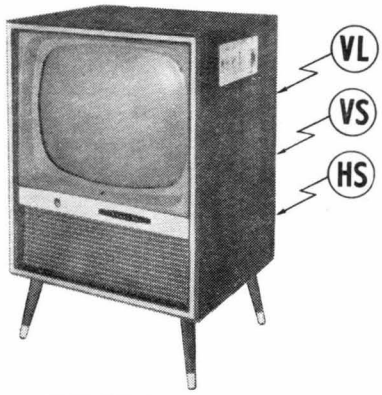
SERVICE DATA

21 CT 317:/01
21 CT 318:/01

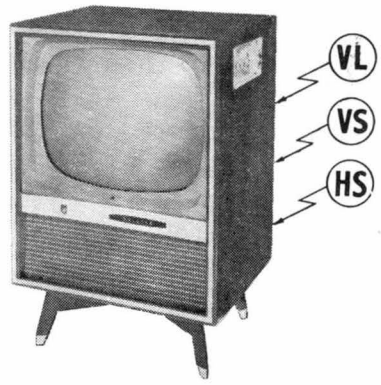
PHILIPS *Television Receiver*

Models 21 CT 317:/01 (fixed legs) and 21 CT 318:/01 (swivel base) differ in respect of base mounting design only. Suffix /01 in each case denotes a cabinet style variation affecting front decorative moulding only.

MODELS 21 CT 317
21 CT 317'01
21 CT 318
21 CT 318'01



21 CT 317:/01

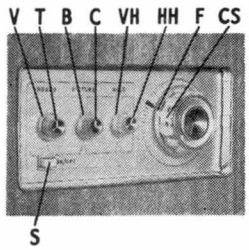


21 CT 318:/01

SPECIFICATION

Channel Selector	
Channel 1	49 - 56 Mc/s
" 2	63 - 70 Mc/s
" 3	85 - 92 Mc/s
" 4	132 - 139 Mc/s
" 5	139 - 146 Mc/s
" 6	174 - 181 Mc/s
" 7	181 - 188 Mc/s
" 8	188 - 195 Mc/s
" 9	195 - 202 Mc/s
" 10	209 - 216 Mc/s
" 11	Reserved
" 12	Reserved
Aerial input impedance	300 ohm
Turret tuner	Type AT7580
Video I.F.	36 Mc/s
Sound I.F.	30.5 Mc/s
Supply voltage	190, 215, 240V A.C.
Power consumption	150 watts, approx.
Picture tube (21")	Type AW53-80
" " focus	Electrostatic
" " deflection	Magnetic
Deflection unit (90°)	Type AT1007/T11
Horizontal output transformer	Type AT2012
Loudspeaker (6")	**Rola Type 6H**
Loudspeaker (8")	**Rola Type 8M**

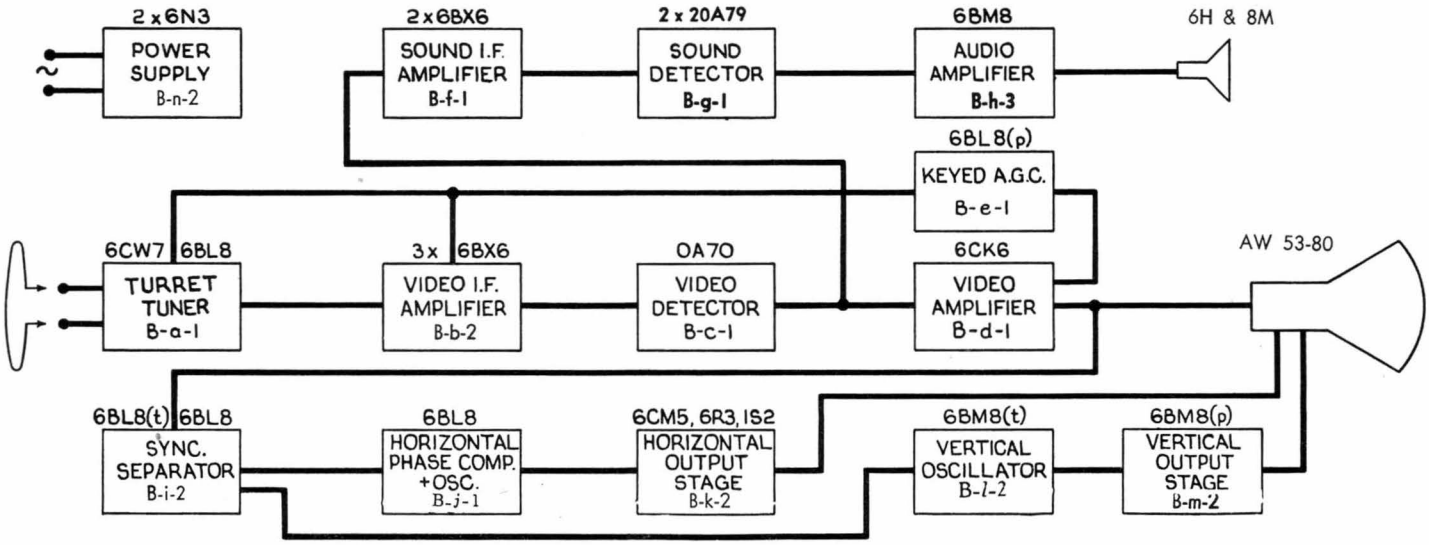
Weight—	21CT 318:/01	21CT 317:/01
(Unpacked	120 lbs.	114 lbs.
(Packed	146 lbs.	140 lbs.



IDENTIFICATION

V - Sound Volume
T - Tone
C - Contrast
B - Brightness
HH - Horizontal Hold
VH - Vertical Hold
CS - Channel Selector
F - Fine Tuning
HS - Horizontal Size
VS - Vertical Size
VL - Vertical Linearity
S - On/Off Switch

BLOCK DIAGRAM



For details of Blocks refer "Service Handbook"

