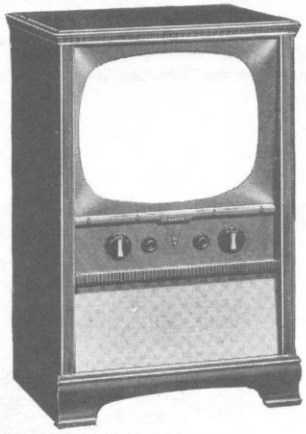
SERVICE DATA

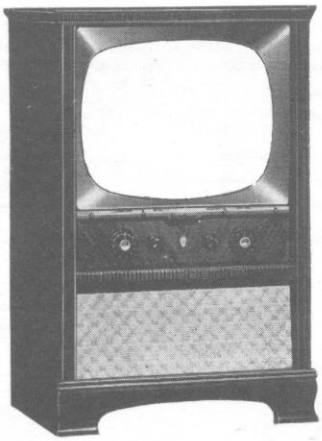
TELEVISION RECEIVERS

MODELS P3550, P3580, R7550, R7580

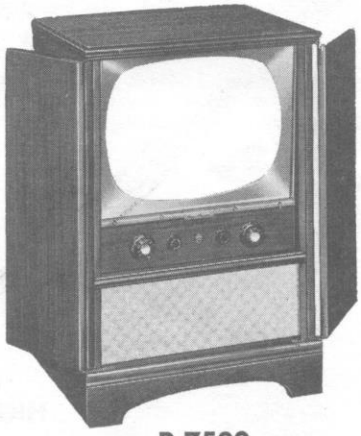


P-3550

P-3580



R-7550



R-7580

COMPILED AND PUBLISHED BY

ROGERS MAJESTIC
RADIO CORPORATION LTD.
TORONTO - MONTREAL

PHILIPS INDUSTRIES LTD.
TORONTO - MONTREAL - WINNIPEG
HALIFAX - VANCOUVER

GENERAL INFORMATION

Model	Type	No. Tubes	Picture Tube	General
P3550	Console	22	21" Spherical	Removable window
R7550	Console	22	21" Spherical	Removable window
P3580	Console with doors	22	21" Spherical	Removable window
R7580	Console with doors	22	21" Spherical	Removable window

POWER SUPPLY REQUIREMENTS

These receivers are manufactured in two designs. One is for operation on 117V, 60 cycles only and the other for operation on 117V, 25/60 cycles.

TELEVISION ANTENNA CONNECTIONS

An antenna which is satisfactory for strong local signals in the absence of severe reflections is built into the cabinet. This antenna also functions as a radiation shield, and must be connected to a grounding screw located near the antenna terminal when an external antenna is used.

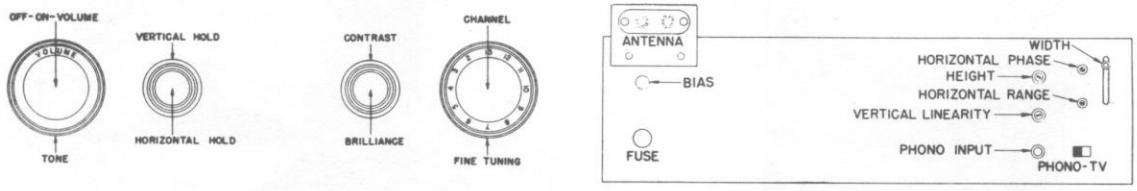
If an external antenna is used, it should match the receiver input impedance of 300 ohms.

For lightning protection the antenna mast should be connected to a good ground, and the 300 ohm lead-in, should be connected to an approved lightning arrester.

TUBE COMPLEMENT

V1	6BZ7	R. F. Amplifier
V2	6U8	Mixer and Oscillator
V3	6CB6	1st. Video I. F. Amplifier
V4	6CB6	2nd. Video I. F. Amplifier
V5	6CB6	3rd. Video I. F. Amplifier
V6	6AW8 or 6BA8	Video Output and Sync Coupler
V7	6U8	Sync and Sound Amplifier and Sync Separator
V8	6AM8	Noise Inverter and Minimum Signal Level Detector
V9	6AM8	Signal Level Amplifier and Minimum Signal Level Detector
V10	12AU7 or 12AU7A	Sync Limiter and Vertical Oscillator
V11	6S4 or 6S4A	Vertical Output
V12	6SN7GTA or 6SN7GTB	Horizontal Control and Horizontal Oscillator
V13	6CU6 or 6DQ6	Horizontal Output
V14	6AX4GT	Damper and Booster Rectifier
	6V3A	On Earlier Models
V15	1B3GT	H. V. Rectifier
V16	6AU6	Sound I. F. Amplifier
V17	6AL5	Ratio Detector
V18	6AT6	Audio Amplifier and AGC Clamp
V19	6W6GT	Audio Output
V20	6W4GT	B + Rectifier
V21	6W4GT	B + Rectifier
V22	21AMP4A or 24CP4A	21" Picture Tube 24" Picture Tube
X1	1N87G	Video Detector Crystal
	Fuse	1 Amp. 3AG

TELEVISION CONTROLS



HIGH VOLTAGE WARNING

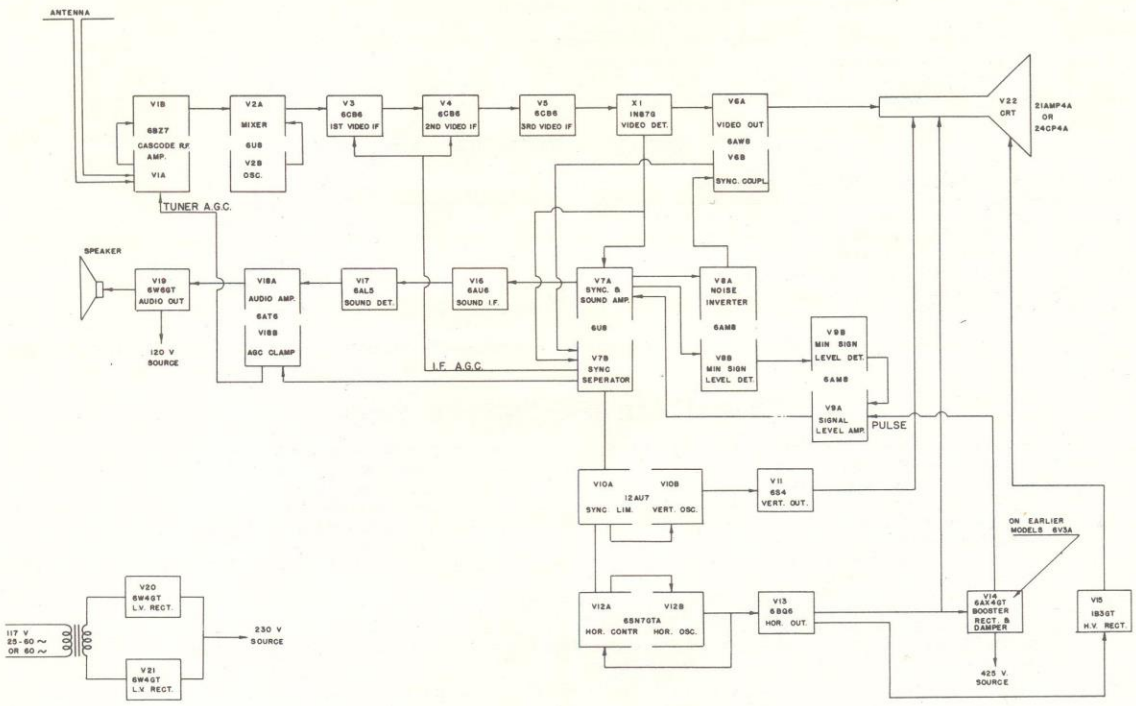
Operation of the receiver chassis outside of the cabinet involves a shock hazard. The high voltage supply, while of low current capacity, operates up to 16,000 volts potential. Exercise all normal high voltage precautions while working on this equipment.

