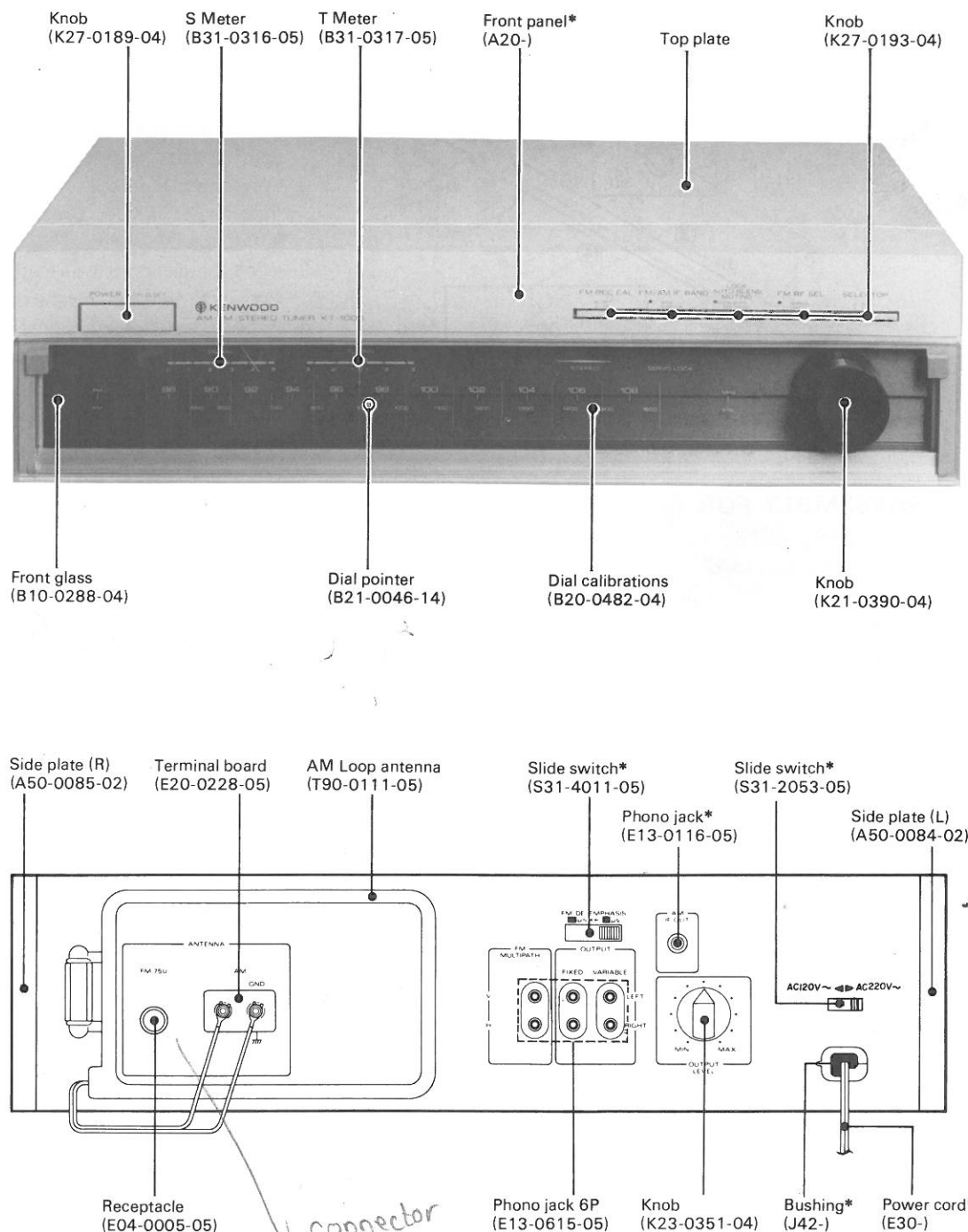


AM-FM STEREO TUNER



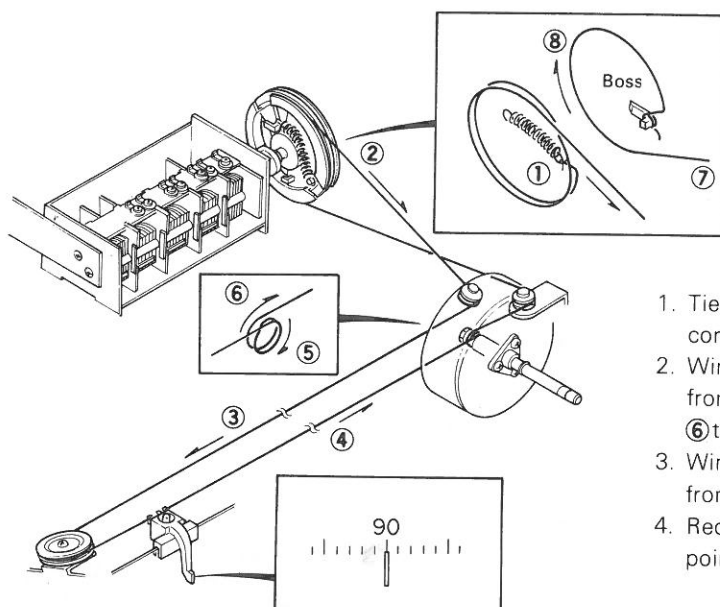
Connector plug

E05-0127-05

* Refer to Parts List.

DIAL CORD STRINGING/DISASSEMBLY FOR REPAIR

DIAL CORD STRINGING

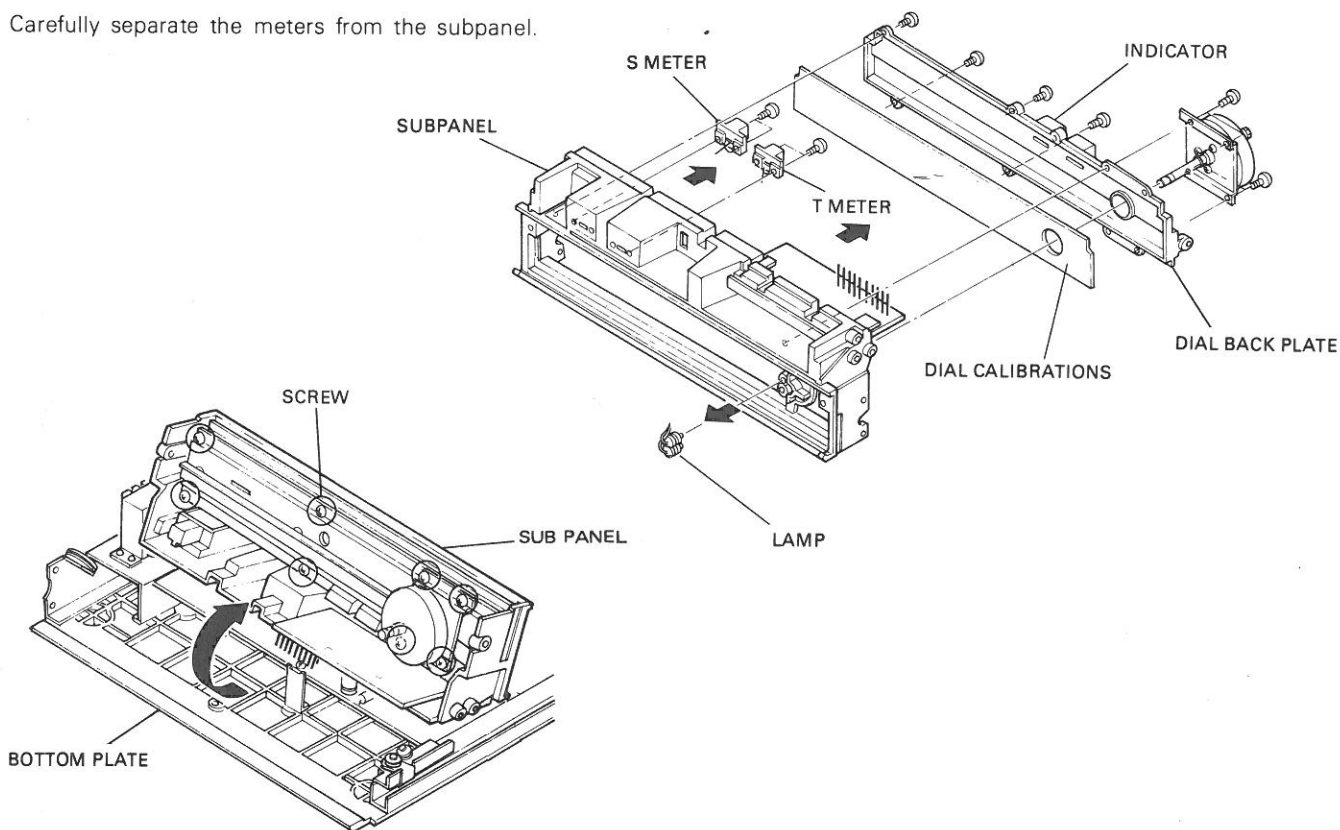


1. Tie the end of the dial cord to the spring. Dress the dial cord in the direction ① through ④
2. Wind the dial cord 2 turns around the dial shaft starting from its upper side. Dress the dial cord in the direction ⑥ through ⑦
3. Wind the dial cord 1 turn around the dial pulley starting from its lower side. Fix the dial cord to the boss. (⑧ ⑨)
4. Receive a 90 MHz signal and then mount the dial pointer at the 90 MHz position of the dial calibrations.

