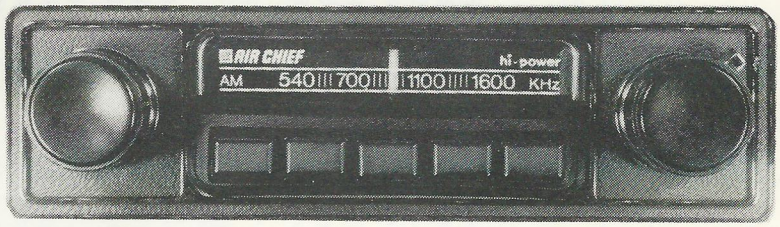
Service
Service
Service



Service Manual

12 V

SPECIFICATIONS

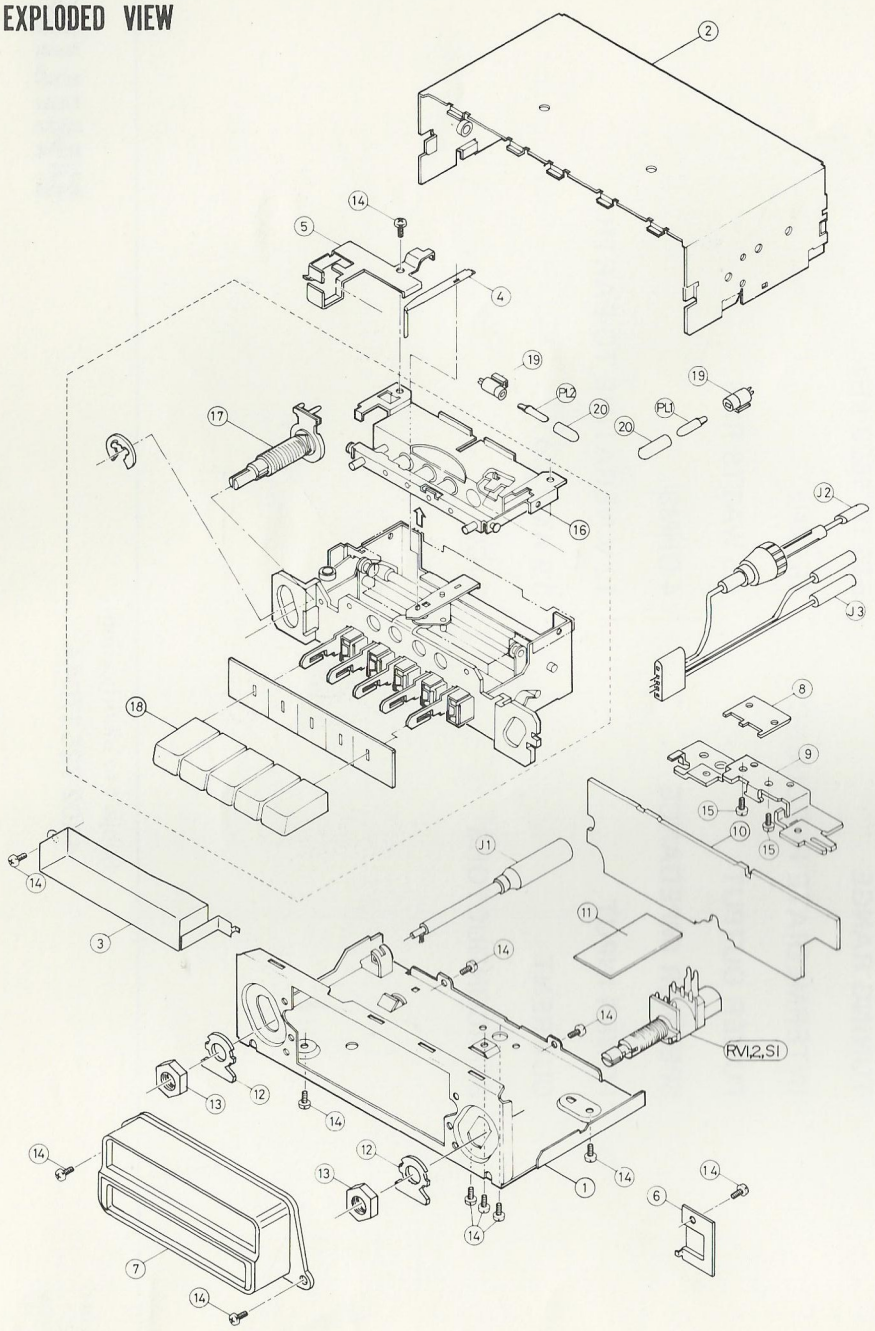
TUNING RANGE	515 TO 1620 kHz
INTERMEDIATE FREQUENCY	455 kHz
POWER OUTPUT	4.5 WATTS RMS.
SPEAKER IMPEDANCE	4 OHMS
POWER INPUT	12 V NEGATIVE TO EARTH
CURRENT	0.9 AMP MAX.
SEMICONDUCTORS	2 IC's

