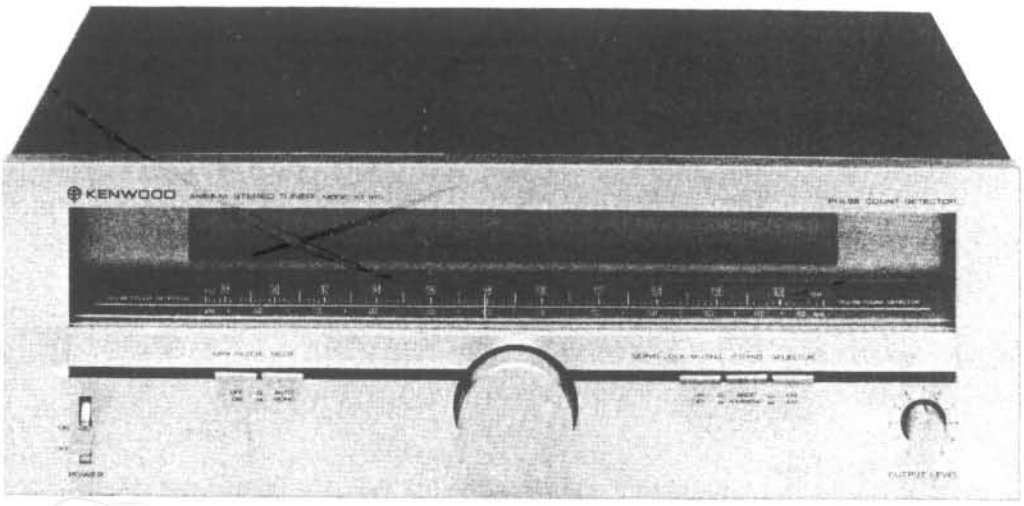
KENWOOD

HI/FI STEREO COMPONENTS

SERVICE MANUAL

KT-815
(KT-8155)

An item of adjustment is written in three languages – English, French and German.
Un article sur réglages est écrit en trois langues, Anglais, Francais et Allemand.
Ein Artikel der Abgleich wird auf drei Sprachen, Englische, Französisch und Deutsch geschrieben.



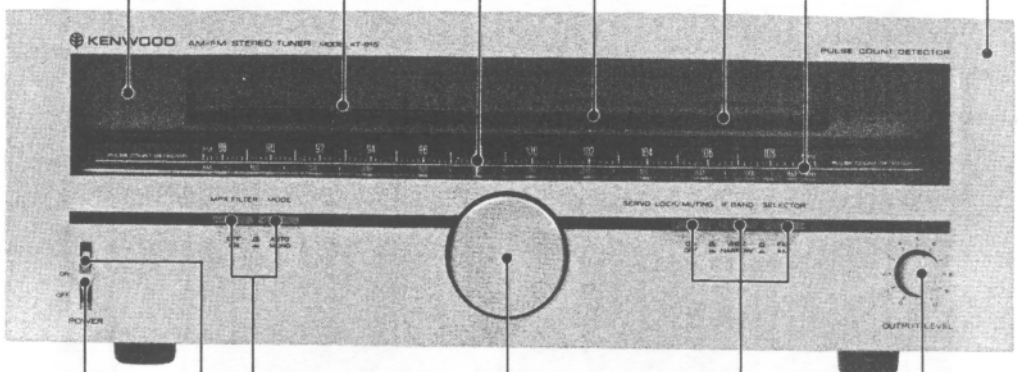
AM-FM STEREO TUNER

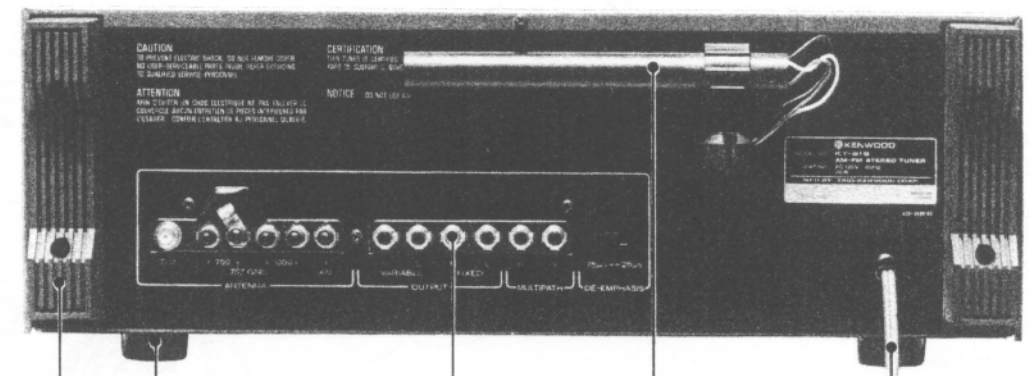
CONTENTS

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
South Africa	S
Other Areas	M
Audio Club (KT-8155)	H

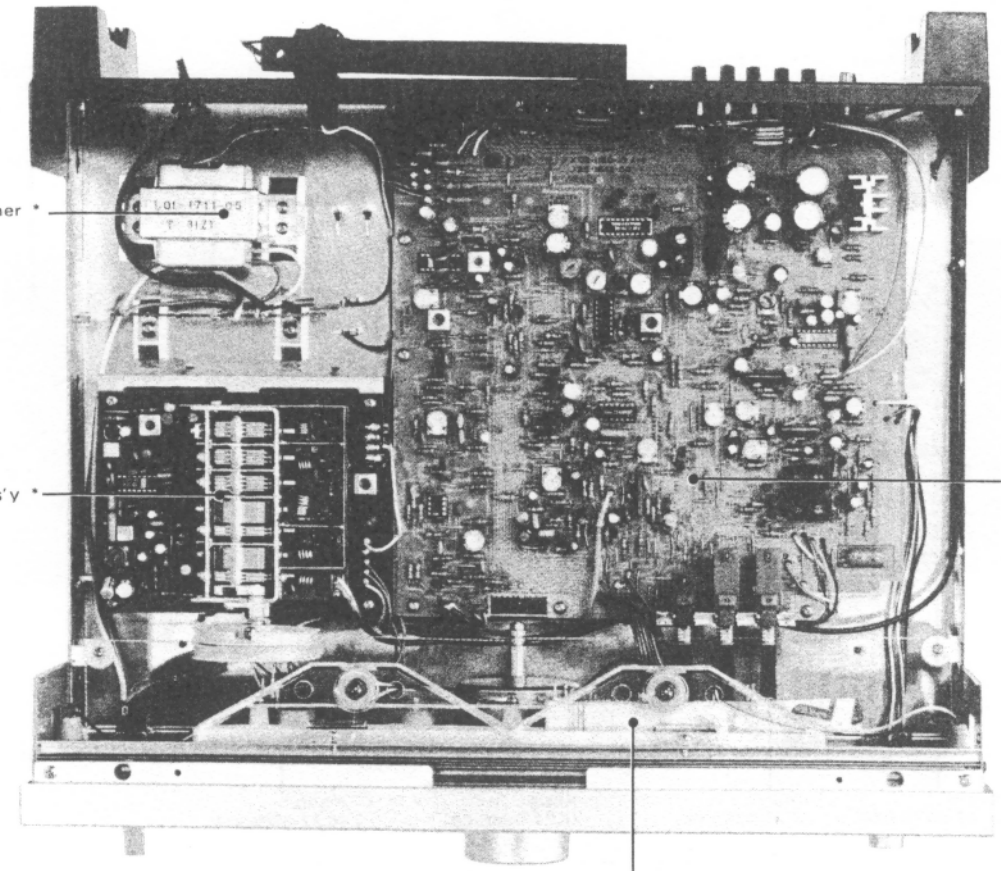
EXTERNAL VIEW





* Refer to Parts List.

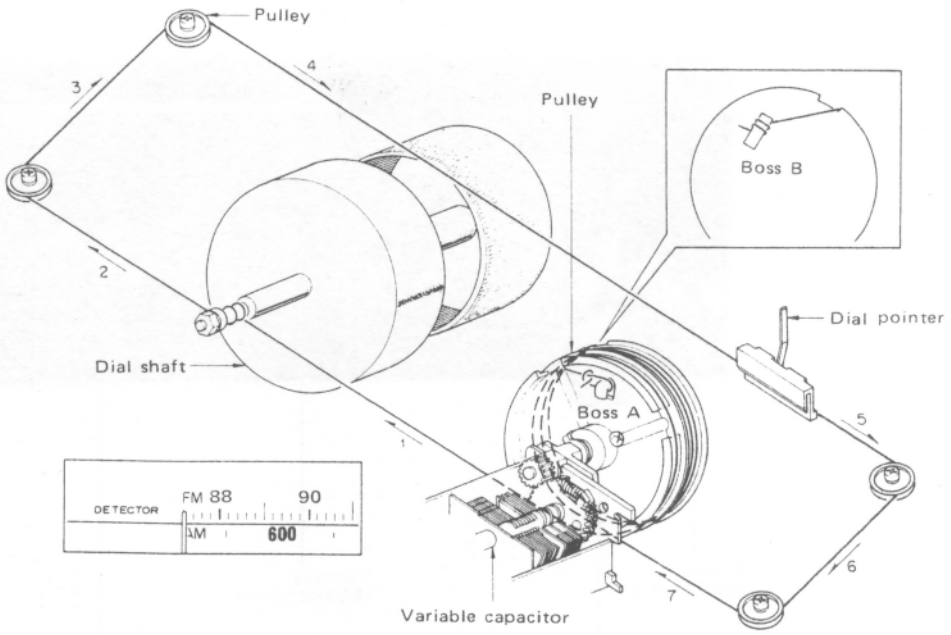
INTERNAL VIEW / DIAL CORD STRINGING



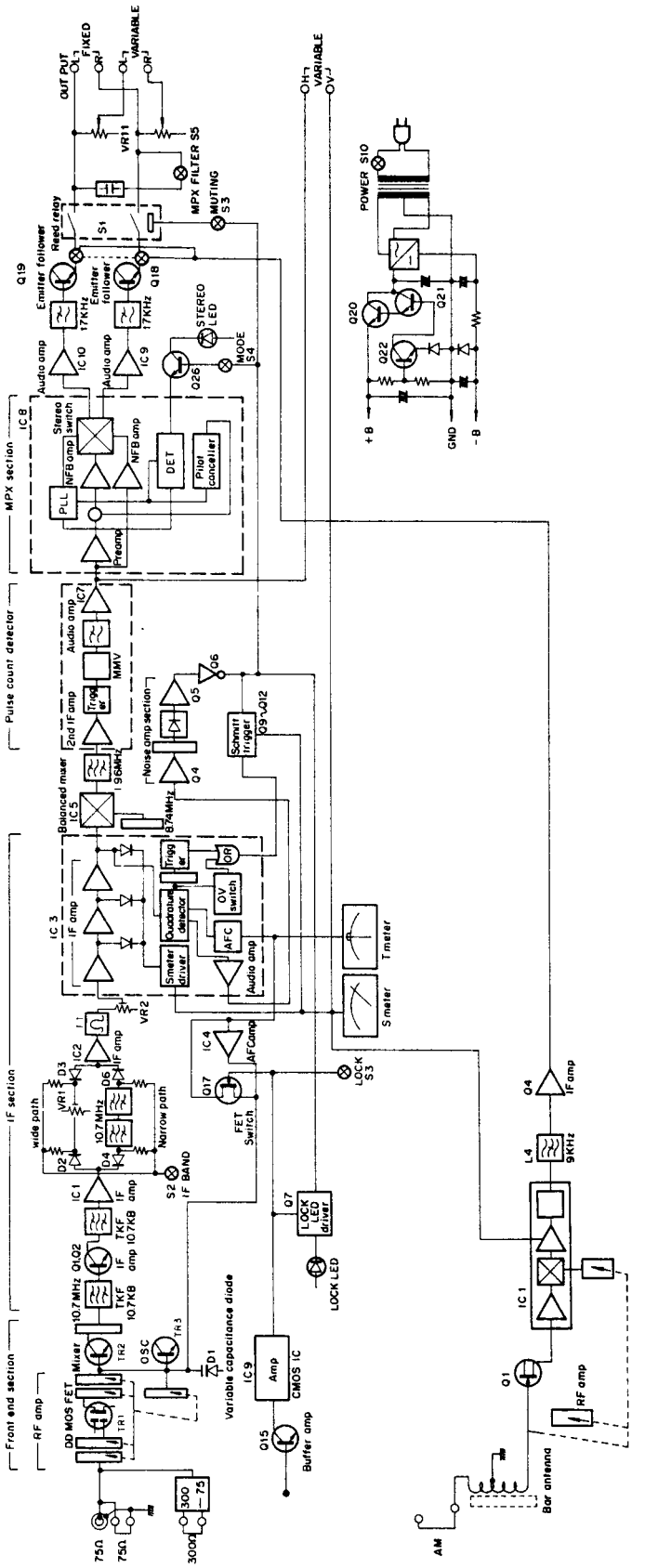
* Refer to Parts List.

