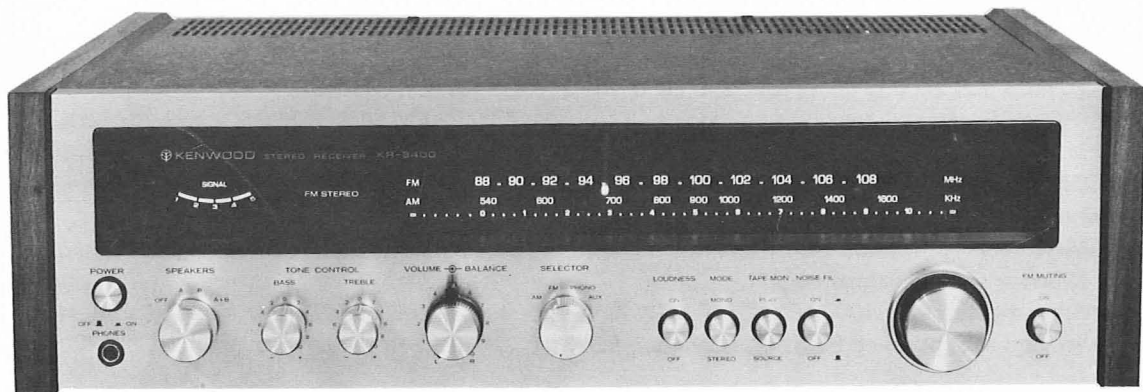


KENWOOD
HI/FI STEREO COMPONENTS

SERVICE MANUAL

KR-3400

KR-2400



AM-FM STEREO RECEIVER

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KR-3400, KR-2400 is the products in NEW KR SERIES AM-FM STEREO RECEIVERS.

In TUNER section, two ICs are employed for AM, FM-IF, FM-MPX, AM-OSC, and AM-MIX. FM DET. OUT jack is available, permitting this receiver to be ready for FM 4-ch broadcasts. CONTROL AMP contains PREAMP equipped with an IC and CR-type TONE CONTROL section which is made use of NFB effect from MAIN AMP.

MAIN AMP consists of the differential amplifier in the first stage, class A driver and pure complementary OCL output stage.

With respect to KR-3400, KR-2400 in NEW KR series, there are many advantage for good productivity and easy handling by using a common POWER SUPPLY and the connectors.

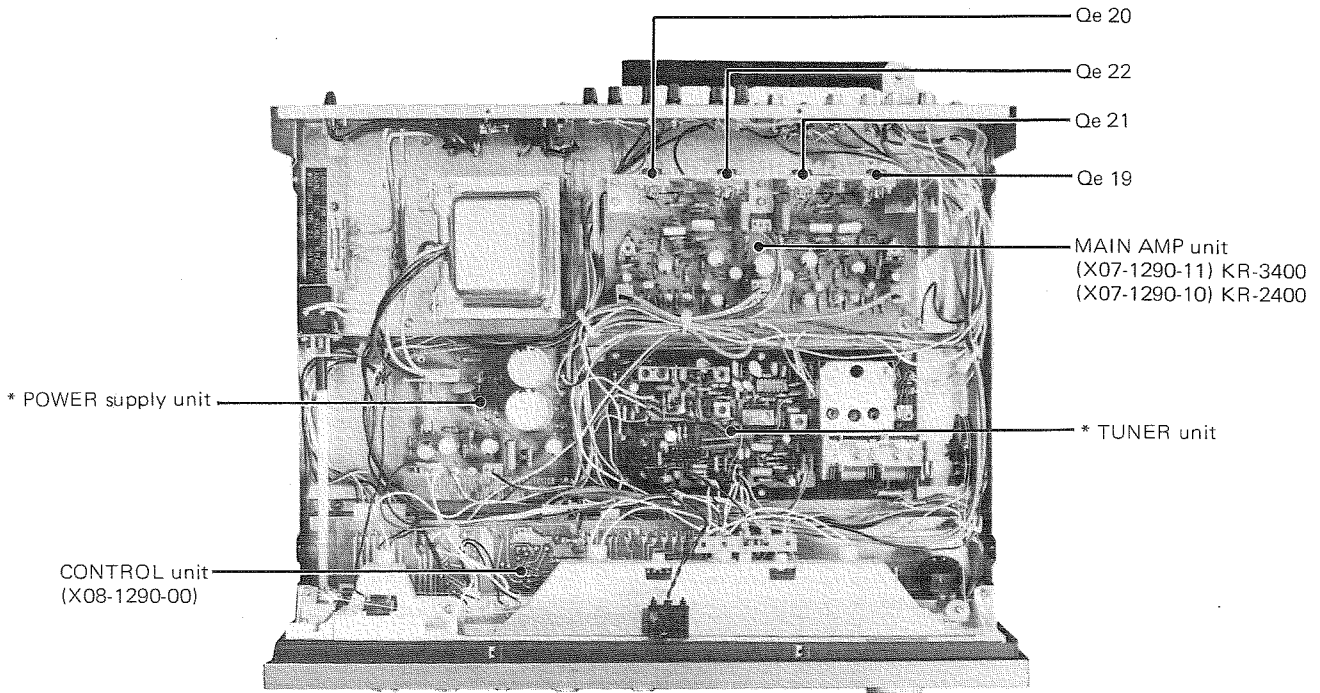
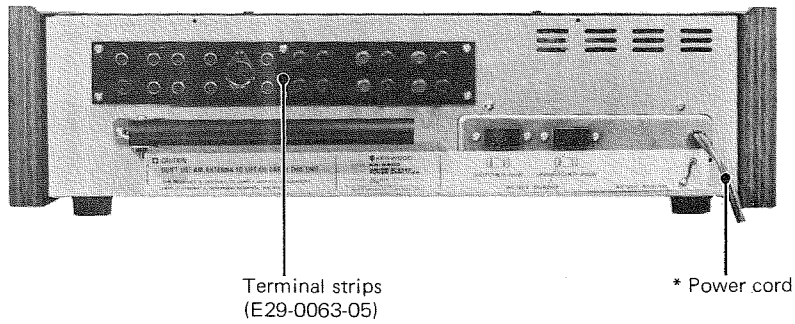
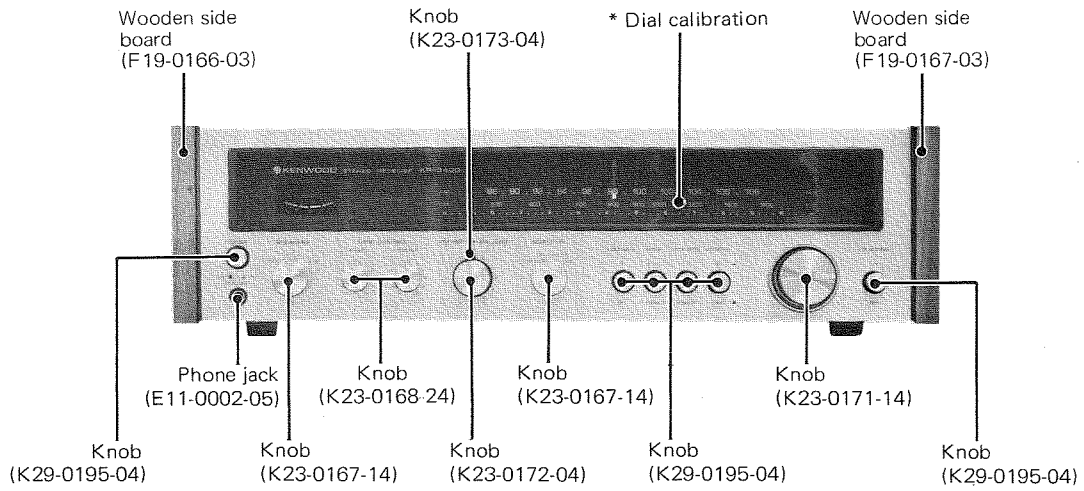
Note:

The products are subject to modification in components and circuits in different countries and regions. This is because each product must be used under the best condition. This manual provides information of modification based on the standard in the U.S., for the convenience of ordering associated components and parts.

We employ the following abbreviations of respective countries.

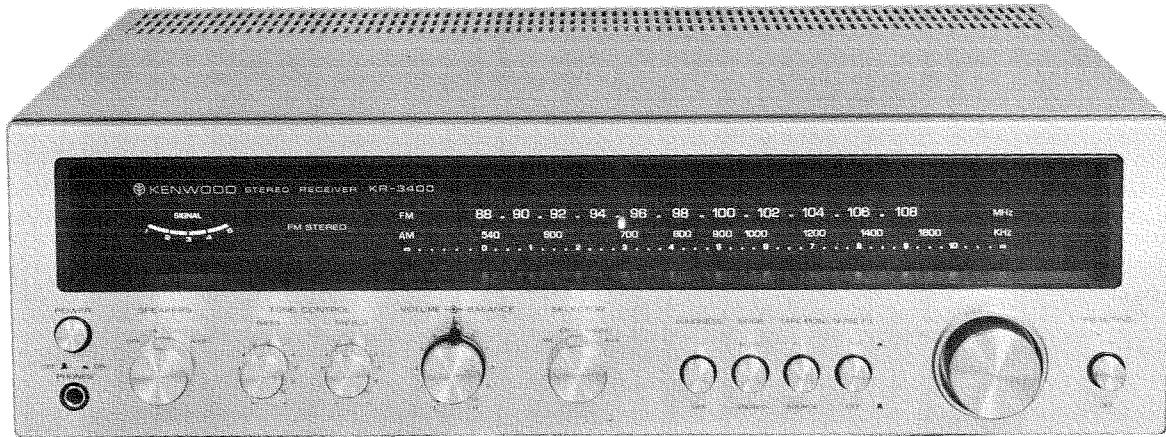
U.S.A.	K	England	T
Canada	P	Scandinavia	L
PX	U	South Africa	S
Australia	X	Other areas	M
Europe	W		

EXTERNAL & TOP VIEW



* Refer to MODIFICATION PARTS LIST.
This unit is K type.

