

GOODMANS

2029T

COLOUR TELEVISION

SERVICE MANUAL

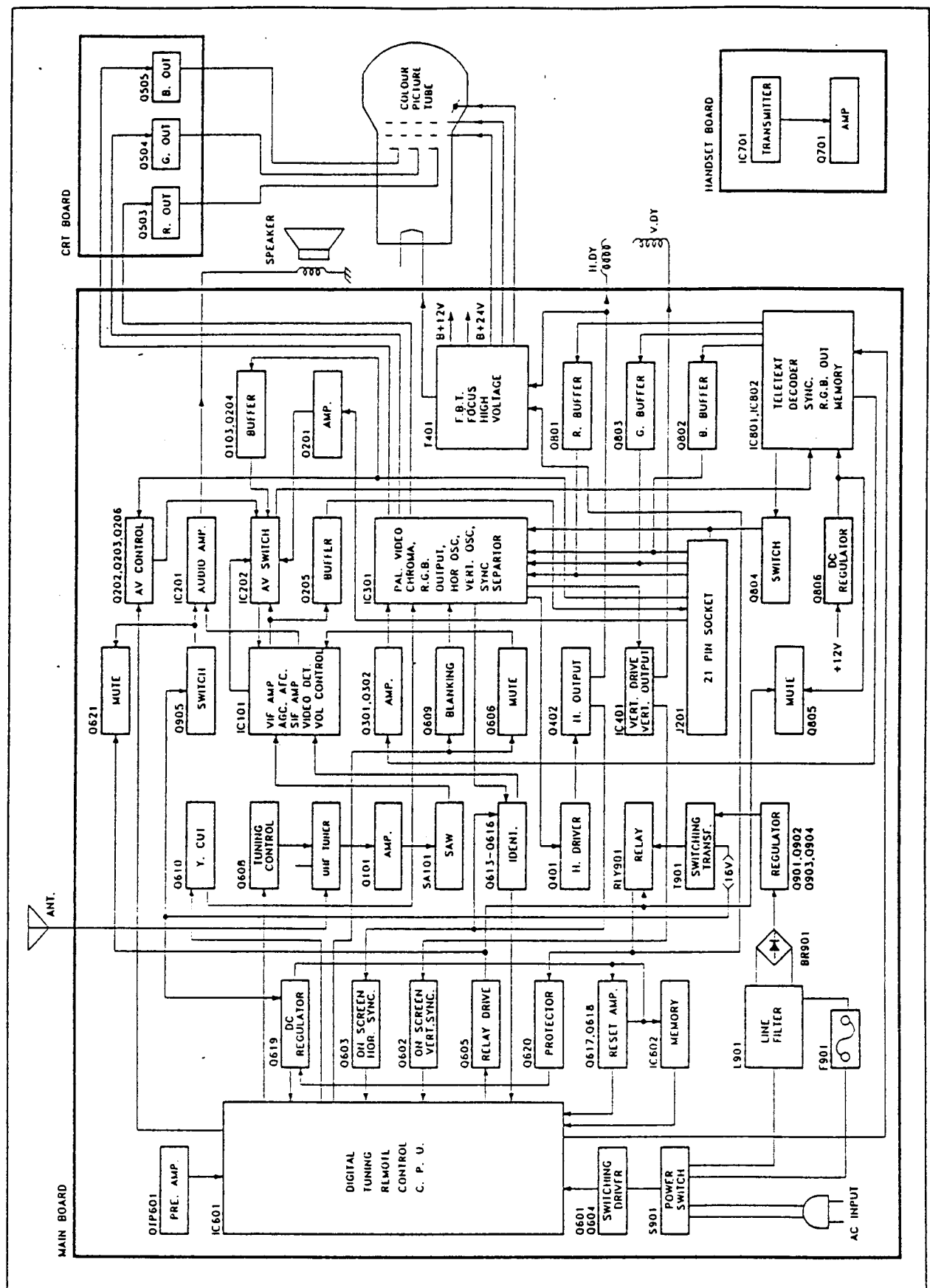
PREFIX ALL PART NUMBERS WITH 'KONG'

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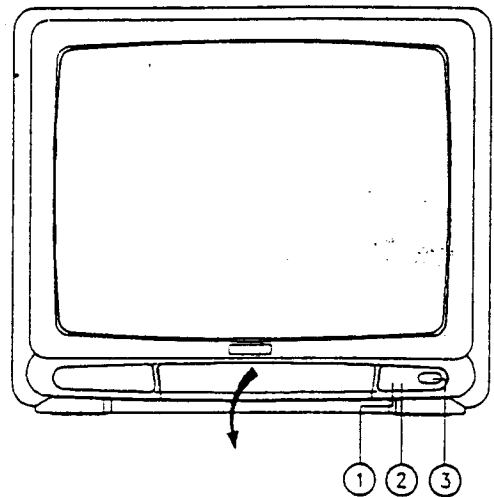
*K-A120, K-A220 and K-A320 USE

BLOCK DIAGRAM

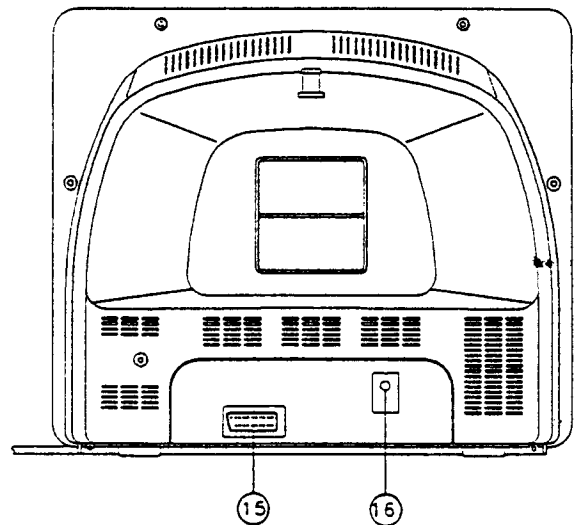
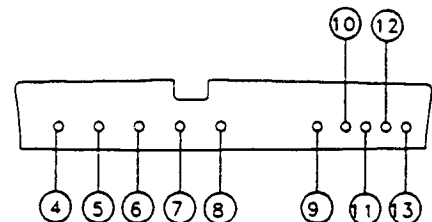


CONTROL LOCATION

1. Remote Sensor
2. Power Indicator
3. Power Switch (ON/OFF)
4. TV/AV Button
5. Memory Button
6. Tune Down Button
7. Tune Up Button
8. Auto Search Button
9. Picture Selector Button
10. Volume/Picture Function Down Button
11. Volume/Picture Function Up Button
12. Program Down Button
13. Program Up Button
14. Antenna Input Socket (TUNER)
15. 21 Pin Socket



PUSH TO OPEN THE PANNEL



ALIGNMENT INSTRUCTION

I. PLEASE READ BEFORE ATTEMPTING SERVICE

1. Never disconnect any leads while receiver is in operation.
2. Disconnect all power before attempting any repairs.
3. Do not short any portion of the circuit while power is on.
4. For safety reasons, all parts replaced should be identical, (for parts and part numbers see parts list).
5. Before alignment the set must be pre-heated for 30 minutes or more and erase magnetism thoroughly from CRT front chassis frame by erase coil.

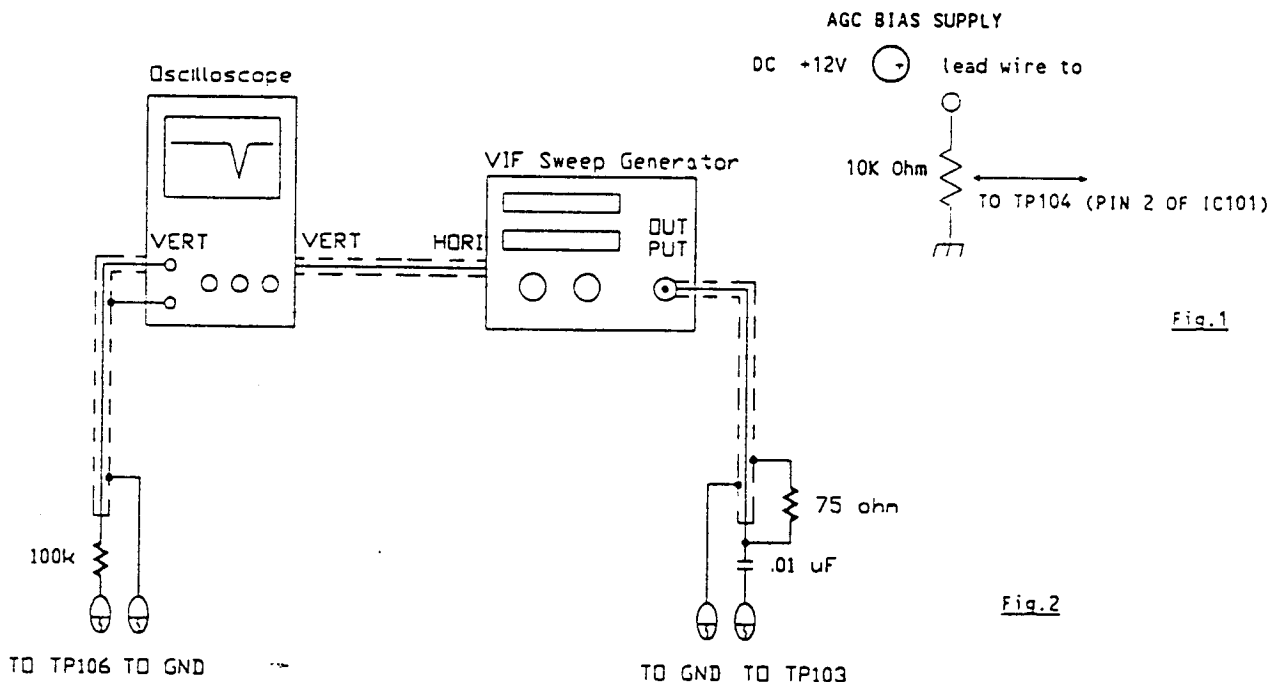
II. TEST EQUIPMENT

- | | |
|---|--|
| 1. VIF Sweep Generator | 8. High Voltage Meter |
| 2. SIF Sweep Generator | 9. Ampere Meter (0.5 Class, DC 3mA Max.) |
| 3. Colour Bar/Dot/Cross Hatch Generator | 10. Demagnetizing Coil |
| 4. DC Power Supply (14V) | 11. Philips Pattern Generator |
| 5. Oscilloscope | 12. Frequency Counter |
| 6. Vacuum Tube Voltmeter | 13. Continuous Waveform Generator |
| 7. Volt Ohmmeter | |

III. TANK COIL ALIGNMENT

A. PREPARATION STEP (SEE FIG.2)

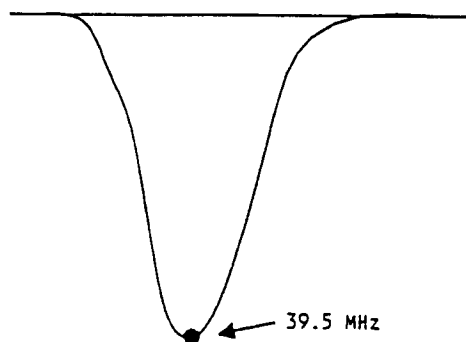
1. Connect OUTPUT lead of VIF Sweep Generator between TP103 (Pin 4 of IC101) and ground.
2. Connect lead of FROM DET between TP106 (Pin 19 of IC101) and ground.
3. Apply a +14V DC across C423 (+).
4. Apply a +5.2V DC dummy AGC bias to TP104 (Pin 2 of IC101). (See Fig.1)



B. ALIGNMENT STEP (SEE FIG.3)

1. Set output level to 6Vp-p.
2. Adjust T104 (TANK COIL) to obtain maximum amplitude of response at 39.5MHz as in Fig.3.

Fig.3



IV. VIF ALIGNMENT

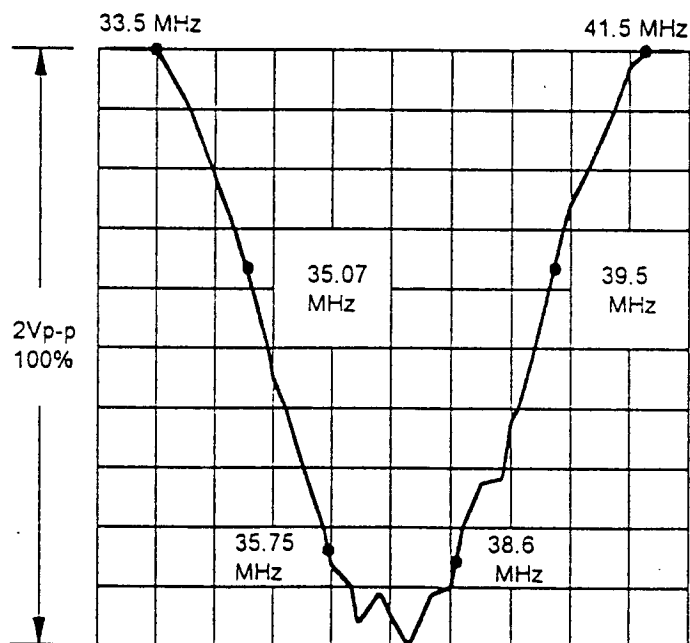
A. PREPARATION STEP (SEE FIG.4)

1. Connect output lead of VIF Sweep Generator between tuner test point TP and tuner case.
2. Connect resistor (100 Ohm) between TP109 and TP120.
3. Connect lead of FROM DET between TP106 (Pin 19 of IC101) and ground.
4. Apply a +14V DC across C423 (+).
5. Apply a +5.2C DC dummy AGC bias to TP104 (Pin 2 of IC101).

B. ALIGNMENT

1. Adjust AGC bias voltage for maximum amplitude of waveform.
2. Adjust the level of Sweep Generator to achieve 2Vp-p output.
3. Increase the output level of Sweep Generator in 30dBuV.
4. Adjust AGC bias voltage to achieve 5Vp-p output (on Oscilloscope).
5. Adjust tuner convertor coil to obtain the waveform as shown below.

Fig.4

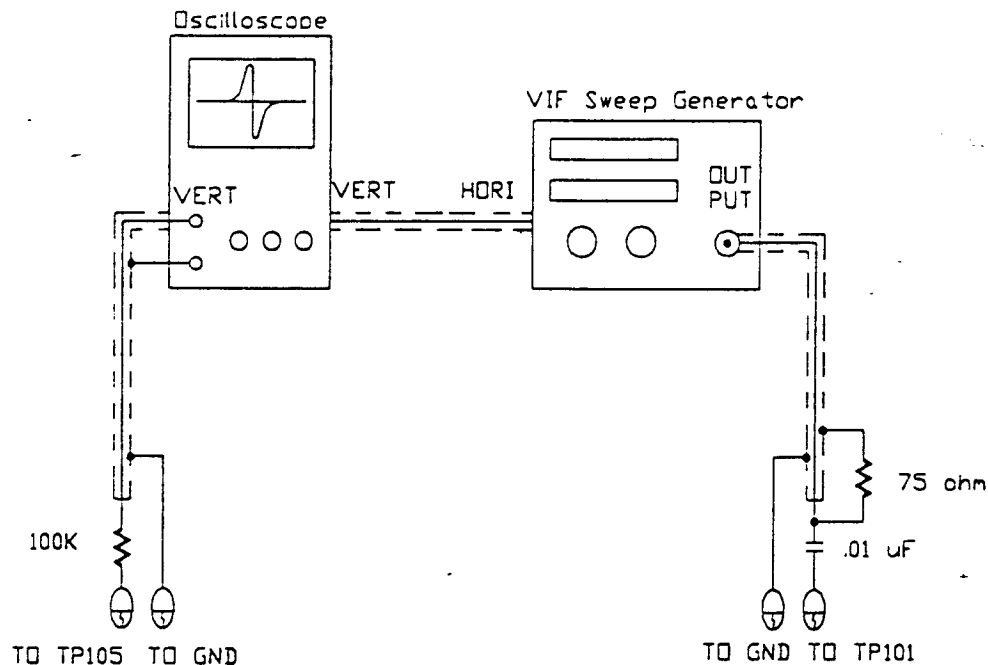


V. AFC ALIGNMENT

A. PREPARATION STEP (SEE FIG.5)

1. Connect the signal output of Sweep/Market Generator to TP101.
2. Connect the vertical input terminal of Sync. Oscilloscope to TP105.
3. Apply a +14V DC across C423 (+).
4. Apply a +5.2V DC to TP104 (Pin 2 of IC101).

Fig.5



B. ALIGNMENT STEP

1. Adjust the output level of Sweep Generator in 30-40dB.
2. Adjust waveform to 6Vp-p.
3. Adjust T105 (AFC COIL). For waveform as shown in Fig.6.

