'TRADER' SERVICE SHEETS

BLUE SPOT

'BATTERY 3' RECEIVER

A PENTODE H.F. amplifier, a triode detector and a pentode output valve are employed in the Blue Spot "Battery Three" receiver. It is provided with an aerial series condenser (or selectivity control) and a reaction condenser, but there is no gain control as such. Sockets are fitted for an extension speaker, and the tuning dial, which is of the full-vision type, is illuminated.

CIRCUIT DESCRIPTION

Aerial input via variable series condenser **C6** (selectivity-volume control) to coupling coil **L1** (M.W.), and to tapping on L.W. coil via anti-break-through choke **L2.** Single-tuned circuit **L3, L4, C7** precedes variable-mu pentode H.F. amplifier (**V1, Osram metallised VP21 or Mullard metallised VP2**) operating with zero grid bias.

Tuned-secondary H.F. transformer coupling by **L5, L6, L8, L9** and **C10** to triode detector (**V2, Osram metallised HL2 or Mullard metallised PM1HL**) which operates on grid leak system with **C2** and **R2.** Reaction is applied from anode by coil **L7** and controlled by variable condenser **C9.** H.F. by-passing by condenser **C3.**

Series-fed transformer coupling by **T1** to "economy" output pentode (**V3, Osram PT2 or Mullard PM22A**). Tone correction in anode circuit by fixed condenser **C5.** Provision for connection of high-impedance external speaker across primary of internal speaker input transformer **T2.**

COMPONENTS AND VALUES

	Resistances	Values (ohms)
R1	V1 S.G. H.T. feed	100,000*
R2	V2 grid leak	1,000,000
R3	V2 anode decoupling	19,000
R4	Intervalve trans. sec. shunt	1,000,000

* With VP21 valve; 19,000 Ω with VP2.

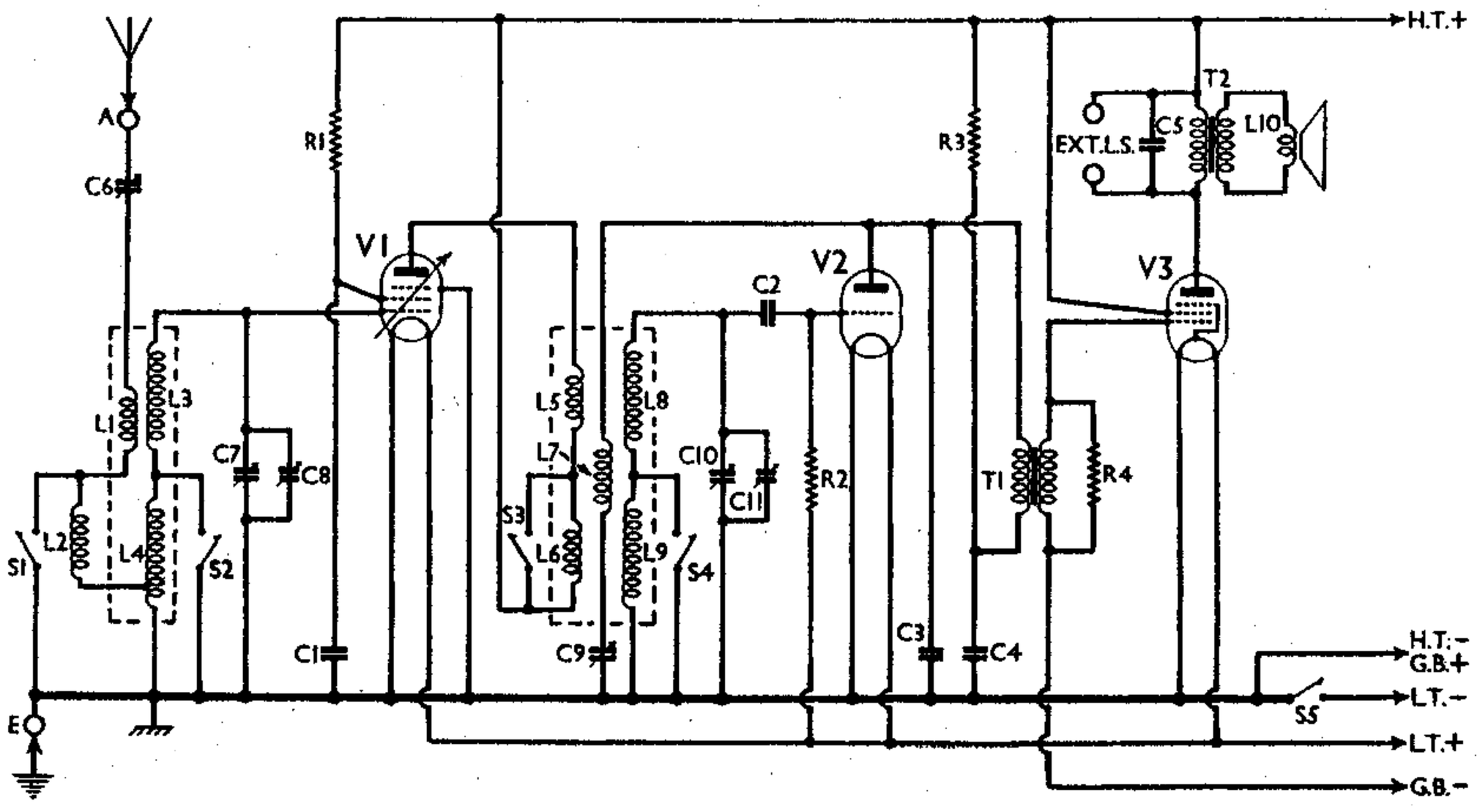
	Condensers	Values (μF)
C1	V1 S.G. by-pass	0·1
C2	V2 grid condenser	0·0001
C3	V2 anode H.F. by-pass	0·0001
C4	V2 anode decoupling	0·5
C5	Tone compensator	0·005
C6†	Aerial series condenser (selectivity)	0·0005
C7†	Aerial circuit tuning	0·0005
C8‡	Aerial circuit trimmer	—
C9†	Reaction control	0·0005
C10†	H.F. transformer tuning	0·0005
C11‡	H.F. transformer trimmer	—

† Variable. ‡ Pre-set.

