

CIRCUIT ALIGNMENT

Equipment Required.—An accurately calibrated A.M. signal generator, modulated 30 per cent at 400c/s; an A.C. voltmeter for use as audio output meter; a 0-50μA meter for use as D.C. output meter; a 100kΩ resistor and a non-metallic screwdriver type trimming tool.

If two peaks are obtained when adjusting the iron-dust coil cores, the correct peak is the one nearer the adjusting end of the coil former.

Allow the receiver and signal generator to warm up for at least 10 minutes before commencing the alignment procedure. It is important to maintain the signal generator output as low as possible to avoid A.G.C. action.

A.M. I.F. Alignment

- 1.—Remove the chassis from the cabinet, then remove the printed circuit board from the metal chassis panel as described in "Dismantling" overleaf. Connect the audio output meter across T1 secondary winding and connect

signal generator, via a dummy aerial, across L9 (A2).

- 2.—Switch the receiver to M.W., turn volume control to maximum and tone control fully clockwise. Feed in a modulated 470kc/s signal and adjust the cores of L20 (C1), L21 (C1), L15 (B1) and L16 (B1) in that order for maximum output.
- 3.—Repeat operation 2 until no further improvement in output can be obtained. Disconnect signal generator.

ALBA - 3422

Resistors

R1	270kΩ	E4
R2	1MΩ	E5
R3	22kΩ	E4
R4	6.8kΩ	B2
R5	1MΩ	B3
R6	1MΩ	B2
R7	100kΩ	B1
R8	220Ω	B1
R9	33kΩ	B1
R10	2.2kΩ	B1
R11	56kΩ	B1
R12	22kΩ	C1
R13	1MΩ	B2
R14	2.2kΩ	C1
R15	10kΩ	C1
R16	100kΩ	C1
R17	330kΩ	C2
R18	56kΩ	C1
R19	500kΩ	C2
R20	1kΩ	C2
R21	10MΩ	C1
R22	220kΩ	D1
R23	2.2kΩ	D2
R24	100kΩ	D2
R25	470kΩ	D1
R26	10kΩ	D1
R27	220Ω	D1
R28	2.5kΩ	C3
R29	300Ω	B3
R30	3.3kΩ	C3
R31	70Ω	C3

Capacitors

C1	40pF	E5
C2	20pF	E5
C3	0.001μF	E4
C4	10pF	E5
C5	—	E4
C6	—	E4
C7	0.001μF	E5
C8	8.2pF	E5

C9	8.2pF	E5
C10	14pF	E5
C11	9pF	E5
C12	—	E4
C13	21pF	E5
C14	8pF	E5
C15	75pF	E5
C16	47pF	A2
C17	0.002μF	B2
C18	100pF	A1
C19	—	A1
C20	0.001μF	B2
C21	0.05μF	B1
C22	100pF	B1
C23	600pF	B1
C24	123pF	B1
C25	0.05μF	B1
C26	12pF	B1
C27	200pF	B1
C28	200pF	B1
C29	0.1μF	C2
C30	0.01μF	C1
C31	0.01μF	C1
C32	12pF	C1
C33	30pF	C1
C34	0.002μF	C1
C35	200pF	C1
C36	200pF	C1
C37	100pF	C1
C38	100pF	B2
C39	0.002μF	D1
C40	4μF	D1
C41	0.02μF	C2
C42	0.01μF	C1
C43	0.05μF	D1
C44	0.005μF	D1
C45	100μF	C2
C46	100μF	C2
C47	0.02μF	D1
C48	0.002μF	D1
C49	0.02μF	D2
C50	0.002μF	C1

C51	0.002μF	C1
C52	0.002μF	B2
C53	0.001μF	E5
C54	0.001μF	E5
C55	0.002μF	A1

Coils*

L1	—	E5
L2	—	E5
L3	—	E4
L4	—	E5
L5	—	E5
L6	—	E5
L7	—	E5
L8	—	A2
L9	5.5	A2
L10	(total) 2.5	B1
L11	—	B2
L12	0.75	B1
L13	0.6	B1
L14	1.0	B1
L15	10.0	B1
L16	10.0	B1
L17	0.6	C1
L18	0.4	C1
L19	—	C1
L20	10.0	C1
L21	10.0	C1
L22	2.5	C3

Miscellaneous*

T1	{ a 300.0 b 0.5 }	D3
Therm. 1 ¹	1010	C1
Therm. 2 ¹	1005	C3
FB1, FB2	—	E5
S1-S6	—	B2
S7, S8	—	D2

*Approximate D.C. resistance in ohms. ¹Mullard.

