

ERT

SERVICE CHART

2193

ALBA

Radio/cassette

This is a combined two-band AM/FM portable radio and cassette tape recorder. Features include automatic level control, afc, tape autostop, built-in electret microphone. It may be operated from internal batteries or from AC mains. A socket is provided for the connection of an external microphone and a jack socket permits the connection of earphones. A 5-pin input/output socket is fitted.

Battery supply
6V DC from 4 × 1.5V cells of type HP11 or equivalent

Mains supply
220-240V 50Hz

Transistors
TR1 2SC1359B
TR2 2SC1359A
TR3 2SC829B
TR4 2SC829B

TR5 2SC829B
TR6 2SB173C
TR7 2SB175B
TR8 2SA564P
TR9 2SB175B
TR10 2SC1317Q
TR11 2SC1317Q

Diodes
D1 0A90
D2 0A90
D3 1S1212
D4 1S1212
D5 0A90
D6 0A90
D7 0A90
D8 0A90
D9 MV-3
D10 MV-3
D11 0A90
D12 1N4002
R13 1N4002
D14 1N4002

D15 1N4002
D16 1S1210

Radio Specification

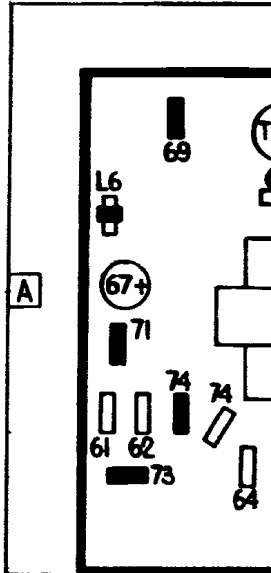
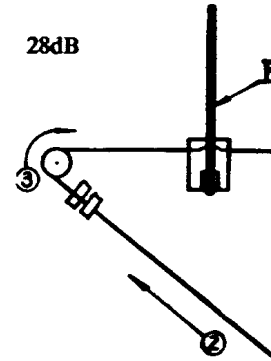
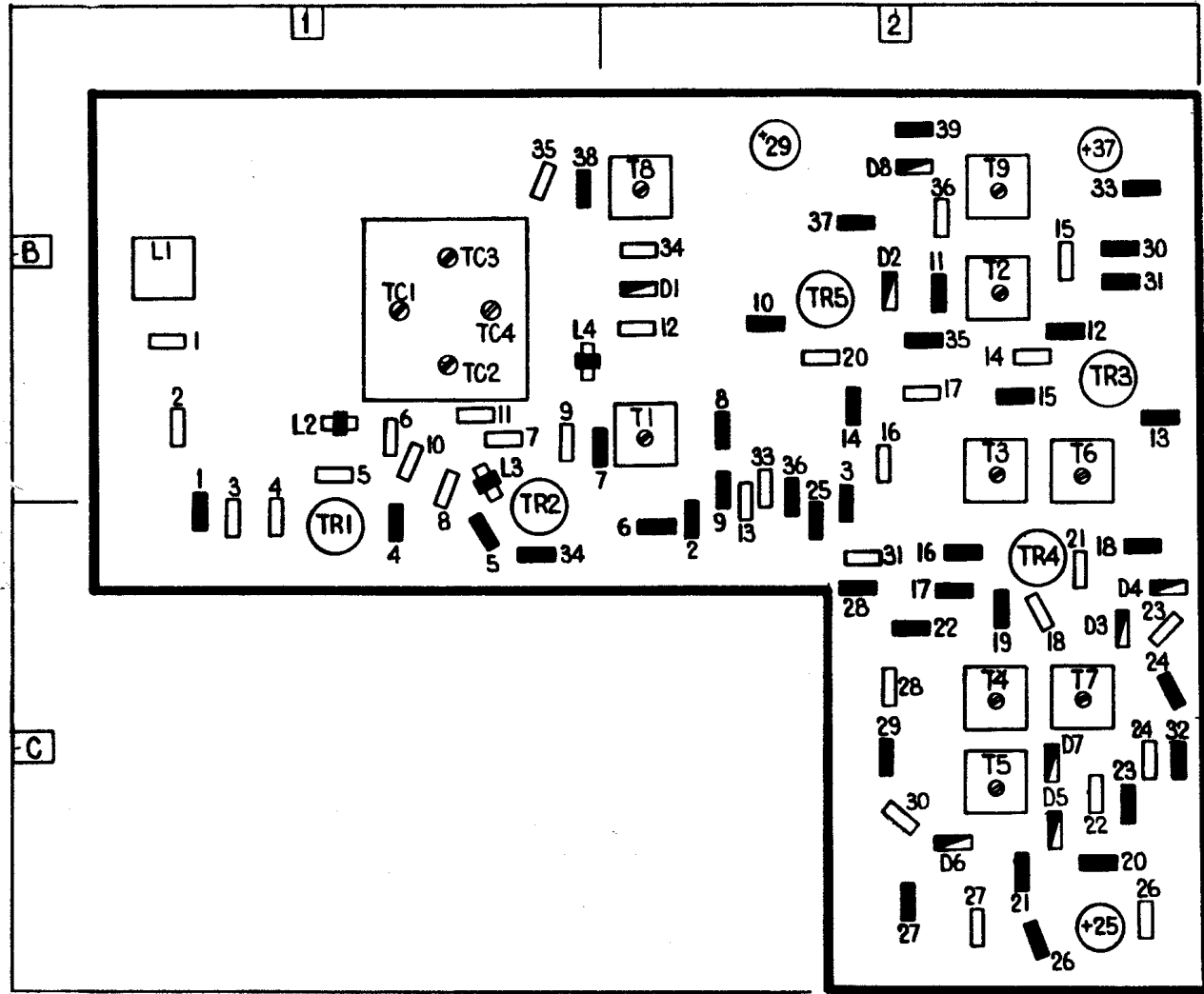
Waveband coverage
MW: 505-1650kHz
VHF: 87.5-110MHz