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.

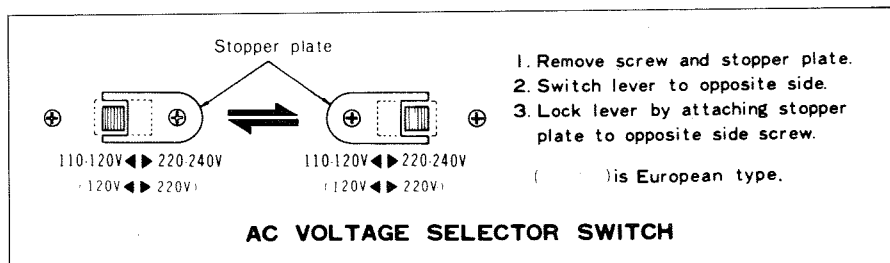
To change, first disconnect the AC line cord, then remove the stopper plate and slide the AC Voltage Selector Switch to the opposite side. Then reattach the stopper plate to the other side.

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.

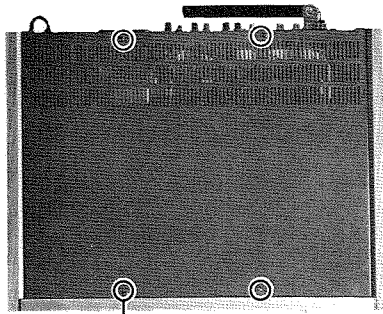
When you replace the fuse, turn the fuse holder in the direction of the arrow using a Phillips screw driver. In some districts, the set will be provided with another type of fuse holder, which allows easy replacement of the fuse without using the Phillips screw driver.

NOTE:

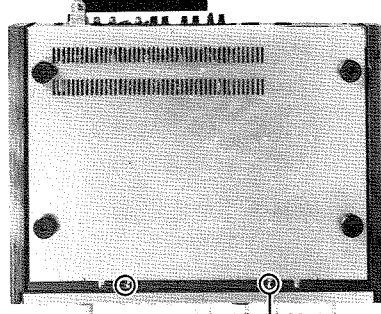
Always disconnect power supply before replacing a fuse.



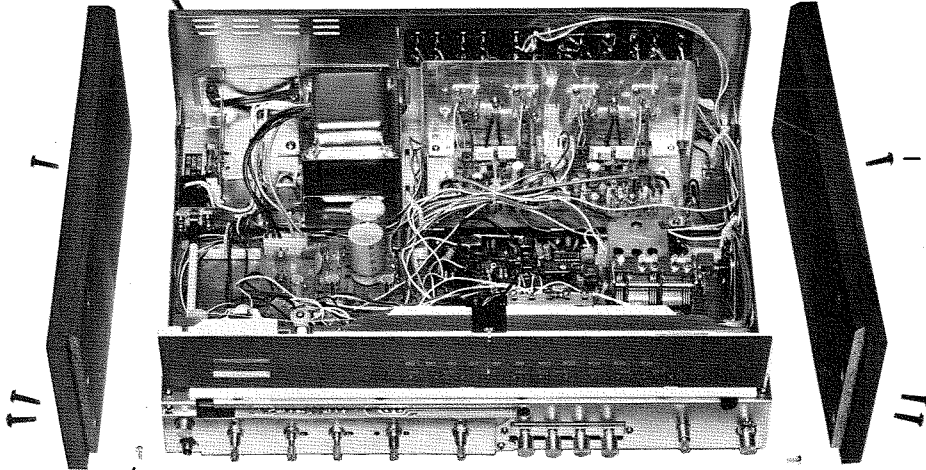
DISASSEMBLY/CORD STRINGING



Bind tap-tight screw x 4
(3 x 6)
(N89-3006-45)

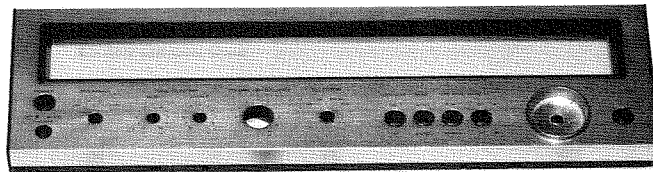


Tap-tight screw x 2
(3 x 8)
(N88-3008-46)

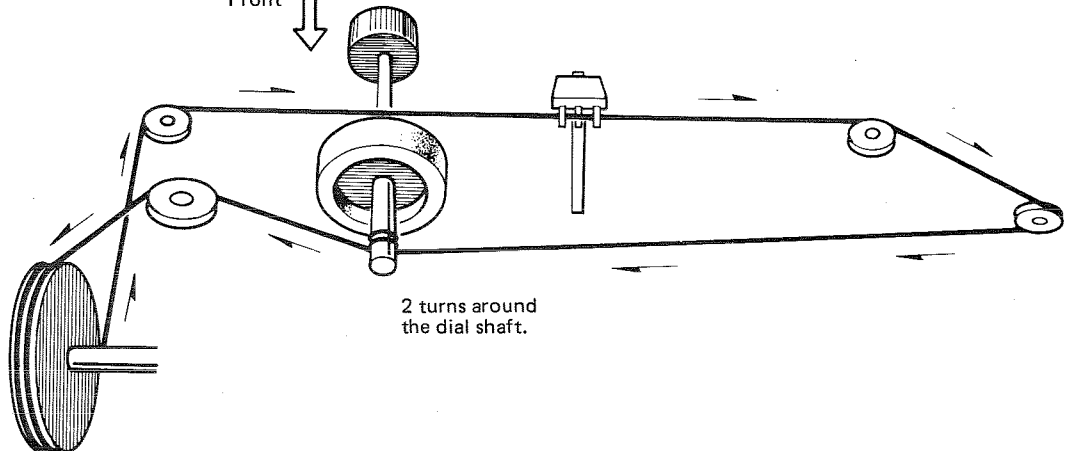


Dress screw x 6
(4 x 20)
(N08-0126-05)

Tap-tight screw x 2
(3 x 8)
(N88-3008-46)



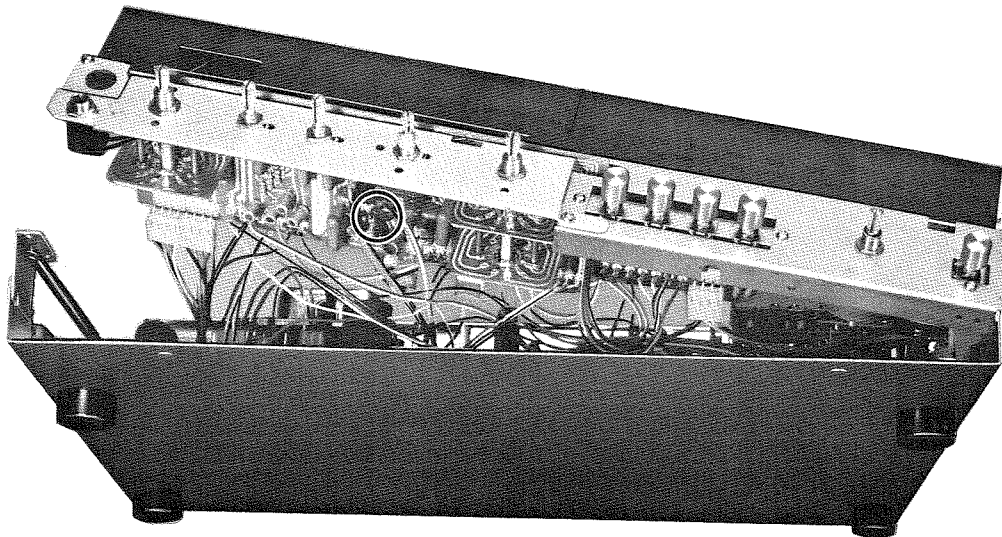
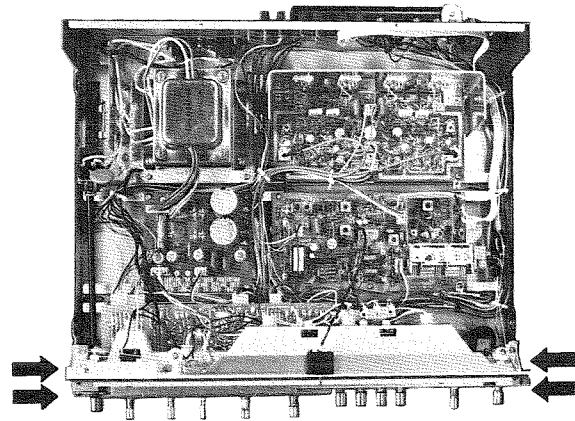
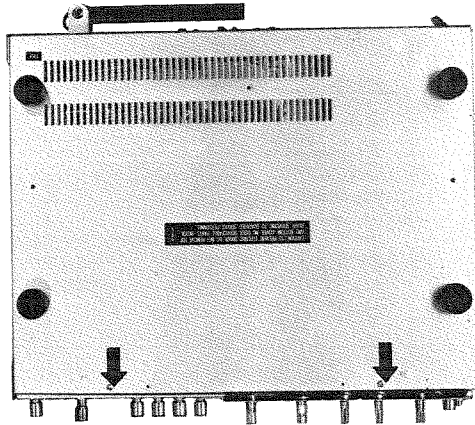
Front