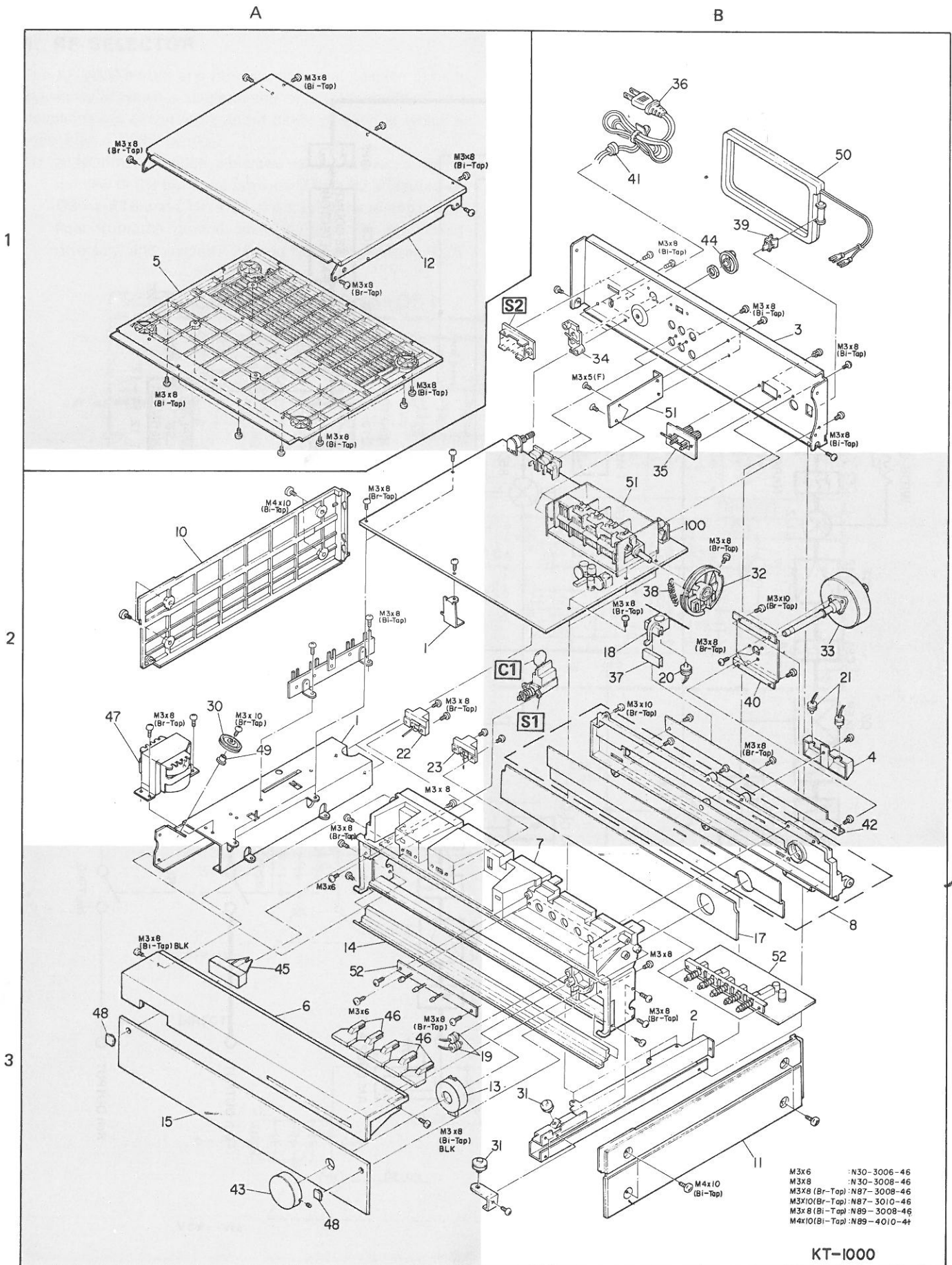
DISASSEMBLY FOR REPAIR

1. Remove the dial cord and the panel.
2. Loosen the screws of the subpanel.
3. Turn the subpanel as illustrated.
4. Now you can remove the parts.

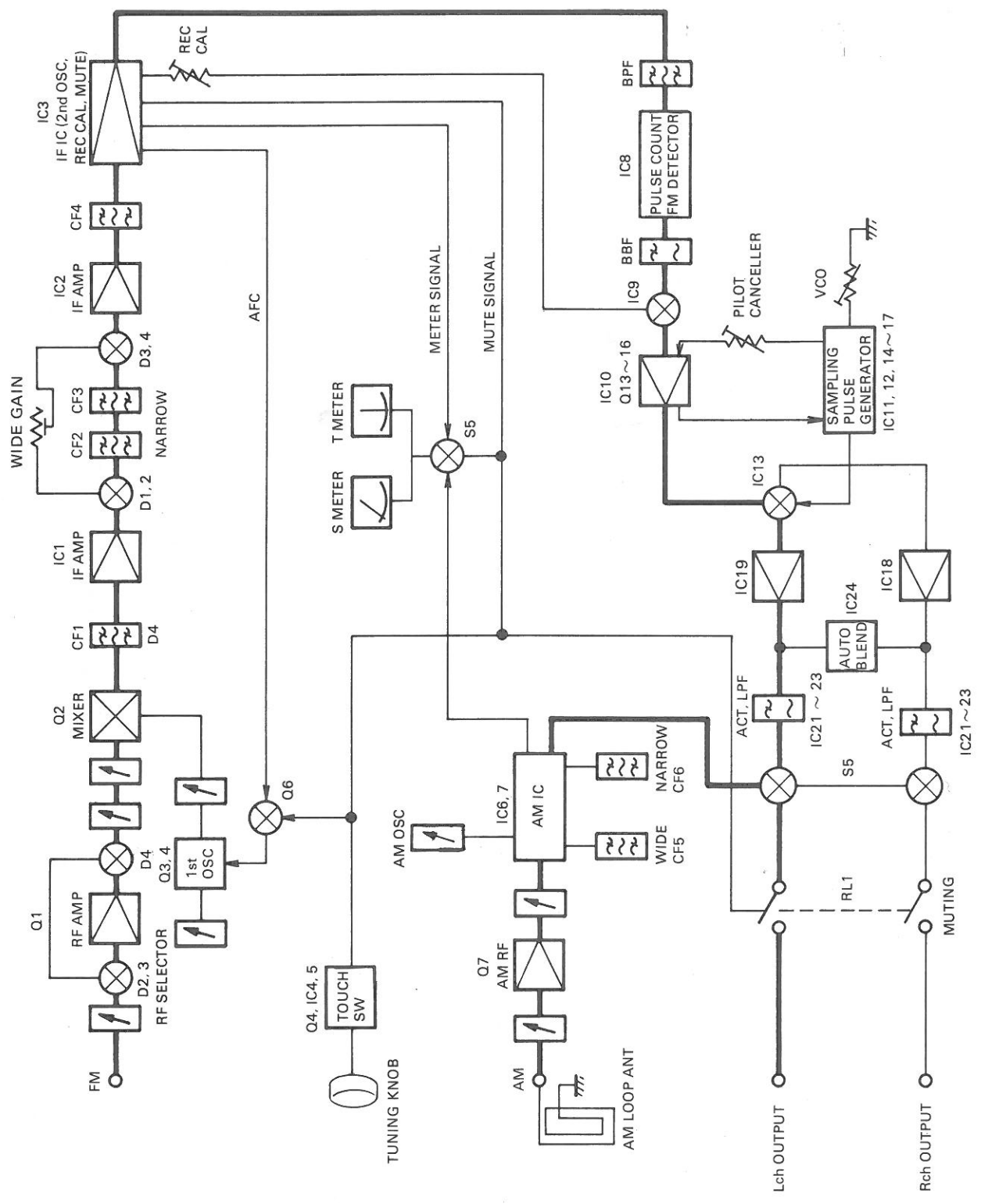
Carefully separate the meters from the subpanel.



EXPLODED VIEW



BLOCK DIAGRAM



CIRCUIT DESCRIPTION

1. RF SELECTOR

The KT-1000's front end provides a normal position of high sensitivity at which a single-tuning circuit, RF amplifier, and double-tuning circuit work and a direct position at which a triple-tuning circuit works.

- (1) At NORMAL position, a positive voltage applied to terminal Vsw of the front end turns on Q1 via R2 and turns on D3 via R18 and L10. C24 and C27 of the tuning circuit float from the ground since D2 and D4 are biased reversely, and instead C25 and C26 compensate. (C25

and C26 are grounded with D3 on.) L8 ~ L10 do not comprise a tuning circuit but simply work as choke coils.

- (2) At DIRECT position, a negative voltage applied to terminal Vsw cuts off Q1 and D3 goes off. An input signal coming from antenna enters the first tuning circuit and, via C25 and C26, goes to the second and third and finally comes to the mixer, bypassing the RF amplifier. Because D2 and D4 are on in DIRECT position and C24 and C27 respectively make up the first and second tuning circuits.