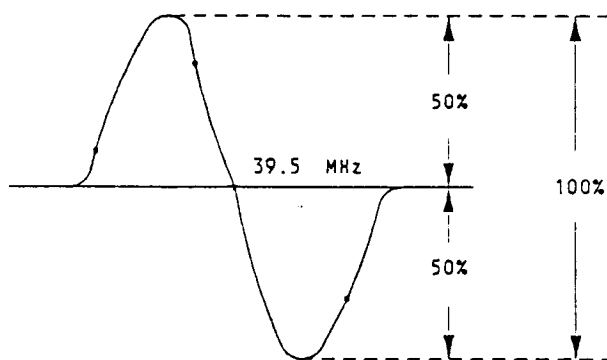


Fig.6

VI. SIF ALIGNMENT

A. PREPARATION STEP (SEE FIG.7)

1. Connect output lead of SIF Sweep Generator between TP107 (Pin 18 of IC101)
2. Connect lead of FROM DET between TP108 (Pin 8 of IC101).
3. Supply DC +14V to C423 (+).
4. Connect TP104 to GND (Pin 2 of IC101).

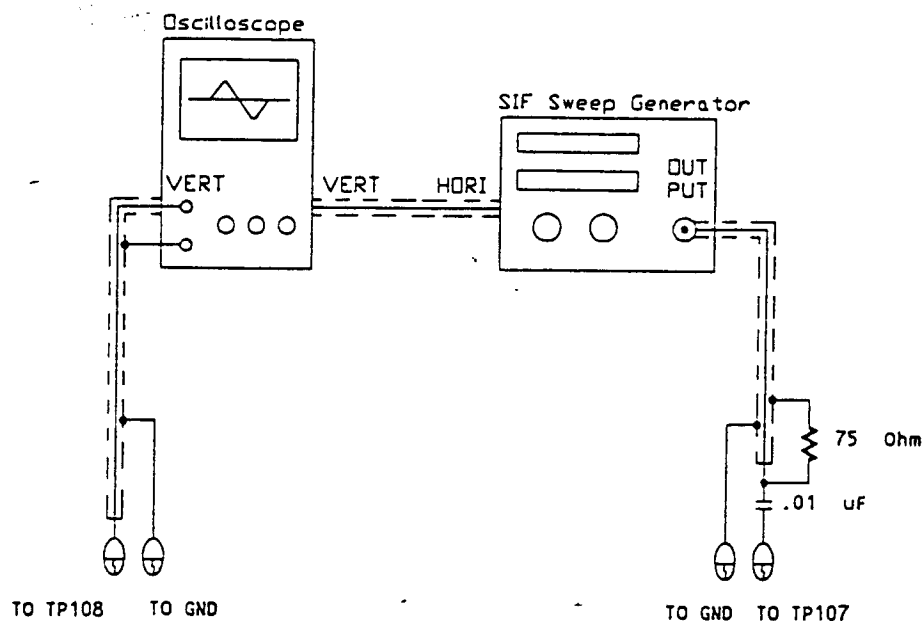


Fig.7

B. ALIGNMENT STEP

1. Adjust output of Sweep Generator to achieve 5Vp-p between markers of 100KHz.
2. Adjust T103 so that sound carrier is centered as in Fig.8.
3. Confirm the waveform as in Fig.8.

NOTE: Input Level : 90dB.

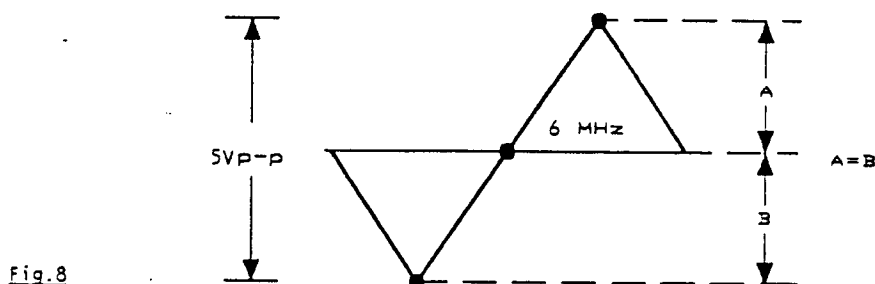


Fig.8

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VII. COLOUR DEMODULATOR ALIGNMENT, DELAY LINE ALIGNMENT

1. Receive Philips Pattern.
2. Set Contrast control to minimum position.
3. Set Colour control to maximum position.
4. Connect Oscilloscope to TP301 (B-out).
5. Adjust CT301 to obtain the waveform as in Fig.9.
6. Adjust VR305 to obtain the waveform as in Fig.9.
7. Adjust T301 to obtain the waveform as in Fig.9.

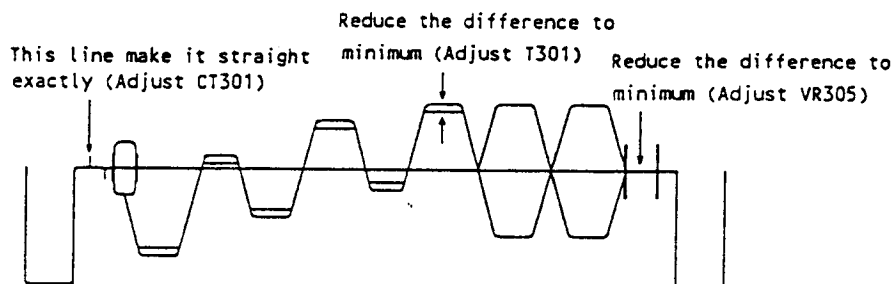


Fig.9

VIII. B+ ADJUSTMENT

1. Connect the digital voltmeter to TP901.
2. Adjust semi-fixed resistor VR901 until meter reading DC 115V.

IX. VERTICAL CIRCUIT ADJUSTMENT

1. Without RF input signal connect the Frequency Counter between V-DEFLECTION YOKE and GROUND.
2. Adjust V-HOLD (VR303) to the reading 44Hz.
3. Receive Monoscope Pattern.
4. Adjust V-SIZE (VR401) control to obtain a normal picture.

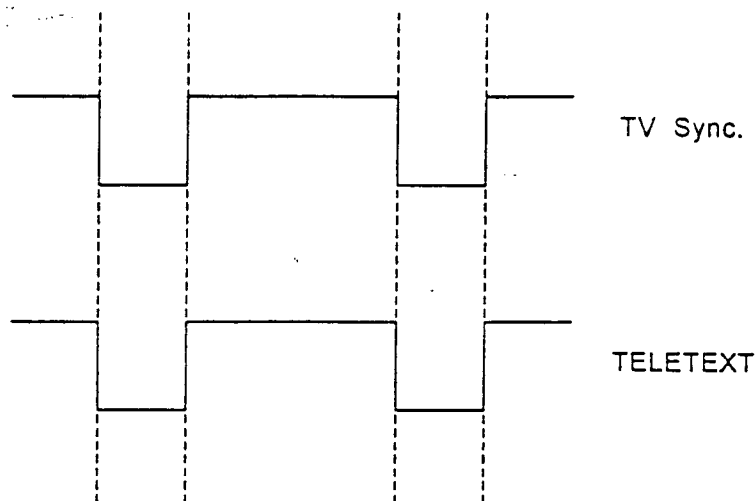
X. HORIZONTAL CIRCUIT ADJUSTMENT

1. Receive Monoscope Pattern input signal 80dBuV.
2. IC302 (Pin 28,29) short by 1K Ohm resistor.
3. Adjust VR302 to obtain the picture running at center.
4. Remove the 1K Ohm resistor.
5. Adjust VR301 to change the horizontal of the pattern for center.

XI TELETEXT PICTURE ALIGNMENT

1. Receive a Pattern with teletext signal.
2. Select teletext page.
3. Connect an oscilloscope to TP801.
4. Without the RF signal.
5. Adjust T801 to obtain the TV horizontal sync.
6. Exactly same as teletext sync. as shown in Fig.10.

Fig.10



XII WHITE BALANCE ADJUSTMENT

1. Receive a Monoscope Pattern picture signal.
2. Turn the red, green and blue LOW LIGHT (VR501, VR502, VR503) controls to middle position and turn the DRIVE (VR504, VR505) control to middle position.
3. Turn the Screen control on the FBT to minimum position.
4. Set the Sub-Brightness (VR304) control to middle position, then set the Contrast control and Colour control to minimum position.
5. Connect volt meter to the emitter of Q505 and GND, and adjust Sub-Brightness control to the reading of DC 1.4V.
6. Set the Service (S401) to "SERVICE" position.
7. Slowly turn the Screen control clockwise to the point where a horizontal line just illuminates.
8. Adjust VR501 to get a red horizontal line on CRT.
9. Adjust VR502 to get a yellow horizontal line on CRT.
10. Adjust VR503 to get a white horizontal line on CRT.
11. Reset the Service Switch (S401) to normal position and turn Brightness control to middle position.
12. Adjust Drive (VR504, VR505) control to obtain a uniform white picture.

XIII. FOCUS ADJUSTMENT

1. Set Contrast control to maximum position and Brightness control to middle position.
2. Adjust Focus control (on the FBT) to obtain a sharpest picture on the CRT.

XIV. RF AGC

1. Connect a TV signal (471.25 MHz, 60dB) from centre system to the tuner.
2. A digital voltmeter is connected to the AGC terminal of tuner (Pin 4).
3. Adjust VR101 until the voltmeter reads 4.8V.

XV. SUB-BRIGHTNESS ALIGNMENT

1. Receive a Monoscope Pattern.
2. Set controls as follows :
BRIGHTNESS control MIN. position.
CONTRAST control MIN. position.
COLOUR control MIN. position.
3. Adjust SUB-BRIGHTNESS (VR304) control until light just appears on the screen.

XVI. COLOUR PURITY ADJUSTMENT (SEE FIG.12)

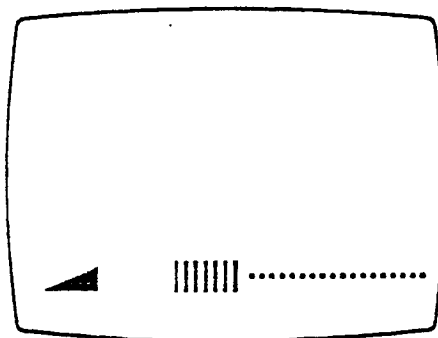
BEFORE ALL ADJUSTMENT DESCRIBED BELOW ARE ATTEMPTED, V-HOLD, H-HOLD, V-HIGH, B+ VOLTAGE AND FOCUSING ADJUSTMENT MUST BE COMPLETED.

1. Place the TV receiver facing NORTH or SOUTH.
2. Plug in TV receiver and turn in on.
3. Operate the TV receiver over 30 minutes.
4. Fully degauss the TV receiver by using an external degaussing coil.
5. Receive a crosshatch pattern and adjust the static convergence, control roughly.
6. Loosen the clamp screw of the deflection yoke and pull the deflection yoke towards you.
7. Fully turn the red and blue Drive (VR503, VR505) controls counter-clockwise.
8. Adjust the purity magnets so that green field is obtained at the center of the screen.
9. Slowly push the deflection yoke towards bell of CRT and set it where a uniform green field is obtained.
10. Tighten the clamp screw of the deflection yoke.

XVII. ON SCREEN ADJUSTMENT (SEE FIG.11)

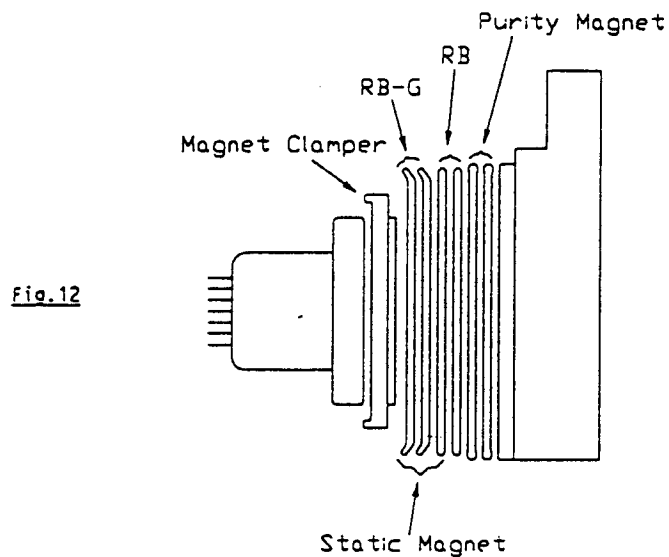
1. Receive the Monoscope Pattern.
2. Adjust ON SCREEN (VR601) for adjust the lettering to center of CRT.

Fig.11

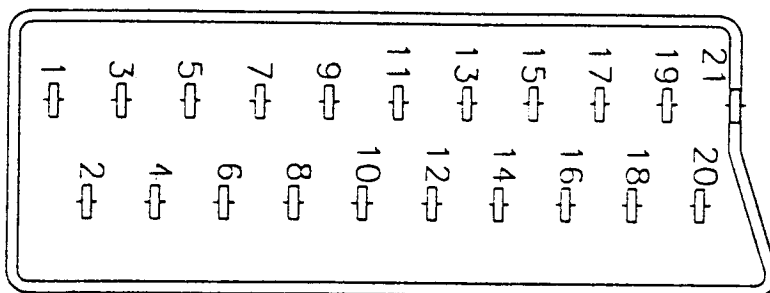


XVIII. CONVERGENCE ADJUSTMENT (SEE FIG.12)

1. Receive a crosshatch pattern.
2. Unfix the convergence magnet clamber and align red with blue dots at the center of the screen by rotating (R,B) static convergence magnets.
3. Align Red/Blue with green dots at the center of the screen by rotating (RB-G) static convergence magnet.
4. Fix the convergence magnets by turning the clamber.
5. Remove the DY wedges and slightly tilt the deflection yoke horizontally and vertically to obtain the good overall convergence.
6. Fix the deflection yoke by wedges.
7. If purity error is found, follow "PURITY ADJUSTMENT" instructions.

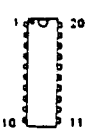
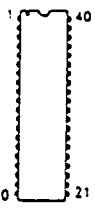
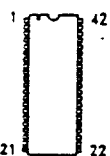
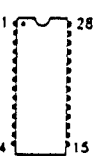
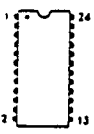
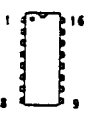


PERITELEVISION SOCKET (21 Pin Socket)



1. Audio output right channel	$0.4V \pm 0.2V$ (1 KHz)
2. Audio input right channel	$0.4V \pm 0.2V$ (1 KHz)
3. Audio output left channel	$0.4V \pm 0.2V$ (1 KHz)
4. Audio common earth	
5. Blue earth	
6. Audio left channel input	$0.4V \pm 0.2V$ (1 KHz)
7. Blue component input	$0.7Vp-p \pm 0.3Vp-p$
8. Slow commutation input	9V-12V input (video switch)
9. Green earth	
10.	
11. Green component input	$0.7Vp-p \pm 0.3Vp-p$
12.	
13. Red earth	
14.	
15. Red component input	$0.7Vp-p \pm 0.3Vp-p$
16. Fast commutation input	0.6V-3V input (R.G.B. switch)
17. Video earth	
18. Fast commutation earth	
19. Video output	$1Vp-p \pm 0.3Vp-p$ (75 Ohm)
20. Video or synchro. input	$1Vp-p \pm 0.3Vp-p$ (75 Ohm) input
21. Plug screening	