IFs
AM: 470kHz ± 3kHz
FM: 10.7MHz ± 200kHz

Usable sensitivity
AM: 200µV/m (S/N 20dB)
FM: 22dB (S/N 30dB)

IF rejection
AM: 27dB FM: 60dB

Image rejection
AM: 35dB FM: 28dB



ALBA CR27

Radio/cassette recorder

1N4002
1S1210

Radio Specification

Coverage
505-1650kHz
87.5-110MHz

470kHz \pm 3kHz
10.7MHz \pm 200kHz

Sensitivity
200 μ V/m (S/N 20dB)
22dB (S/N 30dB)

27dB FM: 60dB

35dB FM: 28dB

Maximum sensitivity (AM)
56dB

Distortion
AM: 4% FM: 3%

AM bandwidth
4.5kHz to 9kHz (at 5dB)

AFC holding range (FM)
400-800kHz (61dB input)

Tape and Audio Specification

Audio output
800mW RMS maximum

Frequency response
Record and Playback: 125-6300Hz

Signal/Noise ratio
Playback: 46dB
Record: 36dB

Input sensitivities
MIC input: 0.3mV (-3dB SRL)
AUX input: 100mV (-3dB SRL)

Wow and flutter
0.35% (WRMS)

Hum and noise
3mV (volume min) 50mV (max)

Erase ratio
50dB

Manufacturers
Alba (Radio & Television) Ltd., Bull Lane, Edmonton, London N18 1SD. Tel: 01-803 4451.

Service department
As above.

