SECTION 3

REBROADCAST RECEIVER RBR/3 AND RBR/3A-L

General Description

Rebroadcast Receivers Types RBR/3 and RBR/3A-L have been developed from the RBR/2 series of receivers and have been designed to utilise 19-inch panels and to incorporate certain circuit modifications.

The circuit diagram of the RBR/3 receiver is given in Fig. 3 and that of the RBR/3A-L receivers in Fig. 4.

In comparison with the RBR/2 and RBR/2A-L receivers the principal circuit modifications are:

(a) A carrier failure alarm relay is incorporated in the RBR/3 and RBR/3A-L receivers. V3 is a double-triode and the alarm-relay winding is connected in the anode circuit of one of the component triodes, this triode being fed with signal from the anode of the other.

(b) The final valve is a double-triode. The low-pass filter which, in the RBR/2 and RBR/2A-L receivers, is an optional addition to the output circuit is, in the RBR/3 and RBR/3A-L receivers, a permanent feature and is included in the grid circuit of the first half of this double-triode.

Test Data

The test data are the same as given in Section 1 of this Instruction.

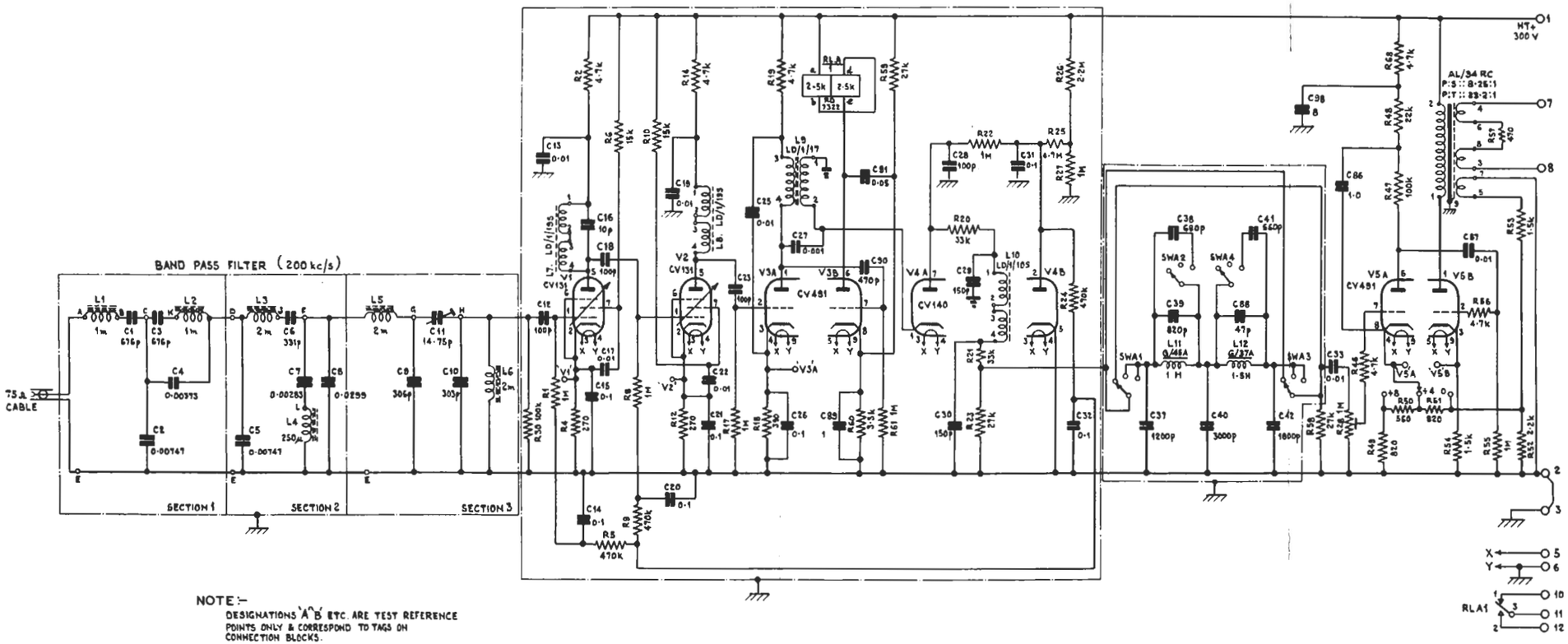
Maintenance

Maintenance on these receivers should be limited to the changing of valves and components which are not included in the filter boxes. *It is essential that no attempt should be made to adjust an r.f. or an i.f. filter on site.* These filters should not normally require maintenance, and adjustments can only be made with specialised equipment. Any attempt to align on site will only cause serious errors in the frequency response of the receiver. If any filter is found to be faulty it can easily be removed and replaced with a new filter.