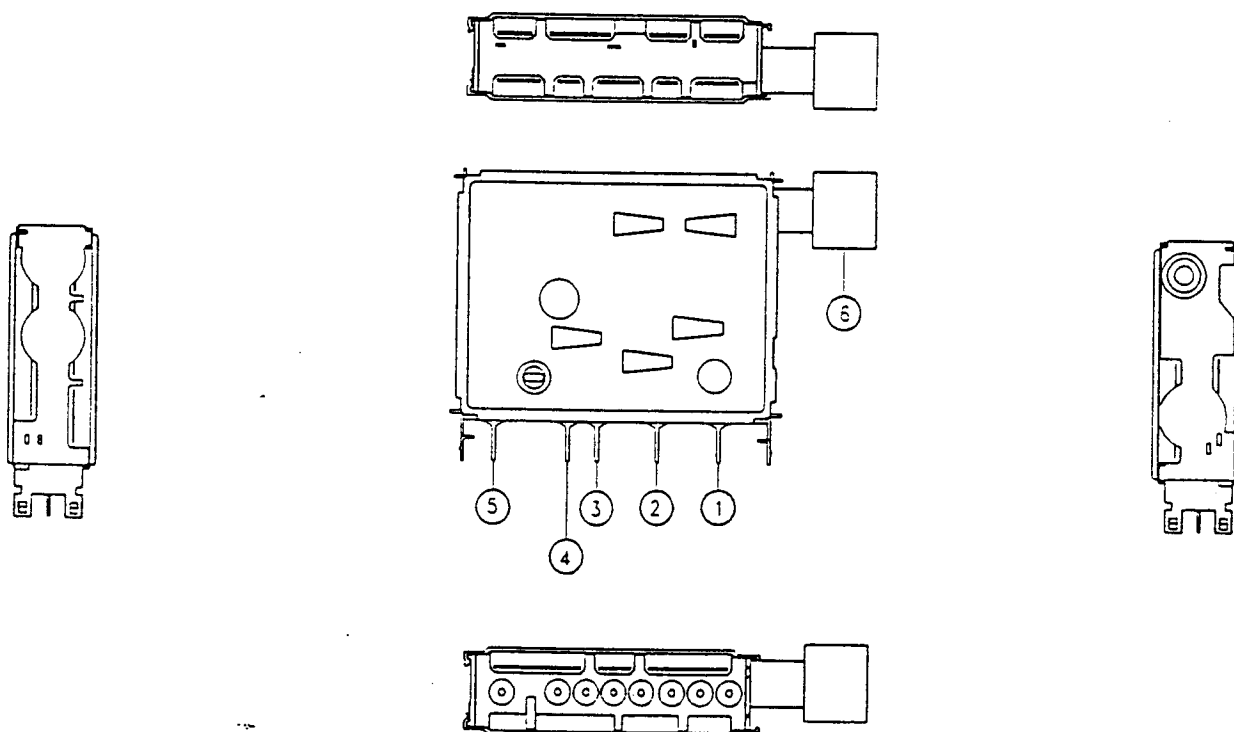
TRANSISTOR AND IC IDENTIFY

	LA7830		CF72306		TMS73C47		ST93C46A		2SD400F 2SC2482
		TOP VIEW		TOP VIEW		TOP VIEW			
	AN5601K		CF70095		2SD1555 2SD1545		TA8701AN		8SX20
TOP VIEW		TOP VIEW				TOP VIEW		E C B	
							TDA1904		2SA1015 2SC388A 2SC1815
						TOP VIEW		E C B	

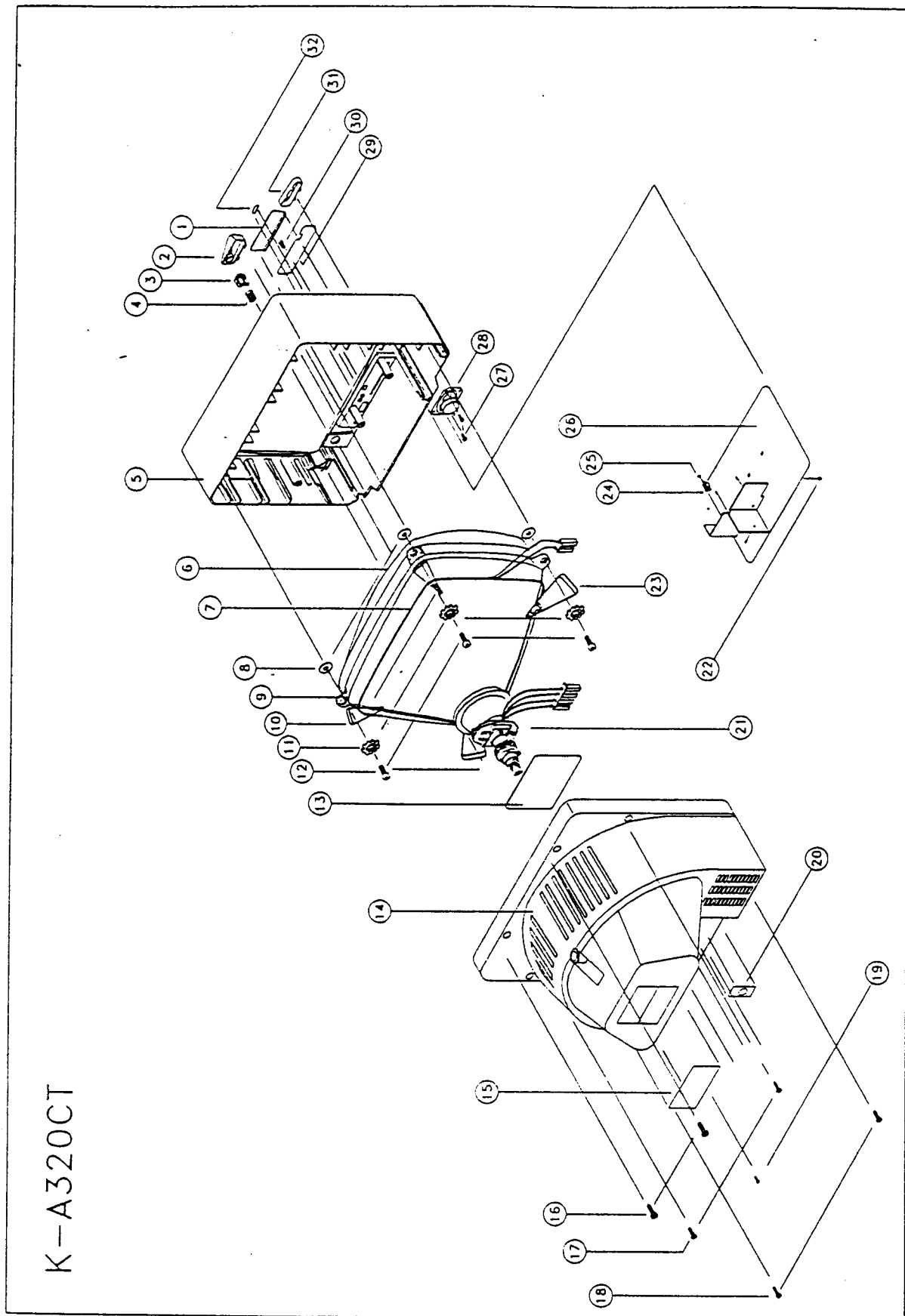
TERMINAL SUPPLY VOLTAGE TABLE

TERMINAL NO.	1	2	3	4	5	6
TERMINAL NAME	VT	AGC	AFT	BM	IE	V/U ANT

PICTORIAL VIEW OF TUNER



EXPLODED VIEW



K-A320CT

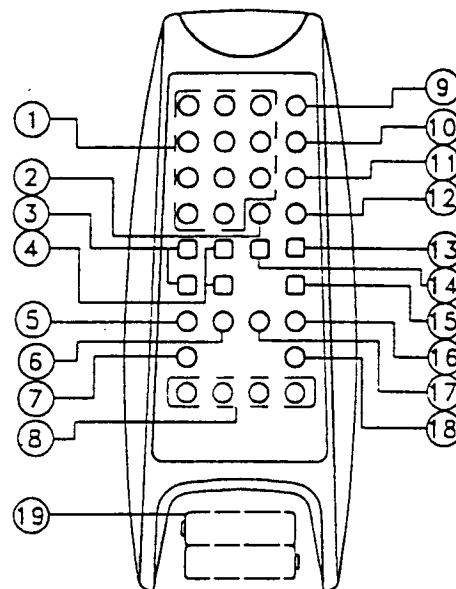
EXPLODED VIEW PARTS LIST:

<u>LOCATION</u>	<u>PARTS NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	219-XXXXXX-XX	PANEL DOOR	1
2	263-XXXXXX-XX	FRONT LENS	1
3	292-XXXXXX-XX	POWER KNOB	1
4	477-XXXXXX-XX	COMPRESSION SPRING	1
5	200-XXXXXX-XX	CABINET FRONT	1
6		20" CRT	1
7		20" DEGAUSSING COIL	1
8	334-XXXXXX-XX	RUBBER RING (T=3.0)	4
9		FLAT BRAIDED WIRE	1
10	259-XXXXXX-XX	DEGAUSSING COIL CLIP	2
11	- 437-XXXXXX-XX	PICTURE TUBE WASHER	4
12	614-XXXXXX-XX	SELF-TAPPING SCREW 5x25mm	4
13		C.R.T. P.C. BOARD ASS'Y	1
14	202-XXXXXX-XX	CABINER BACK	1
15	412-XXXXXX-XX	MODEL PLATE	1
16	614-XXXXXX-XX	SELF-TAPPING SCREW 5x25mm	2
17	614-XXXXXX-XX	SELF-TAPPING SCREW 5x25mm	2
18	614-XXXXXX-XX	SELF-TAPPING SCREW 4x20mm	2
19	614-XXXXXX-XX	SELF-TAPPING SCREW 4x12mm	1
20	418-XXXXXX-XX	TUNER COVER	1
21		DELFLECTION YOKE	1
22	259-XXXXXX-XX	P.C.B. SUPPORTER	1
23	259-XXXXXX-XX	DEGAUSSING COIL CLIP	2
24		POWER SWITCH	1
25	239-XXXXXX-XX	ADAPTOR FOR POWER SWITCH	1
26		MAIN P.C. BOARD ASS'Y	1
27	614-XXXXXX-XX	SELF-TAPPING SCREW 4x10mm	2
28		SPEAKER	1
29	418-XXXXXX-XX	PRESET OVERLAY	1
30		DOOR LOCK ASS'Y	1
31	403-XXXXXX-XX	SPEAKER GRILLE	1
32	286-XXXXXX-XX	NAME PLATE	1

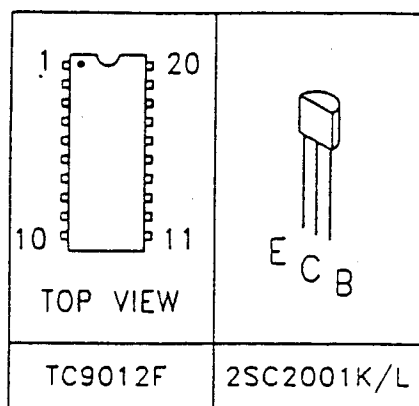
REMOTE HANDSET UNIT

CONTROL LOCATION

1. Number Buttons (1-9, 0 10+)
2. Normal Button
3. Channel Up/Down Buttons (TV Mode),
Page Up/Down Buttons. (Teletext Mode)
4. Volume and Picture Function
Up/Down Buttons (TV Mode)
List/FLOF Buttons (Teletext Mode)
5. Hold Button
6. Subpage Button
7. Mix Button
8. Colour Button (Red, Green, Yellow, Cyan)
9. Stand-by Button
10. Sleep Button
11. Recall Button
12. Mute Button
13. TV/VCR Button
14. Picture Selector Button
15. TV/Teletext Button
16. Expand Button
17. Reveal Button
18. Index Button
19. Battery Compartment Lid

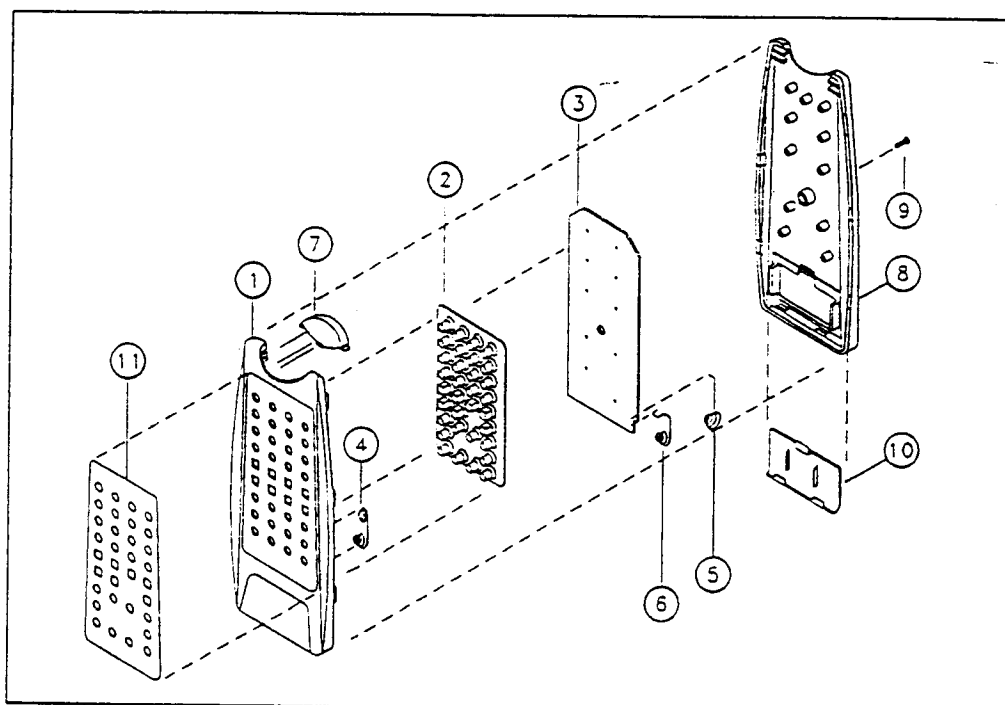


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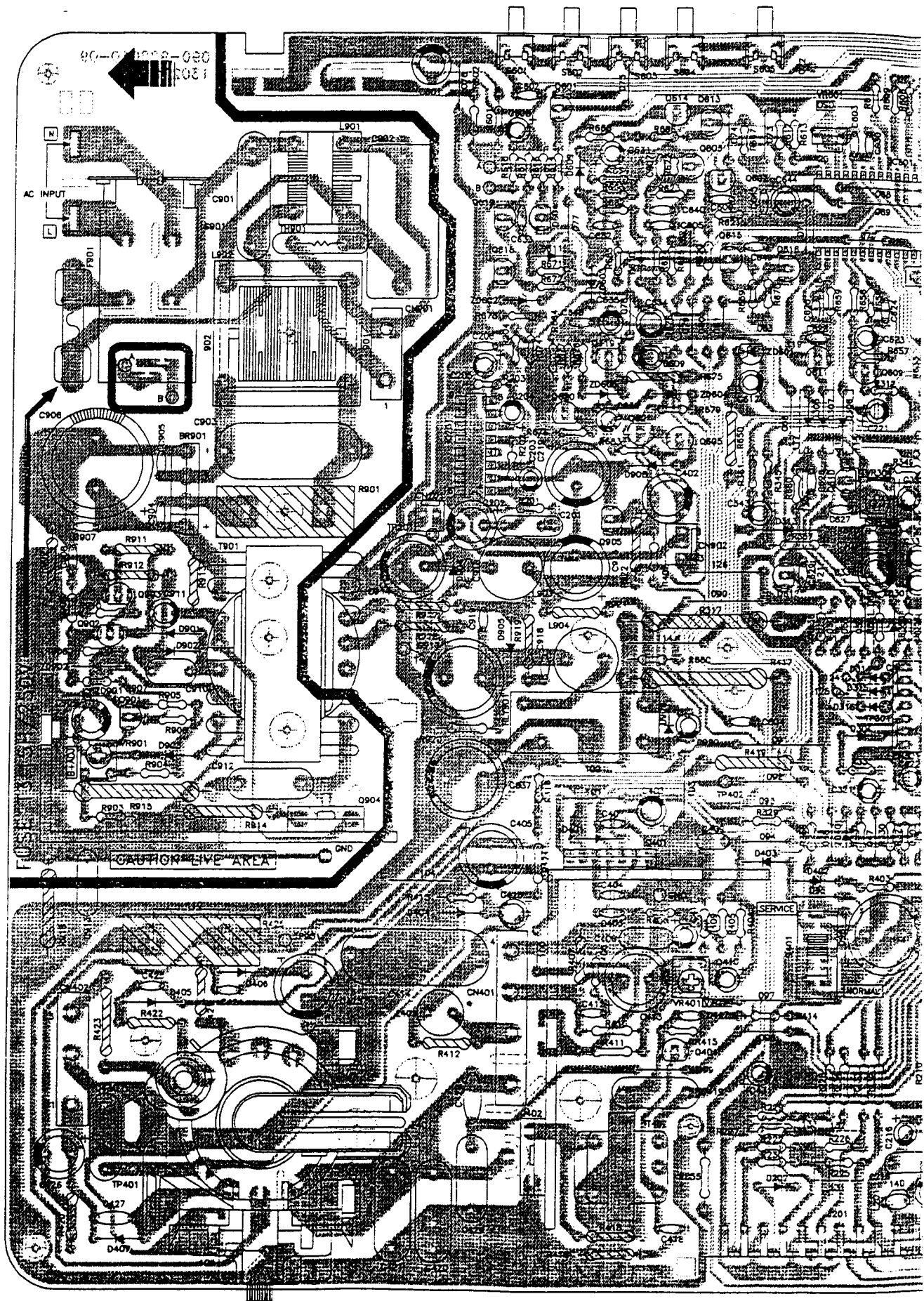


