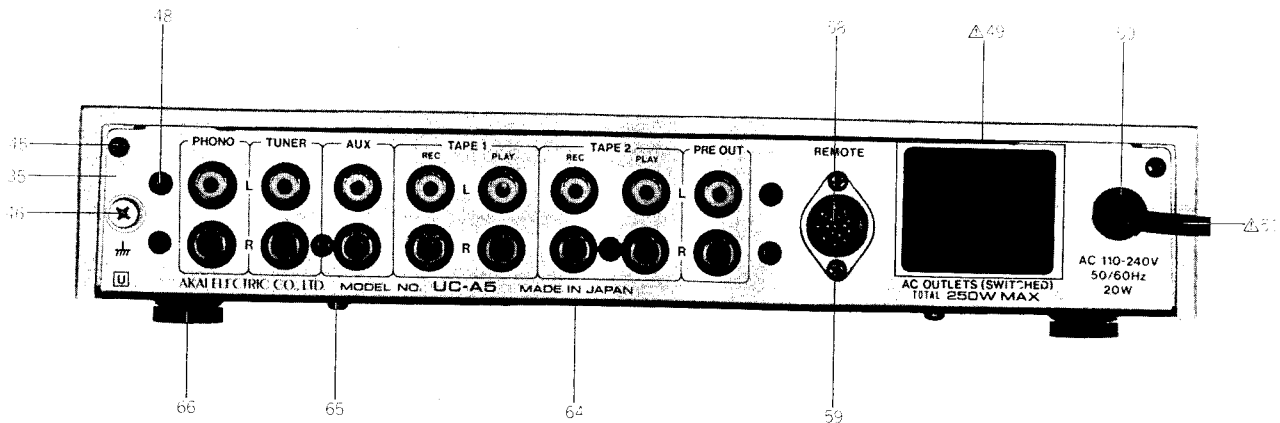
| Symbol No. | Parts No. | Description | Schematic No. | Symbol No. | Parts No. | Description | Schematic No. |
|------------|-----------|---|---------------|------------|-----------|---|---------------|
| 2-1 | BA323398 | Pre Amp P.C Board Comp. UC-A5 (U/T) | UCA-5031 | 2-R18 | ER318400 | Carbon/R. F 1/4WS 68 ohms (J) | 35-11-30 |
| 2-2 | BA326066 | Pre Amp P.C Board Comp. UC-A5 (JPN) | UCA-5031 | 2-R27 | ER323067 | Metal Film/R. 1/4W 100 ohms (F) | 35-17-20 |
| 2-3 | BA324140 | Pre Amp P.C Board Comp. UC-A5 (CSA) | UCA-5031 | 2-R31 | ER323351 | Metal Film/R. 1/4W 3.74K (F) | 35-17-20 |
| 2-4 | BA324214 | Pre Amp P.C.Board UC-A5 (CEE) | UCA-5031 | 2-R32 | ER323352 | Metal Film/R. 1/4W 45.3K (F) | 35-17-20 |
| | | (CEE, UK, SAA) | UCA-5031 | 2-R116 | ER307196 | Carbon/R. F 1/4W 100 ohms (J) | 35-11-25 |
| 2-IC1 | EI323054 | IC TA7322P | 45-8-419 | 2-R121 | ER324106 | Metal Oxide Film/R. 2W 2.2K (J) | 35-15-8 |
| 2-IC2 | EI323346 | IC M51231P | 45-8-420 | 2-R133,134 | ER322591 | Carbon/R. F 1/4WS 100 ohms (J) | 35-11-30 |
| 2-IC3 | EI323054 | IC TA7322P | 45-8-419 | 2-R135 | ER306805 | Carbon/R. F 1/2W 100 ohms (J) | 35-11-27 |
| 2-IC4 | EI323347 | IC M54832P | 45-8-421 | 2-C12 | EC324101 | NP/C. 4.7μF(M) 35WV | 24-17-35 |
| 2-IC5 | EI315243 | IC TA78005P | 45-8-364 | 2-C13 | EC324104 | NP/C. 2.2μF(M) 35WV | 24-17-35 |
| 2-TR1 | ET305463 | Transistor 2SA970(GR)(BL) | 45-1-303 | 2-C21 | EC324101 | NP/C. 4.7μF(M) 35WV | 24-17-35 |
| 2-TR2,3 | ET307195 | Transistor 2SC2240(GR)(BL) | 45-1-302 | 2-C27 | EC324109 | Styrol/C. 180PF(J) 50WV | 24-11-17 |
| 2-TR4 | ET305463 | Transistor 2SA970(GR)(BL) | 45-1-303 | 2-C29 | EC314995 | Styrol/C. 330PF(J) 50WV | 24-11-17 |
| 2-TR5 | ET311792 | FET 2SK150(GR)(Y)(BL) | 45-12-22 | 2-C49,50 | EC324101 | NP/C. 4.7μF(M) 35WV | 24-17-35 |
| 2-TR6to8 | ET552870 | FET 2SK30A(Y)(GR) | 45-12-4 | 2-C59 | EC324115 | Solid Aluminum/C. 2.2μF(M) 25WV | 24-19-3 |
| 2-TR9to11 | ET316171 | Transistor 2SC536K-NP(E)(F) | 45-1-362 | 2-C69 | EC326583 | Metallized Mylar/C. (Vert.) 0.047μF(K) 400WV | 24-16-29 |
| 2-TR12to14 | ET323529 | Transistor 2SA608K-NP(E)(F) | 45-1-375 | 2-5 | EW319901 | Remote Wire SWR1114 | 25-14-302 |
| 2-TR16 | ET219857 | Transistor 2SD438(E)(F) | 45-1-233 | 2-6 | ES319902 | Push Selector SUR510 | 25-14-102 |
| 2-TR19 | ET316171 | Transistor 2SC536K-NP(E)(F) | 45-1-362 | 2-7 | EW319903 | Remote Wire SWR6120 | 25-14-303 |
| 2-TR20 | ET310148 | Transistor 2SD612K(E)(F) | 45-1-308 | 2-8 | ES319904 | Rotary Selector SRZWM6 | 25-14-103 |
| 2-TR21 | ET316171 | Transistor 2SC536K-NP(E)(F) | 45-1-362 | 2-9 | ZS325495 | Tapping Screw, #2 BR 3x6 | |
| 2-TR22 | ET323366 | Transistor 2SD313AL(D)(E)(F) | 45-1-105 | 2-10 | ZS417216 | Screw, Pan 3x4 | |
| 2-TR23 | ET316171 | Transistor 2SC536K-NP(E)(F) | 45-1-362 | | | | |
| 2-TR24 | ET219868 | Transistor 2SB560(E)(F) | 45-1-232 | | | | |
| 2-TR25,26 | ET323529 | Transistor 2SA608K-NP(E)(F) | 45-1-375 | | | | |
| 2-TR27 | ET323348 | Transistor 2SB507(D)(E)(F) | 45-1-376 | | | | |
| 2-TR28to32 | ET323529 | Transistor 2SA608K-NP(E)(F) | 45-1-375 | | | | |
| 2-D1 | ED323057 | Silicon Varister MV12 | 45-10-16 | | | | |
| 2-D2,3 | ED316143 | Silicon Diode 1S2473-HS | 45-3-53 | | | | |
| 2-D4 | ED323354 | Zener Diode 05Z-6.2L | 45-6-76 | | | | |
| 2-D5 | ED325115 | Zener Diode 05Z-15L | 45-6-76 | | | | |
| 2-D6 | ED323353 | Zener Diode 05Z-12L | 45-6-76 | | | | |
| 2-D7 | ED224526 | Silicon Diode 10D1 | 45-2-11 | | | | |
| 2-D8 | ED315366 | Silicon Diode DS132B | 45-3-56 | | | | |
| 2-D9 | ED315365 | Silicon Diode DS131B | 45-3-55 | | | | |
| 2-D10,11 | ED325080 | Zener Diode 05Z-9.1L | 45-6-76 | | | | |
| 2-D12 | ED316143 | Silicon Diode 1S2473-HS | 45-3-53 | | | | |
| 2-SW1 | ES323368 | Remote Push SW. SSR24351D | 25-14-502 | | | | |
| 2-SW2 | ES323369 | Remote Rotary Slide SW. SSR24602D | 25-14-503 | | | | |
| 2-SW3 | ES323371 | Rotary Slide SW. SRZW44S | 25-6-190 | | | | |
| 2-SW4 | ES324118 | Push SW. J-K2105 | 25-5-367 | | | | |
| 2-VR1 | EV649642 | Semi-Fixed/Vol. (Solid Type) SR19R B220 ohm | 36-19-10 | | | | |
| 2-VR2 | EV320326 | Double-Axial 6-Throw/Vol. 250KZx2, 250KBMx2, 50KCx2 | 36-37-13 | | | | |
| 2-VR3 | EV324105 | 2-Throw/Vol. GM70ED55A-100KCx2 | 36-22-57 | | | | |
| 2-VR4 | EV323373 | 2-Throw/Vol. GM70ED54A-100KCx2 | 36-22-56 | | | | |
| 2-RL1to7 | EP323350 | Relay L-23M DC12V | 47-2-34 | | | | |
| 2-J1 | EJ323349 | Pin Jack 16P | 32-1-109 | | | | |
| 2-R14 | ER318400 | Carbon/R. F 1/4WS 68 ohms (J) | 35-11-30 | | | | |

When ordering parts, please quote Parts Number, Description and Model Number.