RESISTORS

Item No.	Description	Type or Code No.
R1	3,300 ohms ½W	I.R.C. Type BTS
R3	1 megohm ½W	" " "
R5	820,000 ohms ½W	" " "
R6	680 ohms 1W	" " "
R7	220,000 ohms ½W	" " "
R8	47,000 ohms ½W	" " "
R9	47 ohms ½W	ERIE Type 9
R10	22,000 ohms ½W	I.R.C. Type BTS
R11	10,000 ohms 2W	I.R.C. Type BTB
R12	1,000 ohms ½W	I.R.C. Type BTS
R14	6,800 ohms ½W	" " "
R21A, B	2,200 ohms 1W (x2)	I.R.C. Type BTA
R22A, B	1,000 ohms 1W (x2)	" " "
R23A, B, C	2,200 ohms 1W (x3)	" " "
R26	10,000 ohms ½W	I.R.C. Type BTS
R27	270 ohms ½W	" " "
R28	100,000 ohms ½W	" " "
R29	33,000 ohms ½W	" " "
R30	100,000 ohms 1W	I.R.C. Type BTA
R31	68,000 ohms 1W	" " "
R32, R33	33,000 ohms ½W	I.R.C. Type BTS
R34	1 megohm pot. (V)	CZ.029.097
R35	5,000 ohms pot. (T)	CZ.029.097
R36	2,200 ohms ½W	I.R.C. Type BTS
R37	100,000 ohms ½W	" " "
R38	470,000 ohms ½W	" " "
R39	6,800 ohms ½W	I.R.C. Type BTS
R40	270 ohms 1W	I.R.C. Type BTA
R43	2,700 ohms 1W	I.R.C. Type BTA
R44	47,000 ohms ½W	I.R.C. Type BTS
R46	4,700 ohms ½W	" " "
R47	180 ohms ½W	" " "
R48	47 ohms ½W	" " "
R49	150,000 ohms ½W	" " "
R50	4,700 ohms ½W	" " "
R51	8.2 megohms ½W	" " "
R52	2.2 megohms ½W	" " "
R53	100,000 ohms ½W	" " "
R54	2.2 megohms ½W	" " "
R55, R56	470,000 ohms ½W	" " "
R57	47 ohms ½W	" " "
R58	4,700 ohms ½W	" " "
R59	180 ohms ½W	" " "
R60	220 ohms ½W	" " "
R61	10,000 ohms ½W	" " "
R62	180 ohms ½W	" " "
R63	47 ohms ½W	" " "
R64	2.2 megohms ½W	" " "
R65	8,200 ohms ½W	" " "
R66	2,700 ohms ½W	" " "
R67	120,000 ohms ½W	" " "
R68	33,000 ohms ½W	" " "
R69	330 ohms 1W	I.R.C. Type BTA
R70	3,300 ohms 5% 5W (ww)	I.R.C. Type AB coat A
R71A, B	15,000 ohms 1W (x2)	I.R.C. Type BTA
R72	10,000 ohms (ww) pot. (C)	CZ.029.054
R75	250,000 ohms pot. (B)	CZ.029.054
R73	2,700 ohms ½W	I.R.C. Type BTS
R74	47,000 ohms ½W	" " "
R76	270,000 ohms ½W	" " "
R77	1 megohm ½W	" " "
R78	680,000 ohms 1W	I.R.C. Type BTA
R79	820,000 ohms 1W	" " "
R81	180,000 ohms ½W	I.R.C. Type BTS
R82	330,000 ohms ½W	" " "
R83	10,000 ohms ½W	" " "
R84	3.3 megohms ½W	" " "
R85	8.2 megohms ½W	" " "
R86	390,000 ohms ½W	" " "
R87	10,000 ohms ½W	" " "
R89	820,000 ohms ½W	" " "
R90	680,000 ohms ½W	" " "
R91	0.5 megohms pot. (VH)	CZ.029.055
R117	50,000 ohms pot. (HH)	CZ.029.055
R92	22,000 ohms ½W	I.R.C. Type BTS
R93	1 megohm pot. (VL)	CZ.029.315
R94	1.0 megohm ½W	I.R.C. Type BTS
R95	220,000 ohms ½W	" " "
R96	2 megohms pot. (VS)	CZ.029.316
R97	1.0 megohm ½W	I.R.C. Type BTS
R98	4.7 megohms ½W	" " "
R99	110,000 ohms ½W 5%	" " "
R100	330 ohms ½W	" " "
R101	15,000 ohms 1W	I.R.C. Type BTA
R102	100,000 ohms 1W	" " "
R103	47 ohms ½W	I.R.C. Type BTS
R105	100,000 ohms ½W	" " "
R106	2.2 megohms ½W	" " "
R107	15,000 ohms ½W	" " "
R108	150,000 ohms ½W	" " "
R109	220,000 ohms ½W	" " "
R110	100,000 ohms ½W	" " "
R111	22,000 ohms ½W	" " "
R112	15,000 ohms ½W	" " "
R113	100,000 ohms ½W	" " "
R114	330,000 ohms ½W	I.R.C. Type BTA
R115	820,000 ohms ½W	" " "
R116	47,000 ohms ½W	" " "
R118	220,000 ohms ½W	" " "
R119	220,000 ohms ½W	" " "
R120	3,900 ohms ½W	" " "
R121	47,000 ohms ½W	" " "
R122	8,200 ohms ½W	" " "
R123	100,000 ohms ½W	" " "
R124	120,000 ohms ½W	" " "
R125	330,000 ohms ½W	" " "
R126	2.2 megohms ½W	" " "
R127	1,000 ohms ½W	" " "
R128	5,000 ohms 5% 5W (ww)	I.R.C. Type AB coat A
R129	2,700 ohms 1W	I.R.C. Type BTA
R130	1.4 ohms (ww) (part of E.H.T. Socket)	
R131	1,000 ohms 1W	I.R.C. Type BTA
R133	1,000 ohms 1W	" " "
R134	33,000 ohms ½W	I.R.C. Type BTS
R135	1.1 ohms N.T.C.	B8.320.20