COMPONENT TABLE : FIG 3

Comp.	Loc.	Type	Tolerance per cent	Comp.	Loc.	Type	Tolerance per cent
C1	C6	L.E.M. 3220	± 1	L5	G6	EA 9066 Det. 42	
C2	D8	,, 2515	,,	L6	J7	,, ,,	
C3	D6	,, 3220	,,	L7	K4	Spec ED/LD/1/19	
C4	D7	,, 2515	,,	L8	M4	,, ,,	
C5	E8	,, ,,	,,	L9	N3	,, ED/LD/1/17	
C6	F6	,, ,,	,,	L10	R5	,, ED/LD/1/10	
C7	F7	,, 2010	,,	L11	T6	G/45 Assembly A	± 2
C8	G7	,, 3220	,,	L12	V6	G/37 ,, ,,	,,
C9	H7	,, 2515	,,				
C10	J7	,, ,,	,,	R1	J7	Erie 9	± 10
C11	H6	T.C.C. TCK 0330		R2	K2	,, 8	,,
C12	K6	Erie N750/L	± 10	R4	K7	,, 9	,,
C13	J3	Hunt B810		R5	K9	,, ,,	,,
C14	K9	,, B500K		R6	K3	,, ,,	,,
C15	K7	,, ,,		R8	L7	,, ,,	,,
C16	K4	T.C.C. CSM20N	± 10	R9	L9	,, ,,	,,
C17	K7	Hunt B810		R10	L3	,, ,,	,,
C18	K5	Erie N750/L	± 10	R12	L7	,, ,,	,,
C19	L4	Hunt B810		R14	M2	,, 8	,,
C20	L8	,, B500K		R17	M7	,, 9	,,
C21	M7	,, ,,		R18	N7	,, ,,	,,
C22	M6	,, B810		R19	N2	,, 8	,,
C23	M5	Erie N750/L		R20	Q4	,, 9	,,
C25	N4	Hunt B810		R21	R6	,, ,,	,,
C26	N7	,, B500K		R22	R3	,, ,,	,,
C27	N4	T.C.C. CM20N	± 20	R23	R7	,, ,,	,,
C28	Q3	Erie N750/L	± 10	R24	S5	,, ,,	,,
C29	R5	T.C.C. CSM20N	,,	R25	S3	,, ,,	,,
C30	Q7	,, ,,	,,	R26	S2	,, ,,	,,
C31	R3	Hunt B500K		R27	S4	,, ,,	,,
C32	S7	,, ,,		R28	W7	Morganite LHNAR 10550 32800	
C33	W6	T.C.C. CP32N/PVC					
C37	T7	T.C.C. SMP701 FIN.D	± 5	R30	J7	Erie 109	± 2
C38	U4	,, SMP601 ,,	± 1	R47	X4	,, 8	± 10
C39	U5	,, SMP701 ,,	,,	R48	X3	,, 9	,,
C40	U7	,, SMP501 ,,	± 5	R49	X8	,, ,,	,,
C41	V4	,, SMP601 ,,	± 1	R50	X7	,, ,,	,,
C42	V7	,, SMP701 ,,	± 5	R51	X7	,, ,,	,,
C86	W3	Hunt A315		R52	Z8	,, ,,	,,
C87	Y4	,, B810		R53	Z4	,, ,,	,,
C88	V5	T.C.C. SMP101 FIN.D	± 10	R54	X8	,, 8	,,
C89	C7	Hunt B503K		R55	Y8	,, 9	,,
C90	P5	T.C.C. CM20N	±20	R56	Y5	,, ,,	,,
C91	P3	,, CP35N/PVC		R57	Y3	,, ,,	,,
C98	W3	,, SCE 74PE/PVC		R58	W7	,, ,,	,,
				R59	P2	Painton P302	± 5
L1	C6	EA 9066 Det. 40		R60	P7	Erie 8	± 10
L2	D6	,, ,,		R61	Q7	,, 9	,,
L3	F6	,, Det. 42		R68	X2	,, ,,	,,
L4	F8	,, Det. 41					

FIG 3



NOTE:-
DESIGNATIONS 'A' 'B' ETC. ARE TEST REFERENCE POINTS ONLY & CORRESPOND TO TAGS ON CONNECTION BLOCKS.

