KENWOOD

HI/FI STEREO COMPONENTS

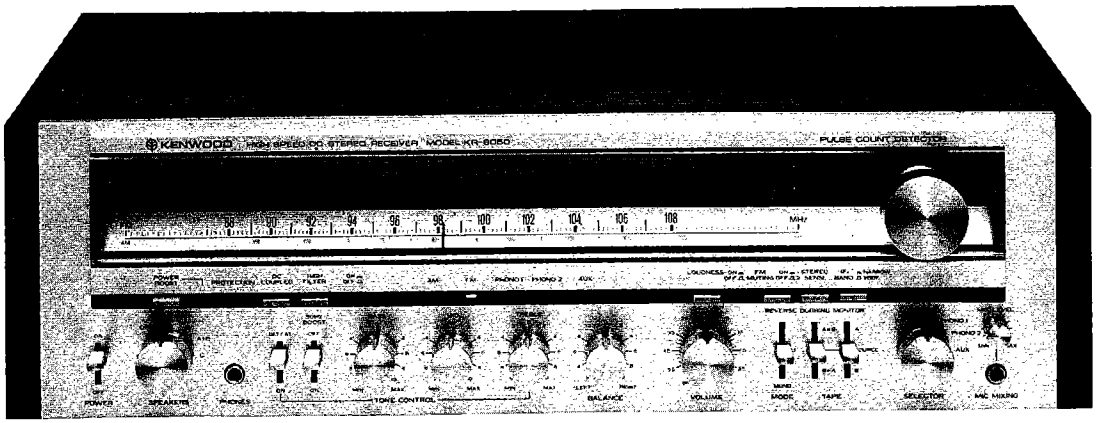
SERVICE MANUAL

KR-8050
(KR-8850)

An item of adjustment is written in three languages — English, French and German.

Un article sur réglages est écrit en trois langues, Anglais, Français et Allemand.

Ein Artikel der Abgleich wird auf drei Sprachen, Englische, Französisch und Deutsch geschrieben.



HIGH SPEED DC STEREO RECEIVER

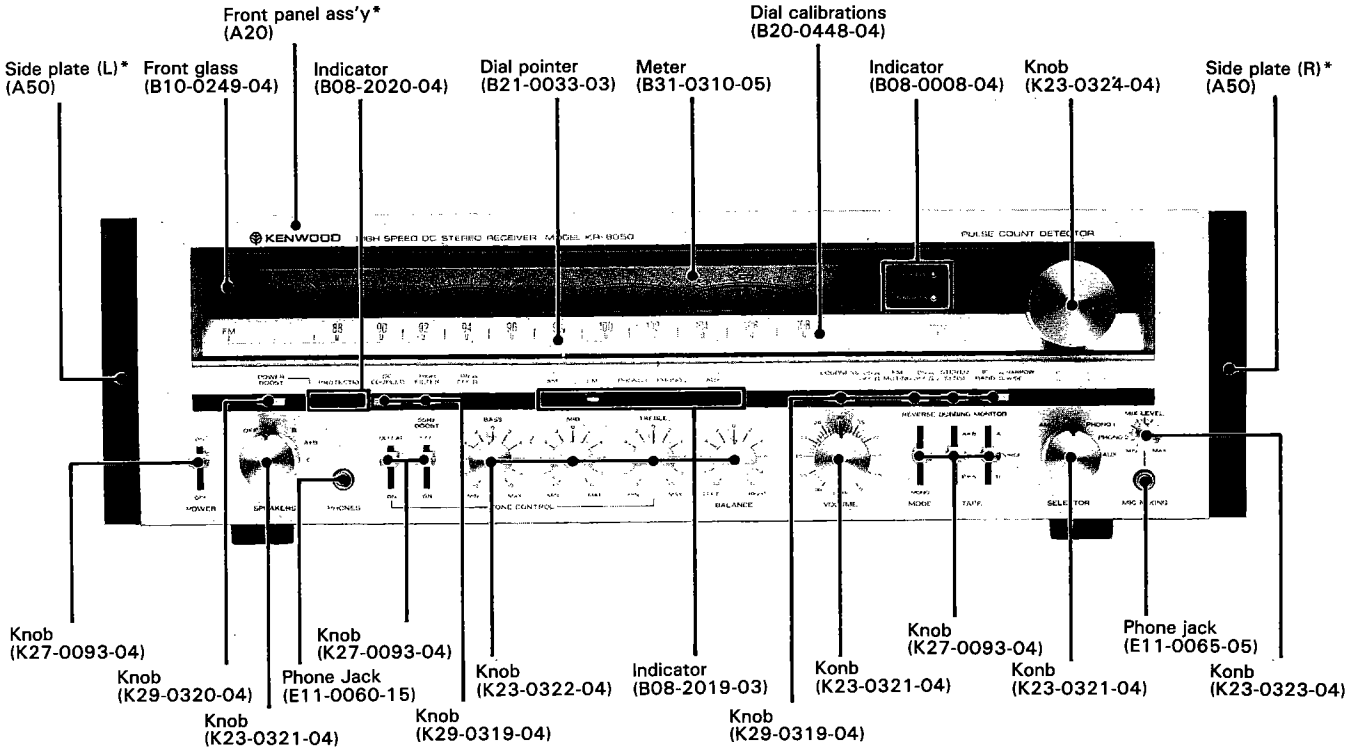
CONTENTS

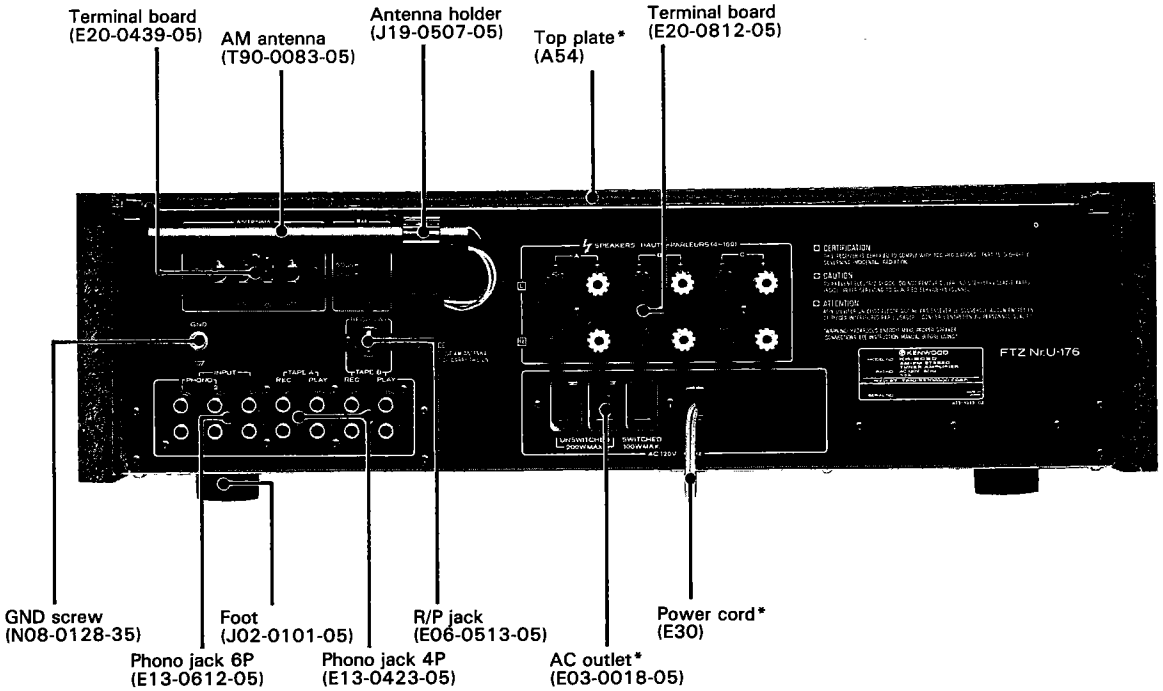
Note:

Component and circuitry are subject to modification to insure best operation under differing local conditions. This manual is based on the U.S. (K) standard, and provides information on regional circuit modification through use of alternate schematic diagrams, and information on regional component variations through use of parts list.

Region	Code
U.S.A.	K
Canada	P
PX	U
Australia	X
Europe & Scandinavia	E
England	T
Other Areas	M
Audio Club (KR-8850)	H

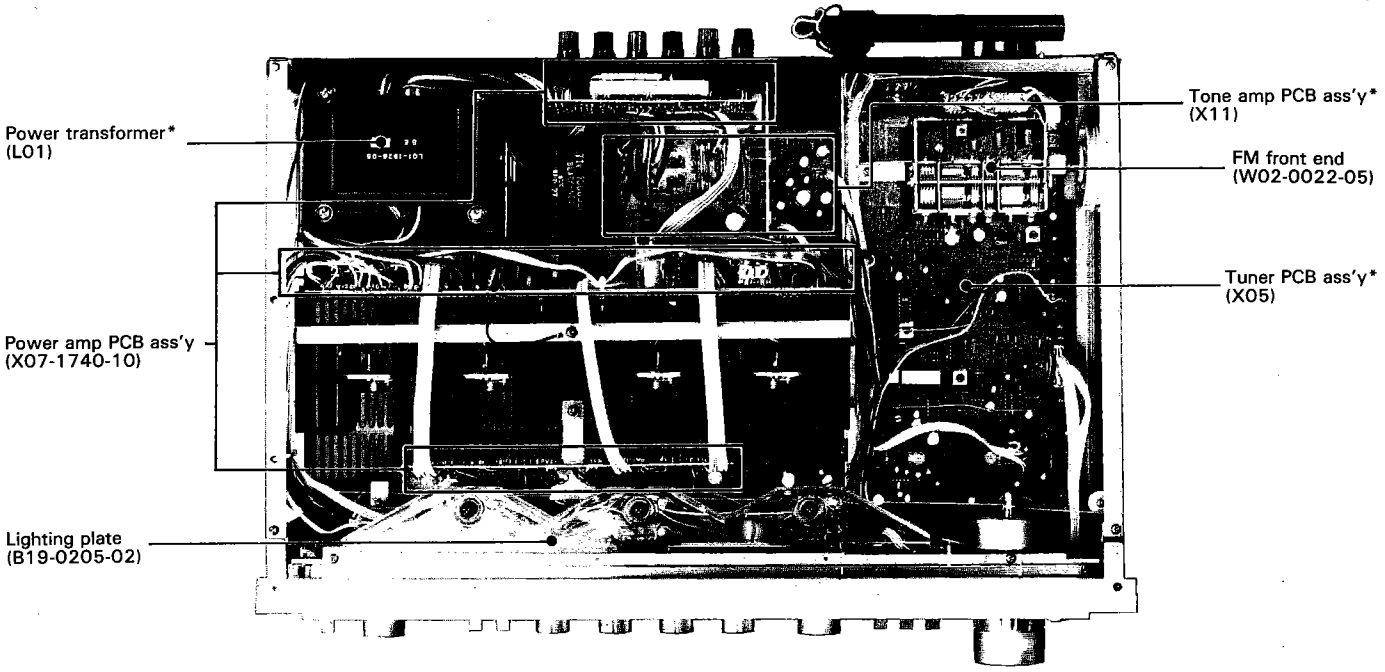
EXTERNAL VIEW





* Refer to Parts List.

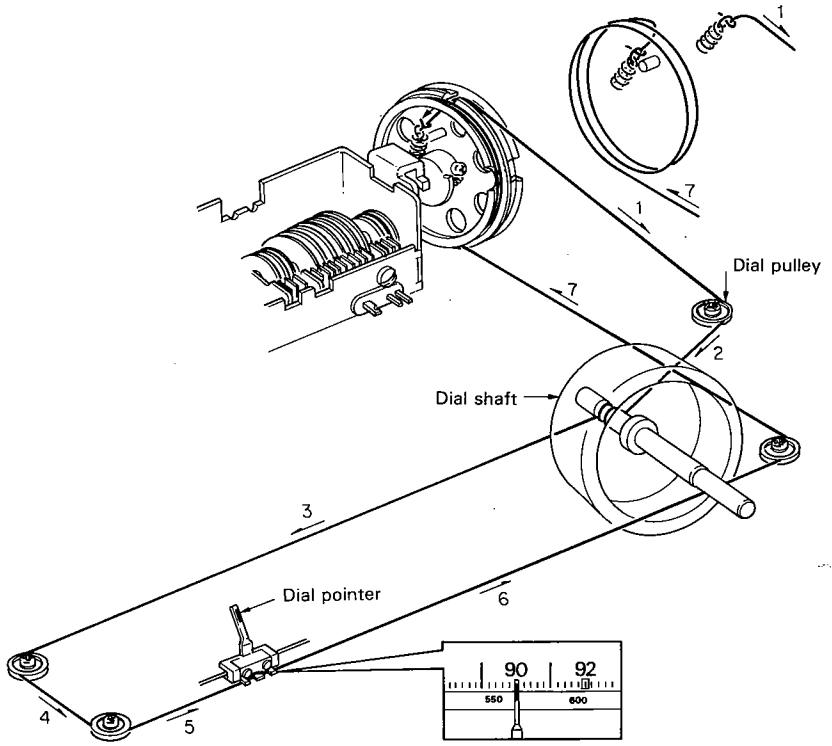
INTERNAL VIEW / DIAL CORD STRINGING



* Refer to Parts List.

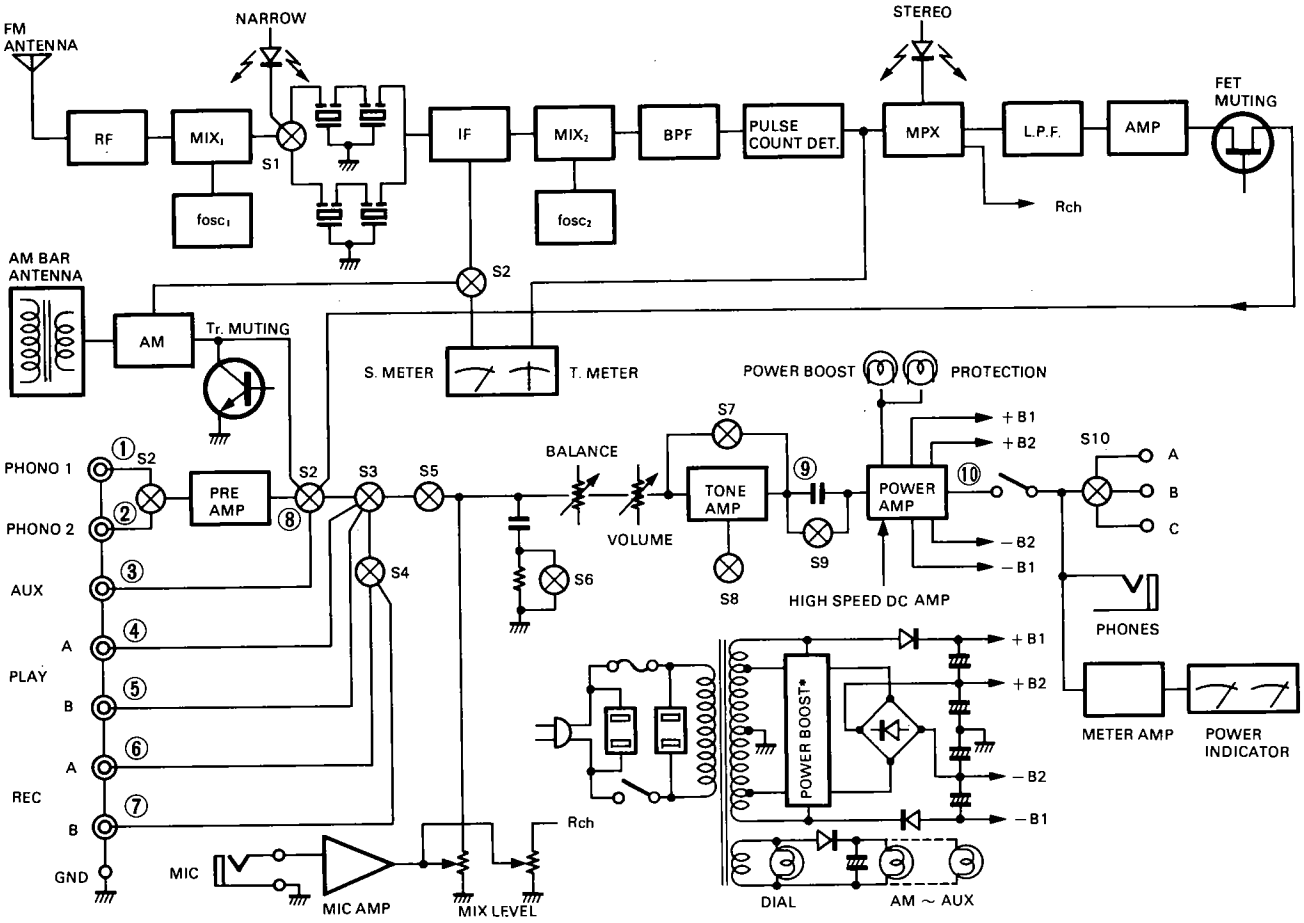
DIAL CORD STRINGING

1. Set the dial pulley as illustrated.
2. Tie the dial cord to the dial spring.
3. Hook the dial spring on the boss A.
4. Dress the dial cord in the direction of "1" to "2".
5. Wind the dial cord two turns around the dial shaft starting from its lower side.
6. Dress the dial cord in the direction of "3" through "7".
7. Wind the dial cord two and a half turns around the dial pulley starting from its lower side.
8. Tie the end of the dial cord to the dial spring.
9. Remove the dial spring from the boss A.
10. Receive a 90 MHz signal, and then mount the dial pointer at the 90 MHz position of the dial calibrations.



