TOYOTA

AUDIO COMPONENT SERVICE MANUAL

AM-FM MPX RADIO
WITH ELECTRONIC TUNER

VEHICLE	DESTINATION	PRODUCED AFTER	TOYOTA PART No.	FUJITSU TEN MODEL No.
CROWN	AUSTRALIA	SEPTEMBER 1983	86120-30630	AE-3041
	GENERAL			

TABLE OF CONTENTS

SPECIFICATION • COMBINATIONS 2
HOOK-UP 3
OPERATING INSTRUCTIONS 4
CONNECTIONS 5
EXPLODED VIEW 6
SCHEMATIC 7, 8
INSTRUMENT WIRING 9, 10
MAIN PC BOARD 11
AM • FM PC BOARDS 12
POWER PC BOARDS 13
FILTER PC BOARDS 14
ALIGNMENT ..... 15~19
ADJUSTMENT POINTS 20
REPLACEMENT PARTS LIST ..... 21~26
PARTS AVAILABILITY 22

Manufactured for TOYOTA

by *FUJITSU TEN LIMITED*

PUB. NO. **SM-518**

SPECIFICATION

	AM	FM
TUNING RANGE	522 to 1611 kHz (9 kHz step)	87.5 to 108 MHz (50 kHz step)
INTERMEDIATE FREQUENCY	450 kHz	10.7 MHz
SENSITIVITY	26 dB or less	———
USABLE SENSITIVITY	———	18 dB or less
SENSITIVITY AT ELECTRONIC TUNING		
(Distant)	30 ± 5 dB	24 ± 10 dB
(Local)	Distant plus 20 ± 5 dB	Distant plus 25 ± 5 dB
LIMITING SENSITIVITY	———	10 ± 5 dB
SEPARATION	———	25 dB or better
SIGNAL TO NOISE RATIO	21 dB or better (35 dBμ input)	30 dB or better (18 dBμ input)
ELECTRICAL FIDELITY	0 ± 3 dB at 100 Hz	0 ± 3 dB at 100 Hz
	$-13 \pm^{3}_{5}$ dB at 4 kHz	−10 ± 5 dB at 10 kHz

POWER OUTPUT (MAX.) ····· 4W×4
SPEAKER IMPEDANCE ····· 4 ohm
POWER INPUT ····· 12-volt car battery, negative terminal to ground
Voltage ····· 13.2 VDC
Current ····· Approx. 3 amperes (Max.)
10 m ampere or less (back up current)
SEMICONDUCTOR ····· 9 ICs, 35 transistors, 40 diodes
DIMENSIONS ····· 180(W)×50(H)×150(D)mm
WEIGHT ····· 0.97 kg

COMBINATIONS

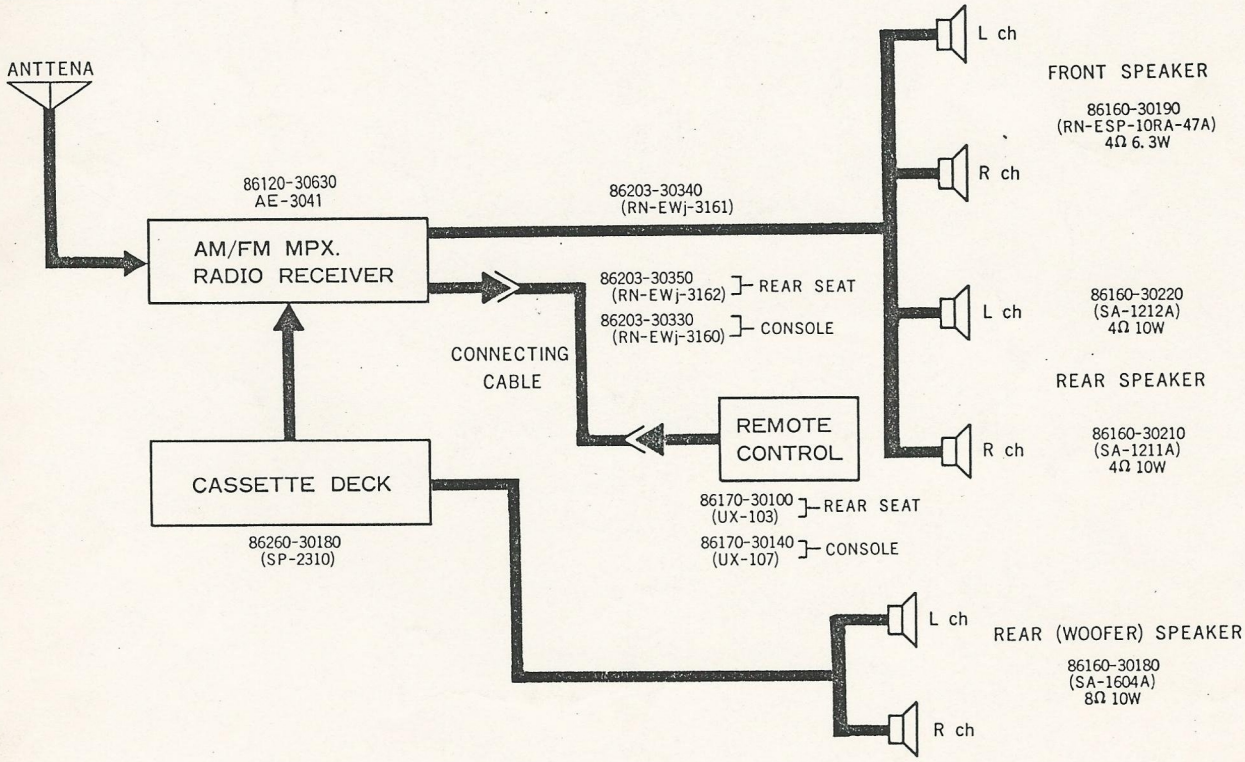


Fig. 1 (C32023041)

HOOK-UP

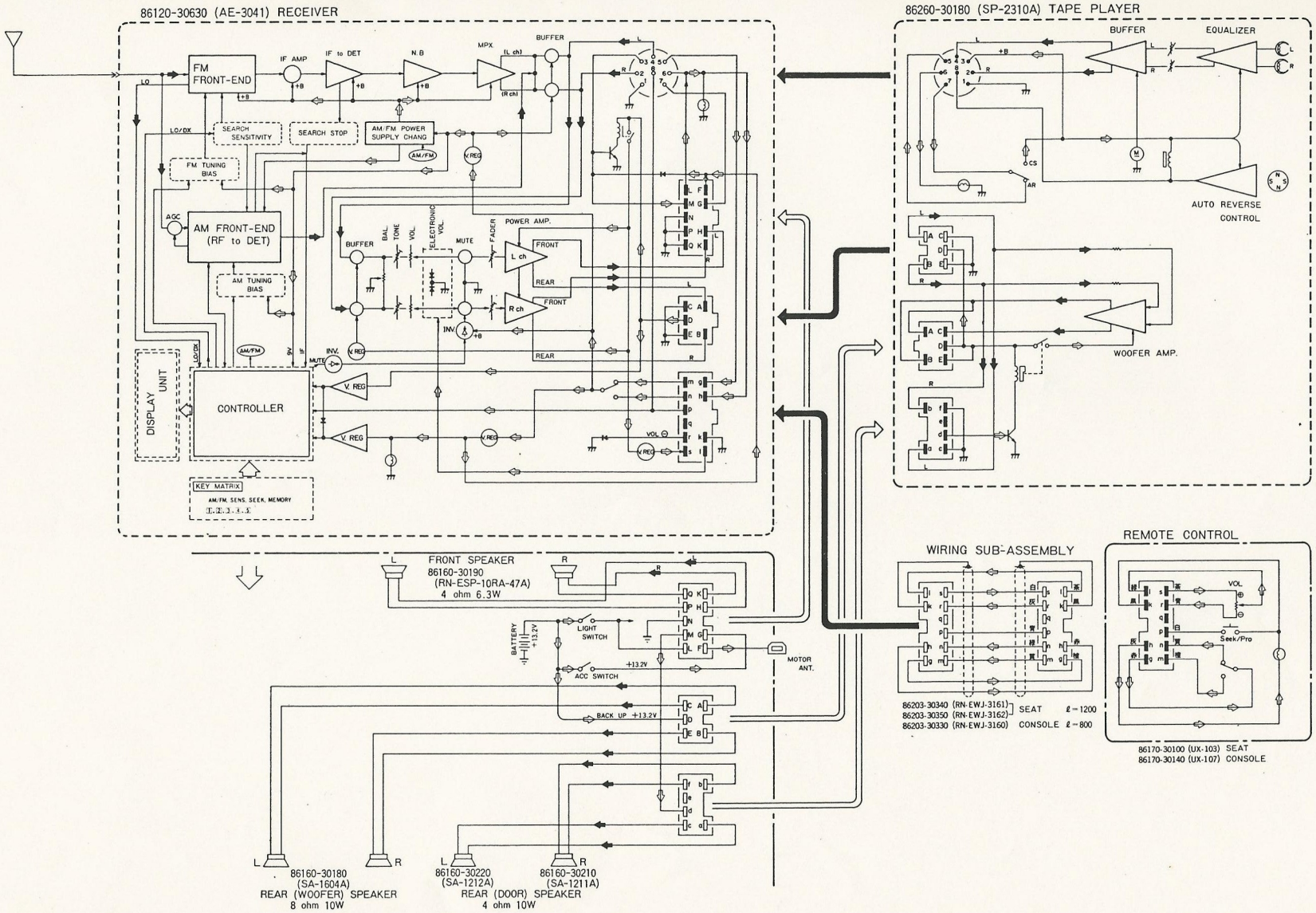


Fig. 2 (C32412300)

OPERATING INSTRUCTIONS

FM STEREO INDICATOR (ST)

This indicator lights up in FM stereo reception.

- This indicator may flash or may not light up when a signal is weak.

FREQUENCY DISPLAY

AM	531	to	1602 kHz
FM	87.5	to	108 MHz

AM/FM INDICATOR

MANUAL TUNING KNOB (TUNE)

low — high — frequency

Turn the knob to tune in a desired station. This tuning knob is provided with click action device. Each click increases or decreases 9kHz on AM band and 0.1 MHz on FM band.

PRESET BUTTON INDICATOR

CH 2

This indicator lights up when a preset button is pushed.

AM/FM BAND SELECTOR

FM band

AM band

SENSITIVITY SWITCH (SENS)

This switches the sensitivity in auto tuning (SEEK).

- Push in the switch in a weak signal area.
  - Even weak signal stations can be tuned in. (Many stations can be tuned in.)
  - Only strong signal stations can be tuned in.

