



A.W.A. RADIOLA TELEVISION RECEIVER CHASSIS 42-00 SERIES

ISSUED BY AMALGAMATED WIRELESS (AUSTRALASIA) LTD.

GENERAL DESCRIPTION

The 42-00 series chassis is a 16-valve, vertically mounted, mains-operated, hand-wired chassis using the easily serviced hinge-down construction. It features a 14-channel neutrode turret tuner, a 3-stage video I.F., quadrature detector, stabilised horizontal and vertical scanning, and a slow warm-up audio stage to reduce sound buzz.

ELECTRICAL AND MECHANICAL SPECIFICATIONS

INTERMEDIATE FREQUENCIES

Video I.F. Carrier Frequency 36.875 Mc/s

Sound I.F. Carrier Frequency 31.375 Mc/s

POWER CONSUMPTION 170 watts maximum

UNDISTORTED AUDIO POWER OUTPUT 2 watts

FOCUS Electrostatic (Low Voltage)

DEFLECTION 110° Magnetic

TUNER TYPE .. TB Series (Refer Tuner Service Manual
for Electrical Specifications and
Alignment Procedure.)

VALVE AND DIODE COMPLEMENT

1. V1 Radiotron 6GK5 R.F. Amplifier
2. V2 Radiotron 6HG8 R.F. Osc. and Mixer
3. V101 Radiotron 6CS6 Quadrature Detector
4. V102 Radiotron 6HG5 Audio Output
5. V201 Radiotron 6BZ6 1st Video I.F.
6. V202 Radiotron 6CB6 2nd Video I.F.
7. V203 Radiotron 6CB6 3rd Video I.F.
8. V204 Radiotron 6EB8 .. Video Amp. and Sync. Sep.
9. V205 Radiotron 23GSP4 or 25TP4 Picture Tube
10. V301 Radiotron 6CB6 A.G.C. Amplifier
11. V302 Radiotron 6GV8 Vert. Osc. and Output
12. V401 Radiotron 6AL5 Phase Discriminator
13. V402 Radiotron 12AU7A Horizontal Oscillator
14. V403 Radiotron 6CM5 Horizontal Output
15. V404 Radiotron 6AU4GTA Damper
16. V405 Radiotron 1B3-GT H.V. Rectifier
- MR201 IN87A Video Detector
- MR202 IN3193 Spot Suppressor
- MR401 IN3194 Rectifier
- MR402 IN3194 Rectifier

HIGH VOLTAGE WARNING

Operation of this receiver outside the cabinet involves a shock hazard from the receiver power supplies. Work on the receiver should not be attempted by anyone who is not thoroughly familiar with the precautions necessary when working on high voltage equipment. Do not operate the receiver with the high voltage compartment shield removed. Make sure that the earth strap between the chassis and the picture tube assembly is securely fastened before turning the receiver on.

PICTURE TUBE HANDLING PRECAUTIONS

Do not install, remove or handle the picture tube in any manner unless shatter-proof goggles are worn. Keep the picture tube away from the body while handling.

When the receiver is switched off after operating for a time, the picture tube will retain a certain charge. Therefore it is advisable to discharge it before handling.

DEFLECTION YOKE ADJUSTMENT

If the lines of the raster are not horizontal or squared with the picture tube, rotate the deflection yoke until this condition is obtained. Tighten the yoke clamp.

FOCUS ADJUSTMENT

This adjustment has been made at the factory and it should only be necessary to re-adjust if the picture tube is replaced. In this case, adjust the focus control, RV403, until maximum definition of the line structure of the raster is obtained.

HORIZONTAL OSCILLATOR ADJUSTMENT

The adjustment of the horizontal oscillator is not considered to be part of the alignment procedure. The adjustment is made at the factory and should not require re-adjustment in the field. However, the adjustment should be carried out whenever components in the horizontal oscillator circuit are changed. The width should be correctly set before adjustments are carried out.

The horizontal oscillator may be adjusted by the following method.

1. Short-circuit the sine wave coil (L401) and earth pin 2 of V204 (6EB8) sync. separator.
2. Adjust the horizontal hold control (RV401) until the picture is synchronised with the signal, i.e., picture sides are straight.
3. Remove the short circuit from the sine wave coil.
4. Adjust the core of the sine wave coil until the picture is synchronised with the signal.
5. Remove the short circuit from pin 2 of V204.

CENTRING ADJUSTMENT

As the majority of test patterns transmitted contain horizontal and vertical bars, the correct procedure for centring adjustment, horizontally or vertically, is that the corresponding bars progressing outwards from the centre should have the same amount of pin-cushion distortion (if any).

The centring magnets are in the form of two discs mounted on the rear of the deflection yoke cap. When the magnets are rotated around the tube neck so that the levers are opposite, minimum centring effect with either lever is produced. To obtain correct centring of the picture, the magnets are alternatively rotated with respect to each other.

CAUTION

Under no circumstances should the receiver be switched on with the deflection yoke removed from the picture tube. This produces an undeflected spot which may damage the screen.

WIDTH AND HORIZONTAL LINEARITY ADJUSTMENTS

The width and horizontal linearity controls, RV402 and L403, in conjunction with the vertical adjustments, are adjusted to produce best linearity for a picture of the correct aspect ratio with normal picture brightness.

HEIGHT AND VERTICAL LINEARITY ADJUSTMENTS

Adjust the height control, RV304, for a picture of approximately $\frac{3}{4}$ of the normal size.

Adjust the vertical linearity control, RV306, to give a small amount of cramp at the top of the picture.

Adjust the height and top linearity controls, RV304 and RV305, to obtain a picture of normal height (approximately $\frac{1}{2}$ " of picture extending beyond the top and bottom of the picture tube mask).

Finally, adjust the height, top linearity and vertical linearity controls for best linearity and correct height.

A.G.C. ADJUSTMENT

The following adjustments can only be performed after all other receiver adjustments have been satisfactorily carried out.

Set the contrast and I.F. A.G.C. controls, RV201 and RV301, to their mid positions.

