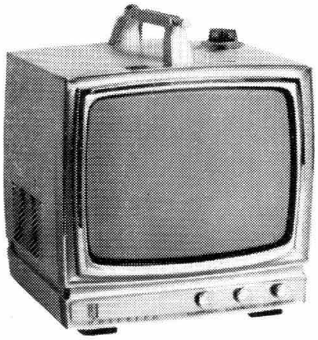
KRIESLER AUSTRALASIA PTY. LIMITED

TECHNICAL ADVISORY SERVICE
SERVICE MANUAL No. 35

BOX 107, P.O. CARINGBAH, N.S.W. 524-044

PLEASE CIRCULATE TO YOUR SERVICE DEPARTMENT

TELEVISION SERVICE MANUAL NO. 35



CHASSIS
49—1

MODEL
PT1

COMMERCIAL TITLE

"MINISCOPE"

DIMENSIONS AND WEIGHT:

11¼" WIDE, 12¾" HIGH, 10½" DEEP. PKD WEIGHT 21½ lb.

POWER SUPPLIES:

1. Mains supply 225-265 VAC, 50Hz.
2. 12-16 VDC, 1.25 Amps.

A slide switch at the rear of the receiver covers the 2-pin DC socket when the switch is moved to reveal the 3-pin AC socket, and vice versa.
If the wrong polarity DC connection is made, the receiver will not operate.
If the wrong polarity DC connection is made and the receiver chassis is shorted to a car chassis wired with a negative earth system, the fuse will blow.
If the correct polarity DC connection is made and the receiver shorted to a car chassis wired with a positive earth system, the fuse will blow.

FUSE:

A secondary fuse is fitted; rating 2A.

AERIAL CONNECTIONS:

Aerial terminal clips, paralleled with a 2-pin socket are fitted on the rear panel; the socket is principally for convenience in connecting the inbuilt telescopic aerial, but in difficult reception areas when using an external aerial, experiment may show that connecting the inbuilt aerial additionally, improves reception on a particular channel; but check that it does not impair it on other channels.

CHASSIS ACCESS:

Remove the screw from the front end of the handle, the screw being under the aerial when this is laid flat in the carrying position. Remove the channel change and fine tuning knobs (pull off types). Lay the receiver on the tube face, suitably protecting this and the escutcheon from abrasions. Remove four screws from the back. Lift off the back and the centre wrap-around. Lay the receiver on the side housing the loudspeaker. Remove two screws below the bakelite panel at the rear. The chassis may now be swung out for servicing; if necessary, easing the two pivot screws slightly.

CAUTION: When re-assembling, ensure that the two chassis pivot screws are tight and do NOT forget to replace the screw in the carrying handle otherwise, when the receiver is lifted, the handle may be damaged.

PICTURE TUBE REPLACEMENT:

Follow procedure for chassis access then, having disconnected appropriate leads:—

(a) Pull off front control knobs.

(b) Remove four screws securing the front escutcheon (accessible from the rear).

(c) Remove four screws from picture tube mounting flange.

(d) Remove defective tube and centre new tube in position, checking that the escutcheon locates squarely on its guide pins.

CAUTION: When handling the picture tube, the normal practice of earthing the EHT connection should always be followed because of the charge that may be developed or maintained at this point. An unanticipated shock may cause the holder of the tube to release his grip and allow the tube to fall.

TELESCOPIC AERIAL REMOVAL:

Follow procedure as for chassis access, unsolder 680 pF coupling capacitor, then remove the two remaining handle securing screws. The base of the aerial is now accessible and is secured by a fine-threaded slotted ring-nut. In the absence of an appropriate tool, the ring-nut may be removed by turning it with a screwdriver having a blade size that will fit into one of the slots in the ring-nut.

DY51 REMOVAL:

The two filament wires of this valve are soldered to its socket. Replacement of the valve is most easily effected in the following manner:—

Remove the plastic cap covering the base of the valve socket assembly; unsolder the EHT and the two filament loop connections; disconnect the anode lead; push the valve and socket, base first, through and out of the plastic housing. The socket connections now may be easily seen and the soldering operations conveniently effected. Ensure that these are correctly made to include the coiled resistance wire (R144) in series between the filament and one leg of the filament loop.

CHASSIS DATA:

WIDTH AND HORIZONTAL LINEARITY ADJUSTMENT:

The horizontal linearity adjustment is most accurately carried out on a transmitted test pattern. The core of L7 has a square cross-section slot but a small screwdriver blade (approximately ⅛") may be used to turn it until satisfactory linearity is achieved. This adjustment also has an appreciable effect on scan width and consequently may be used to vary the width as required, whilst observing that the linearity is maintained to production standards. In the unlikely event of a variation of width only being required, this may be achieved by altering the value of C95 and provision is made on the board for adding a capacitor to reduce width.

HORIZONTAL SYNC ADJUSTMENT:

The receiver should hold sync, when on channel, over the full range of the Horizontal Hold Control, but will lose sync when changing channels if the Hold Control is at either extremity. In adjusting the Horizontal Pre-set to obtain these conditions, proceed as follows:—

(a) Gain access to chassis as previously described.

(b) Centre the Horizontal Hold.

(c) Short-circuit the collector of TR22 to chassis (to remove sync).

(d) Adjust the core of L5 until the picture 'floats' steadily on the screen.

(e) Remove the short-circuit on TR22 and check that the picture jumps firmly into sync.

VERTICAL SYNC ADJUSTMENT:

Over a small section of the range of the Vertical Hold, the picture should roll slowly downward. Adjust the Hold Control just past the point at which the picture locks in. It is immaterial whether or not the picture loses sync at the low frequency end of the control range.

VERTICAL HEIGHT, LINEARITY AND TOP LINEARITY:

These are adjusted in the conventional manner by pre-set controls accessible through the base of the receiver cabinet. Care should be exercised that the inaccurate insertion of the screwdriver blade does not short circuit or damage adjacent components.

TUNER TYPE NT3017:

Fine tuning is accomplished by a variable piston-type capacitor shunted across the tuning coil for the local oscillator. The capacitance is controlled by the movement of a piston which, in turn, is controlled by a lever system. The lever is actuated by cams on the end of the coil turret. These cams are set by the fine tuning knob, as follows:—

Press in the fine tuning knob to engage the cam mechanism; turn knob to adjust fine tuning; release knob. Fine tuning is then pre-set for that channel and will re-set itself automatically each time that channel is selected. Note that there is no "Stop" mechanism on the fine tuning adjustment so that, for a given adjustment, it will be "Towards sound on picture" and then, as the fine tuning knob is further rotated, "Away from sound on picture".

There is a screw adjustment for an overall variation of fine tuning on all channels. Consequently, if this is varied on one channel, the individual presetting on all other channels in use has to be reset.

With the exception of the Fine Tuning adjustment described above, no adjustment should be made to the tuner WITHOUT ADEQUATE TUNER ALIGNMENT EQUIPMENT AND EXPERIENCE IN ITS APPLICATION.