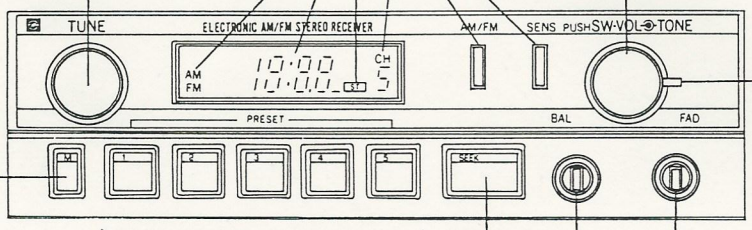
ON–OFF SWITCH (SW)

Pushing this switch alternately turns the radio ON and OFF.

VOLUME CONTROL (VOL)

Volume increases.

Adjust volume so that you can hear the sound outside during driving.



MEMORY BUTTON

Push this button in presetting. (CH indicator lights up)

PRESET BUTTON

One AM station and one FM station can be programmed into memory in each button. After presetting, just push the button to receive the programmed station.

SEEK BUTTON

Push the button and the reception frequency moves from low to high and stops when a broadcast is received.

TONE CONTROL (TONE)

Bass tone increases.

Treble tone increases.

FADER CONTROL (FAD)

Loud in front — Loud in rear

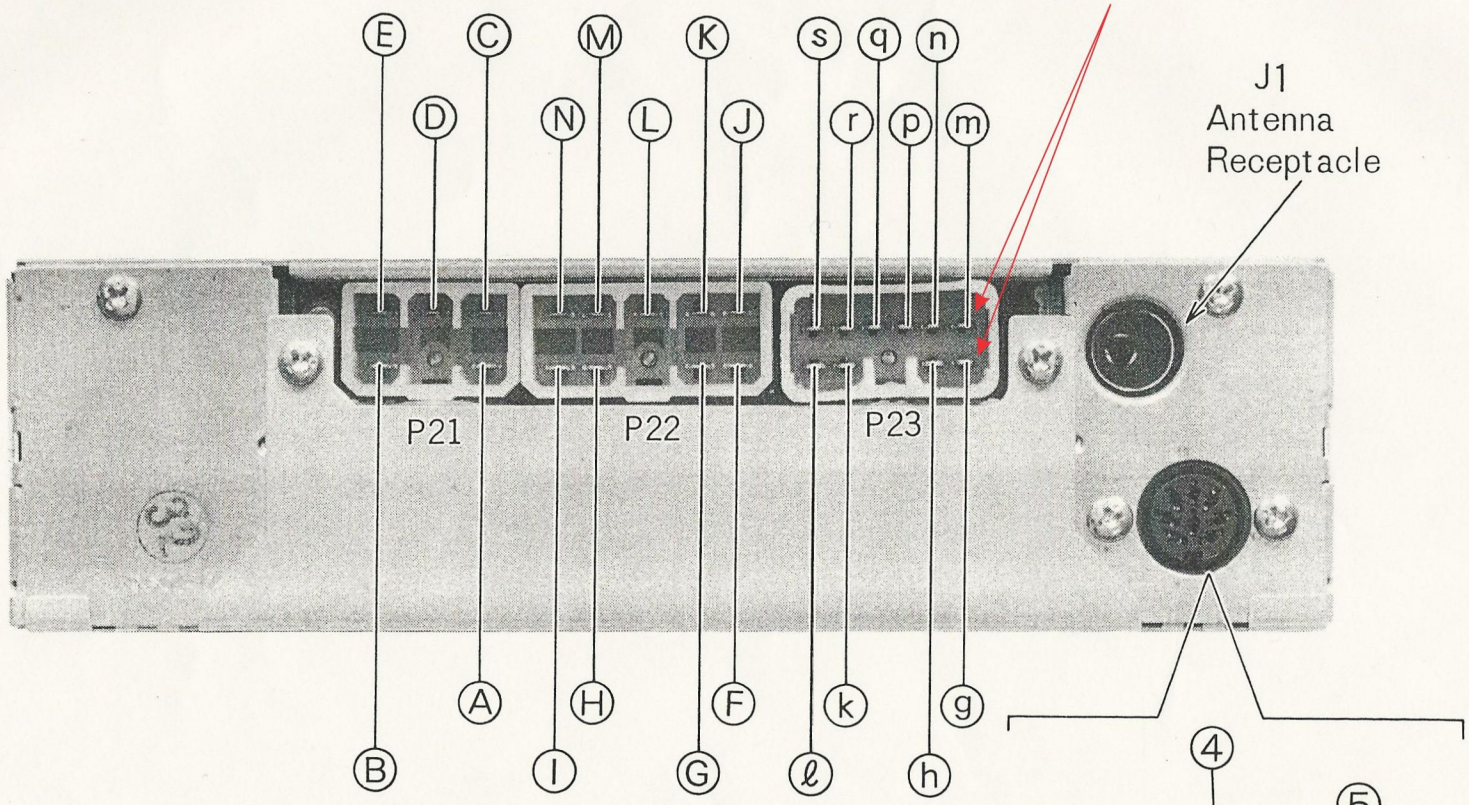
BALANCE CONTROL (BAL)

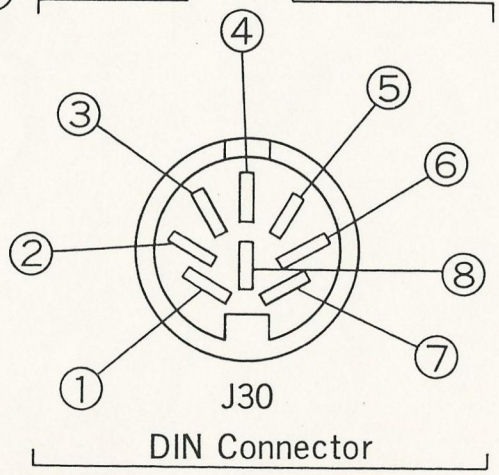
Loud on left — Loud on right

Fig. 3

CONNECTIONS

Link (Bridge) g & m of Remote





P21

A	Rear Speaker Lch (+)
B	Rear Speaker Rch (+)
C	Rear Speaker Lch (−)
D	POWER +B
E	Rear Speaker Rch (−)

P22

F	ANT AMP +B
G	ACC +B
H	Front Speaker Lch (+)
I	Front speaker Rch (+)
J	Dimmer
K	POWER AMP +B
L	Ground
M	Front Speaker Lch (−)
N	Front Speaker Rch (−)

P23

g	+B COMN
h	Dimmer
k	Ground
ℓ	VOL COMN
m	+B
n	+B
p	SEEK
q	————
r	VOL (−)
s	VOL (+)

J30

1	Ground
2	Rch input (+)
3	Cassette +B
4	Lch input (+)
5	Radio +B
6	Dimmly
7	ACC (+13.2 VDC)
8	Program

Fig. 4 (C32023041)

[AE-3043]

'LODED VIEW

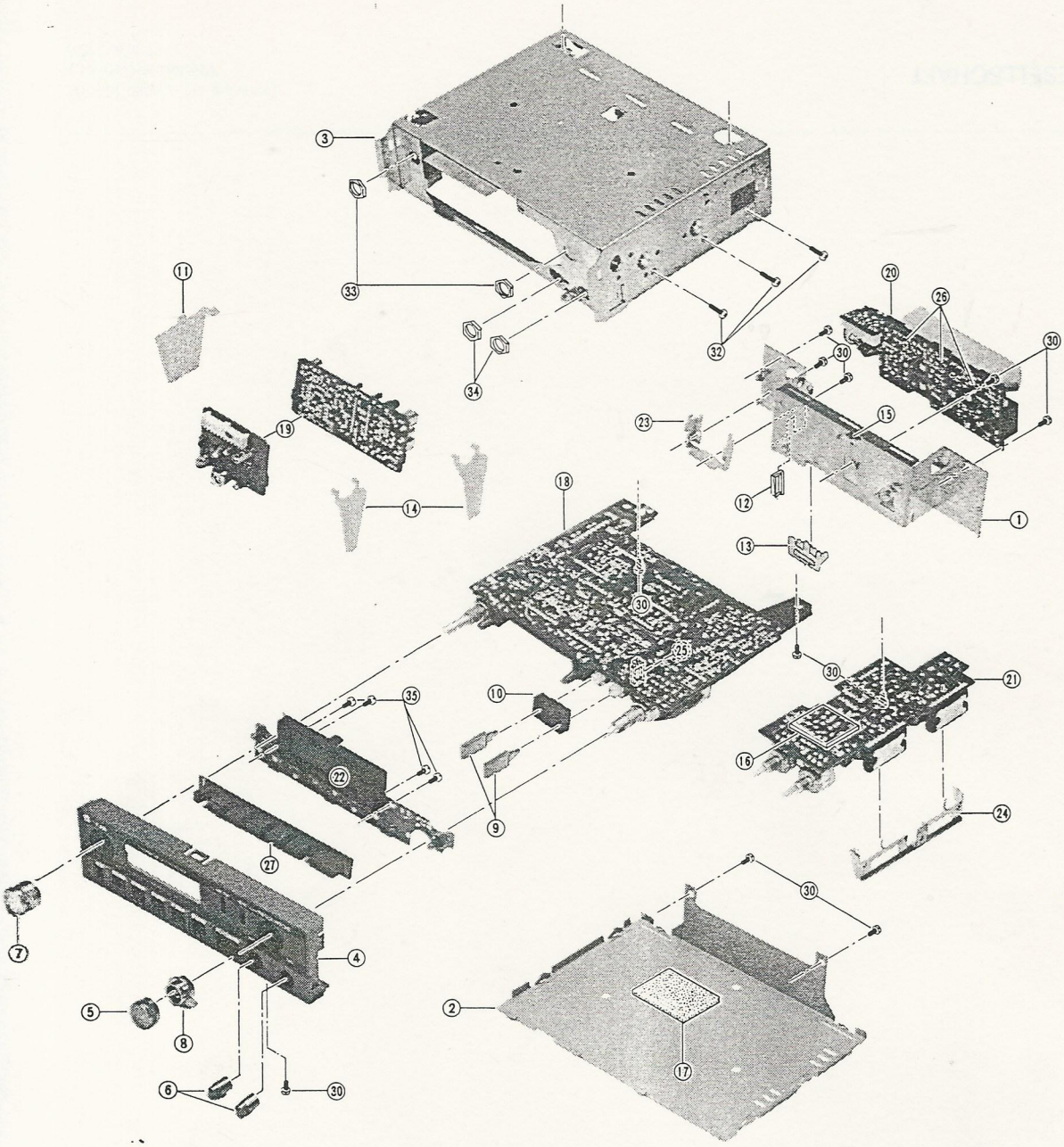
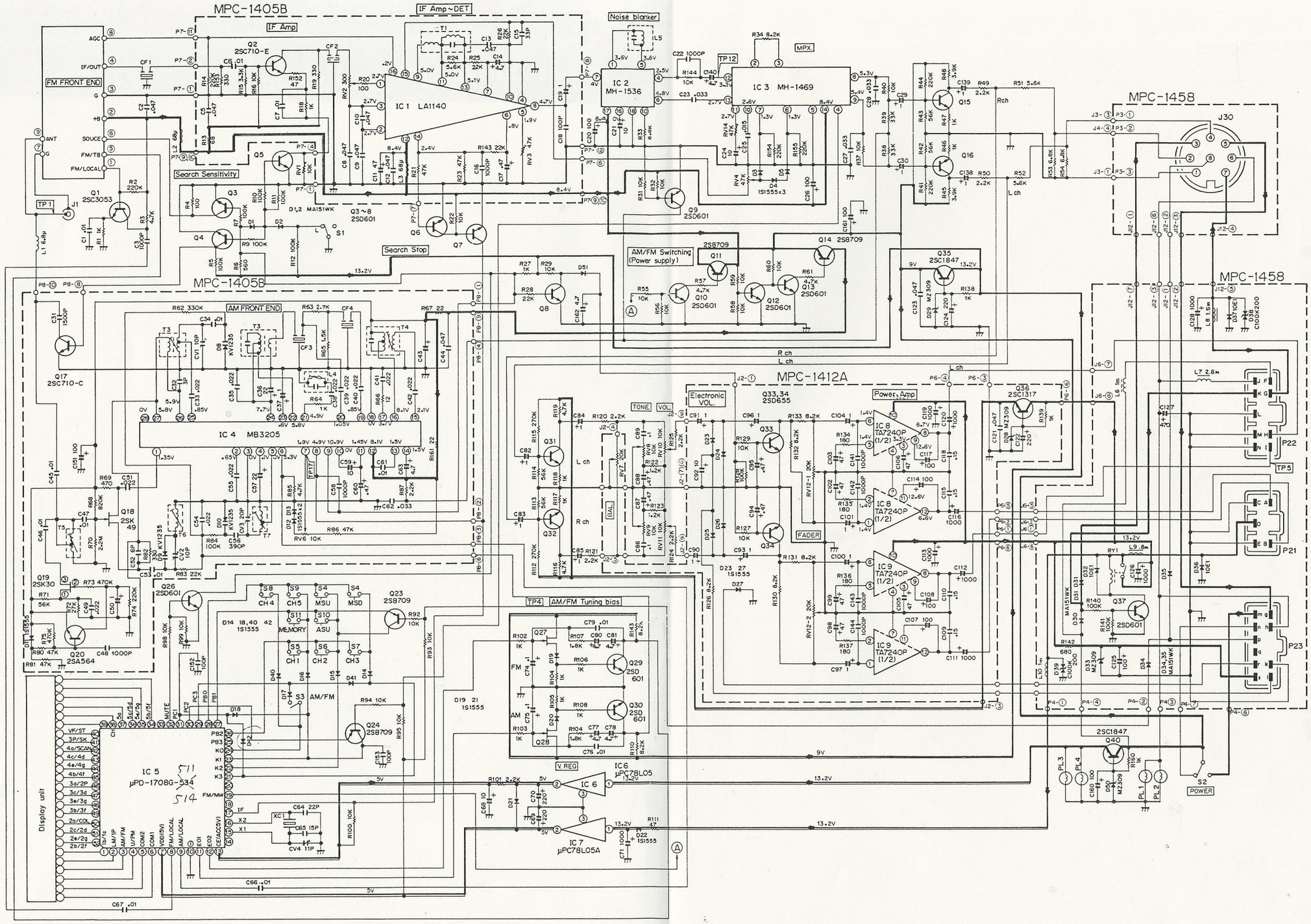