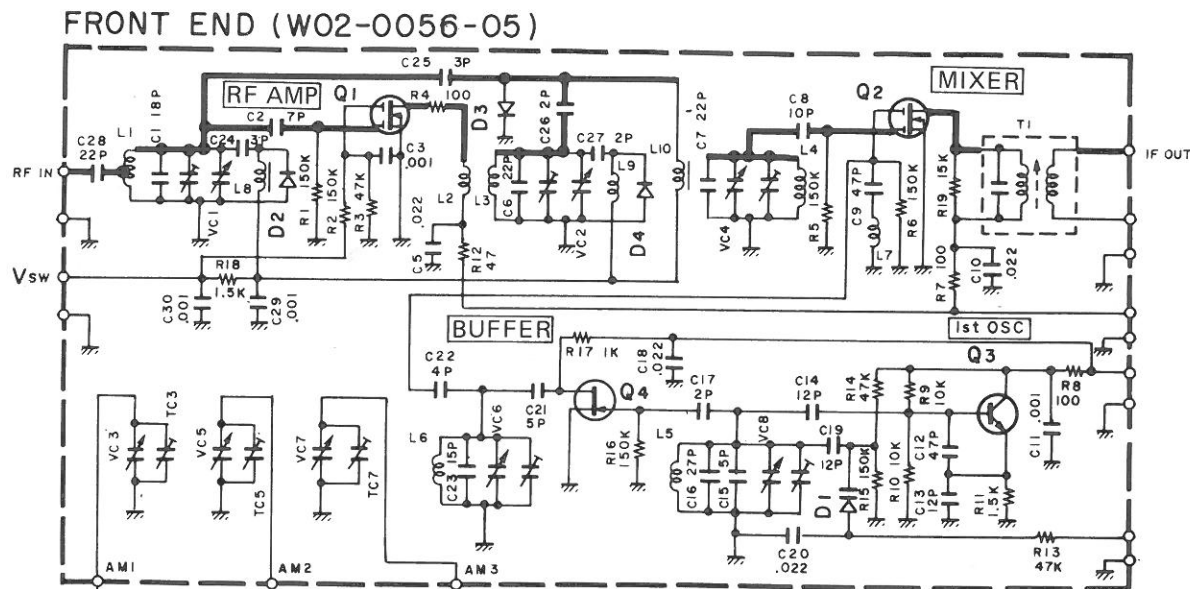


Fig. 1-1

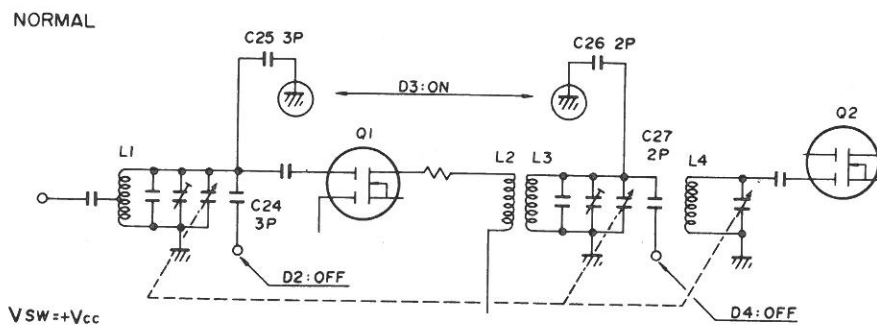


Fig. 1-2

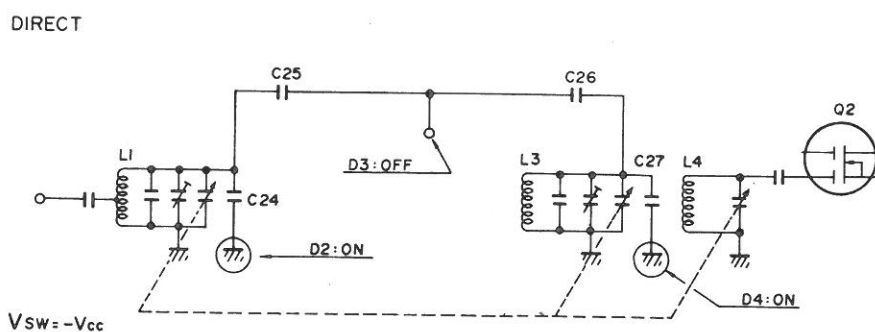


Fig. 1-3

CIRCUIT DESCRIPTION

2. SAMPLING PULSE GENERATOR

A sampling pulse generator which makes use of C-MOS devices is described here. For the pilot canceller, MPX, and emphasis selector, refer to KT-917 service manual.

IC14 (2-input OR gates) outputs a sampling pulse or "H" to switch over stereo and monaural modes. At the monaural mode, the output is always "H" since pin 5, an input pin (Q20's collector) of the OR gate, is "H". At the stereo mode, Q20 outputs "L" and the OR gate outputs "H" only when pin 6 of the OR is "H". Thus the output waveform is the same as the sampling pulse.

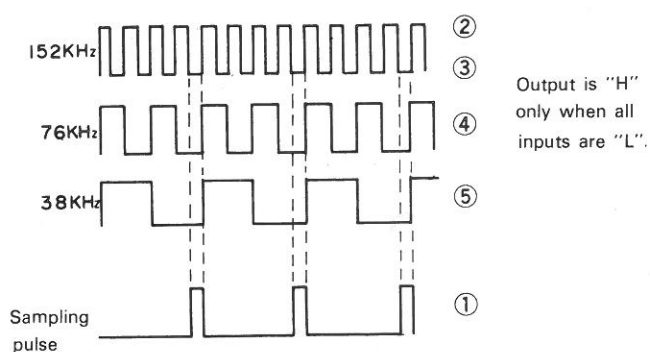


Fig. 2-1

IC15 and IC16 (4-input NOR gates) outputs NOR pulses of 152 kHz, 76 kHz, and 38 kHz. Figure 2-1 is the timing diagram of IC15. An output pulse appears just before the rise of the 38-kHz square wave. The other NOR gate contained in IC15 receives the inverted waveform of the 38-kHz square wave and outputs a pulse waveform which is out of phase by $\pi/2$. (See Figure 2-2.) IC16 as well as IC15 receives 38-kHz square waves and inverted 76-kHz square wave and outputs pulses shifted by $\pi/4$ and $3/4\pi$. The outputs of IC16 are used as sampling pulses of the L and R channels. The outputs of IC15 are used as sampling pulses for cancelling SCA beating.

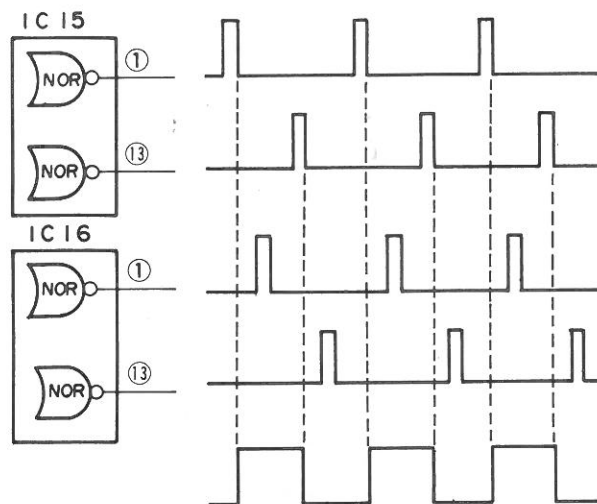


Fig. 2-2 L-channel switching 38-kHz pulse and sampling pulses.

IC17 (D F-F) divides a 152-kHz pulse coming from IC12 into a 76-kHz pulse. Part of the output is routed to the PLL via a differentiator.

IC12 (VCO) oscillates at 304-kHz and outputs a square wave of 152-kHz which is supplied to IC15 ~ IC17 via buffer Q23.

IC11 (PLL) which makes up a PLL along with IC12 and IC17 generates the pilot cancelling pulse and 38-kHz square wave.

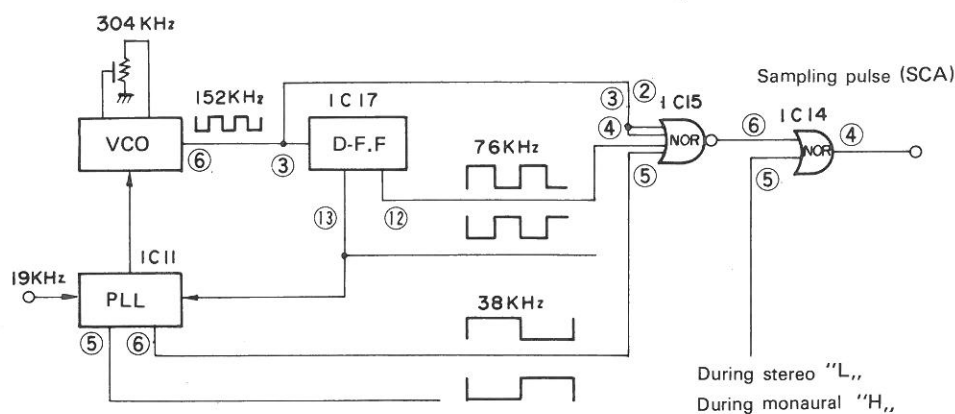


Fig. 2-3

CIRCUIT DESCRIPTION

3. TOUCH SENSOR SERVO LOCK

When the tuning knob is touched, AFC is released and an extra-low frequency range is cut off for easy tuning. When the tuning knob is touched, the oscillator consisting of Q4, L7, and C40 (Which is directly connected to L7) stops oscillation.

When the knob is not touched, the oscillator's output rectified by D9 appears as a positive voltage at the cathode and enters IC4 through pin 3 (non-inverting input of an operational amplifier). A voltage of approximately +8V appears at pin 1 of IC4 and, inverted by Q32, turns off Q6.

When the knob is touched, only the current supplied through R40 flows through D9 and its anode becomes positive and cathode negative. IC4 inverts the input and

generates approximately -8V. Q32 inverts the output to turn on Q6 and short the AFC signal. On the other hand, the output of IC5 which is connected to the output of IC4 via D42 also becomes approximately -8V. This voltage turns off CMOS-SW of IC9 to cut extra-low frequencies of FM demodulated signals. The initial condition will be restored as soon as one releases the knob. But CMOS-SW turns on after completion of the servo lock operation by giving a time constant to the input circuit of IC5. CMOS-SW is normally turned on to cut off extra-low frequency components, which would appear when an FM receiver is tuned in or out and would be heard as a popping noise. In the normal state (CMOS-SW ON) extends frequency response to the extra-low frequency range.

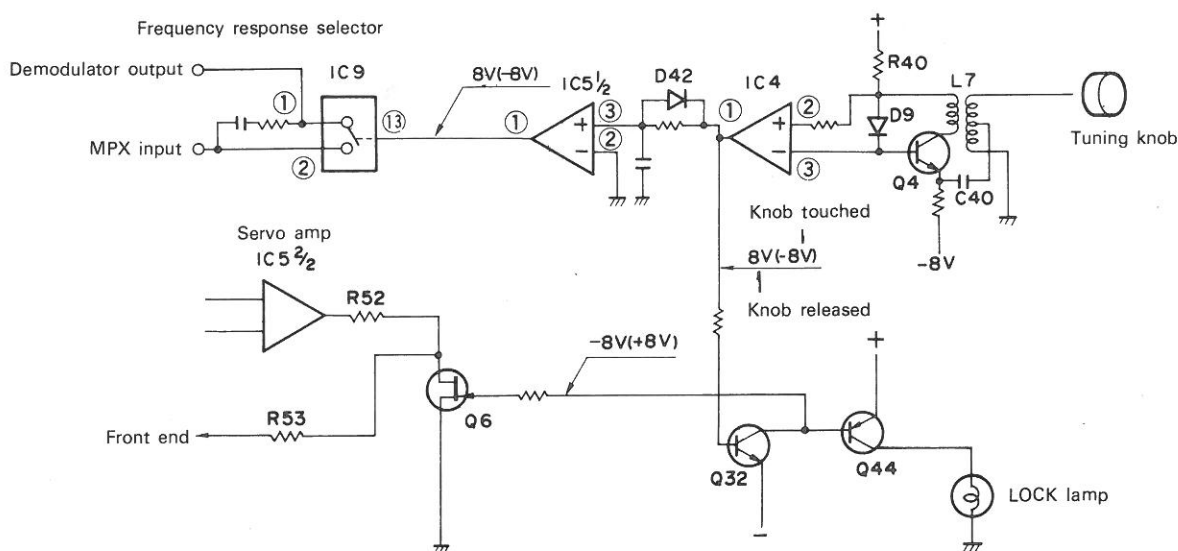


Fig. 3 Touch sensor servo lock

ADJUSTMENT

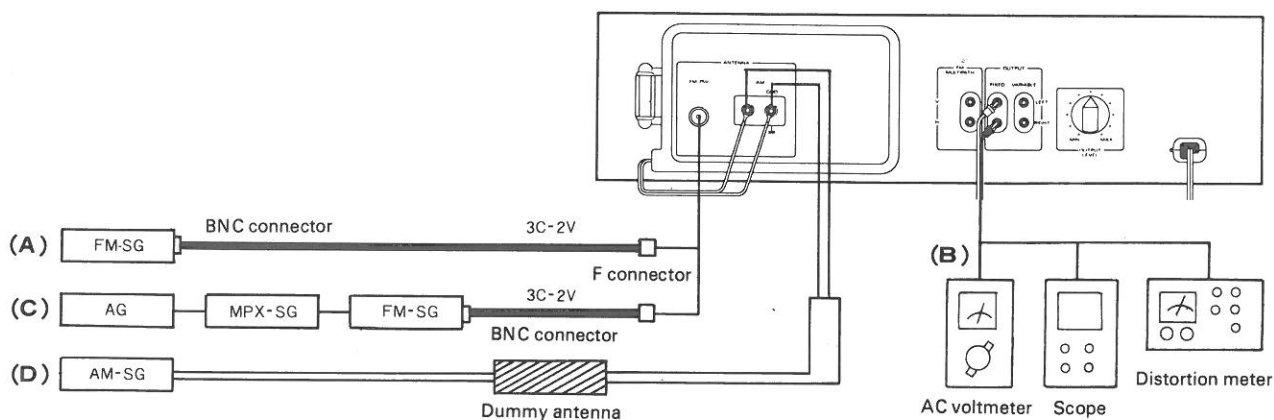
Set the MODE switch to AUTO/MUTING, IF BAND switch WIDE and RF SELECTOR switch NORMAL, REC CAL switch OFF, unless otherwise specified.

