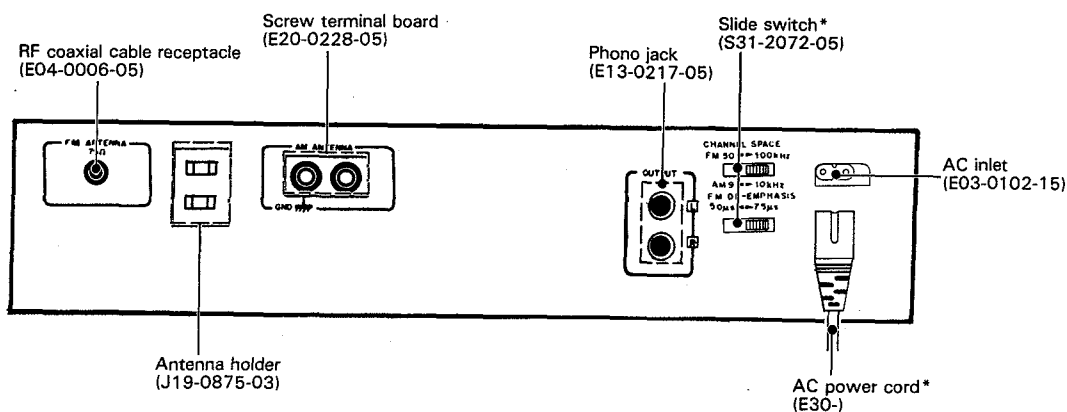
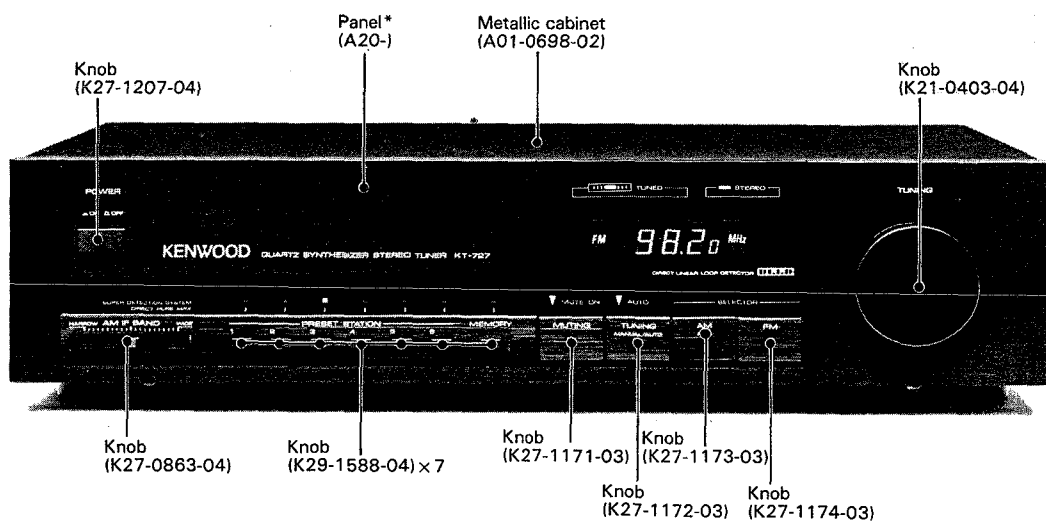


RXC
232

SERVICE MANUAL

KENWOOD KT-727/L

QUARTZ SYNTHESIZER STEREO TUNER



*Refer to Parts List on page 12.
Photo is KT-727.

DISASSEMBLY FOR REPAIR

• Replacement of Components on Tuner pcb (Fig. 1, 2)

Some components on Tuner pcb can not be replaced even if the bottom plate had been removed. If so, follow the procedures below.

1. Remove 3 screws on the rear panel (①).
2. Remove 4 screws on the pcb (②).
3. Pull out the parallel cord from the FIP (Frequency display) pcb (③).
4. Stand the Tuner pcb up with the rear panel kept retained (④).

Note: The rear panel and the Tuner pcb is connected only with one screw at the phono jack after the rear panel had been freed from the chassis.

Be careful when working on the pcb.

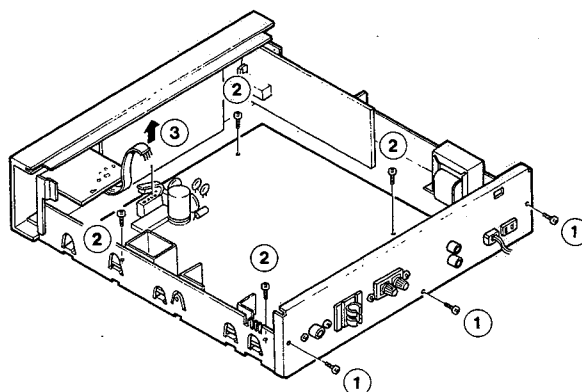


Fig. 1

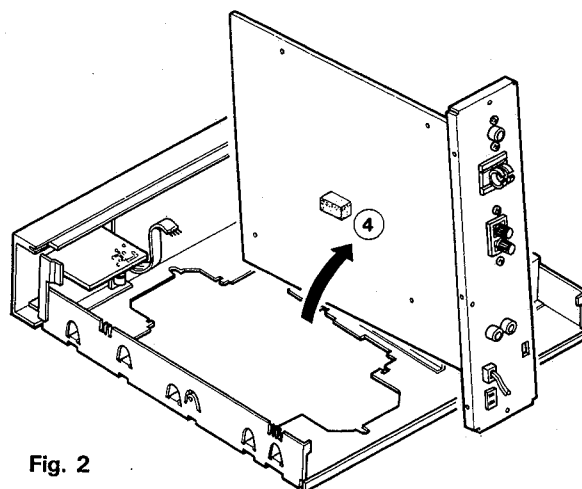


Fig. 2

• Removal of Tuning Knob (Fig. 3)

Tuning knob is mounted by a hexagon socket head screw. The panel can be removed without removing this tuning knob. In case of replacing the tuning knob, remove the metallic cabinet and insert the hexagon wrench from the side of the panel and loosen the screw. (①, ②)

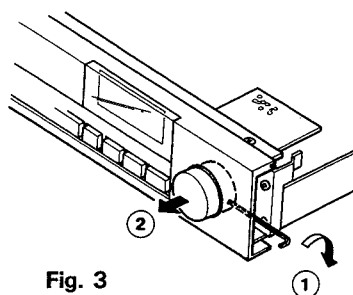
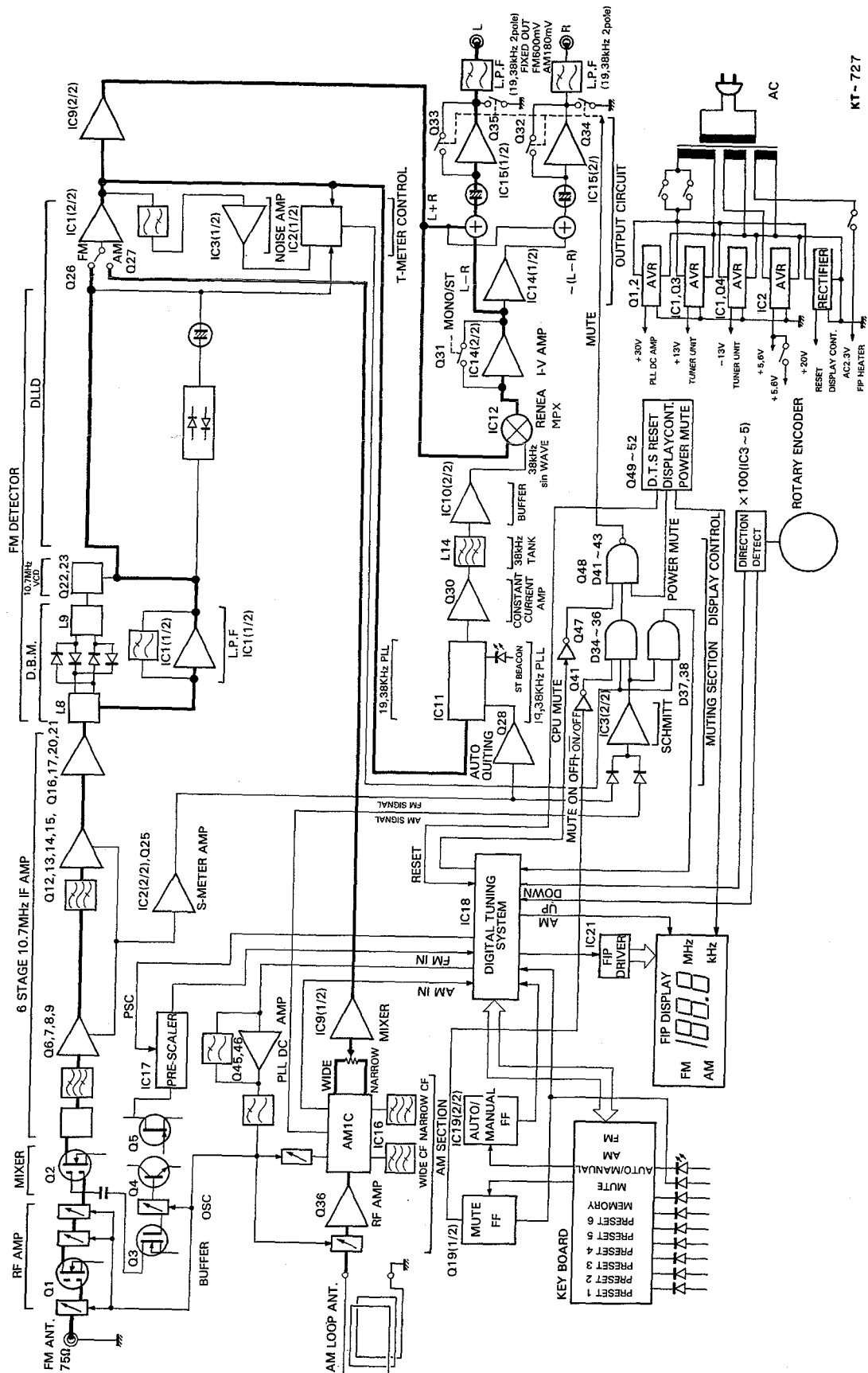


Fig. 3

BLOCK DIAGRAM



KT-727

CIRCUIT DESCRIPTION

TUNER PCB (X05-2740-00) (KT-727/L)

Element	Application and function	Operation and conditions
IC1(1/2)	Detector	L.P.F. for the PLL detector.
IC1(2/2)	Inverting amp, adder	(1)Distortion adder for DLLD. (2)Inverting amp for FM discriminator.
IC2(1/2)	FM tuning detector	Becomes +B while FM broadcast is received ($\sim \pm 60$ kHz) and becomes -B in all other cases. Always becomes +B while AM broadcast is received.
IC2(2/2)	FM signal output amp	
IC3(1/2)	FM noise amp	H.P.F. when $f_c = 160$ kHz. Prevents erroneous stop due to TV buzz during FM auto scanning.
IC3(2/2)	Comparator	Schmitt comparator for outputs of FM and AM signals.
IC9(1/2)	Mixer amp	Mixing amplifier of AM wide output and narrow output. Pre-emphasis amp for MPX de-emphasis compensation.
IC9(2/2)	FM pilot canceller amp	
IC10(1/2)	Buffer amp	Buffer amp for pilot canceller.
IC11	MPX IC	PLL for stereo demodulation. Continuous auto quieting control.
IC12	Multiplexer	Mixer for demodulating subcarrier signal. (Composite signal) $\times$ (38 kHz).
IC14(1/2)	Inverting amp	Shifts phase of the 38 kHz subcarrier by 180° (inverting).
IC14(2/2)	Current-to-voltage converter	Current output from IC12 is converted into voltage.
IC15(1/2)	Adder amp for L ch signal	$(L + R) + (L - R)$. FM de-emphasis.
IC15(2/2)	Adder amp for R ch signal	$(L + R) - (L - R)$. FM de-emphasis.
IC16	AM detector	
IC17	Prescaler	FM prescaler.
IC18	DTS LSI	Incorporates FM and AM program counter, station memory reference oscillator (7.2 MHz), phase comparator, display driver, etc.
IC19(1/2)	MUTE ON/OFF select	Flip-flop. Even during power failure, an electrolytic capacitor holds the state in memory.
IC19(2/2)	AUTO/MANU tuning select	Flip-flop. Even during power failure, an electrolytic capacitor holds the state in memory.
IC21	FIP driver	
Q1	FM RF amp	
Q2	FM mixer	
Q3	Buffer amp	Local oscillator. Buffer amp between mixers.
Q4	FM local oscillator	
Q5	Buffer amp	Buffer amp of FM local oscillator signal.
Q6, 7	IF amp	Differential amp. 1st stage.
Q8, 9	IF amp	Differential amp. 2nd stage.
Q12, 13	IF amp	Differential amp. 3rd stage.
Q14, 15	IF amp	Differential amp. 4th stage.
Q16, 17	IF amp	Differential amp. 5th stage.
Q20, 21	IF amp	Differential amp. 6th stage.
Q22, 23	10.7 MHz oscillator	10.7 MHz VCO for PLL detector.
Q24	FET for constant current	VCO for +B. Closely related to temperature of the VCO.
Q25	Transistor for temperature compensation	Temperature compensation for FM sound level meter. Use a transistor which is the same as that for IF amp and with same rank.
Q26	FET switch	Turns on during FM and off during AM.
Q27	FET switch	Turns on during AM and off during FM.
Q28	Inverting DC amp	Inverting DC amp for output from the FM sound meter. For auto quieting control.
Q29	FM beacon switch	
Q30	Switching transistor for waveshaping	Waveshaper of 38 kHz subcarrier square wave and temperature compensator for separation.
Q31	FET switch	Stop demodulation of the subcarrier signal by switching this transistor on when FM monaural signal is received.