PICTURE TUBE WARNING

The picture tube envelope encloses a high vacuum and with the large surface area of glass involved, the stresses created are considerable. Any accidental blow or rough handling may cause the tube to implode with extreme violence. The picture tube should be handled only by qualified persons protected by heavy gloves and shatterproof goggles.

Always handle the picture tube by the front rim, never by the neck. Always set the picture tube face down on a piece of thick soft paper or cloth.

BLOCK DIAGRAM



SERVICE ADJUSTMENTS

The service adjustments normally will need minor corrections if any circuit work or tube replacement is required. A test pattern generated locally in the shop or obtained from a television station is recommended for best results. The front controls should be adjusted for the best possible picture before making the following adjustments.

Centering the picture – Remove the back cover and release the lock on the centering device located on the top of the focus magnet. Recenter the picture by varying the position of the centering device and tighten the lock. If any difficulty is encountered check that the neck of the picture tube is centered in the deflection yoke and adjust if necessary.

Levelling the picture – Release and rotate the deflection yoke until the picture is level. Push the yoke tight against the picture tube and tighten. Re-centre if necessary.

Size – Adjust the height, vertical linearity and width controls so that the picture fills out the dimensions of the screen.

Brightness – Readjust the ion trap magnet for maximum brilliance. The brilliance control should be backed off to about 2/3 maximum brilliance when making this adjustment.

Focus – After the set is thoroughly warmed up, set the line voltage to the normal operating voltage, and adjust the focus magnet for best overall focus. Readjust the ion trap magnet for the best overall focus without losing brilliance.

NOTE: The sequence of service controls adjustment outlined is suggested as a convenient method of approach. Variations of the procedure are permitted to obtain the final results, but always start by checking of the ion trap magnet and finish by rechecking.

This is important to avoid damaging the picture tube.

TO CLEAN PICTURE TUBE FACE

1. Switch off receiver before removing window panel. While pressing gently against the window panel, remove the four Phillips head screws in the glass retaining strip.
2. Set aside the retaining strip, and lift the window panel up slightly and lift out. Lay the window panel on a piece of cloth or paper.
3. Clean the face of the picture tube and the back of the window panel.
4. Replace window panel by sliding it in the top groove and placing it on top of the knob panel.
5. Replace retaining strip and clean front of window panel.

TO REMOVE THE CHASSIS FROM THE CABINET

1. Disconnect the power supply cord.
2. Disconnect the built-in antenna leads and the external antenna.
3. Pull off all knobs.
4. Remove the back cover and swing it to the top of the cabinet.
5. Disconnect the speaker plug and pull the speaker lead below the chassis.
6. Unscrew the two screws holding two tube mounting brackets to the top front of the cabinet.
7. Remove the chassis mounting bolts, visible underneath the shelf, and slide the chassis out of the cabinet.

TO REMOVE PICTURE TUBE

The following procedure should be followed.

1. Disconnect the H. V. lead from the side of the picture tube and discharge it to the chassis.
2. Discharge the anode of the picture tube to the chassis.
3. Remove C. R. tube socket.
4. Remove the ion trap magnet.
5. Remove the focus magnet and deflection yoke.
6. Remove the screw holding the top strap to the side bracket.
7. Lift C. R. tube out carefully.

CAUTION: If the picture tube fails to slip out smoothly investigate and remove cause of trouble. DO NOT USE FORCE.

TO INSTALL THE PICTURE TUBE

1. Looking from the front and with the H. V. anode to the left set the rim of the picture tube on the supporting strap.
2. Place the top strap around the rim of the tube, with the two tube mounting brackets in position under the strap, and screw tightly to the side brackets.
3. On earlier production models make certain that the four rubber channels on the rear support bracket press firmly against the cone of the tube. On all models push the deflection yoke as far forward as possible.
4. Mount the focus magnet.
5. Slip the ion trap magnet over the neck of the picture tube having the red dot underneath and the magnet on the right when looking at the rear of the chassis.
6. Connect the H. V. lead, the yoke plug and the C. R. tube socket.

NOTE 1. To mount the support strap correctly the hole in the strap must be aligned over the corresponding hole in the side bracket. It is not necessary for the same hole to be used at both sides. The center holes will normally provide the right height for the picture tube.

NOTE 2. To get a proper fit of the mask against the face of the picture tube it is necessary that the picture tube is fitted on the chassis according to the following dimensions.

Face of tube to face of chassis 1 1/4"
Bottom of tube to top of chassis 1 7/32"
Center of neck to bottom of chassis 13 3/4"
The front of chassis to front of knob panel 1 1/4"

TO ADJUST THE PICTURE

1. Switch on receiver and allow to warm up.
2. Advance the brilliance control and adjust the ion trap magnet for maximum brilliance. Back off the brilliance control below the defocusing point as the maximum brilliance is approached. The ion trap magnet must be rotated about the axis of the picture tube as well as shifted along the neck, in order to obtain the correct setting.
3. Connect the antenna and tune in a test pattern.
4. Adjust the front controls to give the best possible picture.
5. Center and level the picture, adjust focus, and readjust the ion trap magnet for best brilliance and focus.

DATA ON SPECIAL CIRCUITS

The following special circuits have been incorporated in this chassis:

1. Sync. and Sound Amplifier.
2. Minimum Signal Level Detector.
3. Signal Level Amplifier.
4. Noise Inverter.
5. Sync. Coupler.
6. A. G. C. Clamp.

The combined operation of the circuits listed above improves considerably, sync stability under very severe impulse noise conditions, such as those resulting from nearby operation of electric shavers, electric hand drills, or any unsuppressed noise sources such as ignition systems. Sync stability is maintained under these conditions even with reception from very weak stations. Further to the noise immunity, the use of these circuits permits the elimination of the range finder switch or other similar controls. The set will automatically adjust for reception of very strong local stations without overloading, as well as for very weak stations, while maintaining a minimum of "snow" in the picture.

The following desirable properties are achieved:

1. Noise is removed by the (noise inverter) from the sync information resulting in a very much improved sync stability.
2. The source of amplified A. G. C. is noise free, hence "false" A. G. C. is almost eliminated.
3. Sync overload cannot occur on strong signals and no loss of sync takes place on weak signals as a result of the operation of the sync and sound amplifier with the associated feedback loop.
4. The tuner and I. F. A. G. C. are both delayed with the tuner A. G. C. having a greater delay than the I. F. A. G. C. This improves the signal to noise ratio at the detector.
5. On weak signals keyed circuits are not used and hence sync "lockout" difficulties are avoided.

6. The sync information is obtained at the output of the video detector, ahead of the video amplifier. Sync amplitude is therefore unaffected by the contrast control setting.
7. Sound I.F. information is passed through the sync and sound amplifier which provides an extra stage of sound I.F. amplification and improves sound sensitivity.