NO.	ITEM	SYSTEM CONNECTIONS	TEST EQUIPMENT SETTING	TUNER (RECEIVER) SETTING	ALIGNMENT POINTS	ALIGN FOR	FIG. NO.
FM SECTION							
1	T METER (1)	(A) *1	95 MHz 1 kHz, 75 kHz dev	95 MHz MODE: MONO IF BAND: NARROW	—	*2	
2	T METER (2)	ditto	95 MHz 1 kHz, 75 kHz dev 60 dB *3	95 MHz MODE: MONO	L4	T meter pointer to be at the center.	
3	S METER	ditto	95 MHz 1 kHz, 40 kHz dev 60 dB *3	95 MHz	VR1 (X13-2960)	*4	
4	WIDE GAIN	ditto	95 MHz 1 kHz, 40 kHz dev	95 MHz IF BAND: NARROW MODE: MONO	—	*5	
5	WIDE GAIN	ditto	*6	95 MHz IF BAND: WIDE MODE: MONO	VR1	S meter deflection: Same as NARROW.	
6	REC CAL	(B)	—	REC CAL: ON	VR2	0.38V	⑩
7	DISTORTION (STEREO)	(C)/(B)	95 MHz 1 kHz, 68.25 kHz dev *7 60 dB *3 Selector: L or R	95 MHz	T1 (Front end)	Minimum distortion	
8	PILOT CANCELLER	(C)/SCOPE to the connecting point of R151 and R152.	95 MHz Pilot signal 60 dB *3	ditto	VR11, L17	Minimum output	⑤ ⑬
9	VCO	(C)/Frequency counter to the connecting point of R162 and Q17 via SSVM. *8	95 MHz 0 (dev) 60 dB *3	ditto	VR10	76 kHz	
10	SCA (L)	(C)/(B)	95 MHz 67 kHz, 7.5 kHz dev Selector: L + R 60 dB (ANT input)	95 MHz	VR8	Minimum output	
11	SCA (R)	ditto	ditto	ditto	VR9	Minimum output.	
AM SECTION							
(1)	RF ALIGNMENT (AM)	(D)/(B)	600 kHz 400 Hz, 30% mod	AM 600 kHz	L11, 12, 13	Maximum amplitude and symmetry of the oscilloscope display.	
(2)	RF ALIGNMENT (AM)	(D)/(B)	1400 kHz 400 Hz, 30% mod	AM 1400 kHz	TC3, 5, 7	Maximum amplitude and symmetry of the oscilloscope display.	
Repeat alignments (1) and (2) several times.							
(3)	S METER	(D)/(B)	1400 kHz 60 dB (ANT input)	1400 kHz	VR3	*4	
(4)	T METER	ditto	ditto	ditto	VR4	T meter pointer to be on the center line.	

ADJUSTMENT

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

NO.	ITEM	SYSTEM CONNECTIONS	TEST EQUIPMENT SETTING	TUNER (RECEIVER) SETTING	ALIGNMENT POINTS	ALIGN FOR	FIG. NO.
①	SUB	(C)/(B)	95 MHz 1 kHz, 68.25 kHz Dev *7 60 dB *3 Selector: L—R	95 MHz	L16	Maximum output	⑭ ⑮
②	SEPARATION (1)	ditto	95 MHz 1 kHz, 68.25 kHz Dev *7 60 dB *3 Selector: L	95 MHz IF BAND: WIDE	VR5 (L → R)	Minimum crosstalk from the other channel.	
③	SEPARATION (2)	ditto	95 MHz 1 kHz, 68.25 kHz Dev *7 60 dB *3 Selector: R	ditto	VR6 (R → L)	ditto	
④	SEPARATION (3)	ditto	95 MHz 10 kHz, 68.25 kHz Dev *7 60 dB *3 Selector: L or R	ditto	L9	ditto *9	
Repeat alignments "① ~ ④" several times.							
⑤	SEPARATION (4)	(C)/(B)	95 MHz 1 kHz, 68.25 kHz Dev *7 60 dB *3 Selector: L or R	95 MHz IF BAND: NARROW	VR7	Minimum crosstalk from the other channel.	
⑥	AUTO BLEND	ditto	95 MHz 1 kHz, 68.25 kHz Dev *7 26 dB *3 Selector: L or R	ditto	VR2 (X13-2960)	Middle crosstalk from the other channel	⑫ ⑰

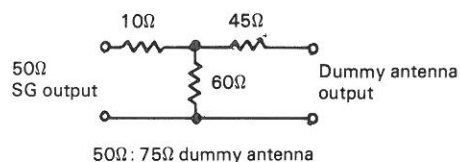


ADJUSTMENT

TEST INSTRUMENTS

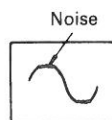
Oscilloscope	SCOPE
AM signal generator	AM-SG
FM signal generator	FM-SG
Audio frequency generator	AG
AC voltmeter	
FM multiplex generator	FM-MPX
Frequency counter	
DC voltmeter	
Distortion meter	
Dummy antenna	

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



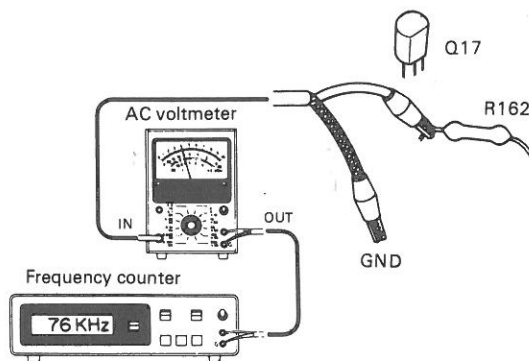
If an open-scaled SG is used, subtract 12 dB from the SG reading to obtain ANT input level. If a load-scaled SG (which indicates the output level when a 50Ω load is connected) is used, subtract 6 dB from the SG reading.

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



- *3. Tuner input level.
- *4. S-meter deflection: 4.8 scale graduations.
- *5. TUNER input to achieve a S-meter deflection of 3 scale graduations.
- *6. TUNER input obtained at Step 4.
- *7. Set deviation to ±68.25 kHz with selector in L + R position.
Set deviation of pilot signal to 6.75 kHz (9%).

*8

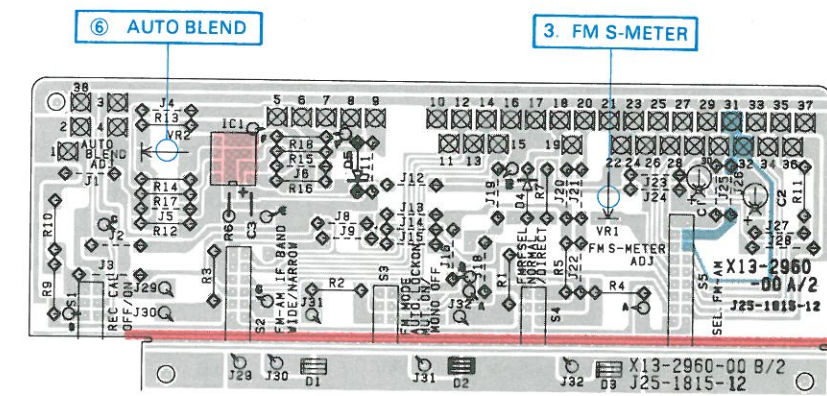
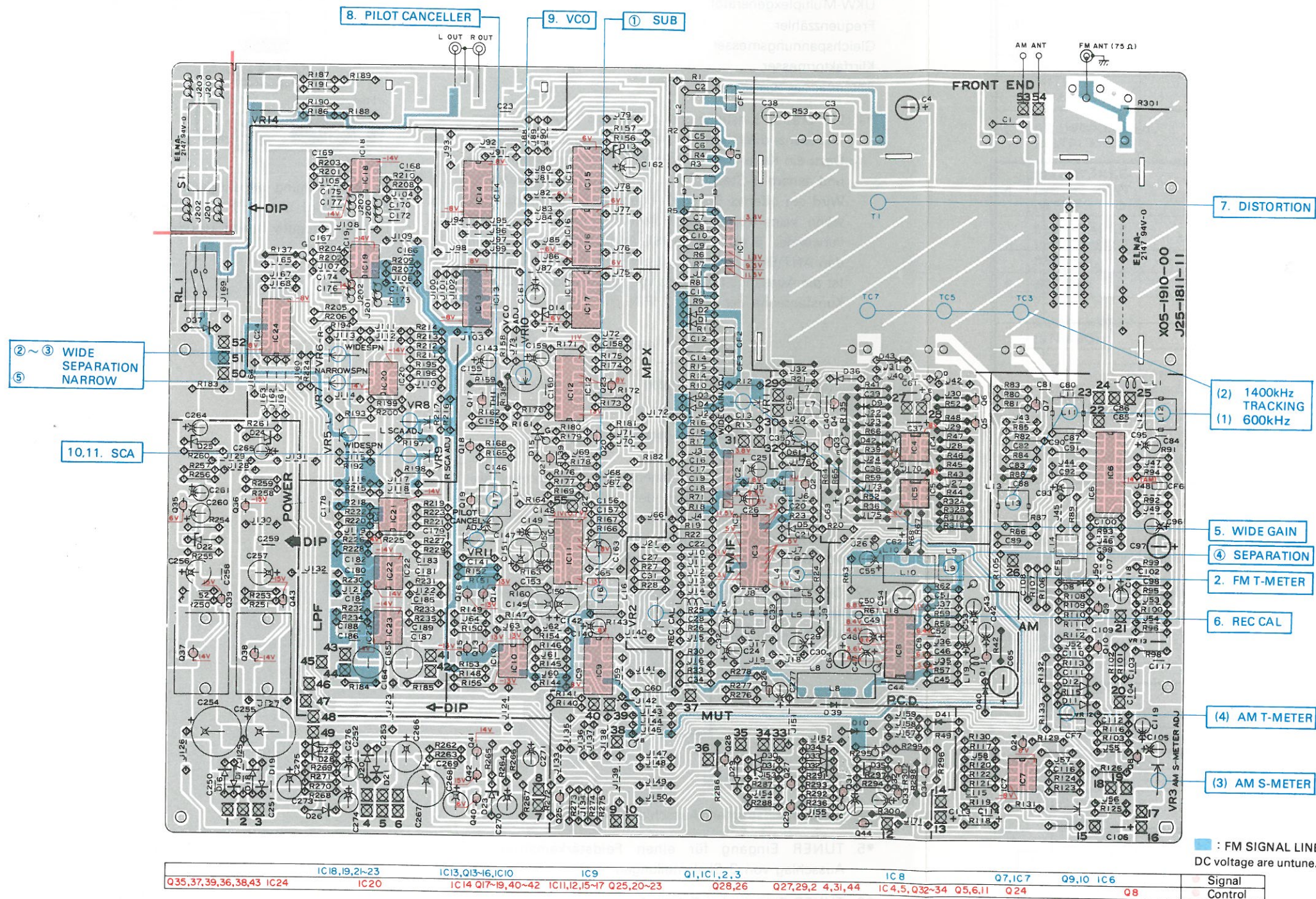