DIAL CORD STRINGING

1. Fully close the variable capacitor.
2. Set the dial pulley as illustrated.
3. Tie the end of the dial cord to the boss A as shown.
4. Dress the dial cord in the direction of "1" and wind 2 turns around the dial shaft starting from its lower side.
5. Dress the dial cord in the direction of "2" through "7" and wind it 2 turns around the dial pulley starting from its lower side.
6. Fix it to the boss B.
7. Mount the dial pointer as shown in the illustration.

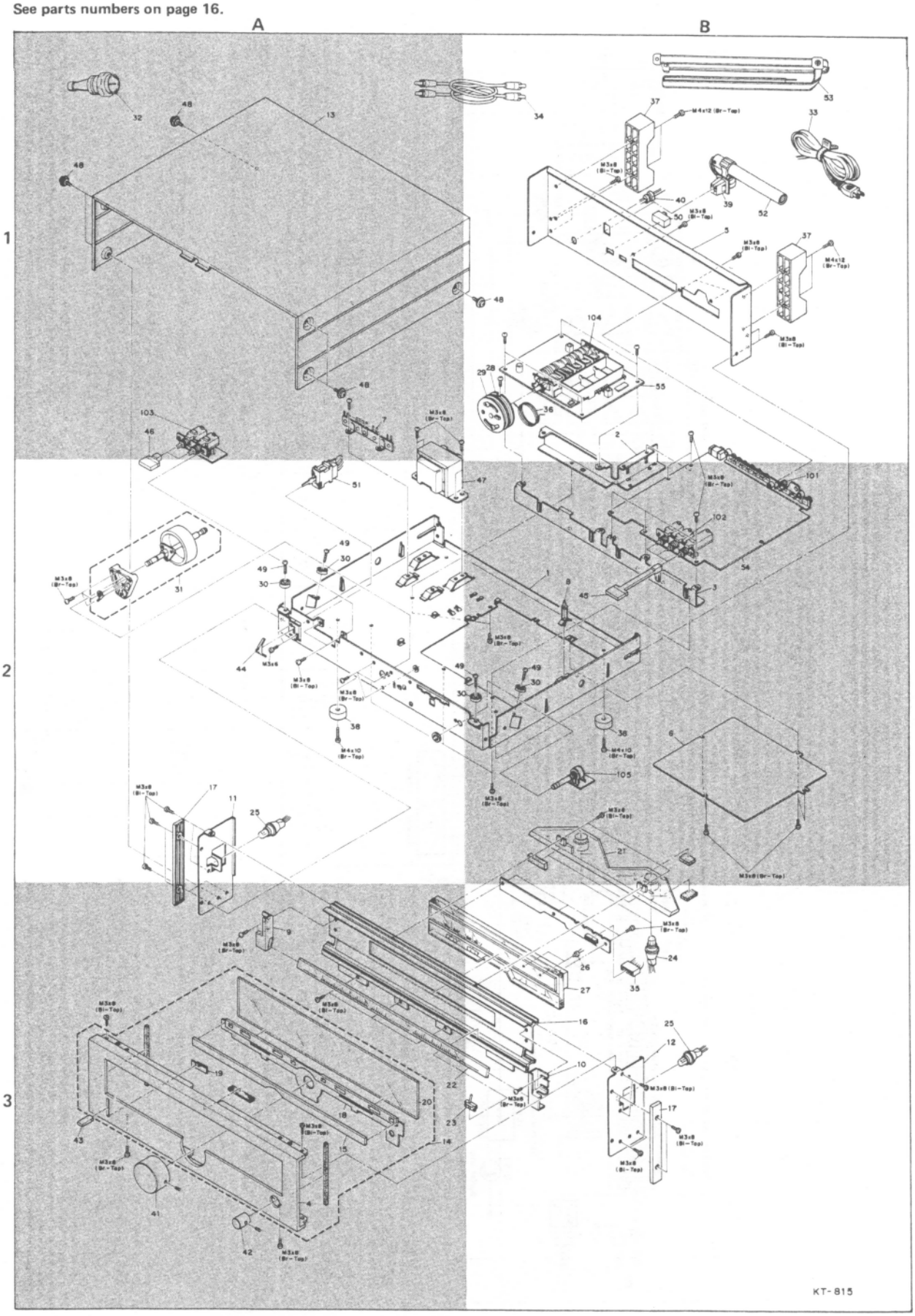


BLOCK DIAGRAM



EXPLODED VIEW

See parts numbers on page 16.



ADJUSTMENT

Set MUTING switch to OFF, MODE switch to STEREO, IF BAND switch to WIDE and MPX FILTER switch to OFF, unless otherwise specified.

NO.	ALIGNMENT	TEST EQUIPMENTS		TUNER SETTING	OUTPUT INDICATOR	ADJUSTMENT POINTS	REMARKS
		CONNECTION	SETTINGS				
FM SECTION							
1	IFT	Ⓐ, Ⓑ	95MHz 1kHz, ±75MHz Dev	95MHz	Lissajous' figure	L5(X05-1660) T1(X02-1180)*2	Symmetrical waveform and maximum deflection
2a	T METER	Ⓑ	ditto	ditto	Ⓒ	–	*2
2b	T METER	ditto	95MHz 1kHz, ±75kHz Dev 60dB *3	ditto	T meter	T2	T meter pointer to be center
3	DISTORTION	Ⓓ	95MHz 1kHz, ±68.25kHz Dev SELECTOR: L+R 60dB *3	ditto	Ⓒ	L5(X05-1660)	Minimum distortion
			Set VR2 ~ VR4 each to center.				
4	MUTING LEVEL	Ⓑ	95MHz 1kHz, ±75kHz Dev 20dB*3	95MHz MUTING: ON NARROW	Ⓒ	VR2	*4
5	S METER	ditto	95MHz 0 Dev 100dB*3	95MHz NARROW	S meter	VR4	*5
6a	WIDE GAIN	ditto	95MHz 0 Dev	ditto	ditto	–	*6
6b	WIDE GAIN	ditto	Same as 6a	95MHz WIDE	ditto	VR1	*7
7	NOISE AMP	ditto	95MHz 1kHz, ±75kHz Dev SG output level*8	95MHz NARROW	DC voltmeter to the cathode of D8	VR3	*9
8	T METER OFFSET	ditto	95MHz 1kHz, ±75kHz Dev 60dB*3	95MHz WIDE	T meter	VR10	*10
9	VCO	ditto	95MHz 0 Dev 60dB*3	ditto	Frequency counter to the crosspoint of R114 and VR5	VR5	76kHz
10a	SEPARATION (1)	Ⓓ	95MHz *11 1kHz,±68.25kHz Dev SELECTOR: R 60dB*3	ditto	Ⓒ	VR7	Minimum crosstalk
10b	SEPARATION (2)	ditto	95MHz *11 1kHz,±68.25kHz Dev SELECTOR: L 60dB*3	ditto	ditto	VR8	ditto
10c	SEPARATION (3)	ditto	95MHz *11 1kHz,±68.25kHz Dev SELECTOR: L (R) 60dB*3	95MHz NARROW	ditto	VR9	ditto
11	PILOT CANCELLER	Ⓑ	95MHz 60dB*3 Pilot signal	95MHz WIDE	ditto	VR6	Minimum output
AM SECTION							
1	IF	Ⓔ	1000kHz 400Hz, 30% Mod	1000kHz	Ⓒ	L2 (X05-1660)	Maximum deflection
2a	TRACKING	ditto	600kHz 400Hz, 30% Mod	600kHz	ditto	L1 (X05-1660) AM bar antenna	ditto
2b	TRACKING	ditto	1400kHz 400Hz, 30% Mod	1400kHz	ditto	CT1, CT2 (X05-1660)	ditto

ADJUSTMENT

TEST INSTRUMENTS

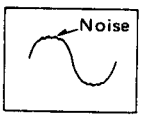
Oscilloscope
AM signal generator . . . . . AM-SG
FM signal generator . . . . . FM-SG
Audio generator . . . . . AG
Solid state voltmeter . . . . . SSVM
FM multiplex generator . . . . . FM-MPX
Frequency counter
DC voltmeter

NOTES ON ADJUSTMENT

*** 1**
IFT T1 needs no adjustment. When it is replaced with a new one, it should be adjusted with an IF detector. P613 →

*** 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 (MUTING) until the output waveform disappears, then turn it slightly in the opposite way until the output waveform appears again.

*** 5**
Set VR4 so that the S meter indicates "4.75".

*** 6**
Set the SG output level so that the S meter indicates "3".

*** 7**
Set VR1 so that the S meter indicates "3".

*** 8**
Level corresponding to a "monophonic usable sensitivity (IHF)".

*** 9**
Set VR3 (NOISE AMP) so that the cathode potential of D8 is lower than the source potential of Q3 by 1 V.

*** 10**
First, set MUTING-LOCK switch to OFF, and tune the tuner to a 95 MHz signal. In this case, the T meter pointer should be on center. Then, set MUTING-LOCK switch to ON, and set VR10 so that the T meter pointer is on center.
(T METER OFFSET)

*** 11**
Set deviation to ±68.25 kHz with selector in L+R position. Set deviation of pilot signal to 6.75 kHz (9%).

*** 12**
The front end section has already been completely adjusted in the factory and further adjustment is not necessary.
If the ceramic trimmers or the coils are accidentally moved, perform the following adjustment. (MUTING-LOCK switch: OFF)

1) If the ceramic trimmers have been moved:
   1. Set FM-SG to 108 MHz, 1 kHz Mod., ±75 kHz Dev. and connect it to the antenna terminal of the tuner.
   2. Set the dial pointer at 108 MHz.
   3. Adjust TCO so that the T meter gives a mid-scale reading.
   4. Adjust TCA1, TCA2, TCR1 and TCR2 so that maximum output is obtained.
2) If the coils have been moved:
   1. Set FM-SG to 88 MHz, 1 kHz Mod., ±75 kHz Dev. and connect it to the antenna terminal of the tuner.
   2. Set the dial pointer at 88 MHz.
   3. Adjust the coil pitch of L7 with a screwdriver or the like so that the SG signal is received.
   4. Adjust the coil pitch of L1~L5 with a screwdriver or the like so that maximum output is obtained.

*** 13**
If the front end cannot be repaired by ① replacing semiconductors and/or ② taking steps in *12, replace the front end PCB ass'y (W02-0021-05) and do the following.

1. Set FM-SG to 90 MHz, 1 kHz Mod., ±75 kHz Dev. and connect it to the antenna terminal of the tuner.
2. Adjust the tuner so that the SG signal is received. (MUTING-LOCK switch: OFF)
3. Fix the dial pointer at 90 MHz.

*** 14**
Adjustment of the Second Oscillator (T3)
T3 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 positive end of T3 by a frequency counter. Next, adjust T3 so that the second IF frequency of the connecting point of FL2 and R90 is " $\frac{9}{49}$ X the first IF frequency".
IF a frequency counter which can measure 10.7 MHz is not available, regard the central frequency of a ceramic filter as a first IF frequency.

Black:	10.64 MHz	Orange:	10.72 MHz
Brown:	10.66 MHz	Gray:	10.74 MHz
Blue:	10.68 MHz	White:	10.76 MHz
Red:	10.70 MHz		

*** 15**
0 dB = 1 μV

RÉGLAGES

Placer le MUTING dans la position OFF, MODE sur STÉRÉO, IF BAND sur WIDE et MPX FILTER sur OFF, sauf indiqué specialement.