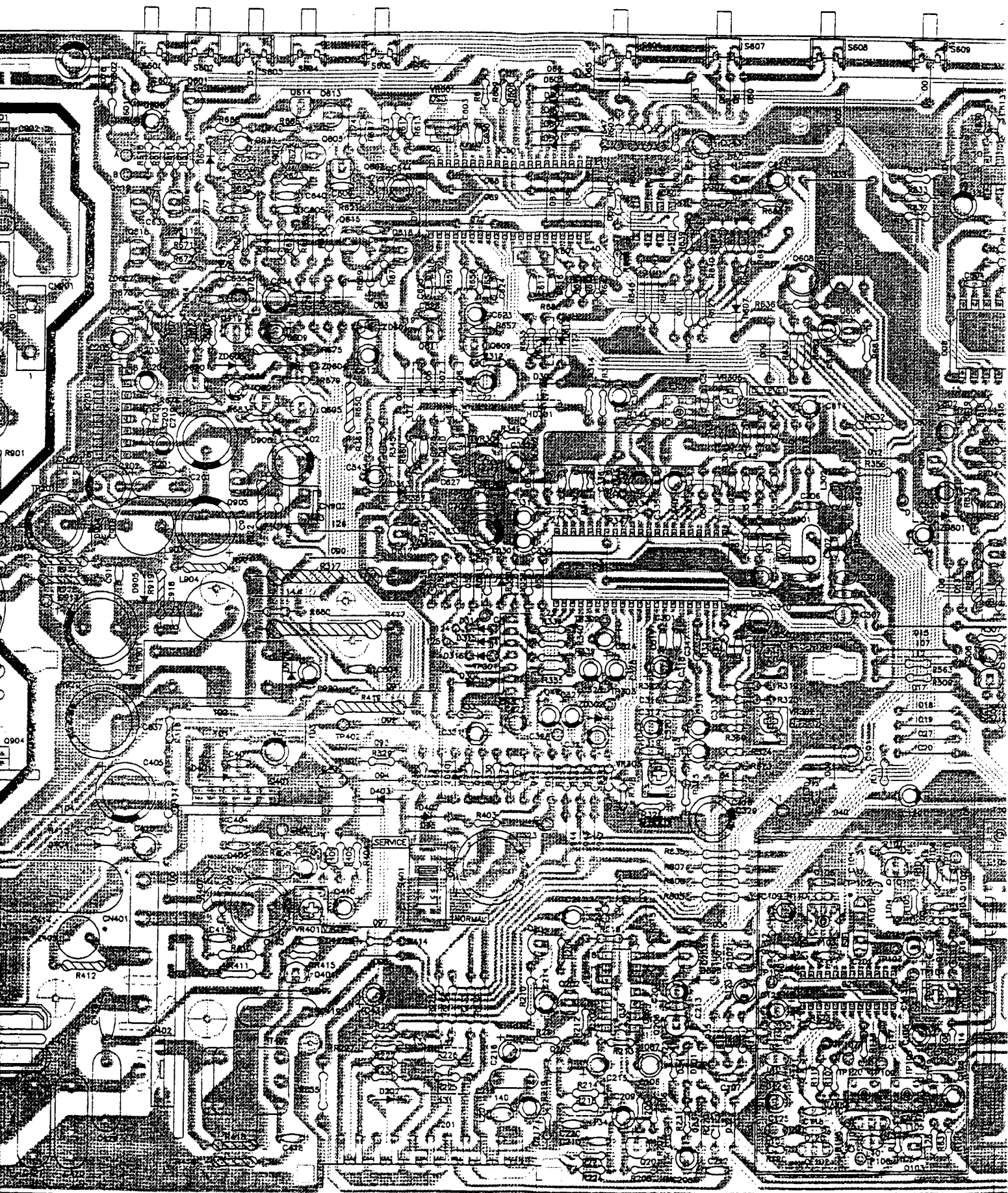
REMOTE HANDSET UNIT OF EXPLODED VIEW PARTS LIST :

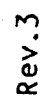
LOCATION	PARTS NO.	DESCRIPTION	QTY
1	201-XXXXXX-XX	TOP CABINET	1
2	334-XXXXXX-XX	CONDUCTIVE RUBBER	1
3		HANDSET P.C. BOARD ASS'Y	1
4	477-XXXXXX-XX	CONTACT SPRING WIRE +, - VE	1
5	477-XXXXXX-XX	CONTACT SPRING WIRE - VE	1
6	477-XXXXXX-XX	CONTACT SPRING WIRE + VE	1
7	263-XXXXXX-XX	FRONT LENS	1
8	203-XXXXXX-XX	BOTTOM CABINET	1
9	610-XXXXXX-XX	SELF-TAPPING SCREW R/T 2.6 x 8 mm	1
10	210-XXXXXX-XX	BATTERY COVER	1
11	411-XXXXXX-XX	NAME PLATE	1



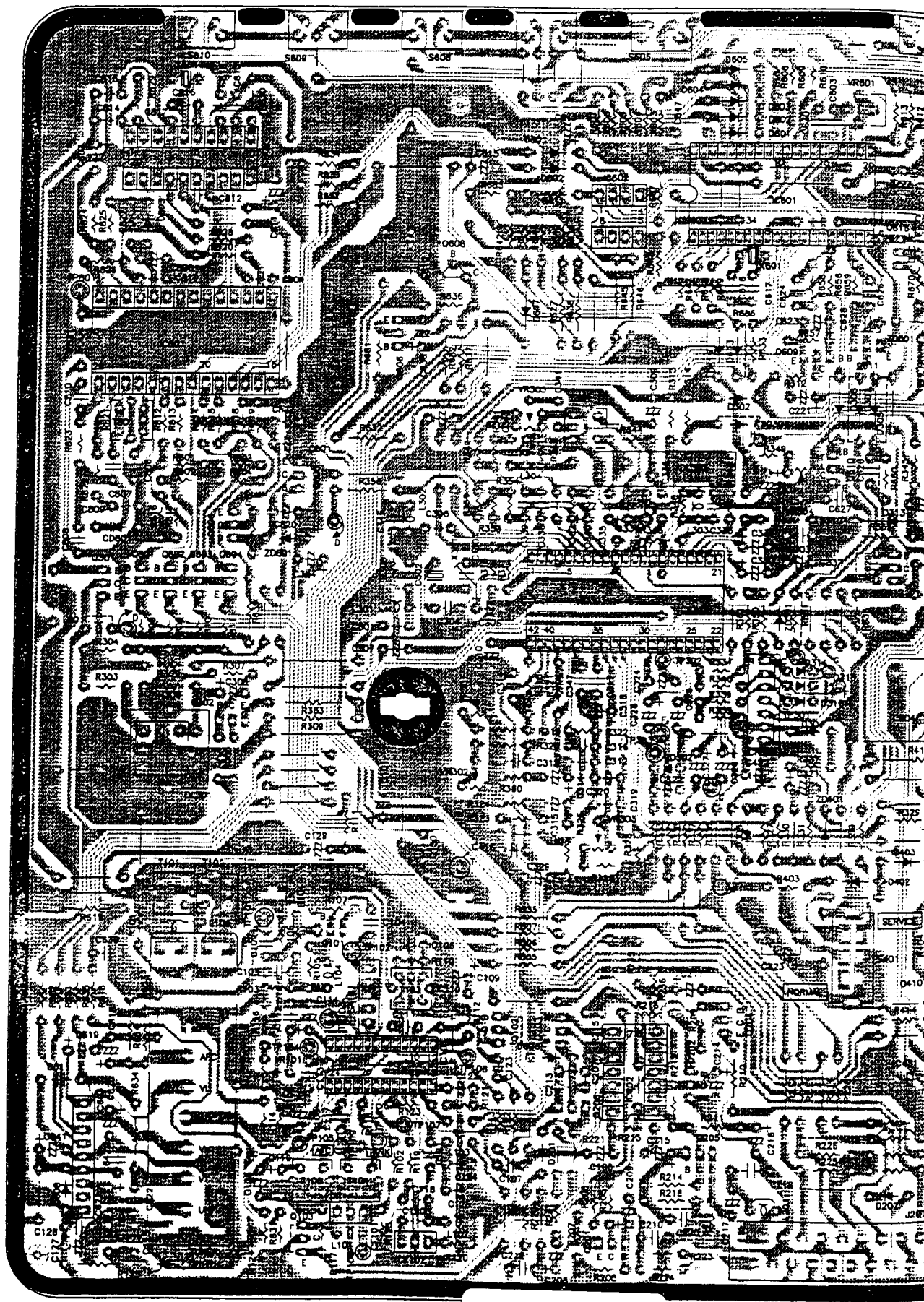
COMPONENT DIAGRAM OF MAIN BOARD (TOP VIEW)



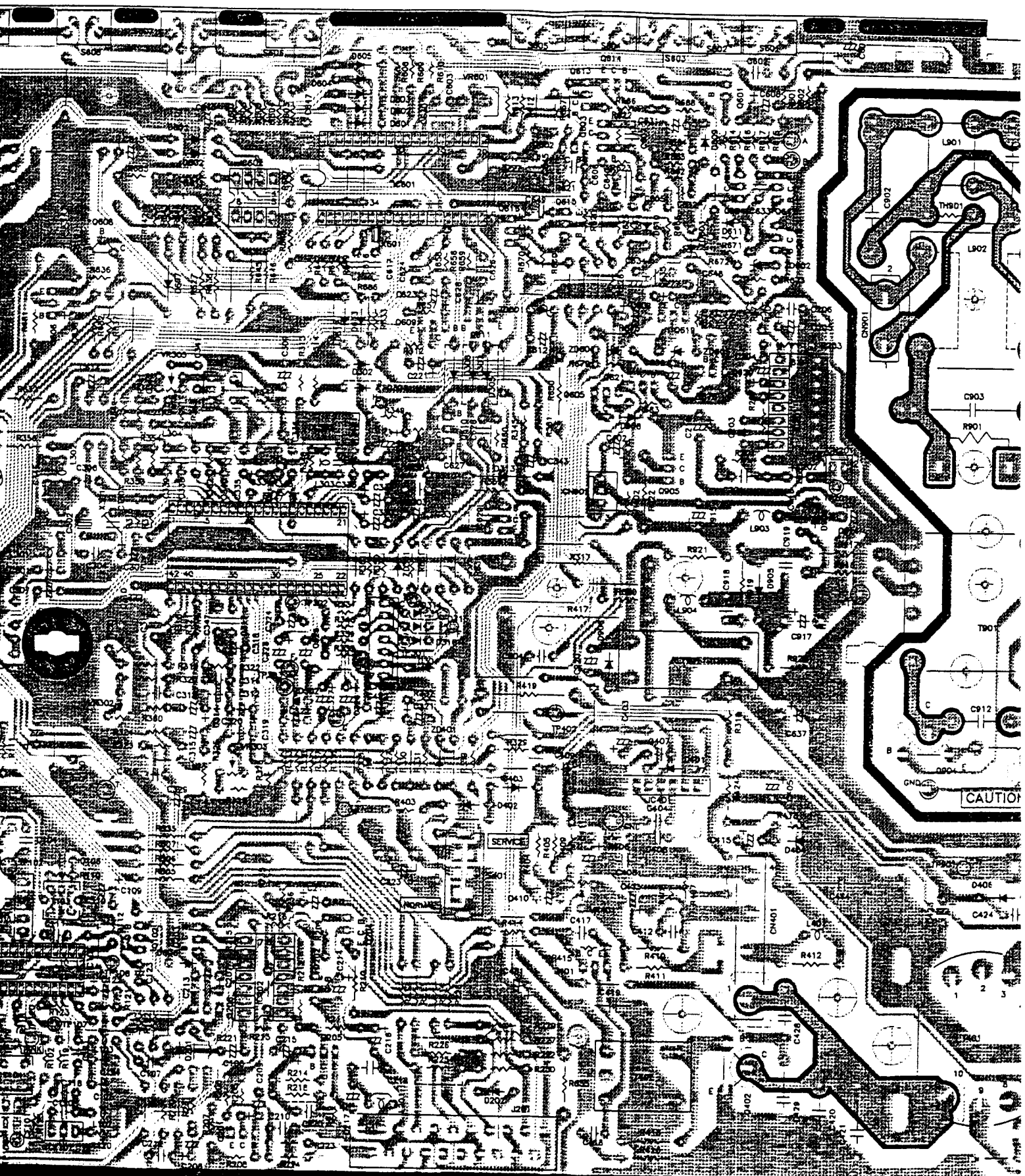


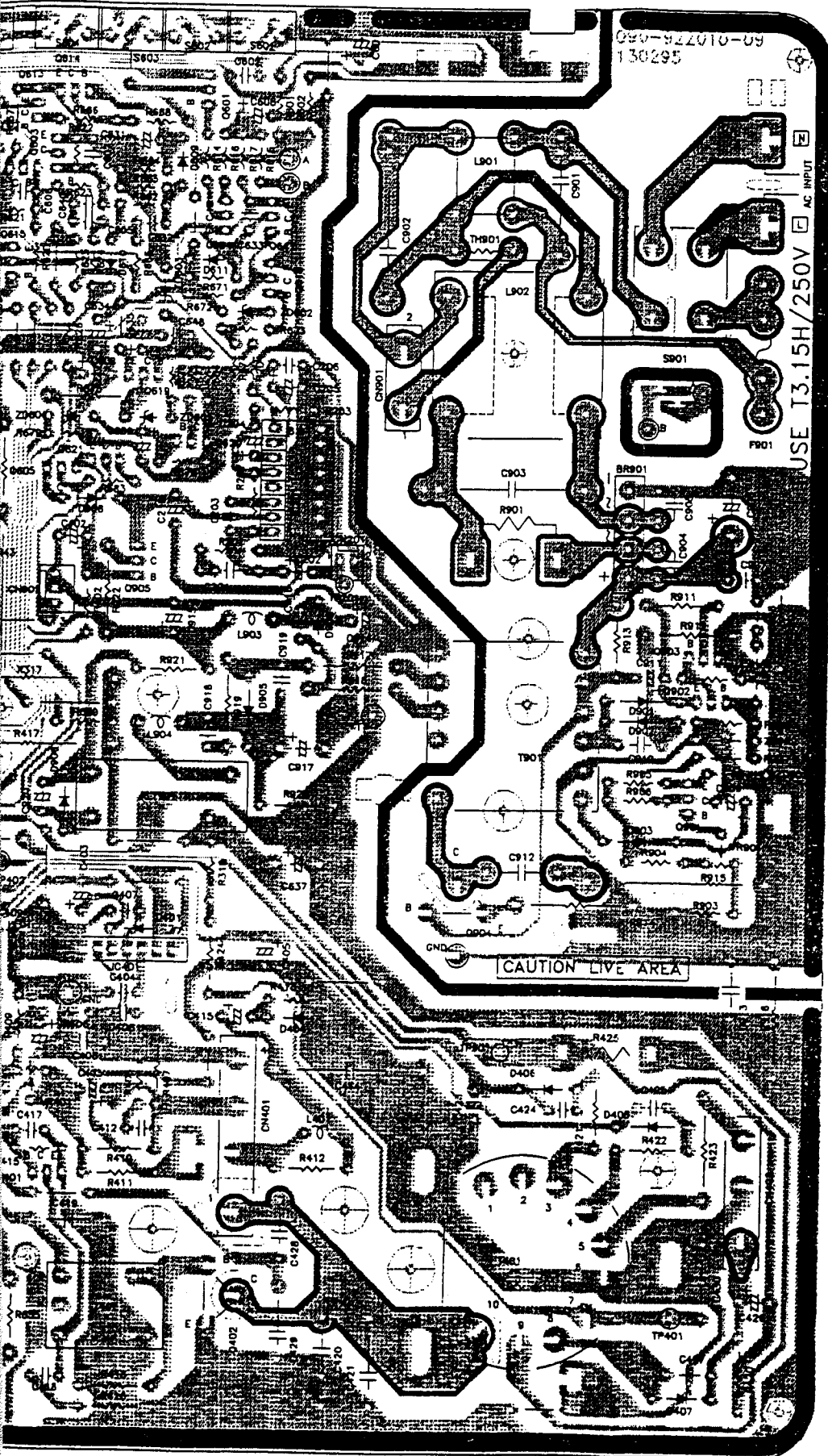


COMPONENT DIAGRAM OF MAIN BOARD (BOTTOM VIEW)