THE SYNC AND SOUND AMPLIFIER WITH ITS FEEDBACK LOOP

The composite video signal is fed from the video detector in two directions; to the grid of the video output tube, and to the grid of the sync and sound amplifier. The signal to the grid of the sync and sound amplifier includes the sound I.F. which is then taken off the plate and fed to the sound section. This provides one extra stage of sound amplification. The sync information at the cathode of the sync and sound amplifier V7A is used to operate the minimum signal level detector which applies a voltage dependent on the sync tip level to the grid of the signal level amplifier V9A. This in turn controls the conduction of V9A and establishes the correct d.c. bias on the grid of the sync and sound amplifier V7A. The chain formed by the minimum signal level detector and the signal level amplifier comprises the feedback loop associated with the sync and sound amplifier. The purpose of this loop is to keep the sync information at a fixed point (near cutoff) on the grid bias of V7A regardless of the strength of the received signal. It follows that as a result, sync tips will be held at a fixed voltage level on the plate of V7A. The peaking coil L91 appearing in the plate circuit of V7A is used only for the improvement of sound gain in this stage.

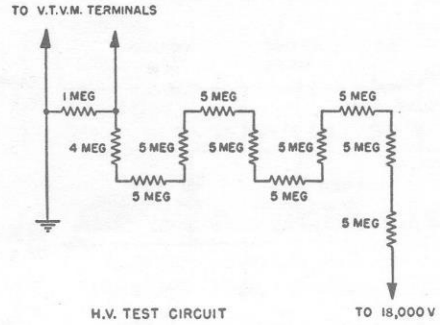
The noise inverter – The purpose of the noise inverter is to remove impulse noise from the sync information ahead of the sync coupler. The noise inverter is normally cut off and the circuit is so designed that conduction will take place only on pulses extending above the sync tips, since the sync tip level is just beyond cut-off. The actual inversion of noise occurs as a result of voltage drop in R93 caused by momentary conduction of the noise inverter, and appears on an oscilloscope as a deep notch in the sync information equal in width to the duration of the interfering noise pulse.

Amplified and simple A.G.C. – Amplified A.G.C. is derived from the grid rectification of noise free sync information in the sync separator V7B. The amplification of the signal used to produce the A.G.C. voltage is carried out by the sync and sound amplifier thus performing the additional function of an A.G.C. amplifier.

Simple A.G.C. is derived directly at the video detector. It is combined with the amplified A.G.C. in a network of resistors and divided into two branches. One branch comprises the I.F. A.G.C. The other branch to which is connected the A.G.C. clamp and a source of positive delay voltage, makes up the tuner A.G.C. The A.G.C. clamp, which is one of the diode sections in the 6AT6 audio amplifier, prevents the tuner A.G.C. from going positive when very weak signals are being received by clamping the A.G.C. line to the chassis. This allows maximum amplification in the tuner on weak signals. As the signal strength increases negative A.G.C. voltage builds up until it is sufficient to overcome the delay voltage. The diode then stops conducting and negative A.G.C. appears at the tuner.

HIGH VOLTAGE MEASUREMENT

DO NOT USE HAND-HELD FLEXIBLE TEST LEADS WHEN MAKING THE FOLLOWING MEASUREMENTS. KEEP THE HANDS CLEAR OF THE CIRCUIT DURING MEASUREMENT. A 14 TO 18 K.V. POTENTIAL EXISTS IN THIS CIRCUIT. EXERCISE ALL NORMAL HIGH VOLTAGE PRECAUTIONS.



To measure the H.V. anode potential, set the contrast control to maximum and brilliance control to minimum. No signal to be applied. The resistance of the test circuit will simulate the load presented to the H.V. power supply by the picture tube. Connect a test circuit as shown, make the resistor string self supporting and allow adequate clearance between the resistors and chassis parts to prevent high voltage breakdown. A meter scale of 0 to 500 volts, 20,000 ohms per volt sensitivity or better, should be used. Observe the reading on the meter scale and multiply this reading by 50 to obtain the voltage across the circuit. As an example, if the V.T.V.M. reads 260 volts, the potential is 260 x 50 or 13,000 volts.

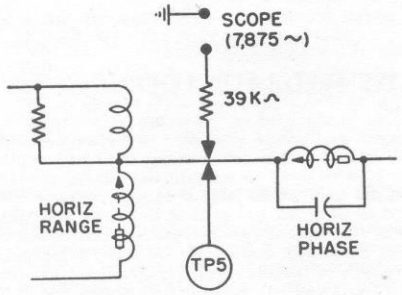
HORIZONTAL OSCILLATOR ALIGNMENT

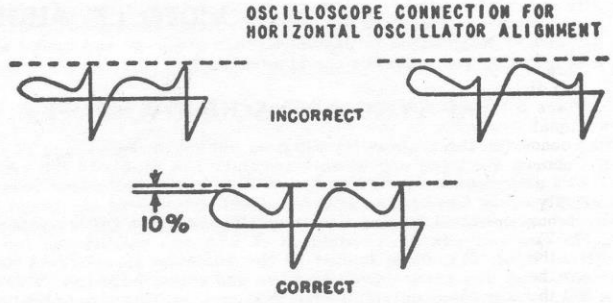
If the horizontal hold control fails to restore synchronization, the horizontal range adjustment should be reset.

1. Tune in a weak signal (if a weak signal is not available attenuate the signal to approximately 100 uv at the input).
2. Turn the horizontal hold control to extreme clockwise position.
3. Turn the horizontal range adjustment (L211-L212) anticlockwise until the blanking bar at the left edge of the picture slides towards the center and the picture tears. Then turn the horizontal range adjustment clockwise until the picture falls into sync. Give the screw a further turn in the same direction.
4. Check the action of the horizontal hold control on all active channels. Repeat the above instructions if necessary to maintain stable synchronization.

NOTE: If the above procedure fails to restore stable synchronization, a waveform check may be made with the aid of an oscilloscope as follows:

5. Connect the oscilloscope as shown in diagram. Adjust the horizontal phase adjustment (L213) until the sawtooth peak is 5% higher than the sine wave while maintaining the picture in synchronism with the horizontal range adjustment.





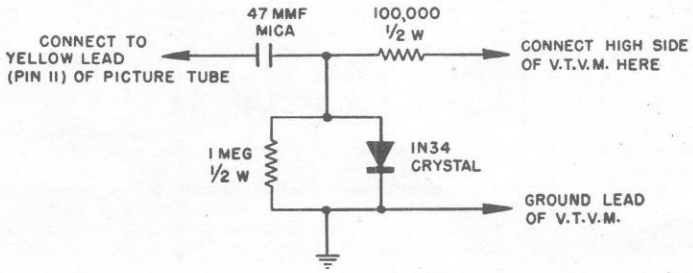
HORIZONTAL OSCILLATOR WAVEFORMS

NOTE: This adjustment is very important for correct operation of the circuit. If the broad peak of the wave on the oscilloscope is much lower than the sharp peak, the noise immunity becomes poorer, the stabilising effect of the tuned circuit is reduced and drift of the oscillator becomes more serious.
On the other hand if the broad peak of the wave is higher than the sharp peak, the pull-in range becomes inadequate and the broad peak can cause double triggering of the oscillator when the hold control approaches the clockwise position.

6. Remove the oscilloscope and repeat steps 1, 2 and 3.
7. Check the action of the horizontal hold control and repeat the above steps as required to provide positive synchronization on all channels.

