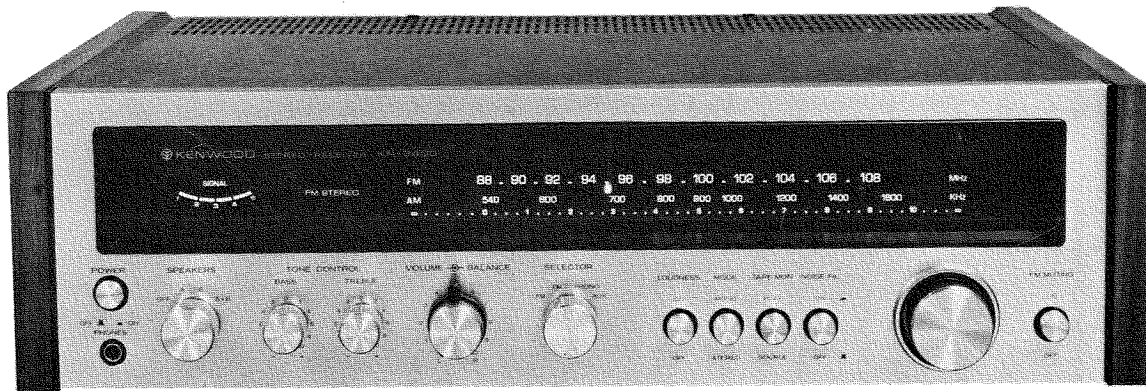


KENWOOD
HI/FI STEREO COMPONENTS

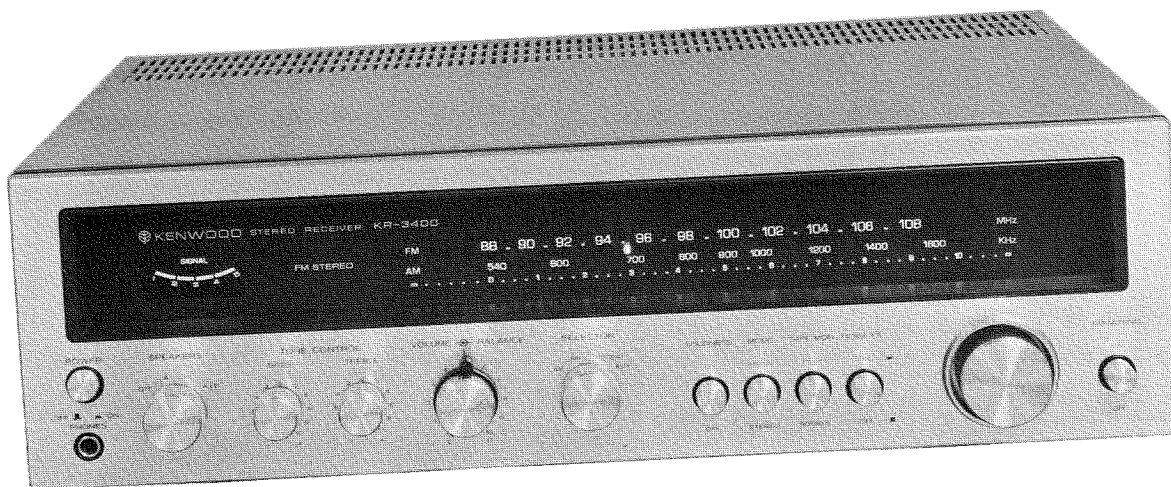
SERVICE MANUAL

KR-3400
KR-2400



AM-FM STEREO RECEIVER

EUROPE TYPE/POWER VOLTAGE SELECTOR



KR-3400, KR-2400 have a voltage selector switch on the rear panel (except for K, P, L type) to meet with two kinds of line voltage of 110 ~ 120 Volts AC and 220 ~ 240 Volts AC, which is set to the voltage of its destination.

Before operating this receiver, make sure that the position of the AC Voltage Selector Switch matches your line voltage. If not, it must be changed to the proper setting.

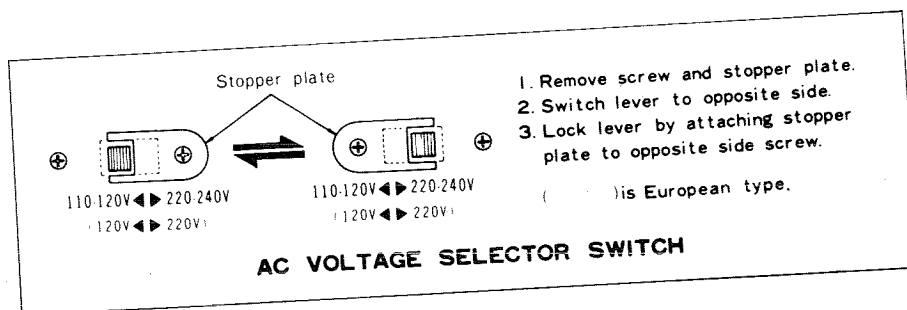
To change, first disconnect the AC line cord, then remove the stopper plate and slide the AC Voltage Switch to the opposite side. Then reattach the stopper plate to the other side.

When the position of the AC Voltage Selector Switch is changed, it is also necessary to change the power fuse. For 110 ~ 120 volt operation a 2 ampere fuse should be used. For 220 ~ 240 volt operation a 1 ampere fuse should be used. If the power fuse fails, remove blown fuse and replace with the same type fuse of the same capacity.

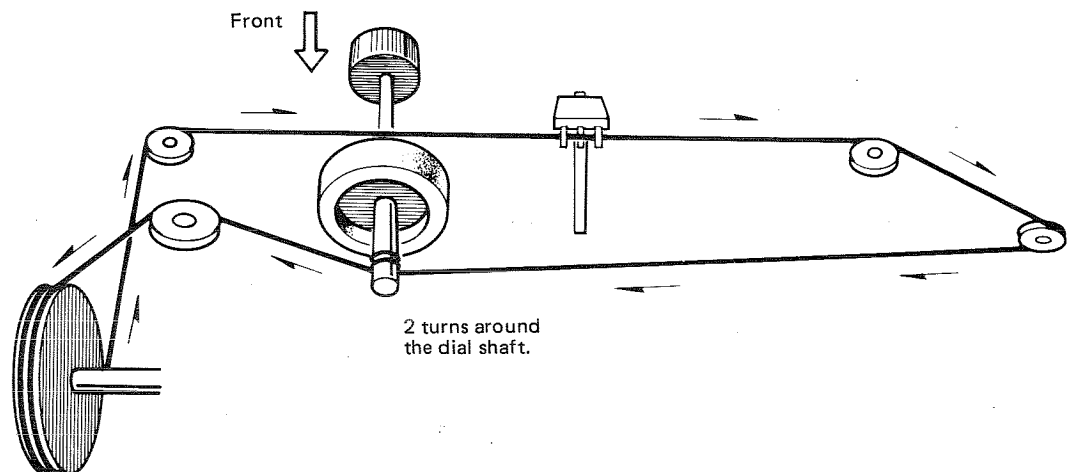
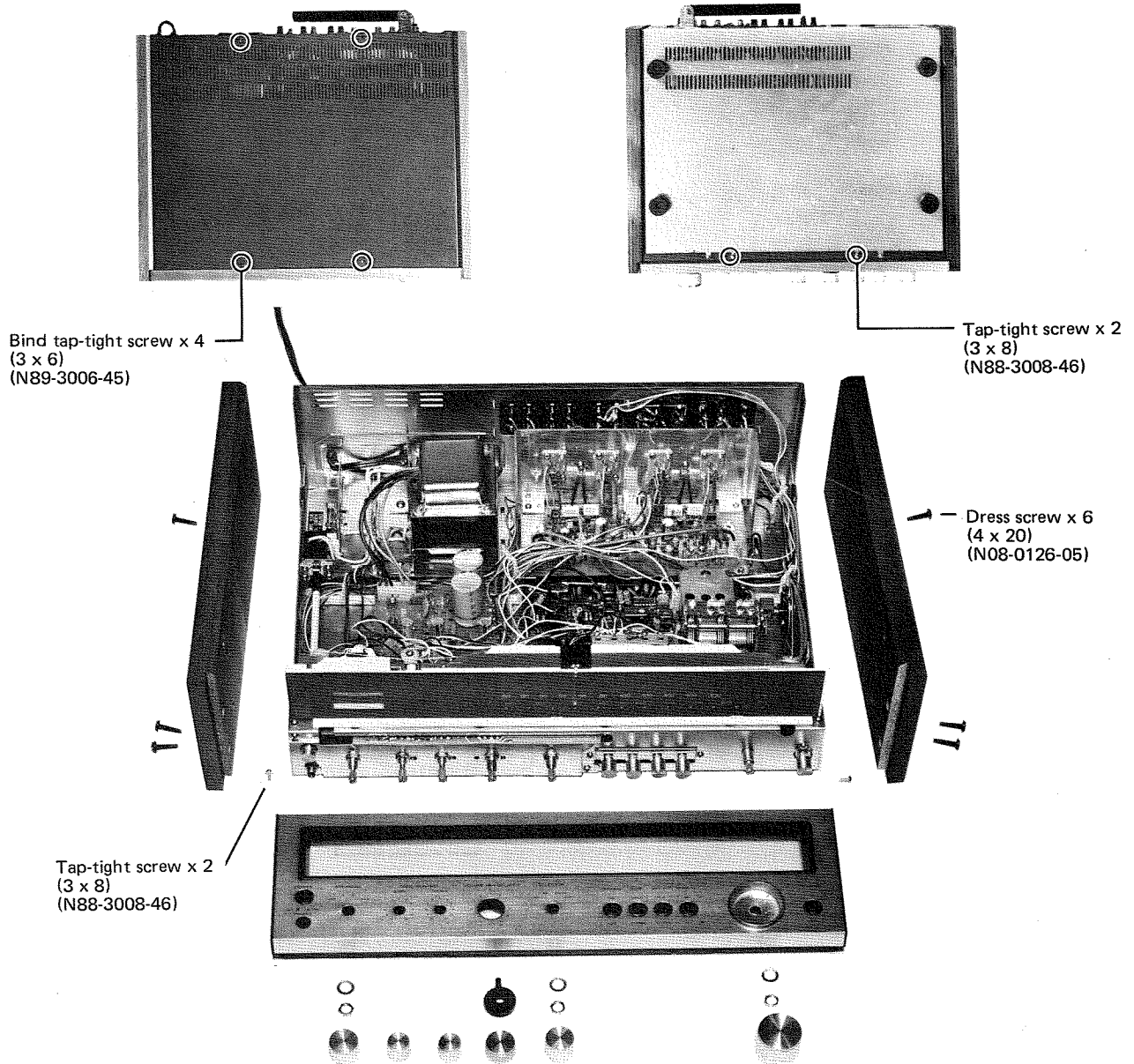
When you replace the fuse, turn the fuse holder in the direction of the arrow using a Phillips screw driver. In some districts, the set will be provided with another type of fuse holder, which allows easy replacement of the fuse without using the Phillips screw driver.

NOTE:

Always disconnect power supply before replacing a fuse.



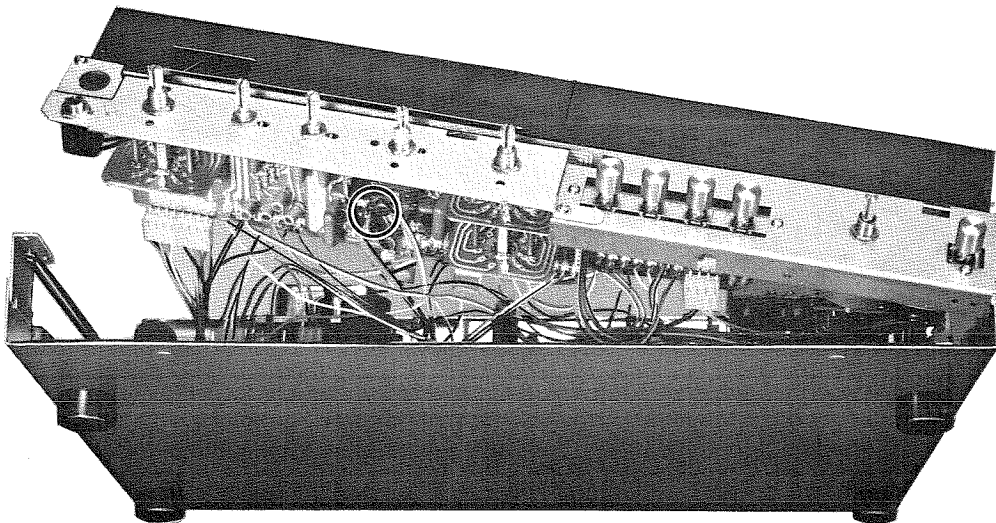
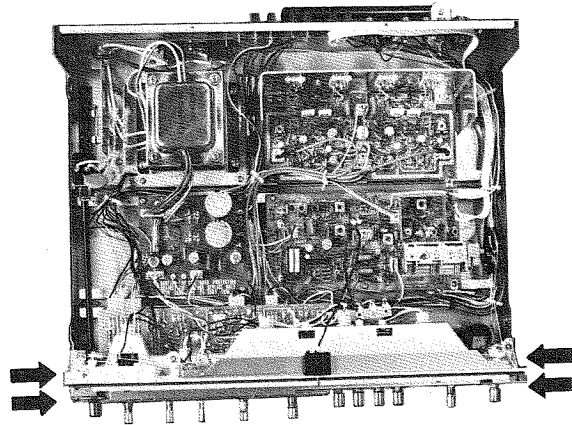
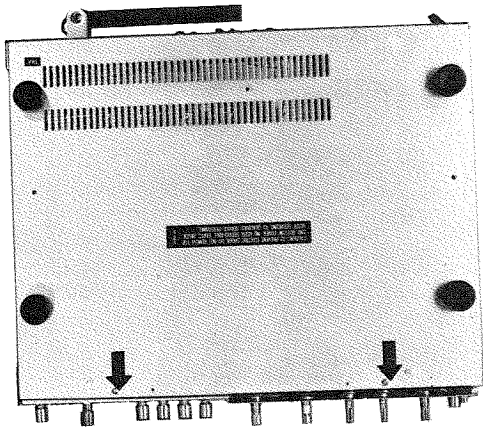
DISASSEMBLY / CORD STRINGING