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090-922010-09
130295

USE T3.15H/250V AC INPUT

CAUTION LIVE AREA

- 20 -

Rev.3

2019R & 2029T

Rev.3

- 21 -

2019R & 2029T

ONWA Electronics (UK) Ltd

B/M Spare Part Cost Listing

G 0001MAW 2024T

B/M NO : UA32001A2502

Ur

Part Number	U/M	Description
001-190010-96	50 PCS	HORI. DRIVE TRANSFORMER AT-19E-RO710
001-190013-95	25 PCS	CHOKE TRANSFORMER LS-13107 FORGOOD
001-419220-94	25 PCS	SWITCHING TRANSFORMER HL4025B (3T)
002-370000-02	10 PCS	TANK IFT COIL 51M7-M/R12-L242A MITSUMI
002-770004-03	10 PCS	CHROMA IFT COIL BF199CN-A1545HF TOKO
002-970000-02	10 PCS	IFT TV COIL 31M7-M/R12-L240A
002-970001-02	10 PCS	IFT TV COIL M7-M/33331 MITSUMI
006-210012-02	PCS	RELAY 12V VS 12MB 12VDC TV-5 TAKAMISAWA
007-106000-16	10 PCS	TRAP FILTER 6.0 MHZ TPS6.0MB MURATA
007-300455-46	10 PCS	CERAMIC RESONATOR 455KHZ CSB455EB MURA
007-304000-06	10 PCS	CERAMIC RESONATOR 4MHZ CSA4.00MG MURAT
007-306000-26	PCS	CERAMIC FILTER SFSH6.0MCB "MURATA"
007-739500-39	25 PCS	SAW FILTER 39.5MHZ OFWJ1953M SEIMENS
013-100005-12H	PCS	CARBON FILM RESISTOR 10 OHM 1/16W 5%
013-100105-12H	PCS	CARBON FILM RESISTOR 10 OHM 1/4W 5%
013-100405-75	PCS	FIXED METAL OXIDE RESISTOR 10 OHM 2W 5%
013-101005-12H	PCS	CARBON FILM RESISTOR 100 OHM 1/16W 5%
013-101105-12H	PCS	CARBON FILM RESISTOR 100 OHM 1/4W 5%
013-101205-12	PCS	CARBON FILM RESISTOR 100 OHM 1/2W 5%
013-102005-12H	PCS	CARBON FILM RESISTOR 1K OHM 1/16W 5%
013-103005-12H	PCS	CARBON FILM RESISTOR 10K OHM 1/16W 5%
013-103101-72	PCS	CARBON FILM RESISTOR 10K OHM 1/4W 5%
013-103105-12	PCS	CARBON FILM RESISTOR 10K OHM 1/4W 5%
013-103105-12H	PCS	FIXED METAL OXIDE FILM RESISTOR 10K OHM 1/4W 5%
013-103405-75	PCS	CARBON FILM RESISTOR 100K OHM 1/16W 5%
013-104005-12	PCS	CARBON FILM RESISTOR 100K OHM 1/16W 5%
013-104005-12H	PCS	CARBON FILM RESISTOR 100K OHM 1/2W 5%
013-104205-12	PCS	CARBON FILM RESISTOR 100K OHM 1/16W 5%
013-105005-12H	PCS	CARBON FILM RESISTOR 1M OHM 1/16W 5%
013-109105-12H	PCS	CARBON FILM RESISTOR 1 OHM 1/4W 5%
013-120305-75	PCS	FIXED METAL OXIDE FILM RESISTOR 12 OHM
013-120405-75	PCS	FIXED METAL OXIDE FILM RES 12 OHM 2W
013-122005-12H	PCS	CARBON FILM RESISTOR 1.2K OHM 1/16W 5%
013-122305-75	PCS	FIXED METAL OXIDE FILM RES. 1.2K OHM 1W
013-123005-12H	PCS	CARBON FILM RESISTOR 12K OHM 1/16W 5%
013-123405-75	PCS	FIXED METAL OXIDE FILM RESISTOR 12K OHM
013-151105-12	PCS	CARBON FILM RESISTOR 150 OHM 1/4W 5%
013-152005-12H	PCS	CARBON FILM RESISTOR 1.5K OHM 1/16W 5%
013-152105-12	PCS	CARBON FILM RESISTOR 1.5K OHM 1/4W 5%
013-154005-12H	PCS	CARBON FILM RESISTOR 150K OHM 1/16W 5%
013-154205-22	PCS	FLAME PROOF CAR FILM RES KOARDF50ST52 150K 1/2W
013-159405-82	117 PCS	FLAME PROOF FUSING RESISTOR 1.5 OHM 2W
013-180105-12	PCS	CARBON FILM RESISTOR 18 OHM 1/4W 5%
013-182005-12H	PCS	CARBON FILM RESISTOR 1.8K OHM 1/16W 5%
013-221005-12H	PCS	CARBON FILM RESISTOR 220 OHM 1/16W 5%
013-222005-12	PCS	CARBON FILM RESISTOR 2.2K OHM 1/16W 5%
013-222005-12H	PCS	CARBON FILM RESISTOR 2.2K OHM 1/16W 5%
013-223005-12H	PCS	CARBON FILM RESISTOR 22K OHM 1/16W 5%
013-223105-12H	PCS	CARBON FILM RESISTOR 22K OHM 1/4W 5%
013-225005-12H	PCS	CARBON FILM RESISTOR 2.2M OHM 1/16W 5%

For Service Manuals
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ONWA Electronics (UK) Ltd

B/M Spare Part Cost Listing

B/M NO : UA32001A2502

Part Number	U/M	Description	Unit Qt
013-229005-12	PCS	CARBON FILM RESISTOR 2.2 OHM 1/16W 5%	
013-229105-12	PCS	CARBON FILM RESISTOR 2.2 OHM 1/4W 5%	
013-229305-82	100 PCS	FLAME PROOF FUSING RESISTOR 2.2 OHM 1W	
013-229405-75	PCS	FIXED METAL OXIDE FILM RES 2.2 OHM 2W	
013-263101-72	PCS	FIXED METAL OXIDE FILM RESISTOR 261K 1/4W	
013-270005-12H	PCS	CARBON FILM RESISTOR 27 OHM 1/16W 5%	
013-270305-75	PCS	FIXED METAL OXIDE FILM RESISTOR 27 OHM 1W	
013-270405-75	PCS	FIXED METAL OXIDE FILM RES 27 OHM 2W	
013-271005-12H	PCS	CARBON FILM RESISTOR 270 OHM 1/16W 5%	
013-271305-75	PCS	FIXED METAL OXIDE FILM RESISTOR 270OHM 1W	
013-272005-12H	PCS	CARBON FILM RESISTOR 2.7K OHM 1/16W 5%	
013-272205-22	PCS	FLAME PROOF CAR FILM RES KOARDF50ST52 2.7K 1/2W	
013-273005-12H	PCS	CARBON FILM RESISTOR 27K OHM 1/16W 5%	
013-274101-72	PCS	FIXED METAL OXIDE FILM RESISTOR 270K 1/4W	
013-302105-12	PCS	CARBON FILM RESISTOR 3K OHM 1/4W 5%	
013-303005-12H	PCS	CARBON FILM RESISTOR 30K OHM 1/16W 5%	
013-331005-12H	PCS	CARBON FILM RESISTOR 330 OHM 1/16W 5%	
013-331105-12H	PCS	CARBON FILM RESISTOR 330 OHM 1/4W 5%	
013-332005-12H	PCS	CARBON FILM RESISTOR 3.3K OHM 1/16W 5%	
013-332105-12	PCS	CARBON FILM RESISTOR 3.3K OHM 1/4W 5%	
013-332605-75	PCS	FIXED METAL OXIDE FILM RESISTOR 3.3K OHM 5W	
013-333005-12H	PCS	CARBON FILM RESISTOR 33K OHM 1/16W 5%	
013-334305-75	PCS	FIXED METAL OXIDE FILM RESISTOR 330K OHM 1W	
013-338410-82	100 PCS	FLAME PROOF FUSING RESISTER 0.33 OHM 2W	
013-390805-75	PCS	FIXED METAL OXIDE FILM RES 39 OHM 7W	
013-391005-12H	PCS	CARBON FILM RESISTOR 390 OHM 1/16W 5%	
013-391105-12	PCS	CARBON FILM RESISTOR 390 OHM 1/4W 5%	
013-392005-12H	PCS	CARBON FILM RESISTOR 3.9K OHM 1/16W 5%	
013-393005-12H	PCS	CARBON FILM RESISTOR 39K OHM 1/16W 5%	
013-470205-12	PCS	CARBON FILM RESISTOR 47 OHM 1/2W 5%	
013-471005-12H	PCS	CARBON FILM RESISTOR 470 OHM 1/16W 5%	
013-471105-12	PCS	CARBON FILM RESISTOR 470 OHM 1/4W 5%	
013-471205-22	PCS	FLAME PROOF CAR.FILM RES. 470 OHM 1/2W	
013-472005-12H	PCS	CARBON FILM RESISTOR 4.7K OHM 1/16W 5%	
013-472105-12H	PCS	CARBON FILM RESISTOR 4.7K OHM 1/4W 5%	
013-473005-12	PCS	CARBON FILM RESISTOR 47K OHM 1/16W 5%	
013-473005-12H	PCS	CARBON FILM RESISTOR 47K OHM 1/16W 5%	
013-479605-54	25 PCS	CEMENT RES. 4.7 OHM 5W 5% ERF-5ZXJ4R7	
013-563005-12H	PCS	CARBON FILM RESISTOR 56K OHM 1/16W 5%	
013-569105-12	PCS	CARBON FILM RESISTOR 5.6 OHM 1/4W 5%	
013-569505-76	PCS	FIXED METAL OXIDE FILM RESISTOR 5.6OHM 3W	
013-681005-12H	PCS	CARBON FILM RESISTOR 680 OHM 1/16W 5%	
013-682005-12H	PCS	CARBON FILM RESISTOR 6.8K OHM 1/16W 5%	
013-682105-12H	PCS	CARBON FILM RESISTOR 6.8K OHM 1/4W 5%	
013-683005-12H	PCS	CARBON FILM RESISTOR 68K OHM 1/16W 5%	
013-688205-82	100 PCS	FLAME PROOF FUSING RESISTOR 0.68OHM 1/2W	
013-688310-82	100 PCS	FLAME PROOF FUSING RESISTOR 0.68 OHM 1W	
013-750105-12H	PCS	CARBON FILM RESISTOR 75 OHM 1/4W 5%	
013-751005-12H	PCS	CARBON FILM RESISTOR 750 OHM 1/16W 5%	
013-820005-12H	PCS	CARBON FILM RESISTOR 82 OHM 1/16W 5%	

ONWA Electronics (UK) Ltd

B/M Spare Part Cost Listing

B/M NO : UA32001A2502

Part Number	U/M	Description	Unit C
013-821005-12H	PCS	CARBON FILM RESISTOR 820 OHM 1/16W 5%	
013-822005-12H	PCS	CARBON FILM RESISTOR 8.2K OHM 1/16W 5%	
013-822105-12H	PCS	CARBON FILM RESISTOR 8.2K OHM 1/4W 5%	
013-822605-75	PCS	FIXED METAL OXIDE FILM RESISTOR 8.2K 5W	
013-823005-12H	PCS	CARBON FILM RESISTOR 82K OHM 1/16W 5%	
013-825305-92 2 5	PCS	HIGH VOLTAGE RESISTOR 8.2M OHM 1W 5%	
014-210200-01 100	PCS	P.T.C. THERMISTOR "POSI-R" ZPB53BL200C	
022-300101-03 10	PCS	TRIMMER CAPACITOR 30PF ECR-HA030E11 MAT	
026-102111-01V	PCS	MYLAR CAP. 0.001MFD 100V 10% (TAPING)	
026-103071-11V	PCS	POLY FILM CAP ECQ-B1H103KF3 0.01MFD	
026-103111-01V	PCS	MYLAR CAP 0.01MFD 100V 10% (TAPING)	
026-104061-71	PCS	MULTILAYER METALLIZED POLYESTER FILM CAP	
026-104111-01	PCS	MYLAR CAPACITOR .1MFD 100V 10%	
026-122071-11V	PCS	POLY FILM CAP ECQ-B1H122KF3 0.0012MFD	
026-154111-01	PCS	MYLAR CAPACITOR 0.15 MFD 100V 10%	
026-222111-01V	PCS	MYLAR CAP 0.0022MFD 100V 10% (TAPING)	
026-223071-11V	PCS	POLY FILM CAP ECQ-B1H223KF3 0.022MFD	
026-223111-01V	PCS	MYLAR CAP 0.022MFD 100V 10% (TAPING)	
026-224111-01	PCS	MYLAR CAPACITOR 0.22 MFD 100V 10%	
026-273071-11V	PCS	POLY FILM CAP ECQ-B1H273KF3 0.027MFD	
026-273111-01V	PCS	MYLAR CAPACITOR 0.027MFD 100V 10%	
026-332160-41	PCS	METALLIZED POLYPROPYLENE CAP 0.0033 MFD	
026-333111-01V	PCS	MYLAR CAP 0.033MFD 100V 10% (TAPING)	
026-472111-01V	PCS	MYLAR CAPACITOR .0047 MFD 100V 10%	
026-473201-31	PCS	POLYPROPYLENE CAPACITOR .047MFD 200V 10	
026-473212-41	PCS	METALLIZED POLY CAP ECQU2A473MN 0.047MFD	
026-474111-01	PCS	MYLAR CAPACITOR 0.47MFD 100V 10%	
026-474200-31	PCS	POLYPROPYLENE CAPACITOR 0.47 MFD 200V 5%	
026-474211-21C 2 5	PCS	MET. POLY. CAP. 0.47UF 250V AC +/-10%	
026-562071-11V	PCS	POLY FILM CAP ECQ-B1H562KF3 0.0056MFD	
026-563201-31	PCS	POLYPROPYLENE CAP 0.056MFD 200V 10%	
026-682111-01V	PCS	MYLAR CAPACITOR 0.0068 MFD 100V 10%	
031-230388-00V	PCS	TRANSISTOR 2SC388ATM TOSHIBA	
031-231815-26V	PCS	TRANSISTOR 2SC1815-Y TOSHIBA	
031-232001-00	PCS	TRANSISTOR 2SC2001K/L	
031-232482-00	PCS	TRANSISTOR 2SC 2482 TOSHIBA	
031-232482-00V	PCS	TRANSISTOR 2SC2482 TOSHIBA	
031-240400-06V	PCS	TRANSISTOR 2SD400F SANYO (RADIAL LEAD)	
031-241545-00	PCS	TRANSISTOR 2SD1545 TOSHIBA	
031-241555-05	PCS	TRANSISTOR 2SD1555(E) TOSHIBA	
031-380020-00	PCS	TRANSISTOR BSX20 S.G.S.	
033-004066-31 50	PCS	IC HCF 4066BE S.G.S.	
033-068230-22	PCS	I.C. C68230Y-N2B TEXAS (TMS73C47) KWTC	
033-070095-22	PCS	I.C. CF70095A TEXAS	
033-072306-22	PCS	I.C CF72306 TEXAS	
033-105601-11	PCS	IC AN5601K MATSUSHITA	
033-108701-14	PCS	I.C TA8701AN TOSHIBA	
033-201904-31	PCS	IC TDA1904 S.G.S	
033-207830-16	PCS	IC LA7830 SANYO	
033-809012-14	PCS	IC TC9012F TOSHIBA	