POSITION OF TEST POINTS:

Number	Position	Board Reference
1.	TR3-C/TR4-B	M15
2.	R16/C19	G19
3.	T2, pin-9/C21	J17
4.	IFT-1b, pin-F/C35	D21
5.	R39/C38	C20
6.	TR13-C/IFT2-B	B17
7.	TR15-B/C44	B12
8.	TR16-B/L2	L9
9.	TR17-C/R79	R9
10.	TR28-B/C80	L23

PRE-SET CONTROLS, MEASUREMENTS REQUIRED:

VIDEO AMP BIAS ADJUSTMENT:

Set Contrast to maximum (clockwise), set tuner to the blank channel, connect DC voltmeter (20KΩ/V or greater) between TP9 and earth. Adjust Bias pre-set (Board Reference G13) to 30 volts.

AGC PRE-SET:

This is so called for the sake of brevity in printing on the circuit diagram. It should not be confused with the manual type of AGC control which is adjusted for signal level at different locations in the field. The 49-1 AGC control is for setting (during production) the threshold at which AGC voltage is developed and should not require re-adjustment in the field unless associate components have changed in electrical value. In this event (if necessary, replacing the component of changed value), proceed as follows:—

Set the Contrast to maximum (clockwise). Set tuner to an operating channel receiving a moderate to strong signal. Connect a CRO, switched to DC input, to the 10.4 volt supply rail temporarily, and on the one volt per centimetre range, set the trace at a convenient position near the top of the graticule. Connect CRO to TR16 collector (Board Reference L7) and adjust pre-set so that the sync pulse tips are one volt below the position of the trace when the CRO was connected to the 10.4 volt supply rail.

FIELD ADJUSTMENT:

Where no CRO is available, an approximate adjustment using a DC voltmeter (20 KΩ/V or greater) may be made. This may degrade the noise-immunity characteristic of the receiver but in a given location, if this is not operationally needed, proceed as follows:—

Set Contrast to maximum (clockwise). Select a channel receiving a strong signal (to develop AGC voltage). Connect the voltmeter between TR16 collector and earth and adjust pre-set for meter to read 7.5 volts DC (slight fluctuations will occur as the video content of the picture changes).

In weak signal areas, adjust the pre-set for a meter reading of 7.0 volts and warn the owner that, because this is a makeshift adjustment, if he moves to a strong signal area, re-adjustment may be necessary because of an apparent sync-lockout condition.

CIRCUIT DATA:

SPOT SUPPRESSION:

This is arranged by the voltages for the Brilliance Control (picture tube control grid) and 2nd Video Amplifier transistor collector being derived from separate sources from the Horizontal Output Transformer. When switching off, the generation of these voltages ceases rapidly but the time constants in the individual circuits are such that the collector voltage (therefore the picture tube cathode voltage) is maintained longer than the control grid, consequently the beam current is rapidly cut off and spot suppression is thereby effected. Note that the final anode voltage on the picture tube is not discharged by this means, therefore the customary warning to discharge this voltage when handling the picture tube is emphasised.

WAVEFORM "B":

The waveform, as shown, is that of the maximum excursion of the flyback keying pulse. This will be seen when a TV carrier wave is being received, without picture modulation. Under other operating conditions, the waveform may be widely different. On a blank channel, for example, the waveform may appear to be of an integrated shape, sloping from the top end of one keying pulse to the bottom of the next pulse but this shape partly depends upon the input impedance of the CRO in use. On a strong signal channel, video information will be present on the waveform below the pulse cut-off level, but the accuracy of its presentation may also depend upon the CRO input impedance.

ALIGNMENT PROCEDURES:

INTERCARRIER I.F. AMPLIFIER AND RATIO DETECTOR ALIGNMENT:

Sweep Method

Equipment required.

(a) Sweep Generator ±250 KHz deviation at 50 Hz rate, centre frequency 5.5 MHz.
(b) Marker Generator which will accurately indicate 5.5 MHz.
(c) CRO.

Procedure

1a. Disconnect the stabilizing capacitor (C21) across the RD diodes (lift jumper at Board Reference F17).
1b. Disconnect the de-emphasis capacitor, C18 (lift jumper at Board Reference L17).
2. Connect the CRO across the diode load resistor (TP3 to earth).
3. Connect Sweep Generator to TP1.
4. Unscrew secondary core of Ratio Detector transformer until flush with the end of the former (access through middle hole in top of T2 can).
5. Peak primary core for the curve of Fig. 1, using the Marker Generator to set the limits shown.
6. Connect Sweep Generator to TP8 (BR L8).
7. Tune ICIF 1 to 5.5 MHz as shown in Fig. 1.
8. Re-connect the stabilising capacitor C21.
9. Re-connect CRO to TP2 (BR G18). Tune secondary core of Ratio Detector to display a typical "S" curve centred on 5.5 MHz as shown in Fig. 2.
9a. Re-connect C18.
10. Remove Sweep Generator and CRO.

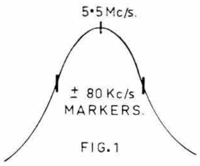


FIG. 1

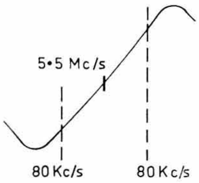


FIG. 2

DC Method

Where a 5.5 Mc/s sweep generator is not available, the transmitted signal, attenuated as required, provides an accurate and convenient method of alignment.

Equipment Required

(a) A centre-zero VTVM or voltmeter, completely isolated from earth with zero reading adjusted to centre scale by the 'Set Zero' control. In lieu of the centre-zero VTVM or voltmeter, an ordinary voltmeter may be used as explained below. The voltmeter used must be at least 10,000 ohms per volt and preferably higher.

(b) Two resistors approximately 100K each, matched to within 1% and connected in series.

Procedure

1. Connect the two series 100K resistors across the electrolytic stabilising capacitor bridging the ratio detector diodes, TP3.
2. Connect the voltmeter, positive to the centre of the 100K resistors, negative to ground. Unscrew secondary core of ratio detector transformer flush with the can (middle hole in T2 can). With an incoming transmitted signal, peak RD primary and ICIF for maximum reading, attenuating the signal as required.
3. Re-connect the negative voltmeter lead to the audio output line of the ratio detector at the output end of the de-emphasis network, TP2.
4. Tune secondary for maximum output. This means that the secondary, at this juncture, is tuned to one of the two maxima of the ratio detector voltage curve.

5. Further adjustment of the secondary core, in the correct direction, will cause the ratio detector voltage curve to pass through zero to the other maximum: Therefore, readjust the secondary core, taking note of the maximum positive and maximum negative readings obtainable on the centre-zero voltmeter, until the meter reading is exactly the mean of these maximum positive and maximum negative values. Ideally, these maxima should be equal, depending on the matching of the diodes and 100K resistors. In the field, there may be cases where equality cannot be obtained, and in these cases, ignoring polarity, their numerical values should be within 10% of their average.

6. If the inequality of the maxima readings is too great, check the diodes and/or the 1K resistors in series with them.

Where no centre-zero voltmeter is available an ordinary voltmeter may be used and, by reversing the test leads as required, the maximum positive and negative readings taken as before, setting the core for the average reading.
When no transmitted signal is available, or in deep fringe areas where the noise level is high and the signal strength fluctuates, an accurate 5.5 Mc/s signal derived from an FM signal or marker generator may be used.
Feed the signal in at TP8, taking care the input is at a low level but sufficient to produce 3 volts across the electrolytic stabilising capacitor when the ICIF's are correctly aligned. This ensures that the limiter is functioning correctly.