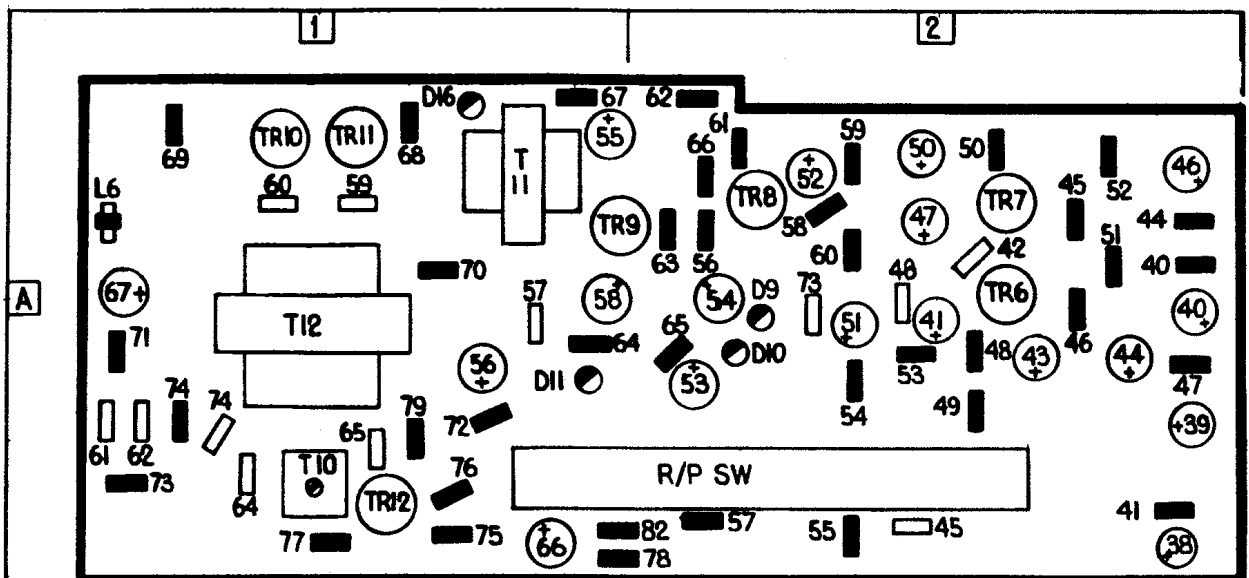
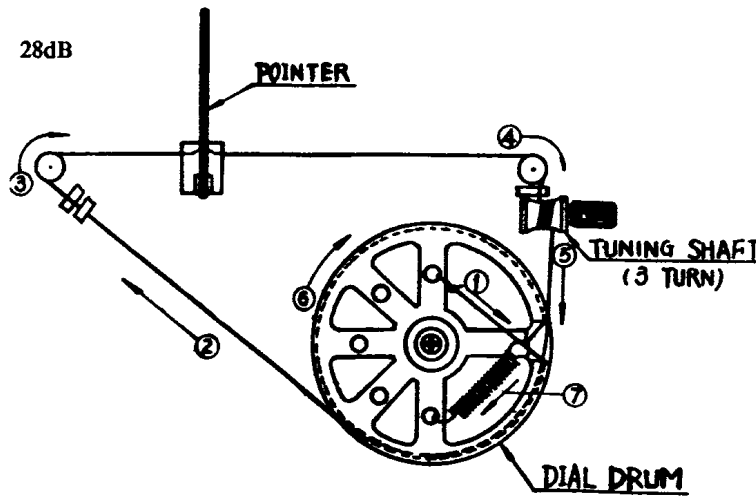
Alignment

