

**KENWOOD**  
HI/FI STEREO COMPONENTS

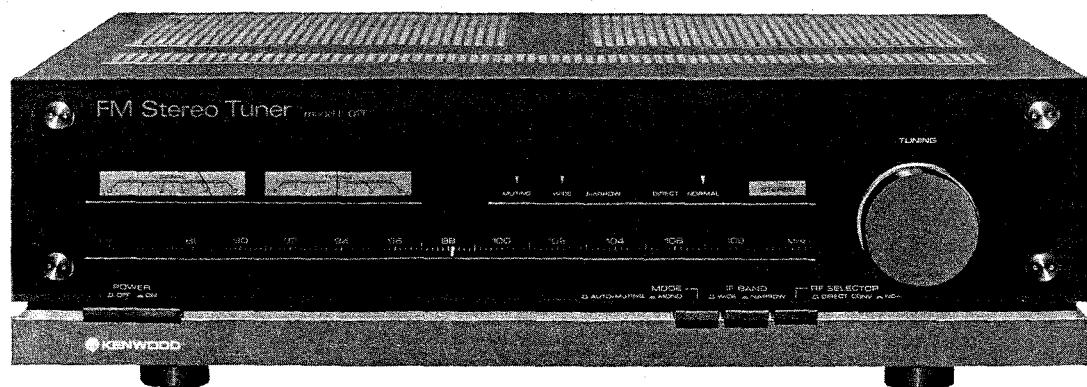
# SERVICE MANUAL

**L-01T**

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.



**FM STEREO TUNER**

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**Caution**

- Do not touch the copper plate with naked hand because it is liable to rust. If fingerprints are left on the plate, remove them with a steel brush.
- The cabinet is made of nylon resin. Do not place any hot object such as a soldering iron on the cabinet.
- The S-meter and T-meter are not covered by the case. Treat them carefully when replacing.

**Avertissement**

- Ne pas toucher la plaque de cuivre avec les mains nues car elle est susceptible de rouiller. Si des empreintes digitales sont laissées sur la plaque, les nettoyer à la brosse métallique.
- Le coffret est en résine de nylon. Ne pas placer d'objets chauds tels qu'un fer à souder sur le coffret.
- Le Vu-mètre et le compteur d'accord ne sont pas couverts par le coffret. Les manipuler soigneusement lors du remplacement.

**Vorsicht**

- Die Kupferplatte icht mit der bloßen Hand berühren, weil diese sonst rosten kann. Bleiben Fingerabdrücke auf der Platte zurück, diese mit einer Stahlbürste entfernen.
- Das Gehäuse besteht aus Nylonharz. Keinen heißen Gegenstand, wie z.b. ein Bügeleisen, auf das Gehäuse stellen.
- S-Meter und T-Meter werden nicht durch das Gehäuse geschützt. Diese beim Auswechseln vorsichtig handhaben

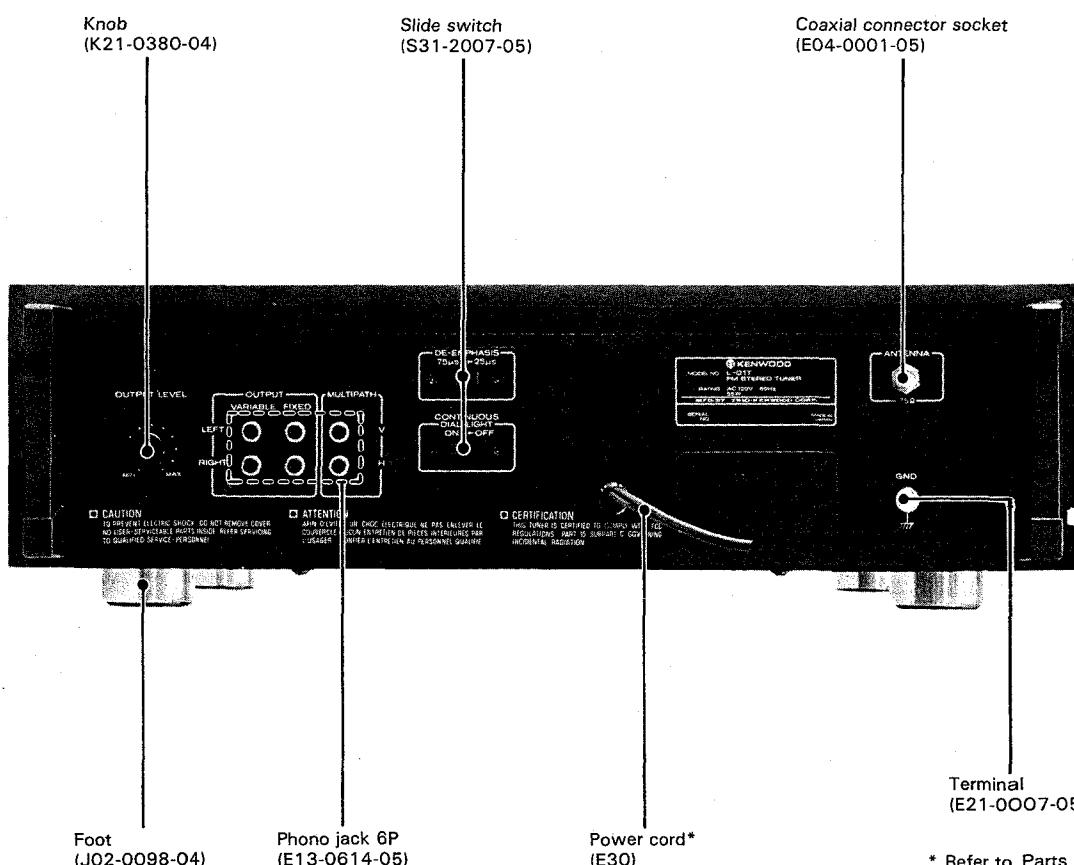
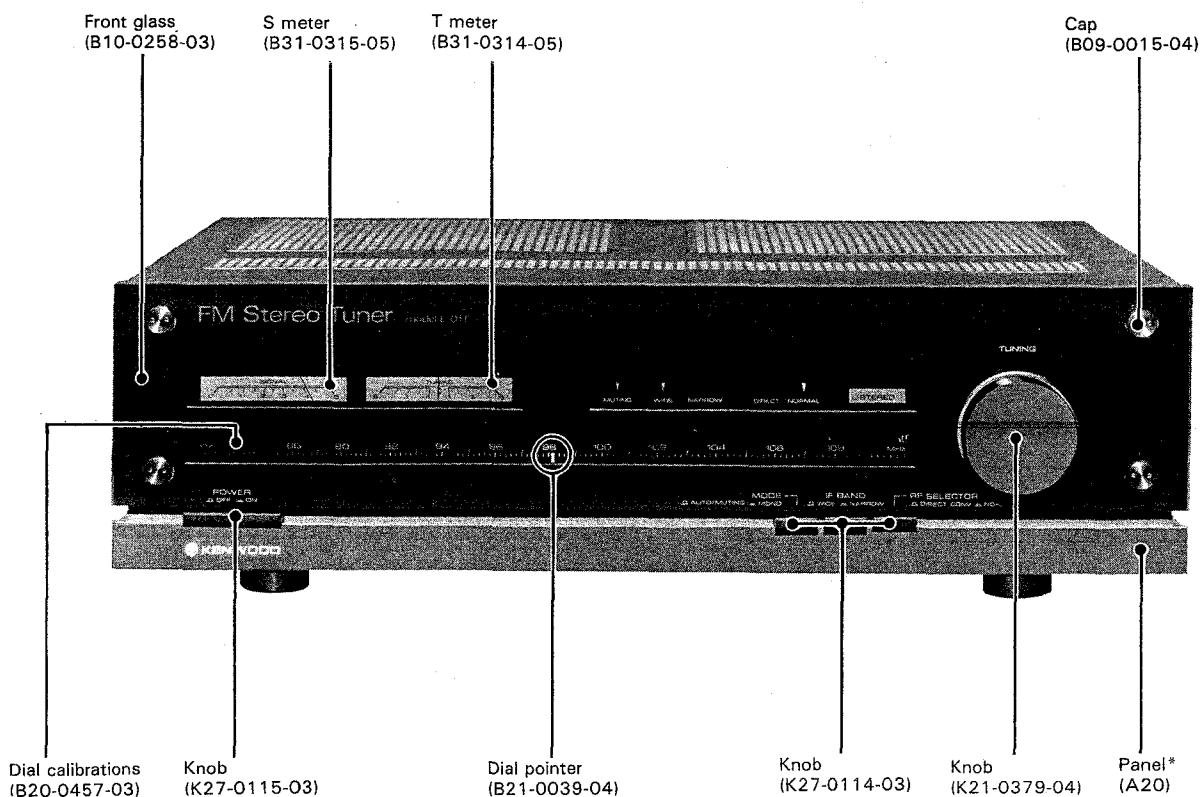
**Note:**

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
South Africa.....	S
Other Areas.....	M

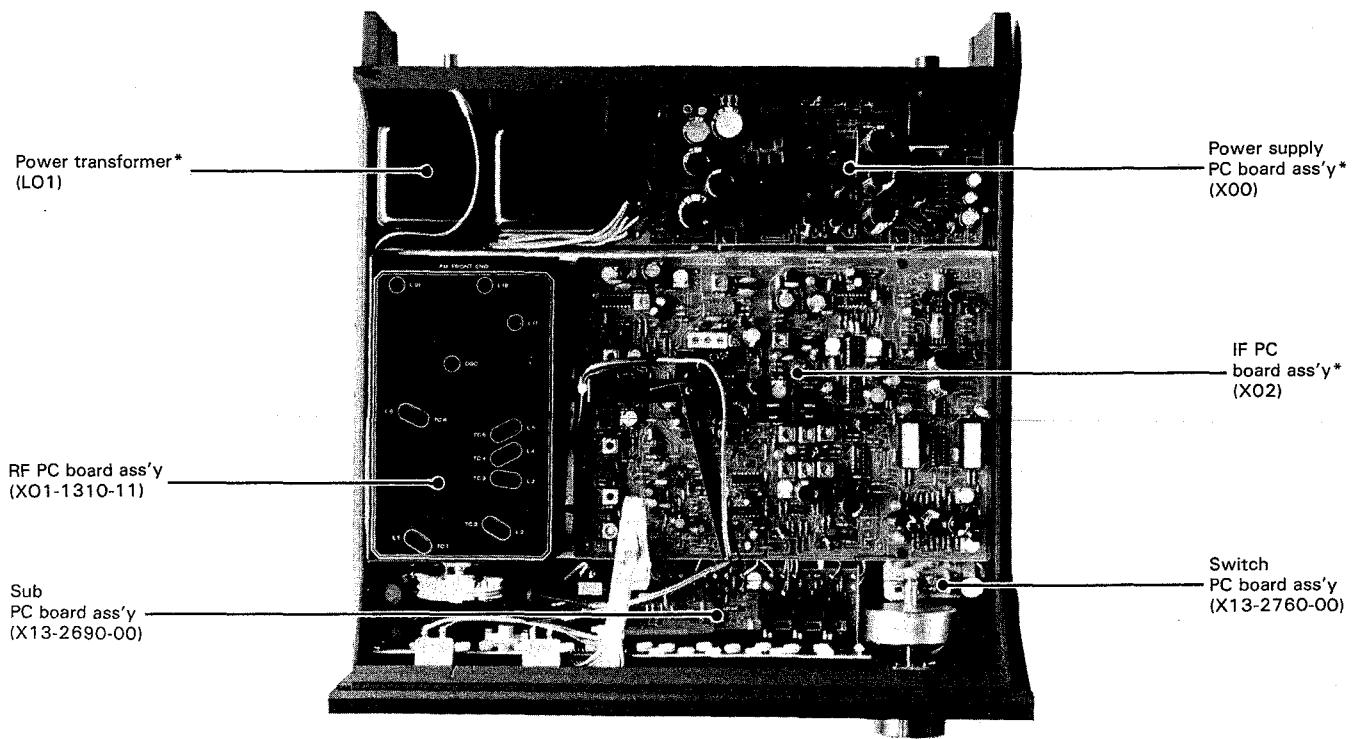
There is no plan for producing units of S type.

## EXTERNAL VIEW



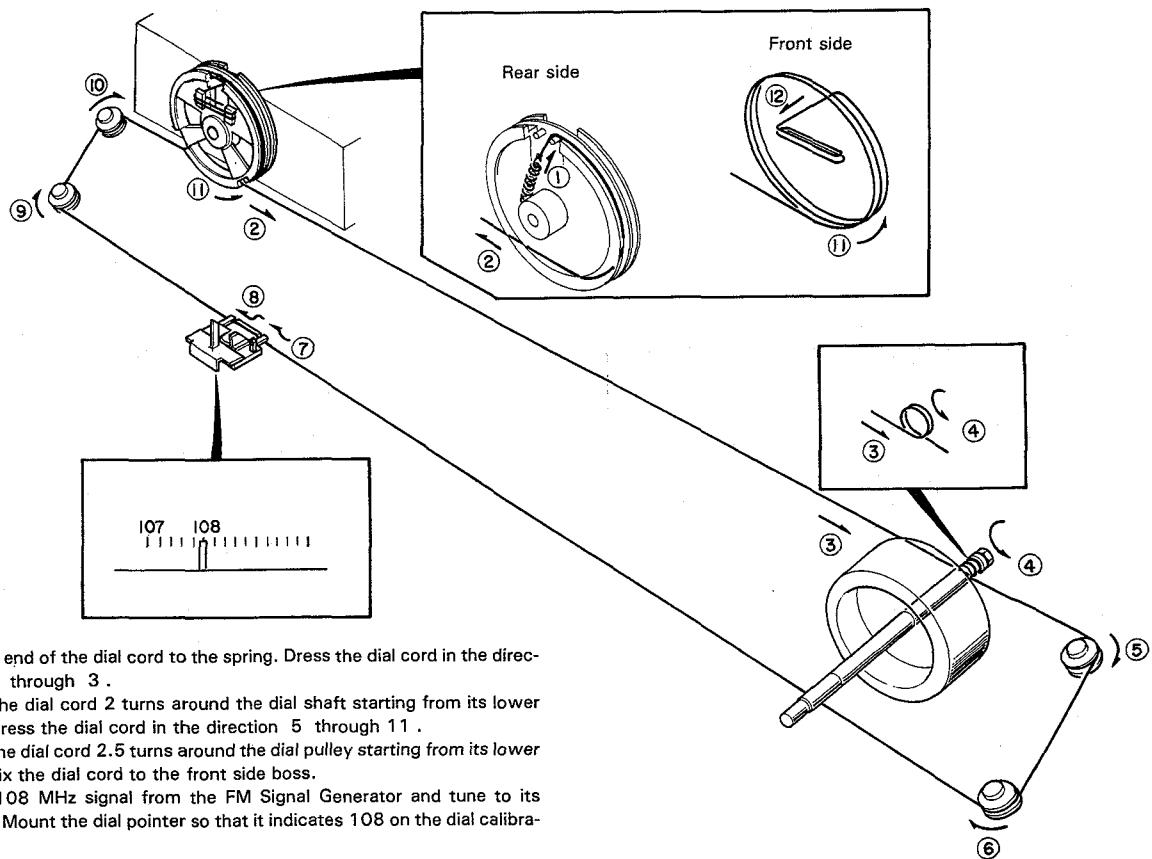
\* Refer to Parts List.

