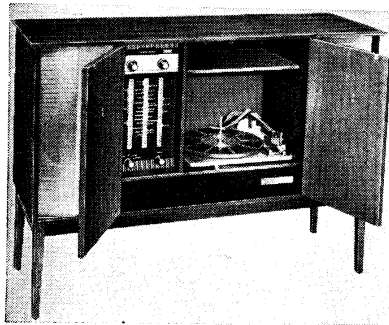


E R T

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DECCA 575 STEREOGRAM

- R27
- R28
- R29
- R30
- R31
- R32
- R33
- R34
- R35
- R36
- R37
- R38
- R39
- R40
- R41
- R42
- R43
- R44
- R45
- R46
- R47
- R48
- R49
- R50

RESISTORS			R13	180	F4
R1	100K	in tuner	R14	47K	F3
R2	4K7	in tuner	R15	1M	E3
R3	1M	in tuner	R16	390	F3
R4	22K	in tuner	R17	18K	G4
R5	75K		R18	220K	G4
R6	1M		R19	18K	F4
R7	27K		R20	1M	G4
R8	150K		R21	2K7	F3
R9	47K		R22	100K	D2
R10	3K3		R23	100K	C2
R11	1M		R24	3K9	D2
R12	1M		R25	3K9	C2
			R26	27K	D2

SEVEN-VALVE, plus valve rectifier, stereo radiogram receiving three-bands AM/FM, fitted with Garrard auto-changer, Deram cartridge and two speakers in acoustic chambers. Controls include five-position waveband/mono/stereo switch, aerial rotation control, concentric volume controls and tone/on-off control.

Mains. 200-250V 50c/s.
Consumption. 90W.
Wavebands. VHF 87.5-100mc/s, MW 187.5-575m., LW 1050-220m.

Valves. V1 ECC85, V2 ECH81, V3 EBF89, V4 EB91, V5 ECC83, V6 and V7 ECL86, V8 EZ81.

IFs. AM 472kc/s, FM 10.7mc/s.
Dial lamps. Three MES 6.5V 0.3A.
Speakers. Two 8 x 5in. high-flux, 3ohm.

Audio output. 2.5W per channel.
Aerials. Internal VHF aerial. Internal AM ferrite rod with rotation control. Sockets for external FM and AM aerials.

Sockets. External speaker socket (3ohm). Tape output socket for feeding high-impedance mono recorder.

Record unit. Garrard Auto-Slim with provision for manual control.

Cartridge. Deram mono/stereo with "Blue" stylus (diamond/S, .0005/6in.).
Stylus pressure. 4-5gm.

Manufacturer. Decca Radio & Television.

Service dept., 15-17 Ingate Place, Queenstown Road, London SW8. Tel.: Macaulay 6677.

CIRCUIT DESCRIPTION

Receiver employs separate VHF tuning unit with own permeability tuning system and drive drum. V1, on the unit, is double triode (ECC85) with one section as RF amplifier and the other as oscillator-mixer. Aerial input transformer provides for 75ohm unbalanced and 300ohms balanced aerial feeders.

RF stage is neutralised and its output connected to a null point in the following stage to prevent oscillator signal radiation. Oscillator tuned coil L4 receives feedback from L6 which is shunt fed from anode circuit via C13.