- *9. If sufficient separation cannot be obtained, turn L9 within ±5° (if they are turned too much, separation at 1 kHz will deteriorate).

PC BOARD

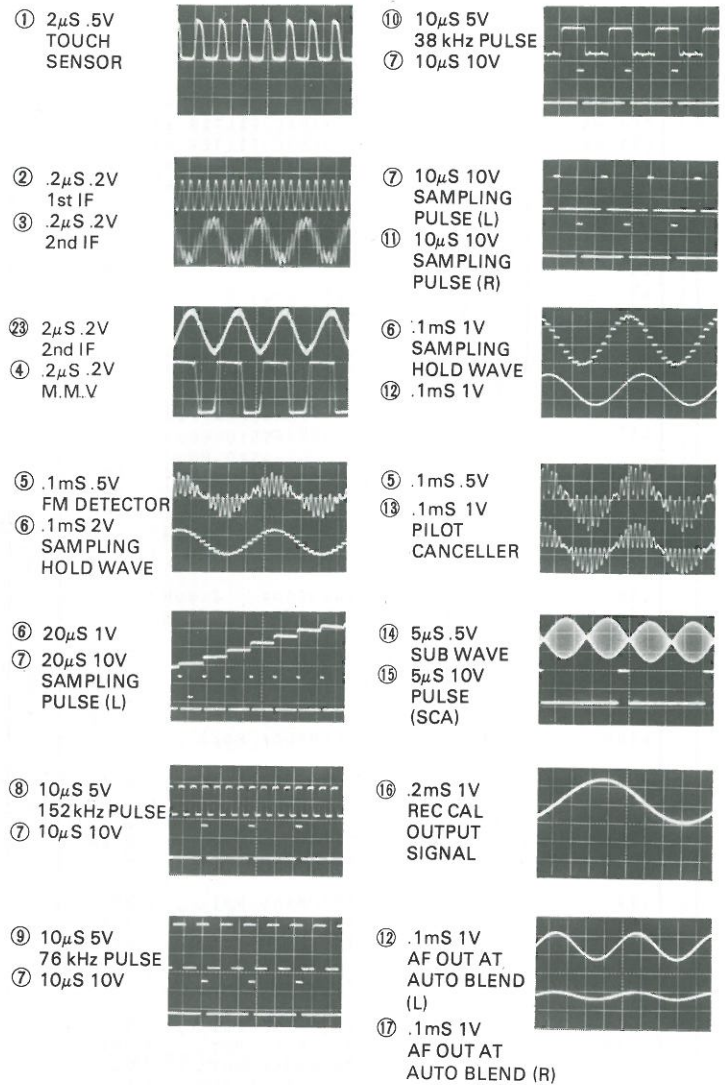
TUNER (X05-1910) Component side view
SWITCH (X13-2960) Component side view

Refer to the schematic diagram for the values of resistors and capacitors.



WAVEFORMS AT CHECK POINTS

- ① ~ ④, ⑫ : FM 95 MHz 0 (Dev) 60 dB (ANT input)
 ⑤ ~ ⑬ : FM 95 MHz 1.9 kHz (Mod) 68.25 kHz (Dev) 60 dB (ANT input)
 ⑭ ~ ⑰ : FM 95 MHz 1.9 kHz (Mod) 68.25 kHz (Dev) 26 dB (ANT input)



SUBSTITUTION LIST

Semiconductor Used	Substitutions
TC4066BP	μPD4066C
MB84002B	TC4002BP, μPD4002C
MB8401B	TC4071BP, μPD4071C
MB84013B	TC4013BP, μPD4013C
μPC4557C	NJM4558D, AN6552
2SC828A	2SC945, 2SC1685
2SA733(A)	2SA564A, 2SA1127NC
2SA850	2SA777 *
2SC1735	2SC1509 *
2SB514	2SB434
2SD330	2SD234
2SK105(H, J)	2SK68(M, N)
1S1555	1S2076
XZ-060	WZ-060
XZ-090	WZ-090

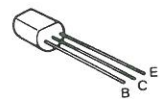
* CAUTION:

When using the substitution, make sure the transistor leads are inserted in the correct position.

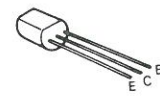
KENWOOD®

AM-FM STEREO TUNER

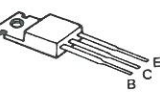
2SA850
2SC1735



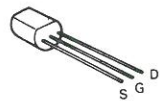
2SA733
2SC828A



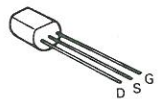
2SB514
2SD330



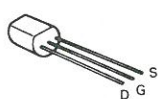
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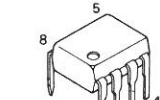
2SK61



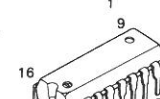
2SK105



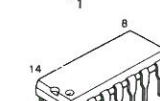
μPC4557C



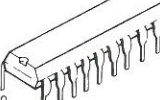
TR4011
HA11223W



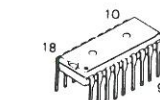
MB84066B
MB84002B
MB84013B
MB84071B
TC4066BP