REPLACEMENT OF IC

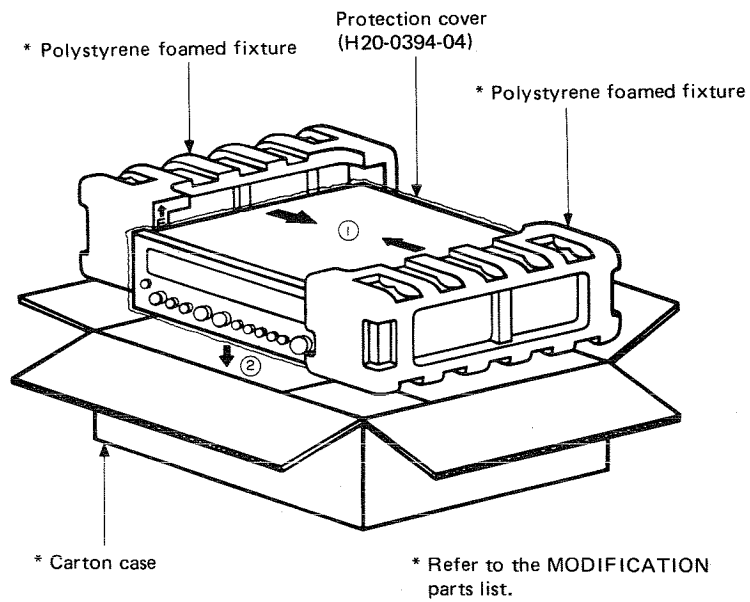
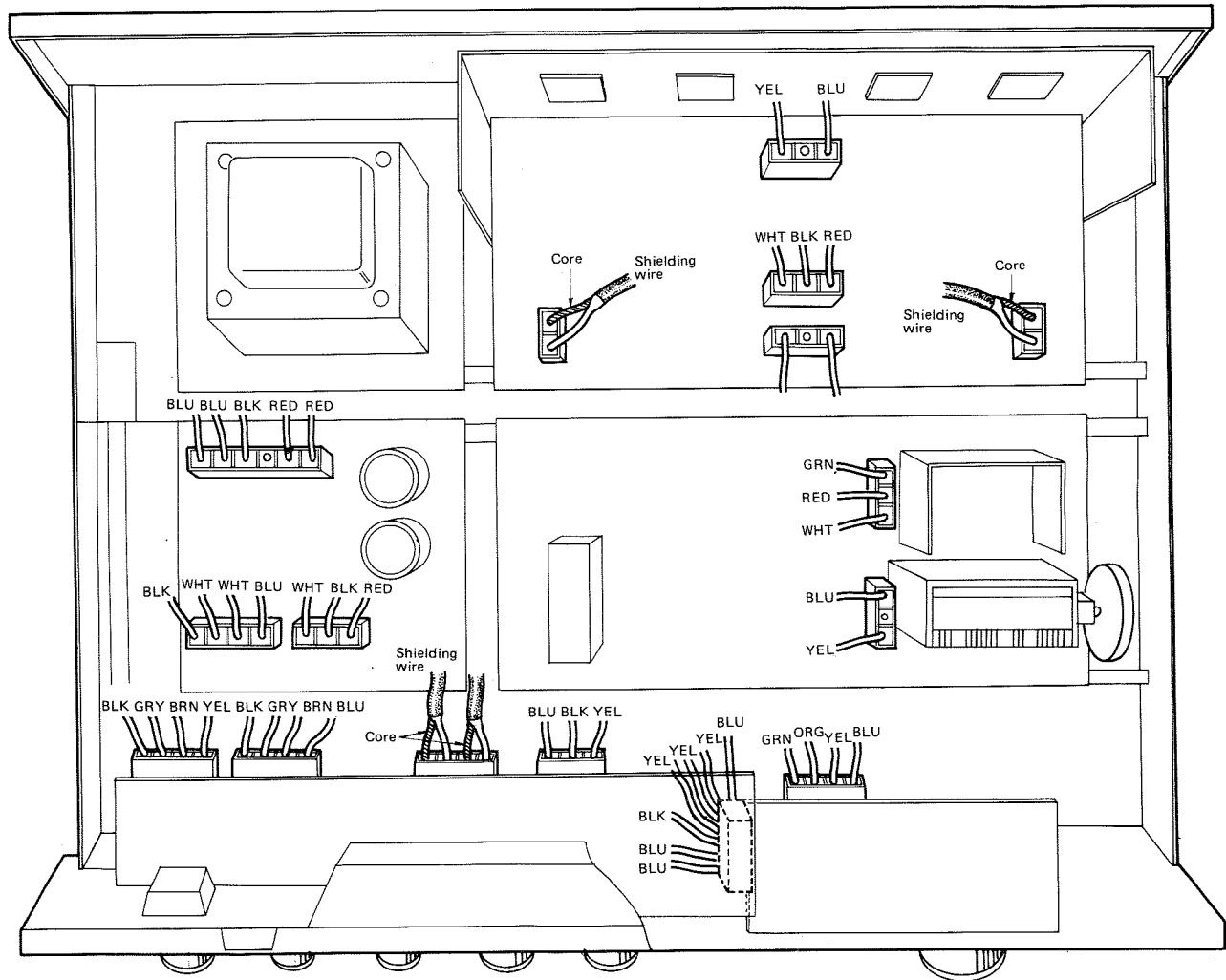
In the case of replacement of IC (RC4558T) in CONTROL unit, proceed as below.

1. Remove two wooden side board, the case, and the front panel. (Refer to P. 5)
2. Unscrew (indicated by arrows) the Sub-panel from the chassis.
3. Lift the Sub-panel with care that the dial string and internal wiring would not be out of place.
4. Replace the IC (RC4558T) from underside.

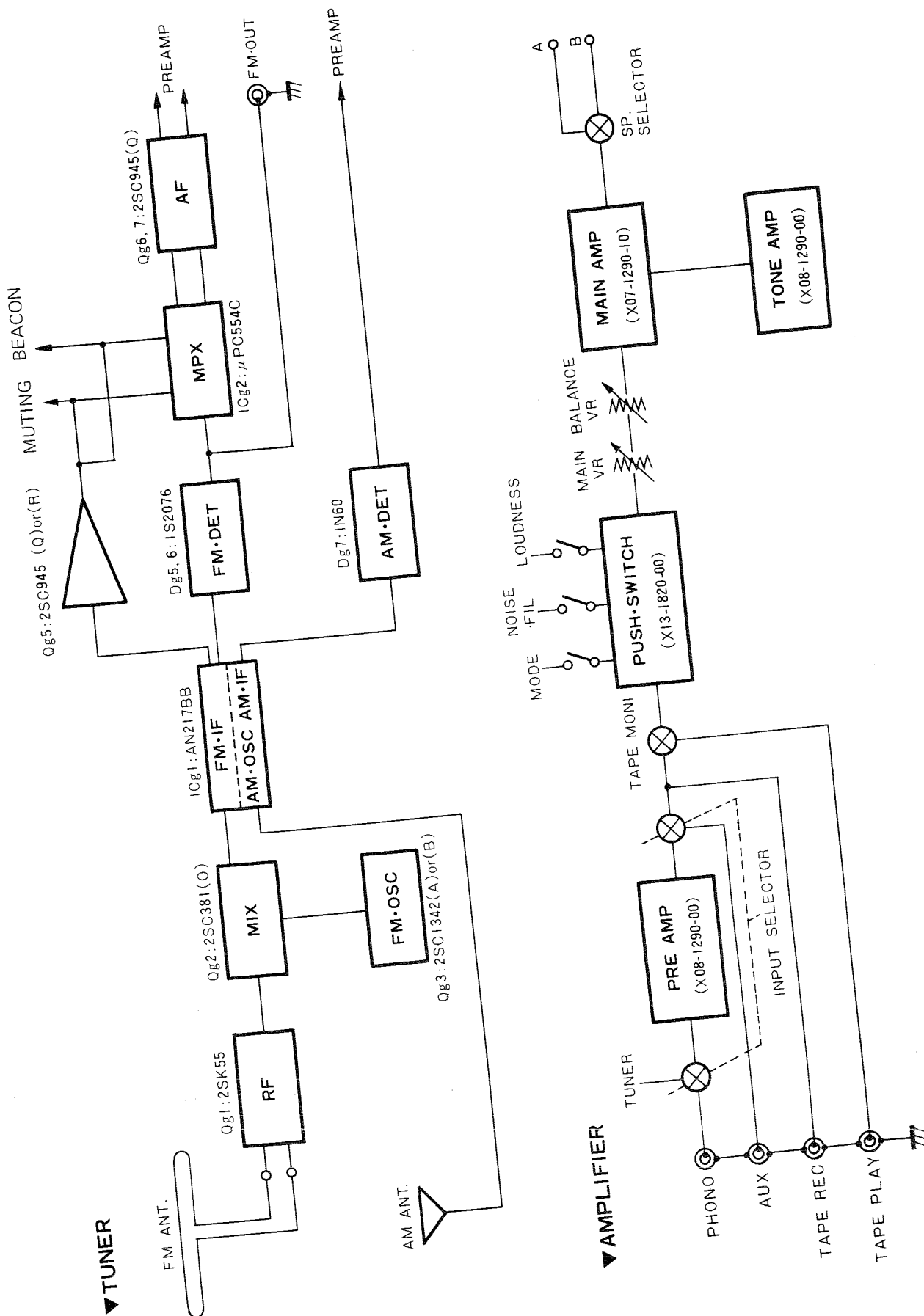


CONNECTOR/PACKING

Insert the connectors in a correct position as it was before, if they were removed for repairs etc.



BLOCK DIAGRAM

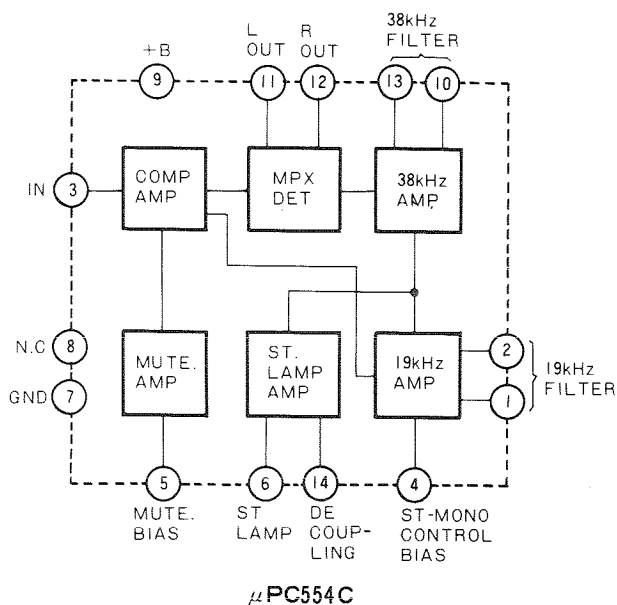
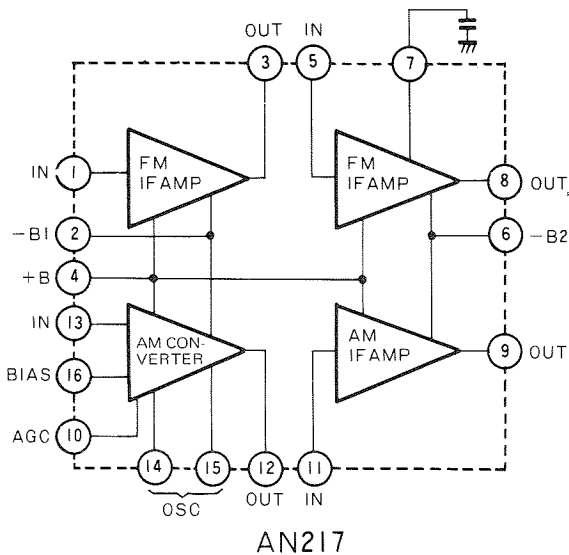


CIRCUIT DESCRIPTION

■ TUNER (X05-1190-10, -41, -61)

In this section, two ICs are employed. The one acts for FM-IF, AM-OSC, AM-MIX, and AM-IF stage, the other for FM-MPX stage. Consequently, only the LC resonance circuit for OSC, MIX, IF and the ceramic filter are added as external parts on AM circuitry.

MPX IC consists of composite signal amplifier, muting amplifier, MPX detection, 38 kHz amplifier, STEREO lamp amplifier and 19 kHz amplifier, which established stable separation characteristics.



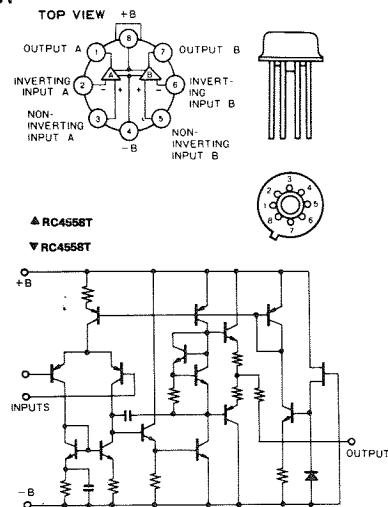
■ CONTROL AMP (X08-1290-00)

PREAMP section and TONE CONTROL section are constructed on the same PC board as CONTROL AMP. In PREAMP section, a metal can sealed monolithic IC is used for amplification, which is composed of the differential amplifier, the emitter followers, the class A driver, and pure complementary output stage.

This circuit possesses the characteristics of wide dynamic range and low distortion by supplying two power supplies, positive and negative.

TONE CONTROL characteristics is obtained by controlling NFB effect from MAIN AMP section.

▼ RC4558T



■ MAIN AMP (X07-1290-10, -11)

Good N.F.B. effect and bias current stability are established by using the metal can sealed transistors in the differential amplifier of the first stage and in class A driver.

Transistors and thermistor for bias setting are used in the complementary circuit, and full temperature compensation is effective.

Complementary and final circuitry consists of a direct-coupled pure complementary.

Meanwhile, protection circuit is the current limiter type (ASO limiter) suppressing the over current through the power transistor.

This protective action are self-return.

ADJUSTMENT

- Tuning dial is set to the proper point corresponding to no radio stations.
- The sweep and the r.f. generator are set to the lowest response possible on oscilloscope.
- When connecting the r.f. generator to the antenna terminal use the dummy antenna . . . refer to Fig. 2.
- Use the insulated screwdriver adjusting the i.f.t.
- SELECTOR is FM position.
- FM MUTING is OFF position unless it is required.
- Test point shown in the schematic diagram.
- For TRACKING adjustment, repeat several times and confirm the reception of broadcasting.

