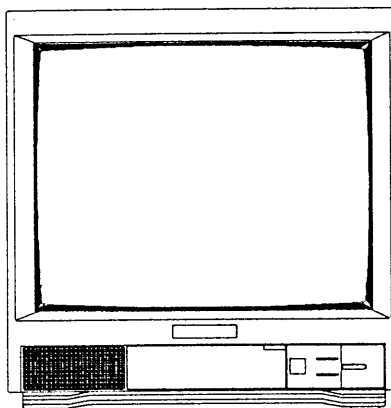


# SERVICE MANUAL

**MODEL: CI5012Z/AUSX**

**CHASSIS: P-58SC & RM109**

## COLOUR TELEVISION RECEIVER



CI5012Z

### SPECIFICATION

Television System	PAL - I
Receiving Channel	UHF : 21 - 69
Intermediate Frequency	Picture I-F Frequency : 39.5MHz Sound I-F Carrier Frequency : 33.5MHz Colour Sub-carrier Frequency : 35.07MHz
Picture Tube	51GGB91X
Power Requirements	240V , 50Hz
Power Consumption	83 WATT
Speaker	Impedance : 8 Ohm , 3W
Features	P58SC & RM109 REMOCON SYSTEM

#### SAFETY CAUTION :

Before servicing this chassis, it is important that a service technician reads and follows the "Safety Precaution" and "Product Safety Notice" in this Service Manual.

- For continued X-radiation, replaced the picture tube with original type.
- Design and specifications are subject to change without prior notice.
- WARNING-SHOCK HAZARD - use isolation transformer when servicing.

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## PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in this chassis have special safety-related characteristics. These characteristics are often passed unnoticed by visual inspection and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. The replacement parts which have these special safety characteristics are identified in this manual and

supplements; electrical components having such features are identified.

Before replacing any of these components, read the parts list in this manual carefully. The use of substitute parts which do not have the same safety characteristics in the parts list may create a shock, fire, X-radiation or other hazards.

## SERVICE NOTES

1. When replacing the parts or the circuit boards, lamp the lead wires to the terminals before soldering.
2. When replacing a high wattage resistor (oxide metal film resistor) in the circuit board, keep the resistor 10mm (1/2 in.) away from the circuit board.
3. Keep the wires away from high voltage or high temperature components.
4. If any Fuse in this TV receiver is blown, replace it with the FUSE specified in the chassis parts list.

## X-RADIATION PRECAUTION

1. The excessive high voltage can produce potentially hazardous X-RADIATION. To avoid such hazards, the high voltage must not be above the specified limit. The normal value of the high voltage of this receiver is 24.5Kv at zero beam current (minimum brightness). The high voltage must not, under any circumstances, exceed 25.5KV. Each time a receiver requires servicing, so the high voltage should be checked following the HIGH VOLTAGE CHECK procedure in this manual. It is recommended that the reading of the high voltage should be recorded as a part of the service record.
2. The only source of X-RADIATION this TV receiver is the picture tube. For continued X-RADIATION protection, the replacement tube must be exactly the same type as specified in the parts list.
3. Some parts in this receiver have special safety-related characteristics for X-RADIATION protection. For continued safety, the parts replacement should be undertaken only after referring to the PRODUCT SAFETY NOTICE.

## SAFETY PRECAUTION

**WARNING:** Service should not be attempted by anyone unfamiliar with the necessary precautions in this receiver. The following are the necessary precautions to be observed before servicing.

Since the chassis of this receiver is directly connected to the AC power line-(Hot chassis), an isolation transformer should be used during any dynamic service to avoid a possible shock hazard.

1. Always discharge the picture tube anode to the CRT conductive coating before handling the picture tube. The picture tube is highly evacuated and if broken, the glass fragments will be violently expelled.
2. Use the shatterproof goggles and keep the picture tube away from the bare body while handling. When replacing a chassis in the cabinet, always be certain that all the protective devices are put back in place, such as non-metallic control knobs, covers, shields, isolation resistor- capacitor network, etc.
3. Before returning the set to the customer, always perform an AC leakage current check on the exposed metallic parts of the cabinet, such as antennas, terminal, screwheads, metal overalls, control shafts, etc. To be sure that the set is safe to operate without danger of electrical shock. Plug the AC line cord directly into a AC outlet (do not use a line isolation transformer during this check). Use an AC voltmeter having 5000 ohm per volt or more sensitivity in the following manner. Connect a 1500 ohm 10watt resistor, paralleled by a 0.15uF, AC type capacitor, between a known good earth ground (water pipe, conduit etc.) and the exposed metallic parts, one at a time. Measure the AC voltage across the combination of 1500 ohm resistor and 0.15uF capacitor. Reverse the AC plug at the AC outlet and repeat AC voltage measurements for each exposed metallic part. The voltage measured must not exceed 0.3 volts RMS. This corresponds to 0.2 milliamp AC. Any value exceeding this limit constitutes a potential shock hazard and must be corrected immediately.

## LOCATION OF CONTROLS

### 1. MASTER SWITCH ( )

Press the master switch on the set. Then you will see the light of stand-by indicator located in the front pannel of the set.

Note: When you leave the house for a long period of time, turn off the master switch.

### 2. CHANNEL/PROGRAMMING UP or DOWN ( - C/P + )

Press once to increase or decrease the programme position.

When the TV set is in the stand-by mode, the TV set will be turned on whether you press button up/down.

### 3. VOLUME UP or DOWN ( - + )

Press the '+' button to increase the sound.

Press the '-' button to decrease the sound.

### 4. MANUAL TUNING UP or DOWN ( MT + , - MT )

Normally the manual tuning is not needed, but it can be useful under the extreme (poor) signal conditions (E.G. when search-tuning fails).

During the manual tuning, the OSD will show the followings:

- the current selected with an analogue indication.
- "TUNE", together with an analogue indication.
- a tuning bar that indicates the position in the band.

Automatic following is suspended until the message has forded away.

### 5. PICTURE MODE COMMAND ( )

The "PICTURE" command will make the following procedures rotate automatically:

BRIGHT --- > COLOUR --- > CONTRAST --- > VOLUME --- > BRIGHT.

Any of those picture modes above can be changed by pressing volume up/down button.

### 6. SEARCH UP BUTTON ( )

To start the search, the user has to press this "SEARCH" button. The OSD will show the currently selected band and analogue indication bar.

When the tuning reaches the top of a band, it will change to the next higher band.

To speed up the search, this set has a possibility to change quickly to search the next band. If a user presses his "SEARCH" button and keeps it pressed for 3 seconds, the system will change to the next band. Keeping the key pressed be will get a new band every second.

### 7. STORE ( )

Memory requires levels of COLOUR, BRIGHT, CONTRAST, VOLUME and program number.

### 8. CLEAR ( X )

Reset all the levels of analogue controls and erase the undesired program numbers.

### 9. PERSONAL PRESET ( )

The personal preset can be stored the analogue states (Colour, Bright, Contrast, volume).

The personal preset button can be pressed to memorize the analogue states.

### 10. SLEEP TIMER ( )

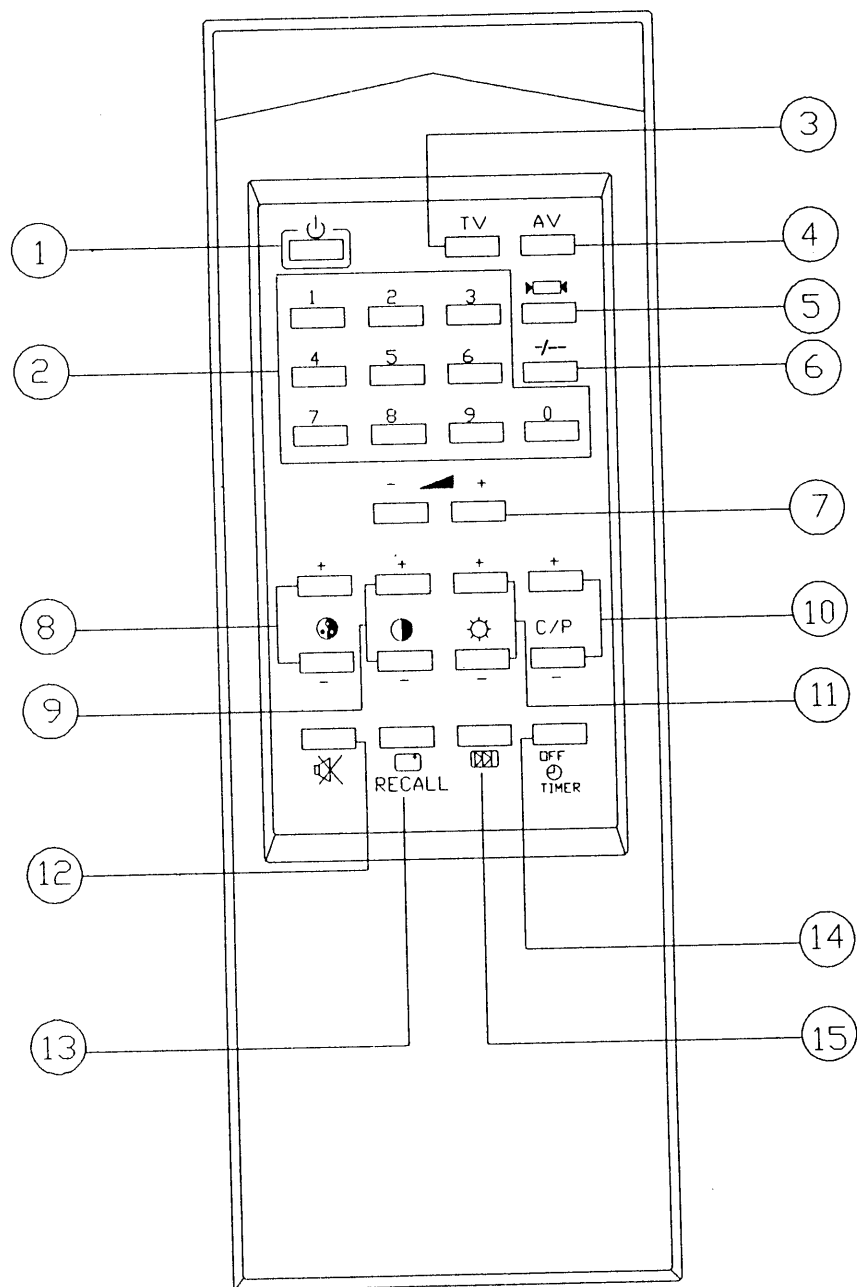
The TV set maybe pre-set to switch off after a fixed period. When pressing the "SLEEP" key for the first time, the OSD will display the remaining minutes during 3 seconds while the function is visible. Each pressing of the "SLEEP" key will increment the time by 15 minutes, up to two hours.

--- > OFF --- > 15 --- > 30 --- > 45 --- > 60 --- > 75 --- > 90 --- > 105 --- > 120





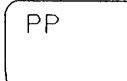






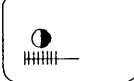
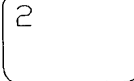

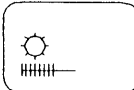





When the sleep timer function is activated, the television will be placed in stand-by after the selected time

## OPERATION WITH THE TRANSMITTER

Once the "MASTER SWITCH" has been switched ON, you can control the receiver using the "REMOTE CONTROL TRANSMITTER" anywhere up to 6 meters away from the receiver.

