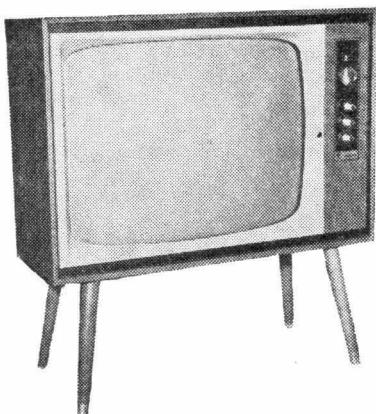
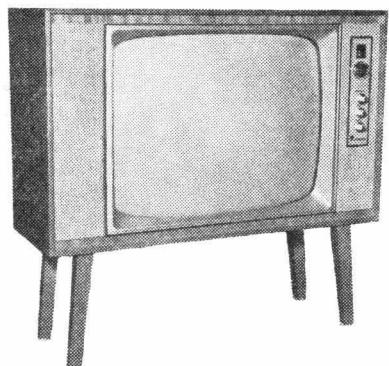


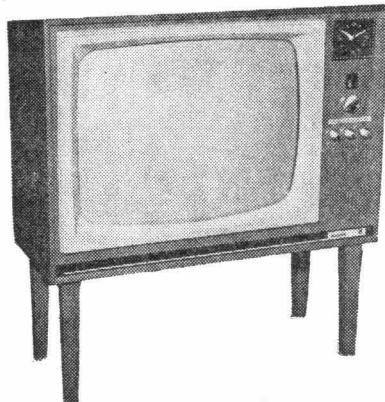
**MODELS: TW491 TW591 TV791
 TS591 TX591 TW791
 TT591 TY591 TX891
 TV591**



TW 491



TX 891



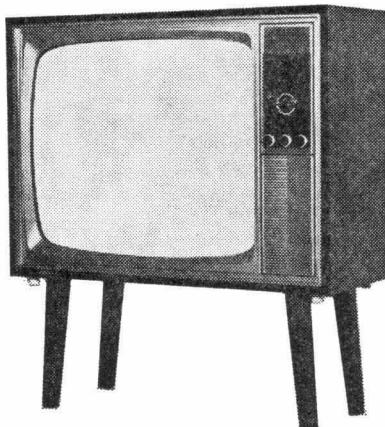
TT 591

PHILIPS *Service* notes

SPECIFICATIONS

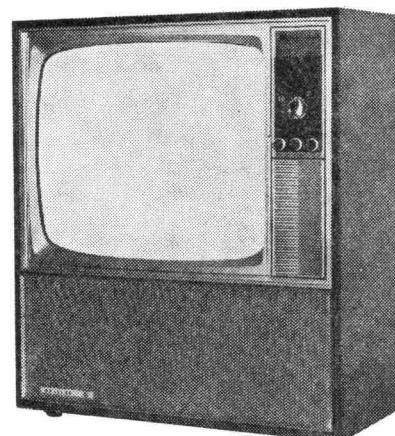
CHANNEL FREQUENCIES

0	45-52 MHz
1	56-63 MHz
2	63-70 MHz
3	85-92 MHz
4	94-101 MHz
5	101-108 MHz
5A	137-144 MHz
6	174-181 MHz
7	181-188 MHz
8	188-195 MHz
9	195-202 MHz
10	208-215 MHz
11	215-222 MHz



TV 591

Aerial input impedance .....	.....300 ohms
Turret tuner .....	.....CZ 210 969 (NT3021)
Video I.F. ....	.....36.5 MHz
Sound I.F. ....	.....5.5 MHz
Supply voltages .....	.....220V, 240V, 255V at 50Hz
Picture tube .....	.....A65/11W.....A59/11W (TT, TS591)
Picture tube focus .....	.....Electrostatic
Picture tube deflection .....	.....Magnetic
Horizontal output transformer .....	.....CZ 355 012
Deflection unit .....	.....CZ 320 953



TV 791

**MODELS: TW491 TW591 TV791
 TS591 TX591 TW791
 TT591 TY591 TX891
 TV591**

SUB-CHASSIS REMOVAL INSTRUCTIONS

Switch off power and remove power plug from mains supply point.

Remove Cabinet back.

Remove small control knobs x3, unplug Aerial lead clips, Video lead from ZL001, 12 pin plug from Power supply tower, and speaker lead spade clips. Back off sub-chassis retaining screws, one top and one bottom, then withdraw complete sub-chassis from front mounting spigot, clear of cabinet.

ALIGNMENT AND PRE-SETS

NOTE:

If receiver has been fitted with superfringe modules ZF001, ZF002 and ZJ002, refer to alignment curves, procedure and parts lists in model T17T284 date.

Before making any adjustments, measure 12V rail to ensure that the correct voltage is present.

PRE-SET WHITE CONTROL

Connect a meter between TP5 and earth.

Switch tuner to blank channel.

Adjust R153 to give a meter reading of 3.1 volts DC.

VIDEO I.F. ALIGNMENT

Switch tuner to blank channel.

Connect C.R.O. input to video pre-amp output (ZJ001 pin 3) Test Point 6.

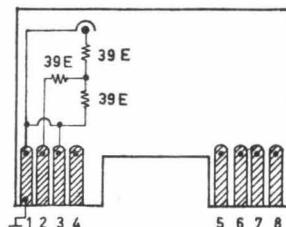


FIG. 1

Remove ZF101 module and replace with special resistive pad (Fig. 1).

Feed a sweep signal via this pad to video and intercarrier detector (ZF102), pins 6 and 7.

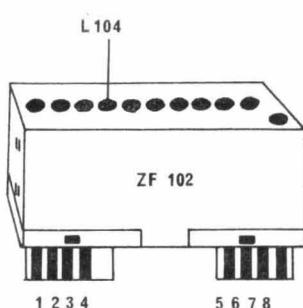


FIG. 2

Adjust core L104 (Fig. 2) to obtain curve (Fig. 3).

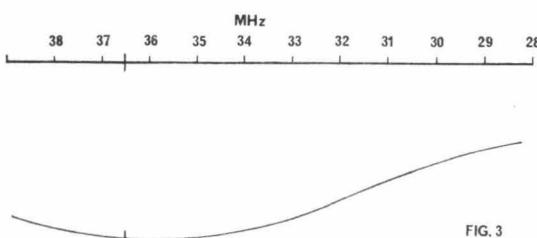


FIG. 3

Remove special resistive pad (Fig. 1).
 Plug in passive filter and I.F. amplifier (ZF101).

Remove video and intercarrier detector (ZF102) and insert special dummy module (ZF002, flat response).

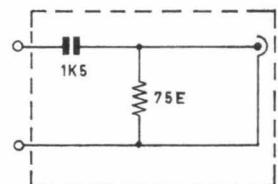


FIG. 4

Using a 10K Potentiometer, wiper to test point 3 and leads between 12 volt rail and earth, adjust wiper to apply a bias of 1.7 to 1.8 volts at test point 3.

Feed a sweep signal via standard tuner probe (Fig. 4) to test point 1 of tuner, C.R.O. input to remain connected to test point 6.

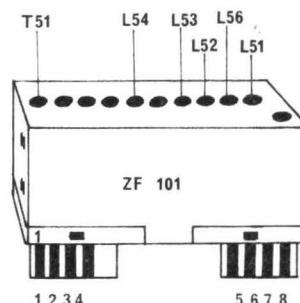


FIG. 5

Adjust L56 (Fig. 5) for trap on 31MHz marker.

Adjust L51 for maximum amplitude.

Adjust L53 to position 36.5 MHz marker at 6 db point.

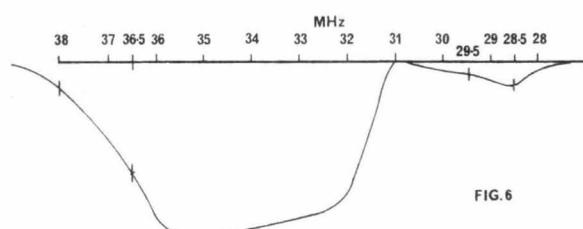


FIG. 6

Adjust T51 and L52 for tilt (Fig. 6).