REPLACEMENT OF IC

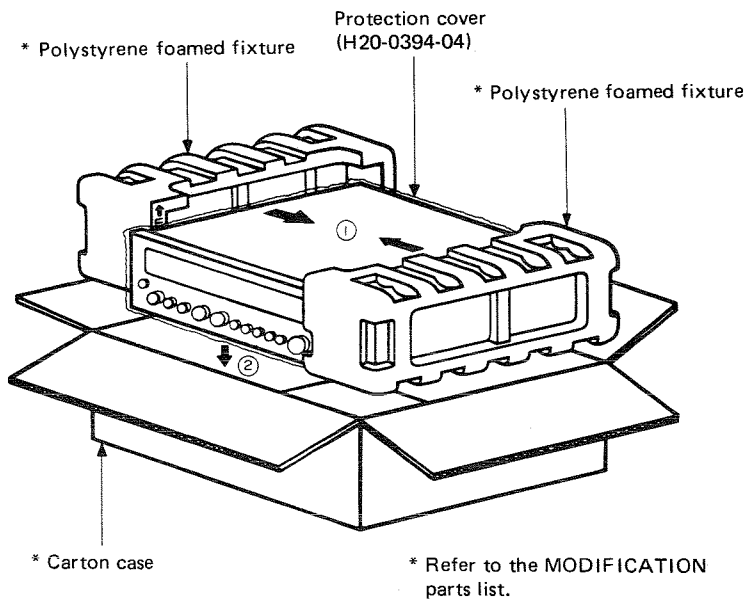
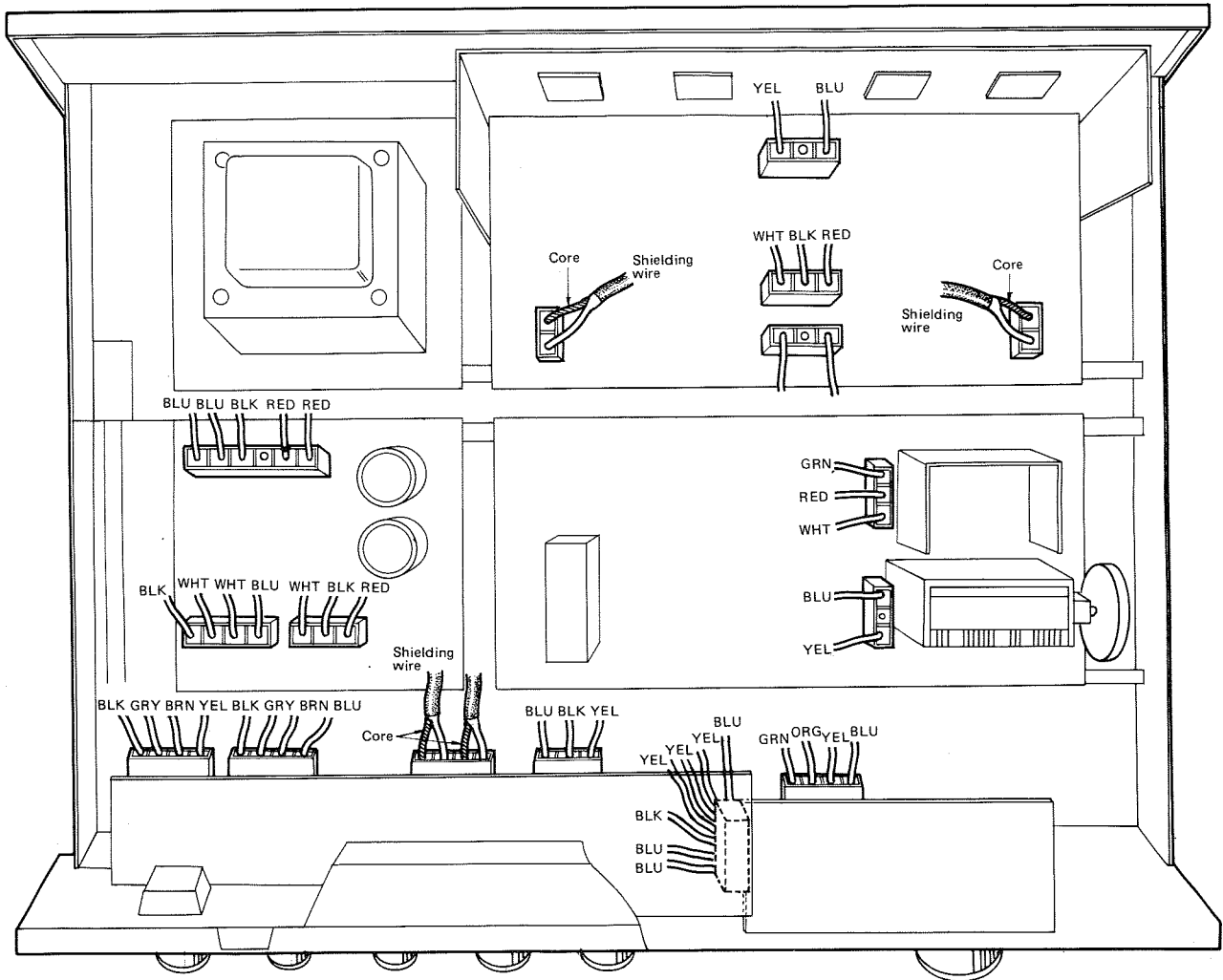
In the case of replacement of IC (RC4558T) in CONTROL unit, proceed as below.

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.