4.5 Mc. TRAP ALIGNMENT

1. Turn the channel selector between channels.
2. Disconnect R56 for this adjustment.
3. Connect the 4.5 Mc. signal generator through a 5000 mmf capacitor to TP8 at the video detector, and apply an unmodulated 4.5 Mc. signal.
4. Connect a crystal detector circuit and a V.T.V.M. as shown in the 4.5 Mc. alignment test circuit to the picture tube cathode.
5. Turn the contrast control fully clockwise.
6. Adjust the trap (L44) for minimum detector output.



SOUND ALIGNMENT TEST CIRCUIT

SOUND I.F. ALIGNMENT

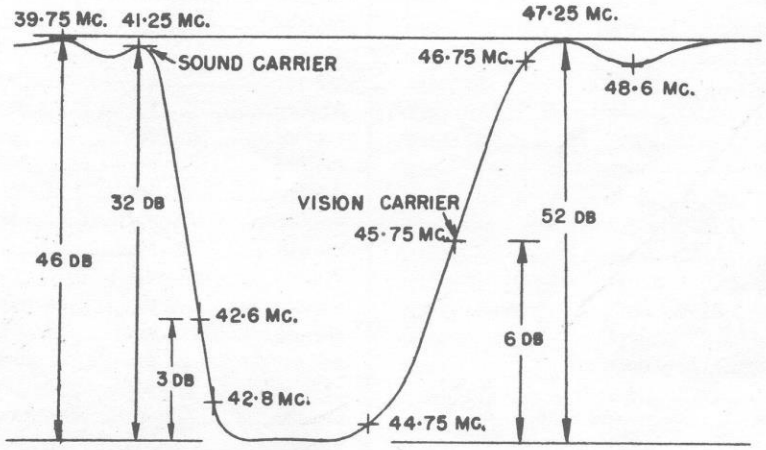
1. Apply a 4.5 Mc. unmodulated signal to TP8 on the video detector. Connect a d.c. V.T.V.M. to TP4 pin 1 on the ratio detector socket.
2. Adjust the signal input so that the voltage at TP4 does not exceed +3V at any time.
3. Adjust the 4.5 Mc. sound take-off coil L181 for maximum V.T.V.M. reading.
4. Adjust the primary of the ratio detector L182-L183 (bottom) for maximum V.T.V.M. reading.
5. Set the signal input to give +3V output.
6. Connect the d.c. V.T.V.M. to TP5, the ratio detector output point.
7. Adjust the secondary of the ratio detector L184 (top) for +1.5 volts.
8. Apply approximately 30% amplitude modulation to the 4.5 Mc. signal and adjust L184 for minimum audio output.
9. Adjustments 7 and 8 should agree closely.
10. Repeat the above adjustments until there is no interaction of one adjustment on the other.
It is also possible to align the sound I.F. by using the 4.5 Mc. signal developed by a television station. Connect a d.c. V.T.V.M. to TP4. Tune in a weak station and adjust the fine tuning so that the sound carrier "drops" into the associated sound trap. At this point the output at TP4 will be minimum. Adjust the sound take-off coil, the primary and the secondary of the ratio detector for maximum output at TP4. Remove the V.T.V.M. and in the presence of pulse noise (such as that radiated by a brush type motor) adjust the secondary of the ratio detector for minimum noise in the audio output. This minimum should appear between two noise peaks within 1/4 to 1/2 turn of the iron core.

VIDEO I.F. ALIGNMENT

1. Turn channel selector to channel 3 or any signal free low channel, and short the antenna terminals with a short-clip directly at the tuner.
2. Place a tight fitting shield over the 6U8 mixer tube (V2) and connect the hot I.F. lead from a correctly terminated signal generator to the shield (shield must not be grounded). The ground lead from the signal generator must be grounded to the chassis immediately beside the 6U8.
3. Connect a decoupling network consisting of a 10,000 ohms resistor in series with a 1000 mmf condenser between TP2 and ground. Connect a d.c. V.T.V.M. across the condenser, one end of the condenser is grounded.
4. Apply a -2V fixed bias to the I.F. amplifier at TP7.
5. Throughout the I.F. amplifier alignment use just enough signal input to give -2V D.C. output at the video detector (TP2).
6. Set the signal generator to 45.75 Mc. and adjust L7, L40-41 for maximum output.
7. Set the signal generator to 42.8 Mc. and adjust L32, L37-38 for maximum output.
8. Set the signal generator to 44.5 Mc. and adjust L34, L35 for maximum output.
9. Set the signal generator to 47.25 Mc. and adjust L31, L36 for minimum output (remove the -2V bias for this step).
10. Set the signal generator to 41.25 Mc. and adjust L33 for minimum output (remove the -2V bias for this step).
11. Set the signal generator to 39.75 Mc. and adjust L39 for minimum output.
12. Set the signal generator to 53.25 Mc. and adjust L49 for minimum output (switch the tuner between channels and remove -2V bias for this step).
13. Repeat steps 7 and 8 if necessary.

NOTE: If more than one peak is found on any tuned circuit, use the peak for which the core is farthest out of the coil.

TYPICAL I.F. CURVE



I.F. ALIGNMENT FREQUENCIES

Bandpass Tuner	L7	45.75 Mc	3rd. I.F.	L37 L38	42.8 Mc
1st. I.F.	L32	42.8 Mc	3rd. I.F. adjacent video trap	L39	39.75 Mc
1st. I.F. associated sound trap	L33	41.25 Mc	4th. I.F.	L40 L41	45.75 Mc
2nd. I.F.	L34 L35	44.5 Mc	Trap, sound two channels removed	L49	53.25 Mc
2nd. I.F. adjacent sound trap	L36	47.25 Mc	Trap, adjacent sound	L31	47.25 Mc

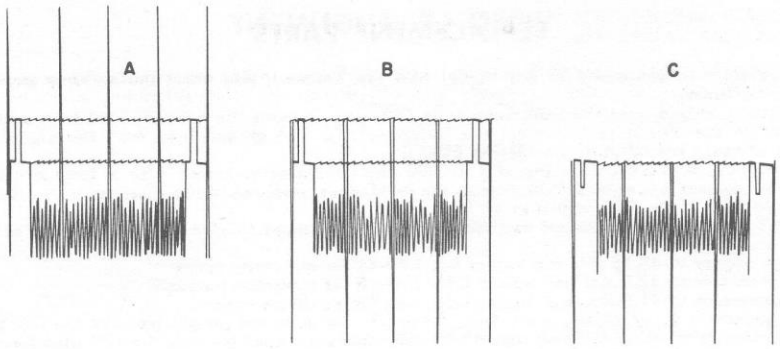
NOISE INVERSION BIAS CONTROL ADJUSTMENT

Tune in a weak signal. If a weak signal is not available, attenuate the signal to approx. 200 uV at the input and connect an oscilloscope to TP3 through a high impedance probe. Synchronize the oscilloscope with the vertical sweep frequency of the receiver. Rotate the bias control (R108) clockwise until there is no evidence of noise inversion in the sync and the inverter circuit is inactive.

