ARGOSY TRG/3

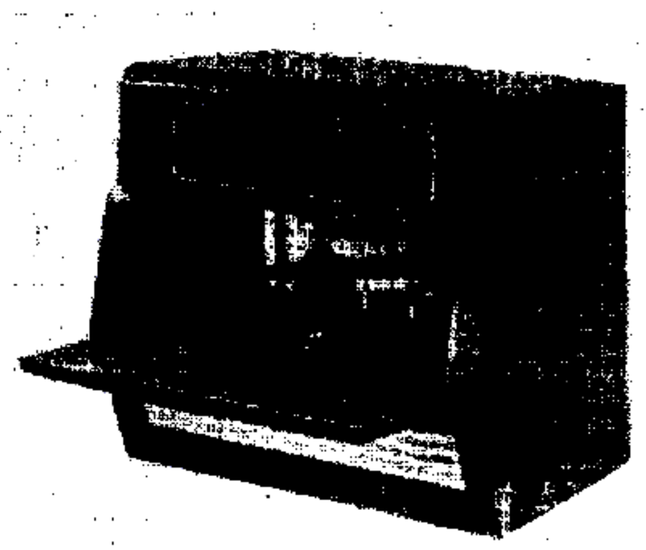
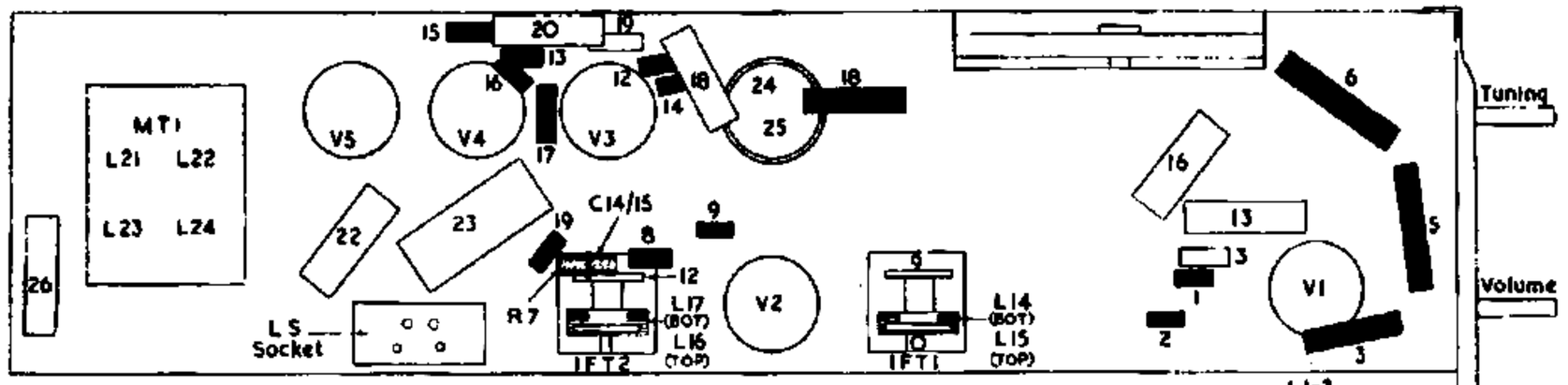
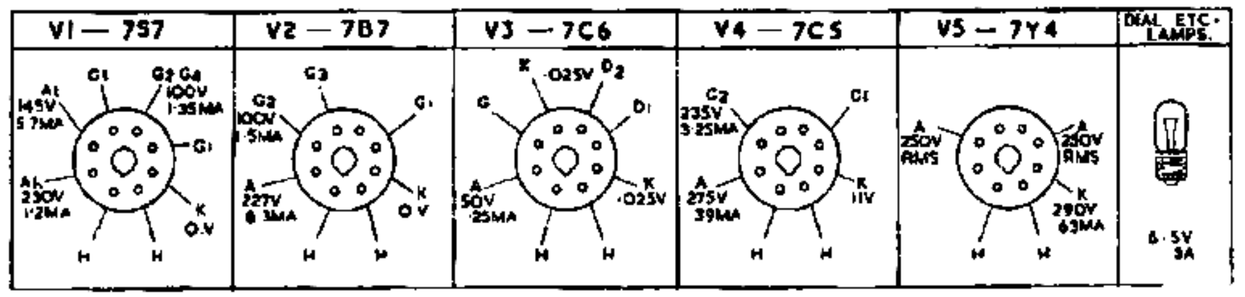