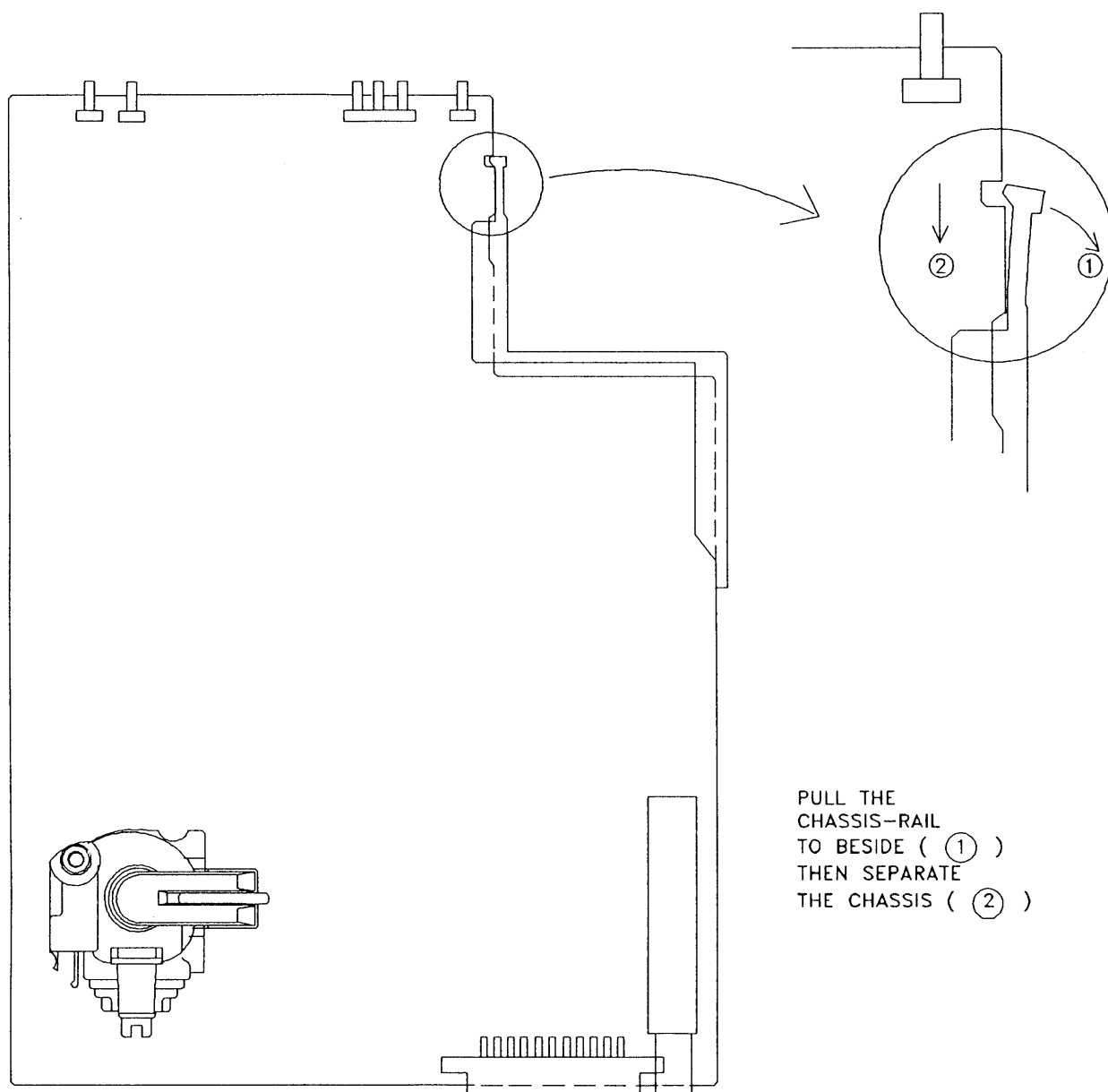


## REMOTE CONTROL OPERATION

- 1 **STAND-BY (  )**  
Press this button to turn off the TV set for a short period.
- 2 **DIRECT PROGRAMMING SELECTION**  
Press these buttons to select the positions. And to start on directly, push one of the '0 - 9' keys.
- 3 **TV SELECTION ( TV )**   
One depression makes the mode change from VIDEO mode to TV mode.
- 4 **AV SELECTION ( AV )**   
One depression makes the mode change from TV mode to VIDEO mode.
- 5 **PERSONAL PRESET (  )**   
The personal preset can store the analogue states (Colour, Bright, Contrast, Volume).
- 6 **SINGLE/DUAL DIGIT ( - / -- )**   
Press this button to select doubled figure programming position (10 - 39).
- 7 **VOLUME UP/DOWN ( -  + )**   
Press the '+' button to increase the sound. Press the '-' button to decrease the sound.
- 8 **COLOUR UP/DOWN ( -  + )**   
Press the '+' button to increase the colour level. Press the '-' button to decrease the colour level.
- 9 **CONTRAST UP/DOWN ( -  + )**   
Press the '+' button to increase the contrast level. Press the '-' button to decrease the contrast level.
- 10 **CHANNEL PROGRAMMING SELECTION ( - C/P + )**   
Press these buttons to select the channel programming position, and to start on directly.
- 11 **BRIGHTNESS UP/DOWN ( -  + )**   
Press the '+' button to increase the brightness. Press the '-' button to decrease the brightness.
- 12 **MUTE (  )**   
Press this button to mute the sound.
- 13 **RECALL (  )**  
Press this button to turn on the TV set, and it will recall the last channel position before you turn off.
- 14 **OFF TIMER (  )**  
This feature enables your TV set to be turned off after a certain period of time you set.
- 15 **SEARCH UP (  )**  
This button will automatically search up the signals you want.



## THE SEPARATION CHASSIS



PULL THE  
CHASSIS-RAIL  
TO BESIDE ( ① )  
THEN SEPARATE  
THE CHASSIS ( ② )

For Service Manuals  
**MAURITRON SERVICES**  
8 Cherry Tree Road, Chinnor  
Oxfordshire, OX9 4QY.  
Tel (01844) 351694  
Fax (01844) 352554  
email:- sales@mauritron.co.uk



## INSTALLATION AND SERVICE ADJUSTMENTS

### 1. GENERAL INFORMATIONS

All adjustments are thoroughly checked and corrected when the receiver leaves the factory. Therefore, the receiver should operate normally and produce proper colour and B/W picture upon installation. However minor service adjustments may be required depending on the particular location in which the receiver is operated. This receiver is shipped completely in cardboard carton. Carefully draw out the carton and remove all the packing materials.

Plug the power cord into a convenient two pin power outlet. Turn on the receiver and adjust the fine tuning for the best picture detail.

Check and adjust all the customer controls such as BRIGHTNESS, CONTRAST and COLOUR Controls to obtain the natural colour or B/W

### 2. AUTOMATIC DEGAUSSING

A degaussing coil is mounted around the picture tube so that external degaussing after moving the receiver is normally unnecessary, providing the receiver is properly degaussing upon installation. The degaussing coil operates for about 1 second after the power to the receiver is switched ON. If the set is moved or faced in a different direction, the power switch must be switched off at least 10 minutes in order that the automatic degaussing circuit operates properly.

Should the chassis or parts of the cabinet become magnetized and cause the poor colour purity, use an external degaussing coil. Slowly move the degaussing coil around the face-place of the picture tube, the sides and the rear of the receiver and slowly withdraw the coil to distance of about 2 m before disconnecting it from AC source. If colour shading still persists, perform the COLOUR PURITY ADJUSTMENT and CONVERGENCE ADJUSTMENTS procedures as mentioned later.

### 3. HIGH VOLTAGE CHECK

**CAUTION:** There is no HIGH VOLTAGE ADJUSTMENT on this chassis. But B+ power must be adjusted in +125V under the full colour bar pattern and the normal picture control level.

- 1) Connect an accurate high voltage meter to the second anode of the picture tube.
- 2) Turn on the receiver. Set the BRIGHTNESS and CONTRAST control to minimum (zero beam).
- 3) The high voltage should be measured less than 25KV.

- 4) Rotate the BRIGHTNESS and CONTRAST controls to both extremes to be sure that the high voltage does not exceed the limit of 25.5KV under any conditions.

### 4. + B (+125V) ADJUSTMENT

- 1) Receive the lion-head pattern.
- 2) Set the Bright and Contrast condition to maximum.
- 3) Connect Digital voltmeter to R821.
- 4) Adjust the VR801 to +125V.

### 5. HORIZONTAL OSCILLATOR ADJUSTMENT

If there is an indication of unstable horizontal sync, adjust the HORIZONTAL HOLD control (VR401) to remove the condition. When you adjust the Horizontal Hold control, you should short TP25 and GND for the H-oscillator adjustment.

### 6. HORIZONTAL PHASE ADJUSTMENT

If you want to move the center of picture, adjust HORIZONTAL phase control (VR402).

### 7. VERTICAL HEIGHT ADJUSTMENT

The SIZE control (VR301) on the main board changes the size of the picture, having an equal effect on the top and bottom.

### 8. FOCUS ADJUSTMENT

- 1) Set the Bright and Contrast condition to maximum.
- 2) Adjust FOCUS Control on FBT for well defined scanning lines in the centre area of the screen.

### 9. R-F AGC ADJUSTMENT

- 1) Turn the set in the strongest station in your area.
- 2) Turn AGC control (VR101) on the IF board fully clockwise position.
- 3) Adjust AGC control until noise (snow) disappears from the screen.

### 10. APC ADJUSTMENT

- 1) Receive the colour bar pattern.
- 2) Connect TP23 to TP24 with jumper.
- 3) Control the Trimer CV101 on the main PCB to get the colour.

## 11. COLOUR PURITY ADJUSTMENT

**NOTE:** Before attempting any purity adjustments, the receiver should be operated for at least fifteen minutes. The purity adjustment requires Rubber Wedge kit.

- 1) Demagnetize the picture tube and cabinet using a degaussing coil.
- 2) Turn the CONTRAST and BRIGHTNESS controls to maximum.
- 3) Receive the green colour pattern.
- 4) Loosen the clamp holding the yoke, and slide the yoke backward or forward to provide the vertical green belt(zone) in the picture screen.
- 5) Remove the Rubber Wedges.
- 6) Rotate and spread the tabs of the purity magnet(See Fig. 3) around the neck of the picture tube until a green belt is obtained in the centre of the screen.  
And at the same time, centre the raster vertically by adjusting the magnet.
- 7) Move the yoke slowly forward or backward until a uniform red screen is obtained. Tighten the clamp screw.
- 8) Check the purity of the red and blue raster.
- 9) Tighten the clamp screw of the yoke temporarily.
- 10) Obtain a white raster referring to "CRT WHITE BALANCE ADJUSTMENT".
- 11) Proceed with the convergence adjustment.

## 12. WHITE BALANCE ADJUSTMENT

### 1) PREPARATION

- 1 Operate the receiver at least 20 minutes before attempting the white balance adjustment.
- 2 Connect A.C. line and the receiver power switch sets in "ON" position.
- 3 Receive a black and white signal (Lion head pattern is better).
- 4 Set colour control to the center position.
- 5 Set the brightness and contrast controls to the "PP" position.
- 6 Set the red, blue and green drive controls to the mechanical center position.
- 7 Set the blue and green drive controls to the mechanical center position.
- 8 Set the screen VR control on FBT to the minimum position (fully counter-clockwise).

## 2) STEPS

- 1 Rotate the SCREEN control on FBT(T444) gradually clockwise until the first horizontal line appears slightly on the screen.
- 2 Adjust the two CUT\_OFF controls to obtain the slightly lighted horizontal line in the same levels of three colours (red, green and blue). The line looks like white if the CUT-OFF controls are adjusted properly.
- 3 Adjust the blue and green drive controls to obtain the proper white-balanced picture in high light areas.
- 4 Set the contrast control to the minimum position and turn the brightness control slightly counterclockwise to obtain a dark gray raster. Then check the white balance in low brightness. If the white balance is not enough, repeat the steps (1 - 4) for correct white balance.

## 13. CONVERGENCE ADJUSTMENT

**NOTE:** Before attempting any convergence adjustment, the receiver should be operated at least for fifteen minutes.

### Centre Convergence Adjustment

- 1) Receive crosshatch pattern with a colour bar signal generator.
- 2) Adjust the BRIGHTNESS and CONTRAST Controls for a well defined pattern.
- 3) Adjust the two tabs of the 4-pole Magnets to change the angle between them(See Fig. 2) and superimpose the red and blue vertical lines in the centre area of the picture screen(See Fig. 2).
- 4) Turn the both taps while at the same time keeping the angle constant and superimpose the red and blue horizontal lines at the centre of the screen(See Fig. 3).
- 5) Adjust two tabs of 6-pole Magnets to superimpose red/blue line and green one. Adjusting the angle affects the horizontal lines.
- 6) Due to the interaction between these adjustments, steps 3, 4 and 5 should be repeated until the satisfactory results are obtained.

## CIRCUMFERENCE CONVERGENCE ADJUSTMENT

- 1) Loosen the clamping screw of deflection yoke to allow the yoke to tilt.
- 2) Put a wedge as shown in Fig. 1 temporarily (Do not remove cover paper on adhesive part of the wedge).
- 3) Tilt the front of the deflection yoke up or down to obtain the better convergence in circumference (See Fig. 3). Push the mounted wedge into the space between the picture tube and yoke to fix the yoke temporarily.
- 4) Put other wedge into the bottom space and remove the cover paper to stick.
- 5) Tilt the front of the yoke right or left to obtain the better convergence in circumference (See Fig. 4).
- 6) Keep the yoke position and put another wedge in either upper space. Remove the cover paper and stick the wedge on picture tube to fix the yoke.
- 7) Detach the temporarily mounted wedge and put it in another upper space. Stick it on this picture tube to fix the yoke.
- 8) After fixing three wedges, recheck overall convergence.  
Tighten the screw firmly to fix the yoke and check if the yoke is firm.
- 9) Stick 3 adhesive tabs on the wedges as shown in Fig. 1.

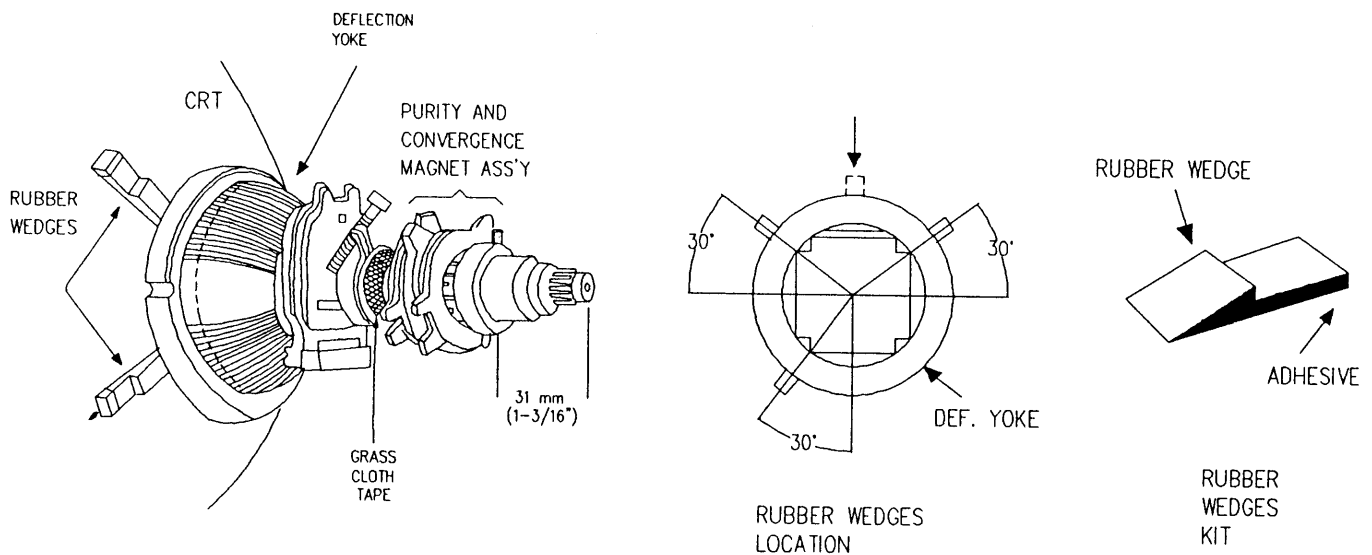
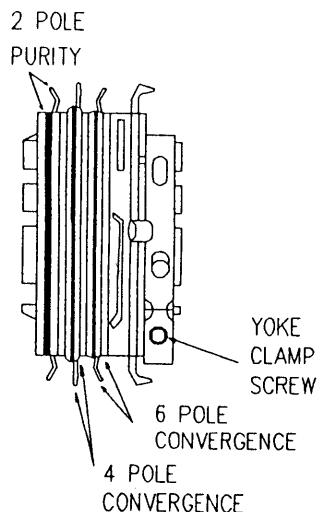
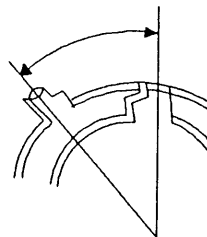