CIRCUIT DESCRIPTION

Element	Application and function	Operation and conditions
Q32—35	FET switches	Muting switches. All turn on when muting is on.
Q36	AM RF amp	
Q37	Switch	FM power switch. Turns on during FM reception.
Q38	Control transistor	FM control.
Q39	Switch	AM power switch. Turns on during AM reception.
Q40	Control transistor	AM control.
Q41, 42	Current buffer	Prevents current leakage while CMOS current buffer and CMOS chip are backed up.
Q43, 44	Current buffer	Prevents current leakage while CMOS current buffer and CMOS chip are backed up.
Q45	DC amp (L.P.F.)	L.P.F. for PLL synthesizer.
Q46	DC amp (L.P.F.)	L.P.F. for PLL synthesizer.
Q47	Inverting amp	Inverts mute signal of DTS output.
Q48	NAND logic	For controlling muting.
Q49	Transistor switch	Turns on and off +B for display.
Q50	Control transistor	Driver of Q49.
Q51	Emitter follower	Transistor for reset circuit buffer and power on/off mute signal.
Q52	Transistor for resetting	Generates signals for resetting DTS, power on/off, display indication.
Q53, 54	FIP drivers	Drivers for FM/AM indication of FIP.
Q56	For tuning LED	Transistor for switching on and off tuning LED.
D1—3, 5	For FM tuning	Varicap. Operates on a tuning voltage range of 7.5 to 25 V.
D6—9	Mixer	Mixer of IF signal and detector VCO.
D10	PLL VCO	
D11	Temperature compensation	Temperature compensator for detector VCO.
D12	Constant voltage	For detector VCO +B.
D14, 15	Switches	Switches for discriminator.
D16	Switch	Switch for noise amp.
D17	Switch	Stops discrimination during AM reception (fixed to tuning side).
D18	Detection	Detects noise over 160 kHz.
D19	Switch	For FM +B.
D20, 21	Switches	Stops VCO during AM reception for forced monaural.
D22, 23	Switches	Prevents erroneous lighting of stereo beacon.
D24	Switch	AM RF +B.
D25	For AM tuning	Varicap. Operates on a tuning voltage range of 2.5 to 20 V.
D26	For voltage drop	Drops voltage by 0.6 V.
D27	Switch	Current leakage when power is off.
D28	Prevention of voltage drop and current leakage	Drops voltage by 0.6 V. Prevents current leakage from DTS.
D29	For constant voltage	Power supply for prescaler.
D33	Select switch	Switches between FM and AM outputs of sound meter comparator.
D34—36	For muting signal	
D37, 38	For stop signal	
D39	Protection diode	Overvoltage protection of DTS stop signal.
D40	Switch	Diode for inhibiting current when power is off.
D41—43	For muting signal	
D45	For constant voltage	Constant voltage for display +B.
D46, 47	For muting	Instantaneous discharging when power is off.
D48	For constant voltage	Constant voltage for the reset signal.
D58	For voltage drop	Drops voltage by 0.6 V.
D66	Switch	Diode for inhibiting current when power is off.
D67, 68	For DLLD	Diode for generating distortion.

ADJUSTMENT

No.	ITEM	INPUT SETTINGS	OUTPUT SETTINGS	TUNER SETTINGS	ALIGNMENT POINTS	ALIGN FOR	FIG.
FM SECTION Unless otherwise specified, the individual switches should be set as following: SELECTOR: FM TUNING: MANUAL MUTING: OFF							
1	BAND EDGE (1)	—	Connect a DC voltmeter between TP1 and TP2.	87.5MHz	L7	7.5V	(a)
2	BAND EDGE (2)	—	Connect a DC voltmeter between TP1 and TP2.	108.0MHz	TC5	-25.0V	(a)
Repeat alignments 1 and 2 several times.							
3	DETECTOR	(A) 98.0MHz 0 dev 100dB(ANT input)	Connect a DC voltmeter between TP3 and TP4.	98.0MHz	L9	Confirm that voltage changes to both + and - direction. Then adjust to 0V.	(b)
4	RF ALIGNMENT (1)	(A) 90.0MHz 1kHz, ±75kHz dev	(B)	90.0MHz	L1,2,3,5	Maximum amplitude and symmetry of the oscilloscope display.	
5	RF ALIGNMENT (2)	(A) 106.0MHz 1kHz, ±75kHz dev	(B)	106.0MHz	TC1,2,3	Maximum amplitude and symmetry of the oscilloscope display.	
Repeat alignments 4 and 5 several times.							
6	TUNING LED	(A) 98.0MHz 0 dev 10dB(ANT input)	TUNING LED	98.0MHz	VR1	Adjust VR1 so that TUNING LED goes off. Then, adjust VR1 and stop at the point where TUNING LED goes on.	
7	VCO	(A) 98.0MHz 0 dev 60dB(ANT input)	Connect a frequency counter to TP6 via an AC voltmeter.	98.0MHz	VR8	76.00kHz	(c)
8	STEREO SUB	(C) 98.0MHz 1kHz, ±68.25kHz dev Selector: SUB Pilot: ±6.75kHz dev 60dB(ANT input)	(B)	98.0MHz	L14	Maximum output.	

ADJUSTMENT

No.	ITEM	INPUT SETTINGS	OUTPUT SETTINGS	TUNER SETTINGS	ALIGNMENT POINTS	ALIGN FOR	FIG.
9	DISTORTION (1)	(A) 98,0MHz 1kHz,±75kHz dev 80dB(ANT input)	(B)	98,0MHz	VR2	Minimum distortion.	
10	DISTORTION (2)	(C) 98,0MHz 1kHz,±68.25kHz dev Selector: L Pilot: ±6.75kHz dev 80dB(ANT input)	(B)	98,0MHz	L5	Minimum distortion.	
11	SEPARATION (1)	(C) 98,0MHz 1kHz,±68.25kHz dev Selector: L Pilot: ±6.75kHz dev 80dB(ANT input)	(B)	98,0MHz	VR10	Minimum crosstalk.	
12	SEPARATION (2)	(C) 98,0MHz 1kHz,±68.25kHz dev Selector: R Pilot: ±6.75kHz dev 80dB(ANT input)	(B)	98,0MHz	VR9	Minimum crosstalk.	
Repeat alignments 11 and 12 several times.							
AM SECTION Keep the AM loop antenna installed. SELECTOR: AM AM IF BAND: WIDE							
(1)	BAND EDGE (1)	—	Connect a DC voltmeter between TP1 and TP2.	530kHz (531kHz)	L18	2.5V	(a)
(2)	BAND EDGE (2)	—	Connect a DC voltmeter between TP1 and TP2.	1600kHz (1602kHz)	TC7	20.0V	(a)
Repeat alignments (1) and (2) several times.							
(3)	RF ALIGNMENT (1)	(D) 630kHz 400Hz,30% mod	(B)	AM IF BAND: NARROW 630kHz	L17,19	Maximum amplitude and symmetry of the oscilloscope display.	
(4)	RF ALIGNMENT (2)	(D) 1440kHz 400Hz,30% mod	(B)	AM IF BAND: NARROW 1440kHz	TC6	Maximum amplitude and symmetry of the oscilloscope display.	
Repeat alignments (3) and (4) several times.							

For adjustments of KT-727L

KT-727	KT-727L
75 kHz dev	→ 40 kHz dev
68.25 kHz dev	→ 40 kHz dev
6.75 kHz dev	→ 6 kHz dev
530 kHz	→ 153 kHz
1600 kHz	→ 281 kHz
630 kHz	→ 173 kHz
1440 kHz	→ 250 kHz

REGLAGE

N°	ITEM	REGLAGE DE L'ENTREE	REGLAGE DE LA SORTIE	REGLAGE DU TUNER	POINT DE L'ALIGNEMENT	ALIGNER POUR	FIG
SECTION MF Sauf en cas d'indications spéciales, régler chaque commutateur comme suit: SELECTEUR: FM TUNING: MANUAL MUTING: OFF							
1	BORD DE BANDE (1)	—	Relier un voltmètre CC entre les TP1 et TP2.	87,5MHz	L7	7,5V	(a)
2	BORD DE BANDE (2)	—	Relier un voltmètre CC entre les TP1 et TP2.	108,0MHz	TC5	25,0V	(a)
Répéter les alignements 1 et 2 plusieurs fois.							
3	DETECTEUR	(A) 98,0MHz 0 dév 100dB(Entrée ANT)	Relier un voltmètre CC entre les TP3 et TP4.	98,0MHz	L9	Affermir que la tension change dans la direction + et -. Alors ajuster à 0V.	(b)
4	ALIGNEMENT HT (1)	(A) 90,0MHz 1kHz.±75kHz dév	(B)	90,0MHz	L1.2.3.5	Amplitude et symétrie maximale de l'affichage de l'oscilloscope.	
5	ALIGNEMENT HT (2)	(A) 106,0MHz 1kHz.±75kHz dév	(B)	106,0MHz	TC1.2.3	Amplitude et symétrie maximale de l'affichage de l'oscilloscope.	
Répéter les alignements 4 et 5 plusieurs fois.							
6	ACCORDER LED	(A) 98,0MHz 0 dév 10dB(Entrée ANT)	TUNING LED	98,0MHz	VR1	Ajuster VR1 que TUNING LED est non allumé.Alors, ajuster VR1 et arrêter le mouvement de VR1 au moment où le TUNING LED s'allume.	
7	OSCILLATEUR CONTROLE PAR LA TENSION	(A) 98,0MHz 0 dév 60dB(Entrée ANT)	Relier un compteur de fréquence à TP6 par l'intermédiaire d'un voltmètre CA.	98,0MHz	VR8	76,00kHz	(c)
8	STEREO SUB	(C) 98,0MHz 1kHz.±68,25kHz dév Sélection: SUB Pilote: ±6,75kHz dév 60dB(Entrée ANT)	(B)	98,0MHz	L14	Sortie maximer.	

REGLAGE

N°	ITEM	REGLAGE DE L'ENTREE	REGLAGE DE LA SORTIE	REGLAGE DU TUNER	POINT DE L'ALIGNEMENT	ALIGNER POUR	FIG
9	DISTORSION (1)	(A) 98,0MHz 1kHz.±75kHz dév 80dB(Entrée ANT)	(B)	98,0MHz	VR2	Distorsion minimale.	
10	DISTORSION (2)	(C) 98,0MHz 1kHz.±68,25kHz dév Sélection: L Pilote: ±6,75kHz dév 80dB(Entrée ANT)	(B)	98,0MHz	L5	Distorsion minimale.	
11	SEPARATION (1)	(C) 98,0MHz 1kHz.±68,25kHz dév Sélection: L Pilote: ±6,75kHz dév 80dB(Entrée ANT)	(B)	98,0MHz	VR10	Diaphonie minimale.	
12	SEPARATION (2)	(C) 98,0MHz 1kHz.±68,25kHz dév Sélection: R Pilote: ±6,75kHz dév 80dB(Entrée ANT)	(B)	98,0MHz	VR9	Diaphonie minimale.	
Répéter les alignements 11 et 12 plusieurs fois.							
SECTION MA Laisser l'antenne boucle MA installée. SELECTOR: AM AM IF BAND: WIDE							
(1)	BORD DE BANDE (1)	—	Relier un voltmètre CC entre les TP1 et TP2.	530kHz (531kHz)	L18	2,5V	(a)
(2)	BORD DE BANDE (2)	—	Relier un voltmètre CC entre les TP1 et TP2.	1600kHz (1602kHz)	TC7	20,0V	(a)
Répéter les alignements (1) et (2) plusieurs fois.							
(3)	ALIGNEMENT HT (1)	(D) 630kHz 400Hz.30% mod	(B)	AM IF BAND: NARROW 630kHz	L17.19	Amplitude et symétrie maximale de l'affichage de l'oscilloscope.	
(4)	ALIGNEMENT HT (2)	(D) 1440kHz 400Hz.30% mod	(B)	AM IF BAND: NARROW 1440kHz	TC6	Amplitude et symétrie maximale de l'affichage de l'oscilloscope.	
Répéter les alignements (3) et (4) plusieurs fois.							

Pour réglage de KT-727L

KT-727	KT-727L
75 kHz dév	→ 40 kHz dév
68,25 kHz dév	→ 40 kHz dév
6,75 kHz dév	→ 6 kHz dév
530 kHz	→ 153 kHz
1600 kHz	→ 281 kHz
630 kHz	→ 173 kHz
1440 kHz	→ 250 kHz

ABGLEICH

NR.	GEGENSTAND	EINGANGS-EINSTELLUNG	AUSGANGS-EINSTELLUNG	TUNER-EINSTELLUNG	ABGLEICH-PUNKTE	ABGLEICHEN FÜR	ABB.
UKW-EMPFANGSABTEILUNG Außer wenn anders angegeben, die verschiedenen Schalter wie folgt einstellen: SELECTOR: FM TUNING: MANUAL MUTING: OFF							
1	BANDKANTE (1)	—	Einen Gleichspannungsmesser zwischen TP1 und TP2 anschließen.	87,5MHz	L7	7,5V	(a)
2	BANDKANTE (2)	—	Einen Gleichspannungsmesser zwischen TP1 und TP2 anschließen.	108,0MHz	TC5	25,0V	(a)
Abstimmungen 1 und 2 mehrere Male wiederholen.							
3	DETEKTOR	(A) 98,0MHz 0 Hub 100dB(ANT-Eingang)	Einen Gleichspannungsmesser zwischen TP3 und TP4 anschließen.	98,0MHz	L9	Bestätigen so daß die Spannung beide richtung zu + und - ändert. Dann zu 0V einstellen.	(b)
4	HF-ABGLEICH (1)	(A) 90,0MHz 1kHz.±75kHz Hub	(B)	90,0MHz	L1,2,3,5	Maximal Amplitude und Symmetrie des Oszilloskopbildes.	
5	HF-ABGLEICH (2)	(A) 106,0MHz 1kHz.±75kHz Hub	(B)	106,0MHz	TC1,2,3	Maximal Amplitude und Symmetrie des Oszilloskopbildes.	
Abstimmungen 4 und 5 mehrere Male wiederholen.							
6	ABSTIMM LED	(A) 98,0MHz 0 Hub 10dB(ANT-Eingang)	TUNING LED	98,0MHz	VR1	Den Pegel widerstand VR1 so einstellen, daß der TUNING LED anzeiger nicht leuchtet. Dann der Pegel widerstand aufdrehen, und dem VR1 Halt geben wobei den TUNING LED anzeiger leuchtet wird.	
7	SPANNUNGS-GEREGELTER OSZILLATOR	(A) 98,0MHz 0 Hub 60dB(ANT-Eingang)	Einen Frequenzmesser an TP6 über einen Wechselspannungsmesser anschließen.	98,0MHz	VR8	76,00kHz	(c)
8	STEREO SUB	(C) 98,0MHz 1kHz.±68,25kHz Hub Wähler: SUB Pilotten: ±6,75kHz Hub 60dB(ANT-Eingang)	(B)	98,0MHz	L14	Maximal Ausgang.	