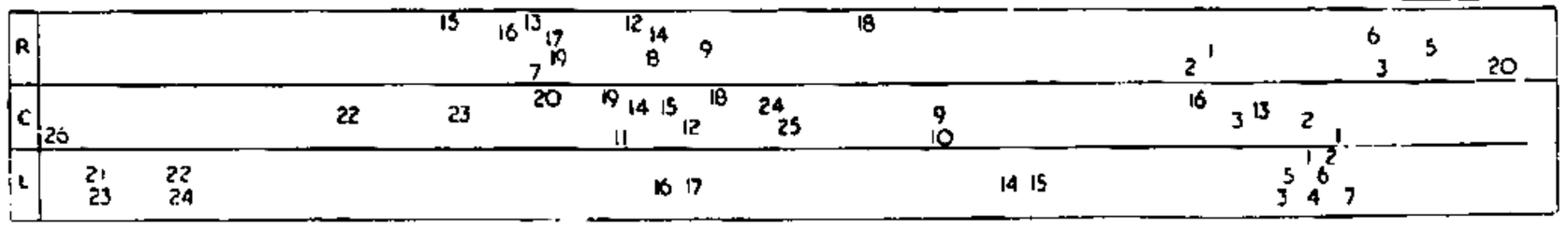
Table radiogram consisting of five-valve three waveband superhet and a Garrard RC72A three-speed autochanger using plug-in standard and long-playing crystal pickup heads. Sockets for external aerial, earth and low impedance type extension speaker. Figured walnut veneered table cabinet with hinged drop-down door to autochanger compartment. For 110-115, 200-230, 231-250V 50c/s. Made by Argosy Radiovision, Ltd., Argosy Works, Hertford Road, Barking, Essex

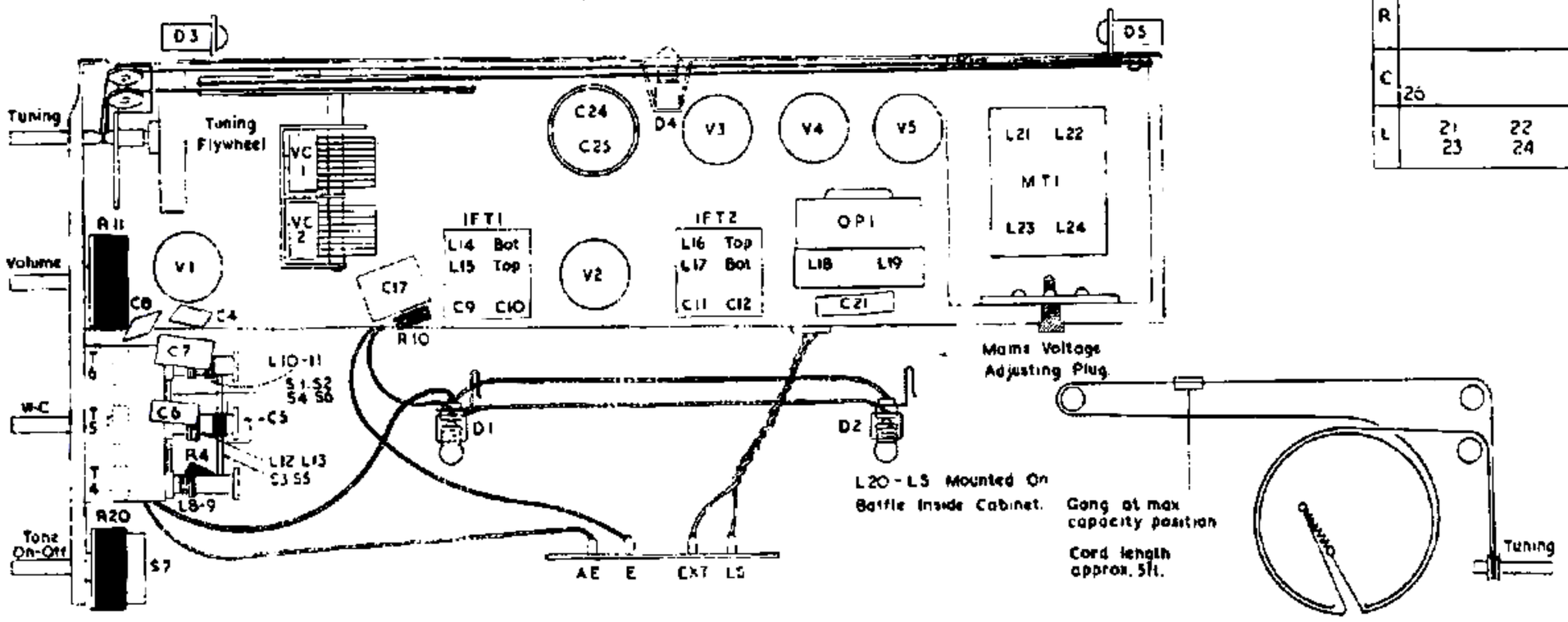
AERIAL. The receiver is fitted with a plate type aerial, a sheet of metal foil inside top of cabinet, for reception of strong transmissions, and sockets are provided for connection of an external aerial and earth for reception of weak signals or when receiver is used in a bad reception area.