5.5 MHz TRAP ADJUSTMENT:

Equipment

Signal Generator to provide accurate 5.5 MHz signal, 30% AM by 400 or 1000 Hz.
CRO.
High impedance detector probe (see Fig. 7).

Procedure

Connect CRO, via high impedance probe, to TP9 (TR17 collector).
Set Contrast to maximum (clockwise) and Brilliance to minimum (anti-clockwise).
Connect Signal Generator to TP8 (TR16 base).
Feed in strong signal at 5.5 MHz and adjust L3 for minimum amplitude on CRO.

ALTERNATIVE METHOD (USING TRANSMITTED SIGNAL):

Set Contrast to maximum (clockwise).
By-pass the junction of ICIF 1 and C10 (Board Reference M10) to earth with .0047 µF (approximately) capacitor.
Couple TP9 to TP1 with 100 pF (approximately) capacitor.
Connect DC Voltmeter (20KΩ/V or greater), positive to TP3, negative to earth, on low voltage range (to read less than 1 volt).
Adjust L3 for minimum reading on meter.

VIDEO I.F. ALIGNMENT:

Equipment

(a) Sweep generator capable of providing a deviation of 12 MHz or more at 50 Hz sweep rate, centre frequency 34.75 MHz.
(b) An accurate marker generator for use with the sweep.
(c) CRO with low impedance detector probe. See circuit of probe, (Fig. 7).

Procedure

1. Set the tuner to the blank channel between channels 0 and 11.
2. Connect CRO directly to TP9 (BR R9).
3. Connect sweep to TP7 (BR B12).
4. Set Contrast to maximum, Brilliance to minimum and video amp bias to mid-position.
5. Unscrew cores of IFT 1B, L1, IFT 2 & IFT 3 flush with top of cans.
6. Tune primary and secondary of IFT 4 for the response as in Fig. 3. If necessary, touch up on IFT 4 coupling coil.
7. Disable Horizontal Oscillator (earth base of TR30) (BR R17).
8. Connect Sweep to tuner test point.
9. Connect CRO, via a low impedance detector (Fig. 7) to TP4 and adjust CRO for high sensitivity.
10. Adjust both tuner coils for maximum response at 34.75 MHz, as in Fig. 4. (NOTE: Do NOT subsequently alter the coil near the AGC post, if 'touching up' the alignment). This is tuned to the outer peak and the end of the core protrudes past the end of the former. After alignment it should be sealed with 'Grip-lac'.
11. Re-connect CRO, with detector, to TP6 (BR B17).
12. Tune L1 (31.25 MHz Trap) and IFT 1B for the response shown in Fig. 5. (Very slight re-adjustment of IFT 1A, on tuner near IF output lead, may be necessary to obtain the required response.)
In the event of any initial difficulty in displaying a response curve for this stage, turn the AGC pre-set fully clockwise (viewed from the conductor side). Re-set the AGC correctly when alignment is completed.
14. Remove detector probe and re-connect CRO to TP9 (BR R9).
15. Remove earth on base of TR30.
16. Adjust IFT 2 and IFT 3 for the response shown in Fig. 6.

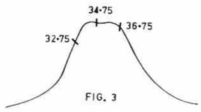


FIG. 3

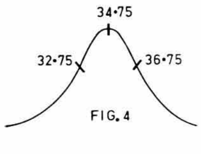


FIG. 4

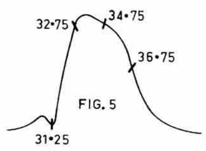


FIG. 5

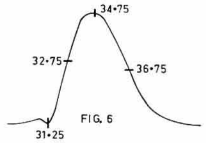


FIG. 6

COMPONENT LAYOUT 49-1 BOARD REFERENCE CHART:

R1	Speaker Side Panel	R82	Front Panel	C19	H19	C99	R22
R2	" " "	R83	V5	C20	Part of T2	C100	U25
R3	" " "	R84	W5	C21	" " "	TR1	Speaker Side Panel
R4	" " "	R85	X4	C22	Not Used	TR2	" " "
R5	" " "	R86	Y5	C23	" "	TR3	N15
R6	C8	R87	W3	C24	H21	TR4	L16
R7	Speaker Side Panel	R88	U5	C25	F23	TR5	G21
R8	Not Used	R89	Not Used	C26	F24	TR6	J22
R9	" "	R90	" "	C27	Aerial Balun	TR7	L25
R10	N13	R91	" "	C28	Tuner to Aerial Panel	TR8	H25
R11	M13	R92	G7	C29	" " " "	TR9	Tuner
R12	L13	R93	G7	C30	Tuner	TR10	"
R13	Part of T2	R94	J2	C31	"	TR11	"
R14	L15	R95	H2	C32	B25	TR12	"
R15	J14	R96	D7	C33	A23	TR13	B20
R16	G18	R97	Rear Board Rail	C34	C25	TR14	B14
R17	Front Panel	R98	P25	C35	D21	TR15	C11
R18	Part of T2	R99	J4	C36	B21	TR16	L8
R19	" " "	R100	K3	C37	A20	TR17	R9
R20	" " "	R101	L2	C38	D20	TR18	T2
R21	Not Used	R102	F6	C39	C19	TR19	E19
R22	J21	R103	E5	C40	D12	TR20	J6
R23	G20	R104	G2	C41	C16	TR21	N5
R24	G22	R105	F3	C42	A17	TR22	P3
R25	H22	R106	Not Used	C43	C15	TR23	F5
R26	J21	R107	B2	C44	B13	TR24	J4
R27	K21	R108	C6	C45	D14	TR25	E4
R28	H23	R109	C7	C46	D11	TR26	D4
R29	H24	R110	A8	C47	Part of IFT4	TR27	Board Side Rail
R30	K24	R111	A2	C48	F11	TR28	L23
R31	H24	R112	B4	C49	E20	TR29	Q20
R32	G24	R113	G5	C50	Part of IFT4	TR30	R17
R33	Not Used	R114	M2	C51	Part of IFT4	TR31	S12
R34	" "	R115	N2	C51	" " "	TR32	Board Side Rail
R35	Tuner	R116	Not Used	C52	" " "	D1	Speaker Side Panel
R36	C18	R117	" "	C53	J13	D2	" " "
R37	D16	R118	" "	C54	F21	D3	" " "
R38	E21	R119	" "	C55	Part of IFT4	D4	Part of T2
R39	C20	R120	K22	C56	L8	D5	" " "
R40	C19	R121	L23	C57	N8	D6	D18
R41	B17	R122	M23	C58	Q6	D7	Part of IFT4
R42	C16	R123	Y16	C59	N7	D8	K6
R43	A16	R124	Rear Board Rail	C60	K19	D9	M9
R44	B15	R125	R25	C61	Q9	D10	P24
R45	C14	R126	R24	C62	S8	D11	P24
R46	D15	R127	P22	C63	R8	D12	Board Side Rail
R47	A13	R128	P23	C64	W1	D13	V24
R48	D12	R129	P22	C65	W17	D14	S24
R49	D11	R130	P21	C66	Part of IFT4	T1	Speaker Side Panel
R50	Part of IFT4	R131	M21	C67	Not Used	T2	H16
R51	E12	R132	N21	C68	" "	T3	Y11
R52	E17	R133	P20	C69	J5	T4	V19
R53	P6	R134	M18	C70	L1	L1	B22
R54	F18	R135	R17	C71	G4	L2	L9
R55	F20	R136	S15	C72	F7	L2a	N10
R56	M6	R137	R15	C73	E2	L3	Q11
R57	G13	R138	S14	C74	E1	L4	Board Side Rail
R58	K11	R139	U12	C75	Board Side Rail	L5	P17
R59	K12	R140	S20	C76	H6	L6	Y24
R60	L10	R141	Y13	C77	P1	L7	X7
R61	K7	R142	X24	C78	L21	IFT1B	C22
R62	L4	R143	X25	C79	Not Used	IFT2	B18
R63	N8	R144	Wired to base of V2	C80	L20*	IFT3	C13
R64	P8	C1	Speaker Side Panel	C81	N22	IFT4	G9
R65	R2	C2	" " "	C82	M24	ICIFT1	P11
R66	Q5	C3	" " "	C83	X14	V2	Mounted on T4
R67	Q4	C4	" " "	C84	X16	SG1	X1
R68	P2	C5	" " "	C85	L18	SG2	Z2
R69	K7	C6	" " "	C86	M20	SG3	Y2
R70	L11	C7	C10	C87	N20	Balun	In case under handle
R71	Front Panel	C8	Not Used	C88	Q21	Earphone	
R72	H8	C9	" "	C89	N19	Ear-phone Jack	Rear Panel
R73	Not Used	C10	N10	C90	S17	Fuse	Rear Panel
R74	R12	C11	M13	C91	R14	SW1	Front Panel — Part of R17
R75	J7	C12	M12	C92	Y21	SW2	Rear Panel
R76	R11	C13	L14	C93	R19	*	Mounted under Board for Issue 1 Boards
R77	Q9	C14	K14	C94	Y23		
R78	R4	C15	Part of T2	C95	V9		
R79	T9	C16	G18	C96	Z15		
R80	S4	C17	Part of T2	C97	Under Board		
R81	V2	C18	J18	C98	Z18		