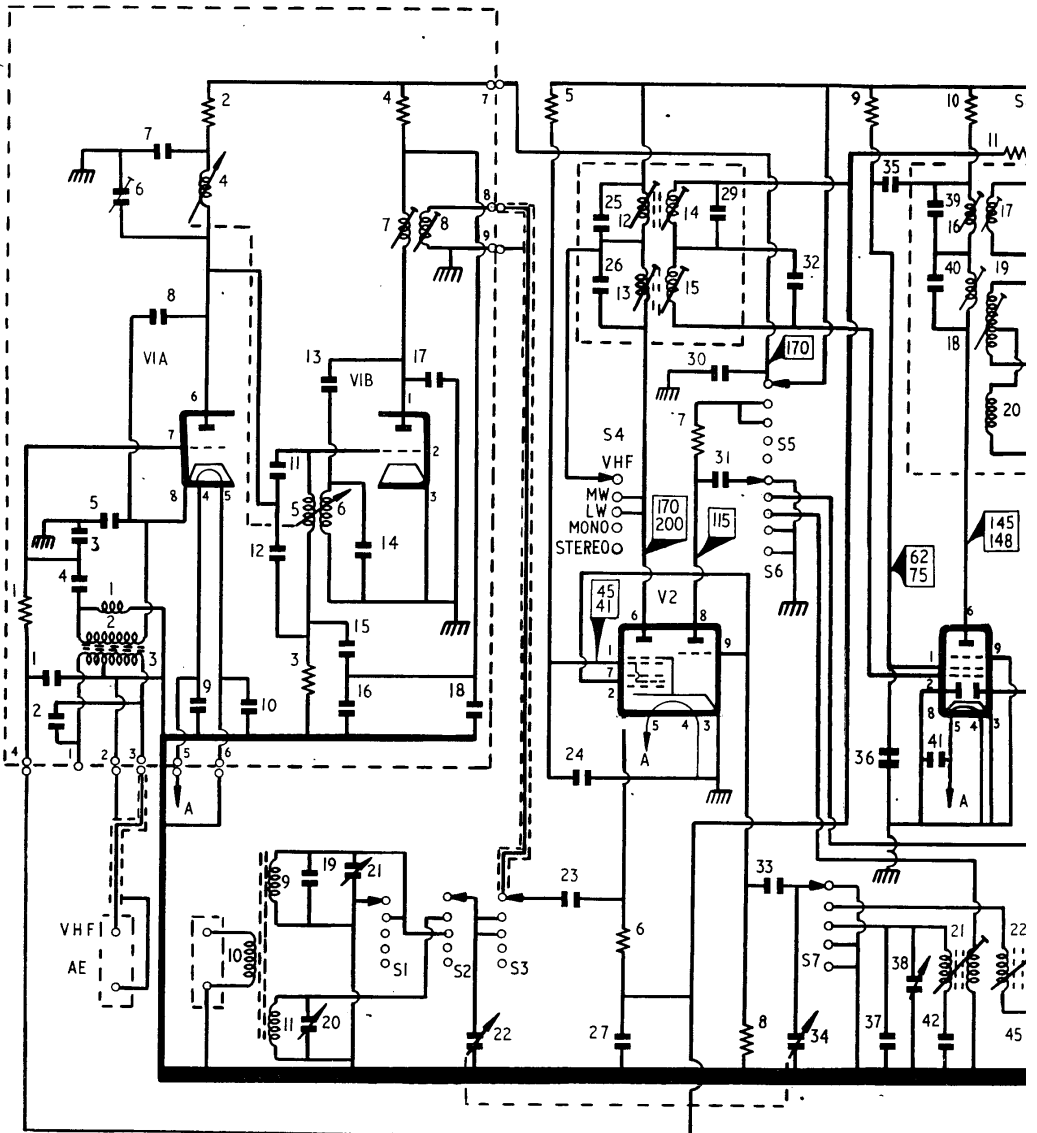
Triode-heptode V2 is first IF amplifier on FM and input stage (mixer-oscillator) on AM. SW3 contacts on the "function" switch connect the signal grid of V2 to either the FM IF output (across L8) or the AM signal-tuning circuits.

Ferrite rod aerial carries MW coil L11 and LW coil L9 and also coil L10 which couples in any signal from external AM aerial sockets.

Aerial tuning section of gang capa-

Continued overleaf

R	1	2	3	4	5	6	7	8	9	10	11
C	1	2	3	4	5	6	7	8	9	10	11
L	1	2	3	4	9	10	11	56	7	8	16



Electrical and Radio Trading, September 14, 1967

ductor C22 is connected to the coils in both AM positions of S3 while S2 connects first the MW coil and then, with S1, the LW coil. Both these coils have trimmers (C20, C21).

AGC connection is made to grid V2 via R6, with decoupling by C27, and DC isolation by C23. The AGC line is "powered" by both AM and FM detectors and control is also applied to the RF stage of the FM tuner.

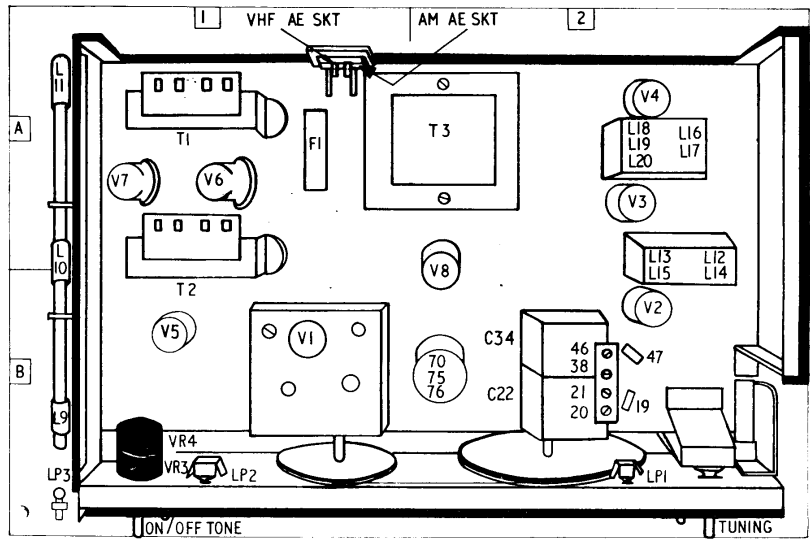
Oscillator section of V2 has C34 of gang connected by S7 to either MW coil L22 or LW coil L21, both having coupled windings fed in shunt from osc. anode via C31 and S6. As well as padders C45 and C42, these circuits have trimmers C46 and C38.