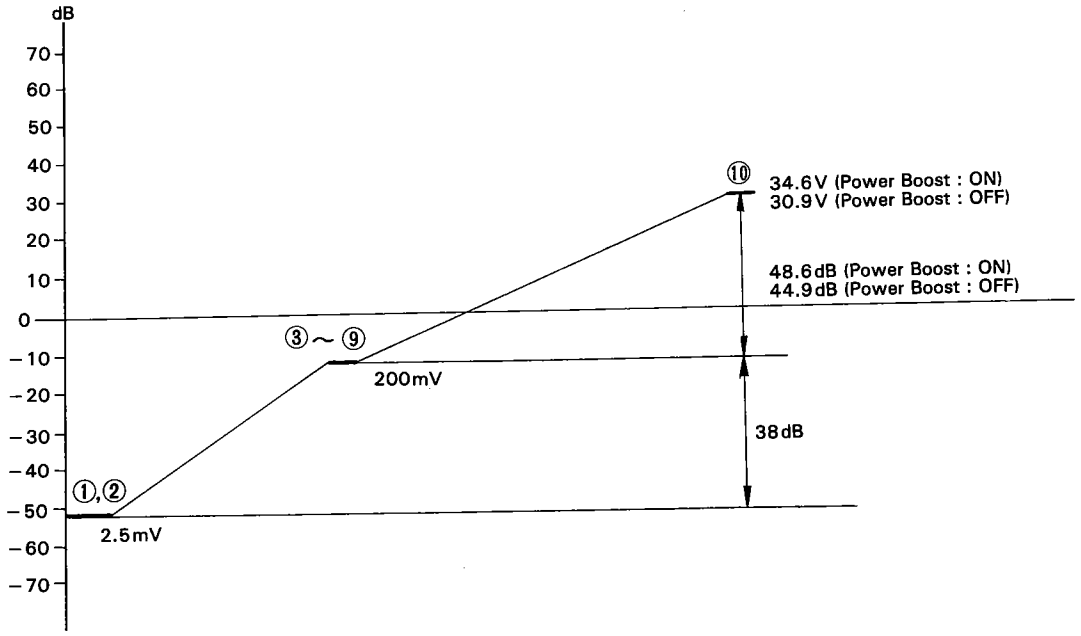
BLOCK & LEVEL DIAGRAM

BLOCK DIAGRAM

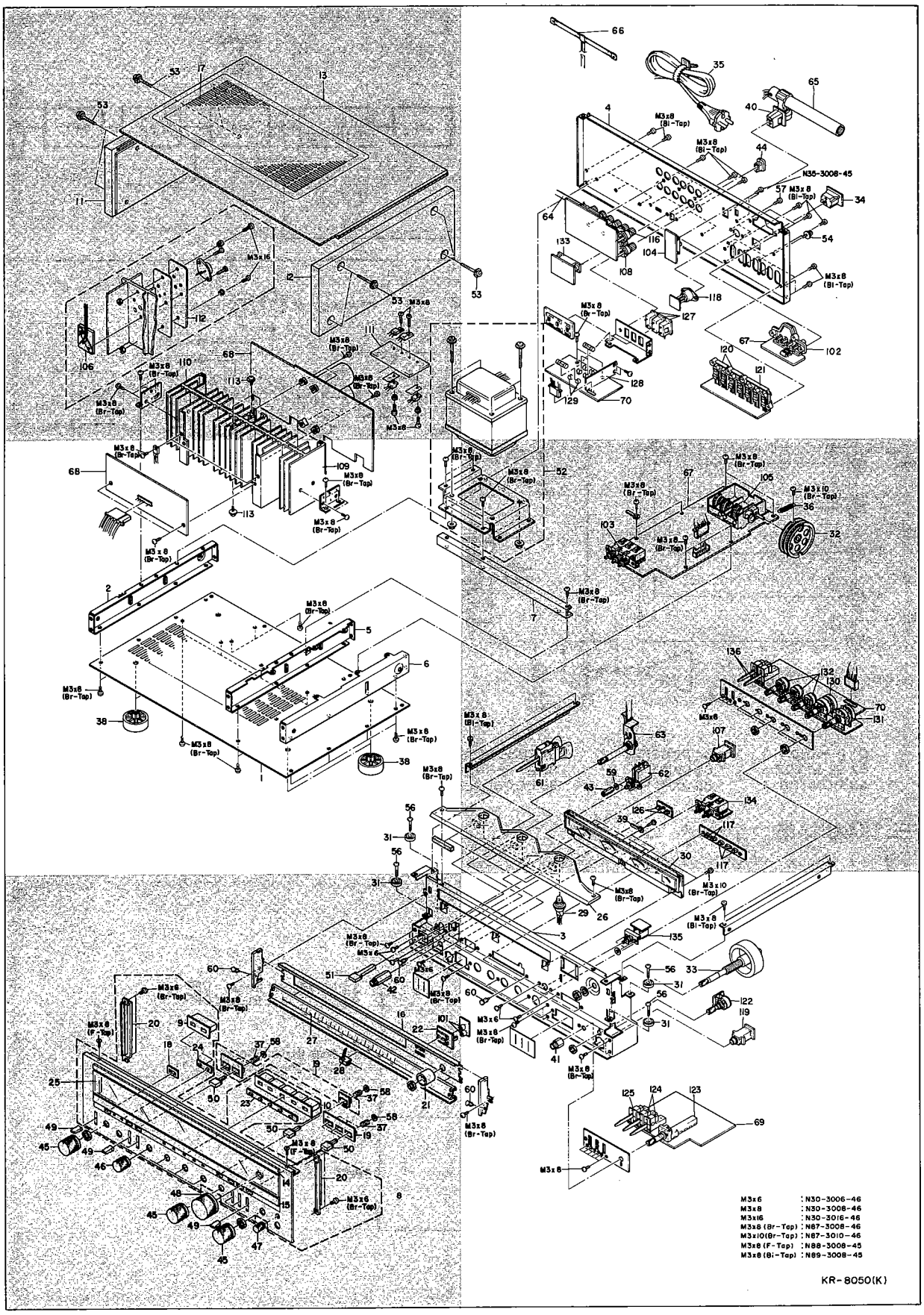


S1 IF BAND
S2 SELECTOR
S3 MONITOR
S4 DUBBING
S5 MODE
S6 HIGH FILTER
S7 TONE DEFEAT
S8 50 Hz BOOST
S9 DC COUPLED
S10 SPEAKERS

LEVEL DIAGRAM



EXPLODED VIEW



ADJUSTMENT (AMP)/RÉGLAGES (AMPLI)/ABGLEICH (VERSTÄRKER)

1. OFFSET VOLTAGE

(1) Set the SPEAKERS switch to A and the VOLUME to MIN.
(2) Connect a DC voltmeter to the SPEAKERS A terminals.
(3) Adjust VR1 (VR2) for a 0 V reading of the DC voltmeter.

2. BIAS CURRENT

(1) Set the VOLUME to MIN.
(2) Connect the DC voltmeter between the emitters of Q23 and Q25. (Q24 and Q26)
(3) Adjust VR3 (VR4) for an 17.6 mV reading of the DC voltmeter.

1. TENSION DE DÉCALAGE (OFFSET)

(1) Régler SPEAKERS interrupteur au A et VOLUME au MIN.
(2) Brancher le voltmètre de C.C. aux bornes de sortie + et −.
(3) Régler VR1 (VR2) de façon à ce que le voltmètre de C.C. indique 0 V.

2. COURANT DE DEPLACEMENT

(1) Régler VOLUME au MIN.
(2) Brancher le voltmètre de C.C. sur l'émetteur de Q23 et Q25. (Q24 et Q26)
(3) Régler VR3 (VR4) de façon à ce que le voltmètre de C.C. indique 17,6 mV.

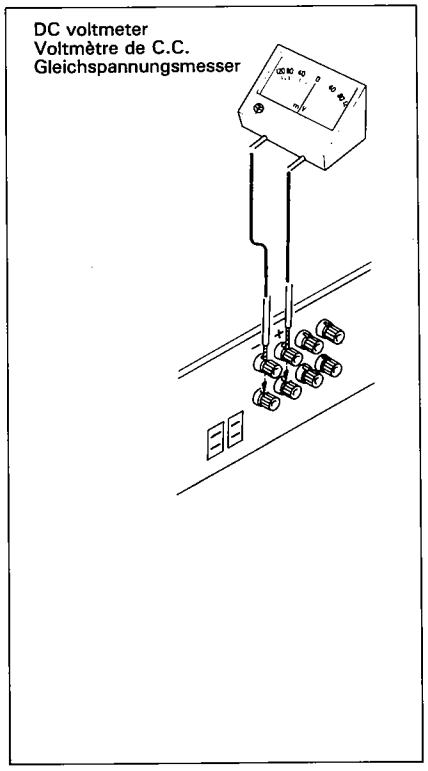
1. OFFSET-SPANNUNG

(1) Den Schalter SPEAKERS auf A und den VOLUME auf MIN einstellen.
(2) Einen Gleichspannungsmesser an die Klemmen SPEAKERS A anschließen.
(3) Den VR1 (VR2) so regulieren, daß die Gleichspannungsmesser-Ablesung 0 V ist.

2. LEERLAUFSTROM

(1) Den VOLUME auf MIN einstellen.
(2) Den Gleichspannungsmesser zwischen der Emitter von Q23 und der Emitter von Q25. (Q24 und Q26).
(3) Den VR3 (VR4) so regulieren, daß die Gleichspannungsmesser-Ablesung 17,6 mV ist.

1.



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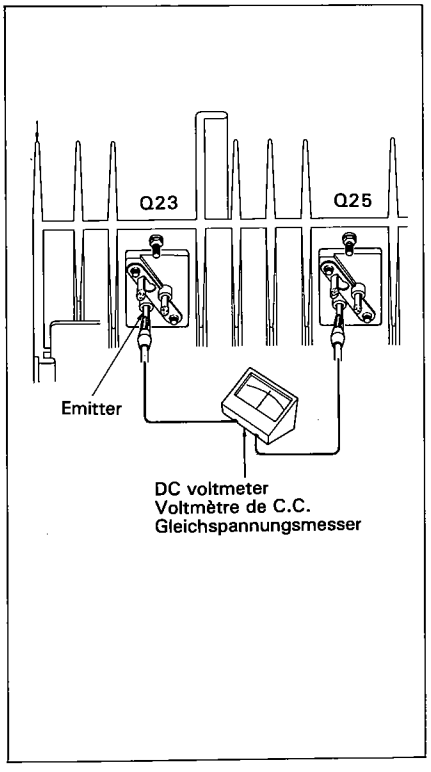
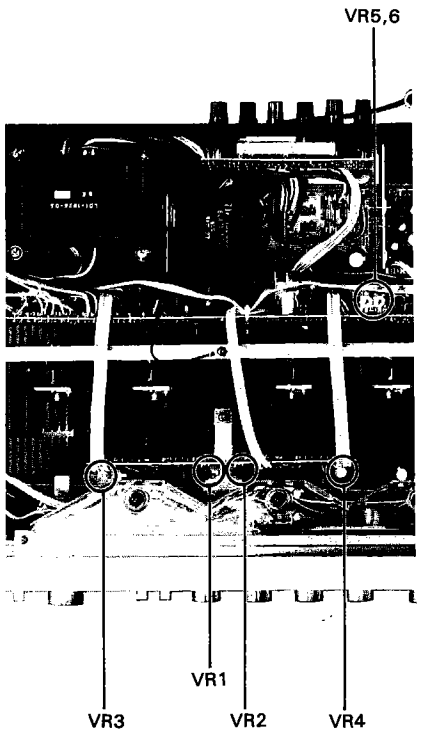




ADJUSTMENT (AMP)/RÉGLAGES (AMPLI)/ABGLEICH (VERSTÄRKER)

3. POWER METER

(1) Set the TAPE switch to A PLAY and the SPEAKERS switch to A.
(2) Connect an AG to the TAPE A jack and a dummy load to the SPEAKERS A terminals.
(3) Connect an AC voltmeter across the dummy load.
(4) Set the AG to 1 kHz and for a 4.9 V reading of the AC voltmeter.
(5) Adjust VR5(VR6) for a 3 W reading of the left power meter (right power meter).

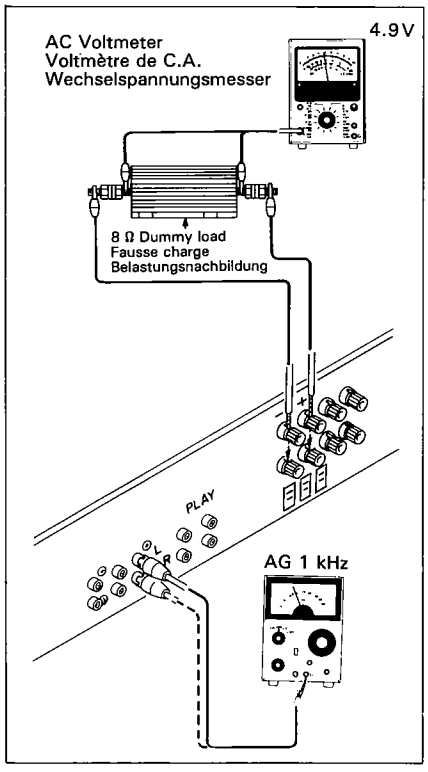
3. VU MÈTRE

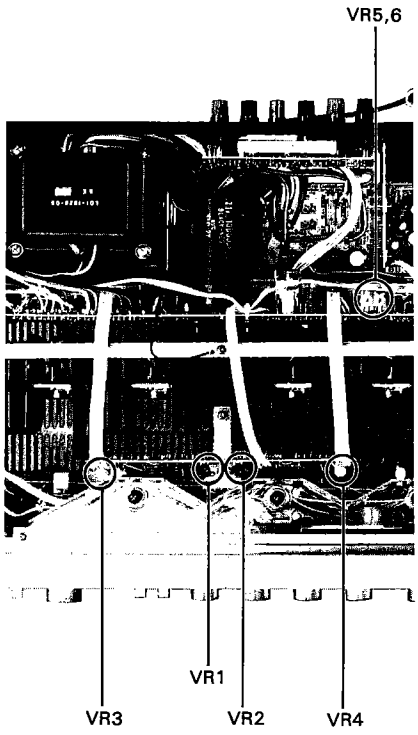
(1) Régler TAPE interrupteur au A PLAY et SPEAKER interrupteur au A.
(2) Relier un AG (générateur de signaux audio) sur les TAPE A et une fausse charge (resistance) sur les sortie de ampli-tuner (SPEAKER).
(3) Relier un voltmètre de C.A. aux deux extremites de la resistance (ou aux borne de sortie + et −).
(4) Régler le potentiomètre ajustable VR5 (VR6) en sortie que le VU mètre indique 3 W lorsque le voltmètre indique 4,9 V.

3. LEISTUNGSMESSER (POWER METER)

(1) Den Schalter TAPE auf A PLAY und den Schalter SPEAKERS auf A einstellen.
(2) Einen AG (NF-Signalgenerator) an die Buchse TAPE A und eine Belastungsnachbildung an die klemmen SPEAKERS A anschließen.
(3) Einen Wechselspannungsmesser über die Belastungsnachbildung anschließen.
(4) Den AG auf 1 kHz einstellen.
(5) Die Lautstarkeregler (VOLUME) und/oder den AG-Ausgang so einstellen, daß die Wechselspannungsmesser-Ablesung 4,9 V ist.
(6) Den VR5 (VR6) so regulieren, daß die linke Leistungsmesser-Ablesung (rechte Leistungsmesser-Ablesung) 3 W ist.