Fig. 5 (C28023040)

SCHEMATIC



If NO D42
μPD-1708G-514
FOR JPN BAND
(FM)

NOTES: 1. All capacitance in Micro farad, $P=10^{-12}$

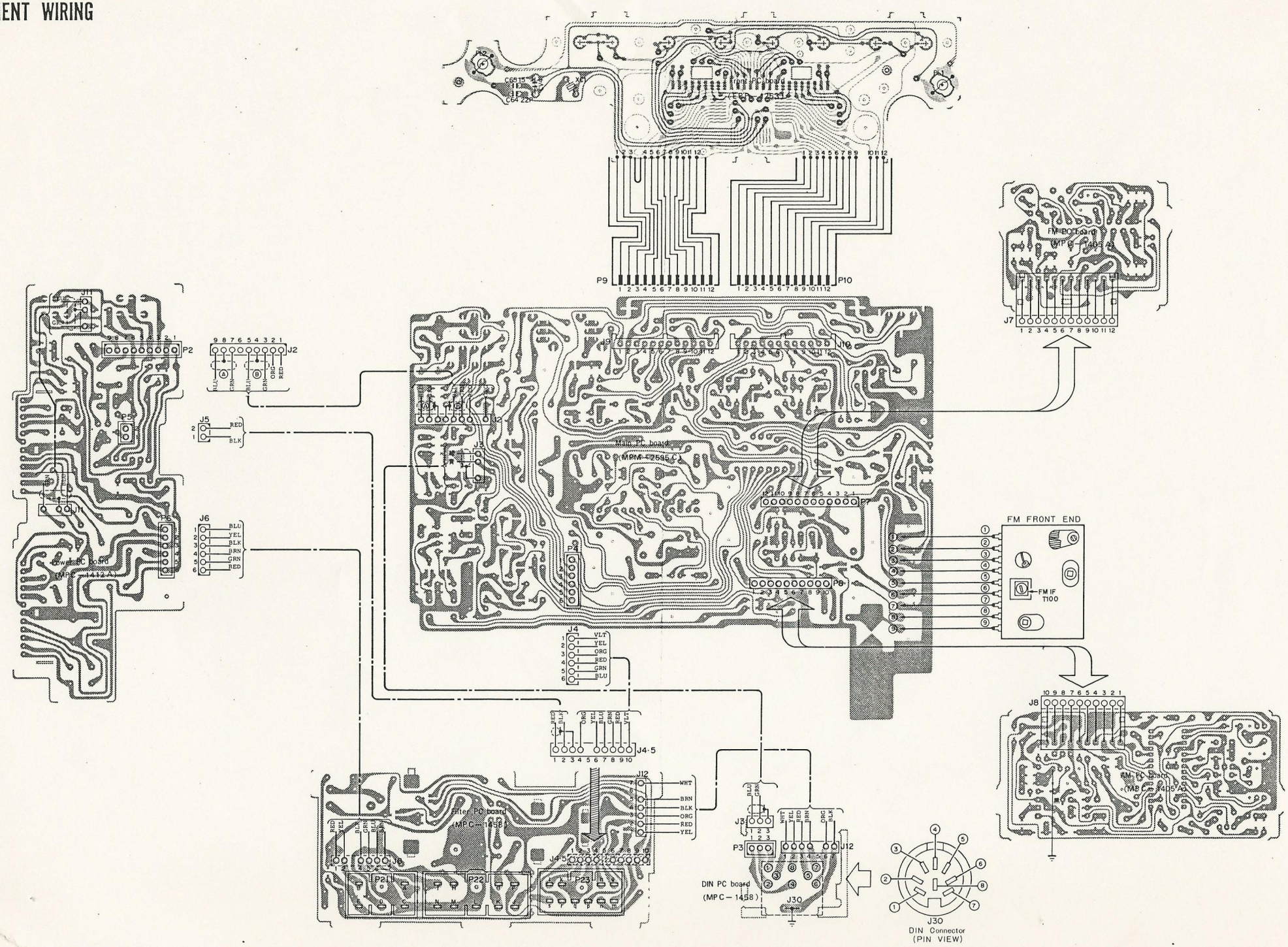
2. All resistance in ohm, $K=10^{3}$

Fig. 6 (C24023041)

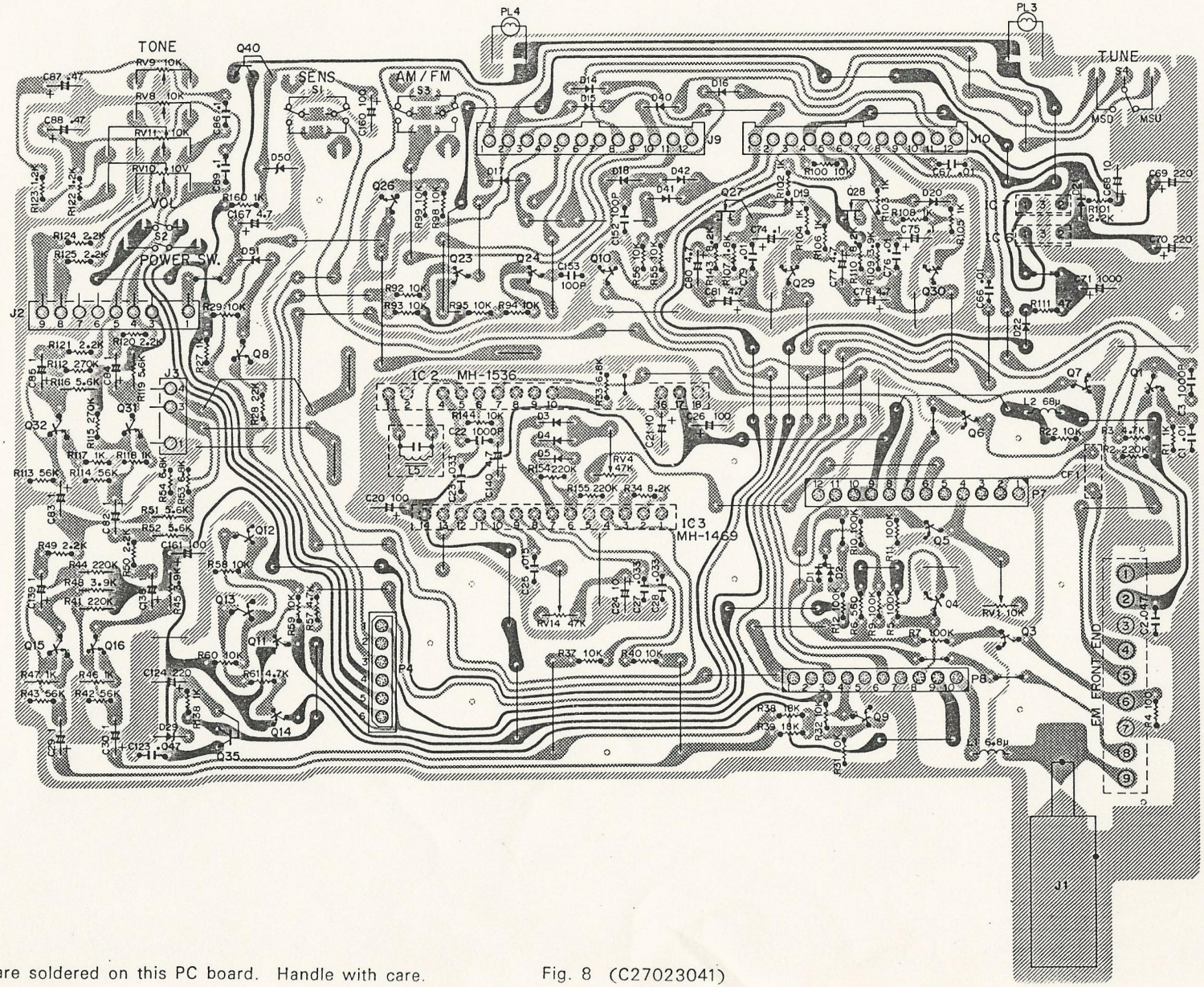
3. All inductance in henly, $m=10^{-3}$, $\mu=10^{-6}$

4. DC voltage against the chassis measured with 100k ohm/volt meter, power supply set at +13.2 VDC, no signal input.

STRUMENT WIRING



MAIN PC BOARD (MPM-2595C)



NOTE: Chips are soldered on this PC board. Handle with care.