CHASSIS 49-1

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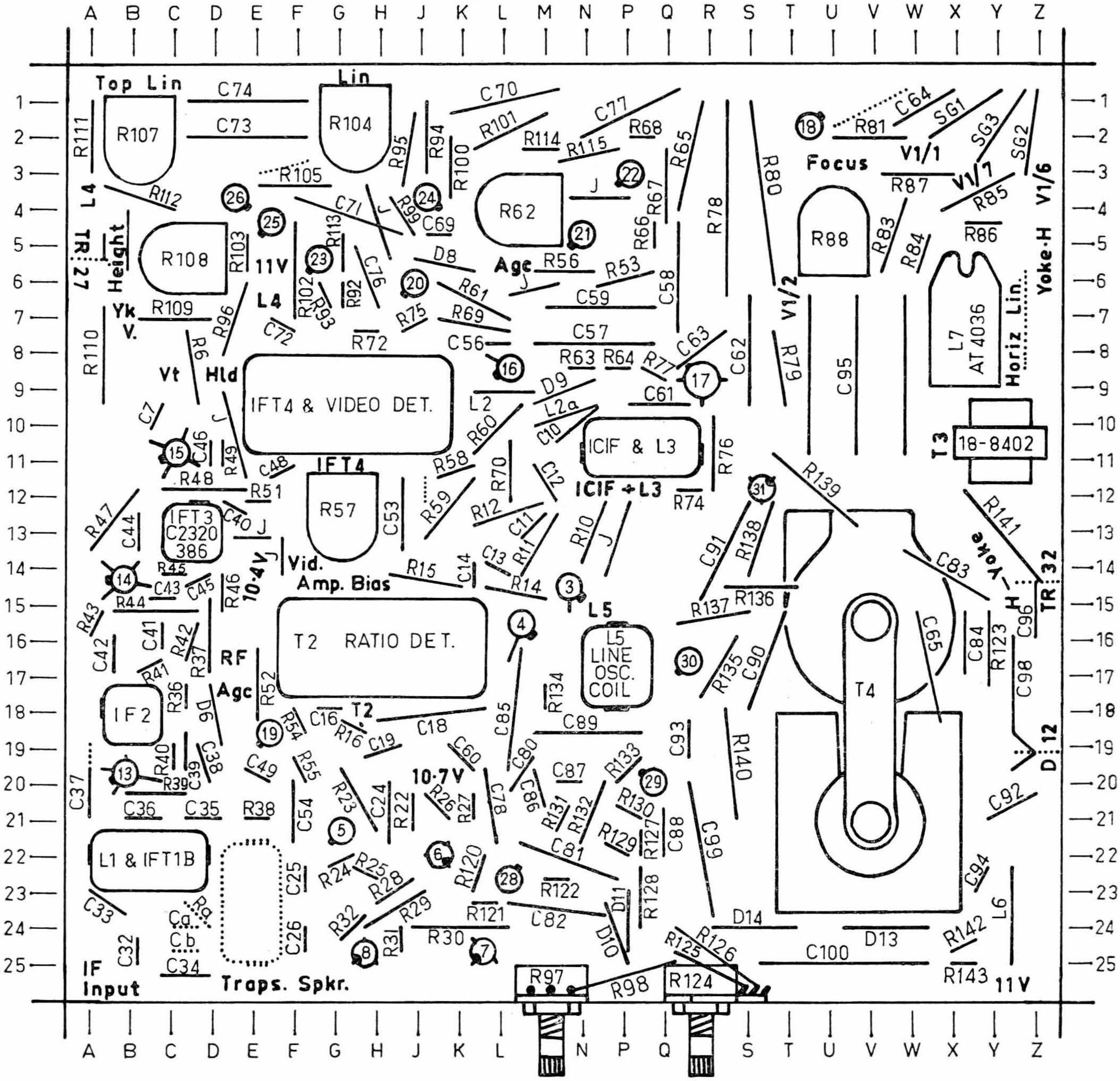