CAPACITORS

Item No.	Description	Type or Code No.
C1	1,000 pF GMV ceramic	Ducon DS Style A, Hi-K5000
C2	3.9 pF ceramic	C304.AB/L3E9
C3	5 pF ceramic, trimmer	49.627.50
C4	2.5 pF ceramic, trimmer	49.005.62
C5	2.5 pF ceramic, trimmer	"
C6	2.7 pF ceramic	Ducon Style BEA, P100
C7	1.8 pF ceramic	" " " "
C8, 9, 11, 13	820 pF +100% −20% ceramic, feed thru	B1.664.13
C14, C15	1,000 pF GMV ceramic	Ducon DS Style A, Hi-K5000
C16	47 pF ceramic	48.203.02/47E
C19	15 pF ± 1 pF ceramic	C304RH/47E
C20	68 pF ± 2% ceramic	" "
C21	68 pF ± 2% ceramic	" "
C23	1,000 pF GMV ceramic	Ducon DS Style A, Hi-K5000
C28	56 pF ± 10% ceramic	Ducon Style C, NPO
C33A, B	50 µF 300VW elec. (x2)	Ducon Type ECD 367
C34A	50 µF 250VW elec.	Ducon Type ECT196
C34B	100 µF 25VW elec.	Ducon Type ECT196
C34C	24 µF 250VW elec.	Ducon Type ECT196
C35A, B	50 µF 300V elec. (x2)	Ducon Type ECD367
C37	0.022 µF 400V paper	Ducon Type TPB, Hi-Seal "85" or U.C.C. Type PPS
C38	2.7 pF ± 1 pF ceramic	Ducon Bead Type, N750
C39	47 pF ± 10% ceramic	Ducon DS Style C, P100
C40	0.0047 µF 400V paper	" " " " " " " " "
C41	47 pF ± 10% ceramic	Ducon DS Style C, P100
C42	47 pF ceramic	Ducon Style A, N750
C43	47 pF ± 10% ceramic	Ducon DS Style C, P100
C44	330 pF ceramic	Ducon Style C, N750
C45A, B	4,000 pF GMV ceramic (x2)	Ducon DP Style D, Hi-K
C46	5 pF mica	Simplex Type IF
C47	100 pF ± 2% mica	" " "
C48	27 pF ± 10% ceramic	Ducon Style A, N750
C49	8 µF 100V elec.	Ducon Type ET1B
C50	0.0022 µF 400V paper	Ducon Type TPB, Hi-Seal "85" or U.C.C. Type PPS
C51	0.01 µF 200V paper	" " " " " " " " "
C52	0.047 µF 200V paper	" " " " " " " " "
C53	0.033 µF 200V paper	" " " " " " " " "
C54	0.01 µF 400V paper	" " " " " " " " "
C55	25 µF 25VW elec.	Ducon Type ET1B
C56	50 µF 6VW N.P. elec.	Ducon ET2B
C57	8 µF 300 VW elec.	Ducon Type ET2D
C58, C59	6.8 pF ± 1 pF ceramic	Ducon Bead Type, N750
C60	10 pF ± 10% ceramic	Ducon Type A, NPO, Tubular
C61	100 pF ceramic	Ducon Style B, N750
C62	8.2 pF ± 1 pF ceramic	Ducon Type A, NPO, Tubular
C63	22 pF ± 10% ceramic	Ducon Style A, N750
C64	0.47 µF 100V paper	Ducon "Miniseal" Type TPA or U.C.C. Type PPS
C65	2 µF 25VW elec.	Ducon Type ET1B
C66, 7, 8, 9	1,500 pF ceramic	Ducon Style B, Hi-K
C70A, B	1,500 pF GMV ceramic (x2)	Ducon Style DP Hi-K5000
C71, 2, 3, 4	1,500 pF ceramic	Ducon Style B, Hi-K
C76	100 pF ceramic	Ducon Style B, N750
C77	0.0047 µF 400V paper	Ducon Type TPB, Hi-Seal "85" or U.C.C. Type PPS
C78	1,500 pF ceramic	Ducon Style B, Hi-K
C79, C80	6.8 pF ± 1 pF ceramic	Ducon Bead Type, N750
C81	47 pF ± 10% ceramic	Ducon DS Style C, P100
C82	1,500 pF ceramic	Ducon Style B, Hi-K
C83	8 µF 300VW elec.	Ducon Type EC5B
C84	0.047 µF 200V paper	Ducon Type TPB, Hi-Seal "85" or U.C.C. Type PPS
C86	0.0047 µF 400V paper	" " " " " " " " "
C87	0.022 µF 400V paper	" " " " " " " " "
C88	0.01 µF 600V paper	" " " " " " " " "
C89	0.001 µF 400V paper	" " " " " " " " "
C90, C91	220 pF ceramic	Ducon Style C, N750
C92	0.0047 µF 400V paper	Ducon Type TPB, Hi-Seal "85" or U.C.C. Type PPS
C93	0.047 µF 400V paper	" " " " " " " " "
C94	0.047 µF 400V	" " " " " " " " "
C96	0.0047 µF 400V paper	" " " " " " " " "
C97	0.01 µF ± 10% 200V paper	" " " " " " " " "
C98	470 pF ceramic	Ducon Style A, Hi-K
C99	0.047 µF 400V paper	Ducon Type TPB, Hi-Seal "85" or U.C.C. Type PPS
C100	0.1 µF 600V paper	" " " " " " " " "
C101, C102	0.047 µF ± 10% 400V paper	" " " " " " " " "
C103	0.022 µF ± 10% 400V paper	" " " " " " " " "
C104	0.0047 µF 2,000V paper	" " " " " " " " "
C105	0.022 µF 200V paper	" " " " " " " " "
C110	47 pF ceramic	Ducon Style A, N750
C111	82 pF ceramic	Ducon Style B, N750
C112	220 pF ceramic	Ducon Style C, N750
C113	0.047 µF 200V paper	Ducon Type TPB, Hi-Seal "85" or U.C.C. Type PPS
C114	82 pF ceramic	Ducon Style B, N750
C115	0.1 µF 200V	Ducon Type TPB, Hi-Seal "85" or U.C.C. Type PPS
C116	0.022 µF 200V paper	" " " " " " " " "
C117	0.001 µF ± 10% 400V paper	" " " " " " " " "
C118	0.47 µF 100V paper	Ducon "Miniseal" Type TPA or U.C.C. Type PPS
C119	0.01 µF ± 10% 200V paper	Ducon Type TPB, Hi-Seal "85" or U.C.C. Type PPS
C120	330 pF ± 10% ceramic	Ducon Style C, N750
C121	0.0047 µF 400V paper	Ducon Type TPA, Hi-Seal "85" or U.C.C. Type PPS
C122	47 pF ceramic	Ducon Style A, N750
C123	1,500 pF ceramic	Ducon Style B, Hi-K
C125	82 pF ± 10% 700VW ceramic	U.C.C. Type CC140H0
C126	0.039 µF ± 10% 1,000V paper	Ducon Type TPB, 1060
C128	820 pF ± 10% mica	Simplex SM
C129	30 pF ± 10% 5,000V ceramic	U.C.C. Type CAA33

INDUCTORS

Item No.	Description	DC Resistance (ohms)	Type or Code No.
	TURRET TUNER		A3.767.32
L2, L3, L4	Aerial Coils:—		A3.747.07
	Channel 1		
	Channel 2		A3.747.08
	Channel 3		A3.747.09
	Channel 4		A3.747.10
	Channel 5		A3.747.11
	Channel 6		A3.746.75
	Channel 7		A3.746.76
	Channel 8		A3.746.77
	Channel 9		A3.746.78
	Channel 10		A3.746.79
L5, L6 & L7	R.F. Band Pass & Osc. Coils:—		
	Channel 1		A3.747.02
	Channel 2		A3.747.03
	Channel 3		A3.747.04
	Channel 4		A3.747.05
	Channel 5		A3.747.06
	Channel 6		A3.746.70
	Channel 7		A3.746.71
	Channel 8		A3.746.72
	Channel 9		A3.746.73
	Channel 10		A3.746.74
L8	1st. Video I.F.T. (Prim.)	)	
L9	1st. Video I.F.T. (link)	)	CZ.320.441
L10	Coupling Coil		A3.117.72
L11	36 Mc/s Aerial Trap	)	
L12	36 Mc/s Aerial Trap	)	A3.119.95
L14	30.5 Mc/s Aerial Trap	)	
L13	Heater Choke		A3.117.71
	POWER TRANSFORMER		CZ.344.102
L21A	Primary, mains	0.66	
L21B	Primary, mains	0.64	
L21C	Primary, mains	4.5	
L22A	Secondary, H.T.	15	
L22B	Secondary, H.T.	16	
L23	Secondary, heaters		
L24	FILTER CHOKE	86	CZ.341.008
L25	1ST. SOUND I.F. COIL	1.5-2.0)	
L47	VIDEO SOUND TRAP	1.5-2.0)	CZ.320.439
	2ND. SOUND I.F.T.		CZ.320.440
L26	Primary	1.5-2.0	
L27	Secondary	1.5-2.0	
	RATIO DETECTOR TRANS.		CZ.324.037
L28	Tertiary		
L29	Primary	3.0-3.5	
L30	Secondary		Rola CCG55
	LOUDSPEAKER TRANS.		
L31	Primary	366	
L32	Secondary		
L33	LOUDSPEAKER (6")		Rola 6H
L34	LOUDSPEAKER (8")		Rola 8M
L35	DIVIDER NETWORK CHOKE		CZ.341.013
L36	ADJ. CHANNEL PICTURE TRAP	)	
L37	ADJ. CHANNEL SOUND TRAP	)	CZ.320.448
L38	1ST. VIDEO I.F.T., SEC.	)	
L39	I.F. SOUND TRAP	)	CZ.320.435
	2ND. VIDEO I.F.T.		CZ.320.436
L40	Primary		
L41	Secondary		
	3RD. VIDEO I.F.T.		CZ.320.437
L42	Primary		
L43	Secondary		
	4TH. VIDEO I.F.T.		CZ.320.438
L44	Primary		
L45	Secondary		
L46	TWEET COIL	7.0-8.0	CZ.321.298
L48	PEAKING COIL	12-13	CZ.321.297
L49	PEAKING COIL	12-13	CZ.321.306
	VERT. BL. OSC. TRANS		CZ.346.016
L52	Primary	300	
L53	Secondary	115	
	VERT. OUTPUT TRANS.		CZ.344.813
L54	Primary	650	
L55	Secondary	0.44	
L56	Feedback	705	
L57	FLYWHEEL COIL	75	CZ.330.617
	HORIZ. BL. OSC. TRANS.		CZ.323.412
L58A	Primary	70-75	
L58B	Secondary	200	
L59	HORIZ. LINEARITY COIL		A3.802.89
	HORIZ. OUTPUT TRANS.		A3.767.94
L60	Compensating Coil		
L61A	Primary	6.1-7.3	
L61B	Secondary	15.5-18.8	
L62A, B, C, D,	Secondary		
L63	Secondary		
L64	Secondary (E.H.T.)	190-230	
L65	E H.T. HEATER LOOP		CZ.358.081
	DEFLECTION UNIT		CZ.320.918
L66A, B	Deflec. coils, vertical	3.5-4.3 (total)	(pin 6 and 8)
L67A, B	Deflec. coils, horiz.	3.3-4.0 (total)	(pin 2 and 4)
S1A & B	ON/OFF & SPOT SUPPRESSOR SWITCH		CZ.221.035
V20	LAMP CH. IND. (5v 150mA)		
V21	LAMP KNOB PANEL (6.3v 320mA)		Philips Type 8045D