3. FINAL ASSEMBLY BLOCK





FINAL ASSEMBLY BLOCK

| Ref. No. | Parts No. | Description | Schematic No. | Ref. No. | Parts No. | Description | Schematic No. |
|------------------------------|-----------|---|---------------|----------|-----------|---|---------------|
| INPUT P.C BOARD BLOCK | | | | | | | |
| 3-1x | ES323367 | Sensi Touch SW. KEC 10001 | 25-9-9 | 3-43x | SP323328 | Rear Panel (CEE-BL) | UCA-5018 |
| 3-2 | ED322773 | LED SLP-255D-01 | 45-15-37 | 3-44x | SP323330 | Rear Panel (UK, SAA-BL) | UCA-5018 |
| 3-3 | SE323318 | Escutcheon (C) | UCA-5014 | 3-45 | ZS609208 | Tapping Screw, #2 Pan 3x8 (Black) | |
| 3-4 | SB323313 | Button (C) | UCA-5011 | 3-46 | EJ325358 | Earth Terminal | 32-1-115 |
| 3-5x | SB323314 | Button (C-BL) | UCA-5011 | 3-47x | ZW651082 | Washer (SPC) D3.2x10x1t | |
| 3-6x | ZS325495 | Tapping Screw, #2 BR 3x6 | | 3-48 | ZW698308 | Nylon Rivet (NRB) 3x5.5 (Black) | 2-7-54 |
| FINAL ASSEMBLY BLOCK | | | | | | | |
| 3-7 | SM323339 | Name Plate | A0565 | 3-49 | EZ225145 | △ 2-Throw AC Outlet (U/T, CSA, AAL) | 31-1-166 |
| 3-8 | SB323305 | Button (A) | UCA-5005 | 3-50 | EZ631945 | △ Strain Relief SR-4N-4 (U/T, JPN, CSA, AAL) | 2-7-49 |
| 3-9x | SB323306 | Button (A-BL) | UCA-5005 | 3-51 | EW306428 | △ AC Cord (U/T) | 26-3-64 |
| 3-10 | SE323307 | Escutcheon (A) | UCA-5006 | 3-52x | EW306427 | △ AC Cord (JPN) | 26-3-63 |
| 3-11x | ZG323308 | Spring (A) | UCA-5007 | 3-53x | EW305691 | △ AC Cord CUL (CSA, AAL) | 26-3-65 |
| 3-12 | SB323309 | Button (B) | UCA-5008 | 3-54x | EW315767 | △ AC Cord Set CEE 2 Cores (CEE) | 26-3-72 |
| 3-13x | SB323310 | Button (B-BL) | UCA-5008 | 3-55x | EW302995 | △ AC Cord Set BEAB 2 Cores (UK) | 26-3-57 |
| 3-14 | SE323311 | Escutcheon (B) | UCA-5009 | 3-56x | EW322401 | △ AC Cord Set SAA 2 Cores (SAA) | 26-3-77 |
| 3-15x | ZG323312 | Spring (B) | UCA-5010 | 3-57x | EJ301513 | △ Inlet 2P (CEE, UK, SAA) | 31-1-200 |
| 3-16 | SZ324122 | Decoration Ring | UCF-6512,6513 | 3-58 | EJ324119 | Din Socket 8P TCS1080-01-101 | 31-1-255 |
| 3-17x | SZ324124 | Decoration Ring (BL) | UCF-6512,6513 | 3-59 | ZS447761 | Tapping Screw, #2 BR 3x6 (Black) | |
| 3-18 | SB323315 | Button (D) | UCA-5012 | 3-60 | EF310199 | △ Fuse 0.5A 250V (U/T) | 39-1-64 |
| 3-19x | SB323316 | Button (D-BL) | UCA-5012 | 3-61x | EF309389 | △ Fuse 400mA 250V (JPN) | 39-1-64 |
| 3-20x | ZG323317 | Spring (C) | UCA-5013 | 3-62x | EF308848 | △ Fuse 400mA 125V (CSA, AAL) | 39-1-65 |
| 3-21 | ES310839 | △ Push SW. SDG1P-E 5A/80A 250V (U/T, CEE, UK, SAA) | 25-5-310 | 3-63x | EF300586 | △ Fuse (EAWK) 250MAT (CEE, UK, SAA) | 39-1-60 |
| 3-22x | ES665875 | △ Push SW. SDG1P-J TV-3 UL/CSA (CSA, AAL) | 25-5-199 | 3-64 | SP323331 | Bottom Plate | UCA-5019 |
| 3-23x | ES315159 | △ Push SW. SDG1P (JPN) | 25-5-330 | 3-65 | ZS609197 | Tapping Screw #2, Pan 3x6 (Black) | |
| 3-24 | EC321302 | △ Ceramic/C. E 0.01μF(Z) 250VAC (U/T, JPN) | 24-5-90 | 3-66 | SA324129 | Foot | UCF-5521 |
| 3-25x | EC314688 | △ Ceramic/C. DE7150 FZ 0.01μF(P) 125W (CSA, AAL) | 24-5-87 | 3-67x | ZW550642 | Washer (SPC) D3.1x8x0.5t | |
| 3-26x | EC327382 | △ MP/C. (Vert.) 0.0047μF(M) 250WV (CEE, UK, SAA) | 24-9-134 | 3-68x | ZS608477 | Screw, Pan 3x4 (Black) | |
| 3-27x | ZS417216 | Screw, Pan 3x4 | | 3-69x | ZW305013 | Pop Rivet D3.2 (AAL) | 7-6-9 |
| 3-28 | ZS462194 | Tapping Screw, #2 Pan 3x8 (W=8) | | 3-70 | SK323332 | Knob (A) | UCA-5020 |
| 3-29 | ZS666336 | Tapping Screw, #2 Pan 3x8 | | 3-71x | SK323333 | Knob (A-BL) | UCA-5020 |
| 3-30 | BT323362 | △ Power Trans. UCA5T-70 (U/T) | 38-4-784 | 3-72 | SK324206 | Double Knob (Lower-B) Part UC-A5 | UCF-6520 |
| 3-31x | BT319372 | △ Power Trans. UCA5T-10 (JPN) | 38-4-871 | 3-73x | SK324207 | Double Knob (Lower-B-BL) Part UC-A5-BL | UCF-6520 |
| 3-32x | BT323363 | △ Power Trans. UCA5T-20 (CSA, AAL) | 38-4-781 | 3-74 | SK324210 | Double Knob (Upper) Part UC-F5 | UCF-6521 |
| 3-33x | BT323364 | △ Power Trans. UCA5T-40 (CEE) | 38-4-782 | 3-75x | SK324211 | Double Knob (Upper-BL) Part UC-F5-BL | UCF-6521 |
| 3-34x | BT323365 | △ Power Trans. UCA5T-50 (UK, SAA) | 38-4-783 | 3-76 | SK323334 | Knob (B) | UCA-5021 |
| 3-35 | SP323323 | Rear Panel (U/T) | UCA-5018 | 3-77x | SK323336 | Knob (B-BL) | UCA-5021 |
| 3-36x | SP319370 | Rear Panel (JPN) | UCA-5018 | 3-78 | SK323337 | Knob (C) | UCA-5022 |
| 3-37x | SP323325 | Rear Panel (CSA, AAL) | UCA-5018 | 3-79x | SK323338 | Knob (C-BL) | UCA-5022 |
| 3-38x | SP323327 | Rear Panel (CEE) | UCA-5018 | 3-80x | EF321323 | △ Fuse 250mA 250V (U/T) | 39-1-64 |
| 3-39x | SP323329 | Rear Panel (UK, SAA) | UCA-5018 | | | | |
| 3-40x | SP323324 | Rear Panel (U/T-BL) | UCA-5018 | | | | |
| 3-41x | SP319371 | Rear Panel (JPN-BL) | UCA-5018 | | | | |
| 3-42x | SP323326 | Rear Panel (CSA-BL) | UCA-5018 | | | | |

When ordering parts, please quote Parts Number, Description and Model Number.

II. MODEL UC-W5

1. RECOMMENDED SPARE PARTS LIST

Because, if the parts listed below are on hand, almost any repair can be accomplished, we suggest that you stock these Recommended Spare Parts Items.

| Parts No. | Description | Notes |
|-----------|--------------------------------|--------------------|
| BA323449 | Main Amp P.C Board Comp. UC-W5 | |
| BT320514 | △ Power Trans. UC-W5T-10 | JPN |
| BT323548 | △ Power Trans. UCW5T-20 | CSA, AAL |
| BT323549 | △ Power Trans. UCW5T-40 | CEE |
| BT323550 | △ Power Trans. UCW5T-50 | UK, SAA |
| BT323547 | △ Power Trans. UCW5T-70 | U/T |
| BT320515 | △ Pulse Trans. PT-UCT-100 | JPN |
| BT323568 | △ Pulse Trans. PT-UCT-110 | U/T, CEE |
| BT323569 | △ Pulse Trans. PT-UCT-120 | CSA, AAL, UK, SAA |
| ED562386 | Germanium Diode 1S188AM | |
| ED322773 | LED SLP-255D-01 | |
| ED323513 | Silicon Diode CTU-24R | |
| ED323512 | Silicon Diode CTU-24S | |
| ED245430 | Silicon Diode GP08G | |
| ED214457 | Silicon Diode 1S2472 | |
| ED316143 | Silicon Diode 1S2473-HS | |
| ED323556 | Silicon Stack 3G4B41 | |
| ED323573 | Trigger Diode 1S2093 | |
| ED322810 | Zener Diode WZ-040 | |
| ED323530 | Zener Diode 05Z-12U | |
| ED323534 | Zener Diode 05Z-20U | |
| ED322774 | Zener Diode 05Z5.1U | |
| EF306950 | △ Fuse 2A 250V | U/T |
| EF323080 | △ Fuse 3.15A 125V | CSA, AAL |
| EF326639 | △ Fuse 3.15A 250V | JPN |
| EF306952 | △ Fuse 4A 250V | U/T |
| EF601301 | △ Fuse (Semko T) 2AT | CEE, UK, SAA |
| EI322791 | IC LC7556 | |
| EI323562 | IC STK-0040(2)-A | |
| EI326550 | IC STK-0050(2)-A | |
| EI323563 | IC STK-3042 | |
| EI323564 | IC TA7317P | |
| EI322599 | IC TA75458S | |
| EI323436 | OSC. Trans P.C Board Assy | |
| EJ321168 | △ AC Outlet IR13 | U/T, JPN, CSA, AAL |
| EJ296853 | △ 3P Inlet CM-3 | CEE, UK, SAA |
| EJ301199 | Headphone Jack 3P64M | |
| EJ323552 | Push Terminal 4P | |
| EM322584 | Bar Meter FIP48DW16YS | |
| EO323570 | Choke Coil TCA-20A 1.5MH | |

| Parts No. | Description | Notes |
|-----------|----------------------------------|--------------------|
| EP323565 | Relay G2Z-222P-US DC 24V | |
| ER323561 | △ Line Filter UF2426C-601Y2R5-03 | U/T, JPN, CSA, AAL |
| ER325268 | △ Power Filter EF3727-203Y1R2 | CEE, UK, SAA |
| ES315159 | △ Push SW. SDG1P | JPN |
| ES310839 | △ Push SW. SDG1P-E 5A/80A 250V | U/T, CEE, UK, SAA |
| ES665875 | △ Push SW. SDG1P-J TV-3 UL/CSA | CSA, AAL |
| ES323555 | 2-Throw Push SW. J-K2109 | |
| ET311792 | FET 2SK150 (GR) (Y) (BL) | |
| ET323529 | Transistor 2SA608K-NP (E) (F) | |
| ET324134 | Transistor 2SA984K (E) (F) | |
| ET307195 | Transistor 2SC2240 (GR) (BL) | |
| ET324133 | Transistor 2SC2274 (E) (F) | |
| ET323572 | Transistor 2SC2335 (K) | |
| ET316171 | Transistor 2SC536K-NP (E) (F) | |
| ET323567 | Transistor 2SD331AL (E) (F) | |
| EW306427 | △ AC Cord (JPN) | |
| EW306428 | △ AC Cord (U/T) | |
| EW305691 | △ AC Cord CUL | CSA, AAL |