ONWA Electronics (UK) Ltd

B/M Spare Part Cost Listing

B/M NO : UA32001A2502

Part Number	U/M	Description	U
033-809346-42	50 PCS	I.C. XL93LC46AP EXEL	
036-600781-00	50 PCS	INFRARED LIGHT DETECTING UNIT FOR REMOTE	
037-138750-30F	25 PCS	CRYSTAL 13.875 MHZ "SHENYI"	
037-886723-20F	25 PCS	CRYSTAL 8.867238 MHZ "SHENYI"	
045-022411-11	25 PCS	SLIDE SWITCH 2P2T SS22F12G11 PIC	
046-100001-14A	100 PCS	POWER SWITCH ESB99957A MATSUSHITA	
046-100001-39	25 PCS	TACT SWITCH 1P SKHHLQ044A ALPS	
060-101001-08	25 PCS	CONTACT PIN PCB TYPE (MALE) TAIKO	
060-101802-08	25 PCS	PIN CONNECTOR 1 PIN SOCKET TS-80H-01-A1	
060-102252-23	25 PCS	PIN CONNECTOR 2 PINS SOCKET 5051-02	
060-102255-23	25 PCS	PIN CONNECTOR 2 PINS PLUG 5045-02A	
060-102805-08	25 PCS	PIN CONNECTOR 2 PINS PLUG STRAIGHT TYPE	
060-103255-23	25 PCS	PIN CONNECTOR 3 PINS PLUG 5045-03A	
060-103802-08	25 PCS	PIN CONNECTOR 3 PINS SOCKET STRAIGHT	
060-103805-08	25 PCS	PIN CONNECTOR 3 PINS PLUG STRAIGHT TYPE	
060-104805-08	25 PCS	PIN CONNECTOR 4 PINS PLUG STRAIGHT TYPE	
060-107252-23	25 PCS	PIN CONNECTOR 7 PINS SOCKET 5051-07	
060-107255-23	25 PCS	PIN CONNECTOR 7 PINS PLUG 5045-07A	
061-540015-01	25 PCS	20" CRT SOCKET 033-0550044 METALLO	
061-680000-01	25 PCS	21 PIN SOCKET HOSIDEN EXC1510-01-300	
063-804800-04	25 PCS	4 PINS WIRE ASS'Y FOR CHINA CRT	
066-983023-09A	50 PCS	SPEAKER 2" X 3.5" 8 OHM 3W M5W YDT-5090	
071-400086-20	PCS	AC LINE CORD BS6500 86" W/STOPPER	
071-490100-30	PCS	AC LINE CORD BS STD W/13AMP 5A FUSE	
072-522014-12	PCS	JUMPER WIRE UL1672 AWG#22 140MM RED	
072-522014-13	PCS	JUMPER WIRE UL1672 AWG#22 140MM ORANGE	
072-726000-00	KGS	BARE WIRE AWG#26 1KG=375M	
072-830000-48	LBS	FLAT BRAIDED WIRE 1LB=82M	
078-101046-00	PCS	JUMPER WIRE ASS'Y UL1007 AWG#22	
078-101046-01	PCS	JUMPER WIRE ASS'Y UL1007 AWG#22 460MM	
078-101046-02	PCS	JUMPER WIRE ASS'Y UL1007 AWG#22 460MM	
078-101046-03	PCS	JUMPER WIRE ASS'Y UL1007 AWG#22 460MM	
078-101046-04	PCS	JUMPER WIRE ASS'Y UL1007 AWG#22 460 MM	
078-103040-00	PCS	JUMPER WIRE ASS'Y UL1007 AWG#22 400MM	
078-103040-02	PCS	JUMPER WIRE ASS'Y UL1007 AWG#22 400MM	
078-106040-03	PCS	JUMPER WIRE ASS'Y UL1007 AWG#22 400MM	
078-106040-04	PCS	JUMPER WIRE ASS'Y UL1007 AWG#22	
078-203036-30	PCS	JUMPER WIRE ASS'Y UL1015 AWG#20 360MM	
078-206040-30	PCS	JUMPER WIRE ASS'Y UL1015 AWG#20	
079-104100-00	M	UL/CSA PVC TUBE 4.1 MM DIA.	
079-105300-00	M	UL/CSA PVC TUBE 5.3MM DIA	
079-109500-00	M	UL/CSA PVC TUBE 9.5MM DIA	
079-403500-00	M	SHRINKABLE TUBE 3.5 MM DIA	
079-501000-00	M	STAGHETTI TUBE 1MM DIA.	
082-223150-23	PCS	FUSE HBS 5X20MM TIME LAG S505 'BÜSSMANN'	
090-000401-00	PCS	P.C.BOARD (050392) T=1.6MM HANDSET HIKOM	
090-922010-08	PCS	P.C.B. (250794) MAIN PHENOLIC T=1.6MM	
090-922050-01	PCS	P.C. BOARD (300592) PHENOLIC T=1.6MM	
101-220005-03A	100 PCS	20"/21" FLYBACK TRANSFORMER CF0341	
102-320002-16	PCS	20" COLOR CRT A48ECR11X16 GERMANY MAG.	

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B/M Spare Part Cost Listing

B/M NO : UA32001A2502

Part Number	U/M	Description	Unit C
103-113108-02	100 PCS	TUNER UHF PAL-I IEC SOCKET	
105-100101-02V	10 PCS	FIXED INDUCTOR COIL 10UH EL0606RA-100K	
105-150101-02V	10 PCS	FIXED INDUCTOR COIL 15UH +-10%	
105-161101-01	10 PCS	CHOKE COIL 160 UH	
105-181101-02	10 PCS	FIXED INDUCTOR COIL 180 UH 10%	
105-181101-02V	10 PCS	FIXED INDUCTOR COIL 180UH (TAPPING)	
105-220101-06V	10 PCS	FIXED INDUCTOR COIL 22UH 10% CHINA	
105-570101-01	10 PCS	FIXED INDUCTOR COIL 57 UH 10%	
105-689101-02V	10 PCS	FIXED INDUCTOR COIL 6.8UH 10% (TAPPING)	
108-890201-02	10 PCS	DEGAUSSING COIL ASS'Y 20" PAL 89T	
112-102542-06	25 PCS	SEMI FIXED RESISTOR 1KB KVSF637A	
112-103541-06	25 PCS	SEMI-FIXED RESISTOR B-10K OHM	
112-204541-06	25 PCS	SEMI-FIXED RESISTOR B-200K OHM	
112-301531-08	25 PCS	SEMI-FIXED RESISTOR B-300 OHM 3 PINS	
112-501541-06	25 PCS	SEMI-FIXED RESISTOR B-500 OHM	
112-502531-08	25 PCS	SEMI-FIXED RESISTOR B-5K OHM 3 PIN	
112-502541-06	25 PCS	SEMI-FIXED RESISTOR B-5K OHM	
113-100013-00	25 PCS	DELAY LINE ENF-650A11-0 'WEI HAW'	
113-200018-00	25 PCS	DELAY LINE YBL200220 'WEI HAW'	
123-102370-30V	PCS	CERAMIC CAP 0.001MFD 50V +80-20% F TYPE	
123-103370-30V	PCS	CERAMIC CAP 0.01 MFD 50V +80-20%	
123-104270-30V	PCS	CERAMIC CAP 0.1MFD 25V +80-20% F TYPE	
123-122550-40	PCS	CERAMIC CAPACITOR 1200PF 500V 10%	
123-122550-40V	PCS	CERAMIC CAP 1200PF 500V 10%	
123-150340-13V	PCS	CERAMIC CAP 15PF 50V 5% NPO TYPE	
123-181350-10V	PCS	CERAMIC CAP 180PF 50V 10% SL TYPE	
123-220350-10V	PCS	CERAMIC CAP 22PF 50V 10% SL TYPE	
123-221350-10V	PCS	CERAMIC CAP 220PF 50V 10% SL TYPE	
123-222467-41	PCS	CERAMIC CAPACITOR 0.0022 MFD 400V +-20%	
123-222580-42	PCS	CERAMIC CAPACITOR 0.0022MFD 500V +100-0%	
123-222840-40	PCS	CERAMIC CAP 0.0022MFD 2KV 5%	
123-270350-10V	PCS	CERAMIC CAP 27PF 50V 10% SL TYPE	
123-271340-10	PCS	CERAMIC CAPACITOR 270PF 50V 5% SL TYPE	
123-271340-10V	PCS	CERAMIC CAP 270PF 50V 5% SL TYPE	
123-300340-13	PCS	CERAMIC CAPACTIOR 30 PF 50V 5% CH TYPE	
123-300340-13V	PCS	CERAMIC CAP 30PF 50V 5% CH TYPE	
123-331340-10	PCS	CERAMIC CAPACITOR 330PF 50V 5% SL TYPE	
123-470340-13	PCS	CERAMIC CAPACITOR 47PF 50V 5% CH TYPE	
123-470350-10V	PCS	CERAMIC CAP 47PF 50V 10% SL TYPE	
123-471350-10V	PCS	CERAMIC CAPACITOR 470PF 50V 10% SL TYPE	
123-472580-42V	PCS	CERAMIC CAP 0.0047MFD 500V+100-0%	
123-500350-10V	PCS	CERAMIC CAPACITOR 50PF 50V 10% SL TYPE	
123-561350-10V	PCS	CERAMIC CAP 560PF 50V 10% SL TYPE	
123-562840-40	PCS	CER. CAP. ECKD3D562JBN 0.0056MFD 2KV 10%	
123-681550-40V	PCS	CERAMIC CAP 680PF 500V 10% ECKR2H681KB5	
123-820340-13V	PCS	CERAMIC CAP 82PF 50V 5% NPO TYPE	
123-821350-10V	PCS	CERAMIC CAP 820PF 50V 10% SL TYPE	
124-105061-01V	PCS	TAN CAP ECSF1VE105K 1MFD 35V 10%	
124-106041-01V	PCS	TAN CAP ECSF1CE106K 10MFD 16V 10%	
124-225051-01V	PCS	TAN CAP ECSF1EE225K 2.2MFD 25V 10%	

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Part Number	U/M	Description	Unit Qt
124-335051-01V	PCS	TAN CAP ECSF1EE335K 3.3MFD 25V 10%	
124-474061-01V	PCS	TAN CAP ECSF1VE474K 0.47MFD 35V 10%	
127-105077-01V	PCS	ELECTROLYTIC CAP 1MFD 50V 20%	
127-105077-21	PCS	NON-POLARIZED ELECTROLYTIC CAPACITOR	
127-105077-21V 25	PCS	NON-POLARIZED ELECTROLYTIC CAP 1MFD 50V	
127-105135-01V	PCS	ELECTROLYTIC CAP 1MFD 160V +50-10%	
127-106047-01V	PCS	ELECTROLYTIC CAP 10MFD 16V 20%	
127-106047-21V 25	PCS	NON-POLARIZED ELECTROLYTIC CAP 10MFD	
127-106077-01V	PCS	ELECTROLYTIC CAP 10MFD 50V 20%	
127-106215-81	PCS	ELECTROLYTIC CAPACITOR 10MFD 250V +-20%	
127-107047-01V	PCS	ELECTROLYTIC CAP 100MFD 16V 20%	
127-107067-01V	PCS	ELECTROLYTIC CAP 100MFD 35V 20%	
127-107135-81	PCS	ELECTROLYTIC CAPACITOR 100 MFD 160V	
127-224077-01V	PCS	ELECTROLYTIC CAP 0.22 MFD 50V 20%	
127-225077-01V	PCS	ELECTROLYTIC CAP 2.2NFD 50V 20%	
127-226047-01V	PCS	ELECTROLYTIC CAP 22MFD 16V 20%	
127-227047-01V	PCS	ELECTROLYTIC CAP 220MFD 16V 20%	
127-227057-01V	PCS	ELECTROLYTIC CAP 220MFD 25V 20%	
127-335077-01V	PCS	ELECTROLYTIC CAP 3.3MFD 50V 20%	
127-335077-21V 25	PCS	NON POLARIZED ELECTROLYTIC CAP 3.3MFD	
127-335215-01	PCS	ELECTROLYTIC CAPACITOR 3.3MFD 250V+-20%	
127-338047-01	PCS	ELECTROLYTIC CAPACITOR 3300 MFD 16V 20%	
127-474077-01V	PCS	ELECTROLYTIC CAP 0.47MFD 50V 20%	
127-475057-01V	PCS	ELECTROLYTIC CAP 4.7MFD 25V 20%	
127-476047-01	PCS	ELECTROLYTIC CAPACITOR 47 MFD 16V 20%	
127-476047-01V	PCS	ELECTROLYTIC CAP 47MFD 16V 20%	
127-476057-01V	PCS	ELECTROLYTIC CAP 47MFD 25V 20%	
127-476077-01V	PCS	ELECTROLYTIC CAP 47MFD 50V 20%	
127-477047-01	PCS	ELECTROLYTIC CAPACITOR 470MFD 16V 20%	
127-477057-01	PCS	ELECTROLYTIC CAPACITOR 470 MFD 25V 20%	
130-134148-01	PCS	SILICON DIODE 1N4148 AXIAL MOUNT	
130-310060-00	PCS	RECTIFIER D2SBA S60 6B	
130-310858-00 50	PCS	DIODE MA858 MATSUSHITA	
130-315295-00	PCS	RECTIFIER DIODE S5295G/J BYT 52K/J/G	
130-410033-00	PCS	ZENER DIODE KA33V SAM SUNG	
130-410039-00	PCS	ZENER DIODE 3.9V	
130-410051-01	PCS	ZENER DIODE 5V1	
130-410056-01	PCS	ZENER DIODE 5.6V AXIAL MOUNT	
130-410082-01	PCS	ZENER DIODE 8.2V	
130-411091-00	PCS	ZENER DIODE 9.1V MA1091-M MATSUSHITA	
130-422120-00	PCS	ZENER DIODE 12V MA2120 MATSUSHITA	
130-600101-00	PCS	INFRARED EMITTING DIODE EL-1L1	
200-A32001-01 25	PCS	CAB FRONT BLK W/SIL MET BLK SPRAY	
201-000901-01S 25	PCS	CABINET TOP BLACK ABS	
202-A12001-01 15	PCS	CAB BACK BLK HI-PS BS MATL	
203-000901-01S 10	PCS	CABINET BOTTOM BLACK ABS	
210-000901-01 50	PCS	BATTERY COVER BLACK ABS	
219-A32001-01 100	PCS	FRONT PANEL DOOR BLK W/SIL MET BLK SPRAY	
239-391201-01 10	PCS	ADAPTOR FOR POWER SWITCH BLACK ABS	
250-932001-01 10	PCS	LED HOLDER BLACK ABS	