3.





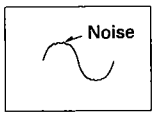
ADJUSTMENT (TUNER)

Set MUTING switch to OFF, MODE switch to STEREO.

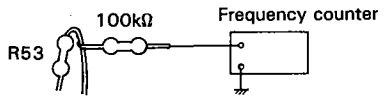
NO.	ALIGNMENT	TEST EQUIPMENTS		RECEIVER SETTING	OUTPUT INDICATOR	ADJUSTMENT POINTS	REMARKS
		CONNECTION	SETTING				
FM							
1a	T METER (1)	Ⓐ	95MHz 1kHz, ±150kHz Dev 40dB (Receiver input)	95MHz NARROW	Ⓑ	–	*1
1b	T METER (2)	ditto	Same as above except set receiver input level to 80dB.	95MHz WIDE	T meter	L3	T meter pointer to be center.
2	VCO	ditto	95MHz 0 Dev 60dB (Receiver input)	ditto	Frequency counter to the crosspoint of R53 and VR2 via a 100kΩ resistor. *2	VR2	76kHz ±76Hz
3	STEREO SENSITIVITY	Ⓒ	95MHz, 1kHz ±68.25kHz Dev SELECTOR: L or R Pilot: ON (±6.75kHz Dev) 20dB (Receiver input)	ditto	STEREO indicator	VR1	LED lights
4	PILOT CANCEL	ditto	95MHz 60dB (Receiver input) Pilot: ON (±6.75kHz Dev)	ditto	Ⓑ	VR3	Minimum output
5	IFT	ditto	95MHz, 1kHz ±68.25kHz Dev SELECTOR: L or R Pilot: ON (±6.75kHz Dev) 60dB (Receiver input)	ditto	ditto	T1 (W02-0022-05)	Minimum distortion
6	SEPARATION	ditto	ditto	ditto	ditto	VR4	*3
AM							
①	IFT	Ⓓ	1,000kHz 400Hz, 30% Mod	1,000kHz	Ⓑ	L15	Maximum deflection
②	TRACKING (1)	ditto	600kHz 400Hz, 30% Mod	600kHz	ditto	L14 AM antenna	ditto
③	TRACKING (2)	ditto	1,400kHz 400Hz, 30% Mod	1,400kHz	ditto	TC1, TC2	ditto
④	9kHz FILTER	ditto	1,000kHz 9kHz, 30% Mod	1,000kHz	ditto	L17	Minimum deflection

*** 1**

Adjust the tuning knob so that the same amount of noise is observed at the top and bottom of the output waveform with a weak signal.



*** 2**



*** 3 Minimum output**

A compromise adjustment may be required if left-to-right and right-to-left separations are unequal.

*** 4 FM front end**

The FM front end section is completely adjusted in the factory and further adjustment is not necessary. When the transistor and/or FET are replaced, perform the following adjustment.

(1) Set FM-SG to 108 MHz, 1 kHz Mod, ±75 kHz Dev and connect it to the antenna terminal of the receiver.
(2) Set the dial pointer at 108 MHz.
(3) Adjust TCO so that T meter gives a mid-scale reading.
(4) Adjust TCA, TCR1 and TCR2 so that S meter deflects maximum.

When the FM front end section cannot be repaired by replacing semiconductors and taking steps in "(1)~(4)", replace the front end PCB ass'y (W02-0022-05) and do the following.

(1) Set FM-SG to 90 MHz, 1 kHz Mod, ±75 kHz, 60 dB and connect it to the antenna terminal of the receiver.
(2) Receive the FM-SG signal.
(3) Fix the dial pointer at 90 MHz.

*** 5 Adjustment of the Second Oscillator (L6)**

L6 needs no adjustment. When it is replaced with a new one, it should be adjusted as follows.

First, tune the tuner to a 95 MHz non-modulated signal, and measure the first IF frequency of the pin 1 of IC 2 by a frequency counter. Next, adjust L6 so that the second IF frequency of the connecting point of L8 and R45 is "$\frac{9}{49}$ × the first IF frequency".

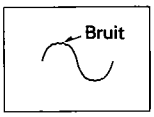
RÉGLAGES (TUNER)

Placer le MUTING dans la position OFF et MODE sur STÉRÉO.

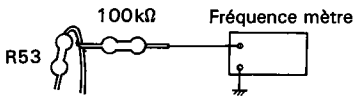
Nº	ALIGNEMENT	APPAREILLAGE		RÉGLAGE DU AMPLI-TUNER	INDICATEUR DE SORTIE	POINTS DE RÉGLAGES	REMARQUES
		RACCORDEMENT	RÉGLAGE				
SECTION MF							
1a	**INDICATEUR À ZÉRO CENTRAL(1)**	Ⓐ	95MHz 1kHz ±150kHz DÉV 40dB (Niveau d'entrée du ampli-tuner)	95MHz NARROW	Ⓑ	—	*1
1b	**INDICATEUR À ZÉRO CENTRAL(2)**	idem	95MHz 1kHz, ±150kHz DÉV 80dB (Niveau d'entrée du ampli-tuner)	95MHz WIDE	Indicateur à zéro central	L3	Aiguille de l'indicateur à zéro central en position centrale.
2	**OSCILLATEUR 76kHz**	idem	95MHz 0 DÉV 60dB (Niveau d'entrée du ampli-tuner)	idem	Relier le voltmètre CC au plot R53 et VR2 par la resistance 100kΩ.*2	VR2	76kHz ±76Hz
3	**STEREO SENSIBILITY**	Ⓒ	95MHz 1kHz, ±68,25kHz DÉV SÉLECTION:L ou R Signal pilote (±6,75kHz DÉV) 20 dB (Niveau d'entrée du ampli-tuner)	idem	Indicateur à STÉREO	VR1	LED s'allument
4	**CIRCUIT SUPPRESSION DE SIGNAL PILOTE**	idem	95MHz Signal pilote (±6,75kHz DÉV) 60dB (Niveau d'entrée du ampli-tuner)	idem	Ⓑ	VR3	Déviation minimale
5	**TEI**	idem	95MHz 1kHz, ±68,25kHz DÉV SÉLECTION: L ou R Signal pilote (±6,75 kHz DÉV) 60 dB (Niveau d'entrée du ampli-tuner)	idem	idem	T1 (W02-0022-05)	Distorsion minimale
6	**SÉPARATION**	idem	idem	idem	idem	VR4	* 3
SECTION MA							
①	**TFI**	Ⓓ	1.000kHz 400Hz, 30% (MOD)	1.000kHz	Ⓑ	L15	Déviation maximale
②	**ALIGNEMENT (1)**	idem	600kHz 400Hz, 30% (MOD)	600kHz	idem	L14 Antenne ferrite MA	idem
③	**ALIGNEMENT (2)**	idem	1.400kHz 400Hz, 30% (MOD)	1.400kHz	idem	TC1, TC2	idem
④	**FILTRE 9kHz**	idem	1.000kHz 9kHz, 30% (MOD)	1.000kHz	idem	L17	Déviation minimale

*** 1**

Ajuster le bouton d'accord de façon que la même quantité du bruit puisse être observé au sommet et en bas de la forme d'onde de sortie sous des conditions d'alimentation de signal faible.



*** 2**



*** 3 Sortie minimale**

Si la sortie la droit de diaphonie et la gauche ne sont cieest pas même regler le potentiomètre ajustable pour que la tension de sortie est même.

*** 4 Partie frontale FM**

La partie frontale FM a été parfaitement réglée en usine et aucun réglage supplémentaire n'est requis.
Si l'on remplace le transistor et/ou FET, il convient d'effectuer le réglage suivant:

(1) Régler FM-SG sur 108 MHz, 1 kHz Mod, ±75 kHz Dev et connecter à la borne d'antenne du ampli-tuner.
(2) Régler l'aiguille du cadran à 108 MHz.
(3) Ajuster TCO de façon que l'indicateur à zéro central donne une lecture à mi-échelle.
(4) Ajuster TCA, TCR1 et TCR2 de façon que l'indicateur de champ dévie au maximum.

Si la partie frontale FM ne peut pas être réparée en remplaçant les semi-conducteurs et en procédant suivant les indications dans (1)~(4), remplacer l'assemblage PCB de la partie frontale (W02-0022-05) et effectuer les opérations suivantes:
(1) Régler FM-SG à 90 MHz, 1 kHz Mod, ±75 kHz, 60 dB et le connecter à la borne d'antenne du récepteur.
(2) Recevoir le signal FM-SG.
(3) Fixer l'aiguille du cadran á 90 MHz.

*** 5 Ajustement du deuxième oscillateur (L6)**

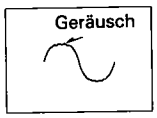
Le L6 n'a pas besoin d'être réglé. Lorsqu'il doit être remplacé par un neuf, procéder au réglage comme il suit: Accorder d'abord le tuner à un signal non modulé de 95 MHz, et mesurer la première fréquence FI de l'extrémité 1 de IC 2 à l'aide d'un compteur de fréquence. Ensuite, ajuster L6 de façon que la deuxième fréquence FI du point de connexion de L8 et R45 soit "$\frac{9}{49}$ × première fréquence FI"

ABGLEICH (EMPFÄNGER)

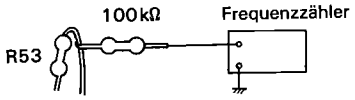
Steht der MUTING-Umschalter auf Stellung OFF und der Mode-Umschalter auf Stellung STEREO.

NR.	ABGLEICH	PRÜFEINRICHTUNG ANSCHLÜSSE	PRÜFEINRICHTUNG EINSTELLUNG	STEUERGERÄT EINSTELLUNG	AUSGANGS-ANZEIGE	EINSTELL-PUNKT	BEMER-KUNGEN
UKW-EMPFANGSABTEILUNG							
1a	KANALMITTEN-ANZEIGER (1)	Ⓐ	95MHz, 1kHz ±150kHz Hub 40dB (Empfänger-Eingangspegel)	95MHz NARROW	Ⓑ	—	*1
1b	KANALMITTEN-ANZEIGER (2)	dito	95MHz, 1kHz ±150kHz Hub 80dB (Empfänger-Eingangspegel)	95MHz WIDE	Kanalmitten-anzeiger	L3	Den zeiger des Kanalmitten-anzeiger mittig einstellen
2	SPANNUNGS-GEREGELTER OSZILLATOR	dito	95MHz 0 Hub 60dB (Empfänger-Eingangspegel)	dito	Frequenzzähler zum Krenzungspunkt von R53 und VR2 via ein 100kΩ Widerstand	VR2	76kHz ±76Hz
3	STEREO EMPFINDUNGS-FÄHIGKEIT	Ⓒ	95MHz, 1kHz ±68,25kHz Hub Wähler: L oder R Pilotton (±6,75kHz Hub) 20dB (Empfänger-Eingangspegel)	dito	STEREO Indikator	VR1	LED leuchte auf
4	PILOTTON-UNTER-DRÜCKUNG	dito	95MHz Pilotton (±6,75kHz Hub) 60dB (Empfänger-Eingangspegel)	dito	Ⓑ	VR3	Minimaler Ausschlag
5	ZF-T	dito	95MHz, 1kHz ±68,25kHz Hub Wähler: L oder R Pilotton (±6,75kHz Hub) 60dB (Empfäger-Eingangspegel)	dito	dito	T1 (W02-0022-05)	Minimaler Klirrfaktor
6	STEREO KANAL TRENNUNG	dito	dito	dito	dito	VR4	*3
MW-EMPFANGSABTEILUNG							
①	ZF-T	Ⓒ	1.000kHz 400Hz, 30% Mod	1.000kHz	Ⓑ	L15	Maximaler Ausschlag
②	EMPFANGS-BEREICH (1)	dito	600kHz 400Hz, 30% Mod	600kHz	dito	L14 MW-Ferritantenna	dito
③	EMPFANGS-BEREICH (2)	dito	1.400kHz 400Hz, 30% Mod	1.400kHz	dito	TC1, TC2	dito
④	9kHz FILTER	dito	1.000kHz, 9kHz 30% Modulation	1.000kHz	dito	L17	Minimaler Ausschlag

1
Den Abstimmknopf so einstellen, daß an der oberen und unteren Grenze der Ausgangswellenform bei schwachem Signal dasselbe Geräusch auftritt.



*** 2**



*** 3 Minimaler Ausschlag**
Wenn dem Übersprechanteil des linken Kanals in den rechten Kanal und dem Übersprechanteil des rechten Kanals in den linken Kanal ungleich sind, eine kompromißabgleichung wird geforden.

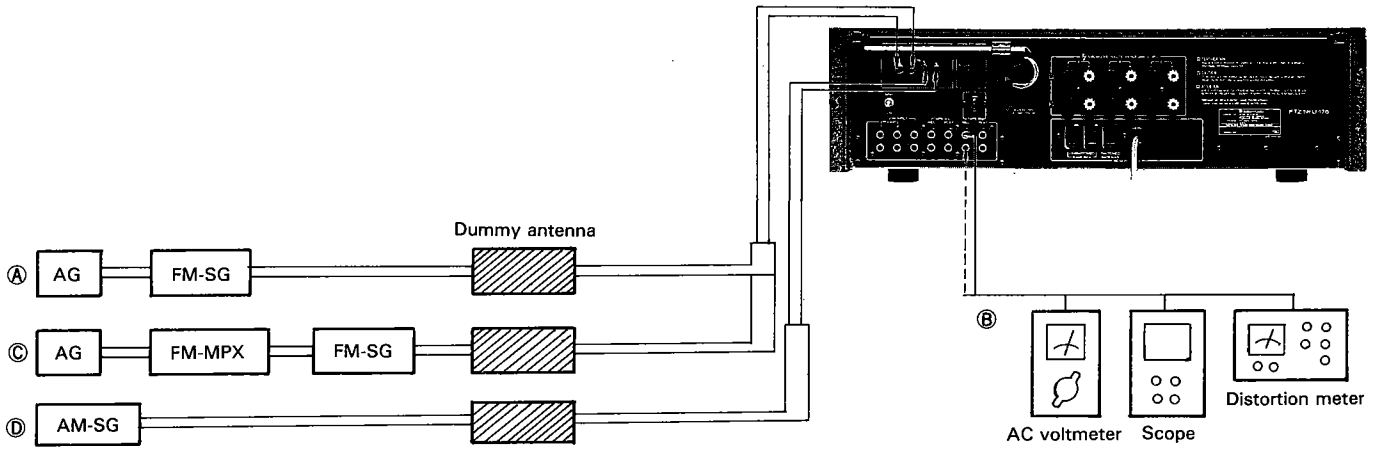
*** 4 UKW-Frontende**
Das UKW-Frontende wird bereits im Werk vollständig eingestellt. Weitere Einstellung ist daher nicht nötig. Beim Auswechseln des Transistors und/oder des FETs die Einstellung wie folgt vornehmen.
(1) Den UKW-Signalgenerator auf 108 MHz, 1 kHz Modulation und ±75 kHz Hub einstellen und mit der Antennenklemme des steuergeräts verbinden.
(2) Den Skalenzeiger auf 108 MHz stellen.
(3) TCO so einstellen, daß der Kanalmitten-anzeiger in der Mitte ausschlägt.
(4) TCA, TCR1 und TCR2 so einstellen, daß das Feldstärkeinstrument das Maximum anzeigt.