MISCELLANEOUS COMPONENTS

Ref. No.	Description	Type or Code No.
25	ANGLE, glass retaining	CS.257.825
	BACK, cabinet	CS.462.682
	BADGE	A3.357.10
	BAR, glass retaining	CS.257.821
	CAP, cabinet back	CS.462.649
	CLIP, escutcheon (x2)	CS.430.033
	CLIP, back retaining (x6)	CS.282.467
	COVER, (decorative), maple cabinet	CR.520.840
	COVER, (decorative), other cabinets	CR.520.841
	ESCUTCHEON, knob panel border (x2)	CS.430.932
21	GLASS, safety filtered	CS.420.616
	KNOB, (b, vh, v)	CR.523.744
	KNOB, (c, hh, t)	CR.523.743
	KNOB, (cs)	CR.523.745
	KNOB, (f)	CS.432.688
	KNOB, dummy	CS.432.671
	KNOB, (s1)	CS.432.699
	LEG, Cedar brown (Model 21CT317:/01)	CR.600.495
	LEG, maple (Model 21CT317:/01)	CR.600.570
	LEG, rose mahog. (Model 21CT317:/01)	CR.600.564
	LEG, walnut (Model 21CT317:/01)	CR.600.563
	NAME, "Philips"	A3.308.24
	PAD, felt	CS.424.221
	PANEL, knob	CS.218.724
	SCREW, grub (3 m.m.) dummy knob	CS.261.806
	STRIP, chan. sel. knob (numbers)	CS.410.021
	BRACKET, speaker transf. mtg. (x2)	CS.233.551
	FUSE, F1 (0.5A) Belling Lee (Mg-Ni)	
	FUSE, F2 (1.5A) Australux	
	LEAD, aerial transmission	300 ohms
38	LEAD, I.F. coupling	CZ.358.086
34	LEAD, p. tube E.H.T.	CZ.360.438
	LOOP, heater E.H.T. rec.	CZ.358.081
	PANEL Assy. h. output trans.	A3.766.87
	PANEL, fuse (x2)	CZ.371.109
36	PLUG & SOCKET, volt selector	CZ.370.509
	PLUG, speaker	CZ.365.118
	SHIELD, heat (E.H.T. skt.)	CR.059.006
	SOCKET, ceramic (V1 & V2)	B8.700.55
	SOCKET, ceramic (V13)	B8.700.19
	SOCKET, E.H.T. rectifier	P5.170.02
	SOCKET, speaker	CZ.370.116
35	SOCKET, aerial	CR.262.463
33	SOCKET, pic. tube	C/F.733-22-3
	SPRING, I.F.T. retaining (x7)	A3.652.58
	STRIP, Terminal T. Tuner	CZ.375.244
	SWITCH, on/off push button assy.	CZ.221.035
	WASHER, (V. osc., & O. trans.) mtg. (x4)	CS.116.406
	BRACKET, corner (x3)	CS.229.239
10	BRACKET, corner assy.	CR.263.226
	CLIP, deflection unit retaining	A3.685.97
	COIL Assy., deflection unit	A3.802.35
27	HOUSING ASSY., deflection unit	CR.571.823
31	LEAD ASSY., deflection unit	A3.583.02
32	SCREW, p. tube, mtg. (x4)	CH.662.294
24	STRAP ASSY., front lower	CR.296.607
	STRAP ASSY., front upper	CR.296.606
28	STRAP, earthing	CZ.360.441
22	STRAP, rear	CR.526.104
39	SPRING, earthing strap	CS.210.052
8	BRACKET, cord adjusting	CR.262.460
11	BRACKET, cord traverse	CR.262.459
	BRACKET, lamp (knob panel)	CS.223.564
	BRACKET, lamp (channel ind.)	CS.228.206
1	BRACKET, spring mounting	CS.233.550
12	BUSH, T. Tuner Spindle	CS.381.680
9	CORD, waxed 52"	CS.361.847
13	DRUM, T. Tuner Spindle	CS.359.813
	GROMMET, T. Tuner Mtg. (x3)	CS.422.458
3	INDICATOR ASSY., Channel Complete	CR.480.005
	RING (cord to drum)	CS.281.844
	SPACER, T. Tuner Mtg. (x3)	CS.284.202
16	SCREW, bush to spindle $\frac{1}{8}$" whit. x $\frac{1}{4}$" R.H.	
6	SCREW, cord adjusting $\frac{1}{8}$" whit. x 3" R.H.	
14	SCREW, drum rtg. (x2) $\frac{1}{8}$" whit. x 3/16" R.H.	
	SHIELD, valve t. tuner	B8.700.53
5	SPRING, cord adjusting	CS.211.030
2	SPRING, channel indicator control	CS.210.050
7	WASHER, cord adjusting	$\frac{1}{8}$"
15	WASHER, lock drum rtg. (x2)	$\frac{1}{8}$"

NOTES:—

RESISTORS
Tolerance ± 10% unless otherwise specified. Wire wound resistors shown (ww), remainder carbon.

CAPACITORS
Tolerance ± 20% unless otherwise specified. Tolerance GMV (guaranteed minimum value) over temperature range — 10° to + 60°C.

INDUCTORS
DC resistance tolerance ± 10% unless otherwise specified. Values less than 0.5 ohms have been omitted.

IMPORTANT! When ordering spare parts, quote CODE NUMBER of part and MODEL NUMBER of Receiver. In claiming free replacement under GUARANTEE, return defective part PROMPTLY and quote MODEL and SERIAL NUMBER of Receiver and DATE OF PURCHASE.

