

PYE - M78F

CIRCUIT ALIGNMENT

Remove control panel assembly, and join the metal-work of the panel to the receiver chassis by means of a short length of wire, before commencing the following operations.

I.F. Stages.—Switch set to M.W. (knob anti-clockwise), turn gang and volume control to maximum, connect signal generator to control grid (pin 6) of V1 and chassis, feed in a 465 kc/s (645.16 m) signal, and adjust the cores of L7, L8, L9 and L10 (location references E3, E4, F2, F4) for maximum output. Finally, disconnect signal generator leads and replace control panel assembly.

R.F. and Oscillator Stages.—Since the calibrated scale is fixed to the carrying case, an alternative system of calibration must be adopted for alignment purposes. A simple method is to make measurements on the scale backing plate, with respect to the pencil line (adjacent to the volume control) already marked on the plate, and these measurements are referred to in the following instructions.

Check that the cursor coincides with the appropriate pencil marks on the backing plate. It may be adjusted by rotating the drive-drum on its spindle after slackening the set screws. Lay the signal generator leads on the bench, close to the frame aerial.

M.W.—With set switched to M.W. tune to 1½ in on scale, feed in a 210 m (1,425 kc/s) signal, and adjust C22 (D4) and C19 (C4) for maximum output. Tune to ½ in on scale, feed in a 500 m (600 kc/s) signal and check calibration.

L.W.—Switch set to L.W. (knob fully clockwise) tune to 1½ in on scale, feed in a 1,200 m (250 kc/s) signal, and check calibration. Tune to ½ in on scale, feed in an 1,800 m (167 kc/s) signal, and check calibration.

OTHER COMPONENTS		Approx. Values (ohms)	Locations
L1	Frame aerial windings	2-2	—
L2	...	65-0	—
L3	Oscillator tuning coils	10-0	D2
L4	...	10-0	D2
L5	Oscillator reaction coils, total	10-0	D2
L6	...	10-0	D2
L7	1st I.F. trans. Pri.	25-0	E4
L8	...	25-0	E4
L9	2nd I.F. trans. Pri.	25-0	F4
L10	...	25-0	F4
L11	Speech coil	2-2	—
T1	Output trans. Pri.	800-0	K6
	...	0-2	K6
S1-S4	W/band switches	—	A2
S5	H.T. circuit switch	—	A2
S6	L.T. circuit switch	—	A2

VALVE ANALYSIS

Valve	Anode Voltage (V)	Screen Voltage (V)	Current Totals† (mA)
V1 DK91	56	33	7.18
V2 DF91	56	33	7.2
V3 DAF91	5	2	7.53
V4 DL92	56	56	3.6

† Current totals with associated valve removed.

Drive Cord Replacement.—The gang drive is mounted entirely on the metal panel at the top of the chassis. To obtain access to the drum, raise the metal panel as explained under "Dismantling The Set," when the new cord can be fitted. The course it takes is shown in our upper-chassis illustration, where the gang is at maximum. If it is desired to free the drive drum, it may be slipped out of its keyhole slot, when it will hang in the position shown in our photograph.

The actual length of the cord is 16½ in overall, measured between the inner extremities of the two end loops, and should consist of Nylon braided glass yarn. The knots should be treated with an acetate adhesive after tying.

RESISTORS		Values (ohms)	Locations
R1	V1 osc. C.G.	47,000	E2
R2	H.T. feed resistor	10,000	C2
R3	Isolating resistor	10,000	F3
R4	A.V.C. decoupling	3,300,000	F3
R5	Volume control	2,000,000	F1
R6	F.-B. series	100,000	D4
R7	V3 pent. C.G.	22,000,000	H5
R8	V3 S.G. feed	4,700,000	G6
R9	V3 pent. load	1,000,000	G6
R10	V4 G.B. resistor	820	B3
R11	V4 C.G. resistor	1,000,000	G6
R12	H.T. decoupling	680	K5

CAPACITORS		Values (μF)	Locations
C1	Aerial L.W. trim.	0.00005	D3
C2	1st I.F. transformer tuning	0.00006	E4
C3	...	0.00006	E4
C4	V1 osc. C.G.	0.0001	D2
C5	Oscillator tracker	0.0005	D2
C6	Osc. L.W. trim.	0.0002	C2
C7	H.T. feed decoupling	0.01	C2
C8	A.V.C. decoupling	0.01	E3
C9	2nd I.F. transformer tuning	0.00006	F4
C10	...	0.00006	F4
C11	I.F. by-pass	0.0001	E2
C12	F.-B. by-pass	0.01	D4
C13	A.F. coupling	0.01	H5
C14	V3 S.G. decoupling	0.01	G5
C15	I.F. by-pass	0.0001	G5
C16	A.F. coupling	0.001	G6
C17	H.T. decoupling	8-0	K5
C18	Tone corrector	0.001	G6
C19	Aerial M.W. trim.	0.00005	C4
C20	Aerial tuning	0.000363§	B4
C21	Oscillator tuning	0.000363§	B4
C22	Osc. M.W. trim.	0.00005	D4

* Electrolytic. † Variable. ‡ Pre-set. § "Swing" value, min. to max.