With the receiver tuned to a medium strength signal (about 1 mV or suitable attenuated signal) make the following adjustment.

With a picture of normal brightness and contrast, adjust the I.F. A.G.C. control for snow threshold.

Note: Clockwise rotation of the I.F. A.G.C. control increases snow.

REPLACEMENT OF FUSES

Two 1.5 Amp. fuses are provided for mains and H.T. protection. Their location and function are indicated on the layout diagram.

CHASSIS REMOVAL

The method of mounting used on this chassis adds to its ease of servicing. Two wing nuts secure the top of the chassis to the cabinet, while the chassis base rests in special hinge brackets.

When access is required to the wiring side of the chassis, loosen the wing nuts and swing the chassis down to its horizontal rest. This can be done without interfering with the receiver operation.

Caution: Before and during the swing-down operation, make sure that the picture tube and yoke leads do not foul on the picture tube neck or chassis components.

Should the complete chassis need removing, only the following additional steps are necessary.

Remove the tuner and control panel assembly from the cabinet and attach it to the chassis (a retaining screw and anchor point are provided along the I.F. side of the chassis for this purpose).

Unplug the yoke, picture tube socket, audio and ultor leads and disconnect the tuner earth strap.

If the cabinet is fitted with castors, remove the rear ones.

Lift the chassis to a position slightly above the horizontal and slide the assembly from its hinge brackets.

Re-assembly is the reverse of the above procedure.

ALIGNMENT PROCEDURE

TESTING INSTRUMENTS

To properly service the television receiver, it is recommended that the following test equipment be available:

1. A.W.A. Television Sweep Generator, type A56036.
2. A.W.A. Cathode Ray Oscilloscope (c.r.o.) type A56031.
3. 5.5 Mc/s F.M. Generator such as Advance SG63E.
4. A.W.A. Voltomyst, type 2A56074.
5. A.W.A. Voltomyst Probe, type 2R56075.
6. A.W.A. Television Calibrator, type A56057.

SOUND AND VIDEO I.F. ALIGNMENT

Note: When two positions of the core appear to give the correct adjustment, the following apply:

*Coil tuned with core close to chassis.

†Coil tuned with core close to can top, i.e., remote from chassis.

SOUND I.F. ALIGNMENT

Connect an f.m. signal generator to the video detector test point and set the frequency accurately to 5.5 Mc/s (signal level approximately 200 mV).

Connect the Voltomyst crystal probe to the video output test point and set the range switch to 5 Volts D.C.

Set contrast at maximum.

Adjust L206* (5.5 Mc/s trap) for minimum reading on the Voltomyst.

Connect the c.r.o. to the sound test point.

Switch the f.m. modulation of the signal generator to ± 50 Kc/s deviation and the modulating frequency 400 to 1000 c/s.

Connect a 2.7K ohms 10% carbon resistor in series with the signal generator.

With a signal strength of approximately 50-200 mV, adjust the core of L101* for maximum amplitude and symmetrical sinusoidal wave.

Progressively reduce the signal and adjust TR202, bottom core*, for maximum output and top core† for symmetrical break-out as shown in fig. 1. Break-out is shown on viewed audio as equal symmetrical distortion (noise) on both positive and negative tips of the wave form.



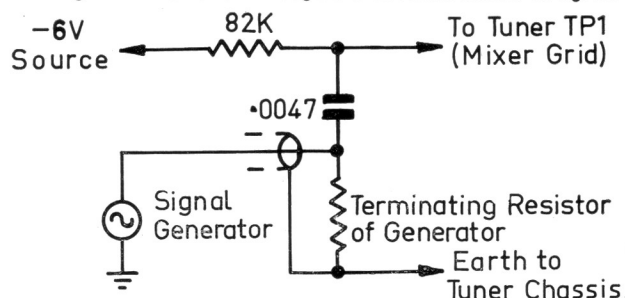
Fig. 1

VIDEO I.F. ALIGNMENT

Short-circuit the junction of R303 and R304 to earth.

Connect a source of -6V bias to the junction of R201 and C201.

With the tuner on the blank channel, connect the sweep generator (30-39 Mc/s sweep, correctly terminated) to the mixer grid of the tuner through the network shown in fig. 2.



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Fig. 2

Connect the c.r.o. through a 47K ohms resistor to the video detector test point and set its range to 3V p-p.

Loose couple the marker generator to the active lead of the sweep generator whose output is set to give 3V p-p on the c.r.o.

Carry out the following adjustments to produce the response curve shown in fig. 3.

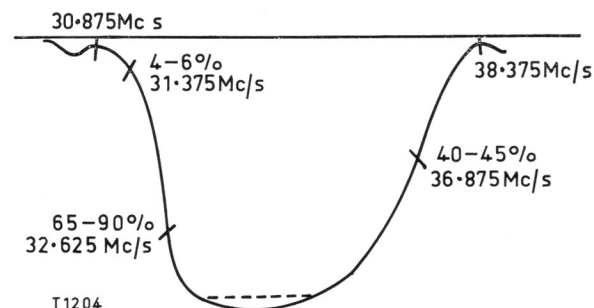


Fig. 3

TR201 bottom core* for maximum amplitude at 32.625 Mc/s.

TR202 bottom core* for maximum amplitude at 36.875 Mc/s and then turn the core approximately $\frac{1}{2}$ turn in a clockwise direction.

TR202 top core† for maximum attenuation at 30.875 Mc/s.

L201 top core† for maximum attenuation at 38.375 Mc/s.