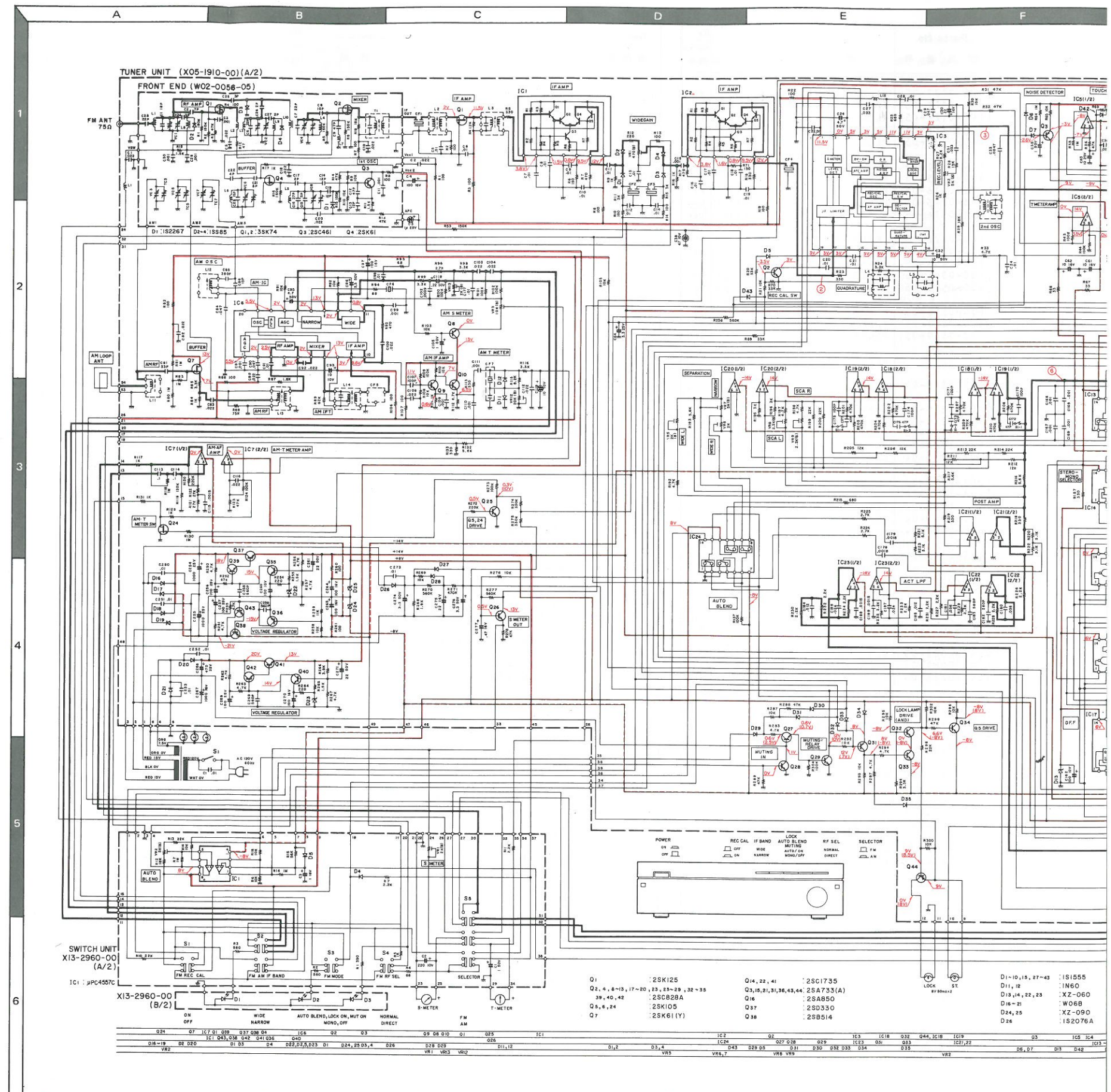
LA1245



TR7020



μPC1163H



AM-FM STEREO TUNER

KT-1000



SPECIFICATIONS

FM TUNER SECTION		
Usable Sensitivity	NORMAL 10.3 dBf (1.8 μV)	DIRECT 23.3 dBf (8.0 μV)
50 dB Quieting Sensitivity (Mono)	16.4 dBf (3.6 μV)	29.3 dBf (16 μV)
(Stereo)	37.3 dBf (40 μV)	49.5 dBf (166 μV)
Signal to Noise Ratio (Mono)	90 dB	
(Stereo)	85 dB	
Total Harmonic Distortion	WIDE	NARROW
Mono 100 Hz	0.03%	0.04%
1,000 Hz	0.03%	0.15%
6,000 Hz	0.05%	0.3%
15,000 Hz	0.04%	0.07%
50 - 10,000 Hz	0.08%	0.3%
Stereo 100 Hz	0.04%	0.3%
1,000 Hz	0.04%	0.3%
6,000 Hz	0.06%	0.3%
15,000 Hz	0.4%	1.0%
50 - 10,000 Hz	0.12%	0.6%
Capture Ratio	0.8 dB	2.0 dB
Alternate Channel Selectivity	45 dB	65 dB (300 kHz)
Stereo Separation		
1,000 Hz	60 dB	50 dB
50 - 10,000 Hz	47 dB	35 dB
15,000 Hz	40 dB	
Frequency Response	15 Hz to 15,000 Hz	
Spurious Response Ratio	±0.5 dB	
Image Response Ratio	120 dB	
IF Response Ratio	110 dB	
AM Suppression Ratio	70 dB	
Sub Carrier Product Ratio	73 dB	
Antenna Impedance	75 ohms unbalanced	
FM Frequency Range	88 MHz to 108 MHz	
Output Level 1,000 Hz 100% Mod.		
Fixed	0.75V, 2.2 kohms	
Variable	0 to 1.5V, 2.2 kohms	

AM TUNER SECTION

Usable Sensitivity	10 μV
Signal to Noise Ratio	52 dB
Total Harmonic Distortion	0.2%
Image Rejection	70 dB
Selectivity	30 dB (WIDE), 50 dB (NARROW)
Output Level 400 Hz 30% Mod.	
Fixed	0.25V, 2.2 kohms
Variable	0 to 0.5V, 2.2 kohms

GENERAL

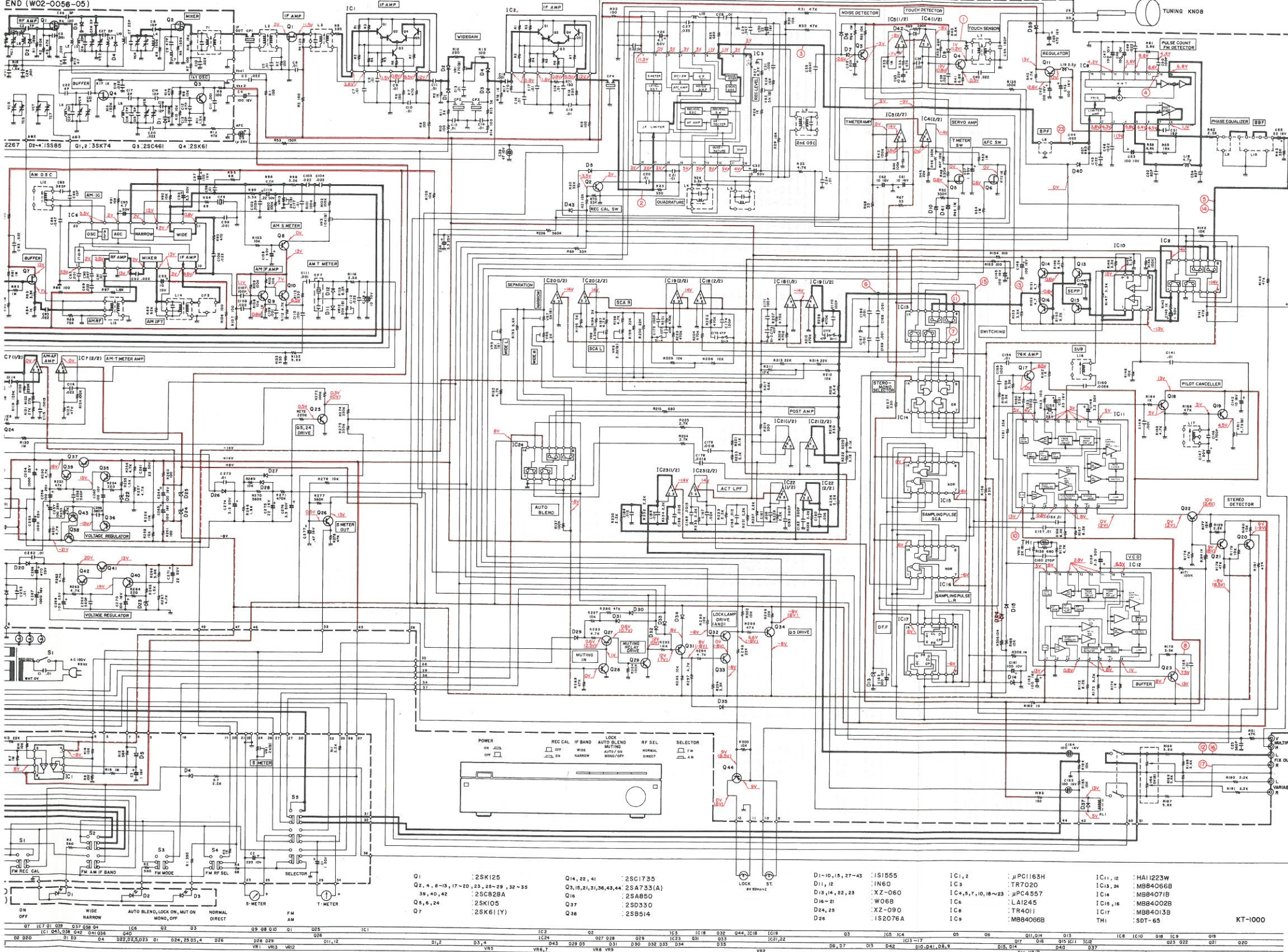
Power Requirements	60 Hz 120V (U.S.A. and Canada Model) or 50/60 Hz 110-120/220-240V switchable
Power Consumption	0.18A
Dimensions	W 440 mm (17-5/16") H 123 mm (4-7/32") D 388 mm (15-9/32")
Net weight	6.5 kg (14.3 lb)

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

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

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

(X05-1910-00) (A/2)
END (W02-0056-05)



DC voltages are measured by a VOM of 25 kΩ/V input impedance.

PARTS LIST

INSTRUCTION FOR PARTS LIST

Ref. No. 参照番号	Parts No. 部品番号	Description 部品名 / 規格	Re- marks 備考
②	18 1A	A01-0608-12 METALLIC CABINET	③
①	19 2A	A20-1979-11 FRONT PANEL ASSY	④
	19 2A	A20-1979-11 FRONT PANEL ASSY	PM
	19 2A	A20-1979-11 FRONT PANEL ASSY	SU
	19 2A	A20-1979-11 FRONT PANEL ASSY	XW
⑤	R221	R43-1333-15 FL-PROOF RD330 J 2H	⑥
	R222	R43-1368-15 FL-PROOF RD680 J 2H	
	VR1 ,2	R12-3301-05 TRIMMING POT, 20K(B)	
	VR3 ,4	R19-4305-05 POTENTIOMETER (OUTPUT)	
	VR5 ,6	R12-2302-05 TRIMMING POT, 5K(B)	

- ① Exploded view drawing No.
② Position in exploded view.
③ Symbol of new parts.
④ Area to which parts are shipped. Example: A20-1979-11 is the part No. of FRONT PANEL ASS'Y for the "K" type products (for U.S.A.). When this column is blank, it means that the same type of parts (same parts No.) are used for the products shipped to all areas.
⑤ Reference No. in schematic diagram.
⑥ Abbreviation of "Flame-proof carbon film resistor".
- All capacitors and resistors are listed using abbreviations.
Abbreviations:
* Abbreviations of capacitors (Parts No. with initial letter "C").
ELECTRO Electrolytic capacitor
LL-ELEC Low leak electrolytic capacitor
NP-ELEC Non-pole electrolytic capacitor
MICA Mica capacitor
POLYSTY Polystyrene capacitor
MYLAR Mylar capacitor
CERAMIC Ceramic capacitor
TANTAL Tantalum capacitor
MF Metallized film capacitor
MP Metallized paper capacitor
OIL Oil capacitor
The unit "UF" is used in lieu of "μF".
- * Abbreviations of resistors (Parts No. with initial letters "R").
RC Carbon composition resistor
RD Carbon film resistor
FL-PROOF RD Flame-proof carbon film resistor
RW Wire wound power resistor
FL-PROOF RS Flame-proof metal oxide film resistor
RN Metal film resistor
FUSE-RESIST Resistor with fuse function
2B Rated wattage 1/8W
2E Rated wattage 1/4W
2H Rated wattage 1/2W
3A Rated wattage 1W
3D Rated wattage 2W
3F Rated wattage 3W
3G Rated wattage 4W
3H Rated wattage 5W
All resistor values are indicated with the unit (Ω) omitted.
- * Abbreviations common to capacitors and resistors.
C ±0.25pF (Used for capacitors only)
D ±0.5pF (Used for capacitors only)
F ±1%
G ±2%
J ±5%
K ±10%
M ±20%
Z +80% - 20% (Used for capacitors only)
P +100% - 0% (Used for capacitors only)
Resistors RD (carbon composition resistors) are not listed in the parts list. For values, refer to the schematic diagram.
- * CODEs in X05-191.*-***
K: X05-1910-11 X: X05-1910-71
U: X05-1910-81 E: X05-1912-71

