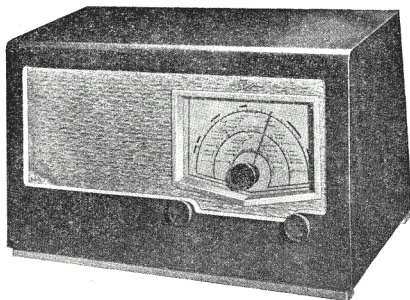




SERVICE DATA

Re-issued September, 1946



DESCRIPTION

GENERAL. The K-B Model AR 21 is a 4-valve superheterodyne receiver for battery operation.

WAVE RANGE. Three bands covering the normal broadcast frequencies :—

Long Wave	-	-	750-2,000 metres	400-150 kc/s
Medium Wave	-	-	195-550 metres	1,538-545 kc/s
Short Wave	-	-	16.5-52 metres	18.1-5.7 mc/s

VALVES. The receiver is fitted with the following valves :—

V 1 Frequency Changer	-	-	MULLARD	DK32
V 2 I.F. Amplifier	-	-	"	DF33
V 3 2nd Detector	-	-	"	DAC32
V 4 Output Pentode	-	-	"	DL35

CONSUMPTION. The total power consumption is : L.T., 250 mA. ; H.T., 9.5 mA.

OUTPUT. The output stage delivers 24 watts to a 6" permanent magnet moving coil Loud-speaker.

ALTERNATIVE L.T. SUPPLY. Normally the two-pin battery plug is inserted in the socket provided at the back of the receiver Chassis and the spades connected to their respective accumulator terminals. When a dry cell is used the two-pin plug is inserted in the socket provided on the battery and the accumulator leads disconnected.

CABINET. A strongly-constructed veneered plywood Cabinet. The overall dimensions are approximately 19" x 11" x 10".

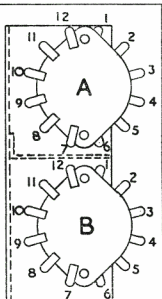
REMOVAL OF CHASSIS. Firstly, remove the three knobs.

Extract Loudspeaker plug from Chassis.

Unscrew the four Chassis bolts from the underside of the Cabinet.

WAVERANGE SWITCH CONTACTS

SWITCH POSITION	CONTACTS CONNECTED	
	SWITCH BANK A. 1 TO 6 & 12 NOT USED	SWITCH BANK B. 6 & 12 NOT USED
SHORT WAVE	7 TO 8 9,10,11 TO 12	1 TO 2 3,4,5 TO 6
MEDIUM WAVE	7 TO 9 10,11 TO 12	1 TO 3 4 5 TO 6 7 TO 9 10,11 TO 12
LONG WAVE	7 TO 10 11 TO 12	1 TO 4 5 TO 6 7 TO 10 11 TO 12