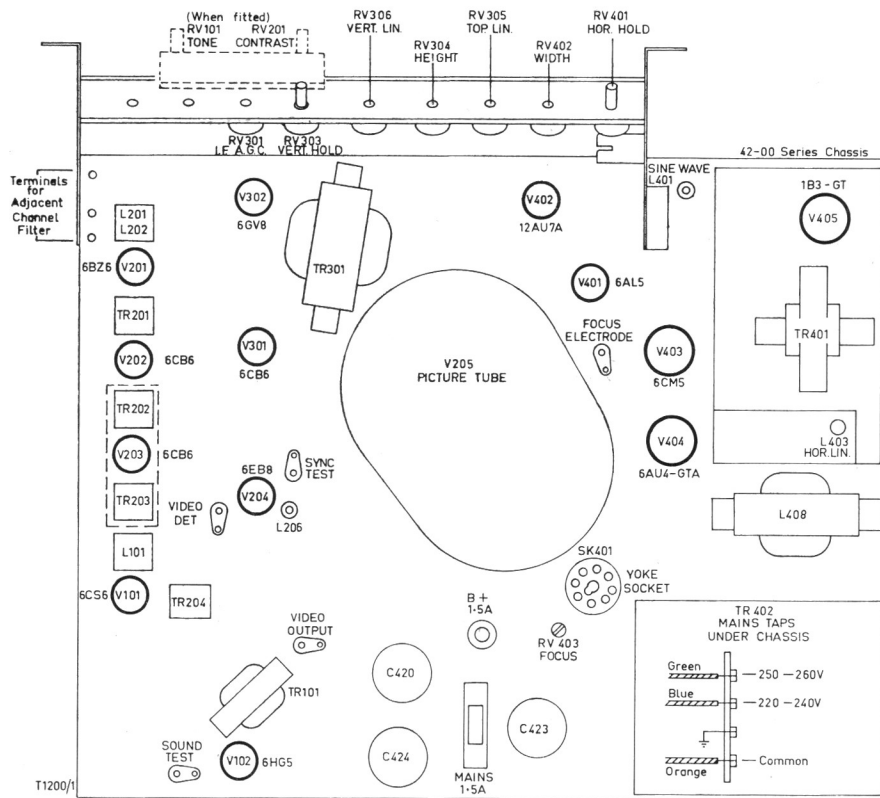
TR203* to correct tilt.

L202* to correct trough.

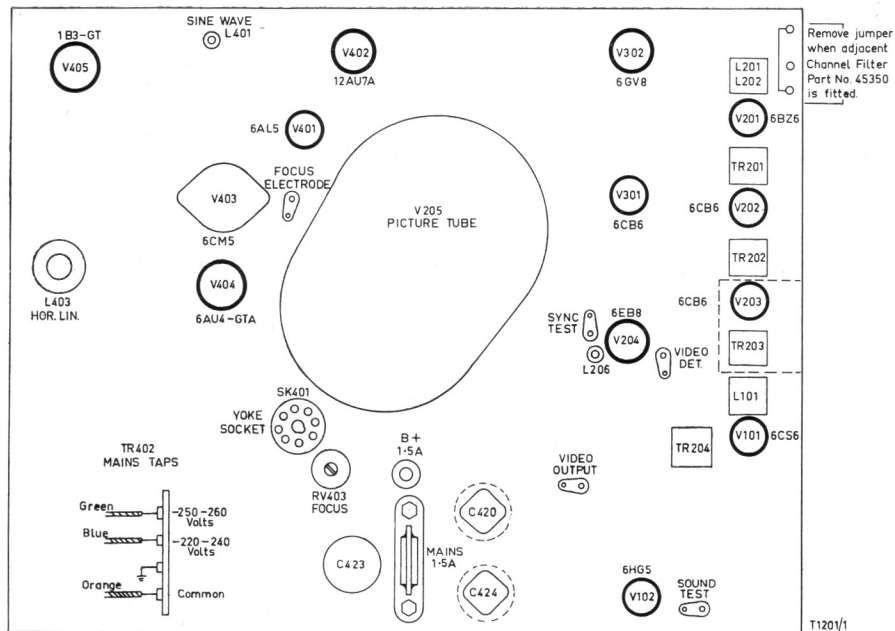
L2* to set 36.875 Mc/s at 45%.

Note: Both L2 and TR202 affect the 36.875 Mc/s marker position.