Signal from either external or plate aerial is switched by S1 to aerial coupling coils L1 (SW), L5 (LW), L3 (MW). L7 C1 between aerial and earth sockets form an IF filter. The inductively coupled grid coils L2 (SW), L6 (LW), L4 (MW)—









CAPACITORS

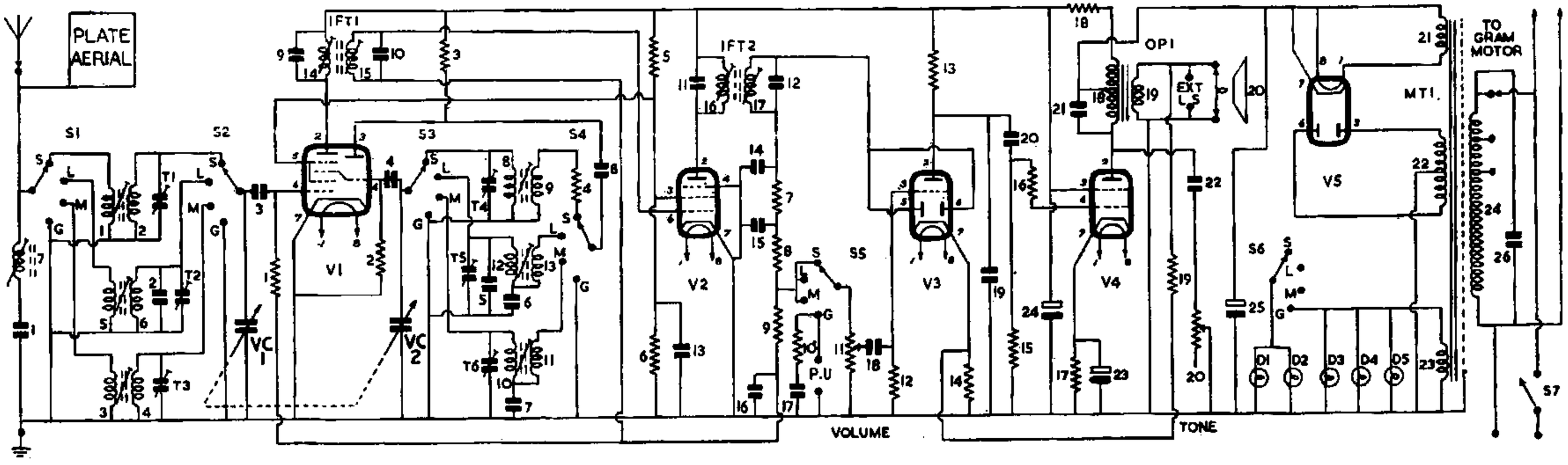
C	Capacity	Type	C	Capacity	Type
1	100pF	Silver Mica	14	100pF	Silver Mica
2	50pF	Mica	15	100pF	Silver Mica
3	500pF	Mica	16	.1	Tubular 350V
4	50pF	Mica	17	.005	Mica
5	75pF	Silver Mica	18	.005	Tubular 1000V
6	140pF	Silver Mica	19	300pF	Mica
7	480pF	Silver Mica	20	.002	Tubular 1000V
8	2000pF	Silver Mica	21	.002	Tubular 1000V
9	150pF	Silver Mica	22	.05	Tubular 500V
10	150pF	Silver Mica	23	25	Electrolytic 25V
11	150pF	Silver Mica	24	16	Electrolytic 350V
12	150pF	Silver Mica	25	32	Electrolytic 350V
13	.1	Tubular 350V	26	.01	Tubular 1000V

