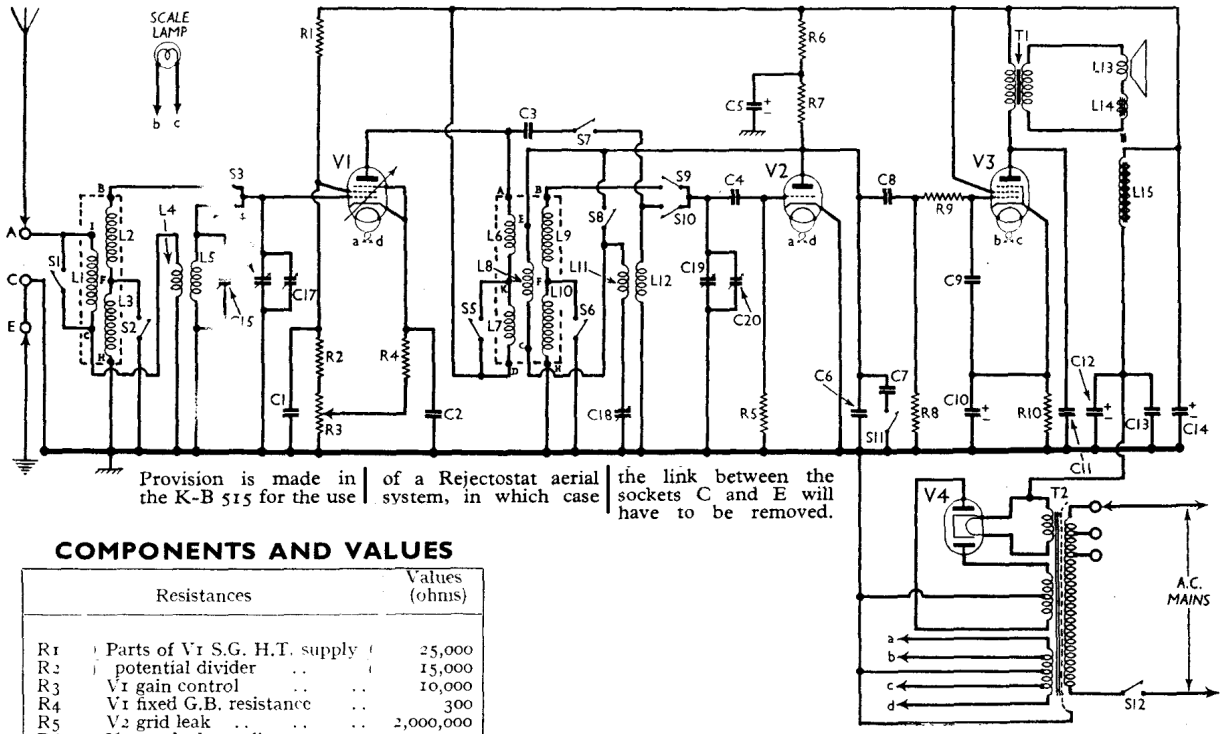
KOLSTER-BRANDES - KB 15



Provision is made in the K-B 515 for the use of a Rejectostat aerial system, in which case the link between the sockets C and E will have to be removed.

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Circuit diagram of the K-B 515 All-Wave A.C. receiver. The first two valves have 13 V heaters, while the output valve and scale lamp are run from a 4 V tapping on the heater secondary of T2. The letters at the ends of the M.W. and L.W. coils refer to the K-B coil base coding, a diagram of which was given in Service Sheet No. 56, p. VIII.

