RADIO CORPORATION PTY. LTD.
DIVISION OF ELECTRONIC INDUSTRIES LTD.
126-130 GRANT STREET, SOUTH MELBOURNE, S.C.4.
TECHNICAL BULLETIN

BULLETIN: ESK-1
Date: 26-11-58
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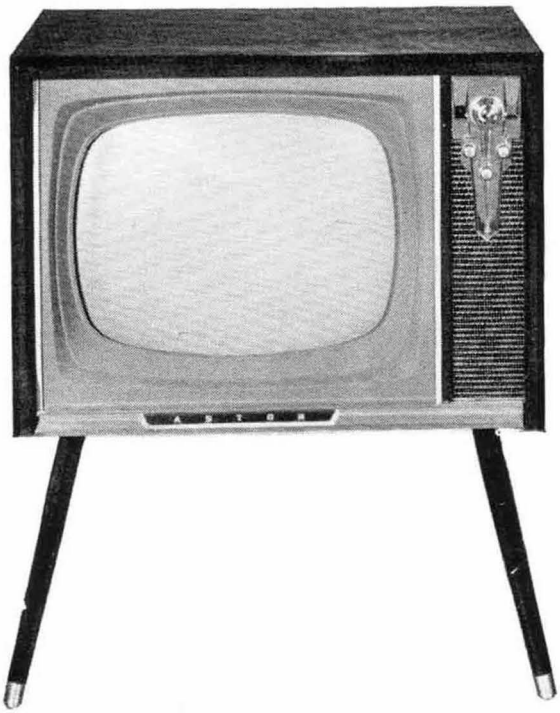
ASTOR
MODEL "ESK" TV RECEIVER



PICTURE TUBE:	21 inch 90° deflection picture tube, short neck, electrostatic focus and electromagnetic deflection.
RECEIVER:	Superhet., F.M. sound, amplified keyed A.G.C., automatic noise gating and a turret RF. tuner for 12 channels incorporating pre-aligned clip-in antenna and mixer coil strips.
ANTENNA INPUT:	300 Ohm balanced. Provision is made for a 75 Ohm coaxial lead-in to terminal strip on top of turret tuner.
SOUND:	5" x 7" Oval permanent magnet speaker.
MAINS OPERATION:	190 Volts – 260 Volts 50 cycle AC. mains – correct mains tapping must be used. Low 200V. Med. 230V. High 250V.
POWER CONSUMPTION:	150 Watts.
TELEVISION CHANNELS:	10 VHF. channels – refer alignment procedure.

INSTALLATION AND ROUTINE SERVICE ADJUSTMENTS

These adjustments are to be made at the initial installation and again at any subsequent service call to ensure that the receiver is operating correctly for the best performance.

It is advisable to allow 15 mins. for the set to warm up before finalising the following adjustments.

ADJUSTMENT PROCEDURE:

1. Adjust the BRIGHTNESS control to the mid-position.
2. Adjust the CONTRAST control to the mid-position.
3. Turn ON-OFF VOLUME control in a clockwise direction until the switch is felt to operate; after about two minutes the screen should become illuminated.
4. Turn CHANNEL SELECTOR to the required channel; if the station is operating some indication should be seen on the screen.
5. Adjust VERTICAL HOLD control until the picture shows no tendency to move up or down on the screen.
6. Adjust BRIGHTNESS and CONTRAST controls for the best picture.
7. Adjust FINE TUNING for the sharpest picture.
8. Adjust HEIGHT control until the height of the picture is slightly greater than the screen.
9. Adjust WIDTH control, (cabinet back must be removed - see mechanical section) situated on the left side of the EHT box until width is slightly greater than the screen.
10. Adjust VERTICAL LINEARITY to remove any compression or expansion from top of picture.

AGC. DELAY

This is a factory set control and should not normally need adjustment. However, should local conditions cause an unstable picture or produce a herringbone pattern on channel 2, or if the picture has excessive noise it may be adjusted as detailed in "Service Instructions"

AGC. LEVEL

This is a factory set control and should not normally need adjustment. If this control has been disturbed or if greater contrast is required it may be reset as detailed in the "Service Instructions"

HORIZONTAL HOLD

This is a factory set control and should not normally need adjustment. If the picture does not immediately "lock in" when changing from one station to another it may be adjusted as detailed in "Service Instructions".

PICTURE ROTATION

Remove back of set as described in mechanical section. Loosen the spring clip holding the deflection coil assembly to the neck of the picture tube and rotate the assembly until the picture is squared with the mask. Make sure that the coil assembly is pushed firmly against the flare of the picture tube and is tight on the tube neck.

PICTURE CENTERING

The picture may be centered by means of two magnets mounted on the deflection coil assembly, These magnets mounted at the rear, may be rotated independantly about the neck of the picture tube.

FOCUS

This may be adjusted by means of a pre-set control located at the back of the chassis. On most picture tubes this control will have very little effect, however on some a considerable improvment may be obtained.

OSCILLATOR CORE ADJUSTMENTS.

When changing channels it should not be necessary to adjust the "fine tuning" control if the oscillator cores are correctly adjusted. Access to the adjustment in the turret requires the cabinet back to be removed as instructed in mechanical section.

1. Switch receiver on and allow it to warm up for about 15 mins.
2. Set CHANNEL selector to one of the channels
3. Set FINE TUNING control to middle of its rotation
4. Insert alignment tool M399 through small hole located in rear of turret tuner unit.
5. Adjust the oscillator core for best picture. Do not push harder then necessary on the core or screw too far through coil former. Only a small adjustment of the core will be necessary to bring oscillator into alignment.
6. Repeat adjustment for each channel making sure to remove alignment tool before rotating turret selection switch to each new channel.

RATIO DETECTOR TRANS SECONDARY ALIGNMENT

Adjustment to the secondary core (top core of L279) may be made on any channel which is operating.

Equipment required:- DC. Vacuum tube voltmeter

(a) Tune to any channel and adjust for normal viewing

(b) Connect V.T.V.M. prod to test point 'C'. Use low range on V.T.V.M.

(c) Adjust top core of ratio detector trans. L279 (large can - No colour) for zero reading of V.T.V.M. Only a slight adjustment should be necessary

SERVICE INSTRUCTIONS (ELECTRICAL)

The three adjustments below should be made in the order given to avoid the possibility of overloading causing wrong settings.

1. AGC. DELAY

This control is factory adjusted and normally does not require any further adjustment. If the control has been disturbed then either overloading, or excessively noisy signals may result.

Readjustment should be made as follows:-

(a) Set CHANNEL SELECTOR to the strongest station and turn the AGC. DELAY control fully anti-clockwise.

(b) Advance the control slowly clockwise until the receiver begins to overload as shown by synchronism becoming unstable and sound buzz becoming apparent.

(c) Back the control off slightly and leave in this position. Do not back this control off too far or excessive noise will show on the picture. Check that the signal is not noisy on the weaker stations.

NOTE: If the control does not overload or show a herringbone pattern on channel 2 when turned fully clockwise then it should be left in this position.

HERRINGBONE PATTERN

When this fault occurs on channel 2 it is usually caused by overload at the grid of the converter tube. It may be possible to eliminate the fault by readjustment of the AGC. delay to provide more bias to the RF. tube. The delay control should be adjusted until the interference is just eliminated. Check channels 7 & 9 to make sure that the signal to noise ratio is satisfactory. If a cure cannot be effected with the above adjustment it may be necessary to fit a frequency selective attenuator to the tuner input terminals.

2. AGC. LEVEL

This control is factory adjusted and normally does not require any adjustment in the field. If the control has been disturbed the range of contrast available may be reduced. Readjustment should be made as follows:-

Turn CONTRAST CONTROL fully clockwise and connect a C.R.O. to the output of the video detector (test point "F") and with an in coming signal of approx. 1 millivolt or greater adjust the AGC. level control until there is 2.8 volts peak to peak of Video.

Should it be necessary to adjust this control in the field without a C.R.O. tune to the strongest signal, set CONTRAST CONTROL fully clockwise and adjust AGC. LEVEL control until the contrast is just in excess of normal.