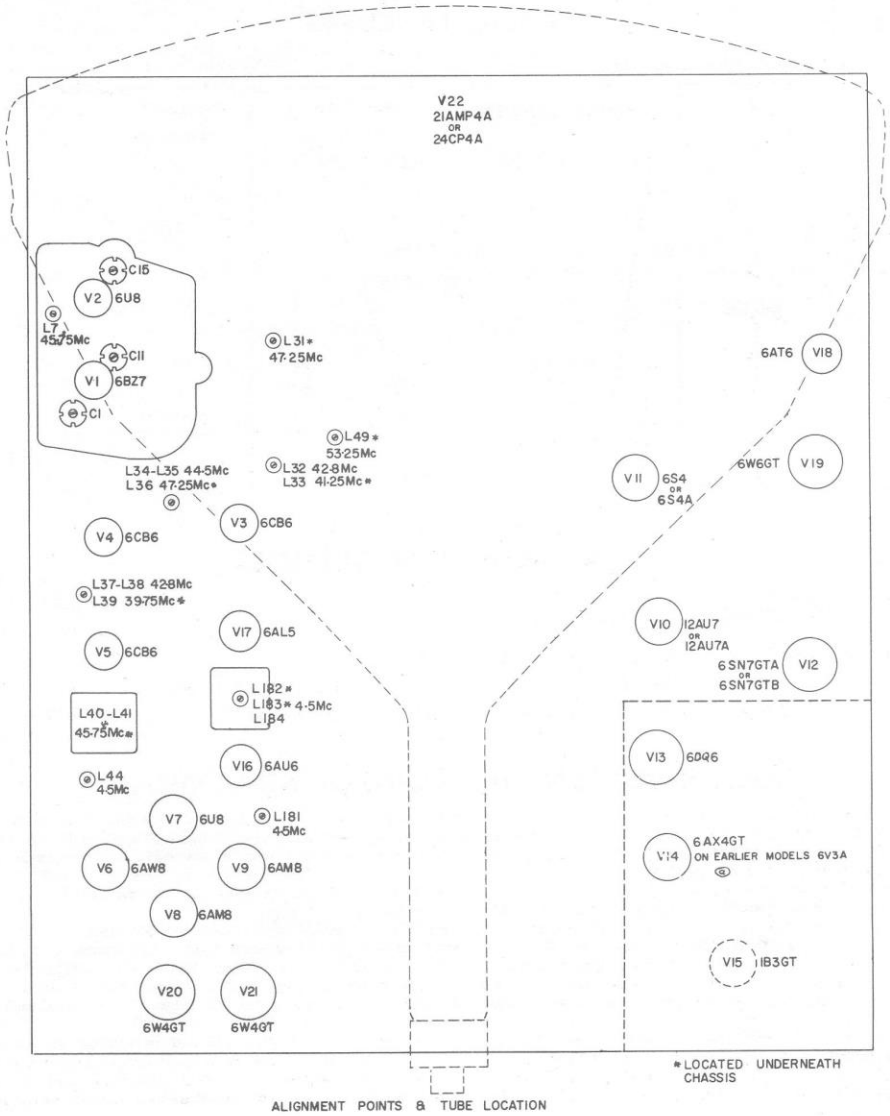
NOTE: In some cases the sync pulses may be compressed if the bias control is turned too far in the clockwise direction. This condition must be avoided.

To adjust the control for maximum noise immunity, set in motion a source of impulse noise such as that radiated by a brush type motor. Observe the noise pulses which will appear on the oscilloscope among the vertical sync pulses. The noise pulses will be higher than the sync and the set may be very difficult to synchronize. Observing the oscilloscope display turn the bias control anticlockwise and observe how the noise pulses begin to invert downward starting at the top. Continue rotating the control until the noise pulses are inverted at the sync tip level. Be careful not to invert the sync tips.

It is possible to align the bias control without the use of an oscilloscope and without removing the chassis from the cabinet. Some practice and judgment is necessary to do this successfully. Tune in a medium strength snow-free signal and adjust the bias control as far counterclockwise as possible consistent with good interlace and freedom from top bend or similar effects. Turn the control back 15° clockwise from this point as found above and recheck on all signals available at the location.



A. Noise inverter not operating.
B. Bias control adjusted for correct noise inversion.
C. Bias control too far to the left results in inversion of sync as well as noise.



ALIGNMENT POINTS & TUBE LOCATION

REPLACEMENT PARTS

For dependable repairs use only genuine Rogers Majestic or Philips replacement parts. When ordering, always give value, description, part number, and model of receiver. (All components are ±10% tolerance unless otherwise indicated).

RESISTORS (Fixed)

Schematic No.	Value ohms	Rating	Part No.
R31	560	¼W	500-922
R32, 154	3300	¼W	500-931
R33, 36	100	¼W	500-913
R34, 112	5600	¼W	500-934
R35, 38	47	¼W	500-909
R37	15K	¼W	500-939
R40	6800	1W	502-635
R41	180	¼W	500-916
R44	4700	¼W	500-933
R45, 55, 99, 104, 142, 144, 148, 161	1 meg	¼W	500-961
R48, 229	5600	4W	504-068
R49	1000	2W	503-325
R51	39K	½W	501-849
R53, 143, 150	390K	¼W	500-956
R54, 218	150K	¼W	500-951
R56	220K	¼W	500-953
R91	120K	½W	501-650
R92, 166	12K	¼W	500-938
R93, 216	68K	¼W	500-947
R94	100K	¼W ±5%	500-849
R95	1800	¼W	500-928
R96, 105	2.7 meg	¼W	500-966
R97	1000	¼W	500-925
R98	27K	½W	501-642
R100	18K	1W	502-640
R101, 145	680K	¼W	500-959
R102, 152	560K	¼W	500-958
R103	1500	¼W	500-927
R106	820	¼W	500-924
R107	82K	½W	501-648
R109	18K	¼W	500-940
R111	120K	¼W ±5%	500-850
R121	270K	1W	502-654
R146	1.5 meg	¼W	500-963
R147	56K	¼W	500-946
R149, 212	820K	¼W	500-960
R151, 223	470K	¼W	500-957
R153	2200	¼W	500-929
R155, 194	22K	¼W	500-941
R156, 220	8200	¼W	500-936
R157	10 meg	½W	501-673
R163	1.2 meg	¼W	500-962
R164	2.2 meg	¼W	500-965
R181, 183	220	¼W	500-917
R182	3900	½W	501-632
R184, 185, 214, 221	47K	¼W	500-945
R188	10 meg	¼W	500-973
R189	270K	¼W	500-954
R190, 191	1 meg	½W ±5%	501-361
R192	8200	½W	501-636
R193	150	½W	501-615
R211, 219, 222	330K	¼W	500-955
R213	82K	¼W	500-948
R217	3900	¼W	500-932
R224	4700	2W	503-333
R225	68	¼W	500-911
R227	10K	2W	503-337
R228	1000	1W	502-625
R230	3.3	½W ±½ Ω	501-824
R231	68K	½W	501-647

RESISTORS (Variable)

Schematic No.	Value ohms	Description	Part No.
R46	1500	contrast control	506-038
R52	50K	brilliance	
R167	5K	vertical linearity	505-075
R215	50K	horizontal hold	506-031
R162	800K	vertical hold	
R108	50K	bias control	505-086
R187	800K	tone control	506-034
R186	1 meg	volume control	
R165	2.5 meg	height control	505-080

CAPACITORS (Ceramic Tube)

Schematic No.	Value (mmF)	Rating	Description	Part No.
C31	10	500V	±10%	514-507
C33	2.7	500V	±¼ mmF	514-017
C35, 36, 38, 39, 52, 92	1500	350V		514-380
C42, 44	2200	350V		514-132
C53	470	500V		514-577
C95	27	4000V	±10%	514-060
C96, 212	180	500V	±10%	514-119
C98, 211	120	500V	±10%	514-117
C146	270	500V	±10%	514-321