Equipment required

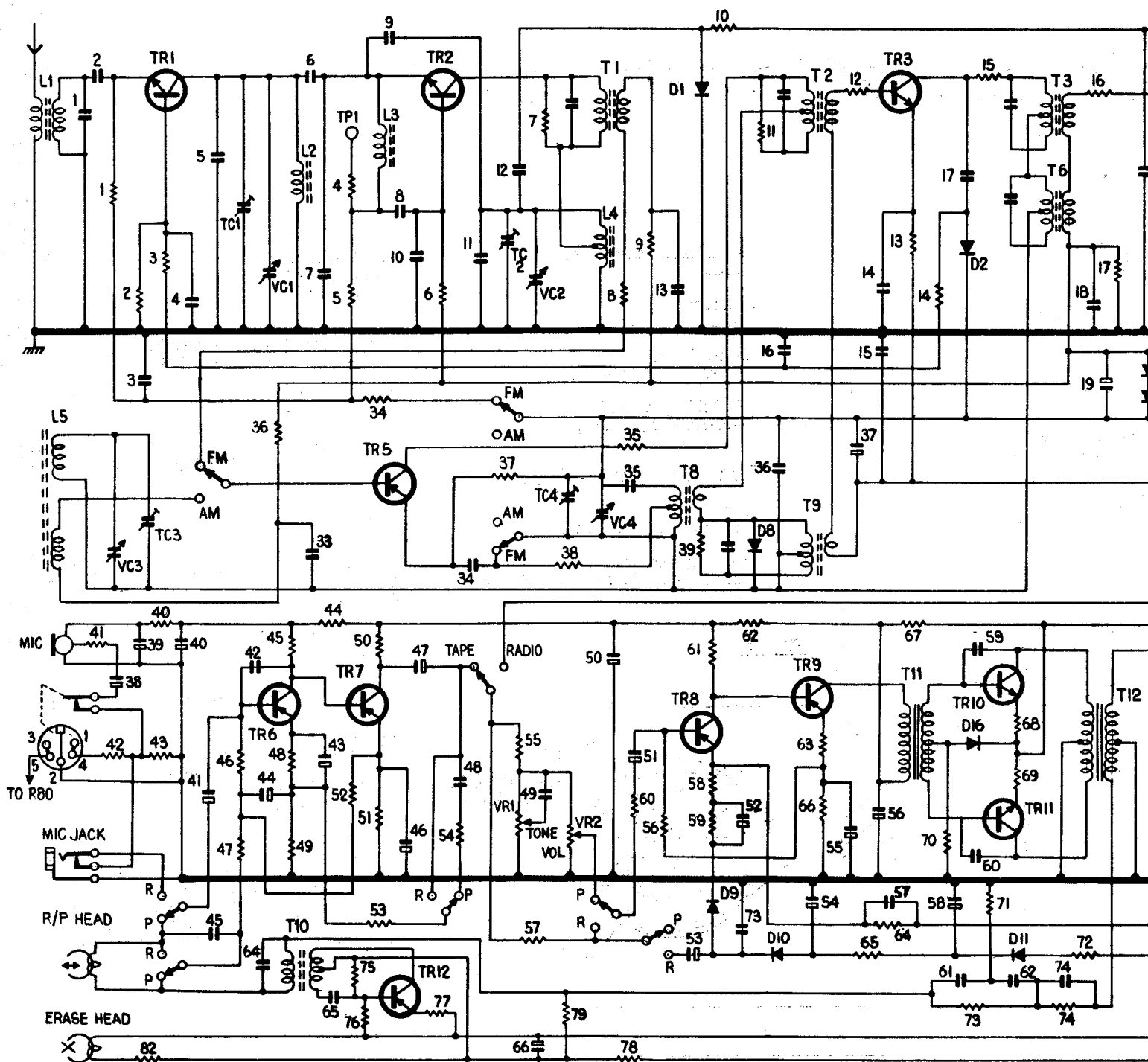
- (1) Audio output meter
- (2) AM/FM signal generator
- (3) Sweep generator
- (4) Oscilloscope
- (5) Coupling loop

AM alignment

Connect output meter across speaker, connect signal generator to coupling loop placed near to ferrite rod aerial. Switch radio to AM and turn volume control to maximum. Tune radio to extreme high frequency end of scale.



R	1	2	3	46	36	49	4	5	50	34	6	37	7	38	60	8	9	61	10	11	12	13	14	15	68	72	16	17			
C	1	2	TC3	3	4	5	42	44	33	6	7	9	8	10	11	TC2	12	49	TC4	35	13	52	16	37	14	57	17	59	18	19	20
L	L1	L5			L2	L3						T1	L4								T8	T9	T2								



Inject a signal of 470kHz 30% AM 400Hz and adjust the cores of T6, T7 and T9 for maximum output. Repeat these adjustments until no further improvement can be obtained.

Return signal generator to 600kHz tune radio to low frequency end of scale and adjust core of oscillator coil T8 for maximum output. Retune radio to high frequency end of scale, inject a signal of 1500kHz and adjust oscillator trimmer TC4 for maximum output. Repeat the T8 and TC4 adjustments.

Inject a signal of 600kHz, tune in signal then adjust L5 on ferrite rod for maximum output. Inject a signal of 1400kHz, tune in signal then adjust aerial trimmer TC3 for maximum output. Repeat the L5 and TC3 adjustments.

FM alignment

Switch radio to FM, tune to high frequency end of scale and turn volume control to maximum. Connect sweep generator across test point TP1 and earth. Connect oscillator across R55/VR1. Inject FM sweep signal of 10.7MHz and adjust the cores of T1, T2, T3 and T4 to obtain maximum symmetrical response. Then adjust core of T5 for symmetrical S-curve centred on 10.7MHz.

Disconnect sweep generator and oscilloscope. Connect signal generator across telescopic aerial and connect audio output meter across speaker.