3. HORIZONTAL HOLD PRESET ADJUSTMENT

No provision has been made for adjustment of this control by the customer. If the controls provided for the servicemen have been disturbed then the picture may fail to "lock in"

Readjustment should be made as follows:-

(a) Short junction of 220K. ohm resistor (N270) and 150 MMF condenser (Y276) to chassis (Tag on strip adjacent to horizontal oscillator)

(b) Short the horizontal stabilising coil L370 by placing a shorting lead across the .0033 MFD condenser circuit No. Y281.

(c) Adjust HORIZONTAL HOLD control until the picture is as near as possible to stationary.

(d) Remove short from stabilising coil.

(e) Adjust stabilising coil until picture is once more as near as possible to stationary.

(f) Remove remaining short from junction of N270 and Y276 to chassis. Picture should immediately "lock in".

In any emergency when it is not practical to follow the above instructions it may be possible to stabilise a poorly locking horizontal hold by a small adjustment to the core of the stabilising coil.

ALIGNMENT PROCEDURE

RF. TURRET:

The turret tuner used in this set covers the following frequency range:-

Call sign	Channel	Frequency	Call sign	Channel	Frequency
	1	49-56 Mc/s.		6	174-181 Mc/s.
ABV ABN	2	63-70 Mc/s.	HSV ATN	7	181-188 Mc/s.
	3	85-92 Mc/s.		8	188-195 Mc/s.
	4	132-139 Mc/s.	GTV TCN	9	195-202 Mc/s.
	5	139-146 Mc/s.		10	209-216 Mc/s.

The accurate alignment of a turret requires equipment beyond the normal capacity of a dealers service shop and it is therefore recommended that turrets be returned to E.I.L. Service Station.

VISION IF. ALIGNMENT:

Equipment:- An accurate Signal Generator (28-40 Mc/s)

IF. Sweep generator & accurate marker generator

Oscilloscope

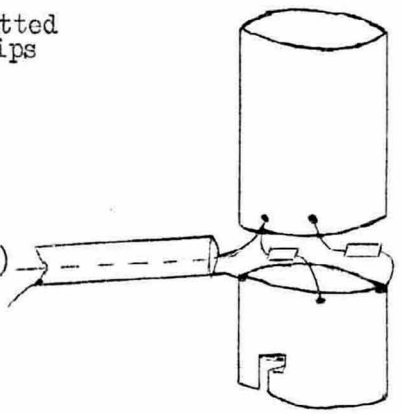
Vacuum tube voltmeter

Low impedance bias supply (-3.5 volts)

IF. injection shield (see Fig.1)

330 ohm ½ watt carbon resistor fitted with alligator clips

Fig.1. Valve shield with centre section removed. The two halves are held together by five ½ watt carbon resistors, the valve (in parallel) matches the impedance of the generator(five 390 ohm 10% for 75 ohm impedance).



Remove shield from Mixer tube on turret (V8) and push on IF injection shield, connecting it to the Signal Generator.

Apply -3.5 volts to IF. AGC. line (positive lead to ground), negative lead to white lead on tag strip on IF. trans. chassis.

Connect V.T.V.M. across diode load resistor N115 (DC negative voltage)

Align coils as follows:-

Coil		Frequency	Meter Indication
L280 Violet	Bottom core (nearest chassis) Top core	31.0 Mc/s. 30.6 Mc/s.	Max. Min.
L274 Blue	Bottom core (nearest chassis) Top core	34.5 Mc/s. 39.3 Mc/s.	Max. Min.
L273 Green	Bottom core (nearest chassis) Top core	31.8 Mc/s. 29.3 Mc/s.	Max. Min.
L272 Yellow	Bottom core (nearest chassis) Top core	35.8 Mc/s. 38.0 Mc/s.	Max. Min.
L271 Orange	Bottom core (nearest chassis)	30.6 Mc/s.	Min.
L270 Red	First detune L269 (Brown) turn core almost fully out. Bottom core (nearest chassis)	33.0 Mc/s.	Max.
L269 Brown	Clip 330 ohm resistor across pins 2 and 4 on L270 (between grid and A.G.C. point) Bottom core (nearest chassis)	33.5 Mc/s.	Max.
	Remove 330 ohm resistor		

NOTE: 1. All cores to be tuned to first max. (or min.) encountered when screwing in, i.e. bottom cores to peak with core nearest bottom etc.

2. L272, L273, L274, L280. If either bottom or top cores are a long way out of alignment then after re-adjustment, realign opposite core.

To check spot frequency alignment, disconnect lead from signal generator and connect sweep oscillator. The oscilloscope is connected across the diode load resistor using a shielded lead.

Fig.2.

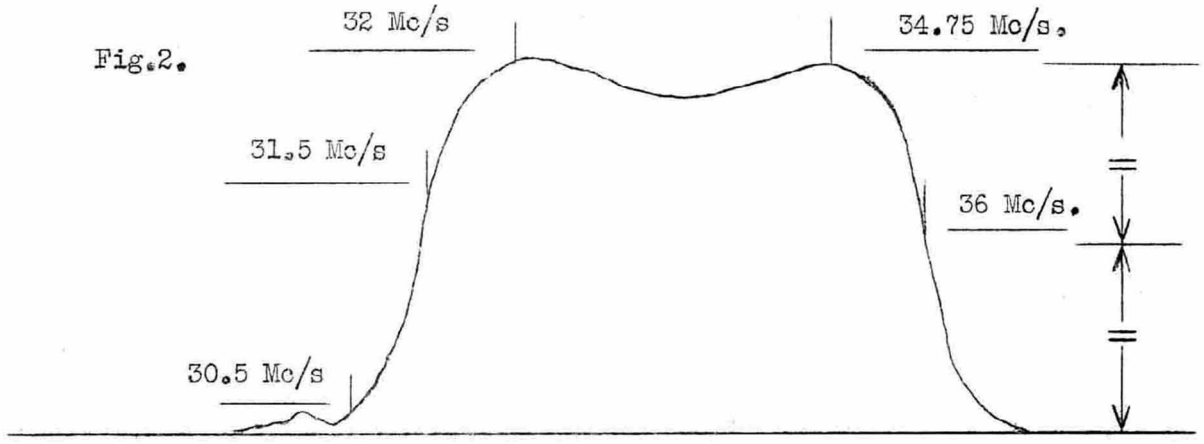


Fig. 2 illustrates the response expected from the IF. If not correct, then it may be corrected by slight adjustments to the various cores. BUT DO NOT ADJUST THE CORES ON THE TRAPS (L271 and the top cores on L272, L273, L274 and L280.)

It cannot be overemphasised that the correct alignment of the traps on the IF. transformers is most important, and their mistuning to obtain a supposedly correct curve, using a sweep, will only introduce other troubles such as smear and overshoot.

Remove all leads and refit the shield on V8.

LOCAL OSCILLATOR ALIGNMENT:

Equipment:- An accurately calibrated Signal Generator (50-211 Mc/s)

IF. Sweep Generator and accurate marker generator

Oscilloscope

Low impedance bias supply (-3.5 volts)

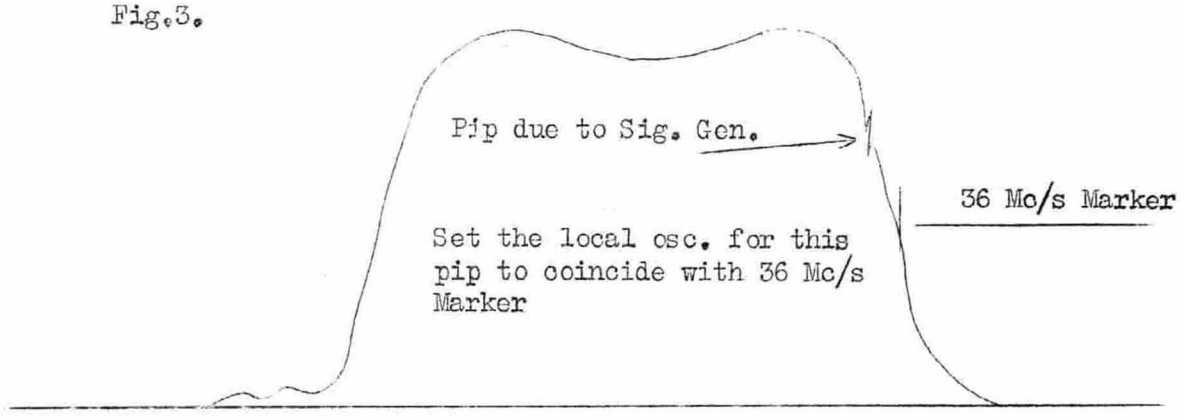
IF. injection shield (see Fig.1)

With IF. sweep, oscilloscope and bias supply as for the IF. alignment, connect the Signal Generator to the aerial leads.