Ref. No. 参照番号	Parts No. 部品番号	Description 部品名 / 規格	Re- marks 備考
KT-1000 (UNIT)			
1 2A	-	SUB CHASSIS	
2 3B	-	METALLIC FRAME	
3 1B	-	REAR PANEL	
4 2B	-	REFLECTOR	
5 1A	-	BOTTOM PLATE	
6 3A	A20-1732-02	FRONT PANEL	*K
6 3A	A20-1732-02	FRONT PANEL	MH
6 3A	A20-1732-02	FRONT PANEL	UE
6 3A	A20-1732-02	FRONT PANEL	XE
6 3A	A20-1733-02	FRONT PANEL	*T
7 3B	-	SUB PANEL	
8 2B	A30-0186-03	DIAL BACK BOARD ASSY	*
9 2A	-	TERMINAL BOARD	*
10 2A	A50-0084-02	SIDE PLATE (L)	
11 3B	A50-0085-02	SIDE PLATE (R)	
12 1A	A52-0036-02	TOP PLATE	*
-	B41-0229-04	CAUTION LABEL	K
-	B42-0473-24	LABEL	PU
-	B42-0473-24	LABEL	MH
-	B42-0473-24	LABEL	UE
-	B42-0473-24	LABEL	XT
-	B42-0473-24	LABEL	E
-	B46-0055-30	WARRANTY CARD	P
-	B46-0060-00	WARRANTY CARD	T
-	B46-0061-30	WARRANTY CARD	K
-	B46-0062-30	WARRANTY CARD	UH
-	B46-0062-30	WARRANTY CARD	UE
-	B46-0063-13	WARRANTY CARD MILITARY	UH
-	B46-0063-13	WARRANTY CARD MILITARY	UE
-	B46-0064-20	WARRANTY CARD	X
-	B50-3258-00	INSTRUCTION MANUAL	*K
-	B50-3258-00	INSTRUCTION MANUAL	PU
-	B50-3258-00	INSTRUCTION MANUAL	MH
-	B50-3258-00	INSTRUCTION MANUAL	UE
-	B50-3258-00	INSTRUCTION MANUAL	X
-	B50-3259-00	INSTRUCTION MANUAL	*P
-	B50-3259-00	INSTRUCTION MANUAL	MX
-	B50-3260-00	INSTRUCTION MANUAL	*T
-	B50-3261-00	INSTRUCTION MANUAL	*E
-	B59-0018-00	INSTRUCTION PRINT	UH
-	B59-0018-00	INSTRUCTION PRINT	UE
13 3A	B07-0345-04	ESCUTCHEON (TUNING)	*
14 3B	B07-0350-04	ESCUTCHEON	*
15 3A	B10-0288-04	FRONT GLASS	*
17 3B	B20-0482-04	DIAL CALIBRATION	*
18 2B	B21-0046-14	DIAL POINTER	*
19 3A	B30-0261-05	LAMP 8V, 15A	*
20 2B	B30-0260-05	LAMP 8V, 05A	*
21 2B	B30-0127-05	LAMP 8V, 05A	*
22 2A	B31-0316-05	METER (S)	*
23 2A	B31-0317-05	METER (T)	*
C1	C91-0023-05	CERAMIC 0.01UF AC250V	UM
C1	C91-0023-05	CERAMIC 0.01UF AC250V	HX
C1	C91-0023-05	CERAMIC 0.01UF AC250V	UE
C1	C91-0079-05	CERAMIC 0.01UF AC125V	KP
C1	C91-0079-05	CERAMIC 0.01UF AC125V	TE
30 2A	D15-0073-14	PULLEY	
31 3B	D15-0174-05	PULLEY ASSY	
32 2A	D15-0176-03	PULLEY	
33 2B	D20-0158-03	DIAL SHAFT ASSY	*

PARTS LIST

Ref. No. 参照番号	Parts No. 部品番号	Description 部品名 / 規格	Re- marks 備考
IC6	V30-0519-10	LA1245	
IC7	V30-0273-20	UPC4557C	
IC8	V30-0509-10	TR4011	
IC9	V30-0516-10	MB84066B	
IC10	V30-0273-20	UPC4557C	
IC11,12	V30-0266-20	HA11223W	
IC13	V30-0516-10	MB84066B	
IC14	V30-0530-10	MB84071B	
IC15,16	V30-0528-10	MB84002B	
IC17	V30-0529-10	MB84013B	
IC18-23	V30-0273-20	UPC4557C	
IC24	V30-0516-10	MB84066B	
Q1	V09-0136-10	2SK125	
Q2	V03-0504-05	2SC828A	
Q3	V01-0733-90	2SA733(A)	
Q4	V03-0504-05	2SC828A	
Q5 ,6	V09-0127-40	2SK105(H,J)	
Q7	V09-0124-20	2SK61(Y)	
Q8 -11	V03-0504-05	2SC828A	
Q13	V03-0504-05	2SC828A	
Q14	V03-0452-05	2SC1735	
Q15	V01-0733-90	2SA733(A)	
Q16	V01-0173-05	2SA850	
Q17 -20	V03-0504-05	2SC828A	
Q21	V01-0733-90	2SA733(A)	
Q22	V03-0452-05	2SC1735	
Q23	V03-0504-05	2SC828A	
Q24	V09-0127-40	2SK105(H,J)	
Q25 -29	V03-0504-05	2SC828A	
Q31	V01-0733-90	2SA733(A)	
Q31	V01-0733-90	2SA733(A)	
Q32 -35	V03-0504-05	2SC828A	
Q36	V01-0733-90	2SA733(A)	
Q37	V04-0330-00	2SD330	
Q38	V02-0514-20	2SB514(E,F)	
Q39 ,40	V03-0504-05	2SC828A	
Q41	V03-0452-05	2SC1735	
Q42	V03-0504-05	2SC828A	
Q44	V01-0733-90	2SA733(A)	
TH1	V22-0006-05	SDT-65	
-	W02-0056-05	FM FRONT END	*
SWITCH (X13-2960-00)			
D1 -3	B30-0264-05	LAMP(LED)	*
D4 ,5	V11-0076-05	1S1555	
IC1	V30-0273-20	UPC4557C	
C1	C24-1710-57	ELECTRO 1UF 50WV	
C2	C24-1022-71	ELECTRO 220UF 10WV	
C3	C24-1710-57	ELECTRO 1UF 50WV	
VR1	R12-1303-05	TRIMMING POT. 2K	
VR2	R12-2302-05	TRIMMING POT. 5K	
S1 -5	S42-5022-05	PUSH SWITCH	*
FRONTEND (W02-0056-00)			
D1	V11-2200-30	1S2267	
D2 -4	V11-7702-00	1SS85	
Q1 ,2	V09-1002-56	3SK74	
Q3	V03-0461-20	2SC461	
Q4	V09-0124-20	2SK61	
	E05-0127-05	PL44	

PARTS LIST

Ref. No. 参照番号	Parts No. 部品番号	Description 部品名 / 規格	Re- marks 備考
-	E05-0127-05	PLUG	KP
-	E05-0127-05	PLUG	UM
-	E05-0127-05	PLUG	H
-	E05-0127-05	PLUG	UE
-	E05-0127-05	PLUG	XT
-	E19-0211-05	PLUG	E
-	E30-0505-05	AUDIO CORD	
34 1B	E13-0116-05	PHONO JACK (AM IF OUT)	KP
34 1B	E13-0116-05	PHONO JACK (AM IF OUT)	UH
34 1B	E13-0116-05	PHONO JACK (AM IF OUT)	UE
35 1B	E20-0228-05	TERMINAL BOARD	*
36 1B	E30-0181-05	POWER CORD	KP
36 1B	E30-0459-05	POWER CORD	E
36 1B	E30-0545-05	POWER CORD	UM
36 1B	E30-0545-05	POWER CORD	H
36 1B	E30-0545-05	POWER CORD	UE
36 1B	E30-0587-05	POWER CORD	T
36 1B	E30-0649-05	POWER CORD	X
37 2B		SLIDER	
38 2B	G01-0368-04	COILED SPRING	
-	H01-3219-04	CARTON BOX	UM
-	H01-3219-04	CARTON BOX	HX
-	H01-3219-04	CARTON BOX	UE
-	H01-3220-04	CARTON BOX	P
-	H01-3221-04	CARTON BOX	E
-	H01-3259-04	CARTON BOX	K
-	H01-3274-04	CARTON BOX	T
-	H10-1562-02	POLYSTYRENE FIXTURE	
-	H20-0453-04	COVER	
-	H25-0078-04	BAG	
-	H25-0096-04	BAG	
39 1B	J19-0564-05	HOLDER	
40 2B		MOUNTING HARDWARE	
41 1B	J42-0083-05	BUSHING (POWER CORD)	KP
41 1B	J42-0083-05	BUSHING (POWER CORD)	UM
41 1B	J42-0083-05	BUSHING (POWER CORD)	H
41 1B	J42-0083-05	BUSHING (POWER CORD)	UE
41 1B	J42-0083-05	BUSHING (POWER CORD)	TE
41 1B	J42-0085-05	BUSHING (POWER CORD)	X
42 2B		RAIL	
43 3A	K21-0390-04	KNCB (TUNING)	*
44 1B	K23-0351-04	KNCB (LEVEL)	
45 3A	K27-0189-04	KNOB (POWER)	*
46 3A	K27-0193-04	KNCB (SELECTOR)	*
47 2A	L01-2201-05	POWER TRANSFORMER	*K
47 2A	L01-2201-05	POWER TRANSFORMER	P
47 2A	L01-2202-05	POWER TRANSFORMER	*T
47 2A	L01-2204-05	POWER TRANSFORMER	*U
47 2A	L01-2204-05	POWER TRANSFORMER	MH
47 2A	L01-2204-05	POWER TRANSFORMER	UE
47 2A	L01-2204-05	POWER TRANSFORMER	X
47 2A	L01-2207-05	POWER TRANSFORMER	*E
48 3A	N14-0127-04	NUT	*
49 2A	J42-0092-04	BUSHING	*
S1	S40-1022-05	PUSH SWITCH	UM
S1	S40-1022-05	PUSH SWITCH	HX
S1	S40-1022-05	PUSH SWITCH	UE
S1	S40-1024-05	PUSH SWITCH	KP
S1	S40-1025-05	PUSH SWITCH	TE

