

SERVICE MANUAL

TELEVISION MODELS

PU5 - 9F
PU5 - BM
PU5 - AT
PU5 - BN
PU5 - BP
PU5 - AU



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**6 PARRAMATTA ROAD
HOMEBUSH, N.S.W.**

SPECIFICATIONS

POWER SUPPLY:
230-260 Volts, A.C., 50Hz.

CONSUMPTION:
130 Watts.

AERIAL INPUT:
300 ohms balanced.

INTERMEDIATE FREQUENCIES:
Vision Carrier: 36.875 MHz.
Sound Carrier: 31.375 MHz.
Sound Inter-carrier: 5.5 MHz.

FUSES:
Main: 1.5 amps.
H.T.: 1.5 amps.
Heater: 28SWG Tinned Copper Wire
(see circuit diagram).

VALVES AND SEMI-CONDUCTORS — I.F. BOARD — P.C.B.1

TR101	BF196	First IF Amplifier	TR108	BC147	Audio Driver
TR102	BF196	Second IF Amplifier	IC101	TAA570	Quadrature Demodulator Integrated Circuit
TR103	BF173	Third IF Amplifier			
TR104	BC147	Noise Gate	MR101	OA90	Video Detector Diode
TR105	BC147	Video Driver	MR102	OA90	Sound Take-Off Diode
TR106	BF178	Video Output	Z101	BZY88/C11	Voltage Reference Diode
TR107	2N3568	Voltage Regulator	V101	6BQ5	Audio Output

SEMI-CONDUCTORS — A.G.C., SYNC., AND VERTICAL OSCILLATOR — P.C.B.2

TR201	SE1002/ BC147	A.G.C. Gate	TR206	2N3568	Vertical Feedback Amplifier
TR202	AX1438/ BC148	A.G.C. Amplifier	MR201	AB2031	Vertical Sync Clipper
TR203	AX1436/ OC9471	Vertical Oscillator	MR202	OA91	A.G.C. Stand Off Diode
TR204	2N3568	Vertical Oscillator	MR203	AB2031	Vertical Sync Gate
TR205	SE1002/ BC147	Sync Separator	MR204	AB2040	Vertical Drive Catcher
			MR205	AB2040	Vertical Feedback Catcher
			MR206	BY126/ 400	Negative Voltage Rectifier

VALVES AND SEMI-CONDUCTORS — HORIZONTAL OSCILLATOR — P.C.B.3

V301	6JW8	Horizontal Oscillator and Reactance Valve	MR302	AB2040	Phase Discriminator
MR301	AB2040	Phase Discriminator	MR303	OA202	Blanking Clamp

VALVES AND SEMI-CONDUCTORS — MAIN CHASSIS

V401	6CW5	Vertical Output	MR401	BY126/ 400	Voltage Doubler Rectifier
V402	6CM5	Horizontal Output			
V403	1S2	E.H.T. Rectifier	MR402	BY126/ 400	Voltage Doubler Rectifier
V404	6AL3	Damper Diode			

SEMI-CONDUCTORS — TUNER

TR501	BF200	R.F. Amplifier	TR504	BF115	Local Oscillator
TR502	BF115}	Cascode Mixer			
TR503	BF115}				

August, 1970

Part No. 684-0191

CAUTION

The normal B+ voltages in these receivers are dangerous. Use extreme caution when servicing. The high voltage at the picture tube anode (19,000 volts) will give an unpleasant shock but does not supply enough current to give a fatal shock. However, secondary human reactions to otherwise harmless shocks have been known to cause injury.

Always discharge the picture tube to the chassis, or to its aquadag coating, before handling the tube. The picture tube is highly evacuated and, if broken, it may violently expel glass fragments. When handling the picture tube, always wear goggles.

Damage to transistors can result from incorrect servicing technique. It is strongly recommended that all soldering be done with the set switched off and the soldering iron made electrically common with the chassis.

CIRCUIT DESCRIPTION

R.F. INPUT

The input signal is applied through a balun transformer matched for 300 ohms input impedance to the R.F. amplifier BF200 (TR501) in common base configuration for low noise and low cross modulation, and also provides a more linear A.G.C. characteristic with changing frequency. The gain of the amplifier is adjusted for a maximum on weak signals using RV601 on PCB4, and is reduced when the collector current is increased by a positive AGC voltage applied to its base. The amplified R.F. signal is coupled to the base of the first of two transistors (TR502 and TR503) in cascode forming the mixer circuit. BF115 (TR502) is connected in common emitter mode and is coupled to BF115 (TR503) emitter connected in common base mode. The cascode mixer achieves a high overall gain for all channels without the disadvantages of a high noise figure or poor cross modulation performance. An oscillator voltage is injected to the base of TR502 and the IF output taken from the junction of L7 and L8, L7 being the IF coil. The oscillator BF115 (TR504) is a Colpitts type operating in the common base mode, with the desired degree of temperature stability achieved by the NTC value of C20. The oscillator drift with increasing temperature is in such a direction that detuning is always from sound in picture, i.e., the oscillator frequency decreases.

I.F. AMPLIFIER AND AGC AMPLIFIER

TR101 and TR102, the first two IF amplifiers are connected in parallel across the low voltage supply and their current is controlled by the output of the AGC amplifier TR202 being applied to the bases of TR101 and TR102. TR101 and TR102 transistors type BF196 are so called "foreward AGC types". This means that as the current in the transistor increases, the amplification is reduced. This requires a positive potential on the base to reduce the gain.

The output from the last IF amplifier, a BF173 (TR103) is detected by an OA90 (MR101) and a narrow band of frequencies from the output is also applied to the noise

gate transistor TR104. Coupling to TR104 (C123) is augmented by the capacity between two printed circuit tracks. The band of frequencies selected normally contains very small amounts of signal power, and sufficient signal is obtained to switch on TR104 only when impulse noise occurs, or when the receiver fine tuning is set too far from the normal position.

VIDEO DRIVER AND NOISE GATE

The detected video signal is applied to the video amplifier/driver transistor, a BC147 (TR105). In the collector an amplified video signal is developed across R120. This amplified video is used to drive the sync separator and AGC stages and is gated by the noise gate transistor TR104. This video signal has positive sync pulses. Without gating, impulse noise would appear as positive pulses, producing spurious sync pulses and AGC voltage. When impulse noise switches on TR104, its collector falls, introducing a negative pulse to the video signal, which prevents generation of the spurious information.

A video output at low impedance is taken from the emitter of the video driver through a 5.5MHz null trap to the base of the video output transistor, a BF178 (TR106).

VIDEO OUTPUT

The picture control varies the gain of the output transistor TR106 by varying the emitter resistance and therefore the amount of degeneration taking place in the emitter. The collector circuit has a peaking transformer to maintain a level frequency response over the video band. The signal applied to the base is proportioned, so that the black level of the picture is just at TR106 cut-off potential, and only the video information is amplified. As black level is at the cut-off potential, the gain control in the emitter does not affect the black information and gives a consistent black level picture control. The proportioning of the video signal to achieve this, is controlled by the contrast range control in the AGC circuit.

GATED A.G.C.

The A.G.C. transistor, TR201 has the output of the video driver transistor applied to its base

and a potential on its emitter, which is varied with the contrast range control. The collector is supplied with positive gating pulses from the horizontal output transformer, and only passes collector current during the time of this pulse. The pulses of current build up a negative charge on C203 which, through the A.G.C. amplifier, is used to control the gain of both the tuner and I.F. stages. The value of collector current, and therefore A.G.C. voltage, is controlled by the base-emitter potential. The emitter potential is set by the contrast range control, the base potential being the sync. tip voltage at the video driver output. Variations in signal strength increase or reduce the sync. tip height, thus altering the A.G.C. produced, with a consequent change in gain to compensate for the varying signal strength. The action of this feedback loop maintains the base-emitter potential at an almost constant value. Adjustment of the emitter potential with the contrast range control is matched by variation of receiver gain, so that the output sync. tip varies the same amount to maintain this base-emitter potential. This control therefore acts as an amplitude control of the video out from the video driver. White level approximately represents zero signal in, and therefore remains fixed, and adjustment of signal amplitude is used as the means of setting the black level at the video output transistor cut-off.

The collector base junction of a transistor is a diode which is back-biased, and collector current is in fact the leakage across this back-biased diode. If the potential across this diode is reversed, it will cause a high current to flow. The A.G.C. potential would appear as just such a forward bias on the collector-base junction of the A.G.C. transistor and would rapidly discharge the A.G.C. voltage developed across C203. The diode MR202 prevents this, being biased off by the derived negative potential.

SYNC. SEPARATOR

The video output from the driver transistor TR105 is coupled through a capacitor C210 and resistor R220 to the base of sync. separator transistor TR206. The base emitter diode D.C. restores the sync. tips to a potential just greater than the emitter potential. The current drawn by the base during sync. tips is the current amplified in the collector to produce a train of sync. pulses. The sync. pulses are then differentiated by C215-R232 for application to the horizontal phase discriminator. The collector of the sync. separator TR206 is also connected to an integrator (R227, C211, R221, C209, R216, C207) to remove horizontal sync. pulses for vertical triggering.

VERTICAL OSCILLATOR AND OUTPUT

The AB2031 (MR201) is normally conducting and shorting the input sync. line to earth. When the incoming sync. pulse is large enough

to overcome the current in R203 and switch off the diode the sync. pulse then appears across MR201 and passes on to the vertical oscillator through the AB2031 diode (MR203).

Two transistors (TR203 and TR204) form an oscillator to supply drive to the vertical output valve 6CW5 (V401).

During the scan period TR203 is switched on and the emitter is at a potential determined by the bias components R235 and R234. At this time, TR204 is switched off and the potential of its emitter is falling towards earth as C206 charges. The base of TR204 is connected to the collector of TR203 and the potential is determined by the drop across R205 and RV402 the vertical hold control. As TR204 emitter potential falls to a value approximately half a volt less than the base, the transistor starts to conduct, and the potential on the emitter reverses direction and rises. The rise in potential is coupled through C206 to the emitter of TR203 and reduces the current in it. The collector potential therefore rises further, switching on TR204. The action is cumulative and reverses the state of the transistors so that TR204 is on, and TR203 is off. TR203 emitter then starts to run down as C206 reverses its charge until TR203 once more switches on and returns the system to the original condition.

MR203 isolates the oscillator from the sync. feed until the end of scan, when the return voltage at the junction of R217 and R218 drops below the bias potential on TR203 base.

MR204 prevents TR204 collector from dropping below the "Knee" of the collector characteristic, thus isolating the tuning components in the emitter from the collector circuit.