INDUCTORS

L	Ohms
1	.2
2	Very low
3	37
4	2.5
5	75
6	26.5
7	16.5
8, 9	Very low
10	2.5
11	1
12	12
13	6
14	6.5
15	6.5
16	6.5
17	6.5
18	340
19	1
20	3
21, 23	Very low
22	360 (180 × 180)
24	25 total

RESISTORS

R	Ohms	Watts
1	330K	½
2	33K	½
3	15K	½
4	100	½
5	22K	½
6	33K	½
7	47K	½
8	100K	½
9	2.2M	½
10	470K	½
11	500K Potr.	
12	4.7M	½
13	680K	½
14	150	½
15	250K	½
16	33K	½
17	270	½
18	2.2K	½
19	1.5K	½
20	25K Potr. with SP switch	



trimmed by T1 T2—C2 T3 respectively—are switched by S2 to aerial tuning capacitor VC1 and coupled by C3 to triode-hexode frequency-changer V1. AVC voltage, decoupled by R9 C16, are applied through grid load R1.

Cathode is connected down to chassis. Screen (g2, g4) voltage is obtained from potential divider R5 R6 and decoupled by C13. Primary L14 C9 of IFT1 is in the hexode anode circuit.

Oscillator is V1 triode section connected in a tuned-grid shunt-fed circuit. Grid coils L8 (SW), L12 (LW), L10 (MW), which are trimmed by T4 T5-C5 T6 and padded by C6 (LW), C7 (MW), are switched by S3 to oscillator tuning capacitor VC2 and coupled by C4 to oscillator grid of V1. Self-bias for grid is developed on C4 with R2 as leak.

Anode reaction voltages are obtained inductively from L9 (SW), L13 (LW), L11 (MW) and switched by S4 through C8 to oscillator anode of which R3 is load. R4 is SW limiter.

IF amplifier operates at 470 kc/s. Secondary L15 C10 of IFT1 feeds signal and AVC voltages, decoupled by R9 C16 to IF amplifier V2. Cathode and suppressor grid are connected down to chassis. Screen (g2) voltage is obtained, in common with that of V1, from potential divider R5 R6 and decoupled by C13. Primary L16, C11 of IFT2 is in the anode circuit.

Signal rectifier. Secondary L17 C12 of IFT2 feeds signal to strapped diodes of V3. Rectified audio signal is developed across volume control R11, which is switched by S5 in its three radio positions through R8 and IF filter R7 C14 C15 to diode.

AVC. The DC component of the rectified audio signal developed across R11 is decoupled by R9 C16 and applied to grids of V1 V2 for automatic gain control.

Pickup signal from crystal pickup on autochanger is fed by S5 in its gram position through to volume control R11. Tone correction is given by R10 C17.