CHASSIS LAYOUT

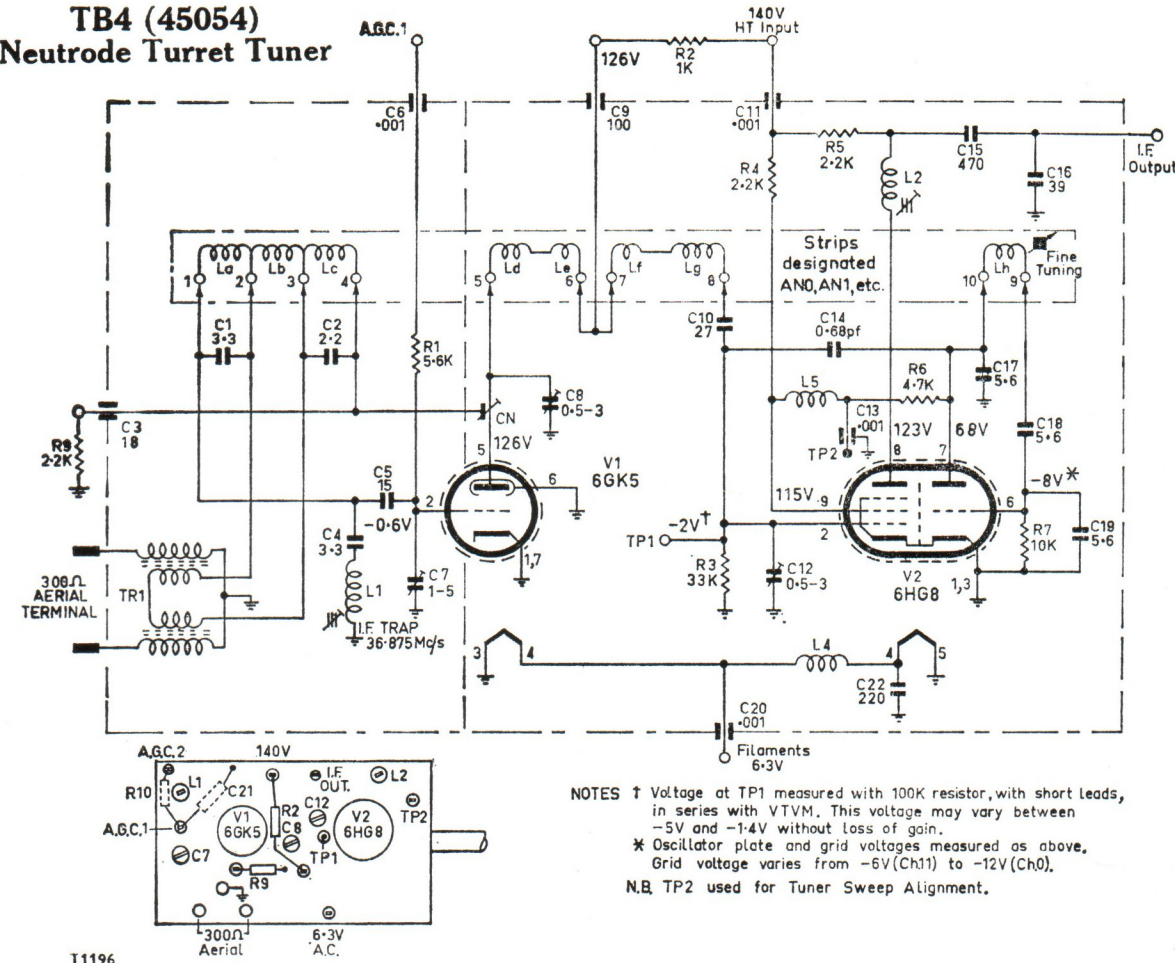


TOP CHASSIS VIEW



UNDER CHASSIS VIEW

TB4 (45054) **Neutrode Turret Tuner**



NOTES † Voltage at TP1 measured with 100K resistor, with short leads, in series with VTVM. This voltage may vary between -5V and -14V without loss of gain.
* Oscillator plate and grid voltages measured as above. Grid voltage varies from -6V (Ch11) to -12V (Ch0).
N.B. TP2 used for Tuner Sweep Alignment.

CIRCUIT VARIATIONS.

The following changes have occurred and are incorporated in the existing circuit.

To improve sound at low signal level:

C203 was changed from 270 pF to present 390 pF.

To reduce vertical shrinkage with temperature rise:

R318 was changed from a 680K resistor to two 390K Morganite or Ducon type resistors, R318 and R336.

To prevent a form of horizontal oscillator instability:

R406 was added in series with C410.

To limit peak current through MR202:

R226 was changed from a 10 megohms resistor in parallel with MR202 to the present 47 ohms series resistor.

Changes since circuit was drawn:

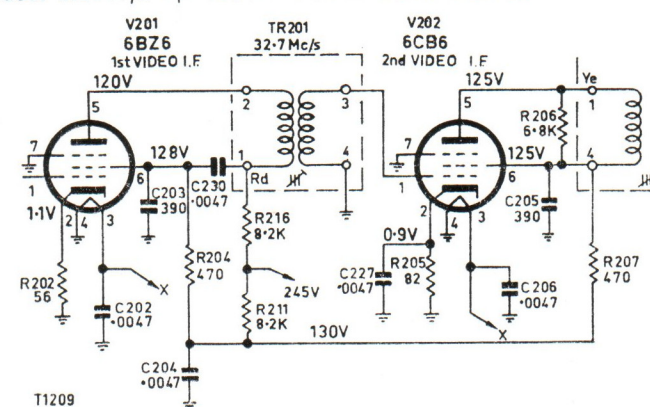
To improve A.G.C. characteristics the H.T. feed to the 1st and 2nd Video I.F. stages has been changed as shown in the following circuit. Components affected are:

R207 is now a 470 ohms $\pm 20\%$ 1/2 Watt resistor 606592

R211 is now an 8.2K ohms $\pm 10\%$ 4 Watts W.W. resistor 611863

R216 added: 8.2K ohms $\pm 10\%$ 4 Watts W.W. resistor 611863

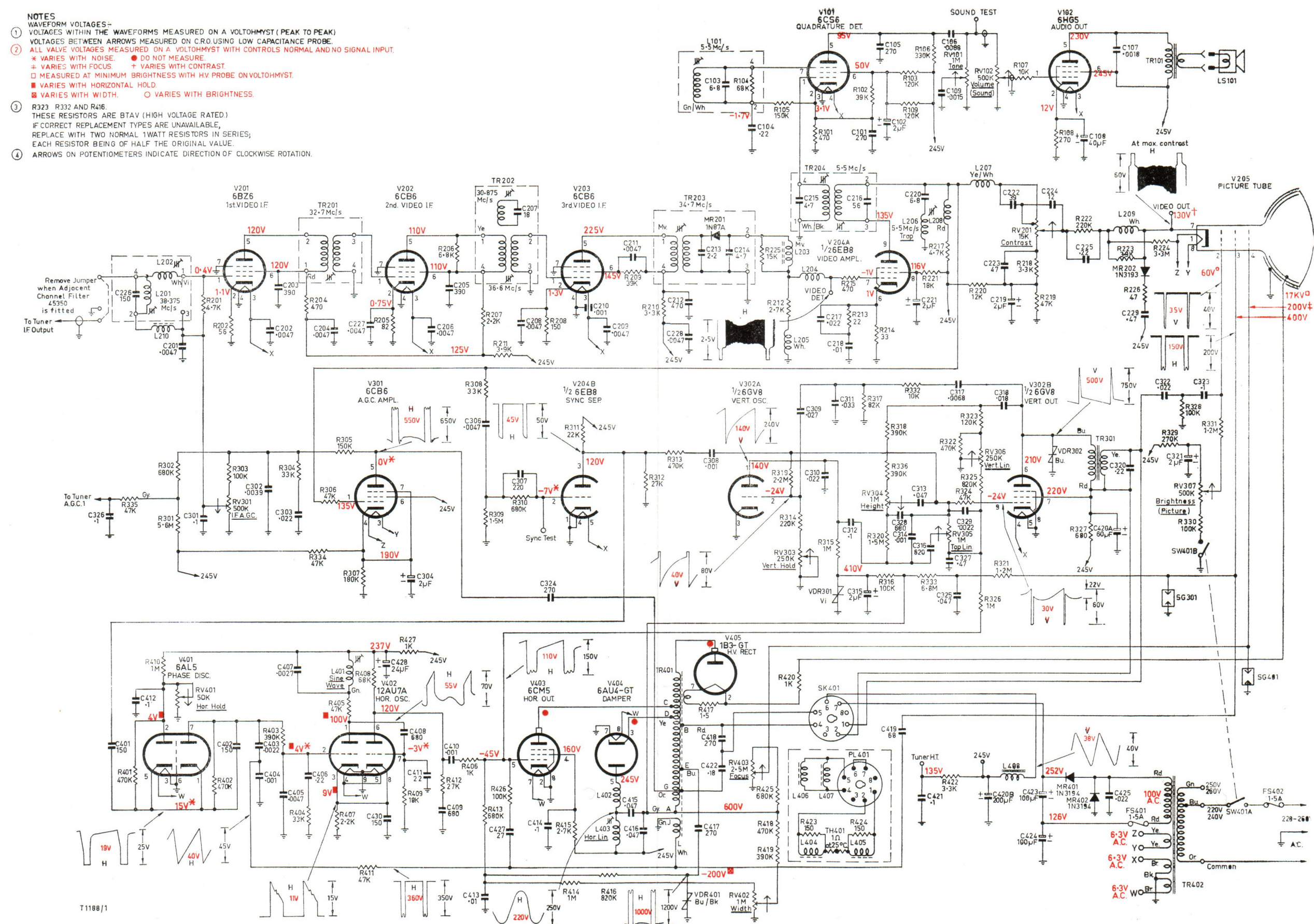
C230 added: 0.0047 μ F + 100%—0% Hi-K disc 225980