The collector circuit contains the capacitor C216 which is charged through the high value of collector resistor, and discharged by TR204 when it conducts during the flyback. The waveform across C216, corrected by a feedback waveform derived from the resistor (R408) in series with the yoke and amplified by TR206 is used to drive the vertical output valve V401.

The anode transformer T403 drives the yoke and an overwind on the primary provides the vertical blanking for the picture tube.

VOLTAGE REGULATOR AND ZENER DIODE

The 17.3V B+ voltage for the transistor circuitry is derived from 6CW5 (V401) cathode which is connected to voltage regulator transistor 2N3568 (TR107) via a 27 ohm (R409) current limiting resistor. TR107 acts as a series regulator using the BZY88/C11 (Z101) zener diode as reference. Z101 also provides the 11 volts required by the tuner.

HORIZONTAL PHASE DISCRIMINATOR AND OSCILLATOR

The AB2040 phase discriminator diodes (MR301 and MR302) have anti-phase sine

waves applied from a balanced winding on the oscillator coil, with picture phasing set by the integrators R306, C303 and R307, C304. Using the sine-waves as the reference voltage, a negative going sync. pulse, differentiated by C215, R232 is applied to the junction of the diodes. When the oscillator and the sync. pulse are at the same frequency and in lock, there is zero output from the discriminator.

The triode section of the 6JW8 oscillator valve, V301 has its anode connected to one side of the oscillator coil, and its grid, through phase-shift network C306, R304 to the other. The signal current in the anode is therefore leading the anode voltage, and the valve has the effect of a capacitor across the tuned circuit. Variation of bias on the valve varies the magnitude of the current and of the effective capacitor, thus controlling frequency.

When the oscillator tends to run at a different frequency to the incoming sync. pulses, a positive or negative output is obtained from the discriminator which is applied to the reactance valve as bias, and varies the effective tuning capacity, bringing the oscillator back to frequency.

The oscillator is the cathode, grid and screen of the pentode section of V301 operating as a triode, with an electron coupled output taken from the anode to drive the horizontal output stage.

HORIZONTAL DEFLECTION CIRCUITS

The horizontal deflection circuit is the now conventional valve regulated E.H.T. circuit and therefore requires no detailed description.

INTERCARRIER AMP AND LIMITER

MR102 (OA90) detects the video frequency band, and the signal is then coupled to IFT4 which is at 5.5 MHz, the secondary of IFT4 is coupled into TAA570 (IC101) integrated circuit where the 5.5 MHz signal undergoes a quadrature demodulation process, giving good AM suppression for input signals greater than 1mV. L113 tuned by 100pf (C144) is the detector parallel tuned circuit, the Q being chosen to give a good compromise between A.F. output and distortion at 5.5 MHz and a deviation of 50 KHz. C104 (.015) capacitor is chosen to provide a 50uS de-emphasis time

constant. The audio output from pin 3 is then passed on to the frequency compensated volume control (RV408) and thence to the audio driver stage (TR108).

AUDIO AMPLIFIER AND OUTPUT

The required amount of audio from volume control (RV408) is coupled to audio driver transistor BC147 (TR109) which amplifies the signal to a level to drive the sound output valve 6BQ5 (V101). The audio output transformer (T402) couples the 6BQ5 output to a 15 ohms speaker, a proportion of the signal appearing across T402 secondary is used as negative feedback to the junction of R136 and R137 in TR108 emitter. The cathode voltage of V101 is also used to supply B+ voltage to the TAA570 integrated circuit via a 100 ohm (R133) resistor.

DISMANTLING

To hinge down chassis

1. Remove back by undoing 4 screws.
2. Swing chassis down.

To remove tuner

1. Pull off front control knobs—Channel Selector, On/Off, Picture and Sound knobs.
2. Remove screw at right side of tuner, and slacken wing nut below.

Tuner may be hooked to left side of main chassis by dropping tongue on tuner bracket into special slot provided. Slide tuner forward and tighten self-tapping screw.

To remove chassis and tuner

1. Swing chassis down and remove tuner.
2. Fix tuner to chassis.
3. Unplug yoke, picture tube, speaker and EHT leads.
4. Raise chassis to approximately 45° and withdraw from pivot brackets.

To remove picture tube

1. Remove chassis and tuner.
2. Remove four screws holding picture tube and lift out.
3. IMPORTANT: NOTE THAT PICTURE TUBE MOUNTED IN (METAL CASE) 9F CABINET HAS INSULATED MOUNTING LUGS.

ADJUSTMENTS

HORIZONTAL OSCILLATOR

This is set at the factory and normally should not need further adjustment. However, after a change of components it may be necessary to re-adjust. The procedure is as follows.

Set the Horizontal Hold control to the mid-way position. The bias at the cathode of V301 should then be approximately 2.5 volts. Short the junction of R304 and R305 to earth and

adjust L301 until the picture floats into lock.

Remove the short-circuit and check that no delay in picture locking occurs when the channel switch is operated.

CONTRAST RANGE

First adjust the Set-Black control so that the picture information, which is normally black, is turned up to grey. Using the Vertical Hold control, roll the picture until the

vertical blanking bar is visible in the centre of the screen. Adjust RV401 so that the sync. pulse is seen to be a little darker than the surrounding grey blanking bar. Return the Set-Black and Vertical Hold controls to the normal settings.

A.G.C.

The pre-set A.G.C. control should be set, when necessary, to the weakest signal, i.e., that displaying the most "snow" or grey to white flecks in the picture. Adjust the control to the position which just reduces the snow to a minimum.

FOCUS

The only time that focus adjustment may be necessary is after replacement of a picture tube. The focus potentiometer RV301 is located at the upper left hand side of the horizontal oscillator P.C.B. and is accessible when the cabinet back is removed. Adjust for optimum overall focus across the picture tube face.

LINEARITY

Before adjusting either vertical or horizontal linearity, the picture shift magnets should be neutralised. To do this, the two magnets should be rotated with respect to each other. The neutralised setting is such that, when both

magnets are rotated together, they have little effect on the picture position.

After adjustment has been made for best linearity, the picture may need re-centring. The linearity should be retouched where necessary.

VERTICAL

The vertical linearity pre-set potentiometer RV404 is located at the top rear of the chassis. For best linearity, RV404 should be adjusted in conjunction with the HEIGHT control, using a pattern on the screen.

HORIZONTAL

The horizontal linearity coil L402 is situated underneath the main chassis near V403, and may be adjusted from the rear. The core should be adjusted for best linearity, using a pattern on the screen. Two positions of the core provide good linearity, but the position in which the core is furthest out of the coil is the correct one.

PICTURE CENTRING

The picture may be centred by rotating the two shift magnets on the tube neck, behind the deflection yoke. Rotate both magnets together to shift the picture in the required direction, and move one magnet with respect to the other, to change the strength of the field, and so the amount of picture shift.

INTERCARRIER I.F. ALIGNMENT

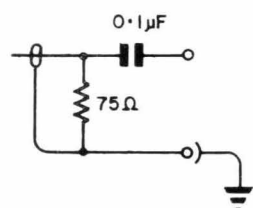


Fig. 1

The following equipment is necessary:

1. 5.5 MHz Sweep
2. Injection Probe (Fig. 1)
3. Attenuator
4. Display Unit
5. Detector (Fig. 2)

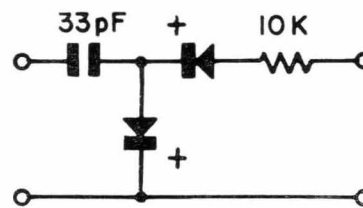


Fig. 2

STAGE 1

5.5 MHz TRAP

- (a) Inject 5.5 MHz sweep through probe of Fig. 1 to junction of L112 and R119 (base of TR105). Connect detector (Fig. 2) to collector of video output (TR106) and connect display unit to output of detector.
- (b) Adjust the slug in L110 for a minimum of output at 5.5 MHz.

STAGE 2

INTERCARRIER I.F.

- (a) Connect probe to junction of C128 and R115
- (b) Connect detector to pin 8 (IC101) side of C138 and adjust cores of IFT4 to produce a symmetrical response about 5.5 MHz, which should be approximately critically coupled, and with a bandwidth of 200 KHz.

NOTE

- (c) Each core is peaked on the response furthest from the coil.
- (c) Transfer display unit to junction of R131 and C143 and adjust the core of L113 for a waveshape symmetrical about 5.5 MHz see Fig. 3.

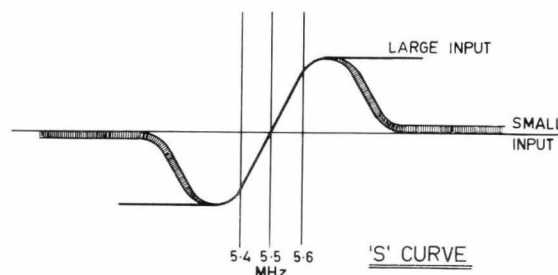


Fig. 3

VISION I.F. ALIGNMENT

The following equipment is necessary:

1. I.F. Sweep
2. I.F. injection probe (Fig. 1)
3. Attenuator
4. Display Unit
5. 6 Volt Bias supply

STAGE 1

- (a) Connect the display unit to junction of L112 and R119 and set Y amp to give full deflection with 2 volts input.
- (b) Open link between C118 and R110
- (c) Using probe of Fig. 1 and attenuator, inject I.F. sweep into last I.F. by connecting between junction of R109 and R110 and earth.
- (d) Connect $+4.5$ volts of bias to junction of R102 and C108.
- (e) Set attenuator to give full deflection on display and tune L107 to a maximum at 34.625 MHz. Tune IFT3 to produce a symmetrical response about 34.625 MHz.
- (f) Adjust L107 and IFT3 to produce the I.F. response shape as shown in curve (Stage 1).

STAGE 2

- (a) Remove probe from junction of R109 and R110 and reconnect link between C118 and R110.
- (b) Remove link between C106 and C107.
- (c) Connect probe between C107 (link side) and earth, set attenuator to give full deflection on display, adjust IFT2 and IFT1 to produce the I.F. response shape as shown in curve (Stage 2).