## INTERNAL VIEW / DIAL CORD STRINGING



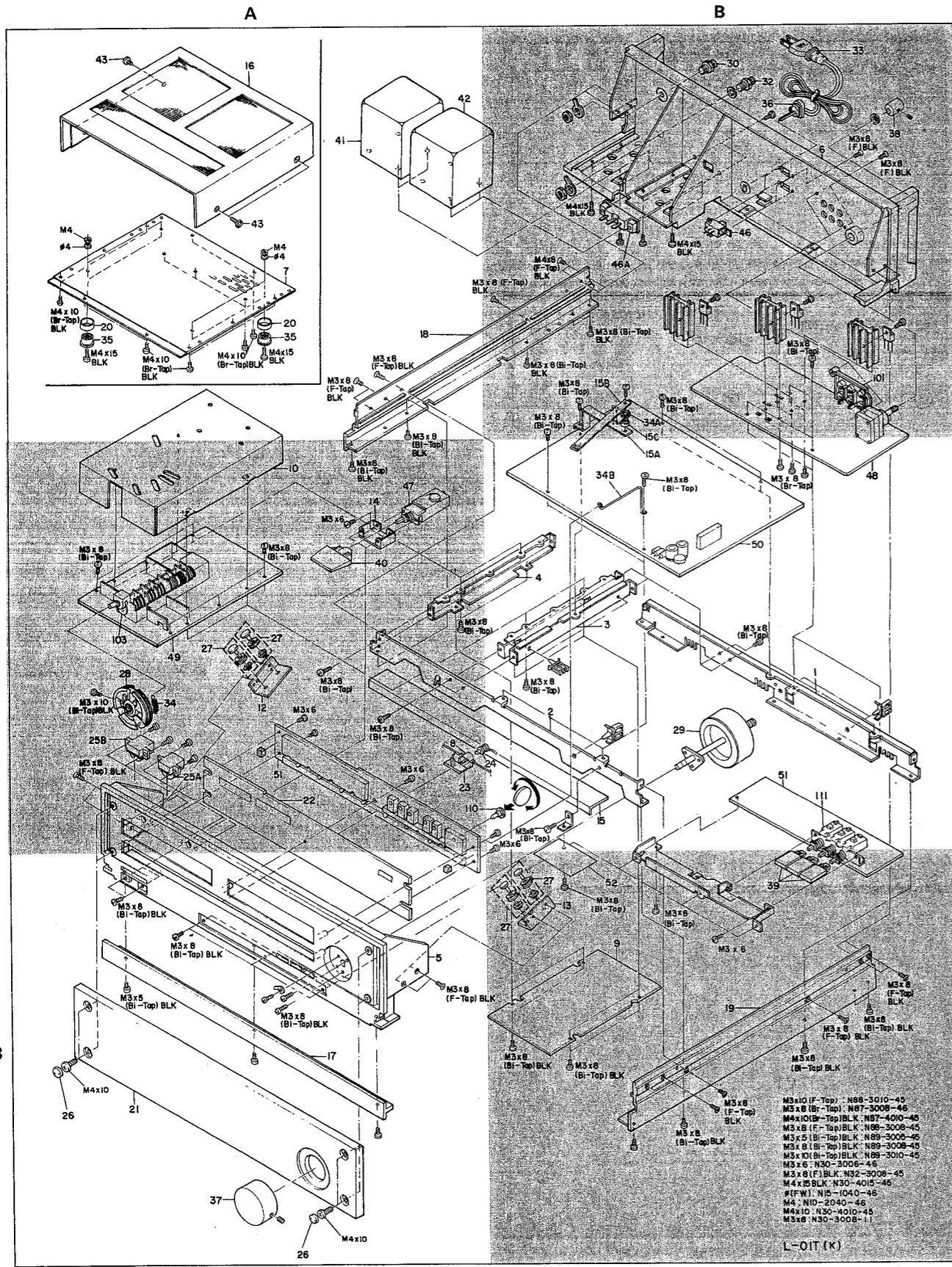
\* Refer to Parts List.

## DIAL CORD STRINGING

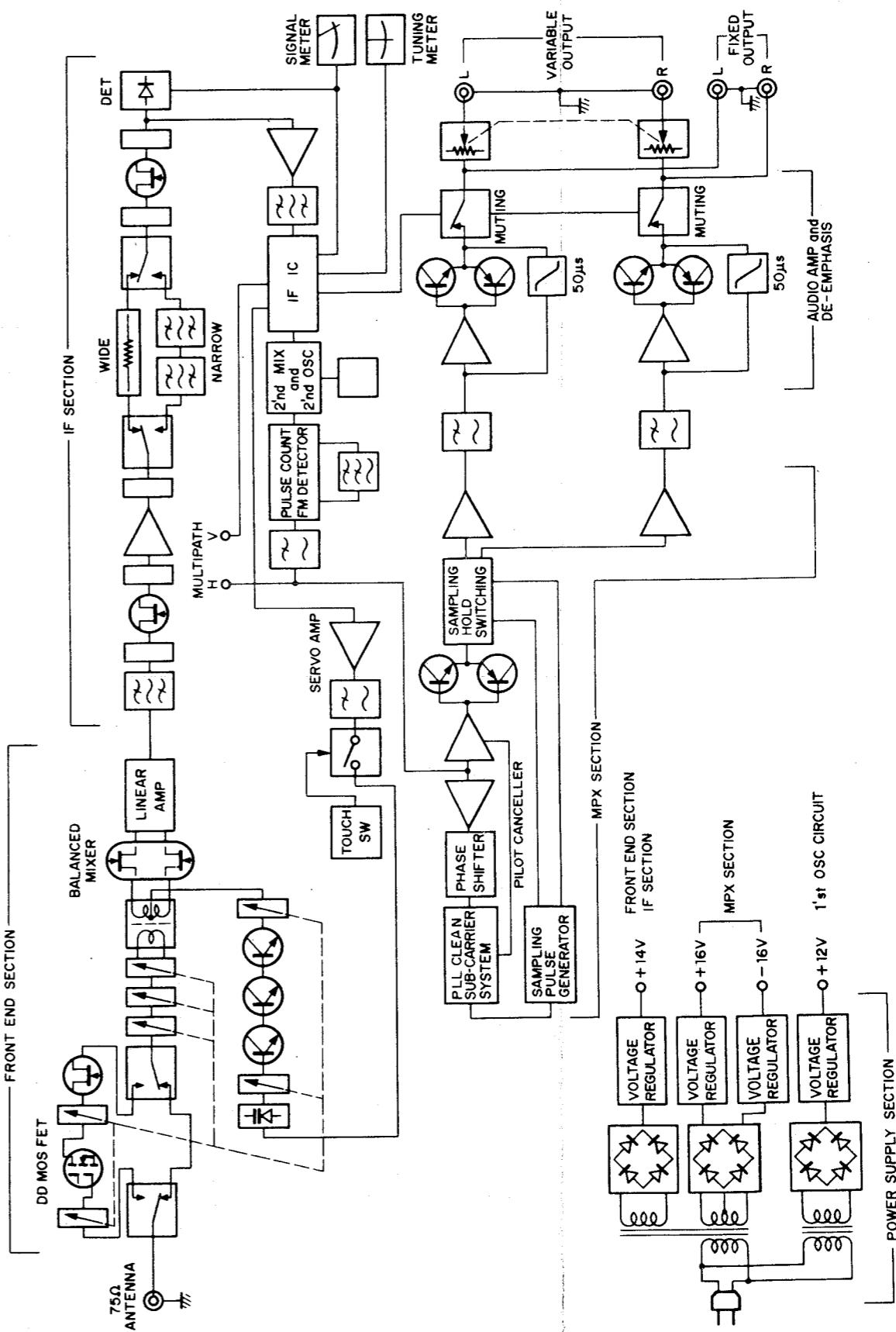


# L-01T L-01T

## EXPLODED VIEW



## BLOCK DIAGRAM



L-01T

L-01T L-01T

## ADJUSTMENT

Set the MODE switch to AUTO/MUTING, IF BAND switch WIDE and RF SELECTOR switch NORMAL, CONTINUOUS DIAL LIGHT switch ON, unless otherwise specified.

NO.	ALIGNMENT	TEST EQUIPMENTS		TUNER SETTING	OUTPUT INDICATOR	ADJUSTMENT POINTS	REMARKS
		CONNECTION	SETTING				
1	T METER (1)	Ⓐ *1	95MHz 1kHz, 75kHz Dev	95MHz MODE: MONO IF BAND: NARROW	Ⓑ	—	*2
2	T METER (2)	ditto	95MHz 1kHz, 75kHz Dev 60dB *3	95MHz Touch the tuning knob by hand.	T meter	X02-1200 L6	T meter pointer to be on the center line.
3	FRONT END IFT	ditto	95MHz 1kHz, 75kHz Dev Approx. 40dB *3	95MHz	S meter	X01-1310 L17, 19, 21	Maximum deflection
4	TRACKING (1)	ditto	90MHz 1kHz, 75kHz Dev	90MHz MODE:MONO	ditto	X01-1310 L6, 5, 4, 3, 2	Maximum deflection
5	TRACKING (2)	ditto	ditto	ditto	Ⓑ	X01-1310 L1	Minimum distortion and maximum output.
6	TRACKING (3)	ditto	106MHz 1kHz, 75kHz Dev	106MHz MODE:MONO	S meter	X01-1310 TC6, 5, 4, 3, 2	Maximum deflection
7	TRACKING (4)	ditto	ditto	ditto	Ⓑ	X01-1310 TC1	Minimum distortion and maximum output.
8	MUTING	ditto	95MHz 1kHz, 75kHz Dev 10dB *3	ditto	ditto	X02-1200 VR2	*4
9	WIDE GAIN	ditto	95MHz 1kHz, 40kHz Dev	95MHz NARROW	S meter	—	*5
10	WIDE GAIN	ditto	*6	95MHz WIDE	ditto	X02-1200 VR1	S meter deflec- tion: Same as NARROW
11	S METER	ditto	95MHz 1kHz, 40kHz Dev 60dB *3	95MHz	ditto	X02-1200 VR3	*7
12	VCO	ditto	95MHz 0 (Dev) 60dB *3	ditto	Frequency counter to the intersection of R117 and VR6 via SSVM. *8	X02-1200 VR6	76kHz
13	PILOT CANCELLER	Ⓒ	95MHz Pilot signal 60dB *3	ditto	AG to the connect- ing point of R103 and R104 (X02-1200)	X02-1200 VR7, L16	Minimum output
14	DISTORTION (STEREO)	ditto	95MHz 1kHz, 68.25kHz Dev *9 60dB *3 SELECTOR:L or R	ditto	Ⓑ	X01-1310 L21	Minimum distortion
15	SCA (1)	ditto	95MHz 67kHz, 3.75kHz Dev 60dB *3 SELECTOR: L+R	ditto	DC voltmeter to cathode of D36 (X02-1200)	X02-1200 L10, 11	Maximum DC voltage
16	SCA (2)	ditto	ditto	ditto	DC voltmeter to pin 1 of IC9 (X02-1200)	X02-1200 VR5	*10

## ADJUSTMENT

NO.	ALIGNMENT	TEST EQUIPMENTS		TUNER SETTING	OUTPUT INDICATOR	ADJUSTMENT POINTS	REMARKS
		CONNECTION	SETTING				
17	NOISE AMP	Ⓐ	—	Dead spot	DC voltmeter to the emitter of Q6 on X02-1200	X02-1200 VR4	DC voltage: 8V

Note: Separation has been adjusted using accurate measuring instruments. Since an ordinary MPX-SG does not have sufficient phase accuracy (especially at 10 kHz), do not use one for separation adjustment. It is not recommended that separation is adjusted in servicing.  
For reference, separation adjustment procedures are shown in the following.

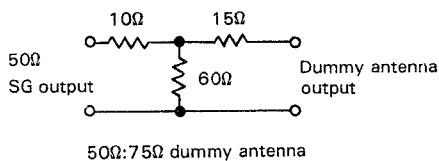
NO.	ALIGNMENT	TEST EQUIPMENTS		TUNER SETTING	OUTPUT INDICATOR	ADJUSTMENT POINTS	REMARKS
		CONNECTION	SETTING				
①	SUB	Ⓒ	95MHz 1kHz, 68.25kHz Dev *9 60dB *3 SELECTOR: L-R	95MHz	Ⓑ	X02-1200 VR8 (L) VR9 (R)	Maximum output
②	SEPARATION (1)	ditto	95MHz 1kHz, 68.25kHz Dev *9 60dB *3 SELECTOR: L	95MHz WIDE	Ⓑ (R CH)	VR11 (L → R)	Minimum crosstalk from the other channel.
③	SEPARATION (2)	ditto	95MHz 1kHz, 68.25kHz Dev *9 60dB *3 SELECTOR: R	ditto	Ⓑ (L CH)	VR10 (R → L)	ditto
④	SEPARATION (3)	ditto	95MHz 10kHz, 68.25kHz Dev *9 60dB *3 SELECTOR: L or R	ditto	ditto	X02-1200 FL5	ditto *11
Repeat alignments "① ~ ④" several times.							
⑤	SEPARATION (4)	Ⓒ	95MHz 1kHz, 68.25kHz Dev *9 60dB *3 SELECTOR: L or R	95MHz NARROW	Ⓑ	X13-2690 VR1	Minimum crosstalk from the other channel.

## ADJUSTEMENT

### TEST INSTRUMENTS

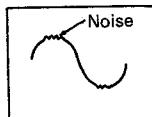
Oscilloscope ..... OSC  
 AM signal generator ..... AM-SG  
 FM signal generator ..... FM-SG  
 Audio frequency generator ..... AG  
 AC voltmeter.  
 FM multiplex generator ..... FM-MPX  
 Frequency counter.  
 DC voltmeter.  
 Distortion meter.  
 Dummy antenna.

- \* 1 To perform precise adjustment, a SG (with  $75\Omega$  output impedance) must be directly connected to the tuner. Use a connecting cable with a BNC connector at the SG end and an F connector at the tuner end. When an open-scaled SG (which indicates the output level when no load is connected) is used, subtract 6 dB from the SG reading to obtain ANT input level. If the output impedance of the SG is  $50\Omega$ , use a new IHF standard  $50\Omega:75\Omega$  dummy antenna.



If an open-scaled SG is used, subtract 12 dB from the SG reading to obtain ANT input level. If a load-scaled SG (which indicates the output level when a  $50\Omega$  load is connected) is used, subtract 6 dB from the SG reading.

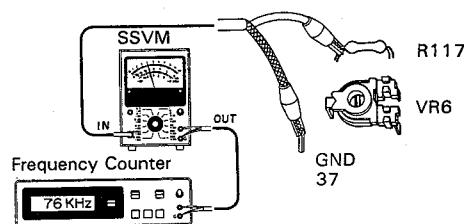
- \* 2 Adjust the tuning knob so that the same amount of noise is observed at the top and bottom of the output waveform with a weak signal.



- \* 3 Tuner input level.
- \* 4 Turn VR2 until the output waveform disappears, then turn it slightly in the opposite way until the output waveform appears again.
- \* 5 TUNER input to achieve a S-meter deflection of 3 scale graduations.
- \* 6 TUNER input obtained at Step 9

- \* 7 S-meter deflection: 4.8 scale graduations

- \* 8



- \* 9 Set deviation to  $\pm 68.25$  kHz with selector in L+R position.  
 Set deviation of pilot signal to 6.75 kHz (9%)
- \* 10 Set VR5 to the position where the voltmeter reading changes from positive to negative.
- \* 11 If sufficient separation cannot be obtained, turn FL5 within  $\pm 5^\circ$  (if they are turned too much, separation at 1 kHz will deteriorate.)

## RÉGLAGES

Placer le MODE dans la position AUTO/MUTING, IF BAND sur WIDE, RF SELECTOR sur NORMAL et CONTINUOUS DIAL LIGHT sur ON sauf spécialement.