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TELEVISION RECEIVER CHASSIS 42-00 SERIES

- NOTES**
WAVEFORM VOLTAGES—
VOLTAGES WITHIN THE WAVEFORMS MEASURED ON A VOLTOHMIST (PEAK TO PEAK).
VOLTAGES BETWEEN ARROWS MEASURED ON C.R.O. USING LOW CAPACITANCE PROBE.
ALL VALVE VOLTAGES MEASURED ON A VOLTOHMIST WITH CONTROLS NORMAL AND NO SIGNAL INPUT.
* VARIES WITH NOISE. • DO NOT MEASURE.
+ VARIES WITH FOCUS. + VARIES WITH CONTRAST.
O MEASURED AT MINIMUM BRIGHTNESS WITH HV PROBE ON VOLTOHMIST.
■ VARIES WITH HORIZONTAL HOLD. O VARIES WITH BRIGHTNESS.
R233 R332 AND R416
THESE RESISTORS ARE BTAV (HIGH VOLTAGE RATED).
IF CORRECT REPLACEMENT TYPES ARE UNAVAILABLE,
REPLACE WITH TWO NORMAL 1WATT RESISTORS IN SERIES,
EACH RESISTOR BEING OF HALF THE ORIGINAL VALUE.
ARROWS ON POTENTIOMETERS INDICATE DIRECTION OF CLOCKWISE ROTATION.



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CIRCUIT CODE—42-00 Series TV Chassis