Valve	Anode (V)	Screen (V)	Cathode (V)
V1a UCC85	†	98	—
V1b UCC85	†	70	—
V2a UCH81	*	80	—
V2b UCH81	{ * †	140 122	3.2 2.9
V3 UF89	{ * †	140 130	85 80
V4d UABC80	{ * †	59 55	— —
V5 UL84	{ * †	240 ¹ 235 ²	167 150
V6 UY85	230 ³	—	255-0 ⁴

¹Anode current 56 mA.

²Anode current 50 mA.

³A.C. reading.

⁴Cathode current 90 mA. approximately.

*Receiver switched to A.M.

†Receiver switched to F.M.

F.M. I.F. Alignment

- 4.—Disconnect the yellow lead from tag 16 on the printed circuit panel (location reference B2), connect signal generator output between the yellow lead and chassis. Connect the 0-50μA meter with the 100kΩ resistor in series across C40, positive lead to chassis.
- 5.—Switch the receiver to F.M. and tune it to 100Mc/s. Feed in an unmodulated 10.7Mc/s signal and adjust the cores of L17 (C1), L13 (B1), L14 (B1), L7 (E4) and L8 (E5) for maximum reading on the D.C. output meter.
- 6.—Repeat operation 5.
- 7.—Feed in a modulated 10.7Mc/s signal and adjust the core of L18 (C1) for minimum reading on the audio output meter.
- 8.—Readjust L17 as described in operation 4, then repeat operation 7. Disconnect signal generator and D.C. output meter.

A.M. R.F. Alignment

- 9.—Refit the printed circuit panel to the metal chassis panel and replace chassis in cabinet. Feed signal into the A.M. aerial socket. Turn tuning spindle fully anti-clockwise and, ensuring that the cores of L9 and L11 are fully out, check that the cursor coincides with the 101Mc/s calibration mark on the F.M. tuning scale.
- 10.—Switch the receiver to M.W. Feed in a 600kc/s (500m) signal and tune it

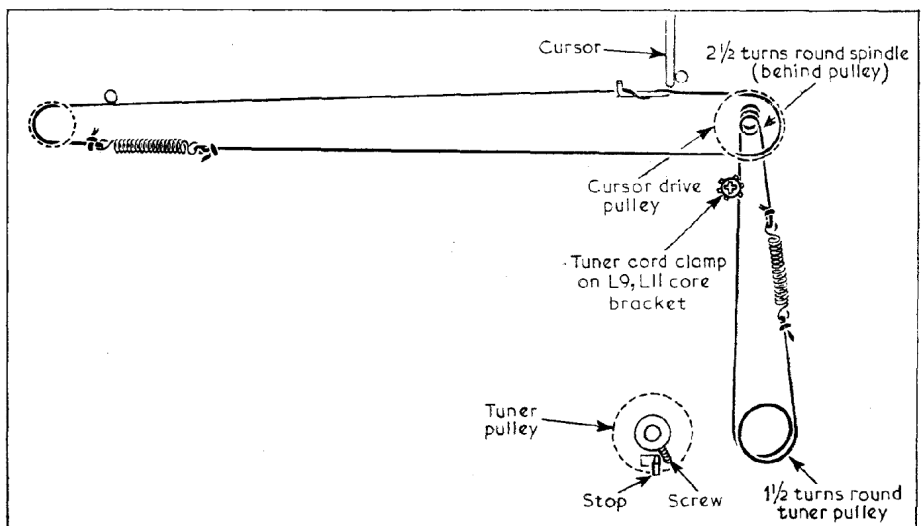


Diagram of the drive cord assembly. The horizontal drive is in front of the chassis; the vertical one is behind. A sketch of the tuner pulley shows the position of its stop.

F.M. R.F. Alignment

- 11.—Replace the core of L12 and adjust it, together with C19 (A1), for maximum output.
- 12.—The cores of L9 (A2) and L11 (B2) will be properly adjusted at the works, and should not require re-adjustment.
- 13.—Switch the receiver to F.M. and connect F.M. aerial. Tune to one of the F.M. transmissions and check calibration. The calibration will normally be correct when the tuning spindle is turned fully clockwise and the grub screw securing the F.M. tuning drive pulley is resting against the stop on the F.M. tuner unit. Should adjustment be required, however, tune to an F.M. transmission and loosen the grub screw on the F.M. tuning drive pulley; then adjust the tuning control so that the cursor coincides with the appropriate calibration point. Retighten grub screw.