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COMPONENTS AND VALUES

	Resistances	Values (ohms)
R1	Parts of V1 S.G. H.T. supply potential divider	25,000
R2		15,000
R3	V1 gain control	10,000
R4	V1 fixed G.B. resistance	300
R5	V2 grid leak	2,000,000
R6	V2 anode decoupling	10,000
R7	V2 anode load	25,000
R8	V3 grid resistance	250,000
R9	V3 grid H.F. stopper	100,000
R10	V3 G.B. resistance	150

	Condensers	Values (μF)
C1	V1 S.G. by-pass	0·1
C2	V1 cathode by-pass	0·1
C3	V1 anode coupling condenser (S.W.)	0·00005
C4	V2 grid condenser	0·0001
C5*	V2 anode decoupling	2·0
C6	V2 anode H.F. by-pass (S.W., M.W. and L.W.)	0·0001
C7	V2 anode H.F. by-pass (M.W. and L.W. only)	0·001
C8	L.F. coupling to V3	0·05
C9	V3 grid H.F. by-pass	0·0005
C10*	V3 cathode by-pass	25·0
C11	Tone compensator	0·003
C12*	H.T. smoothing	8·0
C13	H.T. H.F. by-pass	0·1
C14*	H.T. smoothing	8·0
C15‡	Aerial circuit trimmer (S.W. only)	—
C16†	Aerial circuit tuning	0·0005
C17‡	Aerial circuit trimmer	—
C18†	Reaction control	0·0003
C19†	H.F. circuit tuning	0·0005
C20‡	H.F. circuit trimmer	—

* Electrolytic. † Variable. ‡ Pre-set.

	Other Components		Approx. Values (ohms)
L1	Aerial coupling coil (M.W. and L.W.)		12·0
L2, L3	Aerial tuning coils (M.W. and L.W.)		4·0, 12·5
L4	Aerial coupling coil (S.W.)		0·05
L5	Aerial tuning coil (S.W.)		Very low
L6, L7	H.F. transformer primary coils (M.W. and L.W.)		7·5, 17·5
L8	Reaction coil (M.W. and L.W.)		4·5
L9, L10	H.F. transformer secondary coils (M.W. and L.W.)		5·0, 10·0
L11	Reaction coil (S.W.)		0·05
L12	H.F. tuning coil (S.W.)		Very low
L13	Speaker speech coil		2·0
L14	Hum neutralising coil		0·05
L15	Speaker field winding		1,700·0
T1	Speaker input trans.	Pri.	460·0
		Sec.	0·4
T2	Mains trans.	Pri. total	30·0
		Heater sec. total	1·0
		Rect. heat. sec.	0·15
		H.T. sec.	200·0
S1-S10	Waveband switches		—
S11	V2 anode by-pass switch		—
S12	Mains switch, ganged R3		—

Coils.—The M.W. and L.W. coils are in two screened units, **L1-L3** and **L6-L10**, on the chassis deck. The second unit also contains **C4** and **R5**. The S.W. coils are on unscreened tubular units (**L4, L5** and **L11, L12**) beneath the chassis. The thick enamelled wire windings are **L5** and **L12** respectively.

Switch	S.W.	M.W.	L.W.
S1	C	O	O
S2	O	C	O
S3	O	C	C
S4	C	O	O
S5	O	C	O
S6	O	C	O
S7	C	O	O
S8	C	O	O
S9	O	C	C
S10	C	O	O
S11	O	C	C

S12 is the Q.M.B. mains switch, ganged with the gain control, **R3.**

VALVE ANALYSIS

Valve voltages and currents given in the table below are those measured in our receiver when it was operating on mains of 230 V, using the 230 V tapping on the mains transformer. The volume control was at maximum but the reaction control was at minimum, and there was no signal input.

Voltages were measured on the 1,200 V scale of an Avometer, with chassis as negative.

Valve	Anode Volts	Anode Current (mA)	Screen Volts	Screen Current (mA)
V1 9D2	270	7·7	110	1·9
V2 4D1	102	4·7	—	—
V3 7A3	250	34·0	270	6·2
V4 R3	312†	—	—	—

† Each anode, A.C.

GENERAL NOTES

Switches.—**S1-S11** are the waveband switches, ganged in a single unit beneath the chassis. They are indicated in our under-chassis view, and it will be noted that two sets of contacts (between **S1** and **S11**, and between **S2** and **S5**) are not used, while **S6** is mounted on an extension of the unit near the front of the chassis. The table (col. 2) gives the switch positions for the various control settings, O indicating open, and C closed.

Scale Lamp.—This is an Osram M.E.S. type, rated at 6.2 V, 0.3 A, and run from the 4 V tapping on the heater winding of **T2.**