Adjust L54 for trap depth to lie between 26 and 32 db.
 Repeat process and recheck trap.

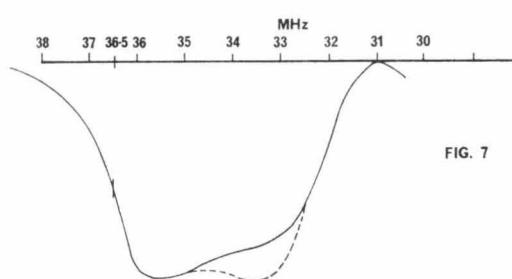


FIG. 7

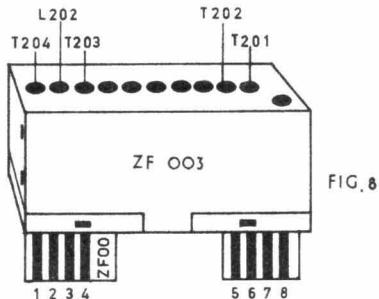
Check walk of response of ZF101 by increasing bias to 2.5V.
 Remove dummy module and replace ZF102.
 Remove bias and check overall response to conform with curve (Fig. 7).

**MODELS: TW491 TW591 TV791
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SOUND I.F. AND RATIO DETECTOR

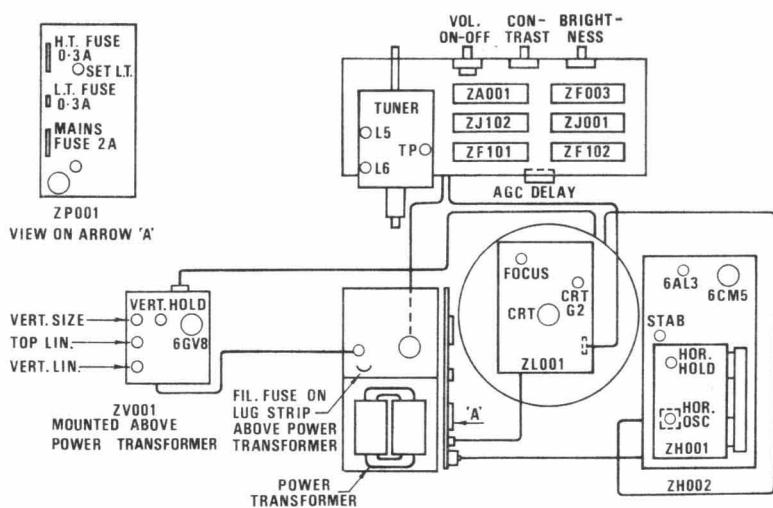
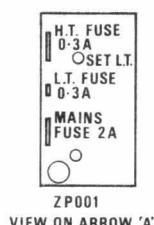
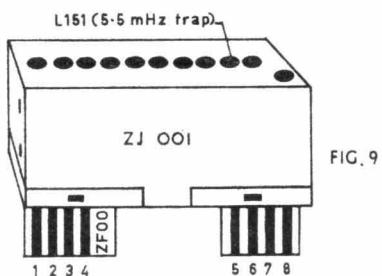
Connect a meter (20,000 ohms per volt) to test point 9. Tune receiver to a strong signal. Adjust cores of T201 (Fig. 8) and T202 (Fig. 8) for maximum deflection. Transfer meter to test point 10. Detune secondary T204 (Fig. 8) to give maximum deflection of meter positive or negative. Adjust T203 (Fig. 8) for maximum deflection of meter. Revert to T204 (Fig. 8) and adjust for zero reading on meter so that with T204 correctly adjusted, a turn of the slug, first clockwise then anti-clockwise, will produce a meter deflection first negative then positive.

NOTE: A listening check should then be made for inter-carrier buzz, and if present, a further adjustment to T204 may be necessary.



5.5 MHz SOUND TRAP ADJUSTMENT

To adjust the trap in the field, detune local oscillator (fine tuning) until a 5.5 MHz pattern appears on the screen, then adjust L151 (Fig. 9) to a position where patterning is visually reduced to a minimum.



FOCUS ADJUSTMENT

With picture at normal brightness, adjust focus control (ZL001) to best compromise for sharpest image overall. If best compromise is outside control range, interchange links across R364 and R366.

C.R.T. GRID 2 PRE-SET

Turn contrast control to minimum.
Turn brightness control to minimum.
Now turn brightness control mechanically through approximately 90° rotation.
Adjust 2M2 Grid 2 pre-set so that picture is just extinguished.

ADJUSTMENT OF HORIZONTAL STABILISATION CONTROL

Ensure that the power transformer primary voltage is set for the nominal mains voltage. Connect a DC voltmeter (at least 20,000 ohms per volt) across the boost capacitor C553. Correctly synchronise the picture. Turn contrast and brightness controls to minimum. Adjust stabilisation control R555 to obtain a reading of 600V.

HORIZONTAL OSCILLATOR FREQUENCY ADJUSTMENT

Apply a transmitted picture signal to aerial terminals and set horizontal hold control R516 to its mechanical centre. Short out sync. between Pin 1 and Pin 3 of ZH001 and adjust T501 so that the picture just floats through. Restore sync. and check that the catch range is symmetrical about the central mechanical setting of the hold control.

A.G.C. PRE-SET CONTROL

This control determines the delay of A.G.C. voltage to the tuner. If the delay is insufficient, mixer noise will become apparent at moderate signals (particularly on high channels). If, however, the delay is excessive, herringbone patterning may be apparent on the low frequency channels at moderate to high signals. Factory adjustment is made for best compromise of all signal levels and should prove correct for most locations. In certain difficult localities, if herringbone patterning should occur on lower frequencies, this pre-set control may be adjusted to reduce interference without introducing excessive noise. In addition if it is necessary to replace certain components, or modules, adjustment may be necessary to compensate for any variation in performance. It is important to check the effect on all viewing channels as a good setting for one channel may not be satisfactory for another.

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 TT591 TY591 TX891
 TV591**

MECHANICAL PARTS LIST

GENERAL

DESCRIPTION	CODE No.
Cabinet back (TS TT TV TW TX TY591, TV TW791)	CS 462 851
Cabinet back (TX891, TW491)	CS 462 847
Channel Indicator Assembly (TS TT TW TX TY591, TX891, TW491)	CR 480 011
Channel Indicator Assembly (TV591, TV791, TW791)	CR 480 009
Channel Indicator Drum (TS TT TW TX TY591, TX891, TW491)	CS 360 803
Channel Indicator Drum (TV591, TV791, TW791)	CS 414 043
Clip, Cabinet back fixing (All Models)	CS 282 511
Clip Extension Shaft (TS TT591, TX891, TW491)	CS 200 057
Clock Assembly, complete (TT591 only)	CZ 286 052
Clock Movement (TT591 only)	CZ 286 050
Hand hour (TT591 only)	CS 410 032
Hand minute (TT591 only)	CS 410 033
Knob clock adjust (TT591 only)	CS 610 056
Window clock (TT591 only)	CS 030 061
Extension Shaft (TS TT591, TW491, TX891)	CS 364 405
Frame Front Assembly (TV591, TV791, TW791)	CR 304 665
Gear Box Assembly (all models)	CR 572 702
Knob Assembly Channel Selector (TS TT591, TW491, TX891)	CR 524 533
Knob Assembly Channel Selector (TV591, TV TW791)	CR 524 541
Knob Assembly Channel Selector (TW591)	CR 524 542
Knob Assembly Channel Selector (TX591, TY591)	CR 524 536
Knob Assembly Function x3 (TV TX TY591, TV TW791)	CR 524 540
Knob Assembly Function x3 (TW591)	CR 524 518
Knob Assembly Function x3 (TS TT591, TW491, TX891)	CR 524 543
Leg Assembly x4 (square) (TV591)	CR 701 083 Gloss (quote colour)
Leg Assembly x4 (square) (TV591)	CR 701 084 Matt (quote colour)
Leg Assembly x4 (square) (TS TT TX TY591, TX891)	CR 701 067 Maple
Leg Assembly x4 (square) (TS TT TX TY591, TX891)	CR 701 068 Walnut
Leg Assembly x4 (square) (TS591 only)	CR 701 316 Teak
Leg Assembly x4 (square) (TX891)	CR 701 192 Teak
Leg Assembly x4 (round) (TW491, TW591)	CR 701 070 Maple
Leg Assembly x4 (round) (TW491, TW591)	CR 701 071 Walnut
Mask Assembly (TS TT591)	CR 029 421
Mask (TW491, TW TX TY591)	CS 050 476
Mask (TX891)	CS 050 481
Screw grub (gear box to tuner) 5/32" BSW x 3/8" L Hex Recess	CH 058 121
Spacer (TW591)	CS 284 113
Spring (mask fixing) (TW491 TW TX TY591 TX891)	CS 200 110
Spring clip (Extension Shaft)	CS 200 057
Terminal Aerial	CS 376 205
Window Assembly (TS591)	CR 021 005
Window Assembly (TW TT591, TW491, TX891)	CR 021 006
Window Channel (TV591, TV791, TW791, TS TT TW591, TW491, TX891)	CS 030 055