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ALIGNMENT PROCEDURE

RATIO DETECTOR

Connect V.T.V.M. (10V D.C. range) to TP3 and chassis.
Apply an unmodulated 5.5 Mc/s signal to TP2.
Unscrew core of L30 (under chassis) until flush with former.
Proceed as follows:

Align	V.T.V.M. Deflection	V.T.V.M. Connected to Test Point
L28/29 (top)	Peak and adjust input to obtain 10V reading	TP3
L30	With input setting as above adjust for 2V reading	TP4
—	Re-adjust input signal to obtain 6V reading	TP3
L30	With input setting unaltered adjust for 3V reading	TP4

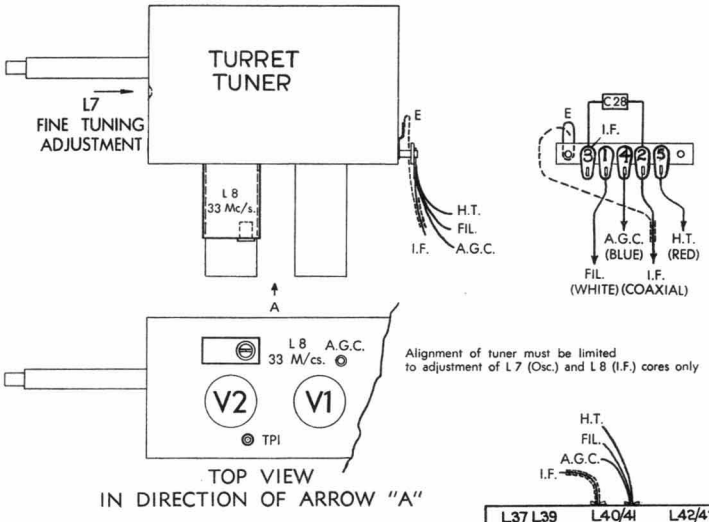
Repeat last two steps until D.C. potential at TP4 is half that at TP3.

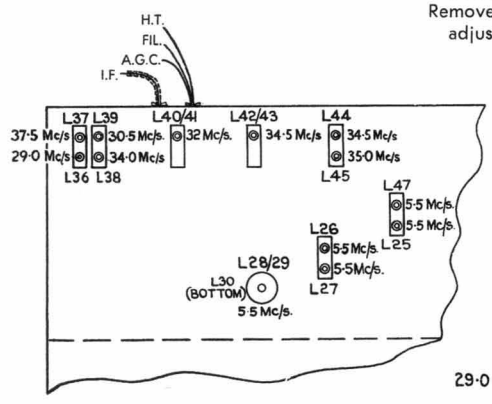
SOUND I.F.

Switch channel selector to position 11 or 12.
Connect V.T.V.M. (10V D.C. range) to TP3.
Apply an unmodulated 5.5 Mc/s signal to TP7.
Connect damping network (470 ohms + 1,500 pF in series) across L26 and peak L27.
Transfer damping network to position across L27 and peak L26.
Remove damping network and peak L25.
To check overall sound response curve:
Connect C.R.O. to TP4 and apply sweep signal (5.5 Mc/s FM ± 2 Mc/s deviation) to TP7.
Check that "S" curve is straight each side of 5.5 Mc/s marker.

5.5 Mc/s SOUND TRAP

Connect a high-resistance D.C. voltmeter or V.T.V.M. (3V range) to T.P.3 and chassis.
Apply an unmodulated 5.5 Mc/s signal through a 2700 ohm resistor to grid 1 (pin 2) of V11 (video amplifier).
Adjust slug of L47 for minimum voltmeter deflection.





LOCATION DIAGRAM—ABOVE CHASSIS ALIGNMENT

VIDEO I.F.

Switch channel selector to position 11 or 12.
Apply 2 volts negative to TP5 and TP6 (positive to chassis).
Connect filter network of 10,000 ohms and 1,500 pF in series from TP8 to chassis (condenser to chassis) and connect V.T.V.M. (3V A.C. range) to filter condenser.
Set "Contrast" to maximum and "Brightness" to minimum.
Unscrew L8 core (on tuner) until flush to former and apply a 30% A.M. Signal to TP1 (on tuner) as follows:

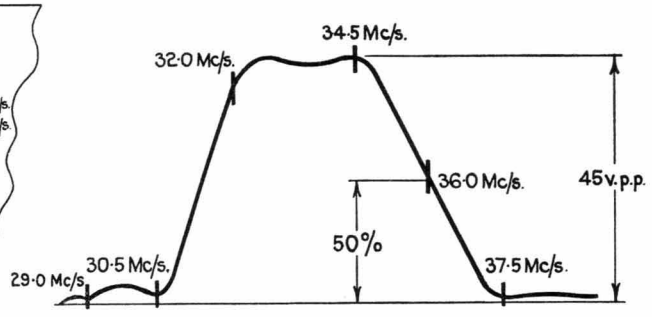
Set Signal Freq. to:	Connect Damping Network (470 ohms + 1,500 pF in series) Across.	Adjust Core of:	Deflection: for V.T.V.M.
34.5 Mc/s	L45	L44	Peak
35.0 Mc/s	L44	L45	"
34.5 Mc/s	—	L42/43	"
32.0 Mc/s	—	L40/41	"
34.0 Mc/s	—	L38	"
33.0 Mc/s	L38	L8	"
30.5 Mc/s	—	L39	Minimum
37.5 Mc/s	—	L37	"
29.0 Mc/s	—	L36	"

Note—In order to avoid overloading, keep signal voltage at minimum consistent to adequate V.T.V.M. deflection.
For final adjustment of video I.F. response curve connect C.R.O. to filter condenser in place of V.T.V.M. and apply a sweep signal (33 Mc/s F.M. ± 5 Mc/s deviation) to TP1.
Adjust input signal to obtain a peak to peak output of 45V. Waveform should closely resemble the typical response curve shown below. Where necessary, modify curve shape by re-adjusting L8, L38, L40/41, L42/43 and L44 cores. If spot alignment is correct, readjustment of L45 core should not be necessary. the initial setting of cores L36, L37 and L39 must not be altered.

NOTE—For a condition approaching optimum alignment, the video I.F. response curve shape is more sensitive to adjustment of L8 and L38 cores than to corresponding adjustment of L40/41, L42/43 and L44 cores.

HORIZONTAL OSCILLATOR AND FLYWHEEL COIL

Connect C.R.O. via 15,000 ohms resistor to TP9 and set sweep control (time base) to half the line frequency.
Apply picture signal to receiver aerial terminal and set horizontal hold control to the central position.
Unscrew core of L57 until flush with former and synchronise picture by adjusting core of L58.
Adjust core of L57 to obtain C.R.O. wave-shape shown on circuit diagram while keeping picture in synchronism by re-adjusting core of L58.
Repeat L57, L58 core adjustment until C.R.O. wave-shape is correct while picture is synchronised.
Remove C.R.O. and, if necessary, re-synchronise picture by re-adjusting core of L58 only.