2. MAIN AMP P.C BOARD (UCW-5001) BLOCK

| Symbol No. | Parts No. | Description | Schematic No. |
|------------|-----------|---|---------------|
| 2-1 | BA323449 | Main Amp P.C Board Comp. UC-W5 | UCW-5059 |
| 2-IC1 | EI323563 | IC STK-3042 | 45-8-423 |
| 2-IC2 | EI323564 | IC TA7317P | 45-8-424 |
| 2-TR1 | ET311792 | FET 2SK150(GR)(Y)(BL) | 45-12-22 |
| 2-TR2 | ET316171 | Transistor 2SC536K-NP(E)(F) | 45-1-362 |
| 2-TR3 | ET323529 | Transistor 2SA608K-NP(E)(F) | 45-1-375 |
| 2-TR4 | ET316171 | Transistor 2SC536K-NP(E)(F) | 45-1-362 |
| 2-TR5 | ET324134 | Transistor 2SA984K(E)(F) | 45-1-378 |
| 2-TR6 | ET323529 | Transistor 2SA608K-NP(E)(F) | 45-1-375 |
| 2-TR7 | ET324133 | Transistor 2SC2274(E)(F) | 45-1-377 |
| 2-TR8 | ET323529 | Transistor 2SA608K-NP(E)(F) | 45-1-375 |
| 2-TR9 | ET307195 | Transistor 2SC2240(GR)(BL) | 45-1-302 |
| 2-TR10 | ET323529 | Transistor 2SA608K-NP(E)(F) | 45-1-375 |
| 2-D1 | ED214457 | Silicon Diode 1S2472 | 45-3-41 |
| 2-D2,3 | ED323530 | Zener Diode 05Z-12U | 45-6-76 |
| 2-D4to8 | ED245430 | Silicon Diode GP08G | 45-2-68 |
| 2-D9to13 | ED214457 | Silicon Diode 1S2472 | 45-3-41 |
| 2-RL1,2 | EP323565 | Relay G2Z-222P-US DC24V | 47-2-35 |
| 2-VR1 | EV380204 | Semi-Fixed/Vol. (Solid Type) SR19R 1kB | 36-19-10 |
| 2-L1 | EO324220 | Phase Compensation Coil 2.2μH(K) | 23-1-417 |
| 2-J2 | EJ323566 | Pin Jack 2P | 32-1-110 |
| 2-R17,18 | ER324222 | Metal Plate/R. 2W 0.22 ohm(K) | 35-16-38 |
| 2-R34 | ER409814 | Metal Oxide Film/R. 2W 220 ohm(K) | 35-15-8 |
| 2-C12 | EC662128 | Solid Aluminum/C. (Vert.) 2.2μF(M) 25WV | 24-19-2 |
| 2-C13,14 | EC323523 | NP/C. (Vert.) 2.2μF(M) 25WV | 24-17-26 |
| 2-C20 | EC327715 | NP/C. (Vert.) 47μF(M) 10WV | 24-17-26 |
| 2-C21 | EC621257 | Solid Aluminum/C. (Vert.) 0.47μF(M) 25WV | 24-19-2 |
| 2-C24 | EC662128 | Solid Aluminum/C. (Vert.) 2.2μF(M) 25WV | 24-19-2 |

3. PULSE POWER SUPPLY P.C BOARD (UCW-5004A) BLOCK

| Symbol No. | Parts No. | Description | Schematic No. |
|------------|-----------|---|---------------|
| 3-TR1 | ET316171 | Transistor 2SC536K-NP(E)(F) | 45-1-362 |
| 3-TR2,3 | ET323572 | Transistor 2SC2335(K) | 45-1-381 |
| 3-D1 | ED323573 | Trigger Diode 1S2093 | 45-3-65 |
| 3-D2 | ED323512 | Silicon Diode CTU-24S | 45-2-101 |
| 3-D3 | ED323513 | Silicon Diode CTU-24R | 45-2-102 |
| 3-T1 | EI323436 | OSC. Trans P.C Board Assy | UCW-5051 |
| 3-T2 | BT323568 | Pulse Trans. PT-UCT-110 (U/T, CEE) | 23-1-394 |
| 3-T2 | BT320515 | Pulse Trans. PT-UCT-100 (JPN) | 23-1-428 |
| 3-T2 | BT323569 | Pulse Trans. PT-UCT-120 (CSA, AAL, UK, SAA) | 23-1-395 |
| 3-L1 | EO323570 | Choke Coil TCA-20A 1.5MH | 23-1-392 |
| 3-L2 | EO323571 | Inductor TCD-25 20μH | 23-1-393 |
| 3-R1 | ER324231 | Metal Oxide Film/R. 1W 68K(J) (U/T, CEE) | 35-15-17 |
| 3-R9 | ER310147 | Carbon/R. F 1/4W 10 ohms(J) | 35-11-25 |
| 3-R12 | ER324232 | Metal Oxide Film/R. 2W 6.8 ohms(J) | 35-15-18 |
| 3-C1,2 | EC551160 | Ceramic/C. DB821 NA 0.01μF(Z) 1.4KWV | 24-5-55 |
| 3-C3,4 | EC323574 | Elect./C. (Vert.) 3.3μF 450WV | 24-12-66 |
| 3-C5 | EC323525 | Metallized Film/C. (Vert.) 0.33μF(K) 400WV (Except JPN) | 24-16-7 |
| 3-C5 | EC320516 | Metallized Mylar/C. (Vert.) 0.47μF(K) 400WV (JPN) | 24-16-7 |
| 3-C6 | EC323525 | Metallized Film/C. (Vert.) 0.33μF(K) 400WV (Except JPN) | 24-16-7 |
| 3-C6 | EC320516 | Metallized Mylar/C. (Vert.) 0.47μF(K) 400WV (JPN) | 24-16-7 |
| 3-C8,9 | EC323517 | Ceramic/C. (Vert.) DP3100 B 100PF(K) 1KWV | 24-5-101 |
| 3-C14 | EC325286 | Ceramic/C. (Vert.) HS D 0.0022μF(M) 400WV (U/T, CEE, UK, SAA) | 24-5-104 |
| 3-C14 | EC325266 | Ceramic/C. DE7100 0.0047μF(P) 125VAC (JPN, CSA, AAL) | 24-5-87 |
| 3-1 | ZS419670 | Screw, Pan 3×12 | |
| 3-2 | ZS422076 | Screw, Pan 3×5 | |
| 3-3 | ZG323474 | Hold Spring | UCW-5023 |
| 3-4 | ZS558101 | Screw, Pan 3×6 w/Washer | |

When ordering parts, please quote Parts Number, Description and Model Number.

4. BAR METER P.C BOARD (UCW-5006) BLOCK

| Symbol No. | Parts No. | Description | Schematic No. |
|------------|-----------|-----------------------|---------------|
| 4-IND1 | EM322584 | Bar Meter FIP48DW16YS | 59-1-2 |
| 4-IC1 | EI322791 | IC LC7556 | 45-8-425 |
| 4-D1 | ED322774 | Zener Diode 05Z5.1U | 45-6-76 |
| 4-D2 | ED322810 | Zener Diode WZ-040 | 45-6-67 |

5. BAR METER DRIVE P.C BOARD (UCW-5007) BLOCK

| Symbol No. | Parts No. | Description | Schematic No. |
|------------|-----------|--|---------------|
| 5-IC1 | EI322599 | IC TA75458S | 45-8-415 |
| 5-TR1 | ET323567 | Transistor 2SD331AL(E)(F) | 45-1-379 |
| 5-TR2to4 | ET316171 | Transistor 2SC536K-NP(E)(F) | 45-1-362 |
| 5-D1 | ED323534 | Zener Diode 05Z-20U | 45-6-76 |
| 5-D2 | ED323530 | Zener Diode 05Z-12U | 45-6-76 |
| 5-D3 | ED316143 | Silicon Diode 1S2473-HS | 45-3-53 |
| 5-D4 | ED562386 | Germanium Diode 1S188AM | 45-3-24 |
| 5-VR1 | EV323536 | Semi-Fixed/Vol. D10 Axial 2k Ω | 36-10-274 |
| 5-1 | ZS413728 | Screw, Bind 3x6 w/Washer | |
| 5-2 | ZW273756 | Nut, #1 M3 | |