FRAME ASSEMBLY EDGE CONNECTOR

DESCRIPTION	CODE No.
ZF001, ZF101	CR 106 210
ZF002, ZF102	CR 106 211
ZF003	CR 106 208
ZJ001	CR 106 209
ZJ002, ZJ102	CR 106 212
ZA001	CR 106 205
Block (edge connector)	CS 116 017
Contacts	CS 104 263
Key polarizing	CS 432 848

TURRET TUNER

DESCRIPTION	CODE No.
Bearing-rotor (front)	CS 382 711
Bearing-rotor (rear)	CS 382 712
Cam Follower and Bracket Assembly (fine tuning)	CR 262 542
Fine Tuning Trimmer Loading Spring	CR 200 083
Fine Tuning Spindle and Pinion Assembly	CR 371 246
Fine Tuning Trimmer Invar Pin	CR 102 205
Fine Tuning Trimmer Cap	K4 002 73
Fine Tuning Trimmer Tube	
Gear Assembly (intermediate gear between F/T pinion and F/T cams)	CR 262 543
Glass Terminals x3	A3 348 25
Indexing Roller Assembly	4822 528 70105
Indexing Roller Spring	4822 492 60077
Rotor Assembly	CR 247 221
Side Plate (indexing spring side)	A3 180 20
Side Plate (F/T adj. side)	CS 242 418
Spring Earth x2	A3 195 84
Stator Strip Assembly	CR 106 008

TUNER / I.F. SUB-CHASSIS ASSEMBLY

DESCRIPTION	CODE No.
Aerial lead assembly	CZ 362 111
Hinge Pin x2 (module frame fixing)	CS 282 549
Lead thru, insulator, x2 (Radio Corp. Type 7120-044-01)	CS 116 469
Lead thru, for above	CH 815 087
Plug, 12-pin, Free (Teletron PS212-L/10B)	CZ 365 552
Socket 3 pin Free (McMurdo)	CZ 370 322
Socket, Lamp (C/F 733-3-17)	CZ 367 724
Shield, Lamp	CS 050 204

ZL001 Video Amplifier

DESCRIPTION	CODE No.
Cover Plug (McMurdo 22P 21868A)	CS 462 825
Cooling Fin	CS 066 608
Plug, 7-pin free (McMurdo BLM7/UUP.1)	CZ 365 452
Socket C.R.T. (McMurdo B8HM No. 467B)	CZ 369 531
Spring Clip used with cooling fin	CS 200 124

ZP001 Power Supply (board only)

DESCRIPTION	CODE No.
Bead, insulating (use with R409)	CS 111 247
Cover Fuse	CZ 371 121
Fin, Cooling (Type 56263)	CS 066 607
Socket, B7G PW (C/F 733-2-67)	CZ 370 717
Socket, B9G PW (C/F 733-2-65)	CZ 370 718
Socket, 2-pin (McMurdo 2QS/NAUK) (TT591 only)	CZ 370 150

Power Supply (main tower)

DESCRIPTION	CODE No.
Cable Clamp — powerlead (Ceeco N8C24)	CS 116 469
Insulator — lead thru (Radio-corp. Type 7120-044-01) x2	CH 815 087
Lead thru, for above	CZ 369 718
Socket, B9A (C/F 733-2-25)	CZ 370 954
Socket, 12-pin (Teletron ST 212-9)	

ZV001 Vertical Oscillator and Output

DESCRIPTION	CODE No.
Knob Assembly (Vert. Hold)	CR 524 546
Pivot x2 (Deutsher Type 254-AD120301-02)	CS 282 547
Plug, 9-pin, Free	4822 264 50051
Socket, B9A (C/F 733-2-65)	CZ 370 718
Socket, 3-pin (McMurdo 3QS/BU)	CZ 370 321
Spring, for above Knob Assy.	4822 492 50209

ZH002 Horizontal Output

DESCRIPTION	CODE No.
Cover EHT Socket	CS 463 124
Cover (McMurdo Type N.P. 21859) for 4 pin Socket	CS 462 833
Edge Connector Assembly	CR 106 207
Lead Assembly EHT	CZ 360 549
Plug 9 pin Free	4822 264 50051
Socket EHT (McMurdo B9W5/PSV 691A)	CZ 369 738
Socket 4 pin Free (McMurdo 4 QS/NP)	CZ 370 532
Socket Octal (C/F 733-2-11)	CZ 369 703
Socket B9A (C/F 733-2-25)	CZ 369 718

**MODELS: TW491 TW591 TV791
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TV591**

ELECTRICAL PARTS LIST

TURRET TUNER NT3021 (CZ 210 969)

CAPACITORS

C. No.	DESCRIPTION	VW	Tol. ± %	TYPE or CODE No.
1	3E ceramic trimmer	400	—	C 004 CA/3E
2	10E ceramic NPO	500	0.5pF	C 304 GB/L10E
3	1K ceramic	500	+50 -20	C 301 GA/H1K
4	220E ceramic feed thru	350	20	C 309 BH/P220E
5	1K ceramic feed thru	350	+50 -20	C 309 BH/H1K
6	3E ceramic trimmer	400	—	C 004 CA/3E
7	4E7 ceramic NPO	500	0.5pF	C 304 GB/L4E7
8	1K ceramic feed thru	350	+50 -20	C 309 BH/H1K
9	125E ceramic feed thru	350	5	C 309 BC/B125E
10	3E ceramic trimmer	400	—	C 004 CA/3E
11	8E2 ceramic	500	0.5pF	C 304 GB/L8E2
12	22E ceramic feed thru	350	10	C 309 BG/A22E
13	1K ceramic feed thru	350	+50 -20	C 309 BH/H1K
14	15E ceramic NPO	500	5	C 304 GB/B15E
15	1K ceramic feed thru	350	+50 -20	C 309 BH/H1K
16	4E7 ceramic feed thru	350	0.5pF	C 309 BG/L4E7
17	1K ceramic	500	+50 -20	C 301 GA/H1K
18	2E2 ceramic NPO	500	0.25pF	C 304 GB/N2E2
19	3E3 ceramic NPO	500	0.5	C 304 GB/L3E3
20	1E8 ceramic N750	500	0.25pF	C 304 GH/N1E8
21	1K ceramic feed thru	350	+50 -20	C 309 BH/H1K
22	1K ceramic feed thru	350	+50 -20	C 309 BH/H1K
23	Fine tuning trimmer body	—	—	C 004 ZZ/19
	Invar pin assembly	—	—	CR 102 205
	Tube	—	—	K4 002 73
24	10E ceramic NPO	500	0.5pF	C 304 GB/L10E
25	39E ceramic feed thru	350	10	C 309 BG/A39E