Fig. 8 (C27023041)

AM·FM PC BOARDS (MPC-1405A)

∘ AM

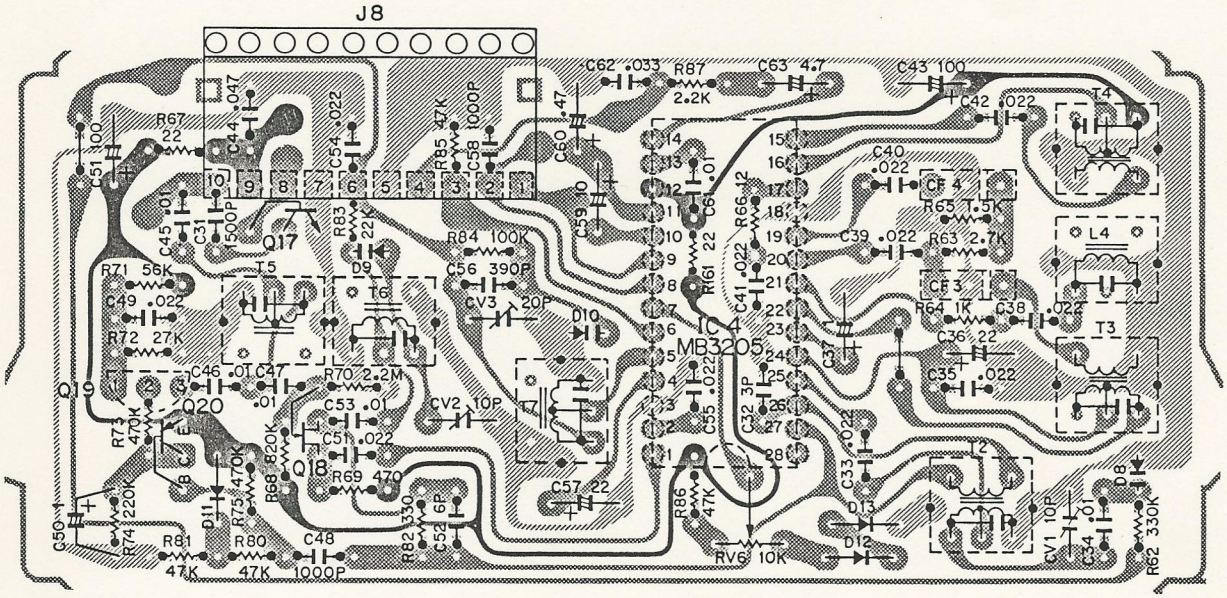


Fig. 9 (C27023041)

∘ FM

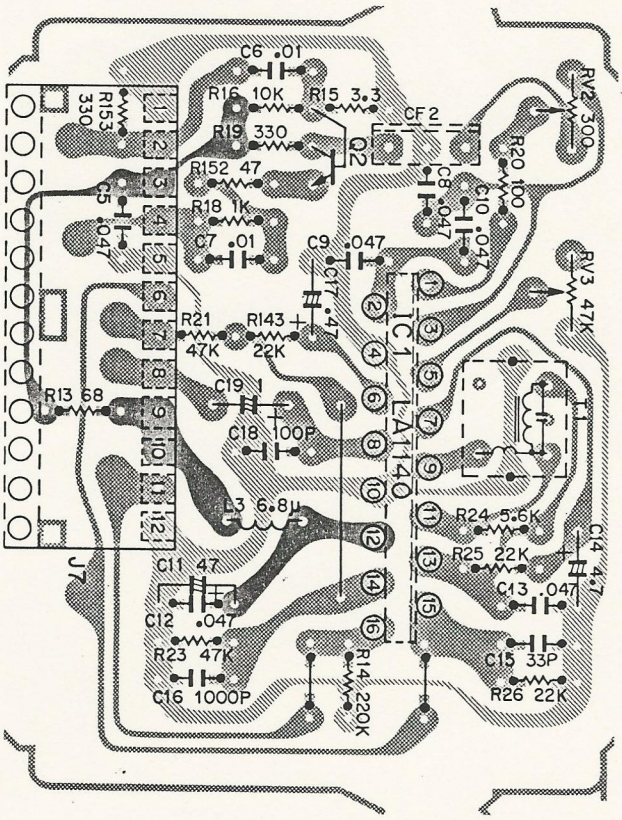


Fig. 10 (C27023041)

NOTE: Chips are soldered on this PC board. Handle with care.

POWER PC BOARDS (MPC-1412A)

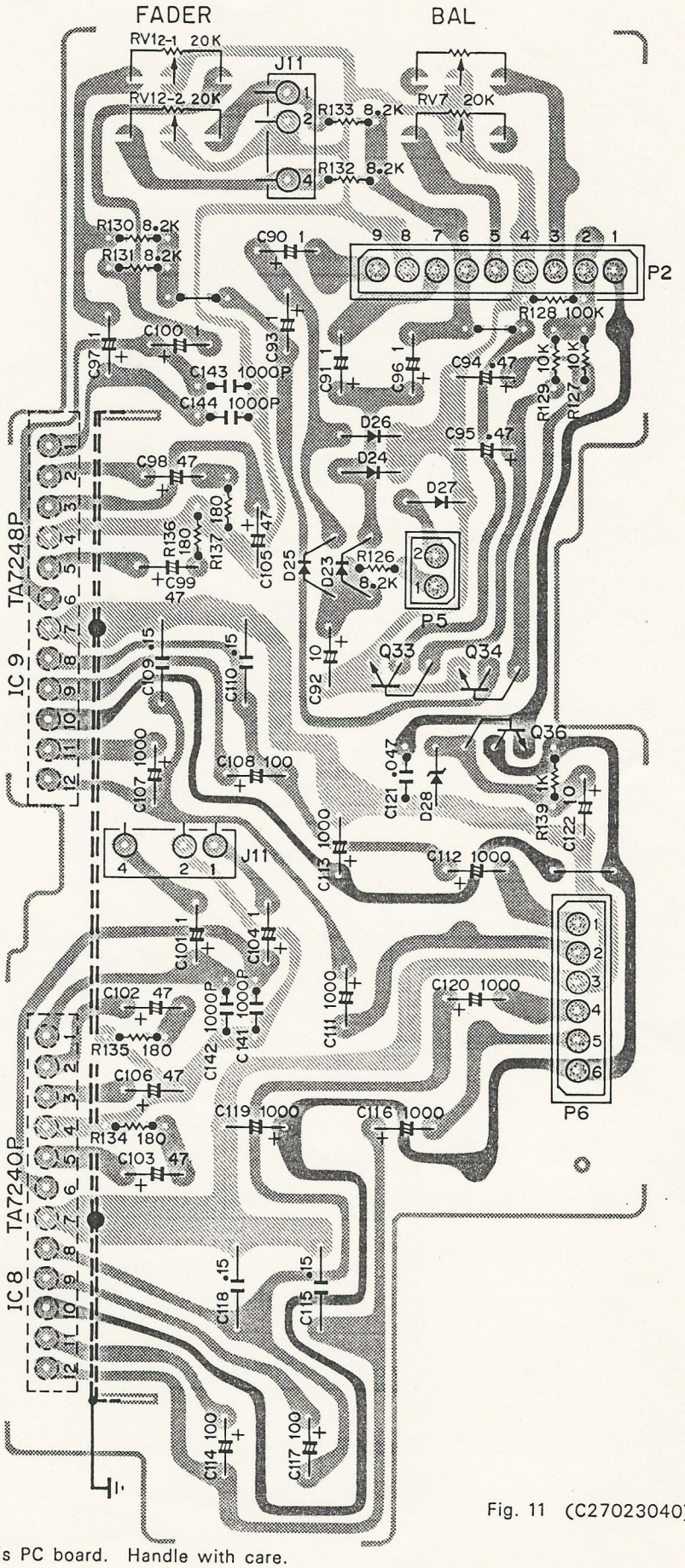


Fig. 11 (C27023040)

NOTE: Chips are soldered on this PC board. Handle with care.

FILTER PC BOARDS (MPC-1458)

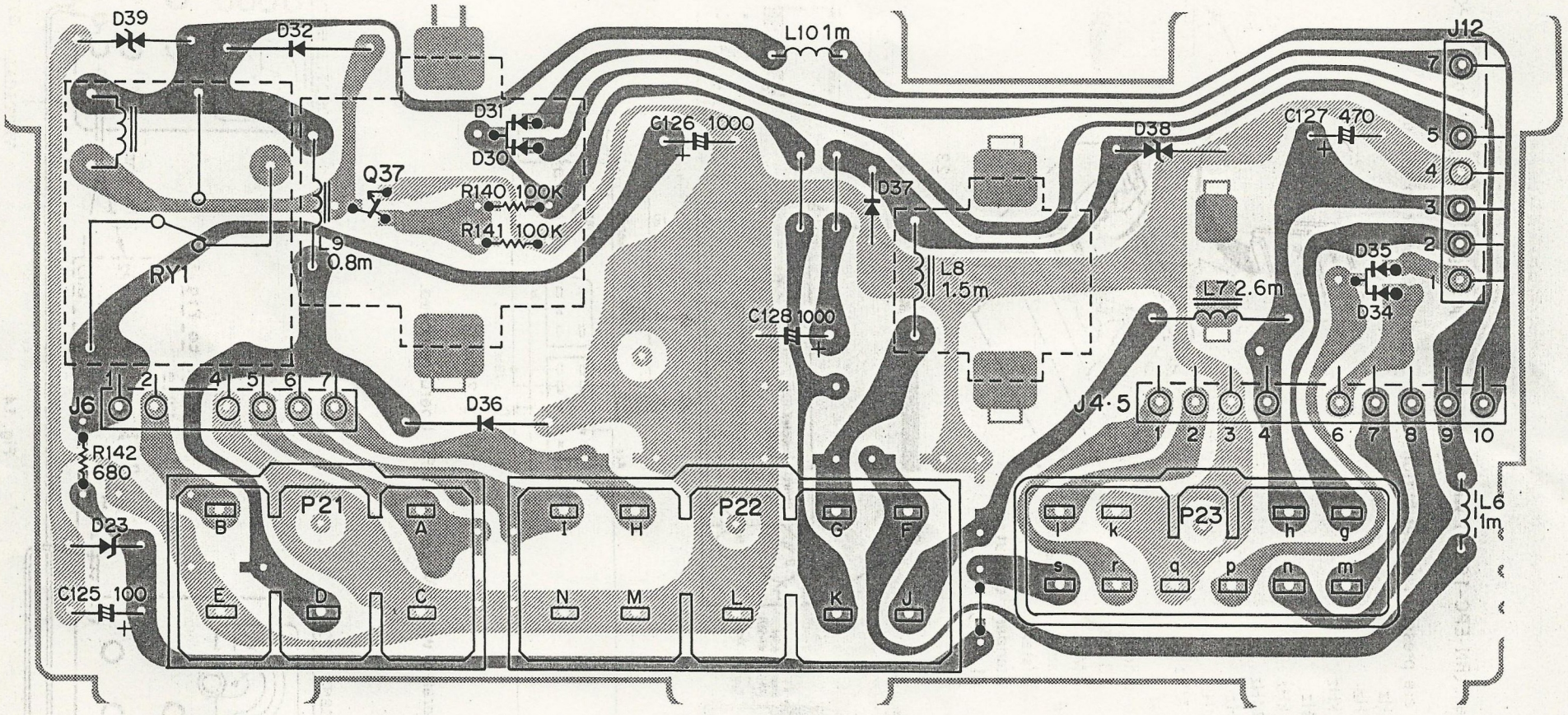


Fig. 12 (C27023041)

NOTE: Chips are soldered on this PC board. Handle with care.