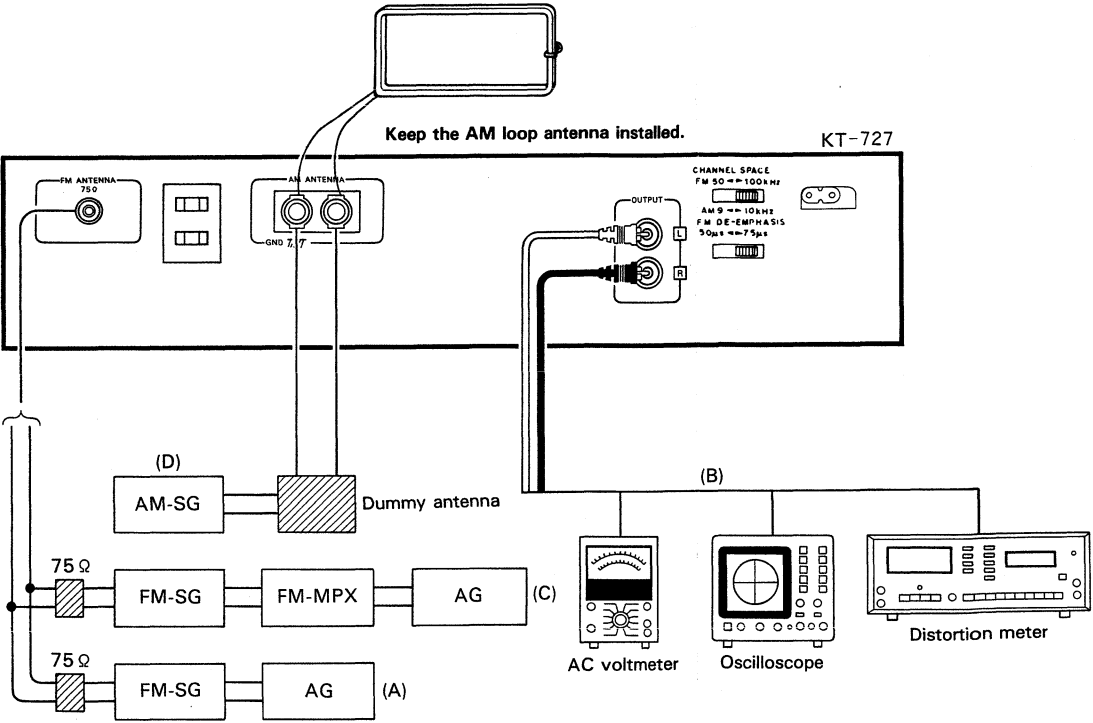
ABGLEICH

NR.	GEGENSTAND	EINGANGS-EINSTELLUNG	AUSGANGS-EINSTELLUNG	TUNER-EINSTELLUNG	ABGLEICH-PUNKTE	ABGLEICHEN FÜR	ABB.
9	KLIRRFAKTOR (1)	(A) 98,0MHz 1kHz.±75kHz Hub 80dB(ANT-Eingang)	(B)	98,0MHz	VR2	Minimale Klirrfaktor.	
10	KLIRRFAKTOR (2)	(C) 98,0MHz 1kHz.±68,25kHz Hub Wähler: L Pilotten: ±6,75kHz Hub 80dB(ANT-Eingang)	(B)	98,0MHz	L5	Minimale Klirrfaktor.	
11	STEREO KANAL TRENNUNG (1)	(C) 98,0MHz 1kHz.±68,25kHz Hub Wähler: L Pilotten: ±6,75kHz Hub 80dB(ANT-Eingang)	(B)	98,0MHz	VR10	Minimal Übersprechen.	
12	STEREO KANAL TRENNUNG (2)	(C) 98,0MHz 1kHz.±68,25kHz Hub Wähler: R Pilotten: ±6,75kHz Hub 80dB(ANT-Eingang)	(B)	98,0MHz	VR9	Minimal Übersprechen.	
Abstimmungen 11 und 12 mehrere Male wiederholen.							
MW-EMPFANGSABTEILUNG Die MW-Rahmenantenne angebracht lassen. SELECTOR: AM AM IF BANDE: WIDE							
(1)	BANDKANTE (1)	—	Einen Gleichspannungsmesser zwischen TP1 und TP2 anschließen.	530kHz (531kHz)	L18	2,5V	(a)
(2)	BANDKANTE (2)	—	Einen Gleichspannungsmesser zwischen TP1 und TP2 anschließen.	1600kHz (1602kHz)	TC7	20,0V	(a)
Abstimmungen (1) und (2) mehrere Male wiederholen.							
(3)	HF-ABGLEICH (1)	(D) 630kHz 400Hz.30% mod	(B)	AM IF BAND: NARROW 630kHz	L17,19	Maximale Amplitude und Symmetrie des Oszilloskopbildes.	
(4)	HF-ABGLEICH (2)	(D) 1440kHz 400Hz.30% mod	(B)	AM IF BAND: NARROW 1440kHz	TC6	Maximale Amplitude und Symmetrie des Oszilloskopbildes.	
Abstimmungen (3) und (4) mehrere Male wiederholen.							

Für abgleich von KT-727L

KT-727	KT-727L
75 kHz Hub	→ 40 kHz Hub
68,25 kHz Hub	→ 40 kHz Hub
6,75 kHz Hub	→ 6 kHz Hub
530 kHz	→ 153 kHz
1600 kHz	→ 281 kHz
630 kHz	→ 173 kHz
1440 kHz	→ 250 kHz

ADJUSTMENT/REGLAGE/ABGLEICH



KT-727/L KT-727/L

PC BOARD

(X05-2740-11)
(C/4) Component side view

POWER SUPPLY UNIT (X00-2260-00) (A/2) Component side view

(X05-2740-11)
(D/4) Component side view

Q41,42/Q43,44	Pin	V
E	5	
C	—	
B	—	

Q53	Pin	V
E	0	
C	5	
B	0	

Q54	Pin	V
E	0	
C	12	
B	—	

Q29	Pin	V
E	MONO: 11.6	
C	ST: 0.9	
B	MONO: 12.6	
B	ST: 1	

Q36	Pin	V
E	12	
C	—	
B	—	

Q37	Pin	V
E	13	
C	12.9	
B	(-12.9)	

Q39	Pin	V
E	13	
C	12.9	
B	(-12.9)	

Q5	Pin	V
G	—	
S	—	
D	8.3	

Q3	Pin	V
G	—	
S	—	
D	4.8	

Q2	Pin	V
G1	—	
G2	—	
S	—	
D	10.6	

Q1	Pin	V
G1	3.4	
G2	—	
S	—	
D	9.9	

TUNER UNIT (X05-2740-11)
(A/4) Component side view

76 kHz
Frequency counter

(c) AC voltmeter

220k Ω

(b) DC voltmeter

0 000000

(a) DC voltmeter

0 000000

Q48	Pin	V
E	4.9	
C	MUTE	
B	ON: 4.9	
B	OFF: -12.8	

IC21	Pin	V
28	5	

IC11	Pin	V
1	12	
6	12	
7	0	
8	MONO: 11.6	
11	ST: 0.9	
12	2.7	
13	—	
14	—	
15	4	
16	3	

IC10	Pin	V
8	13	

IC12	Pin	V
3	-13	

IC14	Pin	V
4	-13	
8	13	

IC15	Pin	V
4	-13	
8	13	

IC1	Pin	V
4	-13	
8	—	

IC2	Pin	V
4	-13	
8	12.9	
8	(-12.9)	

IC3	Pin	V
4	-13	
8	13	

IC9	Pin	V
4	-13	
8	13	

IC16	Pin	V
1	2.5	
2	2.3	
3	1.9	
4	—	
5	10.7	
6	2.0	
7	11.0	
8	12.7	
9	—	
10	—	

Q52	Pin	V
E	—	
C	7.3	
B	6.6	

Q51	Pin	V
E	—	
C	5.6	
B	—	

Q49	Pin	V
E	20	
C	—	
B	—	

(X05-2740-11)
(B/4) Component side view

IC19	Pin	V
1	MUTE	
3	ON: 4.8	
9	OFF: 0	
9	AUTO: 0	
11	MANU: 5	
11	SW	
11	ON: 4.8	
12	OFF: 0	
12	AUTO: 0	
12	MANU: 5	

IC18	Pin	V
1	0	
2	2.2	
3	2.0	
4	0	
5	4.9	
6	0	
7	0	
8	5.0	
8	4.9	

IC17	Pin	V
1	0	
2	2.2	
3	2.0	
4	0	
5	4.9	
6	0	
7	0	
8	5.0	
8	4.9	

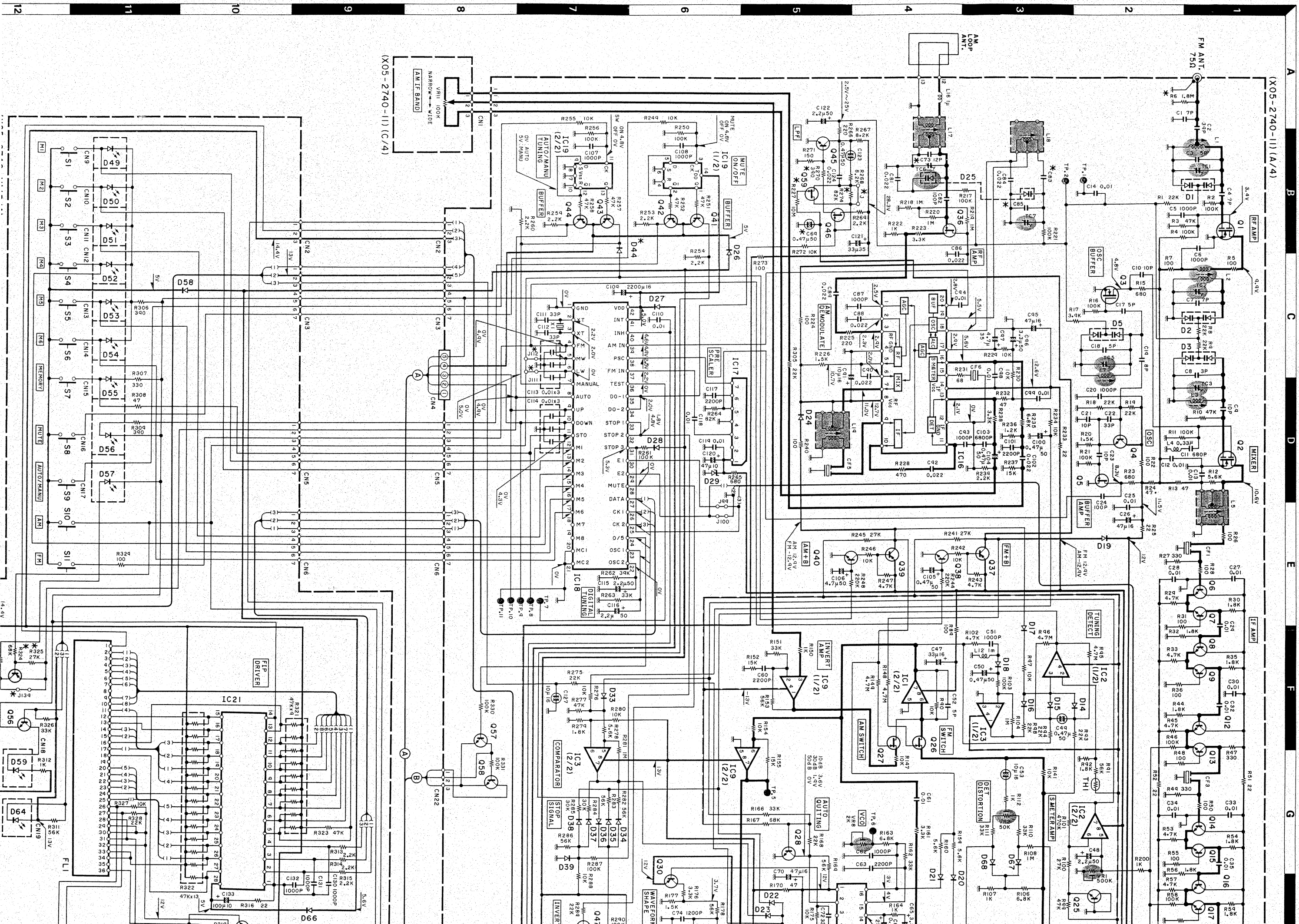
(X00-2260-00)
(B/2)

IC3	Pin	V
4	0	
6	0	
7	0	
8	0	
10	0	
14	5	

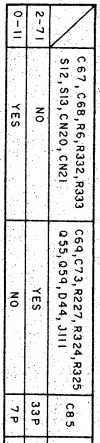
IC4	Pin	V
7	0	
14	5	

IC5	Pin	V
7	0	
14	5	

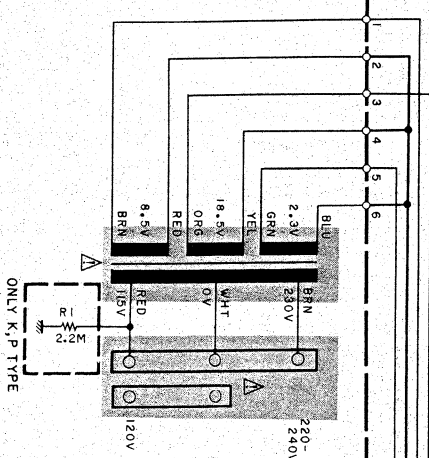
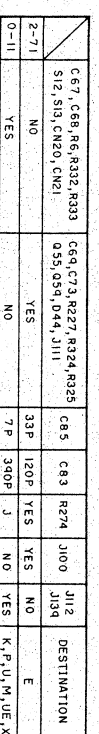
Refer to the schematic diagram for the values of resistors and capacitors.
The PC board drawing is viewing from the side easy to check.



A vertical strip of a film strip, showing various symbols and patterns. The symbols include a stylized 'G' at the top, followed by a series of horizontal lines and dots, and a large 'X' in the middle. The strip is bordered by black lines on the left and right sides.



○



Antenna Impedance..... 0.6V, 1.7 kohms
Output Level at 1 kHz..... 87.5 MHz to 108 MHz
100% Dev..... (50 kHz, 200 kHz step)
FM Frequency Range.....

CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to the parts list).