Code No.	DESCRIPTION	Part No.	Code No.	DESCRIPTION	Part No.
RESISTORS			RESISTORS (cont.)		
All Resistors composition type unless otherwise stated.					
R1	5.6K ohms ±20% ½ watt	611288	R320	1.5 Megohms ±10% 1 watt†	618266
R2	1K ohms ±20% ½ watt	608030	R321	1.2 Megohms ±10% 1 watt	618146
R3	33K ohms ±20% ½ watt	614463	R322	470K ohms ±10% 1 watt	617359
R4	2.2K ohms ±10% 1 watt	609446	R323	120K ohms ±10% 1 watt BTAV	616270
R5	2.2K ohms ±20% ½ watt	609445	R324	47K ohms ±10% ½ watt	614961
R6	4.7K ohms ±10% 1 watt	610966	R325	820K ohms ±10% ½ watt†	617851
R7	10K ohms ±20% ½ watt	612032	R326	1 Megohm ±10% 1 watt	618021
R8	Not used		R327	680 ohms ±10% 5 watts W.W.	607290
R9	2.2K ohms ±20% ½ watt	609445	R328	100K ohms ±10% ½ watt	616017
R101	470 ohms ±10% ½ watt	606588	R329	270K ohms ±10% ½ watt	616954
R102	39K ohms ±10% ½ watt	614684	R330	100K ohms ±10% ½ watt	616017
R103	120K ohms ±10% 1 watt	616264	R331	1.2 Megohms ±10% ½ watt	618141
R104	68K ohms ±10% ½ watt (in L101)	615494	R332	10K ohms ±10% 1 watt BTAV	612054
R105	150K ohms ±10% ½ watt	616426	R333	6.8 Megohms ±10% 1 watt	619154
R106	330K ohms ±10% ½ watt	617108	R334	47K ohms ± 5% 1 watt	614976
R107	10K ohms ±10% ½ watt	612025	R335	47K ohms ±10% ½ watt	614961
R108	270 ohms ±10% 1 watt	605645	R336	390K ohms ±10% 1 watt*	617212
R109	120K ohms ±10% 1 watt	616264	R401	470K ohms ±10% ½ watt	617356
R201	4.7K ohms ±10% ½ watt	610932	R402	470K ohms ±10% ½ watt	617356
R202	56 ohms ±10% ½ watt	603363	R403	390K ohms ±10% ½ watt	617204
R203	Not used.		R404	33K ohms ±10% ½ watt	614460
R204	470 ohms ±20% ½ watt	606592	R405	47K ohms ±10% 1 watt	614969
R205	82 ohms ±10% ½ watt	603810	R406	1K ohms ±20% ½ watt	608030
R206	6.8K ohms ±10% ½ watt	611526	R407	2.2K ohms ± 5% 1 watt	609462
R207	2.2K ohms ±10% 1 watt	609446	R408	68K ohms ±10% 1 watt	615500
R208	150 ohms ±10% ½ watt	604677	R409	18K ohms ± 5% 1 watt	613309
R209	39K ohms ±10% 1 watt	614691	R410	1 Megohm ±10% 1 watt	618021
R210	3.3K ohms ±10% 1 watt	610309	R411	47K ohms ±10% ½ watt	614961
R211	3.9K ohms ±10% 7 watts W.W.	610569	R412	27K ohms ±10% ½ watt	614137
R212	2.7K ohms ±10% ½ watt	609862	R413	680K ohms ±10% ½ watt	617666
R213	22 ohms ±10% ½ watt	602320	R414	1 Megohm ±10% 1 watt	618201
R214	33 ohms ±10% ½ watt	602752	R415	2.7K ohms ±10% 5 watts W.W.	609879
R215	470 ohms ±10% ½ watt	606588	R416	820K ohms ±10% 1 watt BTAV	617848
R216	Not used.		R417	1.5 ohms ±10% ½ watt W.W.	600416
R217	4.7K ohms ± 5% 7 watts W.W.	610944	R418	470K ohms ±10% 1 watt	617359
R218	3.3K ohms ±10% ½ watt	610304	R419	390K ohms ±10% 1 watt	617208
R219	47K ohms ±10% 2 watts	614987	R420	1K ohms ±20% ½ watt	608030
R220	12K ohms ±10% 1 watt	612514	R422	3.3K ohms ±10% 7 watts W.W.	610317
R221	18K ohms ±10% 2 watts	613301	R423	150 ohms ±10% ½ watt In	604677
R222	220K ohms ±10% ½ watt	616721	R424	150 ohms ±10% ½ watt Yoke	604677
R223	3.9K ohms ±10% ½ watt	610556	R425	680K ohms ±20% ½ watt	617668
R224	3.3 Megohms ±20% ½ watt	618714	R426	100K ohms ±10% ½ watt	616017
R225	15K ohms ±10% ½ watt	612922	R427	1K ohms ±20% ½ watt	608030
R226	47 ohms ±10% ½ watt*	603117	R428	Not used.	
R301	5.6 Megohms ±10% 1 watt	619053	RV101	1 Megohm Curve C Carbon, Tone	‡
R302	680K ohms ±10% ½ watt	617666	RV102	500K ohms Curve C Carbon, Volume	‡
R303	100K ohms ±20% ½ watt	616019	RV201	15K ohms Curve A Carbon, Contrast	‡
R304	33K ohms ±10% ½ watt	614460	RV301	500K ohms Curve A Carbon, I.F. A.G.C.	620569
R305	150K ohms ±10% 1 watt	616430	RV302	Not used.	
R306	47K ohms ±10% ½ watt	614961	RV303	250K ohms Curve A Carbon, Vert. Hold	620488
R307	180K ohms ± 5% 1 watt	616561	RV304	1 Megohm Curve A Carbon, Height	620769
R308	33K ohms ±10% ½ watt	614460	RV305	1 Megohm Curve A Carbon, Top Linearity	620769
R309	1.5 Megohms ±10% ½ watt	618260	RV306	250K ohms Curve A Carbon, Vert. Linearity	620519
R310	680K ohms ±10% ½ watt	617666	RV307	500K ohms Curve A Carbon, Brightness	‡
R311	22K ohms ±10% 2 watts	613649	RV401	50K ohms Curve A Carbon, Hor. Hold	620305
R312	27K ohms ±10% 2 watts	614135	RV402	1 Megohm Curve A Carbon, Width	620769
R313	470K ohms ±10% ½ watt	617356	RV403	2.5 Megohms Curve A Carbon, Focus	620781
R314	220K ohms ±10% ½ watt	616721	CAPACITORS		
R315	1 Megohm ±10% 1 watt	618021	C1	3.3pF ±10% NPO disc	220164
R316	100K ohms ±10% 1 watt	616024	C2	2.2pF ±5% NPO disc	221494
R317	82K ohms ±10% ½ watt	615795	C3	18pF ±5% NPO feed thru	220776
R318	390K ohms ±10% 1 watt*	617212	C4	3.3pF ±10% NPO disc	220164
R319	2.2 Megohms ±10% 1 watt	618488	C5	15pF ±5% NPO disc	220710
			C6	0.001μF +100% —0% Hi-K feed thru	225011

‡ Varies with models.

*Use Ducon or Morganite types only.

†Use IRC type only.

CIRCUIT CODE—42-00 Series TV Chassis (cont.)