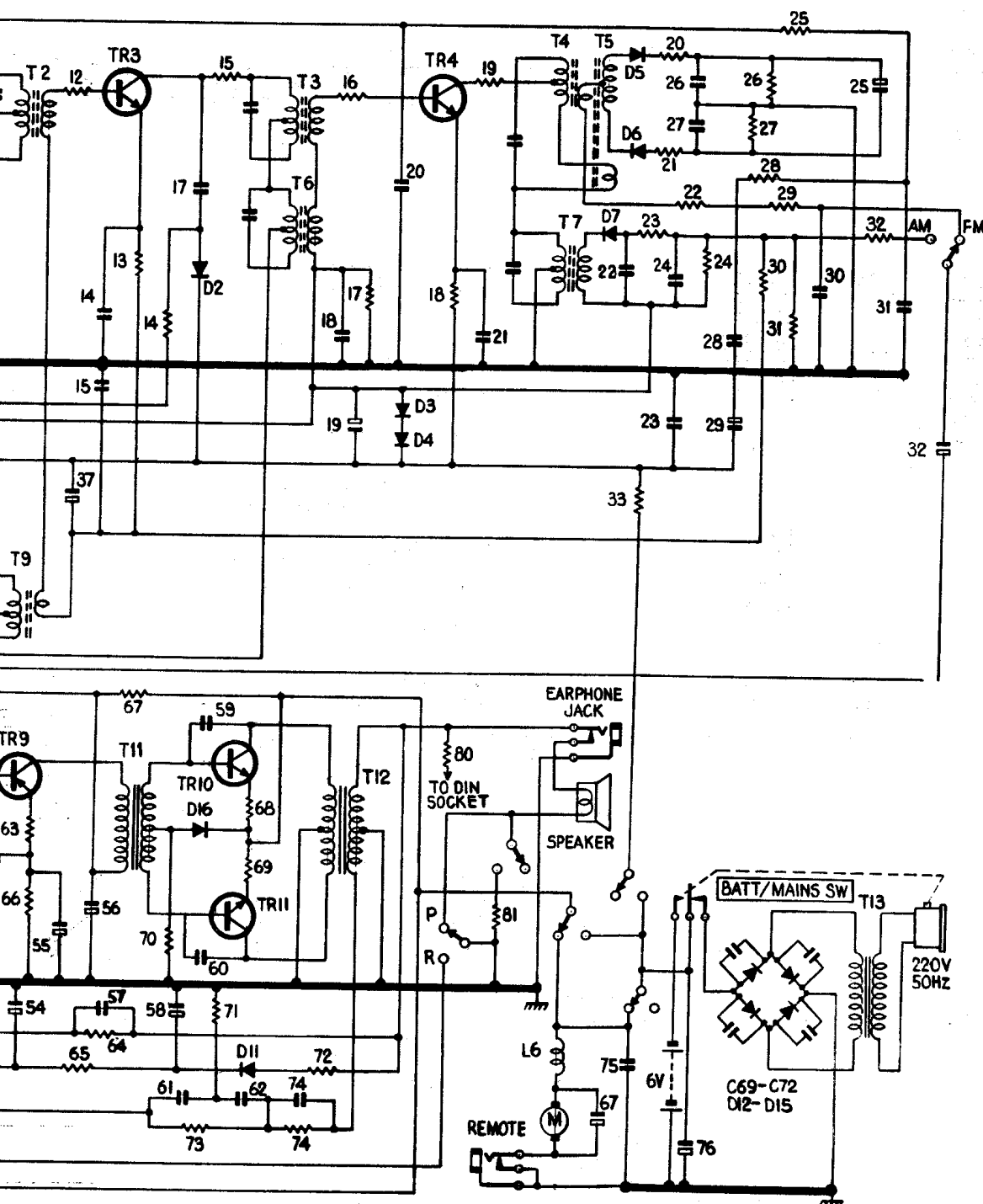
Inject FM signal of 86.5MHz and, with radio tuned to low frequency end of scale, adjust FM oscillator coil L4 by adjusting coil turn spacing to obtain maximum output.

Retune radio to high frequency end of scale, inject a signal of 110MHz then adjust trimmer TC2 for maximum output. Repeat the L4 and TC2 adjustments.

Inject a signal of 90MHz, tune in the signal then adjust aerial coil L2 by altering coil turn spacing to obtain maximum output. Inject a signal of 106MHz, tune in the signal then adjust aerial trimmer TC1 for maximum output. Repeat the L2 and TC1 adjustments.