RESISTORS

R. No.	DESCRIPTION	W.	Tol. ± %	TYPE or CODE No.
1	6K8 cracked carbon	1/8	5	B8 031 04NB/6K8
2	390E cracked carbon	1/8	5	B8 031 04NB/390E
3	100E cracked carbon	1/8	5	B8 031 04NB/100E
4	8K2 cracked carbon	1/8	5	B8 031 04NB/8K2
5	1K cracked carbon	1/8	5	B8 031 04NB/1K
6	8K2 cracked carbon	1/8	5	B8 031 04NB/8K2
7	470E cracked carbon	1/8	5	B8 031 04NB/470E
8	5K6 cracked carbon	1/8	5	B8 031 04NB/5K6
9	6K8 cracked carbon	1/8	5	B8 031 04NB/6K8
11	5K6 cracked carbon	1/8	5	B8 031 04NB/5K6
12	5K6 cracked carbon	1/8	5	B8 031 04NB/5K6
13	2K7 cracked carbon	1/8	5	B8 031 04NB/2K7
14	39E cracked carbon	1/8	5	B8 031 04NB/39E
15	6K8 cracked carbon	1/8	5	B8 031 04NB/6K8

INDUCTORS

L. No.	DESCRIPTION	CODE No.
1	Coupling coil	CZ 319 801
2	Coupling coil	CZ 319 802
3	R.F. choke	CZ 322 062
4	Mixer osc. module	CZ 319 818
5	Coupling coil I.F.	CZ 320 744
6	I.F.T. Assy.	CZ 320 566
7	R.F. choke	CZ 322 062
8	R.F. choke	CZ 322 062
9	Osc. coil	CZ 320 114
10	Osc. Coil (Series)	CZ 319 824
TRI	Input transformer	CZ 319 803

CHANNEL BISCUITS

CHANNEL No.	CODE No.
0	CZ 319 805
1	CZ 319 806
2	CZ 319 807
3	CZ 319 808
4	CZ 319 809
5	CZ 319 810
5A	CZ 319 811
6	CZ 319 812
7	CZ 319 813
8	CZ 319 814
9	CZ 319 815
10	CZ 319 816
11	CZ 319 817

ZF101 Passive Filter and I.F. Amplifier (CZ 715 503)

CAPACITORS

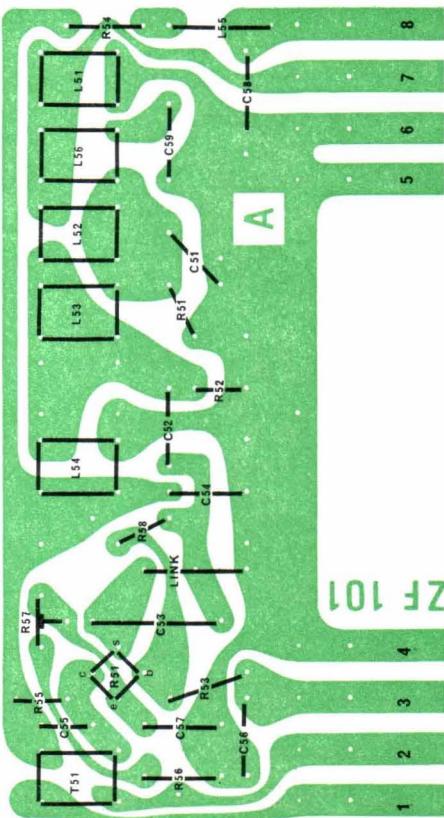
C. No.	DESCRIPTION	VW	Tol. ± %	TYPE or CODE No.
51	27E ceramic NPO	500	5	C 304 GB/B27E
52	33E ceramic NPO	500	5	C 304 GB/B33E
53	220E ceramic N750	500	5	C 304 GH/B220E
54	1K ceramic	500	+50 -20	C 322 BA/H1K
55	18E ceramic NPO	40	2	C 333 CB/L18E
56	1K ceramic	500	+50 -20	C 322 BA/H1K
57	1K ceramic	500	+50 -20	C 322 BA/H1K
58	1K ceramic	500	+50 -20	C 322 BA/H1K
59	27E ceramic NPO	500	5	C 304 GB/B27E

RESISTORS

R. No.	DESCRIPTION	W.	Tol. ± %	TYPE or CODE No.
51	4K7 carbon	1/2	10	B8 031 05A/4K7
52	4K7 carbon	1/2	10	B8 031 05A/4K7
53	1K carbon	1/2	10	B8 031 05A/1K
54	220E carbon	1/2	10	B8 031 05A/220E
55	4K7	1/2	10	B8 031 05A/4K7
56	220E carbon	1/2	10	B8 031 05A/220E
57	220E carbon	1/2	10	E 086 BC/220E
58	Potentiometer	1/2	10	B8 031 05A/39E
	39E carbon	1/2	10	B8 031 05A/39E

INDUCTORS

L. No.	DESCRIPTION	CODE No.
51	Coupling coil	CZ 660 001
52	Video IF coil	CZ 660 002
53	Coupling coil	CZ 660 004
54	Video IF coil	CZ 660 002
55	RF choke (22uH)	CZ 322 078
56	38MHz trap	CZ 660 003
T51	Video IF transformer	CZ 660 007



**MODELS: TW491 TW591 TV791
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 TV591**

ELECTRICAL PARTS LIST

ZF102 Video and Intercarrier Detector (CZ 715 504)

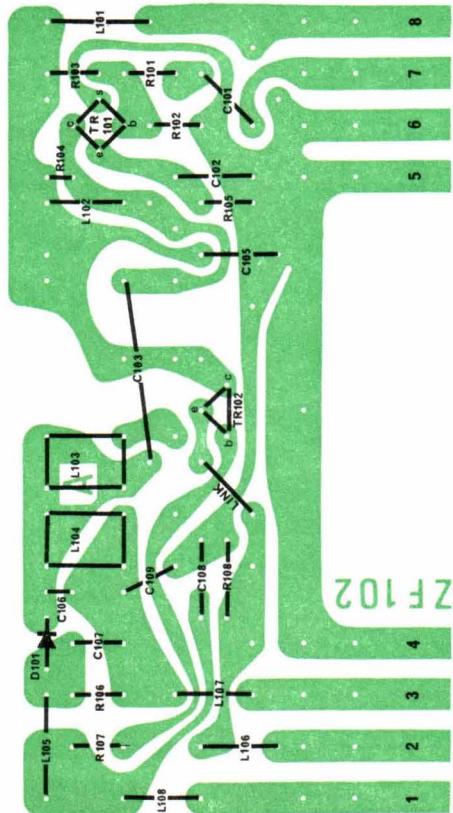
CAPACITORS				
C. No.	DESCRIPTION	VW	Tol. ± %	TYPE or CODE No.
101	470E ceramic	500	20	C 322 BC/P470E
102	3K3 ceramic	500	+50	C 322 BA/H3K3
			-20	
103	270E ceramic N750	500	5	C 304 GH/B270E
105	10E ceramic NPO	63	± 1/2 pF	C 333 CB/L10E
106	3K3 ceramic	500	+50	C 322 BA/H3K3
			-20	
107	15E ceramic NPO	500	5	C 333 CB/L15E
108	15E ceramic NPO	500	5	C 333 CB/L15E
109	47K Met. Poly,	250	10	C 280 AE/A47K

RESISTORS

R. No.	DESCRIPTION	W	Tol. ± %	TYPE or CODE No.
101	33E carbon	1/2	10	IRC BTS CZ 000 317
102	4K7 carbon	1/2	10	B8 031 05A/4K7
103	22K carbon	1/2	10	IRC BTS CZ 003 927
104	3K3 carbon	1/2	10	B8 031 05A/3K3
105	220E carbon	1/2	10	B8 031 05A/220E
106	4K7 carbon	1/2	10	B8 031 05A/4K7
107	100E carbon	1/2	10	B8 031 05A/100E
108	390E carbon	1/2	10	B8 031 05A/390E

INDUCTORS

L. No.	DESCRIPTION	CODE No.
101	RF Choke (22uH)	CZ 322 078
102	RF Choke (22uH)	CZ 322 078
104	Trap (34MHz)	CZ 660 012
105	RF Choke (22uH)	CZ 322 078
106	RF Choke (6uH)	CZ 322 062
107	RF Choke (6uH)	CZ 322 062
108	RF Choke (6uH)	CZ 322 062



ZJ001 Video Pre-Amplifier and A.G.C. (CZ 716 200)