Set fine tuner to middle of range.

With the IF. sweep presenting a response as in Fig.2, feed into the aerial a signal corresponding to the vision carrier of each channel in turn and adjust the corresponding oscillator core until the resulting beat from the Signal Generator coincides with the 36 Mc/s Marker. See Fig.3.

Fig.3.



SOUND IF. and VIDEO SOUND TRAP ALIGNMENT:

Equipment:- An accurate 5.5 Mc/s oscillator or Sig. Gen.

Vacuum tube Voltmeter (Voltohmyst)

1.2K ohm ½ watt carbon resistor fitted with alligator clips

Shorting lead 3" off 10/.010 PVC covered wire fitted with alligator clips

Turn contrast control to minimum (fully anti-clockwise)

Connect output of 5.5 Mc/s oscillator to test point F, junction of Germanium diode 1N295 and L366

Clip 1.2K ohm damping resistor between pin No.2 on V3 and ground.

Connect VTVM between test point "B" and ground (D.C.)

Connect shorting lead between chassis and pin No.2 of 6BX6 valve V11.

1. Peak bottom core of L371 (colour-coded White) for max. on VTVM.

2. Change 1.2K ohm damping resistor from pin No. 2 on V3 (grid) to test point "A" (Pin No.1 on L371) and peak top core of L371 for max.

3. Remove 1.2K ohm damping resistor and peak core of L278 (colour-coded Black) for max.

4. Peak bottom core of L279 (no colour, large can) for max.

NOTE: When peaking the cores mentioned above, adjust the output of the 5.5 Mc/s oscillator so that the reading on the VTVM does not exceed 3 volts.

5. Transfer VTVM to test point "C" and tune top core of L279 for zero output (will swing from positive through zero to negative) If the top core has to be turned very far, then re-align the bottom core.

NOTE: (a) Cores in L371 and L279 are to be tuned to the first max. (or zero) encountered when screwing in, i.e. bottom core nearest the bottom etc.

(b) If the 5.5 Mc/s oscillator is not crystal controlled, then repeat step 5 when receiving a station signal.

6. Connect 5.5 Mc/s oscillator to test point "A" (Pin No.1 on L371).

7. Connect VTVM to cathode of picture tube (Pin No.11, yellow lead-AC)

8. Turn contrast control fully clockwise.

9. Tune core in L368 on IF. trans chassis for minimum reading, the minimum to be used is the one with the core nearest the chassis.

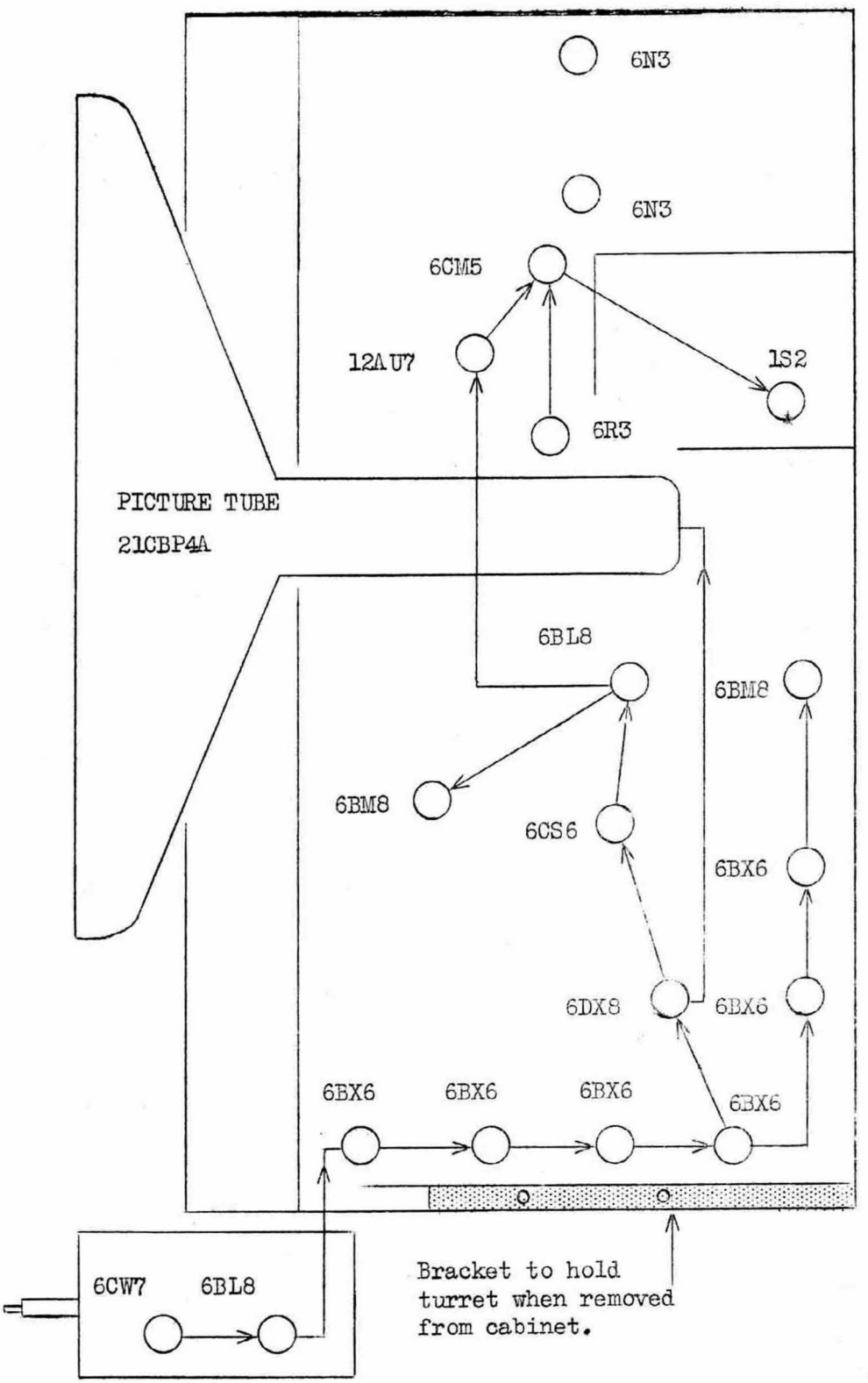
D.C. VOLTAGE ANALYSIS (Signal Input 1 - 10 millivolt)

NOTE: Receiver Input Voltage --- 235 Volts 50 cycle A.C. Supply mains.
All voltages measured with Voltohmyst and Hi voltage probe.

SOCKET VOLTAGES												
VALVE	CONTRAST	PIN 1	PIN 2	PIN 3	PIN 4	PIN 5	PIN 6	PIN 7	PIN 8	PIN 9	PIN 10	PIN 11
V1				225								
V2				225								
V3				2.9					165			
V4			15				180		13			
V5							180	195		56		
V7 V8	Turret Tuners should be returned to E.I.L Service Station for repairs											
V9 V10 V11				0.1 0.1 0.1				170 170 170	170 170 170			
V12				2.4				160	160			
V13	Normal Max.						124 105	1.0 1.2	-1.0 -1.5	160 210		
V14	Normal Max.		70 0 Min. Brightness				430 420				430 420	137 136
V15			-55	18			180	210		150 Varies with height		
V16	Normal Max.					70 70	45 45	-35 -40				
V17	Normal Max.	14 14	70 55	 170				90 90		-0.3 -0.3		
V18		170		7.8			140	-9.6				
V19					145	-30						
V20										210		
V21	Normal Picture No Beam Current	16.0 Kv 16.5 Kv								16.0 Kv 16.5 Kv		

SERVICE INSTRUCTIONS (MECHANICAL)

FIG. 4



CHASSIS SERIAL NUMBER

The chassis serial number is stamped into the rear of the metal chassis near the centre, and is visible through a slot in the cabinet back.