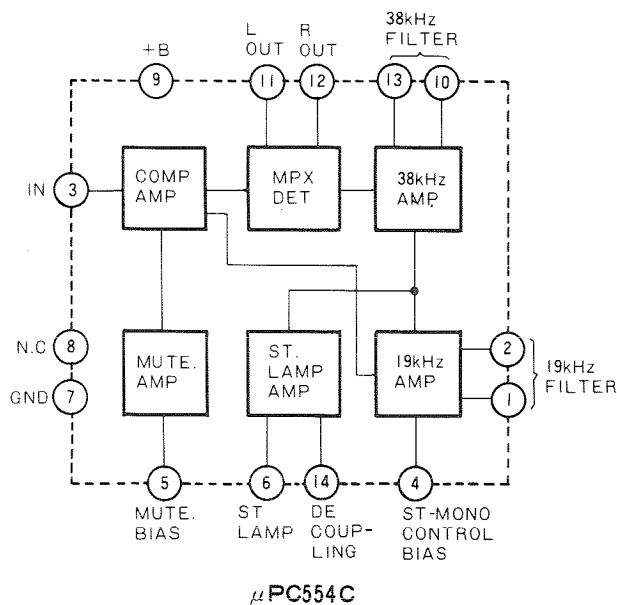
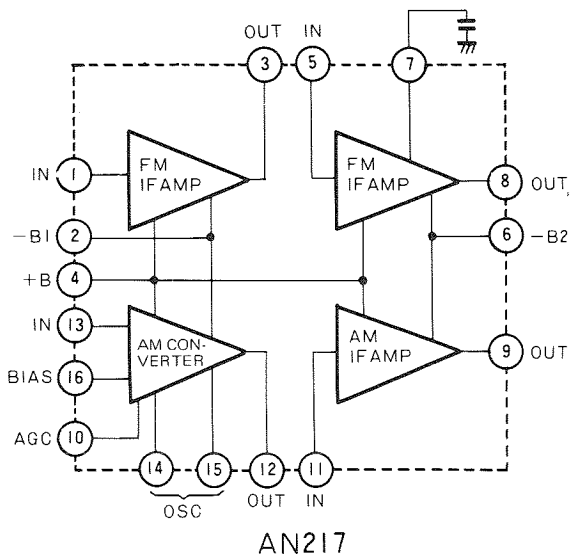
| No. | ALIGN | TEST EQUIPMENTS | | RECEIVER SETTING | OUTPUT INDICATOR | ADJUSTMENT POINTS | REMARKS |
|-------------------|--|------------------------------------|--|---------------------|---|------------------------------|--|
| | | CONNECTION | SETTING | | | | |
| FM SECTION | | | | | | | |
| 1 | IFT | SWEEP to TP-1 via. 5pF cap. | 10.7 MHz | Non-station | VTVM & SCOPE to TP-2 via. 100kΩ resist. | Tg4, 5 | Maximum deflection (Fig. 2 ~ 4) |
| 2 | DISCRIMINATOR | Same | Same | Same | VTVM & SCOPE to FM DET. OUT jack | Tg6 | S-response and symmetry on its each MHz center frequency (Fig. 5) |
| 3 | TRACKING | RF-SG to ANT via. dummy ant. | 90 MHz 75 kHz (Dev.) 400 Hz (Mod.) | 90 MHz | VTVM & SCOPE to REC jack | Tg1, 2, 3 | Maximum deflection |
| 4 | TRACKING | Same | 108 MHz 75 kHz (Dev.) 400 Hz (Mod.) | 108 MHz | Same | CTg1, 2, 3 | Same |
| 5 | SEPARATION | MPX-SG to RF-SG ext. jack (Fig. 1) | 98 MHz 67.5 kHz (Dev.) 400 Hz (Mod.) L or R (Select) 60 dB (Input) | 98 MHz | VTVM & SCOPE to REC jack | Tg10 (19 kHz) (38 kHz) | Minimum cross-talk (Maximum separation) |
| 6 | 38 kHz (This coil sealed usually should not be touched at random if not necessary.) | MPX-SG to RF-SG ext. jack (Fig. 1) | 98 MHz 67.5 kHz (Dev.) 400 Hz (Mod.) Phase → Reverse 60 dB (Input) | Same | VTVM & SCOPE to 13th terminal of ICg2 | Tg10 (19 kHz) (38 kHz) | Maximum deflection (Adjust separation in the same manner as No. 5) |
| 7 | MUTING | Same | 98 MHz 67.5 kHz (Dev.) 400 Hz (Mod.) 30 dB (Input) | 98 MHz MUTING on | — | — | Confirm MUTING operates |
| 8 | BEACON | Same | Same | 98 MHz | — | — | Confirm STEREO indicator lights |

CIRCUIT DESCRIPTION

■ TUNER (X05-1190-10, -41, -61)

In this section, two ICs are employed. The one acts for FM-IF, AM-OSC, AM-MIX, and AM-IF stage, the other for FM-MPX stage. Consequently, only the LC resonance circuit for OSC, MIX, IF and the ceramic filter are added as external parts on AM circuitry.

MPX IC consists of composite signal amplifier, muting amplifier, MPX detection, 38 kHz amplifier, STEREO lamp amplifier and 19 kHz amplifier, which established stable separation characteristics.



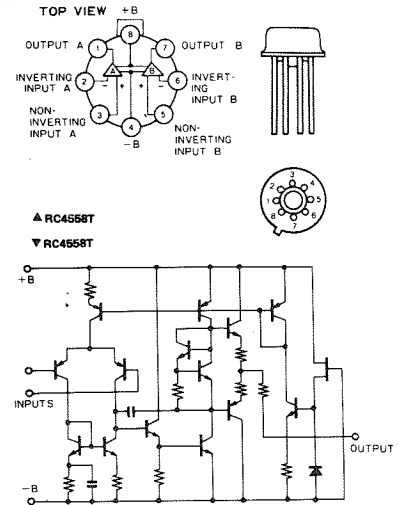
■ CONTROL AMP (X08-1290-00)

PREAMP section and TONE CONTROL section are constructed on the same PC board as CONTROL AMP. In PREAMP section, a metal can sealed monolithic IC is used for amplification, which is composed of the differential amplifier, the emitter followers, the class A driver, and pure complementary output stage.

This circuit possesses the characteristics of wide dynamic range and low distortion by supplying two power supplies, positive and negative.

TONE CONTROL characteristics is obtained by controlling NFB effect from MAIN AMP section.

▼ RC4558T



■ MAIN AMP (X07-1290-10, -11)

Good N.F.B. effect and bias current stability are established by using the metal can sealed transistors in the differential amplifier of the first stage and in class A driver.

Transistors and thermistor for bias setting are used in the complementary circuit, and full temperature compensation is effective.

Complementary and final circuitry consists of a direct-coupled pure complementary.

Meanwhile, protection circuit is the current limiter type (ASO limiter) suppressing the over current through the power transistor.

This protective action are self-return.

ADJUSTMENT

- Tuning dial is set to the proper point corresponding to no radio stations.
- The sweep and the r.f. generator are set to the lowest response possible on oscilloscope.
- When connecting the r.f. generator to the antenna terminal use the dummy antenna . . . refer to Fig. 2.
- Use the insulated screwdriver adjusting the i.f.t.
- SELECTOR is FM position.
- FM MUTING is OFF position unless it is required.
- Test point shown in the schematic diagram.
- For TRACKING adjustment, repeat several times and confirm the reception of broadcasting.

| No. | ALIGN | TEST EQUIPMENTS | | RECEIVER SETTING | OUTPUT INDICATOR | ADJUSTMENT POINTS | REMARKS |
|-------------------|--|------------------------------------|--|---------------------|---|----------------------------|--|
| | | CONNECTION | SETTING | | | | |
| FM SECTION | | | | | | | |
| 1 | IFT | SWEEP to TP-1 via. 5pF cap. | 10.7 MHz | Non-station | VTVM & SCOPE to TP-2 via. 100kΩ resist. | Tg4, 5 | Maximum deflection (Fig. 2 ~ 4) |
| 2 | DISCRIMINATOR | Same | Same | Same | VTVM & SCOPE to FM DET. OUT jack | Tg6 | S-response and its symmetry on each side of 10.7 MHz center frequency (Fig. 5) |
| 3 | TRACKING | RF-SG to ANT via. dummy ant. | 90 MHz 75 kHz (Dev.) 400 Hz (Mod.) | 90 MHz | VTVM & SCOPE to REC jack | Tg1, 2, 3 | Maximum deflection |
| 4 | TRACKING | Same | 108 MHz 75 kHz (Dev.) 400 Hz (Mod.) | 108 MHz | Same | CTg1, 2, 3 | Same |
| 5 | SEPARATION | MPX-SG to RF-SG ext. jack (Fig. 1) | 98 MHz 67.5 kHz (Dev.) 400 Hz (Mod.) L or R (Select) 60 dB (Input) | 98 MHz | VTVM & SCOPE to REC jack | Tg10 (19 kHz) 38 kHz | Minimum cross-talk (Maximum separation) |
| 6 | 38 kHz (This coil sealed usually should not be touched at random if not necessary.) | MPX-SG to RF-SG ext. jack (Fig. 1) | 98 MHz 67.5 kHz (Dev.) 400 Hz (Mod.) Phase → Reverse 60 dB (Input) | Same | VTVM & SCOPE to 13th terminal of ICg2 | Tg10 (19 kHz) 38 kHz | Maximum deflection (Adjust separation in the same manner as No. 5) |
| 7 | MUTING | Same | 98 MHz 67.5 kHz (Dev.) 400 Hz (Mod.) 30 dB (Input) | 98 MHz MUTING on | — | — | Confirm MUTING operates |
| 8 | BEACON | Same | Same | 98 MHz | — | — | Confirm STEREO indicator lights |

ADJUSTMENT

| No. | ALIGN | TEST EQUIPMENTS | | RECEIVER SETTING | OUTPUT INDICATOR | ADJUSTMENT POINTS | REMARKS |
|----------------------|----------|-------------------------------|--|-----------------------|-----------------------------|---------------------|---|
| | | CONNECTION | SETTING | | | | |
| AM SECTION | | | | | | | |
| 1a | IFT | SWEEP to TP3 via. 5pF cap. | 455 kHz | Non-station | VTVM & SCOPE to TP4 | Tg8, 9 | Maximum deflection. |
| 1b | IFT | 1,000 kHz RF-SG to ANT | 1,000 kHz 400 Hz (30% Mod.) | 1,000 kHz | VTVM & SCOPE to REC jack | Tg8, 9 | Same |
| 2a | TRACKING | Same | 600 kHz 400 Hz (30% Mod.) | 600 kHz | Same | Tg11 Ferrite ANT | Same |
| 2b | TRACKING | Same | 1,400 kHz 400 Hz (30% Mod.) | 1,400 kHz | Same | CTg4, 5 | Same |
| 3 | S METER | Same | 1,000 kHz 400 Hz (30% Mod.) 60 dB (Input) | 1,000 kHz | S meter | — | Confirm the meter deflection at 4, 5 |
| AUDIO SECTION | | | | | | | |
| 1a | BIAS | — | — | VOLUME is its min. | Ammeter | VRe1, 2 | Meter indicates 30 mA (Fig. 6) |
| 1b | BIAS | — | — | Same | DC VTVM | Same | Meter indicates 30 mV (Fig. 6) |