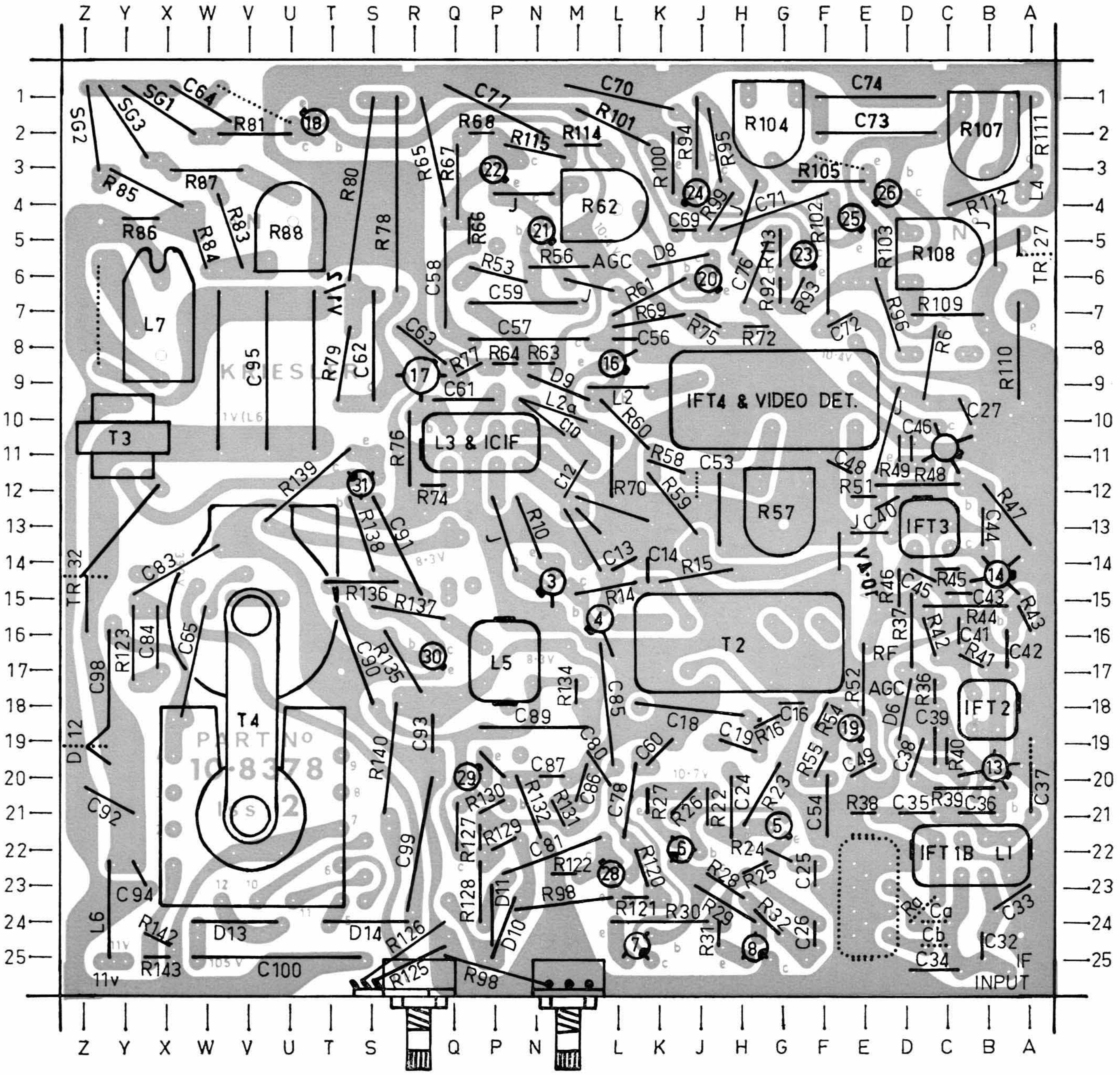
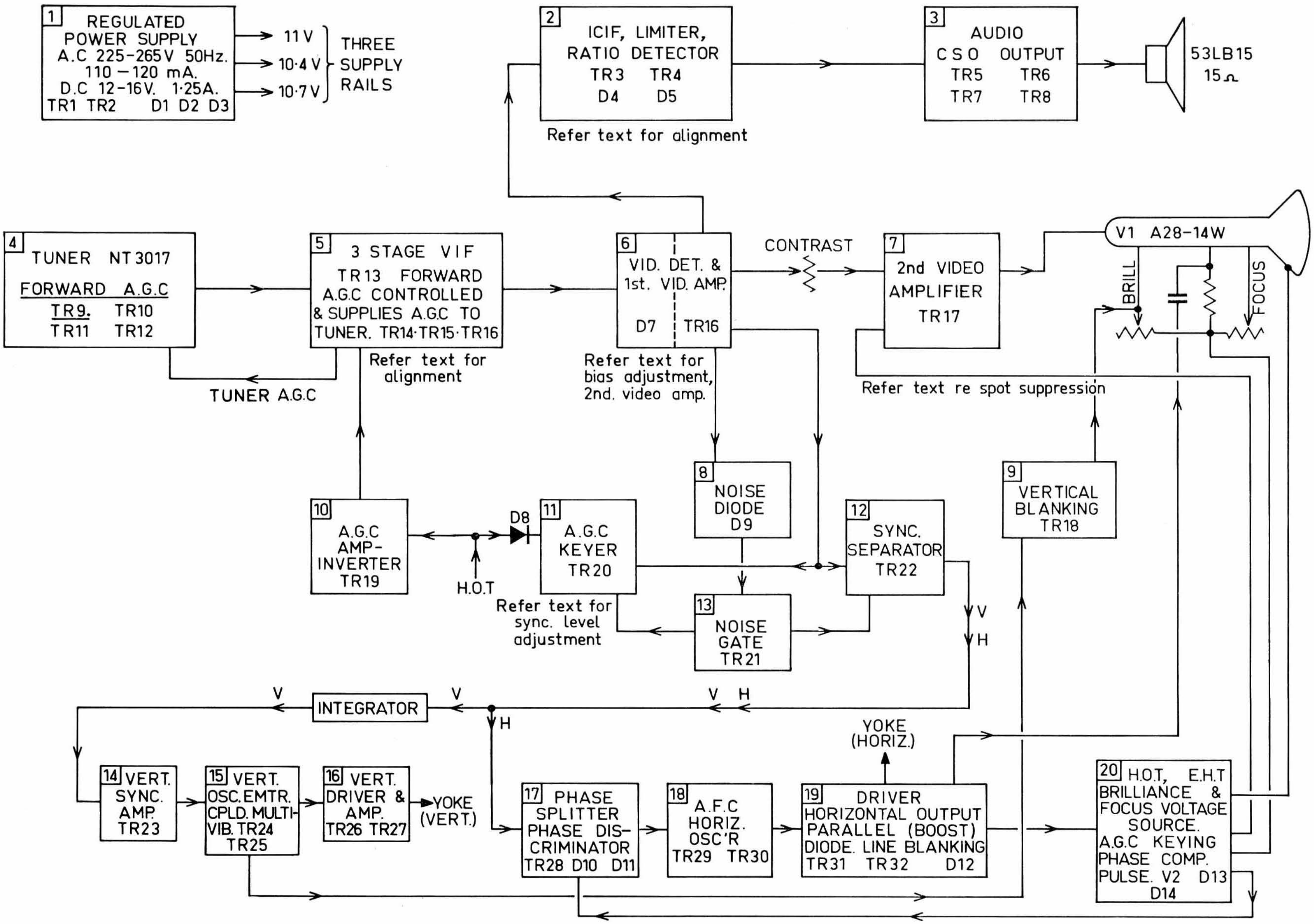
PRINTED BOARD VIEWED FROM TOP. (COMPONENT SIDE)