N°	ALIGNEMENT	APPAREILLAGE		RÉGLAGE DU TUNER	INDICATEUR DE SORTIE	POINTS DE RÉGLAGES	REMARQUES
		RACCORDEMENT	RÉGLAGE				
1	INDICATEUR À ZÉRO CENTRAL(1)	(A) *1	95MHz 1kHz (Mod) 75kHz (Dev)	95MHz	(B)	—	*2
2	INDICATEUR À ZÉRO CENTRAL(2)	idem	95MHz 1kHz (Mod) 75kHz (Dev) 60dB (ENTRÉE ANT) *3	95MHz Toucher le bouton d'accord avec la main	INDICATEUR À ZÉRO CENTRAL	X02-1200 L6	Aiguille de l'indicateur à zéro central en position centrale
3	PARTIE FRONTALE FR	idem	95MHz 1kHz (Mod) 75kHz (Dev) 40dB (ENTRÉE ANT) *3	95MHz	INDICATEUR DE CHAMP	X01-1310 L17, 19, 21	Déviation maximale
4	ALIGNEMENT (1)	idem	95MHz 1kHz (Mod) 75kHz (Dev)	90MHz	idem	X01-1310 L6, 5, 4, 3, 2	Déviation maximale
5	ALIGNEMENT (2)	idem	idem	idem	(B)	X01-1310 L1	Distorsion minimale et déviation maximale
6	ALIGNEMENT (3)	idem	106MHz 1kHz (Mod) 75kHz (Dev)	106MHz	INDICATEUR DE CHAMP	X01-1310 TC6,5,4,3,2	Déviation maximale
7	ALIGNEMENT (4)	idem	idem	idem	(B)	X01-1310 TC1	Distorsion minimale et déviation maximale
8	MUTING	idem	95MHz 1kHz (Mod) 75kHz (Dev) 10dB *3	idem	idem	X02-1200 VR2	*4
9	GRAND GAIN	idem	95MHz 1kHz (Mod) 40kHz (Dev)	95MHz NARROW	INDICATEUR DE CHAMP	—	*5
10	GRAND GAIN	idem	* 6	95MHz WIDE	idem	X02-1200 VR1	Déviation du Vu-mètre: La même que pour NARROW
11	INDICATEUR DE CHAMP	idem	95MHz 1kHz (Mod) 40kHz (Dev) 60dB (ENTRÉE ANT) *3	95MHz	idem	X02-1200 VR3	*7
12	OSCILLATEUR 76kHz	idem	95MHz 0 (Dev) 60dB (ENTRÉE ANT) *3	idem	Compteur de fréquence au point d'intersection à R117 et VR6 par SSVM. *8	X02-1200 VR6	76kHz
13	CIRCUIT SUPPRESSION DE SIGNAL PILOTE	(C)	95MHz signal pilote 60dB (ENTRÉE ANT) *3	idem	Relier le générateur de fréquence audio aux points de connection de R103 et R104 (X02-1200)	X02-1200 VR7, L16	Sortie minimale
14	DISTORSION (STÉRÉO)	idem	95MHz 1kHz (Mod) 68,25kHz (Dev)*9 60dB (ENTRÉE ANT) *3 SELECTION (L ou R)	idem	(B)	X01-1310 L21	Distorsion minimale

## RÉGLAGES

Nº	ALIGNEMENT	APPAREILLAGE		RÉGLAGE DU TUNER	INDICATEUR DE SORTIE	POINTS DE RÉGLAGES	REMARQUES
		RACCORDEMENT	RÉGLAGE				
15	SCA (1)	(A)	95MHz 67kHz (Mod) 3,75kHz (Dev) 60dB (ENTRÉE ANT) *3 SELECTION (L+R)	idem	Relier le voltmètre CC à cathode de D36 (X02-1200)	X02-1200 L10, 11	Lecture maximale du voltmètre CC
16	SCA (2)	idem	idem	idem	Relier le voltmètre CC au plot 1 de IC9 (X02-1200)	X02-1200 VR5	*10
17	AMPLIFICATEUR DE BRUIT	idem	—	Inter-station	Relier le voltmètre CC à l'émetteur de Q6 (X02-1200)	X02-1200 VR4	Le voltage CC: 8V

Note: La séparation a été réglée en utilisant des instruments de mesure de précision. Du fait qu'un MPX-SG ordinaire n'a pas une précision de phase suffisante (généralement à 10 kHz), ne pas utiliser un tel appareil pour le réglage de la séparation. Il n'est pas recommandé d'effectuer le réglage de la séparation lors de l'entretien.

Les opérations de réglage de la séparation sont indiquées à la suite en référence.

Nº	ALIGNEMENT	APPAREILLAGE		RÉGLAGE DU TUNER	INDICATEUR DE SORTIE	POINTS DE RÉGLAGES	REMARQUES
		RACCORDEMENT	RÉGLAGE				
①	SUB	(C)	95MHz 1kHz (Mod) 68,25kHz (Dev)*9 60dB (ENTRÉE ANT) *3 SELECTION (L - R)	95MHz	(B)	X02-1200 VR8 (L) VR9 (R)	Sortie maximale
②	SÉPARATION (1)	idem	95MHz 1kHz (Mod) 68,25kHz (Dev) 60dB (ENTRÉE ANT) *3 SELECTION (L)	95MHz WIDE	(B) (R CH)	VR11 (L → R)	Diaphonie minimale
③	SÉPARATION (2)	idem	95MHz 1kHz (Mod) 68,25kHz (Dev) 60dB (ENTRÉE ANT) *3 SELECTION (R)	idem	(B) (L CH)	VR10 (R → L)	idem
④	SÉPARATION (3)	idem	95MHz 10kHz (Mod) 68,25kHz (Dev)*9 60dB (ENTRÉE ANT) *3 SELECTION (L ou R)	idem	idem	X02-1200 FL5	idem *11
Répéter les points " ① ~ ④ " plusieurs fois.							
⑤	SÉPARATION (4)	(C)	95MHz 10kHz (Mod) 68,25kHz (Dev)*9 60dB (ENTRÉE ANT) *3 SELECTION (L ou R)	95MHz NORMAL	(B)	X13-2690 VR1	Diaphonie minimale

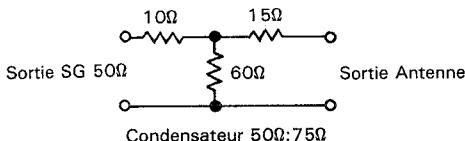
## RÉGLAGES

### APPAREILLAGE

Oscilloscope ..... SCOPE  
 Générateur MA ..... AM-SG  
 Générateur MF ..... FM-SG  
 Générateur audio fréquences ..... AG  
 Voltmètre CA.  
 Générateur multiplex stéréo ..... FM-MPX  
 Fréquencemètre.  
 Voltmètre CC.  
 Distorsiomètre.  
 Antenne fictive.

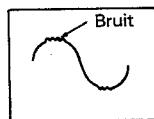
- \* 1 Pour réaliser un ajustement précis, SG (avec  $75\Omega$  d'impédance de sortie) doit être connecté directement au tuner. Utiliser un câble de connexion avec un connecteur BNC à l'extrémité de SG et un connecteur F à l'extrémité du tuner. Quand un SG à échelle ouverte (ce qui indique que le niveau de sortie au moment où il n'y a aucune charge de connectée) est utilisé, soustraire 6 dB de la lecture SG pour obtenir le niveau d'entrée ANT.

Si l'impédance de sortie de SG est de  $50\Omega$ , utiliser une antenne artificielle de  $50\Omega:75\Omega$  de la nouvelle norme IHF.



Si un SG à échelle ouverte est utilisé, soustraire 12 dB de la lecture SG pour obtenir le niveau d'entrée ANT. Si un SG à échelle chargée (ce qui indique le niveau de sortie au moment où la charge de  $50\Omega$  est connectée) est utilisé, soustraire 6 dB de la lecture SG.

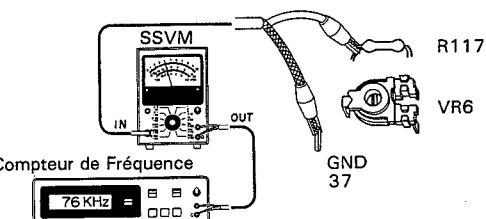
- \* 2 Adjuster le bouton d'accord de façon que la même quantité du bruit puisse être observé au sommet et en bas de la forme d'onde de sortie sous des conditions d'alimentation de signal faible.



- \* 3 Niveau d'entrée du tuner.
- \* 4 Tourner VR2 jusqu'à ce que la forme d'onde de sortie disparaisse, le tourner ensuite légèrement dans le sens opposé jusqu'à ce que la forme d'onde de sortie apparaisse à nouveau.
- \* 5 TUNER entrée pour obtenir une déviation de 3 graduations d'échelle de l'indicateur de champ.
- \* 6 TUNER entrée obtenue dans l'opération 9.

- \* 7 Déviation de l'indicateur de champ: 4,8 graduations de l'échelle.

- \* 8



- \* 9 Régler la déviation à  $\pm 68,25$  kHz avec le sélecteur en position L + R (gauche + droite). Régler la déviation du signal pilote à 6,75 kHz (9%).
- \* 10 Régler VR5 à la position à laquelle la lecture du voltmètre passe de positive à négative.
- \* 11 Si l'on ne peut obtenir une séparation suffisante, tourner FL5 dans les limites de  $\pm 5^\circ$ . Si l'on tourne de trop, la séparation à 1 kHz sera dépassée).

## ABGLEICH

Außers wenn anders angegeben, MODE-Schalter auf AUTO/MUTING, IF BAND-Schalter auf WIDE, RF SELECTOR-Schalter auf NORMAL und CONTINUOUS DIAL LIGHT-Schalter auf ON einstellen.

NR.	ABGLEICH	PRÜFEINRICHTUNG		TUNER EINSTELLUNG	AUSGANGS- ANZEIGE	EINSTELL- PUNKT	BEMERK- UNGEN
		ANSCHLÜSSE	EINSTELLUNG				
1	KANALMITTEN- ANZEIGER (1)	Ⓐ *1	95MHz 1kHz, 75kHz Hub	95MHz	Ⓑ	—	*2
2	KANALMITTEN- ANZEIGER (2)	dito	95MHz 1kHz, 75kHz Hub 60dB *3	95MHz Einstellknopf mit der Hand berühren	Kanalmitten- Anzeiger	X02-1200 L6	Nadel des Kanal- mitten-Anzeigers muß auf Mittellinie stehen
3	EINGANGS- STUFE RF	dito	95MHz 1kHz, 75kHz Hub 40dB *3	95MHz	Feldstärkein- strument	X01-1310 L17, 19, 21	Maximaler Ausschlag
4	EMPFANGS- BEREICH (1)	dito	90MHz 1kHz, 75kHz Hub	90MHz	dito	X01-1310 L6, 5, 4, 3, 2	Maximaler Ausschlag
5	EMPFANGS- BEREICH (2)	dito	dito	dito	Ⓑ	X01-1310 L1	Minimaler Klirr und maximaler Ausgang
6	EMPFANGS- BEREICH (3)	dito	106MHz 1kHz, 75kHz Hub	106MHz	Feldstärkein- strument	X01-1310 TC6,5,4,3,2	Maximaler Ausschlag
7	EMPFANGS- BEREICH (4)	dito	dito	dito	Ⓑ	X01-1310 TC1	Minimaler Klirr und maximaler Ausgang
8	MUTING	dito	95MHz 1kHz, 75kHz Hub 10dB *3	dito	dito	X02-1200 VR2	*4
9	FELDSTÄRKE- INSTRUMENT (WEIT)	dito	95MHz 1kHz, 40kHz Hub	95MHz NARROW	Feldstärkein- strument	—	*5
10	FELDSTÄRKE- INSTRUMENT (WEIT)	dito	*6	95MHz WIDE	dito	X02-1200 VR1	S-Meter-Ausschlag: Gleich wie bei NARROW
11	FELDSTÄRKE- INSTRUMENT	dito	95MHz 1kHz, 40kHz Hub 60dB *3	95MHz	dito	X02-1200 VR3	*7
12	SPANNUNGS- GEREGELTER OSZILLATOR	dito	95MHz 0 (Hub) 60dB (Eingangs- signalpegel) *3	dito	Den Frequenzzähler über SSVM zum Schnittpunkt von R117 und VR6. *8	X02-1200 VR6	76kHz
13	PILOT- LÖSCHER	Ⓒ	95MHz Pilotignal 60dB *3	dito	AG zum Anschluss- punkt von R103 und R104 (X02-1200)	X02-1200 VR7, L16	Minimaler Ausgang
14	KLIRRFAKTOR (STEREO)	dito	95MHz 1kHz, 68,25kHz Hub *9 60dB *3 SELECTOR: L or R	dito	Ⓑ	X01-1310 L21	Minimale Klirr

## ABGLEICH

NR.	ABGLEICH	PRÜFEINRICHTUNG		TUNER EINSTELLUNG	AUSGANGS- ANZEIGE	EINSTELL- PUNKT	BEMERK- UNGEN
		ANSCHLÜSSE	EINSTELLUNG				
15	SCA (1)	Ⓐ	95MHz 67kHz, 3,75kHz Hub 60dB * SELECTOR: L+R	dito	Gleichstrom- Voltmesser an die Kathode von D36 (X02-1200)	X02-1200 L10, 11	Maximale Gleichstrom- Spannung
16	SCA (2)	dito	dito	dito	Gleichspan- nungsmesser zu Klemme 1 von IC9 (X02-1200)	X02-1200 VR5	*10
17	GER ÄUSCH- VERSTÄRKER	dito	—	Zwischenstation	Gleichspan- nungsmesser an die Emitter von Q6 (X02-1200)	X02-1200 VR4	Ausgangs- spannung: 8V

Zur Beachtung: Die Trennung wurde mit Hilfe von genauen Meßinstrumenten eingestellt. Da ein gewöhnlicher MPX-Meßsender keine ausreichende Phasengenauigkeit (besonders bei 10 kHz) hat, kein derartiges Gerät für die Einstellung der Trennung verwenden. Es ist empfehlenswert, die Trennung beim Warten einzustellen.

Das Vorgehen beim Einstellen der Trennung wird im folgenden beschrieben.

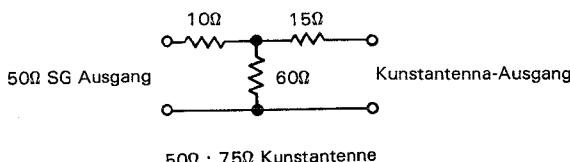
NR.	ABGLEICH	PRÜFEINRICHTUNG		TUNER EINSTELLUNG	AUSGANGS- ANZEIGE	EINSTELL- PUNKT	BEMERK- UNGEN
		ANSCHLÜSSE	EINSTELLUNG				
①	SUB	Ⓒ	95MHz 1kHz, 68,25kHz Hub *9 60dB *3 SELECTOR: L-R	dito	Ⓑ	X02-1200 VR8 (L) VR9 (R)	Maximaler Aus- gang,
②	STEREO KANAL TRENNUNG (1)	dito	95MHz 1kHz (Mod) 68,25kHz (Dev) 60dB *3 SELECTOR: L	95MHz WIDE	Ⓑ (R CH)	VR11 (L → R)	Minimales Übersprechen
③	STEREO KANAL TRENNUNG (2)	dito	95MHz 1kHz (Mod) 68,25kHz (Dev) 60dB *3 SELECTOR: R	dito	Ⓑ (L CH)	VR10 (R → L)	dito
④	STEREO KANAL TRENNUNG (3)	dito	95MHz 10kHz, 68,25kHz Hub *9 60dB *3 SELECTOR: L or R	dito	dito	X02-1200 FL5	dito *11
Abstimmungen " ① bis ④ " mehrere Male wiederholen.							
⑤	STEREO KANAL TRENNUNG (4)	Ⓒ	95MHz 1kHz, 68,25kHz Hub *9 60dB *3 SELECTOR: L or R	95MHz NORMAL	Ⓑ	X13-2690 VR1	Minimales Übersprechen

# ABGLEICH

## PRÜFINSTRUMENTE

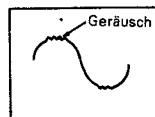
Oszilloskop ..... SCOPE  
 MW-Signalgenerator ..... AM-SG  
 UKW-Signalgenerator ..... FM-SG  
 NF-Signalgenerator ..... AG  
 Wechselspannungsmesser  
 UKW-Multiplexgenerator ..... FM-MPX  
 Frequenzzähler  
 Gleichspannungsmesser  
 Klirrfaktormesser  
 Antennennachbildung

- \* 1 Für präzise Einstellung muß das SG ( $75\Omega$  Ausgangsimpedanz) direkt an den Tuner angeschlossen werden. Dazu ein Kabel mit einem BNC-Stecker am einen Ende und einem F-Stecker am anderen Ende verwenden. Wird ein offenes SG (zur Angabe des Ausgangspegels wenn keine zusätzliche Belastung angeschlossen ist) verwendet, 6 dB von der SG-Angabe subtrahieren um den ANT-Eingangspegel zu erhalten.  
Ist die Ausgangs-Impedanz von SG  $50\Omega$ , das  $50\Omega:75\Omega$  Kunstantenna der neuen IHF-Norm verwenden.