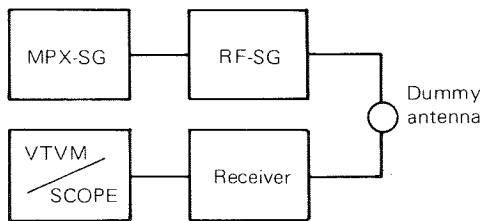


Fig. 1 Setting

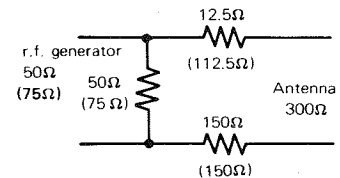


Fig. 2 Dummy Antenna

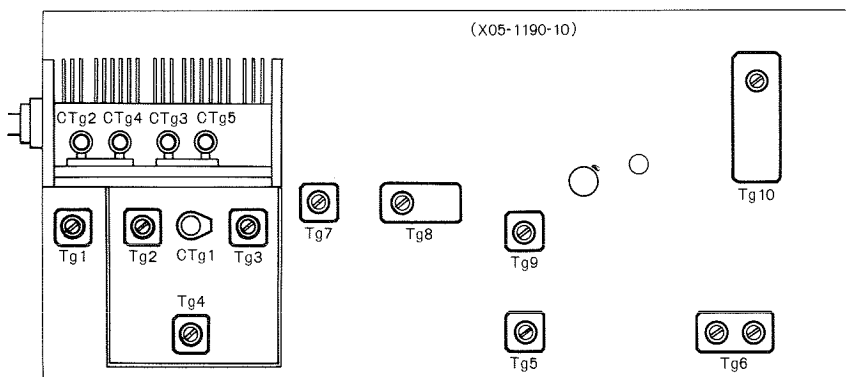


Fig. 3 Top View of PC Board

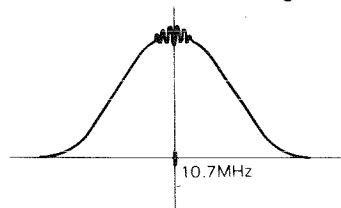


Fig. 4 IF Wave Form

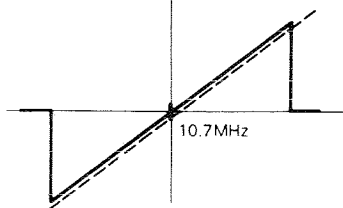


Fig. 5 DISCRI Wave Form

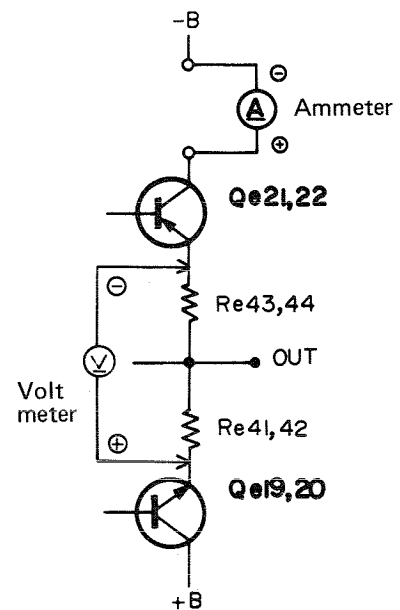


Fig. 6

MODIFICATION PARTS LIST

| Ref. No. | U.S.A (K) | Canada (P) | PX (U) | Australia (X) | Europe (W) | Scandinavia (L) | England (T) | South Africa (S) | Other area (M) | Description |
|----------|-------------|-------------|-------------|---------------|-------------|-----------------|-------------|------------------|----------------|---|
| - | A01-0246-03 | A01-0246-03 | A01-0246-03 | A01-0246-03 | A01-0247-02 | A01-0247-02 | A01-0246-03 | A01-0246-03 | A01-0246-03 | Case |
| - | A20-0796-01 | A20-0796-01 | A20-0796-01 | A20-0796-01 | A20-0798-01 | A20-0798-01 | A20-0796-01 | A20-0796-01 | A20-0796-01 | Panel assembly |
| - | A20-0785-05 | A20-0785-05 | A20-0785-05 | A20-0785-05 | A20-0787-05 | A20-0787-05 | A20-0785-05 | A20-0785-05 | A20-0785-05 | Panel |
| - | A21-0175-02 | A21-0175-02 | A21-0175-02 | A21-0175-02 | A21-0177-02 | A21-0177-02 | A21-0175-02 | A21-0175-02 | A21-0175-02 | Dress panel |
| - | B10-0150-04 | B10-0150-04 | B10-0150-04 | B10-0150-04 | B10-0162-04 | B10-0162-04 | B10-0151-04 | B10-0150-04 | B10-0150-04 | Front glass (KR-3400) |
| - | B10-0154-04 | B10-0154-04 | B10-0154-04 | B10-0154-04 | B10-0163-04 | B10-0163-04 | B10-0155-04 | B10-0154-04 | B10-0154-04 | Front glass (KR-2400) |
| - | B20-0315-03 | B20-0315-03 | B20-0315-03 | B20-0315-03 | B20-0316-13 | B20-0316-13 | B20-0315-03 | B20-0317-03 | B20-0315-03 | Dial calibration |
| - | B40-0980-03 | B40-0980-03 | B40-0981-03 | B40-0982-03 | B40-0984-03 | B40-0985-03 | B40-0983-03 | B40-0982-03 | B40-0982-03 | Destination sticker (KR-3400) |
| - | B40-0997-03 | B40-0998-03 | B40-0999-03 | B40-1000-03 | B40-1002-03 | B40-1003-03 | B40-1001-03 | B40-1000-03 | B40-1000-03 | Destination sticker (KR-2400) |
| - | B42-0358-04 | B42-0358-04 | - | - | - | - | - | - | - | Caution sticker x 2 |
| - | B42-0511-04 | B42-0511-04 | - | - | - | - | - | - | - | Sticker for fuse |
| - | B46-0002-00 | B46-0021-00 | B46-0022-00 | - | - | - | - | - | - | Warranty card |
| - | B50-1185-00 | B50-1185-00 | B50-1185-00 | B50-1185-00 | B50-1185-00 | B50-1185-00 | B50-1198-00 | B50-1185-00 | B50-1185-00 | Instruction manual (KR-3400) |
| - | B50-1191-00 | B50-1191-00 | B50-1191-00 | B50-1191-00 | B50-1191-00 | B50-1191-00 | B50-1199-00 | B50-1191-00 | B50-1191-00 | Instruction manual (KR-2400) |
| - | B58-0043-00 | B58-0043-00 | B58-0139-00 | B58-0003-00 | B58-0156-00 | - | B58-0003-00 | B58-0003-00 | B58-0003-00 | Caution card for power supply |
| - | F19-0166-03 | F19-0166-03 | F19-0166-03 | F19-0166-03 | F19-0166-03 | - | F19-0166-03 | F19-0166-03 | F19-0166-03 | Caution card for carton box |
| - | F19-0167-03 | F19-0167-03 | F19-0167-03 | F19-0167-03 | F19-0167-03 | - | F19-0167-03 | F19-0167-03 | F19-0167-03 | Caution card for power voltage selector |
| - | H01-1161-04 | H01-1162-04 | H01-1162-04 | H01-1162-04 | H01-1164-04 | H01-1164-04 | H01-1163-04 | H01-1162-04 | H01-1162-04 | KENWOOD service station's list |
| - | H01-1166-04 | H01-1167-04 | H01-1167-04 | H01-1167-04 | H01-1169-04 | H01-1169-04 | H01-1168-04 | H01-1167-04 | H01-1167-04 | Wooden side board (L) |
| - | H03-0337-04 | H03-0337-04 | H03-0337-04 | H03-0337-04 | H03-0339-04 | H03-0339-04 | H03-0338-04 | H03-0337-04 | H03-0337-04 | Wooden side board (R) |
| - | H03-0340-04 | H03-0340-04 | H03-0340-04 | H03-0340-04 | H03-0342-04 | H03-0342-04 | H03-0341-04 | H03-0340-04 | H03-0340-04 | Carton case (internal) . . . (KR-3400) |
| - | H10-1142-02 | H10-1142-02 | H10-1142-02 | H10-1142-02 | H10-1144-02 | H10-1144-02 | H10-1142-02 | H10-1142-02 | H10-1142-02 | Carton case (internal) . . . (KR-2400) |
| - | H10-1143-02 | H10-1143-02 | H10-1143-02 | H10-1143-02 | H10-1145-02 | H10-1145-02 | H10-1143-02 | H10-1143-02 | H10-1143-02 | Carton case (external) . . . (KR-3400) |
| - | J19-0418-13 | J19-0418-13 | J19-0418-13 | J19-0418-13 | J19-0421-03 | J19-0421-03 | J19-0418-13 | J19-0418-13 | J19-0418-13 | Carton case (external) . . . (KR-2400) |
| - | S40-2037-05 | S40-2037-05 | S40-2037-05 | S40-2047-05 | S40-2047-05 | S40-2047-05 | S40-2047-05 | S40-2047-05 | S40-2047-05 | Carton case (external) . . . (KR-2400) |
| - | X00-1440-10 | X00-1440-10 | X00-1440-10 | X00-1440-01 | X00-1440-61 | X00-1440-61 | X00-1440-61 | X00-1440-01 | X00-1440-01 | Polystyrene foamed fixture |
| - | X00-1450-10 | X00-1450-10 | X00-1450-10 | X00-1450-01 | X00-1450-61 | X00-1450-61 | X00-1450-61 | X00-1450-01 | X00-1450-01 | Polystyrene foamed fixture |
| - | X05-1190-10 | X05-1190-10 | X05-1190-10 | X05-1190-10 | X05-1190-61 | X05-1190-61 | X05-1190-61 | X05-1190-10 | X05-1190-10 | Front glass stopper |
| - | X90-1130-10 | X90-1130-10 | X90-1130-10 | X90-1130-81 | X90-1130-71 | X90-1130-61 | X90-1130-71 | X90-1130-41 | X90-1130-41 | Power switch |
| - | X90-1140-10 | X90-1140-10 | X90-1140-10 | X90-1140-81 | X90-1140-71 | X90-1140-61 | X90-1140-71 | X90-1140-41 | X90-1140-41 | Power supply unit (KR-3400) |
| - | | | | | | | | | | Power supply unit (KR-2400) |
| - | | | | | | | | | | Tuner unit |
| - | | | | | | | | | | Power supply assembly . . . (KR-3400) |
| - | | | | | | | | | | Power supply assembly . . . (KR-2400) |

MODIFICATION PARTS LIST

| Ref. No. | U.S.A. (K) | Canada (P) | PX (U) | Australia (X) | Europe (W) | Scandinavia (L) | England (T) | South Africa (S) | Other area (M) | Description |
|----------|-------------|-------------|-------------|---------------|--------------|-----------------|-------------|------------------|----------------|---------------------------------|
| — | RC05G2H225K | RC05G2H225K | RC05G2H225K | — | — | — | — | — | RC05G2H225K | Carbon 2.2MΩ ±10% 1/2W |
| — | L04-0046-05 | L04-0046-05 | L03-0097-05 | L03-0097-05 | L09-01123-05 | L09-01119-05 | L03-0097-05 | L03-0097-05 | L03-0097-05 | Power transformer . . (KR-3400) |
| — | L04-0048-05 | L04-0048-05 | L03-0098-05 | L03-0098-05 | L09-0124-05 | L09-0120-05 | L03-0098-05 | L03-0098-05 | L03-0098-05 | Power transformer . . (KR-2400) |
| — | — | — | S31-2001-05 | S31-2001-05 | S31-2001-05 | — | S31-2001-05 | S31-2001-05 | S31-2001-05 | Slide switch |
| — | — | — | — | — | B42-0024-04 | — | — | — | — | SEV sticker |
| — | E08-0221-05 | E08-0221-05 | E08-0221-05 | E08-0221-05 | E08-0221-05 | — | E08-0221-05 | E08-0221-05 | E08-0221-05 | AC outlet x 2 |
| — | E30-0181-05 | E30-0181-05 | E30-0034-05 | E30-0185-05 | E30-0176-05 | E30-0292-05 | — | — | E30-0034-05 | Power cord |
| — | F05-2021-05 | F05-2021-05 | F05-2023-05 | F05-2023-05 | F05-2029-05 | — | F05-2023-05 | F05-2023-05 | F05-2023-05 | Fuse |
| — | — | — | F05-1023-05 | F05-1023-05 | F05-1021-05 | — | F05-1023-05 | F05-1023-05 | F05-1023-05 | Fuse |
| — | J13-0040-05 | J13-0040-05 | J13-0040-05 | J13-0040-05 | J13-0027-05 | J13-0027-05 | J13-0040-05 | J13-0040-05 | J13-0040-05 | Fuse holder |
| — | J20-0282-12 | J20-0282-12 | J20-0283-12 | J20-0284-12 | J20-0284-12 | J20-0285-12 | J20-0284-12 | J20-0284-12 | J20-0283-12 | Power supply assembly supporter |
| — | J41-0006-00 | J41-0006-00 | J41-0006-00 | J41-0024-15 | J41-0017-05 | J41-0017-05 | J41-0024-15 | J41-0024-15 | J41-0006-00 | AC cord bushing |
| — | — | — | — | — | J61-0038-05 | J61-0038-05 | J61-0038-05 | J61-0038-05 | — | Cord band |

PARTS LIST

KR-3400, KR-2400 PARTS LIST

| Ref. No. | Parts No. | Description | Re marks |
|----------------------|--------------|---|----------|
| RESISTOR | | | |
| R1, 2 | PD14BY2E394J | Carbon 390kΩ ±5% 1/4W | |
| R3, 4 | PD14BY2E104J | Carbon 100kΩ ±5% 1/4W | |
| R5 | RC05GF2H270K | Carbon 27Ω ±10% 1/2W | |
| SWITCH | | | |
| S1 | S29-2014-05 | Rotary switch (SELECTOR) | |
| S2 | S29-1067-05 | Rotary switch | |
| S3~6 | S40-2049-05 | Push switch (LOUDNESS, MODE, TAPE MONI, NOISE FIL.) | |
| S7 | S40-2032-05 | Push switch (FM MUTING) | |
| MISCELLANEOUS | | | |
| - | A10-0397-01 | Chassis | |
| - | A22-0155-02 | Sub-panel | |
| - | A30-0089-05 | Dial plate | |
| - | B07-0128-04 | Ring (Tuning knob) | |
| - | B19-0166-04 | Color board | |
| - | B21-9013-05 | Dial pointer | |
| - | B30-0064-15 | Pilot lamp (Beacon 8V, 50mA) | |
| - | B30-0068-05 | Pilot lamp (Meter 8V, 200mA) | |
| - | B30-0069-05 | Pilot lamp (Reflector 8V, 300mA) x 3 | |
| - | B31-0190-05 | S meter | |
| - | B42-0009-04 | Passed sticker | |
| - | D01-0024-05 | Flywheel (KR-3400) | |
| - | D01-0015-05 | Flywheel (KR-2400) | |
| - | D15-0067-24 | Pulley | |
| - | D15-0073-14 | Pulley (middle) | |
| - | D15-0075-04 | Pulley (small) x 5 | |
| - | D20-0091-14 | Dial shaft | |
| - | D21-0362-04 | Shaft | |
| - | E11-0002-05 | Phone jack | |
| - | E29-0063-05 | Terminal strips | |
| K-01 | E30-0299-05 | Connector (Phono) | |
| K-02 | E30-0300-05 | Connector (AUX) | |
| K-03 | E30-0301-05 | Connector (Tape) | |
| K-08 | E30-0306-05 | Connector (MIC) | |
| K-09 | E30-0307-05 | Connector (P.L) | |
| K-10 | E30-0308-05 | Connector (L.SP) | |
| K-11 | E30-0309-05 | Connector (R.SP) | |
| - | E90-0020-05 | Shield cap x 6 | |
| - | F19-0170-04 | Blinder | |
| - | G01-0044-04 | Dial spring | |
| - | H20-0394-04 | Protection cover | |
| - | J02-0049-14 | Leg x 4 | |
| - | J19-0306-05 | Lead holder x 3 | |
| - | J21-0806-14 | Antenna fittings | |
| - | J90-0062-03 | Guide | |
| - | K23-0167-14 | Knob (SELECTOR, SP) x 2 | |
| - | K23-0168-24 | Knob (TONE) x 2 | |
| - | K23-0171-14 | Knob (TUNING) | |
| - | K23-0172-04 | Knob (VOLUME) | |
| - | K23-0173-04 | Knob (BALANCE) | |
| - | K29-0195-04 | Knob (PUSH) x 6 | |
| - | T90-0002-05 | FM indoor antenna | |
| - | T90-0031-05 | Ferrite antenna | |

| Ref. No. | Parts No. | Description | Re marks |
|---|----------------|----------------------------|----------|
| - | X07-1290-11 | Main amp unit (KR-3400) | |
| - | X07-1290-10 | Main amp unit (KR-2400) | |
| - | X08-1290-00 | Control amp unit | |
| - | X13-1820-10 | Push switch unit | |
| POWER SUPPLY (X00-1440-10, -01, -61) KR-3400 (X00-1450-10, -01, -61) KR-2400 | | | |
| CAPACITOR | | | |
| Ck1, 2 | CK45F2H103P | Ceramic 0.01μF +100%, -0% | |
| Ck3, 4 | C90-0218-05 | Electrolytic 3300μF 35WV | |
| Ck5~7 | CE04W1C221 | Electrolytic 220μF 16WV | |
| Ck8 | CE04W1C101 | Electrolytic 100μF 16WV | |
| RESISTOR | | | |
| Rk1 | RN14AB3D101K-B | Metal film 100Ω ±10% 2W | |
| Rk2, 3 | RN14AB3A471K-B | Metal film 470Ω ±10% 1W | |
| | RN14AB3A271K-B | Metal film 270Ω ±10% 1W | |
| Rk4, 5 | RC05GF2H561K | Carbon 560Ω ±10% 1/2W | |
| Rk6 | RN14AB3A560K-B | Metal film 56Ω ±10% 1W | |
| SEMICONDUCTOR | | | |
| Dk1~4 | | Diode V03C | |
| Dk5 | | Diode W06B | |
| MISCELLANEOUS | | | |
| - | E19-0605-05 | Pin assembly | |
| - | E30-0310-05 | Connector | |
| - | F05-2021-05 | Fuse (UL 2A) | -10 |
| - | F05-2023-05 | Fuse (2A) | -01 |
| - | F05-2029-05 | Fuse (SEMKO 2A) | -61 |
| - | J13-0020-05 | Fuse clip x 2 | -10 |
| - | J13-0039-05 | Fuse clip x 2 | -61 |
| - | J25-1082-03 | PC board | |
| TUNER (X05-1190-10, -41, -61) | | | |
| CAPACITOR | | | |
| Cg1 | CC45SL1H150K | Ceramic 15pF ±10% | |
| Cg2 | CC45SL1H101K | Ceramic 100pF ±10% | |
| Cg3, 4 | CK45F1H103Z | Ceramic 0.01μF +80%, -20% | |
| Cg5 | CC45SL1H150K | Ceramic 15pF ±10% | |
| Cg6 | CC45SL1H030C | Ceramic 3pF ±0.25pF | |
| Cg7 | CC45TH1H030C | Ceramic 3pF ±0.25pF | |
| Cg9 | CC45SL1H221K | Ceramic 220pF ±10% | |
| Cg10 | CC45SL1H050D | Ceramic 5pF ±0.5pF | |
| Cg11 | CK45F1H223Z | Ceramic 0.022μF +80%, -20% | |