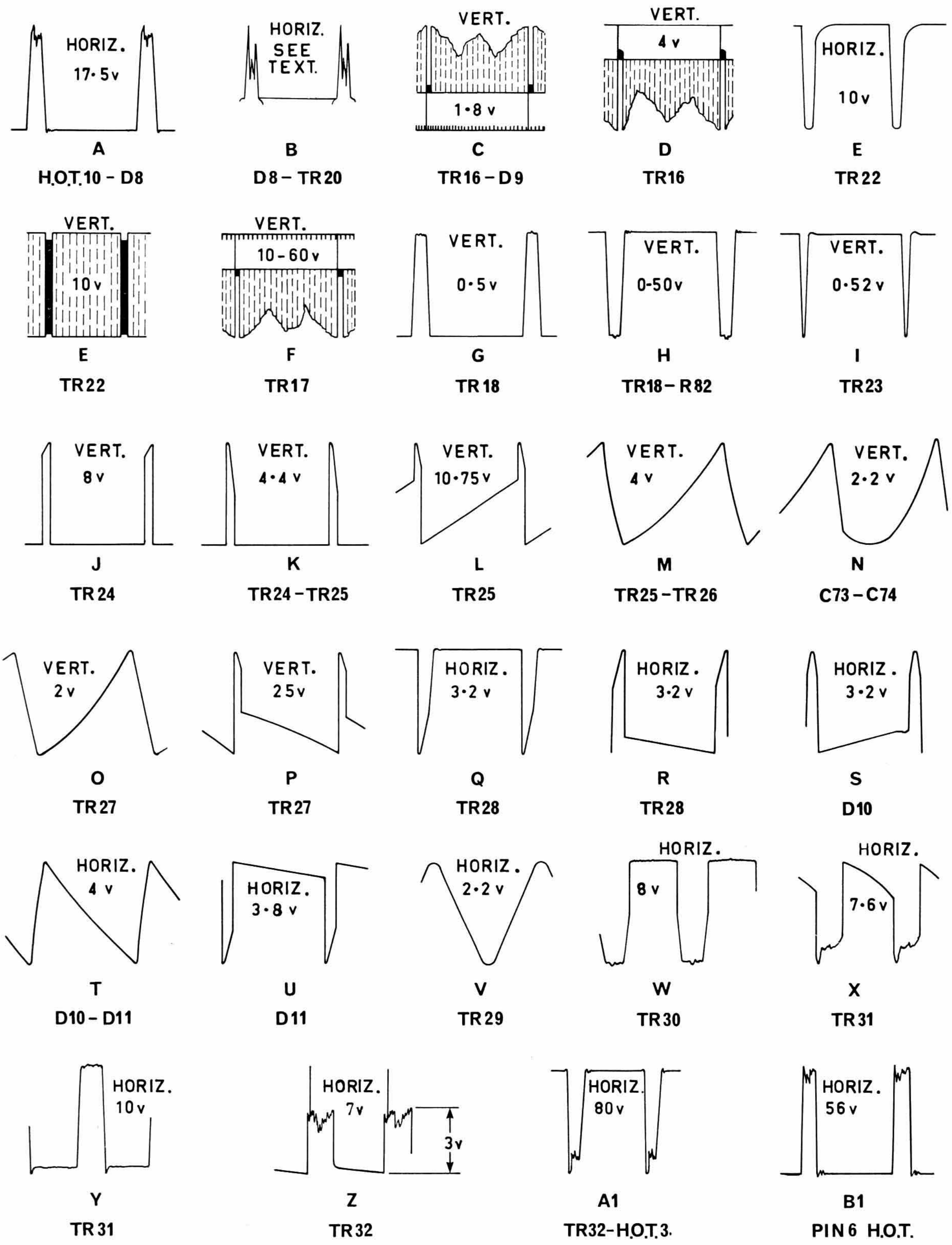


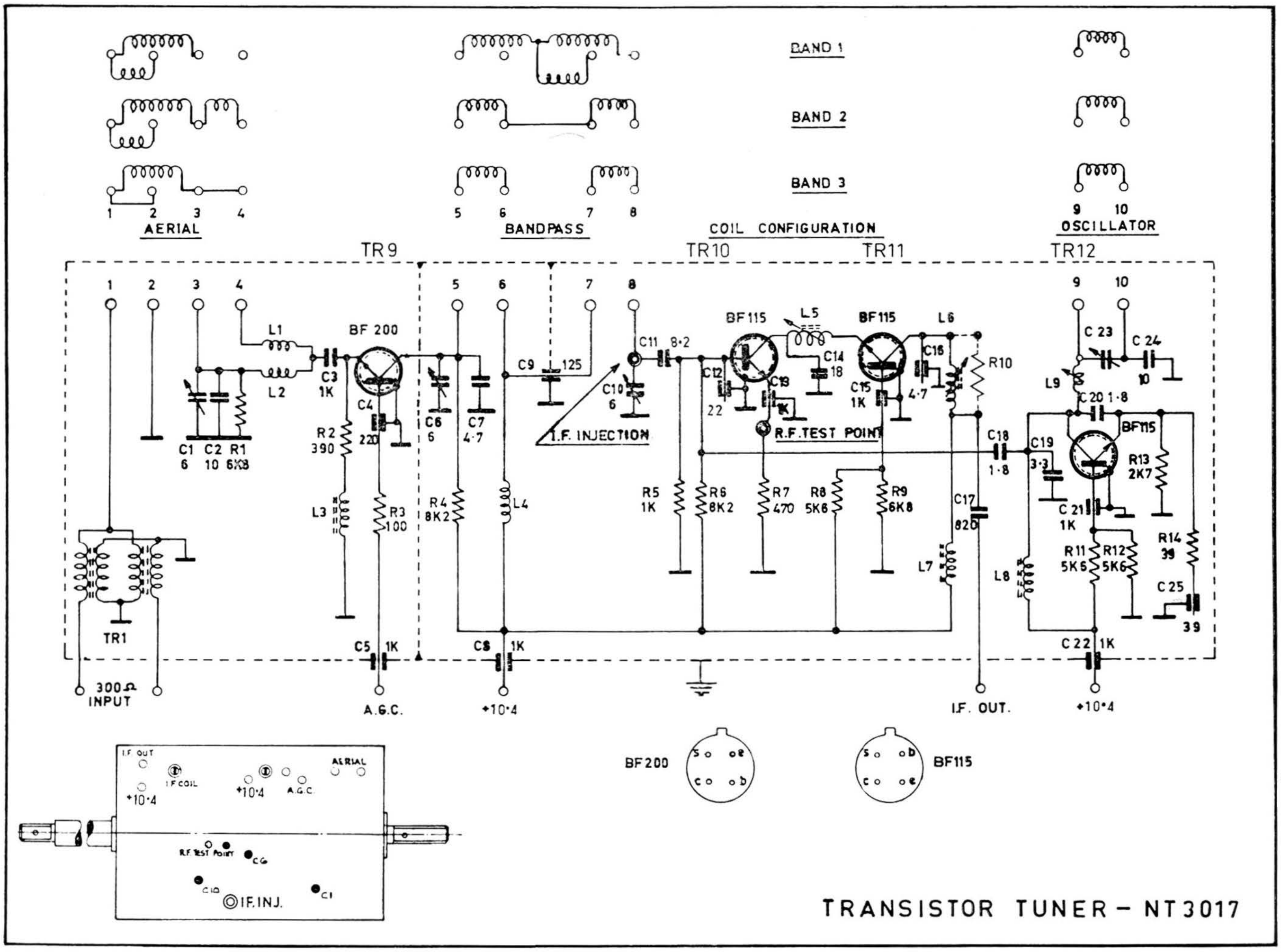
VIEWED FROM CONDUCTOR SIDE

TV MODEL PT1 BLOCK DIAGRAM 49-1 CHASSIS



CHASSIS 49-1 PEAK—PEAK WAVE FORMS.