1. TO REMOVE CABINET BACK AND WIRE PROTECTION MESH

The removal of the cabinet back and the under chassis protective mesh from the cabinet allows access to the chassis which enables the majority of service repairs to be made without the necessity to remove the chassis from the cabinet.

To remove the cabinet back, unfasten the screws around its outer edge.

To remove wire protection mesh from beneath the receiver unfasten the screws around its outer edge.

2. TO REMOVE CHASSIS AND TURRET TUNER FROM CABINET.

(a) Remove the cabinet back as detailed in para. 1.

(b) Remove control knobs (push-on type) from front of cabinet. If tight, use a loop of string slipped behind the knob to obtain a firm hold on the knob.

(c) Unplug the plugs on deflection coil leads from chassis sockets.

(d) Remove the 12 pin socket and the EHT cap from the picture tube Discharge the EHT button contact on the picture tube to the black coating on the outside of the tube.

(e) Remove the two screws fastening the turret mount bracket to the metal plate on the cabinet. Remove turret by tilting it slightly and lowering it to release the locating lugs.

The turret may now be screwed onto a bracket provided on the main chassis as shown in Fig. (4) which enables easier handling of the chassis and turret when being removed from the cabinet.

NOTE: When replacing the turret engage the clips on the mount bracket into the slots provided in the metal plate attached to the cabinet. Push firmly upward and the clips will locate the turret in its correct position. Hold it until the bottom screws are refitted.

(f) Unsolder speaker leads.

(g) Remove two screws fastening aerial terminal plate to the top corner of the cabinet.

(h) Remove the four metal thread screws holding the main chassis to the cabinet.

(i) Slide the chassis and turret from the cabinet. The picture tube will remain attached to the cabinet.

3. TO REMOVE TURRET TUNER ASSY.

(a) Remove cabinet back as detailed in para. 1.

(b) Remove front knobs as detailed in para. 2 (b)

(c) Remove antenna terminal plate from cabinet.

(d) Remove turret mount bracket para. 2 (e)

(e) Unsolder shielded wire which leads to IFT. stages.

(f) Unsolder the red with blue tracer, white with blue tracer, and brown wires from turret.

(g) Remove the four screws fastening turret to mount plate. Make sure to note the positions of the spacer washers.

4. TO REMOVE PICTURE TUBE.

(a) Remove chassis from cabinet as detailed in para. 2.

(b) Remove deflection coil assembly from neck of picture tube by releasing spring clip.

(c) Remove four $\frac{1}{4}$" nuts from bolts which mount picture tube assembly to cabinet.

(d) Remove picture tube complete with mount brackets and tightening wire.

(e) Place picture tube face down an a soft surface then loosen the tightening wire to remove the assembly from the picture tube.

5. TO REMOVE EHT. AND HORIZONTAL OUTPUT SUB CHASSIS BOX.

(a) Remove cabinet back and bottom mesh as detailed in para. 1.

(b) Unclip the leads from the top caps of the 6R3 and 6CM5 valves

(c) Unsolder the blue, white and pink leads connected to the main chassis assembly.

(d) Unplug the horizontal deflection coil leads and disconnect EHT. lead from picture tube.

(e) Unscrew the two screws fastening rear of box.

(f) The box may be lifted away by tilting to release it from front holding lugs.

6. TO REMOVE EHT. AND HOR. OUTPUT TRANS. FROM SUB CHASSIS BOX.

It is recommended that the whole sub chassis box be returned to E.I.L. Service for repairs. However if necessary the EHT. transformer may be removed as detailed below.

(a) Remove cabinet back and bottom mesh as detailed in para. 1.

(b) Remove cover from top of box by unscrewing two screws at rear of box then lift cover off.

(c) Unsolder black filament leads from base of 1S2 valve

(d) Remove blue lead from top cap of 1S2 valve.

(e) Unsolder the 5.6K and 4.7K ohm resistors and .1 MFD condenser from the 3 pin socket on the side of the box.

(f) From lugs on bakelite cheek unsolder two leads which connect to the width coil L369

(g) Using pliers, compress the lugs on the spring clips. Lift EHT. transformer assembly from the box.

CONDENSERS

Circuit No.	Description	± Tol	Rating	Part No.
Y1	100 MF Electrolytic (vert. mount)	-10%+50%	350V DCW	C140
Y2	470 MMF Feed thru ceramicon (wire loops)	GMV	500V DCW	C329
Y3	200 MF Electrolytic (vert. mount)	-10%+50%	350V DCW	C139
Y4	1000 MMF Disc. ceramicon	GMV	500V DCW	C120
Y5	24 MF Electrolytic (vert. mount)	-10%+50%	300V DCW	PC184
Y6	1000 MMF Disc. ceramicon	GMV	500V DCW	C120
Y7	1000 MMF " "	GMV	500V DCW	C120
Y8	1000 MMF " "	GMV	500V DCW	C120
Y9	1000 MMF " "	GMV	500V DCW	C120
Y10	1000 MMF " "	GMV	500V DCW	C120
Y11	.047 MF Paper tubular	20%	400V DCW	F4733
Y12				
Y13	4.7 MMF Disc. ceramicon N750	.5MMF	500V DCW	C136
Y14	47 MMF Silvered mica (in L371)	5%	500V DCW	C333
Y15	.047 MF Paper tubular	20%	400V DCW	F4733
Y16	33 MMF Silvered mica (in L278)	5%	500V DCW	C176
Y17	33 MMF " " (in L371)	5%	500V DCW	C176
Y18	56 MMF Disc. ceramicon N750 (in L278)	10%	500V DCW	C152
Y19	.047 MF Paper tubular	20%	200V DCW	E4733
Y20	.047 MF " "	20%	200V DCW	E4733
Y21				
Y22	120 MMF Silvered mica (in L279)	5%	500V DCW	C164
Y23	330 MMF " "	2½%	500V DCW	C332
Y24	330 MMF " "	2½%	500V DCW	C332
Y25	.5 MF Metallised paper tubular	20%	200V DCW	C138
Y26	.0047 MF Paper tubular	20%	400V DCW	F4723
Y27	.0047 MF " "	20%	400V DCW	F4723
Y28	470 MMF Styroscal tubular	20%	600V DCW	WG4713
Y29				
Y30	.022 MF Paper tubular	20%	200V DCW	E2233
Y31				
Y32	24 MF Electrolytic (vert. mt.)	-10%+50%	300V DCW	PC184
Y33	.022 MF Paper tubular	20%	400V DCW	F2233
Y34	25 MF Electrolytic (vert. mt.)	-10%+100%	25V DCW	PC996
Y35				
Y36				

Y37					
Y38					
Y39					
Y45					
Y46					
Y47					
Y48					
Y49					
Y50	3-8 MMF	Trimmer tubular ceramic Body section only Screw and lock nut assy.	 A111/823	 350V DCW	 C349
Y51	470 MMF	Feed thru ceramicon (wire loops)	GMV	500V DCW	C329
Y52	1.8 MMF	Disc ceramicon NPO	.25MMF	500V DCW	C242
Y53	2.2 MMF	" " "	.5MMF	500V DCW	C137
Y54	1000 MMF	" "	GMV	500V DCW	C120
Y55	.5-3 MMF	Trimmer tubular ceramic Body section only Screw and lock nut assy.	 A111/823	 350V DCW	 C350
Y56	470 MMF	Feed thru ceramicon (wire loop)	GMV	500V DCW	C329
Y57					
Y58	470 MMF	Tubular ceramic	20%	500V DCW	C131
Y59	.5-3 MMF	Trimmer tubular ceramic Body section only Screw and lock nut assy	 A111/823	 350V DCW	 C350
Y60	.5-3 MMF	Trimmer tubular ceramic Body section only Screw and lock nut assy	 A111/823	 350V DCW	 C350
Y61					
Y62					
Y63					
Y64					
Y65	1000 MMF	Disc ceramicon	GMV	500V DCW	C120
Y66	Fine Tuner				
Y67	22 MMF	Disc ceramicon N750	10%	500V DCW	C135
Y68	4.7 MMF	" " "	.5MMF	500V DCW	C136
Y69	18 MMF	" " "	10%	500V DCW	C161
Y70	1000 MMF	" "	GMV	500V DCW	C120
Y71	470 MMF	Feed thru ceramicon (wire loops)	GMV	500V DCW	C329
Y72	1000 MMF	Disc ceramicon	GMV	500V DCW	C120
Y73					
Y74					
Y75					
Y76					
Y77					
Y85					
Y86					
Y87					
Y88					
Y89					
Y90	47 MMF	Tubular ceramicon N750	10%	500V DCW	C180
Y91	10 MMF	Silvered mica (in L271)	5%	500V DCW	C177
Y92	1000 MMF	Disc ceramicon	GMV	500V DCW	C120