PARTS LIST

| Ref. No. | Parts No. | Description | Re marks |
|-----------------|--------------|----------------------------|----------|
| Cg12 | CK45F1H103Z | Ceramic 0.01μF +80%, -20% | |
| Cg13 | CC45SG1H150K | Ceramic 15pF ±10% | -10-61 |
| | CC45UH1H050D | Ceramic 5pF ±0.5pF | -41 |
| Cg14 | CC45SG1H220K | Ceramic 22pF ±10% | -10-61 |
| | CC45TH1H220K | Ceramic 22pF ±10% | -41 |
| Cg15 | CC45SG1H470K | Ceramic 47pF ±10% | |
| Cg16 | CC45SG1H223K | Ceramic 22pF ±10% | |
| Cg17 | CK45F1H103Z | Ceramic 0.01μF +80%, -20% | |
| Cg18~22 | CK45F1H223Z | Ceramic 0.022μF +80%, -20% | |
| Cg23 | CC45SL1H100D | Ceramic 10pF ±0.5pF | |
| Cg24 | CC45F1H223Z | Ceramic 0.022μF +80%, -20% | |
| Cg25 | CQ09S1H361J | Polystyrene 360pF ±5% | |
| Cg26 | CC45SL1H180K | Ceramic 18pF ±10% | |
| Cg27 | CQ93M1H103M | Mylar 0.01μF ±20% | |
| Cg28 | CQ93M1H223M | Mylar 0.022μF ±20% | |
| Cg29 | CK45F1H223Z | Ceramic 0.022μF +80%, -20% | |
| Cg30 | CC45SL1H331K | Ceramic 330pF ±10% | |
| Cg31~33 | CK45F1H223Z | Ceramic 0.022μF +80%, -20% | |
| Cg34 | CE04W0J221 | Electrolytic 220μF 6.3WV | |
| Cg35 | CC45SL1H331K | Ceramic 330pF ±10% | |
| Cg36 | CE04W1E100 | Electrolytic 10μF 25WV | |
| Cg37 | CC45SL1H331K | Ceramic 330pF ±10% | |
| Cg38 | CC45SL1H221K | Ceramic 220pF ±10% | |
| Cg39, 40 | CE04W1H010 | Electrolytic 1μF 50WV | |
| Cg41 | CK45F1H223Z | Ceramic 0.022μF +80%, -20% | |
| Cg42 | CQ93M1H154M | Mylar 0.15μF ±20% | |
| Cg43 | CE04W1A101 | Electrolytic 100μF 10WV | |
| Cg44 | CE04W1E4R7 | Electrolytic 4.7μF 25WV | |
| Cg45 | CQ93M1H102K | Mylar 0.001μF ±10% | |
| Cg46 | CE04W1H010 | Electrolytic 1μF 50WV | |
| Cg47 | CE04W1E4R7 | Electrolytic 4.7μF 25WV | |
| Cg48, 49 | CQ93M1H222J | Mylar 0.0022μF ±5% | -10, 41 |
| | | Elimination | -61 |
| Cg50, 51 | CQ93M1H104M | Mylar 0.1μF ±20% | |
| Cg52, 53 | CE04W1H010 | Electrolytic 1μF 50WV | |
| RESISTOR | | | |
| Rg1 | PD14BY2E104J | Carbon 100kΩ ±5% 1/4W | |
| Rg2 | PD14BY2E680J | Carbon 68Ω ±5% 1/4W | |
| Rg3 | PD14BY2E103 | Carbon 10kΩ ±5% 1/4W | |
| Rg4 | PD14BY2E223 | Carbon 22kΩ ±5% 1/4W | |
| Rg5 | PD14BY2E472J | Carbon 4.7kΩ ±5% 1/4W | |
| Rg6 | PD14BY2E102J | Carbon 1kΩ ±5% 1/4W | |
| Rg7 | PD14BY2E680J | Carbon 68Ω ±5% 1/4W | |
| Rg8 | PD14BY2E103J | Carbon 10kΩ ±5% 1/4W | |
| Rg9 | PD14BY2E183J | Carbon 18kΩ ±5% 1/4W | |
| Rg10 | PD14BY2E222J | Carbon 2.2kΩ ±5% 1/4W | |
| Rg11 | PD14BY2E101J | Carbon 100Ω ±5% 1/4W | |
| Rg12 | PD14BY2E680J | Carbon 68Ω ±5% 1/4W | |
| Rg13 | PD14BY2E103J | Carbon 10kΩ ±5% 1/4W | |
| Rg14 | PD14BY2E470J | Carbon 47Ω ±5% 1/4W | |
| Rg15 | PD14BY2E101J | Carbon 100Ω ±5% 1/4W | |
| Rg16 | PD14BY2E222J | Carbon 2.2kΩ ±5% 1/4W | |
| Rg17 | PD14BY2E154J | Carbon 150kΩ ±5% 1/4W | |
| Rg18 | PD14BY2E333J | Carbon 33kΩ ±5% 1/4W | |
| Rg19 | PD14BY2E332J | Carbon 3.3kΩ ±5% 1/4W | |
| Rg20 | PD14BY2E470J | Carbon 47Ω ±5% 1/4W | |
| Rg21 | PD14BY2E101J | Carbon 100Ω ±5% 1/4W | |
| Rg22 | PD14BY2E103J | Carbon 10kΩ ±5% 1/4W | |
| Rg23~25 | PD14BY2E223J | Carbon 22kΩ ±5% 1/4W | |
| Rg26, 27 | PD14BY2E102J | Carbon 1kΩ ±5% 1/4W | |
| Rg28 | PD14BY2E472J | Carbon 4.7kΩ ±5% 1/4W | |
| Rg29 | PD14BY2E223J | Carbon 22kΩ ±5% 1/4W | |
| Rg30 | PD14BY2E101J | Carbon 100Ω ±5% 1/4W | |
| Rg31 | PD14BY2E104J | Carbon 100kΩ ±5% 1/4W | |
| Rg32, 33 | PD14BY2E471J | Carbon 470Ω ±5% 1/4W | |
| Rg34 | PD14BY2E103J | Carbon 10kΩ ±5% 1/4W | |
| Rg35 | PD14BY2E123J | Carbon 12kΩ ±5% 1/4W | |

| Ref. No. | Parts No. | Description | Re marks |
|--|--------------|---------------------------------|----------|
| Rg36 | PD14BY2E101J | Carbon 100Ω ±5% 1/4W | |
| Rg37, 38 | PD14BY2E472J | Carbon 4.7kΩ ±5% 1/4W | |
| Rg39, 40 | PD14BY2E392J | Carbon 3.9kΩ ±5% 1/4W | |
| Rg41~43 | PD14BY2E333J | Carbon 33kΩ ±5% 1/4W | |
| Rg44 | PD14BY2E472J | Carbon 4.7kΩ ±5% 1/4W | |
| Rg45, 46 | PD14BY2E224J | Carbon 220kΩ ±5% 1/4W | |
| Rg47, 48 | PD14BY2E563J | Carbon 56kΩ ±5% 1/4W | |
| Rg49 | PD14BY2E224J | Carbon 220kΩ ±5% 1/4W | |
| Rg50 | PD14BY2E332J | Carbon 3.3kΩ ±5% 1/4W | |
| Rg51, 52 | PD14BY2E681J | Carbon 680Ω ±5% 1/4W | |
| Rg53 | PD14BY2E332J | Carbon 3.3kΩ ±5% 1/4W | |
| Rg54 | PD14BY2E103J | Carbon 10kΩ ±5% 1/4W | |
| Rg55, 56 | PD14BY2E104J | Carbon 100kΩ ±5% 1/4W | |
| Rg57 | PD14BY2E470J | Carbon 47Ω ±5% 1/4W | |
| SEMICONDUCTOR | | | |
| Qg1 | | FET 2SK55 (D), (E) or 2SK19 (Y) | |
| Qg2 | | Transistor 2SC381 (O) | |
| Qg3 | | Transistor 2SC1342 (A) or (B) | |
| Qg4 | | Transistor 2SC381 (R) or (O) | |
| Qg5 | | Transistor 2SC945 (Q) or (R) | |
| Qg6, 7 | | Transistor 2SC945 (Q) | |
| ICg1 | | IC AN217BB | |
| ICg2 | | IC μPC554C | |
| Dg1, 2 | | Diode 1S2076 or 1S1555 | |
| Dg3, 4 | | Diode 1N60 | |
| Dg5, 6 | | Diode 1S2076 or 1S1555 | |
| Dg7 | | Diode 1N60 | |
| Dg8 | | Zener diode BZ-090 | |
| COIL/IFT/FILTER/TRIMMER CAPACITOR | | | |
| CTg1 | C05-0055-05 | Ceramic trimmer capacitor | |
| Tg1 | L34-0410-05 | FM ANT coil | |
| Tg2 | L34-0436-05 | FM RF coil | |
| Tg3 | L34-0409-05 | FM OSC coil | -10 -61 |
| | L34-0412-05 | FM OSC coil | -41 |
| Tg4 | L30-0257-05 | FM IFT | |
| Tg5 | L30-0274-05 | FM IFT | |
| Tg6 | L30-0260-05 | FM Discriminator coil | |
| Tg7 | L32-0181-05 | AM OSC coil | |
| Tg8 | L72-0030-05 | AM Ceramic filter | |
| Tg9 | L30-0275-05 | AM IFT | |
| Tg10 | L35-0058-05 | MPX coil (19 kHz, 38 kHz) | |
| Lg1 | L33-0221-05 | Choke coil | |
| Lg2, 3 | L33-0227-05 | Ferri-inductor | |
| CFg1, 2 | L72-0014-05 | Ceramic filter | |
| MISCELLANEOUS | | | |
| CRg1 | R90-0104-05 | CR parts | |
| CRg2, 3 | R90-0105-05 | CR parts | |
| - | C01-0185-05 | Variable capacitor | |
| - | F10-0344-03 | Shield plate | |
| - | J25-1051-12 | PC board | |

PARTS LIST

MAIN AMP (X07-1290-11 : KR-3400)
(X07-1290-10 : KR-2400)

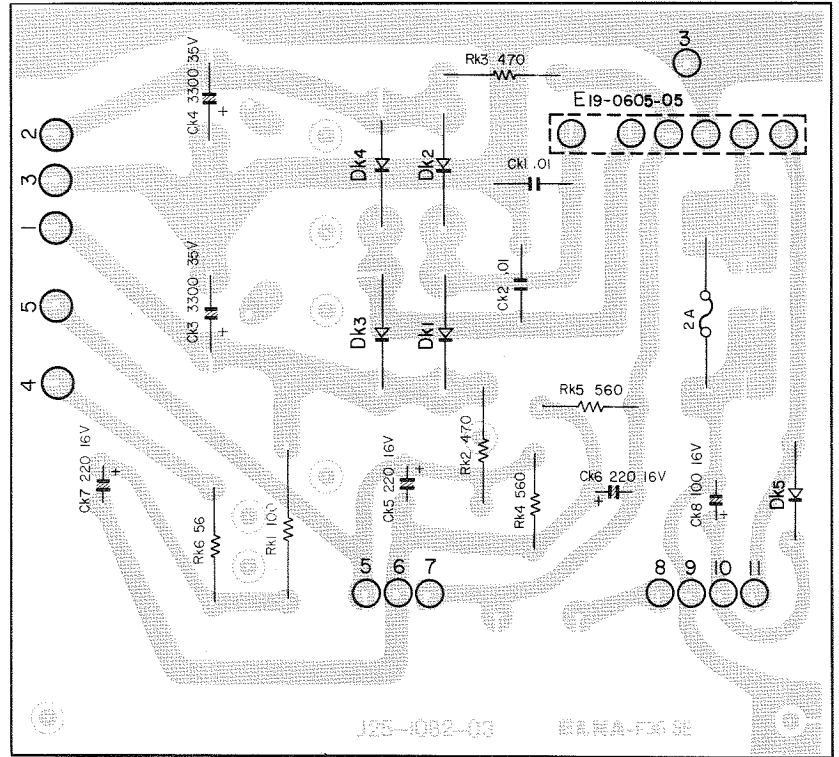
CONTROL AMP (X08-1290-00)

| Ref. No. | Parts No. | Description | Re marks |
|----------------------|----------------|--------------------------------|----------|
| CAPACITOR | | | |
| Ce1, 2 | CC45SL1H221K | Ceramic 220pF ±10% | |
| Ce3, 4 | CS15E1VR47M | Tantalum 0.47μF 35WV | |
| Ce5, 6 | CE04W0J101 | Electrolytic 100μF 6.3WV | |
| Ce7, 8 | CC45SL1H100D | Ceramic 10pF ±0.5pF | |
| Ce9, 10 | CE04W0J101 | Electrolytic 100μF 6.3WV | |
| Ce11, 12 | CE04W1E101 | Electrolytic 100μF 25WV | |
| Ce13, 14 | CC45SL1H101K | Ceramic 100pF ±10% | |
| Ce15~18 | CC45SL1H221K | Ceramic 220pF ±10% | |
| Ce19, 20 | CQ93M1H224M | Mylar 0.22μF ±20% | |
| Ce21, 22 | CE04W1C470 | Electrolytic 47μF 16WV | |
| Ce23, 24 | CE04W1C100(NP) | Electrolytic 10μF 16WV | |
| Ce25 | CE04W1V221 | Electrolytic 220μF 35WV | |
| Ce26~29 | CE04W0J470 | Electrolytic 47μF 6.3WV | |
| RESISTOR | | | |
| Re1, 2 | PD14BY2E684J | Carbon 680kΩ ±5% 1/4W | |
| Re3, 4 | PD14BY2E562J | Carbon 5.6kΩ ±5% 1/4W | |
| Re5, 6 | PD14BY2E104J | Carbon 100kΩ ±5% 1/4W | |
| Re7, 8 | PD14BY2E153J | Carbon 15kΩ ±5% 1/4W | |
| Re9, 10 | PD14BY2E332J | Carbon 3.3kΩ ±5% 1/4W | |
| Re11, 12 | PD14BY2E101J | Carbon 100Ω ±5% 1/4W | |
| Re13, 14 | PD14BY2E183J | Carbon 18kΩ ±5% 1/4W | |
| Re15, 16 | PD14BY2E104J | Carbon 100kΩ ±5% 1/4W | |
| Re17, 18 | PD14BY2E101JB | Carbon 100Ω ±5% 1/4W | |
| Re19~22 | PD14BY2E332J | Carbon 3.3kΩ ±5% 1/4W | |
| Re23, 24 | PD14BY2E182J | Carbon 1.8kΩ ±5% 1/4W | |
| Re25, 26 | PD14BY2E392J | Carbon 3.9kΩ ±5% 1/4W | |
| Re27, 28 | PD14BY2E182J | Carbon 1.8kΩ ±5% 1/4W | |
| Re29~32 | PD14BY2E153J | Carbon 15kΩ ±5% 1/4W | |
| Re33~36 | PD14BY2E182J | Carbon 1.8kΩ ±5% 1/4W | |
| Re37~40 | PD14BY2E331JB | Carbon 330Ω ±5% 1/4W | |
| Re41~44 | R92-0110-05 | Wire wound 0.47Ω ±10% 2W | |
| Re45, 46 | RN14AB3A4R7JB | Metal film 4.7Ω ±5% 1W | |
| Re47 | PD14BY2E101JB | Carbon 100Ω ±5% 1/4W | |
| Re48~51 | PD14BY2E102J | Carbon 1kΩ ±5% 1/4W | |
| SEMICONDUCTOR | | | |
| Qe1~4 | | Transistor 2SA620WL-5 | |
| Qe5, 6 | | Transistor 2SC1384 (Q) or (R) | -10 |
| | | Transistor 2SC1212A (C) | -11 |
| Qe7, 8 | | Transistor 2SC1416GR or BL | |
| Qe9~12 | | Transistor 2SC945P or Q | |
| Qe13, 14 | | Transistor 2SA733Q or R | |
| Qe15, 16 | | Transistor 2SC1384Q or R | -10 |
| | | Transistor 2SC1212A (B) or (C) | -11 |
| Qe17, 18 | | Transistor 2SA684Q or R | -10 |
| | | Transistor 2SA743A (B), (C) | -11 |
| Qe19, 20 | | Transistor 2SC789 | -10 |
| | | Transistor 2SC1444 | -11 |
| Qe21, 22 | | Transistor 2SA489 | -10 |
| | | Transistor 2SA764 | -11 |
| De1~4 | | Diode 1S2076 or 1S1555 | |
| THE1, 2 | | Thermister 5TP-41L | |
| POTENTIOMETER | | | |
| VRe1, 2 | R12-1021-05 | Trimmer potentiometer | |
| MISCELLANEOUS | | | |
| — | E02-0210-05 | Transistor socket x 4 | -11 |
| — | F01-0186-03 | Heat sink | |
| — | F20-0067-05 | Mica plate x 4 | -11 |
| — | F20-0078-05 | Mica plate x 4 | -10 |
| — | J25-1056-03 | PC board | |