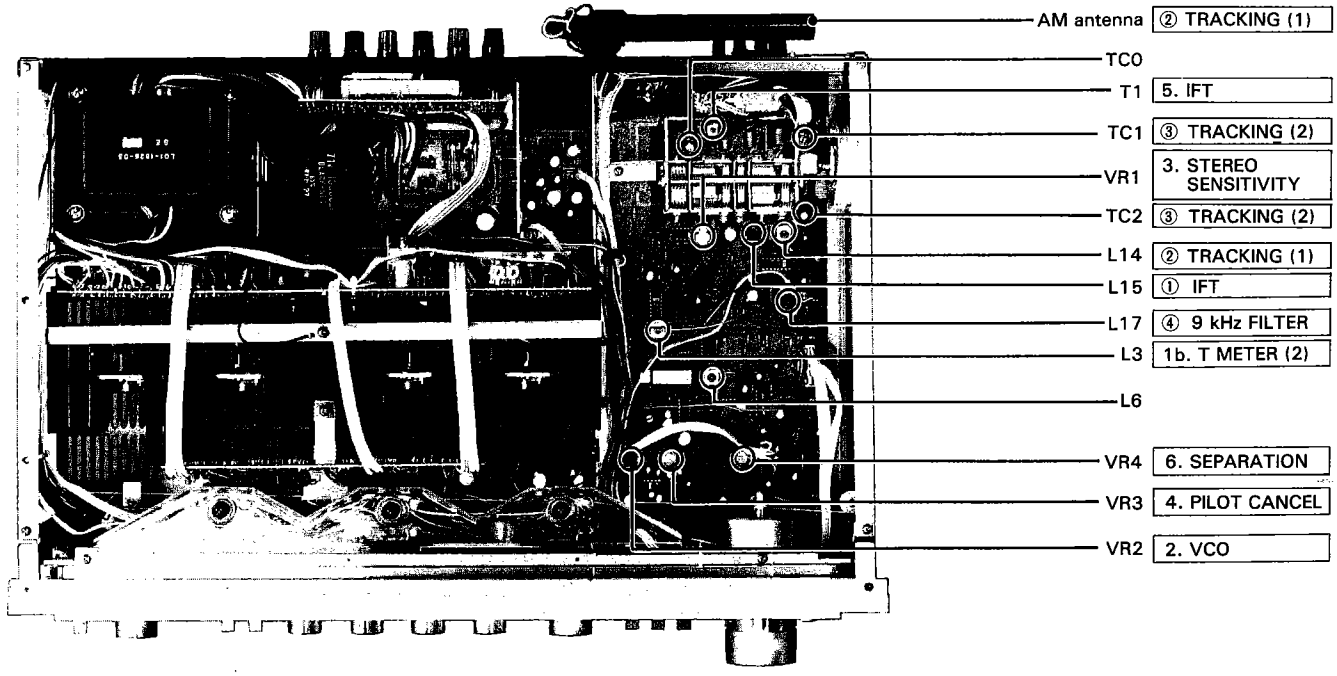
Wenn das UKW-Frontende durch Auswechseln der Halbleiter und/oder durch in Abschnitt "1～4" genannten Schritte nicht repariert werden kann, ist die Leiterplatte (W02-0022-05) des Frontendes auszuwechseln und folgende Einstellung vorzunehmen:
(1) Den UKW-Signalgenerator auf 90 MHz, 1 kHz Modulation ±75 kHz Hub, und 60 dB einstellen und mit der Antennenklemme des Steuergeräts verbinden.
(2) Den Steuergeräts so einstellen, daß das Meßsendersignal empfangen wird, während der Skalenzeiger auf 90 MHz zeigt.

*** 5 Einstellung des zweiten Oszillators (L6)**
L6 braucht nicht eingestellt zu werden. Beim Auswechseln die Einstellung wie folgt vornehmen. Zunächst den Tuner auf ein nichtmoduliertes 95 MHz Signal einstellen. Dann die erste ZF des stifts 1 von IC2 mit einem Frequenzzähler messen. Schließlich L6 so einstellen, daß die zweite ZF des Verbindungspunkts von L8 und R45 dem Produkt aus $\frac{9}{49}$ und der ersten ZF entspricht.

ADJUSTMENT (TUNER)/RÉGLAGES (TUNER)/ABGLEICH (EMPFÄNGER)

TEST INSTRUMENTS	APPAREILLAGE	PRÜFINSTRUMENTE	
Oscilloscope	Oscilloscope	Oszilloskop	SCOPE
AM signal generator	Générateur MA	MW-Signalgenerator	AM-SG
FM signal generator	Générateur MF	UKW-Signalgenerator	FM-SG
Audio generator	Générateur audio fréquences	NF-Signalgenerator	AG
AC voltmeter	Voltmètre CA	Wechselspannungsmesser	
FM multiplex generator	Générateur multiplex stéréo	UKW-Multiplexgenerator	FM-MPX
Frequency counter	Fréquencemètre	Frequenzzähler	
DC voltmeter	Voltmètre CC	Gleichspannungsmesser	
Distortion meter	Distorsiomètre	Klirrfaktormesser	
Dummy antenna	Antenne fictive	Antennennachbildung	



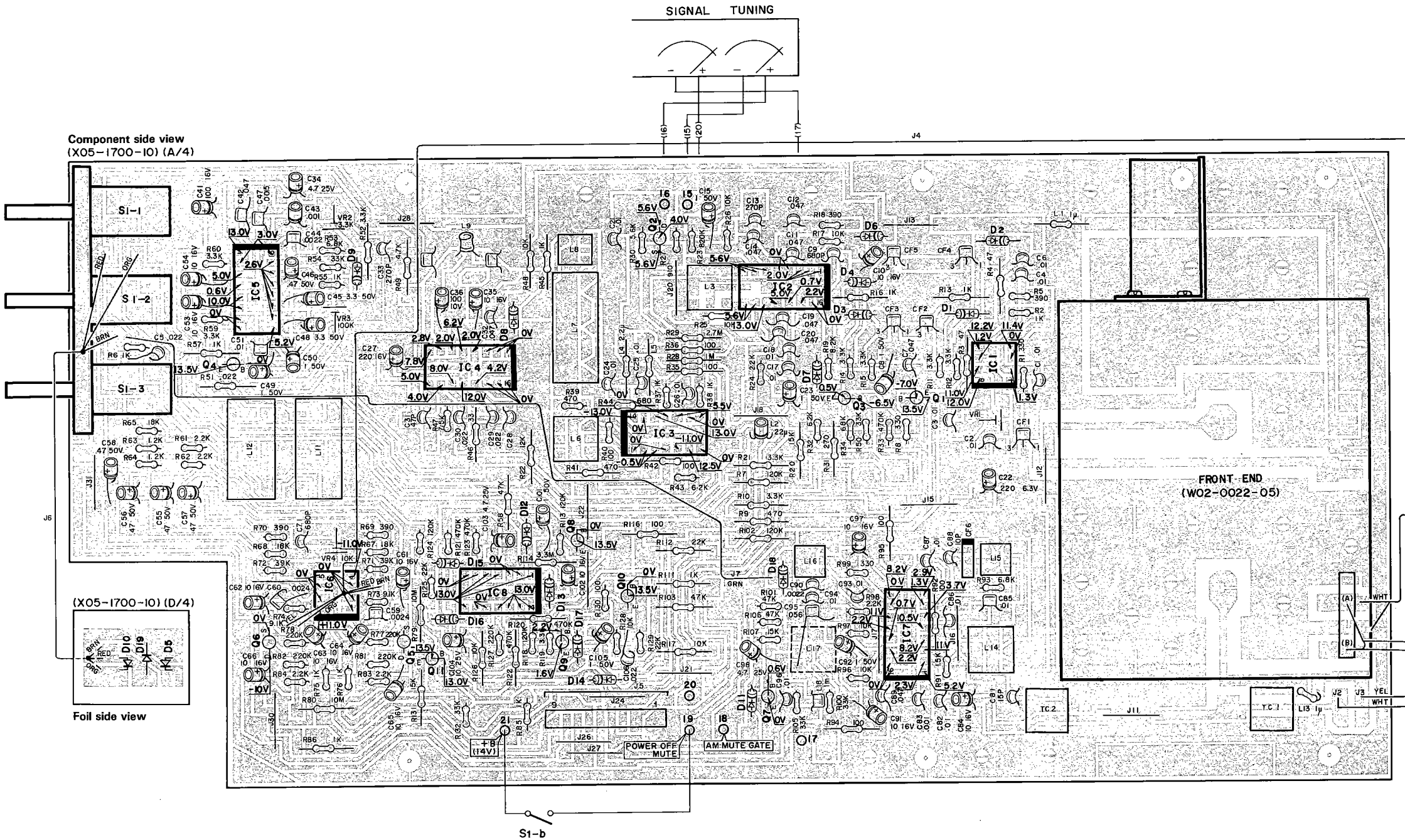


PC BOARD

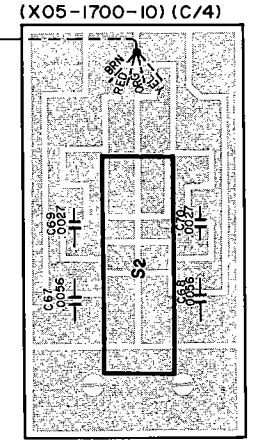
PC BOARD

ER (X05-1700-10)

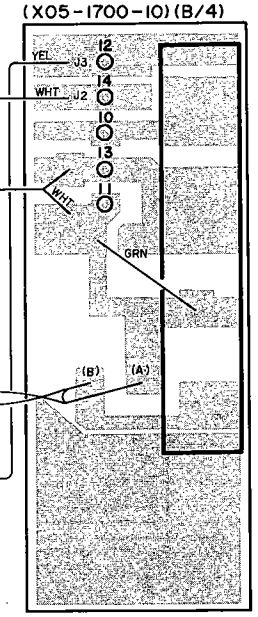
Component side view
(X05-1700-10) (A/4)



Foil side view
(X05-1700-10) (C/4)



(X05-1700-10) (B/4)



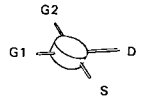
Component side view

(X05-1700-10) (D/4)

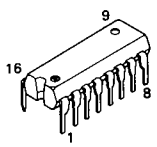
Foil side view

Q1,11 : 2SA733(A)(Q,P) or 2SA564A (Q,R,S)
Q2 : 2SK163 (N) or 2SK136 (S)
Q3,4,7~10: 2SC945 (Q,P) or 2SC828A (Q,R)
5,6 : 2SK136 (R,S) or 2SK163 (L,M,N)
IC1 : LA1222
IC2 : HA11225
IC3 : MC1496N
IC4 : TR4010A
IC5 : HA11223W
IC6 : NJM4558D (A,B)
IC7 : HA1197 or LA1240
IC8 : TC4069UBP or MC14069UBCP or μPD4069C

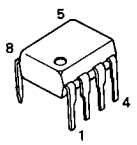
3SK85



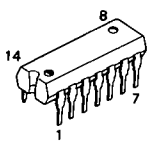
HA11223W
HA11225
HA1197
LA1240
TR4010A



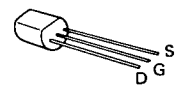
LA1222
NJM4558D



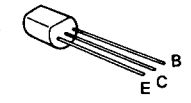
TC4069UBP
UPD4069C
MC1496N



2SK136
2SK163



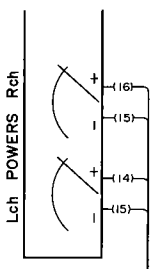
2SA564A
2SA733A
2SC828A
2SC945

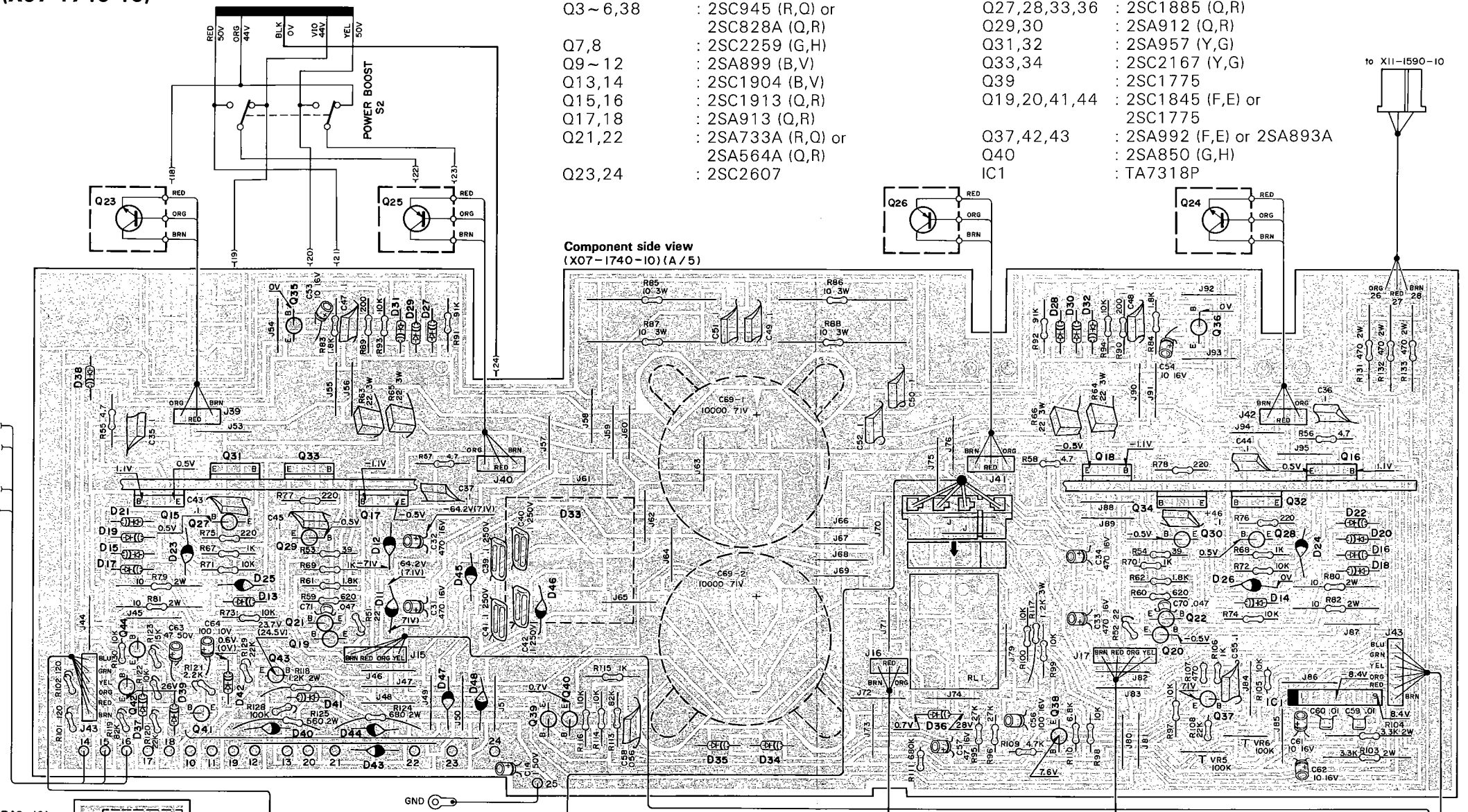


PC BOARD

POWER AMP (X07-1740-10)

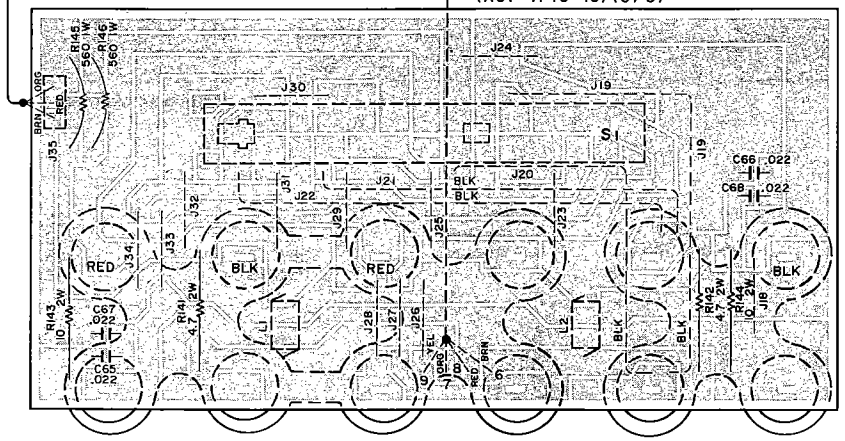
Q1,2	: μPA68H
Q3～6,38	: 2SC945 (R,Q) or 2SC828A (Q,R)
Q7,8	: 2SC2259 (G,H)
Q9～12	: 2SA899 (B,V)
Q13,14	: 2SC1904 (B,V)
Q15,16	: 2SC1913 (Q,R)
Q17,18	: 2SA913 (Q,R)
Q21,22	: 2SA733A (R,Q) or 2SA564A (Q,R)
Q23,24	: 2SC2607
Q25,26	: 2SA1116
Q27,28,33,36	: 2SC1885 (Q,R)
Q29,30	: 2SA912 (Q,R)
Q31,32	: 2SA957 (Y,G)
Q33,34	: 2SC2167 (Y,G)
Q39	: 2SC1775
Q19,20,41,44	: 2SC1845 (F,E) or 2SC1775
Q37,42,43	: 2SA992 (F,E) or 2SA893A
Q40	: 2SA850 (G,H)
IC1	: TA7318P