Die angegebenen Gleichspannungswerte wurden mit einem hochohmigen Spannungsmesser bei Empfang eines UKW-Signals (mit einer Feldstärke von 60 dB am Antennenanschluss) gemessen. Dabei schwanken die Meßwerte aufgrund von Unterschieden zwischen einzelnen Instrumenten oder Geräten u. U. geringfügig. Die eingeklammerten Gleichspannungswerte wurden bei Empfang eines MW-Signals (mit einer Feldstärke von 60 dB am Antennenanschluss) gemessen.

Les tensions c.c. doivent être mesurées avec un voltmètre à haute impédance pendant la réception d'un signal de programme FM (avec une force de signal de 60 dB à la borne ANT). Les valeurs peuvent différer légèrement du fait des variations inhérentes aux appareils et aux instruments de mesure individuels.

Les valeurs entre parenthèses doivent être mesurées pendant la réception d'un signal de programme AM avec une force de signal de 60 dB à la borne ANT).

DC voltages are as measured with a high impedance voltmeter during reception of the FM broadcast signal (with a signal strength of 60 dB at the ANT terminal).

Values may vary slightly due to variations between individual instruments or/and units. Values in parentheses are as measured during reception of the AM broadcast signal (with a signal strength of 60 dB at the ANT terminal).

Les tensions c.c. doivent être mesurées avec un voltmètre à haute impédance pendant la réception d'un signal de programme FM (avec une force de signal de 60 dB à la borne ANT). Les valeurs peuvent différer légèrement du fait des variations inhérentes aux appareils et aux instruments de mesure individuels.

Les valeurs entre parenthèses doivent être mesurées pendant la réception d'un signal de programme AM avec une force de signal de 60 dB à la borne ANT).

DC voltages are as measured with a high impedance voltmeter during reception of the FM broadcast signal (with a signal strength of 60 dB at the ANT terminal).

Values may vary slightly due to variations between individual instruments or/and units. Values in parentheses are as measured during reception of the AM broadcast signal (with a signal strength of 60 dB at the ANT terminal).

QUARTZ SYNTHESIZE

1/L2L-1X 1/L2L-1X

LIST

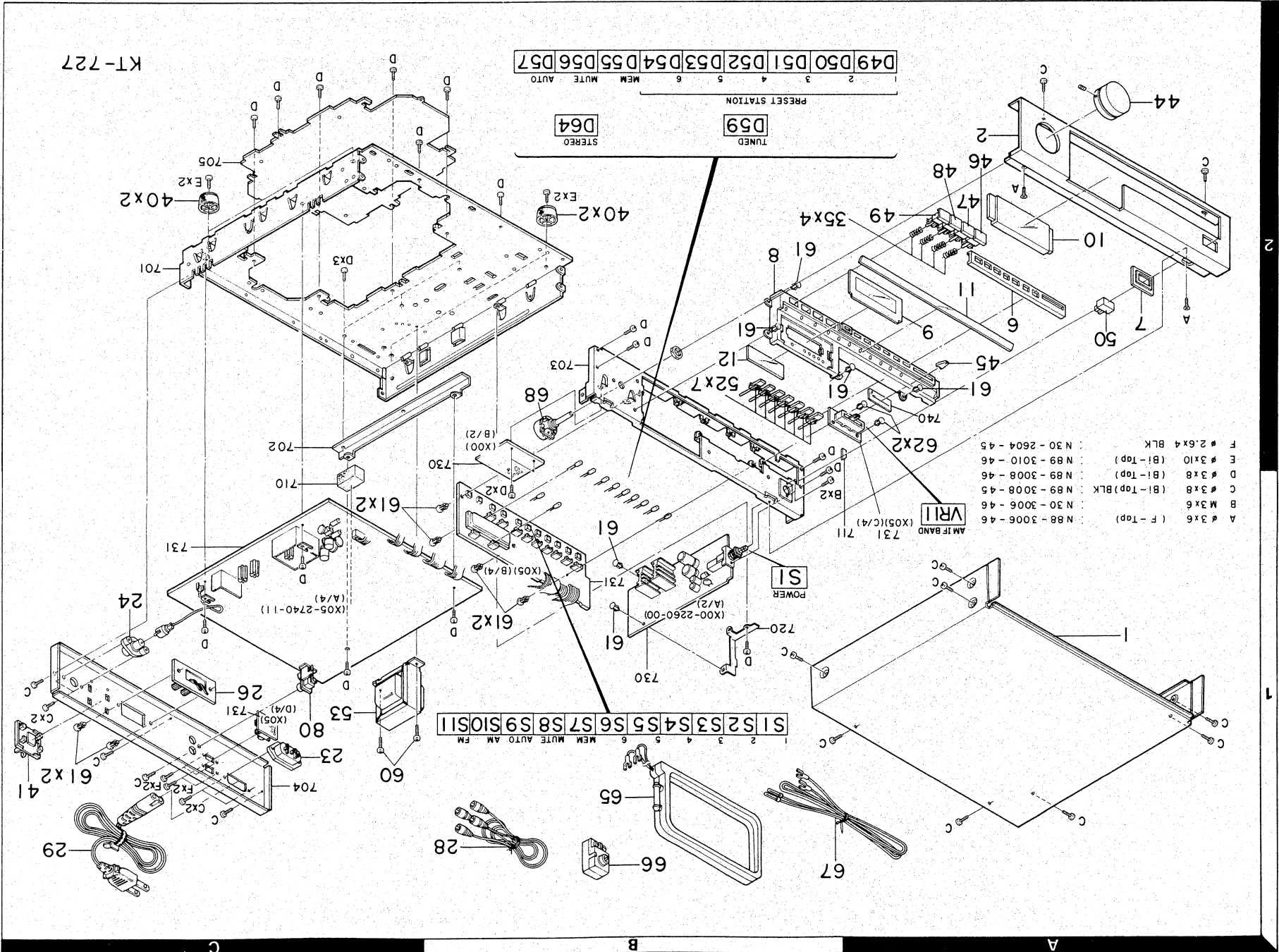
PARTS LIST

* New Parts
Parts without Parts No. are not supplied.
Les articles non mentionnés dans le Parts No. ne sont pas fournis.
Teile ohne Parts No. werden nicht geliefert.

Ref. No. 参照番号	Address 位置	New Parts 新部	Parts No. 部品番号	Description 部 品 名 / 規 格	Desti- nation 仕 向	Re- marks 備考
45	2A		K27-0863-04	KN0B(LEVER) AM IF BAND		
46	2A		K27-1171-03	KN0B(BUTTON)MUTING		
47	2A		K27-1172-03	KN0B(BUTTON)TUNING(MANUAL/AUTO)		
48	2A		K27-1173-03	KN0B(BUTTON)AM		
48	2A		K27-1173-03	KN0B(BUTTON)AM		
48	2A	*	K27-1258-03	KN0B(BUTTON)AM(LW)		
49	2A		K27-1174-03	KN0B(BUTTON)FM		
50	2A		K27-1207-04	KN0B(BUTTON)POWER		
52	2B		K29-1588-04	KN0B(BUTTON)POWER PRESET, MEMORY		
53	1C	*	L01-3514-05	POWER TRANSFORMER		
53	1C	*	L01-3514-05	POWER TRANSFORMER		
53	1C	*	L01-3634-05	POWER TRANSFORMER		
59	1C		N09-0399-15	STEPPED SCREW(Ø3X19,+BIND)		
60	1C, 2B		N09-1396-05	TAPTITE SCREW(M4X6,+TP)		
61	2A		N29-0035-05	PUSH RIVET (3.5X5.5)		
62	2A		N29-0216-05	RIVET (SLIDE VOLUME)		
R1			R92-0173-05	RC 2.2M M 1/2W		
65	1B		T90-0111-15	LOOP ANTENNA		
66	1B		T90-0122-05	ANTENNA ADAPTOR		
67	1B		T90-0132-05	T TYPE ANTENNA(FM)		
68	2B		T99-0219-05	SPEED DETECTOR(TUNING)		
POWER SUPPLY (X00-2260-00)						
C1			CE04FW1V221M	ELECTRØ 220UF 35WV		
C2			CK45FF1H103Z	CERAMIC 0.01UF Z		
C4			CE04FW1H331M	ELECTRØ 330UF 50WV		
C5			CE04FW1V470M	ELECTRØ 47UF 35WV		
C6			CK45FF1H103Z	CERAMIC 0.01UF Z		
C9			CE04FW1E222M	ELECTRØ 2200UF 25WV		
C10			CE04FW1V102M	ELECTRØ 1000UF 35WV		
C11			CE04FW1E470M	ELECTRØ 47UF 25WV		
C13			CE04FW1C100M	ELECTRØ 10UF 16WV		
C14			CE04FW1H010M	ELECTRØ 1UF 50WV		
C16			CE04FW1C330M	ELECTRØ 33UF 16WV		
C18			CE04FW1C471M	ELECTRØ 470UF 16WV		
C20			CE04FW1A470M	ELECTRØ 47UF 10WV		
C22			CE04HW1HR47M	NP-ELEC 0.47UF 50WV		
C23			CK45FF1H103Z	CERAMIC 0.01UF Z		
C25			CF92FV1H153J	MF 0.015UF J		
C27			CE04FW1C100M	ELECTRØ 10UF 16WV		
R2			RD14AB2E331J	FL-PRØØF RD 330 J 1/4W		
R7			RD14AB2E331J	FL-PRØØF RD 330 J 1/4W		
S1	1B		S40-4053-05	PUSH SWITCH(PØNER)		
D1			DSM1A1	DIØDE		
D6			RD15J(B2)	ZENER DIØDE		
D8			RD16E(B2)	ZENER DIØDE		
D10			RD5.1E(B2)	ZENER DIØDE		
D11			1S2076A	DIØDE		
D12			1S1555	DIØDE		
D12			1S2076	DIØDE		
IC1		*	AN6552	IC ØP AMP		
IC2		*	UPC78M05H	IC VØLTAGE REGULATOR(+5V)		
IC3		*	UPD40138C	IC FLIP-FLØP		

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48	2A		K27-1173-03	KN0B(BUTTON)AM		
48	2A		K27-1173-03	KN0B(BUTTON)AM		
48	2A	*	K27-1258-03	KN0B(BUTTON)AM(LW)		
49	2A		K27-1174-03	KN0B(BUTTON)FM		
50	2A		K27-1207-04	KN0B(BUTTON)POWER		
52	2B		K29-1588-04	KN0B(BUTTON)POWER PRESET, MEMORY		
53	1C	*	L01-3514-05	POWER TRANSFORMER		
53	1C	*	L01-3514-05	POWER TRANSFORMER		
53	1C	*	L01-3634-05	POWER TRANSFORMER		
59	1C		N09-0399-15	STEPPED SCREW(Ø3X19,+BIND)		
60	1C, 2B		N09-1396-05	TAPTITE SCREW(M4X6,+TP)		
61	2A		N29-0035-05	PUSH RIVET (3.5X5.5)		
62	2A		N29-0216-05	RIVET (SLIDE VOLUME)		
R1			R92-0173-05	RC 2.2M M 1/2W		
65	1B		T90-0111-15	LOOP ANTENNA		
66	1B		T90-0122-05	ANTENNA ADAPTOR		
67	1B		T90-0132-05	T TYPE ANTENNA(FM)		
68	2B		T99-0219-05	SPEED DETECTOR(TUNING)		

C1			CE04FW1V221M	ELECTRØ 220UF 35WV		
C2			CK45FF1H103Z	CERAMIC 0.01UF Z		
C4			CE04FW1H331M	ELECTRØ 330UF 50WV		
C5			CE04FW1V470M	ELECTRØ 47UF 35WV		
C6			CK45FF1H103Z	CERAMIC 0.01UF Z		
C9			CE04FW1E222M	ELECTRØ 2200UF 25WV		
C10			CE04FW1V102M	ELECTRØ 1000UF 35WV		
C11			CE04FW1E470M	ELECTRØ 47UF 25WV		
C13			CE04FW1C100M	ELECTRØ 10UF 16WV		
C14			CE04FW1H010M	ELECTRØ 1UF 50WV		
C16			CE04FW1C330M	ELECTRØ 33UF 16WV		
C18			CE04FW1C471M	ELECTRØ 470UF 16WV		
C20			CE04FW1A470M	ELECTRØ 47UF 10WV		
C22			CE04HW1HR47M	NP-ELEC 0.47UF 50WV		
C23			CK45FF1H103Z	CERAMIC 0.01UF Z		
C25			CF92FV1H153J	MF 0.015UF J		
C27			CE04FW1C100M	ELECTRØ 10UF 16WV		
R2			RD14AB2E331J	FL-PRØØF RD 330 J 1/4W		
R7			RD14AB2E331J	FL-PRØØF RD 330 J 1/4W		
S1	1B		S40-4053-05	PUSH SWITCH(PØNER)		
D1			DSM1A1	DIØDE		
D6			RD15J(B2)	ZENER DIØDE		
D8			RD16E(B2)	ZENER DIØDE		
D10			RD5.1E(B2)	ZENER DIØDE		
D11			1S2076A	DIØDE		
D12			1S1555	DIØDE		
D12			1S2076	DIØDE		
IC1		*	AN6552	IC ØP AMP		
IC2		*	UPC78M05H	IC VØLTAGE REGULATOR(+5V)		
IC3		*	UPD40138C	IC FLIP-FLØP		



E: Scandinavia & Europe H: Audio Club K: USA
S: South Africa T: England U: PX (Far East, Hawaii)
UE: AAFES (Europe) X: Australia M: Other Areas

Ref. No. 参照番号	Address 位置	Parts 新置	Parts No. 部品番号
1	1A	*	A01-0698-02
2	2A	*	A20-3979-03
2	2A	*	A20-3979-03
2	2A	*	A20-4015-03
6	2A		B03-1237-04
7	2A		B07-1171-04
8	2A		B07-1261-02
9	2A		B08-9055-04
10	2A	*	B10-0454-04
11	2A		B10-0455-04
12	2B		B11-0024-04
			B46-0092-03
			B46-0093-03
			B46-0094-03
			B46-0095-03
		*	B46-0096-03
		*	B46-0098-03
		*	B50-5251-00
		*	B50-5251-00
		*	B50-5252-00
		*	B50-5253-00
		*	B50-5254-00
		*	B58-0223-04
		*	B58-0245-23
			B58-0269-04
			B58-0513-04
			B59-0092-00
D49-57	2A, 2B		B30-0431-05
D59	2B		B30-0432-05
D64	2B		B30-0431-05
23	1C		E03-0102-15
24	1C		E04-0006-05
26	1C		E20-0228-05
28	1B		E30-0505-05
29	1C		E30-0687-05
29	1C		E30-1305-15
29	1C		E30-1329-05
29	1C		E30-1342-05
35	2B		G01-1035-04
		*	H01-5183-04
		*	H01-5183-04
		*	H01-5199-04
		*	H10-1715-02
			H25-0078-04
			H25-0181-04
			H25-0215-04
40	2B, 2C		J61-0307-05
41	1C		J02-0129-05
44	2A		J19-0875-03
			K21-0403-04

* New Parts
Parts without Parts No. are not supplied.
Les articles sans numéros de pièces ne sont pas fournis.
Teile ohne Parts No. werden nicht geliefert.