In FM position of switches, S5 removes HT from the osc. anode of V2 to prevent AM breakthrough. Anode of heptode section V2 contains series-connected IF transformers. L13/L15 for FM and L12/L14 for AM.

Bandpass IF circuits lead to V3, second IF amplifier on FM, first IF amplifier on AM. V3 is double-diode pentode with one diode to earth and the other used as AM detector. R18 is AM detector load with DC component of rectification fed via R11 to AGC line and AF component connected to the two audio amplifier channels in parallel by S9 and S10.

In fourth position of these switches, the two inputs from the stereo pickup are connected to the two amplifiers but S11 "commons" them for mono operation. In the fifth position, the inputs operate the amplifiers independently (stereo).

EB91 double-diode is V4 the FM detector. DC component for AGC is taken



Top view of chassis showing layout of valves, components and some alignment points

off via R12 and the AF signal is taken to both audio channel switches S9 S10.

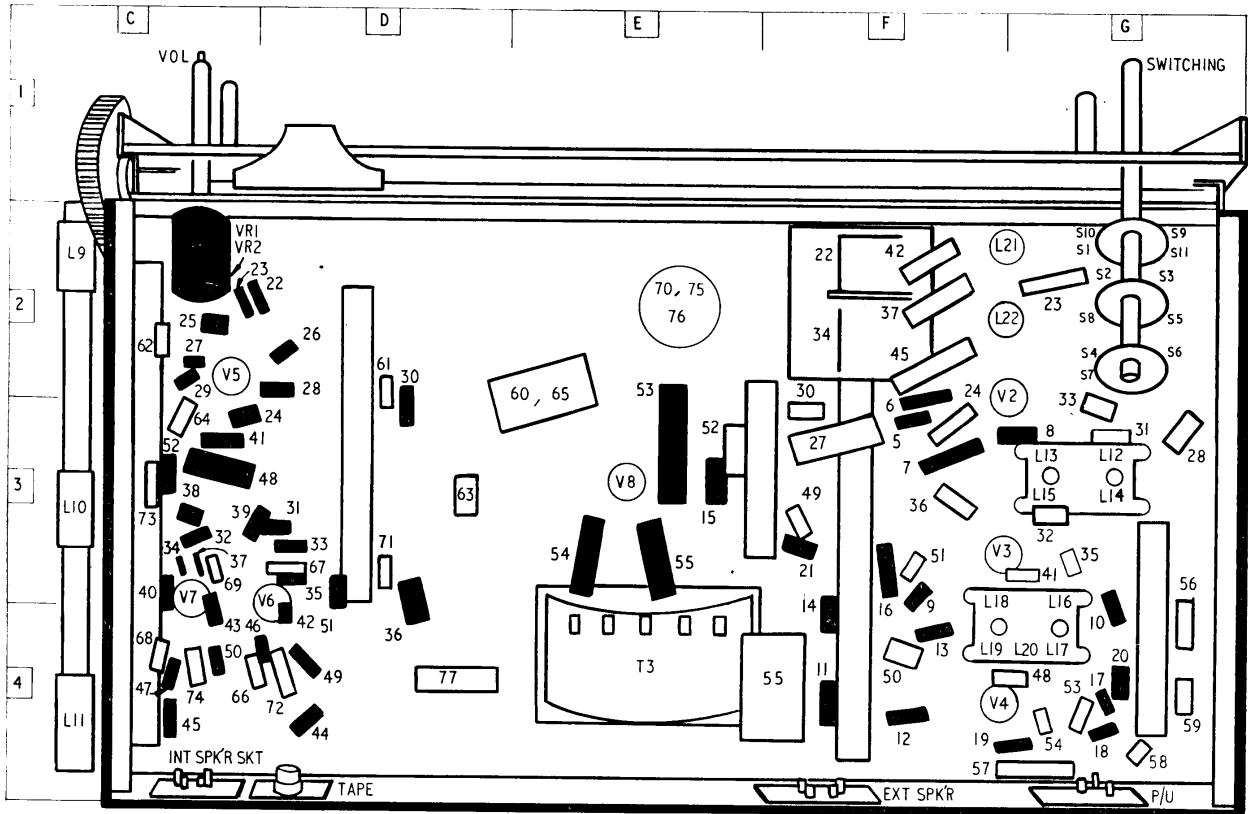
Each audio channel employs two triode amplifiers driving a single-pentode output stage. The two channels share V5 but one channel has second-AF and output valves in V6 and the other has these in V7.