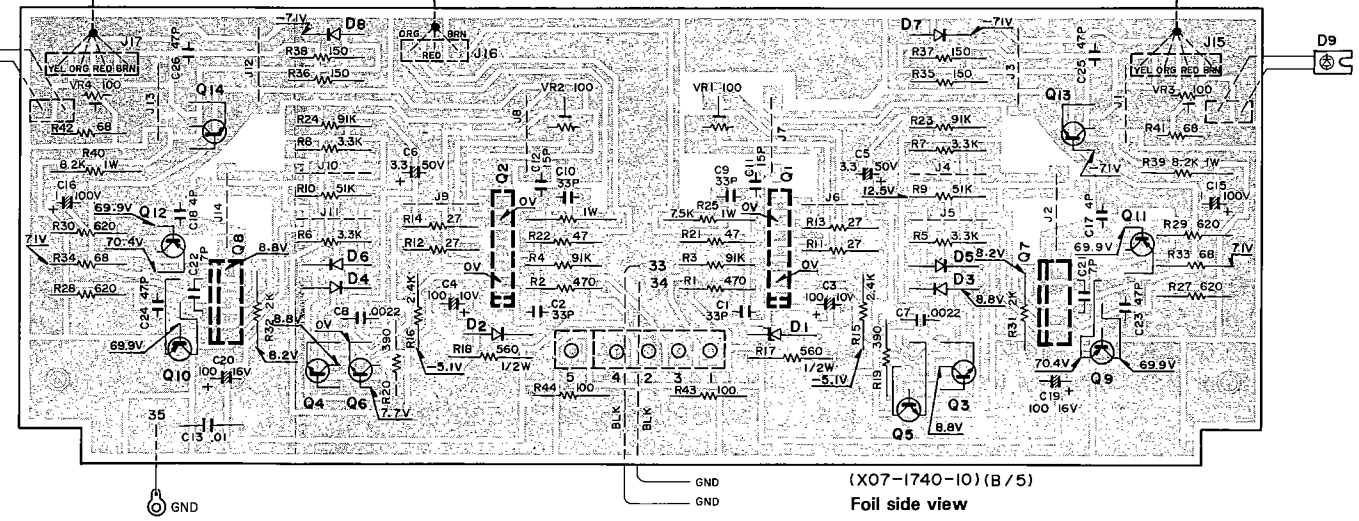




(X07-1740-10)
(D/5)
Foil side view

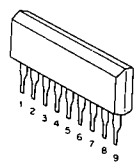
Foil side view
(X07-1740-10)(C/5)



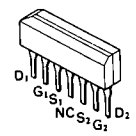


(X07-1740-10)(B/5)
Foil side view

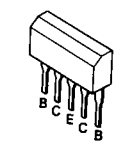
TA7318P



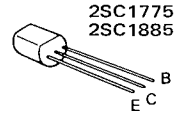
μPA68H



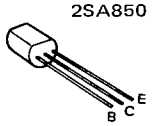
2SC2259



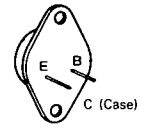
2SA564A
2SA733A
2SA893A
2SA912
2SC828A
2SC945
2SC1775
2SC1885



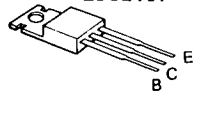
2SA850



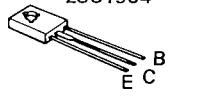
2SA1116
2SC2607



2SA913
2SA957
2SC1913
2SC2167

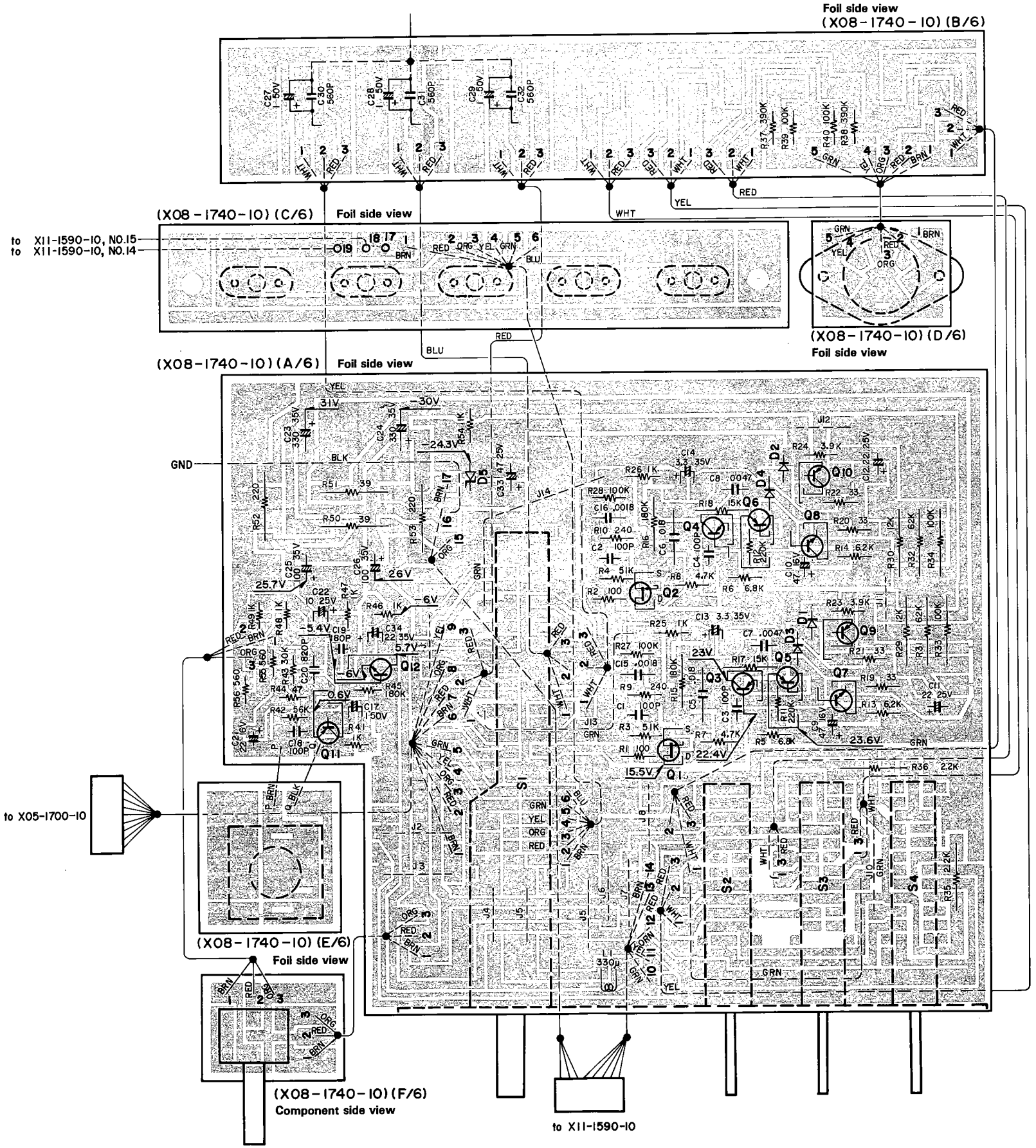


2SA899
2SC1904



PC BOARD

EAMP (X08-1740-10)

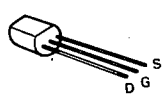


PC BOARD

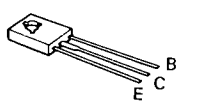
Q1,2 : 2SK163 (L)
Q3~6,9,10 : 2SB725 or 2SA1023(P,K)
Q7,8 : 2SD767 or 2SC2378(P,K)
Q11 : 2SA992 (F,E)
Q12 : 2SC1567 (R,S)
D1~4 : 1S1555
D5 : EQA01-24

2SA992
2SA1023
2SB725
2SC2378
2SD767

2SK163



2SC1567

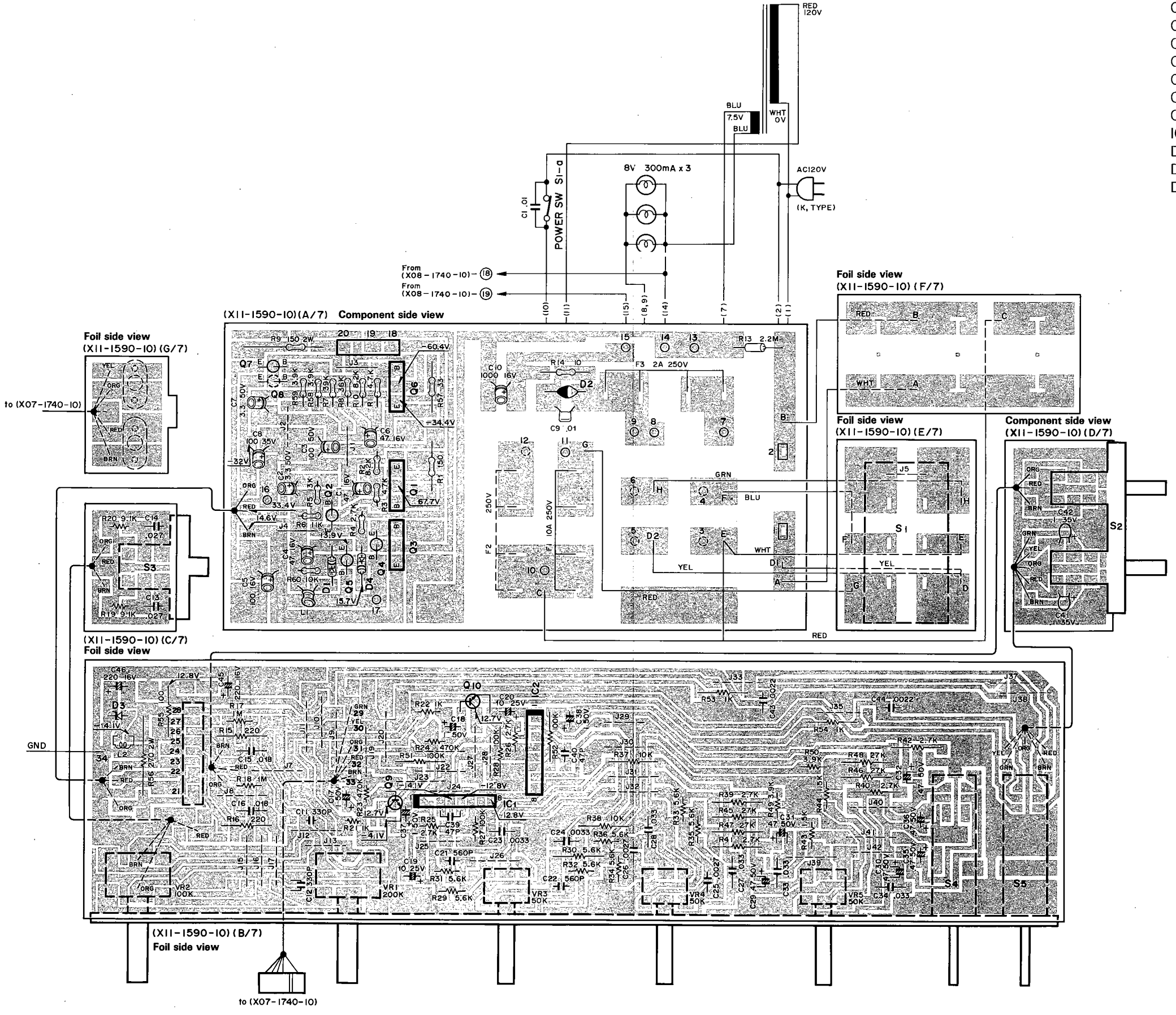


PC BOARD

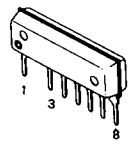
PC BOARD

ONE AMP (X11-1590-10)

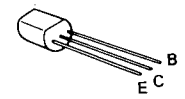
Q1 : 2SC1567
Q2,5 : 2SC2320 or 2SC945
Q3 : 2SC2167 (Y,G)
Q4 : 2SC2378
Q6 : 2SA957 (Y,G)
Q7,8 : 2SA999 or 2SA733 (A)
Q9,10 : 2SC1845
IC1,2 : HA1457
D1,3 : XZ-142 or EQA01-14
D2 : VO6B
D4 : IS2076



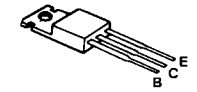
HA1457



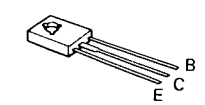
2SA733A
2SA999
2SC945
2SC2320



2SA957
2SC2167



2SC1567



KENWOOD

HIGH SPEED DC STEREO RECEIVER

TUNER (X05-1700-10) (A/4)

FRONT END (W02-0022-05)

(X05-1700-10) (B/4)

Q1 : 3SK85 IC1 : SC114

(X05-1700-10)(D/4)

X05-1700-11

Q1,11 : 2SA733A(Q,P) or 2SA564A(Q,R,S)
Q2 : 2SK163(N) or 2SK136(S)
Q3,4,7~10 : 2SC945(Q,P) or 2SC828A(Q,R)
Q5,6 : 2SK136(R,S) or 2SK163(L,M,N)
IC1 : LA1222
IC2 : HA11225
IC3 : MC1496N
IC4 : TR4010A
IC5 : HA11223W
IC6 : NJM4558D(A,B)
IC7 : HA1197 or LA1240
IC8 : TC4069UBP or MC14069UBCP or μPD4069C

D1,2 : 1N60
D3,4,6~9,11~19 : 1S1555 or 1S2076
D5,10 : B31-0191-05

PREAMP (X08-1740-10)(B/6)

PREAMP (X08-1740-10)(A/6)

Q1,2 : 2SK163(L)
Q3~6, 9, 10 : 2SB725 or 2SA1023(P,K)
Q7,8 : 2SD767 or 2SC2378(P,K)
Q11 : 2SA992(F,E)
Q12 : 2SC1567(R,S)

D1~4 : 1S1555
D5 : EQA01-24

(X08-1740-10)(D/6)

S1-1 MUTING (OFF : MUTING ON / ON : MUTING OFF)
S1-2 ST SENSE (OFF : SENSE 1 / ON : SENSE 2)
S1-3 IF BAND (OFF : WIDE / ON : NARROW)

S2 DE EMPHASIS : 50 μsec / 25 μsec / 75 μsec

S4 MODE : REV / ST / MONO
S3 TAPE DUB : A→B / SOUCE / B
S2 TAPE MONI : A / B
S1 INPUT SEL : AM / FM / PHO1 / PHO2 / AUX / MIC LEVEL MIN MAX / MIC

(X05-1700-10) (C/4)

POWER AMP (X07-1740-10)(B/5)

(X08-1740-10) (C/6)

TONE AMP (X11-1590-10)(B/7)

(X08-1740-10) (E/6)

(X08-1740-10) (F/6)

(X11-1590-10)(C/7)

2SA564A
2SA733(A)
2SA893A
2SA912
2SA992
2SA999
2SA1023
2SB725
2SC828A
2SC945

2SC1775
2SC1885
2SC2320
2SC2378
2SD767

2SA850

2SA1116
2SC2607

2SA913
2SA957
2SC1913
2SC2167

2SK136
2SK163

3SK85

2SA899
2SC1567
2SC1904

μPA68H

LA1222
NJM4558D

HA11223W
HA11225
HA1197
LA1240
TR4010A

HA1457

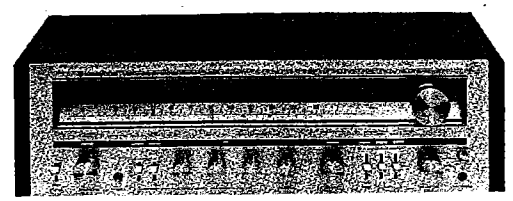
TC4069UBP
MC14069UBCP
UPD4069C
MC1496N

TA7318P

2SC2259

HIGH SPEED DC STEREO RECEIVER

[KR-8850] KR-8050



POWER AMPLIFIER SECTION

Power Output

150 watts* (POWER BOOST on) per channel or 120 watts* (POWER BOOST off) per channel, minimum RMS both channels driven, at 8 ohms from 20 to 20,000 Hz with no more than 0.02% total harmonic distortion.