Y93	1000 MMF Disc ceramicon	GMV	500V DCW	C120
Y94	1000 MMF " "	GMV	500V DCW	C120
Y95	10 MMF Disc ceramicon N330 (in L272).	5MMF	500V DCW	C222
Y96				
Y97	1000 MMF Disc ceramicon	GMV	500V DCW	C120
Y98	1000 MMF Disc ceramicon	GMV	500V DCW	C120
Y99	1000 MMF Disc ceramicon	GMV	500V DCW	C120
Y100	10 MMF Disc ceramicon N330 (in L275) .	5MMF	500V DCW	C222
Y101				
Y102				
Y103				
Y104	.25 MF Metallised paper tubular	20%	200V DCW	C125
Y105	1000 MMF Disc ceramicon	GMV	500V DCW	C120
Y106	1000 MMF Disc ceramicon	GMV	500V DCW	C120
Y107	1000 MMF " "	GMV	500V DCW	C120
Y108	10 MMF Disc ceramicon N330 (in L274) .	5MMF	500V DCW	C222
Y109				
Y110	1000 MMF Disc ceramicon	GMV	500V DCW	C120
Y111				
Y112	1000 MMF Disc ceramicon	GMV	500V DCW	C120
Y113	10 MMF Disc ceramicon N330 (in L280).	5MMF	500V DCW	C222
Y114				
Y115				
Y116				
Y117				
Y118				
Y145				
Y146				
Y147				
Y148				
Y149				
Y150	33 MMF Silvered mica (part of L368)	2½%	500V DCW	C346
Y151	8 MF Electrolytic (vert. mt.)	-10%+50%	300V DCW	PC640
Y152	.25 MF Metallised paper tubular	20%	200V DCW	C125
Y153	.0047 MF Paper tubular	20%	400V DCW	F4723
Y154				
Y155	.1 MF Paper tubular	20%	200V DCW	E1043
Y156				
Y157				
Y158				
Y159				
Y160				
Y204				
Y205				
Y206				
Y207				
Y208				
Y209	.1 MF Paper tubular	20%	200V DCW	E1043
Y210	.22 MF " "	20%	400V DCW	F2243
Y211	.047 MF " "	10%	400V DCW	F4732
Y212	.039 MF " "	10%	400V DCW	F3932
Y213	.047 MF " "	20%	600V DCW	G4733
Y214	100 MF Electrolytic (vert.mt,)	-10%+100%	25V DCW	C141
Y215	.022 MF Paper tubular	10%	1000V DCW	H2232

Y216					
Y217	.0033 MF Paper tubular	20%	600V	DCW	G3323
Y218	.01 MF Paper tubular	20%	400V	DCW	F1033
Y219	330 MMF Silvered mica	10%	500V	DCW	C336
Y220	2 MF Electrolytic (horiz. mt.)	-10%+100%	150V	DCW	C281
Y221	.25 MF Metallised paper tubular	20%	200V	DCW	C125
Y222	.01 MF Paper tubular	20%	400V	DCW	F1033
Y223	.1 MF Metallised paper tubular	20%	200V	DCW	C113
Y224	.25 MF Metallised paper tubular	20%	200V	DCW	C125
Y225	470 MMF Styroseal tubular	20%	600V	DCW	WG4713
Y226	.0033 MF Paper tubular	20%	400V		F3323
Y227	33 MMF Silvered mica	5%	500V	DCW	C345
Y228	33 MMF Silvered mica	5%	500V	DCW	C345
Y229	.001 MF Paper tubular	10%	400V	DCW	F1022
Y230	.001 MF Paper tubular	20%	400V	DCW	F1023
Y231	.001 MF Paper tubular	20%	400V	DCW	F1023
Y232	.001 MF Paper tubular	20%	400V	DCW	F1023
Y233	.1 MF Paper tubular	20%	200V	DCW	E1043
Y234	.047 MF Paper tubular	20%	200V	DCW	E4733
Y235					
Y236					
Y237					
Y238					
Y239					
Y264					
Y265					
Y256					
Y267					
Y268					
Y269	.0022 MF Paper tubular	20%	400V	DCW	F2223
Y270	33 MMF Silvered mica	5%	500V	DCW	C345
Y271	.1 MF Paper tubular	20%	100V	DCW	D1043
Y272	24 MF Electrolytic (vert. mt.)	-10%+50%	300V	DCW	PC184
Y273	470 MMF Styroseal tubular	10%	600V	DCW	WG4712
Y274	.01 MF Paper tubular	20%	400V	DCW	F1033
Y275	470 MMF Styroseal tubular (part of L370)	10%	600V	DCW	WG4712
Y276	150 MMF Silvered mica	5%	500V	DCW	PC895
Y277	.0022 MF Paper tubular	20%	400V	DCW	F2223
Y278	.047 MF Paper tubular	10%	600V	DCW	G4732
Y279	.1 MF Metallised paper tubular	20%	400V	DCW	PC1000
Y280					
Y281	.0033 MF Paper tubular (part of L370)	10%	400V	DCW	F3322
Y282	100 MMF Tubular ceramic N750	5%	5Kv		C276
Y283	.1 MF Metallised paper	20%	200V	DCW	C113
Y284					
Y285					
Y286					
Y287					
Y288					

RESISTORS

Circuit No.	Description	Tol±	Rating	Part No.
N1	680 Ohm wire wound	5%	3W	R230
N2	10,000 Ohm carbon	10%	½W	R1032
N3	680 Ohm carbon	10%	½W	R6812
N4	47,000 Ohm carbon (in L278)	10%	½W	R4732
N5	22,000 Ohm carbon	10%	½W	R2232
N6	220,000 Ohm carbon	10%	½W	R2242
N7				
N8	470 Ohm carbon	10%	½W	R4712
N9	470 Ohm carbon	10%	½W	R4712
N10	10,000 Ohm carbon (N10 and N15 are each ½W and ± 5% of 10,000 Ohms and are also matched to within ± 2% of each other.)			PR886
N11	47,000 Ohm carbon	10%	½W	R4732
N12	1 Megohm carbon potentiometer linear (tone control)	20%		R240
N13	47 Ohm carbon	10%	½W	R4702
N14				
N15	10,000 Ohm carbon (refer circuit No.N10)			
N16	100,000 Ohm carbon	10%	½W	R1042
N17	1 Megohm carbon potentiometer tapped at 400K ohms log DP.ST. switch attached (vol. control)	20%		R245
N18	470 Ohm carbon	10%	1W	Z4712
N19	10 Megohm carbon	10%	½W	R1062
N20	330,000 Ohm carbon	10%	½W	R3342
N21	470,000 Ohm carbon	10%	½W	R4742
N22	470 Ohm carbon	10%	1W	Z4712
N23	1,500 Ohm carbon	10%	½W	R1522
N24				
N25				
N26				
N27				
N28				
N45				
N46				
N47				
N48				
N49				
N50	15,000 Ohm carbon	10%	½W	R1532
N51	47,000 Ohm carbon	10%	½W	R4732
N52				
N53	330,000 Ohm carbon	10%	½W	R3342