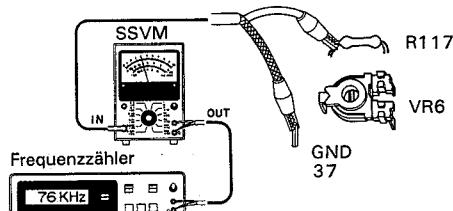
Bei Verwendung eines offenen SG, 12 dB von der SG-Angabe subtrahieren, um den ANT-Eingangspegel zu erhalten. Wird ein belastetes SG (Angabe des Ausgangspegels bei Anschluss von  $50\Omega$ ) verwendet, 6 dB von der SG Angabe subtrahieren.

- \* 2 Den Abstimmknopf so einstellen, daß an der oberen und unteren Grenze der Ausgangswellenform bei schwachem Signal dasselbe Geräusch auftritt.



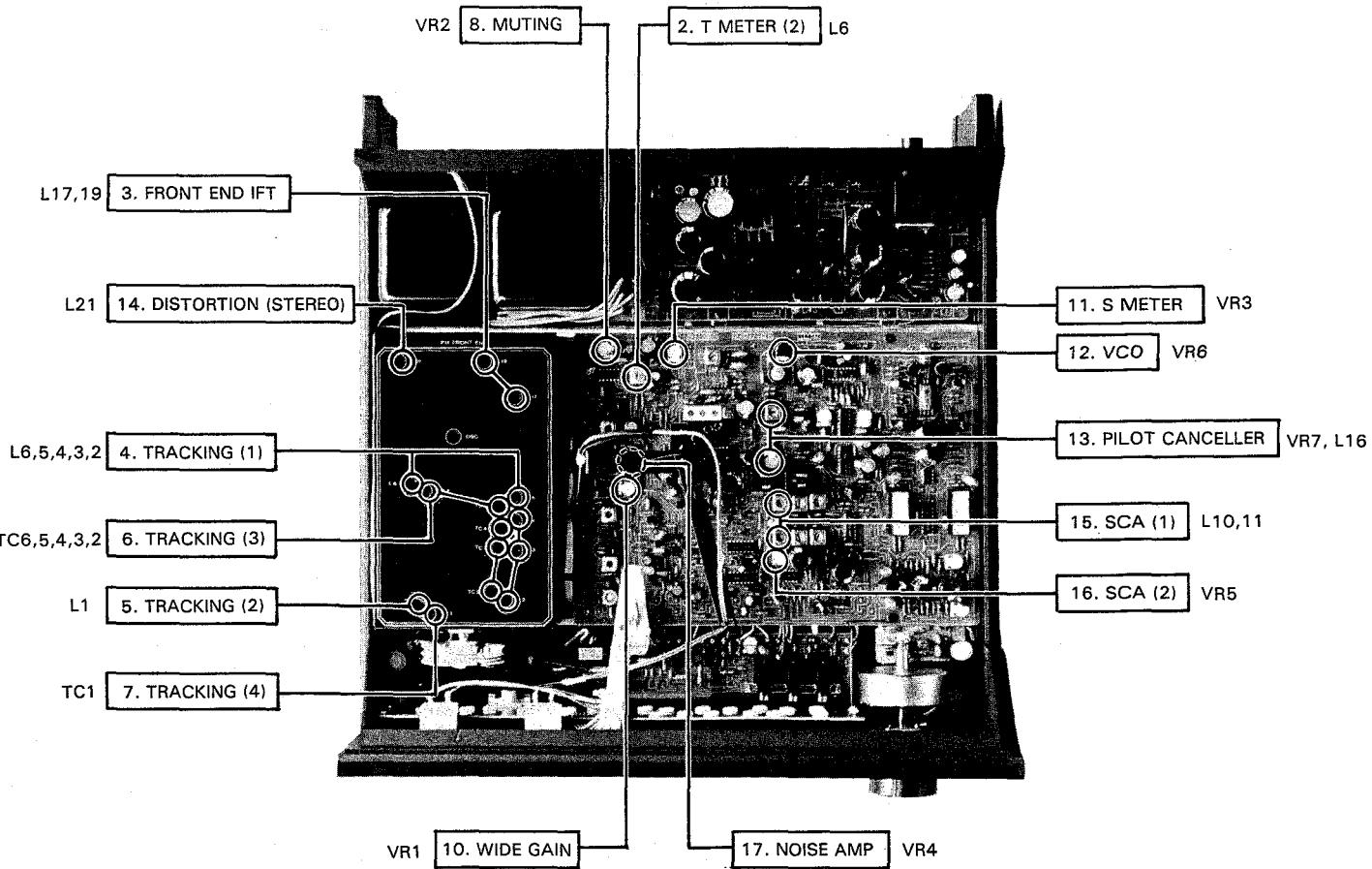
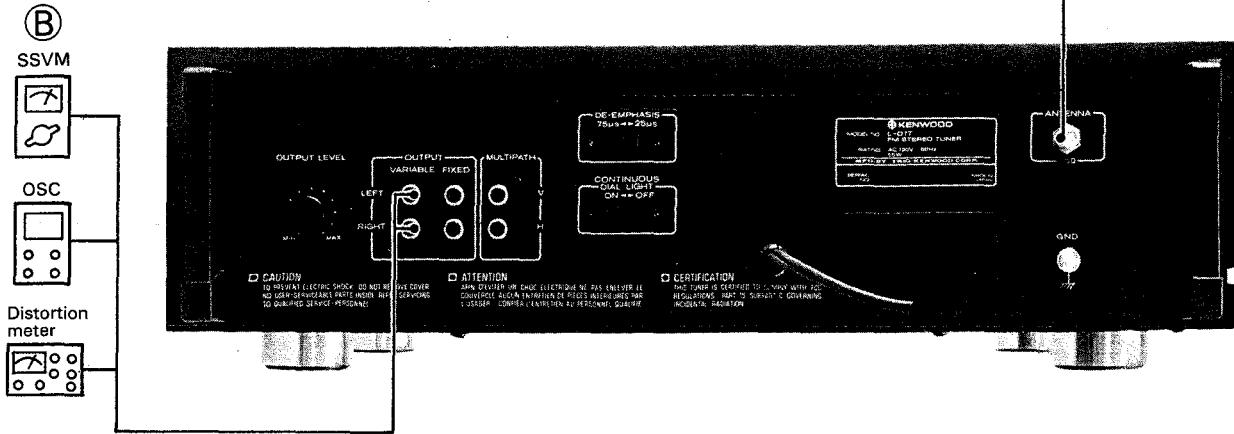
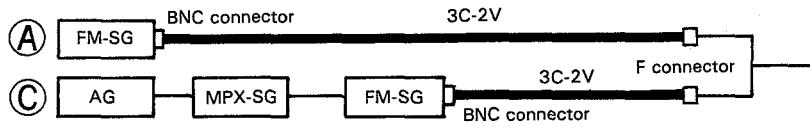
- \* 3 Tuner-Eingangspegel
- \* 4 VR2 drehen, bis die Ausgangs-Wellenform verschwindet: dann leicht in der entgegengesetzten Richtung drehen, bis die Ausgangswellenform wieder erscheint
- \* 5 TUNER Eingang für einen Feldstärkeinstrument-Ausschlag von 3 Skalenteilungen.

- \* 6 TUNER Eingang bei Schritt 9.
- \* 7 Feldstärkeinstrument-Ausschlag: 4,8 Skalenteilungen.
- \* 8



- \* 9 Hub mit dem Wahlschalter auf L+R auf 68,25 kHz einstellen. Hub des Kontrollsinalns auf 6,75 kHz (9%) einstellen.
- \* 10 VR5 so einstellen, daß die Voltmeter-Angabe von positiv auf negativ umschlägt.
- \* 11 Ist die Trennung ungenügend, FL5 innerhalb von  $\pm 3^\circ$  drehen (wird über  $\pm 5^\circ$  gedreht, so wird die 1 kHz-Trennung negativ beeinträchtigt).

## ADJUSTMENT / RÉGLAGES / ABGLEICH

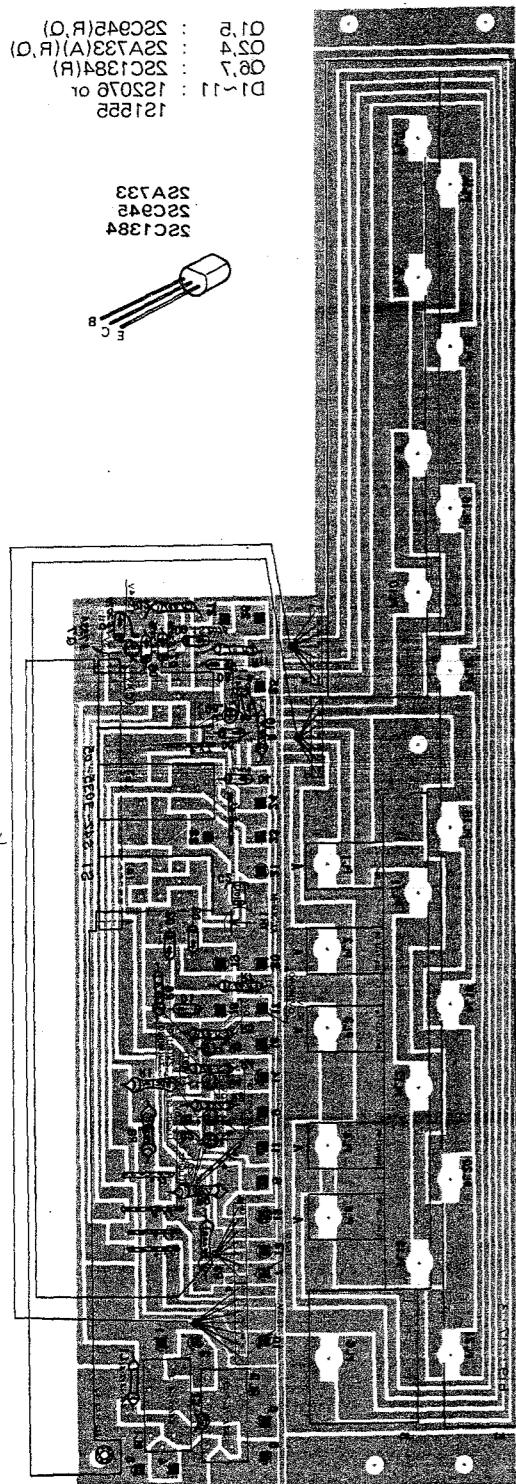


L-OTI L-OTI

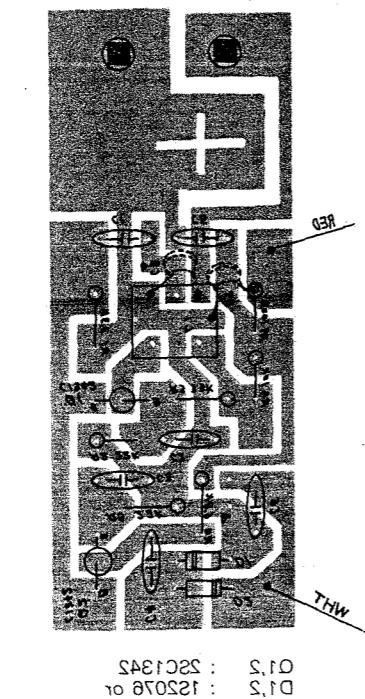
PC BOARD

L-OTI

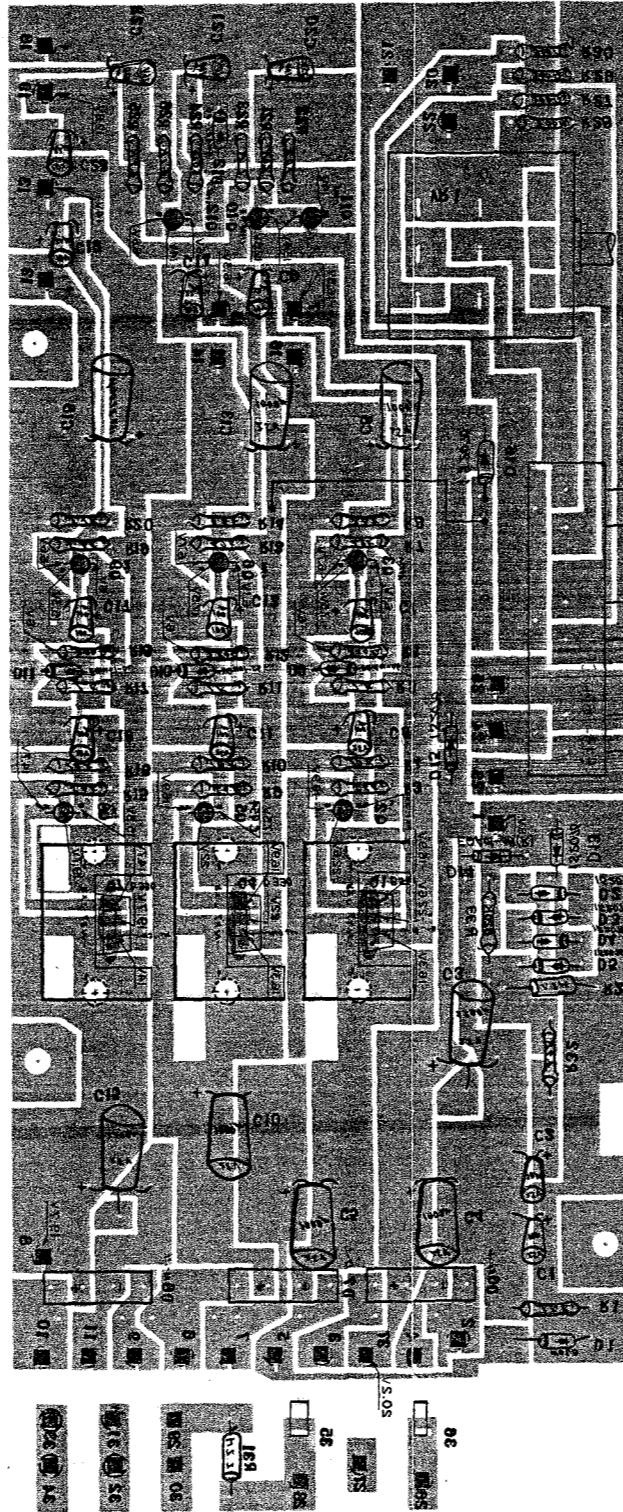
Component side view  
SUB(X13-2690-00)



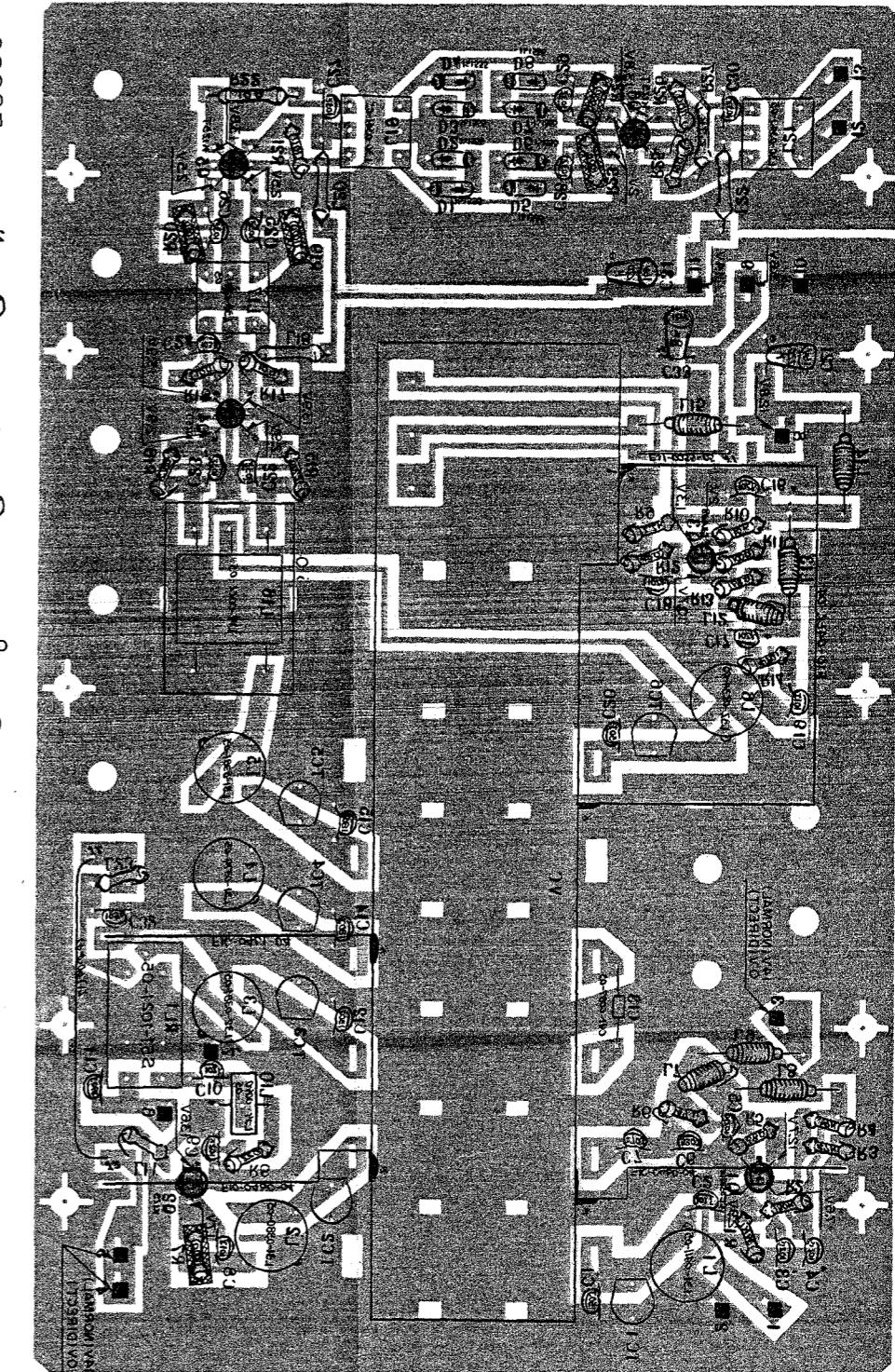
Component side view  
SWITCH(X13-2760-00)