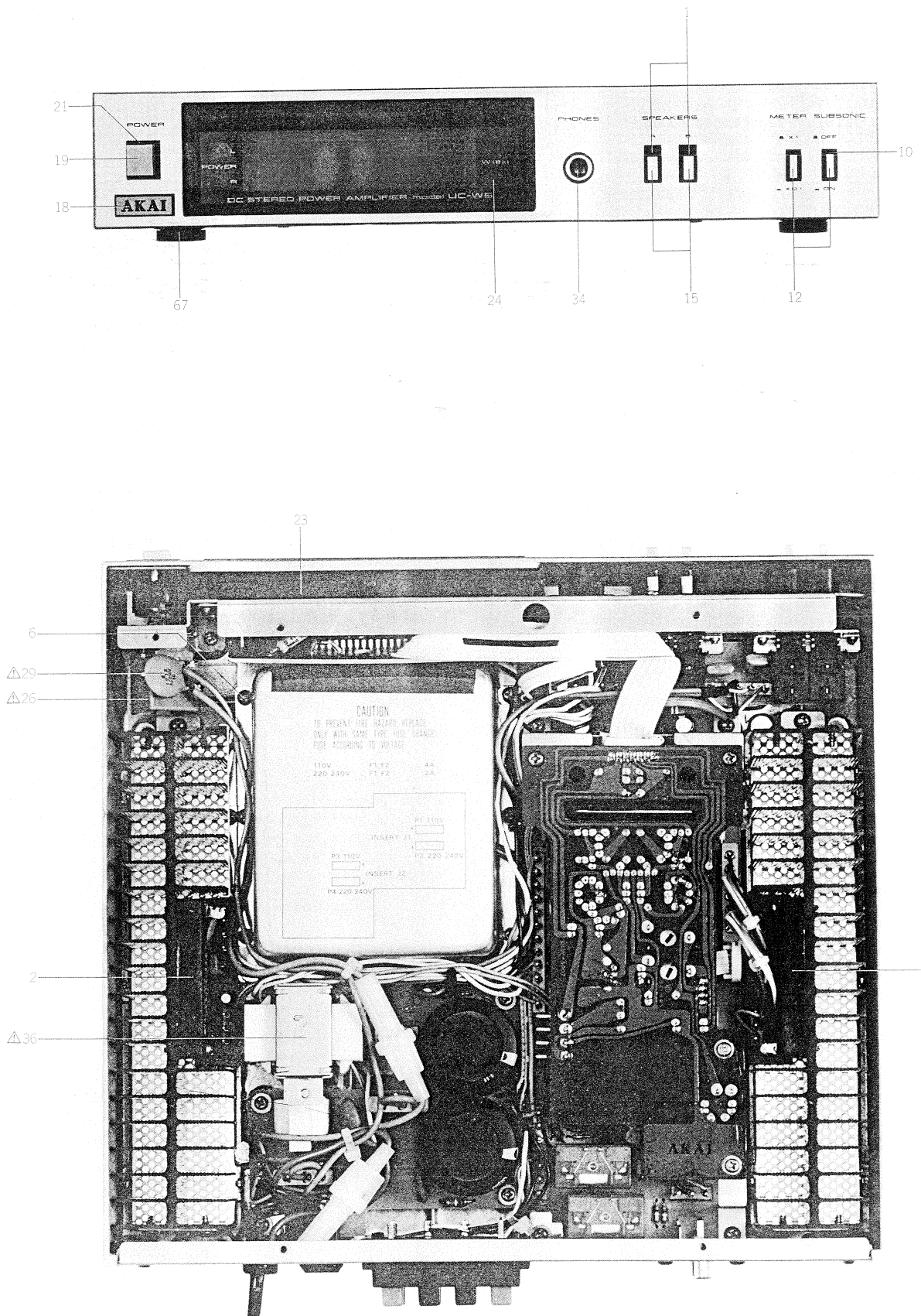
6. RECTIFIER P.C BOARD (UCW-5045/5005/5064) BLOCK

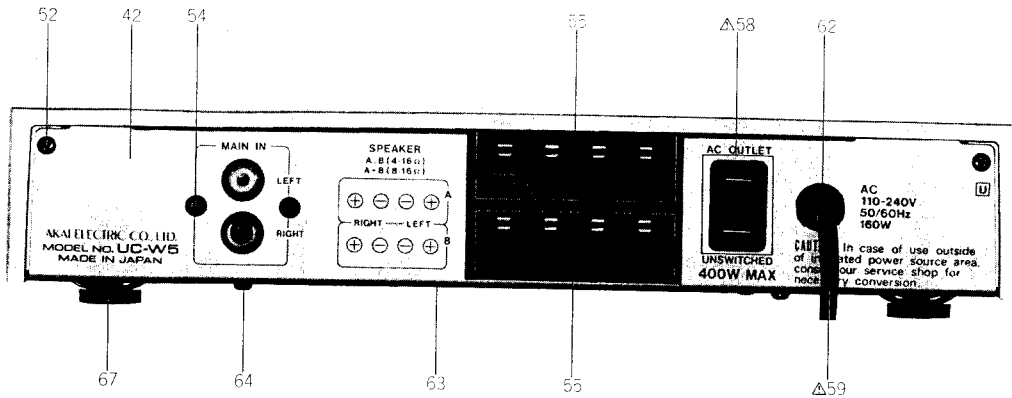
| Symbol No. | Parts No. | Description | Schematic No. |
|------------|-----------|---|---------------|
| 6-D1 | ED323556 | Silicon Stack 3G4B41 (U/T, CEE, UK, SAA) | 45-2-98 |
| 6-D1,2 | ED313566 | Silicon Diode GP-25G (JPN, CSA, AAL) | 45-2-91 |
| 6-L1 | ER325268 | Δ Power Filter EF-3727-203Y1R2 (CEE, UK, SAA) | 23-1-414 |
| 6-L1 | ER323561 | Δ Line Filter UF2426C-601Y2R5-03 (U/T, JPN, CSA, AAL) | 23-1-390 |
| 6-R1,2 | ER622978 | Metal Plate/R. MPC71F1 5W 0.47 ohm(K) (U/T) | 35-16-48 |
| 6-R1,2 | ER323997 | Cement/R. MPC71F1 5W 0.47 ohm(J) (JPN) | 35-16-48 |
| 6-R1,2 | ER326132 | Cement/R. (Vert.) 5W 1 ohm(K) (Except U/T, JPN) | 35-16-87 |
| 6-C1 | EC258298 | Δ MP/C. PEM271 0.1 μ (M) 250WV (CEE, UK, SAA) | 24-9-118 |
| 6-C1 | EC324135 | Δ Metallized Film/C. (Vert.) 0.1 μ F(K) 630WV (U/T) | 24-16-7 |
| 6-C1 | EC320519 | Δ Polypropylene/C. (Vert.) 0.1 μ F(M) 125VAC (JPN) | 24-22-13 |
| 6-C1 | EC326827 | Δ Metallized Mylar/C. (Vert.) 0.1 μ F(M) 125VAC (CSA, AAL) | 24-16-30 |
| 6-C2 | EC325671 | MP/C. (Vert.) 0.01 μ F(M) 250WV (CEE, UK, SAA) | 24-9-134 |
| 6-C2 | EC321302 | Ceramic/C. E 0.01 μ F(Z) 250VAC (JPN) | 24-5-90 |
| 6-C2 | EC314688 | Ceramic/C. DE7150 FZ 0.01 μ F(P) 125WV (CSA, AAL) | 24-5-87 |
| 6-C3,4 | EC323558 | Elect./C. 100 μ F 400WV (CEE, UK, SAA) | 24-12-68 |
| 6-C3,4 | EC323560 | Elect./C. 470 μ F 200WV (JPN, CSA, AAL) | 24-12-69 |
| 6-C2to4 | EC551160 | Ceramic/C. DB821 NA 0.01 μ F(Z) 1.4KWV (U/T) | 24-5-55 |
| 6-C5 | EC325286 | Ceramic/C. (Vert.) HS D 0.0022 μ F(M) 400WV (CEE, UK, SAA, U/T) | 24-5-104 |
| 6-C5 | EC325266 | Ceramic/C. DE7100 0.0047 μ F(P) 125VAC (JPN, CSA, AAL) | 24-5-87 |

7. PUSH SWITCH P.C BOARD (UCW-5003) BLOCK

| Symbol No. | Parts No. | Description | Schematic No. |
|------------|-----------|-----------------------------|---------------|
| 7-SW1,2 | ES323555 | 2-Throw Push SW. J-K2109 | 25-5-360 |
| 7-SW3,4 | ES323555 | 2-Throw Push SW. J-K2109 | 25-5-360 |

