

#### Resistors

R1	22kΩ
R2	1MΩ
R3	10MΩ
R4	220kΩ
R5	1MΩ
R6	2.2kΩ
R7	220kΩ
R8	10MΩ
R9	68kΩ
R10	100kΩ
R11	47kΩ
R12	100kΩ
R13	100kΩ
R14	220kΩ
R15	220kΩ
R16	22kΩ
R17	220kΩ
R18	1MΩ
R19	10kΩ
R20	1MΩ
R21	140Ω
R22	100kΩ
R23	10MΩ
R24	100kΩ
R25	5.6kΩ
R26	200Ω
R27	220kΩ
R28	220kΩ
R29	10Ω
R30	75Ω
R31	10Ω
R32	820Ω
R33	2.2MΩ
R34	500Ω

#### Capacitors

C1	0.04μF
C3	5,000pF
C4	5,000pF
C5	8μF
C6	100pF
C7	100pF
C8	220pF
C9	820pF
C10	0.05μF
C11	0.04μF
C12	220pF
C13	50pF
C14	4,700pF
C15	3,900pF
C16	3,000pF
C17	50μF
C18	100pF
C19	0.01μF
C20	50μF
C21	50μF
C22	50pF
C23	820pF
C24	0.1μF
C25	450μF
C26	0.1μF
C27	450μF
C28	0.01μF
C29	0.01μF

#### Coils and Transformers

L1	8-3
L2	—
T1	{ a 400-0 b — c 150-0 }
T2	{ a — b 8-0 c 90-0 }

#### VALVE ANALYSIS

Valve voltages given in the table were taken from information supplied by the manufacturers. They were measured on a 20,000Ω/V meter with the recorder switched as indicated. H.t. line voltage measured at the junction W2/R25 was 288V (record), 273V (play) and the voltage at the junction W3/R32 pin 3 of skt 6 was -32.5V. All readings were taken with respect to chassis.

**Recording Head Voltages.**—The bias voltage measured at tag 2 of L2 using a valve voltmeter should be 80V a.c. and the erase voltage at tag 1 should be 15V a.c. with the recorder switched to record.

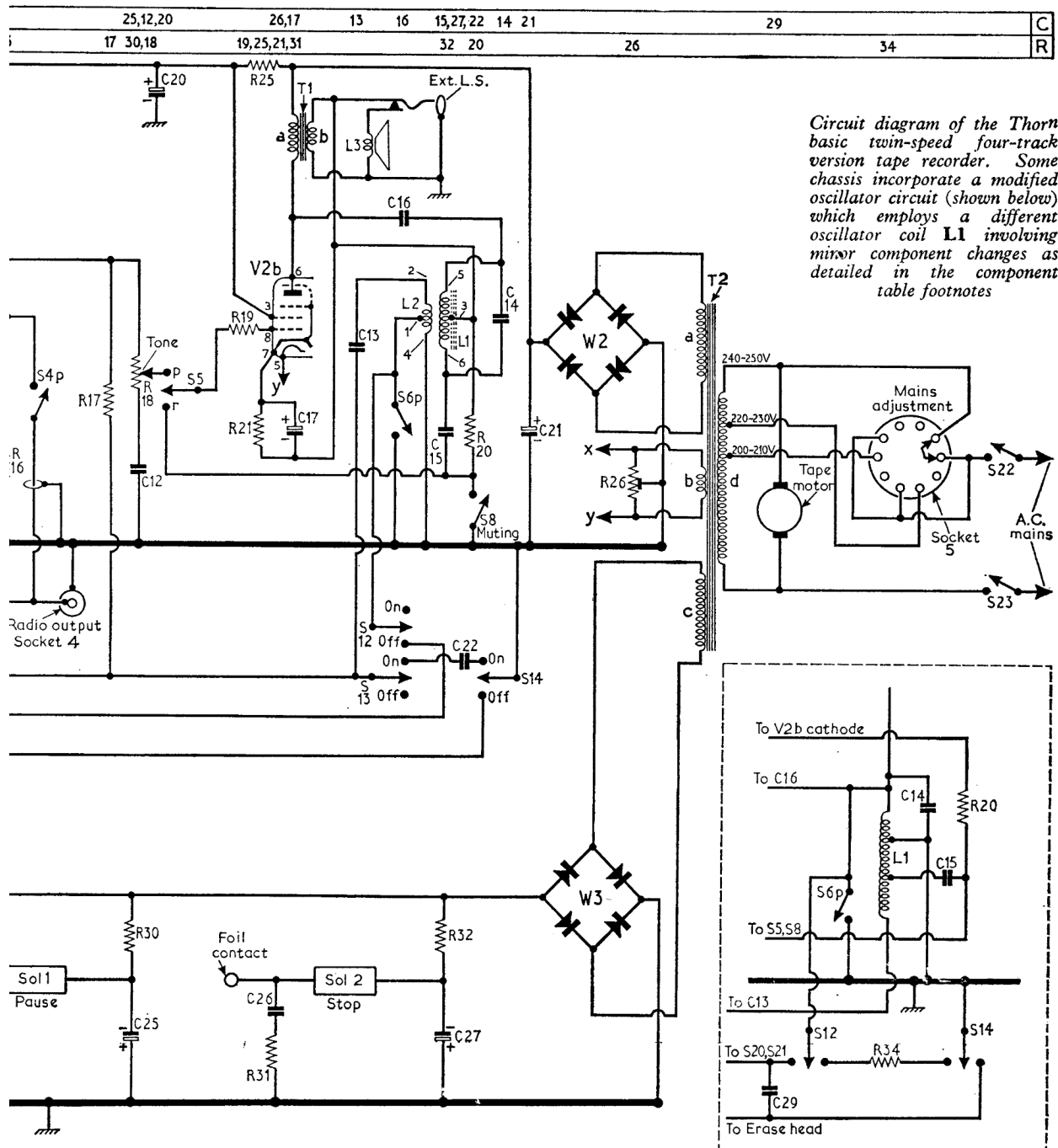
#### VALVE TABLE

Valve	Anode (V)	Screen (V)	Cathode (V)
V1a ECC83	83	—	—
V1b ECC83	81	—	—
V2a ECL86	90	—	0.7
V2b ECL86	90	—	0.7
V3 EM87	133	—	—
	128	—	—
	280	220	3.4
	275	220	5.2
	50	—	—
	50	—	—

\*Receiver switched to record.  
 †Receiver switched to play.

**FERGUSON - 3204**  
**H.M.V. - 2204 B**

**MARCONIPHONE - 4204**  
**ULTRA - 6202**



## HEAD ADJUSTMENT