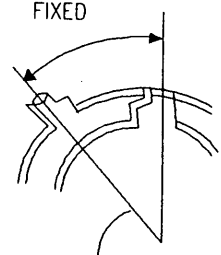
Figure 1 TUBE ASSMBLY



ADJUST THE ANGLE  
(VERTICAL LINES)



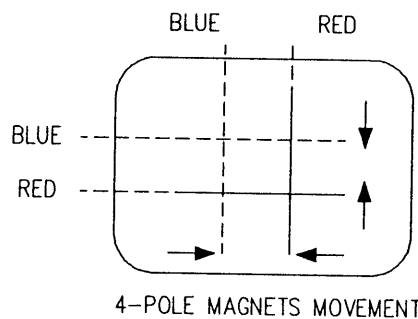
FIXED



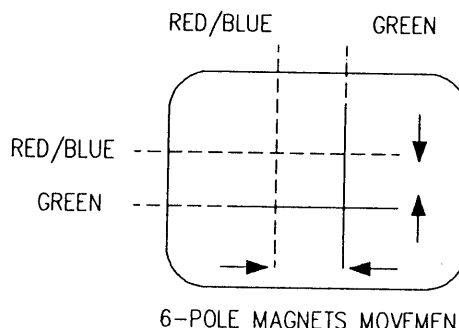
ROTATE TWO TABS  
AT THE SAME TIME  
(HORIZONTAL LINES)

ADJUSTMENT OF MAGNETS

Figure 2 PURITY AND CONVERGENCE MAGNETS

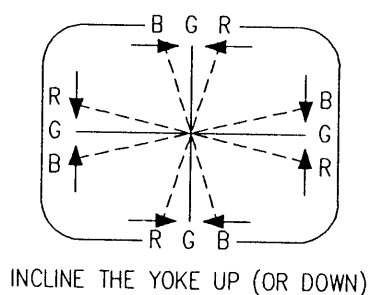


4-POLE MAGNETS MOVEMENT

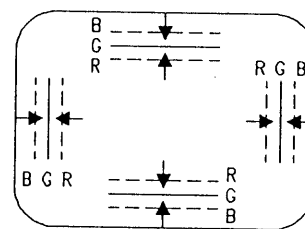


6-POLE MAGNETS MOVEMENT

Centre Convergence by Convergence Magnets



INCLINE THE YOKE UP (OR DOWN)



INCLINE THE YOKE RIGHT (OR LEFT)

Circumference Convergence by DEF. Yoke

**Figure 3. DOT MOVEMENT INSTRUCTIONS**

## GENERAL ALIGNMENT INSTRUCTIONS

### A. GENERAL

The alignment is an exacting procedure and should be undertaken only when necessary. The test equipment specified or its equivalent is required to properly perform the alignment procedures which are outlined on the following pages. The use of equipment which does not meet these requirements may result in the inability to properly align the receiver.

It is essential that bias values as specified are maintained while the alignment to insure proper results.

### B. EQUIPMENT TERMINATIONS

The alignment pads are designed for correct matching of the equipment to the circuits involved. The failure to the proper matching will result in representing the true operation of thereceiver. The pads should be constructed as compactly as possible with all unshielded leads not being in excess of 2.5cm long.

### C. SIGNAL OVERLOAD

Since the large excessive of the sweep generator causes the overloading of receiver circuits, first, the output of the sweep generator set to zero and then gradually increase the output until a reponse is obtained. Further increase changes in configuraton, for example, flattening at the top or dropping below the base line at the botton, decrease the sweep output to restore the proper configuration. The oscilloscope gain should be as high as possible to maintain a useable pattern with the peak-to-peak values specified, thus requiring a lower output from the sweep generator and less change of overload. Insertion of makers from the marker generator should not cause the distortion of the response.

### D. TEST EQUIPMENTS

- 1) PAL PATTERN GENERATOR (PM5518)
- 2) OSCILLOSCOPE
- 3) DC POWER SUPPLY (DC range:0-10V,0-20V)
- 4) MATCHING PAD
- 5) PROBE (which impedance is 75 ohm)
- 6) DIGITAL VOLTMETER
- 7) BNC TO DIN JACK
- 8) BNC TO BNC CABLE

## 1. VIF (AFT) ALIGNMENT

### 1.1 EQUIPMENT

- 1) Pattern generator (PM5518)
- 2) DC power supply
- 3) Digital Voltmeter

### 1.2 SETTING

- 1) PM5518: Multiburst pattern 39.5MHz
- 2) DC power supply: 12V
- 3) Digital Voltmeter: 10V range

### 1.3 PREPARATION

- 1) Connect DC power supply to TP-12 of the Main PCB
- 2) Connect Digital Voltmeter to TP-18 of the Main PCB
- 3) Connect RF out of PM5518 to TP-1F of the Main PCB

### 1.4 STEPS

- 1) Adjust the T101 until the Digital Voltmeter is to be 6V.

## 2. SOUND (5.5MHz DET) ALIGNMENT

### 2.1 EQUIPMENT

- 1) Digital Voltmeter

### 2.2 SETTING

- 1) Digital Voltmeter: 12V range

### 2.3 PREPARATION

- 1) Receive the colour bar pattern and insert 1KHZ modulated Sound Carrier
- 2) Connect the Digital Voltmeter to AU-OUT

### 2.4 STEPS

- 1) Adjust the T601 until the Digital Voltmeter is to be  $2.8 \pm 0.1V$ .

## 3. SECAM COLOUR ALIGNMENT (SECAM B/G ONLY)

- PREPARATION** — 1. Setting the trigger mode of the Oscilloscope to EXT. mode, hold the sync. using the induced horizontal voltage.
2. Set the time division of the scope to 20  $\mu s/cm$ .
  3. Set the Vert. Gain to 0.1V/cm.
  4. receive SECAM colour pattern.
  5. The Colour, Brightness, and Contrast control to the maximum position.

### 3.1 BELL FILTER ALIGNMENT

- 1) Connect the probe (10:1) of the scope to ICS502 "4" pin.
- 2) Adjust TS01 so that each bar of (R-Y) and (B-Y) becomes even respectively (Fig. 1).

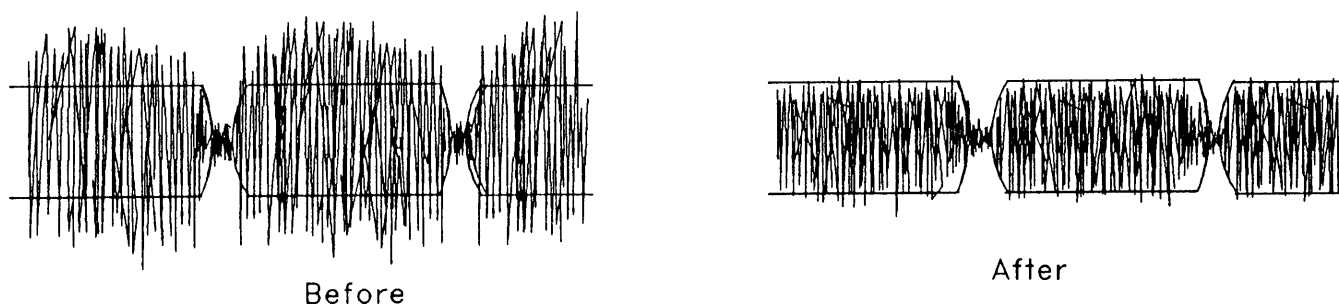


Fig. 1

## 4. PAL COLOUR MATRIX ADJUSTMENT

### 4.1 The using measurer

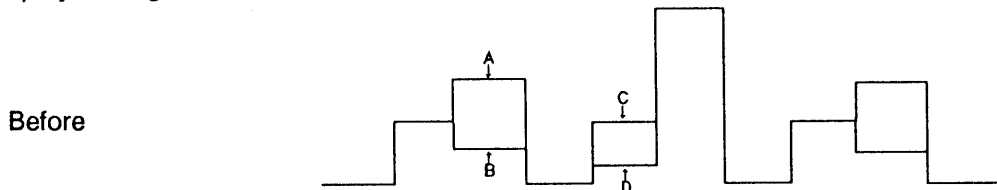
- 1) Oscilloscope ( 10:1 PROBE )

### 4.2 The adjustment preparation

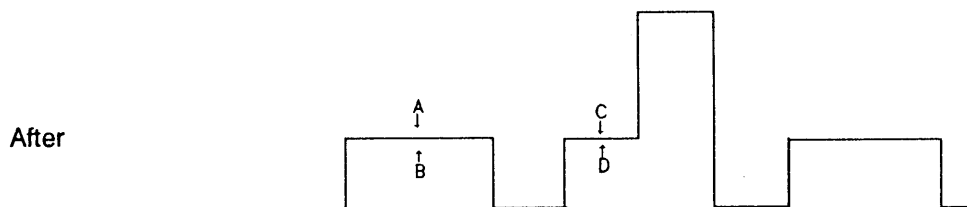
- 1) Pal colour demodulator pattern receiving
- 2) Connect the oscilloscope to pin 16 of PWB-Main Board IC501 (TDA3561A).
- 3) Set the Colour, Contrast Max, Bright to the proper brightness

### 4.3 The Adjustment

- 1) By turning Vr501, make A consistent with B.



- 2) By turning t505, make C consistent with D.



## 5. THE QUADRATURE REFERENCE ( DR/DB, SECAM B/G ONLY )

### 5.1 The using measurer

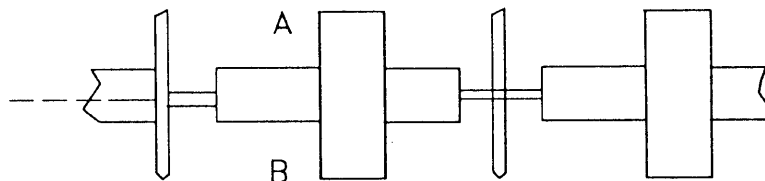
- 1) Oscilloscope ( 10:1 PROBE )

### 5.2 The application preparation

- 1) Secam Philips pattern receiving
- 2) Connect the oscilloscope probe to pin 14 of the PWB Main Board ICS502 (TDA3590A).
- 3) Set the Colour/Contrast Max, Bright to the proper brightness.
- 4) Set VR5S01 to the center.

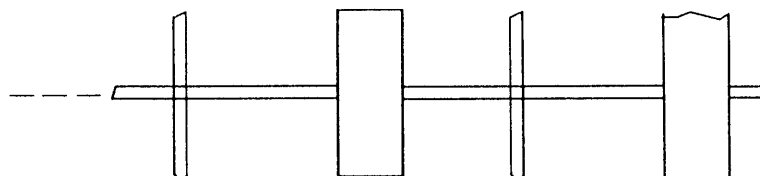
Before

REFERENCE LEVEL



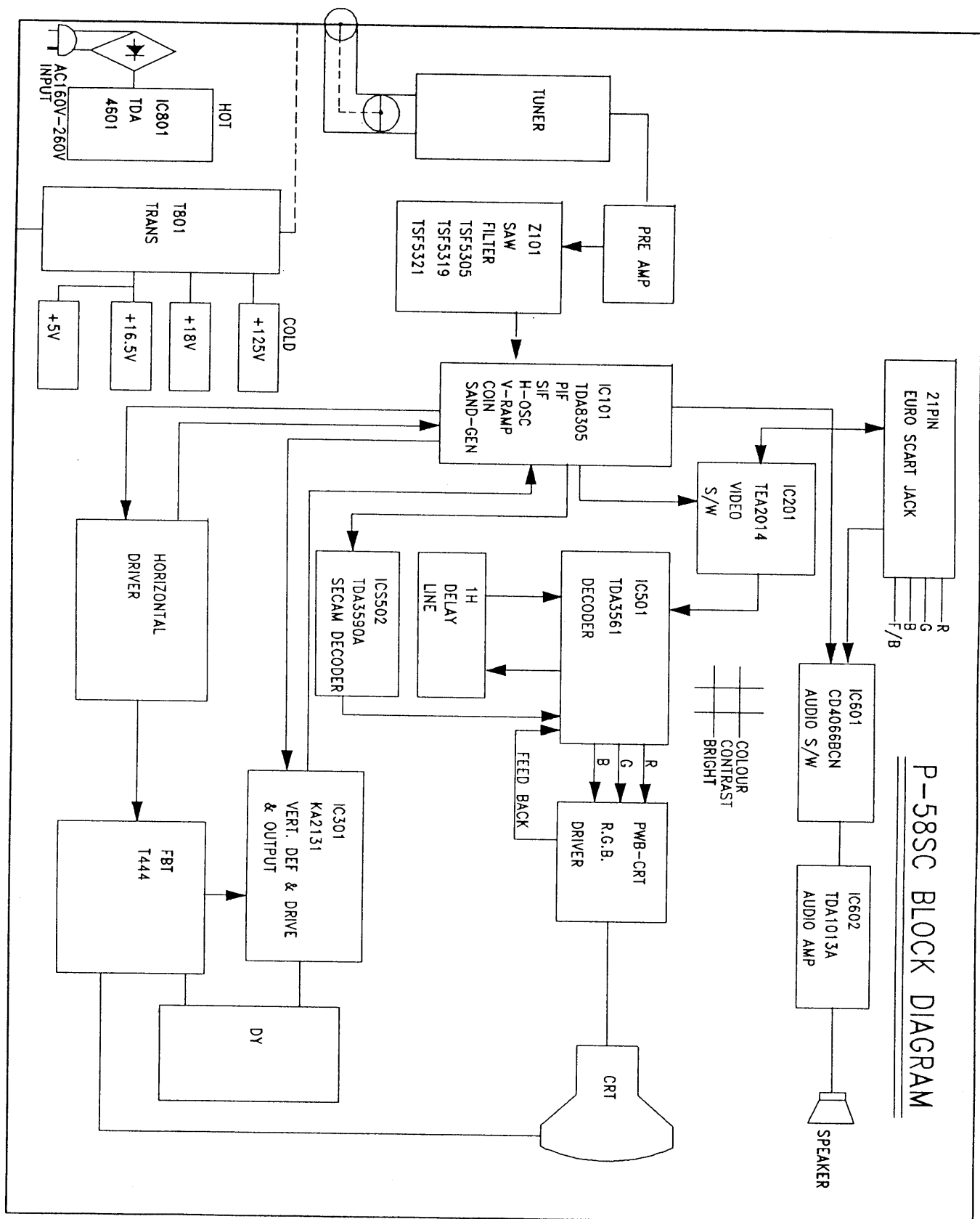
After

REFERENCE LEVEL



### 5.3 The Adjustment

- 1) By adjusting TS02, make B-Y line consistent with REF LEVEL by adjusting.
- 2) Move the oscilloscope probe to pin 13 of IC502.
- 3) By adjusting VR502, make R-Y Line consistent with REF LEVEL by adjusting.