KB Museum.org.uk

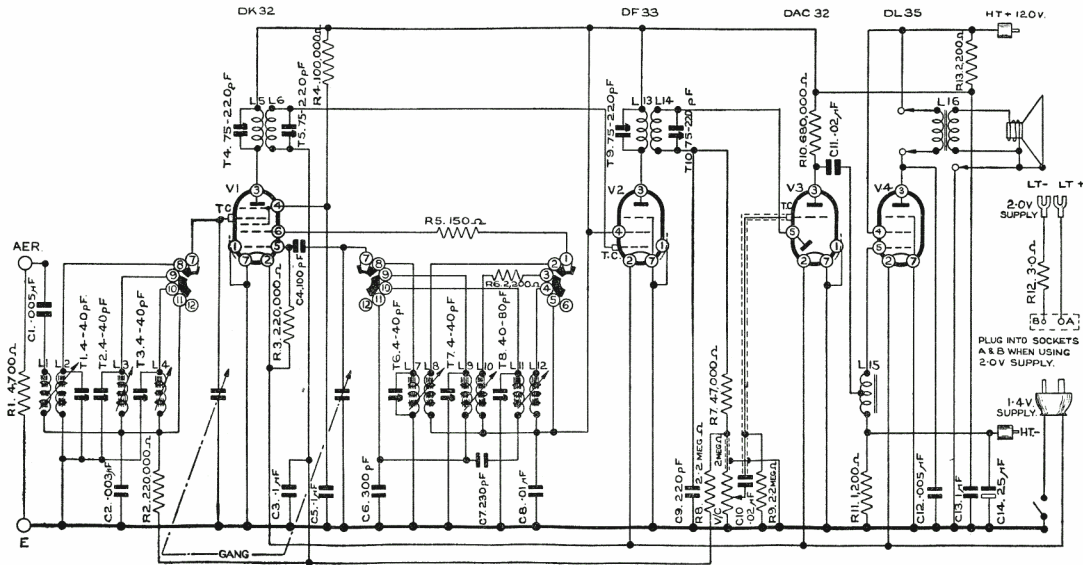


OCTAL VALVE BASE

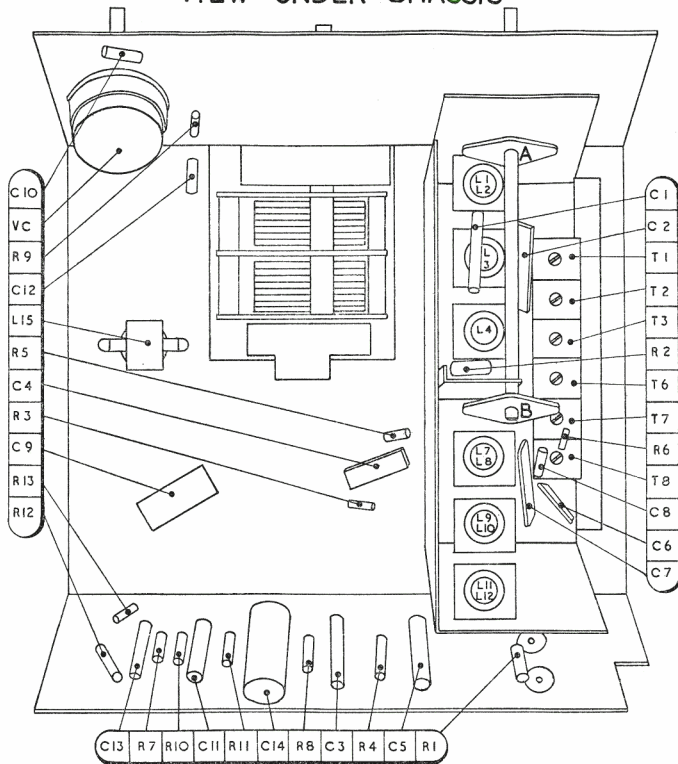
VIEWS FROM UNDERNEATH THE CHASSIS



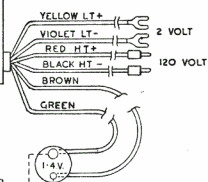
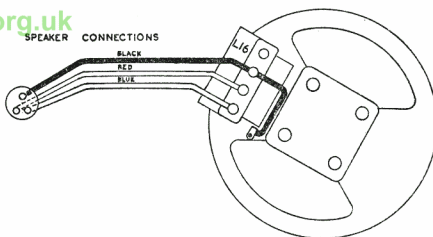
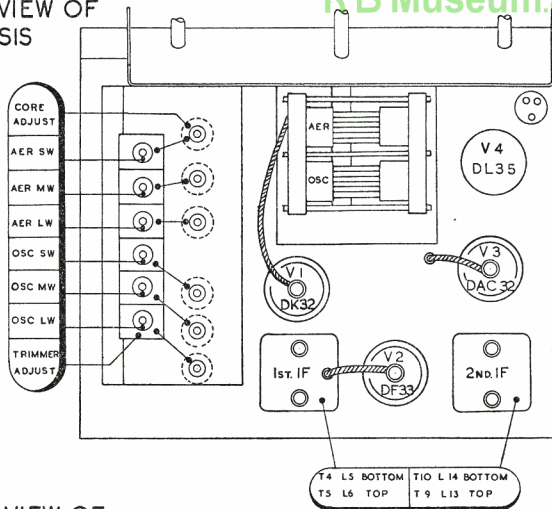
MODEL
AR21



VIEW UNDER CHASSIS

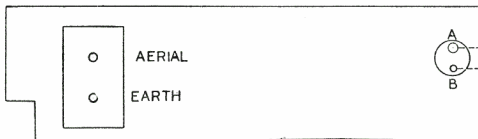


TOP VIEW OF CHASSIS



CONNECT AS SHOWN BY DOTTED LINES WHEN USING 2V. ACCUMULATOR

BACK VIEW OF CHASSIS



ALIGNMENT CHART FOR AR 21

*Operations MUST be carried out in the order indicated.

*Operation	Alignment of	Connect Signal Gen. to	Inject Signal via	Adjust Input Signal to	Set Wave Band Switch to	Set Tuning Pointer to	To be adjusted for maximum output
1	I.F.	Grid of DK32 Aerial Socket	.Imfd. Standard Dummy Aerial	472 kc/s	M.W.	Extreme end of Scale. Cond.max.	Trimmers T10, T9, T5, T4 I.F. Transformers Cores of L9-L10, L3 Trimmers T7, T2 Cores of L11-L12, L4 Trimmers T8, T3 Cores of L9-L10, L3 Trimmers T7, T2 Cores of L7-L8, L1-L2 Trimmers T6, T1
2	M.W.			600 kc/s	"	500 M	
3	"			1,400 kc/s	"	214 M spot	
4	L.W.			175 kc/s	L.W.	1,714 M spot	
5	"			250 kc/s	"	1,200 M spot	
6	M.W. Check			600 kc/s	M.W.	500 M	
7	"			1,400 kc/s	"	214 M spot	
8	S.W.			6 mc/s	S.W.	50 M	
9	"			15 mc/s	"	20 M	

All on coil unit

The oscillator operates at a higher frequency than the input signal on all bands.

The tuning condenser should be rocked slightly for maximum gain while finally adjusting the R.F. and aerial trimmers.

The operation for each band should be successively repeated until scale accuracy and maximum sensitivity have been attained.

VOLTAGE CHART AR 21

H.T. Battery Voltage, 120 v.		L.T. Accumulator Voltage, 2 v.				Aerial and Earth Disconnected				
Volume Control Full On		Band Switch—M.W.				Readings + or - 10%				
Valve	Function	Volts measured between SOCKET and CHASSIS								
		1	2	3	4	5	6	7	8	TOPCAP
DK 32	Frequency Changer	0	1.4	98	31	—	92	0	—	—
DF 33	I.F. Amplifier	0	1.4	98	98	—	—	0	—	—
DAC 32	2nd Detector	0	1.4	26	—	—	—	0	—	—
DL 35	Output Pentode	0	1.4	102	107	—	—	0	—	—
Voltage Across Bias Resistor		...	...	...	R11	11.4				
" " Output Transformer Primary		...	...	...	L16	2.5				

IMPORTANT

This Receiver uses B.V.A. Valves where specified and was designed around them.

Its performance will be impaired unless B.V.A. Valves of the correct types are used when replacements are needed.



MODEL
AR21