STAGE 3

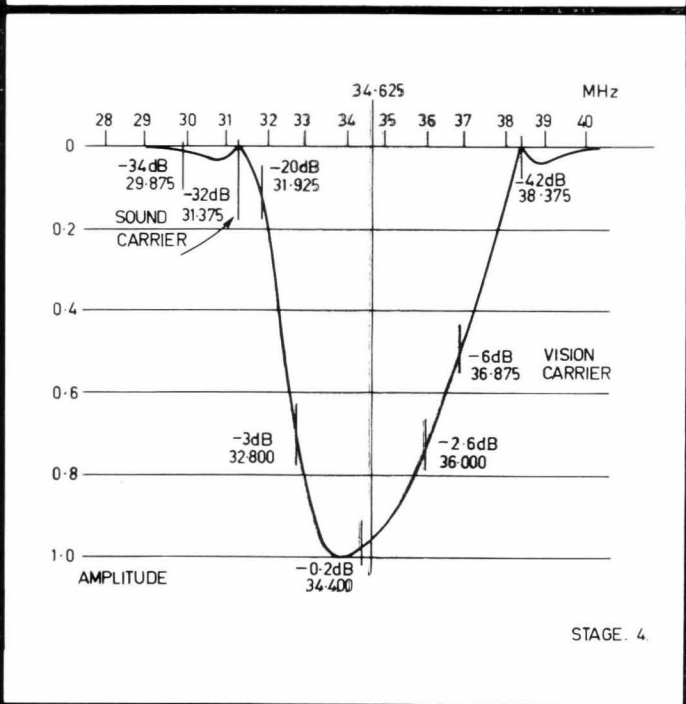
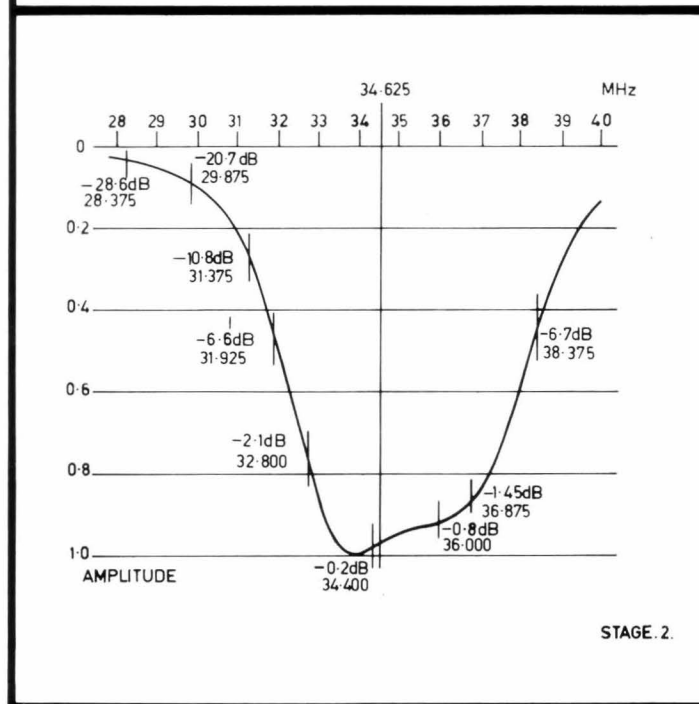
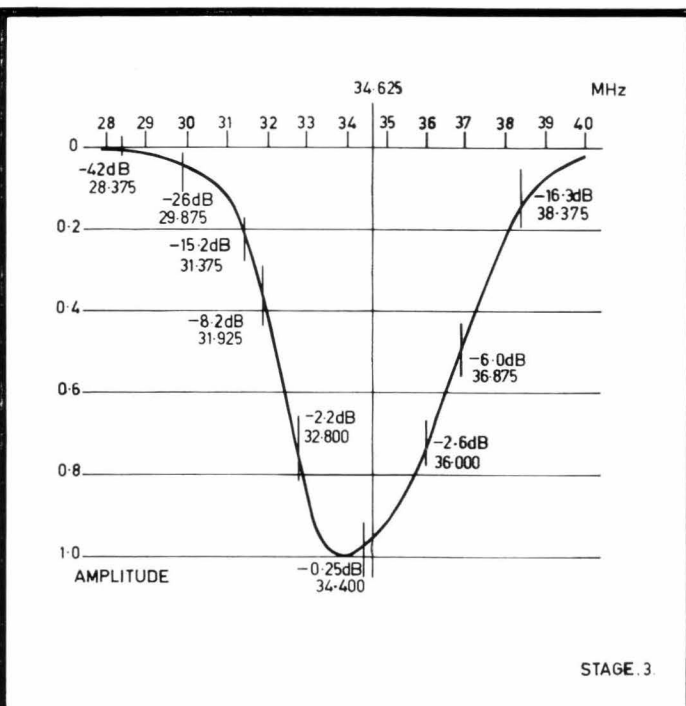
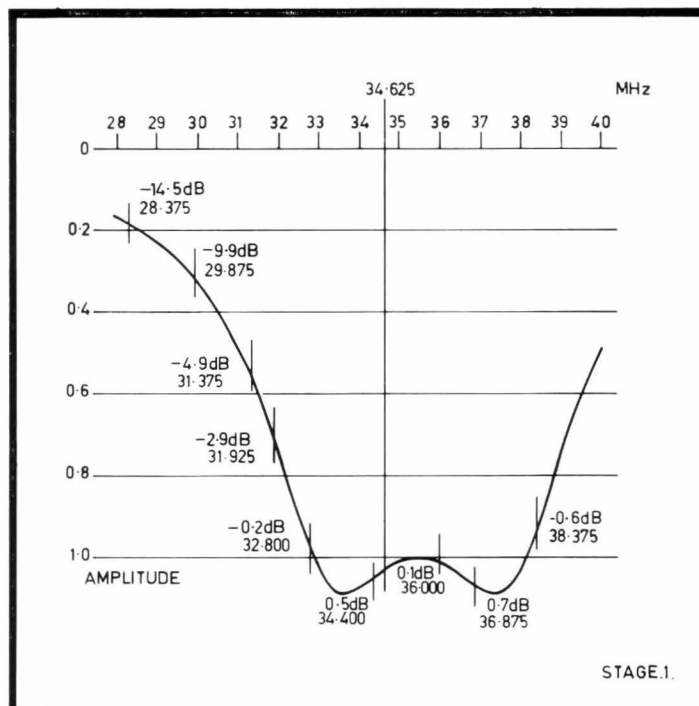
- (a) Remove probe and reconnect link between C106 and C107.
- (b) Connect probe between tuner I.F. injection point and earth, switch tuner to a blank channel (i.e., 12). Set attenuator to give a full deflection on the display. Tune IF coil on tuner to peak the response at 34.625 MHz and then tune L102 for a symmetrical response.
- (c) Retune IF coil on tuner and L102 to produce response shape of curve (Stage 3).

STAGE 4 (TRAPS)

- (a) Adjacent Sound Carrier
Tune L103 for maximum rejection at 38.375 MHz. (Response should be 45dB down).
- (b) Sound Carrier
Tune L106 to 31.375 MHz (Response should be 32dB down).
- (c) Noise Gate
Tune L109 to approximately 32.5 MHz so that a dip in response occurs on the low frequency flank where it is -6 dB on peak response.
- (d) Adjacent Vision Carrier
Tune L101 for a minimum response at about 28.375 MHz. It will be necessary to increase the input level to see this response.

STAGE 5

Check that maximum gain occurs at 2.4 volts and that the response shape remains substantially unchanged between 2.4 volts and 6 volts.



I.F. ALIGNMENT CURVES

PARTS LIST

REF.	PART NO.	DESCRIPTION	REF.	PART NO.	DESCRIPTION
P.C.B.1	132-1961	Small Signals Board complete tested and aligned as follows:	CAPACITORS (continued)		
		CAPACITORS			
C101	271-1961	100pF \pm 5% N330 Ceramic Disc	C130	271-0731	0.047uF \pm 80%—20% 25V Redcap Ceramic
C102	271-2021	47pF \pm 5% N330 Ceramic Disc	C131	271-1891	68pF \pm 5% N330 Ceramic Disc
C103	271-2021	47pF \pm 5% N330 Ceramic Disc	C132	271-0681	12pF \pm 5% N330 Ceramic Disc
C104	271-1941	56pF \pm 5% N330 Ceramic Disc	C133	271-1891	68pF \pm 5% N330 Ceramic Disc
C105	271-1941	56pF \pm 5% N330 Ceramic Disc	C134	271-0841	470pF \pm 10% N330 Ceramic Disc
C106	271-1981	22pF \pm 5% NPO Ceramic Disc	C135	280-3121	270pF \pm 10% 100V Styroseal
C107	271-1981	22pF \pm 5% NPO Ceramic Disc	C136	280-3641	390pF \pm 10% 125V Styroseal
C108	271-0731	0.047uF \pm 80%—20% 25V Redcap Ceramic	C136A	269-0871	125uF 16V Miniature Electrolytic
C109	271-0731	0.047uF \pm 80%—20% 25V Redcap Ceramic	C137	271-0761	0.1uF \pm 80%—20% 25V Redcap Ceramic
C110	271-0731	0.047uF \pm 80%—20% 25V Redcap Ceramic	C138	280-3641	390pF \pm 10% 100V Styroseal
C111	271-2011	30pF \pm 5% N150 Ceramic Disc	C139	271-0761	0.1uF \pm 80%—20% 25V Redcap Ceramic
C112	271-2011	30pF \pm 5% N150 Ceramic Disc	C140	283-6641	0.015uF \pm 10% Elna Greencap
C113	271-1981	22pF \pm 5% NPO Ceramic Disc	C141	271-1201	0.01uF \pm 100%—0 50V Ceramic
C114	271-0731	0.047uF \pm 80%—20% 25V Redcap Ceramic	C142	271-0761	0.1uF \pm 80%—20% 25V Redcap Ceramic
C115	271-0731	0.047uF \pm 80%—20% 25V Redcap Ceramic	C142A	271-1271	0.001uF \pm 20% AY Disc Ceramic
C116	271-0731	0.047uF \pm 80%—20% 25V Redcap Ceramic	C143	271-1201	0.01uF \pm 100%—0 50V Disc Ceramic
C117	271-1961	100pF \pm 5% N330 Ceramic Disc	C144	280-3391	100pF \pm 10% 100V Styroseal
C118	271-1961	100pF \pm 5% N330 Ceramic Disc	C145	269-0871	125uF 16V Miniature Electrolytic
C119	271-0731	0.047uF \pm 80%—20% 25V Redcap Ceramic	C146	283-5741	0.1uF \pm 10% 50V Polyester
C120	271-1951	27pF \pm 5% N330 Ceramic Disc	C147	282-5081	0.047uF \pm 10% 160V Polyester
C121	271-1941	56pF \pm 5% N330 Ceramic Disc	C148	271-1631	18pF \pm 10% 500V N330 Tube Ceramic
C122	271-0731	0.047uF \pm 80%—20% 25V Redcap Ceramic	C149	269-0871	125uF 16V Miniature Electrolytic
C123		Printed on Board	C150	269-0211	8uF 300V Electrolytic
C124	271-1721	39pF \pm 5% N330 Ceramic Disc	C151	271-0761	0.1uF \pm 80%—20% 25V Redcap Ceramic
C125	269-1051	10uF 6V Miniature Electrolytic	C152	271-0731	0.047uF \pm 80%—20% 25V Redcap Ceramic
C126	271-0731	0.047uF \pm 80%—20% 25V Redcap Ceramic	C153	271-0731	0.047uF \pm 80%—20% 25V Redcap Ceramic
C127	271-1751	15pF \pm 5% NPO Ceramic Disc	C154	269-1541	47uF 35V Electrolytic
C128	271-1751	15pF \pm 5% NPO Ceramic Disc			RESISTORS
C129	271-0601	10pF \pm 5% NPO Ceramic Disc			All Resistors are $\frac{1}{2}$ Watt \pm 10% except where stated
			R101	740-0001	390 ohms
			R102	740-0021	1,000 ohms
			R103	740-1141	5,600 ohms
			R104	740-0681	680 ohms
			R105	740-0291	270 ohms
			R106	740-0021	1,000 ohms
			R107	740-0681	680 ohms
			R108	740-0921	330 ohms