Nº	ALIGNEMENT	APPAREILLAGE		RÉGLAGE DU TUNER	INDICATEUR DE SORTIE	POINTS DE REGLAGES	REMARQUES
		RACCORDEMENT	RÉGLAGE				
SECTION MF							
1	TFI	Ⓐ , Ⓑ	95MHz 1kHz (MOD) ±75kHz (DÉV)	95MHz	Figure de Lissajou	L5 (X05-1660) T1(X02-1180)*1	Forme d'onde symétrique et déflexion maximale.
2a	INDICATEUR À ZÉRO CENTRAL	Ⓑ	idem	idem	Ⓒ	–	* 2
2b	INDICATEUR À ZÉRO CENTRAL	idem	95MHz 1kHz (MOD) ±75kHz (DÉV) 60dB *3	idem	Indicateur à zéro central	T2	Aiguille de l'indicateur à zéro central en position centrale.
3	DISTORSION	Ⓓ	95MHz 1kHz (MOD) ±68,25kHz (DÉV) L+R(SELECTION) 60dB *3	idem	Ⓒ	L5 (X05-1660)	Distorsion minimale
Tourner VR2 ~ VR4 à position de centre.							
4	MUTING	Ⓑ	95MHz 1kHz (MOD) ±75kHz (DÉV) 20dB *3	95MHz MUTING: ON NARROW	Ⓒ	VR2	* 4
5	INDICATEUR DE CHAMP	idem	95MHz 0 (DÉV) 100dB *3	95MHz NARROW	Indicateur de champ	VR4	* 5
6a	GRAND GAIN	idem	95MHz 0 (DÉV)	idem	idem	–	* 6
6b	GRAND GAIN	idem	Mêmes conditions que 6a.	95MHz WIDE	idem	VR1	* 7
7	AMPLIFICATEUR DE BRUIT	idem	95MHz 1kHz (MOD) ±75kHz (DÉV) ENTRÉE ANT*8	95MHz NARROW	Relier le voltmètre CC à l'anode de D8	VR3	* 9
8	INDICATEUR À ZÉRO CENTRAL (OFFSET)	idem	95MHz 1 kHz (MOD) ±75kHz (DÉV) 60dB *3	idem	Indicateur à zéro central	VR10	* 10
9	OSCILLATEUR 76kHz	idem	95MHz 0 (DÉV) 60dB *3	idem	Relier le voltmètre CC au plot R114 et VR5	VR5	76kHz
10a	SÉPARATION	Ⓓ	95MHz 1kHz (MOD) ±68,25kHz (DÉV) R (SELECTION) 60dB *3	idem	Ⓒ	VR7	Diaphonie minimale
10b	SÉPARATION	idem	95MHz 1kHz (MOD) ±68,25kHz (DÉV) L (SELECTION) 60dB *3	idem	idem	VR8	idem
10c	SÉPARATION	idem	95MHz 1kHz (MOD) L ou R (SELECTION) 60dB *3	95MHz NARROW	idem	VR9	idem
11	CIRCUIT SUPPRESSION DE SIGNAL PILOTE	Ⓑ	95MHz 60dB *3 Signal pilote	95MHz WIDE	idem	VR6	Déviation maximale
SECTION MA							
1	TFI	Ⓔ	1.000kHz 400Hz, 30% (MOD)	1.000kHz	Ⓒ	L2 (X05-1660)	Déviation maximale
2a	ALIGNEMENT	idem	600kHz 400Hz, 30% (MOD)	600kHz	idem	L1 (X05-1660) Antenne ferrite MA	idem
2b	ALIGNEMENT	idem	1.400kHz 400Hz, 30% (MOD)	1.400kHz	idem	CT1, CT2 (X05-1660)	idem

RÉGLAGES

APPAREILLAGE

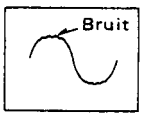
Oscilloscope . . . . . OSC
Générateur MA . . . . . AM-SG
Générateur MF . . . . . FM-SG
Générateur audio fréquences . . . . . AG
Voltmètre à transistor . . . . . SSVM
Générateur multiplex stéréo . . . . . FM-MPX
Fréquencemètre
Voltmètre CC

REMARQUE SUR LE RÉGLAGE

*** 1**
Le TFI T1 n'a pas besoin d'être réglé. Lorsqu'il doit être remplacé par un neuf, procéder au réglage avec un déteceur FI.

*** 2**
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.

*** 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**
Régler VR4 de façon que l'indicateur de champ marque "4,75".

*** 6**
Régler le niveau de sortie SG de façon que l'indicateur de champ marque "3".

*** 7**
Régler VR1 de façon que l'indicateur de champ marque "3".

*** 8**
Le niveau de sortie correspond à la sensibilité monophonique utile (IHF).

*** 9**
Régler VR3 de façon que le potentiel de cathode de D8 soit inférieur de 1V au potentiel de source de Q3.

*** 10**
Régler d'abord le commutateur de verrouillage de silencieux (MUTING-LOCK) sur OFF (hors-service), et accorder le tuner sur 95 MHz. Dans ce cas, l'aiguille d'indicateur d'accord doit être au milieu.
Ensuite, régler le commutateur de MUTING-LOCK sur ON (en service), puis régler VR10 de façon que l'aiguille d'indicateur d'accord soit au milieu.

*** 11**
Régler la déviation à ±68,25 kHz avec le sélecteur en position L+R (gauche + droite). Régler la déviation du signal pilote à 6,75 kHz (9%).

*** 12**
La tête RF a déjà été complètement ajustée en usine et aucun ajustement ultérieur n'est requis. Si les condensateurs d'antenne céramiques ou les selfs sont déplacées accidentellement, procéder alors aux réglages suivants:

1) Dans le cas où les condensateurs d'antenne céramiques auraient été déplacés.
   1. Régler FM-SG à 108 MHz, 1 kHz Mod., ±75 kHz Dev. et le connecter à la borne d'antenne du tuner.
   2. Régler l'aiguille du cadran à 108 MHz.
   3. Ajuster TCO de façon que l'indicateur d'accord donne la lecture moyenne à l'échelle.
   4. Ajuster TCA1, TCA2, TCR1 et TCR2 de façon à obtenir la sortie maximale.
2) Si les selfs ont été déplacées:
   1. Régler FM-SG à 88 MHz, 1 kHz Mod., ± 75 kHz Dev. et le connecter à la borne d'antenne du tuner.
   2. Régler l'aiguille du cadran à 88 MHz.
   3. Ajuster le pas de la self de L7 avec un tournevis ou outil semblable de façon à bien recevoir le signal SG.
   4. Ajuster le pas de la self de L1 ~ L5 avec un tournevis ou outil semblable de façon à obtenir la sortie maximale.

*** 13**
Si la tête RF ne peut pas être réparée
(1) en remplaçant les semi-conducteurs et/ou
(2) en suivant les indications du *12, remplacer l'assemblage (W02-0021-05) de la tête RF et procéder comme il suit:

1. Régler FM-SG à 90 MHz, 1 kHz Mod., ±75 kHz Dev. et le connecter à la borne d'antenne du tuner.
2. Ajuster le tuner de façon à bien recevoir le signal SG.
3. Fixer l'aiguille du cadran sur 90 MHz.

*** 14**
Ajustement du deuxième oscillateur (T3)
Le T3 n'a pas b-soin 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 positive de T3 à l'aide d'un compteur de fréquence. Ensuite, ajuster T3 de façon que la deuxième fréquence FI du point de connexion de FL2 et R90 soit "9/49 X première fréquence FI". Si l'on ne dispose pas d'un compteur de fréquence qui puisse mesurer 10,7 MHz, considérer la fréquence centrale d'un filtre céramique comme la première fréquence FI.

Noir:	10,64 MHz	Orange:	10,72 MHz
Brun:	10,66 MHz	Gris:	10,74 MHz
Bleu:	10,68 MHz	Blanc:	10,76 MHz
Rouge:	10,70 MHz		

*** 15**
0 dB = 1μV

ABGLEICH

Falls nicht anders angegeben, steht der MUTING-Umschalter auf Stellung OFF, der MODE-Umschalter auf Stellung STEREO, der IF BAND-Umschalter auf Stellung WIDE und der MPX FILTER-Umshalter auf Stellung OFF.

Nr.	ABGLEICH	PRÜFEINRICHTUNG		TUNER EINSTELLUNG	AUSGANGS-ANZEIGE	EINSTELL-PUNKT	BEMER-KUNGEN
		ANSCHLÜSSE	EINSTELLUNG				
UKW-EMPFANGSABTEILUNG							
1	ZF-T	Ⓐ , Ⓑ	95MHz 1kHz, ±75kHz Hub	95MHz	Lissajous-Figur	L5 (X05-1660) T1 (X02-1180)*1	Maximaler Ausschlag und Symmetrisch Wellenform
2a	KANALMITTEN-ANZEIGER	Ⓑ	dito	dito	Ⓒ	–	* 2
2b	KANALMITTEN-ANZEIGER	dito	95MHz 1kHz, ±75kHz Hub 60dB*3	dito	Kanalmitten-anzeiger	T2	Den Zeiger des Kanalmitten-anzeiger mittig einstellen
3	KLIRRFAKTOR	Ⓓ	95MHz 1kHz, ±68,25kHz Hub Wähler: L+R 60dB*3	dito	Ⓒ	L5 (X05-1660)	Minimaler klirrfaktor
VR2 bis VR4 jeweils auf Mitte einstellen.							
4	RAUSCHSPERRE-PEGEL	Ⓑ	95MHz 1kHz, ±75kHz Hub 20dB*3	95MHz MUTING: ON NARROW	Ⓒ	VR2	* 4
5	FELDSTÄRKE-INSTRUMENT	dito	95MHz 0 Hub 100dB*3	95MHz NARROW	Feldstärke-instrument	VR4	* 5
6a	FELDSTÄRKE-INSTRUMENT (WEIT)	dito	95MHz 0 Dev	dito	dito	–	* 6
6b	FELDSTÄRKE-INSTRUMENT (WEIT)	dito	S. 6a.	95MHz WIDE	dito	VR1	* 7
7	GERÄUSCH VERSTÄRKER	dito	95MHz 1kHz, ±75kHz Hub Leistung*8	95MHz NARROW	Gleichspannungs-messer an die kathode von D8	VR3	* 9
8	OFFSET (KANALMITTEN-ANZEIGER)	dito	95MHz 1kHz, ±75kHz Hub 60dB*3	95MHz WIDE	Kanalmitten-anzeiger	VR10	* 10
9	SPANNUNGS-GEREGELTER OSZILLATOR	dito	95MHz 0 Dev 60dB*3	dito	Frequenzzähler zum kreuzungs-punkt von R114 und VR5	VR5	76kHz
10a	STEREO KANAL TRENNUNG(1)	Ⓓ	95MHz *11 1kHz, ±68,25kHz Dev Wähler: R 60dB*3	dito	Ⓒ	VR7	Minimales Übersprechen
10b	STEREO KANAL TRENNUNG(2)	dito	95MHz *11 1kHz, ±68,25kHz Dev Wähler: L 60dB*3	dito	dito	VR8	dito
10c	STEREO KANAL TRENNUNG(3)	dito	95MHz *11 1kHz, ±68,25kHz Dev Wähler: L (R) 60dB*3	95MHz NARROW	dito	VR9	dito
11	PILOTTON-UNTER-DRÜCKUNG	Ⓑ	95MHz 60dB*3 Pilotton	95MHz WIDE	dito	VR6	Minimaler Ausschlag
MW-EMPFANGSABTEILUNG							
1	ZF-T	Ⓔ	1000kHz 400Hz, 30% Mod	1000kHz	Ⓒ	L2 (X05-1660)	Maximaler Ausschlag
2a	EMPFANGS-BEREICH	dito	600kHz 400Hz, 30% Mod	600kHz	dito	L1 (X05-1660) MW-Ferritantenna	dito
2b	EMPFANGS-BEREICH	dito	1000kHz 400Hz,30% Mod	1400kHz	dito	CT1, CT2 (X05-1660)	dito

ABGLEICH

PRÜFINSTRUMENTE

Oszilloskop ..... OSC
UKW-Signalgenerator ..... FM-SG
NF-Signalgenerator ..... AG
Transistor-Voltmeter ..... SSVM
UKW-Multiplexgenerator ..... FM-MPX
Frequenzzähler
Gleichspannungsmesser

HINWEISE FÜR DIE EINSTELLUNG

*** 1**

Der ZF-Transformator T1 braucht nicht eingestellt zu werden. Beim Auswechseln die Einstellung mittels eines ZF-Detektor vornehmen.