| Ref. No. | Parts No. | Description | Re marks |
|----------------------------------|----------------|--|----------|
| CAPACITOR | | | |
| Cd1, 2 | CE04W1H3R3 | Electrolytic 3.3μF 50WV | |
| Cd3, 4 | CE04W0J470 | Electrolytic 47μF 6.3WV | |
| Cd5, 6 | CQ93M1H272K | Mylar 0.0027μF ±10% | |
| Cd7, 8 | CQ93M1H103K | Mylar 0.01μF ±10% | |
| Cd9, 10 | CQ93M1H334M | Mylar 0.33μF ±20% | |
| Cd11, 12 | CE04W1C470 | Electrolytic 47μF 16WV | |
| Cd13, 14 | CE04W1A6R8(NP) | Electrolytic 6.8μF 10WV | |
| Cd15, 16 | CQ93M1H224M | Mylar 0.22μF ±10% | |
| Cd17~20 | CS15E1A3R3M | Tantalum 3.3μF ±20% | |
| Cd21, 22 | CQ93M1H333M | Mylar 0.033μF ±20% | |
| Cd23, 24 | CQ93M1H154M | Mylar 0.15μF ±20% | |
| Cd25, 26 | CE04W1A6R8(NP) | Electrolytic 6.8μF 10WV | |
| RESISTOR | | | |
| Rd1, 2 | PD14BY2E222J | Carbon 2.2kΩ ±5% 1/4W | |
| Rd3~6 | PD14BY2E104J | Carbon 100kΩ ±5% 1/4W | |
| Rd7, 8 | PD14BY2E561J | Carbon 560Ω ±5% 1/4W | |
| Rd9, 10 | PD14BY2E273J | Carbon 27kΩ ±5% 1/4W | |
| Rd11, 12 | PD14BY2E564J | Carbon 560kΩ ±5% 1/4W | |
| Rd13, 14 | PD14BY2E563J | Carbon 56kΩ ±5% 1/4W | |
| Rd15, 16 | PD14BY2E221JB | Carbon 220Ω ±5% 1/4W | |
| Rd17, 18 | PD14BY2E152J | Carbon 1.5kΩ ±5% 1/4W | |
| Rd19, 20 | PD14BY2E331J | Carbon 330Ω ±5% 1/4W | |
| Rd21, 22 | PD14BY2E102J | Carbon 1kΩ ±5% 1/4W | |
| Rd23, 24 | PD14BY2E271J | Carbon 270Ω ±5% 1/4W | |
| Rd25, 26 | PD14BY2E681J | Carbon 680Ω ±5% 1/4W | |
| Rd27, 28 | PD14BY2E121J | Carbon 120Ω ±5% 1/4W | |
| Rd29, 30 | RC05GF2H331K | Carbon 330Ω ±10% 1/2W | |
| SEMICONDUCTOR | | | |
| ICd1 | | IC RC4558TA | |
| POTENTIOMETER | | | |
| VRd1 | R11-9005-05 | Potentiometer 200kΩ (W), 100kΩ (B) x 2 | |
| VRd2, 3 | R06-2002-05 | Potentiometer 5kΩ (C) | |
| MISCELLANEOUS | | | |
| K-04 | E30-0302-05 | Connector (+, -B) | |
| K-05 | E30-0303-05 | Connector (AM, FMB) | |
| K-06 | E30-0304-05 | Connector (FM) | |
| K-13 | E30-0311-05 | Connector (MAIN NF) | |
| K-14 | E30-0312-05 | Connector (MAIN OUT) | |
| K-15, 16 | E30-0313-05 | Connector (VOLUME OUT) | |
| — | J25-1059-03 | PC board | |
| PUSH SWITCH (X13-1820-10) | | | |
| CAPACITOR | | | |
| Ch1, 2 | CQ93M1H563K | Mylar 0.056μF ±10% | |
| Ch3, 4 | CK45D1H561M | Ceramic 560pF ±20% | |
| Ch5, 6 | CQ93M1H472K | Mylar 0.0047μF ±10% | |
| RESISTOR | | | |
| Rh1, 2 | PD14BY2E682K | Carbon 6.8kΩ ±10% 1/4W | |
| Rh3, 4 | PD14BY2E562K | Carbon 5.6kΩ ±10% 1/4W | |
| Rh5, 6 | PD14BY2E472K | Carbon 4.7kΩ ±10% 1/4W | |
| MISCELLANEOUS | | | |
| — | E30-0305-05 | Connector | |
| — | J25-1083-03 | PC board | |
| POWER SUPPLY ASSEMBLY | | | |
| See MODIFICATION parts list. | | | |

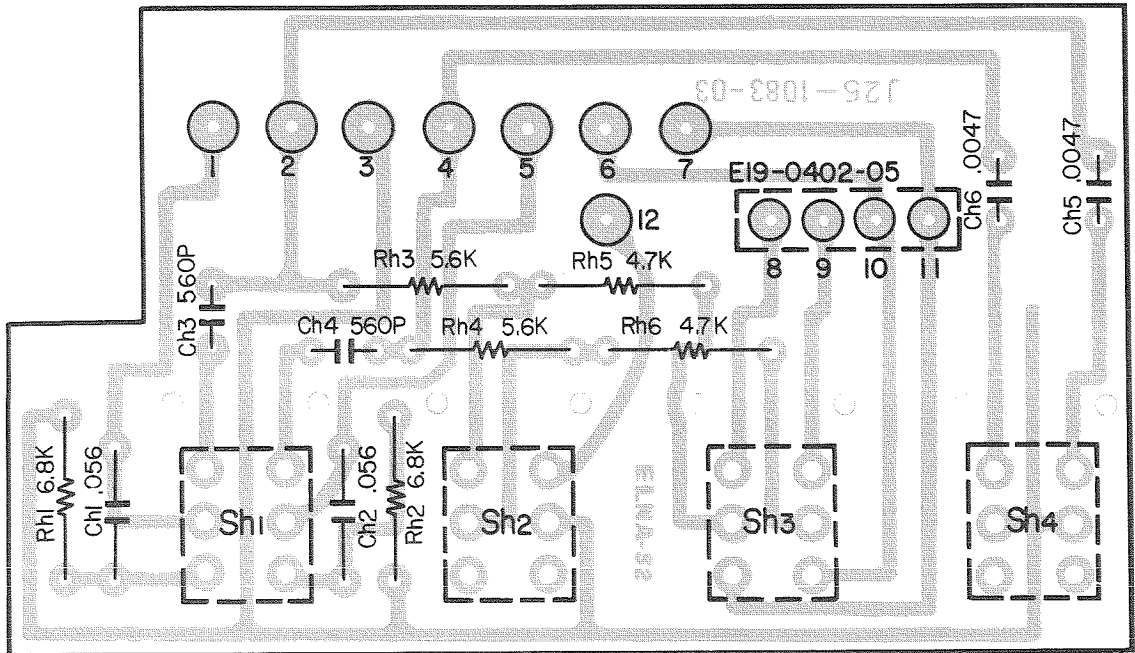
PC BOARD

▶ POWER SUPPLY
(X00-1440-10)
(X00-1450-10)



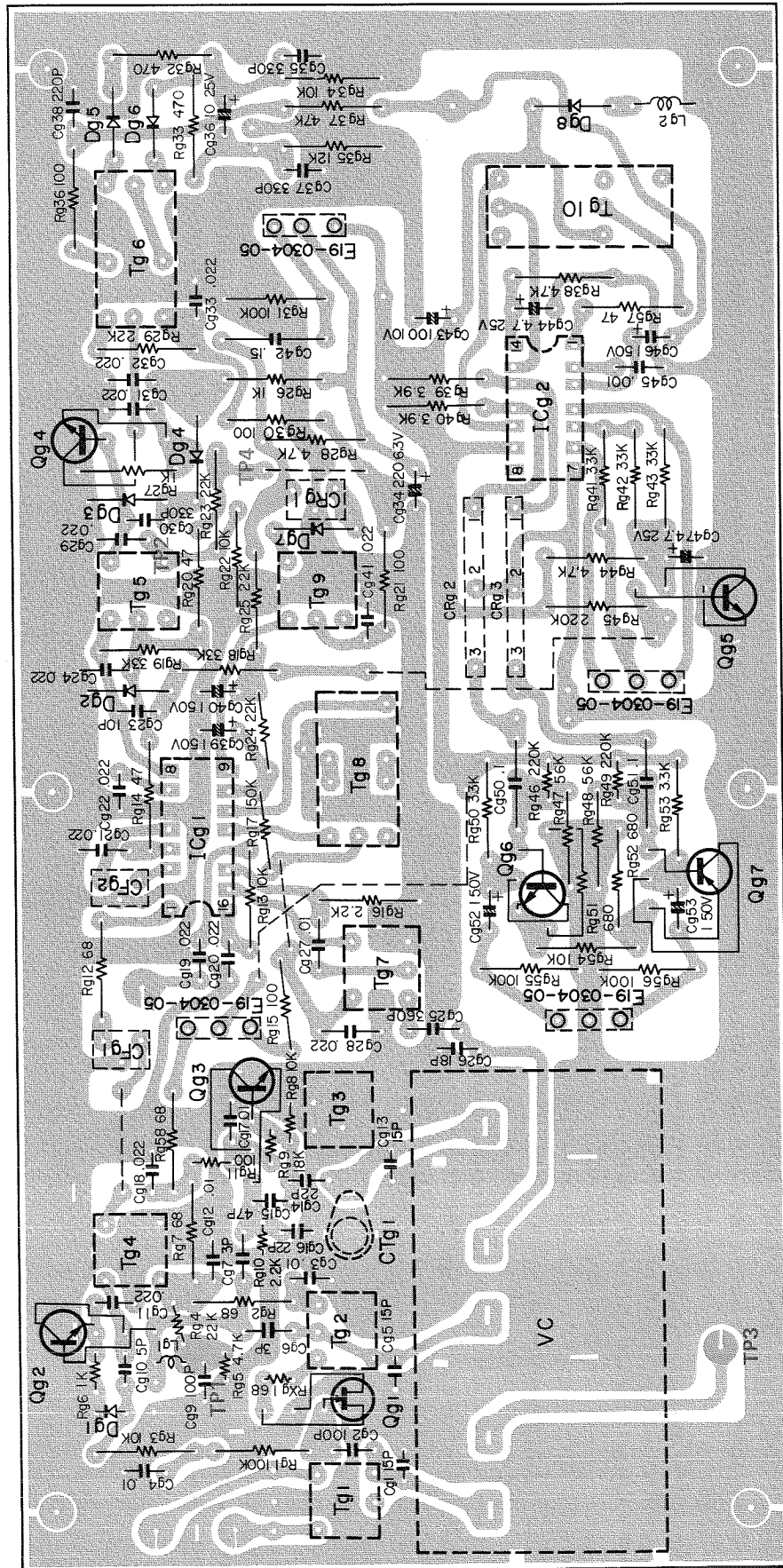
Dk1~4 : V03C, Dk5 : W06B

▶ PUSH SWITCH
(X13-1820-10)



PC BOARD

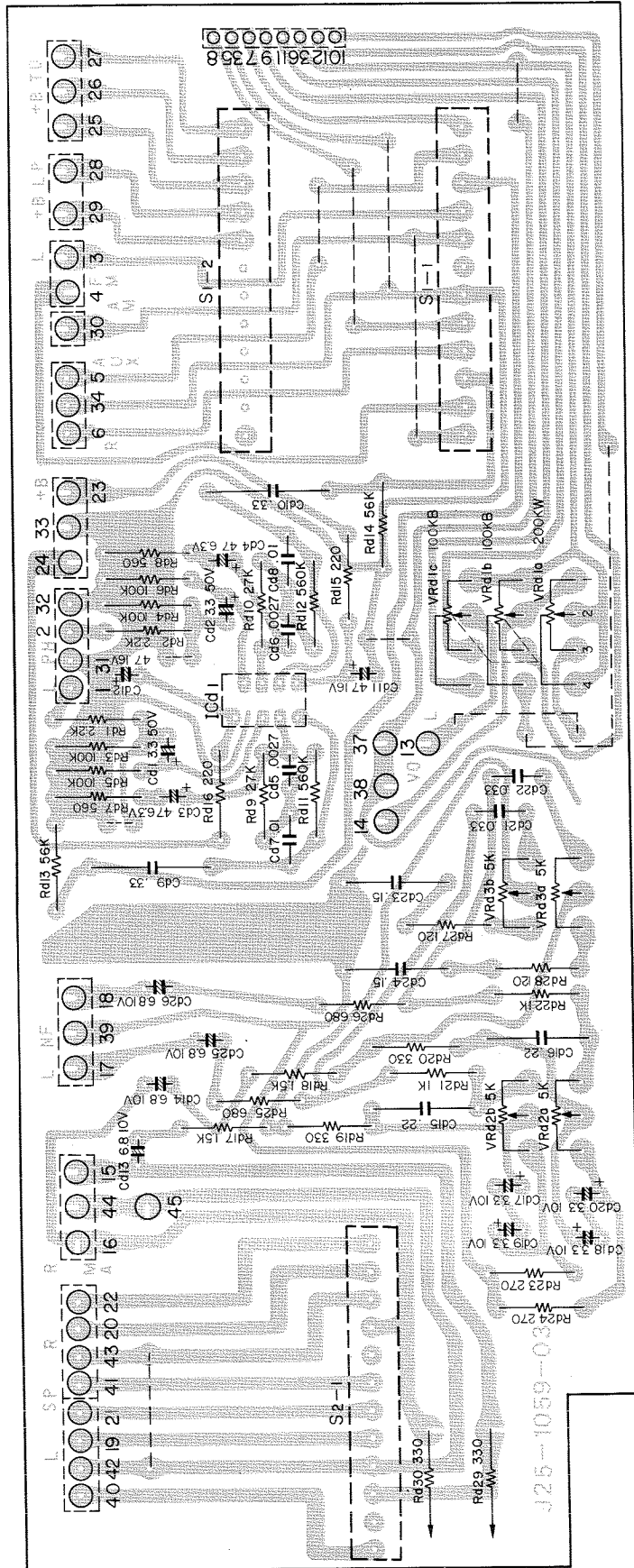
► TUNER
(X05-1190-10)



Qg1 : 2SK55 (D or E) or 2SK19 (Y), Qg2 : 2SC381 (Y), Qg3 : 2SC1342 (A or B), Qg4 : 2SC381 (R or O), Qg5 : 2SC945 (O or R),
 Qg6, 7 : 2SC945 (O), ICg1 : AN217BB, ICg2 : μ PC554C, Dg1, 2, 5, 6 : 1S2076, Dg3, 4, 7 : 1N60, Dg8 : BZ-090

PC BOARD

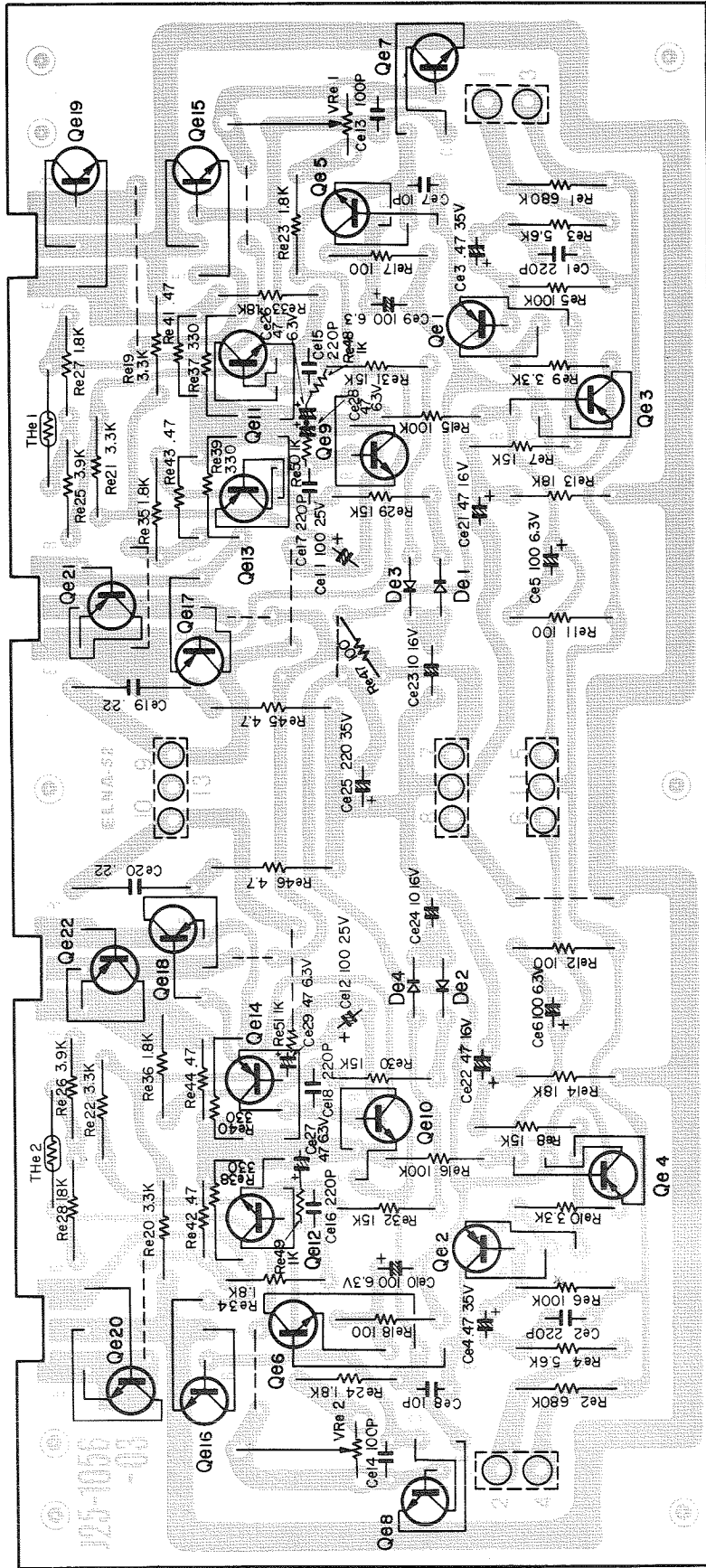
▶ CONTROL AMP
(00-060-80X)