N54	1000 Ohm carbon	10%	½W	R1022
N55	330,000 Ohm carbon	10%	½W	R3342
N56	8,200 Ohm carbon	10%	1W	Z8222
N57	4,700 Ohm carbon (part of L395)	10%	½W	R4722
	8,200 Ohm carbon (part of L397)	10%	½W	R8222
	10,000 Ohm carbon (part of L399)	10%	½W	R1032
N58	15,000 Ohm carbon	10%	½W	R1532
N59	15,000 Ohm carbon (in L269)	10%	½W	R1532
N60	10,000 Ohm carbon	10%	½W	R1032
N61				
N62				
N63				
N64				
N65	120,000 Ohm carbon	10%	½W	R1242
N66	22,000 Ohm carbon	10%	½W	R2232
N67	100,000 Ohm carbon	10%	½W	R1042
N68	820 Ohm carbon	10%	½W	R8212
N69				
N70				
N71				
N72				
N73				
N86				
N87				
N88				
N89				
N90	10,000 Ohm carbon	10%	½W	R1032
N91	1,000 Ohm carbon	10%	½W	R1022
N92	5,600 Ohm carbon (in L270)	10%	½W	R5622
N93	5,600 Ohm carbon (in L272)	10%	½W	R1022
N94	47 Ohm carbon	10%	½W	R4702
N95	1,000 Ohm carbon	10%	½W	R1022
N96	1,000 Ohm carbon	10%	½W	R1022
N97	10,000 Ohm carbon	10%	½W	R1032
N98	1,000 Ohm carbon	10%	½W	R1022
N99	47 Ohm carbon	10%	½W	R4702
N100	10,000 Ohm carbon (in L273)	10%	½W	R1032
N101				
N102	82,000 Ohm carbon	5%	½W	R8231
N103				
N104				
N105	10,000 Ohm carbon	10%	½W	R1032
N106	1,000 Ohm carbon	10%	½W	R1022
N107	1,000 Ohm carbon	10%	½W	R1022
N108	3,300 Ohm carbon (in L274)	10%	½W	R3322
N109				
N110	47 Ohm carbon	10%	½W	R4702
N111				
N112	15,000 Ohm carbon (in L280)	10%	½W	R1532
N113	180 Ohm carbon	10%	½W	R1812
N114	1,000 Ohm carbon	10%	½W	R1022
N115	3,300 Ohm carbon	10%	½W	R3322

N116	1 Megohm carbon (part of L366)	10%	½W	R1052
N117	4,700 Ohm carbon (part of L365)	10%	½W	R4722
N118				
N119				
N120				
N121				
N122				
N144				
N145				
N146				
N147				
N148				
N149	120,000 Ohm carbon	10%	½W	R1242
N150	330 Ohm carbon	10%	½W	R3312
N151	1 Megohm carbon	10%	½W	R1052
N152				
N153	68 Ohm carbon	10%	½W	R6802
N154	100,000 Ohm carbon	10%	½W	R1042
N155	6,800 Ohm wire wound	5%	4.5W	R229
N156	560,000 Ohm carbon	10%	½W	R5642
N157	1,500 Ohm carbon	10%	1W	Z1522
N158	22,000 Ohm carbon	10%	½W	R2232
N159	100,000 Ohm carbon	10%	½W	R1042
N160				
N161				
N162				
N163				
N164				
N165	220,000 Ohm carbon	10%	½W	R2242
N166	250,000 Ohm carbon potentiometer linear (brightness control)	20%		R251
N167	100,000 Ohm carbon	10%	½W	R1042
N168	50,000 Ohm carbon potentiometer linear (contrast control)	20%		R252
N169	2 Megohm carbon potentiometer linear (focus control)	20%		R250
N170	560 Ohm carbon (part of T214)	10%	½W	R5612
N171	560 Ohm carbon (part of T214)	10%	½W	R5612
N172				
N173				
N174				
N175				
N176				
N205				
N206				
N207				
N208				
N209				
N210	1000 Ohm carbon	10%	½W	R1022
N211	3.3 Megohm carbon	10%	½W	R3352
N212	33,000 Ohm carbon	10%	½W	R3332
N213	390 Ohm carbon	10%	1W	Z3912
N214	50,000 Ohm carbon potentiometer linear (vert. linearity control)	20%		R109

N215	120,000 Ohm carbon	10%	1W	Z1242
N216	15,000 Ohm carbon	10%	½W	R1532
N217	250,000 Ohm carbon potentiometer linear (A.G.C. delay control)	20%		R115
N218	3.9 Megohm carbon	10%	½W	R3952
N219	470,000 Ohm carbon	5%	½W	R4741
N220	33,000 Ohm carbon	10%	½W	R3332
N221				
N222				
N223				
N224				
N225	1 Megohm carbon	10%	½W	R1052
N226	1.5 Megohm carbon	10%	½W	R1552
N227	5 Megohm carbon potentiometer linear (vert. height control)	20%		R188
N228	500,000 Ohm carbon potentiometer linear (vert. hold control)	20%		R190
N229	1.8 Megohm carbon	10%	½W	R1852
N230	330,000 Ohm carbon	10%	½W	R3342
N231	47,000 Ohm carbon	10%	1W	Z4732
N232	100,000 Ohm carbon	10%	1W	Z1042
N233	4.7 Megohm carbon	10%	½W	R4752
N234	390,000 Carbon	5%	½W	R3941
N235	100,000 Ohm carbon	10%	½W	R1042
N236	47,000 Ohm carbon	10%	1W	Z4732
N237				
N238				
N239				
N240				
N241	68,000 Ohm carbon	10%	½W	R6832
N242	56,000 Ohm carbon	10%	½W	R5632
N243	1 Megohm carbon	10%	½W	R1052
N244	1 Megohm carbon	10%	½W	R1052
N245	10 Megohm carbon	10%	½W	R1062
N246				
N247				
N248	100,000 Ohm carbon	10%	1W	Z1042
N249	22,000 Ohm carbon	10%	1W	Z2232
N250	33,000 Ohm carbon	10%	1W	Z3332
N251				
N252				
N253				
N254				
N255	100,000 Ohm carbon potentiometer linear (A.G.C. control)	20%		PR984
N256	100,000 Ohm carbon	10%	½W	R1042
N257	22,000 Ohm carbon	10%	1W	Z2232
N258				
N259				
N260				
N261				
N262				
N263				
N264				
N265				

N266				
N267				
N268				
N269				
N270	220,000 Ohm carbon	10%	½W	R2242
N271	56,000 Ohm carbon	10%	½W	R5632
N272				
N273	10,000 Ohm carbon (part of L370)	10%	⅓W	R1032
N274	100,000 Ohm carbon	10%	1W	Z1042
N275	1,800 Ohm carbon	10%	½W	R1822
N276	100,000 Ohm carbon potentiometer linear (horiz. hold pre-set)	20%		PR984
N277	15,000 Ohm carbon	10%	⅓W	R1532
N278	2,500 Ohm wire wound	5%	4.5W	PR964
N279	220 Ohm carbon	10%	½W	R2212
N280	470,000 Ohm carbon	10%	½W	R4742
N281	150,000 Ohm carbon	10%	⅓W	R1542
N282				
N283	4.7 Megohm carbon	10%	½W	R4752
N284	4.7 Megohm carbon	10%	½W	R4752
N285	2,200 Ohm carbon	10%	1W	Z2222
N286	470,000 Ohm carbon	10%	½W	R4742
N287	1.5 Ohm wire wound	20%	⅓W	PR888
N288	5,600 Ohm carbon	10%	1W	Z5622
N289	4,700 Ohm carbon	10%	1W	Z4722
N290				
N291				
N292				
N293				
N294				

TRANSFORMERS -- CHOKES -- COILS -- ETC.