PARTS LIST (continued)

REF.	PART NO.	DESCRIPTION	REF.	PART NO.	DESCRIPTION
RESISTORS (continued)			COILS (continued)		
R109	740-2042	9,100 ohms \pm 5% $\frac{1}{2}$ Watt	L103	259-2141	Coil Adjacent Sound Trap
R110	740-0041	2,700 ohms	L104	259-1432	Coil Filter
R111	740-0001	390 ohms	L105	259-1432	Coil Filter
R112	740-0081	10,000 ohms	L106	259-2101	{ Coil Sound Take Off 3rd I.F. Collector
R113	740-0011	470 ohms	L107		
R114	740-0051	3,300 ohms	L108	259-1432	Coil Filter
R115	740-0041	2,700 ohms	L109	259-2121	Coil Noise Take Off
R116	740-0041	2,700 ohms	L110	259-1801	Coil 5.5 MHz Trap
R117	740-0641	1,500 ohms \pm 5% $\frac{1}{2}$ Watt	L111	259-1821	Coil Video Collector
R118	740-0021	1,000 ohms	L112	259-1872	Coil Peaking
R119	740-0221	180,000 ohms	L113	259-2071	Coil 5.5 MHz Detection
R120	740-0011	470 ohms	L114	259-1432	Coil Filter
R121	740-0021	1,000 ohms	TRANSFORMERS		
R122	740-0321	1,200 ohms	IFT1	906-1011	I.F. Transformer Vision
R123	740-0321	1,200 ohms	IFT2	906-1021	I.F. Transformer Vision
R124	750-0632	8,200 ohms \pm 10% 4 Watts	IFT3	906-1031	I.F. Transformer Video Detector
R125	750-0782	6,800 ohms \pm 10% 4 Watts	IFT4	906-1041	I.F. Transformer Intercarrier
R126	742-0092	47,000 ohms \pm 10% 1 Watt	P.C.B.2 132-1591 Sync Board Complete as follows:		
R127	740-1812	2,000 ohms \pm 5% $\frac{1}{2}$ Watt	CAPACITORS		
R128	740-0021	1,000 ohms	C201	269-0871	125uF 16V Miniature Electrolytic
R129	740-0651	100 ohms	C202	282-5001	.01uF \pm 10% 160V Polyester
R130	740-1311	2,200 ohms \pm 5% $\frac{1}{2}$ Watt	C203	269-1171	25uF 6.4V Miniature Electrolytic
R131	740-0071	4,700 ohms	C204	271-1481	.003uF \pm 20% 500V Ceramic CY Disc
R132	740-0081	10,000 ohms	C205	271-1201	.01uF \pm 100%—0 50V Ceramic Disc
R133	740-0651	100 ohms	C206	280-3591	1uF \pm 10% 250V Metallized Film
R134	740-0361	390,000 ohms	C207	271-1571	.0022uF \pm 10% Ceramic CY Disc
R135	740-1491	6.8 megohms	C208	269-0871	125uF 16V Miniature Electrolytic
R136	740-0021	1,000 ohms	C209	271-1571	.0022uF \pm 10% Ceramic CY Disc
R137	740-0291	270 ohms	C210	283-5741	0.1uF \pm 10% 50V Polyester
R138	740-0221	180,000 ohms	C211	271-1571	.0022uF \pm 10% Ceramic CY Disc
R139	740-0061	3,900 ohms	C212	280-3591	1uF \pm 10% 250V Metallized Film
R140	740-0181	470,000 ohms	C213	280-5201	.5uF \pm 20% 50V Lacquer Film
R141	740-0672	680,000 ohms	C214	283-1241	.1uF \pm 10% 160V Polyester
R142	740-0141	100,000 ohms	C215	280-2041	220pF \pm 20% 630V Styroal
R143	740-0321	1,200 ohms	C216	282-5081	.047uF \pm 10% 160V Polyester
R144	742-0022	4,700 ohms \pm 10% 1 Watt	C217	269-1131	10uF 16V Miniature Electrolytic
R145	742-0722	560,000 ohms \pm 10% 1 Watt	C218	269-1261	2uF 350V Miniature Electrolytic
R146	740-1141	5,600 ohms	C219	280-3591	1uF \pm 10% 250V Metallized Film
TRANSISTORS, DIODES, I.C.			C220	283-5741	0.1uF \pm 10% 50V Polyester
TR101	932-3381	BF196 1st I.F. Amplifier	C221	282-5081	.047uF \pm 10% 160V Polyester
TR102	932-3381	BF196 2nd I.F. Amplifier	C222	269-1571	16uF 300V Electrolytic
TR103	932-3761	BF173 3rd I.F. Amplifier			
TR104	932-3401	BC147 Noise Gate			
TR105	932-3401	BC147 Video Driver			
TR106	932-3391	BF178 Video Output			
TR107	932-2971	2N3568 Voltage Regulator			
TR108	932-3401	BC147 Audio Driver			
IC101	932-3741	TAA570 Quadrature Demodulator			
MR101	932-0971	OA90 Video Detector			
MR102	932-0971	OA90 Sound Detector			
Z101	932-3541	BZY88/C11 Reference Diode			
COILS					
L101 }	259-2131	Coil I.F. & Adjacent Vision Trap			
L102 }					

PARTS LIST (continued)

REF.	PART NO.	DESCRIPTION	REF.	PART NO.	DESCRIPTION
RESISTORS			DIODES (continued)		
All Resistors Are $\pm 10\%$ $\frac{1}{2}$ Watt except where stated.			MR202	932-2031	OA91 A.G.C. Stand Off Diode
R201	740-0001	390 ohms	MR203	932-2601	AB2031 Sync. Gate
R202	740-0001	390 ohms	MR204	932-2961	AB2040 Vertical Drive Clamp
R203	740-0221	180,000 ohms	MR205	932-2961	AB2040 Vertical Drive Catcher
R204	740-0131	82,000 ohms	MR206	932-1071	BY126/400 Negative Bias Rectifier
R205	740-1301	820 ohms $\pm 5\%$ $\frac{1}{2}$ Watt	P.C.B.3 132-1601 Line Oscillator Board Assembly Complete as Follows:		
R206	740-0112	27,000 ohms	CAPACITORS		
R207	740-0961	10,000 ohms $\pm 5\%$ $\frac{1}{2}$ Watt	C301	271-0961	560pF $\pm 10\%$ Ceramic Tube
R208	740-0301	1,800 ohms	C302	280-3591	1uF $\pm 10\%$ 350V Metallized Film
R209	740-0681	680 ohms	C303	280-3441	.0047uF $\pm 10\%$ 50V Styroseal
R210	740-0661	82 ohms	C304	280-3441	.0047uF $\pm 10\%$ 50V Styroseal
R211	740-0301	1,800 ohms	C305	271-1571	.0022uF $\pm 10\%$ Ceramic Disc
R212	740-1301	820 ohms $\pm 5\%$ $\frac{1}{2}$ Watt	C306	271-1301	22pF $\pm 10\%$ Ceramic Disc
R213	740-0141	100,000 ohms	C307	280-3591	1uF $\pm 10\%$ 250V Metallized Film
R214	740-0732	12,000 ohms	C308	280-1101	.0068uF $\pm 10\%$ 400V Styroseal
R215	740-0711	47 ohms	C309	280-1091	.0056uF $\pm 10\%$ 400V Styroseal
R216	740-0101	22,000 ohms	C310	271-1241	820pF $\pm 20\%$ Ceramic Tube
R217	740-0732	18,000 ohms	C311	282-6001	.001uF $\pm 10\%$ 400V Polyester
R218	740-0112	27,000 ohms	C312	282-0581	.0047uF $\pm 10\%$ 400V Polyester
R219	740-0411	820 ohms	C313	271-0911	.003uF 500V G.M.V. Ceramic
R220	740-0061	3,900 ohms	C314	271-0991	220pF $\pm 10\%$ Ceramic Tube
R221	740-0101	22,000 ohms	C315	284-1281	.22uF $\pm 20\%$ 1,000V Dipol
R222	740-2052	2.7 megohms	RESISTORS		
R223	740-0121	47,000 ohms	All Resistors Are $\pm 10\%$ $\frac{1}{2}$ Watt except where stated		
R224	740-1141	5,600 ohms	R301	740-0851	560,000 ohms
R225	750-0942	39,00 ohms $\pm 10\%$ 4 Watts	R302	740-0851	560,000 ohms
R226	740-0791	8,200 ohms	R303	740-0141	100,000 ohms
R227	740-0101	22,000 ohms	R304	740-0732	12,000 ohms
R228	742-1182	2.7 megohms $\pm 10\%$ 4 Watts	R305	740-0061	3,900 ohms
R229	740-0651	100 ohms	R306	742-1251	3,300 ohms $\pm 5\%$ 1 Watt
R230	750-0642	15,000 ohms $\pm 10\%$ 4 Watts	R307	742-1251	3,300 ohms $\pm 5\%$ 1 Watt
R231	740-1332	150 ohms $\pm 5\%$ $\frac{1}{2}$ Watt	R308	740-0411	820 ohms
R232	740-0791	8,200 ohms	R309	740-0321	1,200 ohms
R233	740-0941	6,800 ohms $\pm 5\%$ $\frac{1}{2}$ Watt	R310	742-0172	470,000 ohms $\pm 10\%$ 1 Watt
R234	740-0941	6,800 ohms $\pm 5\%$ $\frac{1}{2}$ Watt	R311	740-0061	3,900 ohms
R235	740-0961	10,000 ohms $\pm 5\%$ $\frac{1}{2}$ Watt	R312	740-0101	22,000 ohms
R236	740-0141	100,000 ohms	R313	742-0062	27,000 ohms $\pm 10\%$ 1 Watt
R238	740-0851	560,000 ohms	R314	742-0352	1 megohm $\pm 20\%$ 1 Watt
R239	740-0241	33,000 ohms	R315	742-0352	1 megohm $\pm 20\%$ 1 Watt
R240	742-0192	1 megohm $\pm 10\%$ 1 Watt	R316	740-0101	22,000 ohms
TRANSISTORS			R317	742-0352	1 megohm $\pm 20\%$ 1 Watt
TR201	{ 932-2711 or 932-3401	SE1002 A.G.C. BC147 A.G.C.	R318	742-0492	68,000 ohms $\pm 10\%$ 1 Watt
TR202	{ 932-3841 or 932-3421	AX1438 A.G.C. Amplifier BC148 A.G.C. Amplifier	R319	742-0402	150,000 ohms $\pm 20\%$ 1 Watt
TR203	932-3831	AX1436 Vertical Multivibrator	R320	742-0102	82,000 ohms $\pm 10\%$ 1 Watt
TR204	932-2971	2N3568 Vertical Multivibrator	R321	742-0142	270,000 ohms $\pm 10\%$ 1 Watt
TR205	{ 932-2711 or 932-3401	SE1002 Sync. Separator BC147 Sync. Separator	R322	742-0562	470,000 ohms $\pm 20\%$ 1 Watt
TR206	932-2971	2N3568 Vertical Feedback Amplifier	R323	742-0562	470,000 ohms $\pm 20\%$ 1 Watt
DIODES			R324	742-0892	2.2 megohms $\pm 10\%$ 1 Watt
MR201	932-2601	AB2031 Sync. Clipper			