VALVE BASES

CV131
CV140

Button Miniature 7-pin Glass B7G.

CV491

Noval B9A

REBROADCAST RECEIVER RBR/3 (LONG WAVE) CIRCUIT

COMPONENT TABLE: FIG 4

Note: For details of input filter components see Equipment Department Parts List EA9068

Comp.	Loc.	Type	Tolerance per cent	Comp.	Loc.	Type	Tolerance per cent
C12	O4	Erie N750L	± 10	C78	L6	L.E.M. 1510	± 1
C13	O2	Hunt B810		C79	L5	,, ,,	,,
C14	O8	,, B500K		C80	M5	,, 2010	,,
C15	O5	,, ,,		C81	M6	,, 1510	,,
C17	P5	,, B810		C82	M5	,, ,,	,,
C18	P3	Erie N750L	± 10	C83	N6	,, 2515	,,
C19	P2	Hunt B810		C84	N5	,, 1510	,,
C20	Q7	,, B500K		C85	N6	,, 2010	,,
C21	Q7	,, ,,		C86	X3	Hunt A315	
C22	Q6	, B810		C87	Z4	,, B810	
C23	Q4	Erie N750L	± 10	C88	W4	T.C.C. SMP101 FIN.D	± 10
C25	Q3	Hunt B810		C89	R6	Hunt B503K	
C26	R6	,, B500K		C90	S3	T.C.C. CM20N	± 20
C27	R3	T.C.C. CM20N	± 20	C91	S2	,, CP35N/PVC	
C28	S2	Erie N750L	± 10	C98	X1	,, SCE74PE/PVC	
C29	T4	T.C.C. CSM20N	± 5				
C30	T6	,, ,,	,,	L9	R2	Spec ED/LD/1/17	
C31	U2	Hunt B500K		L10	T4	,, ED/LD/1/10	
C32	U6	,, ,,		L11	V5	G45 Assembly A	
C33	X5	T.C.C. CP32N/PVC		L12	W5	G37 ,, ,,	
C37	V6	,, SMP701 FIN.D	± 5	L17	E3	EB 9073 Det 49	
C38	V3	,, SMP601 ,,	± 1	L18	I6	,, Det 50	
C39	V4	,, SMP701 ,,	,,	L19	J6	,, Det 43	
C40	W6	,, SMP501 ,,	± 5	L20	K4	,, Det 44	
C41	W3	,, SMP601 ,,	± 1	L21	K6	,, Det 45	
C42	X6	,, SMP701 ,,	,,	L22	L6	,, Det 46	
C53	D4	Erie N750L	± 10	L23	M5	,, Det 47	
C54	E6	T.C.C. CP37N/PVC		L24	N6	,, Det 48	
C55	F4	,, CM20N	± 20				
C56	F3	Hunt B810		R1	O5	Erie 9	± 10
C57	E5	,, ,,		R2	O1	,, 8	,,
C58	F6	Erie N750M	± 10	R3	O3	,, 8	,,
C59	F7	,, N750L	,,	R4	O6	,, 9	,,
C60	F6	T.C.C. TCK2012		R5	O8	,, ,,	,,
C62	G6	,, CP37N/PVC		R6	P2	,, ,,	,,
C63	G5	Hunt B810		R8	P6	,, ,,	,,
C64	H5	,, ,,		R9	P8	,, ,,	,,
C65	H4	,, ,,		R10	P2	,, ,,	,,
C66	H4	Erie K1200K	± 20	R12	P6	,, ,,	,,
C67	I6	See end of Table	± 5	R13	Q3	,, 8	,,
C68	I3	T.C.C. CM20N	± 20	R14	Q1	,, 8	,,
C69	J6	L.E.M. 2010	± 1	R17	Q6	,, 9	,,
C70	J4	,, 1510	,,	R18	Q6	,, ,,	,,
C71	J6	,, 2010	,,	R19	R1	Dubilier BTB	,,
C72	J5	,, ,,	,,	R20	T3	Erie 9	,,
C73	K6	,, 1510	,,	R21	T5	,, ,,	,,
C74	K4	,, 2010	,,	R22	T2	,, ,,	,,
C75	K5	,, 2515	,,	R23	T6	,, ,,	,,
C76	L6	,, 2010	,,	R24	U4	,, ,,	,,
C77	L5	,, ,,	,,	R25	U2	,, ,,	,,