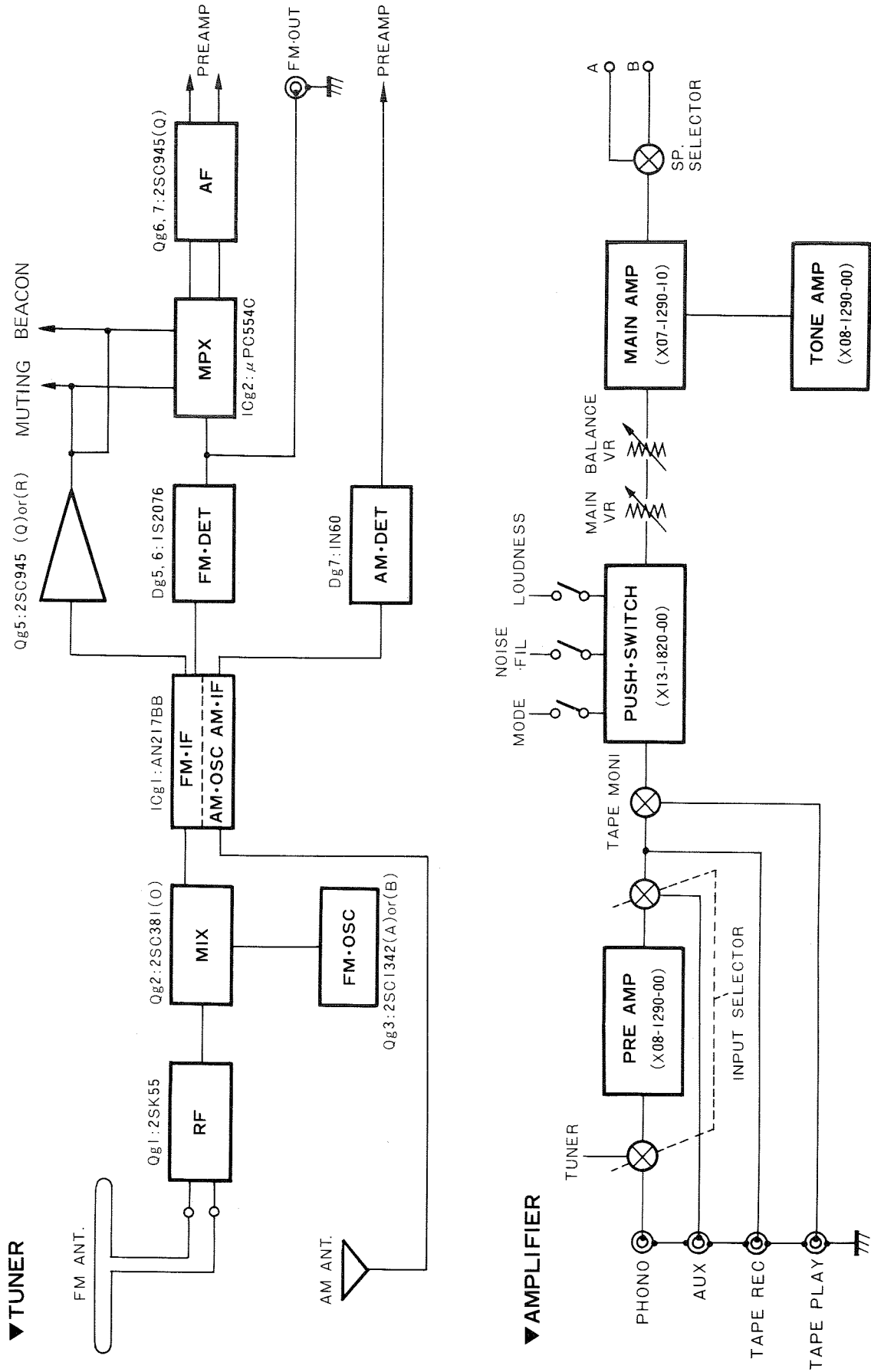


CONNECTOR/PACKING

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



BLOCK DIAGRAM

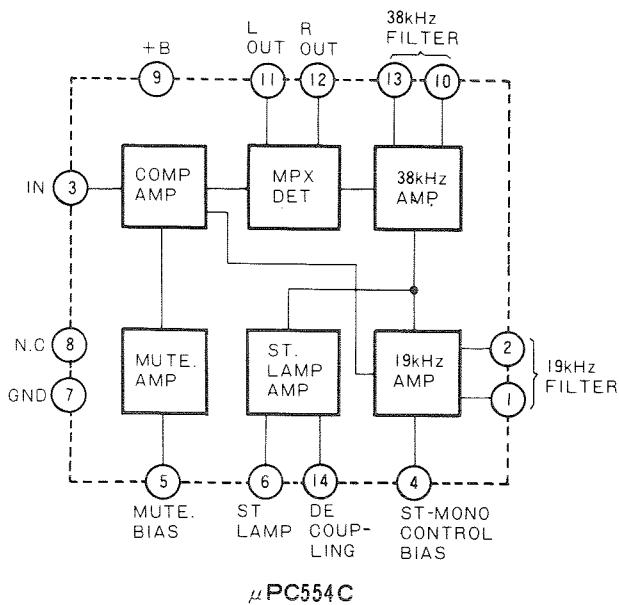
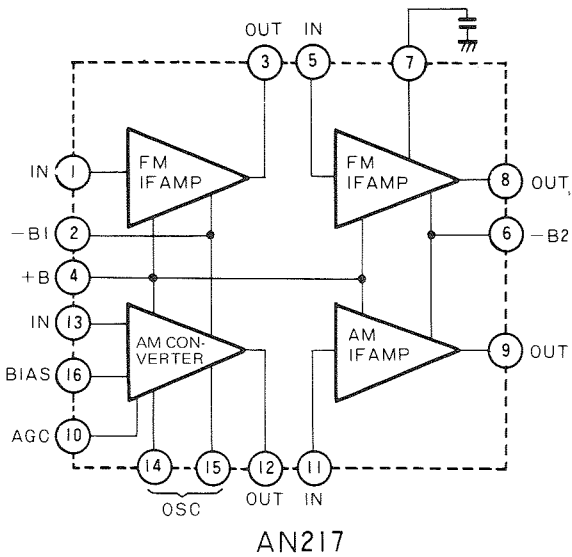


CIRCUIT DESCRIPTION

■ 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.



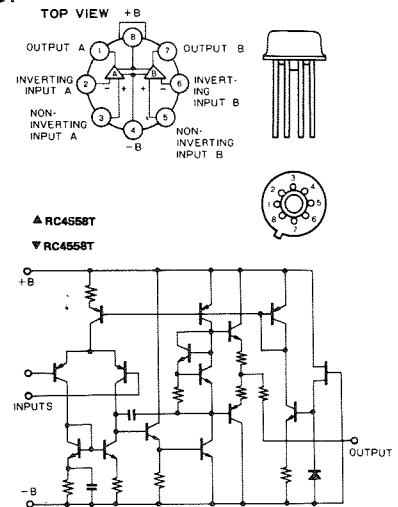
■ CONTROL AMP (X08-1290-00)

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. 100k Ω 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 \rightarrow 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)

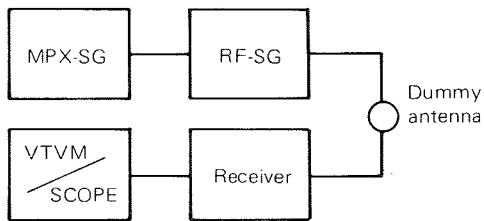


Fig. 1 Setting

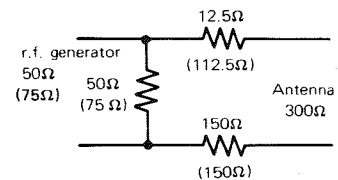


Fig. 2 Dummy Antenna

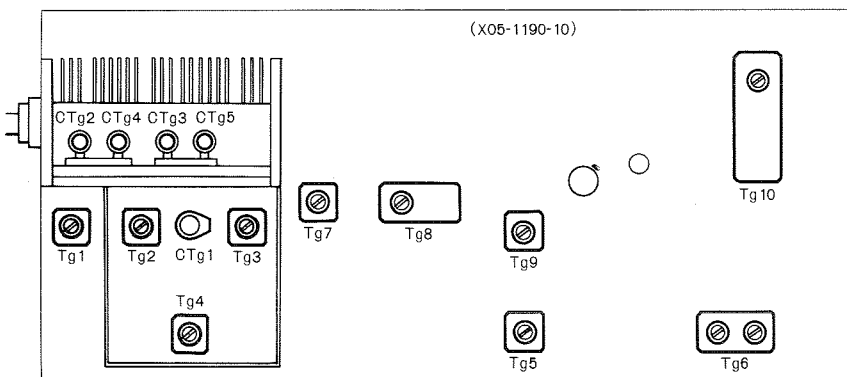


Fig. 3 Top View of PC Board

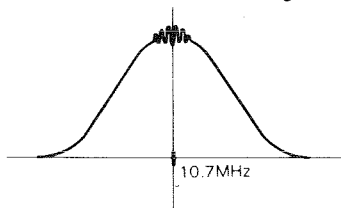


Fig. 4 IF Wave Form

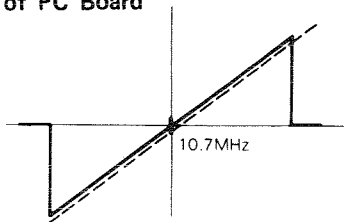


Fig. 5 DISCRI Wave Form

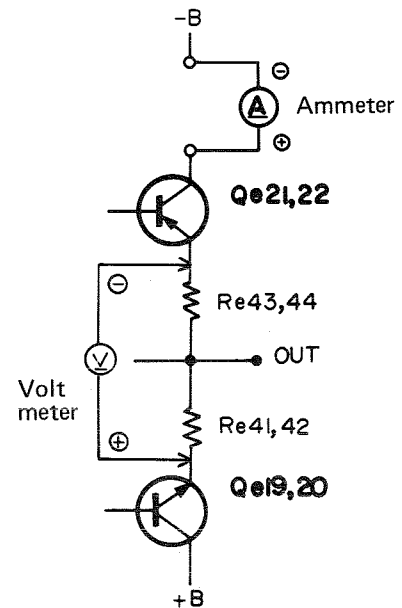


Fig. 6

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
-	B40-0979-03	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	B58-0043-00	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	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	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	H03-0339-04	H03-0339-04	H03-0338-04	H03-0337-04	H03-0337-04	Wooden side board (R)
-	-	H03-0340-04	-	H03-0340-04	H03-0342-04	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	S40-2047-05	S40-2047-05	S40-2047-05	S40-2047-05	S40-2047-05	S40-2047-05	S40-2047-05	Polystyrene foamed fixture
-	X00-1440-10	X00-1440-10	X00-1440-10	X00-1440-01	X00-1440-61	X00-1440-61	X00-1440-01	X00-1440-01	X00-1440-01	Polystyrene foamed fixture
-	X00-1450-10	X00-1450-10	X00-1450-01	X00-1450-01	X00-1450-61	X00-1450-61	X00-1450-01	X00-1450-01	X00-1450-01	Front glass stopper
-	X05-1190-10	X05-1190-10	X05-1190-10	X05-1190-10	X05-1190-61	X05-1190-61	X05-1190-10	X05-1190-41	X05-1190-10	Power switch
-	X90-1130-10	X90-1130-10	X90-1130-81	X90-1130-71	X90-1130-61	X90-1130-71	X90-1130-41	X90-1130-41	X90-1130-81	Power supply unit (KR-3400)
-	X90-1140-10	X90-1140-10	X90-1140-81	X90-1140-71	X90-1140-61	X90-1140-71	X90-1140-41	X90-1140-41	X90-1140-81	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	L09-0123-05	L09-0119-05	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	F05-1021-05	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	CC45SG1H222K	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	
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)