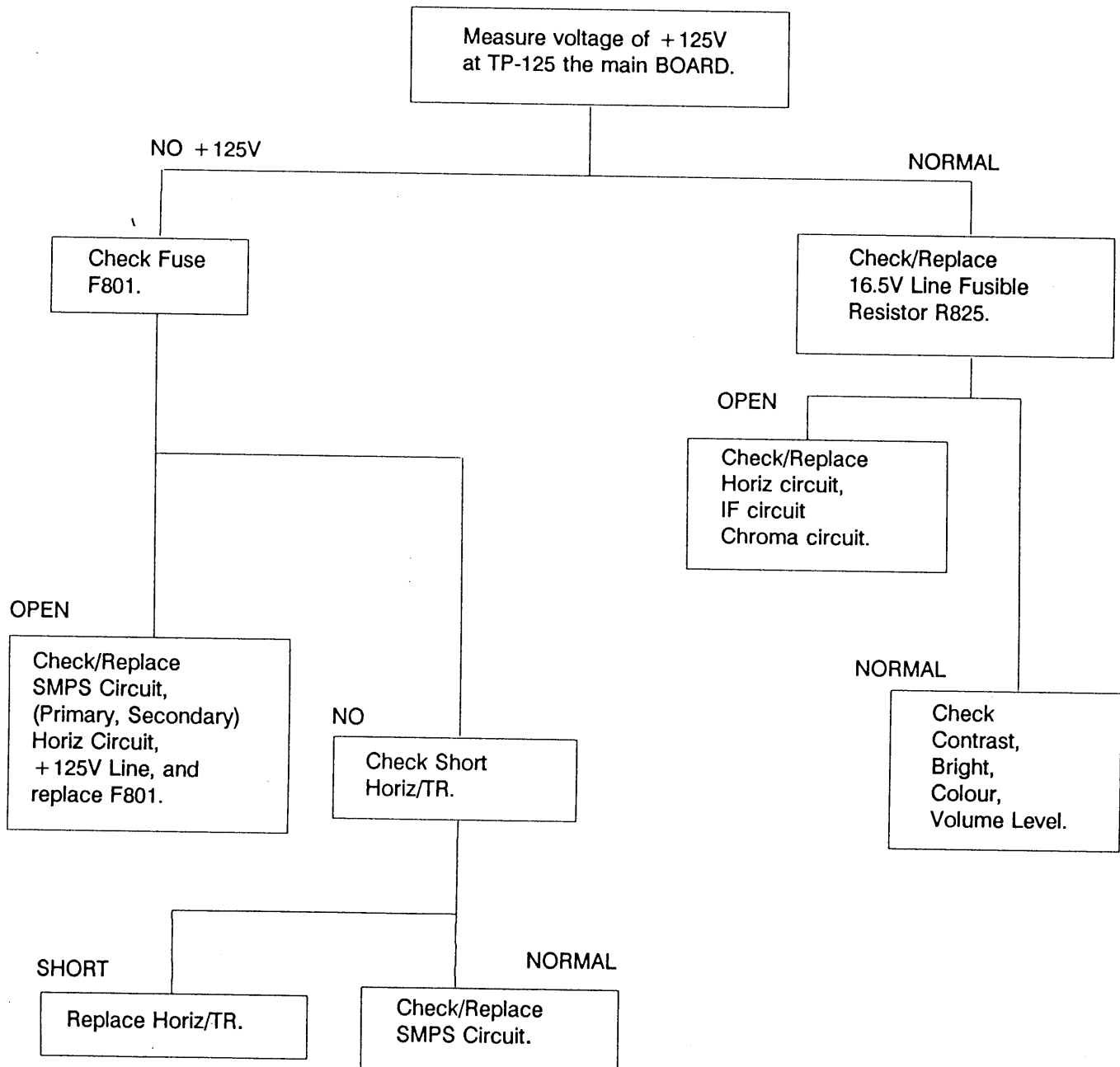


## TROUBLE-SHOOTING CHARTS

The following charts are devoted to the trouble-shooting which, if followed carefully, will assist you in tracking down a fault to the correct stage. In order to utilize the charts (fault trees), first establish the complains, i.e.-No Raster, No Sound.

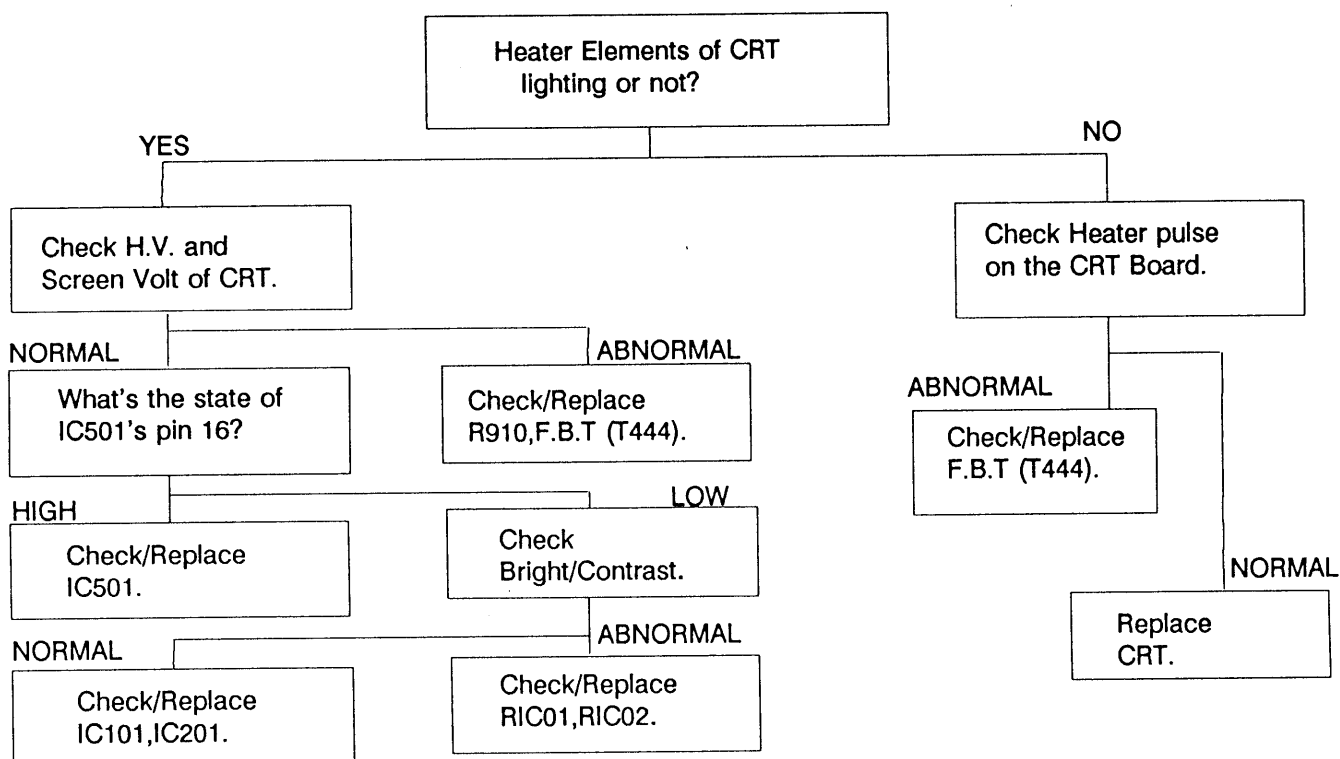
Locate the chart applicable and then, progress through the various alternatives until a final block indicates the defective components or stages.

### NO RASTER AND NO SOUND

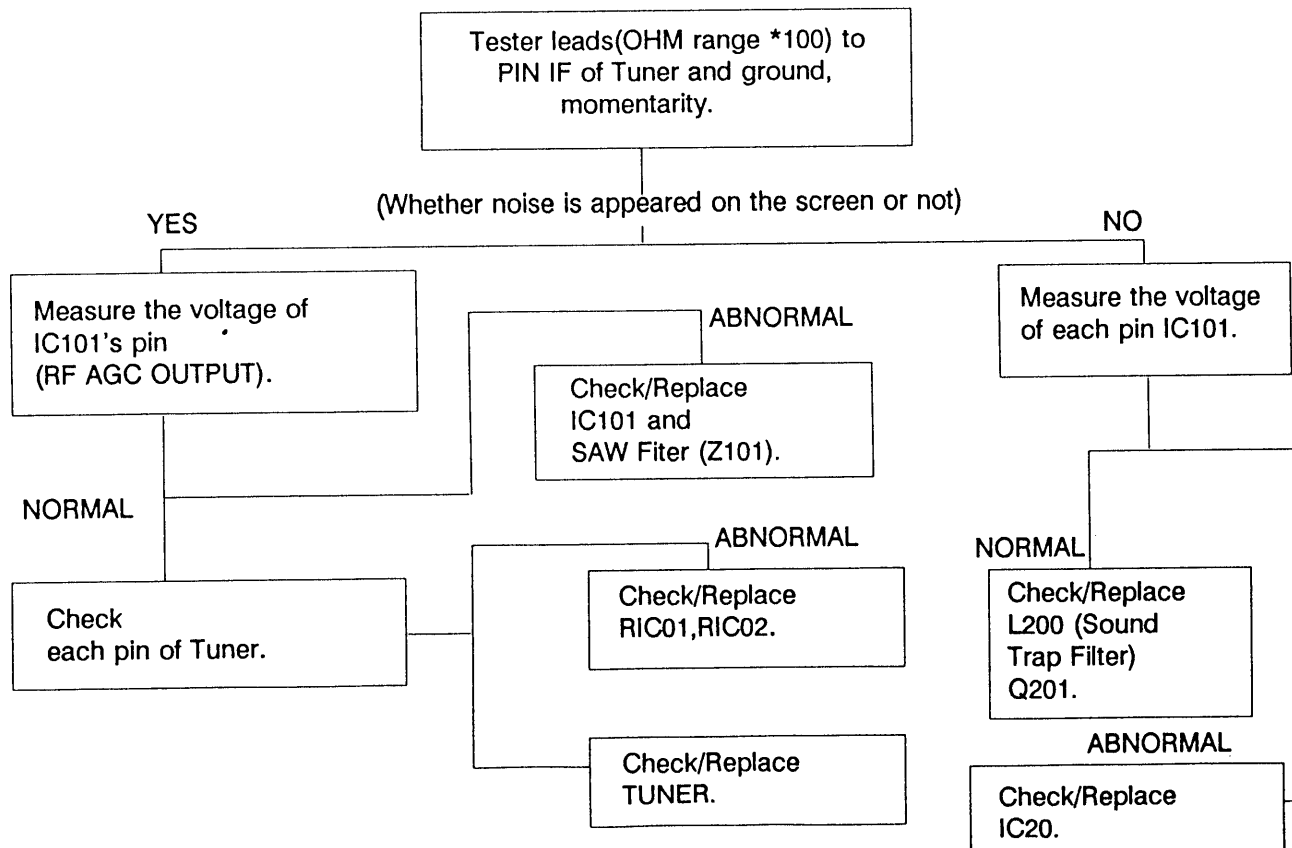




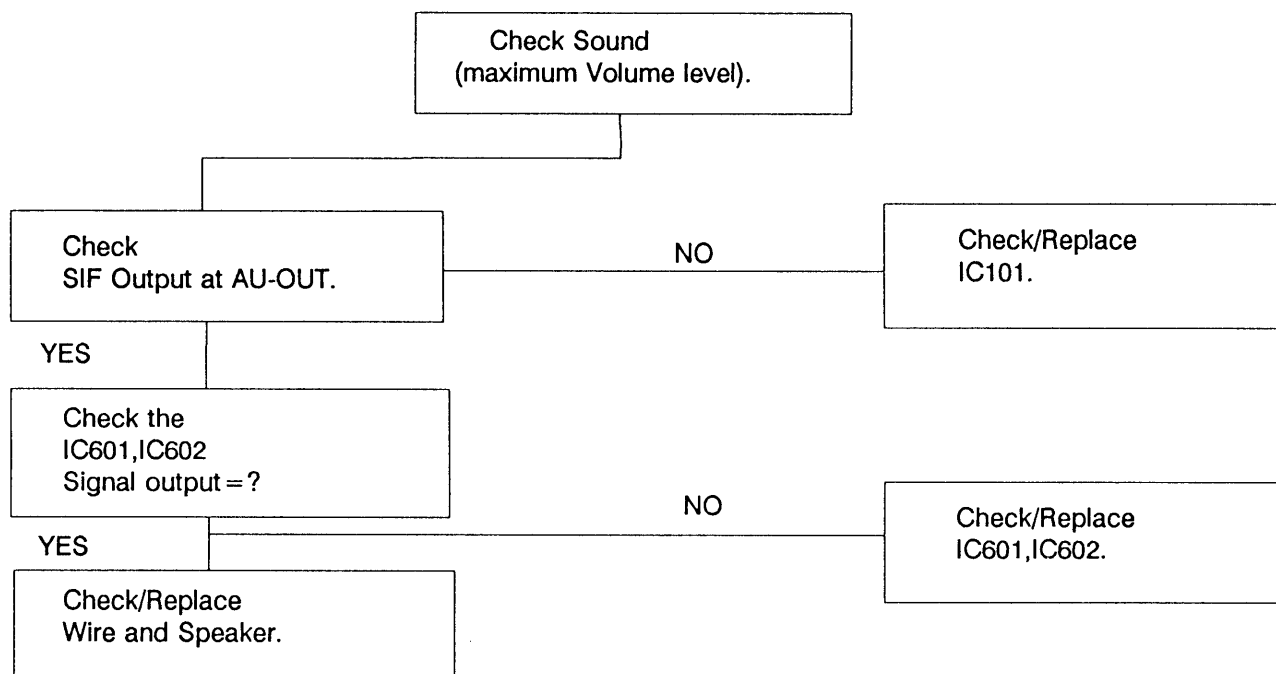
# NO RASTER (SOUND OK)