CAPACITORS (Ceramic Tube)—(Continued)

Schematic No.	Value (mmF)	Rating	Description	Part No.
C162	390	500V		514-173
C166	1000	350V		514-178
C181	2.2	500V		514-549
C182	47	500V	±5%	514-026
C188	390	500V	±10%	514-323
C213, 221	82	500V		514-518
C227	470	500V		514-174
C228	47	4000V	±10%	514-073

CAPACITORS (Disc Ceramic)

Schematic No.	Value (mmF)	Rating	Description	Part No.
C49, 94, 191, 193	5000	500V		514-011
C99, 197	10000	500V		514-012
C167	10000	500V		514-016
C183, 184	4000	500V	dual disc	514-020
C189	3300	500V	±10%	514-731
C223	1000	500V		514-581

CAPACITORS (Mica)

Schematic No.	Value (mmF)	Rating	Description	Part No.
C218	270	500V	silver mica ±10%	701-147
C220	820	500V	silver mica ±10%	701-159

CAPACITORS (Tubular)

Schematic No.	Value (mF)	Rating	Description	Part No.
C48, 91, 145	.1	200V	moulded	515-041
C50	.1	400V	paper	515-325
C97, 143, 163, 214, 215, 225	.047	400V	moulded	515-521
C121	.01	600V	paper	515-363
C141	.56	200V	moulded	515-484
C142	1	125V	paper	515-038
C144	.15	200V	moulded	515-477
C161	.01	400V	moulded ±10%	515-042
C164	.047	400V	moulded ±10%	517-421
C168	.033	400V	paper	515-319
C190	.0068	600V	paper	515-361
C192	.0033	600V	paper	515-357
C194	.068	400V	paper	515-323
C216	.022	400V	paper	515-317
C217	.47	175V	paper	515-283
C219	.01	600V	paper ±10%	515-019
C224	.033	600V	moulded	515-569
C226	.056	600V	moulded	515-043

CAPACITOR (Min Moulded)

Schematic No.	Value (mmF)	Rating	Description	Part No.
C45, 46	4.7	500V	±10%	512-338

CAPACITORS (Electrolytics)

Schematic No.	Value (mF)	Rating	Description	Part No.
C124	100	300V	25 Ω only	516-571
C147	3.2	70V		516-066
C51	10	300V		516-570
C93	10	50V		
C222	10	500V		
C122	100	350V		
C196	100	150V		516-575
C195	100	150V		
C165	100	50V		
C123	100	300V		
C187	10	70V		516-070

INDUCTORS

Schematic No.	Description	Part No.
L31	Coil sound trap	060-267
L32, 33	Transformer 1st. I.F. & sound trap	060-286
L34, 35, 36	Transformer 2nd. I.F. & sound trap	060-218
L37, 38, 39	Transformer 3rd. I.F. & sound trap	060-219
L40, 41	Transformer 4th. I.F.	060-264
L42	Coil, tweet	070-280
L44	Coil, 4.5 Mc. trap	060-265
L45	Coil, peaking	070-309
L46	Coil, peaking red	070-310
L47	Coil, peaking yellow	070-308
L48	Coil, peaking	070-311
L49	Coil, 53.25 Mc. trap	060-285
L91	Coil, peaking	070-312
L121, 122, 123, 124, 125	(Power transformer 60 Ω	050-249
	(Power transformer 25 Ω	050-250
L126	Choke	050-246
L161, 162	Transformer, Vert. blocking osc.	050-247
L163, 164	Transformer, vertical output	050-262
L181	Coil, sound take-off	060-229
L182, 183, 184	Transformer, ratio detector	060-199
L185, 186	Transformer, audio output	050-232
L211, 212	Coil, horizontal oscillator	060-207
L213	Coil, horizontal phase	060-206
L215	Coil, radiation suppressor	070-317
L216	Coil, width	060-276
L217, 218, 219, 220	Transformer, horizontal output	050-269

MISCELLANEOUS PARTS

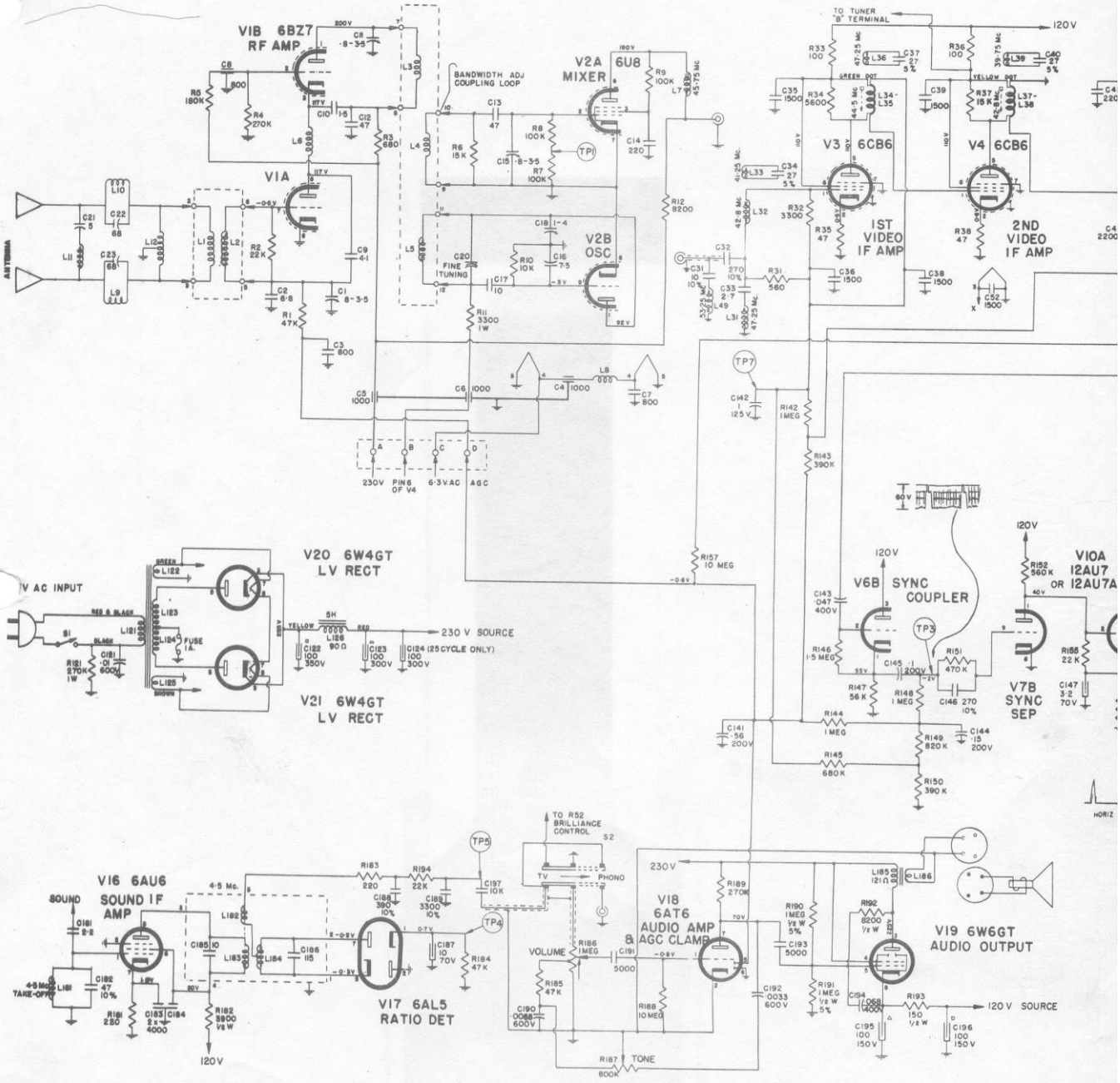
Part No.	Description
110-609	Anti-barkhausen magnet assy
325-141	Clamp, deflection yoke moulded
560-016	Clip spring condenser mounting
642-048	Crystal diode 1N87G (X1)
570-061	C.R. tube socket
060-296	Deflection yoke & plug assy
130-173	Focus magnet
646-015	Fuse 1 amp. 3 A.G.
130-175	Holder & fuse assy 1 amp.
571-255	H.V. lead
130-147	Ion trap 45 gauss
572-329	Knob, channel)
572-330	Knob, fine tuning)
572-331	Knob, on-off volume) Philips
572-332	Knob, tone)
572-220	Knob, dual small
572-221	Knob, dual large
572-302	Knob, channel)
572-304	Knob, fine tuning)
572-306	Knob, on-off volume) Rogers
572-308	Knob, tone)
100-003	Line cord & plug
571-096	Panel, antenna
571-106	Phono connector
570-018	Socket 8 contact C.S.
570-059	Socket 9 contact
570-043	Socket 10 contact
570-049	Socket & corona ring
570-001	Socket octal
541-520	Spacer, ceramic
310-446	Spring, grounding
506-034	Switch, on-off (S1)
080-166	Switch, radio-phone (S2)
130-169	Tuner, cascode 12 channel
519-506	Vertical Intergrator