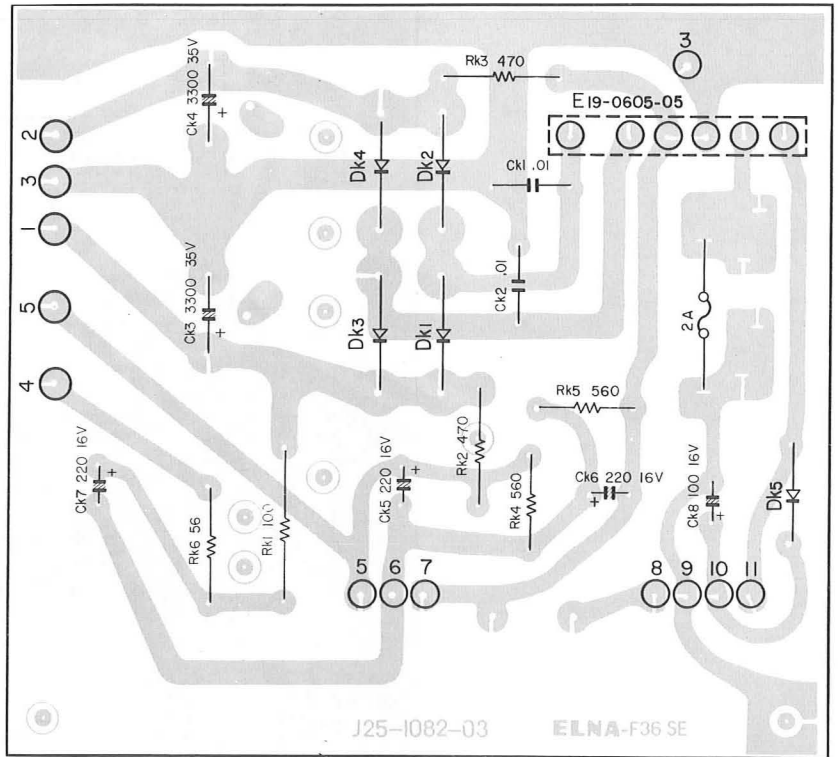
CONTROL AMP (X08-1290-00)

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	-10
Qe5, 6		Transistor 2SC1384 (Q) or (R)	-11
		Transistor 2SC1212A (C)	
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.			

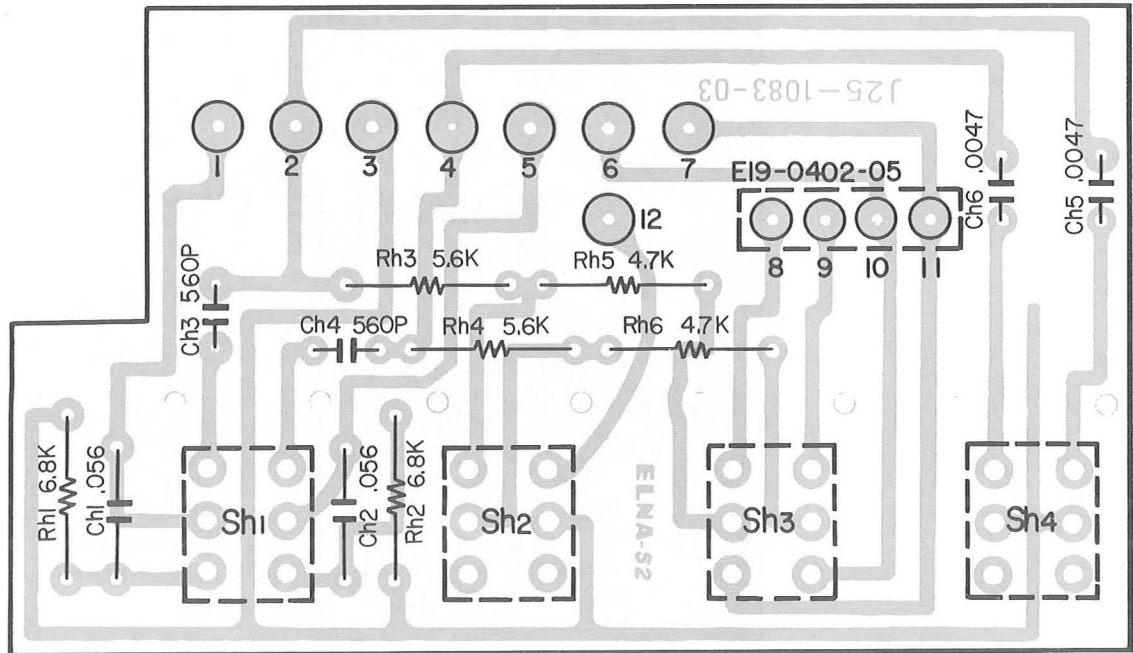
PC BOARD

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



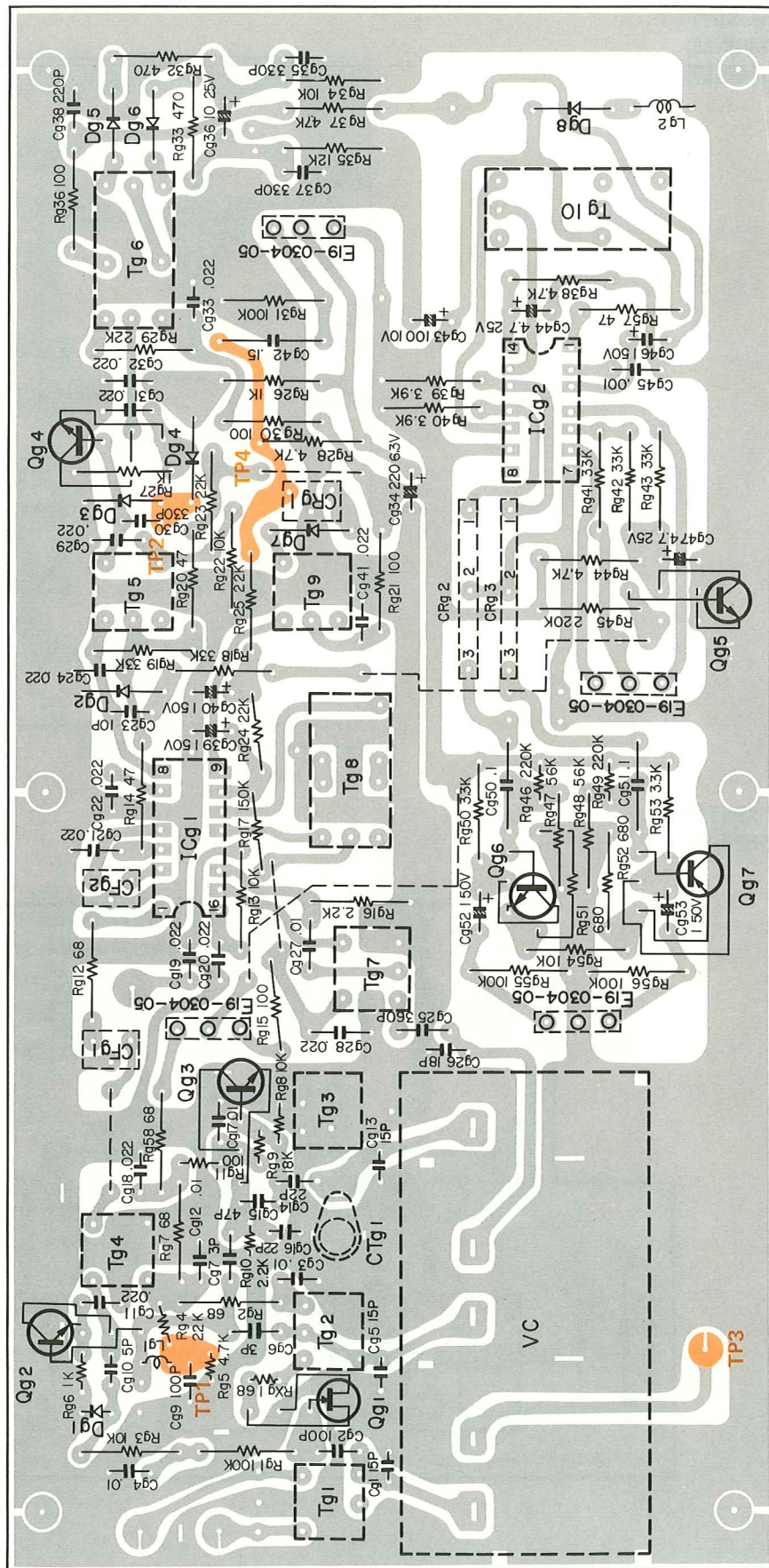
Dk1~4 : V03C, Dk5 : W06B

▶ PUSH SWITCH
(X13-1820-10)



