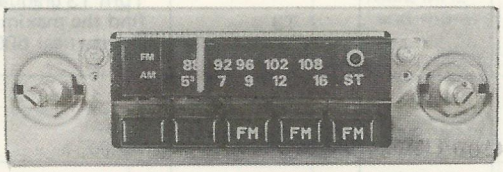
MITSUBISHI

SERVICE MANUAL

AM/FM·STEREO CAR RADIO (WITH FADER CONTROL)

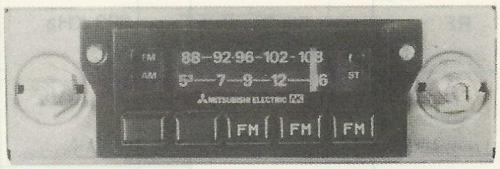
MODEL : AR-8779SE-K

PART No. : MB 141600



MODEL : AR-8779SUB-K, AR-8779SU-K

PART No. : MB 141601, MB 141602



1. SPECIFICATIONS

Circuit System:
Superheterodyne with RF amplifier

Tuning Range:
FM 88 – 108 MHz
AM 525 – 1615 KHz

IntermediaterFrequency:
FM 10.7 MHz
AM 262.5 KHz

Power Output:
Undistorted 4.0Wx2 (400Hz, 30% Modulation, THD 10%)

Output impedance:
4Ω x 4

Power Source:
11.0 V ~ 16.0 V Negative ground only

Current Consumption:
0.15 ~ 0.7 A at 13.2 V

IC: 7

Transistors: 4

Diodes: 8

Shaft Distance:
130 mm ($5\frac{1}{8}$ ")

Size:
W 160 mm ($6\frac{19}{64}$ ") H 52 mm ($2\frac{3}{64}$ ")
D 125 mm ($4\frac{59}{64}$ ")

Weights:
1.2 kg (2.7 lbs)

Antenna and Tuner:

Item \ Model	AR-8779 SU-K SE-K	AR-8779SUB-K
Antenna Type	Pole	Trank lid
Tuning Capacitance	80PF	485PF

MITSUBISHI ELECTRIC AUSTRALIA PTY. LTD.
73-75 EPPING ROAD NORTH RYDE N.S.W.2113 SYDNEY AUSTRALIA

2. ALIGNMENT PROCEDURES

1) AM (IF, RF) Alignment (Power Source Voltage DC 13.2V, Set AM/FM Selector in AM)

Procedures	Item	Signal generator connection	Signal generator frequency	Radio dial setting	Indicator connection	Adjust	Remarks
1	IF	Fig. 1	262.5 KHz (400 Hz Mod.)	High freq. end stop	Fig.2	T1	Set T1 CCW
2						T2, T4	Try to get the maximum voltage and equalize the degree of diminution near ± 3 KHz
3						T1	Adjust T1 as shown in Fig. 4
4	RF	Fig.3	1630 KHz	High freq. end stop	"	VC3	Tune in
5			1400 KHz	1400 KHz	"	VC1, VC2	Adjust VC1, VC2 and get the maximum voltage of the output.
6			600 KHz	600 KHz	"	T3	Turn T3 gradually and find the maximum sensitivity near 600 KHz.
7					"	Repeat procedures 5–6	
8				Low freq. end stop	"		Check the range of the frequency of the received wave. This is the end of the adjustment.