Both Channels Driven	
into 8Ω at 1,000 Hz	
(POWER BOOST on)	170W + 170W
into 4Ω at 1,000 Hz	130W + 130W
Dynamic Power Output	550W at 8Ω
Total Harmonic Distortion	
(20 Hz to 20,000 Hz from AUX)	
rated power into 8Ω	0.02%
1W power into 8Ω	0.007%
Intermodulation Distortion	
(60 Hz : 7 kHz = 4 : 1 SMPTE)	
rated power into 8Ω	0.005%
1W power into 8Ω	0.006%
Slew Rate	±200V/μsec
Rise Time	0.9 μsec
Damping Factor	
(20 to 20 kHz at 8Ω)	85

PRE AMPLIFIER SECTION

Input Sensitivity/Impedance	
PHONO 1, 2	2.5 mV/50 kΩ
AUX and TAPE	200 mV/50 kΩ
MIC	2.2 mV/50 kΩ
Signal to Noise Ratio (A weighted)	
PHONO 1, 2	85 dB for 2.5 mV input 91 dB for 5.0 mV input
AUX and TAPE	108 dB for 200 mV input
MIC	74 dB for 2.2 mV input
Maximum Phono Input Level at 1,000 Hz	220mV (RMS) THD 0.02%
Frequency Response	
PHONO RIAA	
Standard Curve	20 Hz to 20,000 Hz ±0.2 dB
AUX and TAPE	DC to 320,000 Hz −3 dB
Tone Control	
Bass	±12 dB at 100 Hz
(50 Hz Boost)	−10 dB at 50 Hz
Mid	±8 dB at 800 Hz
Treble	±12 dB at 10 kHz
Loudness Control	
(VOL −30 dB)	−10 dB at 100 Hz
Subsonic Filter	
(DC COUPLED OFF)	18 Hz 6 dB/oct
High Filter	10 kHz 6 dB/oct
Output Level/Impedance	
TAPE REC Out (Pin)	200 mV/200Ω
TAPE REC Out (DIN)	30 mV/80 kΩ

FM TUNER SECTION

Usable Sensitivity	10.3 dBf (1.8 μV)
50 dB Quieting Sensitivity	
Mono	15.3 dBf (3.2 μV)
Stereo	36.8 dBf (38 μV)
Stereo Sensitivity	
position 1 (S/N 40 dB)	25.2 dBf (10 μV)
position 2 (S/N 60 dB)	45.2 dBf (100 μV)
Signal to Noise Ratio at 65 dBf	
Mono	83 dB
Stereo	75 dB
	77 dB at 10 mV input
Total Harmonic Distortion	
Mono	0.07%
Stereo	0.08%
Frequency Response	20 Hz to 15,000 Hz −0.5 dB, −1.0 dB
Capture Ratio	1.0 dB
Image Rejection Ratio	83 dB
Spurious Response Ratio	100 dB
IF Response Ratio	105 dB
Alternate Channel Selectivity	
WIDE	30 dB at 300 kHz
NARROW	60 dB at 300 kHz
AM Suppression Ratio	65 dB at 65 dBf
Stereo Separation Ratio	50 dB at 1,000 Hz 40 dB at 50 Hz to 10,000 Hz
Subcarrier Product Ratio	70 dB
Antenna Impedance	300Ω Balanced and 75Ω unbalanced
FM Frequency Range	88 MHz to 108 MHz

AM TUNER SECTION

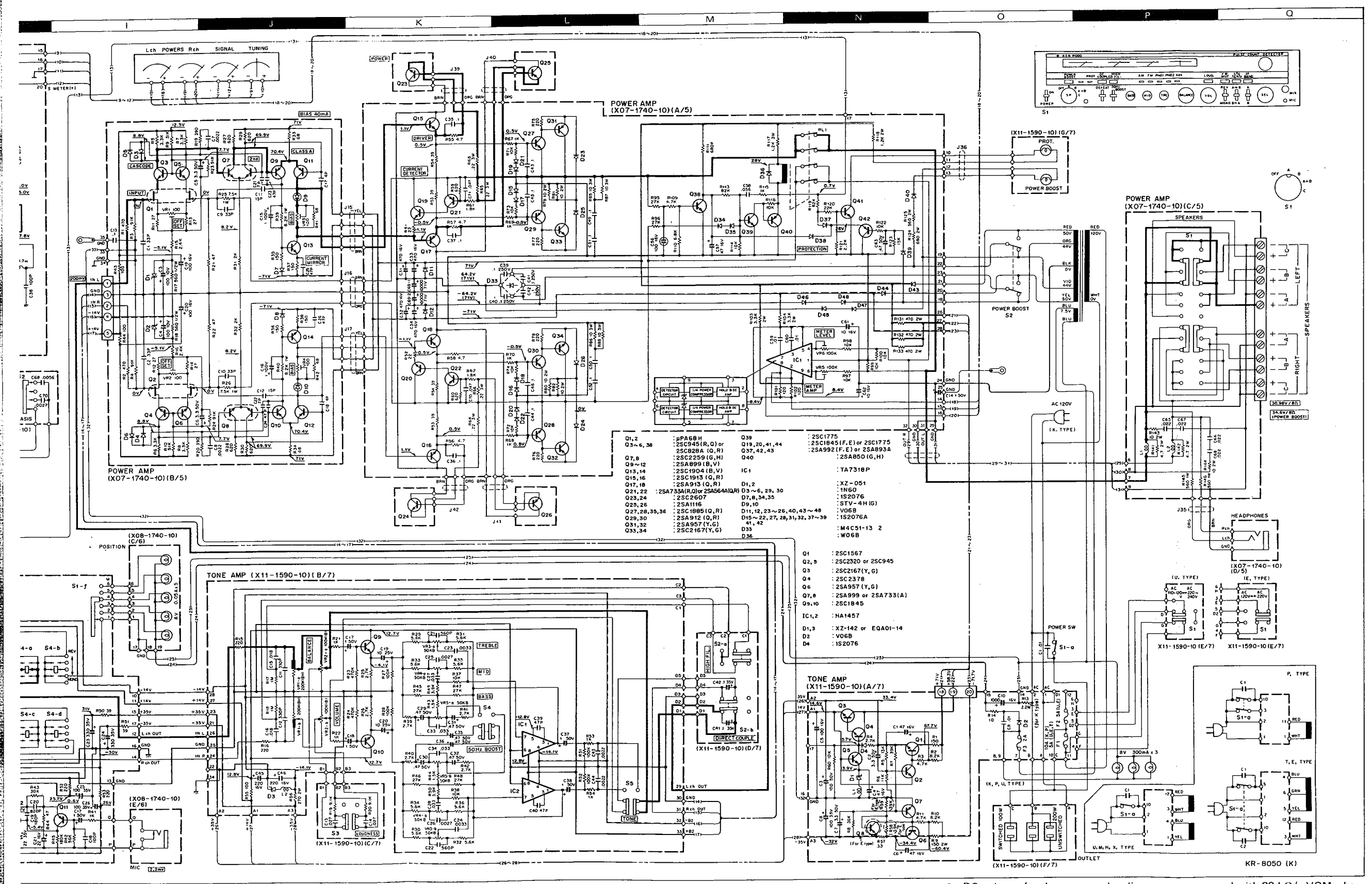
Usable Sensitivity	10 μV (250 μV m)
Signal to Noise Ratio	52 dB
Image Rejection	50 dB
Selectivity	45 dB

GENERAL

Power Consumption	5.5 A (UL and CSA) 570 W (8 ohms at rated power) 60 W (Non Signal)
AC Outlet	Switched 1, Unswitched 2
Dimensions	W: 571 mm (22-15/32") H: 172 mm (6-3/4") D: 411 mm (16-3/16")
Weight (Net)	18.0 kg (39.6 lbs)
(Gross)	20.2 kg (44.4 lbs)

* Measured pursuant to Federal Trade Commission's Trade Regulation rule on Power Output Claims for Amplifier in U.S.A.

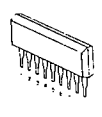
Note:
Kenwood follows a policy of continuous advancements in development. For this reason specifications may be changed without notice.



Q1,2	:μPA68H	Q39	:2SC1775
Q3~6, 38	:2SC945(R,Q) or 2SC828A (Q,R)	Q19,20,41,44 Q37,42,43	:2SC1845(F,E) or 2SC1775 :2SA992(F,E) or 2SA893A
Q7,8	:2SC2259(G,H)	Q40	:2SA850(G,H)
Q9~12	:2SA899(B,V)		
Q13,14	:2SC1904(B,V)	IC1	:TA7318P
Q15,16	:2SC1913(Q,R)		
Q17,18	:2SA913(Q,R)	D1,2	:XZ-051
Q21,22	:2SA733A(R,Q) or 2SA564A(Q,R)	D3~6, 29, 30	:1N60
Q23,24	:2SC2607	D7,8,34,35	:1S2076
Q25,26	:2SA1116	D9,10	:STV-4H(G)
Q27,28,35,36	:2SC1985(Q,R)	D11,12,23~26,40,43~48	:V06B
Q29,30	:2SA912(Q,R)	D15~22,27,28,31,32,37~39 41,42	:1S2076A
Q31,32	:2SA957(Y,G)	D33	:M4C51-13 2
Q33,34	:2SC2167(Y,G)	D36	:W06B

Q1	:2SC1567
Q2,5	:2SC2320 or 2SC945
Q3	:2SC2167(Y,G)
Q4	:2SC2378
Q6	:2SA957(Y,G)
Q7,8	:2SA999 or 2SA733(A)
Q9,10	:2SC1845
IC1,2	:HA1457
D1,3	:XZ-142 or EQA01-14
D2	:V06B
D4	:1S2076

TA7318P



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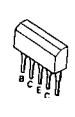

* DC voltages for the power and audio amps are measured with 20 kΩ/v VOM when no signal is applied.

* DC voltages for the tuner section are measured with 20 kΩ/v VOM when an FM signal is received. Exception: DC voltages with ( ) are measured when an AM signal is received.

PARTS LIST

Ref. No. 参照番号	Parts No. 部品番号	Description 部品名／規格	Remarks 備考
UNIT (KR-8050)			
1 2A	-	BOTTOM PLATE	
2 2A	-	METALLIC FRAME (L)	
3 3B	-	SUB PANEL	
4 1B	-	REAR PANEL	
5 2A	-	METALLIC FRAME (C)	
6 2A	-	METALLIC FRAME (R)	
7 2B	-	METALLIC FRAME (H)	
-	351-0003-14	DIAL CORD	
8 3A	A20-1467-02	FRONT PANEL ASSY	*K
8 3A	A20-1467-02	FRONT PANEL ASSY	PU
8 3A	A20-1467-02	FRONT PANEL ASSY	ME
8 3A	A20-1467-02	FRONT PANEL ASSY	X
8 3A	A20-1468-02	FRONT PANEL ASSY	*T
8 3A	A20-1469-02	FRONT PANEL ASSY	*H
9 3A	A33-0056-04	REFLECTOR	*
10 3A	A33-0057-04	REFLECTOR	
11 1A	A50-0065-03	SIDE PLATE (L)	*K
11 1A	A50-0065-03	SIDE PLATE (L)	PU
11 1A	A50-0065-03	SIDE PLATE (L)	MT
11 1A	A50-0065-03	SIDE PLATE (L)	HX
11 1A	A50-0067-03	SIDE PLATE (L)	*E
12 1A	A50-0066-03	SIDE PLATE (R)	*K
12 1A	A50-0066-03	SIDE PLATE (R)	PU
12 1A	A50-0066-03	SIDE PLATE (R)	MT
12 1A	A50-0066-03	SIDE PLATE (R)	HX
12 1A	A50-0068-03	SIDE PLATE (R)	*E
13 1A	A54-0173-02	TOP PLATE	*K
13 1A	A54-0173-02	TOP PLATE	UM
13 1A	A54-0173-02	TOP PLATE	TH
13 1A	A54-0173-02	TOP PLATE	X
13 1A	A54-0174-02	TOP PLATE	*E
13 1A	A54-0178-02	TOP PLATE	*P
-	B46-0055-20	WARRANTY CARD	P
-	B46-0060-00	WARRANTY CARD	T
-	B46-0061-20	WARRANTY CARD	K
-	B46-0062-20	WARRANTY CARD	UH
-	B46-0063-00	WARRANTY CARD	U
-	B46-0064-00	WARRANTY CARD	X
-	B50-3009-00	INSTRUCTION MANUAL	*K
-	B50-3009-00	INSTRUCTION MANUAL	U
-	B50-3010-00	INSTRUCTION MANUAL	*P
-	B50-3010-00	INSTRUCTION MANUAL	MX
-	B50-3011-00	INSTRUCTION MANUAL	*T
-	B50-3012-00	INSTRUCTION MANUAL	*H
14 3A	B01-0148-04	PANEL ESCUTCHEON	*K
14 3A	B01-0148-04	PANEL ESCUTCHEON	PU
14 3A	B01-0148-04	PANEL ESCUTCHEON	ME
14 3A	B01-0148-04	PANEL ESCUTCHEON	X
14 3A	B01-0149-04	PANEL ESCUTCHEON	*T
15 3A	B01-0150-04	PANEL ESCUTCHEON	*H
15 3A	B01-0151-04	PANEL ESCUTCHEON	*K
15 3A	B01-0151-04	PANEL ESCUTCHEON	PU
15 3A	B01-0151-04	PANEL ESCUTCHEON	MT
15 3A	B01-0151-04	PANEL ESCUTCHEON	EX
15 3A	B01-0152-04	PANEL ESCUTCHEON	*H
16 3A	B03-0142-02	DRESSING PLATE	*
17 1A	B04-0069-03	MESH PLATE	*K
17 1A	B04-0069-03	MESH PLATE	UM
17 1A	B04-0069-03	MESH PLATE	TH
17 1A	B04-0069-03	MESH PLATE	X
17 1A	B04-0074-03	MESH PLATE	*E
17 1A	B04-0075-03	MESH PLATE	*P
18 3A	B07-0251-04	ESCUTCHEON(POWER BOOST)	
19 3A	B07-0275-04	ESCUTCHEON X2 (KNOB)	
20 3A	B07-0277-04	ESCUTCHEON (SIDE) X2	
21 3A	B07-0278-04	ESCUTCHEON (SHAFT)	
22 3A	B08-0008-04	INDICATOR (STEREO)	*
23 3A	B08-2019-03	INDICATOR (POSITION)	
24 3A	B08-2020-04	INDICATOR (PROTECTION)	*
25 3A	B10-0249-04	FRONT GLASS	*
26 3B	B19-0205-02	LIGHTING PLATE	
27 3A	B20-0448-04	DIAL CALIBRATIONS	*
28 3A	B21-0033-03	DIAL POINTER	
29 3B	B30-0184-05	LAMP X3	
30 2B	B31-0310-05	METER	*
C1 ,2	C54-3310-39	CERAMIC 0.01UF P	TE
C1	C91-0023-05	CERAMIC 0.01UF Z	UM
C1	C91-0023-05	CERAMIC 0.01UF Z	HX
C1	C91-0079-05	CERAMIC 0.01UF	KP
31 3B	D15-0170-14	PULLEY X4	
32 2B	D15-0171-13	DIAL PULLEY	
33 3B	D20-0149-03	DIAL SHAFT	
34 1B	E04-0004-05	RECEPTACLE (FM)	TE
35 1B	E30-0181-05	POWER CORD	KP
35 1B	E30-0185-05	POWER CORD	X
35 1B	E30-0545-05	POWER CORD	UM
35 1B	E30-0580-05	POWER CORD	EH
35 1B	E30-0602-05	POWER CORD	T
36 2B	G01-0045-24	COIL SPRING	
37 3A	G01-0364-04	COIL SPRING X6 (KNOB)	
-	H01-3053-04	CARTON BOX	*K
-	H01-3053-04	CARTON BOX	UM
-	H01-3053-04	CARTON BOX	X
-	H01-3054-04	CARTON BOX	*P
-	H01-3055-04	CARTON BOX	*T
-	H01-3056-04	CARTON BOX	*E
-	H01-3057-04	CARTON BOX	*H
-	H10-1533-02	POLYSTYRENE FIXTURE X2	
-	H20-0415-04	COVER	M
-	H20-0446-04	COVER	KP
-	H20-0446-04	COVER	UT
-	H20-0446-04	COVER	EH
-	H20-0446-04	COVER	X
-	H25-0078-04	BAG	
38 2B	J02-0101-05	FOOT X4	
39 2B	J19-0306-05	LEAD HOLDER X4	
40 1B	J19-0507-05	ANTENNA HOLDER	
41 3B	J32-0254-14	HEX BOSS (M7,11MM)	*
42 3A	J32-0258-04	HEX BOSS (M8,22MM)	*
43 2B	J32-0260-04	HEX BOSS (M3)X2	*
44 1B	J41-0034-05	POWER CORD BUSHING	KP
44 1B	J42-0083-05	POWER CORD BUSHING	UM
44 1B	J42-0084-05	POWER CORD BUSHING	EH
44 1B	J42-0085-05	POWER CORD BUSHING	TX
45 3A	K23-0321-04	KNOB (SELECTOR) X3	
46 3A	K23-0322-04	KNOB (TONE) X4	
47 3A	K23-0323-04	KNOB (MIC)	
48 3A	K23-0324-04	KNOB (TUNING)	
49 3A	K27-0093-04	KNOB (LEVER) X6	
50 3A	K29-0319-04	KNOB X6	
51 3A	K29-0320-04	KNOB (PUSH)	
52 2B	L01-1821-05	POWER TRANSFORMER	*K
52 2B	L01-1822-05	POWER TRANSFORMER	*T
52 2B	L01-1825-05	POWER TRANSFORMER	*U
52 2B	L01-1825-05	POWER TRANSFORMER	MH
52 2B	L01-1825-05	POWER TRANSFORMER	X
52 2B	L01-1826-05	POWER TRANSFORMER	*T
52 2B	L01-1827-05	POWER TRANSFORMER	*P
53 1A	N08-0126-05	DRESS SCREW X4	
54 1B	N08-0128-35	GND SCREW	
56 3B	N09-0293-05	SCREW (PULLEY) X4	
57 1B	N09-0303-05	SCREW (R/P JACK) X2	
58 3A	N14-0074-05	NUT X6 (KNOB)	
59 2B	N15-1030-46	FLAT WASHER(HEX BOSS)X2	
60 3B	N29-0033-05	PUSH RIVET X2	
61 2B	S33-4012-05	LEVER SWITCH(POWER)	KP
61 2B	S33-4014-05	LEVER SWITCH(POWER)	UM
61 2B	S33-4014-05	LEVER SWITCH(POWER)	HX
61 2B	S33-4025-05	LEVER SWITCH(POWER)	TE
62 2B	S40-2096-05	PUSH SWITCH(POWER BOOST	
63 2B	S90-0025-05	REMOTE SWITCH SHAFT	
64 1B	S90-0026-05	REMOTE WIRE	
65 1B	T90-0083-05	AM ANTENNA	
66 1B	T90-0202-05	FM ANTENNA	
67 2B	X05-1700-10	TUNER PCB ASSY	*K
67 2B	X05-1700-10	TUNER PCB ASSY	P
67 2B	X05-1700-11	TUNER PCB ASSY	*U
67 2B	X05-1700-11	TUNER PCB ASSY	MT
67 2B	X05-1700-11	TUNER PCB ASSY	EH
67 2B	X05-1700-11	TUNER PCB ASSY	X
68 1A	X07-1740-10	POWER AMP PCB ASSY	*
69 3B	X08-1740-10	PRE AMP PCB ASSY	*
70 2B	X11-1590-10	TONE AMP PCB ASSY	*K
70 2B	X11-1590-81	TONE AMP PCB ASSY	*U
70 2B	X11-1590-81	TONE AMP PCB ASSY	MH
70 2B	X11-1590-81	TONE AMP PCB ASSY	X
70 2B	X11-1591-01	TONE AMP PCB ASSY	*P
70 2B	X11-1591-51	TONE AMP PCB ASSY	*T
70 2B	X11-1592-71	TONE AMP PCB ASSY	*E