PC BOARD

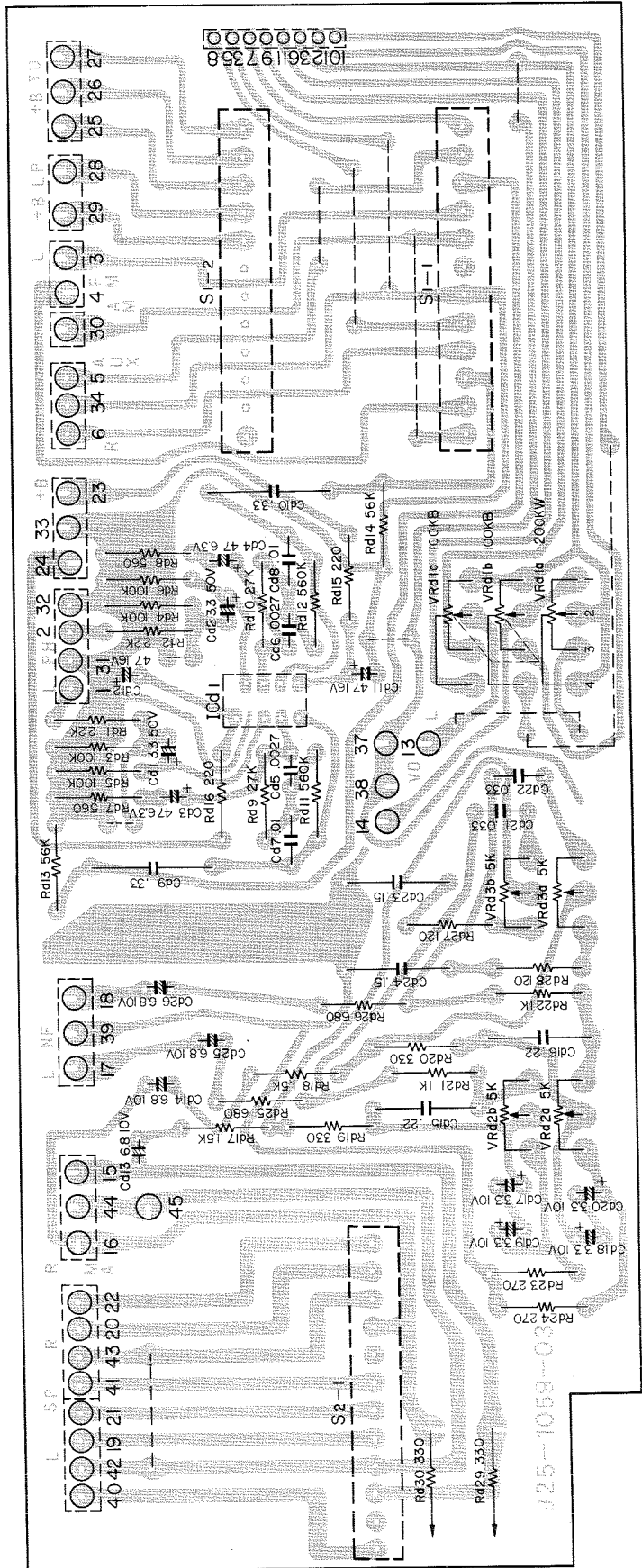
▶ TUNER (X05-1190-10)



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

PC BOARD

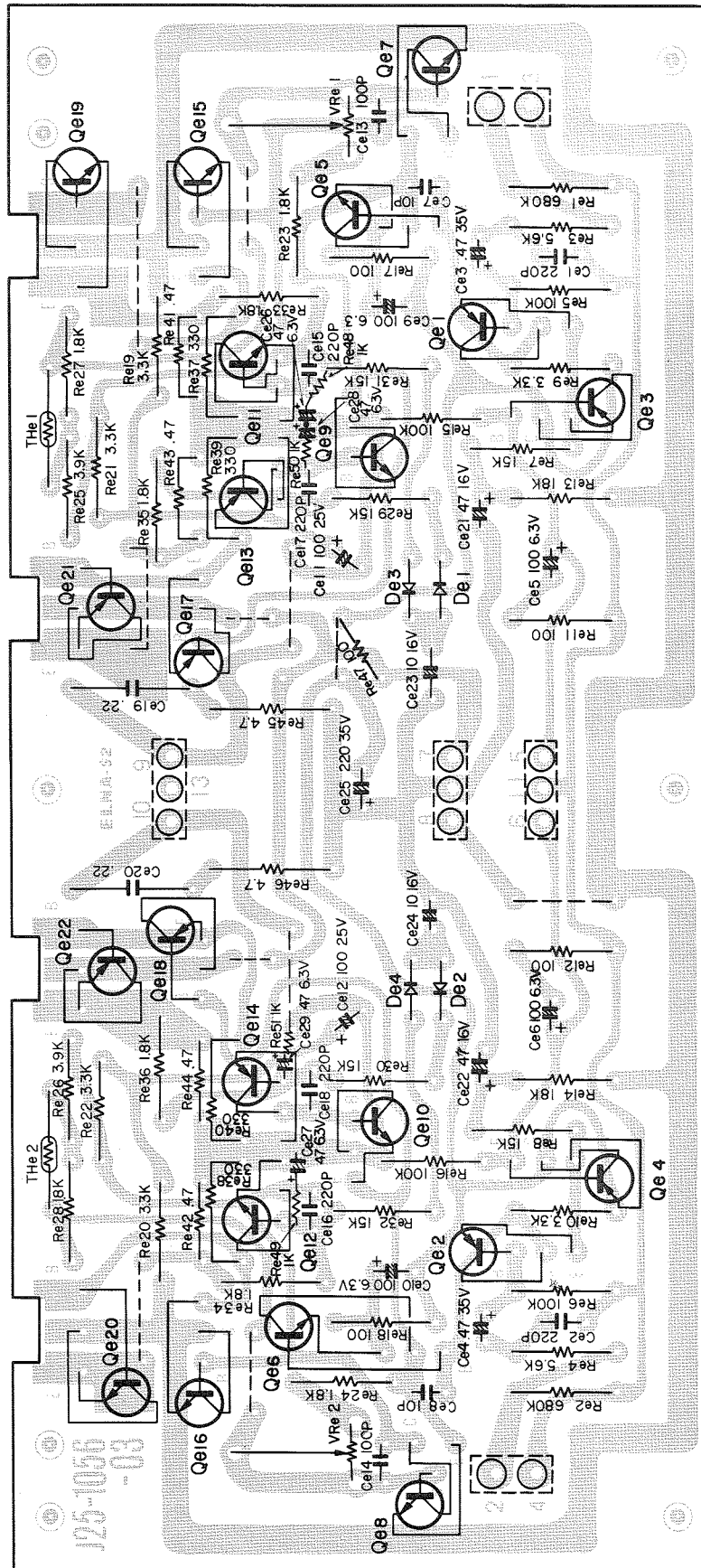
▶ CONTROL AMP
(X08-1290-00)



J25-1059-03

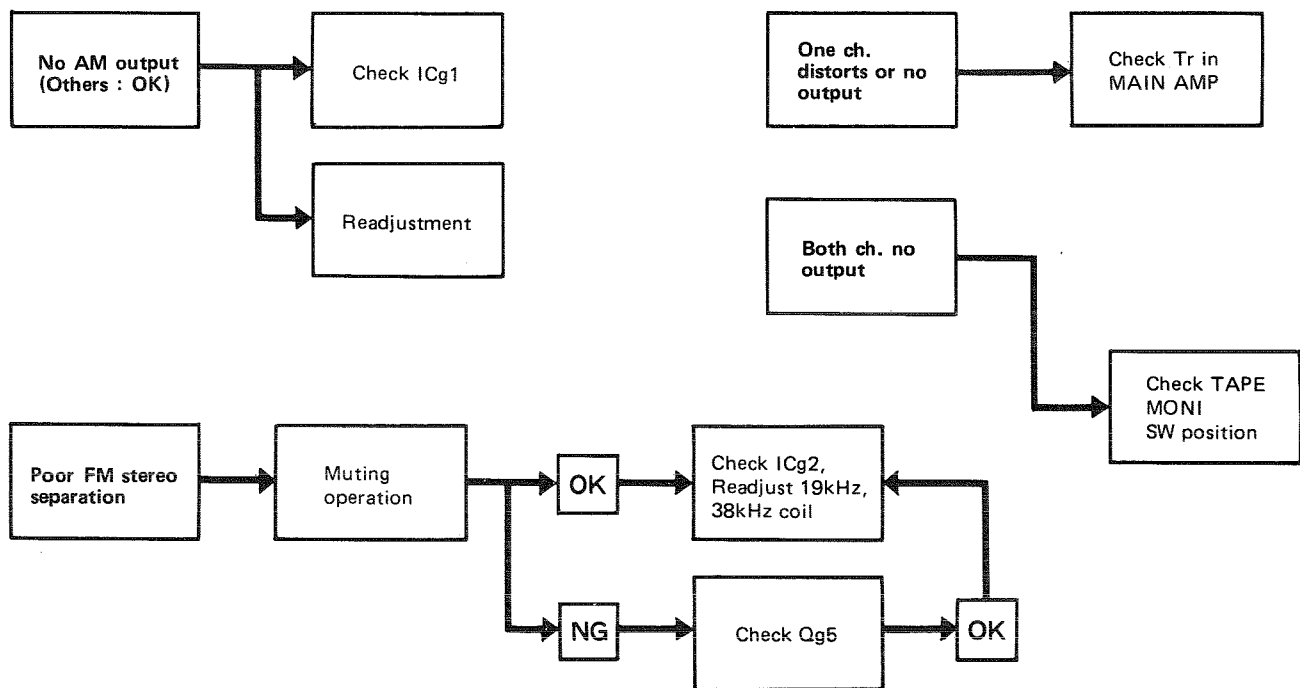
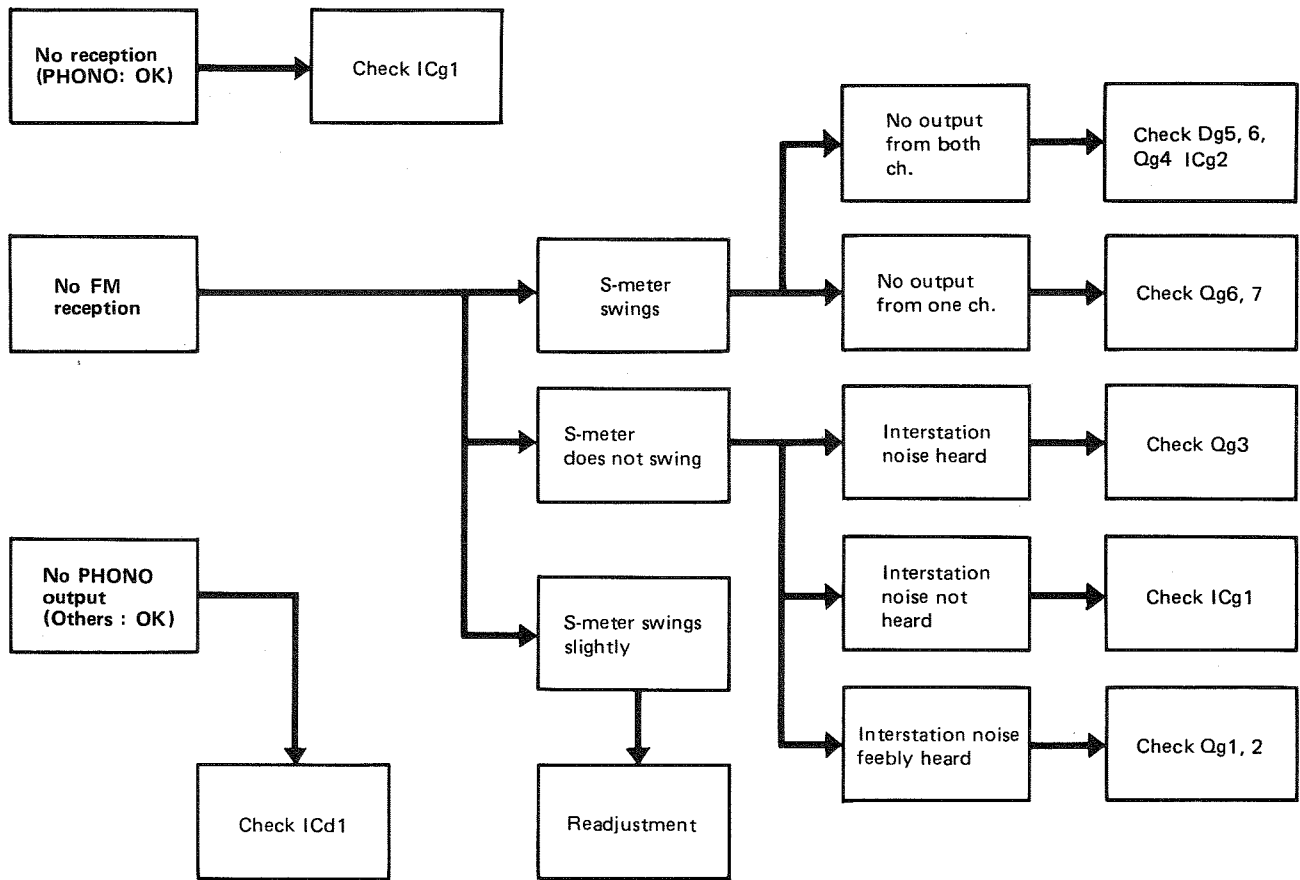
PC BOARD