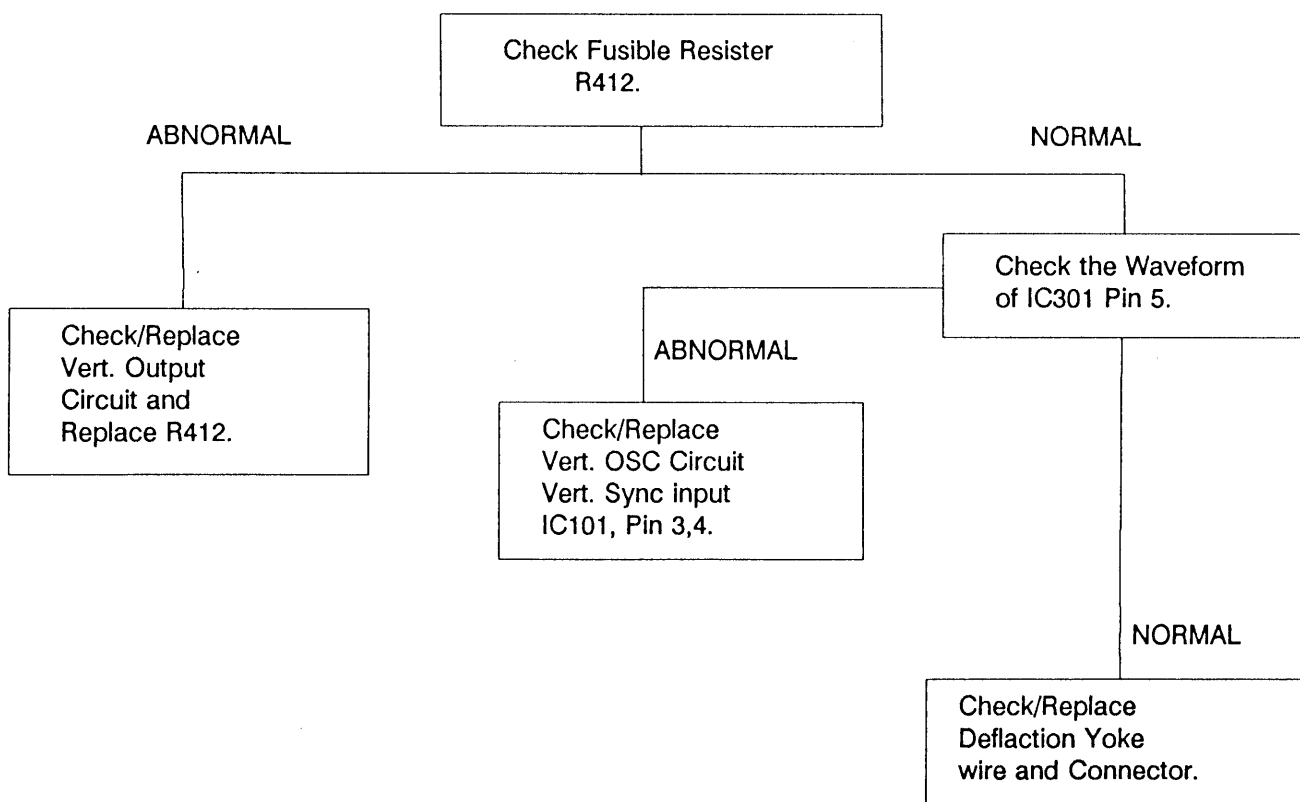
# NO PICTURE (RASTER ON) AND NO SOUND



## NO SOUND (PICTURE OK)



## NO VERT.SCAN (ONE HORIZ.LINE RASTER)



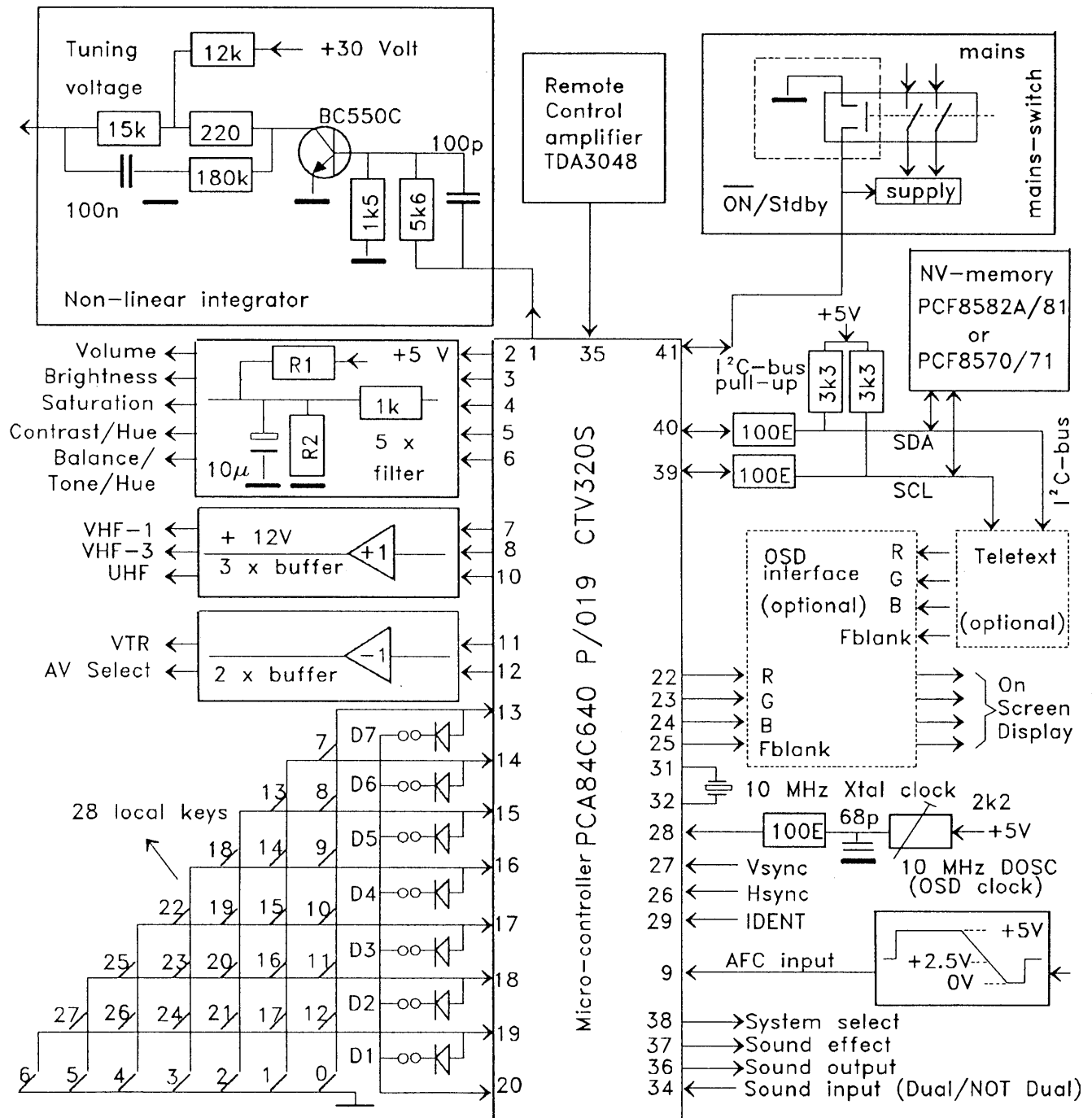


Diagram of PCA84C640 P/019 in CTV320S.

1	DP00/TDAC	VTUNN	tuning voltage control output
2	DP01/PWM1	VOL	volume control output
3	DP02/PWM2	BRI	brightness control output
4	DP03/PWM3	SAT	saturation control output
5	DP04/PWM4	CON/HUE	contrast or hue control output
6	DP05/PWM5	BAL/TON/HUE	balance, tone or hue control output
7	P10 1) 2)	VHF-L	band-switch VHF-low output
8	P11 1) 2)	VHF-H	band-switch VHF-high output
9	DP17/AFC	AFC	analogue AFC sense input
10	P12 1) 2)	UHF	band-switch UHF output
11	P13 1)	VTR	VTR time constant control output
12	P14 1)	AV	ext./int. /Audio/Video source control output
13	P00 1)	KEYB0	keyboard scan line input/output
14	P01 1)	KEYB1	keyboard scan line input/output
15	P02 1)	KEYB2	keyboard scan line input/output
16	P03 1)	KEYB3	keyboard scan line input/output
17	P04 1)	KEYB4	keyboard scan line input/output
18	P05 1)	KEYB5	keyboard scan line input/output
19	P06 1)	KEYB6	keyboard scan line input/output
20	P07	MDSTR	system mode strobe output
21	Vss		ground supply input
22	VOW1/DP16	RED	OSD red output
23	VOW2/DP15	GREEN	OSD green output
24	VOW3	BLUE	OSD blue output
25	VOB	FBL	OSD fast blanking output
26	HSYN CN	HSYNC	horizontal synchronization input
27	VSYN CN	VSYN C	vertical synchronization input
28	DOSC		RC oscillator input for OSD
29	T1	IDENT	horizontal coincidence input
30	TEST		test input; connected to ground
31	XTAL1		oscillator input; 10 MHz crystal
32	XTAL2		oscillator output
33	RESETN		power-on reset input/output
34	DP14	SNDI	dual/non dual language sound input
35	INTN/T0	RMOT	remote control input
36	DP13 1)	SNDO	sound mode select output
			Language 1/2 control output
			Stereo/mono control output
37	DP12 1)	EFFECT	Sound effect control output
38	DP11 1)	SYSTEM	PAL/SECAM system standard control output
			SECAM-L/L' depends on VHF-L output
			PAL/NTSC system standard control output
39	DP07/SCL	SCL	I <sup>2</sup> C-bus clock signal input/output
40	DP06/SDA	SDA	I <sup>2</sup> C-bus data signal input/output
41	DP10	STDBY	Standby/On control input/output
42	Vdd		+5V supply voltage input

Note:

- 1) These pins are read at "cold start", they define the configuration/options of the TV-system controlled by CTV320S.
- 2) These pins can command a solenoid to switch-off AC-mains supply.

## TDA4601 (IC801)

The integrated circuit TDA4601 or-D is designed for regulating controlling and protecting the switching transistor installed in the flyback converter power supplies. It also protects the complete SMPS by preventing an increase in the secondary voltage in case of errors. In addition to their use with TV receivers and video recorders, these ICs can be applied in power supplies of Hi-Fi sets and active speakers due to their wide operational ranges and superior voltage stability during high load change.

### 1. Features

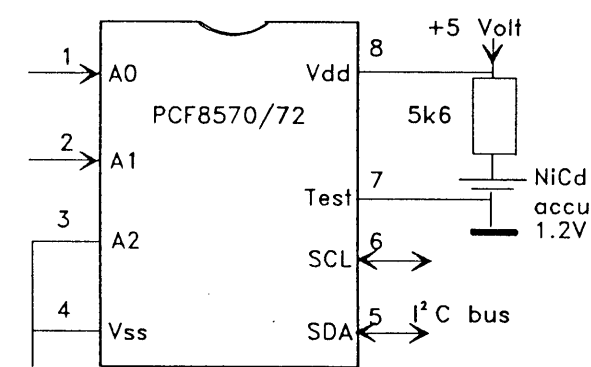
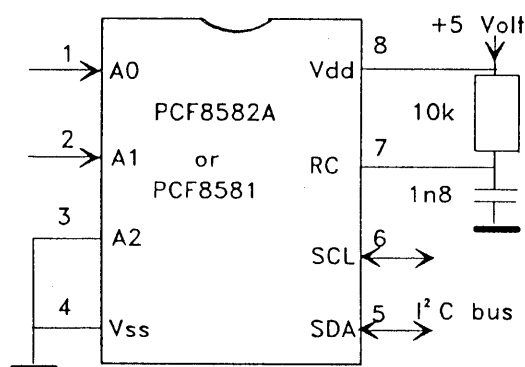
- Direct control of switching transistor
- Low start-up current
- Reversing linear overload characteristic
- Collector current proportional to base-current input
- Protective circuit in the event of errors.