Circuit No.	Description	Part No.
L365	Shunt Peaking coil - colour code - black	L365
L366	Series Peaking coil - " " - orange	L366
L368	Plate Compensating coil	L368
L369	Width coil	L390
T112	Power transformer	T112
T208	Filter choke	T208
T209	Vertical output trans.	T209
T101	Audio output trans. 7000 : 3.5 Ohm imped. code No. KBG92 or K5	T101
T214	Deflection coils assy.	T214
T167	Vertical blocking trans.	T167
T204	E.H.T. trans. and horizontal output trans.	T204
	Primary winding) for service	L373
	E. H. T.winding) replacements	L374

L370	Horizontal stabilising coil	L370
L272	IF. coupling trans. and trap - yellow	L272
L273	IF. " " " " - green	L273
L274	IF. " " " " - blue	L274
L280	IF. " " " " - violet	L280
L269	IF. output trans. - brown	L269
L271	IF. input trans. - red	L271
L270	IF. sound trap - orange	L270
L154	Heater choke (IF.) green	L154
L155	Heater choke (IF.) yellow (3)	L155
L264	Heater choke (RF.) - 2	L264
L214	RF. neutralising coil	L214
L371	lst 5.5 Mc/s. IF. trans. - white	L371
L278	2nd 5.5 Mc/s. IF. trans. - black	L278
L279	5.5 Mc/s. ratio detector trans.	L279
L389	Suppression choke	L389

COILS USED IN TURRET TUNER PART NO. PA652

Channel	1	Aerial coil	branded	"D"	1	L394
"	1	Mixer "	"	D	1	L395
"	2	Aerial "	"	D	2	L396
"	2	Mixer "	"	D	2	L397
"	3	Aerial "	"	D	3	L398
"	3	Mixer "	"	D	3	L399
"	4	Aerial "	"	D	4	L400
"	4	Mixer "	"	D	4	L401
"	5	Aerial "	"	D	5	L402
"	5	Mixer "	"	D	5	L403
"	6	Aerial "	"	D	6	L404
"	6	Mixer "	"	D	6	L405
"	7	Aerial "	"	D	7	L406
"	7	Mixer "	"	D	7	L407
"	8	Aerial "	"	D	8	L408
"	8	Mixer "	"	D	8	L409
"	9	Aerial "	"	D	9	L410
"	9	Mixer "	"	D	9	L411
"	10	Aerial "	"	D	10	L412
"	10	Mixer "	"	D	10	L413

MISCELLANEOUS ELECTRICAL PARTS

M418	2 Amp. fuse cartridge type	M418
M454	750 mA. delayed action fuse	M454
M465	Indicator lamp 12 volt 3 watt min. screw base G3½ bulb	M465
1N295	Germanium diode	1N295
1N294	Germanium diode (3) unmatched	1N294

2-1N66	Germanium diode - matched pair	2-1N66
PA652	Turret tuner assy. - complete	PA652
	I.F.T. strip complete assy.	PA634
	E.H.T. and horizontal output box assy. - complete	PA637
	AC. lead with three pin moulded plug on one end.	PA638

CHASSIS MECHANICAL PARTS

PART No.	
A111/829	Fuse clips and bakelite strip assy. (2)
650/250	Mains selector push-pull switch on rear of chassis
A104/826	Aerial plate assy at corner of cabinet
176/823	Aerial lead - turret to aerial plate
418/250	Socket 12 pin - pic. tube
279/250	Socket 9 pin - wafer type
579/250	Socket 9 pin - moulded - flange nut. (8)
447/250	Socket 9 pin - mica filled moulded (1)
M421	Socket 8 pin - 6CM5 valve
A104/814	Socket 4 pin - vert. output
A105/814	Plug 4 pin - - " "
A102/820	Socket 3 pin - horiz. output
A105/820	Plug 3 pin - " "
64/30A	Grommet 4 - turret mt.
26/307	Brass bush 4 - turret mt.
A114/829	Socket 9 pin - 1S2 rect. (includes socket contacts and plastic mt. shroud.
582/81	Socket cover - 1S2 socket - plastic
622/250	Speednut - EHT. sub chassis mt to main chassis (2)
192/820	Top cap - 6R3 valve
421/81	EHT. cap - 1S2 valve - plastic
216/820	Top cap - 1S2 valve
A120/250	EHT cap - pic. tube
403/81	Shroud - around EHT. pic. tube cap.

CABINET MECHANICAL PARTS

90/826	Mask - pic. tube
2/826	Safety screen
16/826	Screen trim side strip (2)
A113/826	Tube clamp band assy.
60/826	Tube retaining wire
59/826	Tube retaining bracket (4)
48/826	Tube clamp (4)
539/250	Spring - spiral - across pic. tube
84/826	Cushion - pic. tube mt (1)
82/826	Cushion - pic. tube mt. (4)
19/826	Cushion - pic. tube mt. (4) rubber
75/826	Earth clip
66/826	Decorative rail at cab. bottom
414/81-7	Name plaque
413/81-5	Plaque mount
27/829	Pre-set control housing

PART No.

A141/826 Cabinet back assembly
203/820 Tube protector
16/560-8 Screw (10) $\frac{3}{8}$" x 5/32" Whit. R.H.
152/30C Washer (10)
16/824 Clamp (10)

56/829 Wire mesh on underside of cab.

633/81 Knob - volume
634/81 Knob - "ON/OFF"
635/81 Knob (2) brightness and contrast.
86/71 Spring - control knobs

A141/820-3 Fine tuning knob assy.
445/81-3 Knob
220/820 Metal cover
22/755 Circlip

A120/824 Channel selector disc. assy.
83/826 Escutcheon
91/824 Retaining washer
89/824-2 Channel selector disc.

90/824 Channel knob

24/698 Indicator lamp shield
42/560-17 Screws - chassis to cabinet nt. 1 $\frac{3}{4}$" x No. 12.

CABINET STYLING

195/826-5 Maple cabinet assy.
195/826-10 Medium Walnut cabinet assy.
195/826-11 Mahogany cabinet assy.

Cabinet assembly consists of :-

50/826 Tube mount bracket (4)
17/560-14 Screw 3/4" x 5/32" Whit. Csk. Hd. (4)
3/478-4 Nut 5/32" Whit. Hex Steel (4)
1/562-5 Washer 5/32" Int S/Proof (4)
1/30C Washer - steel (4)
K202 Speaker 5" x 7" Permag type 5 x 7H
A139/826 Turret mount plate assembly
194/826 Mount plate
43/826-1 Nut plate (2)
97/826 Plate - cage nut
188/826 Grille
C0151 Black organdie
199/826 Chassis runner (2)
A584/294-1 Carton
36/294-8 Plastic Bag

"T" 650-4-53 "T" Nut in base of cabinet into which cab. leg is screwed (4)

CABINET LEG ASSEMBLIES

(Include cabinet colour after part number when ordering replacement legs.)

Complete leg assy.	Part No.	ESK 3100
Leg only	" "	" 3101
Ferrule	" "	" 3102
Spigot	" "	" 3103

CONTROL KNOBS AND POTENTIOMETERS

VOLUME ON/OFF --- CONTRAST --- BRIGHTNESS

Moulded brown plastic knobs with a gold coloured insert will be used on the volume on/off,, contrast and brightness controls on early production of Model "ESK".

Moulded plastic gold colour plated knobs will be used on later production.

Potentiometers with a shaft length of 1-21/32" are used with the moulded brown plastic knob.

Part numbers for the potentiometers and moulded brown plastic knobs are detailed below. Part numbers for the ultimate type are detailed in the main parts list of this bulletin.

MOULDED BROWN PLASTIC KNOB (gold coloured insert)

Knob assembly - complete with spring clip	A124/826
Spring clip	22/755

POTENTIOMETER CONTROLS (used with knob A124/826)

Volume on/off	(1 Megohm tapped 400K ohm DP.ST. switch attached).	R258
Brightness	(250K ohm)	R254
Contrast	(50K Ohm)	R256

TURRET TUNER COILS

The coils listed below will be used in the turret tuner PA652 until the coils listed on page 23 of this bulletin are available. The coils are interchangable in their respective positions.