8. FINAL ASSEMBLY BLOCK





FINAL ASSEMBLY BLOCK

| Ref. No. | Parts No. | Description | Schematic No. | Ref. No. | Parts No. | Description | Schematic No. |
|-----------------------------|-----------|--|---------------|----------|-----------|--|---------------|
| LED P.C BOARD BLOCK | | | | | | | |
| 8-1 | ED322773 | LED SLP-255D-01 | 45-15-37 | 8-38x | BT323548 | Δ Power Trans. UCW5T-20 (CSA, AAL) | 38-4-785 |
| HEAT SINK (A) BLOCK | | | | | | | |
| 8-2 | EI326550 | IC STK-0050(2)-A (U/T) | 45-8-494 | 8-39x | BT323549 | Δ Power Trans. UCW5T-40 (CEE) | 38-4-786 |
| 8-3x | EI323562 | IC STK-0040(2)-A (Except U/T) | 45-8-422 | 8-40x | BT323550 | Δ Power Trans. UCW5T-50 (UK, SAA) | 38-4-787 |
| 8-4x | ZS447805 | Tapping Screw, #2 BR 3x12 | | 8-41x | ZS379350 | Screw, Pan 3x6 | |
| 8-5x | ZS325495 | Tapping Screw, #2 BR 3x6 | | 8-42 | SP323489 | Rear Panel (U/T) | UCW-5035 |
| PULSE POWER BLOCK | | | | | | | |
| 8-6 | ZS422076 | Screw, Pan 3x5 | | 8-43x | BD320524 | Rear Panel (JPN) | UCW-5035 |
| 8-7x | TA323481 | Packing (A) | UCW-5029 | 8-44x | SP323491 | Rear Panel (CSA, AAL) | UCW-5035 |
| 8-8x | TA323486 | Packing (B) | UCW-5033 | 8-45x | SP323494 | Rear Panel (CEE) | UCW-5035 |
| 8-9x | ZS447840 | Tapping Screw, #2 BR 3x8 | | 8-46x | SP323496 | Rear Panel (UK, SAA) | UCW-5035 |
| ESCUTCHEON (B) BLOCK | | | | | | | |
| 8-10 | SE323465 | Escutcheon (B) | UCW-5013 | 8-47x | SP323490 | Rear Panel (U/T-BL) | UCW-5035 |
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| 8-12 | SB323309 | Button (B) | UCA-5008 | 8-49x | SP323492 | Rear Panel (CSA-BL) | UCW-5035 |
| 8-13x | SB323310 | Button (B-BL) | UCA-5008 | 8-50x | SP323495 | Rear Panel (CEE-BL) | UCW-5035 |
| 8-14x | ZG323466 | Spring | UCW-5014 | 8-51x | SP323497 | Rear Panel (UK, SAA-BL) | UCW-5035 |
| 8-15 | SB316355 | Button (A) | CU-6005 | 8-52 | ZS609208 | Tapping Screw, #2 Pan 3x8 (Black) (U/T, JPN, CSA, AAL) | |
| 8-16x | SB316356 | Button (A-BL) | CU-6005 | 8-53x | ZS308846 | Tapping Screw, #2 BR 3x8 (Oval Neck) (CEE, UK, SAA) | 7-1-69 |
| 8-17x | ZS666336 | Tapping Screw #2, Pan 3x8 | | 8-54 | ZW698308 | Nylon Rivet (NRB) 3x5.5 (Black) | 2-7-54 |
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| 8-19 | SB323305 | Button (A) | UCA-5005 | 8-56x | EJ296853 | Δ 3P Inlet CM-3 (CEE, UK, SAA) | 31-1-199 |
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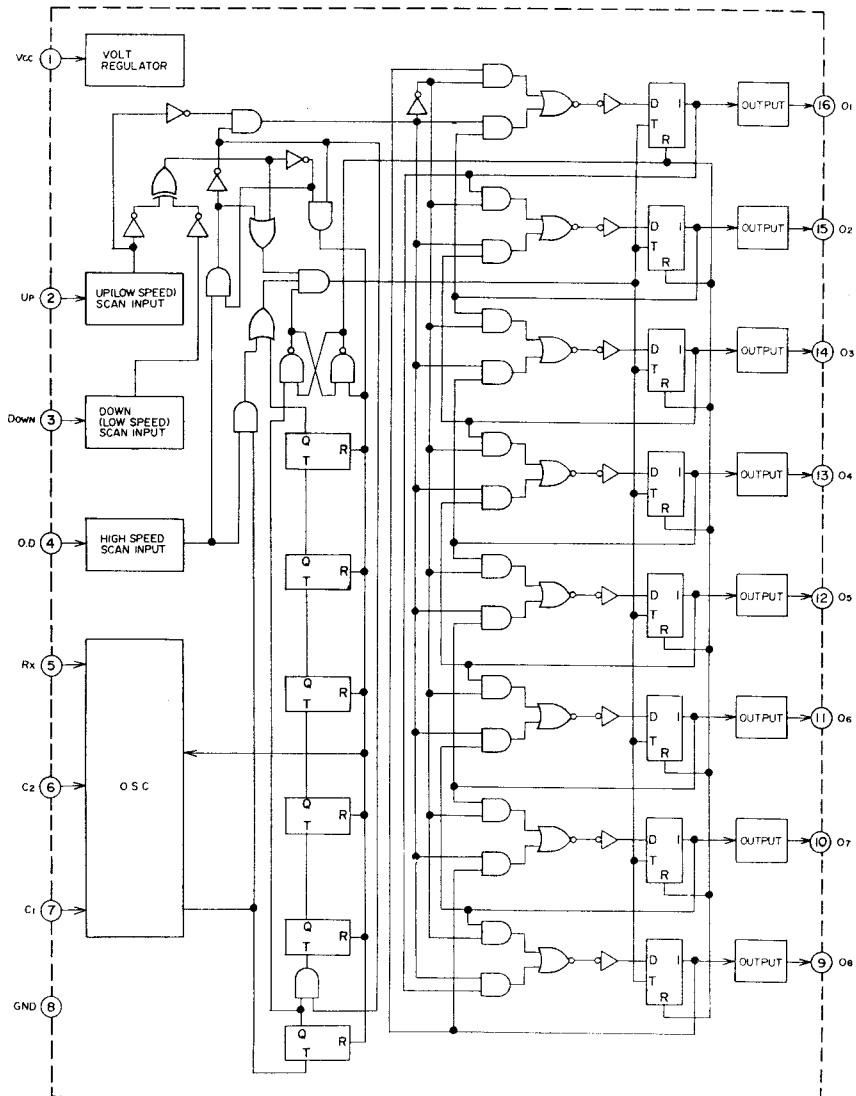
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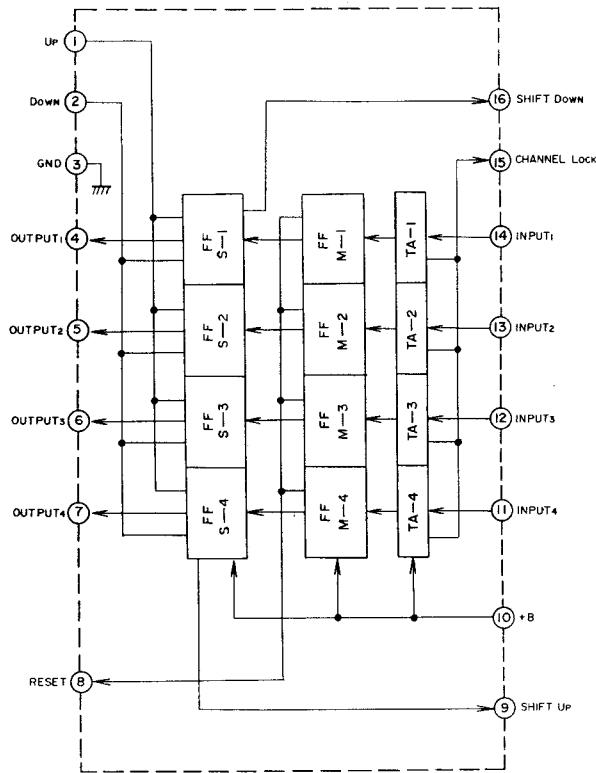
SCHEMATIC DIAGRAM