### 2. Pin description

Pin No	Function
1	Vref output
2	Zero-passage identification
3	Input regulating amplifier, overload amplifier
4	Collector-current simulation
5	Possible connection for additional RLD0 protective circuit
6	Ground (rigidly connected to substrate RLD0 mounting plate)
7	DC voltage output for charging the RLD0 coupling capacitor
8	Pulse output, driving the switching RLD0 transistor
9	Power supply

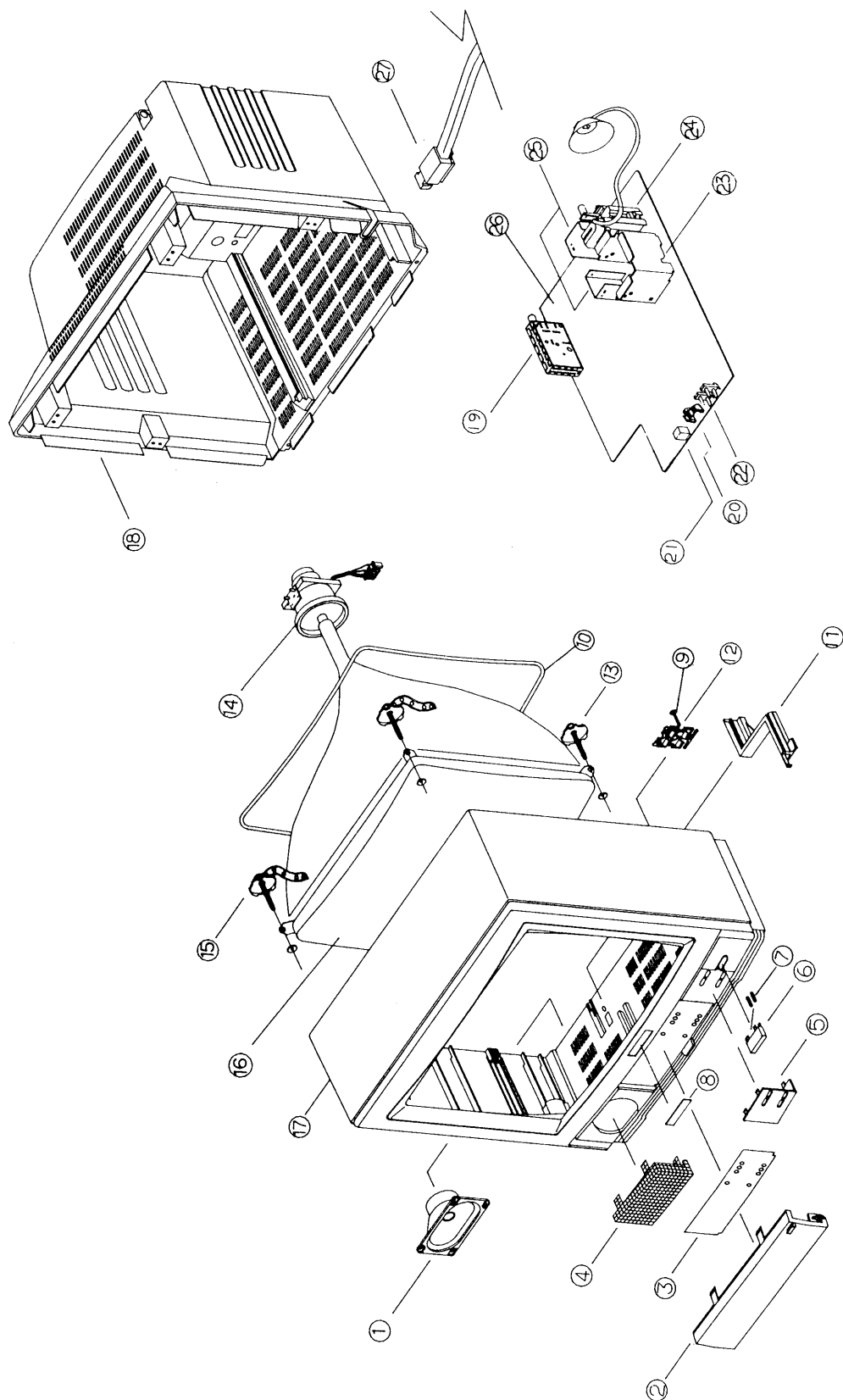
## NON-VOLATILE MEMORY

The CTV320s tuning and sound system requires 128 bytes non-volatile memory (EEPROM PCF8581A or CMOS PCF2). With such a memory the system is able to store up 40 "pre-selected" programs, the video and sound control values (option 9a). The number of programs can be extended to 90 (option 9b) by using a 256 bytes memory (EEPROM PCF8582A or CMOS PCF8570).



Application of CMOS and EEPROM non-volatile memory in CTV320S.

# EXPLODED VIEW



## EXPLODED VIEW

N O	DESCRIPTION	CODE - NO	SPECIFICATION	Q'TY
1	SPEAKER-GENERAL	34209-169-140	5902BR 3W	1
2	DOOR-VR, BOX	37643-150-250	HIPS HB BLK 066 OSD	1
3	PVC-CONTROL	38093-104-210	PVC SHEET T0.3 CX5012Z PAL1	1
4	GRILLE-WOOFER	37713-221-510	SPC-1 T0.5 #066	1
5	WINDOW-F, S	38013-114-350	PC GZ 21051 GRY SILK PAL1	1
6	KNOB-POWER	37624-620-950	ABS HB BLK SACHUL	1
7	SPRING-LOCK	36674-134-310	STS T0.4	1
8	INLAY-BRAND	37714-313-410	A1050S-H18 T0.5 SAMSUNG	1
9	SCREW-WASHER, SPEC	37154-101-210	2S-3X10 FE FZY	1
10	COIL-DEGAUSSING	32479-029-210	9.3RT25L2300	1
11	RAIL-PCB	36022-108-210	ABS VO NTR	1
12	KNOB-CH, VOL	37623-140-510	ABS HB BLK	1
13				
14	DEFL-YOKE	32439-090-010	DIE-1992GL	1
15	SCREW-CRT, ASSY	37124-100-620	6X30 PH+W/S-CLAMP	4
16	CRT-COLOR	32019-400-015	51GGB91X	1
17	CABINET-FRONT	36000-139-540	HIPS HB BLK 677+066, PAL1 5012	1
18	CABINET-BACK	36000-140-520	HIPS VO BLK, A/V IN	1
19	TUNER	34519-970-060	ECC-5883CE(D)	1
20	MODULE-REMOCON	32199-411-001	GPIU721Q	1
21	GUIDE-LED	36043-104-610	ABS VO BLK	1
22	SWITCH-TACT	33609-101-010	KPT 2105	3
23	HEAT-SINK, PI (BU508)	35684-118-910	A1050S-H14 T2.0 #C MDL	1
24	TRANS-FLYBACK	32859-136-010	PCM 2015AL(M)	1
25	HEAT-SINK, HORI	35684-118-110	SPC-1 T1.0 FT2	2
26	PWB-MAIN <S.N.A>	33004-144-341	330X245X1.6T P58SC1	1
27	POWER-CORD	33053-801-114	GTBS-2F/7.5F+BLK-HOU	1

## CHASSIS REPLACEMENT PARTS LIST

ABBREVIATIONS: CC C-CERAMIC  
 CE C-ELECTROLYTIC  
 CFS C-M, POLYESTER  
 CK C-CERAMIC, HK  
 CQ C-POLYPROPYLENE, POLYESTER  
 CS C-TANTALIUM, SOLID

RC R-COMPOSITION  
 RD R-CARBON  
 RF R-FUSIBLE  
 RM R-METAL, FILM  
 RP R-CEMENT WIRE  
 RS R-METAL, OXIDE

NOTE: The items with "\*" are usually out of stock since they are seldom required for the routine service. There may be some anticipated delay when you order these items.

\*\*\* S.N.A.=Service Not Available.\*\*\*

Loc No	Supplier Part No.	Description	Loc No	Supplier Part No.	Description
1 . PWB - MAIN			R304	31018-377-681	RD 1/2T 680-J
			R305	31018-177-203	RD 1/8T 20K-J
			R306	31018-377-159	RP 1/2T 1.5R-J
PWB	33004-144-341	330X245X1.6T <S.N.A> RESISTORS	R307	31018-177-333	RD 1/8T 33K-J
NR001	31046-467-221	RS 1T 220-J (AUTO)	R308	31018-177-183	RD 1/8T 18K-J
R101	31018-177-120	RD 1/8T 12-J	R309	31018-377-271	RD 1/2T 270-J
R102	31018-177-470	RD 1/8T 47-J	R310	31018-177-153	RD 1/8T 15K-J
R103	31018-177-122	RD 1/8T 1.2K-J	R311	31018-177-224	RD 1/8T 220K-J
R104	31018-177-472	RD 1/8T 4.7K-J	R312	31018-177-222	RD 1/8T 2.2K-J
R105	31018-177-101	RD 1/8T 100-J	R401	31018-177-154	RD 1/8T 150K-J
R107	31018-177-100	RD 1/8T 10-J	R402	31048-176-303	RM 1/8T 30K-G
R108	31018-177-122	RD 1/8T 1.2K-J	R403	31018-177-182	RD 1/8T 1.8K-J
R110	31018-177-472	RD 1/8T 4.7K-J	R404	31018-177-824	RD 1/8T 820K-J
R111	31018-177-223	RD 1/8T 22K-J	R405	31018-177-272	RD 1/8T 2.7K-J
R112	31018-177-182	RD 1/8T 1.8K-J	R406	31018-177-220	RD 1/8T 22-J
R113	31018-177-332	RD 1/8T 3.3K-J	R407	31018-177-224	RD 1/8T 220K-J
R114	31018-177-224	RD 1/8T 220K-J	R408	31018-177-333	RD 1/8T 33K-J
R115	31018-177-224	RD 1/8T 220K-J	R409	31018-177-753	RD 1/8T 75K-J
R116	31018-177-124	RD 1/8T 120K-J	R410	31018-177-271	RD 1/8T 270-J
R118	31018-177-101	RD 1/8T 100-J	R411	31018-377-680	RD 1/2T 68-J
R121	31018-177-159	RD 1/8T 1.5-J	R412	31059-002-010	RF 1/2P 1-J
R122	31018-177-472	RD 1/8T 4.7K-J	R414	31046-467-151	RS 1T 150-J (AUTO)
R123	31018-177-472	RD 1/8T 4.7K-J	R415	31046-467-102	RS 1T 1K-J (AUTO)
R124	31018-177-333	RD 1/8T 33K-J	R416	31018-177-683	RD 1/8T 68K-J
R202	31018-177-221	RD 1/8T 220-J	R417	31018-177-563	RD 1/8T 56K-J
R204	31018-177-202	RD 1/8T 2K-J	R501	31018-177-512	RD 1/8T 5.1K-J
R205	31018-177-102	RD 1/8T 1K-J	R502	31018-177-152	RD 1/8T 1.5K-J
R206	31018-177-750	RD 1/8T 75-J	R503	31018-177-102	RD 1/8T 1K-J
R207	31018-177-750	RD 1/8T 75-J	R504	31018-177-561	RD 1/8T 560-J
R208	31018-177-222	RD 1/8T 2.2K-J	R505	31018-177-471	RD 1/8T 470-J
R209	31048-175-102	RM 1/8T 1K-P	R507	31018-177-102	RD 1/8T 1K-J
R302	31048-175-474	RM 1/8T 470K-F	R508	31018-177-561	RD 1/8T 560-J
R303	31018-177-332	RD 1/8T 3.3K-J	R509	31018-177-112	RD 1/8T 1.1K-J
			R510	31018-177-750	RD 1/8T 75-J
			R511	31018-177-750	RD 1/8T 75-J