Component side view  
POWER SUPPLY(X00-2030-11)



RF(X01-1310-11) Component side view

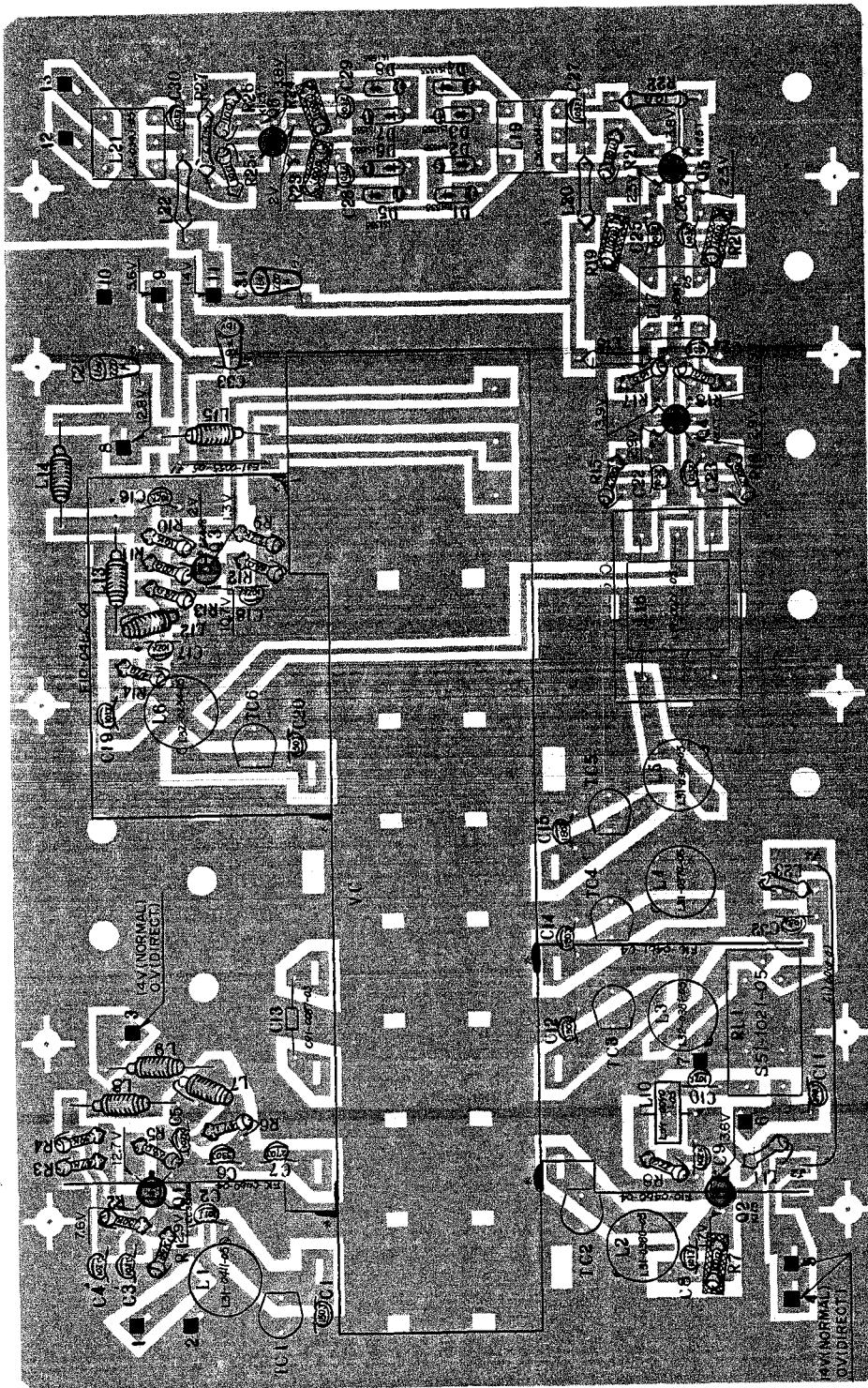


L-01T

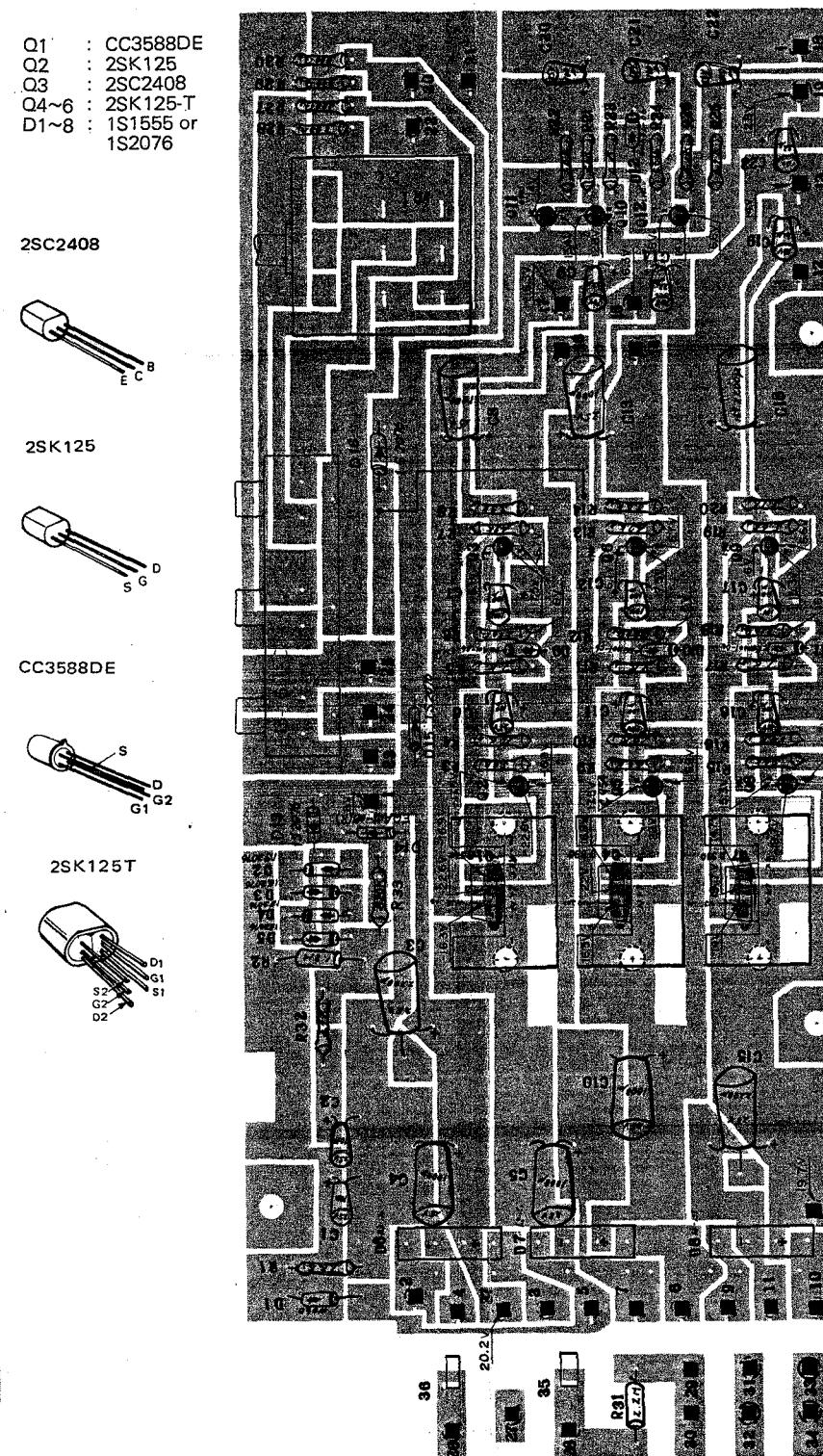
L-01T L-01T

PC BOARD

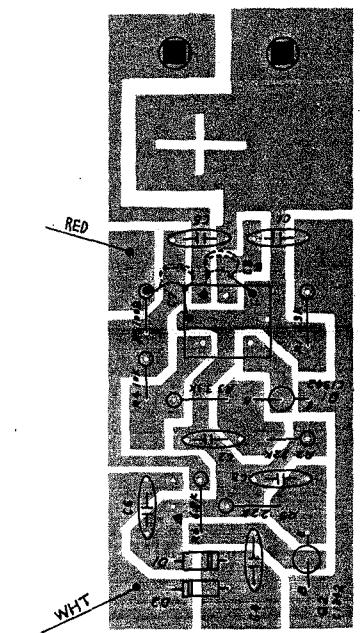
RF(X01-1310-11) Component side view



POWER SUPPLY(X00-2070-11)  
Component side view

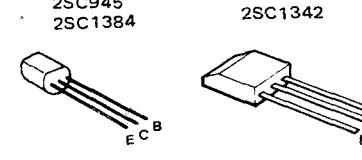


SWITCH(X13-2760-00)  
Component side view



Q1,2 : 2SC1342  
D1,2 : 1S2076 or 1S1555

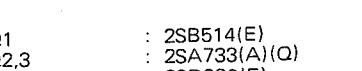
2SA733  
2SC945  
2SC1384



2SC1342



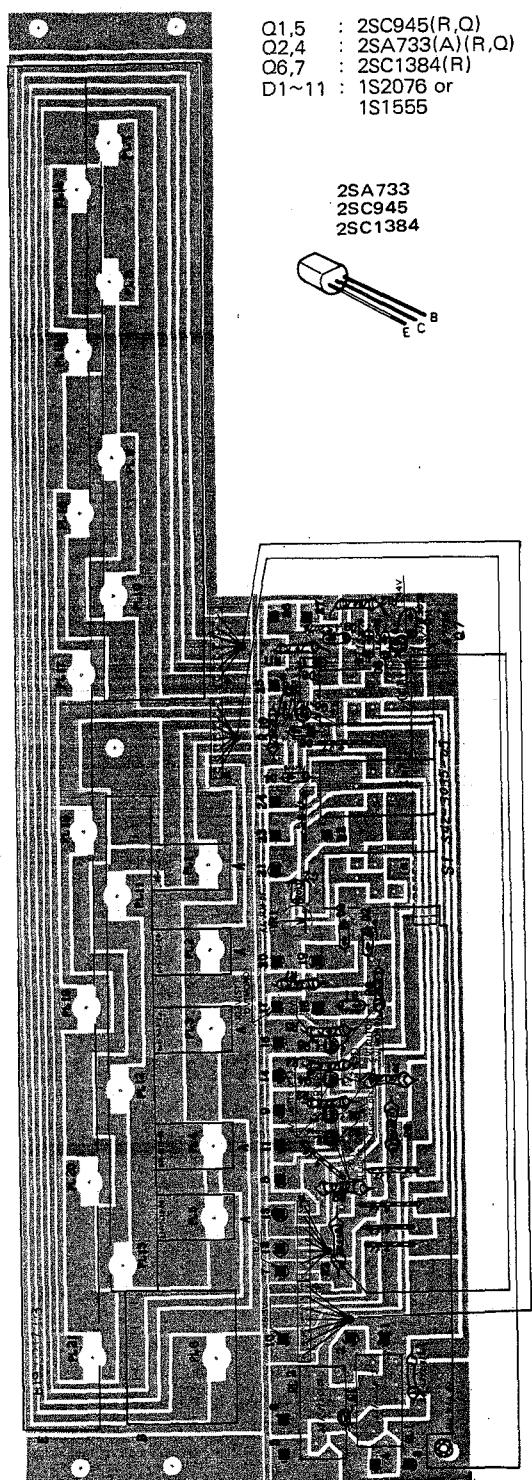
2SB514  
2SD330



Q1 : 2SB514(E)  
Q2,3 : 2SA733(A)(Q)  
Q4,7 : 2SD330(E)  
Q5,6,8,9,11,12 : 2SC945(Q)  
Q10 : 2SC1384(R)

D1 : W06B  
D2~5,13,15,16 : 1S2076 or 1S1555  
D6~8 : RB151  
D9~12 : EQA01-06S  
D14 : EQA01-08(R)