ICd1 : RC4558TA

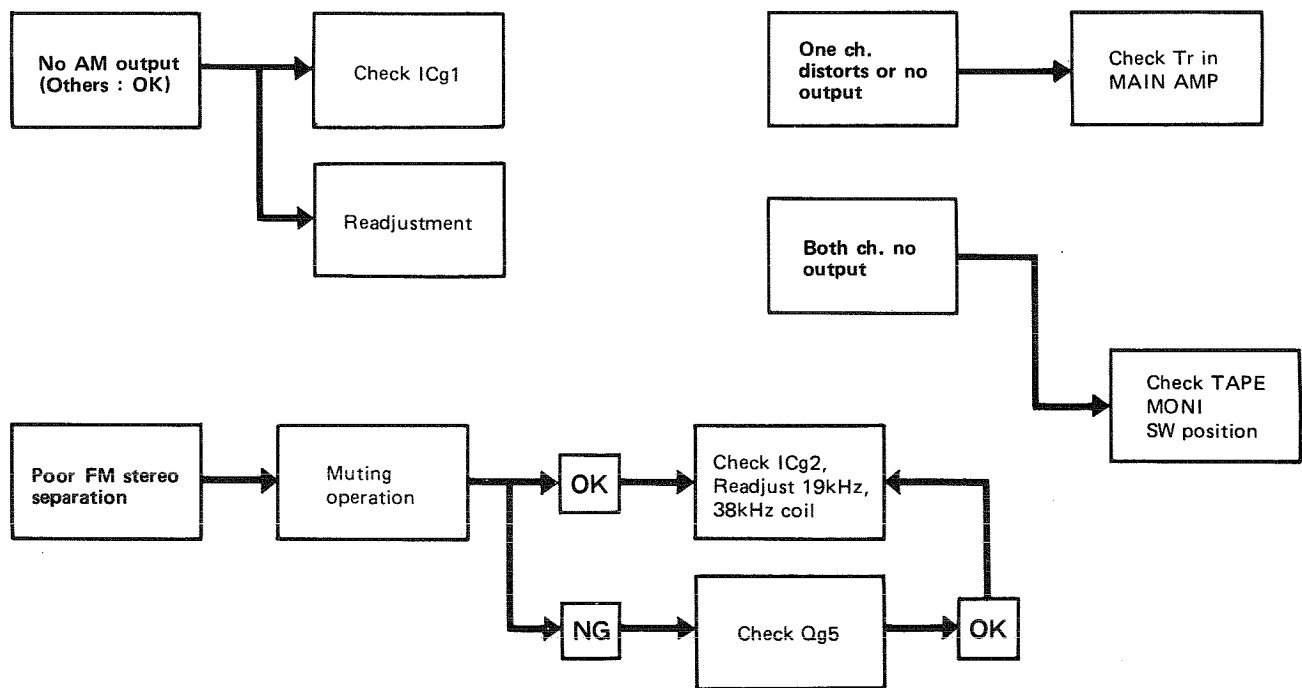
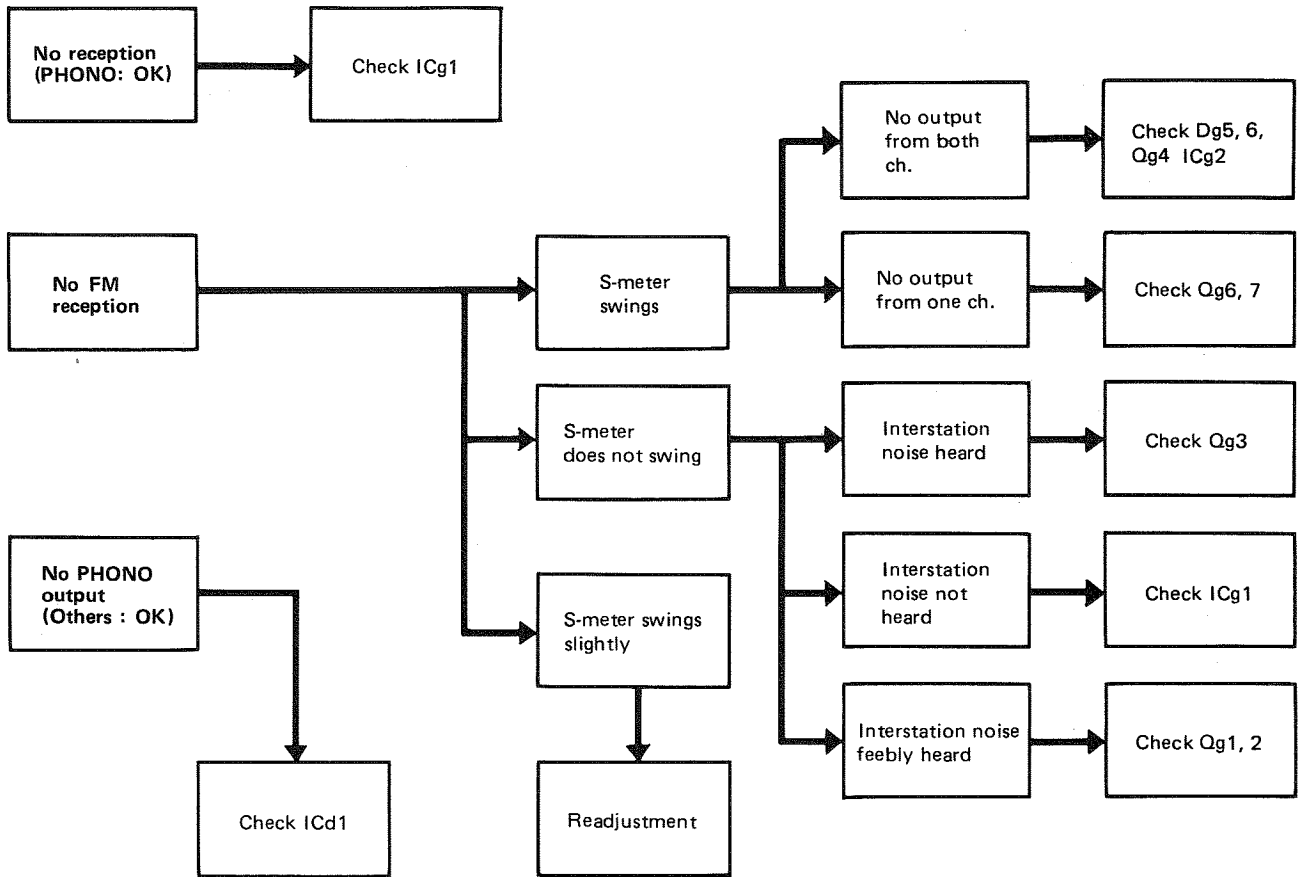
PC BOARD

▶ MAIN AMP
 (X07-1290-11) KR-3400
 (X07-1290-10) KR-2400



- | | | |
|----------|----------------------------|----------------------------|
| KR-3400: | Qe1~4 : 2SA620WL5, | Qe5, 6 : 2SC1384 Q or R, |
| | Qe7, 8 : 2SC1416 GR or BL, | Qe9~12 : 2SC945 P or Q, |
| | Qe13, 14 : 2SA733 Q or R, | Qe15, 16 : 2SC1384 Q or R, |
| | Qe17, 18 : 2SA743 AB or C | Qe19, 20 : 2SC789 |
| | Qe21, 22 : 2SA764 | |
| KR-2400: | Qe1~4 : 2SA620 WL5, | Qe5, 6 : 2SC1384 Q or R, |
| | Qe7, 8 : 2SC1416 GR or BL, | Qe9~12 : 2SC945 P or Q, |
| | Qe13, 14 : 2SA733 Q or R, | Qe15, 16 : 2SC1384 Q or R, |
| | Qe17, 18 : 2SA684 Q or R | Qe19, 20 : 2SC789 |
| | Qe21, 22 : 2SA489 | |

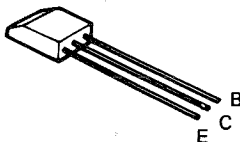
TROUBLESHOOTING



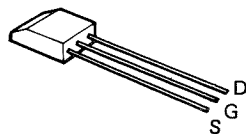
SEMICONDUCTOR SUBSTITUTIONS & LEADS

| Semiconductor | Substitutions | Semiconductor | Substitutions |
|---|--|---|---|
| TUNER (X05-1190-10) AN217BB μPC554C 2SK55 (D), (E) 2SC381 (O) 2SC381 (R), (O) 2SC945 (Q) 2SC945 (Q), (R) 2SC1342 (A), (B) | — — 2SK19 (Y) 2SC535 (B) 2SC535 (B) 2SC458 (B), (C) 2SC458 (C) 2SC785 (R) | 2SC1212A (C) 2SC1212A (B), (C) 2SC1416 (GR), (BL) 2SC945 (P), (Q) 2SA733 (Q), (R) 2SA684 (Q), (R) 2SA743A (B), (C) 2SC789 2SC1444 2SA489 2SA764 | 2SC983, 2SC1451 — 2SC1000, 2SC1345 2SC1213 2SA673 2SA743A — — — — — |
| MAIN AMP (X07-1290-10, 11) 2SA620WL5 2SC1384 (Q), (R) | 2SA493 2SC1212A | CONTROL AMP (X08-1290-00) RC4558TA | — |