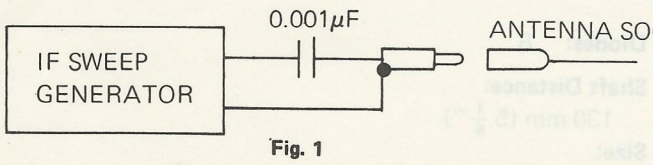


Fig. 1

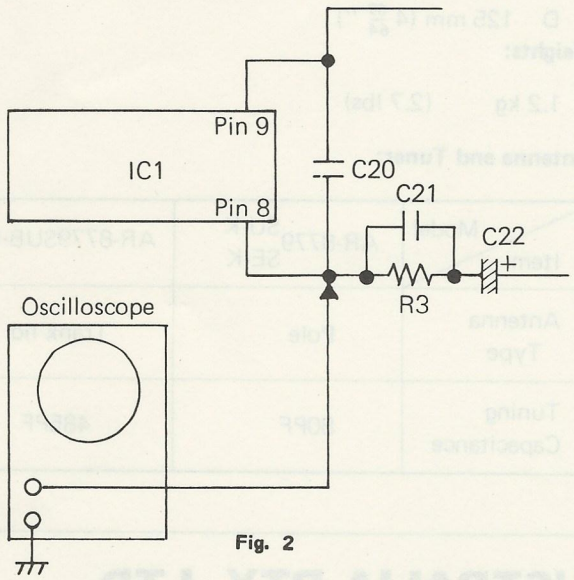


Fig. 2

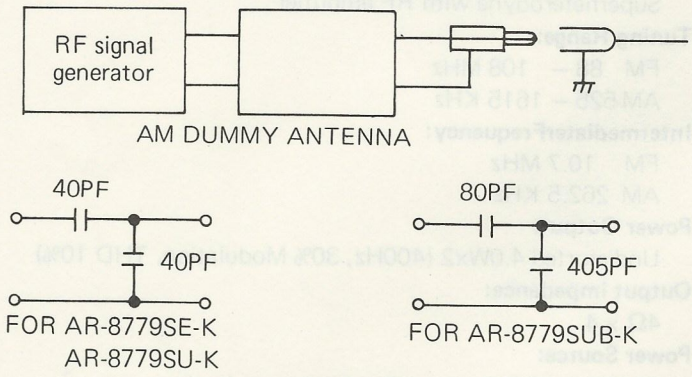


Fig. 3

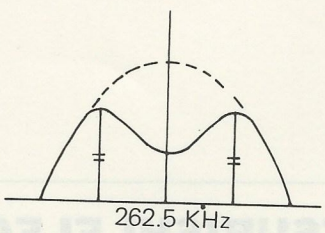


Fig. 4

2) FM (IF, RF) Alignment (Power Source Voltage DC 13.2V Set AM/FM Selector in FM)

Procedures	Item	Signal generator connection	Signal generator setting	Radio dial setting	Indicator connection	Adjust	Remarks
1	IF (U-curve)	Fig. 1	10.7 MHz { 30 ~ 40dB (μV) out put }	98 MHz	Connect Scope to IC 152 (PIN13)	T 102	Maximum wave.
2	RF	Fig. 2	98 MHz { 400Hz 30% Modulation }	"	Fig. 2	VC103	Tune in
3			87.8 MHz and less	Low -edge		———	Check the range of the frequency of the received wave.
4			108.2 MHz and more	High -edge		———	
5			98 MHz { 10 ~ 20dB (μV) out put }	98 MHz		VC101 VC102	Maximum out put
6			88 MHz	88 MHz		———	Check the tracking
7			98 MHz	98 MHz		———	
8			108 MHz	108 MHz		VC102 { In case of mistracking }	
9	S-curve		Minimum out put		Fig. 3	T151	0 ± 80 mV (DC Volt meter)
10			≒ 98 MHz { 400Hz, 100% Modulation 68 dB (μV) out put }	98 MHz		SG. (Frequency)	0 ± 80 mV (DC Voltmeter)
11				"	Fig. 2	T152	Minimum distortion at IW Output (Distortion meter)
12						Repeat procedures 9 ~ 11.	