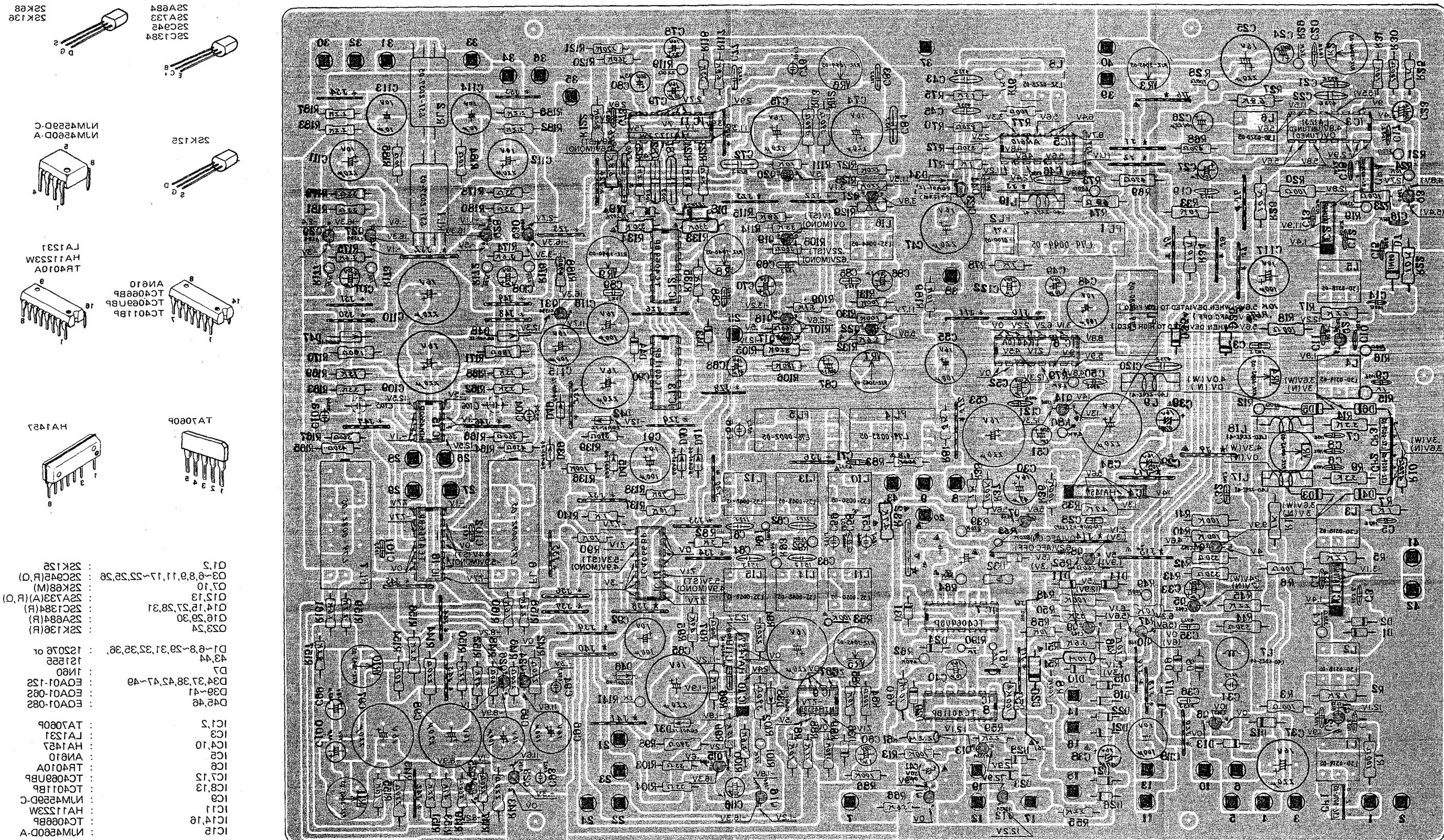
SUB(X13-2690-00)  
Component side view



# FIO-L TIO-L

PC BOARD

IF(X02-1200-11) Component side view

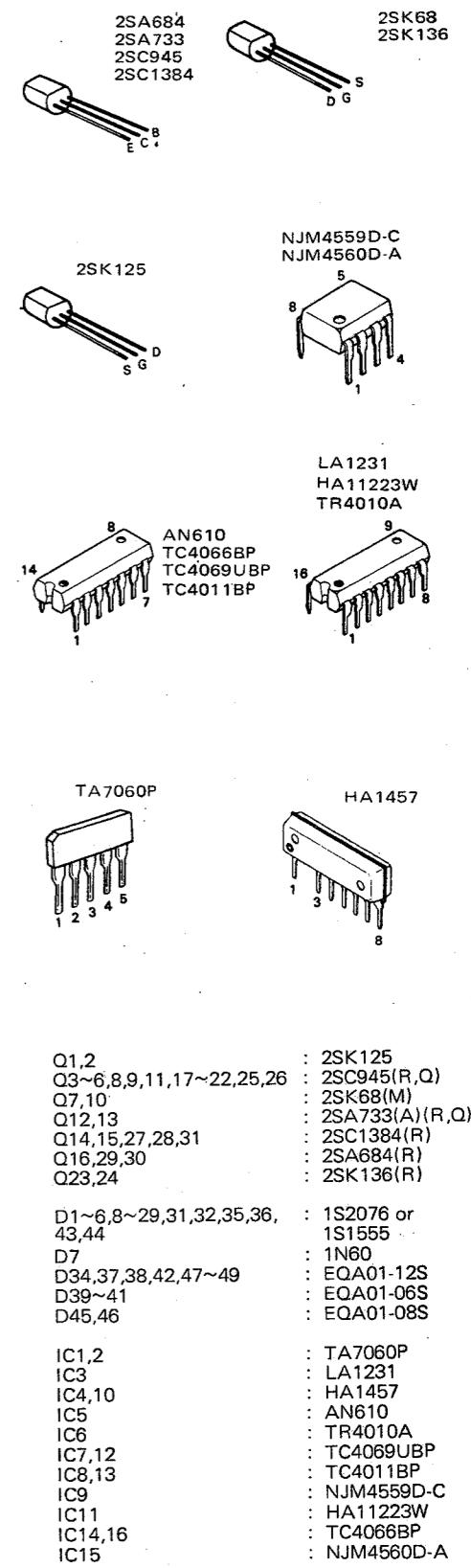
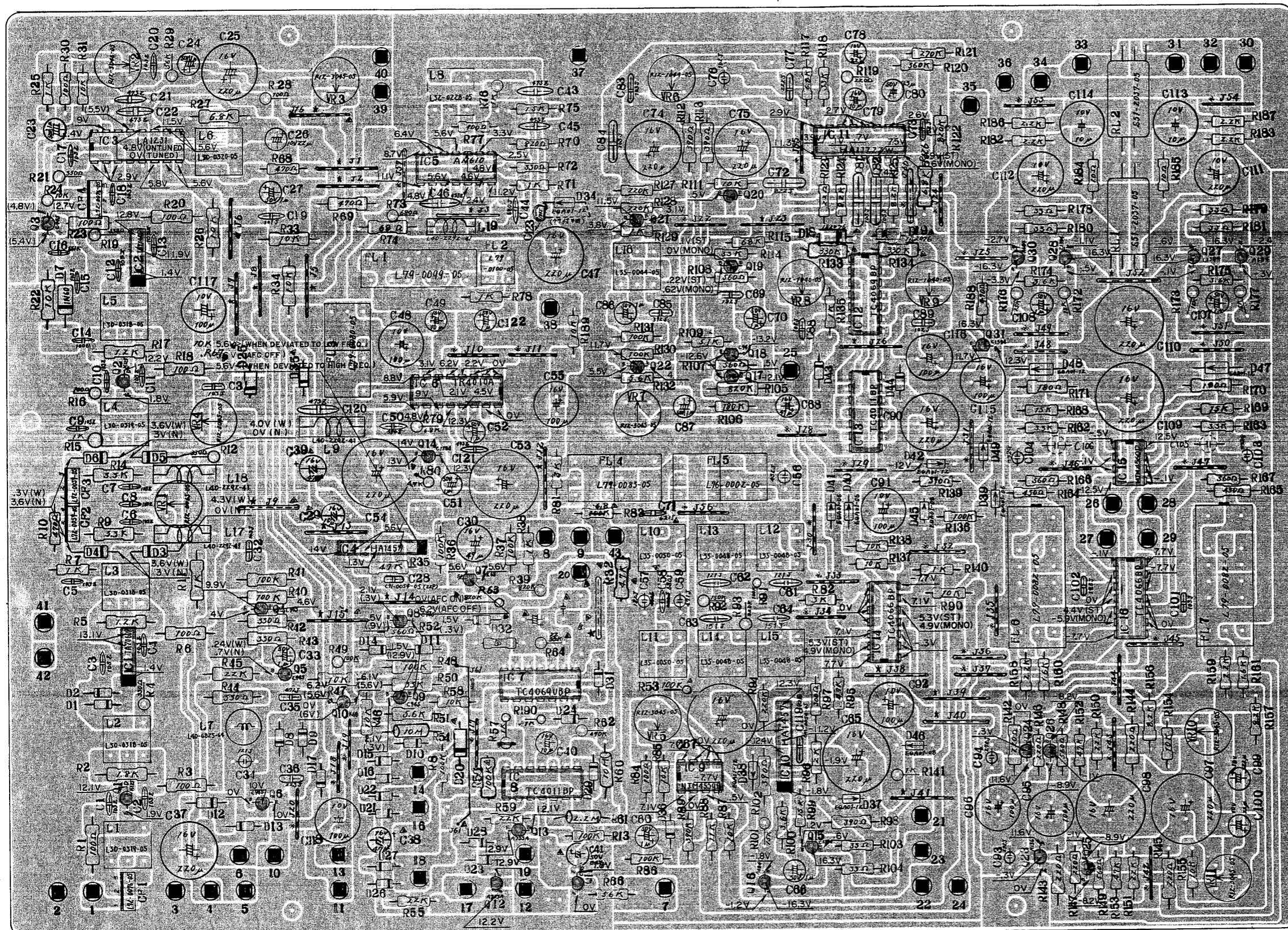


L-01T

L-01T L-01T

PC BOARD

IF(X02-1200-11) Component side view



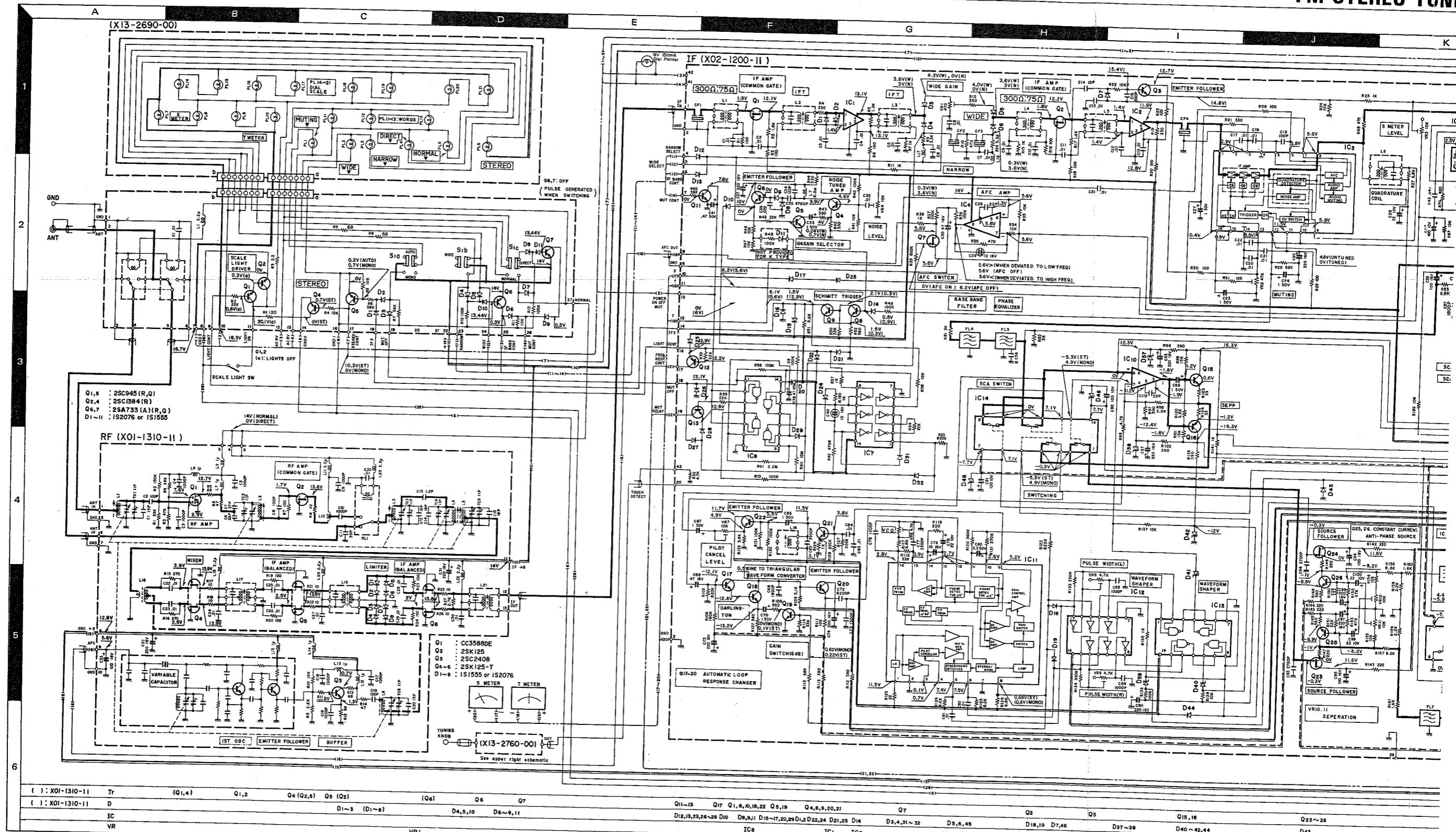
Q1,2 : 2SK125  
 Q3~6,8,9,11,17~22,25,26 : 2SC945(R,Q)  
 Q7,10 : 2SK68(M)  
 Q12,13 : 2SA733(A)(R,Q)  
 Q14,15,27,28,31 : 2SC1384(R)  
 Q16,29,30 : 2SA684(R)  
 Q23,24 : 2SK136(R)

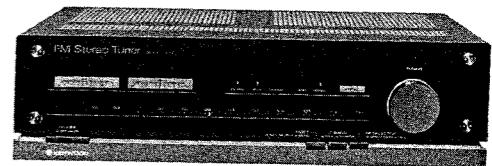
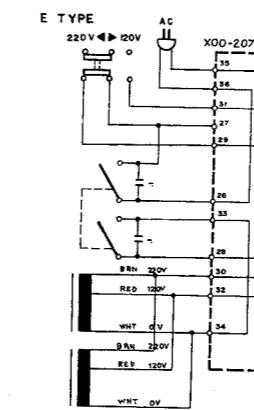
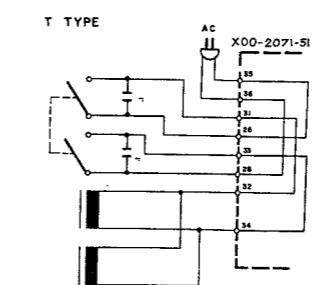
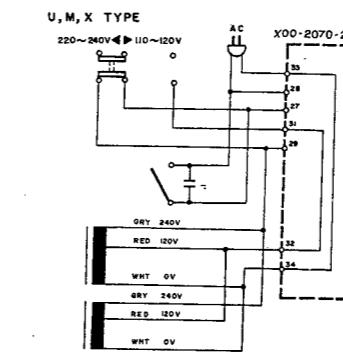
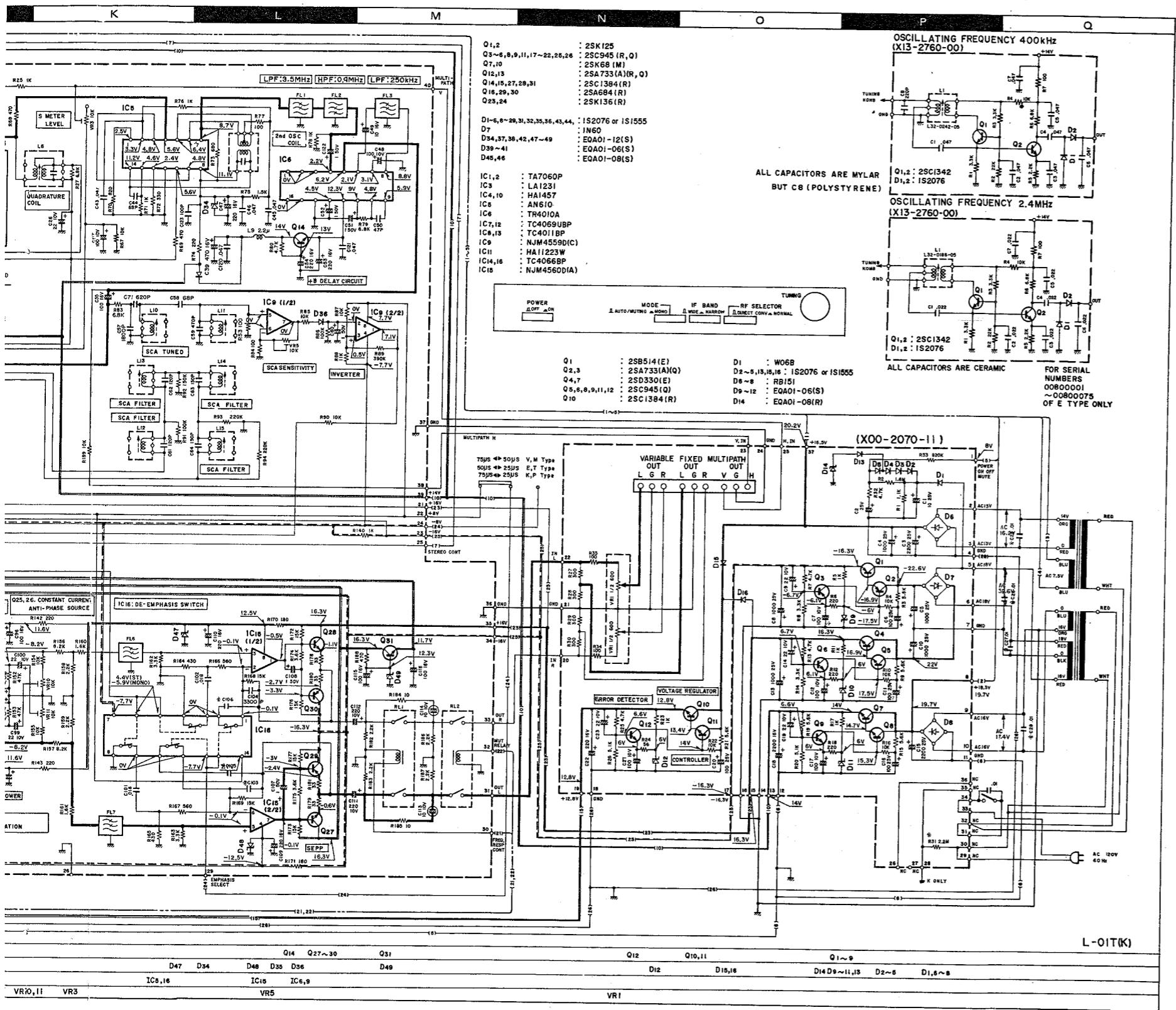
D1~6,8~29,31,32,35,36,  
 43,44 : 1S2076 or  
 1S1555  
 D7 : 1N60  
 D34,37,38,42,47~49 : EQA01-12S  
 D39~41 : EQA01-06S  
 D45,46 : EQA01-08S