TYPICAL VIDEO I.F. RESPONSE CURVE

21 CT 317:/01
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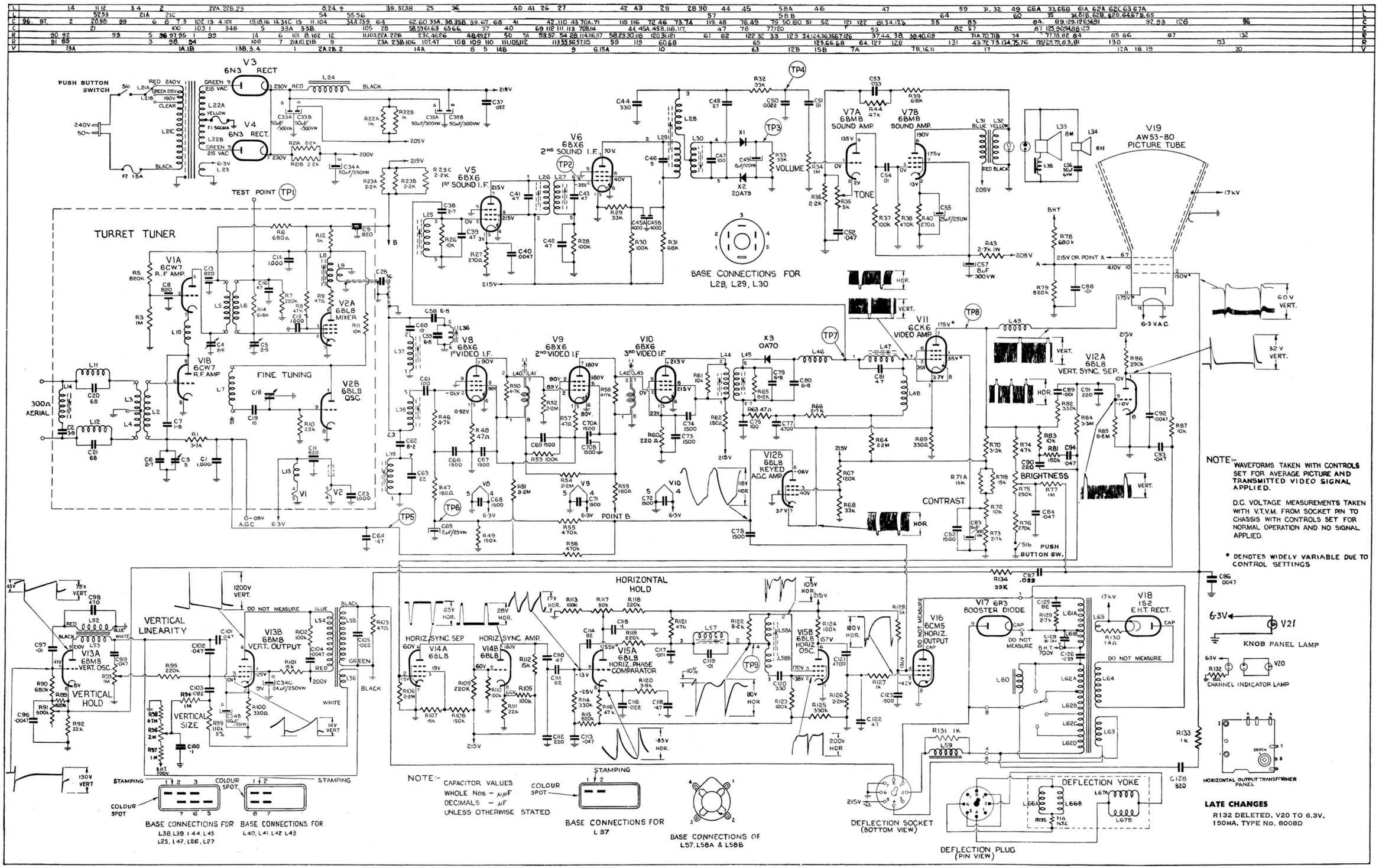
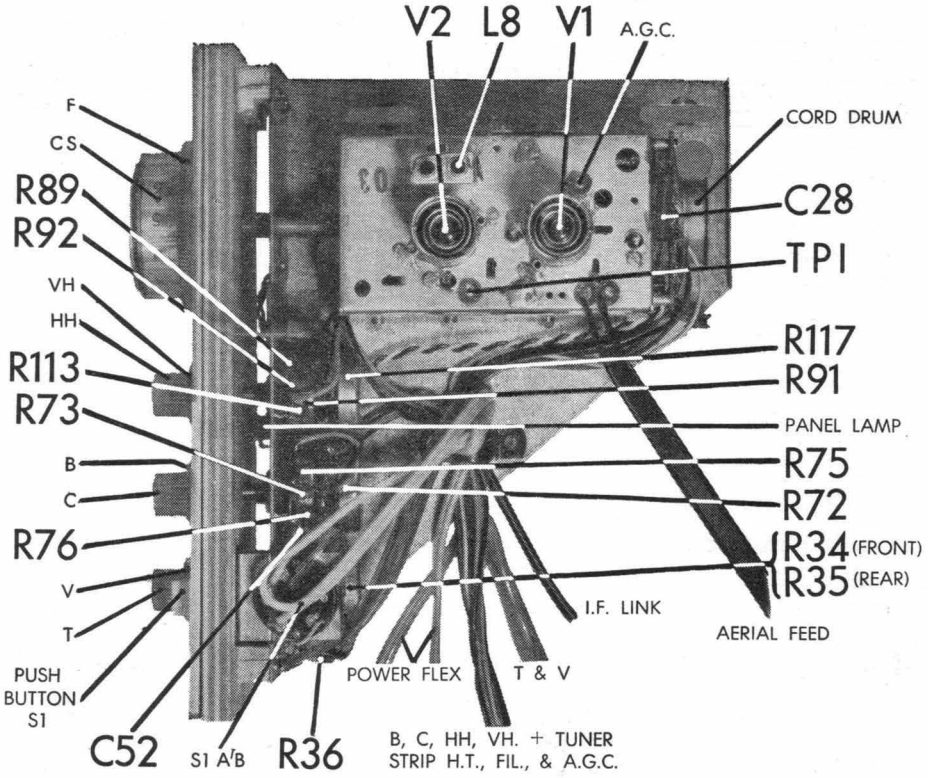
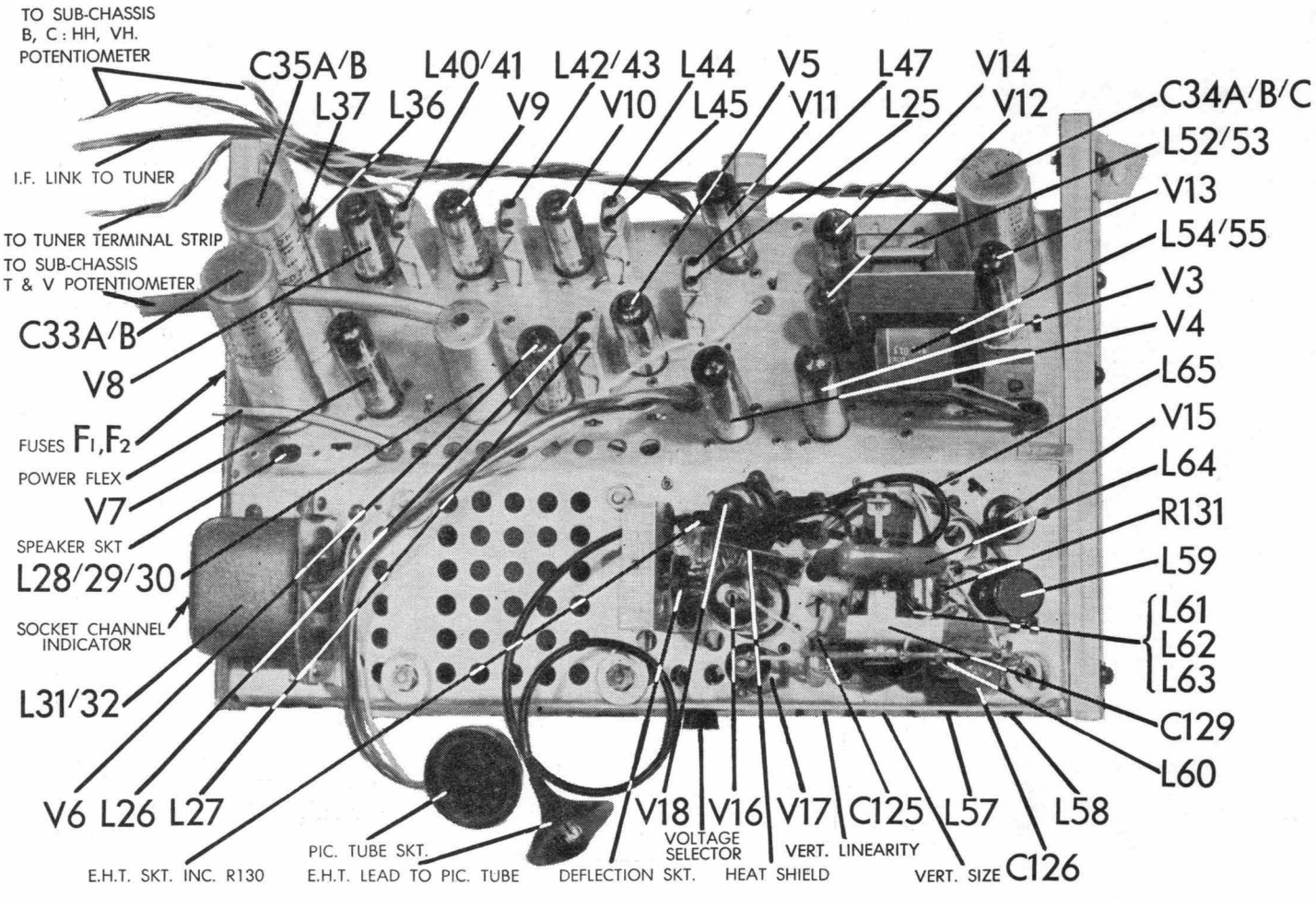