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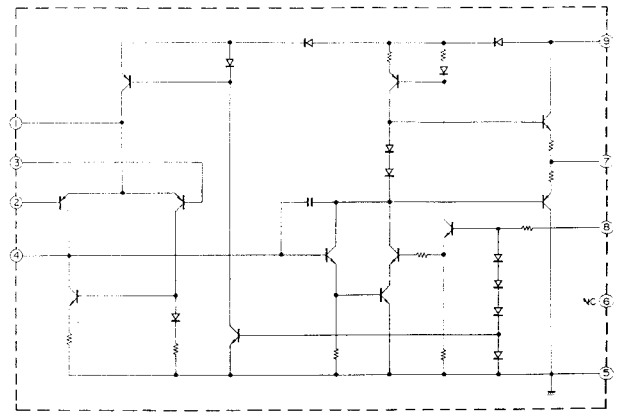
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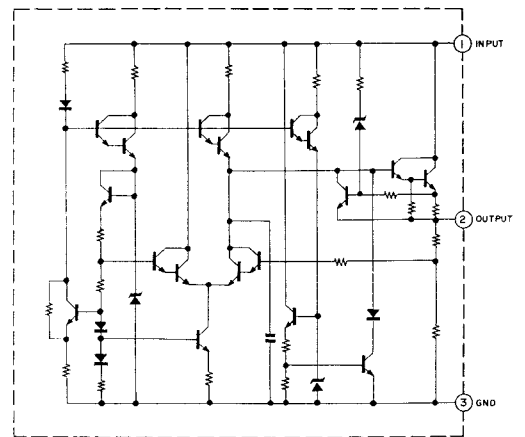
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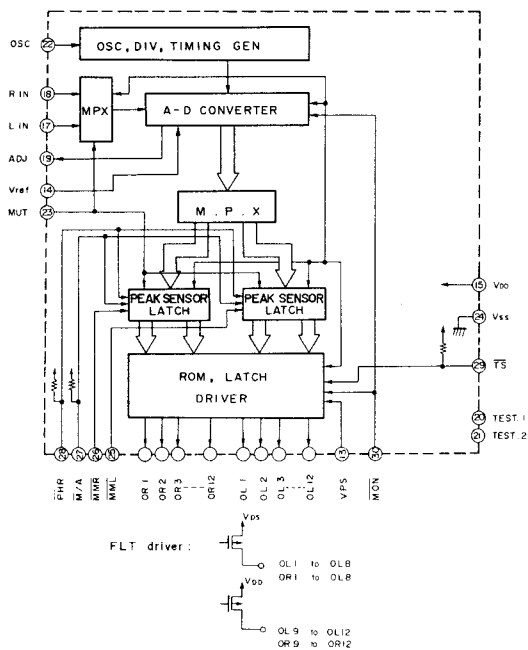
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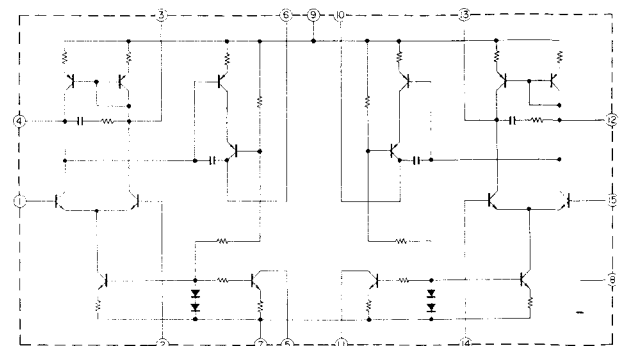
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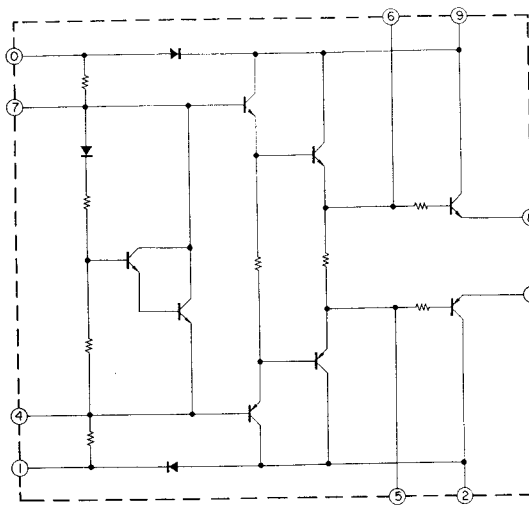
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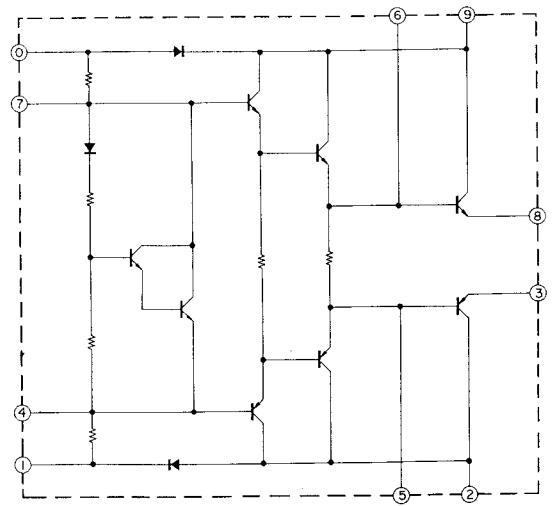
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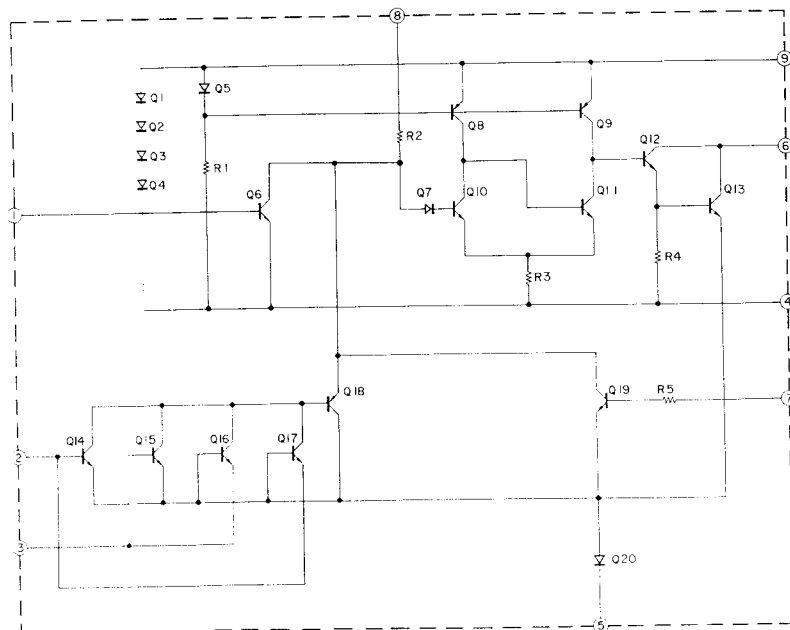
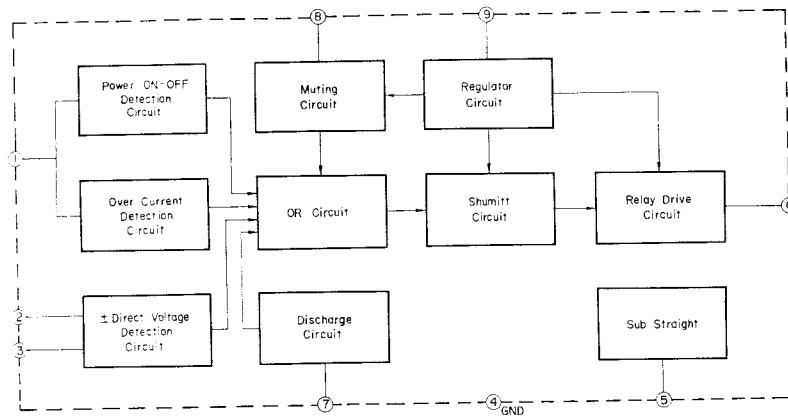
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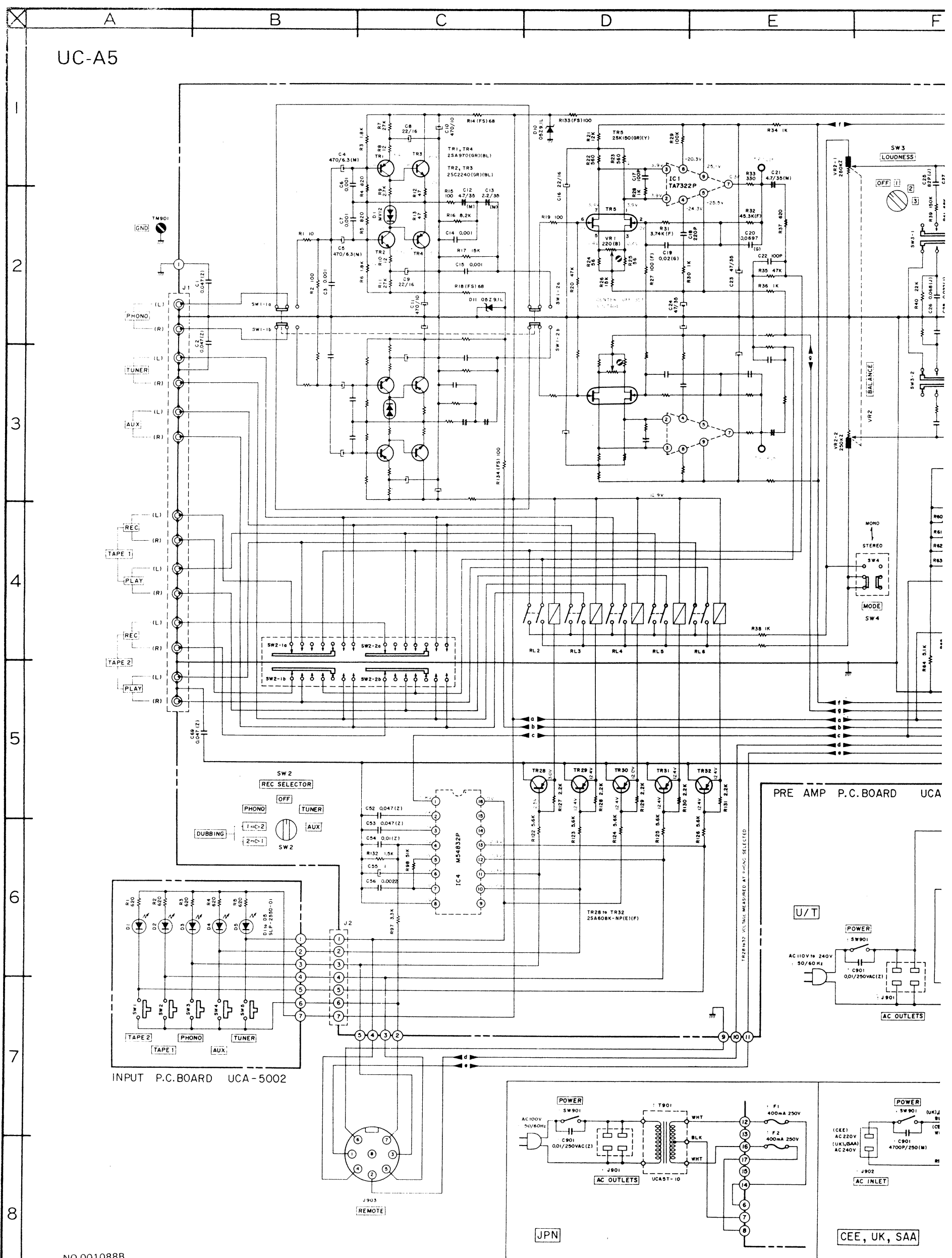
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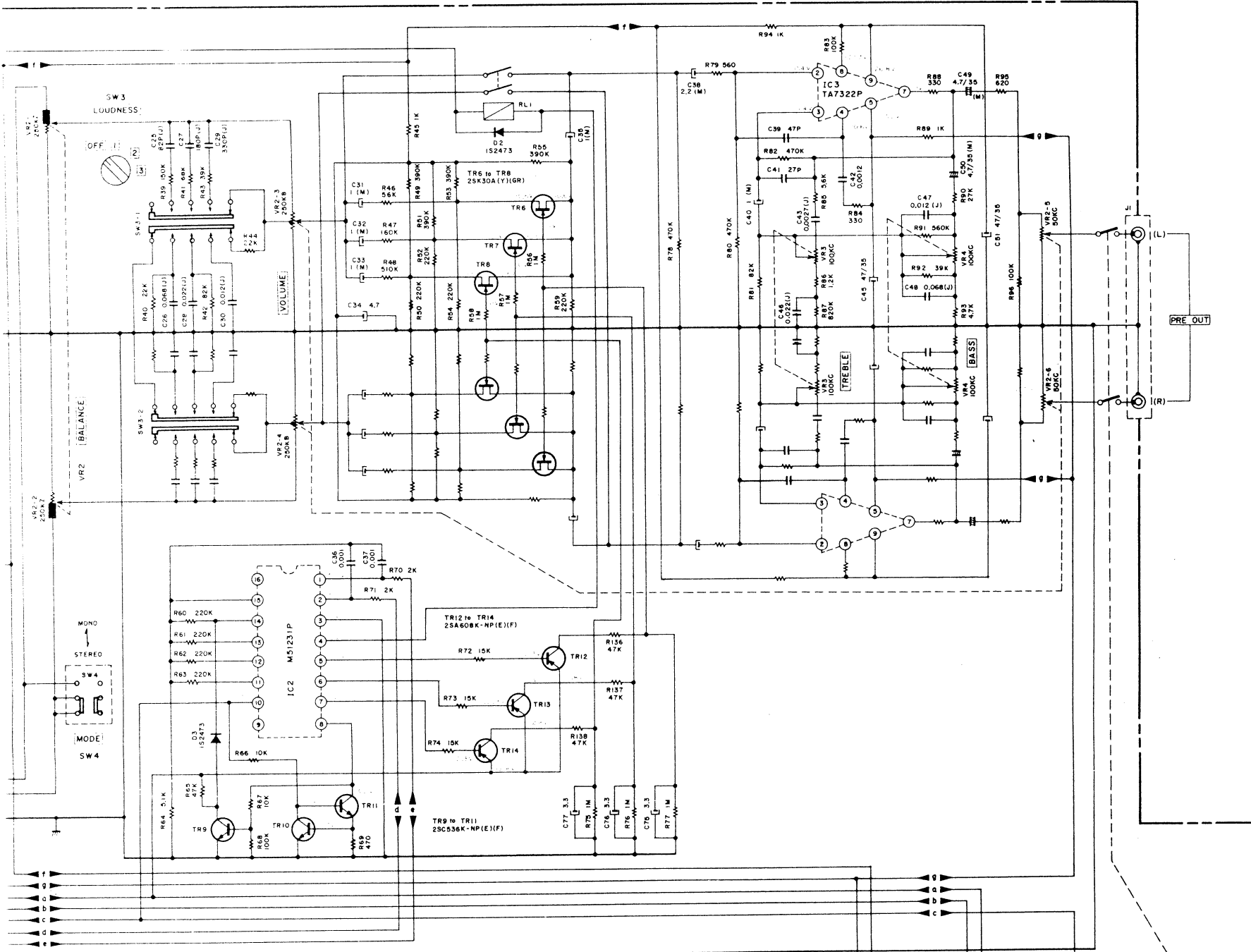
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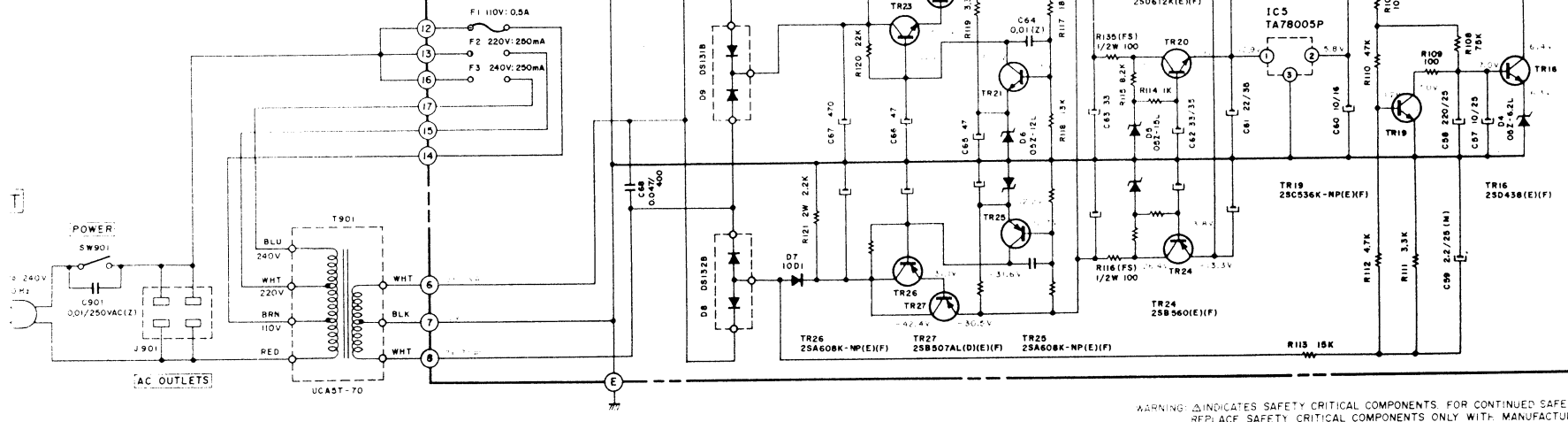
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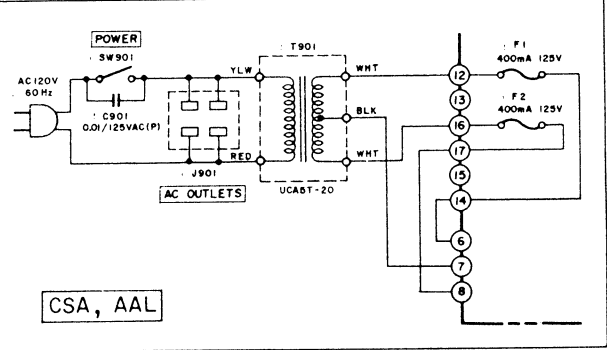
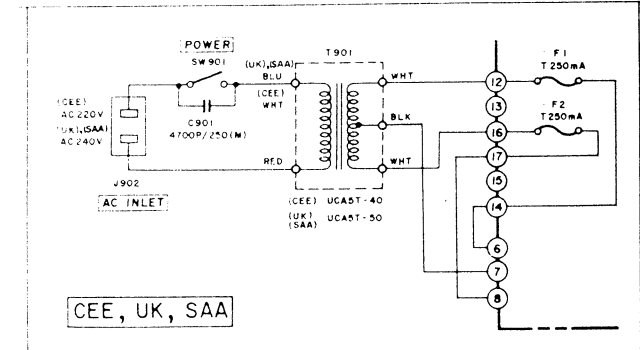
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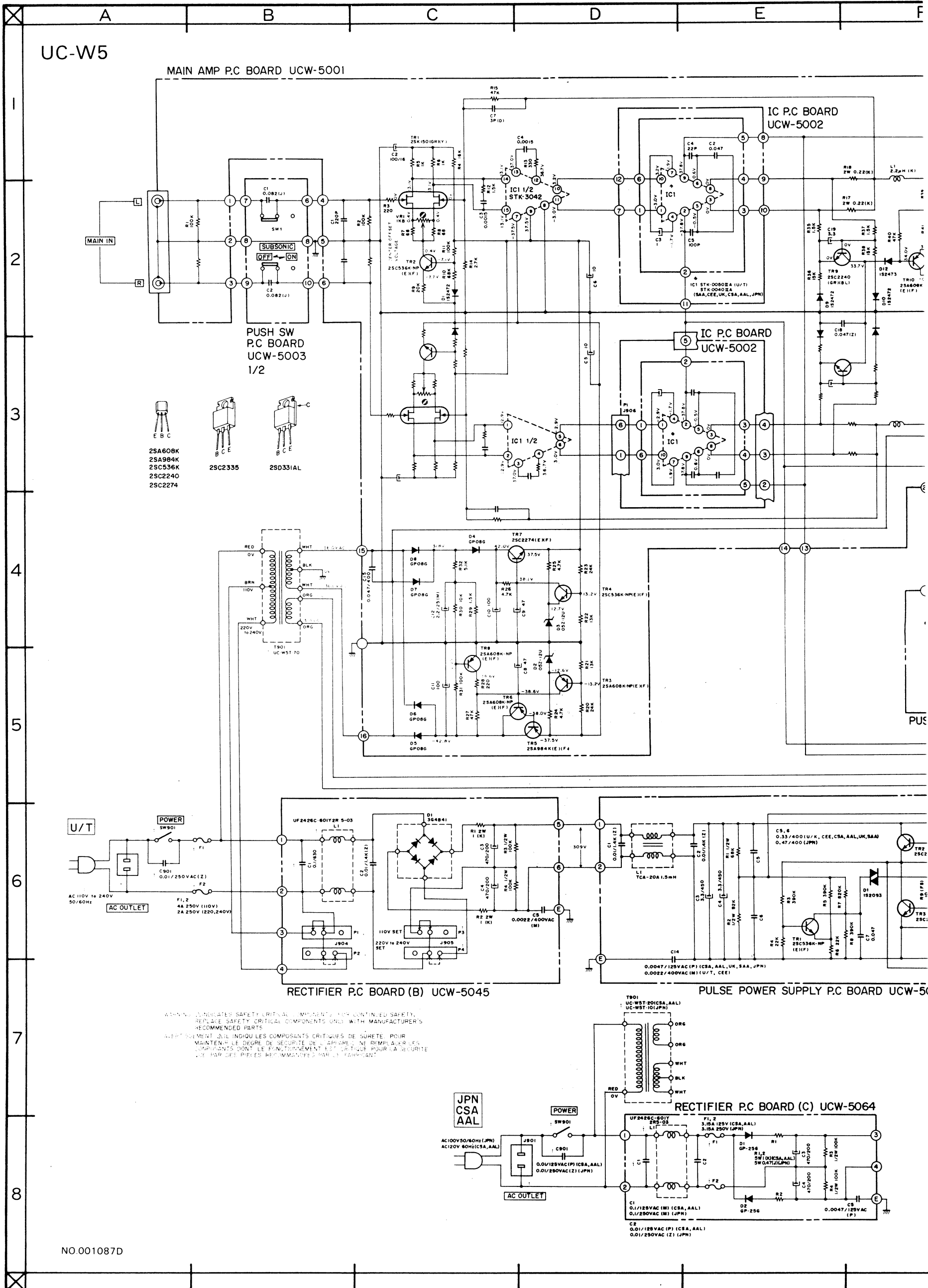
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AVERTISSEMENT: Δ IL INDIQUE LES COMPOSANTS CRITIQUES DE SÛRETÉ. POUR MAINTENIR LE DEGRÉ DE SÛRETÉ DE L'APPAREIL, NE REMPLACER LES COMPOSANTS DONT LE FONCTIONNEMENT EST CRITIQUE POUR LA SÛRETÉ QUE PAR DES PIÈCES RECOMMANDÉES PAR LE FABRICANT.