ONWA Electronics (UK) Ltd

B/M Spare Part Cost Listing

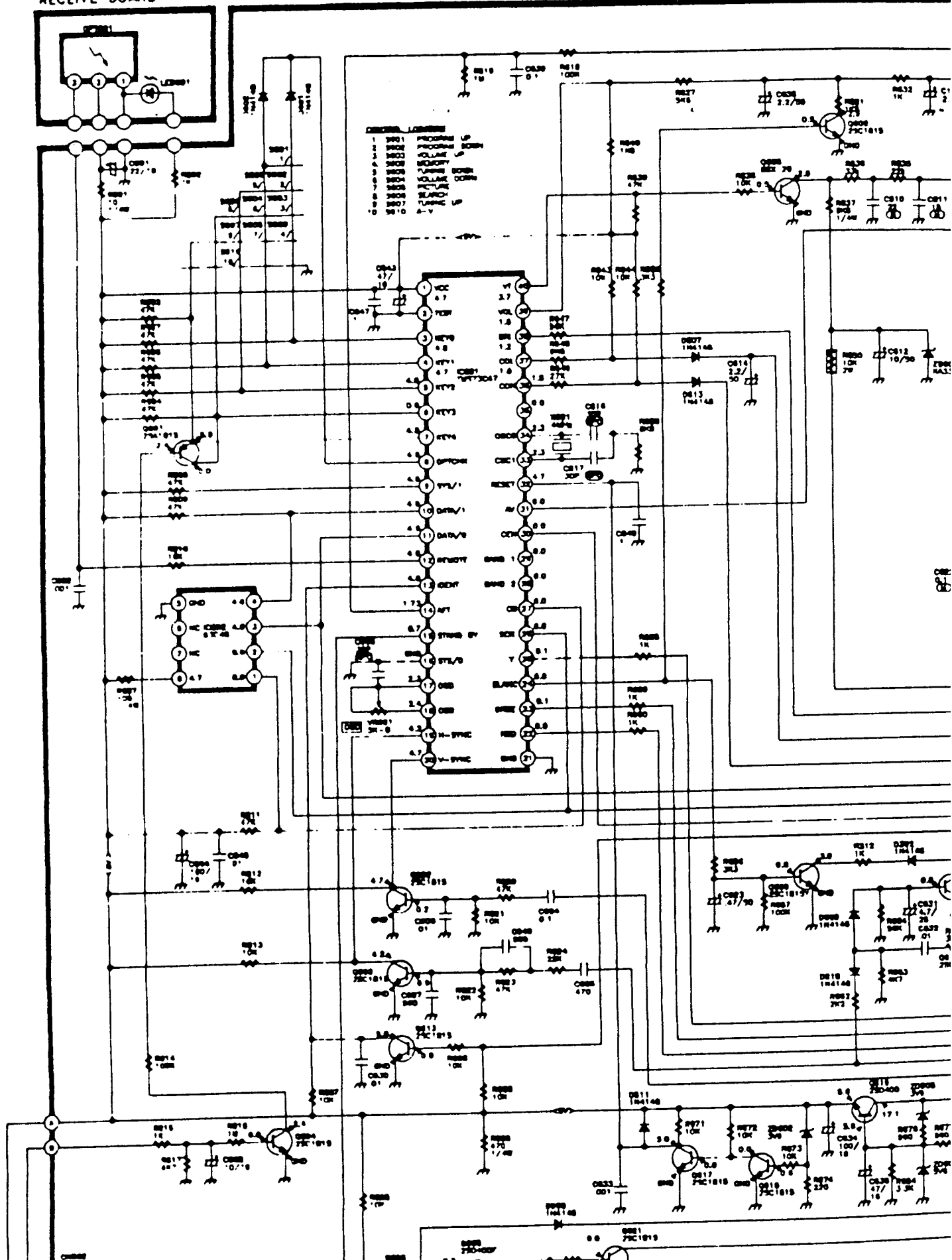
B/M NO : UA32001A2502

Part Number	U/M	Description	U
254-691301-01	10 PCS	TWIST HOLDER	
259-911501-01	10 PCS	DEGAUSSING COIL CLIP	
259-922002-01	10 PCS	DEGAUSSING COIL CLIP	
259-922101-01	10 PCS	PCB SUPPORTER	
263-000901-01	PCS	FRONT LENS RED 20784 PC	
263-A32001-01	25 PCS	FRONT LENS RED W/SILK'S ABS	
292-A32001-01	PCS	POWER KNOB BLACK ABS	
310-396005-40B	RLS	EXPANDED POLYETHYLENE FOAM PAPER	
321-000201-01	PCS	BATTERY SPONGE W/TAPE 3.0MM THK GREY	
334-000202-01	PCS	CONDUCTIVE RUBBER BLACK 33 KEYS	
334-391501-01	PCS	RUBBER RING (T=3.0MM)	
403-A32001-01	25 PCS	SPEAKER GRILLE W/DULL BLK SPRAY	
418-922040-01	PCS	TUNER COVER W/SILK'S	
437-371602-01	PCS	PICTURE TUBE WASHER	
450-371602-01	PCS	TEST PIN	
450-691301-01	PCS	TEST PIN	
450-701201-01	PCS	SOLDERING LUG (10015-5)	
466-701201-01	PCS	FUSE HOLDER	
477-371601-01	10 PCS	CRT SPRING	
477-390203-01	PCS	CONTACT SPRING WIRE +, - VE	
477-390501-01	PCS	CONTACT SPRING WIRE + VE	
477-390502-01	PCS	CONTACT SPRING WIRE - VE	
477-682101-01	PCS	COMPRESSION SPRING	
483-922001-01	PCS	SHIELD BOX BODY	
484-382810-01	PCS	HEAT SINK 2.0MM THK ALUMINIUM	
521-200095-00	PCS	FELT PAPER 200 X 9 X 0.5MM THK W/DOUBLE	
531-150010-05	PCS	FELT PAPER 150 X 10 X 0.5MM THK	
569-018101-14	PCS	QUALITY APPROVED LABEL	
569-330201-01	PCS	QC PASSED LABEL WHITE B/G BLUE LETT	
569-370601-10	PCS	TV SYSTEM LABEL (PAL I)	
569-382801-12	PCS	QC PASSED LABEL BLUE B/G WHITE LETT	
569-391501-38	PCS	AC LINE CORD LABEL (3A)	
600-305012-10	PCS	MACHINE SCREW P/H 3 X 12 MM WHITE	
610-260108-00	PCS	SELF-TAPPING SCREW R/T 2.6 X 8MM BLACK	
614-400410-10	PCS	SELF-TAPPING SCREW B/T 4 X 10MM WHITE	
614-400412-00	PCS	SELF-TAPPING SCREW B/T 4X12MM BLACK	
614-400420-10	PCS	SELF-TAPPING SCREW B/T 4 X 20MM WHITE	
614-500425-00	PCS	SELF-TAPPING SCREW B/T 5 X 25MM BLACK	
620-305025-55	PCS	STEEL NUT M3	
633-055032-07	PCS	SPRING WASHER (503)	
680-101261-01	PCS	CABLE TIE	
680-125503-01	PCS	WIRE TIE 125 X 0.3 X 0.1MM	
702-391201-02	25 PCS	DOOR LOCKER ASS'Y F4	

117 X 1 IN BK 40002029T - 1 INSTRUCTION 1306
 50 X 2029T MAIN PCB ASSY
 50 X 2029T FUNCTION PCB ASSY
 20 X 2029T CRT PCB ASSY
 50 X 2029T NUM CONT ASSY

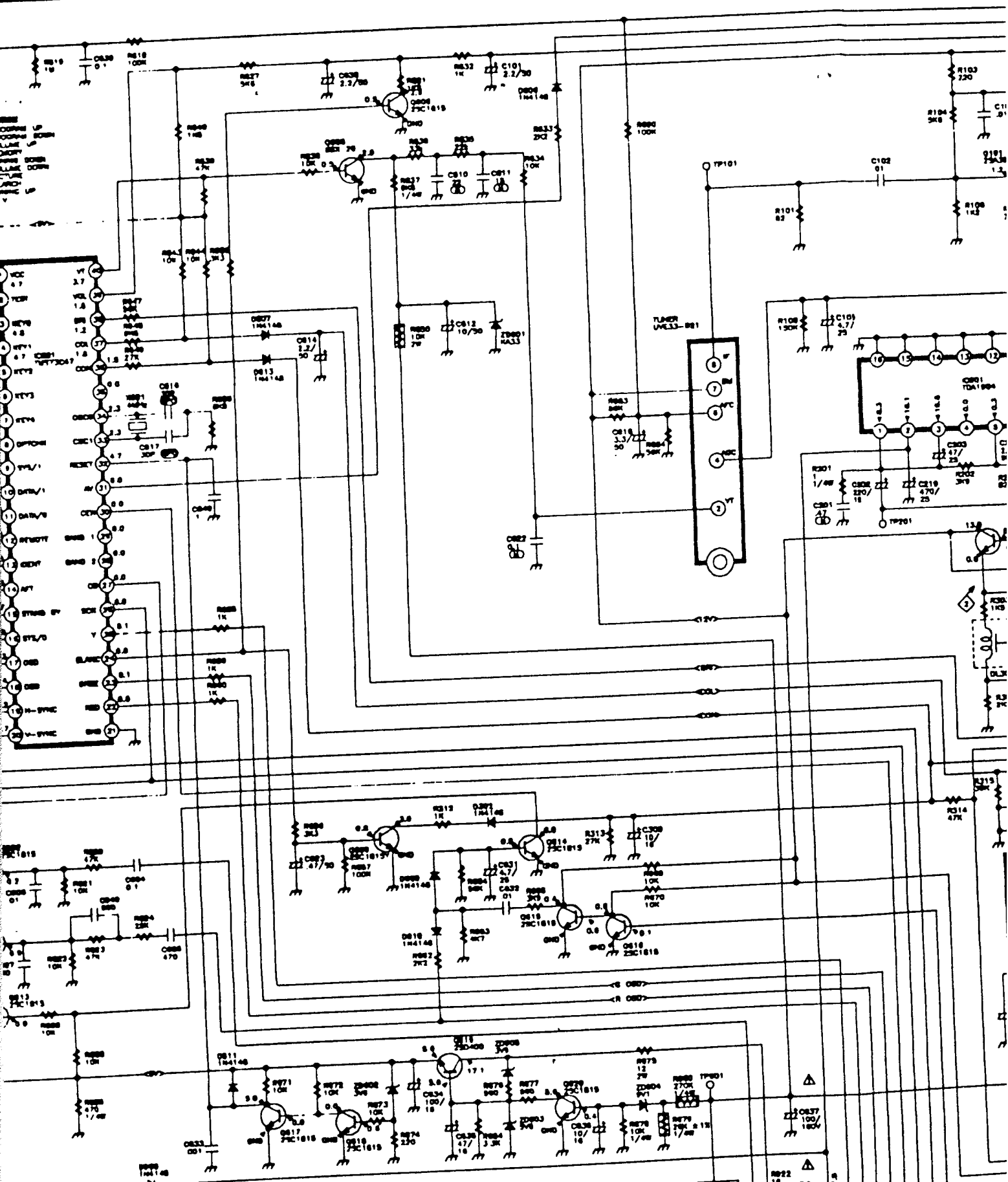
RECEIVE BOARD

MAIN BOARD

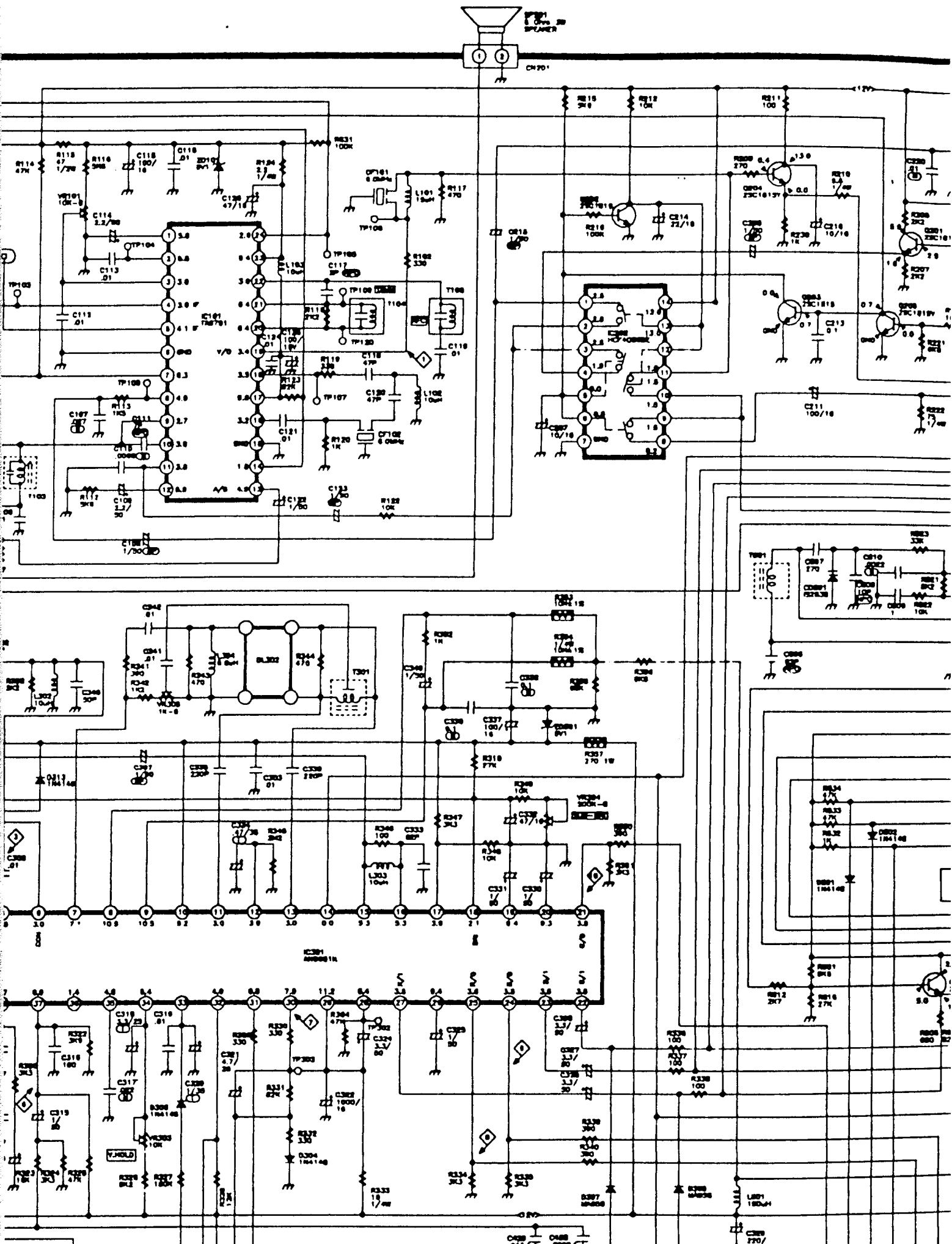


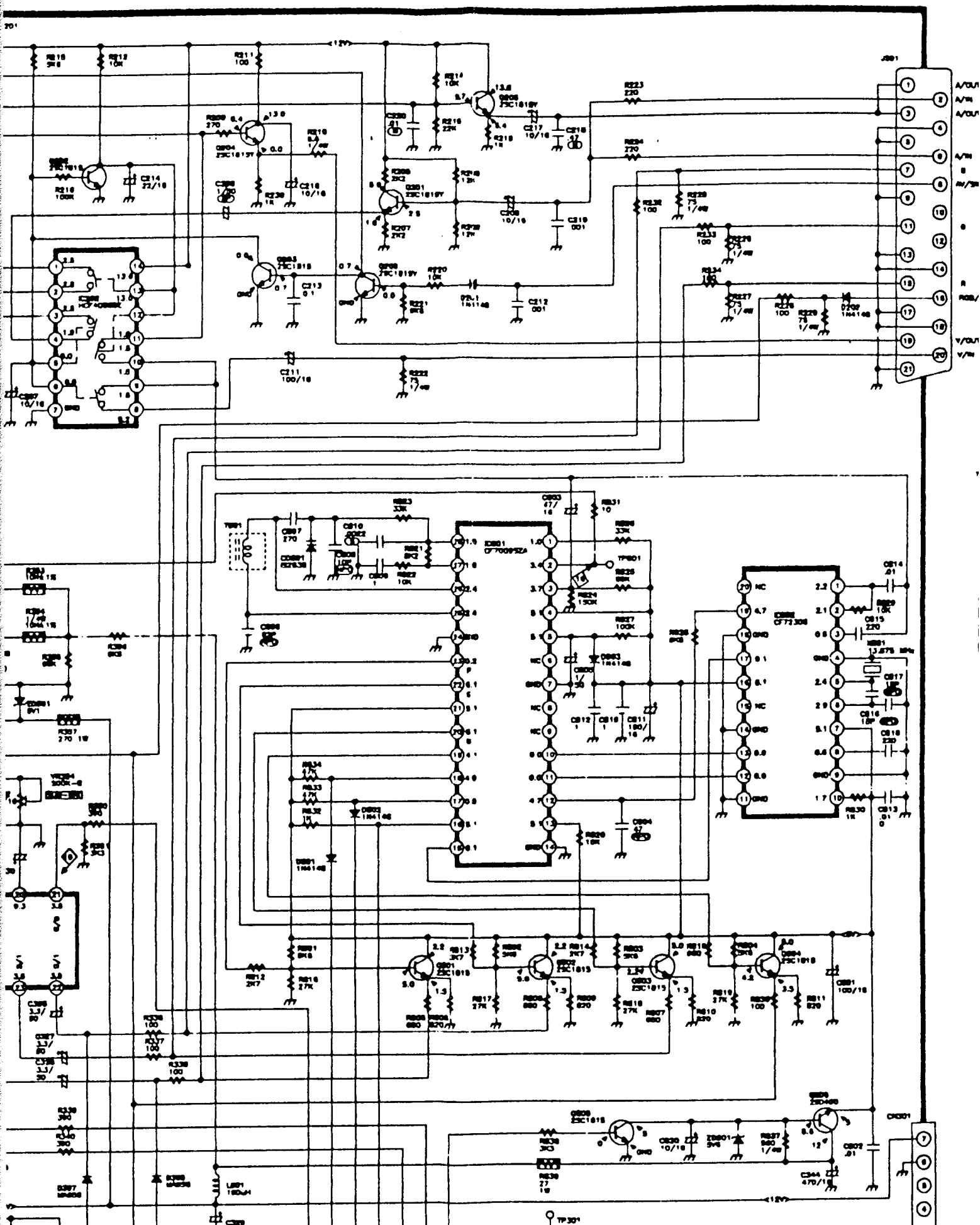
For Service
MAURITRON
 8 Cherry Tree Road
 Oxfordshire,
 Tel (01844)
 Fax (01844)
 email:- mauritron@

FOR PAL-I SYSTEM WITH UNITEXT (W/SCART)