To prevent radio break-through on record reproduction aerial is connected down to chassis by S1, aerial tuned circuits are disconnected and VC1 shorted to chassis by S2, oscillator tuned coils are disconnected and VC2 shorted to chassis by S3 and oscillator anode is earthed through C8.

AF amplifier. Audio or pickup signal across volume control R11 is fed by C18 to grid of triode amplifier section of V3. Automatic bias for grid is developed on C18 with R12 as leak. Negative feedback from secondary L19 of output matching transformer OP1 is fed through R19 to R14 in cathode of V3. R13 is anode load and C19 anode RF bypass capacitor.

Output stage. Signal at anode V3 is fed by C20 through stopper R16 to grid of beam-tetrode output amplifier V4, of which R15 is grid load. Cathode bias is provided by R17 decoupled by C23. Screen (g2) voltage is obtained from HT line to V1 to V3 decoupling being provided by C24.

Amplified signal at anode is transformer coupled by OP1 to a 7in. PM elliptical speaker housed in compartment below autochanger shelf. Variable top-cut tone control is given by R20 with C22. Negative feedback from secondary L19 of OP1 is applied through R19 to cathode of V3. Sockets are fitted on L19 to allow connection of any low-impedance extension speaker.

HT is provided by indirectly-heated full-wave rectifier V5, the anode voltages of which are obtained from HT secondary L22 and heater current from secondary L21 of mains input transformer MT1. HT for anode of output valve V4 is obtained direct from reservoir smoothing capacitor C25. HT for V1 to V3 and screen V4 is resistance-capacity smoothed by R18 C24. Section of primary L18 of OP1, which is in series with R18, provides hum cancellation.

Reservoir smoothing capacitor C25 should be rated to handle 100mA ripple current.

Heaters V1 to V4 and dial lights D3 to D5 are parallel connected and obtain their current from secondary L23 of MT1. Indicator lights D1 and D2 which illuminate autochanger compartment are also parallel connected, but are only switched into circuit across L23 when S5, ganged to wavechange switch, is in gram position.

Primary L24 of MT1 is tapped for inputs of 110-115, 200-230, 231-250V 50c/s. C26 is mains input filter capacitor. S7, which is ganged to tone control spindle, is ON-OFF switch.

Autochanger is a Garrard three-speed RC72A fitted with plug-in standard and long playing microcell crystal pickup heads. The changer will automatically play eight 10in. or eight 12in. records at 33⅓, 45 or 78 rpm; 7in. records can also be played manually.

Chassis removal. Remove rear panel of cabinet and unplug LS lead from socket on chassis. Unscrew the two gramophone turntable illumination bulbs and undo and remove lampholder fixing screws. Remove screw securing connecting lead to plate aerial and remove aerial, earth and extension LS socket panel fixing screws.

Remove the two screws fastening wood control knob panel to left-hand side of cabinet—bottom one of these also holds pick-up lead cleat. Undo single chassis fixing nut and bolt at right-hand side of shelf. Slide chassis to right to give clearance for control panel knobs and withdraw from cabinet.

If chassis is required to be completely removed, unsolder pickup screened lead from connecting tags at rear of tuning capacitors and unsolder gram motor mains lead.

TRIMMING INSTRUCTIONS

Apply signal as stated below	Tune receiver to	Trim in order stated for maximum output
(1) 470 kc/s to g1 of V1 via .01mF	MW Band with gang set at max. capacity	Cores L17, L16, L15, L14
(2) 470 kc/s to aerial socket	—	Core L7
(3) 600 kc/s to AE socket via .002mF	600 kc/s	Cores L10, L4
(4) 1.5 mc/s, as above	1.5 mc/s	T6, T3. Repeat operations (3) and (4)
(5) 6 mc/s, as above	6 mc/s	Cores L8, L2
(6) 18 mc/s, as above	18 mc/s	T4, T1. Repeat operations (5) and (6)
(7) 150 kc/s, as above	150 kc/s	Cores L12, L6
(8) 300 kc/s, as above	300 kc/s	T5, T2. Repeat operations (7) and (8)