Ref. No. 参照番号	Parts No. 部品番号	Description 部品名 / 規格	Re- marks 備考
S2	S31-2053-05	SLIDE SWITCH	UM
S2	S31-2053-05	SLIDE SWITCH	H
S2	S31-2053-05	SLIDE SWITCH	UE
S2	S31-2053-05	SLIDE SWITCH	XE
-	T90-0101-05	ANTENNA ADAPTER	
-	T90-0202-05	ANTENNA FM INDOOR	
50 1B	T90-0111-05	ANTENNA AM LOOP	
S1 2B	X05-1910-11	TUNER PCB ASSY	*K
S1 2B	X05-1910-11	TUNER PCB ASSY	P
S1 2B	X05-1910-71	TUNER PCB ASSY	*X
S1 2B	X05-1910-81	TUNER PCB ASSY	*U
S1 2B	X05-1910-81	TUNER PCB ASSY	MH
S1 2B	X05-1910-81	TUNER PCB ASSY	UE
S1 2B	X05-1912-71	TUNER PCB ASSY	*T
S1 2B	X05-1912-71	TUNER PCB ASSY	E
S2 3B	X13-2960-00	SWITCH PCB ASSY	
TUNER (X05-191*-**)			
C1 #2	C91-0085-05	CERAMIC 0.022UF N	
C3	C26-1410-57	NP-ELEC 1UF 25wV	
C4	C25-1210-77	LL-ELEC 100UF 16wV	
C5 -14	C91-0083-05	CERAMIC 0.01UF N	
C15	C52-1710-26	CERAMIC 0.001UF K	
C16 -22	C91-0083-05	CERAMIC 0.01UF N	
C24	C25-1710-57	LL-ELEC 1UF 50wV	
C25	C52-1756-16	CERAMIC 560PF K	
C26	C25-1210-67	LL-ELEC 10UF 16wV	
C27	C91-0085-05	CERAMIC 0.022UF N	
C28	C91-0083-05	CERAMIC 0.01UF N	
C29	C55-1747-38	CERAMIC 0.047UF Z	
C30	C24-1222-67	ELECTRO 22UF 16wV	
C31	C91-0085-05	CERAMIC 0.022UF N	
C32	C25-1210-67	LL-ELEC 10UF 16wV	
C34	C91-0083-05	CERAMIC 0.01UF N	
C35	C25-1710-47	LL-ELEC 0.1UF 50wV	
C36	C91-0085-05	CERAMIC 0.022UF N	
C37	C25-1710-57	LL-ELEC 1UF 50wV	
C38	C26-1447-67	NP-ELEC 47UF 25wV	
C39	C91-0085-05	CERAMIC 0.022UF N	
C40	C91-0141-05	CERAMIC 0.047UF M	
C42 #43	C25-1210-77	LL-ELEC 100UF 16wV	
C44	C91-0085-05	CERAMIC 0.022UF N	
C47 #48	C24-1010-79	ELECTRO 100UF 10wV	
C49	C91-0140-05	CERAMIC 0.022UF M	
C50	C58-1710-15	CERAMIC 100PF J	
C51	C71-1715-06	CERAMIC 15PF J	
C52	C71-1782-05	CERAMIC 82PF J	
C53	C24-1010-79	ELECTRO 100UF 10wV	
C54	C71-1782-05	CERAMIC 82PF J	
C55	C24-1222-67	ELECTRO 22UF 16wV	
C56	C71-1718-16	CERAMIC 180PF K	
C61 #62	C25-1210-67	LL-ELEC 10UF 16wV	
C63	C25-1410-67	LL-ELEC 10UF 25wV	
C64	C25-1733-57	LL-ELEC 3.3UF 50wV	
C65	C24-1247-71	ELECTRO 470UF 16wV	
C81	C71-1733-06	CERAMIC 33PF K	
C84	C55-1747-38	CERAMIC 0.047UF Z	
C85	C48-1736-15	POLYSTY 360PF J	
C86	C71-1703-01	CERAMIC 3PF C	
C87	C52-1710-26	CERAMIC 0.001UF K	
C90	C55-1747-38	CERAMIC 0.047UF Z	
C93	C25-1210-67	LL-ELEC 10UF 16wV	
C95	C25-1747-57	LL-ELEC 4.7UF 50wV	

PARTS LIST

Ref. No. 参照番号	Parts No. 部品番号	Description 部品名 / 規格	Re- marks 備考
C96	C25-1733-57	LL-ELEC 3.3UF 50wv	
C97	C25-1210-77	LL-ELEC 100UF 16wv	
C99	C52-1710-26	CERAMIC 0.001UF K	
C102	C46-1739-25	MYLAR 0.0039UF J	
C103,104	C46-1722-35	MYLAR 0.022UF J	
C105	C25-1710-57	LL-ELEC 1UF 50wv	
C107	C71-1710-15	CERAMIC 100PF J	
C109	C46-1710-25	MYLAR 0.001UF J	
C111	C52-1710-26	CERAMIC 0.001UF K	
C113,114	C25-1710-47	LL-ELEC 0.1UF 50wv	
C115	C46-1715-25	MYLAR 0.0015UF J	
C117	C46-1710-35	MYLAR 0.01UF J	
C119	C26-1010-67	NP-ELEC 10UF 10wv	
C140	C25-1710-47	LL-ELEC 0.1UF 50wv	
C141	C91-0083-05	CERAMIC 0.01UF N	
C142	C25-1210-77	LL-ELEC 100UF 16wv	
C143	C25-1210-67	LL-ELEC 10UF 16wv	
C145	C25-1210-77	LL-ELEC 100UF 16wv	
C146	C47-1747-25	POLYSTY 4700PF J	
C147	C25-1710-57	LL-ELEC 1UF 50wv	
C148	C46-1710-25	MYLAR 0.001UF J	
C149	C25-1733-57	LL-ELEC 3.3UF 50wv	
C150	C46-1782-25	MYLAR 0.0082UF J	
C151	C25-1233-67	LL-ELEC 33UF 16wv	
C152	C25-1722-57	LL-ELEC 2.2UF 50wv	
C153	C46-1722-25	MYLAR 0.0022UF J	
C154	C91-0083-05	CERAMIC 0.01UF N	
C155	C71-1710-15	CERAMIC 100PF J	
C156-158	C91-0083-05	CERAMIC 0.01UF N	
C159	C25-1733-57	LL-ELEC 3.3UF 50wv	
C160	C48-1727-15	POLYSTY 270PF J	
C161,162	C24-1010-79	ELECTRO 100UF 10wv	
C163	C25-1210-77	LL-ELEC 100UF 16wv	
C164,165	C26-1210-77	NP-ELEC 100UF 16wv	
C166-169	C46-1710-25	MYLAR 0.001UF J	
C170,171	C91-0185-05	POLYSTY 100PF G	KU
C172,173	C91-0184-05	POLYSTY 47PF G	
C174,175	C91-0185-05	POLYSTY 100PF G	
C176,177	C91-0184-05	POLYSTY 47PF G	KU
C178,179	C46-1718-25	MYLAR 0.0018UF J	
C180,181	C46-1736-35	MYLAR 0.036UF J	
C182,183	C47-1756-15	POLYSTY 560PF J	
C184,185	C46-1712-35	MYLAR 0.012UF J	
C186,187	C46-1724-35	MYLAR 0.024UF J	
C188,189	C46-1715-25	MYLAR 0.0015UF J	
C250-253	C55-1710-38	CERAMIC 0.01UF Z	
C254,255	C24-1410-81	ELECTRO 1000UF 25wv	
C256,257	C24-1410-71	ELECTRO 100UF 25wv	
C258,259	C52-1756-16	CERAMIC 560PF K	
C260	C24-1010-79	ELECTRO 100UF 10wv	
C261	C24-1222-67	ELECTRO 22UF 16wv	
C264,265	C24-1010-79	ELECTRO 100UF 10wv	
C267	C24-1210-81	ELECTRO 1000UF 16wv	
C268	C24-1410-71	ELECTRO 100UF 25wv	
C269	C52-1756-16	CERAMIC 560PF K	
C270	C24-1010-79	ELECTRO 100UF 10wv	
C273	C55-1710-38	CERAMIC 0.01UF Z	
C274	C25-1733-57	LL-ELEC 3.3UF 50wv	
C275	C24-1222-67	ELECTRO 22UF 16wv	
C276	C25-1733-57	LL-ELEC 3.3UF 50wv	
C277	C25-1747-47	LL-ELEC 0.47UF 50wv	
-	E13-0615-05	PHONE JACK (6P)	
100	E04-0005-05	RECEPTACLE	
CF1 -4	L79-0130-05	CERAMIC FILTER KIT FM	KU
CF1 -4	L79-0130-05	CERAMIC FILTER KIT FM	X
CF1 -4	L79-0134-05	CERAMIC FILTER KIT FM	E
CF5 -7	L79-0138-05	CERAMIC FILTER KIT AM	
L1	L40-2292-11	INDUCTOR 2.2UH	
L2	L30-0319-05	IFT FM	
L3	L30-0318-05	IFT FM	
L4	L30-0361-05	IFT FM	
L5	L39-0089-05	COIL	
L6	L32-0252-05	OSCILLATING COIL FM	
L7	L32-0242-05	OSCILLATING COIL LW	
L8	L79-0120-05	FILTER (BPF)	
L9	L79-0139-05	FILTER	
L10	L79-0125-05	FILTER (BBF)	
L11	L31-0463-05	RF COIL AM	
L12	L32-0254-05	OSCILLATING COIL AM	
L13	L31-0464-15	RF COIL AM	
L14	L30-0337-05	IFT AM	
L15	L40-2292-11	INDUCTOR 2.2UH	
L16,17	L35-0059-05	MPX COIL	
L18	L40-2292-11	INDUCTOR 2.2UH	
L19	L40-4721-28	INDUCTOR 4.7UH	
R61	R49-6239-23	RN 3.9K F 2E	
R67,68	R43-1233-05	FL-PROOF RD33 J 2E	
R151,152	R43-1247-95	FL-PROOF RD4.7 J 2E	
R156,157	R43-1233-15	FL-PROOF RD330 J 2E	
R182	R43-1222-05	FL-PROOF RD22 J 2E	
R183	R43-1215-15	FL-PROOF RD150 J 2E	
R207-210	R48-6247-33	RN 47 J 2E	
R260,261	R43-1210-15	FL-PROOF RD100 J 2E	
R301	R40-8318-58	RC 1.8M M 2H	
VR1	R12-0302-05	TRIMMING POT, 500	
VR2	R12-2302-05	TRIMMING POT, 5K	
VR3	R12-3302-05	TRIMMING POT, 10K	
VR5	R12-1303-05	TRIMMING POT, 2K	
VR6,7	R12-2302-05	TRIMMING POT, 5K	
VR8 -10	R12-1303-05	TRIMMING POT, 2K	
VR11	R12-2302-05	TRIMMING POT, 5K	
VR12	R12-3060-05	TRIMMING POT, 20K	
VR13	R12-1050-05	TRIMMING POT, 2K	
VR14	R06-2012-05	POTENTIOMETER 5K(B)	
RL1	S51-2037-05	RELAY	
S1	S31-4011-05	SLIDE SWITCH	KU
D1 -5	V11-0076-05	1S1555	
D7	V11-0076-05	1S1555	
D9	V11-0076-05	1S1555	
D10	V11-0076-05	1S1555	
D11,12	V11-0051-05	1N60	
D13,14	V11-4101-20	XZ-060	
D15	V11-0076-05	1S1555	
D16 -21	V11-0295-05	W06B	
D22,23	V11-4101-20	XZ-060	
D24,25	V11-4167-06	XZ-090	
D26	V11-0273-05	1S2076A	
D27 -43	V11-0076-05	1S1555	
IC1,2	V30-0513-10	UPC1163H	
IC3	V30-0510-10	TR7020	
IC4,5	V30-0273-20	UPC4557C	