PARTS LIST (continued)

REF.	PART NO.	DESCRIPTION	REF.	PART NO.	DESCRIPTION
RESISTORS (continued)			CAPACITORS (continued)		
R325	742-0102	82,000 ohms \pm 10% 1 Watt	C420	271-0911	.003uF G.M.V. 500V Ceramic Tube
R326	742-1092	3.3 megohms \pm 20% 1 Watt	C421	283-5221	.068uF \pm 20% 50V Metallized Film
VDR301	750-0571	V.D.R. E298 ZZ/06 Black End/Blue Spot	C422	283-1701	.047uF \pm 10% 400V Polyester
VDR302	750-0691	V.D.R. E298 ED/A262 Violet End	C423	271-0911	.003uF GMV 500V Ceramic Tube
RV301	677-2121	2.2 megohms Preset Potentiometer Focus	C424	271-0911	.003uF GMV 500V Ceramic Tube
RV302	677-2131	1 megohm Preset Potentiometer Boost	C425	269-1131	10uF 25V Miniature Electrolytic (on Tuner)
DIODES			C426	271-0731	0.47uF \pm 80%—20% 25V Redcap Ceramic (on Tuner)
MR301	932-2961	AB2040	RESISTORS		
MR302	932-2961	AB2040	All Resistors Are \pm 10% $\frac{1}{2}$ Watt except where stated		
MR303	932-2631	OA202	R401	740-0012	470 ohms
L301	259-2061	Coil Line Oscillator	R402	740-0922	330 ohms
P.C.B.4 132-1681 Tuner AGC Bias Board Assembly As Follows:			R403	740-0182	470,000 ohms
RESISTORS			R404	740-0072	4,700 ohms
All Resistors Are \pm 10% $\frac{1}{2}$ Watt except where stated			R405	740-0722	1.5 megohms
R601	740-0121	47,000 ohms	R406	740-0122	47,000 ohms
R602	740-0121	47,000 ohms	R407	750-0952	270 ohms \pm 10% 4 Watts
R603	740-0081	10,000 ohms	R408	746-0212	1 ohm \pm 5% $\frac{1}{2}$ Watt Wire Wound
R604	740-1392	470 ohms \pm 20% $\frac{1}{2}$ Watt	R409	740-1042	27 ohms
RV601	677-2152	25,000 ohms Preset Potentiometer Tuner Bias	R410	742-0492	68,000 ohms \pm 10% 1 Watt
TR601	932-3421	BC 148 Tuner A.G.C. delay	R411	740-1782	1,500 ohms
CHASSIS MOUNTED COMPONENTS			R412	740-1782	1,500 ohms
CAPACITORS			R413	750-0662	3,900 ohms \pm 10% 4 Watts
C401	269-1211	12.5uF 25V Electrolytic	R414	750-1042	680 ohms \pm 10% 7 Watts
C401A	271-0761	1uF \pm 80%—20% 25V Redcap Ceramic	R415	740-0272	150 ohms on Yoke
C402	269-0111	25uF 300V Electrolytic	R416	740-0262	150 ohms on Yoke
C403	269-0471	50uF 350V Electrolytic	R417	740-0572	1,000 ohms \pm 20% 1 Watt
C404	269-0971	200uF 25V Electrolytic	R418	750-0932	2,200 ohms \pm 5% 4 Watts
C405	283-1661	.022uF \pm 10% 400V Polyester	R419		1.8 ohms (Filament Lead)
C406	283-1701	.047uF \pm 10% 400V Polyester	R420	742-0742	3,900 ohms \pm 10% 1 Watt
C407	271-0781	.035uF 2KV Ceramic Disc	R421	740-1042	27 ohms
C408	271-0781	.035uF 2KV Ceramic Disc	R422	740-0302	1,800 ohms
C409	269-1571	16uF 300V Electrolytic	R423	740-0732	12,000 ohms
C410	269-0901	{ 60uF 275 VW }	R424	750-0602	22 ohms \pm 10% 4 Watts
C411		{ 200uF 275 VW }	R425	740-0012	470 ohms
C412	269-0521	100uF 150VW Electrolytic	R426	740-0652	150 ohms
C413	269-0521	100uF 150VW Electrolytic	R427	740-0072	4,700 ohms
C414		82pF Part of Yoke 259-2051	VDR401	750-0611	V.D.R. E299DE/P350
C415	271-0911	.003uF G.M.V. 500V Ceramic Tube	POTENTIOMETERS		
C416	284-2711	.056uF \pm 10% 1,000V Dipol	RV401	677-2111	1,000 ohms—Contrast Range
C417	271-2031	33pF \pm 20% 3KV Ceramic	RV402	677-2081	500 ohms—Vertical Hold
C418	284-2701	.047uF \pm 10% 1,000V Dipol	RV403	677-1731	500,000 ohms—Picture
C419	283-1691	.039uF \pm 10% 400V Polyester	RV404	677-0172	25,000 ohms—Vertical Linearity
			RV405	677-1641	2 megohms—Height
			RV406	677-2091	1,000 ohms—Contrast
			RV407	677-1652	100,000 ohms (and Switch)—Horizontal Hold

PARTS LIST (continued)