IC1,2 : TA7060P  
 IC3 : LA1231  
 IC4,10 : HA1457  
 IC5 : AN610  
 IC6 : TR4010A  
 IC7,12 : TC4069UBP  
 IC8,13 : TC4011BP  
 IC9 : NJM4559D-C  
 IC11 : HA11223W  
 IC14,16 : TC4066BP  
 IC15 : NJM4560D-A



FM STEREO TUNE



**SPECIFICATIONS****FM TUNER SECTION**

NORMAL DIRECT

Usable Sensitivity	10.3 dBf(1.8 μV)	20.7 dBf(6.0 μV)
50 dB Quieting Sensitivity:		
Mono	15.8 dBf(3.4 μV)	26.7 dBf(12 μV)

Stereo	37.2 dBf(40 μV)	48.1 dBf(140 μV)
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**Signal to Noise Ratio:**

Mono	86 dB	
Stereo	80 dB	

**Total Harmonic Distortion**

WIDE	0.02%	0.04%
6000 Hz	0.02%	0.15%
15000 Hz	0.04%	0.2%
50 Hz ~ 10000 Hz	0.04%	0.6%

Stereo at 100 Hz	0.04%	0.3%
1000 Hz	0.03%	0.2%
6000 Hz	0.05%	0.3%
15000 Hz	0.18%	0.3%
50 Hz ~ 10000 Hz	0.06%	0.4%

Capture Ratio	0.9 dB	2.5 dB
Alternate Channel Selectivity	45 dB	65 dB (300 kHz)

Stereo Separation	45 dB	65 dB
1000 Hz	60 dB	47 dB
100 Hz ~ 10000 Hz	48 dB	35 dB

15000 Hz	45 dB	45 dB
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Frequency Response	15 Hz ~ 15000 Hz, +0.5 dB, -0.5 dB	
Spurious Response Ratio	120 dB	
Image Response Ratio	120 dB	
IF Response Ratio	120 dB	
AM Suppression Ratio	65 dB	
Sub Carrier Product Ratio	70 dB	
Antenna Impedance	750 unbalanced	
FM Frequency Range	88 MHz ~ 108 MHz	

Output Level	0.75V, 1500	
Fixed	0 ~ 1.5V, 1500	

Variable (1000 Hz, 100% Mod.)		
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Multipath Output		
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Vertical	100 mV, 1.0 kΩ	
Horizontal	300 mV, 10 kΩ	

GENERAL		
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Power Requirements	60 Hz 120V (U.S.A. and Canada Model) or 50Hz/60 Hz 110-120V/220-240V, switchable	
Power Consumption	50 Watts	

Dimensions	W: 440 mm (17-5/16") H: 138 mm (5-1/32") D: 452 mm (17-25/32")	
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Weight (Net)	9.1 kg (20 lb)	
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Kenwood follows a policy of continuous advancements in development. For this reason specifications may be changed without notice.

Kenwood strebt ständige Verbesserungen in der Entwicklung an. Daher bleiben Änderungen der technischen Daten jederzeit vorbehalten.

Kenwood poursuit une politique de progrès constants en ce qui concerne le développement. Pour cette raison, les spécifications sont sujettes à modifications sans préavis.

## PARTS LIST

## INSTRUCTION FOR PARTS LIST

Ref. No.	Parts No.	Description	Re- marks
参照番号	部品番号	部品名／規格	備考
①	14 3A	A20-1391-13	FRONT PANEL ASSY *K
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	
⑤	C1 C2	C54-3310-39	CERAMIC 0.01UF P
C1	C90-0145-05	POLYESTER 0.01UF AC125V	ET
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

① Exploded view drawing No.  
 ② Position in exploded view.  
 ③ Symbol 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.

⑤ Reference No. in schematic diagram.  
 ⑥ Abbreviation of "ceramic capacitor".

All capacitors and resistors are listed using abbreviations.

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

MP . . . . . Metallized paper 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

FUSE-RESIST . . . . Resistor with fuse function

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)

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

\* CODE's in X00-207x-xx X02-120x-xx

K: X00-2070-11 K:X02-1200-11

M: X00-2070-21 X:X02-1200-71

T: X00-2070-51 U:X02-1200-81

E: X00-2072-71 E:X02-1202-71

Ref. No.	Parts No.	Description	Re- marks
参照番号	部品番号	部品名／規格	備考
L-01T (UNIT)			
1 2B	-	METALLIC FRAME (A)	
2 2B	-	METALLIC FRAME (B)	
3 2B	-	METALLIC FRAME (C)	
4 2B	-	METALLIC FRAME (D)	
5 3A	-	SUB PANEL	
6 1B	-	REAR PANEL	
7 1A	-	BOTTOM PLATE	
8 2A	-	HOLDER	
9 3B	-	SHIELDING PLATE	
10 2A	-	SHIELDING CASE	
12 2A	-	MOUNTING HARDWARE (A)	
13 3B	-	MOUNTING HARDWARE (B)	
14 2A	-	MOUNTING HARDWARE (SW)	
15 2A	-	DIAL POINTER RAIL	
15A 1B	-	MOUNTING HARDWARE	
15B 1B	-	MOUNTING HARDWARE	
15C 1B	-	COLLAR	
-	050-1012-05	SHIELDING WIRE	
16 1A	A03-0248-01	WOODEN CABINET ASSY	*K
16 1A	A03-0251-01	WOODEN CABINET ASSY	*P
16 1A	A03-0251-01	WOODEN CABINET ASSY	UM
16 1A	A03-0251-01	WOODEN CABINET ASSY	XT
16 1A	A03-0251-01	WOODEN CABINET ASSY	EH
-	17 3A	A20-1546-03	FRONT PANEL
-	17 3A	A20-1546-03	FRONT PANEL
-	17 3A	A20-1546-03	FRONT PANEL
-	17 3A	A20-1546-03	FRONT PANEL
-	17 3A	A20-1548-03	FRONT PANEL
18 1A	A50-0071-02	SIDE PLATE (L)	*
19 3B	A50-0072-02	SIDE PLATE (R)	*
-	B46-0055-20	WARRANTY CARD	P
-	B46-0060-00	WARRANTY CARD	T
-	B46-0061-20	WARRANTY CARD	K
-	B46-0062-20	WARRANTY CARD	UH
-	B46-0063-13	WARRANTY CARD	UH
-	B46-0064-10	WARRANTY CARD	X
-	B46-0074-00	USER CARD	*
-	B50-3062-00	INSTRUCTION MANUAL	KU
-	B50-3062-00	INSTRUCTION MANUAL	H
-	B50-3063-00	INSTRUCTION MANUAL	PM
-	B50-3063-00	INSTRUCTION MANUAL	X
-	B50-3064-00	INSTRUCTION MANUAL	T
-	B50-3065-00	INSTRUCTION MANUAL	E
-	B59-0018-00	SERVICE STATIONS' LIST	
20 1A	B07-0249-04	ESCUTCHEON (FOOT) X4	UH
21 3A	B10-0258-03	FRONT GLASS	*
22 2A	B20-0457-03	DIAL CALIBRATION	*
23 2A	B21-0039-04	DIAL POINTER	*
24 2B	B30-0208-15	LAMP 8V 0.15A	*
25A 2A	B31-0314-05	T METER	*
25B 2A	B31-0315-05	S METER	*
26 3A	B09-0015-04	CAP X4	*
-	C54-3310-39	CERAMIC 0.01UF P	
-	C91-0023-05	CERAMIC 0.01UF AC250V	
-	C91-0079-05	CERAMIC 0.01UF AC125V	
27 2A	D15-0174-05	PULLEY ASSY X4	
28 2A	D15-0176-03	PULLEY	
29 2B	D20-0152-03	DIAL SHAFT ASSY	*

Ref. No.	Parts No.	Description	Re- marks
参照番号	部品番号	部品名／規格	備考
-	E05-0127-05	PLUG	*K
-	E05-0127-05	PLUG	PU
-	E05-0127-05	PLUG	MX
-	E05-0127-05	PLUG	T
-	E14-0004-05	PHONO PLUG X4	
-	E19-0211-05	PLUG	*E
30 1B	E04-0001-05	RECEPTACLE	
32 1A	E21-0007-05	TERMINAL (GND)	
33 1B	E30-0181-05	POWER CORD	KP
33 1B	E30-0185-05	POWER CORD	X
33 1B	E30-0459-05	POWER CORD	E
33 1B	E30-0545-05	POWER CORD	UM
33 1B	E30-0587-05	POWER CORD	T
-	F09-0033-05	CAPACITOR COVER	
34 2A	G01-0368-04	COILED SPRING (PULLEY)	
34A 1B	G09-0022-04	SPRING	
34B 2B	G09-0024-04	SPRING	
-	H01-3082-04	CARTON BOX	KU
-	H01-3082-04	CARTON BOX	MX
-	H01-3085-04	CARTON BOX	E
-	H12-0072-03	PACKING FIXTURE	KP
-	H20-0458-04	COVER	UX
-	H20-0458-04	COVER	TE
-	H20-0459-04	COVER	M
-	H25-0078-04	BAG (INSTRUCTION MANUAL)	
-	H25-0096-04	BAG (INSTRUCTION MANUAL)	
-	H25-0148-04	BAG (INSTRUCTION MANUAL)	
-	H40-0004-04	ANTI-RUST PAPER	M
35 1A	J02-0098-04	FOOT X4	
36 1B	J41-0017-05	BUSHING (POWER CORD)	TE
36 1B	J42-0072-05	BUSHING (POWER CORD)	KP
36 1B</			

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## PARTS LIST

Ref. No.	Parts No.	Description		Re-		Ref. No.	Parts No.	Description		Re-	
参照番号	部品番号	部品名 / 規格	備考	参照番号	部品番号	部品名 / 規格	備考	部品名 / 規格	備考	部品名 / 規格	備考
R11	R48-6210-25	RN	1K J 2E	L4	L31-0379-05	RF COIL		C56	C48-1743-24	POLYSTY 4300PF G	UE
R12	R48-6222-15	RN	220 J 2E	L5	L31-0381-05	RF COIL		C57	C47-1718-25	POLYSTY 1800PF J	
R13	R48-6227-25	RN	4.7K J 2E	L6	L32-0234-05	OSCILLATING COIL		C58	C71-1768-06	CERAMIC 68PF K	
R14	R48-6233-25	RN	3.3K J 2E	L7 -9	L33-0025-05	CHOKE COIL		C59	C47-1747-15	POLYSTY 470PF J	
R15	R48-6256-25	RN	5.6K J 2E	L10	L39-0090-05	COIL		C60	C90-0398-05	ELECTRO 1UF 50WV	
R16	R48-6210-35	RN	10K J 2E	L11	L40-2292-41	INDUCTOR		C61 -62	C71-1712-16	CERAMIC 120PF K	
R17	R48-6210-25	RN	1K J 2E	L12 -15	L33-0025-05	CHOKE COIL		C63 -64	C71-1715-16	CERAMIC 150PF K	
R18	R48-6222-15	RN	220 J 2E	L16	L19-0022-05	TRANSFORMER		C65	C90-0443-05	ELECTRO 220UF 16WV	
R19	R48-6256-25	RN	5.6K J 2E	L17	L30-0341-05	IFT	C66	C90-0433-05	ELECTRO 1UF 50WV		
R20	R48-6251-25	RN	5.1K J 2E	L18	L40-2292-41	INDUCTOR		C67	C90-0443-05	ELECTRO 220UF 16WV	
R21	R48-6256-25	RN	5.6K J 2E	L19	L30-0341-05	IFT	C68	C90-0438-05	ELECTRO 47UF 16WV		
R22	R48-6210-35	RN	10K J 2E	L20	L40-2292-41	INDUCTOR	C69	C46-1718-25	MYLAR 0.0018UF J		
R23	R48-6210-25	RN	1K J 2E	L21	L30-0343-05	IFT	C70	C90-0398-05	ELECTRO 1UF 50WV		
R24	R48-6256-05	RN	56 J 2E	L22	L40-2292-41	INDUCTOR	C71	C71-1762-15	CERAMIC 620PF J		
R25	R48-2247-25	RN	4.7K J 2E	L23	L40-2292-41	INDUCTOR	C72	C46-1782-25	MYLAR 0.0082UF J		
R26	R48-6251-25	RN	5.1K J 2E	R15 -16	R48-2270-03	RN 270 F 2E	C73	C46-1715-25	MYLAR 0.0015UF J		
R27 -30	R48-6230-15	RN	300 J 2E	R22	R43-1210-05	FL-PROOF RD10 J 2E	C74 -75	C90-0407-05	ELECTRO 220UF 16WV		
R31	R92-0173-05	RC	2.2M M 2H	RL1	S51-1020-05	RELAY	C76	C48-1710-25	POLYSTY 1000PF J		
R34 -35	R48-2210-15	RN	100 J 2E	D1 -8	V11-0271-05	1S2076 OR 1S1555	C77	C46-1722-25	MYLAR 0.0022UF J		
VR1	R10-0002-05	POTENTIOMETER	600X2	Q1	V09-0146-10	CC3588DE	C78	C90-0427-05	ELECTRO 22UF 10WV		
D1	V11-0295-05	W068		Q2	V09-0136-10	2SK125	C79	C90-0437-05	ELECTRO 10UF 16WV		
D2 -5	V11-0271-05	1S2076 OR 1S1555		Q3	V03-2408-00	2SC2408	C80	C90-0436-05	ELECTRO 3.3UF 50WV		
D6 -8	V11-5100-60	RB-151		Q4 -6	V09-0136-20	2SK125T	C81 -84	C46-1710-35	MYLAR 0.01UF J		
D9 -12	V11-0431-05	EQA01-06(S)					C85	C46-1739-25	MYLAR 0.0039UF J		
D13	V11-0271-05	1S2076 OR 1S1555					C86	C90-0398-05	ELECTRO 1UF 50WV		
<b>FM IF (X02-120X-XX)</b>											
D14	V11-0352-05	EQA01-08(R)		C1 -13	C55-1710-38	CERAMIC 0.01UF Z	C87	C90-0433-05	ELECTRO 1UF 50WV		
D15 -16	V11-0271-05	1S2076 OR 1S1555		C14	C71-1710-02	CERAMIC 10PF D	C88 -89	C46-1710-25	MYLAR 0.001UF J		
Q1	V02-0514-30	2SB514(E)		C15	C55-1710-38	CERAMIC 0.01UF Z	C90	C90-0407-05	ELECTRO 220UF 16WV		
Q2 -3	V01-0733-50	2SA733(A)(Q)		C16	C52-1756-16	CERAMIC 560PF K	C91 -92	C90-0430-05	ELECTRO 100UF 10WV		
Q4	V04-0330-40	2SD330(E)		C17 -18	C55-1710-38	CERAMIC 0.01UF Z	C93 -94	C47-1727-25	POLYSTY 2700PF J		
Q5 -6	V03-0293-05	2SC945(Q)		C19	C71-1710-15	CERAMIC 100PF J	C95 -96	C90-0442-05	ELECTRO 100UF 16WV		
Q7	V04-0330-40	2SD330(E)		C20	C55-1710-38	CERAMIC 0.01UF Z	C97 -98	C90-0443-05	ELECTRO 220UF 16WV		
Q8 -9	V03-0293-05	2SC945(Q)		C21 -22	C55-1747-38	CERAMIC 0.047UF Z	C99 -100	C90-0451-05	ELECTRO 22UF 10WV		
Q10	V03-0388-05	2SC1384(R)		C23 -24	C90-0398-05	ELECTRO 1UF 50WV	C101 -102	C46-1718-35	MYLAR 0.018UF J		
Q11 -12	V03-0293-05	2SC945(Q)		C25	C90-0407-05	ELECTRO 220UF 16WV	C103 -104	C47-1716-24	POLYSTY 1600PF G	KX	
<b>FM RF (X01-1310-11)</b>											
-	C01-0220-05	VARIABLE CAPACITOR		C26	C90-0427-05	ELECTRO 22UF 10WV	C103 -104	C47-1716-24	POLYSTY 1600PF G	E	
C1	C63-1715-05	CERAMIC 15PF J		C27	C90-0398-05	ELECTRO 1UF 50WV	C103 -104	C47-1733-25	POLYSTY 3300PF J	U	
C2	C71-1710-15	CERAMIC 100PF J		C28	C91-0054-05	POLYSTY 22PF K	C105 -106	C47-1716-24	POLYSTY 1600PF G	XU	
C3 -5	C52-1710-26	CERAMIC 0.001UF K		C29	C90-0439-05	ELECTRO 10UF 16WV	C105 -106	C47-1716-24	POLYSTY 1600PF G	E	
C6	C63-1733-05	CERAMIC 33PF J		C30	C90-0438-05	ELECTRO 47UF 16WV	C105 -106	C47-1733-25	POLYSTY 3300PF J	K	
C7	C63-1727-05	CERAMIC 27PF J		C31 -32	C46-1710-35	MYLAR 0.01UF J	C107 -108	C90-0433-05	ELECTRO 1UF 50WV		
C8	C71-1710-15	CERAMIC 100PF J		C33	C90-0398-05	ELECTRO 1UF 50WV	C109 -110	C90-0443-05	ELECTRO 220UF 16WV		
C9 -10	C52-1710-26	CERAMIC 0.001UF K		C34	C47-1712-15	POLYSTY 120PF J	C111 -112	C90-0444-05	ELECTRO 220UF 10WV		
C11	C63-1739-05	CERAMIC 39PF J		C35	C46-1747-25	MYLAR 0.0047UF J	C113 -114	C90-0445-05	ELECTRO 10UF 10WV		
C12	C63-1715-05	CERAMIC 15PF J		C36	C46-1722-35	MYLAR 0.022UF J	C115 -116	C90-0399-05	ELECTRO 100UF 16WV		
C13	C91-0087-05	CERAMIC 1.2PF J		C37	C90-0407-05	ELECTRO 220UF 16WV	C117	C90-0425-05	ELECTRO 100UF 10WV		
C14 -15	C63-1718-05	CERAMIC 18PF J		C38	C90-0438-05	ELECTRO 47UF 16WV	C118	C90-0440-05	ELECTRO 100UF 10WV		
C16 -18	C52-1710-26	CERAMIC 0.001UF K		C39	C24-1247-71	ELECTRO 470UF 16WV	C119	C91-0054-05	POLYSTY 22PF K		
C19	C71-1710-15	CERAMIC 100PF J		C40	C90-0439-05	ELECTRO 10UF 16WV	C120 -121	C55-1747-38	CERAMIC 0.047UF Z		
C20	C63-1715-05	CERAMIC 15PF J		C41	C25-1747-47	LL-ELEC 0.47UF 50WV	C122	C90-0433-05	ELECTRO 1UF 50WV		
C21	C90-0407-05	ELECTRO 220UF 16WV		C43	C55-1747-38	CERAMIC 0.047UF Z	C123	C71-1710-15	CERAMIC 100PF J		
C22 -30	C55-1710-38	CERAMIC 0.01UF Z		C44	C58-1768-05	CERAMIC 68PF J	-	E23-0047-04	TERMINAL		
C31	C90-0407-05	ELECTRO 220UF 16WV		C45 -46	C55-1747-38	CERAMIC 0.047UF Z	-	E23-0048-04	TERMINAL		
C32	C55-1710-38	CERAMIC 0.01UF Z		C47	C90-0407-05	ELECTRO 220UF 16WV	-	-	-		
C33	C90-0399-05	ELECTRO 100UF 16WV		C48	C90-0430-05	ELECTRO 100UF 10WV	-	-	-		
TC1 -6	C05-0302-05	TRIMMER CAPACITOR 11PF		C49	C90-0441-05	ELECTRO 10UF 16WV	CF				