TUNER (X05-1700)

D5 ,10	B30-0191-05	LED X2	FIG101	
C1 -4	C55-1710-38	CERAMIC 0.01UF	Z	
C5	C90-0253-05	CERAMIC 0.022UF	M	
C6	C55-1710-38	CERAMIC 0.01UF	Z	
C7	C55-1747-38	CERAMIC 0.047UF	Z	
C8	C26-1710-57	NP-ELEC 1UF	50WV	
C9	C55-1710-38	CERAMIC 0.01UF	Z	
C10	C24-1210-61	ELECTRO 10UF	16WV	
C11 ,12	C55-1747-38	CERAMIC 0.047UF	Z	
C13	C71-1727-15	CERAMIC 270PF	J	
C14	C55-1747-38	CERAMIC 0.047UF	Z	
C15	C24-1710-51	ELECTRO 1UF	50WV	
C17 ,18	C55-1710-38	CERAMIC 0.01UF	Z	
C19 ,20	C55-1747-38	CERAMIC 0.047UF	Z	
C21	C55-1710-38	CERAMIC 0.01UF	Z	
C22	C24-0822-71	ELECTRO 220UF	6.3WV	
C23	C24-1710-51	ELECTRO 1UF	50WV	
C24 -26	C55-1710-38	CERAMIC 0.01UF	Z	
C27	C24-1222-71	ELECTRO 220UF	16WV	
C28 -30	C90-0253-05	CERAMIC 0.022UF	M	
C31	C63-1747-05	CERAMIC 47PF	J	
C32	C55-1747-38	CERAMIC 0.047UF	Z	
C33	C71-1727-15	CERAMIC 270PF	J	
C34	C24-1447-51	ELECTRO 4.7UF	25WV	
C35	C24-1210-61	ELECTRO 10UF	16WV	
C36	C24-1010-71	ELECTRO 100UF	10WV	
C37 ,38	C71-1710-15	CERAMIC 100PF	J	
C41	C24-1210-71	ELECTRO 100UF	16WV	
C42	C45-1747-37	MYLAR 0.047UF	M	
C43	C48-1710-25	POLYSTY 1000PF	J	
C44	C45-1722-27	MYLAR 0.0022UF	M	
C45	C24-1733-51	ELECTRO 3.3UF	50WV	
C46	C24-1747-41	ELECTRO 0.47UF	50WV	
C47	C45-1715-27	MYLAR 0.0015UF	M	
C48	C24-1733-51	ELECTRO 3.3UF	50WV	
C49 ,50	C24-1710-51	ELECTRO 1UF	50WV	
C51	C45-1710-37	MYLAR 0.01UF	M	
C53 ,54	C24-1210-61	ELECTRO 10UF	16WV	
C55 -58	C25-1747-47	LL-ELEC 0.47UF	50WV	
C59 ,60	C45-1724-25	MYLAR 0.0024UF		
C61 -65	C24-1210-61	ELECTRO 10UF	16WV	
C67 ,68	C46-1756-25	MYLAR 0.0056UF	J	
C69 ,70	C46-1727-25	MYLAR 0.0027UF	J	
C71	C52-1768-16	CERAMIC 680PF	K	
C78	C24-1447-51	ELECTRO 4.7UF	25WV	
C81	C70-1715-05	CERAMIC 15PF	J	
C83	C52-1710-26	CERAMIC 0.001UF	K	
C85 ,86	C45-1710-37	MYLAR 0.01UF	M	
C88	C71-1708-02	CERAMIC 8PF	D	11
C88	C71-1710-02	CERAMIC 10PF	D	10
C89	C55-1747-38	CERAMIC 0.047UF	Z	
C90	C52-1722-26	CERAMIC 0.0022UF	K	
C92	C24-1710-51	ELECTRO 1UF	50WV	
C95	C45-1756-37	MYLAR 0.056UF	M	
C101	C24-1710-51	ELECTRO 1UF	50WV	
C103	C25-1447-57	LL-ELEC 4.7UF	25WV	
C104	C24-1410-61	ELECTRO 10UF	25WV	
C105	C26-1710-57	NP-ELEC 1UF	50WV	
C106	C90-0253-05	CERAMIC 0.022UF	M	
TC1 ,2	C05-0073-05	TRIMMER CAPACITOR		
102 1A	E20-0439-05	TERMINAL BOARD		
CF1 -5	L79-0085-05	FILTER ASSY		
CF6	L72-0075-05	AM CERAMIC FILTER		
L1	L40-1092-11	INDUCTOR 1UH		
L2	L40-2201-03	INDUCTOR 22UH		
L3	L30-0320-05	FM IFT		
L4 ,5	L40-2292-11	INDUCTOR 2.2UH		
L6	L32-0218-15	FM OSCILLATING COIL		
L7	L79-0099-05	LC FILTER		
L8	L79-0100-05	LC FILTER		
L9	L40-4721-28	INDUCTOR 4.7MH		
L11 ,12	L79-0060-05	LC FILTER		
L13	L40-1092-12	INDUCTOR 1UH		
L14	L32-0225-05	MW OSCILLATING COIL		
L15	L30-0321-05	AM IFT		
L16	L30-0284-05	AM IFT		
L17	L79-0073-05	AM BPF		11
L18	L40-1021-45	INDUCTOR 1MH		

PARTS LIST

Ref. No. 参照番号	Parts No. 部品番号	Description 部品名／規格	Remarks 備考
C27	C24-1222-71	ELECTRO 220UF 16WV	
C28 -30	C90-0253-05	CERAMIC 0.022UF M	
C31	C63-1747-05	CERAMIC 47PF J	
C32	C55-1747-38	CERAMIC 0.047UF Z	
C33	C71-1727-15	CERAMIC 270PF J	
C34	C24-1447-51	ELECTRO 4.7UF 25WV	
C35	C24-1210-61	ELECTRO 10UF 16WV	
C36	C24-1010-71	ELECTRO 100UF 10WV	
C37 ,38	C71-1710-15	CERAMIC 100PF J	
C41	C24-1210-71	ELECTRO 100UF 16WV	
C42	C45-1747-37	MYLAR 0.047UF M	
C43	C48-1710-25	POLYSTY 1000PF J	
C44	C45-1722-27	MYLAR 0.0022UF M	
C45	C24-1733-51	ELECTRO 3.3UF 50WV	
C46	C24-1747-41	ELECTRO 0.47UF 50WV	
C47	C45-1715-27	MYLAR 0.0015UF M	
C48	C24-1733-51	ELECTRO 3.3UF 50WV	
C49 ,50	C24-1710-51	ELECTRO 1UF 50WV	
C51	C45-1710-37	MYLAR 0.01UF M	
C53 ,54	C24-1210-61	ELECTRO 10UF 16WV	
C55 -58	C25-1747-47	LL-ELEC 0.47UF 50WV	
C59 ,60	C45-1724-25	MYLAR 0.0024UF	
C61 -65	C24-1210-61	ELECTRO 10UF 16WV	
C67 ,68	C46-1756-25	MYLAR 0.0056UF J	
C69 ,70	C46-1727-25	MYLAR 0.0027UF J	
C71	C52-1768-16	CERAMIC 680PF K	
C78	C24-1447-51	ELECTRO 4.7UF 25WV	
C81	C70-1715-05	CERAMIC 15PF J	
C83	C52-1710-26	CERAMIC 0.001UF K	
C85 ,86	C45-1710-37	MYLAR 0.01UF M	
C88	C71-1708-02	CERAMIC 8PF D	11
C88	C71-1710-02	CERAMIC 10PF D	10
C89	C55-1747-38	CERAMIC 0.047UF Z	
C90	C52-1722-26	CERAMIC 0.0022UF K	
C92	C24-1710-51	ELECTRO 1UF 50WV	
C95	C45-1756-37	MYLAR 0.056UF M	
C101	C24-1710-51	ELECTRO 1UF 50WV	
C103	C25-1447-57	LL-ELEC 4.7UF 25WV	
C104	C24-1410-61	ELECTRO 10UF 25WV	
C105	C26-1710-57	NP-ELEC 1UF 50WV	
C106	C90-0253-05	CERAMIC 0.022UF M	
TC1 ,2	C05-0073-05	TRIMMER CAPACITOR	
102 1A	E20-0439-05	TERMINAL BOARD	
CF1 -5	L79-0085-05	FILTER ASSY	
CF6	L72-0075-05	AM CERAMIC FILTER	
L1	L40-1092-11	INDUCTOR 1UH	
L2	L40-2201-03	INDUCTOR 22UH	
L3	L30-0320-05	FM IFT	
L4 ,5	L40-2292-11	INDUCTOR 2.2UH	
L6	L32-0218-15	FM OSCILLATING COIL	
L7	L79-0099-05	LC FILTER	
L8	L79-0100-05	LC FILTER	
L9	L40-4721-28	INDUCTOR 4.7MH	
L11 ,12	L79-0060-05	LC FILTER	
L13	L40-1092-12	INDUCTOR 1UH	
L14	L32-0225-05	MW OSCILLATING COIL	
L15	L30-0321-05	AM IFT	
L16	L30-0284-05	AM IFT	
L17	L79-0073-05	AM BPF	11
L18	L40-1021-45	INDUCTOR 1MH	

Ref. No. 参照番号	Parts No. 部品番号	Description 部品名／規格	Remarks 備考
R3 ,4	R43-1247-05	FL-PROOF RD47 J 2E	
R35 ,36	R43-1210-15	FL-PROOF RD100 J 2E	
R46	R43-1233-05	FL-PROOF RD33 J 2E	
R47	R48-2750-93	RN 7.5K F 2E	
R51	R43-1222-05	FL-PROOF RD22 J 2E	
R79 ,80	R40-8310-68	RC 10M M 2H	
R92	R43-1210-15	FL-PROOF RD100 J 2E	
R94	R43-1210-15	FL-PROOF RD100 J 2E	
R116	R43-1210-15	FL-PROOF RD100 J 2E	
VR1	R12-0065-05	TRIMMING POT.4701F GAIN	
VR2	R12-1041-05	TRIMMING POT.3.3K VCO	
VR3	R12-5030-05	TRIMMING POT.100K P.C.	
VR4	R12-3045-05	TRINNING POT.10K SEPN	
S1	S42-3031-05	PUSH SWITCH FIG103	*
S2	S31-2048-05	SLIDE SWITCH FIG104	
D1 ,2	V11-0051-05	1N60	
D3 ,4	V11-0076-05	1S1555,1S2076	
D6	V11-0076-05	1S1555,1S2076	
D7	V11-0076-05	1S1555	
D8 ,9	V11-0076-05	1S1555,1S2076	
D11 -19	V11-0076-05	1S1555,1S2076	
IC1	V30-0215-05	LA1222	
IC2	V30-0321-10	HA11225	
IC3	V30-0268-20	MC1496N	
IC4	V30-0296-20	TR4010A	
IC5	V30-0266-20	HA11223W	
IC6	V30-0217-05	NJM4558D(A,B)	
IC7	V30-0196-05	HA1197,LA1240	
IC8	V30-0297-20	TC4069UBP,UPD4069C	
Q1	V01-0733-40	2SA733A(Q,P)2SA564A(QRS	
Q2	V09-0144-40	2SK163(N),2SK136(S)	
Q3 ,4	V03-0348-05	2SC945(Q,P),2SC828A(Q,R	
Q5 ,6	V09-0144-40	2SK136(R,S),2SK163(LMN)	
Q7 -10	V03-0348-05	2SC945(Q,P),2SC828A(Q,R	
Q11	V01-0733-40	2SA733A(Q,P)2SA564A(QRS	
105 2B	W02-0022-05	FM FRONT END	

POWER AMP (X07-1740-10)

C1 ,2	C71-1733-05	CERAMIC 33PF J	
C3 ,4	C24-1010-71	ELECTRO 100UF 10WV	
C5 ,6	C24-1733-51	ELECTRO 3.3UF 50WV	
C7 ,8	C46-1722-25	MYLAR 0.0022UF J	
C9 ,10	C71-1727-05	CERAMIC 27PF J	
C11 ,12	C71-1715-05	CERAMIC 15PF J	
C13	C45-1710-46	MYLAR 0.1UF K	
C14	C24-1710-51	ELECTRO 1UF 50WV	
C15 ,16	C24-2010-51	ELECTRO 1UF 100WV	
C17 ,18	C71-1704-01	CERAMIC 4PF C	
C19 ,20	C24-1210-71	ELECTRO 100UF 16WV	
C21,22	C71-1707-02	CERAMIC 7PF D	
C23 -26	C71-1747-05	CERAMIC 47PF J	
C31 -34	C24-1247-71	ELECTRO 470UF 16WV	
C35 -37	C45-1710-46	MYLAR 0.1UF K	
C39 -42	C91-0039-05	CERAMIC 0.1UF 250V	
C43 -52	C45-1710-46	MYLAR 0.1UF K	
C53 ,54	C24-1210-61	ELECTRO 10UF 16WV	
C55	C45-1710-46	MYLAR 0.1UF K	
C56	C26-1210-77	NP-ELEC 100UF 16WV	
C57	C25-1247-67	LL-ELEC 47UF 16WV	
C58	C45-2056-36	MYLAR 0.0056UF K	
C59 ,60	C45-1710-36	MYLAR 0.01UF K	
C61 ,62	C24-1210-61	ELECTRO 10UF 16WV	