AM ALIGNMENT

∘ Before alignment

a. Use PC board for repair (RN-EPC-1638) when reparing or adjusting AM PC board and FM PC board. (Fig. 23)

b. Following frequencies are preset in preset buttons when supplying power to this unit.

AM ·····1 ch : 603 kHz
2 ch : 999 kHz
3 ch : 1404 kHz
4 ch : 531 kHz
5 ch : 1602 kHz

FM ·····1 ch : 87.5 MHz
2 ch : 98 MHz
3 ch : 108 MHz
4 ch : 105.1 MHz
5 ch : 95 MHz

c. Standard Alignment Condition

1	Power Supply	13.2V
2	Receiving Band	AM
3	TONE, BAL, FADER	Center (mechanical)
4	SENS	Distant
5	VOL	Standard output (1.41V)

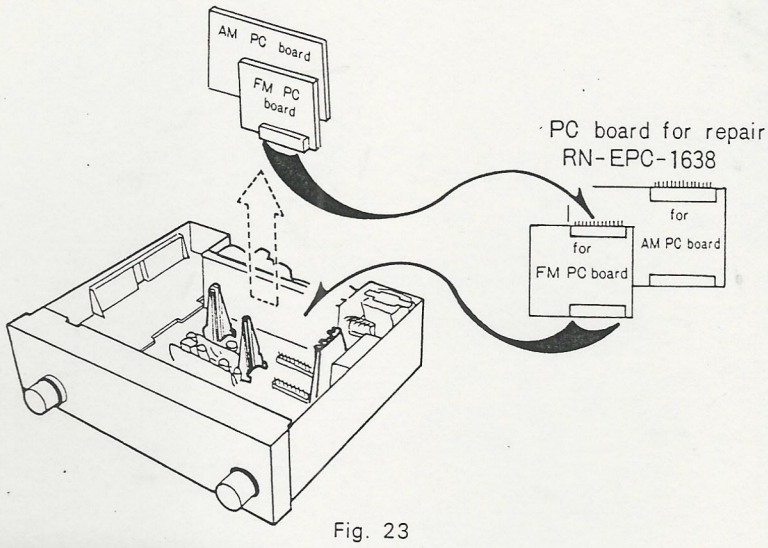


Fig. 23

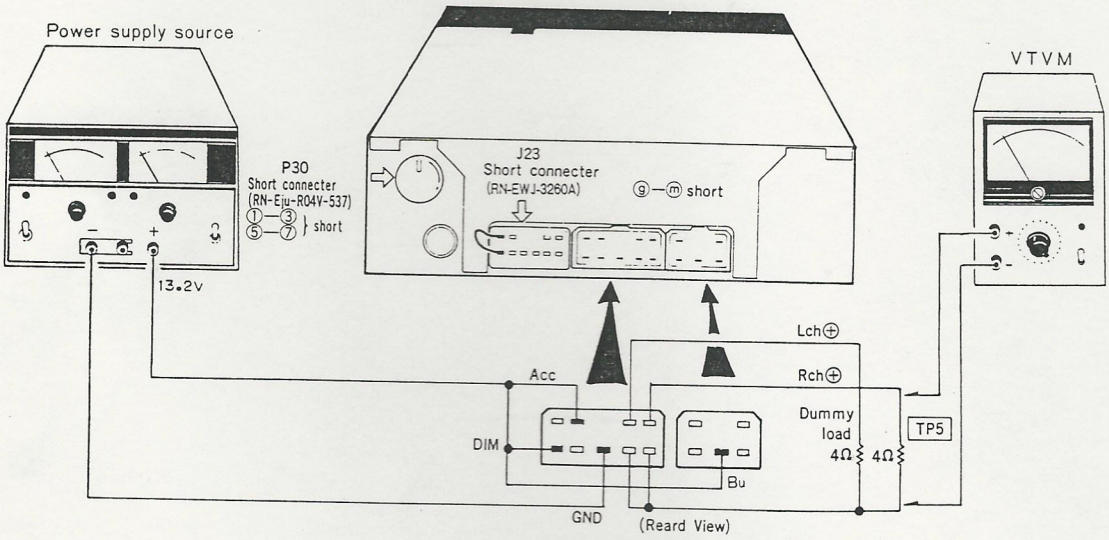


Fig. 13 (C33023040)

(Ref.) This unit can be operated with FM (or AM) PC board removed.

〔1〕 IF Alignment

(1) Connections

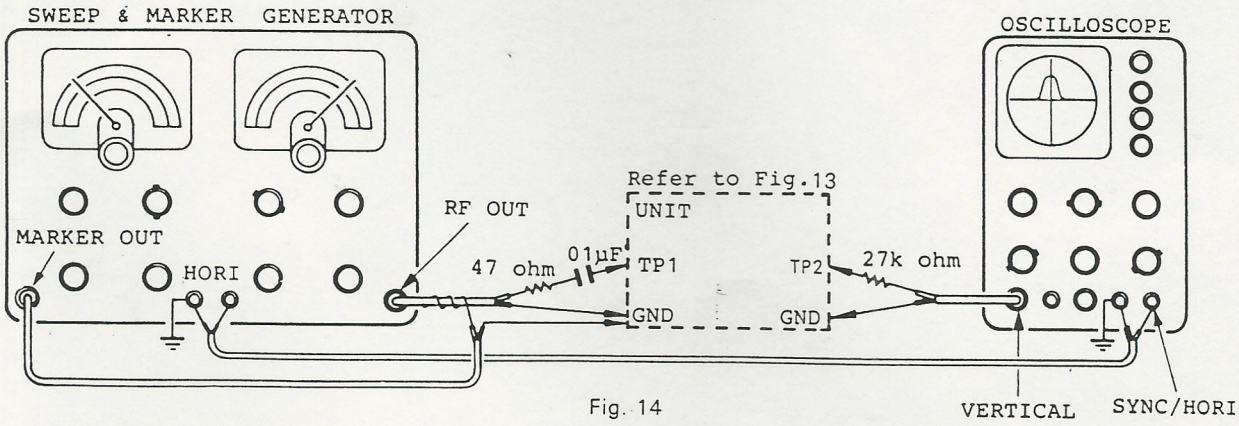


Fig. 14

SWEEP GENERATOR OUTPUT	OSCILLOSCOPE VERTICAL INPUT	OSCILLOSCOPE HORIZONTAL INPUT
Antenna receptacle (J1) TP1	Connect TP2 in Fig. 20 through 27k-ohm resistor	Connect with HORIZONTAL terminal of sweep generator

(2) Alignment (Refer to Fig. 20, 22)

STEP	SWEEP GENERATOR MARKER	SWEEP GENERATOR OUTPUT LEVEL	ADJUSTMENT POINTS	PROCEDURE
1	450 kHz	Minimum	T 3	Get maximum IF curve and best symmetry on both sides.
2			T 4	
3	Repeat STEP 1 to 2 until no further gain in output can be obtained.			

[2] Tuning bias range and tracking alignment

(1) Connection

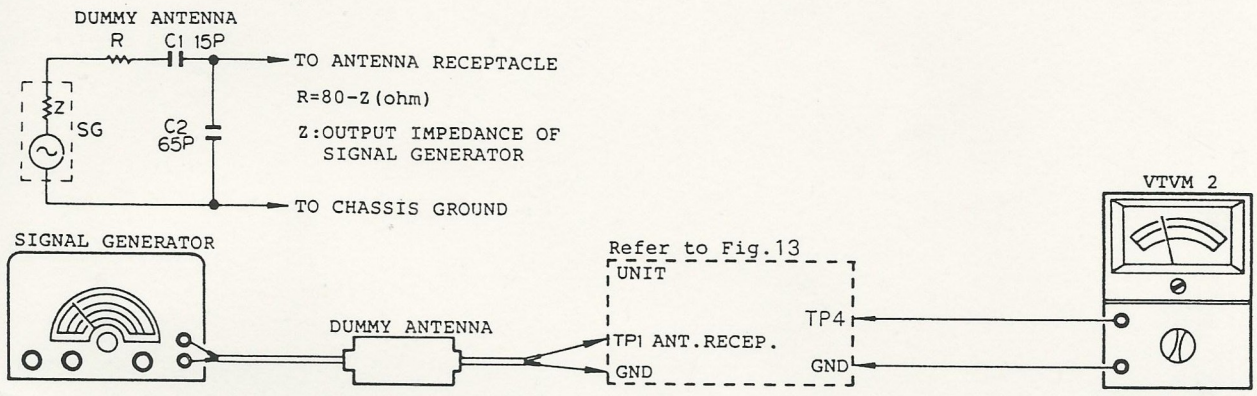


Fig. 15

(2) Alignment (Refer to Fig. 20, 22)

STEP	PURPOSE	SIGNAL GENERATOR FREQUENCY	FREQ. DISPLAY OF UNIT	ADJUSTMENT POINT	PROCEDURE
1	Tuning bias range	———	531 kHz	T 7 (OSC)	Adjust AM tuning bias to 1.5V
2		———	1602 kHz	CV 3 (OSC)	Adjust AM tuning bias to 7.5V
3	Repeat Step 1 and 2 to get 1.5 ± .1V at 531 kHz and 7.5 ± .1V at 1602 kHz.				
4	Preset CV1 (RF), CV2 (ANT). See Fig. 20.				
5	Tracking	999 kHz (400 Hz, 30%, AM)	999 kHz	T 6, T 2 (ANT, RF)	Adjust output voltage (TP5) to maximum. (Fig. 13)
6		1404 kHz (400 Hz, 30%, AM)	1404 kHz	CV 2, CV 1 (ANT, RF)	
7	Repeat Step 5 and 6 to get equal output at 999 kHz and 1404 kHz.				
8	Tracking	603 kHz (400 Hz, 30%, AM)	603 kHz	T 7 (OSC)	Adjust output voltage (TP5) to maximum. (Fig. 13)
9		1404 kHz (400 Hz, 30%, AM)	1404 kHz	CV 3 (OSC)	