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



- | | | |
|----------|--|----------------------------|
| KR-3400: | Qe1~4 : 2SA620WL5, | Qe5, 6 : 2SC1212A |
| | Qe7, 8 : 2SC1416 GR or BL, Qe9~12 : 2SC945 P or Q, | |
| | Qe13, 14 : 2SA733 Q or R, Qe15, 16 : 2SC1212A | |
| | Qe17, 18 : 2SA743 AB or C, Qe19, 20 : 2SC1444 | |
| | 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 | |

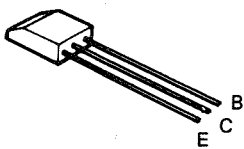
TROUBLESHOOTING



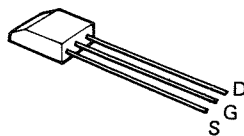
SEMICONDUCTOR SUBSTITUTIONS & LEADS

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	—

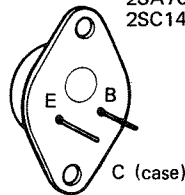
2SC1342



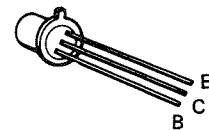
2SK55



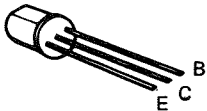
2SA764
2SC1444



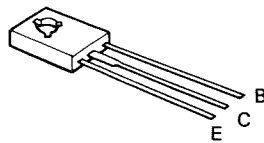
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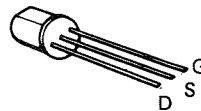
2SC381