PARTS

STEREO TUNER

SPECIFICATIONS

MAIN EXPLODED VIEW

KT-727/1

1/27-1X

AM Tuner Section

Usable Sensitivity	10 μ V
Signal-to-Noise Ratio	50 dB
Total Harmonic Distortion	0.4% (WIDE), 0.6% (NARROW)
Image Rejection Ratio	40 dB
Output Level	0.18V, 1.7 kohms
AM Frequency Range	530 kHz to 1600 kHz (10 kHz step)
	531 kHz to 1602 kHz (9 kHz step)

General

Power Requirements	60 Hz 120V (U.S.A. and Canada models) or 50/60 Hz 110-120/220-240V, Switchable
Power Consumption	15W
Dimensions	W: 340 mm H: 84 mm D: 367 mm
Weight (Net)	3.9 kg (8.6 lb)

KT-727L
FM tuner section

Sensitivity at 75 ohms	0.7 μ V
Mono: S/N 26 dB, 40 kHz Dev	0.7 μ V
Stereo: S/N 46 dB, 46 kHz Dev	25 μ V
Limiting Level	
-3 dB, Point, 40 kHz Dev	0.5 μ V
Frequency Response	20 Hz ~ 15 kHz $\pm$ 1 dB

Total Harmonic Distortion

Mono: 1 kHz, 40 kHz Dev	0.1%
Stereo: 1 kHz, 46 kHz Dev	0.2%

S/N Weighted (IEC-A)

Mono: 40 kHz Dev., 1 mV Input	79 dB
Stereo: 46 kHz Dev., 1 mV Input	66 dB

S/N Ratio (IHF)

Mono: 75 kHz Dev., 1 mV Input	88 dB
Stereo: 75 kHz Dev., 1 mV Input	76 dB

FM Stereo Separation: 1 mV Input (DIN)

250 Hz	52 dB
1 kHz	52 dB
6.3 kHz	45 dB
12.5 kHz	36 dB

Image Rejection Ratio

Selectivity	82 dB
$\pm$ 300 kHz	80 dB
IF Rejection Ratio	110 dB
AM Suppression Ratio	72 dB
Spurious Rejection Ratio	100 dB
Capture Ratio	2.5 dB

LW tuner section

Sensitivity S/N 20 dB	10 μ V
S/N Ratio: 1 mV Input	50 dB
Image Rejection Ratio	42 dB

General

Frequency range	87.5 MHz ~ 108.0 MHz
FM	153 kHz ~ 360 kHz
Power Consumption	15W
Dimensions (W x H x D)	340 x 84 x 367 mm
Weight (Net)	3.9 kg

(X05 - 2740 - II) (C/4)

(X05 - 2740 - II) (B/4)

25A733 (A)
25A992
25A999
25C1923

25B772
25D882

25K105
25K163

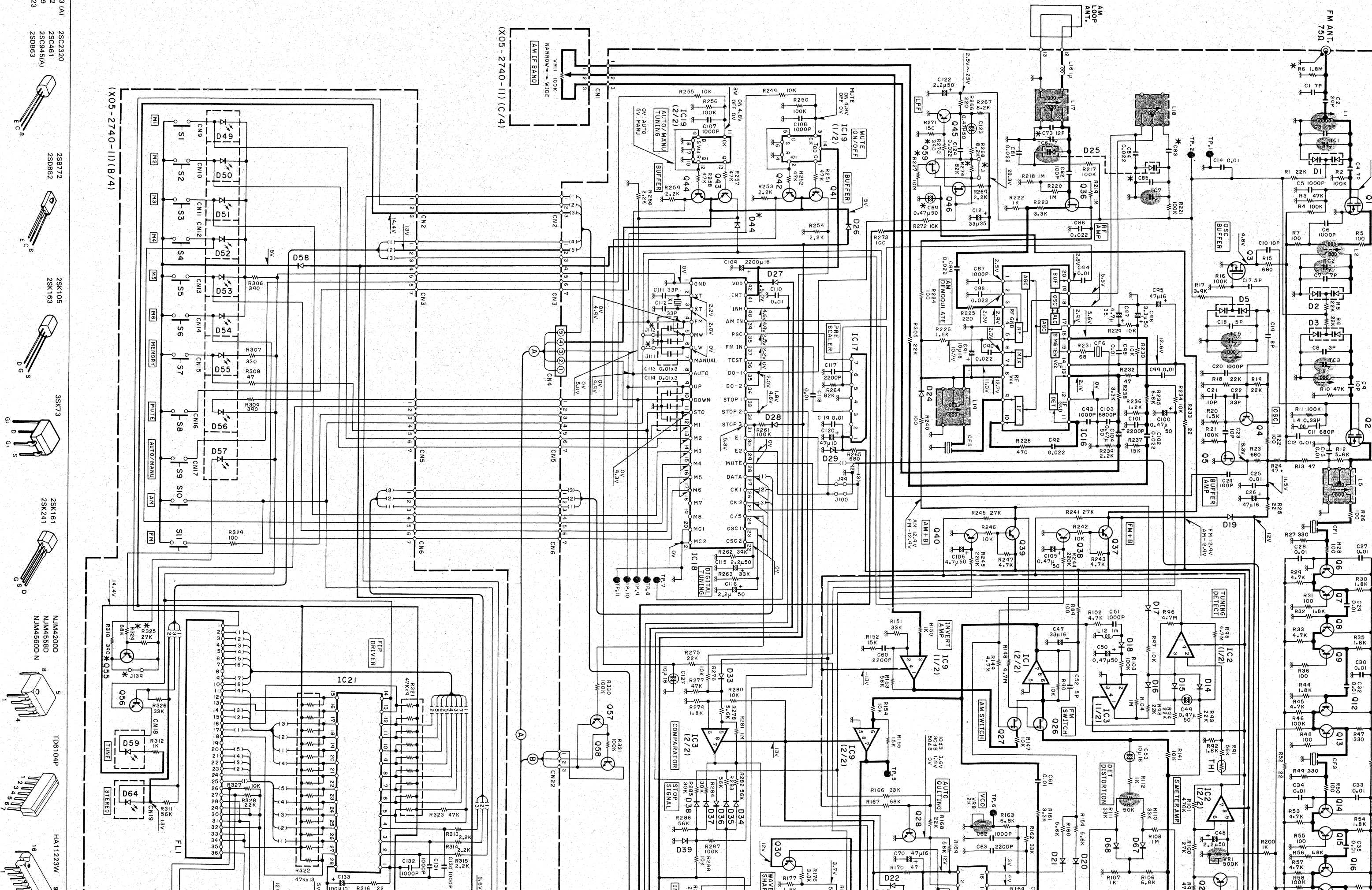
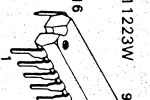
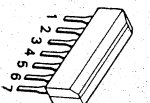
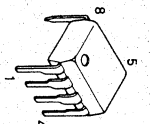
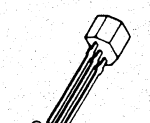
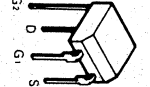
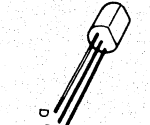
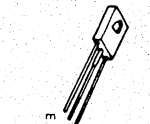
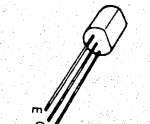
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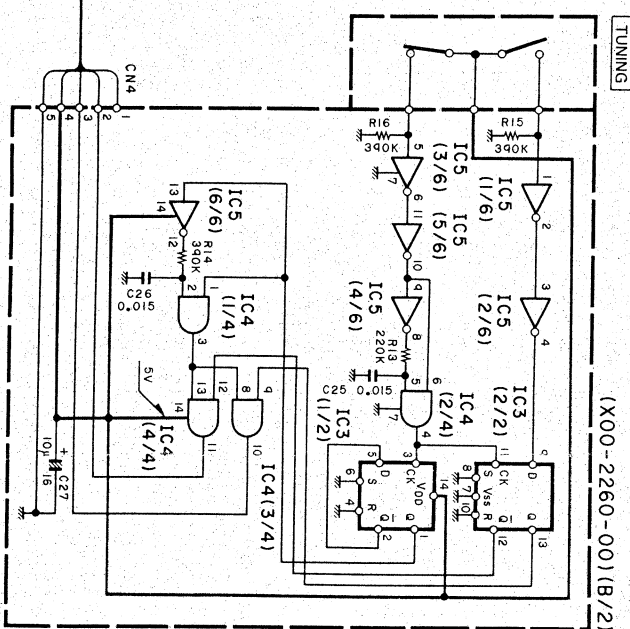
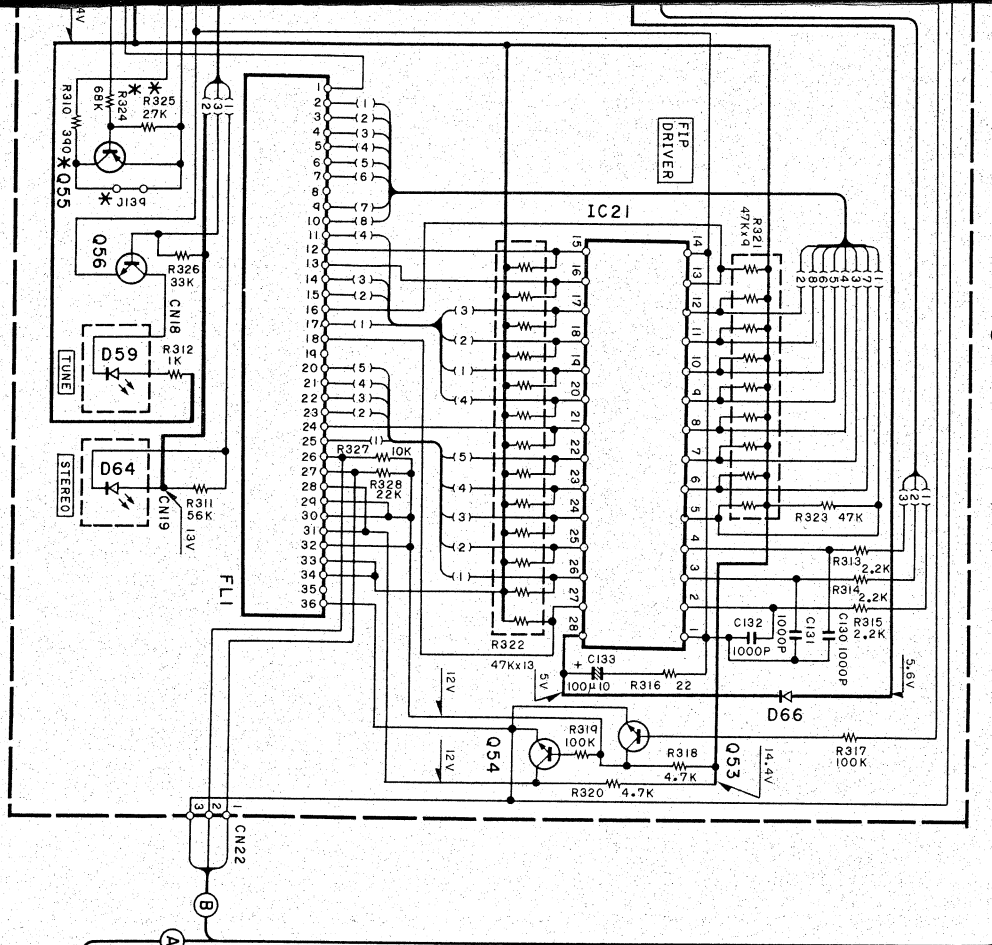
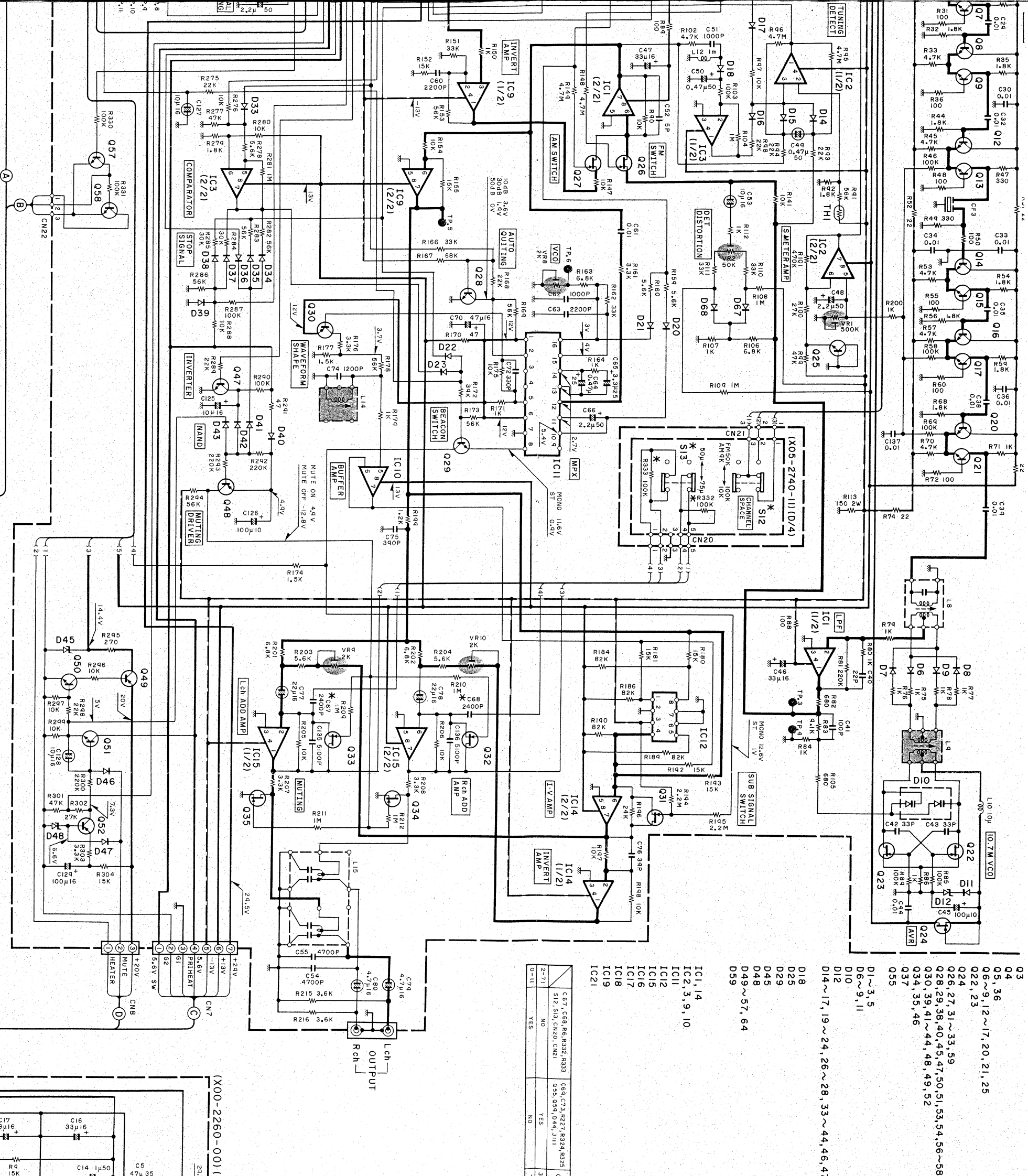
25K161
25K241