[3] Search tuning sensitivity alignment

(1) Connection (Refer to Fig. 15)

a. Signal generator TP1 (antenna receptacle)

b. Valve voltmeter Unnecessary

(2) Alignment (Refer to Fig. 20, 22)

STEP	PURPOSE	SIGNAL GENERATOR FREQUENCY	SIGNAL GENERATOR OUTPUT LEVEL	ADJUSTMENT POINT	PROCEDURE
1	Push in the SENS button to the DISTANT position. ( )				
2	Distant search sensitivity	———	———	RV 6	Depress SEEK button to start searching and adjust standard voltage of TP17 to 5.5V~6.5V.
3		999 kHz (400 Hz, 30%, AM)	31 dB	———	Check to see that searching stops.
			29 dB	———	Check to see that searching does not stop.
4	Push the SENS button to the LOCAL position. ( )				
5	Local search sensitivity	999 kHz (400 Hz, 30%, AM)	44 dBμ	———	Check to see that searching does not stop.
			55 dBμ	———	Check to see that searching stops.
6	Repeat above procedure until you get satisfactory result in step 3 and 5.				

〔4〕 Beat trap alignment

(1) Connection (Refer to Fig. 15)

a. Signal generator TP1 (antenna receptacle)

b. Valve voltmeter TP5 speaker output

(2) Alignment

STEP	SIGNAL GENERATOR FREQUENCY	SIGNAL GENERATOR OUTPUT LEVEL	ADJUSTMENT POINT	PROCEDURE
1	900 kHz (No modulation)	74 dBμ	LT 4	Adjust output to minimum (dip point).

FM ALIGNMENT

* Standard Alignment Condition

FM standard alignment condition is same as that of AM. (Receiving band is, however, FM.)

NOTE: Since electronic tuner unit is employed at FM front end section, no tracking and receiving frequency range adjustment are required.

〔1〕 IF Alignment

(1) Connection

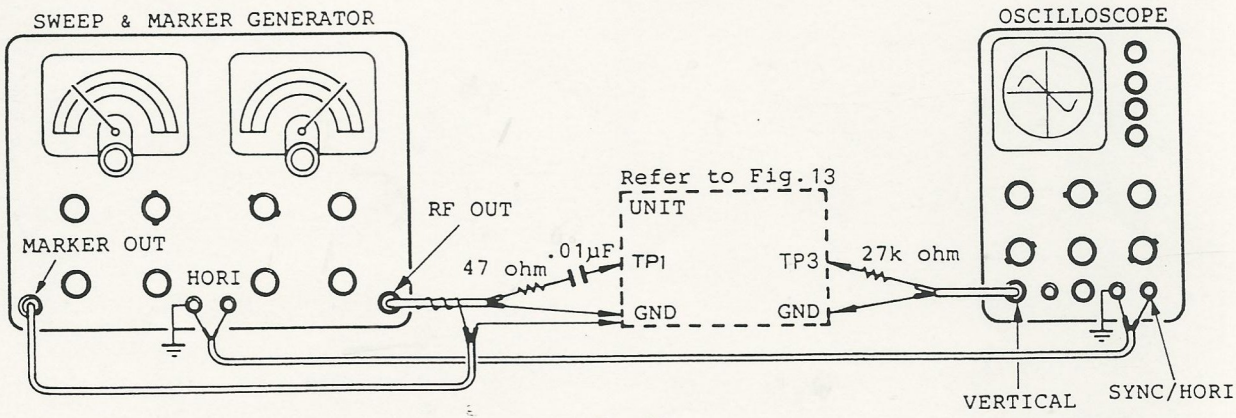


Fig. 16

SWEEP GENERATOR OUTPUT	OSCILLOSCOPE VERTICAL INPUT	OSCILLOSCOPE HORIZONTAL INPUT
Antenna receptacle (J1) TP 1	Connect TP 3 in Fig. 21 through 27k-ohm resistor	Connect with HORIZONTAL terminal of sweep generator

(2) Alignment (Refer to Fig. 7, 21, 22)

STEP	PURPOSE	SWEEP GENERATOR FREQUENCY	ADJUSTMENT POINT	PROCEDURE
1	S curve	10.7 MHz (marker)	T100 T 1	Adjust to full gain and length of S-curve at linears. Center frequency should be 10.7 MHz. (Fig. 18)
2	S curve (center)	98.1 MHz (400 Hz, 30%, FM)	T 1	Fine-adjust the potential difference between IC 1, 7 and 13 to 0V.

COLOR	CENTER FREQUENCY
Red	10.70 MHz ± 30 kHz

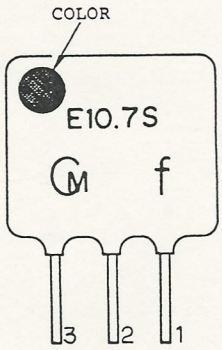


Fig. 17

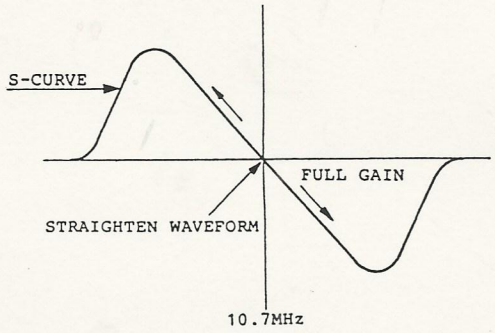


Fig.18

NOTE: S curve center can be adjusted in the same manner by receiving local FM broadcast near 98.1 MHz.

[2] Limiting sensitivity and C/N Alignment

(1) Connection

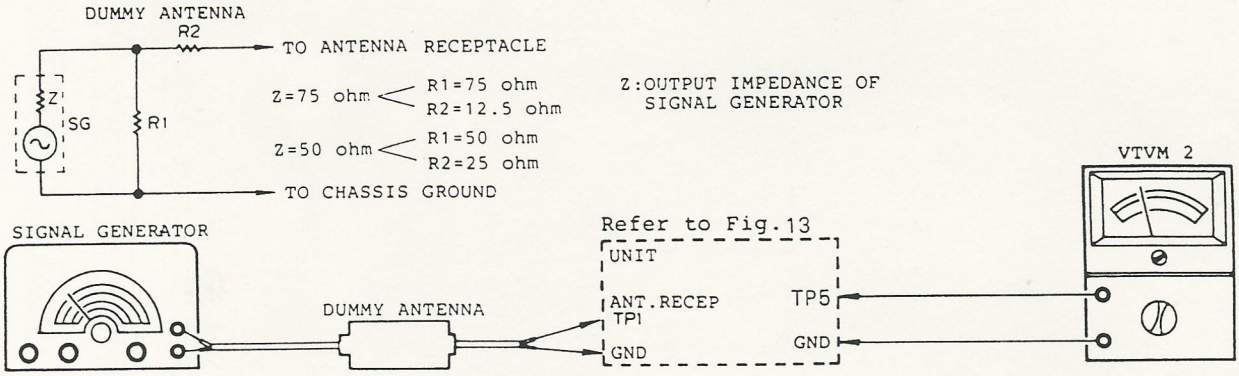


Fig. 19

(2) Alignment (Refer to Fig. 13, 21)

STEP	PURPOSE	SIGNAL GENERATOR FREQUENCY	SIGNAL GENERATOR OUTPUT LEVEL	ADJUSTMENT POINT	PROCEDURE
1	Set RV3 (for C/N alignment) as shown in Fig. 21.				
2	Limiting sensitivity	98.1 MHz (1 kHz, 30%)	60 dBμ	Adjust volume control until speaker output voltage (TP5) gets 1.41V.	
3		98.1 MHz (1 kHz, 30%)	16 dBμ	RV 2	Adjust output voltage to −3 dB (1V).
4	C/N	98.1 MHz (1 kHz, 30%)	60 dBμ	Adjust volume control until speaker output voltage (TP5) gets 1.41V.	
5		Remove signal generator from TP1.		RV 3	Adjust output voltage to 44.3mV.
6	Repeat above procedure until you get the limiting sensitivity of 16±4 dB				

(3) Search tuning sensitivity alignment

(1) Connection (Refer to Fig. 19)

a. Signal generator — Connect to TP1 (antenna receptacle)

b. Valve voltmeter — Unnecessary

(2) Alignment (Refer to Fig. 22)

STEP	PURPOSE	SIGNAL GENERATOR FREQUENCY	SIGNAL GENERATOR OUTPUT LEVEL	ADJUSTMENT POINT	PROCEDURE
1	Push in the SENS button to the DISTANT position (▬).				
2	Distant search sensitivity	98.1 MHz (400 Hz, 30%)	Measure distant search sensititviy. (output level of signal generator when searching stops.)		
3		98.1 MHz (400 Hz, 30%)	Distant search sensitivity +25 dBμ	RV 1`	Push SENS button (▙ local) to start searching and adjust so that searching may stop nearly at 98. 1MHz.

(4) Noise blanker alignment

(1) Connection

a. Stereo signal generator — Connect to TP 1

b. Oscilloscope — Connect to TP12 (R ch)

(2) Alignment (Refer to Fig. 22)

STEP	STEREO SIGNAL GENERATOR FREQUENCY	STEREO SIGNAL GENERATOR OUTPUT LEVEL	ADJUSTMENT POINT	PROCEDURE
1	98.1 MHz (No modulation, stereo mode)	60 dBμ	L 5	Check that STEREO indicator lights up and adjust pilot lamp wave (19 kHz) for minimum.

(5) Separation alignment

(1) Connection

a. Stereo signal generator — Connect to TP1

b. Valve voltmeter — Connect to TP5 (R ch)

(2) Alignment (Refer to Fig. 13, 22)

STEP	STEREO SIGNAL GENERATOR FREQUENCY	STEREO SIGNAL GENERATOR OUTPUT LEVEL	ADJUSTMENT POINT	PROCEDURE
1	98.1 MHz (Lch only 1 kHz, 30%)	80 dBμ	RV14	Adjust output level of R ch. for minimum. (RV14 should be turned fully counter clock wise.)

NOTE: Adjust separation after ASC alignment.

(6) ASC Working sensitivity alignment

(1) Connection — Same as (5) separation alignment (monaural signal)

(2) Alignment (Refer to Fig. 13, 22)

STEP	SIGNAL GENERATOR FREQUENCY	SIGNAL GENERATOR OUTPUT LEVEL	ADJUSTMENT POINT	PROCEDURE
1	98.1 MHz (1 kHz, 30%)	46 dBμ	RV 4	Adjust the separation to 15 dB.