CAPACITORS

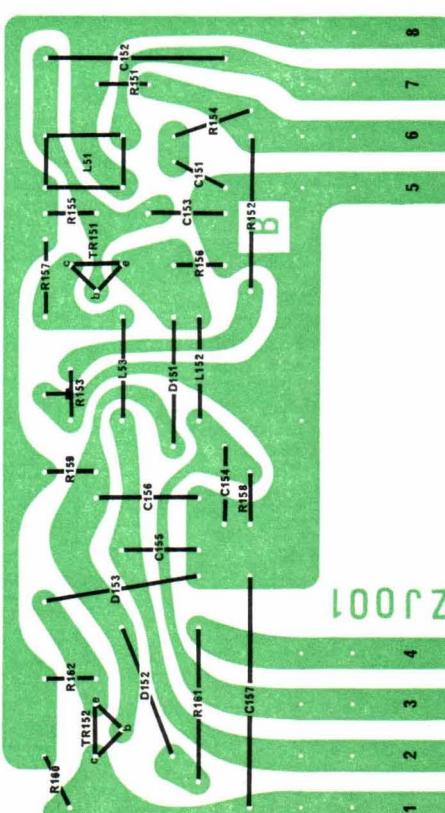
C. No.	DESCRIPTION	VW	Tol. ± %	TYPE or CODE No.
C151	0.64uF electrolytic	64	+100-10	C 426 AS/HO 64
C152	180E ceramic N750	500	5	C 304 GH/B180E
C153	39E ceramic N750	500	5	C 304 GH/B39E
C154	470E ceramic	500	20	C 322 BC/P470E
C155	470E ceramic	500	20	C 322 BC/P470E
C156	4K7 polycarbonate	250	20	C 280 AE/A4K7
C157	200uF electrolytic	10V	+50-10	C 426 AR/D200

RESISTORS

R. No.	DESCRIPTION	W	Tol. ± %	TYPE or CODE No.
R151	4K7 carbon	1/2	10	B8 031 05A/4K7
R152	1K carbon	1/2	10	B8 031 05A/1K
R153	1K carbon potentiometer (white pre-set)		20	E 086 AC/1K
R154	100E carbon	1/2	10	B8 031 05A/100E
R155	68K carbon	1/2	10	B8 031 05A/68K
R156	220E carbon	1/2	10	B8 031 05A/220E
R157	270E carbon	1/2	10	B8 031 05A/270E
R158	220E carbon	1/2	10	B8 031 05A/220E
R159	150K carbon	1/2	10	B8 031 05A/150K
R160	680E carbon	1/2	10	B8 031 05A/680E
R161	2K2 carbon	1/2	10	B8 031 05A/2K2
R162	1K carbon	1/2	10	B8 031 05A/1K

INDUCTORS

L. No.	DESCRIPTION	CODE No.
151	5.5 MHz trap	CZ 660 013
152	RF choke 6uH	CZ 322 062
153	RF choke 22uH	CZ 322 078



**MODELS: TW491 TW591 TV791
 TS591 TX591 TW791
 TT591 TY591 TX891
 TV591**

ELECTRICAL PARTS LIST

ZF003 Sound I.F. and Ratio Detector (CZ 715 502)

CAPACITORS

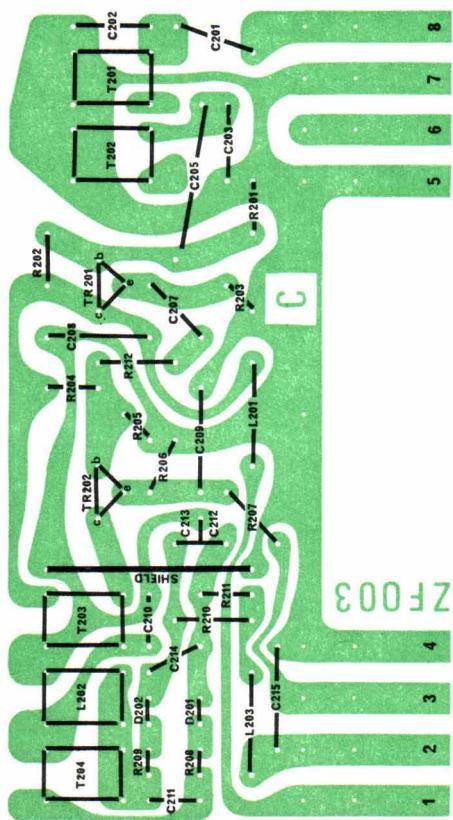
C. No.	DESCRIPTION	VW	Tol. $\pm\%$	TYPE or CODE No.
C201	22E ceramic NPO	500	5	C 304 GB/B22E
C202	150E Styroflex	63	5	C 295 AH/B150E
C203	150E Styroflex	63	5	C 295 AH/B150E
C205	150E Styroflex	63	5	C 295 AH/B150E
C207	1K ceramic	500	+50 -20	C 322 BA/H1K
C208	10K poly-carbonate	250	10	C 280 AE/A10K
C209	10K poly-carbonate	250	10	C 280 AE/A10K
C210	150E Styroflex	63	5	C 295 AH/B150E
C211	150E Styroflex	63	5	C 295 AH/B150E
C212	{ 2X 470E ceramic	500	+50 -20	Ducon CDP Style B curve Y CZ 097 154
C214	6.4 uF Electrolytic	6.4	+100-10	C 426 AS/C6 4
C215	1K poly-carbonate	250	10	C 280 AE/A1K

RESISTORS

R. No.	DESCRIPTION	W	Tol. $\pm\%$	TYPE or CODE No.
R201	100K carbon	1/2	10	B8 031 05A/100K
R202	100K carbon	1/2	10	B8 031 05A/100K
R203	1K carbon	1/2	10	B8 031 05A/1K
R204	10K carbon	1/2	10	B8 031 05A/10K
R205	10K carbon	1/2	10	B8 031 05A/10K
R206	1K carbon	1/2	10	B8 031 05A/1K
R207	10K carbon	1/2	10	B8 031 05A/10K
R208	1K carbon	1/2	10	B8 031 05A/1K
R209	1K carbon	1/2	10	B8 031 05A/1K
R210	10K carbon	1/2	10	B8 031 05A/10K
R211	10K carbon	1/2	10	B8 031 05A/10K
R212	100E carbon	1/2	10	B8 031 05A/100E

INDUCTORS

L. or T. No.	DESCRIPTION	CODE No.
T203	Sound IF Transformer	CZ 660 014
T204	Ratio Detector Transformer	CZ 660 016
L201	Sound IF Coil	CZ 660 013
L202	Sound IF Coil	CZ 660 013
L203	RF Choke (22uH)	CZ 322 078
L204	Coupling Coil	CZ 660 015
L205	RF Choke (22uH)	CZ 322 078



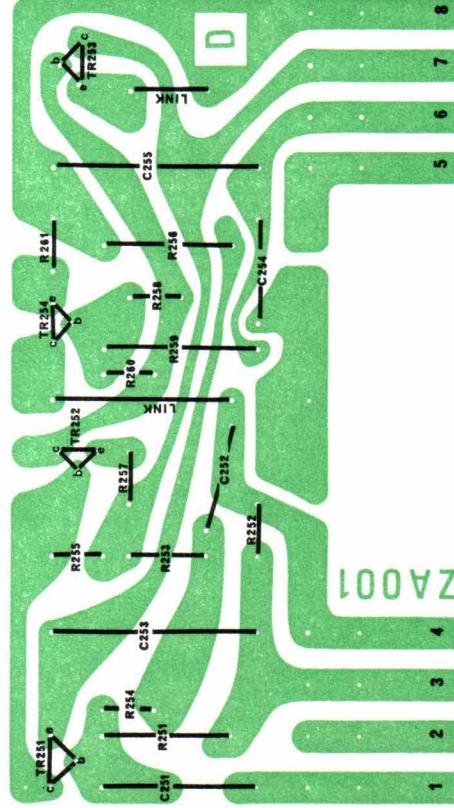
ZA001 Sound Output (CZ 715 100)