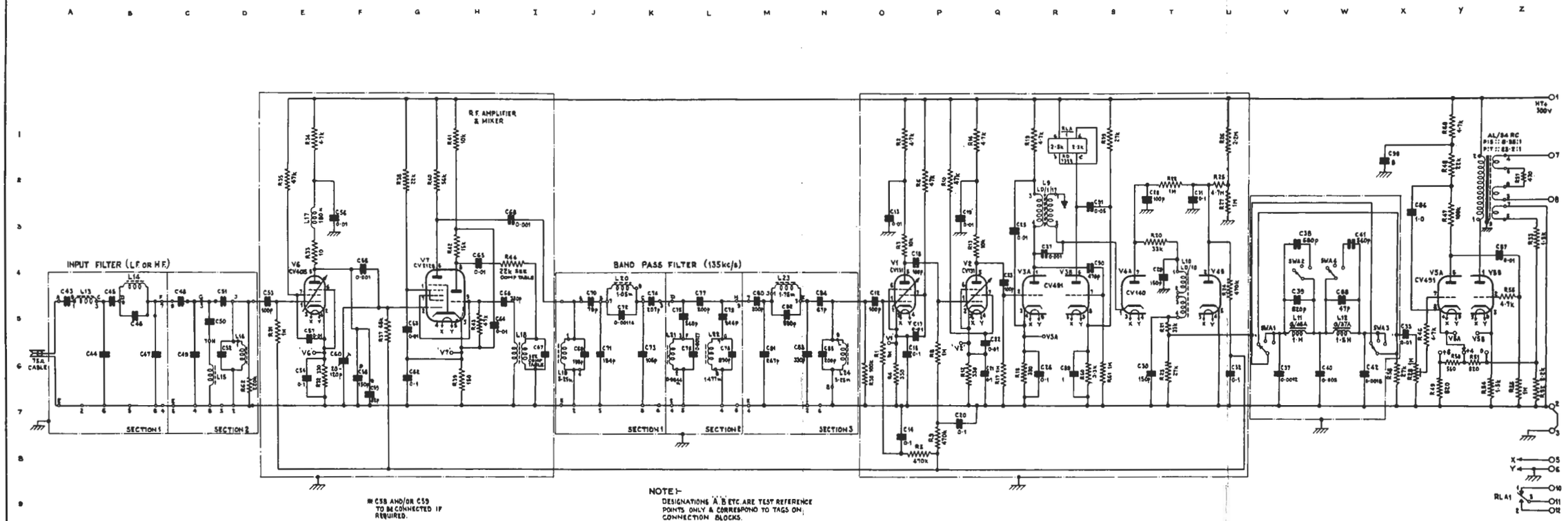
COMPONENT TABLE : FIG 4 (Continued)

Comp.	Loc.	Type	Tolerance per cent	Comp.	Loc.	Type	Tolerance per cent
R26	U1	Erie 9	± 10	R46	X5	Erie 9	± 10
R27	U2	,, ,,	,,	R47	Y3	,, 8	,,
R28	X6	Morganite LHNAR 10550 32800		R48	Y2	,, 9	,,
				R49	Y7	,, ,,	,,
R31	D5	Erie 9	± 10	R50	Y6	,, ,,	,,
R32	E6	,, ,,	,,	R51	Y6	,, ,,	,,
R33	E4	,, ,,	,,	R52	Z7	,, ,,	,,
R34	E1	,, 8	,,	R53	Z3	,, ,,	,,
R35	E2	,, 9	,,	R54	Y7	,, 8	,,
R37	F5	,, ,,	,,	R55	Z7	,, 9	,,
R38	G2	,, ,,	,,	R56	Z5	,, ,,	,,
R39	H6	,, ,,	,,	R57	Z2	,, ,,	,,
R40	G2	,, 8	,,	R58	X6	,, ,,	,,
R41	H1	,, ,,	,,	R59	S1	Painton P302	
R42	H3	,, ,,	,,	R60	S6	Erie 8	± 10
R43	H5	,, ,,	,,	R61	S6	,, 9	,,
R44	H4	See end of Table		R68	Y1	,, ,,	,,

Values of C 67 and R 44

Receiver	Frequency kc/s	C67 pF	R44 k Ω
RBR/2A	647	680	39
RBR/2B	692	620	27
RBR/2C	809	470	22
RBR/2D	881	390	22
RBR/2E	908	360	22
RBR/2F	1052	270	22
RBR/2G	1088	270	22
RBR/2H	1151	220	22
RBR/2J	1457	150	22
RBR/2K	1214	200	22
RBR/2L	1484	120	22

FIG 4



REBROADCAST RECEIVER RBR/3A–L (MEDIUM WAVE) CIRCUIT