ADJUSTMENT PINTS

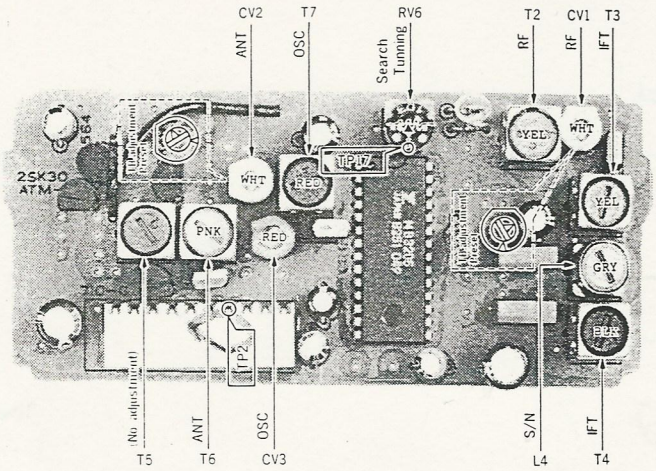


Fig. 20

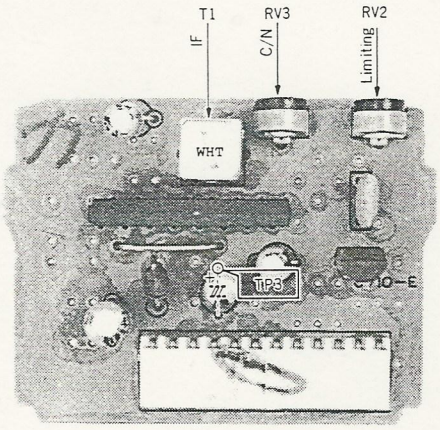


Fig. 21

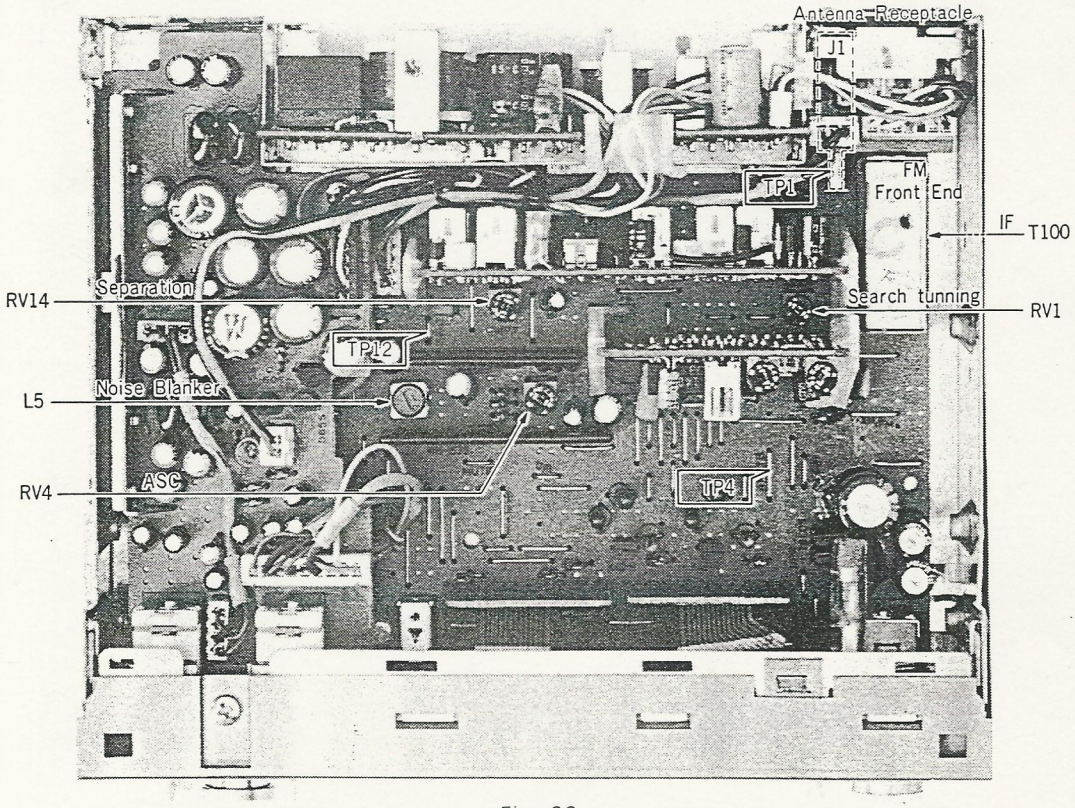


Fig. 22

REPLACEMENT PARTS LIST

Note: Main replacement parts are marked ○ in the remarks column.

〔AE-3041〕

Symbol No. (Fig. 6)	Stock No.	Description				Remark
CAPACITORS						
C 1, 6, 7,34,45 46,47,53,61,66 67,76,79	RN-ECK-CD1H103M/CA-4	.01 μF	50V		ceramic	
C 2,5,8,9,10,12 13, 44, 121,123	RN-ECK-CD1E473M/CA-4	.047 μF	50V		ceramic	
C 3,16,22,48,58 141,142,143,144	RN-ECK-CD1H102M/CA-4	1000 pF	50V		ceramic	
C11, 98, 99, 102 103,105,106	RN-ECE-M470V10-31	47 μF	10V		electrolytic	
C14, 63	RN-ECE-M4R7V25-32	4.7 μF	25V		electrolytic	
C15	RN-ECC-CSL1H330J/CA-4	33 pF	50V		ceramic	
C17, 60, 94, 95	RN-ECE-MR47V50-52	.47 μF	50V		electrolytic	
C18,152,153	RN-ECC-CSL1H101J/CA-4	100 pF	50V		ceramic	
C19, 37, 50, 90 91, 93, 96, 97 100,101,104	RN-ECE-M1R0V50-52	1 μF	50V		electrolytic	
C20, 26, 125,160 161	RN-ECE-M101V10-31	100 μF	10V		electrolytic	
C21, 24, 92	RN-ECE-M100V16-32	10 μF	16V		electrolytic	
C23, 27, 28, 62	RN-ECK-CD1E333M/CA-4	.033 μF	50V		ceramic	
C25	RN-ECK-CD1H153M/CA-4	.015 μF	50V		ceramic	
C29, 30, 82, 83 84, 85,138,139	RN-ECE-M1R0V50-32	1 μF	50V		electrolytic	
C31	RN-ECK-CD1H152M/CA-4	1500 pF	50V		ceramic	
C32	RN-ECC-CSL1H030C/CA-4	3 pF	50V		ceramic	
C33, 35, 38, 39 40, 41, 42, 49 51, 54, 55	RN-ECK-CD1H223M/CA-4	.022 μF	50V		ceramic	
C36, 57	RN-ECE-M220V16-52	22 μF	16V		electrolytic	
C43	RN-ECE-M221V10-11	220 μF	10V		electrolytic	
C52	RN-ECC-CSL1H060D/CA-4	6 pF	50V		ceramic	
C56	RN-ECC-CTH1H391K/CA-4	390 pF	50V		ceramic	
C59	RN-ECE-M100V16-42	10 μF	16V		electrolytic	
C64	RN-ECC-DCH220JY	22 pF	50V		ceramic	
C65	RN-ECC-DCH150JY	15 pF	50V		ceramic	
C68	RN-ECY-M100V16-M1	10 μF	16V		tantalum	
C69,70,122,124	RN-ECE-M221V10-31	220 μF	10V		electrolytic	
C71	RN-ECE-M102V16-9	1000 μF	16V		electrolytic	
C74, 75	RN-ECY-MR10V16-M1	.1μF	16V		tantalum	
C77, 78, 80, 81	RN-ECY-M4R7V16-M1	4.7 μF	16V		tantalum	
C86, 89	RN-ECK-CF1E104Z/CA-4	.1 μF	50V		ceramic	
C87, 88	RN-ECE-MR47V50-32	.47 μF	50V		electrolytic	
C107,108,114,117 151	RN-ECE-M101V10-51	100 μF	10V		electrolytic	
C109,110,115,118	RN-ECF-R154V50	.15 μF	50V		mylar	
C111,112,116,120	RN-ECE-M102V10-7	1000 μF	10V		electrolytic	
C113,119,126,128	RN-ECE-M102V16-51	1000 μF	16V		electrolytic	
C127	RN-ECE-M471V16-31	470 μF	16V		electrolytic	
C140 162	RN-ECE-M4R7V25	4.7 μF	25V		electrolytic	
VARIABLE CAPACITORS						
CV 1, 2, 4	RN-ECV-A11-69	11 pF	AM ANT, RF trimmer			
CV 3	RN-ECV-A20-70	20 pF	AM OSC trimmer			
RESISTORS						
R 1,18,27,46,47 64,102,103,104 105,106,108,117 118,138,139,160	RN-ERG-IC102J/CA-1	1k ohm	5%	⅛W	metalic	
R 2, 14, 41, 44 74,154,155	RN-ERG-IC224J/CA-1	220k ohm	5%	⅛W	metalic	
R 3, 57, 61, 85	RN-ERG-IC472J/CA-1	4.7k ohm	5%	⅛W	metalic	
R 4	RN-ERG-IC101F/CA-1	100 ohm	5%	⅛W	metalic	
R5,7,9,10,11,12 84,128,140,141	RN-ERG-IC104J/CA-1	100k ohm	5%	⅛W	metalic	