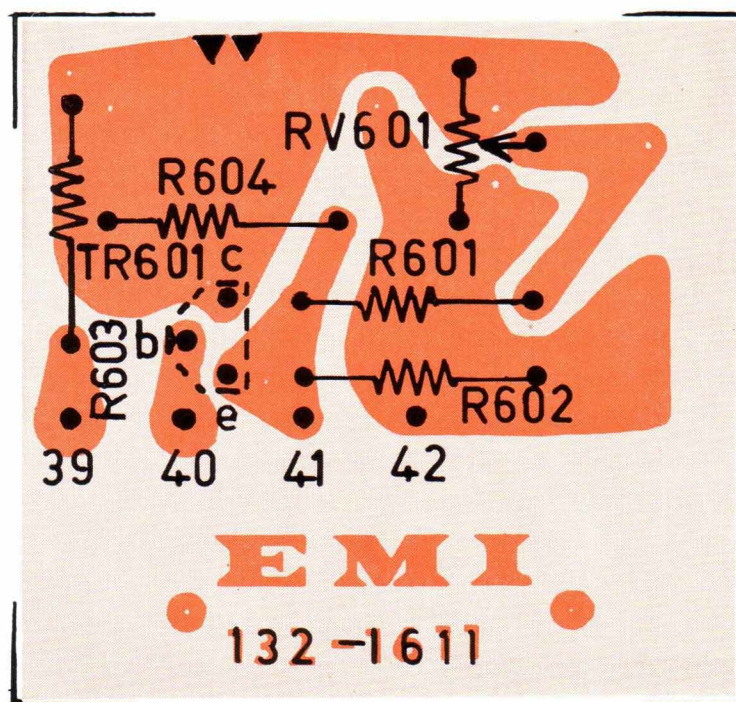
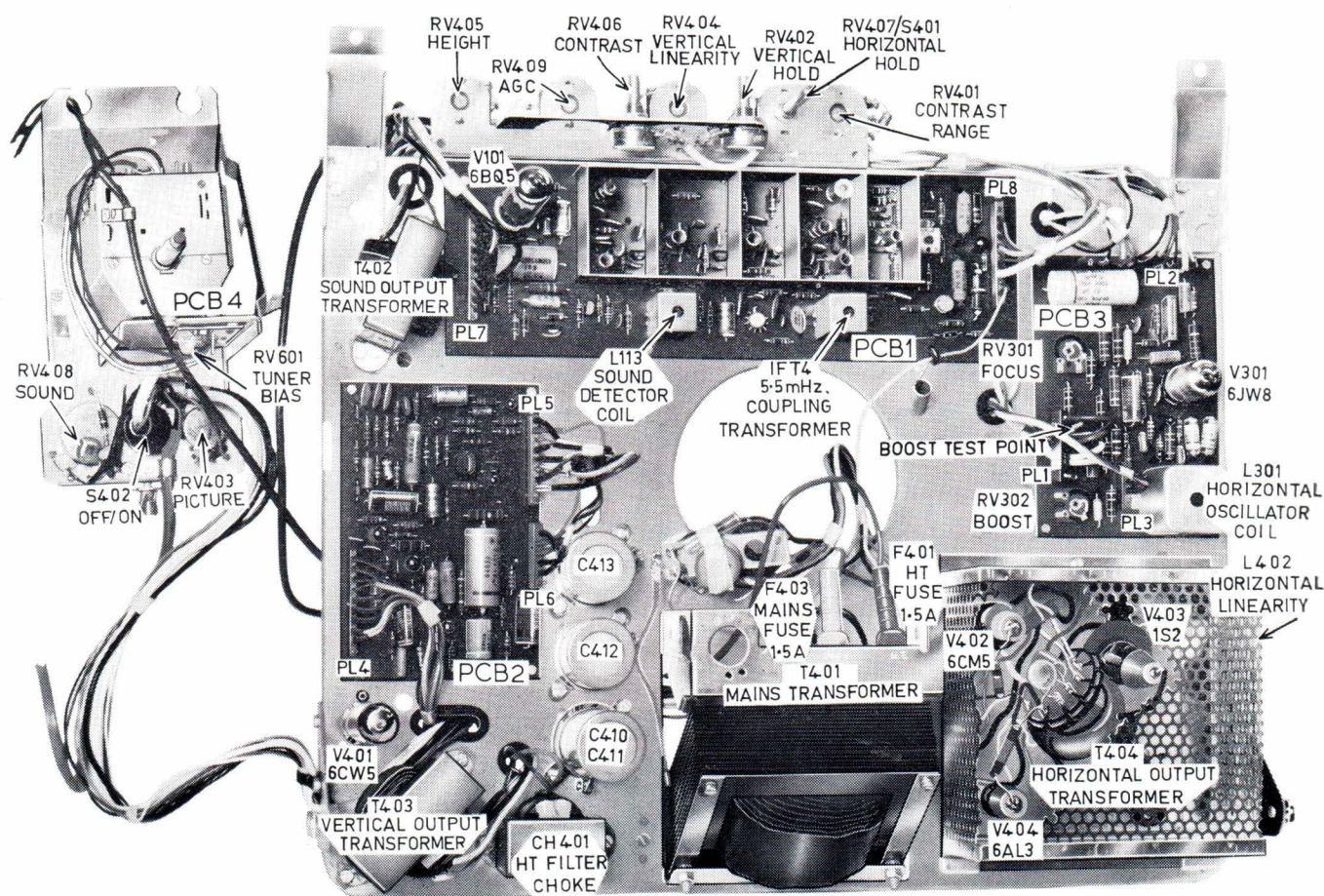
REF.	PART NO.	DESCRIPTION	REF.	PART NO.	DESCRIPTION
POTENTIOMETERS (continued)			CABINET FITTINGS (continued)		
RV408	677-2171	250,000 ohms tapped 125,000 ohms—Sound	470-0461	Handle	
RV409	677-2221	1,500 ohms—A.G.C.	517-2892	Knob—Controls	
VALVES — DIODES			517-3441	Knob Cover (Channel Change)	
V101	932-1051	6BQ5 Audio Output	517-3471	Knob Channel Indicator	
V301	932-2371	6JW8 (T) Reactance (P) Horizontal Oscillator	517-2081	Knob (Rear Presets)	
V401	932-1111	6CW5 Vertical Output	244-0231	Clip (Knob Rear Presets)	
V402	932-0531	6CM5 Horizontal Output	539-0421	Leg (10")	
V403	932-0771	1S2 EHT Rectifier	561-1571	Medallion Trade Mark	
V404	932-1151	6AL3 Damper Diode	561-2171	Medallion (Gold Inlay for 403-3621)	
MR401	932-1071	BY126/400 H.T. Rectifier	561-2551	Medallion (Casino 70)	
MR402	932-1071	BY126/400 H.T. Rectifier	837-1152	Spindle Extension Fine Tuner	
PLP	932-1941	Lamp 6.3V 0.25A Bayonet Cap Philips BA95	801-0181	Screw (Knob Cover Fixing)	
MISCELLANEOUS			831-1823	Speaker 7" x 4" 15 ohms Voice Coil	
	224-2651	Tuner NT3021	932-2292	CRT 23" Rimband 23GSP4	
CH401	232-0351	Choke H.T.	826-0061	Sleeve (Insulating Picture Tube Lugs)	
F401	431-0081	1.5 amps Fuse H.T.	946-1021	Washer (Insulating Picture Tube Lugs)	
F402		Fuse Filament (28SWG.T.CU. Wire)	259-2051	Yoke Coil Deflection MSP43667	
F403	431-0081	1.5 amps Fuse Mains	617-0331	Spire Nut SFP0211 (Fixing 403-3651)	
L401	259-0045	Coil Anti-Parasitic	617-1881	Spire Nut SNU1065 (Fixing 403-3621)	
L402	259-1252	Coil Linearity	PU5-BM HAMPTON 25"		
L403	259-0045	Coil Anti-Parasitic	DIMENSIONS	PACKED	UNPACKED
T401	904-0651	Transformer Mains	Height	23½	28½ (including 9" Legs)
T402	905-0711	Transformer Audio Output	Width	43	39½
T403	905-0721	Transformer Frame Output	Depth	20½	17½
T404	908-0931	Transformer EHT MSP 55423	Weight	117 lbs	104 lbs.
PL1	824-1541	4 Pin + 1 Polarity Pin Socket	192-4401	Cabinet Maple complete with legs	
PL2	824-1501	11 Pin + 1 Polarity Pin Socket	192-4411	Cabinet Walnut complete with legs	
PL3	824-1551	3 Pin + 1 Polarity Pin Socket	192-4421	Cabinet Teak complete with legs	
PL4	824-1511	9 Pin + 1 Polarity Pin Socket	192-4481	Cabinet Rosewood complete with legs	
PL5	824-1531	8 Pin + 1 Polarity Pin Socket	294-1207	Cover Cabinet Back	
PL6	824-1521	5 Pin + 1 Polarity Pin Socket	403-3651	Escutcheon Channel Indicator	
PL7	824-1501	11 Pin + 1 Polarity Pin Socket	148-7511	Bracket (Escutcheon)	
PL8	824-1511	9 Pin + 1 Polarity Pin Socket	617-0331	Spire Nut SPF0211	
CABINET FITTINGS			403-4661	Escutcheon Mask Metallic Bronze	
PU5-9F CASINO 70 — 23"			517-2081	Knob Rear Preset	
DIMENSIONS	PACKED	UNPACKED	244-0231	Clip (Knob Rear Presets)	
Height	21½	19 (29" with Legs)	517-3441	Knob Cover (Channel Change)	
Width	31½	26½	801-0181	Screw (Knob Cover Fixing)	
Depth	19½	17	517-3491	Knob Controls	
Weight	83 lbs	74 lbs.	561-1432	Medallion Trade Mark	
191-0491	Cabinet Wrap Maple		641-1951	Panel Control (Hampton)	
191-0501	Cabinet Wrap Walnut		641-1961	Panel Decorative	
294-1207	Cover Cabinet Back		831-2422	Speakers 5" x 7" 30 ohms Voice Coil	
403-3621	Escutcheon Control				
403-3651	Escutcheon Channel Indicator				
403-4531	Escutcheon & Mask Assembly				
416-0041	Foot White Rubber				

PARTS LIST (continued)

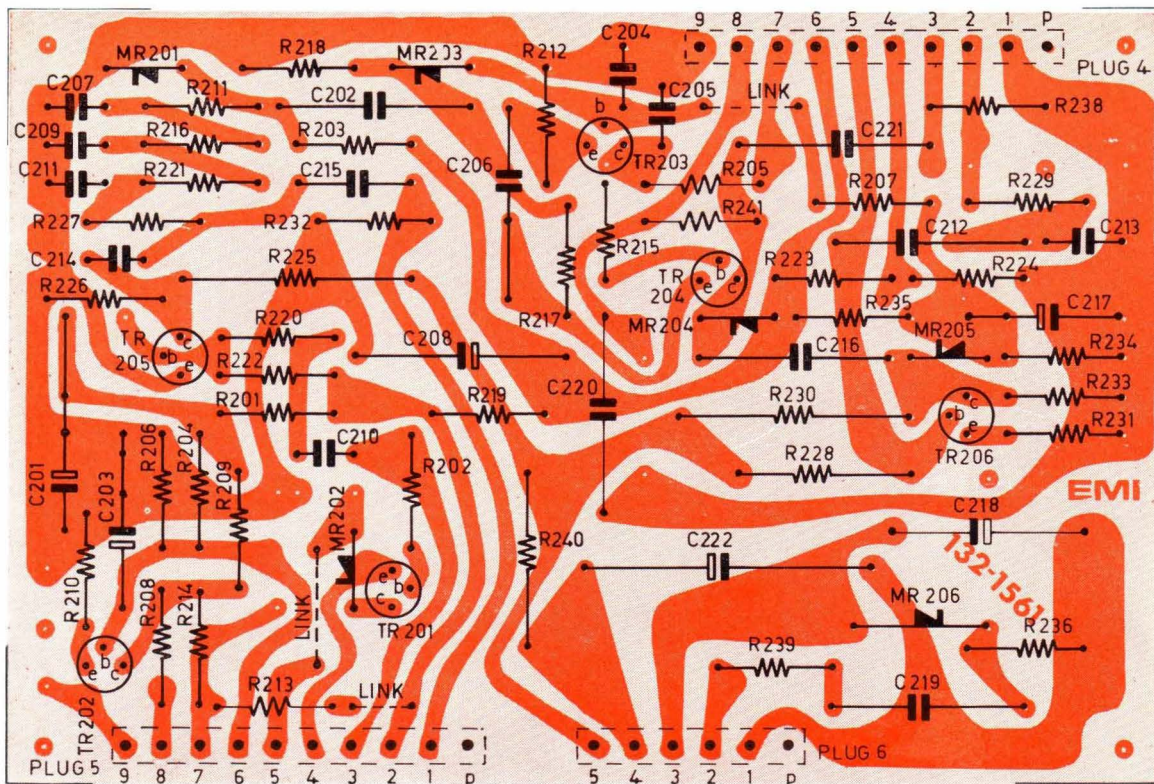
REF.	PART NO.	DESCRIPTION	REF.	PART NO.	DESCRIPTION
PU5-BM HAMPTON 25" (continued)			CABINET FITTINGS		
	837-1162	Spindle Extension Fine Tuner	PU5-BN TRENT 24" (continued)		
	932-2642	Picture Tube 25" Rimband 25TP4	517-3441	Knob Cover	
	259-2051	Yoke Coil Deflection MSP43667	517-3471	Knob Channel Indicator	
CABINET FITTINGS			517-2081	Knob Rear Presets	
PU5-AT PATHFINDER 25"			244-0231	Clip (Knob Rear Presets)	
DIMENSIONS	PACKED	UNPACKED	539-0391	Leg Maple	
Height	32"	29"	539-0401	Leg Walnut	
Width	36 $\frac{3}{4}$ "	34"	539-0411	Leg Teak	
Depth	20 $\frac{3}{4}$ "	17 $\frac{1}{4}$ "	561-2071	Medallion Gold Inlay for 403-3621	
Weight	118 lbs.	103 lbs.	561-2391	Medallion Trade Mark "His Master's Voice"	
	192-4431	Cabinet Maple	561-2431	Medallion Trade Mark	
	192-4441	Cabinet Walnut	561-2531	Medallion (Name Trent)	
	192-4451	Cabinet Teak	801-0181	Screw (Knob Cover Fixing)	
	192-4491	Cabinet Rosewood	831-1823	Speaker 7" x 4" 15 ohms Voice Coil	
	294-1207	Cover Cabinet Back	837-1152	Spindle Extension Fine Tuner	
	403-3651	Escutcheon Channel Indicator	932-3751	Picture Tube 24" Rimband A61-120W4	
	148-7511	Bracket Escutcheon	259-2051	Yoke Coil Deflection MSP 43667	
	617-0331	Spire Nut SFP0211	617-0331	Spire Nut SFP0211 (Fixing 403-3651)	
	403-4661	Escutcheon Mask Metallic Bronze	617-1881	Spire Nut SNU1065 (Fixing 403-3621)	
	517-3441	Knob Cover (Channel Indicator)	PU5-BP BEVERLY 25" LOWBOY		
	517-3491	Knob Control	DIMENSIONS		
	517-3471	Knob Channel Indicator	Height	26-3/16"	
	517-2081	Knob Rear Presets	Width	37-1/8"	
	244-0231	Clip (Knob Rear Preset)	Depth	16-9/16"	
	561-1432	Medallion Trade Mark	WEIGHT		
	641-1971	Panel Control (Pathfinder)	Gross	132 lbs.	
	641-2031	Panel Decorative (in cabinet)	Nett	112 lbs.	
	801-0181	Screw (Knob Cover Fixing)	192-4571	Cabinet Maple	
	831-2711	Speaker 8" 15 ohms Voice Coil	192-4581	Cabinet Walnut	
	837-1162	Spindle Extension Fine Tuner	192-4591	Cabinet Rosewood	
	932-2642	Picture Tube 25" Rimband 25TP4	192-4601	Cabinet Teak	
	259-2051	Yoke Coil Deflection MSP43667	244-0941	Clip (retaining 517-3511)	
PU5-BN TRENT 24"			294-1741	Cover Back Panel	
DIMENSIONS	PACKED	UNPACKED	403-3631	Escutcheon (for Medallion)	
Height	21 $\frac{1}{2}$	28 $\frac{1}{4}$ (including 9" legs)	403-3651	Escutcheon Channel Indicator	
Width	40	36 $\frac{1}{2}$	403-4661	Escutcheon Mask	
Depth	20 $\frac{1}{2}$	15 $\frac{3}{4}$	517-2892	Knob—front control	
Weight	91 lbs.	80 lbs.	517-3511	Knob Channel Selector	
	113-0921	Baffle Assembly (Speaker)	561-1432	Medallion Trade Mark	
	192-4352	Cabinet Maple with legs	561-2591	Medallion (name)	
	192-4362	Cabinet Walnut with legs	794-1581	Scale Channel Indicator Screw 814-1741 6BA x $\frac{1}{2}$ " Cup Point	
	192-4372	Cabinet Teak with legs		Nut 617-1891 6BA Square	
	294-1207	Cover Cabinet Back	794-2481	Scale Control Indicator	
	403-3621	Escutcheon Control			
	403-3631	Escutcheon (Name Trent)			
	403-3651	Escutcheon (Channel Indicator)			
	403-4411	Escutcheon Mask			
	403-4581	Escutcheon Padded			
	517-2892	Knob Controls			