*** 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**

Das Trimm-Potentiometer VR4 so einstellen, daß das Feldstärkeinstrument den Wert 4,75 anzeigt.

*** 6**

Den Signalgenerator-Ausgangspegel so einstellen, daß das Feldstärkeinstrument den Wert 3 anzeigt.

*** 7**

Das Trimm-Potentiometer VR1 so einstellen, daß das Feldstärkeinstrument den Wert 3 anzeigt.

*** 8**

Pegel entsprechend der monofonen Nutzempfindlichkeit (IHF).

*** 9**

VR3 so einstellen, daß das Katodenpotential von D8 um 1 V niedriger ist als das Potential der source von Q3.

*** 10**

Zunächst der Muting-Lock-Umschalter auf Stellung OFF stellen und dann den Tuner auf ein 95 MHz Signal einstellen. In diesem Fall sollte der Kanalmitten-anzeiger in der Mitte stehen. Dann der Muting-Lock-Umschalter auf Stellung ON stellen daß die Nadel des Kanalmitten-anzeiger auf die Mitte zeigt.

*** 11**

Hub mit dem Wahlschalter auf L+R auf 68.25 kHz einstellen. Hub des Kontrollsignals auf 6.75 kHz (9%) einstellen.

*** 12**

Das Frontende wurde bereits im Werk vollständig eingestellt. Weitere Einstellung ist daher nicht nötig. Wenn die Keramiktrimmer oder die Spulen aus Versehen bewegt wurden, ist folgende Korrektur vorzunehmen:

1) Wenn die Keramiktrimmer bewegt wurden:
   1. Den UKW-Signalgenerator auf 108 MHz, 1 kHz Modulation und ±75 kHz Hub einstellen und mit der Antennenklemme des Tuners verbinden.
   2. Den Skalenzeiger auf 108 MHz stellen.
   3. TCO so einstellen, daß der Kanalmitten anzeiger in der Mitte ausschlägt.
   4. TCA1, TCA2, TCR1 und TCR2 so einstellen, daß ein maximales Ausgangssignal erhalten wird.
2) Wenn die Spulen bewegt wurden:
   1. Den UKW-Signalgenerator auf 88 MHz, 1 kHz Modulation und ±75 kHz Hub einstellen und mit der Antennen klemme des Tuners verbinden.
   2. Den Skalenzeiger auf 108 MHz stellen.
   3. Den Nutenschritt von L7 mit einem Schraubenzieher etc. so einstellen, daß ein Meßsendersignal erhalten wird.
   4. Den Nutenschritt von L1 bis L15 mit einem Schraubenzieher etc. so einstellen, daß ein maximales Ausgangssignal erhalten wird.

*** 13**

Wenn das Frontende (1) durch Auswechseln der Halbleiter und/oder (2) durch die in Abschnitt 12 genannten Schritte nicht repariert werden kann, ist die Leiterplatte (W02-0021-05) des Frontendes auszuwechseln und folgende Einstellung vorzunehmen:

1. Den UKW-Signalgenerator auf 90 MHz, 1 kHz Modulation und ±75 kHz Hub einstellen und mit der Antennenklemme des Tuners verbinden.
2. Den Tuner so einstellen, daß das Meßsendersignal empfangen wird, während der Skalenzeiger auf 90 MHz zeigt.

*** 14**

Einstellung des zweiten Oszillators (T3)

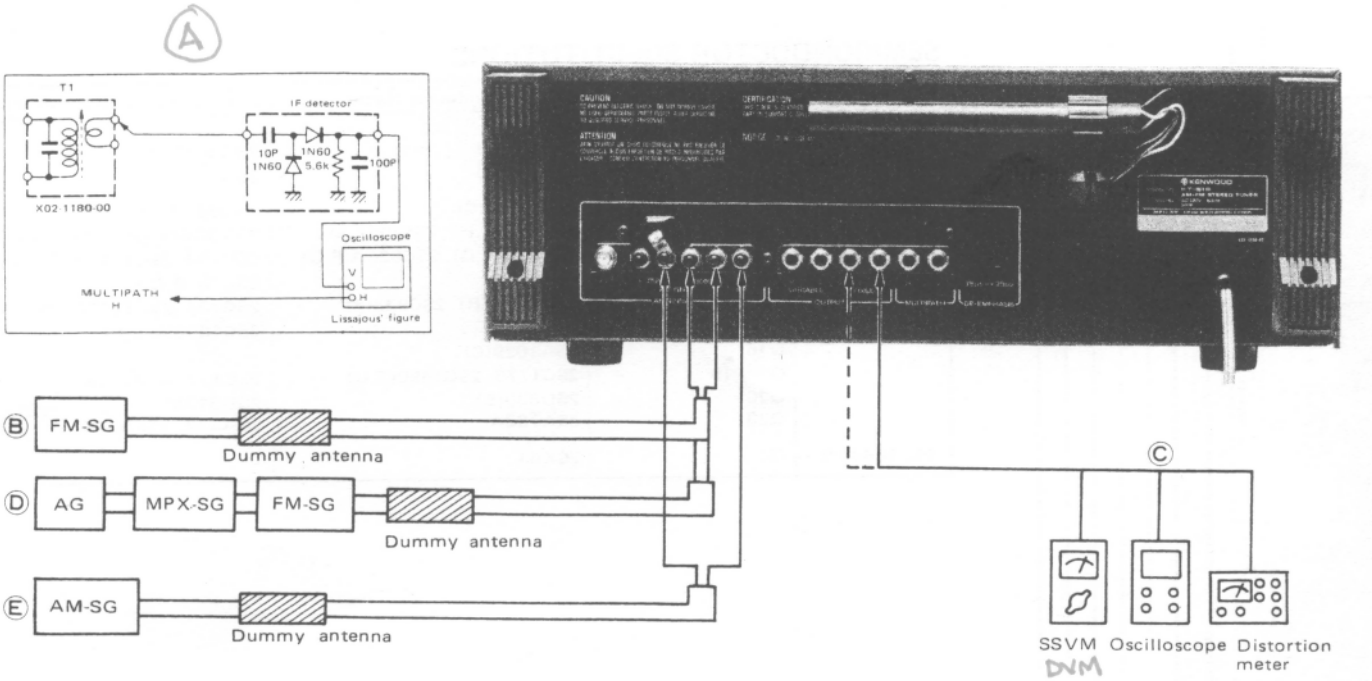
T3 braucht nicht eingestellt zu werden. Beim Auswechseln die Einstellung wie folgt vornehmen. Zunächst den Tuner auf ein nichtmoduliertes 95 MHz Signal einstellen. Dann die erste ZF der positiven Seite von T3 mit einem Frequenzzähler messen. Schließlich T3 so einstellen, daß die zweite ZF des Verbindungspunkts von FL2 und R90 dem Produkt aus 9/49 und der ersten ZF entspricht. Wenn kein Frequenzzähler, mit dem 10,7 MHz gemessen werden kann, zur Verfügung steht, kann die Mittenfrequenz eins Keramikfilters als erste ZF dienen.

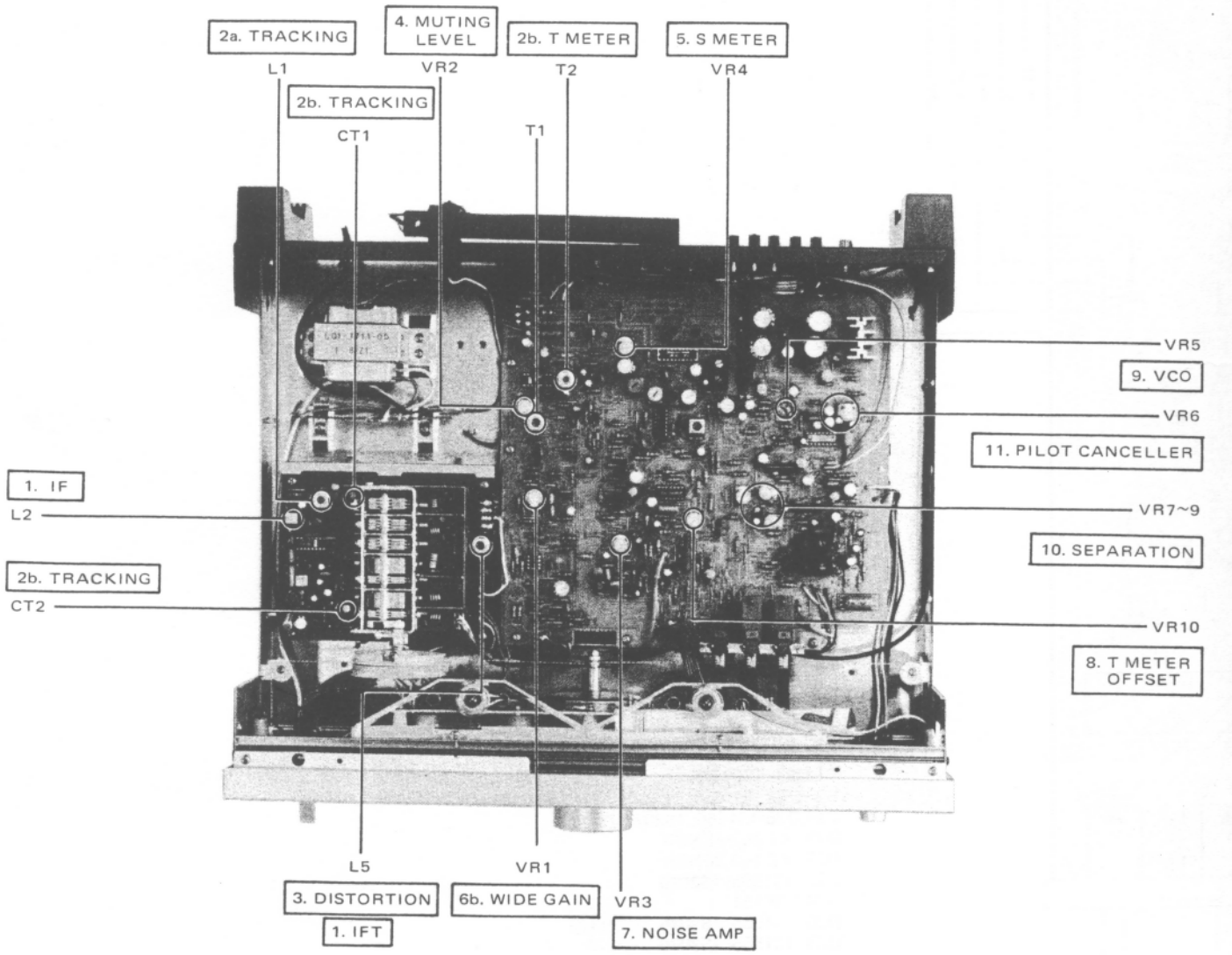
Schwarz:	10,64 MHz	Braun:	10,66 MHz
Blau:	10,68 MHz	Rot:	10,70 MHz
Orange:	10,72 MHz	Grau:	10,74 MHz
Weiß:	10,76 MHz		

*** 15**

0 dB = 1 μV.