V2
L8
V1
A.G.C.
F
CS
R89
R92
VH
HH
R113
R73
B
C
R76
V
T
PUSH BUTTON S1
C52
S1 A/B
R36
POWER FLEX
T & V
B, C, HH, VH. + TUNER STRIP H.T., FIL., & A.G.C.
I.F. LINK
AERIAL FEED
CORD DRUM
C28
TP1
R117
R91
PANEL LAMP
R75
R72
R34 (FRONT)
R35 (REAR)


TO SUB-CHASSIS B, C : HH, VH. POTENTIOMETER
I.F. LINK TO TUNER
TO TUNER TERMINAL STRIP
TO SUB-CHASSIS T & V POTENTIOMETER
C33A/B
V8
FUSES F1,F2
POWER FLEX
V7
SPEAKER SKT
L28/29/30
SOCKET CHANNEL INDICATOR
L31/32
V6 L26 L27
E.H.T. SKT. INC. R130
PIC. TUBE SKT.
E.H.T. LEAD TO PIC. TUBE
DEFLECTION SKT.
V18
VOLTAGE SELECTOR
V16
HEAT SHIELD
V17
VERT. LINEARITY
C125
VERT. SIZE
L57
C126
L58
C35A/B
L37
L36
L40/41
V9
L42/43
V10
L44
L45
V5
V11
L47
L25
V14
V12
C34A/B/C
L52/53
V13
L54/55
V3
V4
L65
V15
L64
R131
L59
L61
L62
L63
C129
L60

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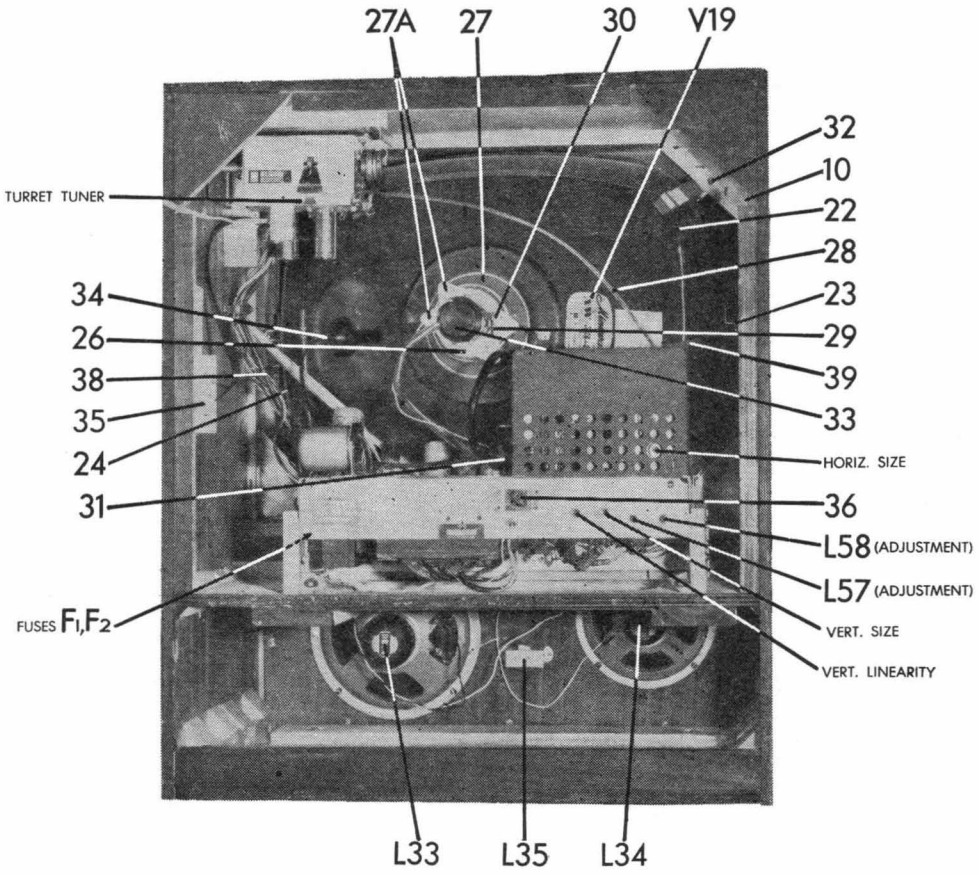
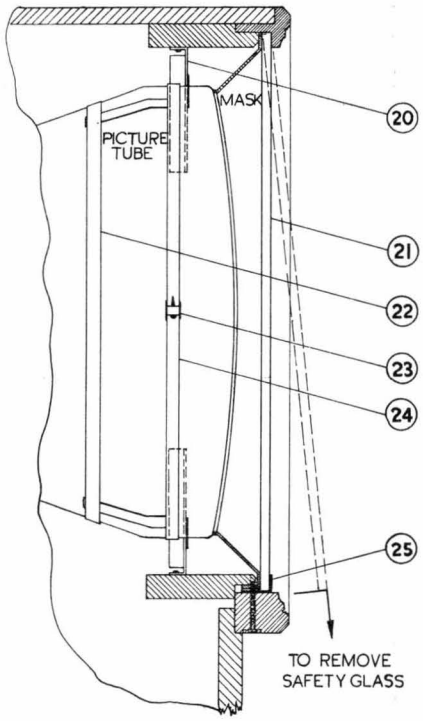
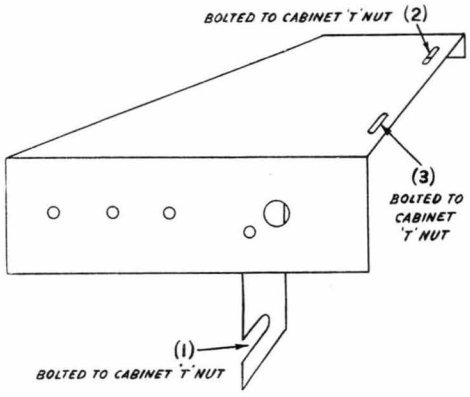
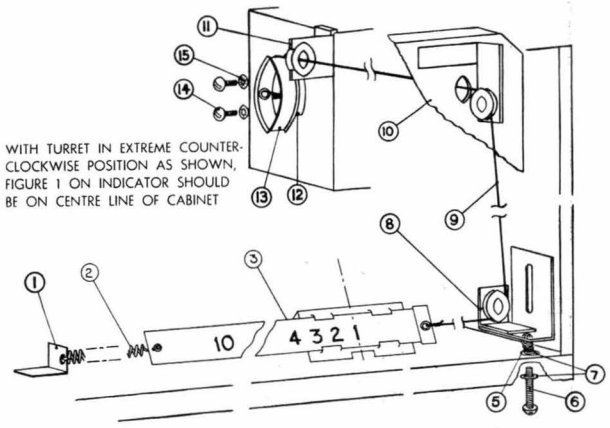