NJM4200D
NJM4558D
NJM4560D-N

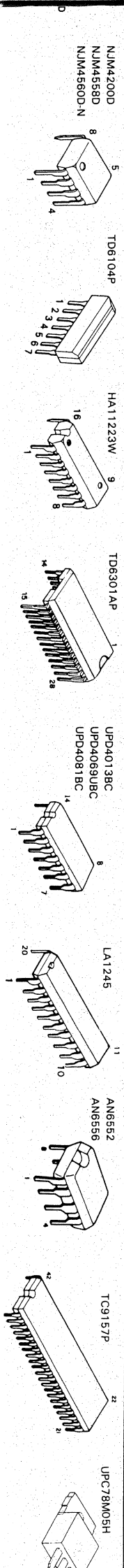
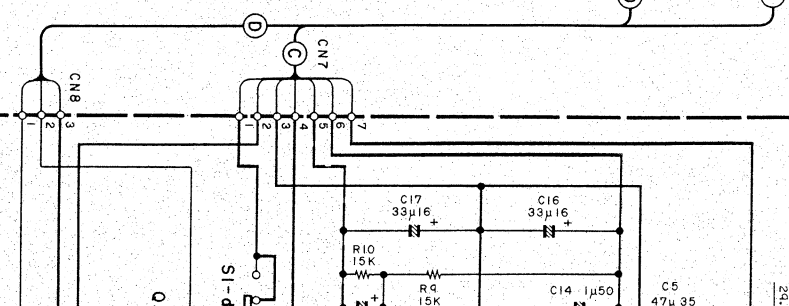
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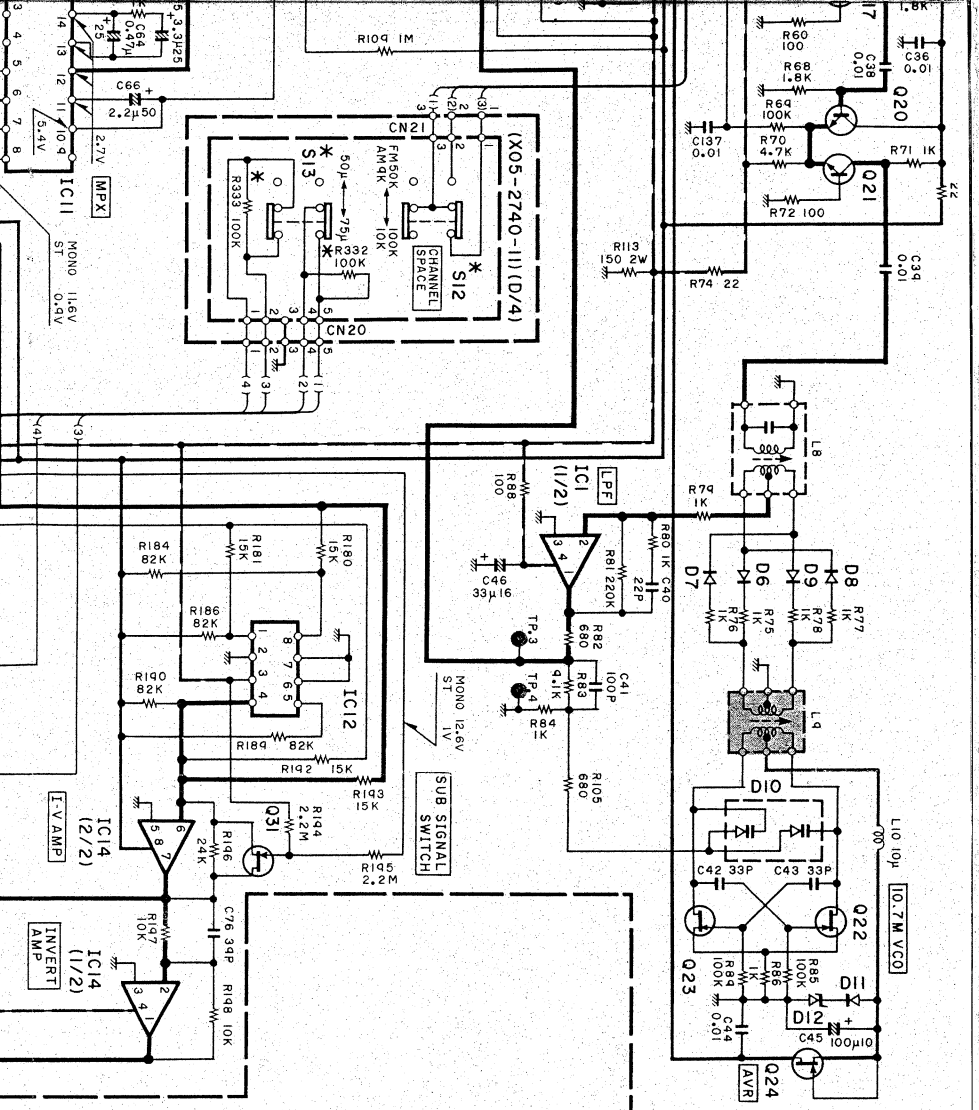
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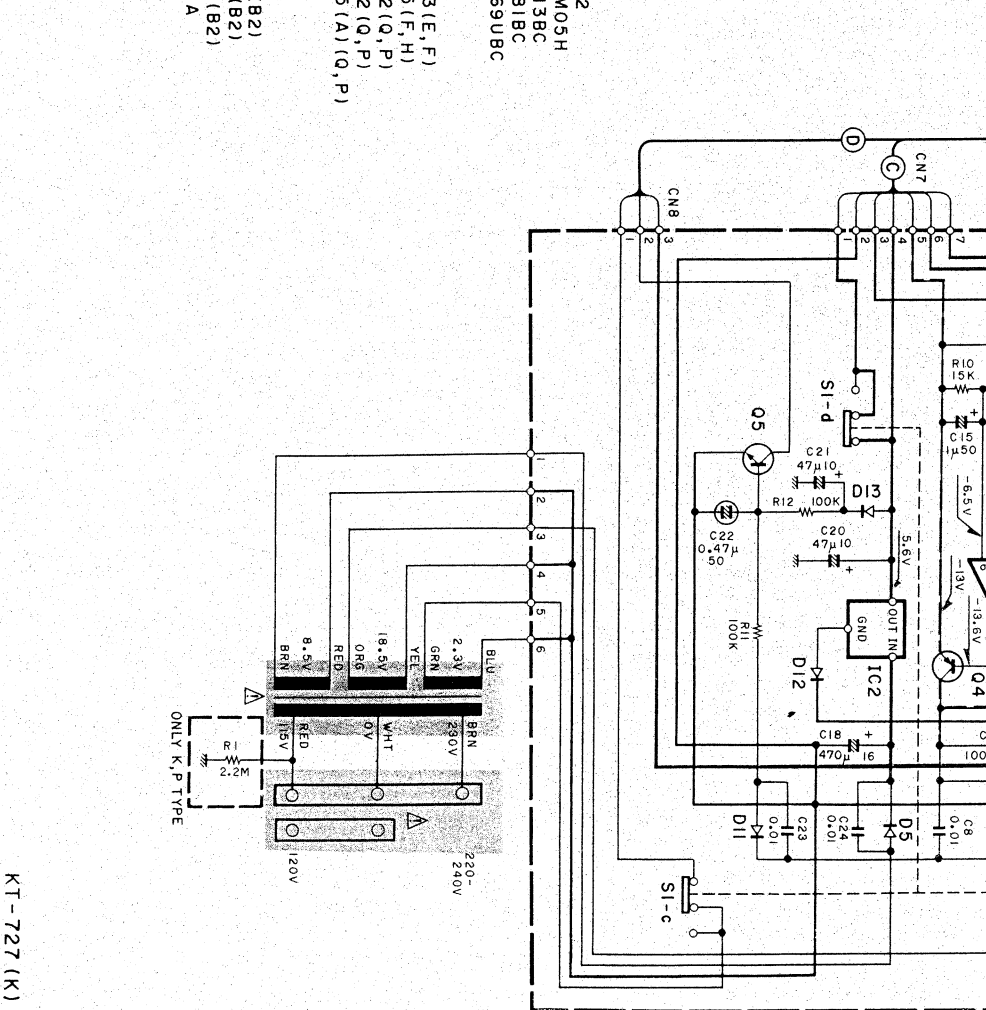
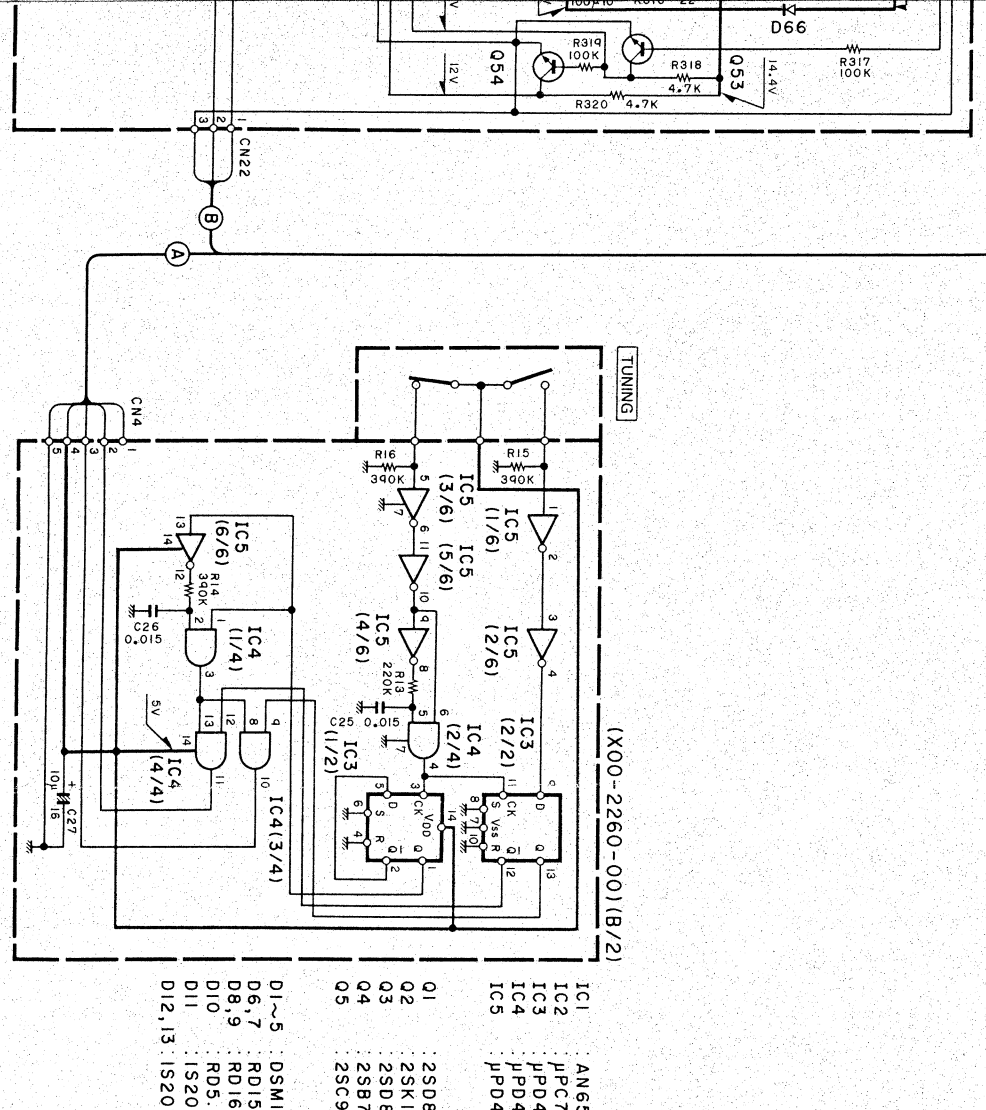
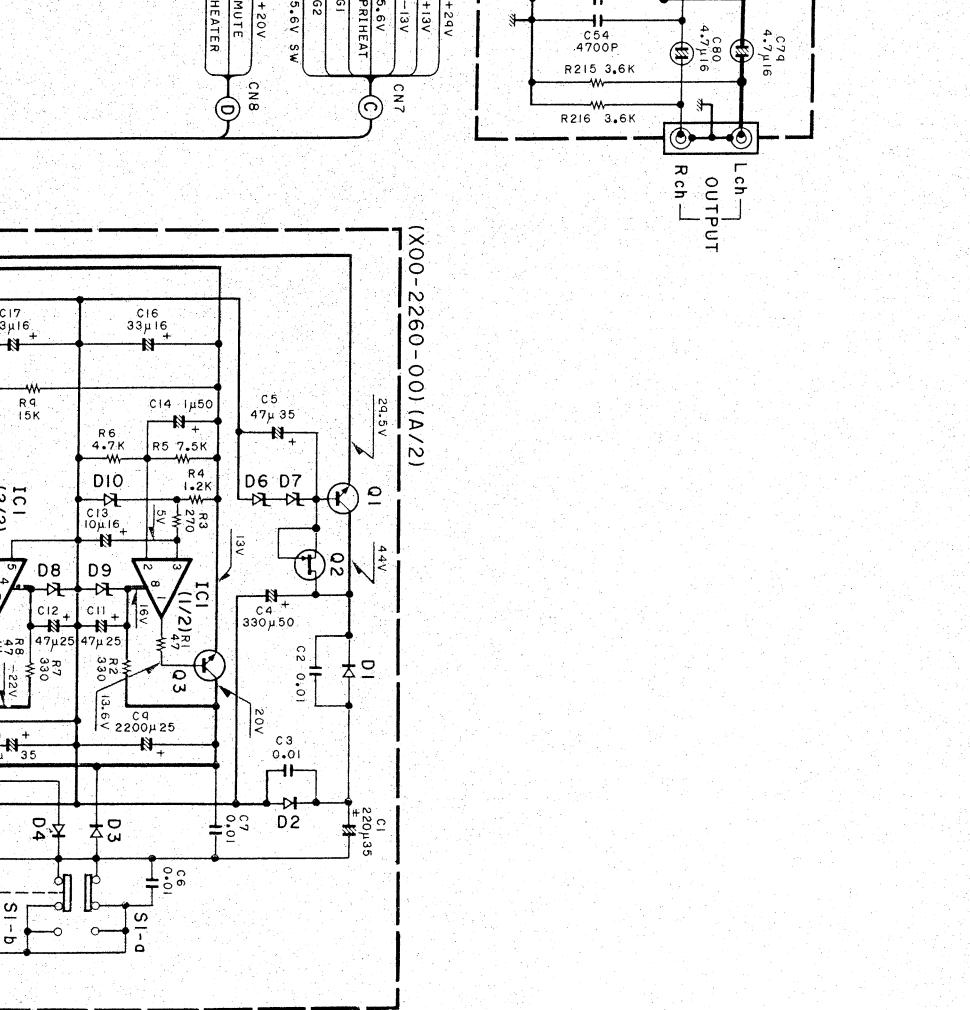
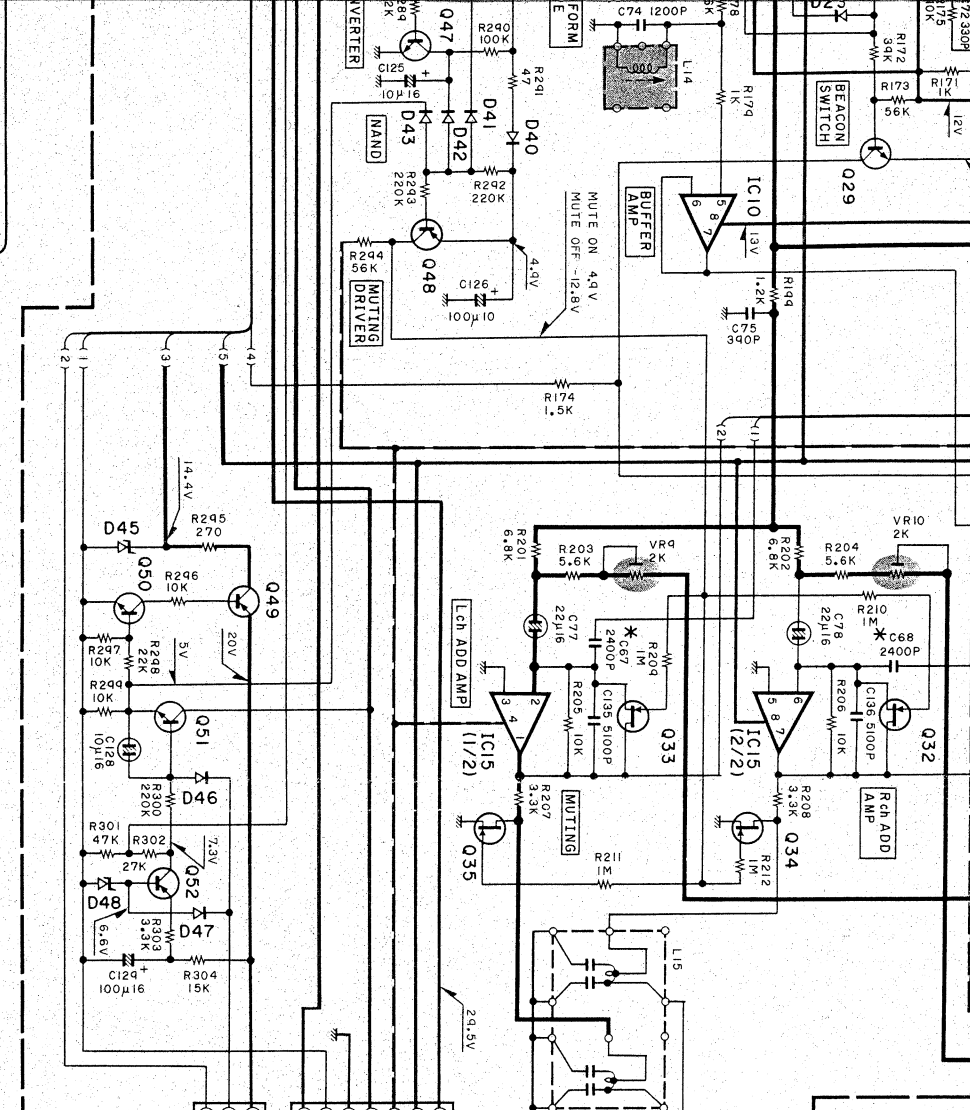
IC1	AN6552
IC2	IPCT8M05H
IC3	IPD4013BC
IC4	IPD4081BC
IC5	IPD4060UBC
01	2SD863(E, F)
02	2SK105(F, H)
Q3	2SD882(Q, P)
Q4	2SB772(I, P)
Q5	2SC945(A) (Q, P