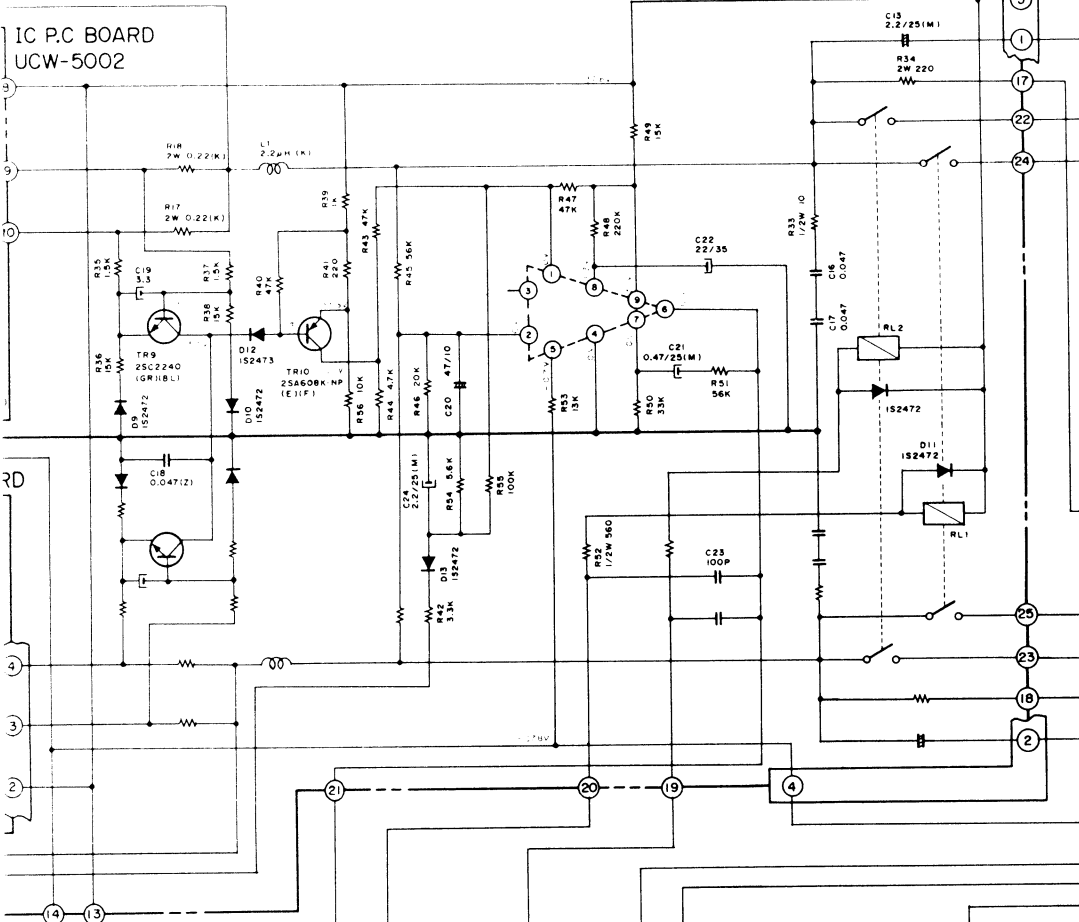
NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/4W(J)
ALL CAPACITORS IN μF 50 WV(J)
(FS) = FAIL SAFE RESISTORS
(-H-) = NON-POLAR CAPACITORS
POWER TRANSFORMER IS DIFFERENT
ACCORDING TO AREA