						Part No.
Channel	1	Aerial coil	branded	"C"	1	L243
"	1	Mixer coil	"	"C"	1	L244
"	2	Aerial coil	"	"C"	2	L245
"	2	Mixer coil	"	"C"	2	L246
"	3	Aerial coil	"	"C"	3	L247
"	3	Mixer coil	"	"C"	3	L248
"	4	Aerial coil	"	"C"	4	L249
"	4	Mixer coil	"	"C"	4	L250
"	5	Aerial coil	"	"C"	5	L251
"	5	Mixer coil	"	"C"	5	L252
"	6	Aerial coil	"	"C"	6	L253
"	6	Mixer coil	"	"C"	6	L254
"	7	Aerial coil	"	"C"	7	L255
"	7	Mixer coil	"	"C"	7	L256
"	8	Aerial coil	"	"C"	8	L257
"	8	Mixer coil	"	"C"	8	L258
"	9	Aerial coil	"	"C"	9	L259
"	9	Mixer coil	"	"C"	9	L260
"	10	Aerial coil	"	"C"	10	L261
"	10	Mixer coil	"	"C"	10	L262

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TECHNICAL BULLETIN

ALIGNMENT MODIFICATION

Model ESK service bulletin alignment procedure (page 7) details top core of coil L280 (colour coded Violet) to be tuned to 30.6 Mc/s. (min.)

This frequency has been changed to 29.3 Mc/s to raise the level of the sound carrier at the 2nd detector.

This modification could help to improve the sound in fringe areas.

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TECHNICAL BULLETIN

MODEL "ESK" CIRCUIT MODIFICATIONS AND COMPONENT CHANGES

SUBSTITUTE CONDENSER

Circuit No. Y104 a .22 MF paper condenser tol. ± 20% 200V DCW part No. E2243 "Ducon" highseal 85 used in place of .25 MF metallised paper condenser tol ± 20% 200V DCW part No. C125 "AEE" metcap due to shortage of condenser C125.

SUBSTITUTE CONDENSER

Circuit No. Y283 a .1 MF paper condenser tol ± 20% 200V DCW part No. E1043 "Ducon" highseal 85 used in place of .1MF metallised paper condenser tol ± 20% 200V DCW part No. C113 "AEE" microcap (shortage of condenser E1043.)

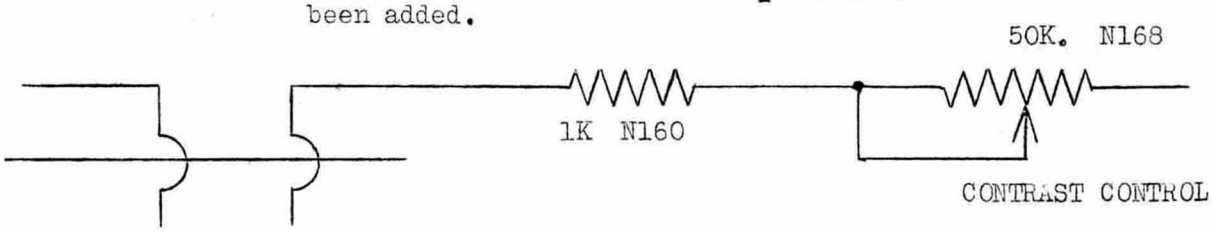
COMPONENT FAILURE - CIRCUIT No. Y153

To increase reliability of component, condenser changed from 400V to 600V DCW.
Circuit No. Y153 a .0047 MF paper condenser 400V DCW part No. F4723 has been changed to a .0047 MF paper condenser tol ± 20% 600V DCW part No. G4723.

IF. INSTABILITY.

To prevent IF. instability on weak signals at certain settings of the contrast control.

Circuit No. N160 a 1000 Ohm carbon resistor tol ± 10% ½W part No. R1022 has been added.



HORIZONTAL HOLD CONTROL.

Modification to centre operation of horizontal hold control.

Circuit No. N281 a 150K. ohm ½W resistor changed to a 120K. ohm carbon resistor tol ± 10% ½W part No. R1242.

IMPROVED HORIZ. SYNC.

Circuit No. Y273 a 470 MMF condenser deleted.

Circuit No. Y270 a 33 MMF condenser changed to a 150 MMF silvered mica condenser tol ± 5% 500V DCW part No. PC895.

HORIZONTAL OSCILLATOR OPERATION.

Circuit No. N275 an 1800 Ohm resistor changed to a 1500 Ohm carbon resistor tol ± 10% 1W part No. Z1522 to improve oscillator operation.

FRAYING EFFECTS.

Fraying effects have been eliminated by the following modification.

Circuit No. N274 a 100K. ohm 1W resistor part No. Z1042 has been changed to a 33K. ohm carbon resistor tol ± 10% 1W part No. Z3332.

AGC. CONTROL ADJUSTMENT RANGE.

To extend the adjustment range of the AGC. control.

Circuit No. N250 has been changed from a 33K. ohm resistor part No. Z3332 to a 47K. ohm carbon resistor tol ± 10% 1W part No. Z4732

CORONA PREVENTITIVE.

Kilopoise grease part No. WX 138 used on pic. tube EHT. button has been changed to Silicon grease

Silicon grease is also being used on EHT. rect. (1S2) top cap.

Silicon grease No. MS5 part No. WX189.

WIDTH AND LINEARITY.

The EHT. sub chassis complete assembly part No. PA637 has been changed to an EHT. sub chassis complete assy. part No. PA666 to provide improved adjustment for width and linearity.

The new EHT. sub chassis PA666 is the same as the previous EHT. sub chassis except that the width coil part No. L369 is changed to a new type, part No. L454. for mechanical mounting.

VERTICAL HOLD.

To improve vertical hold in fringe areas.

Circuit No. Y230 changed from a .001 MF condenser part No. F1023 to a .0047MF paper condenser tol ± 20% 400V DCW part No. F4723.

T.V. RECEIVER MODEL- ESK

PB965

TURRET TUNER COILS			
CH.	AER.	MIX.	N57
1	L 394	L 395	4·7K
2	L 396	L 397	8·2K
3	L 398	L 399	10 K
4	L 400	L 401	
5	L 402	L 403	
6	L 404	L 405	
7	L 406	L 407	
8	L 408	L 409	
9	L 410	L 411	
10	L 412	L 413	

MAINS ON/OFF SWITCH
2 AMP. FUSE M418
A.C. MAINS INPUT.
LOW MED. HIGH
T112
750mA M454
6N3 V1
6N3 V2
12 V. 3W. INDICATOR LAMP
260 mA.
T208
210V
175V
17V. VERT.
13·3V. VERT.
2·8V. VERT.
1ST SOUND I.F. AMP.
2ND SOUND I.F. AMP.
6BX6 V3
6BX6 V4
L278 BLACK
L279
L371 WHITE
2-IN66
6BM8 V5A
6BM8 V5B
KBG 92 (K5)
T101
7000-3·5Ω
5-7H K202
TONE
VOL.
A.F. OUTPUT
A.F. AMP.
N168 CONTRAST 50 K
PLUG PIN VIEW
BLUE
GREEN
WHITE
BROWN
RED
BLACK
21CBP4A
T214
V14
90V. VERT.
FOCUS
BRIGHTNESS
SWITCH GANGED WITH MAINS S/W.
6CW7 V7
6BL8 V8
6BX6 V9
6BX6 V10
6BX6 V11
6BX6 V12
IN295
L366 ORANGE
L365 BLACK
IN294
6DX8 V13
L368
L269 BROWN
L270 RED
L271 ORANGE
L272 YELLOW
L273 GREEN
L274 BLUE
L280 VIOLET
SEE L395 L397 L399
F.T.
SIGNAL INPUT
R.F. AMP.
OSCL. MIXER
1ST I.F. AMP.
2ND I.F. AMP.
3RD I.F. AMP.
4TH I.F. AMP.
AGC. DELAY
90V. VERT.
SOCKET UNDERSIDE VIEW
T209
6BM8 V15
720V. VERT.
6BL8 V16
6CS6
VERT. HOLD
2MFD
AGC. LINE
BOOST HT.
HEIGHT
VERTICAL LINEARITY
VERTICAL OUTPUT
SYNCH. SEPARATOR
70V. VERT.
9V. VERT.
25V. VERT.
FRAME CLIPPER & AGC.
(V15 VERT. OSCILLATOR REMOVED FROM SOCKET.)
AGC. SET
HT. +
500V. HOR.
38V. HOR.
135V. HOR.
HOR. HOLD
STAB. COIL
24MFD
12AU7 V18
DAMPING DIODE
6R3 V20
6CM5 V19
WIDTH
SOCKET UNDERSIDE VIEW
V21 IS2
EHT RECT.
T204
HOR. OSCL.
16V. HOR.
HOR. OUTPUT
EHT
HOR. BOX.