PARTS LIST (continued)

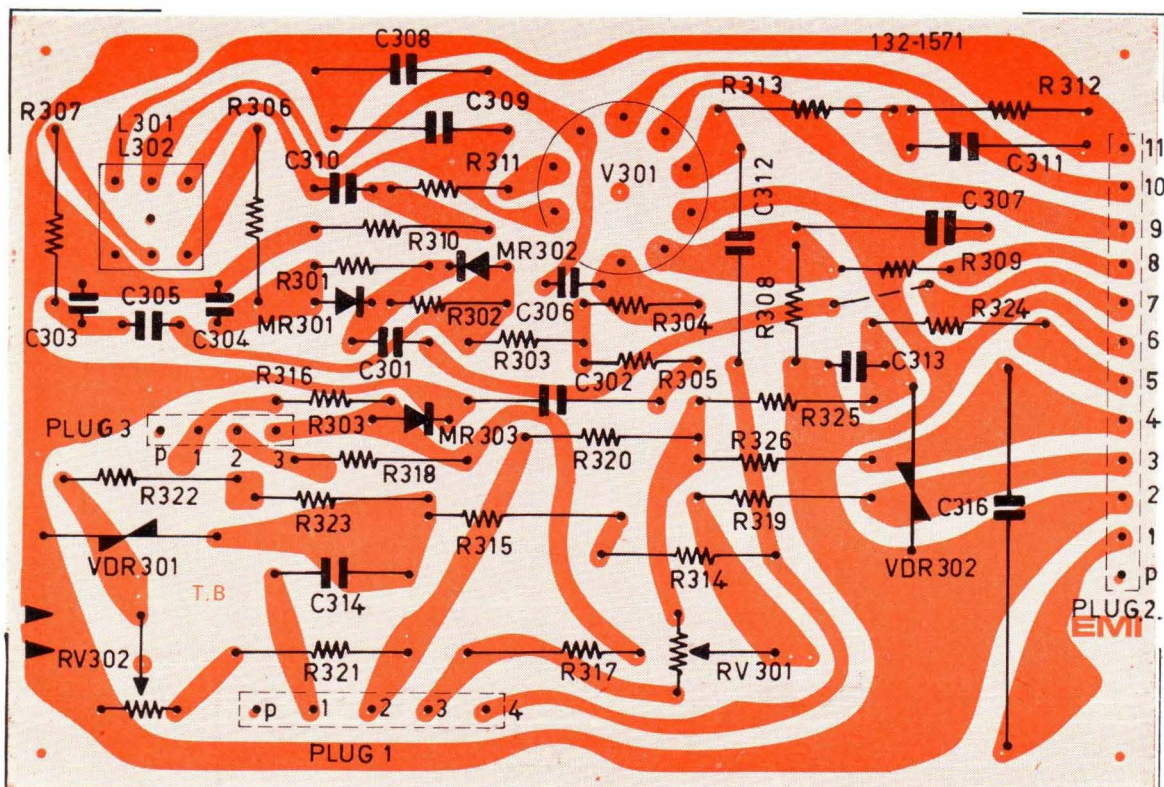
REF.	PART NO.	DESCRIPTION	REF.	PART NO.	DESCRIPTION
PU5-BP BEVERLY 25" LOWBOY (continued)			PU5-AU 25" CONSOLE (continued)		
	831-1553	Speaker, 27 ohm V.C. 7" x 4" PG		192-4551	Cabinet Rosewood
	837-1152	Spindle, Extension Fine Tuning Knob 517-2081		192-4561	Cabinet Teak
	837-1171	Spindle, Extension Channel Selector		244-0941	Clip (retaining 517-3511)
		Screw 814-2281 4-40 x 5/8 Hex hd.		259-2051	Yoke Coil Deflection MSP43667
	932-2642	Picture Tube 25" Rimband 25TP4		294-1741	Cover Back Panel
	259-2051	Yoke Coil Deflection MSP43667		403-3651	Escutcheon Channel Indicator
CABINET FITTINGS				403-4661	Escutcheon Mask
PU5-AU 25" CONSOLE				517-2081	Knob
DIMENSIONS				517-2892	Knob — Front Control
	Height	28½"		517-3511	Knob Channel Selector
	Width	30¾"		561-1432	Medallion Trade Mark
	Depth	16-9/16"		617-0331	Nut Spire SFP-0211 } Retaining
WEIGHT				664-3711	Plate } 403-3651
	Gross	118 lbs.		617-1891	Nut—6BA Square (retaining 794-1581)
	Nett	103 lbs.		794-1581	Scale Channel Indicator
	192-4531	Cabinet Maple		794-2471	Scale Control Indicator
	192-4541	Cabinet Walnut		814-1741	Screw 6BA x ½" Cup Point Cheese Hd. (retaining 794-1581)
				814-2281	Screw 4-40 x 5/8" Hex Hd. (retaining 837-1171)
				831-1553	Speaker 27 ohms V.C. 7 x 4 PG
				837-1152	Spindle Extension Fine Tuning
				837-1171	Spindle Extension Channel Selector
				932-2642	Picture Tube 25" Rimband 25TP4