CAPACITORS

C. No.	DESCRIPTION	VW	Tol. $\pm\%$	TYPE or CODE No.
251	1uF electrolytic	40		C 426 AS/G1
252	10uF electrolytic	16		C 426 AR/E10
253	200uF electrolytic	10		C 426 AR/D200
255	200uF electrolytic	10		C 426 AR/D200

RESISTORS

R. No.	DESCRIPTION	W	Tol. $\pm\%$	TYPE or CODE No.
251	220K carbon	1/2	10	B8 031 05A/220K
252	22E carbon	1/2	10	B8 031 05A/22E
253	18K carbon	1/2	10	B8 031 05A/18K
254	100K carbon	1/2	10	B8 031 05A/100K
255	1K carbon	1/2	10	B8 031 05A/1K
256	3K3 carbon	1/2	10	B8 031 05A/3K3
257	27E carbon	1/2	10	B8 031 05A/27E
258	50E disc NTC	10		E 201 BC/A50E
259	820E carbon	1/2	10	B8 031 05A/820E
260	56E carbon	1/2	10	B8 031 05A/56E
261	1E2 carbon	1/2	10	B8 031 05A/1E2



**MODELS: TW491 TW591 TV791
TS591 TX591 TW791**

**TT591 TY591 TX891
TV591**

ELECTRICAL PARTS LIST

ZJ102 Sync Separator

(CZ 716 202)

CAPACITORS

C. No.	DESCRIPTION	VW	Tol. \pm %	TYPE or CODE No.
306	2K2 met polycarb	250	10	C 280 AE/A2K2
307	1K5 ceramic	500	+50 -20	C 322 BA/H1K5
308	33K met polycarb	250	10	C 280 AE/A33K
309	0.64uF electrolytic	64	+100-10	C 426 AS/H0.64
310	1K ceramic	500	+50 -20	C 322 BA/H1K
311	22K met polycarb	250	10	C 280 AE/A22K
312	0.64uF electrolytic	64	+100-10	C 426 AS/H0.64

RESISTORS

R. No.	DESCRIPTION	W	Tol. \pm %	TYPE or CODE No.
308	2K2 carbon	1/2	10	B8 031 05A/2K2
309	120K carbon	1/2	10	B8 031 05A/120K
310	6K8 carbon	1/2	10	B8 031 05A/6K8
311	1K5 carbon	1/2	10	B8 031 05A/1K5
312	1M carbon	1/2	5	B8 031 05B/1M
313	68K carbon	1/2	10	B8 031 05A/68K
314	4K7 carbon	1/2	10	B8 031 05A/4K7
315	1K carbon	1/2	10	B8 031 05A/1K
316	47K carbon	1/2	10	B8 031 05A/47K
317	5K6 carbon	1/2	10	B8 031 05A/5K6
318	1K carbon	1/2	10	B8 031 05A/1K

INDUCTORS

L. No.	DESCRIPTION	CODE No.
L302	RF Choke (1mH)	CZ 322 074



ZL001 Video Amplifier

(CZ 716 700)

CAPACITORS

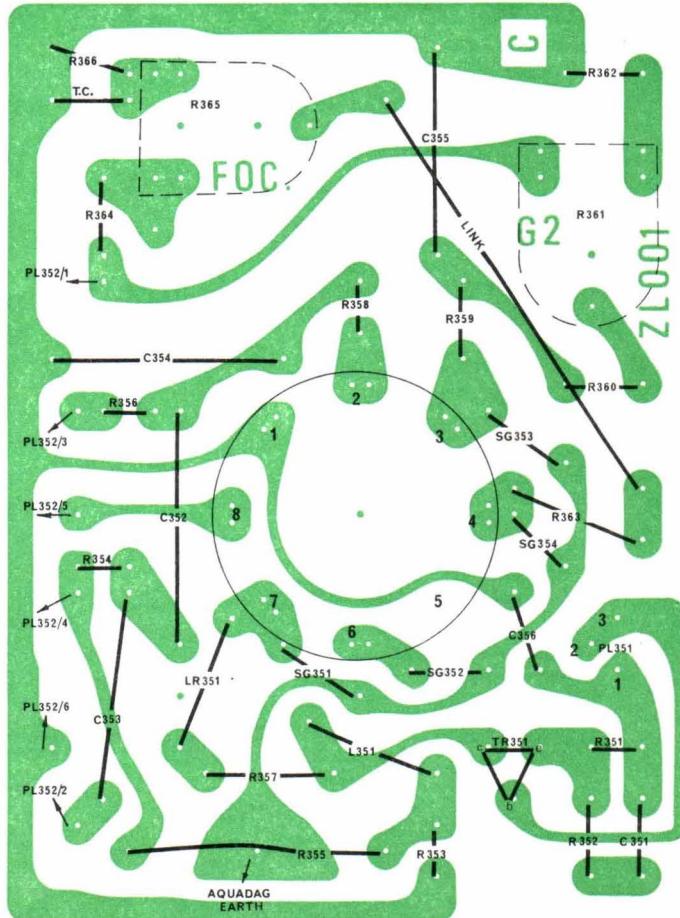
C. No.	DESCRIPTION	VW	Tol. \pm %	TYPE or CODE No.
351	1K2 polyester	400	10	C 296 AC/A1K2
352	47K polyester	400	10	C 296 AC/A47K
353	4K7 polyester	400	10	C 296 AC/A4K7
354	1K paper	400	10	Ducon TPB 440
355	100K polycarbonate	630	10	CZ 072 500 9D
356	4K7 ceramic	500	+50 -20	C 280 CG/A100K

RESISTORS

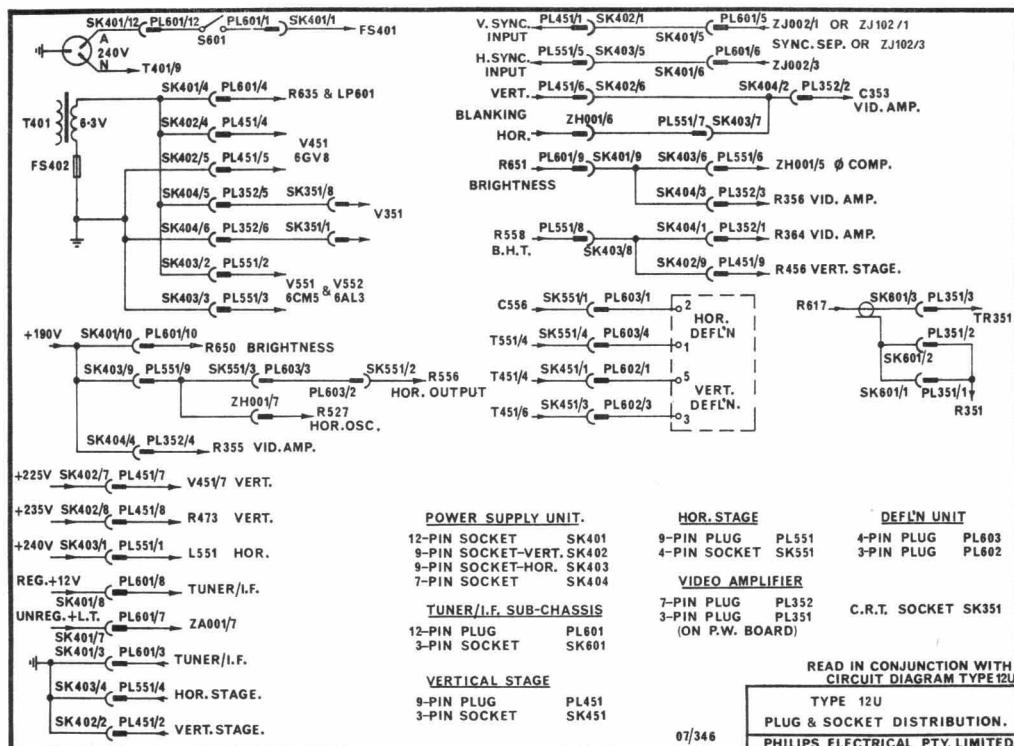
R. No.	DESCRIPTION	W	Tol. \pm %	TYPE or CODE No.
351	100E carbon	1/2	5	B8 031 05B/100E
352	22E carbon	1/2	10	B8 031 05A/22E
353	22K carbon	1	10	B8 031 06A/22K
354	390K carbon	1/2	10	B8 031 05A/390K
355	10K metal oxide	4	5	Welwyn F32
356	1M carbon	1/2	5	CZ 020 856
357	1K5 carbon	1/2	10	B8 031 05B/1M
358	10K carbon	1	10	Morganite 'AS'
359	47K HV carbon	1/2	10	CZ 002 706 0CC
360	3M3 H.V. carbon	1/2	10	B8 031 06A/10K
361	2M2 carbon potentiometer (G2 pre-set)			IRC BTAV
362	2M2 H.V. carbon	1/2	10	CZ 003 908.1
363	3M3 H.V. carbon	1/2	10	IRC BTAV
364	1M H.V. carbon	1/2	10	IRC BTAV
365	2M2 carbon potentiometer (focus)			E 097 AD/2M2
366	1M H.V. carbon			IRC BTAV
SG351-354	Spark gap			CZ 005 109.2
				4822 252 60008