Q3	2SK241
Q4	2SC461
Q5, 36	2SK161
Q6~9, 12~17, 20, 21, 25	2SC1923 (I) or 2SC1923 (R)
Q22, 23	2SK161 (V)
Q24	2SK163 (M)
Q26, 27, 31~33, 39	2SK105 (F, H)
Q28, 29, 36, 40, 43, 47, 50, 51, 53, 54, 56~58	2SC945 (A) (Q, P)
Q30, 39, 41~44, 48, 49, 52	2SA733 (A) (Q, P)
Q34, 35, 46	2SK163 (L, M)
Q37	2SA999 (E, F)
Q55	2SA992 (F, E)
D1~3, 5	KV1320-4
D6~9, 11	M8513A-0
D10	KV1226 (E, F)
D12	RD8, 2J (B2)
D14~17, 19~24, 26~28, 33~44, 46, 47, 58, 66~68	1S2076
D18	1N60
D25	KV1226 (E, F, X)
D29	RD5, 1E (B2)
D45	RD15E (B2)
D48	RD6, 8E (B2)
D49~57, 64	B30-0431-05 (RED)
D59	B30-0432-05 (GRN)
IC1, 14	NUM4560D-N
IC2, 3, 9, 10	AN6556
IC11	HA1123W
IC12	NUM4200D
IC15	NUM4558D
IC16	LA1245
IC17	TD6104P
IC18	TC9157AP
IC19	μPD4013 BC
IC21	TD6301AP

Component	Value	Destination
C67, C68, R6, R33, R333	C69, C73, R27, R324, R325	C85
S12, S13, CN20, CN21	Q55, Q59, Q44, J111	J112
2-71	NO	YES
0-11	YES	NO
	7P	300P
	J	NO
	YES	K, P, U, M, U, E, X



KT-727 (K)

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IC4 IC5 Q1 Q2 Q3		*	UPD4081BC UPD4069UBC 2SD863(E,F) 2SK105(E,H) 2SD882(Q,P)	IC AND GATE IC INVERTER TRANSISTOR FET TRANSISTOR		
Q4 Q5 Q5			2SB772(Q,P) 2SC2320(E,F) 2SC945(A)(Q,P)	TRANSISTOR TRANSISTOR TRANSISTOR		
TUNER (X05-2740-11)						
C1 C2 C3 C4 C5 ,6			CC45FSL1H070D CC45FSL1H390J CC45FTH1H050C CC45FSL1H070D CK45FB1H102K	CERAMIC 7.0PF D CERAMIC 39PF J CERAMIC 5PF C CERAMIC 7.0PF D CERAMIC 0.001UF K		
C7 C8 C9 ,10 C11 C12 -14			CC45FTH1H070D CC45FTH1H030C CC45FSL1H100D CK45FB1H681K CK45FF1H103Z	CERAMIC 7.0PF D CERAMIC 3.0PF C CERAMIC 10PF D CERAMIC 680PF K CERAMIC 0.01UF Z		
C17 C18 C19 C20 C21			CC45FSL1H050C CC45FTH1H050C CC45FTH1H080D CK14D1H102M CC45FSL1H100D	CERAMIC 5.0PF C CERAMIC 5PF C CERAMIC 8PF D CERAMIC 1000PF M CERAMIC 10PF D		
C22 C23 C24 C25 C26			CC45FSL1H330J CC45FSL1H100D CC45FSL1H101J CK45FF1H103Z CE04FW1C470M	CERAMIC 33PF J CERAMIC 10PF D CERAMIC 100PF J CERAMIC 0.01UF Z ELECTRO 47UF 16WV		
C27 -30 C32 -36 C38 ,39 C40 C41			C91-0083-05 C91-0083-05 C91-0083-05 CC45FSL1H220J CC45FSL1H101J	CERAMIC 0.01UF N CERAMIC 0.01UF N CERAMIC 0.01UF N CERAMIC 22PF J CERAMIC 100PF J		
C42 ,43 C44 C45 C46 ,47 C48			CC45FCH1H330J CK45FF1H103Z CE04FW1A101M CE04FW1C330M CE04FW1H2R2M	CERAMIC 33PF J CERAMIC 0.01UF Z ELECTRO 100UF 10WV ELECTRO 33UF 16WV ELECTRO 2.2UF 50WV		
C49 C50 C51 C52 C53			CE04HW1HR47M CE04FW1HR47M CK45FB1H102K CC45FSL1H050C CE04HW1C100M	NP-ELEC 0.47UF 50WV ELECTRO 0.47UF 50WV CERAMIC 0.001UF K CERAMIC 5.0PF C NP-ELEC 10UF 16WV		
C54 ,55 C60 C61 C62 C63			C91-0084-05 CF92FV1H222J CF92FV1H103J CQ09FS1H102JY0 CF92FV1H222J	CERAMIC 4700PF N MF 2200PF J MF 0.010UF J POLYSTY 1000PF J MF 2200PF J		
C64 C65 C66 C67 ,68 C67 ,68		*	CE04GW1HR47M CE04GW1E3R3M CE04GW1H2R2M CF92FV1H242J CF92FV1H242J	LL-ELEC 0.47UF 50WV LL-ELEC 3.3UF 25WV LL-ELEC 2.2UF 50WV MF 2400PF J MF 2400PF J		KPUM UEX

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C69			CE04HW1HR47M	NP-ELEC 0.47UF 50WV	E	
C70			CE04FW1C470M	ELECTR0 47UF 16WV		
C72			CC45FSL1H331J	CERAMIC 330PF J	E	
C73			CC45FSL1H120J	CERAMIC 12PF J		
C74			CC09FS1H122JY0	POLYSTY 1200PF J		
C75			CC09FS1H391JY0	POLYSTY 390PF J		
C76			CC45FSL1H390J	CERAMIC 39PF J		
C77 ,78			CE04HW1C220M	NP-ELEC 22UF 16WV		
C79 ,80			CE04HW1C4R7M	NP-ELEC 4.7UF 16WV		
C81			CK45FF1H223Z	CERAMIC 0.022UF Z		
C82			CC45FSL1H101J	CERAMIC 100PF J		
C83		*	CC09FS1H121JY0	POLYSTY 120PF J	E	
C83			CC09FS1H391JY0	POLYSTY 390PF J	KPUM	
C83			CC09FS1H391JY0	POLYSTY 390PF J	UEX	
C84			CK45FF1H223Z	CERAMIC 0.022UF Z		
C85			CC45FCH1H330J	CERAMIC 33PF J	E	
C85			CC45FUJ1H070D	CERAMIC 7.0PF D	KPUM	
C85			CC45FUJ1H070D	CERAMIC 7.0PF D	UEX	
C86			CK45FF1H223Z	CERAMIC 0.022UF Z		
C87			CK14D1H102M	CERAMIC 1000PF M		
C88 -90			CK45FF1H223Z	CERAMIC 0.022UF Z		
C91			CE04FW1C100M	ELECTR0 10UF 16WV		
C92			CK45FF1H223Z	CERAMIC 0.022UF Z		
C93			CK45FB1H102K	CERAMIC 0.001UF K		
C94			C91-0083-05	CERAMIC 0.01UF N		
C95			CE04FW1C470M	ELECTR0 47UF 16WV		
C96			CE04FW1H3R3M	ELECTR0 3.3UF 50WV		
C97			CE04FW1V4R7M	ELECTR0 4.7UF 35WV		
C98			CK45FF1H103Z	CERAMIC 0.01UF Z		
C99			CF92FV1H103J	MF 0.010UF J		
C100			CE04FW1HR47M	ELECTR0 0.47UF 50WV		
C101			CF92FV1H222J	MF 2200PF J		
C102			CF92FV1H223J	MF 0.022UF J		
C103			CF92FV1H682J	MF 6800PF J		
C104,105			CE04FW1HR47M	ELECTR0 0.47UF 50WV		
C106			CE04FW1V4R7M	ELECTR0 4.7UF 35WV		
C107,108			CK45FB1H102K	CERAMIC 0.001UF K		
C109			C90-1287-05	ELECTR0 2200UF 16WV		
C110			CK45FF1H103Z	CERAMIC 0.01UF Z		
C111,112			CC45FCH1H330J	CERAMIC 33PF J		
C113,114			R90-0544-05	MULTI-C0		
C115,116			CE04FW1H2R2M	ELECTR0 2.2UF 50WV		
C117			CK45FB1H222K	CERAMIC 2200PF K		
C118			C91-0083-05	CERAMIC 0.01UF N		
C119			CK45FF1H103Z	CERAMIC 0.01UF Z		
C120			CE04FW1A470M	ELECTR0 47UF 10WV		
C121			CE04FW1V330M	ELECTR0 33UF 35WV		
C122			CE04GW1H2R2M	LL-ELEC 2.2UF 50WV		
C123			CE04HW1HR47M	NP-ELEC 0.47UF 50WV		
C124			CK45FF1H223Z	CERAMIC 0.022UF Z		
C125			CE04FW1C100M	ELECTR0 10UF 16WV		
C126			CE04FW1A101M	ELECTR0 100UF 10WV		
C127,128			CE04HW1C100M	NP-ELEC 10UF 16WV		
C129			CE04FW1C101M	ELECTR0 100UF 16WV		
C130			CK14D1H102M	CERAMIC 1000PF M		