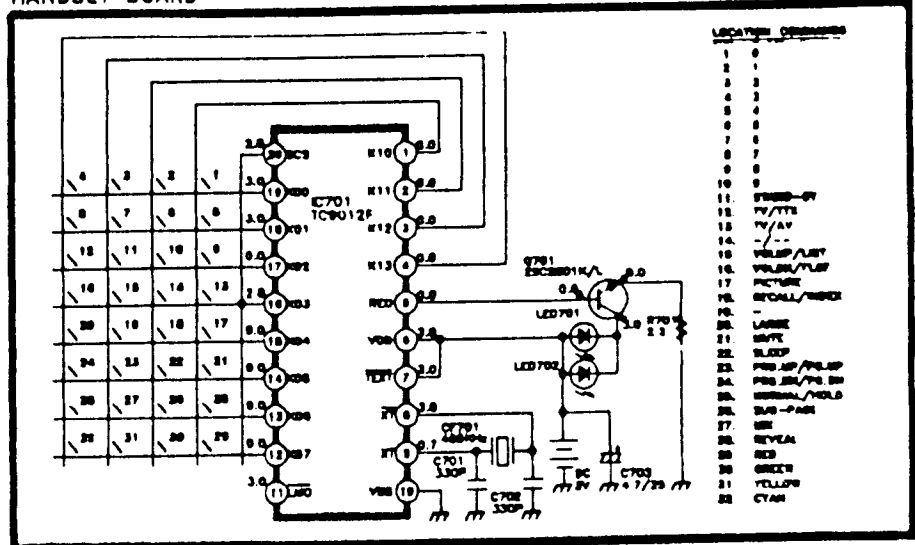




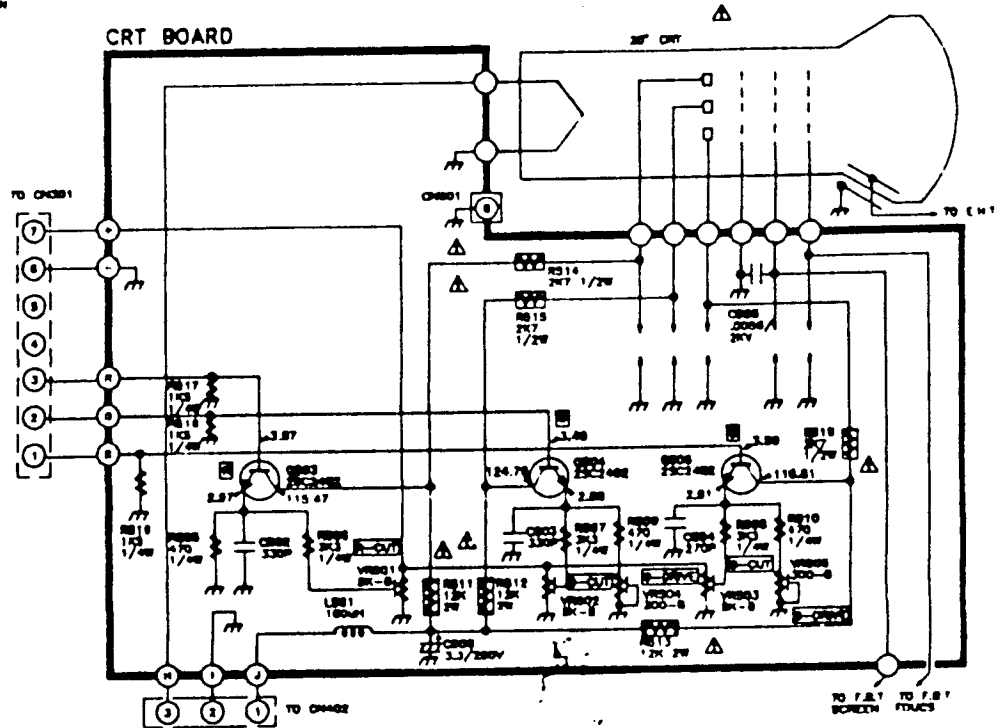




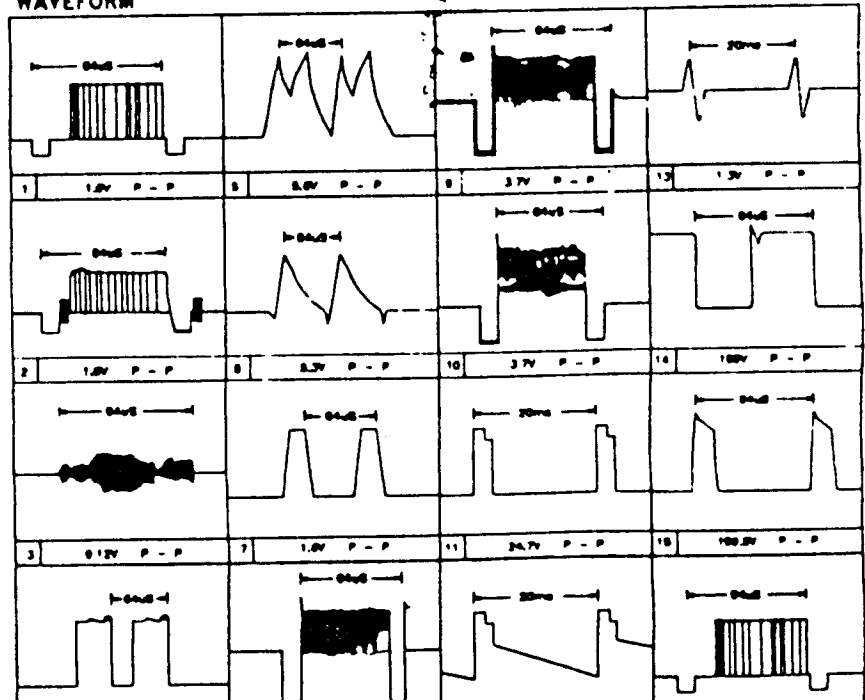
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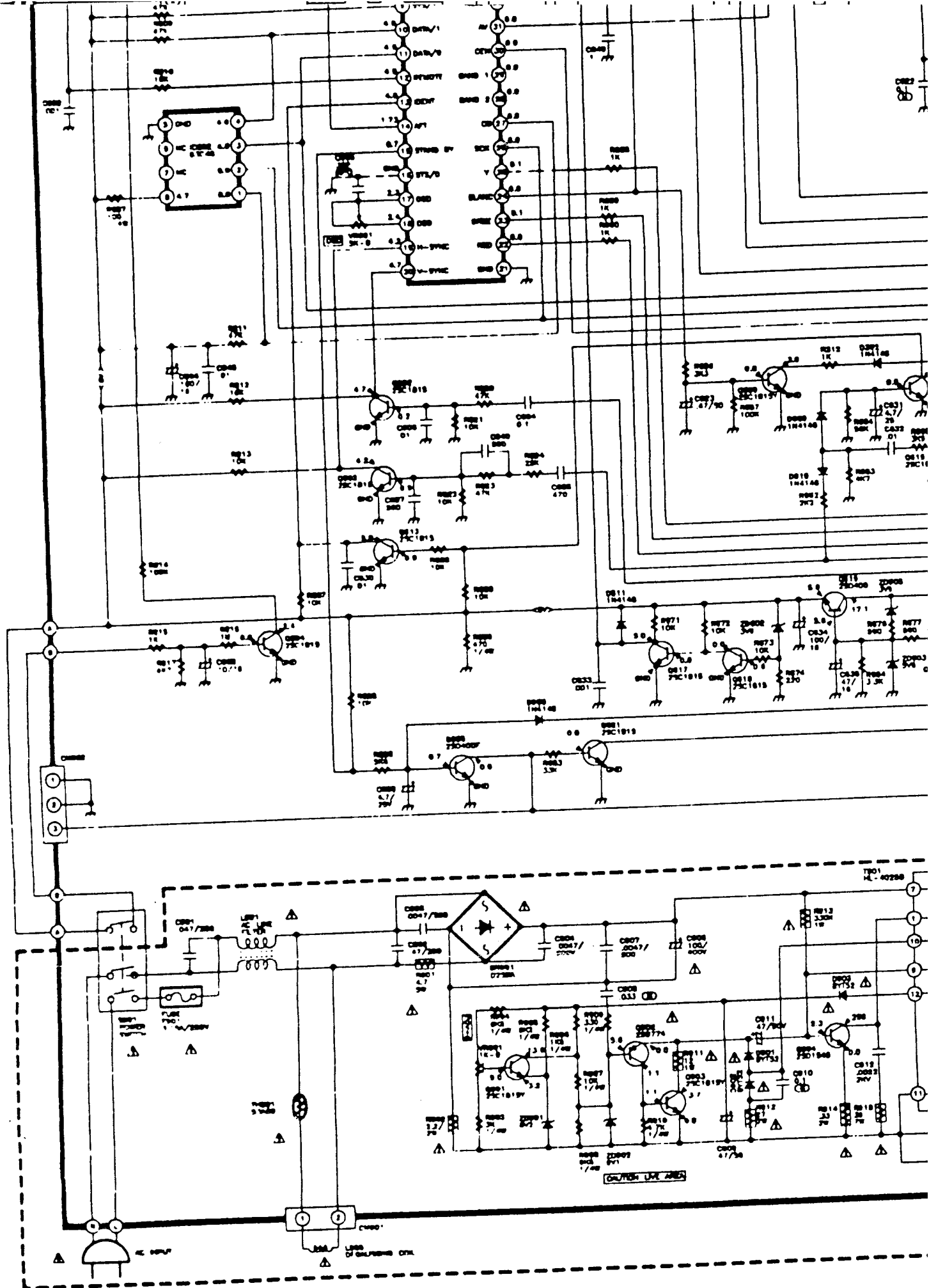


CRT BOARD

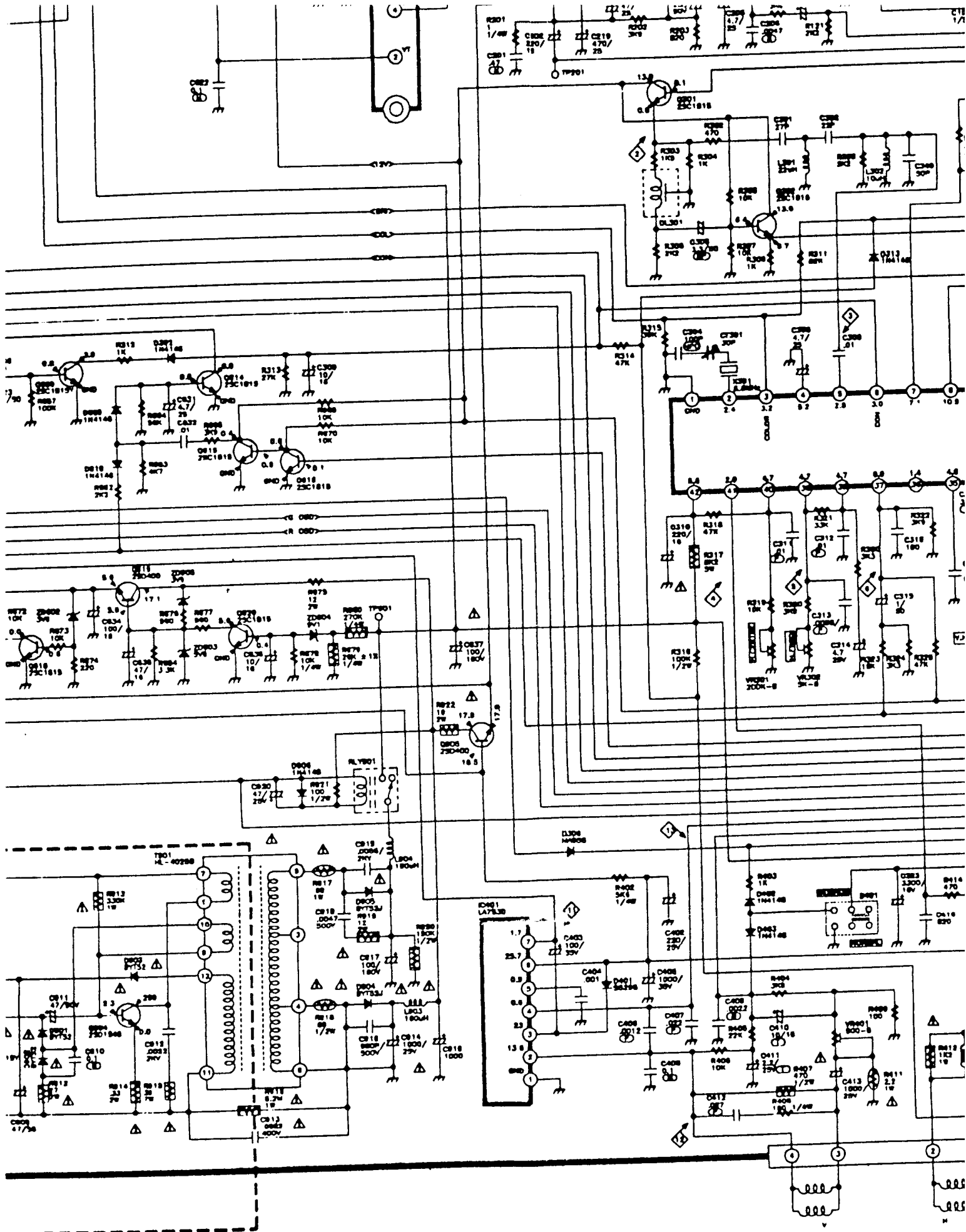


WAVEFORM

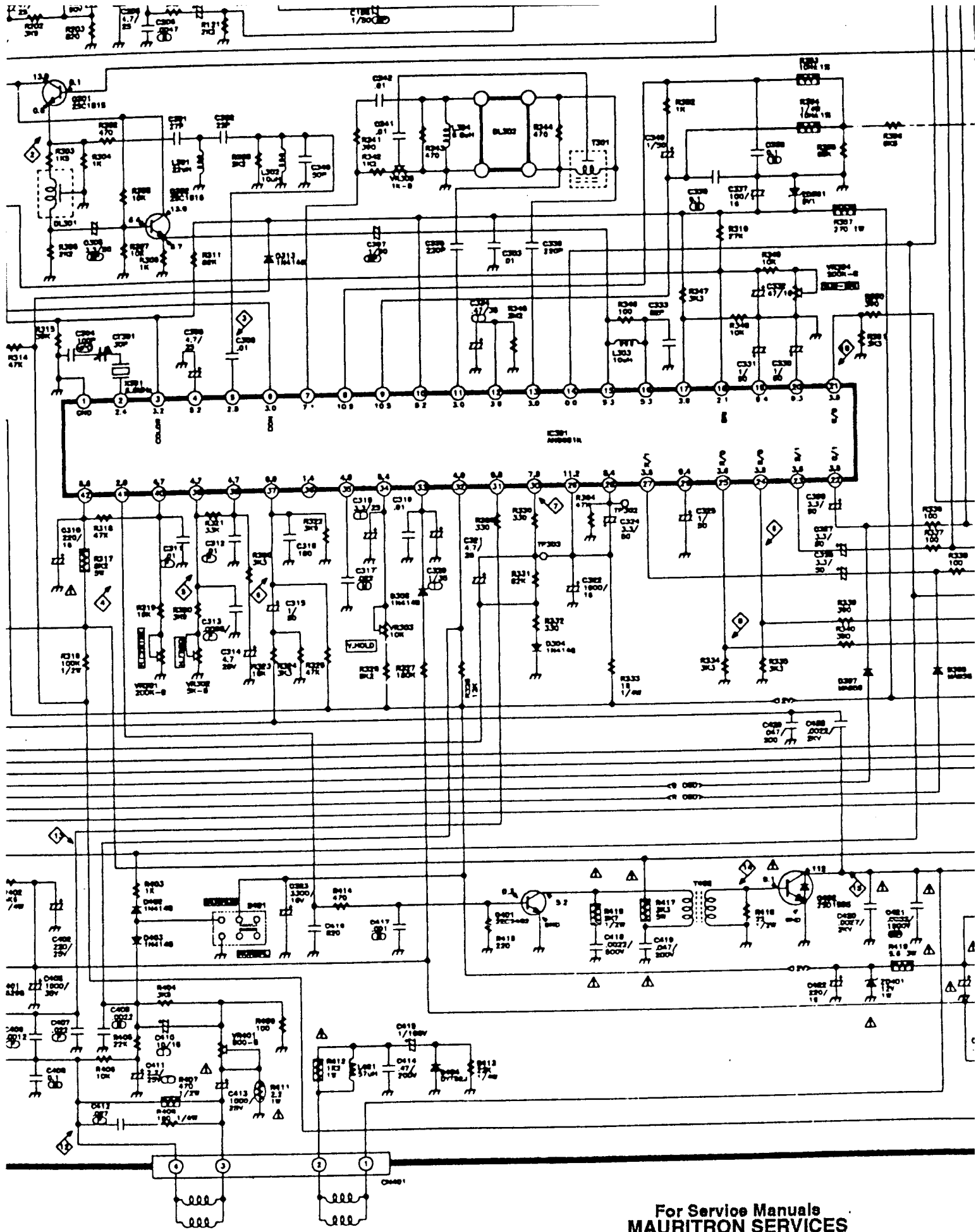




DRAWING NO. : 9220-02 (IT)
REV. : B (12-09-94)

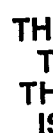


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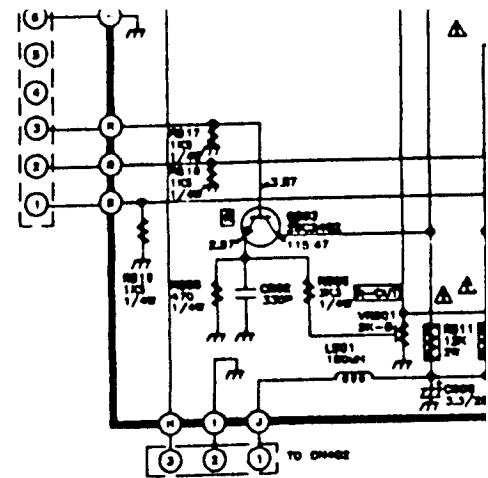


For Service Manuals
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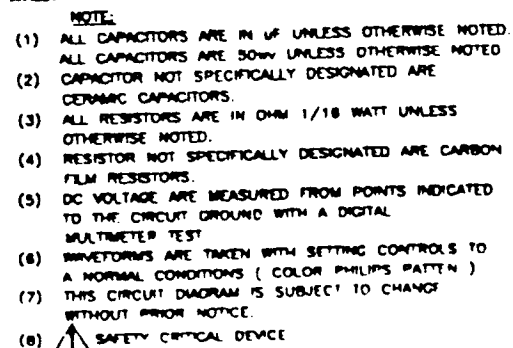




email:- mauritron@dial.pipex.com



1	1.5V P - P	5	5.0V P
2	1.5V P - P	6	5.3V P
3	0.12V P - P	7	1.5V P
4	5.5V P - P	8	3.7V P



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