INDUCTORS

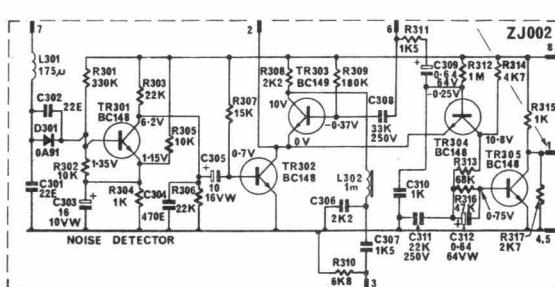
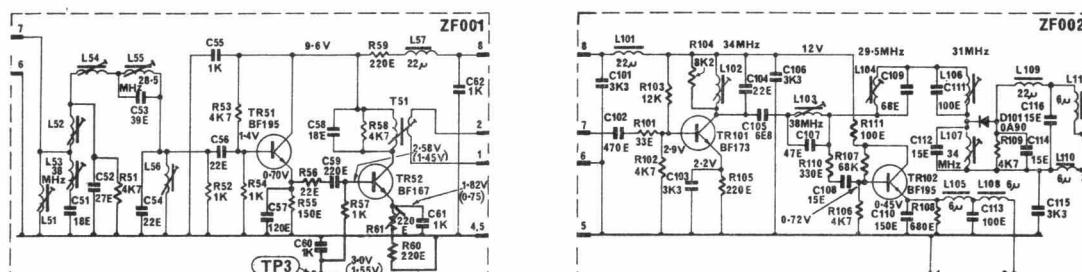
L. No.	DESCRIPTION	TYPE or CODE No.
L351	Peaking Coil 175uH (green spot)	CZ 321 923
LR351	Peaking Coil 175uH (red spot)	CZ 321 957



MODELS: TW491 TW591 TV791
TS591 TX591 TW791
TT591 TY591 TX891
TV591



IN DIFFICULT RECEPTION AREAS, IMPROVED PERFORMANCE MAY RESULT BY SUBSTITUTING ANY ONE OR COMBINATION OF THE THREE MODULES ZF001, ZF002 AND ZJ002 (SHOWN BELOW) FOR ZF101, ZF102 AND ZJ102 AS SHOWN IN THE CIRCUIT N° 12U.



WHEN THE FILTER AND LF MODULE (ZF001 OR ZF101) IS REPLACED THE A.G.C. SETTING MUST BE READJUSTED. ADJUST POT. R606 TO OBTAIN A NOISE FREE PICTURE UNDER STRONG SIGNAL CONDITIONS OR ADJUST FOR MINIMUM NOISE UNDER FRINGE AREA CONDITIONS. ENSURE THAT NO OVERLOAD OCCURS.

RECENT MODIFICATIONS

ZJ102 (ZJ002)

- R318 1K ohms added between collector of TR305 and pin 1.
- R317 Changed from 2K7 ohms to 5K6 ohms.
- R309 Changed from 180K ohms to 120K ohms.

ZF102

- C109 Changed from 3K3pF to 47KpF.
- R102 Changed from 4K7 ohms to 3K3 ohms.

CIRCUIT DIAGRAM ERRATA

ZJ001

- D151 should read OA91.

ZP001

- OC947 is same configuration as BF178 etc.

ZL001

- R358 is 1W. resistor.

ZH002

- R554 is High Voltage resistor.

ZV001

- R456 is 1W. resistor.



MODELS: TW491 TW591 TV791
TS591 TX591 TW791
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TV591

ELECTRICAL PARTS LIST

ZP001 Power Supply

(CZ 716 800)

CAPACITORS

C.	DESCRIPTION	VW	Tol.	TYPE or	CODE No.
C404	40uF electrolytic	16V	+50-10	C 426 AR/E40	
C409	125uF electrolytic	16V	+50-10	C 426 AR/E125	
C410	1K ceramic		+50		

500 -20 C 322 BA/H1K

RESISTORS

R.	DESCRIPTION	W	Tol.	TYPE or	CODE No.
R402	150E wire wound	15	10	IRC PW15	
				CZ 010 219	
R403	56K carbon	2	10	B8 031 07A/56K	
R404	4K7 carbon potentiometer (voltage adjust)	—	—	E 097 AD/4K7	
R405	2K7 carbon	1/2	10	B8 031 05A/2K7	
R407	4K7 carbon	2	10	B8 031 07A/4K7	
R408	1K5 metal oxide	4	5	Welwyn F32	
				CZ 020 855	
R409	12E carbon style CR37 (used as safety device—do not substitute)	1/2	5	B8 031 05B/12E	
R410	10E carbon	1/2	10	B8 031 05A/10E	

FUSES

		TYPE or	CODE No.
FS401	Fuse 2 Amp (mains)	Australux 3AG	
FS403	Fuse 500mA (H.T.)	Australux 3AG	
FS404	Fuse 300mA (12V)	Australux 3AG	

POWER SUPPLY UNIT

(CZ 707 002)

CAPACITORS

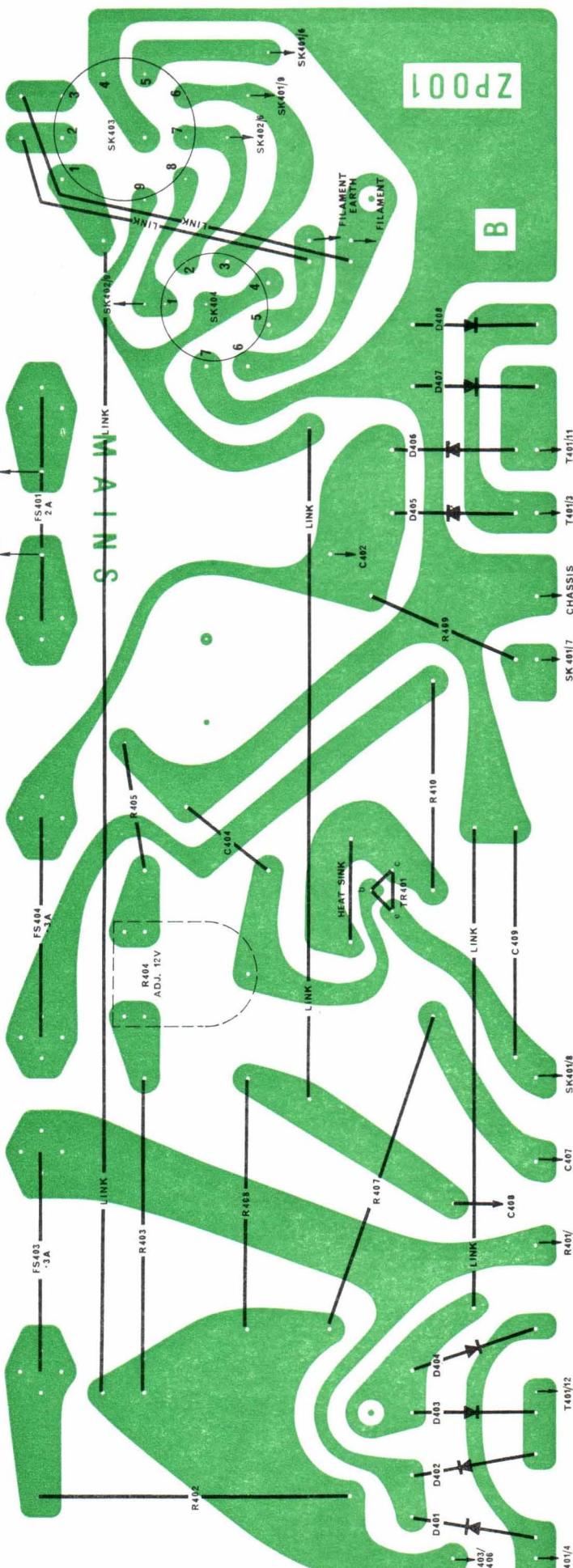
C.	DESCRIPTION	VW	Tol.	TYPE or	CODE No.
401	100uF electrolytic	300		AC 5862/A	
402	1000uF electrolytic	25	+50-10	C 433 NF/F2X1000	
403	200uF electrolytic	300		With C401	
405	50uF electrolytic	300		With C401	
406	1000uF electrolytic	25		With C402	
407	25uF electrolytic	300		With C401	
408	32uF electrolytic	250	+30-10	C 436 AR/M32	