Symbol No. (Fig. 6)	Stock No.	Description				Remark
R 6	RN-ERG-IC561J/CA-1	560 ohm	5%	1/8W	metalic	
R13	RN-ERG-IC680J/CA-1	68 ohm	5%	1/8W	metalic	
R15	RN-ERG-IC332J/CA-1	3.3k ohm	5%	1/8W	metalic	
R16,22,29,31,32 R37,40,55,56,58,59 R90,92,93,94,95,98 R99,100,127,129 R140,141,144	RN-ERG-IC103J/CA-1	10k ohm	5%	1/8W	metalic	
R19, 82,153	RN-ERG-IC331J/CA-1	330 ohm	5%	1/8W	metalic	
R20	RN-ERG-IC101J/CA-1	100 ohm	5%	1/8W	metalic	
R21,23,80,81,86	RN-ERG-IC473J/CA-1	47k ohm	5%	1/8W	metalic	
R24, 51, 52,116 R119	RN-ERG-IC562J/CA-1	5.6k ohm	5%	1/8W	metalic	
R25,26,28,83,143	RN-ERG-IC223J/CA-1	22k ohm	5%	1/8W	metalic	
R33, 53, 54	RN-ERG-IC682J/CA-1	6.8k ohm	5%	1/8W	metalic	
R34,110,126,130 R131,132,133,143	RN-ERG-IC822J/CA-1	8.2k ohm	5%	1/8W	metalic	
R38, 39	RN-ERG-IC333J/CA-1	33k ohm	5%	1/8W	metalic	
R42, 43, 71,113 R114	RN-ERG-IC563J/CA-1	56k ohm	5%	1/8W	metalic	
R45, 48,109	RN-ERG-IC392J/CA-1	3.9k ohm	5%	1/8W	metalic	
R49, 50, 87,101 R120,121,124,125	RN-ERG-IC222J/CA-1	2.2k ohm	5%	1/8W	metalic	
R62	RN-ERG-IC334J/CA-1	330k ohm	5%	1/8W	metalic	
R63	RN-ERG-IC272J/CA-1	2.7k ohm	5%	1/8W	metalic	
R65	RN-ERG-IC152J/CA-1	1.5k ohm	5%	1/8W	metalic	
R66	RN-ERG-IC120J/CA-1	12 ohm	5%	1/8W	metalic	
R67, 161	RN-ERG-IC220J/CA-1	22 ohm	5%	1/8W	metalic	
R68	RN-ERG-IC824J/CA-1	820k ohm	5%	1/8W	metalic	
R69	RN-ERG-IC471J/CA-1	470 ohm	5%	1/8W	metalic	
R70	RN-ERG-IC225J/CA-1	2.2M ohm	5%	1/8W	metalic	
R72	RN-ERG-IC273J/CA-1	27k ohm	5%	1/8W	metalic	
R73, 75	RN-ERG-IC474J/CA-1	470k ohm	5%	1/8W	metalic	
R107	RN-ERG-IC182J/CA-1	1.8k ohm	5%	1/8W	metalic	
R111, 152	RN-ERG-IC470J/CA-1	47 ohm	5%	1/8W	metalic	
R112, 115	RN-ERG-IC274J/CA-1	270k ohm	5%	1/8W	metalic	
R122, 123	RN-ERG-IC122J/CA-1	1.2k ohm	5%	1/8W	metalic	
R134,135,136,137	RN-ERG-IC181J/CA-1	180 ohm	5%	1/8W	metalic	
R142	RN-ERG-IC681J/CA-1	680 ohm	5%	1/8W	metalic	
VARIABLE RESISTORS						
V 1	RN-ERV-0N1-228/CA	10k ohm		carbon		
V 2	RN-ERV-0N1-266	330k ohm		carbon		
V 3	RN-ERV-0N1-271	47k ohm		carbon		
V 4, 14	RN-ERV-0N1-230/CA	47k ohm		carbon		
V 6	RN-ERV-0N1-228	10k ohm		carbon		
V 7, 12	RN-ERV-1N2-174	20k ohm		carbon		○
V8,9,10,11,S2	RN-ERV-2P4-22B	10k ohm		carbon		○
ICs	(IC5) RN-EIM-μPD-1708G-534.514 → INCLUDING EPP-1372					
IC 1	RN-EIC-LA1140	FM IF, linear-monolithic				○
IC 2	RN-EIE-MH-1536	Noise blanker, hybrid				○
IC 3	RN-EIE-MH-1469	FM MPX., hybrid				○
IC 4	RN-EIC-MB3205P-SH	AM RF • CONV • IF • DET., linear-monolithic				○
IC 6	RN-EIC-UPC78L05	Voltage regulator, 5V, linear-monolithic				○
IC 7	RN-EIC-UPC78L05A	Voltage regulator, 5V, linear-monolithic				○
IC 8, 9	RN-EIC-TA7240AP	Power amp., linear-monolithic				○
TRANSISTORS						
1	RN-EVS-2SC3053-C/CA	Silicon				○
2	RN-EVS-2SC710-E	Silicon				○
3, 4, 5, 6, 7 8, 9,10,12,13 26,29,30,37	RN-EVS-2SD601-QRS/CA (RN-EVS-2SC3052-EF/CA)	Silicon				○
11, 14, 23, 24	RN-EVS-2SB709-QR/CA (RN-EVS-2SA1235-E/CA)	Silicon				○
15, 16, 31, 32	RN-EVS-2SC2405-RS/CA	Silicon				○
17	RN-EVS-2SC710-C	Silicon				○
18	RN-EVF-2SK49-F (RN-EVF-2SK195-F)	FET				○

Symbol No. (Fig. 6)	Stock No.	Description	Remark
Q19	RN-EVF-2SK30ATM-Y	FET	○
Q20	RN-EVS-2SA564-PQ	Silicon	○
Q27, 28	RN-EVF-2SK49-H (RN-EVF-2SK193-H1)	FET	○
Q33, 34	RN-EVS-2SD655S	Silicon	○
Q35, 40	RN-EVS-2SC1847-PQR	Silicon	○
DIODES			
D (1, 2)(30,31)(34,35)	RN-EDS-MA151WK/CA (RN-EDS-MC2838/CA)	Silicon	○
D 3, 4, 5,11,12 13,14,15,16,17 18,19,20,21,22 23,24,25,26,27 40,41,42,51	RN-EDS-1S1555	Silicon	○
D 8, 9, 10	RN-EDC-KV1235Z2	Varactor	○
D28, 29, 33	RN-EDT-MZ309	Zener	○
D32, 36, 37	RN-EDS-10E1	Silicon	○
D38, 39	RN-EVV-C10DK200	Varister	○
D50	RN-EDT-MZ310	Zener	○
COILS and TRANSFORMERS			
L 1	RN-ELH-C6R8-3	Choke, 6.8 μH	
L 2, 3	RN-ELH-C680-3/TP	Choke, 68 μH	
L 4	RN-ELT-1006/CA	Trap coil, 900 kHz	
L 5	RN-ELT-1002	Trap coil, 900 kHz	
L 6, 10	RN-ELH-C102-5/TP	Choke, 1 mH	
L 7	RN-ELL-336	Choke, 2.6 mH	
L 8	RN-ELL-1007	Choke, 1.5 mH	
L 9	RN-ELL-1008	Choke, 0.8 mH	
T 1	RN-ETF-1004A	FM IF	
T 2	RN-ETX-1009/CA	AM IF (BC)	
T 3	RN-ETA-1020/CA	AM IF	
T 4	RN-ETA-1021/CA	AM IF	
T 5	RN-ETX-1007/CA	AM STEP UP (BC)	
T 6	RN-ETX-1008/CA	AM IF	
T 7	RN-ETH-1012/CA	AM OSC	
CERAMIC FILTERS			
CF 1, 2	RN-EFC-F2-120	FM IF, 10.7 MHz	
CF 3	RN-EFC-A1-129	AM IF, 455 kHz	
CF 4	RN-EFC-A1-130	AM IF, 455 kHz	
MISCELLANEOUS ELECTRICAL			
XC 1	RN-EXC-1018	Crystal, 4.56 MHz	
RY 1	RN-EED-1002A	DC relay	○
S 1, 3	RN-ESB-2L2-162	Push switch	○
S 4	RN-ESR-1014	Rotary switch	○
S (5-11)	RN-ESZ-1005	Rubber	
PL 1, 2	RN-EPM-1089A	Lamp	
PL 3, 4	RN-EPM-1107	Lamp	
J 1	RN-EJA-114A	Receptacle, antenna	
J 2	RN-EWJ-3212	9P-9P connector and lead assembly	
J 3	RN-EWJ-3272A	3P-4P connector and lead assembly	
J 4, 5	RN-EWJ-3214	2P, 6P-10P connector and lead assembly	
J 6	RN-EWJ-3215	6P-7P connector and lead assembly	
J 7	RN-EJU-S06W-751R	6P connector×2	
J 8	RN-EJU-S10W-754R	10P connector	
J 9, 10	RN-EJU-S12W-649	12P connector	
J11	RN-EWJ-3213A	4P-4P connector and lead assembly	
J12	RN-EWJ-3216	7P-7P connector and lead assembly	
J30	RN-EJU-S08W-825	8P DIN connector	
P 2	RN-EJU-S09V-568	9P connector	
P 3	RN-EJU-S03V-562	3P connector	
P 4	RN-EJU-S06V-565	6P connector	
P 5	RN-EJU-S02V-561	2P connector	
P 6	RN-EJU-S06V-565B	6P connector (BLK)	
P 7	RN-EJU-S12V-313	12P connector	
P 8	RN-EJU-S10V-312	10P connector	

SM-518SA

Symbol No. (Fig. 6)	Stock No.	Description	Remark
P21	RN-EJU-S05V-379	5P connector	
P22	RN-EJU-S09V-381	9P connector	
P23	RN-EJU-S10V-823	10P connector	
FM FRONT END	RN-ETV-1012	Electronic tuner	
————	RN-EJU-S10V-823	10P connector (short connector, See J23 in Fig. 13)	
————	RN-EJU-R04V-537	4P DIN connector (short connector, See J30 in Fig. 13)	
————	RN-EPP-1372-AE-3043/S	Front PC board (include IC5 and LCD)	

Illus. No. (Fig. 5)	Stock No.	Description	Q'ty	Remark
MECHANICAL				
1	RN-MTD-1093A	Chassis	1	
2	RN-MTD-1094	Chassis, bottom cover	1	
3	RN-MTD-1095B	Chassis, main	1	
4	RN-MDP-1222B	Escutcheon	1	○
5	RN-MYN-1057	Knob, VOL	1	○
6	RN-MYN-1058	Knob, BAL • FADER	2	○
7	RN-MYN-1077	Knob, TUNE	1	○
8	RN-MYD-1038	Knob, TONE	1	○
9	RN-MYB-1275	Button, AM/FM • SENS	2	○
10	RN-MLC-1118	Spacer	1	
11	RN-MHE-1297B	Holder	1	
12	RN-MCE-1058	Clamp	1	
13	RN-MCE-1069	Clamp	1	
14	RN-MHE-1298B	Holder	2	
15	RN-MSP-167	Spring	1	
16	RN-MSE-1204	Spacer	1	
17	RN-MSE-1215	Spacer	1	
18	RN-MPM-2595C	PC board, main	1	
19	RN-MPC-1405B	PC board, AM • FM	1	
20	RN-MPC-1458	PC board, filter • DIN	1	
21	RN-MPC-1412A	PC board, power	1	
22	RN-EPP-1372-AE-3043/S	PC board assembly, front PC board	1	
23	RN-MHE-1288	Holder	1	
24	RN-MHE-1271	Holder	1	
25	RN-MCE-1070A	Clamp	1	
26	RN-MET-253	Special screw	3	
27	RN-ESZ-1005	Rubber	1	
ASSEMBLY MATERIAL				
30	RN-MET-168	Special screw	11	
31	RN-MET-147	Special screw	2	
32	F6-SBD-3×10S	Screw	3	
33	RN-MSN-1003	Nut	2	
34	RN-MEN-70	Special nut	2	
35	RN-MET-147	Special screw	4	

NOTE: Specifications subject to change without prior notice.