Code No.	DESCRIPTION	Part No.	Code No.	DESCRIPTION	Part No.
CAPACITORS (cont.)					
C7	1-5pF trimmer	231144	C312	0.1 μ F \pm 10% 400VW polyester	227085
C8	0.5-3 pF trimmer	231122	C313	0.047 μ F \pm 10% 400VW polyester	226802
C9	100pF \pm 7 $\frac{1}{2}$ % N3300 feed thru	222246	C314	0.001 μ F \pm 10% 400VW polystyrene	225062
C10	27pF \pm 5% NPO disc	221071	C315	2 μ F 500 VW Electrolytic	227934
C11	0.001 μ F +100% —0% Hi-K feed thru	225011	C316	820pF \pm 10% 630VW polystyrene	224943
C12	0.5-3pF trimmer	231122	C317	0.0068 μ F \pm 10% 1000VW paper	226241
C13	0.001 μ F +100% —0% Hi-K feed thru	225011	C318	0.018 μ F \pm 10% 630VW polystyrene	226582
C14	0.68pF special	49915	C319	Not used.	
C15	470pF \pm 20% K2000 tubular	221972	C320	0.22 μ F \pm 10% 160VW polyester	227341
C16	56pF \pm 10% N750 tubular (TBI)	221774	C321	2 μ F 200VW Electrolytic	227933
C17	5.6pF +5% —0% N150 disc	220274	C322	0.022 μ F \pm 10% 160VW polyester	226634
C18	5.6pF \pm 2 $\frac{1}{2}$ % N150 disc	220276	C323	0.1 μ F \pm 10% 400VW polyester	227085
C19	5.6pF +0% —5% N150 disc	220275	C324	270pF \pm 10% N750 tubular	223554
C20	0.001 μ F +100% —0% Hi-K feed thru	225011	C325	0.047 μ F \pm 10% 400VW polyester	226831
C22	220pF \pm 20% Hi-K disc	223205	C326	0.1 μ F \pm 10% 160VW polyester	227086
CN	Neutralising capacitance		C327	0.47 μ F \pm 10% 160VW polyester	227495
C101	270pF \pm 20% K2000 tubular	223550	C328	680pF \pm 10% 630VW polystyrene	224777
C102	2 μ F 200VW Electrolytic	227933	C329	0.0022 μ F \pm 10% 400VW polyester	225636
C103	6.8pF \pm 10% N750 disc (in L101)	220382	C401	150pF \pm 10% 400VW polystyrene	222698
C104	0.22 μ F \pm 10% 160VW polyester	227341	C402	150pF \pm 10% 400VW polystyrene	222698
C105	270pF \pm 20% K2000 tubular	223550	C403	0.0022 μ F \pm 10% 400VW polyester	225636
C106	0.0068 μ F \pm 10% 400VW polyester	226218	C404	0.001 μ F \pm 10% 400VW polyester	225060
C107	0.0018 μ F \pm 10% 400VW polyester	225483	C405	0.0047 μ F \pm 10% 400VW polyester	225953
C108	40 μ F 16VW Electrolytic	229552	C406	0.22 μ F \pm 10% 160VW polyester	227341
C109	0.0015 μ F \pm 10% 400VW polyester	225390	C407	0.0027 μ F \pm 10% 400VW polyester	225746
C201	0.0047 μ F +100% —0% K5000 disc	225980	C408	680pF \pm 5% 630VW polystyrene	224778
C202	0.0047 μ F +100% —0% K5000 disc	225980	C409	680pF \pm 5% 630VW polystyrene	224778
C203	390pF \pm 5% 630VW polystyrene	223885	C410	0.001 μ F \pm 10% 400VW polystyrene	225062
C204	0.0047 μ F +100% —0% K5000 disc	225980	C411	22pF \pm 10% NPO tubular	220889
C205	390pF \pm 5% 630VW polystyrene	223885	C412	0.1 μ F \pm 10% 160VW polyester	227086
C206	0.0047 μ F +100% —0% K5000 disc	225980	C413	0.01 μ F \pm 10% 160VW polyester	226378
C207	18pF \pm 5% NPO tubular (in TR202)	220775	C414	0.1 μ F \pm 10% 400VW polyester	227085
C208	0.0047 μ F +100% —0% K5000 disc	225980	C415	0.047 μ F \pm 10% 1000 VW paper	226831
C209	0.0047 μ F +100% —0% K5000 disc	225980	C416	0.047 μ F \pm 10% 1000VW paper	226831
C210	0.001 μ F +100% —0% K5000 feed thru'	225011	C417	270pF \pm 10% 2500VW N750 disc	223554
C211	0.0047 μ F +100% —0% K5000 disc	225980	C418	270pF \pm 10% 2500VW N750 disc	223554
C212	470pF \pm 5% 630VW polystyrene	224212	C419	68pF \pm 10% 2000VW N750 tubular	221966
C213	2.2pF \pm 20% NPO disc (in TR203)	221494	C420A	60 μ F 275VW } Electrolytic	229767
C214	4.7pF \pm 10% N750 bead (in TR203)	220215	C420B	200 μ F 275VW }	
C215	4.7pF \pm 10% N750 bead (in TR204)	220215	C421	0.1 μ F \pm 10% 400VW polyester	227085
C216	56pF \pm 5% NPO tubular (in TR204)	221776	C422	0.18 μ F \pm 10% 400VW paper	227311
C217	0.022 μ F \pm 10% 160VW polyester	226634	C423	100 μ F 150VW Electrolytic	229651
C218	0.01 μ F \pm 10% 160VW polyester	226378	C424	100 μ F 150 VW Electrolytic	229651
C219	2 μ F 300VW Electrolytic	227923	C425	0.022 μ F \pm 10% 400VW polyester	226636
C220	6.8pF \pm 10% N750 disc	220382	C426	Not used.	
C221	2 μ F 300VW Electrolytic	227923	C427	27pF \pm 10% N1500 tubular	221073
C222	39pF \pm 10% N750 tubular	221294	C428	24 μ F 300VW Electrolytic	222812
C223	47pF \pm 10% N750 tubular	221434	C429	Not used.	
C224	12pF \pm 10% N750 tubular	220567	C430	150pF \pm 10% 630VW polystyrene	222698
C225	0.22 μ F \pm 10% 160VW polyester	227341			
C226	150pF \pm 5% 630VW polystyrene (in L201)	222688			
C227	0.0047 μ F +100% —0% K5000 disc	225980			
C228	0.0047 μ F +100% —0% K5000 disc	225980			
C229	0.47 μ F \pm 10% 160VW polyester	227497			
C301	0.1 μ F \pm 10% 160VW polyester	227086			
C302	0.0039 μ F \pm 10% 400VW polyester	225863			
C303	0.022 μ F \pm 10% 400VW polyester	226636			
C304	2 μ F 300VW Electrolytic	227923			
C305	Not used.				
C306	0.0047 μ F \pm 10% 400VW polyester	225953			
C307	220pF \pm 10% 630VW polystyrene	223206			
C308	0.001 μ F \pm 10% 400VW polyester	225060			
C309	0.027 μ F \pm 10% 160VW polyester	226690			
C310	0.022 μ F \pm 10% 400VW polyester	226636			
C311	0.033 μ F \pm 10% 400VW polyester	226739			

CIRCUIT CODE — 42-00 Series TV Chassis (cont.)