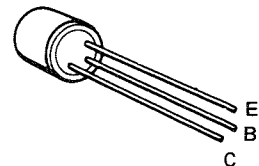
2SA743A
2SC1212A



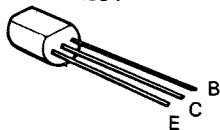
2SK19



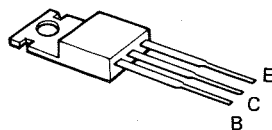
2SC1416



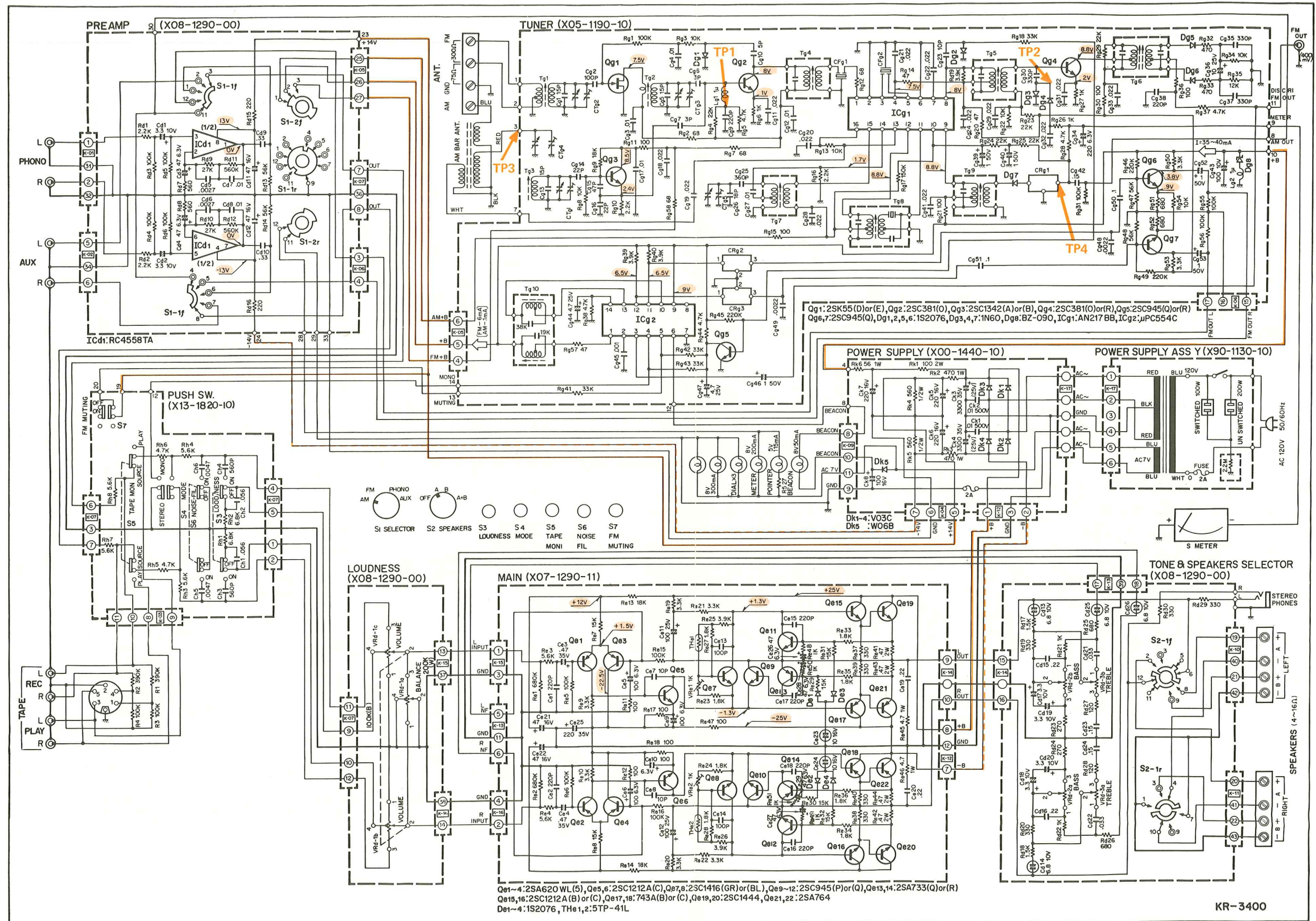
2SC1384
2SA733
2SC945
2SA684



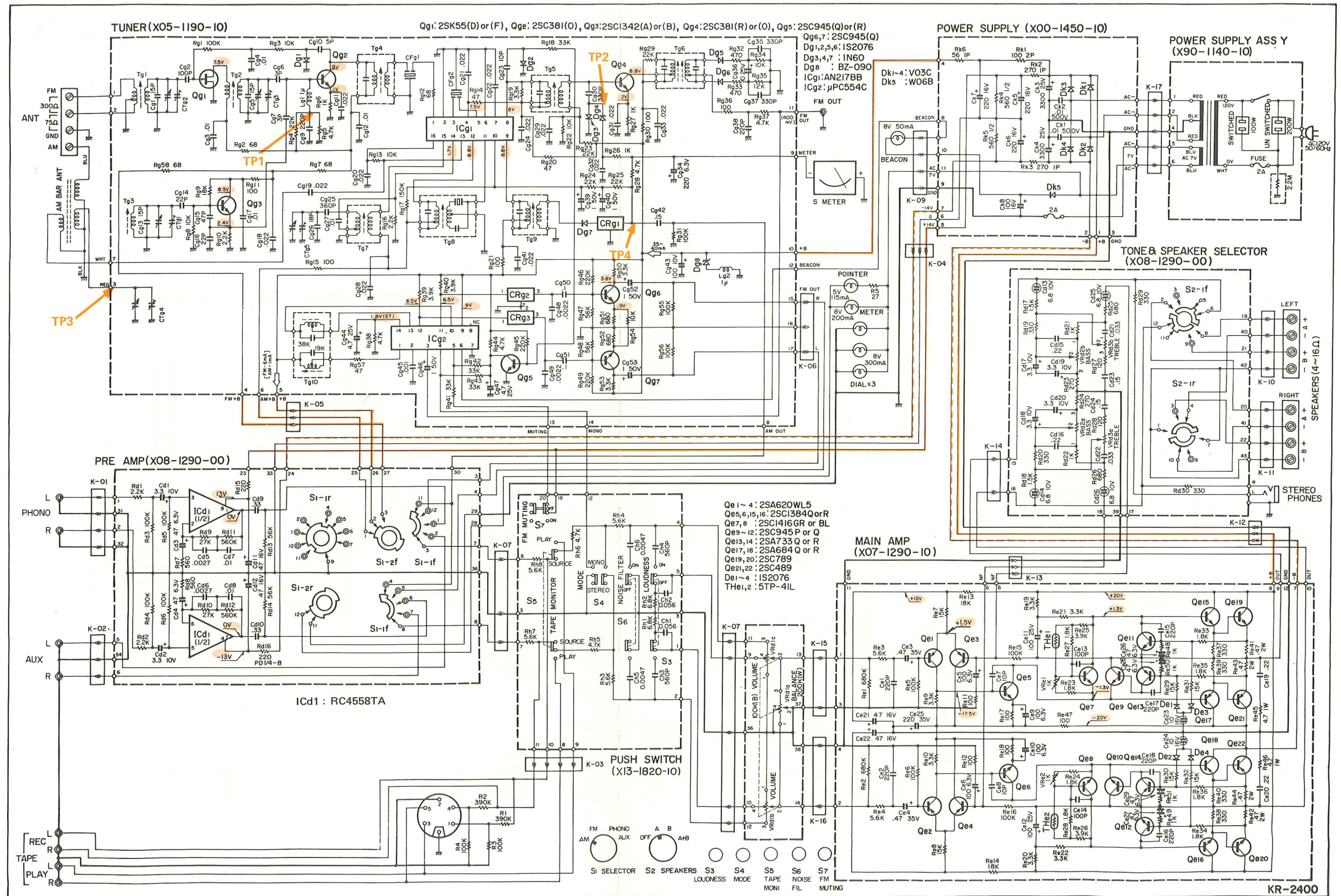
2SA489
2SC789



KR-3400 SCHEMATIC DIAGRAM

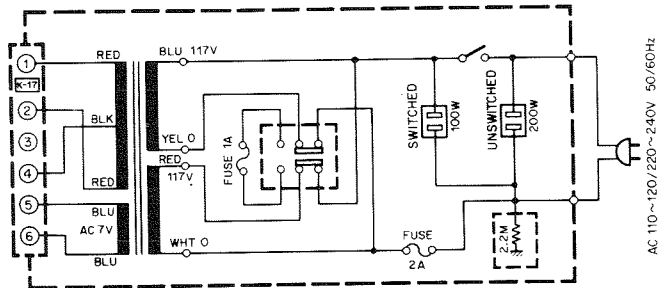


KR-2400 SCHEMATIC DIAGRAM

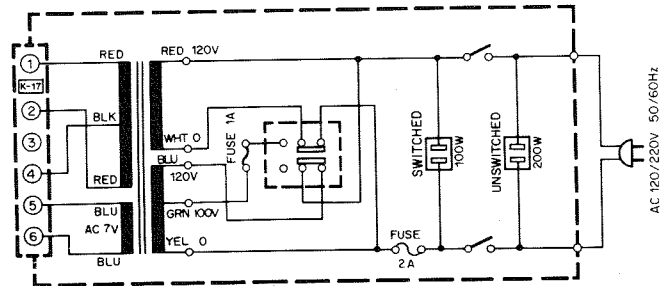


MODIFICATION OF SCHEMATIC DIAGRAM

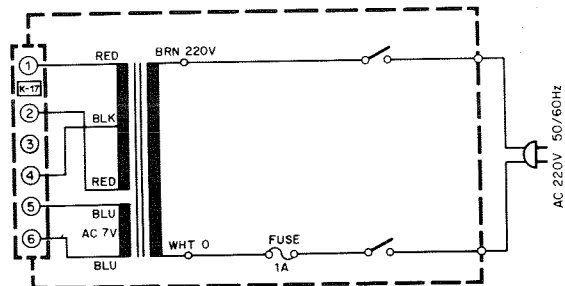
For 110~120/220~240V



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
 5 μ V 40 dB, 10 μ V 56 dB, 50 μ V 62 dB
 Frequency Response 20 Hz to 15,000 Hz + 0.5 dB
 - 2.0 dB
 Harmonic Distortion 0.4% Mono (at 400 Hz 100% modulation)
 0.6% Stereo (at 400 Hz 100% modulation)
 Signal to Noise Ratio 62 dB at 1 mV input
 Image Rejection 50 dB
 Selectivity (IHF ALT channel) 45 dB
 IF Rejection 80 dB
 Spurious Signal Rejection 75 dB
 AM Suppression 45 dB
 Capture Ratio 3.0 dB
 Stereo Separation 33 dB at 1,000 Hz
 Sub Carrier Suppression 40 dB
 Antenna Impedance 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 Both channels driven 22 watts x 2 into 8 ohms at 1,000 Hz
 29 watts x 2 into 4 ohms at 1,000 Hz
 Dynamic Power Output 65 watts into 8 ohms
 82 watts into 4 ohms
 Total Harmonic Distortion 0.8% at rated power into 8 ohms
 0.1% at 1/2 rated power into 8 ohms
 Inter Modulation Distortion 0.8% at rated power into 8 ohms
 (60 Hz : 7 kHz = 4 : 1)
 Power Bandwidth 0.1% at 1/2 rated power into 8 ohms
 Signal to Noise Ratio at 50 mW 10 Hz to 30,000 Hz
 Damping Factor 50 dB
 Speaker Impedance 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
 150 mV, 45 Kohms
 Maximum Input Voltage (rms)
 Phono 110 mV T.H.D. 0.8% at 1,000 Hz
 Phono 70 dB
 AUX 87 dB
 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
 -9.0 dB at 10,000 Hz

GENERAL

Switches
 Speaker Selector OFF, A, B, A + B
 Input Selector AM-FM-PHONO-AUX
 Mode MONO-STEREO
 Tape Monitor PLAY-SOURCE
 Others NOISE FILTER, FM MUTING, LOUDNESS, PHONES JACK
 AC Outlets Switched 1, Unswitched 1
 Power Consumption 145 watts at full power
 25 watts at no signal
 Dimensions W 18-15/16" (480mm), H 5-3/8" (137 mm)
 D 13-9/16" (344 mm)
 Weight 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	3.0 dB
Antenna Impedance	33 dB at 1,000 Hz
	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	Both channels driven
Dynamic Power Output	16 watts x 2 into 8 ohms at 1,000 Hz 20 watts x 2 into 4 ohms at 1,000 Hz 42 watts into 8 ohms 62 watts into 4 ohms
Total Harmonic Distortion	1.0% at rated power into 8 ohms 0.1% at 1/2 rated power into 8 ohms at 1,000Hz
Inter Modulation Distortion (60 Hz : 7 kHz = 4 : 1)	1.0% at rated power into 8 ohms 0.1% at 1/2 rated power into 8 ohms
Power Bandwidth	10 Hz to 30,000 Hz
Signal to Noise Ratio at 50 mW	50 dB
Damping Factor	30 at 8 ohms
Speaker Impedance	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 -9.0 dB at 10,000 Hz
Noise Filter	

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 25 watts at no signal
Dimensions	W 18-15/16" (480mm), H 5-3/8" (137 mm), D 13-9/16" (344 mm)
Weight	18.1 lbs. (8.2 kg) 15.8 lbs. (7.2 kg)
	Units shipped to the European and the Scandinavian Countries.

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- 6056 HEUSENSTAMM, AM GOLDBERG 5, WEST GERMANY.

TRIO ELECTRONICS, INC.

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