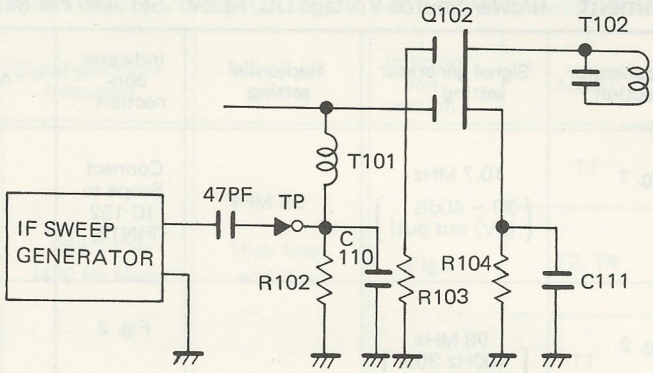


Fig 1

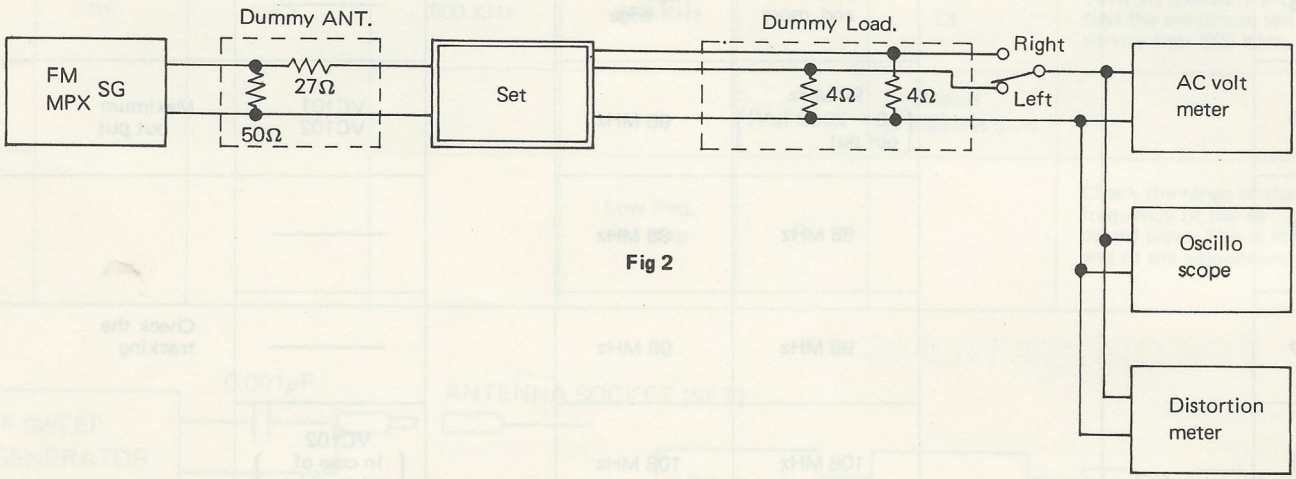


Fig 2

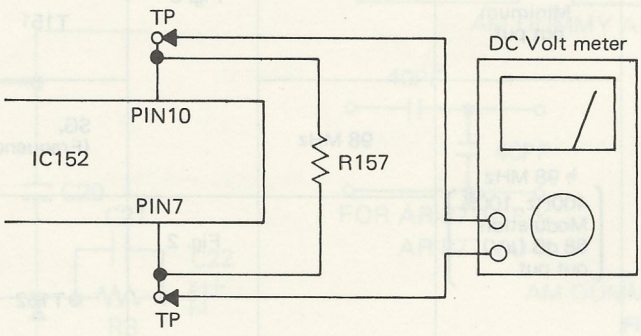


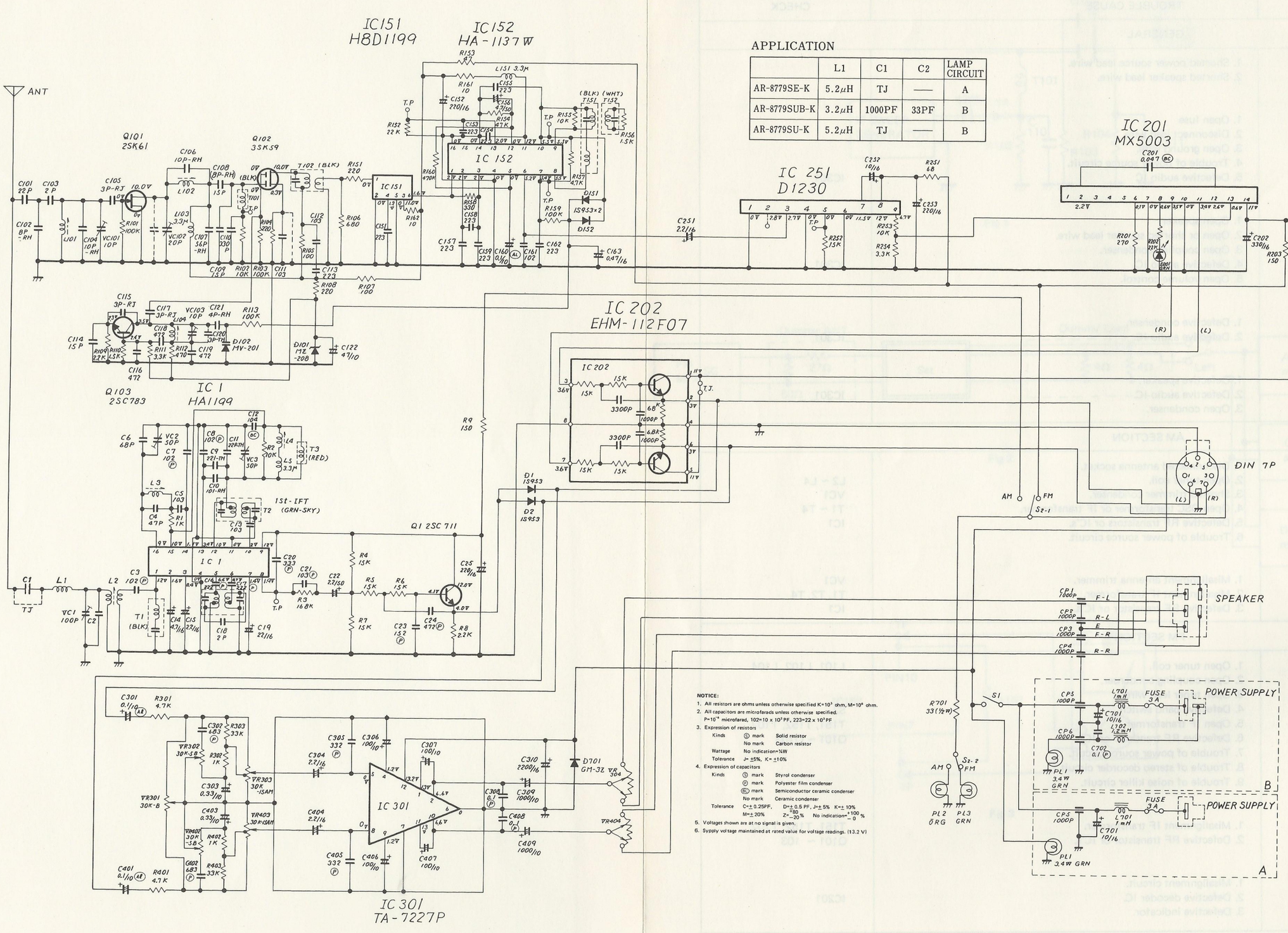
Fig 3

3. TROUBLESHOOTING

TROUBLE	TROUBLE CAUSE	CHECK
	GENERAL	
Blown Fuse	1. Shorted power source lead wire. 2. Shorted speaker lead wire.	
No Sound	1. Open fuse 2. Disconnect lead wire. 3. Open ground wire. 4. Trouble of power source circuit. 5. Defective audio IC	 IC301
No Sound at one Channel	1. Open speaker. 2. Open or shorted speaker lead wire. 3. Open coupling condenser. 4. Defective audio IC. 5. Open volume control.	 IC301
Low Sound	1. Defective condenser. 2. Defective audio IC.	 IC301
Distortion	1. Defective speaker. 2. Defective audio IC. 3. Open condenser.	 IC301
	AM SECTION	
No Reception	1. Disconnected antenna socket. 2. Open tuner coil. 3. Shorted trimmer condenser. 4. Open OSC transformer or IF transformer. 5. Defective RF transistors or IC's. 6. Trouble of power source circuit.	 L2 ~ L4 VC1 T1 ~ T4 IC1
Poor Reception	1. Misalignment antenna trimmer. 2. Misalignment IF transformer. 3. Defective RF transistor or IC's.	VC1 T1, T2, T4 IC1
	FM SECTION	
No Reception	1. Open tuner coil. 2. Open coupling condenser. 3. Open tuner lead wire. 4. Defective band switch. 5. Open IF transformer. 6. Defective RF transistor or IC's. 7. Trouble of power source circuit. 8. Trouble of stereo decorder circuit. 9. Trouble of noise killer circuit.	L101, L102, L104 S2 T151, T152, T102 Q101 ~ Q103
Poor Reception	1. Misalignment IF transformer. 2. Defective RF transistor or IC's.	T151, T152, T102 Q101 ~ 103
No Stereo Reception	1. Misalignment circuit. 2. Defective decoder IC. 3. Defective indicator.	 IC201