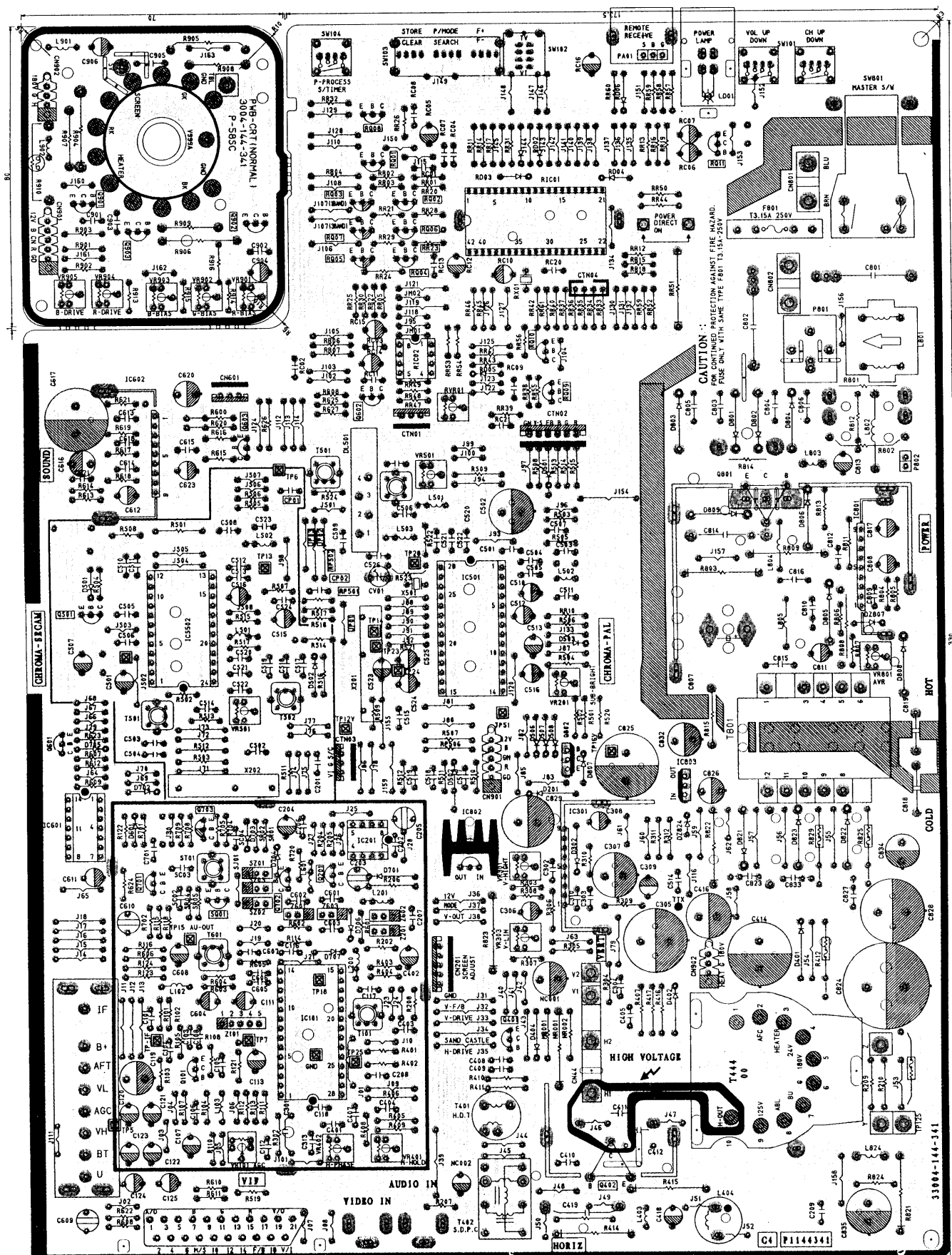
Loc No	Supplier Part No.	Description	Loc No	Supplier Part No.	Description
R512	31018-177-750	RD 1/8T 75-J	R806	31018-177-103	RD 1/8T 10K-J
R513	31018-177-750	RD 1/8T 75-J	R807	31018-177-113	RD 1/8T 11K-J
R514	31018-177-750	RD 1/8T 75-J	R808	31046-567-101	RS 2T 100-J(AUTO)
R515	31018-177-750	RD 1/8T 75-J	R809	31046-467-274	RS 1T 270K-J (AUTO)
R517	31018-177-102	RD 1/8T 1K-J	R811	31018-177-104	RD 1/8T 100K-J
R518	31018-177-621	RD 1/8T 620-J	R812	31018-377-688	RD 1/2T 0.68-J
R519	31018-177-750	RD 1/8T 75-J	R813	31018-177-101	RD 1/8T 100-J
R520	31018-177-124	RD 1/8T 120K-J	R814	31039-586-390	RW 5J 39-J
R521	31018-177-561	RD 1/8T 560-J	R815	31028-328-475	RC 1/2P 4.7M-K
R522	31018-177-242	RD 1/8T 2.4K-J	R821	31046-567-333	RS 2T 33K-J(AUTO)
R523	31018-177-911	RD 1/8T 910-J	R822	31046-567-103	RS 2T 10K-J(AUTO)
R524	31018-177-511	RD 1/8T 510-J	R823	31046-567-220	RS 2T 22-J(AUTO)
R601	31018-177-221	RD 1/8T 220-J	R824	31018-377-680	RD 1/2T 68-J
R602	31018-177-681	RD 1/8T 680-J	R825	31059-002-130	RF 1/2P 0.47-K
R603	31018-177-472	RD 1/8T 4.7K-J	R829	31059-002-130	RF 1/2P 0.47-K
R604	31018-177-132	RD 1/8T 1.3K-J	R901	31018-177-101	RD 1/8T 100-J
R605	31018-177-182	RD 1/8T 1.8K-J	R902	31018-177-101	RD 1/8T 100-J
R606	31018-177-121	RD 1/8T 120-J	R903	31018-177-101	RD 1/8T 100-J
R607	31018-177-102	RD 1/8T 1K-J	R904	31046-467-153	RS 1T 15K-J (AUTO)
R608	31018-177-202	RD 1/8T 2K-J	R905	31046-467-153	RS 1T 15K-J (AUTO)
R609	31018-177-103	RD 1/8T 10K-J	R906	31046-467-153	RS 1T 15K-J (AUTO)
R610	31018-177-750	RD 1/8T 75-J	R907	31028-328-472	RC 1/2T 4.7K-K
R611	31018-177-750	RD 1/8T 75-J	R908	31028-328-472	RC 1/2T 4.7K-K
R612	31018-177-103	RD 1/8T 10K-J	R909	31028-328-472	RC 1/2T 4.7K-K
R613	31018-177-103	RD 1/8T 10K-J	R910	31059-003-100	RF 1P 1-K
R614	31018-177-203	RD 1/8T 20K-J	R913	31018-177-431	RD 1/8T 430-J
R615	31018-177-822	RD 1/8T 8.2K-J	R914	31018-177-431	RD 1/8T 430-J
R616	31018-177-104	RD 1/8T 100K-J	R915	31018-177-431	RD 1/8T 430-J
R617	31018-177-224	RD 1/8T 220K-J	R916	31018-177-151	RD 1/8T 150-J
R618	31018-177-562	RD 1/8T 5.6K-J	RP501	31018-177-821	RD 1/8T 820-J
R619	31018-177-203	RD 1/8T 20K-J	RP502	31018-177-102	RD 1/8T 1K-J
R620	31018-377-159	RP 1/2T 1.5R-J	RR01	31018-177-332	RD 1/8T 3.3K-J
R621	31018-377-479	RD 1/2T 4.7-J	RR03	31018-177-683	RD 1/8T 68K-J
R622	31018-177-202	RD 1/8T 2K-J	RR04	31018-177-153	RD 1/8T 15K-J
R623	31018-177-103	RD 1/8T 10K-J	RR05	31018-177-103	RD 1/8T 10K-J
R625	31018-177-103	RD 1/8T 10K-J	RR06	31018-177-103	RD 1/8T 10K-J
R626	31018-177-103	RD 1/8T 10K-J	RR07	31018-177-472	RD 1/8T 4.7K-J
R627	31018-177-222	RD 1/8T 2.2K-J	RR08	31018-177-681	RD 1/8T 680-J
R701	31018-177-333	RD 1/8T 33K-J	RR10	31018-177-102	RD 1/8T 1K-J
R704	31018-177-104	RD 1/8T 100K-J	RR11	31018-177-202	RD 1/8T 2K-J
R705	31018-177-124	RD 1/8T 120K-J	RR12	31018-177-512	RD 1/8T 5.1K-J
R708	31018-177-203	RD 1/8T 20K-J	RR14	31018-177-511	RD 1/8T 510-J
R709	31018-177-273	RD 1/8T 27K-J	RR15	31018-177-132	RD 1/8T 1.3K-J
R720	31018-177-104	RD 1/8T 100K-J	RR16	31018-177-471	RD 1/8T 470-J
R801	31039-687-569	RW 7H 5.6-J	RR17	31018-177-102	RD 1/8T 1K-J
R802	31049-317-104	RS 3P 2.7K-J	RR18	31018-177-202	RD 1/8T 2K-J
R803	31046-567-154	RS 2T 150K-J(AUTO)	RR26	31018-177-124	RD 1/8T 120K-J
R804	31018-177-221	RD 1/8T 220-J	RR28	31018-177-333	RD 1/8T 33K-J
R805	31018-177-122	RD 1/8T 1.2K-J	RR29	31018-177-562	RD 1/8T 5.6K-J

Loc No	Supplier Part No.	Description	Loc No	Supplier Part No.	Description
RR30	31018-177-562	RD 1/8T 5.6K-J	C107	31607-401-500	CE04W TAPG 16V 470M-M(SG
RR33	31018-177-471	RD 1/8T 470-J	C108	31417-318-103	CK45 TAPG B 50V 103-K
RR34	31018-177-471	RD 1/8T 470-J	C111	31607-402-230	CE04W TAPG 50V 3.3M
RR35	31018-177-471	RD 1/8T 470-J	C112	31507-127-012	ECQB1H104J-F3
RR36	31018-177-471	RD 1/8T 470-J	C113	31607-401-470	CE04W TAPG 16V 100M VENT
RR37	31018-177-181	RD 1/8T 180-J	C116	31507-127-025	ECQ-V1H334J-F3
RR38	31018-177-222	RD 1/8T 2.2K-J	C117	31507-127-008	ECQB1H223J-F3
RR39	31018-177-223	RD 1/8T 22K-J	C118	31507-127-011	ECQB1H683J-F3
RR40	31018-177-181	RD 1/8T 180-J	C119	31607-401-500	CE04W TAPG 16V 470M-M(SG
RR41	31048-175-102	RM 1/8T 1K-F	C120	31607-902-250	CE04W TAPG 50V 0.22M
RR42	31018-177-181	RD 1/8T 180-J	C122	31607-402-070	CE04W TAPG 35V 22M
RR43	31018-177-102	RD 1/8T 1K-J	C124	31607-401-470	CE04W TAPG 16V 100M VENT
RR44	31018-177-102	RD 1/8T 1K-J	C125	31507-127-024	ECQ-V1H 224J-F3
RR45	31018-177-101	RD 1/8T 100-J	C202	31417-318-103	CK45 TAPG B 50V 103-K
RR46	31018-177-101	RD 1/8T 100-J	C203	31607-402-530	CE04W TAPG 50V 0.47u-NP
RR47	31018-177-101	RD 1/8T 100-J	C204	31607-401-470	CE04W TAPG 16V 100M VENT
RR48	31018-177-101	RD 1/8T 100-J	C205	31607-402-530	CE04W TAPG 50V 0.47u-NP
RR49	31018-177-103	RD 1/8T 10K-J	C206	31507-127-008	ECQB1H223J-F3
RR50	31018-177-202	RD 1/8T 2K-J	C207	31507-127-025	ECQ-V1H334J-F3
RR51	31046-567-271	RS 2T 270-J(AUTO)	C208	31407-105-700	CC45 TAPG CH 50V 151-J
RR52	31018-177-101	RD 1/8T 100-J	C209	31507-127-025	ECQ-V1H334J-F3
RR53	31018-177-332	RD 1/8T 3.3K-J	C301	31519-101-110	DSR 50V 0.22U-J
RR54	31018-177-332	RD 1/8T 3.3K-J	C302	31507-127-003	ECQB1H332J-F3
RR55	31018-177-222	RD 1/8T 2.2K-J	C303	31507-127-011	ECQB1H683J-F3
RR56	31018-177-223	RD 1/8T 22K-J	C304	31507-127-012	ECQB1H104J-F3
RR57	31018-177-221	RD 1/8T 220-J	C305	31609-904-332	CE04W 25V 3300u
RR59	31018-177-103	RD 1/8T 10K-J	C306	31607-402-220	CE04W TAPG 50V 2.2M
VARIABLE RESISTORS			C307	31609-402-290	CE04W 50V 100M-VENT
VR101	31249-128-002	EVN-DJA A03 B20K	C308	31607-402-480	CE04W TAPG 50V 47-W(+20-
VR201	31249-128-011	EVN-DJA A03 B500	C309	31607-402-250	CE04W TAPG 50V 10M
VR301	31249-128-004	EVN-DJA A03 B1K	C310	31507-127-022	ECQB1H 513J-F3
VR303	31249-128-005	EVN-DJA A03 B5K	C313	31507-127-023	ECQ-B1H 122J-F3
VR401	31249-128-001	EVN-DJA A03 B10K	C401	31519-101-100	DSR 50V 0.0027 U-J
VR402	31249-128-008	EVN-DJA A03 B50K	C402	31607-402-240	CE04W TAPG 50V 4.7M
VR501	31249-128-003	EVN-DJA A03 B2K	C403	31507-127-011	ECQB1H683J-F3
VR801	31249-128-005	EVN-DJA A03 B5K	C404	31417-104-270	CK45 TAPG B 50V 681-K
VR901	31249-128-005	EVN-DJA A03 B5K	C405	31507-127-000	ECQB1H102J-F3
VR902	31249-128-005	EVN-DJA A03 B5K	C407	31507-127-012	ECQB1H104J-F3
VR903	31249-128-005	EVN-DJA A03 B5K	C408	31507-127-001	ECQB1H152J-F3
VR904	31249-128-006	EVN-DJA A03 B200	C409	31417-318-103	CK45 TAPG B 50V 103-K
VR905	31249-128-006	EVN-DJA A03 B200	C410	31417-344-222	CK45 TAPG F 50V 222-Z
CAPACITORS			C411	31519-400-003	CQ922M 1600V 0.0077-J
C101	31407-105-180	CC45 TAPG CH 50V 220-J	C414	31609-402-710	CE04W 35V 1000M
C103	31417-318-103	CK45 TAPG B 50V 103-K	C416	31609-403-070	CE04W 100V 68U
C104	31407-105-280	CC45 TAPG CH 50V 560-J	C418	31607-403-450	CE04W TAPG 250V 1M
C105	31417-318-103	CK45 TAPG B 50V 103-K	C419	31509-335-190	CQ922M 200V 0.43M-J
C106	31417-318-103	CK45 TAPG B 50V 103-K	C501	31507-127-012	ECQB1H104J-F3
			C502	31609-401-510	CE04W 16V 1000M VENT SNA
			C503	31417-104-400	CK45 TAPG B 50V 102-K