Subject to modification

4802 725 17044

PHILIPS

EXPLODED VIEW



REPLACEMENT PARTS LIST

Ref. No.	Description	Service Code
CAPACITORS		
Note: All Capacitors are standard Ceramic, Mylar, or Polycarbonate types unless specified otherwise.		
C4	4.7μF 25V Electro	4802 124 47034
C16	22μF 16V Electro	4802 124 47021
C17	100μF 16V Electro	4802 124 47049
C20	1μF 50V Electro	4802 124 47037
C24	100μF 10V Electro	4802 124 47002
C25	47μF 10V Electro	4802 124 47016
C26	1000μF 16V Electro	4802 124 47051
C27	1000μF 10V Electro	4802 124 47003
CV1	Trimmer Antenna	4802 535 77083
CV2	Trimmer RF	4802 125 57043
CV3	Trimmer Osc.	4802 125 57038
RESISTORS		
NOTE: All Resistors are standard values and tolerances unless specified otherwise.		
RV1, 2. S1	Vol. + Tone + Switch	4802 102 27075
SEMICONDUCTORS		
IC1	HA1199	4802 209 87122
IC2	UPC1181HEFE	4802 209 87181

Ref. No.	Description	Service Code
COILS & TRANSFORMERS		
L1-3	Coil assy. Tuner	4802 158 97005
L4	Choke. 4.7μH	4802 158 17104
L5	Choke. 2.5mH	4802 158 17199
L6	Choke. 0.74μH	4802 158 17077
T1	Oscillator (red)	4802 156 27097
T2-3	Transformer (pink)	4802 153 17165
T4-5	Transformer (yellow)	4802 153 17166
MISCELLANEOUS		
	Tuner assy.	4802 210 17112
	Shaft Tuning	4802 535 77083
	Pushbutton	4802 410 27008
F1	Fuse. 3 amps.	4802 253 47006
J1	Receptable. Antenna	4802 320 17014
NL1	Lamp. Neon	4802 134 27026
PL1, 2	Lamp. Dial	4802 134 47012
	Pointer	4802 450 87101
	Dialscale. Printed (QP69)	4802 459 57044
	Dialscale. Printed (AN499)	4802 459 57043
	Knob. (Rear Tuning)	4802 413 97111
	Knob. (Tone)	4802 411 57013
	Knob. (Volume & Tuning)	4802 413 47098
	Trimplate	4802 459 47053
	PC Board. Vol.	4802 466 17077