CABINET PARTS P-3550 — R-7550

Part No.	Description
030-641	Cabinet, walnut 21" console
030-642	Cabinet, mahogany 21" console
030-643	Cabinet, blonde 21" console
627-096	Grille cloth
332-736	Retaining strip
332-759	Mask
325-139	Plastic channel
332-732	Window 21" tinted
041-150	Speaker 8 ½" P.M.
121-571	Backcover Assy

CABINET PARTS P-3580 — R-7580

Part No.	Description
030-644	Cabinet, walnut 21" console
030-645	Cabinet, mahogany 21" console
030-646	Cabinet, blonde 21" console
627-097	Grille cloth
332-736	Retaining strip
332-759	Mask
325-139	Plastic channel
332-732	Window 21" tinted
041-150	Speaker 8 ½ P.M.
121-572	Backcover assy



PHILIPS IND. LTD.

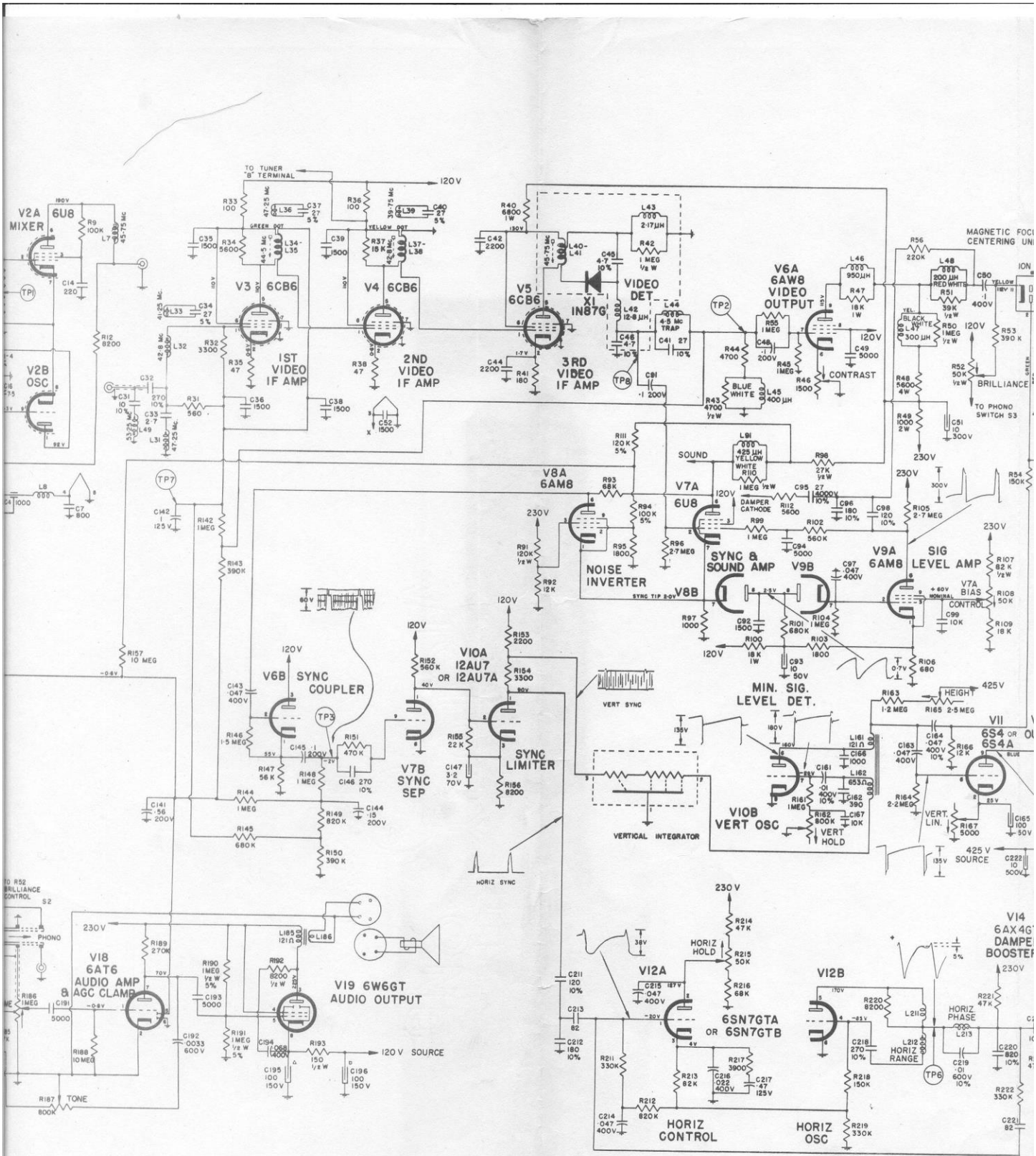
MODELS

P-3550 P-3580
P-3621 P-3650
P-3651

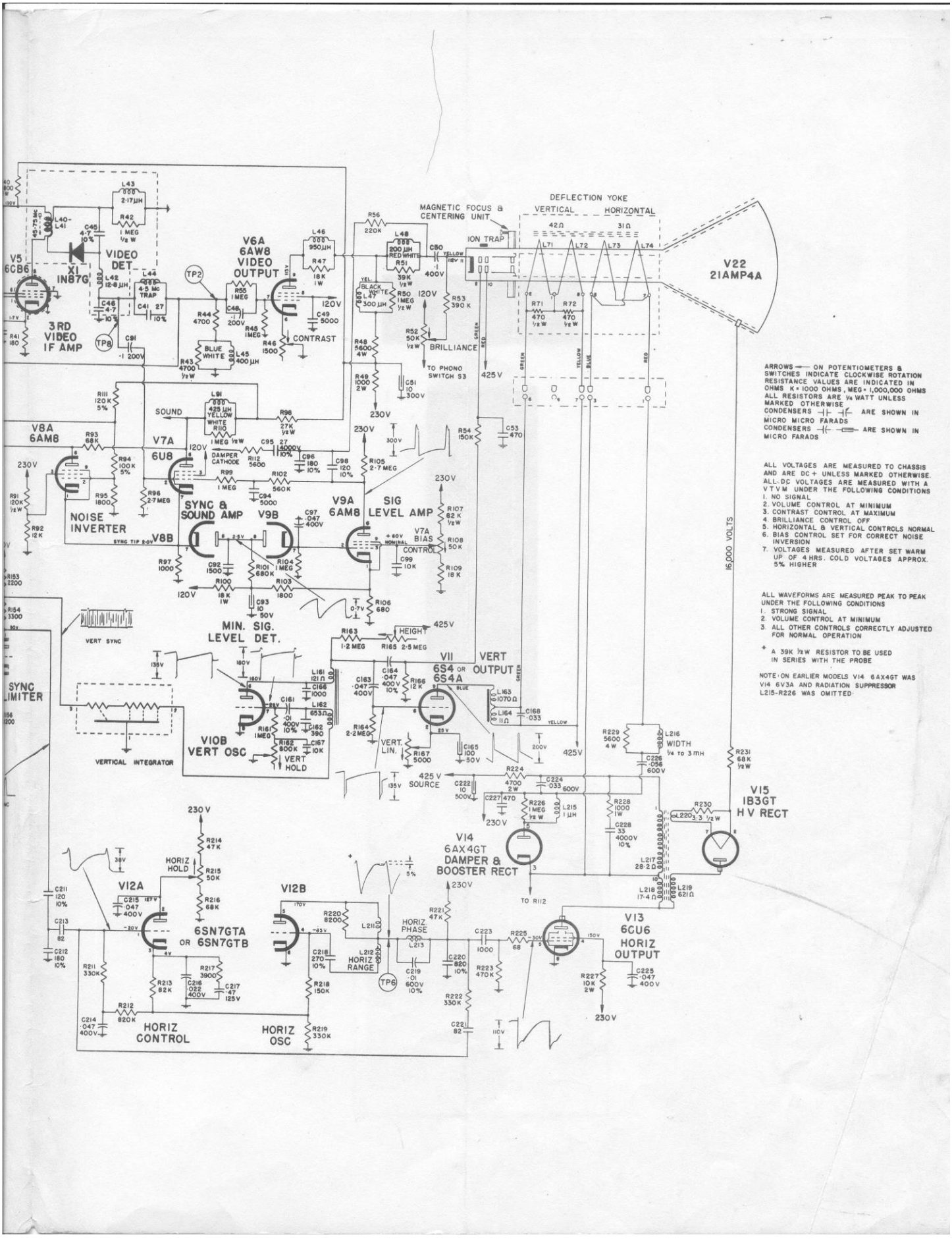
ROGERS MAJESTIC RADIO CORP. LTD.

MODELS

R-7550 R-7580
R-7621



S MAJESTIC RADIO
CORP. LTD.
MODELS
7550 R-7580
7621


V5 6CB6
X1 IN87G
VIDEO DET.
3RD VIDEO IF AMP
V6A 6AW8 VIDEO OUTPUT
CONTRAST
BRILLIANCE
TO PHONO SWITCH S3
MAGNETIC FOCUS & CENTERING UNIT
DEFLECTION YOKE
VERTICAL
HORIZONTAL
ION TRAP
V22 21AMP4A
16,000 VOLTS
V8A 6AM8
NOISE INVERTER
V7A 6U8
DAMPER CATHODE
SOUND
V8B
SYNC & SOUND AMP
V9B
V9A 6AM8
SIG LEVEL AMP
V7A BIAS CONTROL
SYNC TIP 80V
MIN. SIG. LEVEL DET.
VERT SYNC
SYNC LIMITER
VERTICAL INTEGRATOR
V10B VERT OSC
VERT HOLD
HEIGHT
V11 VERT OUTPUT 6S4 OR 6S4A
VERT. LIN.
425 V SOURCE
WIDTH
V15 1B3GT H V RECT
V14 6AX4GT DAMPER & BOOSTER RECT
TO R112
V12A
6SN7GTA OR 6SN7GTB
HORIZ HOLD
HORIZ CONTROL
V12B
HORIZ OSC
HORIZ PHASE
HORIZ RANGE
V13 6CU6 HORIZ OUTPUT
ARROWS ON POTENTIOMETERS & SWITCHES INDICATE CLOCKWISE ROTATION