Independent volume controls are used (without balance control) and there are top-cut tone controls. Negative feedback

is applied, in each channel, from across its speaker, and also from the output-valve anode, to the cathode circuit of the second AF amplifier.

Jack socket in the coupling to the output valve of one channel provides a tape recorder connection (high impedance). Extension speaker socket provides a parallel connection across the speech coil of each speaker.

HT is from full-wave rectifier V8 (EZ81) driven by double-wound mains



Underchassis component layout. Resistors are shown in solid black and capacitors in outline only. Location code is given alongside each component in the table above the circuit diagram overleaf

transformer and with fuse in the DC output from cathode. Resistance-capacitance smoothing is employed and thorough resistance-and-capacitance decoupling to the AF stages and the HF section of the radiogram. All valves, including rectifier, have heater supply in parallel from winding on the transformer.

Mains input is fused in both poles and there is a mains earth connection which goes to both changer mechanism and receiver chassis.

ALIGNMENT

First check that the scale pointer is under the datum line at the low-frequency end of the tuning scale when the gang capacitors are fully meshed and the VHF tuning drum is fully clockwise. Connect an output meter across one of the two output transformers. Use an AM/FM signal generator and adjust its output throughout alignment to keep output at about 50mW.

AM IF. Set wavechange switch to MW position, short-circuit osc. tuning capacitor C34 to chassis. Apply signal generator between signal grid V3 and chassis and tune it to 472kc/s with 30 per cent amplitude modulation. Adjust top and bottom cores L16 and L17 for maximum output.

Transfer generator input to signal grid V2 and peak top and bottom cores L12 and L14. Repeat these steps until no further improvement is obtained. Remove s/c from gang.

AM MW. Connect generator via dummy aerial to AM aerial socket, tune it to 600kc/s AM. Turn set pointer to 500m. and adjust MW osc. coil core L22 and position of MW aerial coil L11 for max. output.

Inject 1500kc/s and adjust set to 200m. Adjust MW osc. trimmer C46 and aerial trimmer C20 for max. Repeat all MW adjustments, checking scale calibration.

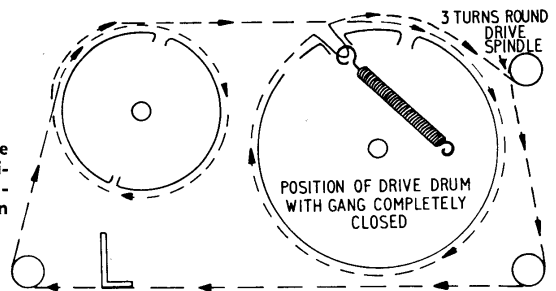
AM LW. Inject 150kc/s, switch receiver to LW and turn pointer to 2000m. Adjust LW osc. core L21 and position of LW aerial coil L9 for max.

Inject 250kc/s and tune receiver to 1200m. Adjust osc. trimmer C38 and aerial trimmer C21 for maximum. Repeat LW adjustment.

FM IF. With set switched to VHF, connect generator to grid V3 and inject 10.7mc/s with ± 60 kc/s deviation. Withdraw core of L19 from the resonant position. Adjust L18 for max. output on meter. Apply gen. to grid V2 via C23 and adjust L13 and L15 for max. Repeat these operations until no further adjustment is needed.

Switch gen. to AM and adjust core of L19 for *minimum* output. Wind about 9in. of wire around the VHF tuner

Routing of tuning drive shown with gang capacitor in fully closed position. Use non-slip nylon braided cord



valve V1 and connect signal gen. across the ends. Adjust cores L7 and L8 for maximum. L7 has maximum on second peak and, having been adjusted, should not be trimmed again.

FM RF. Connect generator to dipole aerial sockets and tune it to 95mc/s

frequency-modulated. Set scale pointer to 95mc/s on scale.

Holding the AM tuning drum firmly, rotate FM drum until injected signal is obtained. With this signal properly tuned, adjust aerial coil L2/L3 core for maximum.

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