WIRING ON PC BOARDS

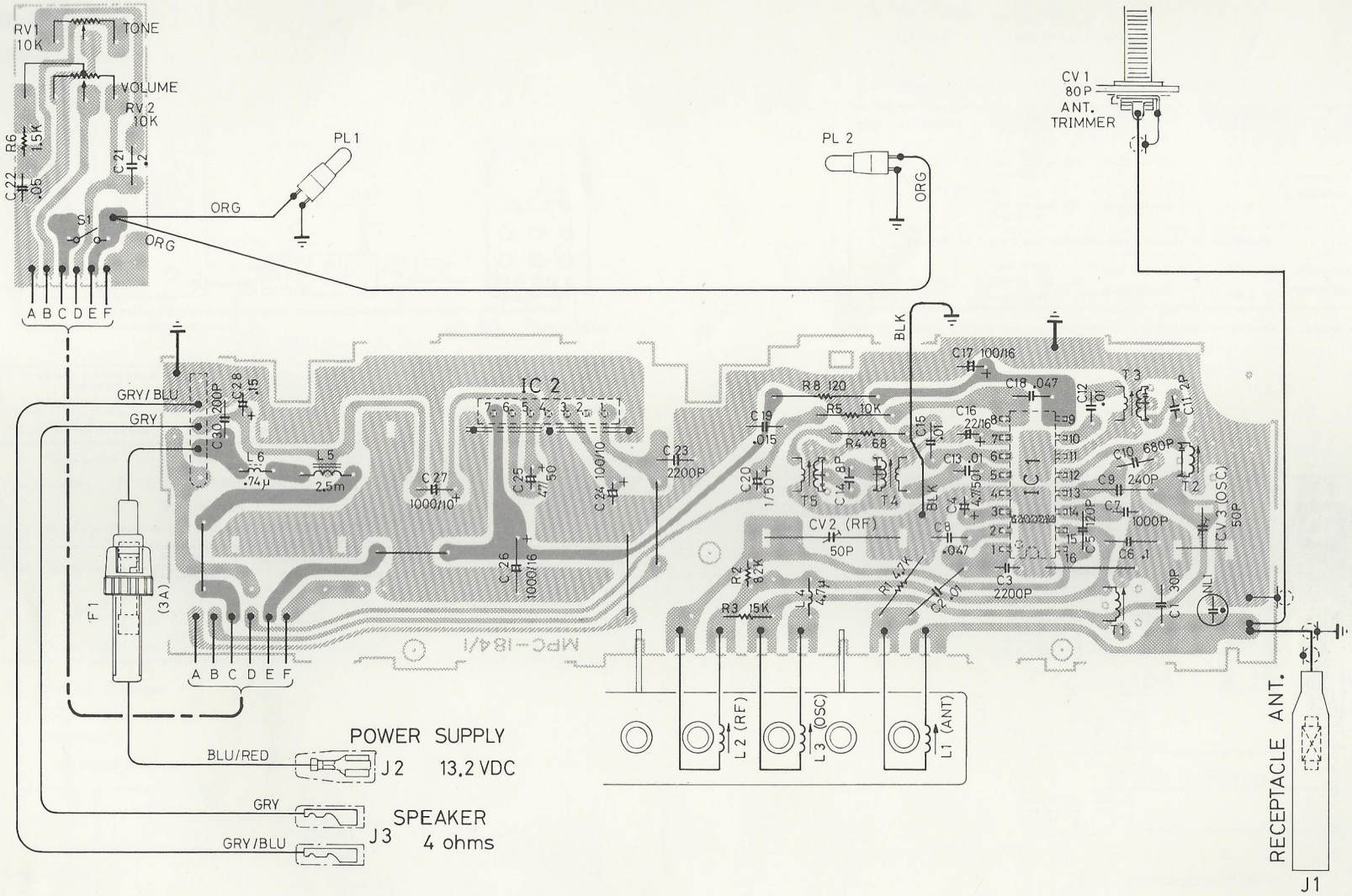