RESISTORS

R.	DESCRIPTION	W	Tol.	TYPE or	CODE No.
401	150K carbon	1	10	B8 031 06A/150K	
406	100E carbon	1	10	B8 031 06A/100E	

INDUCTORS

T.	DESCRIPTION		TYPE or	CODE No.
401	Power transformer		CZ 344 160	



FRAME ASSEMBLY EDGE CONNECTOR

(CZ 707 000)

CAPACITORS

C.	DESCRIPTION	VW	Tol.	TYPE or	CODE No.
601	32uF electrolytic	6.4	+50-10	C 426 AR/C32	
603	80uF electrolytic	16	+50-10	C 426 AR/E80	
617	25uF electrolytic	6.4	+50-10	C 426 AR/C25	
625	8K2 polyester	400	10	C 296 AC/A8K2	
626	8K2 polyester	400	10	C 296 AC/A8K2	
631	47K metpolycarb	250	10	C 280 AE/A47K	

RESISTORS

R.	DESCRIPTION	W	Tol.	TYPE or	CODE No.
602	3K3 carbon	1/2	10	B8 031 05A/3K3	
603	15K carbon	1/2	10	B8 031 05A/15K	
604	4K7 carbon	1/2	10	B8 031 05A/4K7	
605	560E carbon	1/2	10	B8 031 05A/560E	
606	2K carbon potentiometer taper D (AGC pre-set)	—	—	CZ 034 170	
607	2K2 carbon	1/2	10	B8 031 05A/2K2	
608	10K carbon	1/2	10	B8 031 05A/10K	
609	2K2 carbon	1/2	10	B8 031 05A/2K2	
610	1K8 carbon	1/2	10	B8 031 05A/1K8	
611	150E carbon	1/2	10	B8 031 05A/150E	
617	1K2 carbon	1/2	5	B8 031 05B/1K2	
619	100E carbon	1/2	5	B8 031 05B/100E	
620	1K carbon	1/2	5	B8 031 05B/1K	
621	10K carbon	1/2	5	B8 031 05B/10K	
625	10K carbon	1/2	10	B8 031 05A/10K	
626	22K carbon	1/2	10	B8 031 05A/22K	

INDUCTORS

L.	DESCRIPTION	CODE No.
601	R.F. Choke	CZ 322 078

ZH002 Horizontal Output

(CZ 715 901)

CAPACITORS

C.	DESCRIPTION	VW	Tol.	TYPE or	CODE No.
551	4K7 ceramic	500	+50-20	C 322 BA/H4K7	
552	4K7 polyester	400	10	C 296 AC/A4K7	
553	56K paper	1KV	10	Ducon TPB 1061	
554	270E ceramic	2KV	20	CZ 076 218.9D	
555	180E ceramic	700	10	Ducon CDH "B"	
556	180K polyester	160	5	CZ 097 158	

RESISTORS

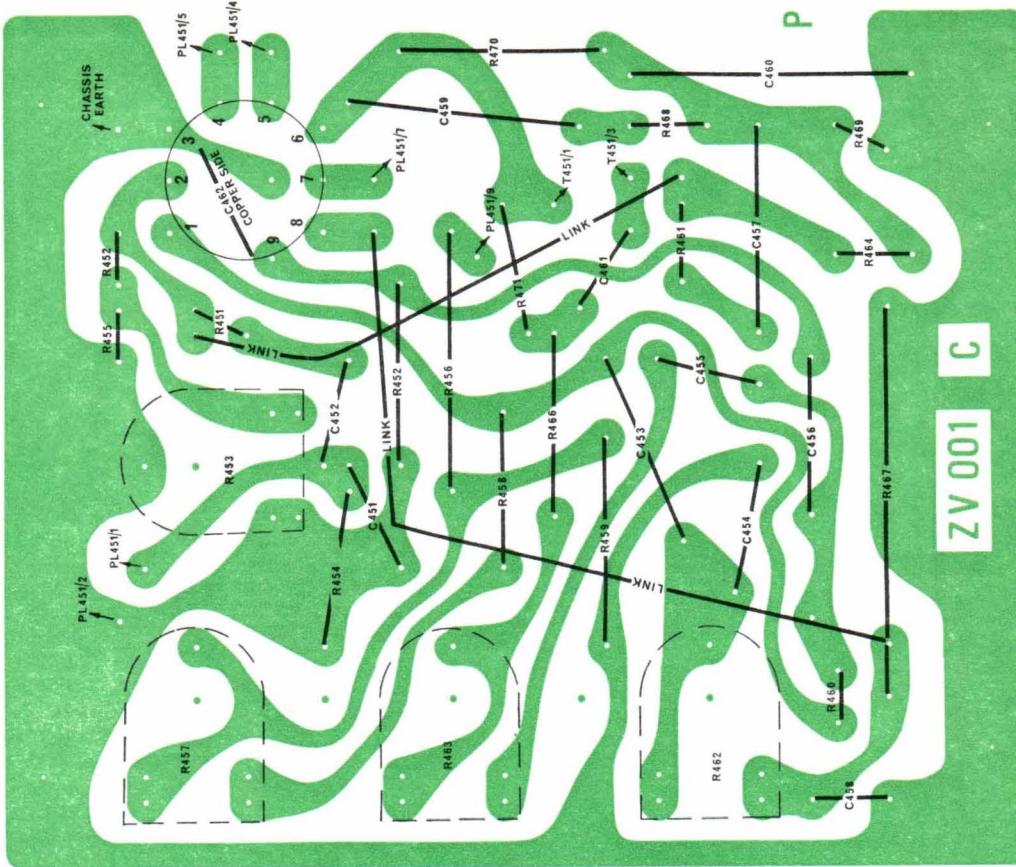
R.	DESCRIPTION	W	Tol.	TYPE or	CODE No.
551	2M2 HV carbon	1/2	10	IRC BTAV	
552	VDR rod	—	—	CZ 006 308.2	
553	1K carbon	1/2	10	B8 031 05A/1K	
554	1M HV carbon	1	10	IRC BTBV	
555	1M carbon potentiometer taper A stabilisation pre-set	—	—	CZ 029 352	
556	1K8 wire wound	5	10	IRC PW5	
557	820K carbon	1	5	CZ 011 711	
558	100K HV carbon	1/2	10	B8 031 06B/820K	
560	1K5 carbon	1	10	CZ 003 910.1	

INDUCTORS

L.	DESCRIPTION	Tol.	TYPE or	CODE No.

<tbl

MODELS: TW491 TW591 TV791
TS591 TX591 TW791
TT591 TY591 TX891
TV591



PHILIPS TELEVISION RECEIVERS

MODELS: TW491
TS591
TT591
TV591

TW591
TX591
TY591
TW791
TX791
TY891