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C131, 132 C133 C135, 136 C137 TC1 -3			CK45FB1H102K CE04FW1A101M CF92FV1H512J CK45FF1H103Z C05-0302-05	CERAMIC 0.001UF K ELECTR 100UF 10WV MF 5100PF J CERAMIC 0.01UF Z CERAMIC TRIMMER CAPACITOR(11PF)		
TC5 TC6 TC7 TC7 TC7			C05-0301-05 C05-0303-05 C05-0302-05 C05-0302-05 C05-0303-05	CERAMIC TRIMMER CAPACITOR(7PF) CERAMIC TRIMMER CAPACITOR(20PF) CERAMIC TRIMMER CAPACITOR(11PF) CERAMIC TRIMMER CAPACITOR(11PF) CERAMIC TRIMMER CAPACITOR(20PF)	KPUM UEX E	
80	IC		E13-0217-05	PHONE JACK(OUTPUT)		
CF1 CF1 CF1 CF3 CF3			L72-0185-05 L72-0185-05 L72-0195-05 L72-0190-05 L72-0505-05	CERAMIC FILTER CERAMIC FILTER CERAMIC FILTER CERAMIC FILTER CERAMIC FILTER	KPUM UEX E E KPUM	
CF3 CF5 CF6 L1 L2			L72-0505-05 L72-0099-05 L72-0096-05 L31-0495-05 L31-0492-05	CERAMIC FILTER CERAMIC FILTER CERAMIC FILTER FM-RF COIL FM-RF COIL	UEX	
L3 L4 L5 L7 L8		*	L31-0495-05 L40-3382-11 L30-0247-05 L32-0270-05 L30-0416-05	FM-RF COIL SMALL FIXED INDUCTOR(0.33UH,M) FM IFT FM OSCILLATING COIL FM IFT		
L9 L10 L12 L14 L15			L32-0294-05 L40-1001-14 L40-1021-11 L35-0059-05 L79-0154-05	FM OSCILLATING COIL SMALL FIXED INDUCTOR(10UH,K) SMALL FIXED INDUCTOR(1.0MH,K) MPX COIL LC FILTER		
L16 L17 L17 L17 L18			L40-1092-14 L31-0472-05 L31-0472-05 L31-0479-05 L32-0277-15	SMALL FIXED INDUCTOR(1.0UH,M) MW-RF COIL MW-RF COIL LW-RF COIL MW OSCILLATING COIL	KPUM UEX E KPUM	
L18 L18 L19 X1			L32-0277-15 L32-0278-05 L30-0362-05 L77-0578-05	MW OSCILLATING COIL LW OSCILLATING COIL AM IFT CRYSTAL RESONATOR(7.2MHZ)	UEX E	
R6 R6 R24 R25 R51 ,52			RC05GF2H185M RC05GF2H185M RD14AB2E470J RD14AB2E220J RD14AB2E220J	RC 1.8M M 1/2W RC 1.8M M 1/2W FL-PROOF RD 47 J 1/4W FL-PROOF RD 22 J 1/4W FL-PROOF RD 22 J 1/4W	KPUM UEX	
R73 ,74 R88 ,89 R113 R163 R170		*	RD14AB2E220J RD14AB2E101J RS14DB3D151J RN14BK2E6801G RD14AB2E470J	FL-PROOF RD 22 J 1/4W FL-PROOF RD 100 J 1/4W FL-PROOF RS 150 J 2W RN 6.8K G 1/4W FL-PROOF RD 47 J 1/4W		
R233 R273 R321 R322			RD14AB2E220J RD14AB2E101J R90-0193-05 R90-0192-05	FL-PROOF RD 22 J 1/4W FL-PROOF RD 100 J 1/4W MULTI-COMP 47KX9 J MULTI-COMP 47KX13 J		

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VR1 VR2 VR8 -10 VR11	1A		R12-7017-05 R12-4306-05 R12-1313-05 R13-5041-15	TRIMMING POT(500K)S METER ADJ TRIMMING POT(50K)DIST(DETECTOR TRIMMING POT(2K)VCO, SEPARATION POTENTIOMETER(100KX2)AM IF BND		
S1 -11 S12 ,13 S12 ,13	1B		S40-1068-05 S31-2072-05 S31-2072-05	PUSH SW(1-6,M,MUTE,AUTO,SEL) SLIDE SWITCH(DE-EMPH,CH-SPACE) SLIDE SWITCH(DE-EMPH,CH-SPACE)	KPUM UEX	
D1 -3 D5 D6 -9 D10 D11			KV1320-4 KV1320-4 M8513A-0 KV1226(EF) M8513A-0	VARIABLE CAPACITANCE DIODE VARIABLE CAPACITANCE DIODE VARISTOR VARIABLE CAPACITANCE DIODE VARISTOR		
D12 D14 -17 D14 -17 D18 D19 -24			RD8. 2J(B2) 1S1555 1S2076 1N60 1S1555	ZENER DIODE DIODE DIODE DIODE DIODE		
D19 -24 D25 D25 D26 -28 D26 -28			1S2076 KV1226(EF) KV1226(X) 1S1555 1S2076	DIODE VARIABLE CAPACITANCE DIODE VARIABLE CAPACITANCE DIODE DIODE DIODE		
D29 D33 -43 D33 -43 D44 D44			RD5. 1E(B2) 1S1555 1S2076 1S1555 1S2076	ZENER DIODE DIODE DIODE DIODE DIODE	E E	
D45 D46 ,47 D46 ,47 D48 D58			RD15E(B2) 1S1555 1S2076 RD6. 8E(B2) 1S1555	ZENER DIODE DIODE DIODE ZENER DIODE DIODE		
D58 D66 -68 D66 -68 FL1 IC1			1S2076 1S1555 1S2076 FIP7B8CS NJM4560D-N	DIODE DIODE DIODE FLUORESCENT INDICATOR TUBE IC OP AMP		
IC2 ,3 IC9 ,10 IC11 IC12 IC14			AN6556 AN6556 HA11223W NJM4200D NJM4560D-N	IC OP AMP IC OP AMP IC MPX IC OP AMP IC OP AMP		
IC15 IC16 IC17 IC18 IC18		*	NJM4558D LA1245 TD6104P TC9147BP TC9157AP	IC OP AMP IC AM IC PRE SCALER IC DIGITAL TUNING SYSTEM IC DIGITAL TUNING SYSTEM	E KPUM	
IC18 IC19 IC21 Q1 ,2 Q3			TC9157AP UPD4013BC TD6301AP 3SK73 2SK241(Y,GR)	IC DIGITAL TUNING SYSTEM IC FLIP-FLAP IC FIP DRIVER FET(Y,GR) FET	UEX	
Q4 Q5			2SC461(B,C) 2SK241(Y,GR)	TRANSISTOR FET		

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Q6 -9			2SC1923(B)	TRANSISTOR		
Q6 -9			2SC1923(R)	TRANSISTOR		
Q12 -17			2SC1923(B)	TRANSISTOR		
Q12 -17			2SC1923(R)	TRANSISTOR		
Q20 ,21			2SC1923(B)	TRANSISTOR		
Q20 ,21			2SC1923(R)	TRANSISTOR		
Q22 ,23			2SK161(Y)	FET		
Q24			2SK163(M)	FET		
Q25			2SC1923(B)	TRANSISTOR		
Q25			2SC1923(R)	TRANSISTOR		
Q26 ,27			2SK105(F,H)	FET		
Q28 ,29			2SC2320(E,F)	TRANSISTOR		
Q28 ,29			2SC945(A) (Q,P)	TRANSISTOR		
Q30			2SA733(A) (Q,P)	TRANSISTOR		
Q30			2SA999(E,F)	TRANSISTOR		
Q31 -33			2SK105(F,H)	FET		
Q34 ,35			2SK163(L,M)	FET		
Q36			2SK161(Y,GR)	FET		
Q37			2SA999(E,F)	TRANSISTOR		
Q38			2SC2320(E,F)	TRANSISTOR		
Q38			2SC945(A) (Q,P)	TRANSISTOR		
Q39			2SA733(A) (Q,P)	TRANSISTOR		
Q39			2SA999(E,F)	TRANSISTOR		
Q40			2SC2320(E,F)	TRANSISTOR		
Q40			2SC945(A) (Q,P)	TRANSISTOR		
Q41 -44			2SA733(A) (Q,P)	TRANSISTOR		
Q41 -44			2SA999(E,F)	TRANSISTOR		
Q45			2SC2320(E,F)	TRANSISTOR		
Q45			2SC945(A) (Q,P)	TRANSISTOR		
Q46			2SK163(L,M)	FET		
Q47			2SC2320(E,F)	TRANSISTOR		
Q47			2SC945(A) (Q,P)	TRANSISTOR		
Q48 ,49			2SA733(A) (Q,P)	TRANSISTOR		
Q48 ,49			2SA999(E,F)	TRANSISTOR		
Q50 ,51			2SC2320(E,F)	TRANSISTOR		
Q50 ,51			2SC945(A) (Q,P)	TRANSISTOR		
Q52			2SA733(A) (Q,P)	TRANSISTOR		
Q52			2SA999(E,F)	TRANSISTOR		
Q53 ,54			2SC2320(E,F)	TRANSISTOR		
Q53 ,54			2SC945(A) (Q,P)	TRANSISTOR		
Q55			2SA992(F,E)	TRANSISTOR	E	
Q56			2SC2320(E,F)	TRANSISTOR		
Q56 -58			2SC945(A) (Q,P)	TRANSISTOR		
Q59			2SK105(F,H)	FET	E	
TH1			STP-41L	THERMISTOR		

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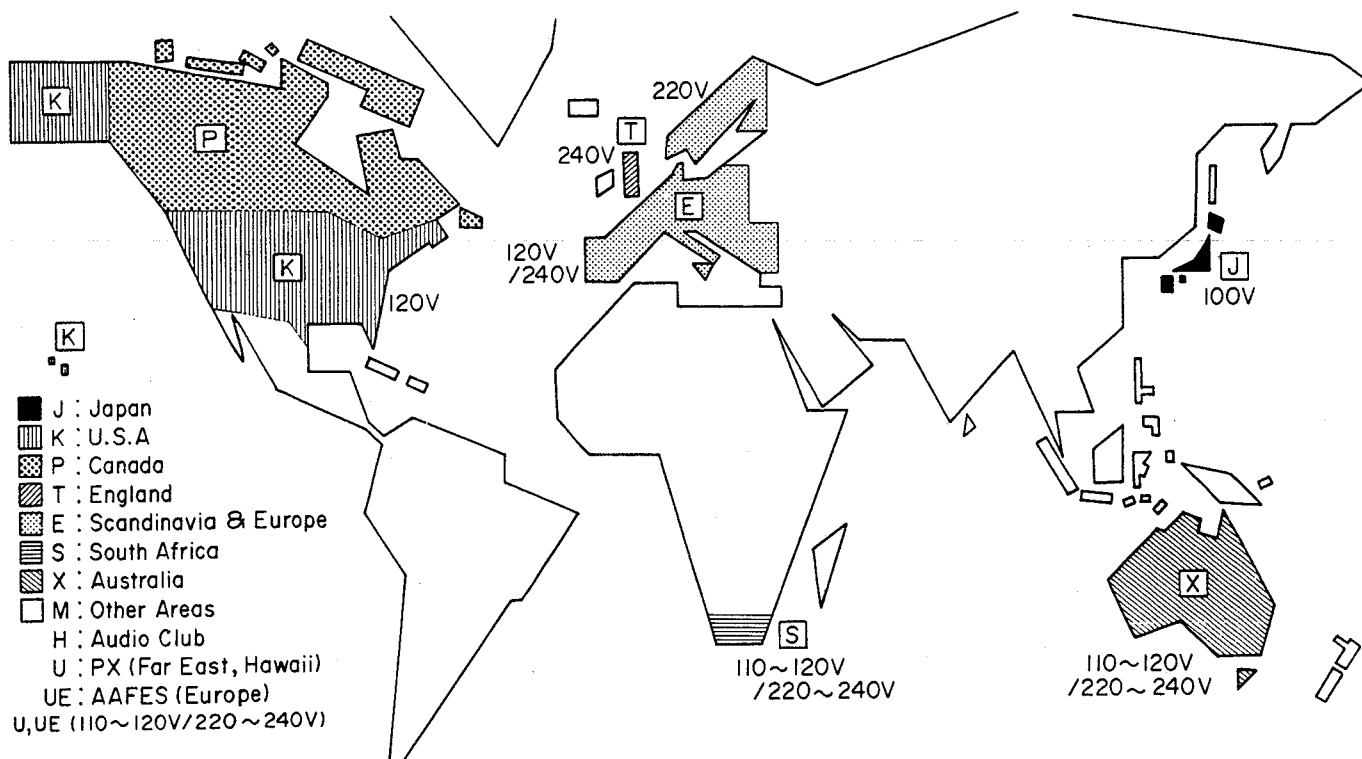
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WORLD MAP & AREA CODE



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.

TRIO-KENWOOD CORPORATION

Shionogi Shibuya Building, 17-5, 2-chome Shibuya, Shibuya-ku, Tokyo 150, Japan

KENWOOD ELECTRONICS

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

TRIO-KENWOOD CANADA INC.

1070 Jayson Court, Mississauga, Ontario, Canada L4W 2V5

TRIO-KENWOOD ELECTRONICS, N.V.

Leuvensesteenweg 504 B-1930 Zaventem, Belgium

TRIO-KENWOOD ELECTRONICS GmbH

Rudolf-Brass-Str. 20, 6056 Heusenstamm, West Germany

TRIO-KENWOOD FRANCE S.A.

5, Boulevard Ney, 75018 Paris, France

TRIO-KENWOOD (AUSTRALIA) PTY. LTD. (INCORPORATED IN N.S.W.)

4E Woodcock Place, Lane Cove, N.S.W. 2066, Australia

KENWOOD & LEE ELECTRONICS, LTD.

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