SCHEMATIC DIAGRAM

MODEL : AR-8779SE-K, SUB-K, SU-K



APPLICATION

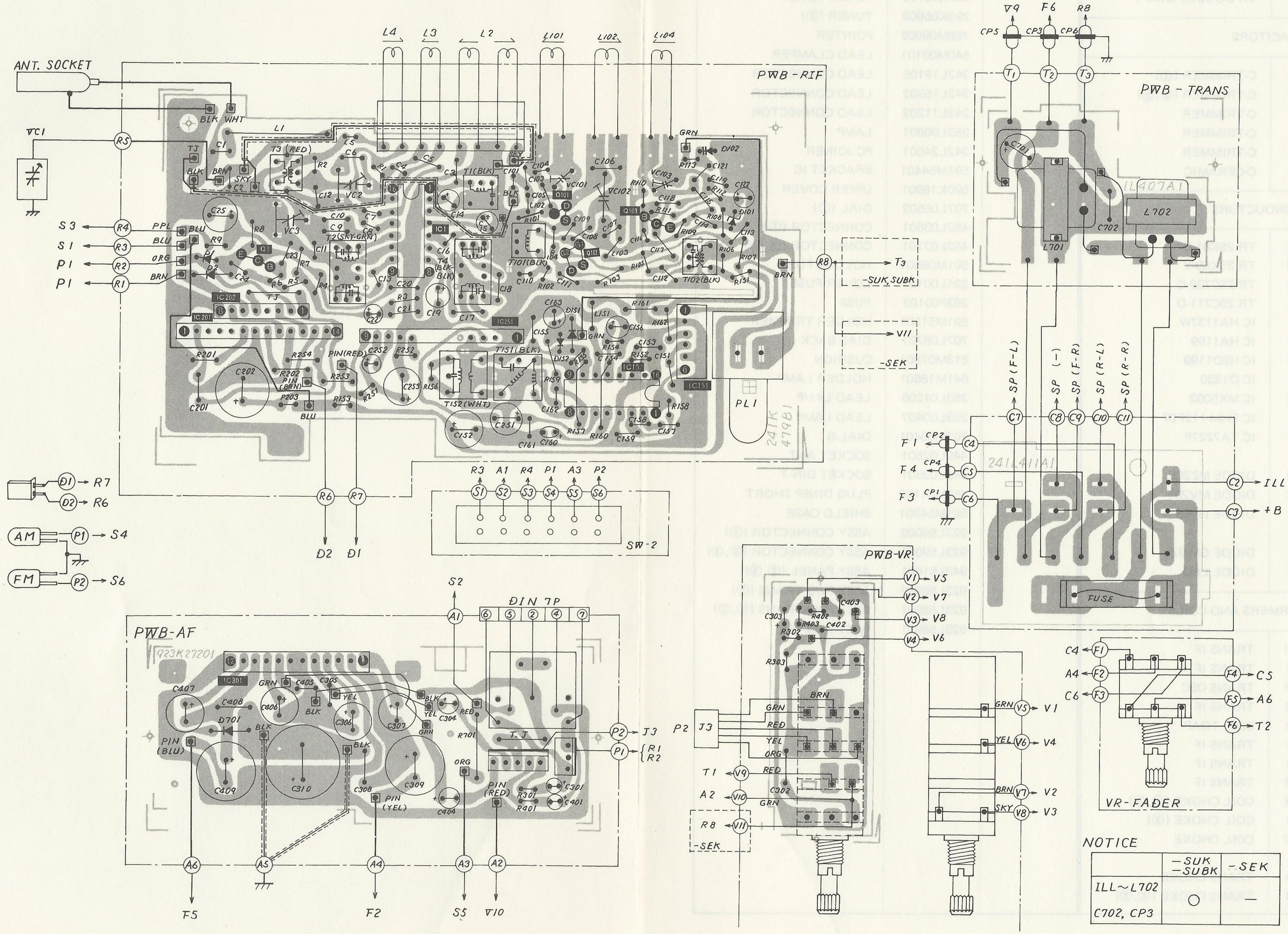
	L1	C1	C2	LAMP CIRCUIT
AR-8779SE-K	5.2μH	TJ	——	A
AR-8779SUB-K	3.2μH	1000PF	33PF	B
AR-8779SU-K	5.2μH	TJ	——	B

NOTICE:

1. All resistors are ohms unless otherwise specified K=10^3 ohm, M=10^6 ohm.
2. All capacitors are microfarads unless otherwise specified.
   P=10^{-6} microfarad, 102=10 x 10^3PF, 223=22 x 10^3PF
3. Expression of resistors
   - Kinds: Ⓒ mark Solid resistor; No mark Carbon resistor
   - Wattage: No indication=¼W
   - Tolerance: J=±5%, K=±10%
4. Expression of capacitors
   - Kinds: Ⓒ mark Styrol condenser; Ⓟ mark Polyester film condenser; Ⓒc mark Semiconductor ceramic condenser; No mark Ceramic condenser
   - Tolerance: C=±0.25PF, D=±0.5 PF, J=±5% K=±10% M=±20% Z=$^{+80}_{-20}$% No indication=$^{+100}_{-0}$ %
5. Voltages shown are at no signal is given.
6. Sypply voltage maintained at rated value for voltage readings. (13.2 V)

PRINTED CIRCUIT BOARD AND WIRING DIAGRAM (Printed Side)

MODEL : AR-8779SE-K, SUB-K, SU-K



PARTS LIST

AR-8779SE-K, SUB-K, SU-K

Notice
① = –SE-K
② = –SUB-K
③ = –SU-K

Ref. No.	Part No.	Desciption
	RESISTORS	
	122L06204	VR DOUBLE SHAFT
	CAPACITORS	
VC1	202P10608	C-TRIMMER (①)
VC1	202P10609	C-TRIMMER (②,③)
VC2, VC3	202P10401	C-TRIMMER
VC101, 103	202L00301	C-TRIMMER
VC102	202P10702	C-TRIMMER
	141P02001	C-CERAMIC
	SEMICONDUCTORS	
Q101	260P23702	TR 2SK61-O
Q102	260P238A1	TR 3SK59-Y
Q103	260P05403	TR 2SC738-C
Q1	260P17503	TR 2SC711-D
IC152	266P32801	IC HA1137W
IC1	266P33301	IC HA1199
IC151	267P30206	IC H8D1199
IC251	267P71001	IC D1230
IC201	267P70702	IC MX5003
IC202	267P71101	IC EHM-112F07
IC301	266P34001	IC TA7227P
D101	264P02502	DIODE MZ208
D102	264P05502	DIODE MV201
D1, D2, D151, D152	264P11701	DIODE IS953
D701	264P13201	DIODE GM-3Z
	264P19801	DIODE LED
	TRANSFORMERS AND COILS	
T1	374M00401	TRANS IF
T2	374L00901	TRANS IF
T3	373M00201	TRANS OSC
T4	374L00902	TRANS IF
T101	320D04601	COIL TRAP
T102	374L00201	TRANS IF
T151	374L02401	TRANS IF
T152	374L01402	TRANS IF
L1	351L00103	COIL CHOKE (①,③)
L1	351L00101	COIL CHOKE (②)
L5, L103, L151	351D02102	COIL CHOKE
L701	351P00109	TRANS CHOKE
L702	351P00903	TRANS CHOKE (②,③)

Ref. No.	Part No.	Desciption
	OTHERS	
	295K05703	TUNER (①,③)
	295K05903	TUNER (②)
	768M09002	POINTER
	540M00101	LEAD CLAMPER
	242L19105	LEAD CONNECTOR
	242L15302	LEAD CONNECTOR
	242L11202	LEAD CONNECTOR
	253L00801	LAMP
	242L24001	PC JOINER
	591M54401	BRACKET IC
	590K18901	UPPER COVER
	707L05502	DIAL (①)
	452L03601	CONNECTOR (①)
	452L03701	CONNECTOR (②,③)
	591M08501	HOLDER FUSE
	224L00101	COVER FUSE
	283P00103	FUSE
	591M51501	HOLDER TRIMMER
	707L05701	DIAL BACK
	813M07801	CUSHION
	641M18601	HOLDER LAMP
	253L01206	LEAD LAMP
	253L00407	LEAD LAMP
	707M08401	DIAL-B
	449L02501	SOCKET ANT
	449L02601	SOCKET DIN-7
	459M01102	PLUG DIN5P SHORT
	591M54301	SHIELD CASE
	923L59002	ASSY CONNECTOR (①)
	923L59001	ASSY CONNECTOR (②,③)
	943L51601	ASSY PANEL (②,③)
	923L58902	ASSY PWB TRANS (①)
	923L58901	ASSY PWB TRANS (②,③)
	923L58801	ASSY PWB VOL