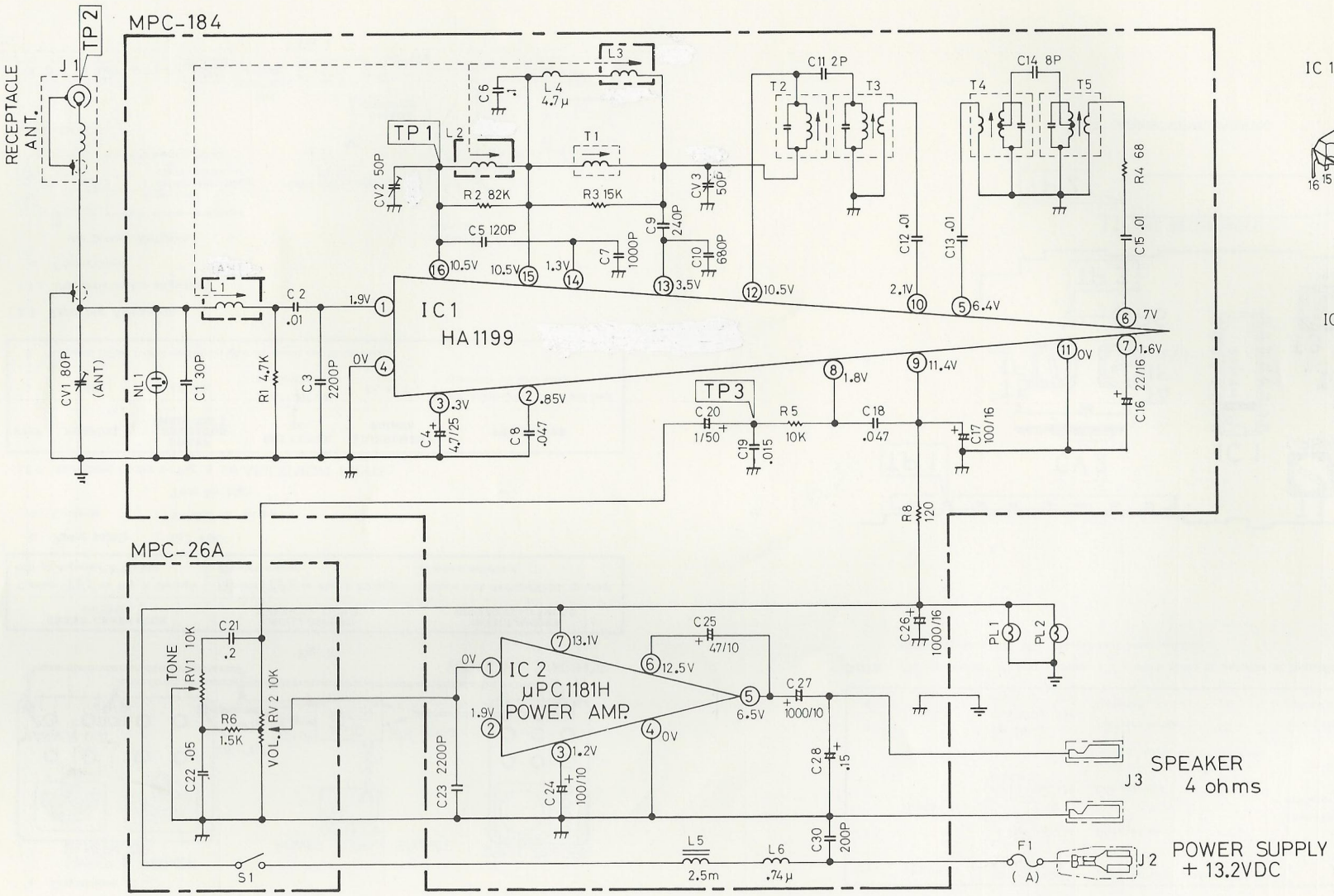
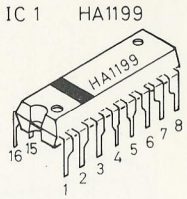