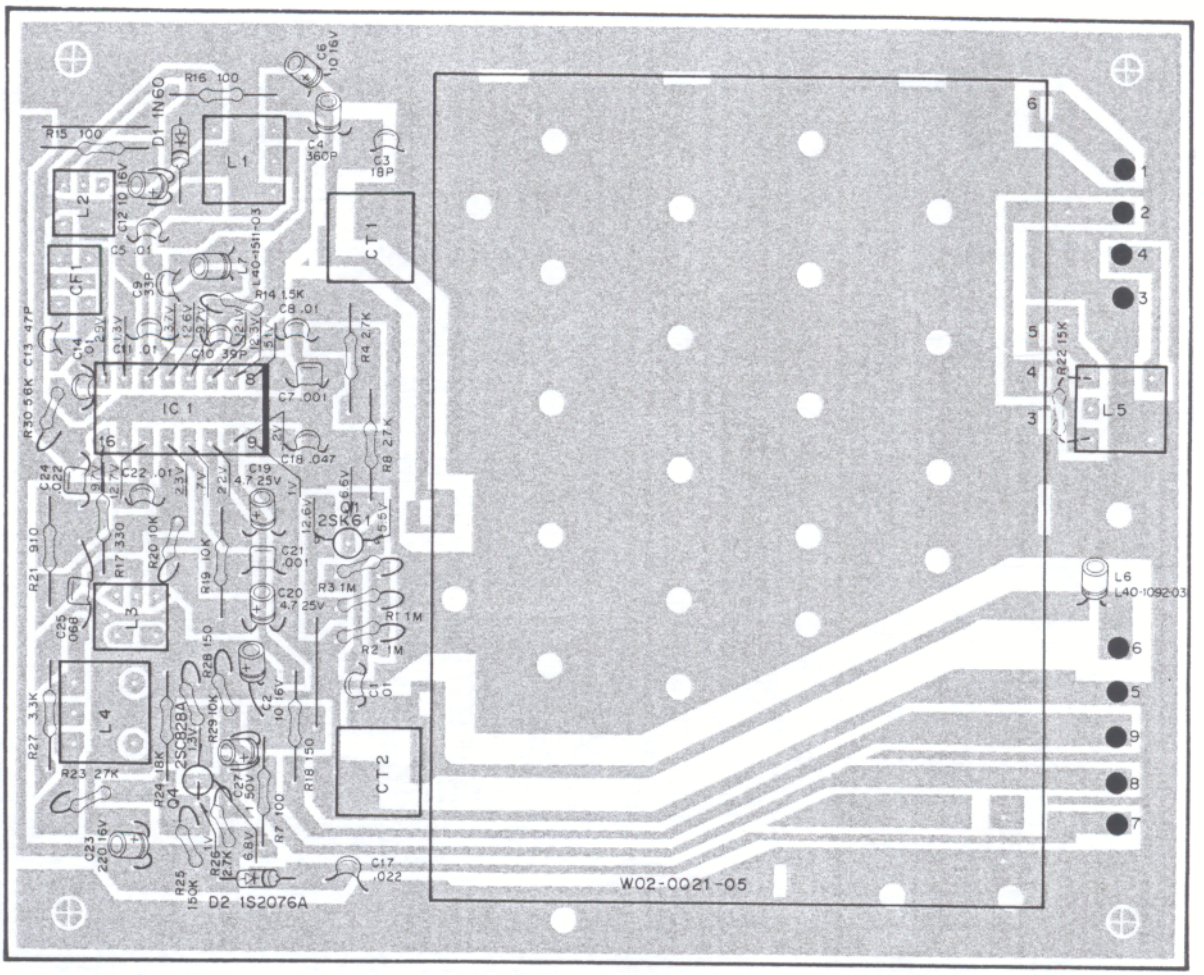
ADJUSTMENT


A
T1
IF detector
X02-1180-00
10P
1N60
1N60
5.6k
100P
Oscilloscope
V
H
MULTIPATH
H
Lissajous' figure
B
FM-SG
Dummy antenna
D
AG
MPX-SG
FM-SG
Dummy antenna
E
AM-SG
Dummy antenna
C
SSVM
Oscilloscope
Distortion meter

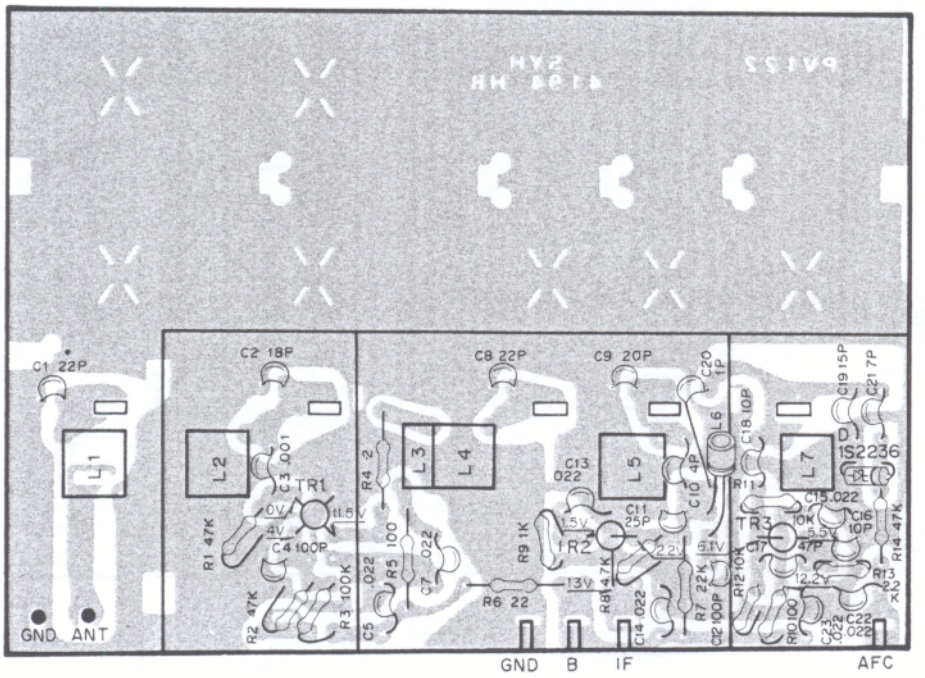

2a. TRACKING
L1
4. MUTING LEVEL
VR2
2b. T METER
T2
5. S METER
VR4
2b. TRACKING
CT1
T1
VR5
9. VCO
VR6
11. PILOT CANCELLER
1. IF
L2
VR7~9
10. SEPARATION
2b. TRACKING
CT2
VR10
8. T METER OFFSET
L5
VR1
3. DISTORTION
6b. WIDE GAIN
VR3
1. IFT
7. NOISE AMP

PC BOARD

RF (X05-1660-10, -11) COMPONENT SIDE



FRONT END (W02-0021-05) COMPONENT SIDE



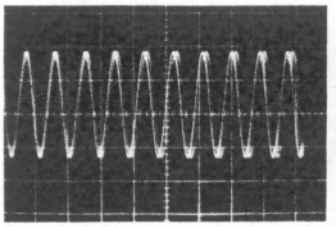
GND ANT

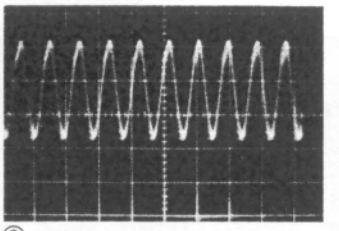
TR1 : 3SK85B
TR2 : 2SC535(C)
TR3 : 2SC461(C)

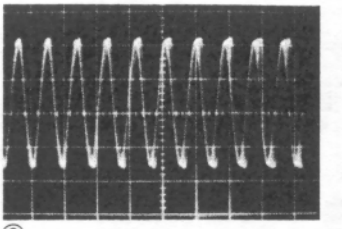
KT-815

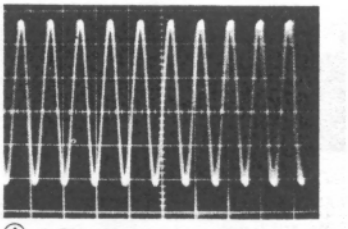
WAVEFORMS AT CHECKPOINTS

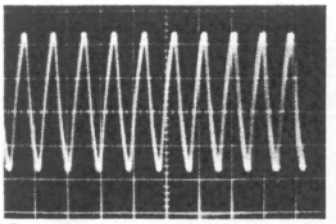
① ~ ⑰: FM 95 MHz, 1 kHz Mod, ±75 kHz Dev, 60 dB (ANT INPUT)
⑱ ~ ㉗: FM 95 MHz, 1 kHz Mod, ±68.25 kHz Dev, SELECTOR: L+R 60 dB (ANT INPUT)
㉘ ~ ㉜: AM 1000 kHz, 1 kHz, 20% Mod

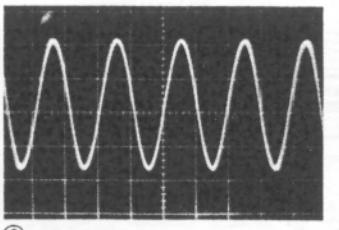

① .1μS/cm, 20mV/cm

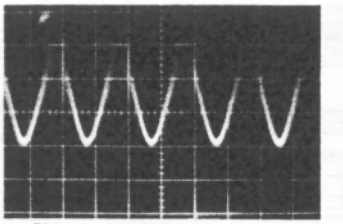

② .1μS/cm, .1V

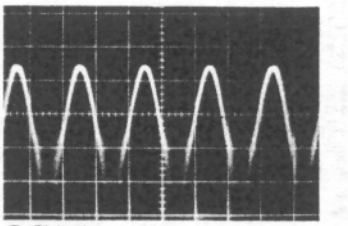

③ .1μS/cm, 200mV/cm

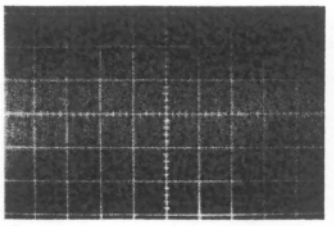

④ .1μS/cm, 20mV/cm

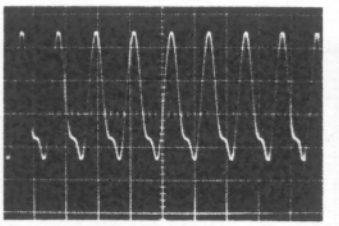

⑤ .1μS/cm, 20mV/cm

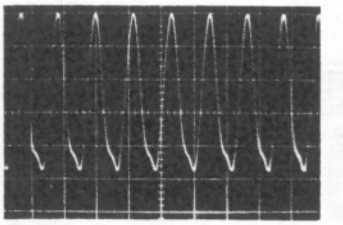

⑥ at de-tune .5mS/cm, .2V/cm

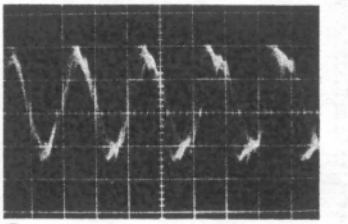

⑦ Dial pointer position:
Slightly higher than the signal frequency.
.5mS/cm, .2V/cm

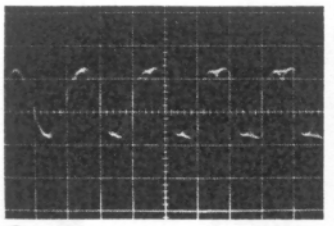

⑧ Dial pointer position:
Slightly lower than the signal frequency.
.5mS/cm, .2V/cm

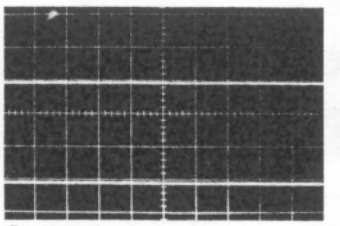

⑨ at de-tune .5mμS/cm, .2V/cm

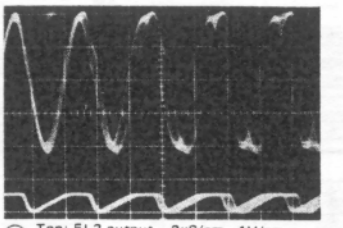

⑩ .1μS/cm, 50mV/cm

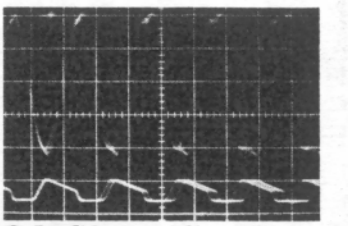

⑪ .1μS/cm, 50mV/cm

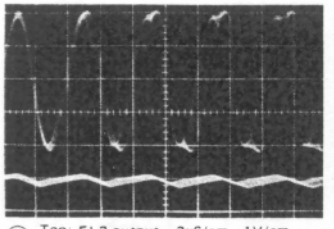

⑫ .2μS/cm, .2V/cm

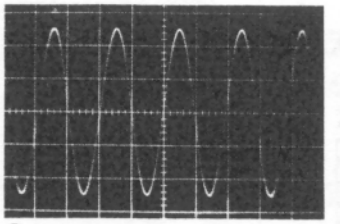

⑬ .2μS/cm, .2V/cm

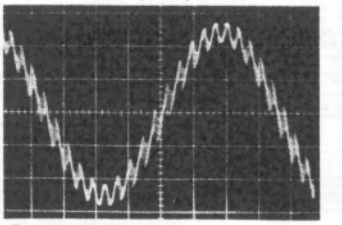

⑭ GND line of ⑭ and ⑮

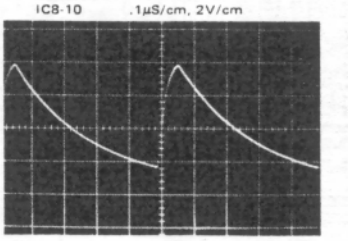

⑭ Top: FL2 output .2μS/cm, .1V/cm
Bottom:
IC8-9 .2μS/cm, 10V/cm

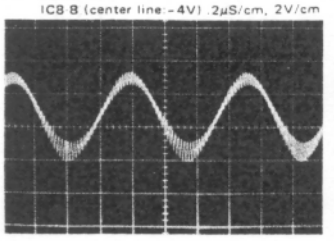

⑮ Top: FL2 output .1μS/cm, .1V/cm
Bottom:
IC8-10 .1μS/cm, 2V/cm

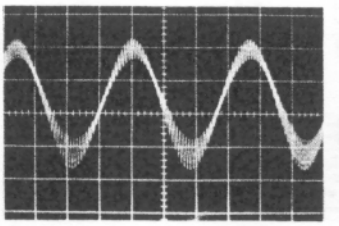

⑯ Top: FL2 output .2μS/cm, .1V/cm
Bottom:
IC8-8 (center line: -4V) .2μS/cm, 2V/cm