## PARTS LIST

Ref. No.	Parts No.	Description			Re-marks	Ref. No.	Parts No.	Description			Re-marks
参照番号	部品番号	部品名 / 規格			備考	参照番号	部品番号	部品名 / 規格			備考
R52	R48-6256-15	RN	560	J 2E		R129	R48-6210-25	RN	1K	J 2E	
R53	R48-6210-45	RN	100K	J 2E		R130,131	R48-6210-45	RN	100K	J 2E	
R54	R40-8310-68	RC	10M	M 2H		R132	R48-2256-25	RN	5.6K	J 2E	
R55	R48-6222-35	RN	22K	J 2E		R133,134	R48-2233-45	RN	330K	J 2E	
R56	R48-6210-45	RN	100K	J 2E		R135	R48-6210-25	RN	1K	J 2E	
R57	R48-6210-25	RN	1K	J 2E		R136	R48-6210-45	RN	100K	J 2E	
R58	R48-6210-35	RN	10K	J 2E		R137,138	R48-6210-35	RN	10K	J 2E	
R59	R48-6222-35	RN	22K	J 2E		R139	R48-6239-15	RN	390	J 2E	
R60	R40-8310-68	RC	10M	M 2H		R140	R48-6210-25	RN	1K	J 2E	
R61	R92-0173-05	RC	2.2M	M 2H		R141	R48-6210-25	RN	1K	J 2E	
R64	R48-6222-35	RN	22K	J 2E		R142-147	R48-6222-15	RN	220	J 2E	
R66	R48-6256-35	RN	56K	J 2E		R148,149	R48-6256-15	RN	560	J 2E	
R68 ,69	R48-2247-15	RN	470	J 2E		R150,151	R48-6222-35	RN	22K	J 2E	
R70	R48-6282-13	RN	820	F 2E		R152,153	R48-6247-35	RN	47K	J 2E	
R71	R48-6210-25	RN	1K	J 2E		R154,155	R48-6210-35	RN	10K	J 2E	
R72	R48-2233-15	RN	330	J 2E		R156,157	R48-6282-25	RN	8.2K	J 2E	
R73	R48-6268-15	RN	680	J 2E		R158,159	R48-6222-25	RN	2.2K	J 2E	
R74	R43-1268-05	FL-PROOF RD68	J 2E			R160,161	R48-2216-25	RN	1.6K	J 2E	
R75	R48-6215-23	RN	1.5K	F 2E		R162,163	R48-6233-25	RN	3.3K	J 2E	
R76	R48-6210-25	RN	1K	J 2E		R164,165	R48-2430-03	RN	430	F 2E	
R77	R48-2210-15	RN	100	J 2E		R166,167	R48-2560-03	RN	560	F 2E	
R78	R48-6210-25	RN	1K	J 2E		R168,169	R48-2150-23	RN	15K	F 2E	
R79	R48-6268-25	RN	6.8K	J 2E		R170,171	R43-1218-15	FL-PROOF RD180	J 2E		
R80	R48-6247-23	RN	4.7K	F 2E		R172,173	R48-2215-35	RN	15K	J 2E	
R81 ,82	R48-2230-25	RN	3K	J 2E		R174,175	R48-6236-25	RN	3.6K	J 2E	
R83	R48-6268-25	RN	6.8K	J 2E		R176,177	R48-2215-35	RN	15K	J 2E	
R84	R48-2210-15	RN	100	J 2E		R178-181	R43-1233-05	FL-PROOF RD33	J 2E		
R85	R48-6210-35	RN	10K	J 2E		R182,183	R48-6222-25	RN	2.2K	J 2E	
R86	R48-6210-45	RN	100K	J 2E		R184,185	R48-2210-05	RN	10	J 2E	
R87	R48-6210-35	RN	10K	J 2E		R186,187	R48-6222-25	RN	2.2K	J 2E	
R88	R48-2211-35	RN	11K	J 2E		R188	R48-2247-15	RN	470	J 2E	
R89	R48-2239-45	RN	390K	J 2E		R189	R48-6210-35	RN	10K	J 2E	
R90	R48-6210-35	RN	10K	J 2E		R190	R48-6210-25	RN	1K	J 2E	
R91	R48-6210-45	RN	100K	J 2E		R511	R48-2256-25	RN	5.6K	J 2E	
R92	R48-2215-45	RN	150K	J 2E		VR1	R12-0065-05	TRIMMING POT. 470			
R93	R48-2222-45	RN	220K	J 2E		VR2	R12-3046-05	TRIMMING POT. 47K			
R94	R48-2222-45	RN	220K	J 2E		VR3 -5	R12-3045-05	TRIMMING POT. 10K			
R95	R48-6247-23	RN	4.7K	F 2E		VR6	R12-1044-05	TRIMMING POT. 4.7K			
R96	R48-6220-25	RN	2K	J 2E		VR7	R12-3045-05	TRIMMING POT. 10K			
R97	R48-6230-15	RN	300	J 2E		VR8 ,9	R12-1040-05	TRIMMING POT. 4.7K			
R98	R48-6239-15	RN	390	J 2E		VR10,11	R12-3045-05	TRIMMING POT. 10K			
R99	R48-2215-35	RN	15K	J 2E		RL1 ,2	S51-2037-05	RELAY			
R100	R48-6236-25	RN	3.6K	J 2E		D1 -6	V11-0271-05	1S2076 OR 1S1555			
R101	R48-2215-35	RN	15K	J 2E		D7	V11-0051-05	1N60			
R102	R48-6239-15	RN	390	J 2E		D8 -10	V11-0271-05	1S2076 OR 1S1555	XUE		
R103,104	R43-1233-05	FL-PROOF RD33	J 2E			D11	V11-0271-05	1S2076 OR 1S1555			
R106	R48-2218-45	RN	180K	J 2E		D12 -29	V11-0271-05	1S2076 OR 1S1555			
R107,108	R48-6256-15	RN	560	J 2E		D31 ,32	V11-0271-05	1S2076 OR 1S1555			
R109	R48-6251-25	RN	5.1K	J 2E		D34	V11-0398-05	EQA01-12(S)			
R111	R48-6210-35	RN	10K	J 2E		D35 ,36	V11-0271-05	1S2076 OR 1S1555			
R112,113	R48-6239-15	RN	390	J 2E		D37 ,38	V11-0398-05	EQA01-12(S)			
R114	R48-6233-35	RN	33K	J 2E		D39 -41	V11-0431-05	EQA01-06(S)			
R115	R48-6268-35	RN	68K	J 2E		D42	V11-0398-05	EQA01-12(S)			
R117	R48-6268-25	RN	6.8K	J 2E		D43 ,44	V11-0271-05	1S2076 OR 1S1555			
R118	R48-6233-35	RN	33K	J 2E		D45 ,46	V11-0352-05	EQA01-08			
R119	R48-6222-15	RN	220	J 2E		D47 -49	V11-0398-05	EQA01-12(S)			
R120	R48-2236-45	RN	360K	J 2E		IC1 ,2	V30-0087-05	TA7060P			
R121	R48-6227-45	RN	270K	J 2E		IC3	V30-0275-20	LA1231			
R123	R48-6222-05	RN	22	J 2E		IC4	V30-0264-10	HA1457			
R124,125	R48-6282-25	RN	8.2K	J 2E		IC5	V30-0356-10	AN610			
R126	R48-6268-25	RN	6.8K	J 2E		IC6	V30-0296-20	TR4010A			
R127,128	R48-2222-45	RN	220K	J 2E							

Ref. No. 参照番号	Parts No. 部品番号	Description 部品名／規格	Re- marks 備考
IC7	V30-0297-20	TC4069UBP	
IC8	V30-0301-70	TC4011BP	
IC9	V30-0271-50	NJM4559D(C)	
IC10	V30-0264-10	HA1457	
IC11	V30-0266-20	HA11223W	
IC12	V30-0297-20	TC4069UBP	
IC13	V30-0301-70	TC4011BP	
IC14	V30-0301-20	TC4066BP	
IC15	V30-0387-10	NJM4560D(A)	
IC16	V30-0301-20	TC4066BP	
Q1 2	V09-0136-10	2SK125	
Q3 6	V03-0270-05	2SC945(R,Q)	
Q7	V09-0122-20	2SK68(M)	
Q8 9	V03-0270-05	2SC945(R,Q)	
Q10	V09-0122-20	2SK68(M)	
Q11	V03-0270-05	2SC945(R,Q)	
Q12 13	V01-0733-30	2SA733(A)(R,Q)	
Q14 15	V03-0388-05	2SC1384(R)	
Q16	V01-0684-10	2SA684(R)	
Q17 22	V03-0270-05	2SC945(R,Q)	
Q23 24	V09-0149-50	2SK136(R)	
Q25 26	V03-0270-05	2SC945(R,Q)	
Q27 28	V03-0388-05	2SC1384(R)	
Q29 30	V01-0684-10	2SA684(R)	
Q31	V03-0388-05	2SC1384(R)	

**SUB (X13-2690-00)**

PL1 -21	B30-0209-05	LAMP 6V 0.1A	110
C1	C55-1710-38	CERAMIC 0.01UF Z	
C2	C48-1710-15	POLYSTY 100PF J	
-	E23-0047-04	TERMINAL	
L1	L40-2292-41	INDUCTOR 2.2UH	
R1	R47-5412-15	FL-PROOF RS120 J 3A	
R3	R47-5422-95	FL-PROOF RS2,2 J 3A	
R8 9	R47-5468-05	FL-PROOF RS68 J 3A	
VR1	R12-5030-05	TRIMMING POT. 100K	
RL1 2	S51-1020-05	RELAY	
S1	S42-3035-05	PUSH SWITCH	120
D1 -11	V11-0271-05	1S2076	
Q1	V03-0270-05	2SC945(R,Q)	
Q2	V03-0388-05	2SC1384(R)	
Q4	V03-0388-05	2SC1384(R)	
Q5	V03-0270-05	2SC945(R,Q)	
Q6 7	V01-0733-30	2SA733(A)(R,Q)	

**SWITCH (X13-2760-00)**

C1 -7	C55-1722-38	CERAMIC 0.022UF Z	
C8	C47-1722-15	POLYSTY 220P J	
-	E23-0046-04	TERMINAL	
L1	L32-0242-05	OSCILLATING COIL	
D1 2	V11-0271-05	1S2076 OR 1S1555	
Q1 2	V03-1342-00	2SC1342	

A product of

**TRIO-KENWOOD CORPORATION**

6-17, 3-chome, Aobadai, Meguro-ku, Tokyo 153, Japan

KENWOOD ELECTRONICS, INC.

1315 E. Watsoncenter Rd, Carson, California 90745, U.S.A.  
75 Seaview Drive, Secaucus, New Jersey 07094, U.S.A.

1098 North Tower Lane, Bensenville, Illinois 60106, U.S.A.

TRIO-KENWOOD ELECTRONICS, N.V.

Leuvensesteenweg 504 B-1930 Zaventem, Belgium

TRIO-KENWOOD ELECTRONICS GmbH

Rodolf-Braas-Str. 20, 6056 Heusenstamm, West Germany

TRIO-KENWOOD FRANCE S.A.

5, Boulevard Ney, 75018 Paris, France

TRIO-KENWOOD SVENSKA AB

Kermistvagen 10A, S-183 21 Taby, Sweden

TRIO-KENWOOD (AUSTRALIA) PTY. LTD.

30 Whiting St., Artarmon, N.S.W. 2064, Australia

KENWOOD &amp; LEE ELECTRONICS, LTD.

Room 501, Wang Kee Building, 5th Floor, 34-37, Connaught Road, Central, Hong Kong