BAND 1
BAND 2
BAND 3
AERIAL
BANDPASS
COIL CONFIGURATION
OSCILLATOR
TR9
TR10
TR11
TR12
BF 200
BF 115
BF115
L1
L2
L3
L4
L5
L6
L7
L8
L9
C1 6
C2 10
R1 6K8
C3 1K
C4 220
R2 390
R3 100
C5 1K
C6 6
C7 4·7
C8 1K
C9 125
C10 6
C11 8·2
C12 22
C13 1K
C14 18
C15 1K
C16 4·7
C17 820
C18 1·8
C19 3·3
C20 1·8
C21 1K
C22 1K
C23
C24 10
C25 39
R4 8K2
R5 1K
R6 8K2
R7 470
R8 5K6
R9 6K8
R10
R11 5K6
R12 5K6
R13 2K7
R14 39
I.F. INJECTION
R.F. TEST POINT
TR1
300Ω INPUT
A.G.C.
+10·4
I.F. OUT.
BF200
BF115
I.F. OUT
I.F. COIL
AERIAL
R.F. TEST POINT
IF. INJ.
TRANSISTOR TUNER – NT3017

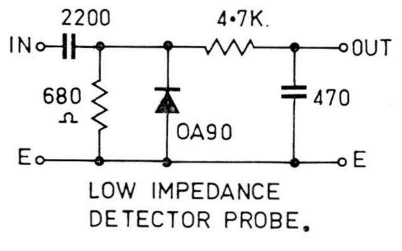
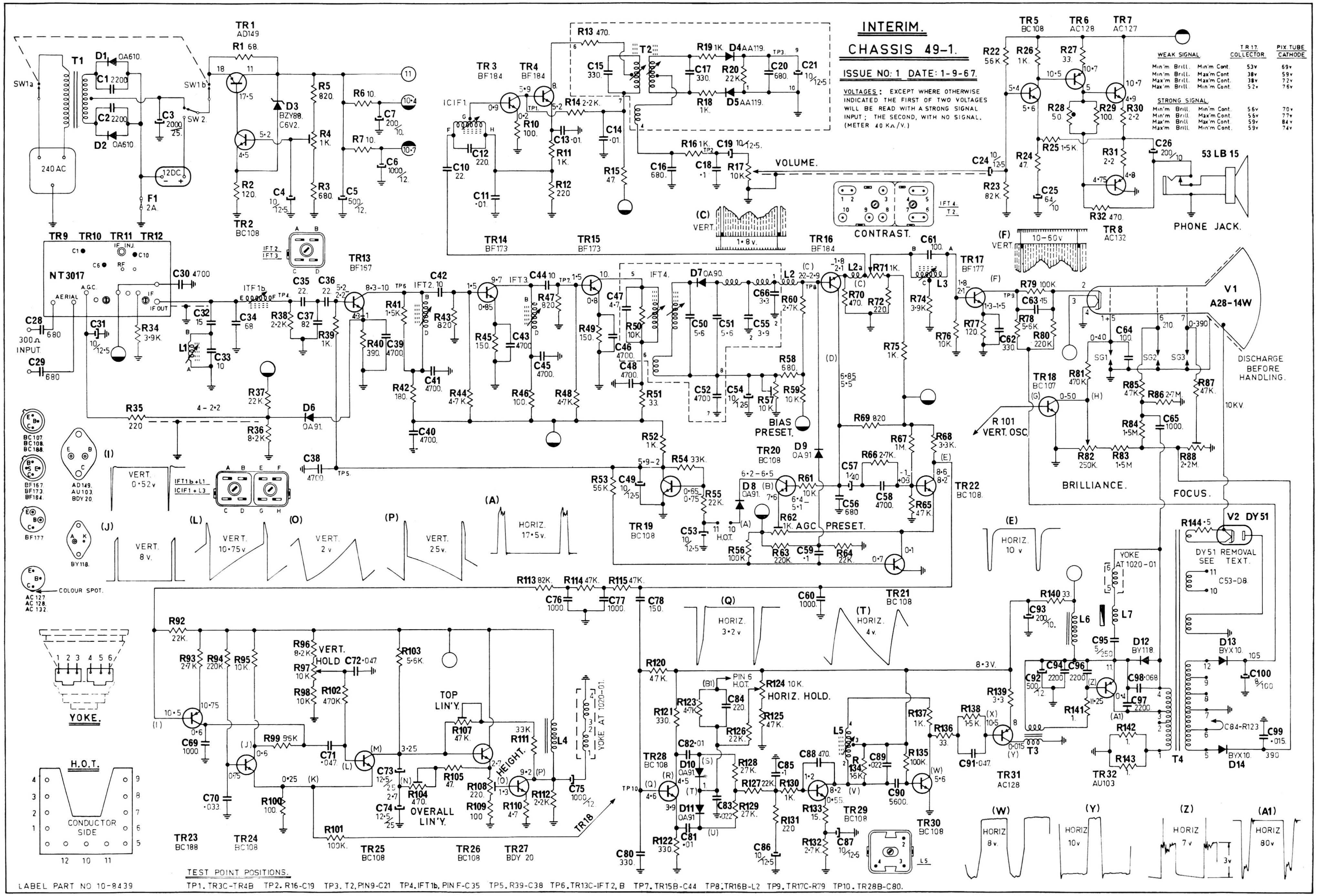

2200
4·7K.
IN
OUT
680 Ω
0A90
470
E
E
LOW IMPEDANCE
DETECTOR PROBE.
·001
22K.
IN
OUT
470K
0A91
100
E
E
HIGH IMPEDANCE
DETECTOR PROBE.

FIG. 7


INTERIM.
CHASSIS 49-1.
ISSUE NO: 1 DATE: 1-9-67.
VOLTAGES: EXCEPT WHERE OTHERWISE INDICATED THE FIRST OF TWO VOLTAGES WILL BE READ WITH A STRONG SIGNAL INPUT; THE SECOND, WITH NO SIGNAL. (METER 40 KΩ/V.)
WEAK SIGNAL — TR17 COLLECTOR — PIX TUBE CATHODE
Min'm Brill. Min'm Cont. 53v 69v
Min'm Brill. Max'm Cont. 38v 59v
Max'm Brill. Max'm Cont. 38v 72v
Max'm Brill. Min'm Cont. 52v 76v
STRONG SIGNAL
Min'm Brill. Min'm Cont. 56v 70v
Min'm Brill. Max'm Cont. 56v 77v
Max'm Brill. Max'm Cont. 59v 84v
Max'm Brill. Min'm Cont. 59v 74v
VOLUME.
CONTRAST.
BRILLIANCE.
FOCUS.
PHONE JACK.
53 LB 15
V1 A28-14W
DISCHARGE BEFORE HANDLING.
V2 DY51
DY51 REMOVAL SEE TEXT.
BIAS PRESET.
AGC PRESET.
HORIZ. HOLD.
VERT. HOLD
TOP LIN'Y.
OVERALL LIN'Y.
HEIGHT.
YOKE AT 1020-01
YOKE.
H.O.T.
CONDUCTOR SIDE
300Ω INPUT
240 AC
12DC
NT3017
COLOUR SPOT.
TEST POINT POSITIONS.
TP1. TR3C-TR4B TP2. R16-C19 TP3. T2, PIN9-C21 TP4. IFT1b, PIN F-C35 TP5. R39-C38 TP6. TR13C-IFT2, B TP7. TR15B-C44 TP8. TR16B-L2 TP9. TR17C-R79 TP10. TR28B-C80.
LABEL PART NO 10-8439

ORDERING REPLACEMENT PARTS:

When ordering replacement and/or spare parts, quote the following information in correspondence and attach a label bearing this information to every component returned to the Company. Printed labels for this purpose will be supplied by the Service Division upon request.