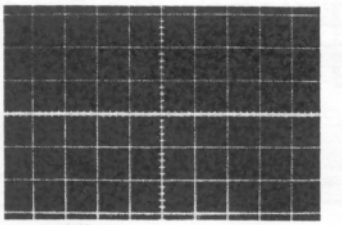

⑰ .5mS/cm, 50mV/cm
(AC)

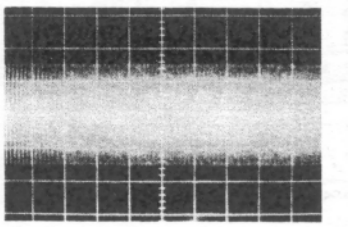

⑱ .5mS/cm, .2V/cm

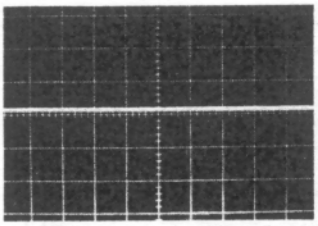

⑲ 2μS/cm, 1V/cm


⑳ .2mS/cm, .2V/cm

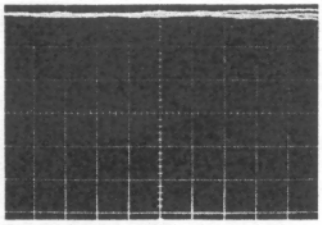

㉑ .2mS/cm, 2V/cm


㉒ Q3-C (at tune)
50μS/cm, 2V(AC)/cm

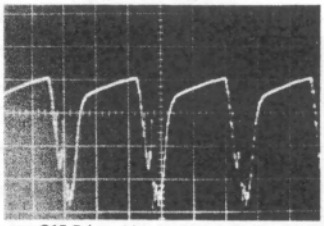

㉒ Q3-C (at de-tune)
50μS/cm, 2V(AC)/cm



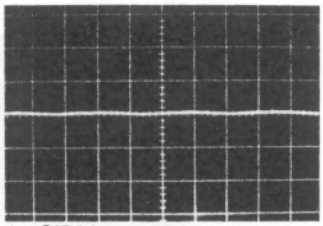
㉓ Q4-B at tune
1mS/cm, 1V(DC)/cm



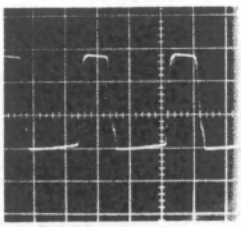
㉓ Q4-B at de-tune
1mS/cm, 1V(DC)/cm



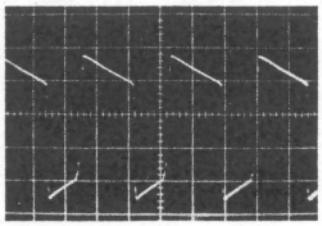
㉔ Q17-B (touch)
5mS/cm
50mV/cm



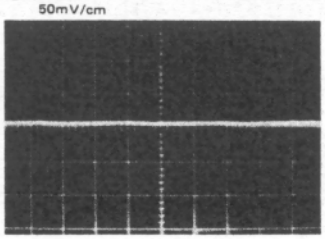
㉔ Q17-B (non-touch)
5mS/cm
20mV/cm



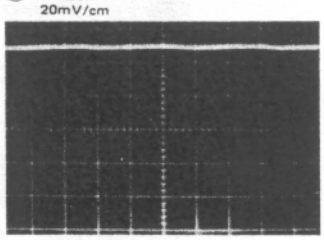
㉕ Q17-C (touch)
5mS/cm
2V/cm



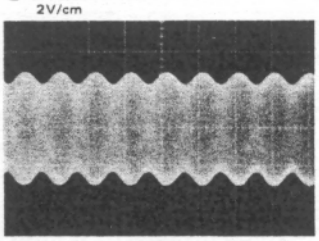
㉖ IC9-3 (touch)
5mS/cm
2V/cm



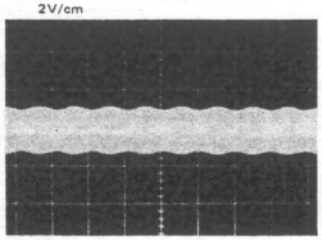
㉗ IC9-5 (touch)
5mS/cm
2V/cm



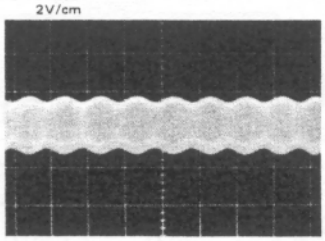
㉗ IC9-5 (non-touch)
5mS/cm
2V/cm



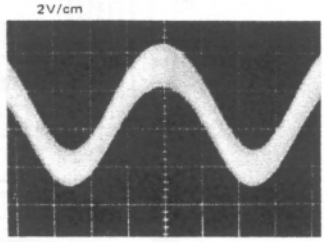
㉘ 1mS/cm, 20mV/cm



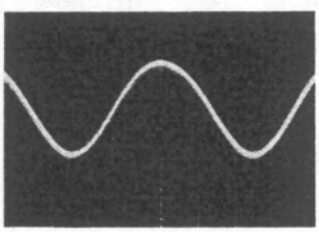
㉙ 1mS/cm, 10mV/cm



㉚ 1mS/cm, 10mV/cm



㉛ .2mS/cm, 10mV/cm



㉜ .2mS/cm, 10mV/cm

PARTS LIST

See instructions at the end of the parts list.

Ref. No. 参照番号	Parts No. 部品番号	Description 部品名／規格	Remarks 備考
KT-815 (UNIT)			
1 2B	-	CHASSIS	
2 1B	-	FRAME	
3 2B	-	FRAME	
4 3A	-	PANEL	
5 1B	-	REAR PANEL	
6 2B	-	BOTTOM PLATE	
7 1A	-	LUG TYPE TERMINAL STRIP	
8 2B	-	PC HOLEDER	
9 3A	-	HOLEDER	
10 3B	-	HOLEDER	
11 2A	-	METAL HARDWAER	
12 3B	-	METAL HARDWARE	
-	351-0008-04	DIAL CORD	
13 1A	A01-0349-13	CASE	
14 3A	A20-1390-13	FRONT PANEL ASSY	*K
14 3A	A20-1390-13	FRONT PANEL ASSY	PU
14 3A	A20-1390-13	FRONT PANEL ASSY	MH
14 3A	A20-1390-13	FRONT PANEL ASSY	XE
14 3A	A20-1391-13	FRONT PANEL ASSY	*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
15 3A	A21-0302-03	DRESSING PANEL	ET
15 3A	A21-0303-03	DRESSING PANEL	*H
16 3B	A30-0156-03	DIAL BACK BOARD	
-	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
-	B50-1830-00	INSTRUCTION MANUAL	*K
-	B50-1830-00	INSTRUCTION MANUAL	U
-	B50-1831-00	INSTRUCTION MANUAL	*P
-	B50-1831-00	INSTRUCTION MANUAL	MX
-	B50-1832-00	INSTRUCTION MANUAL	*H
-	B50-1834-00	INSTRUCTION MANUAL	*T
17 2A, 3B	B01-0124-04	PANEL ESCUTCHEON X2	
18 3A	B01-0127-02	PANEL ESCUTCHEON	
19 3A	B07-0252-04	ESCUTCHEON	
20 3A	B10-0241-04	FRONT GLASS	
21 2B	B19-0203-03	LIGHTING PLATE	
22 3A	B20-0441-04	DIAL CALIBRATIOS	*
23 3A	B21-0030-04	DIAL POINTER	
24 3B	B30-0160-05	LAMP 8V 0.3A X2	
25 2A, 3B	B30-0166-05	LAMP 8V 0.3A X2	
26 3B	B30-0171-05	LED X2 RED	
27 3B	B31-0298-05	METER	*
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	
32 1A	E05-0125-05	PLUG F TYPE	
33 1B	E30-0181-05	POWER CORD	KP
33 1B	E30-0185-05	POWER CORD	X
33 1B	E30-0459-05	POWER CORD	HE
33 1B	E30-0545-05	POWER CORD	UM
33 1B	E30-0602-05	POWER CORD	T
34 1B	E30-0505-05	AUDIO CORD	
35 3B	E40-0826-05	PIN CONNECTOR 8P	
36 1B	G01-0314-04	COIL SPRING	
37 1B	G13-0121-03	CUSHION	
-	H01-1890-04	CARTON BOX	*K
-	H01-1890-04	CARTON BOX	UM
-	H01-1890-04	CARTON BOX	XE
-	H01-1891-04	CARTON BOX	*P
-	H01-1892-04	CARTON BOX	*H
-	H01-1893-04	CARTON BOX	*T
-	H10-1524-22	POLYSTYRENE FIXTURE X2	
-	H20-0448-04	COVER	M
-	H20-0453-04	COVER	KP
-	H20-0453-04	COVER	UH
-	H20-0453-04	COVER	XE
-	H20-0453-04	COVER	T
-	H20-0453-04	COVER	T
-	H25-0078-04	BAG 235X315	
-	H25-0096-04	BAG 80X120	
-	H25-0148-04	BAG 110X230	
-	J02-0097-04	FOOT	
38 2B	J02-0049-14	FOOT X4	T
38 2B	J02-0049-14	FOOT X4	PU
38 2B	J02-0049-14	FOOT X4	MH
38 2B	J02-0049-14	FOOT X4	XE
38 2B	J02-0073-04	FOOT X4	K
39 1B	J19-0507-05	HOLDER ANTENNA	
40 1B	J41-0024-15	BUSHING POWER CORD	XT
40 1B	J41-0033-05	BUSHING POWER CORD	HE
40 1B	J41-0034-05	BUSHING POWER CORD	KP
40 1B	J41-0034-05	BUSHING POWER CORD	UM
41 3A	K21-0366-04	KNOB TUNING	
42 3A	K21-0367-04	KNOB OUTPUT LEVEL	*
43 3A	K27-0076-04	KNOB POWER	
44 2A	K27-0077-04	KNOB POWER	
45 2B	K27-0082-04	KNOB ST, MUT, SEL	*
46 1A	K27-0083-04	KNOB MPX, MODE	Y
47 2B	L01-1711-05	POWER TRANSFORMER	*K
47 2B	L01-1711-05	POWER TRANSFORMER	P
47 2B	L01-1714-05	POWER TRANSFORMER	*U
47 2B	L01-1714-05	POWER TRANSFORMER	HX
47 2B	L01-1714-05	POWER TRANSFORMER	TM
47 2B	L01-1717-05	POWER TRANSFORMER	*E
48 1A	N08-0125-05	DRESSED SCREW M4X8	
49 2A	N09-0293-05	SCREW PULLEY	
R1	R92-0173-05	RC 2.2M 2H	KP
50 1B	S31-2050-05	SLIDE SWITCH	UM
50 1B	S31-2050-05	SLIDE SWITCH	HX
50 1B	S31-2050-05	SLIDE SWITCH	ET
51 2A	S33-1011-05	LEVER SWITCH POWER	UM
51 2A	S33-1011-05	LEVER SWITCH POWER	HX