	Other Components	Values (ohms)
L1	Aerial coupling coil	3·0
L2	Aerial choke coil (L.W.)	5·25
L3	Aerial tuning coils	3·0
L4	"	33·0
L5	H.F. transformer primary	3·0
L6	H.F. transformer primary	12·5
L7	Reaction coil	10·0
L8	H.F. transformer secondary	3·0
L9	H.F. transformer secondary	29·0
L10	Speaker speech coil	2·0
T1	Intervalve trans. Pri.	850·0
	Intervalve trans. Sec.	10,000·0
T2	Speaker input trans. Pri.	1,000·0
	Speaker input trans. Sec.	0·3
S1-S4	Waveband switches	—
S5	L.T. switch	—

DISMANTLING THE SET

Removing Chassis.—To remove the chassis from the cabinet, remove the three control knobs (recessed grub screws) and the four bolts (with washers) holding the chassis to the cabinet bottom. Remove the escutcheon on the on-off switch from the side of the cabinet (two round-head wood screws) and remove it from the switch by taking off the lock-nut. The switch can then be passed into the cabinet through the hole in the side. The chassis can now be withdrawn to the extent of the speaker leads, which is enough for normal purposes.



Circuit diagram of the Blue Spot "Battery 3" receiver. No scale lamp is shown, but actually one is connected in parallel with the filament circuit.

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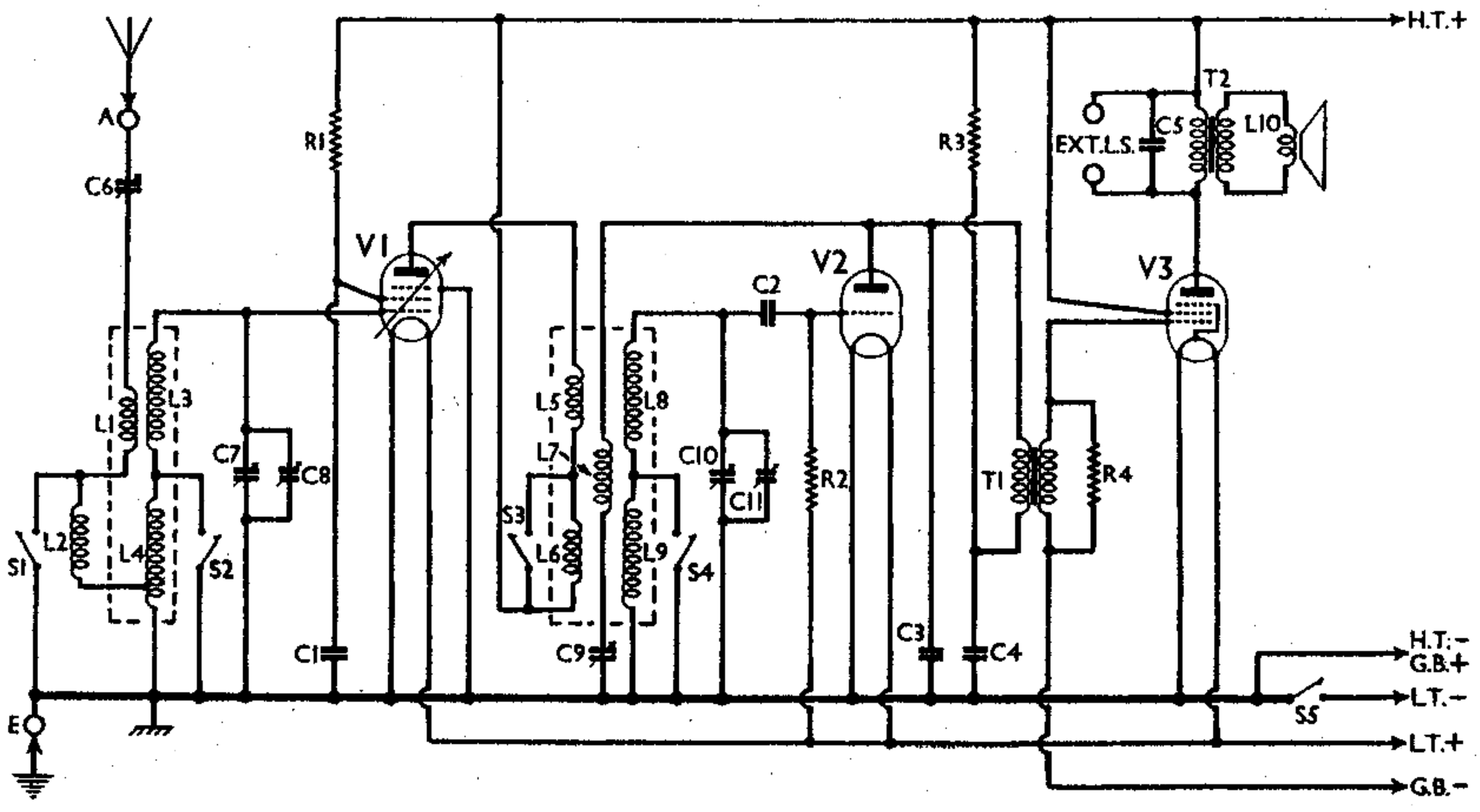

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