1. Model No. of receiver—stamped on rear cover of cabinet.
2. Chassis No. of receiver—e.g. 49 - 1, Issue 1.
3. Serial No. of chassis—printed on card attached to chassis.
4. Detailed specification of component—include circuit code No.
5. Detailed description of the fault.

All the above information is necessary to ensure that the correct replacement part is despatched with minimum delay.
The Kriesler Laboratory is interested in examining defective components so that the established quality of the product and reliability of components is under constant surveillance.

PARTS LIST, MECHANICAL:

PART NO.	DESCRIPTION
16-8367A	Numeral Disc, Bone
16-8367B	„ „ Charcoal
20-8366	Knob, Fine Tuning
20-8368	Knob, Channel Change
20-8449	Knob, Volume
20-8450	Knob, Contrast or Brilliance
46-8443	3-Pin Contact Insulator Assembly
46-8442	2-Pin Contact Insulator Assembly
20-8384	Socket Body, 3-Pin (240V)
20-8383	Socket Body, 2-Pin (12V)
16-8377	Contact, Slide (Phosphor Bronze)
20-8369	Switch Cap
20-8380	Sliding Cover—Socket
20-6142	Contact Retaining Block, 2-Pin
20-8386	Contact Retaining Block, 3-Pin
20-8390	Spacer, Power Socket
16-8388	Spring, Earthing
16-8400	Spring, Cathode Lead
20-5156	Fuse Cover
46-8445	Aerial Plug Panel Assembly
20-8389A	Handle, Ivory
20-8389B	Handle, Charcoal
20-8365	Cover, Foot
36-8360A	Escutcheon, Gold and Bone
36-8360B	„ Chrome and Charcoal
SA 107 (4S)	Telescopic Aerial, Complete
83-218	Earphone Jack
D 7523	240V Lead, AC Plug and Socket
90-8414	12V Power Cord, Complete
McMurdo 1833	EHT Plug Insert
McMurdo 21870A	Ultor Cap
McMurdo B7-HM	Picture Tube Socket

PARTS LIST, ELECTRICAL:

RESISTORS:—

½W ±10% Carbon (BTS): All except as follows:—
½W ± 5% Carbon (BTS): R121, R122, R128, R129
½W ± 5% Wirewound (BW½): R110
½W ±10% Wirewound (BW½): R30, R31, R139, R141, R142, R143
½W ±10% Carbon (AS): R56, R63, R65, R67, R79, R80, R81, R85, R87, R94, R101, R102, R120, R126, R135
1W ±10% Carbon (BTA): R7, R84, R86
1W ±10% Carbon (AY): R83
2W ±10% Carbon (BTB): R78
5W ±10% Wirewound (PW5): R1

Thermistor, Philips B8-320 01 P/50E ±20%: R28

Spark Gap, 3122-100-10131: SG1, SG2, SG3.

Pre-set RM Taper A ±20%: R4

Part No. 32-8391: Pot—Vert. Hold, Horiz. Hold; R97, R124

„ „ 32-8392: Pot—Volume, Off-On SW; R17

„ „ 32-8393: Pot—Brilliance; R82

„ „ 32-8394: Pot—Contrast

Pre-set Philips EO97AD/?: R57, R62, R88, R104, R107, R108. See following note.

NOTE: Philips Resistors or Capacitors, coding of part numbers:—Replace "?" with component value, using "M" or "K" as multipliers and as decimal point, or "E" if no multiplier is required, e.g., 2M2 = 2.2MΩ or 2.2μF. 100K = 100KΩ or 100,000pF (i.e. .1μF). 2K2 = 2.2KΩ or 2200pF (i.e. .0022μF). 470E = 470Ω or 470pF. Thus C296AC/A7K = 1000pF Capacitor Type C296AC/A.

CAPACITORS:—

Polyester 160V ±10% Philips C296AA/A?; C18, C59, C63, C70, C71, C81, C82, C83, C85, C91, C98
Polyester 400V ±10% Philips C296AC/A?; C58, C65, C77, C90
Ceramic 500V NPO ±½pF Philips C304GB/L?; C33, C42, C44
Ceramic 500V NPO ± 5% Philips C304GB/B?; C10, C32, C34, C35, C36, C37
Ceramic 500V NPO ±20% Philips C318BA/P?; C1, C2, C96, C97
Ceramic 500V NPO ±20% Philips C322BC/P?; C94
Ceramic 500V Type AY ±20% Ducon; C16, C27, C28, C29, C56, C60, C69
Ceramic Redcap 25V CDR "F" ±20% Ducon; C30, C38, C39, C40, C41, C43, C45, C46, C48
Ceramic Redcap 25V CDR "A" ±20% Ducon; C11, C13, C14
Ceramic Redcap 25V CDR "B" ±20% Ducon; C72

Electrolytic 10V −10% +50% Philips C426AR/D?; C7, C25, C26, C93

Electrolytic 12.5V −10% +50% Philips C426AR/AD?; C4, C19, C24, C31, C49, C53, C54, C86, C87
Electrolytic 25V −10% +50% Philips C428AR/F?; C73, C74
Electrolytic 40V −10% +50% Philips C426AS/G?; C57
Electrolytic 12VW −10% +50% Ducon EUO1227; C5
Electrolytic 12VW −10% +50% Ducon ET5B; C6, C75
Electrolytic 12VW −10% +50% Ducon PEUO1227; C92
Electrolytic 25VW −10% +50% Ducon ET5D; C3
Electrolytic 100VW −10% +50% Ducon ET1B; C100

Metalised Polyester 250VW Type SLF ±10%; C95

STYROSEAL (Ducon):—

100V DFB 100 ±10%; C61
100V DFB 104 ±10%; C78
100V DFB 108 ±10%; C12, C84
100V DFB 112 ±10%; C62, C80
100V DFB 116 ±10%; C88
1000V DFB 1000 ±20%; C64
50V DFB 0512 ±10%; C76
50V DFB 0544 ±10%; C89

PAPER (Ducon):—
600V TPB 654 ±20%; C99

Circuit Code No.	Part No.	DESCRIPTION
T1	18-8395	Power Transformer
T2	CZ 324-399	Ratio Detector
T3	18-8402	Horiz. Driver Transformer
T4	AT 2042/01	Horiz. Output Transformer
—	AT 7108/50	Socket for HOT
L1 & IFT1b	CZ 320-385	
L2	CZ 322-068	
L2a	CZ 322-068	
L3 & ICIF1	CZ 320-387	
L4	28-8396	Vert. Output Choke
L5	CZ 323-434	Horiz. OSC Coil
L6	VK200 02/3B	Horiz. Supply Choke
IFT 1B & L1	CZ 320-385	
IFT2	CZ 320-386	
IFT3	CZ 320-386	
IFT4	CZ 324-398	
ICIF1 & L3	CZ 320-387	