PARTS LIST

Ref. No. 参照番号	Parts No. 部品番号	Description 部品名／規格	Remarks 備考
51 2A	S33-1015-05	LEVER SWITCH POWER	KP
51 2A	S33-2042-05	LEVER SWITCH POWER	ET
52 1B	T90-0096-05	ANTENNA AM	
53 1B	T90-0202-05	ANTENNA FM	
54 2B	X02-1180-10	IF PCB ASSY	*K
54 2B	X02-1180-10	IF PCB ASSY	P
54 2B	X02-1182-71	IF PCB ASSY	XE
54 2B	X02-1182-71	IF PCB ASSY	T
54 2B	X02-1182-81	IF PCB ASSY	UM
54 2B	X02-1182-81	IF PCB ASSY	H
55 1B	X05-1660-10	RF/AM PCB ASSY	*U
55 1B	X05-1660-10	RF/AM PCB ASSY	HX
55 1B	X05-1660-10	RF/AM PCB ASSY	ET
55 1B	X05-1660-10	RF/AM PCB ASSY	M
55 1B	X05-1660-11	RF/AM PCB ASSY	KP
IF (X02-1180)			
C1	C55-1710-38	CERAMIC 0.01UF Z	
C2	C24-1210-71	ELECTRO 100UF 16WV	
C3 -C14	C55-1710-38	CERAMIC 0.01UF Z	
C15	C25-1747-47	LL-ELEC 0.47UF 50WV	
C16	C55-1710-38	CERAMIC 0.01UF Z	
C17	C54-1710-29	CERAMIC 0.001UF P	
C18 -C21	C55-1710-38	CERAMIC 0.01UF Z	
C22	C55-1747-38	CERAMIC 0.047UF Z	
C23 ,C24	C55-1710-38	CERAMIC 0.01UF Z	
C25	C71-1710-15	CERAMIC 100PF J	
C26	C24-1447-51	ELECTRO 4.7UF 25WV	
C27	C55-1747-38	CERAMIC 0.047UF Z	
C28	C24-1247-61	ELECTRO 47UF 16WV	
C29	C52-1756-16	CERAMIC 560PF K	
C30	C25-6522-57	LL-ELEC 2.2UF 35WV	
C31	C55-1710-38	CERAMIC 0.01UF Z	
C32	C24-1210-61	ELECTRO 10UF 16WV	
C33	C55-1747-38	CERAMIC 0.047UF Z	
C34 ,C35	C55-1710-38	CERAMIC 0.01UF Z	
C36 ,C37	C24-1710-51	ELECTRO 1UF 50WV	
C38	C24-1047-61	ELECTRO 47UF 10WV	
C39	C24-1022-71	ELECTRO 220UF 10WV	
C40	C24-1447-51	ELECTRO 4.7UF 25WV	
C41	C47-1712-15	POLYSTY 120PF J	
C42	C45-1747-26	MYLAR 0.0047UF K	
C43	C24-1447-51	ELECTRO 4.7UF 25WV	
C44	C45-1722-36	MYLAR 0.022UF K	
C45	C24-1447-51	ELECTRO 4.7UF 25WV	
C46	C25-1747-57	LL-ELEC 4.7UF 50WV	
C47	C24-1247-61	ELECTRO 47UF 16WV	
C48	C55-1747-38	CERAMIC 0.047UF Z	
C49	C24-1247-61	ELECTRO 47UF 16WV	
C50	C55-1710-38	CERAMIC 0.01UF Z	
C51	C55-1747-38	CERAMIC 0.047UF Z	
C53	C71-1710-15	CERAMIC 100PF J	
C54	C71-1722-05	CERAMIC 22PF J	
C55	C24-1233-61	ELECTRO 33UF 16WV	
C56	C24-1222-61	ELECTRO 22UF 16WV	
C58	C55-1710-38	CERAMIC 0.01UF Z	
C59	C24-1210-61	ELECTRO 10UF 16WV	
C60	C26-1710-57	NP-ELEC 1UF 50WV	
C61	C46-1710-47	MYLAR 0.1UF M	
C62	C25-1733-57	LL-ELEC 3.3UF 50WV	
C63	C24-1247-61	ELECTRO 47UF 16WV	
C64	C24-1247-71	ELECTRO 470UF 16WV	
C65	C58-1747-05	CERAMIC 47PF J	
C66 -C68	C91-0070-05	CERAMIC 0.047UF Z	
C69	C24-1010-71	ELECTRO 100UF 10WV	
C70	C24-1210-61	ELECTRO 10UF 16WV	
C71	C24-1047-61	ELECTRO 47UF 10WV	
C72	C52-1727-16	CERAMIC 270PF K	
C73	C24-1447-51	ELECTRO 4.7UF 25WV	
C74	C24-1733-51	ELECTRO 3.3UF 50WV	
C75	C45-1747-36	MYLAR 0.047UF K	
C76	C46-1722-26	MYLAR 0.0022UF K	
C77	C55-1747-38	CERAMIC 0.047UF Z	
C78	C24-1222-71	ELECTRO 220UF 16WV	
C79	C46-1715-26	MYLAR 0.0015UF K	
C80	C46-1715-34	MYLAR 0.015UF G	81
C80	C46-1775-24	MYLAR 0.0075UF G	10
C80	C46-1775-24	MYLAR 0.0075UF G	71
C81	C46-1715-34	MYLAR 0.015UF G	10
C81	C46-1775-24	MYLAR 0.0075UF G	71
C81	C46-1775-24	MYLAR 0.0075UF G	81
C82	C46-1715-34	MYLAR 0.015UF G	81
C82	C46-1775-24	MYLAR 0.0075UF G	10
C82	C46-1775-24	MYLAR 0.0075UF G	71
C83	C46-1715-34	MYLAR 0.015UF G	10
C83	C46-1775-24	MYLAR 0.0075UF G	71
C83	C46-1775-24	MYLAR 0.0075UF G	81
C84	C48-1710-25	POLYSTY 1000PF J	
C85	C25-1747-47	LL-ELEC 0.47UF 50WV	
C86 ,C87	C25-1733-57	LL-ELEC 3.3UF 50WV	
C88	C24-1733-51	ELECTRO 3.3UF 50WV	
C89	C45-1710-36	MYLAR 0.01UF K	
C90 ,C91	C25-1722-47	LL-ELEC 0.22UF 50WV	
C92	C24-1247-61	ELECTRO 47UF 16WV	
C93	C71-1710-15	CERAMIC 100PF J	
C94	C71-1710-02	CERAMIC 10PF D	
C95,C96	C24-1210-61	ELECTRO 10UF 16WV	
C97	C71-1710-02	CERAMIC 10PF D	
C98	C71-1710-15	CERAMIC 100PF J	
C99	C24-1233-61	ELECTRO 33UF 16WV	
C100,C101	C24-1733-51	ELECTRO 3.3UF 50WV	
C102,C103	C24-1247-61	ELECTRO 47UF 16WV	
C104,C105	C24-1210-61	ELECTRO 10UF 16WV	
C106,C107	C24-1410-81	ELECTRO 1000UF 25WV	
C108	C24-1410-71	ELECTRO 100UF 25WV	
C109	C52-1756-16	CERAMIC 560PF K	
C110	C24-1010-71	ELECTRO 100UF 10WV	
C111	C24-1210-61	ELECTRO 10UF 16WV	
C112,C113	C24-1210-81	ELECTRO 1000UF 16WV	
C114	C25-1733-57	LL-ELEC 3.3UF 50WV	
C115	C25-1410-67	LL-ELEC 10UF 25WV	
C116	C25-6522-57	LL-ELEC 2.2UF 35WV	
C117,C118	C55-1710-38	CERAMIC 0.01UF Z	
C119	C46-1727-36	MYLAR 0.027UF K	
101 2B	E29-0112-05	TERMINAL	*
CF1 -CF4	L79-0098-05	FILTER ASSY	*
FL1	L79-0099-05	FILTER LC	*
FL2	L79-0100-05	FILTER LC	*
FL5	L79-0080-05	FILTER LC	
FL6 ,FL7	L79-0060-05	FILTER LOW PASS	
L1	L40-2292-11	CHOKE COIL 2.2UH	
L3	L40-6825-64	INDUCTOR 6.8MH	
L4 -L7	L40-2292-11	CHOKE COIL 2.2UF	

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PARTS LIST

Ref. No. 参照番号	Parts No. 部品番号	Description 部品名／規格	Remarks 備考
T1	L30-0297-05	IFT FM	
T2	L30-0320-05	IFT QUADRATURE	
T3	L32-0218-15	FM OSC COIL	
T4	L19-0009-05	TRNSFORMER BALUN	
R3	R43-1210-15	FL-PROOF RD100 J 2E	
R10 ,R11	R43-1210-15	FL-PROOF RD100 J 2E	
R15	R43-1210-15	FL-PROOF RD100 J 2E	
R26	R43-1210-15	FL-PROOF RD100 J 2E	
R28	R43-1210-15	FL-PROOF RD100 J 2E	
R42 ,R43	R43-1210-15	FL-PROOF RD100 J 2E	
R49	R43-1210-15	FL-PROOF RD100 J 2E	
R104	R43-1233-05	FL-PROOF RD33 J 2E	
R105	R49-6282-23	RN 8.2K F 2E	
R108	R43-1222-05	FL-PROOF RD22 J 2E	
R118	R43-1210-15	FL-PROOF RD100 J 2E	
R126	R43-1210-15	FL-PROOF RD100 J 2E	
R135	R43-1210-15	FL-PROOF RD100 J 2E	
R141	R43-1210-15	FL-PROOF RD100 J 2E	
R157	R47-1418-15	FL-PROOF RS180 J 3A	
R165,R166	R47-1456-95	FL-PROOF RS5.6 J 3A	
R167,R168	R43-6210-05	FL-PROOF RD 10 J 2E	
R170	R43-1210-15	FL-PROOF RD100 J 2E	
VR1 ,VR2	R12-0065-05	TRIMMING POT. 470(B)	
VR3	R12-1040-05	TRIMMING POT. 4.7K(B)	
VR4	R12-3046-05	TRIMMING POT. 47K(B)	
VR5	R12-1041-05	TRIMMING POT. 3.3K(B)	
VR6 -VR8	R12-5030-05	TRIMMING POT. 100K(B)	
VR9	R12-1039-05	TRIMMING POT. 2.2K(B)	
VR10	R12-8009-05	TRIMMING POT. 1M(B)	
VR11	R06-2011-05	POTENTIOMETER FIG 105	
-	S51-2037-05	REED RELAY	
S1 -S3	S42-3027-05	PUSH SWITCH FIG 102	*
S4 ,S5	S42-2023-05	PUSH SWITCH FIG 103	
D1 -D3	V11-0273-05	1S2076A	
D2 -D22	V11-0076-05	1S1555,1S2076	
D24 ,D25	V11-0076-05	1S1555,1S2076	
D26	V11-4101-50	XZ-062 ZENER	
D27	V11-0254-05	YZ-140 ZENER	
D28	V11-0076-05	1S1555,1S2076	
D29	V11-5100-60	RB-151 50V 1.5A	
D30 ,D31	V11-0076-05	1S1555,1S2076	
D33	V11-0076-05	1S1555,1S2076	
IC1	V30-0215-05	LA1222	
IC2	V30-0087-05	TA7060P	
IC3	V30-0133-05	HA1137W	
IC4	V30-0264-10	HA1457	
IC5	V30-0268-20	MC1496N	
IC6	V30-0297-20	TC4069UBP	
IC7	V30-0296-20	TR4010A	
IC8	V30-0266-20	HA11223W	
IC9 ,IC10	V30-0264-10	HA1457	
Q1 ,Q2	V03-0402-05	2SC535(B,C)	
Q3	V09-0127-10	2SK105(F,H),2SK68(L,M)	
Q4 -Q7	V03-0270-05	2SC945(R,Q),2SC828A(P,Q	
Q8	V03-0405-05	2SC945(P),2SC828A(R)	
Q9 -Q14	V03-0270-05	2SC945(R,Q),2SC828A(P,Q	
Q15	V03-0405-05	2SC945(P),2SC828A(R)	
Q16	V01-1029-10	2SA1029(C)	
Q17	V09-0127-10	2SK105(F,H),2SK68(L,M)	
Q18 ,Q19	V03-1775-00	2SC1980(T,U),2SC1775	
Q20	V04-0330-40	2SD330(E)	