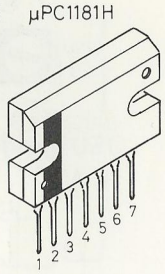
Fig. 2

IC No. \ Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
IC 1	1.9V	.85V	.3V	0V	6.4V	.7V	1.6V	1.8V	11.4V	2.1V	0V	10.5V	3.5V	1.3V	10.5V	10.5V
IC 2	0V	1.9V	1.2V	0V	6.5V	12.5V	13.1V									

SCHEMATIC







NOTES: 1. All resistance in ohms, K=10^3

2. All capacitance in μF, P=$\mu\mu$F

3. DC voltages against the chassis measured with 100k ohms/volt meter, power supply set at +13.2 VDC, no signal input.

Fig. 1

AM ALIGNMENT

〔1〕 IF Alignment

(1) Preparations for alignment

a. Connections

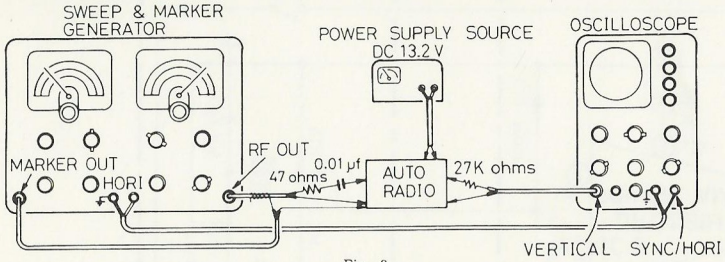


Fig. 3

SWEEP GENERATOR OUTPUT	OSCILLOSCOPE VERTICAL INPUT	OSCILLOSCOPE HORIZONTAL INPUT
Connect TP1 in Fig. 5 through 0.01 μF capacitor & 47-ohm	Connect TP3 in Fig. 5 through 27k-ohm resistor	Connect with HORIZONTAL terminal of sweep generator

b. Power supply : 13.2 VDC

c. Controls : Volume for minimum
Tone for high

(2) Alignment (Refer to Fig. 5 for ADJUSTMENT POINTS.)

STEP	PURPOSE	SWEEP GENERATOR FREQUENCY	SET TUNER TO	ADJUSTMENT POINTS	PROCEDURE
1	IF	455 kHz	Near 1,000 kHz no signal exists	T_2 to T_5	Get maximum IF curve and best symmetry on both sides.
2	Repeat STEP 1 until no further gain in output can be obtained.				

〔2〕 Tracking Alignment

(1) Preparations for alignment

a. Connections

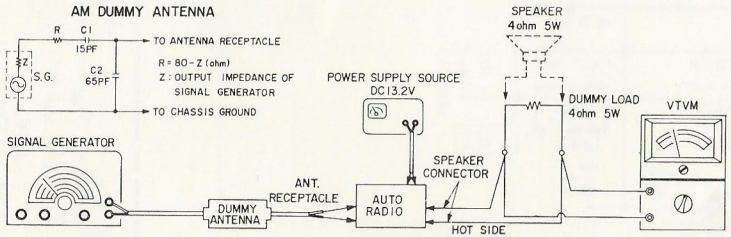


Fig. 4

b. Power supply : 13.2 VDC

c. Controls : Volume for maximum
Tone for high

(2) Alignment (Refer to Fig. 5 for ADJUSTMENT POINTS.)

STEP	PURPOSE	GENERATOR FREQUENCY	SET TUNER TO	ADJUSTMENT POINTS	PROCEDURE
1	Tuning range	1,640 kHz (400 Hz, 30%, AM modulated)	High-end stop	CV_3	Adjust for maximum meter indication.
2		505 kHz (400 Hz, 30%, AM modulated)	Low-end stop	T_1	
3	Repeat STEP 1 and 2 until no further gain in output can be obtained.				
4	Tracking	1,400 kHz (400 Hz, 30%, AM modulated)	Just tune in SG frequency	CV_1	Adjust for maximum meter indication.
5				CV_2	

NOTE: Always readjust antenna trimmer CV_1 when radio or antenna is reinstalled, tuning in a weak station around 1,400 kHz and get maximum volume.

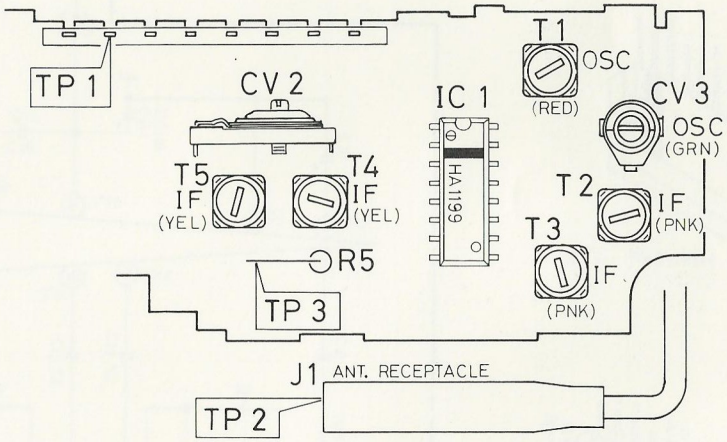


Fig. 5 (ADJUSTMENTS POINTS)