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12	13	14	15	68	72	16	17	18	19	23	20	21	22	24	27	26	30	25	32		
63	66	65	67	70	73	71	69	74	80	81	33	28	29	31							
37	4	57	17	59	18	19	20	21	22	75	24	26	27	28	69	70	30	25	31	32	
54	55	15	56	58	61	60	62	74	67	23	76	29	71	72							
T2					T3	T6			T4	T7										T13	
T9					T11				T12												



...ne radio to high frequency end of ...ct a signal of 110MHz then adjust ...TC2 for maximum output. Repeat ...d TC2 adjustments.
 ...a signal of 90MHz, tune in the ...n adjust aerial coil L2 by altering ...spacing to obtain maximum out- ...t a signal of 106MHz, tune in the ...n adjust aerial trimmer TC1 for ... output. Repeat the L2 and TC1 ...ts.

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RESISTORS						
R1	560	B1		R22	56	C2
R2	82K	C2		R23	1K	C2
R3	82K	B2		R24	56K	C2
R4	1K	C1		R25	100K	B2
R5	1K2	C1		R26	4K7	C2
R6	2K2	C2		R27	4K7	C2
R7	56K	B1		R28	100K	C2
R8	220	B2		R29	2K2	C2
R9	3K3	C2		R30	5K6	B2
R10	100K	B2		R31	56K	B2
R11	56K	B2		R32	10K	C2
R12	180	B2		R33	156	B2
R13	680	B2		R34	100	B1
R14	10K	B2		R35	470	B2
R15	180	B2		R36	33K	B2
R16	100	C2		R37	1K2	B2
R17	1K8	C2		R38	10	B1
R18	390	C2		R39	150K	B2
R19	220	C2		R40	470	A2
R20	1K	C2		R41	4K7	A2
R21	1K	C2		R42	47K	
				R43	2K2	

R44	1K	A2
R45	3K3	A2
R46	10K	A2
R47	22K	A2
R48	1K	A2
R49	390	A2
R50	3K3	A2
R51	2K2	A2
R52	47K	A2
R53	4K7	A2
R54	12K	A2
R55	10K	A2
R56	39K	A2
R57	4K7	A2
R58	47	A2
R59	390	A2
R60	1K	A2
R61	8K2	A2
R62	270	A2
R63	100	A2
R64	12K	A1
R65	1K	A2
R66	560	A2
R67	68	A1
R68		A1
R69		A1
R70	1K	A1
R71	100K	A1
R72	100	A1
R73	100K	A1
R74	68K	A1
R75	8K2	A1
T76	4K7	A1
R77	51	A1
R78	150	A2
R79	100K	A1
R80	10K	
R81	15	
R82	100	A2
VR1	50K	
VR2	50K	

CAPACITORS		
C1	25p	B1
C2	20p	B1
C3	5n	B1
C4	5n	B1
C5	22p	B1
C6	4p	B1
C7	30p	B1
C8	300p	B1
C9	6p	B1
C10	5n	B1
C11	20p	B1
C12	6p	B2
C13	5n	B2
C14	20n	B2
C15	20n	B2
C16	20n	B2
C17	12p	B2
C18	20n	C2
C19	33µ	C2
C20	20n	B2
C21	20n	C2
C22	10n	B2
C23	20n	C2
C24	10n	C2
C25	4µ7	B2
C26	1n	C2
C27	1n	B2
C28	500p	C2
C29	470µ	B2
C30	10n	C2
C31	20n	C2
C32	1µ	
C33	20n	B2
C34	100n	B2
C35	140p	B1
C36	20n	B2
C37	10µ	B2
C38	1µ	A2
C39	10µ	A2
C40	33µ	A2
C41	1µ	A2
C42	500p	A2
C43	1µ	A2
C44	1µ	A2
C45	1n	A2
C46	33µ	A2
C47	4µ7	A2
C48	15n	A2
C49	15n	
C50	220µ	A2
C51	4µ7	A2
C52	47µ	A2
C53	10µ	A2
C54	47µ	A2
C55	220µ	A1
C56	330µ	A1
C57	1n	A1
C58	220µ	A1
C59	6n8	A1
C60	6n8	A1
C61	2n	A1
C62	2n	A1
C64	8n	A1
C65	22n	A1
C66	220µ	A1
C67	100µ	A1
C69	20n	
C70	20n	
C71	20n	
C72	20n	
C73	4n7	A2
C74	1n	A1
C75	20n	
C76	2200µ 10V	