COPPER SIDE VIEW OF PCB4

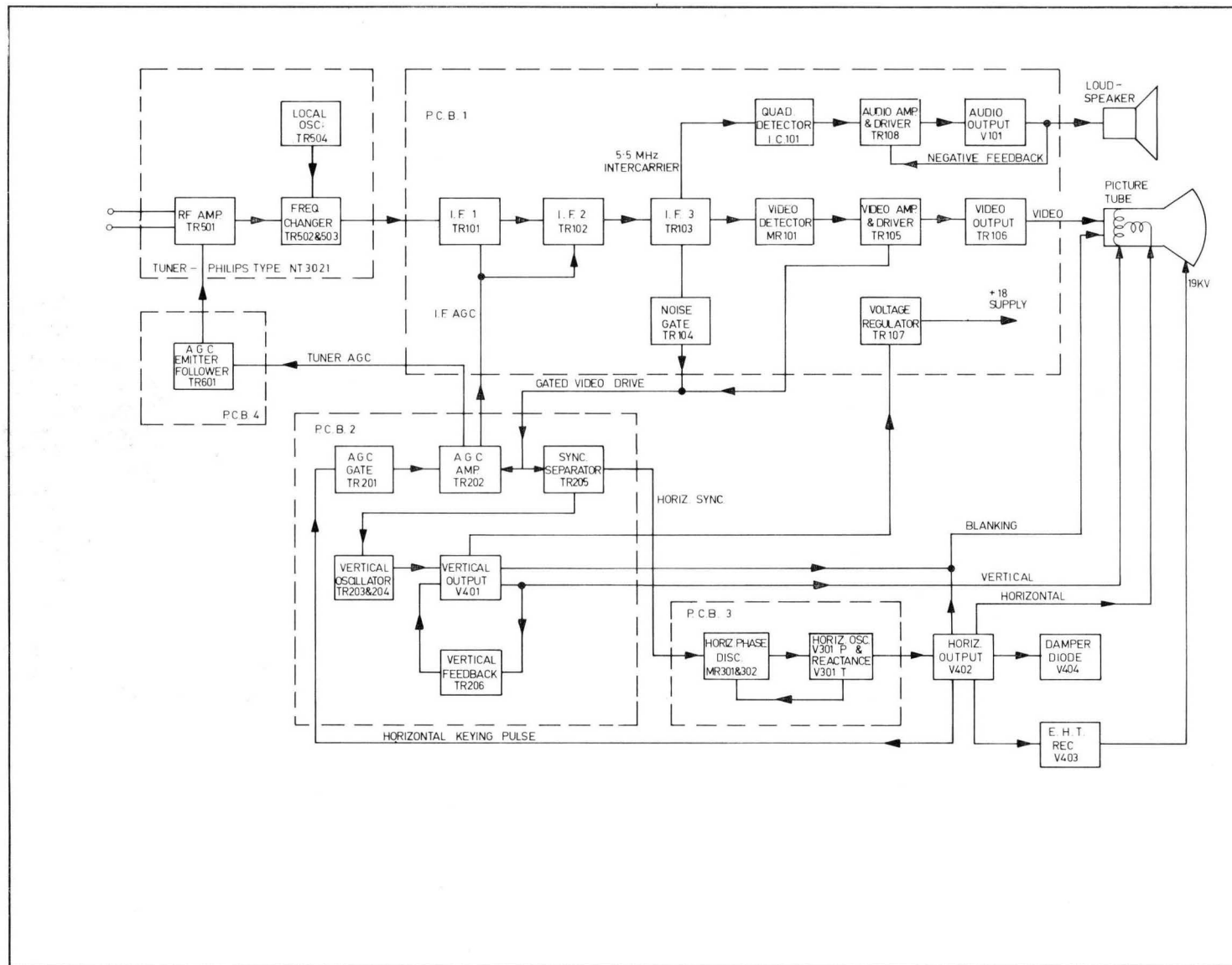


COPPER SIDE VIEW OF PCB2

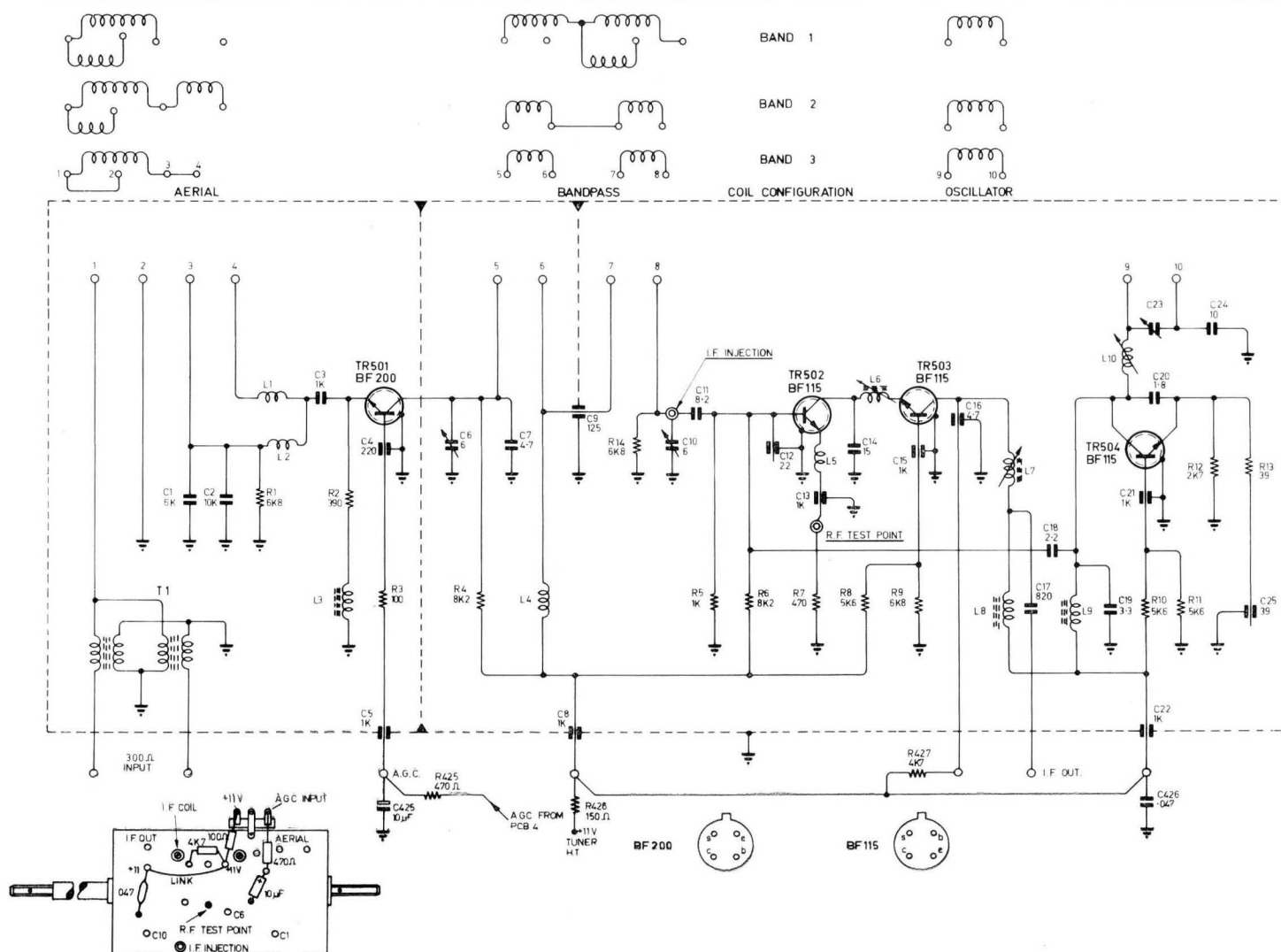


COPPER SIDE VIEW OF PCB3

COPPER SIDE OF PCB1 WITH COMPONENT DIAGRAM SUPERIMPOSED.



BLOCK DIAGRAM PU5

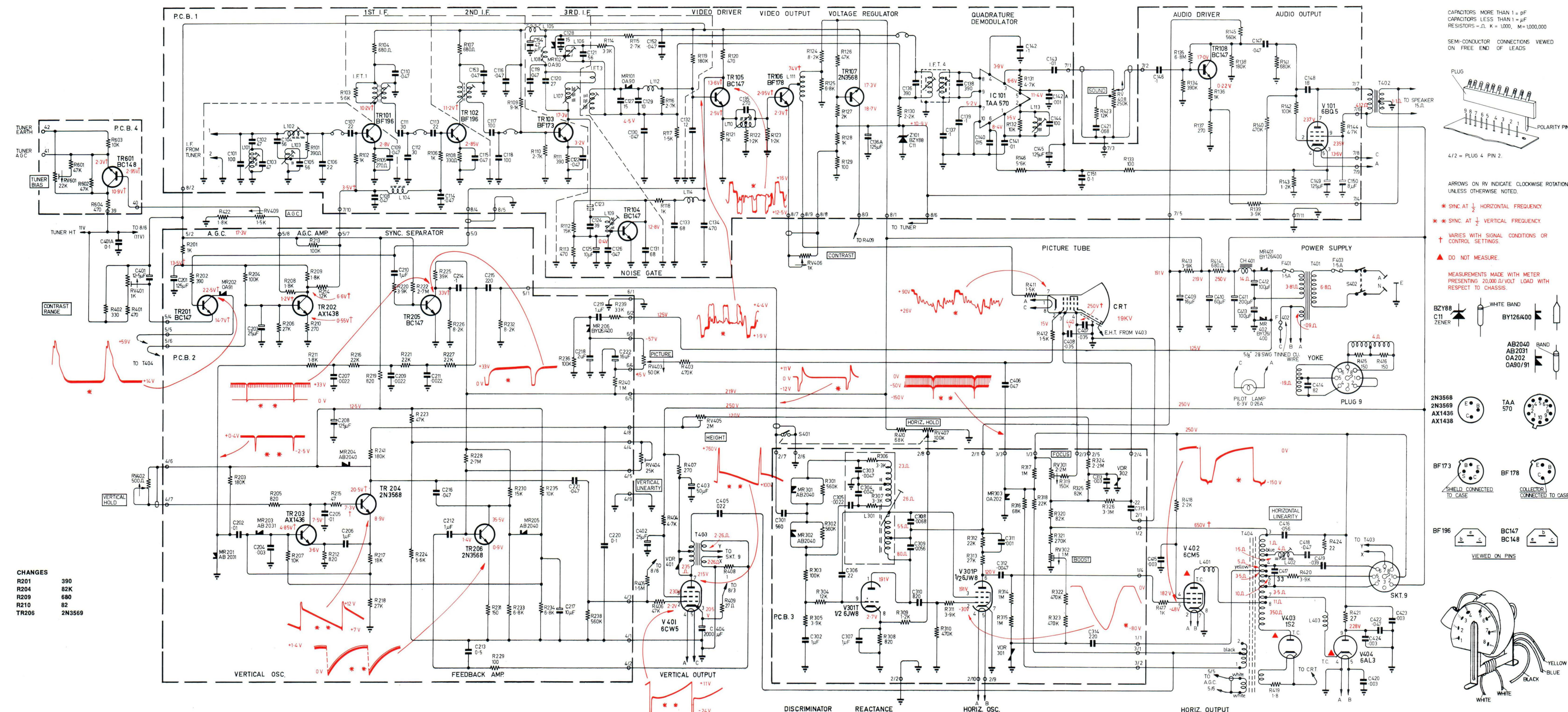


TUNER TYPE NT3021

H. CLARK PTY. LTD.

PRINTERS

MARRICKVILLE, N.S.W.



CHANGES	
R201	390
R204	82K
R209	680
R210	82
TR206	2N3568

CAPACITORS MORE THAN 1 = pF
CAPACITORS LESS THAN 1 = μF
RESISTORS = Ω. K = 1000, M = 1,000,000

SEMI-CONDUCTOR CONNECTIONS VIEWED ON FREE END OF LEADS

PLUG
POLARITY PIN

4/2 = PLUG 4 PIN 2.

ARROWS ON RV INDICATE CLOCKWISE ROTATION UNLESS OTHERWISE NOTED.

* SYNC. AT 1/2 HORIZONTAL FREQUENCY
* SYNC. AT 1/2 VERTICAL FREQUENCY

† VARIES WITH SIGNAL CONDITIONS OR CONTROL SETTINGS.

▲ DO NOT MEASURE.

MEASUREMENTS MADE WITH METER PRESENTING 20,000 Ω/VOLT LOAD WITH RESPECT TO CHASSIS.

BZY88
C11 ZENER

WHITE BAND
BY126/400

AB2040
AB2031
OA202
OA90/91

2N3568
2N3569
AX1436
AX1438

BF173
BF178

SHIELD CONNECTED TO CASE
COLLECTOR CONNECTED TO CASE

BF196
BC147
BC148

VIEWED ON PINS

YELLOW
BLUE
BLACK
WHITE