Ref. No. 参照番号	Parts No. 部品番号	Description 部品名／規格	Remarks 備考
Q21 ,Q22	V03-0270-05	2SC945(R,Q),2SC828A(P,Q	
Q23	V01-0733-30	2SA733A(R,Q),2SA992(F,E	
Q26	V03-0270-05	2SC945(R,Q),2SC828A(P,Q	
RF/AM (X05-1660)			
CT1 ,CT2	C05-0073-05	TRIMMER CAPACITOR	*
C1	C55-1710-38	CERAMIC 0.01UF Z	
C2	C24-1210-61	ELECTRO 10UF 16WV	
C3	C70-1718-05	CERAMIC 18PF J	
C4	C48-1736-15	POLYSTY 360PF J	
C5	C55-1710-38	CERAMIC 0.01UF Z	
C6	C24-1210-61	ELECTRO 10UF 16WV	
C7	C46-1710-26	MYLAR 0.001UF K	
C8	C55-1710-38	CERAMIC 0.01UF Z	
C9	C71-1733-05	CERAMIC 33PF J	
C10	C71-1739-05	CERAMIC 39PF J	
C11	C55-1710-38	CERAMIC 0.01UF Z	
C12	C24-1210-61	ELECTRO 10UF 16WV	
C13	C71-1747-05	CERAMIC 47PF J	
C14	C55-1710-38	CERAMIC 0.01UF Z	
C17	C55-1722-38	CERAMIC 0.022UF Z	
C18	C55-1747-38	CERAMIC 0.047UF Z	
C19 ,C20	C24-1447-51	ELECTRO 4.7UF 25WV	
C21	C46-1710-26	MYLAR 0.001UF K	
C22	C55-1710-38	CERAMIC 0.01UF Z	
C23	C24-1222-71	ELECTRO 220UF 16WV	
C24	C46-1722-36	MYLAR 0.022UF K	
C25	C46-1768-36	MYLAR 0.068UF K	
C27	C24-1710-51	ELECTRO 1UF 50WV	
CF1	L72-0054-05	CERAMIC FILTER	
L1	L32-0205-15	OSCILLATING COIL AM	
L2	L30-0307-05	IFT AM	
L3	L30-0284-05	IFT	
L4	L72-0054-05	LC FILTER	10
L5	L30-0326-05	IFT FM	*
L6	L40-1092-03	INDUCTOR	
L7	L40-1511-03	INDUCTOR	
R7	R43-1210-15	FL-PROOF RD100 J 2E	
R15,R16	R43-1210-15	FL-PROOF RD100 J 2E	
D1	V11-0051-05	1N60	
D2	V11-0273-05	1S2076A	
IC1	V30-0196-05	HA1197	
Q1	V09-0124-20	2SK61(Y)	
Q4	V03-0345-05	2SC828A(Q,R),2SC945(Q,P	
104 1B	W02-0021-05	FRONT END PCB ASSY	*

FRONT END (W02-0021-05)

Ref. No.	Parts No.	Description			Remarks
C1	C71-1722-06	Ceramic	22pF	K	
C2	C71-1718-06	Ceramic	18pF	K	
C3	C71-2710-25	Ceramic	0.001μF	J	
C4	C71-1710-16	Ceramic	100pF	K	
C5	C55-1722-38	Ceramic	0.022μF	Z	
C6	C71-1702-02	Ceramic	2pF	D	
C7	C55-1722-38	Ceramic	0.022μF	Z	
C8	C63-1722-05	Ceramic	22pF	J	
C9	C63-1720-05	Ceramic	20pF	J	
C10	C71-1704-02	Ceramic	4pF	D	
C11	C71-1725-06	Ceramic	25pF	K	
C12	C71-1710-16	Ceramic	100pF	K	
C13~15	C55-1722-38	Ceramic	0.022μF	Z	
C16	C63-1710-05	Ceramic	10pF	J	
C17	C63-1747-05	Ceramic	47pF	J	
C18	C66-1710-02	Ceramic	10pF	D	
C19	C66-1715-02	Ceramic	15pF	D	
C20	C71-1701-02	Ceramic	1pF	D	
C21	C63-1707-02	Ceramic	7pF	D	
C22,23	C55-1722-38	Ceramic	22pF	Z	
TR1	V09-0150-10	3SK85			
TR2	V03-0065-05	2SC535			
TR3	V03-0170-05	2SC461			
D	V11-3100-50	1S2236			

Ref. No. 参照番号	Parts No. 部品番号	Description 部品名／規格	Remarks 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 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 USA).
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.
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.

A product of
TRIO-KENWOOD CORPORATION
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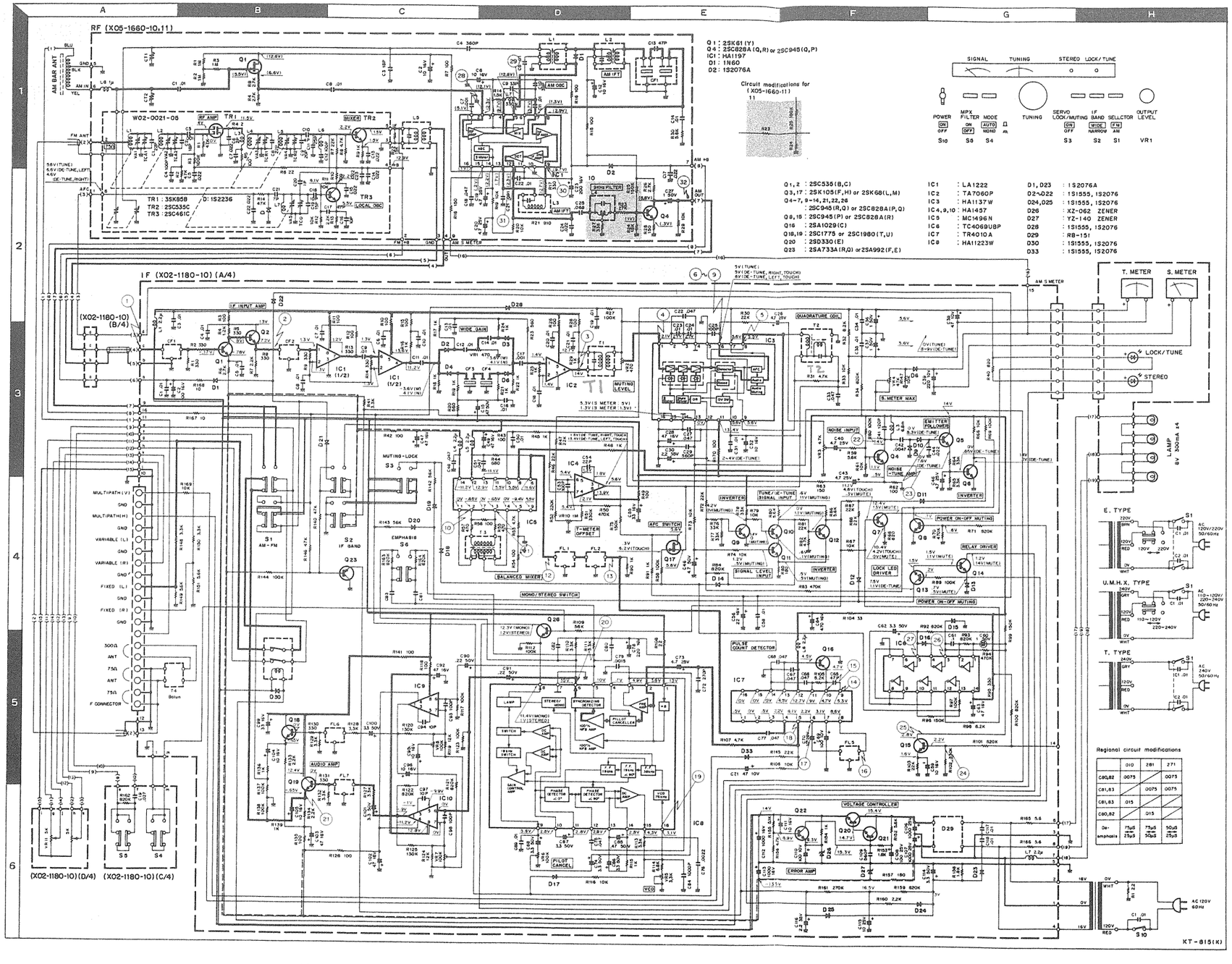
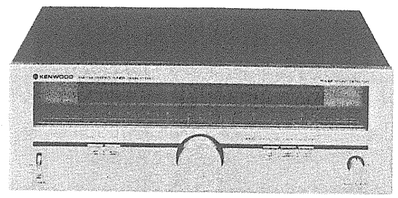
 PEINTED IN JAPAN B51-0568-00 (T) 3,697

KENWOOD

AM-FM STEREO TUNER

(KT-8155) KT-815





FM TUNER SECTION

Usable Sensitivity		10.3 dBf (1.8 μV)	
50 dB Quieting Sensitivity			
(Mono)		15.8 dBf (3.4 μV)	
(Stereo)		37.2 dBf (40 μV)	
Signal to Noise Ratio			
(Mono)		84 dB	
(Stereo)		80 dB	
Total Harmonic Distortion		WIDE	NARROW
Mono at	100 Hz	0.03%	0.03%
	1,000 Hz	0.04%	0.16%
	6,000 Hz	0.065%	0.4%
	15,000 Hz	0.07%	0.07%
	50 Hz ~ 10,000 Hz	0.065%	0.4%
Stereo at	100 Hz	0.07%	0.4%
	1,000 Hz	0.05%	0.15%
	6,000 Hz	0.1%	0.2%
	15,000 Hz	0.4%	1.0%
	50 Hz ~ 10,000 Hz	0.15%	0.5%
Capture Ratio		1.0 dB	2.0 dB
Alternate Channel Selectivity		45 dB	60 dB (300 kHz)
Stereo Separation			
	1,000 Hz	55 dB	49dB
	50 Hz ~ 10,000 Hz	45 dB	40 dB
	15,000 Hz	40 dB	33 dB
Frequency Response		30 Hz to 15,000 Hz +0.3 dB, −0.5 dB	
Spurious Response Ratio		120 dB	
Image Response Ratio		110 dB	
IF Response Ratio		105 dB	
AM Suppression Ratio		65 dB	
Sub Carrier Product Ratio		70 dB	
Antenna Impedance		300 ohms balanced & 75 ohms unbalanced	
FM Frequency Range		88 MHz to 108 MHz	
Output Level			
1,000 Hz 100% Mod.	Fixed	0.7 V, 2.5 kohms	
	Variable	0 to 1.3 V, 1.5 kohms	
Multipath Output	Vertical	0.02 V, 1.0 kohms	
	Horizontal	0.35 V, 10 kohms	

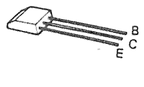
AM TUNER SECTION

Usable Sensitivity		9 μV
Signal to Noise Ratio		55 dB
Total Harmonic Distortion		0.4%
Image Rejection		60 dB
Selectivity		38 dB
Output Level	Fixed	0.2 V, 2.5 kohms
400 Hz 30% Mod.	Variable	0 to 0.3 V, 1.5 kohms

GENERAL

Power Requirements	60 Hz 120 V (U.S.A. & Canada Models) or 50/60 Hz 110-120/220-240 V switchable
Power Consumption	20 watts
Dimensions	W 440 mm (17-10/32") H 153 mm (6-6/32") D 402 mm (15-27/32")
Weight (Net)	7.6 kg (16 7 lbs)

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



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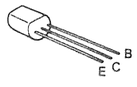

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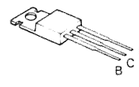

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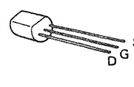

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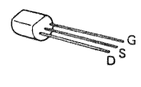
2SK105



2SK61