RESISTANCE VALUES ARE INDICATED IN OHMS K=1000 OHMS, MEG=1,000,000 OHMS
ALL RESISTORS ARE ½ WATT UNLESS MARKED OTHERWISE
CONDENSERS ARE SHOWN IN MICRO MICRO FARADS
CONDENSERS ARE SHOWN IN MICRO FARADS
ALL VOLTAGES ARE MEASURED TO CHASSIS AND ARE DC + UNLESS MARKED OTHERWISE.
ALL DC VOLTAGES ARE MEASURED WITH A VTVM UNDER THE FOLLOWING CONDITIONS
1. NO SIGNAL
2. VOLUME CONTROL AT MINIMUM
3. CONTRAST CONTROL AT MAXIMUM
4. BRILLIANCE CONTROL OFF
5. HORIZONTAL & VERTICAL CONTROLS NORMAL
6. BIAS CONTROL SET FOR CORRECT NOISE INVERSION
7. VOLTAGES MEASURED AFTER SET WARM UP OF 4 HRS. COLD VOLTAGES APPROX. 5% HIGHER
ALL WAVEFORMS ARE MEASURED PEAK TO PEAK UNDER THE FOLLOWING CONDITIONS
1. STRONG SIGNAL
2. VOLUME CONTROL AT MINIMUM
3. ALL OTHER CONTROLS CORRECTLY ADJUSTED FOR NORMAL OPERATION
+ A 39K ½W RESISTOR TO BE USED IN SERIES WITH THE PROBE
NOTE: ON EARLIER MODELS V14 6AX4GT WAS V14 6V3A AND RADIATION SUPPRESSOR L215-R226 WAS OMITTED.

SERVICE BULLETIN

PHILIPS INDUSTRIES LTD.
TORONTO - MONTREAL - WINNIPEG
HALIFAX - VANCOUVER

ROGERS MAJESTIC
RADIO CORPORATION LTD.
TORONTO - MONTREAL

T.V.B. 13 - 55.

T.V. MODELS P-3550 R-7550
P-3580 R-7580
P-3621 R-7621

VERTICAL JITTER - HORIZONTAL TEARING AND GENERAL INSTABILITY ON THE ABOVE MODELS.

IT IS EVIDENT THAT FROM REPORTS RECEIVED FROM THE FIELD, SERVICE TECHNICIANS ARE MISINTERPRETING OUR T.V. BULLETIN NO. 10.

TO CORRECT ANY OF THE ABOVE FAULTS, THE BIAS CONTROL (WHICH WILL BE FOUND ABOVE THE FUSE ON THE REAR APRON OF THE CHASIS) SHOULD BE TURNED UNTIL THE PICTURE LOCKS IN SOLIDLY AND ANY HORIZONTAL BENDING OR VERTICAL JITTER IS CORRECTED.