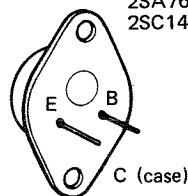
2SC1342



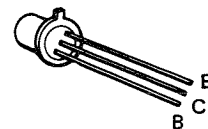
2SK55



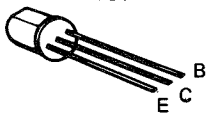
2SA764
2SC1444



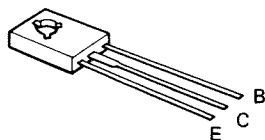
2SA620WL



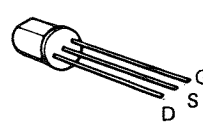
2SC381



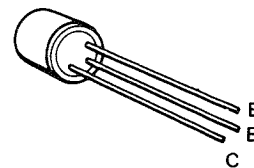
2SA743A
2SC1212A



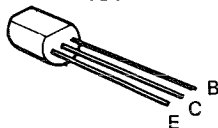
2SK19



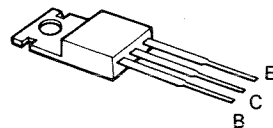
2SC1416



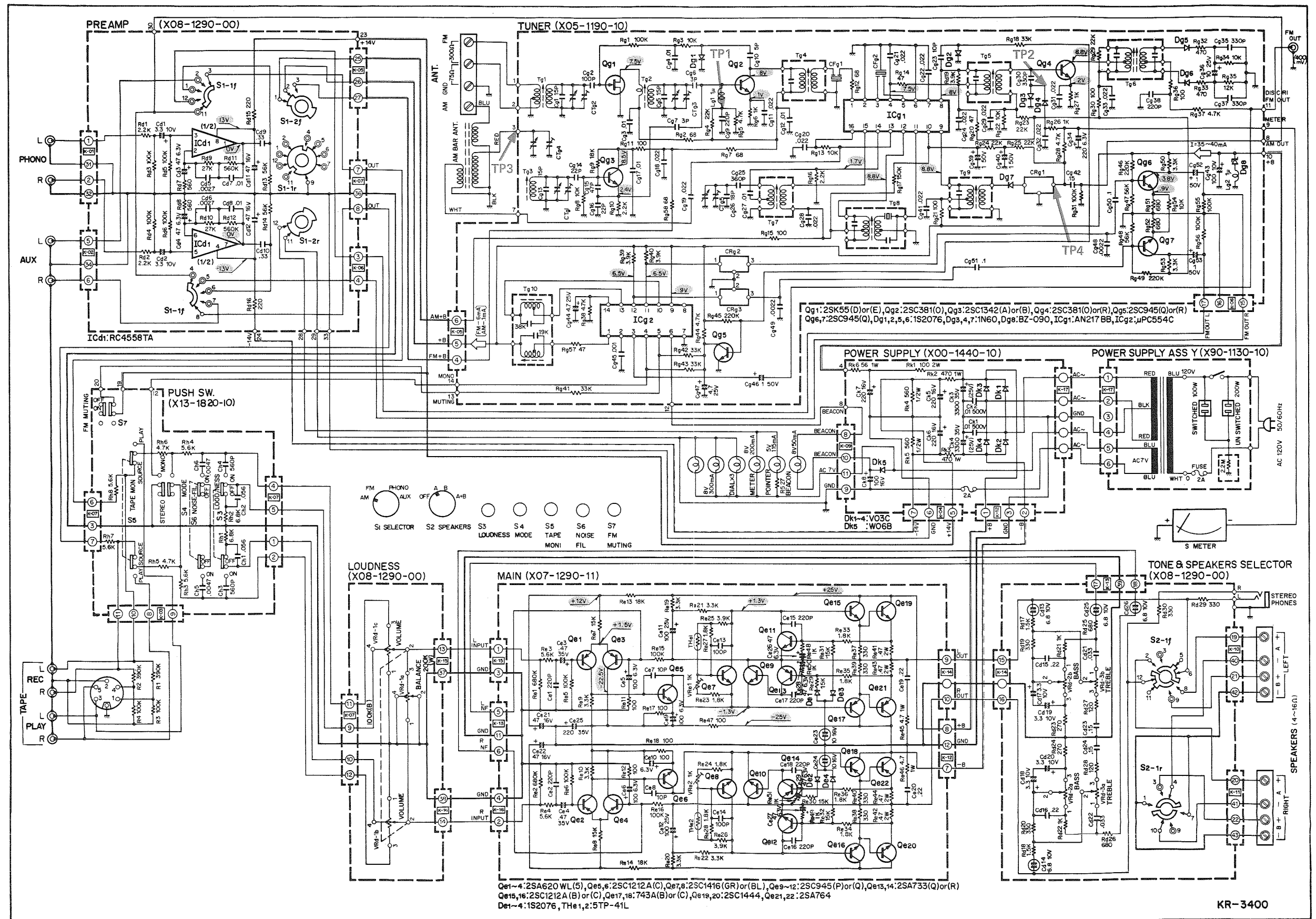
2SC1384
2SA733
2SC945
2SA684



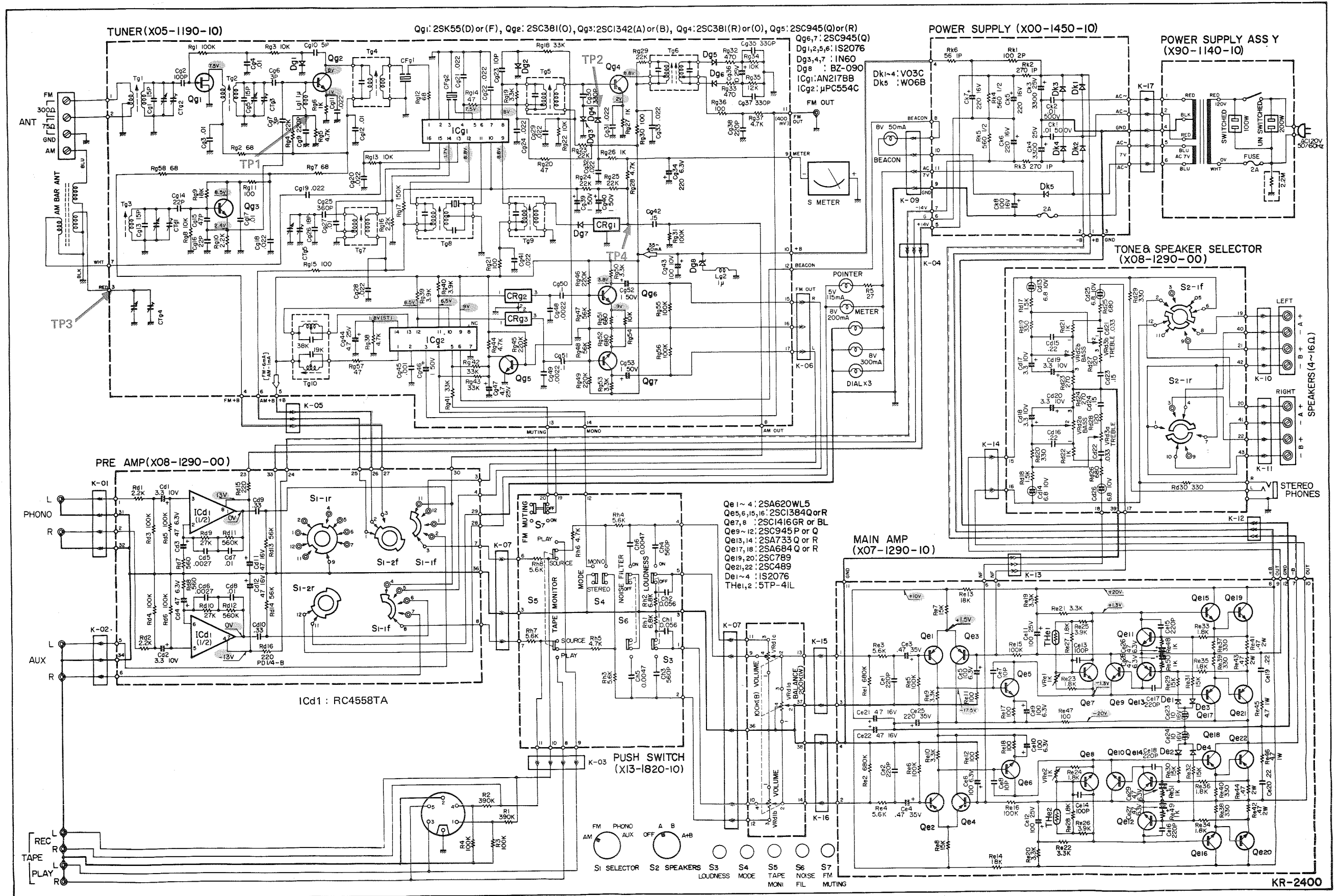
2SA489
2SC789



KR-3400 SCHEMATIC DIAGRAM

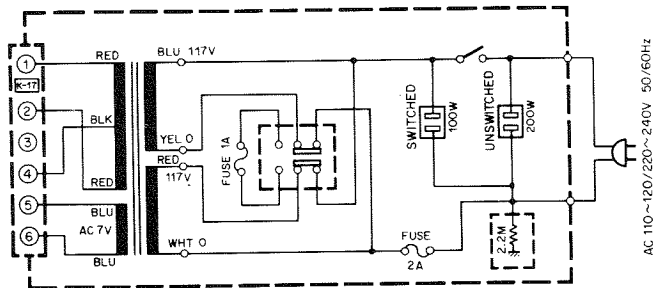


KR-2400 SCHEMATIC DIAGRAM

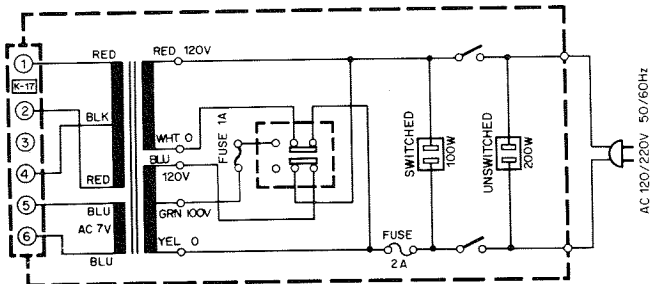


MODIFICATION OF SCHEMATIC DIAGRAM

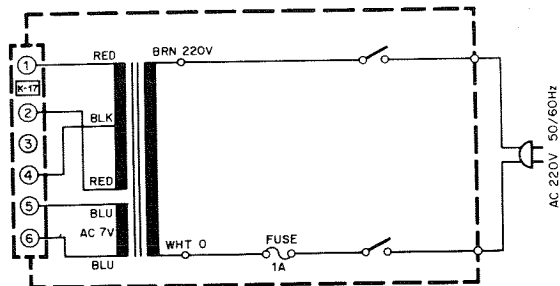
For 110~120/220~240V



For Europe except England



For Scandinavia



KR-3400
KR-2400

KR-3400 SPECIFICATIONS

FM TUNER SECTION

| | |
|-------------------------------|---|
| Frequency Range | 88 MHz to 108 MHz |
| Usable Sensitivity (IHF) | 87.5 MHz to 108 MHz (FTZ APPROVED) |
| Quieting Slope | 2.5 μ V |
| Frequency Response | 5 μ V 40 dB, 10 μ V 56 dB, 50 μ V 62 dB |
| Harmonic Distortion | 20 Hz to 15,000 Hz + 0.5 dB - 2.0 dB |
| Signal to Noise Ratio | 0.4% Mono (at 400 Hz 100% modulation) |
| Image Rejection | 0.6% Stereo (at 400 Hz 100% modulation) |
| Selectivity (IHF ALT channel) | 62 dB at 1 mV input |
| IF Rejection | 50 dB |
| Spurious Signal Rejection | 45 dB |
| AM Suppression | 80 dB |
| Capture Ratio | 75 dB |
| Stereo Separation | 45 dB |
| Sub Carrier Suppression | 3.0 dB |
| Antenna Impedance | 33 dB at 1,000 Hz |
| | 300 ohms Balanced & 75 ohms Unbalanced |

AM TUNER SECTION

| | |
|--------------------------|---|
| Usable Sensitivity (IHF) | 25 μ V |
| Signal to Noise Ratio | 45 dB at 1 mV input |
| Image Rejection | 45 dB |
| Selectivity (IHF) | 25 dB |
| IF Rejection | 33 dB |
| Antenna | Built-in ferrite bar antenna, External antenna terminal |

MAIN AMPLIFIER SECTION

| | |
|--------------------------------|---|
| RMS Power Output | 22 watts x 2 into 8 ohms at 1,000 Hz |
| Both channels driven | 29 watts x 2 into 4 ohms at 1,000 Hz |
| Dynamic Power Output | 65 watts into 8 ohms |
| Total Harmonic Distortion | 82 watts into 4 ohms |
| Inter Modulation Distortion | 0.8% at rated power into 8 ohms |
| Power Bandwidth | 0.1% at 1/2 rated power into 8 ohms at 1,000 Hz |
| Signal to Noise Ratio at 50 mW | 0.8% at rated power into 8 ohms |
| Damping Factor | 0.1% at 1/2 rated power into 8 ohms |
| Speaker Impedance | 10 Hz to 30,000 Hz |
| | 50 dB |
| | 30 at 8 ohms |
| | Accept 4 ohms to 16 ohms |

PRE-AMPLIFIER SECTION

| | |
|-------------------------------------|----------------------------------|
| Input Sensitivity and Impedance | |
| Phono | 2.5 mV, 50 Kohms |
| AUX | 150 mV, 45 Kohms |
| Tape Play | 150 mV, 45 Kohms |
| Maximum Input Voltage (rms) | |
| Phono | 110 mV T.H.D. 0.8% at 1,000 Hz |
| Signal to Noise Ratio (IHF A Curve) | |
| Phono | 70 dB |
| AUX | 87 dB |
| Tape Play | 87 dB |
| Output Voltage and Impedance | |
| Tape Rec. (Pin) | 150 mV, 100 ohms |
| (Din connector) | 30 mV, 80 Kohms |
| Frequency Response | |
| Phono | RIAA Standard curve \pm 1.5 dB |
| AUX, Tape Play | 10 Hz to 40,000 Hz \pm 1.5 dB |
| Tone Controls | |
| Bass | \pm 8 dB at 100 Hz |
| Treble | \pm 8 dB at 10,000 Hz |
| Loudness Control (-30 dB) | +10 dB at 100 Hz |
| Noise Filter | +5 dB at 10,000 Hz |
| | -9.0 dB at 10,000 Hz |

GENERAL

| | |
|-------------------|--|
| Switches | OFF, A, B, A + B |
| Speaker Selector | AM-FM-PHONO-AUX |
| Input Selector | MONO-STEREO |
| Mode | PLAY-SOURCE |
| Tape Monitor | NOISE FILTER, FM MUTING, LOUDNESS, |
| Others | PHONES JACK |
| AC Outlets | Switched 1, Unswitched 1 |
| Power Consumption | 145 watts at full power |
| Dimensions | 25 watts at no signal |
| Weight | W 18-15/16" (480mm), H 5-3/8" (137 mm) |
| | D 13-9/16" (344 mm) |
| | 18.5 lbs. (8.4 kg) |
| | 16.5 lbs. (7.5 kg) |
| | Units shipped to the European and |
| | the Scandinavian Countries. |

KR-2400 SPECIFICATIONS

FM TUNER SECTION

| | |
|-------------------------------|---|
| Frequency Range | 88 MHz to 108 MHz |
| Usable Sensitivity (IHF) | 87.5 MHz to 108 MHz (FTZ APPROVED) |
| Quieting Slope | 2.5 μ V |
| Frequency Response | 5 μ V 40 dB, 10 μ V 56 dB, 50 μ V 62 dB |
| Harmonic Distortion | 20 Hz to 15,000 Hz \pm 0.5 dB -2.0 |
| Signal to Noise Ratio | 0.4% Mono (at 400 Hz 100% modulation) |
| Image Rejection | 0.6% Stereo (at 400 Hz 100% modulation) |
| Selectivity (IHF ALT channel) | 62 dB at 1 mV input |
| IF Rejection | 50 dB |
| Spurious Signal Rejection | 45 dB |
| AM Suppression | 80 dB |
| Capture Ratio | 75 dB |
| Stereo Separation | 45 dB |
| Sub Carrier Suppression | 33 dB at 1,000 Hz |
| Antenna Impedance | 40 dB |
| | 300 ohms Balanced & 75 ohms Unbalanced |

AM TUNER SECTION

| | |
|--------------------------|---|
| Usable Sensitivity (IHF) | 25 μ V |
| Signal to Noise Ratio | 45 dB at 1 mV input |
| Image Rejection | 45 dB |
| Selectivity (IHF) | 25 dB |
| IF Rejection | 33 dB |
| Antenna | Built-in ferrite bar antenna, External antenna terminal |

MAIN AMPLIFIER SECTION

| | |
|---|--------------------------------------|
| RMS Power Output | 16 watts x 2 into 8 ohms at 1,000 Hz |
| Both channels driven | 20 watts x 2 into 4 ohms at 1,000 Hz |
| Dynamic Power Output | 42 watts into 8 ohms |
| Total Harmonic Distortion | 62 watts into 4 ohms |
| Inter Modulation Distortion (60 Hz : 7 kHz = 4 : 1) | 1.0% at rated power into 8 ohms |
| Power Bandwidth | 0.1% at 1/2 rated power into 8 ohms |
| Signal to Noise Ratio at 50 mW | 0.1% at 1/2 rated power into 8 ohms |
| Damping Factor | 10 Hz to 30,000 Hz |
| Speaker Impedance | 50 dB |
| | 30 at 8 ohms |
| | Accept 4 ohms to 16 ohms |

PRE-AMPLIFIER SECTION

| | |
|-------------------------------------|----------------------------------|
| Input Sensitivity and Impedance | |
| Phono | 2.5 mV, 50 Kohms |
| AUX | 150 mV, 45 Kohms |
| Tape Play | 150 mV, 45 Kohms |
| Maximum Input Voltage (rms) | |
| Phono | 110 mV T.H.D. 1.0% at 1,000 Hz |
| Signal to Noise Ratio (IHF A Curve) | |
| Phono | 70 dB |
| AUX | 87 dB |
| Tape Play | 87 dB |
| Output Voltage and Impedance | |
| Tape Rec. (Pin) | 150 mV, 100 ohms |
| (Din connector) | 30 mV, 80 Kohms |
| Frequency Response | |
| Phono | RIAA Standard curve \pm 1.5 dB |
| AUX, Tape Play | 10 Hz to 40,000 Hz \pm 1.5 dB |
| Tone Controls | |
| Bass | \pm 8 dB at 100 Hz |
| Treble | \pm 8 dB at 10,000 Hz |
| Loudness Control (-30 dB) | +10 dB at 100 Hz |
| | +5 dB at 10,000 Hz |
| Noise Filter | -9.0 dB at 10,000 Hz |

GENERAL

| | |
|-------------------|--|
| Switches | OFF, A, B, A + B |
| Speaker Selector | AM-FM-PHONO-AUX |
| Input Selector | MONO-STEREO |
| Mode | PLAY-SOURCE |
| Tape Monitor | NOISE FILTER, FM MUTING, LOUDNESS, |
| Others | PHONES JACK |
| AC Outlets | Switched 1, Unswitched 1 |
| Power Consumption | 105 watts at full power |
| Dimensions | 25 watts at no signal |
| Weight | W 18-15/16" (480mm), H 5-3/8" (137 mm), D 13-9/16" (344 mm) |
| | 18.1 lbs. (8.2 kg) |
| | 15.8 lbs. (7.2 kg) |
| | Units shipped to the European and the Scandinavian Countries. |

KENWOOD ELECTRONICS, INC.

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- HARENSESTEENWEG, 484. 1800 VILVOORDE, BELGIUM.

TRIO-KENWOOD ELECTRONICS, GmbH.

- 6056 HEUSENSTAMM, AM GOLDBERG 5, WEST GERMANY.

TRIO ELECTRONICS, INC.

- 3-6-17 AOBADAI, MEGURO-KU, TOKYO, JAPAN.