Item			Part No.	Item			Part No.
INDUCTORS				VALVES AND DIODES			
L1	36.875 Mc/s Trap		41859	V1	Radiotron 6GK5		
L2	Converter I.F. Coil		41859	V2	Radiotron 6HG8		
L3	Not used			V101	Radiotron 6CS6		
L4	Oscillator Filament Choke		41866	V102	Radiotron 6HG5		
L5	Screen Inductor Coil		45017	V201	Radiotron 6BZ6		
L4-Lh	Tuning Coil Assembly			V202	Radiotron 6CB6		
	Channel 0		45055	V203	Radiotron 6CB6		
	Channel 1		45056	V204	Radiotron 6EB8		
	Channel 2		45057	V205	Radiotron Picture Tube (varies with models)		
	Channel 3		45058	V301	Radiotron 6CB6		
	Channel 4		45059	V302	Radiotron 6GV8		
	Channel 5		45060	V401	Radiotron 6AL5		
	Channel 5A		45061	V402	Radiotron 12AU7A		
	Channel 6		45062	V403	Radiotron 6CM5		
	Channel 7		45063	V404	Radiotron 6AU4-GTA		
	Channel 8		45064	V405	Radiotron 1B3-GT		
	Channel 9		45065	MR201	AWV IN87A		
	Channel 10		45066	MR202	AWV IN3193		
	Channel 11		45067	MR401	AWV IN3194		
L101	Quadrature Detector		53243	MR402	AWV IN3194		
L201	38.375 Mc/s Trap	}	53278	MISCELLANEOUS			
L202	I.F. Input			VDR301	Voltage Dependent Resistor E298ED/A262	619507	
L203	Detector Filter		52720	VDR302	Voltage Dependent Resistor E298ED/A260	619561	
L204	Detector Filter		49671	VDR401	Voltage Dependent Resistor E298ZZ/06	619562	
L205	Detector Peaking Coil		41423	FS401	1.5 Amp. Fuse	370023	
L206	Sound I.F. Trap, 5.5 Mc/s		53245	FS402	1.5 Amp. Fuse	370023	
L207	Video Peaking		45090	SW401	Power On-Off Switch	‡	
L208	Video Ampl. Shunt Peaking		40117	SG301	Spark Gap (BTS Blank)	600000	
L209	Video Ampl. Series Peaking		41423	SG401	Spark Gap (BTS Blank)	600000	
L210	Inductor		53277				
L401	Sine Wave		52150				
L402	H.F. Choke 1.5μH		214516				
L403	Horizontal Linearity		43264				
L404	Vertical Deflection Coil	} Yoke	43665				
L405	Vertical Deflection Coil						
L406	Horizontal Deflection Coil						
L407	Horizontal Deflection Coil						
L408	H.T. Filter Choke		51571A				
TRANSFORMERS							
TR1	Balun Assembly		44009				
TR101	Audio Transformer		‡				
TR201	1st Video I.F.		40902				
TR202	2nd Video I.F.		41407				
TR203	3rd Video I.F.		41933				
TR204	Sound Take Off		53241				
TR301	Vertical Output		53519A				
TR401	EHT Transformer		52536				
TR402	Power Transformer		53547A				

‡ Varies with models.

D.C. RESISTANCE OF WINDINGS

WINDING	D.C. RESISTANCE IN OHMS	WINDING	D.C. RESISTANCE IN OHMS
Tuner Windings	*	TR101 Speaker Transformer	
L101 Quadrature Detector	7	Primary	500
L201 38.375 Mc/s Trap	*	Secondary	2
L202 I.F. Input	*	TR201 1st Video I.F.	
L203 Detector Filter	1.5	Primary	*
L204 Detector Filter	*	Secondary	*
L205 Detector Peaking Coil	5	TR202 2nd Video I.F.	
L206 5.5 Mc/s Trap	7	Primary	*
L207 Video Peaking Coil	3.2	Secondary	*
L208 Video Peaking Coil	6.8	TR203 3rd Video I.F.	
L209 Video Peaking Coil	5	Primary	*
L210 Inductor	*	Secondary	*
L401 Sine Wave Coil	55	TR204 Sound Take-off	
L402 H.F. Choke	*	Primary	1.4
L403 Horizontal Linearity Coil	7	Secondary	3
L404 Vertical Deflection	2.5	TR301 Vertical Output	
L405 Vertical Deflection	2.5	Primary	190
L406 Horizontal Deflection	17	Secondary	2.2
L407 Horizontal Deflection	17	TR401 Horizontal Output	
L408 H.T. Filter Choke	25	Primary C-A	23
		Secondary G-B	7
		Tertiary C-Top Cap	415
		Tertiary J-L	1.5
		TR402 Power Transformer	
		Primary Gn-Or	10
		Secondary Rd-Rd	4.3

*Less than 1 ohm.

The above readings were taken on a standard chassis, but substitution of materials during manufacture may cause variations and it should not be assumed that a component is faulty if a slightly different reading is obtained.

MECHANICAL REPLACEMENTS

Anode Cap and Lead, Hor. Output	40044	Screen Valve (1)	653014
Cap Ass'y, Yoke	41185	Shield Ass'y, Corona	41062
Clamp, Body, Power Cable	208056	Shield Ass'y, Video Det.	42378
Clamp, Lock, Power Cable	208057	Shield Tunnel	42429
Clamp, Yoke Cap	41186	Socket, 7 Pin with Saddle	794615
E.H.T. Box Lid	41310	Socket, 7 Pin with Skirt	794569
E.H.T. Box Side	41309	Socket, 7 Pin, Push-in	794579
Fuse Holder, H.T.	49075	Socket, 8 Pin, Wafer	793033
Fuse Holder, Mains	40845	Socket, 8 Pin, Moulded Mica	794582
Lead Ass'y, Ultor	49545	Socket, 9 Pin, Moulded Mica	794599
Screen, Valve (3)	653013	Test Point Assembly	41085