1. Spring mounting bracket
2. Channel control spring
3. Channel indicator assy. comp.
5. Cord adjusting spring
6. Cord adjusting screw
7. Washer
8. Cord adjusting bracket
9. Waxed cord
10. Picture tube mounting bracket assy.
11. Cord traverse bracket
12. Turret tuner spindle bush
13. Turret tuner spindle drum
14. Drum retaining screw
15. Drum lock washer
21. Filtered safety glass
22. Rear picture tube strap
23. Strap joining bracket
24. Front strap assy., lower
25. Glass retaining angle
26. Ion trap magnet
27. Housing assy., deflection unit
27A. Centering adjustment ears
28. Earthing strap
29. Clamping bracket
30. Knurled screw
31. Lead and plug assy., def. unit
32. Picture tube bracket mtg. screw
33. Picture tube socket
34. Picture tube E.H.T. lead
35. Aerial socket
36. Voltage selector plug and skt.
38. I.F. Coupling lead.
39. Earthing strap spring.

UNDER CHASSIS ACCESSIBILITY

Removal of the cabinet base (six metal thread screws) renders the under chassis components accessible with chassis in the cabinet fitted position.

TO REMOVE SUB AND MAIN CHASSIS FROM CABINET

Remove the aerial socket assembly (slide fit), the loud speaker plug, deflection unit plug, channel indicator plug, picture tube socket, E.H.T. lead, and the earthing lead spades at the deflection unit and at the chassis adjacent to the speaker transformer. Unclip the interconnecting cable loom and ensure freedom of movement for withdrawal. Set turret tuner to Channel 1 position. Unhook indicator cord termination at tuner drum 13 and pull cord end through adjacent cord traverse eyelet (bkt. 11).

Removal of the two bolts securing the main chassis to the support shelf and the three position metal thread screw mounting of the sub-chassis (support weight of sub-chassis) will allow withdrawal of both chassis from cabinet.

The sequence of screw removal for sub-chassis withdrawal should be as shown. Note that the knob panel is an integral part of the sub-chassis, rendering knob removal unnecessary. Replacement is a reversal of the withdrawal procedure.

TO REMOVE MASK AND SAFETY GLASS PLATE

Receiver should be in the normal standing position.

The safety glass and mask are retained by the brass decorative angle (25) in conjunction with the threaded strip secured by four metal thread screws accessible beneath cabinet overhang.

To remove glass and mask (attached to glass at bottom and top edge), completely withdraw the two inner screws, and then with care loosen the outer screws sufficiently to allow withdrawal of angle while retaining glass in normal fitted position. Ease bottom edge of glass forward, employing suitable rubber suction cups if available, and remove in a downward direction as shown.

Replacement procedure is the reverse of removal, but cord tension should be checked before refitting safety glass and mask. A correct cord length condition provides for an approximate 15 per cent. extension of tension spring (2) for channel 1 alignment of indicator strip corresponding with a mid setting of adjustment bracket 8 (refer channel indicator diagram).

TO REPLACE PICTURE TUBE

The method of mounting picture tube in these receivers provides for withdrawal from front of cabinet. Chassis removal is not essential for withdrawal of picture tube.

Remove safety glass and mask together with all picture tube connecting leads as previously described.

Remove ion trap magnet, loosen the clip securing deflection unit to tube neck and, with care, withdraw assembly.

Carefully rest cabinet face uppermost on a suitable raised platform providing adequate (not less than 2") protective clearance for protruding picture tube neck, etc. Unhook the cord retaining spring 2 and slide the channel indicator strip from its retention bracket. Place assembly with cord attached in a suitable temporary position for free withdrawal of picture tube and associated mounting straps.

Remove the four corner bracket screws (32), and with care raise the picture tube complete with supporting harness and earthing braid. Note that the two brackets (23) joining the upper and lower sections of front strap must line up with the slots in the cabinet.

Cabinet refitting procedure following harness transfer to replacement picture tube is a reversal of removal process, but prior setting of front straps to correspond with corner bracket spacing will avert any necessity for re-adjustment in the cabinet.

Following removal from receiver, place tube with harness face downwards on a cardboard or other suitable surface and mark mounting hole centres and tube perimeter. Adjust the front straps on replacement tube to match these centres and tube outline.

At all times the weight of the picture tube should be supported at the screen. Under no circumstances must the neck of the tube be subjected to undue stress.

NOTE—Safety goggles must be worn at all times during the handling of picture tubes.

KNOB REMOVAL

All functional knobs are push fitted, and when necessary may be removed by carefully pulling from spindle in the conventional manner. The location moulding inside channel selection knob is, however, fixed to spindle by means of a 3 m.m. grub screw, which must be completely withdrawn. Note relative grub screw/knob pointer position for correct channel indication.

RECENT MODIFICATIONS

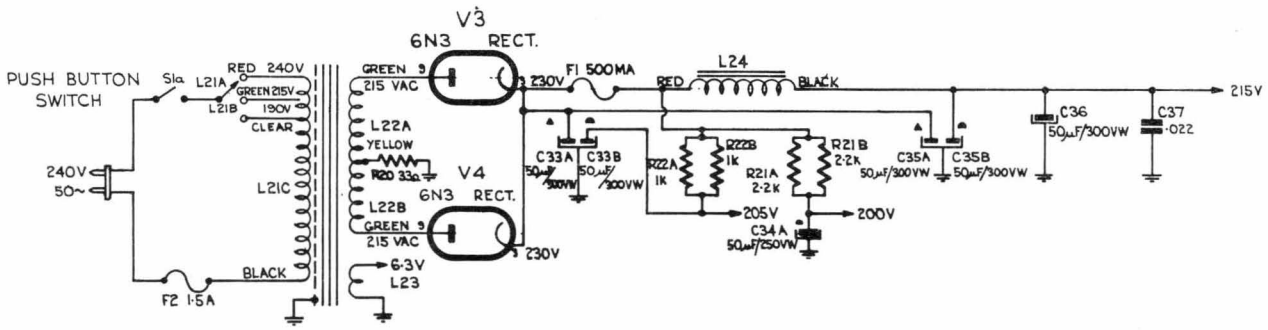
Summary of development changes following service data publication—

CHANNEL INDICATOR LAMP

The 5V 150 mA lamp (V20) replaced by lamp rated at 6V 150 mA (Type 8008D). Voltage dropping resistor R132 deleted.

POWER SUPPLY

Additional 50μF electrolytic capacitor C36 incorporated to improve H.T. filtering.
Location of the fuse F1, transferred from power transformer secondary to H.T. line.
Anti-sputter resistor R20 (33Ω) added: as shown.



Errata—

CIRCUIT DIAGRAM. (Separate sheet).

Switch S1 a/b shown as part of tone control potentiometer in lieu of separate push-button unit.

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