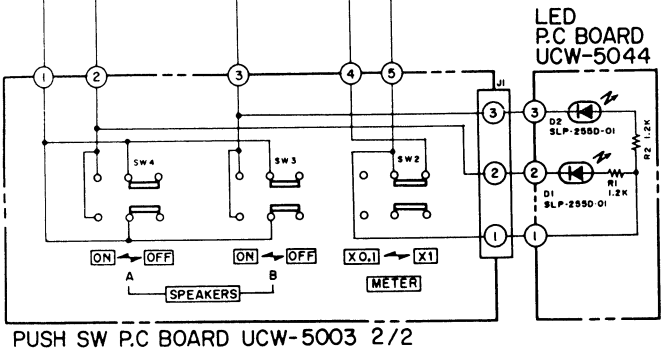
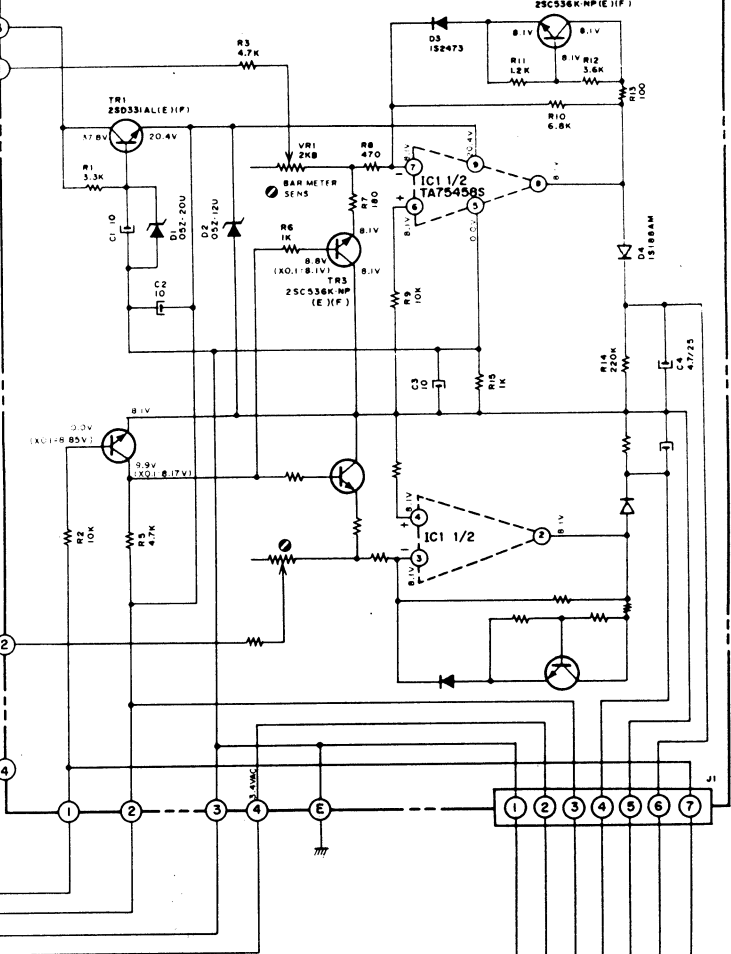
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SCHEMATIC DIAGRAM
No.1600640A



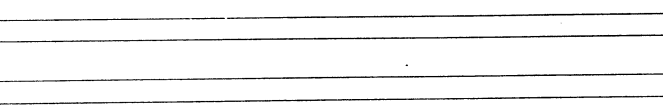
F G H I J K



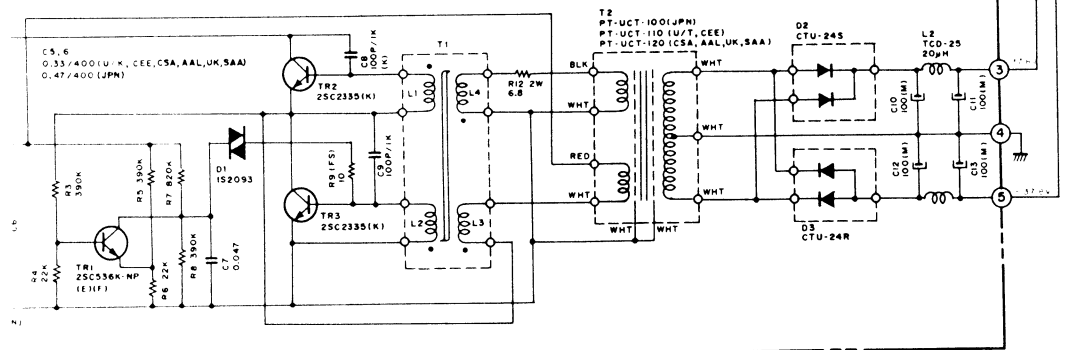
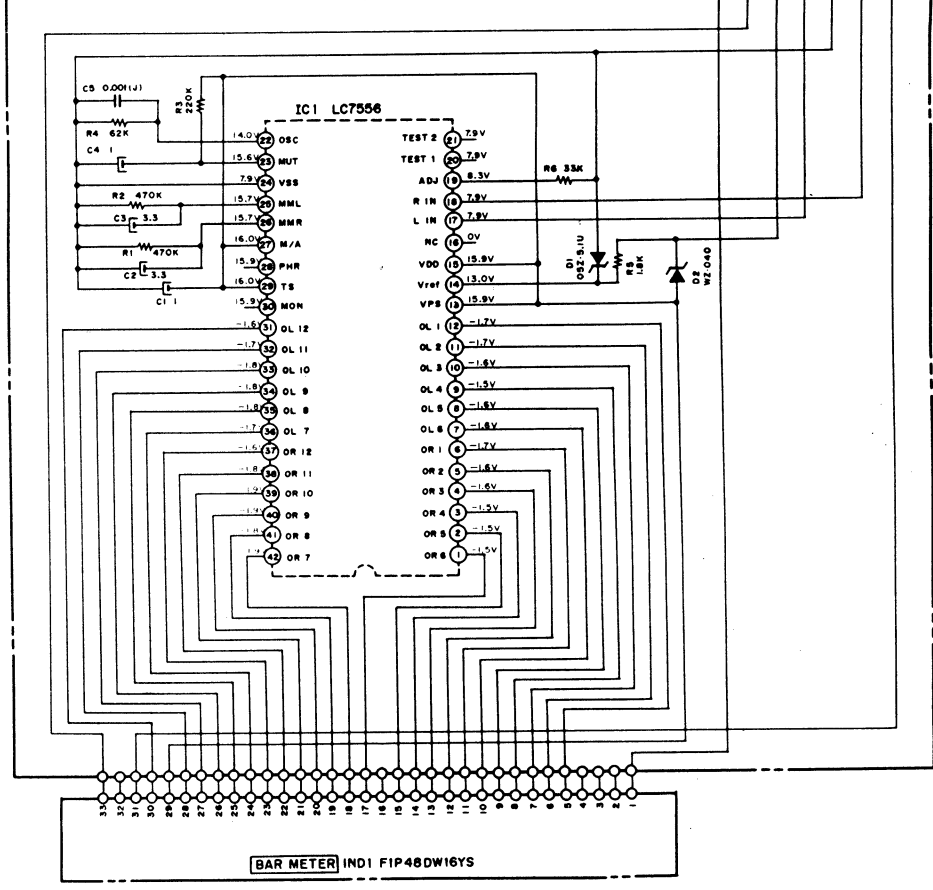
METER DRIVE P.C BOARD UCW-5007



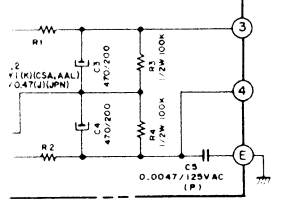
PUSH SW P.C BOARD UCW-5003 2/2



BAR METER P.C BOARD UCW-5006

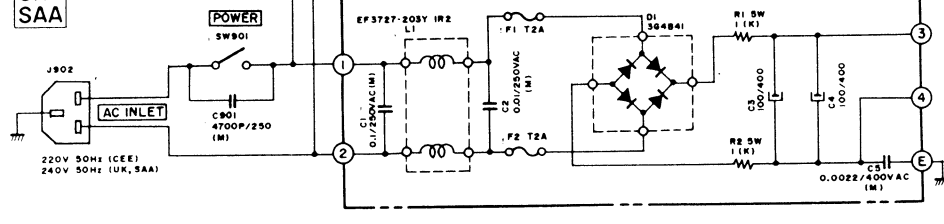


BOARD (C) UCW-5064



CEE
UK
SAA

RECTIFIER P.C BOARD (A) UCW-5005



NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS (1/4W (1))
ALL CAPACITORS IN µF (50 WV (1))
(FS) = FAIL SAFE RESISTORS
(N) = NON-POLAR CAPACITORS
POWER TRANSFORMER IS DIFFERENT
ACCORDING TO AREA

UC-W5
SCHEMATIC DIAGRAM
NO.1600641A