PARTS LIST

Ref. No. 参照番号	Parts No. 部品番号	Description 部品名／規格	Remarks 備考
C63	C24-1747-41	ELECTRO 0.47UF 50WV	
C64	C24-1010-71	ELECTRO 100UF 10WV	
C65 -68	C46-1722-35	MYLAR 0.022UF J	
C69	C90-0414-05	ELECTRO 10000UF 71WV	*
C70 ,71	C55-1747-38	CERAMIC 0.047UF Z	
106 2A	E02-0004-05	TRANSISTOR SOCKET X4	
107 2B	E11-0060-15	PHONE JACK	
108 1B	E20-0812-05	TERMINAL BOARD	
109 2A	F01-0316-02	HEAT SINK (L)	*
110 1A	F01-0317-02	HEAT SINK (R)	*
111 1A	F01-0318-04	HEAT SINK (DRIVER) X2	*
112 1A	F01-0319-04	HEAT SINK (SUB) X4	*
L1 ,2	L39-0085-05	PHASE COMPENSATION COIL	
113	N09-0287-05	SCREW X6	
R17 ,18	R40-8356-16	RC 560 K 2H	
R25 ,26	R47-5475-25	FL-PROOF RS7.5K J 3A	
R27 -30	R43-1262-15	FL-PROOF RD620 J 2E	
R31 ,32	R43-1220-25	FL-PROOF RD2K J 2E	
R33 ,34	R43-1268-05	FL-PROOF RD68 J 2E	
R35 -38	R43-1215-15	FL-PROOF RD150 J 2E	
R39 ,40	R47-5482-25	FL-PROOF RS8.2K J 3A	
R41 ,42	R43-1233-05	FL-PROOF RD33 J 2E	
R43 ,44	R43-1210-15	FL-PROOF RD100 J 2E	
R53 ,54	R43-1239-05	FL-PROOF RD39 J 2E	
R55 -58	R43-1247-95	FL-PROOF RD4.7 J 2E	
R63 -66	R92-0167-05	METAL PLATE 0.22 3W	
R75 -78	R43-1222-15	FL-PROOF RD220 J 2E	
R79 -82	R47-5510-05	FL-PROOF RS10 J 3D	
R85 -88	R47-5610-05	FL-PROOF RS10 J 3F	
R103,104	R47-5533-25	FL-PROOF RS3.3K J 3D	
R117	R47-5612-25	FL-PROOF RS1.2K J 3F	
R118	R47-5512-25	FL-PROOF RS1.2K J 3D	
R124	R47-5568-15	FL-PROOF RS680 J 3D	
R125	R17-5556-15	FL-PROOF RS560 J 3D	
R131-133	R47-5547-15	FL-PROOF RS470 J 3D	
R141,142	R47-5547-95	FL-PROOF RS4.7 J 3D	
R143,144	R47-5510-05	FL-PROOF RS10 J 3D	
R145,146	R47-5456-15	FL-PROOF RS560 J 3A	
VR1 ,2	R12-0501-05	TRIMMING POT 100	
VR3 ,4	R12-0408-05	TRIMMING POT 100	
VR5 ,6	R12-5013-05	TRIMMING POT 100K	
RL1	S51-4034-05	RELAY	
S1	S90-0006-05	SLIDE SWITCH FIG116	
D1 ,2	V11-4103-60	XZ-051	
D3 -6	V11-0051-05	1N60	
D7 ,8	V11-0271-05	1S2076	
D9 ,10	V11-5100-40	STV-4H(G)	
D11 ,12	V11-0219-05	V06B	
D13 ,14	V11-0271-05	1S2076	
D15 -22	V11-0273-05	1S2076A	
D23 -26	V11-0219-05	V06B	
D27 ,28	V11-0273-05	1S2076A	
D29 ,30	V11-0051-05	1N60	
D31 ,32	V11-0273-05	1S2076A	
D33	V11-2100-80	M4C-51-13*2	
D34 ,35	V11-0271-05	1S2076	
D36	V11-0295-05	W06B	
D37 -39	V11-0273-05	1S2076A	
D40	V11-0219-05	V06B	

Ref. No. 参照番号	Parts No. 部品番号	Description 部品名／規格	Remarks 備考
D41 ,42	V11-0273-05	1S2076A	
D43 -48	V11-0219-05	V06B	
IC1	V30-0292-10	TA7318P	
Q1 ,2	V09-0145-10	UPA68H	
Q3 -6	V03-0270-05	2SC945(R,Q),2SC828A(Q,R	
Q7 ,8	V03-2259-10	2SC2259(G,H)	
Q9 -12	V01-0206-05	2SA899(B,V)	
Q13 ,14	V03-0460-05	2SC1904(B,V)	
Q15 ,16	V03-0468-05	2SC1913(Q,R)	
Q17 ,18	V01-0188-05	2SA913(Q,R)	
Q19 ,20	V03-1845-10	2SC1845(F,E),2SC1775	
Q21 ,22	V01-0733-30	2SA733AR,Q 2SA564AQ,R	
Q23 ,24	V03-2607-00	2SC2607	
Q25 ,26	V01-1116-00	2SA1116	
Q27 ,28	V03-0451-05	2SC1885(Q,R)	
Q29 ,30	V01-0912-20	2SA912(Q,R)	
Q31 ,32	V01-0957-10	2SA957(Y,G)	
Q33 ,34	V03-2167-10	2SC2167(Y,G)	
Q35 ,36	V03-0451-05	2SC1885(Q,R)	
Q37	V01-0992-10	2SA992(F,E),2SA893A	
Q38	V03-0270-05	2SC945(R,Q),2SC828A(Q,R	
Q39	V03-1845-10	2SC1845(F,E),2SC1775	
Q40	V01-0173-05	2SA850	
Q41	V03-1845-10	2SC1845(F,E),2SC1775	
Q42 ,43	V01-0992-10	2SA992(F,E),2SA893A	
Q44	V03-1845-10	2SC1845(F,E),2SC1775	

PRE AMP (X08-1740-10)

117 2B	B30-0084-05	LAMP x5	
C1 -4	C71-1710-15	CERAMIC 100PF J	
C5 ,6	C49-2018-34	MYLAR 0.018UF G	
C7 ,8	C49-2047-24	MYLAR 0.0047UF G	
C9 ,10	C24-1247-61	ELECTRO 47UF 16WV	
C11 ,12	C24-1422-61	ELECTRO 22UF 25WV	
C13 ,14	C25-6533-57	LL-ELEC 3.3UF 35WV	
C15 ,16	C46-1718-25	MYLAR 0.0018UF J	
C17	C25-1710-57	LL-ELEC 1UF 50WV	
C18	C71-1710-15	CERAMIC 100PF J	
C19	C71-1747-05	CERAMIC 47PF J	
C20	C46-1715-25	MYLAR 0.0015UF J	
C21	C24-1410-61	ELECTRO 10UF 25WV	
C22	C25-1410-67	LL-ELEC 10UF 25WV	
C23 ,24	C24-6533-71	ELECTRO 330UF 35WV	
C25 ,26	C24-6510-71	ELECTRO 100UF 35WV	
C27 -29	C24-1710-51	ELECTRO 1UF 50WV	
C30 -32	C52-1756-16	CERAMIC 560PF K	
C33	C24-1447-61	ELECTRO 47UF 25WV	
C34	C24-1047-61	ELECTRO 47UF 10WV	
118 1B	E06-0513-05	R/P JACK	
119 3B	E11-0065-05	PHONE JACK	
120 1B	E13-0423-05	PHONO JACK (4P) X2	
121 1B	E13-0612-05	PHONO JACK (6P)	
L1	L40-3311-03	INDUCTOR	
122 3B	R06-4032-05	POTENTIOMETER 50K X2	
R15 ,16	R48-2180-34	RN 180K G 2E	
R17 ,18	R48-2150-24	RN 15K G 2E	
R50 ,51	R43-1282-05	FL-PROOF RD82 J2E	
R52 ,53	R43-1222-15	FL-PROOF RD220 J 2E	
S1	S29-1123-05	ROTARY WAFER SWITCH 123	*
S2 ,3	S33-4026-05	LEVER SWITCH FIG124	*
S4	S33-4027-05	LEVER SWITCH FIG125	*

PARTS LIST

Ref. No. 参照番号	Parts No. 部品番号	Description 部品名／規格	Remarks 備考
D1 -4	V11-0076-05	1S1555	
D5	V11-0416-05	EQA01-24	
Q1 ,2	V09-0144-60	2SK163(L)	
Q3 -6	V02-0725-00	2SB725,2SA1023(P,K)	
Q7 ,8	V04-0767-00	2SD767,2SC2378(P,K)	
Q9 ,10	V02-0725-00	2SB725,2SA1023(P,K)	
Q11	V01-0992-10	2SA992(F,E)	
Q12	V03-1567-00	2SC1567(R,S)	
TONE AMP (X11-1590)			
126 2B	B30-0084-05	LAMP 8V 0.005A X2	
C1	C24-1247-61	ELECTRO 47UF 16WV	
C2	C24-1733-51	ELECTRO 3.3UF 50WV	
C3	C24-1710-71	ELECTRO 100UF 50WV	
C4	C24-1247-61	ELECTRO 47UF 16WV	
C5	C24-1210-71	ELECTRO 100UF 16WV	
C6	C24-1247-61	ELECTRO 47UF 16WV	
C7	C24-1733-51	ELECTRO 3.3UF 50WV	
C8	C24-6510-71	ELECTRO 100UF 35WV	
C9	C46-1710-35	MYLAR 0.01UF J	
C10	C24-1210-81	ELECTRO 1000UF 16WV	
C11 ,12	C52-1733-16	CERAMIC 330PF K	
C13 ,14	C46-1727-35	MYLAR 0.027UF J	
C15 ,16	C46-1718-35	MYLAR 0.018UF J	
C17 ,18	C25-1710-57	LL-ELEC 1UF 50WV	
C19 ,20	C25-1410-67	LL-ELEC 10UF 25WV	
C21 ,22	C52-1756-16	CERAMIC 560PF K	
C23 ,24	C46-1733-25	MYLAR 0.0033UF J	
C25 ,26	C46-1727-25	MYLAR 0.0027UF J	
C27 ,28	C46-1733-35	MYLAR 0.033UF J	
C29 -32	C25-1747-47	LL-ELEC 0.47UF 50WV	
C33 ,34	C46-1733-35	MYLAR 0.033UF J	
C35 ,36	C25-1747-47	LL-ELEC 0.47UF 50WV	
C37 ,38	C25-1410-67	LL-ELEC 10UF 25WV	
C39 ,40	C71-1747-05	CERAMIC 47PF J	
C41 ,42	C81-6510-47	TANTAL 0.1UF 35WV	
C43 ,44	C46-1722-25	MYLAR 0.0022UF J	
C45 ,46	C24-1222-71	ELECTRO 220UF 16WV	
127 1B	E03-0018-05	AC OUTLET X3	*K
127 1B	E03-0018-05	AC OUTLET X3	UP
128 1B	F01-0320-04	HEAT SINK	*
F1	F05-1032-05	FUSE	KP
F1 ,2	F05-5022-05	FUSE	U
F1	F05-5024-05	FUSE	T
F1 ,2	F05-5024-05	FUSE	E
F3	F05-2021-05	FUSE	KP
F3	F05-2023-05	FUSE	U
F3	F05-2029-05	FUSE	TE
129 1B	J13-0055-05	FUSE HOLDER X4	KT
129 1B	J13-0055-05	FUSE HOLDER X4	P
129 1B	J13-0055-05	FUSE HOLDER X6	UE
L1 ,2	L40-1021-03	INDUCTOR	
R1	R43-1215-15	FL-PROOF RD150 J 2E	
R9	R47-5515-15	FL-PROOF RS150 J 3D	
R13	R92-0173-05	RC 2.2M M	
R14	R43-1210-05	FL-PROOF RD10 J 2E	
R55	R43-1210-15	FL-PROOF RD100 J 2E	
R56	R47-5527-15	FL-PROOF RS270 J 3D	
R57	R43-1233-05	FL-PROOF RD33 J 2E	
VR1	R08-5042-05	POTENTIOMETER 200K 130	

Ref. No. 参照番号	Parts No. 部品番号	Description 部品名／規格	Remarks 備考
VR2	R08-5041-05	POT 100KB X2 FIG131	
VR3 -5	R06-4036-05	POT 50KB X2 FIG132	
S1	S31-2050-05	SLIDE SW (VOLTAGE) 133	UE
S2	S42-2024-05	PUSH SWITCH FIG134	*
S3	S40-2097-05	PUSH SWITCH FIG135	*
S4 ,5	S33-2058-05	LEVER SWITCH FIG136	*
D1	V11-4103-70	XZ-142,EQA01-14	
D2	V11-0219-05	V06B	
D3	V11-4103-70	XZ-142,EQA01-14	
D4	V11-0271-05	1S2076	
IC1 ,2	V30-0264-10	HA1457	
Q1	V03-1567-00	2SC1567	
Q2	V03-2320-00	2SC2320,2SC945	
Q3	V03-2167-10	2SC2167(Y,G)	
Q4	V03-2378-00	2SC2378	
Q5	V03-2320-00	2SC2320,2SC945	
Q6	V01-0957-10	2SA957(Y,G)	
Q7	V01-0999-00	2SA999,2SA733(A)	KU
Q7	V01-0999-00	2SA999,2SA733(A)	TP
Q7 ,8	V01-0999-00	2SA999,2SA733(A)	E
Q9 ,10	V03-1845-00	2SC1845	
FM FRONT END (W02-0022-05)			
TC0	C05-0074-00	TRIMMER CAPACITOR	
L7	L33-0273-00	TRAP COIL	
T1	L30-0325-00	FM IFT	
IC1	V30-0345-10	SC-114	
Q1	V09-0150-10	3SK85	

Ref. No. 参照番号	Parts No. 部品番号	Description 部品名／規格	Re-marks 備考
14 3A	A20-1391-13	FRONT PANEL PANEL	*H
14 3A	A20-1417-13	FRONT PANEL ASSY	*T
15 3A	A21-0302-03	DRESSING PANEL	*K
15 3A	A21-0302-03	DRESSING PANEL	PU
15 3A	A21-0302-03	DRESSING PANEL	MX
C1 ,C2	C54-3310-39	CERAMIC 0.01UF P	ET
C1	C90-0145-05	POLYESTER 0.01UF AC125V	K
C1	C91-0023-05	CERAMIC 0.01UF AC250V	UM
C1	C91-0023-05	CERAMIC 0.01UF AC250V	HX
C1	C91-0025-05	CERAMIC 0.01UF AC125V	P
28 1B	D15-0155-13	PULLEY	
29 1B	D15-0156-13	PULLEY	
30 2A	D15-0170-14	PULLEY	
31 2A	D20-0144-03	DIAL SHAFT	

① Exploded view drawing No.
② Position in exploded view.
③ Symblo of new parts
④ Area to which parts are shipped. Example: A20-1390-13 is the part No. of FRONT PANEL ASS'Y for the "K" type products (for U.S.A.).
When this column is blank, it means that the same type of parts (same parts No.) are used for the products shipped to all areas.

CODEs in X11-1590
K: X11-1590-11
U: X11-1590-81
P: X11-1591-01
T: X11-1591-51
E: X11-1592-71

⑤ Reference No. in schematic diagram.
⑥ Abbreviation of "ceramic capacitor".
All capacitors and resistors are listed using abbreviations.
⑦ Abbreviations

* Abbreviations of capacitors (Parts No. with initial letter "C").

ELECTRO . . . . . Electrolytic capacitor
LL-ELEC . . . . . Low leak electrolytic capacitor
NP-ELEC . . . . . Non-pole electrolytic capacitor
MICA . . . . . Mica capacitor
POLYSTY . . . . . Polystyrene capacitor
MYLAR . . . . . Mylar capacitor
CERAMIC . . . . . Ceramic capacitor
TANTAL . . . . . Tantalum capacitor
MF . . . . . Metallized film capacitor
OIL . . . . . Oil capacitor
The unit "UF" is used in lieu of "μF".

* Abbreviations of resistors (Parts No. with initial letters "R").

RC . . . . . Carbon composition resistor
RD . . . . . Carbon film resistor
FL-PROOF RD . . . . . Flame-proof carbon film resistor
RW . . . . . Wire wound power resistor
FL-PROOF RS . . . . . Flame-proof metal oxide film resistor
RN . . . . . Metal film resistor
2B . . . . . Rated wattage 1/8W
2E . . . . . Rated wattage 1/4W
2H . . . . . Rated wattage 1/2W
3A . . . . . Rated wattage 1W
3D . . . . . Rated wattage 2W
3F . . . . . Rated wattage 3W
3G . . . . . Rated wattage 4W
3H . . . . . Rated wattage 5W

All resistor values are indicated with the unit (Ω) omitted.

* Abbreviations common to capacitors and resistors.

C . . . . . ±0.25pF (Used for capacitors only)
D . . . . . ±0.5pF (Used for capacitors only)
F . . . . . ±1%
G . . . . . ±2%
J . . . . . ±5%
K . . . . . ±10%
M . . . . . ±20%
Z . . . . . +80%,−20%(Used for capacitors only)
P . . . . . +100%,−0%(Used for capacitors only)

⑧ Resistors RD (carbon composition resistors) are not listed in the parts list. For values, refer to the schematic diagram.

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