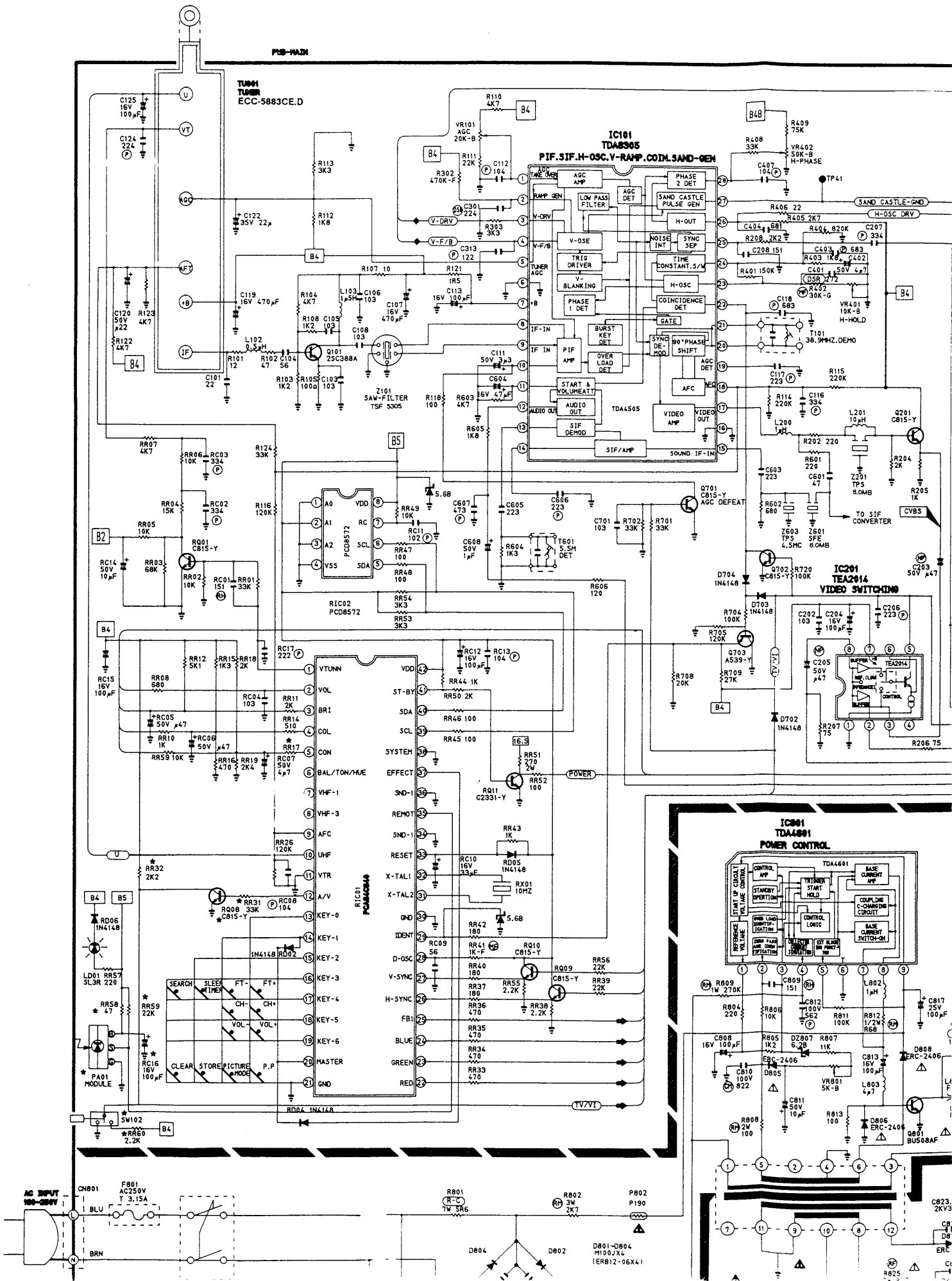
Loc No	Supplier Part No.	Description	Loc No	Supplier Part No.	Description
C504	31507-127-024	ECQ-VIH 224J-F3	C810	31509-332-000	CQ922M 100V 0.0082-J
C505	31507-127-008	ECQB1H223J-F3	C811	31607-402-250	CE04W TAPG 50V 10M
C506	31407-105-660	CC45 TAPG CH 50V 101-J	C812	31507-127-004	ECQB1H562J-F3
C507	31407-105-660	CC45 TAPG CH 50V 101-J	C813	31607-401-470	CE04W TAPG 16V 100M VENT
C510	31607-402-220	CE04W TAPG 50V 2.2M	C814	31509-391-090	CQ922M 1600V 0.0022-J
C511	31507-127-024	ECQ-VIH 224J-F3	C816	31419-901-660	CK45 B 1KV 222-K
C512	31607-402-240	CE04W TAPG 50V 4.7M	C817	31607-401-680	CE04W TAPG 25V 100U
C513	31607-402-240	CE04W TAPG 50V 4.7M	C818	31469-504-060	ECK-DNS472MEX/E400V 472(
C514	31507-127-025	ECQ-VIH334J-F3	C823	31418-767-331	CK45 B 2KV 331-K
C515	31507-127-012	ECQB1H104J-F3	C824	31609-403-140	CE04W 160V 220U-M
C516	31607-402-240	CE04W TAPG 50V 4.7M	C825	31609-401-720	CE04W 25V 1000M-VENT
C517	31507-127-012	ECQB1H104J-F3	C826	31607-402-250	CE04W TAPG 50V 10M
C518	31507-127-012	ECQB1H104J-F3	C827	31418-767-331	CK45 B 2KV 331-K
C519	31507-127-012	ECQB1H104J-F3	C828	31609-401-740	CE04W 25V 2200M-VENT
C520	31507-127-012	ECQB1H104J-F3	C829	31609-401-180	CE04W 16V 1000u
C521	31507-127-012	ECQB1H104J-F3	C832	31607-401-140	CE04W TAPG 6.3V 1000U-M
C522	31507-127-012	ECQB1H104J-F3	C833	31418-767-331	CK45 B 2KV 331-K
C523	31607-402-210	CE04W TAPG 50V 1M	C834	31609-402-110	CE04W 35V 220M-VENT
C524	31607-402-210	CE04W TAPG 50V 1M	C835	31609-403-490	CE04W 250V 10M
C525	31607-402-550	CE04W 50V 6.8U-M	C901	31407-106-250	CC45 TAPG SL 50V 331-J
C526	31407-047-221	CC45 TAPG RH 50V 221-J	C902	31407-106-250	CC45 TAPG SL 50V 331-J
C601	31407-105-260	CC45 TAPG CH 50V 470-J	C903	31407-106-250	CC45 TAPG SL 50V 331-J
C603	31417-109-220	CK45 TAPG P 50V 223-Z	C904	31607-401-470	CE04W TAPG 16V 100M VENT
C604	31607-401-460	CE04W TAPG 16V 47M	C905	31418-767-102	CK45 B 2KV 102-K
C605	31417-109-220	CK45 TAPG P 50V 223-Z	C906	31609-403-450	CE04W 250V 1M
C606	31507-127-008	ECQB1H223J-F3	CP01	31417-318-103	CK45 TAPG B 50V 103-K
C607	31507-127-010	ECQB1H473J-F3	CP02	31407-105-320	CC45 TAPG CH 50V 820-J
C608	31607-402-210	CE04W TAPG 50V 1M	CV01	31829-105-610	TZ03P 450E
C609	31607-402-530	CE04W TAPG 50V 0.47u-NP	NC001	31607-401-700	CE04W TAPG 25V 330M-M(SG
C610	31607-402-530	CE04W TAPG 50V 0.47u-NP	NC002	31607-401-520	CE04W TAPG 16V 68M-M
C611	31607-401-470	CE04W TAPG 16V 100M VENT	RC01	31507-127-000	ECQB1H102J-F3
C612	31607-402-210	CE04W TAPG 50V 1M	RC02	31507-127-025	ECQ-VIH334J-F3
C613	31507-127-012	ECQB1H104J-F3	RC03	31507-127-025	ECQ-VIH334J-F3
C614	31507-127-002	ECQB1H222J-F3	RC04	31417-318-103	CK45 TAPG B 50V 103-K
C615	31507-127-016	ECQB1H 472-J F3	RC05	31607-402-200	CE04W TAPG 50V 0.47M
C616	31607-402-070	CE04W TAPG 35V 22M	RC06	31607-402-200	CE04W TAPG 50V 0.47M
C617	31609-401-740	CE04W 25V 2200M-VENT	RC07	31607-402-240	CE04W TAPG 50V 4.7M
C618	31507-127-006	ECQB1H103J-F3	RC08	31507-127-012	ECQB1H104J-F3
C620	31609-402-110	CE04W 35V 220M-VENT	RC09	31407-105-280	CC45 TAPG CH 50V 560-J
C621	31507-127-002	ECQB1H222J-F3	RC10	31607-401-450	CE04W TAPG 16V 33M
C623	31607-402-250	CE04W TAPG 50V 10M	RC11	31507-127-000	ECQB1H102J-F3
C701	31417-318-100	CK45 TAPG B 50V 103-K	RC12	31607-401-470	CE04W TAPG 16V 100M VENT
C803	31469-502-220	CK 45P E250V 222-Z(T1.5K	RC13	31507-127-012	ECQB1H104J-F3
C804	31469-502-220	CK 45P E250V 222-Z(T1.5K	RC14	31607-402-250	CE04W TAPG 50V 10M
C805	31469-502-220	CK 45P E250V 222-Z(T1.5K	RC15	31607-401-470	CE04W TAPG 16V 100M VENT
C806	31469-502-220	CK 45P E250V 222-Z(T1.5K	RC17	31507-127-002	ECQB1H222J-F3
C807	31609-403-780	CE04W 400V 100M-M(LIG)			
C808	31607-401-470	CE04W TAPG 16V 100M VENT		SEMICONDUCTORS	
C809	31407-106-760	CC45 TAPG RH 50V 151-J	D201	32167-201-070	1N4003TAPG

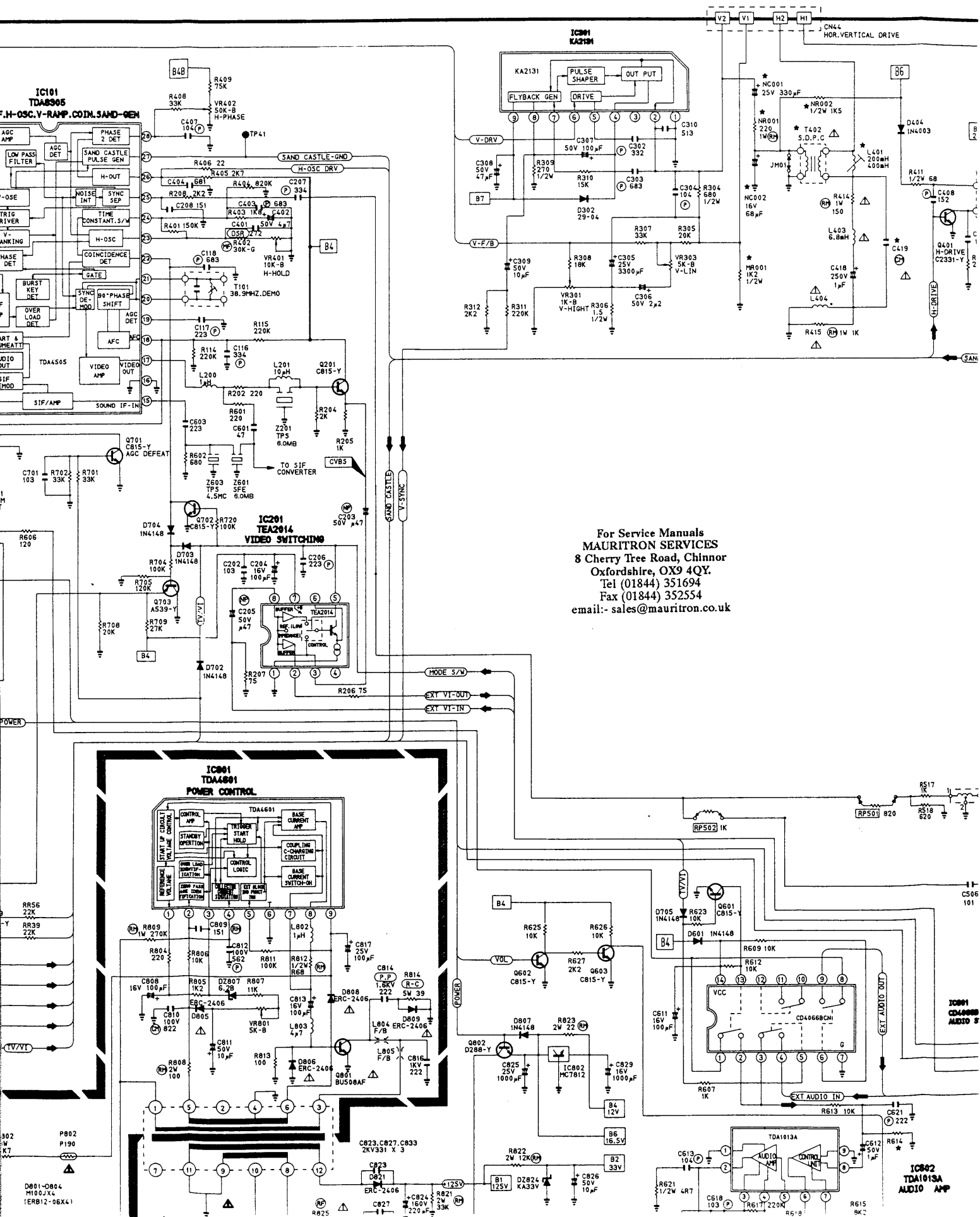
Loc No	Supplier Part No.	Description	Loc No	Supplier Part No.	Description
D302	32167-208-570	ERB 29-04 TAPG	Q602	32137-301-720	KSC 815-Y (TAPG)
D401	32167-208-510	ERB 43-04 TAPG	Q603	32137-301-720	KSC 815-Y (TAPG)
D402	32167-208-510	ERB 43-04 TAPG	Q701	32137-301-720	KSC 815-Y (TAPG)
D404	32167-201-070	1N4003TAPG	Q702	32137-301-720	KSC 815-Y (TAPG)
D501	32167-406-480	1N4148TAPG	Q703	32137-401-530	KSA 539-Y(TAPG)
D502	32167-406-480	1N4148TAPG	Q801	32159-210-009	BU508AF1
D503	32167-406-480	1N4148TAPG	Q802	32149-401-270	KSD 288-Y
D506	32167-406-480	1N4148TAPG	Q901	32137-301-530	KSC 2330-0(TAPG)
D507	32167-406-480	1N4148TAPG	Q902	32137-301-530	KSC 2330-0(TAPG)
D508	32167-406-480	1N4148TAPG	Q903	32137-301-530	KSC 2330-0(TAPG)
D601	32167-406-480	1N4148TAPG	RD02	32167-406-480	1N4148TAPG
D701	32167-406-480	1N4148TAPG	RD03	32167-406-480	1N4148TAPG
D702	32167-406-480	1N4148TAPG	RD04	32167-406-480	1N4148TAPG
D703	32167-406-480	1N4148TAPG	RD05	32167-406-480	1N4148TAPG
D704	32167-406-480	1N4148TAPG	RD06	32167-406-480	1N4148TAPG
D705	32167-406-480	1N4148TAPG	RIC01	32109-110-001	PCA84C640P/019B
D801	32167-208-580	ERB 12-06 TAPG	RIC02	32109-201-360	PCD8572
D802	32167-208-580	ERB 12-06 TAPG	RQ01	32137-301-720	KSC 815-Y (TAPG)
D803	32167-208-580	ERB 12-06 TAPG	RQ06	32137-301-720	KSC 815-Y (TAPG)
D804	32167-208-580	ERB 12-06 TAPG	RQ07	32137-401-530	KSA 539-Y(TAPG)
D805	32167-208-550	ERC 24-06 TAPG	RQ08	32137-301-720	KSC 815-Y (TAPG)
D806	32167-208-550	ERC 24-06 TAPG	RQ09	32137-301-720	KSC 815-Y (TAPG)
D807	32167-406-480	1N4148TAPG	RQ10	32137-301-720	KSC 815-Y (TAPG)
D808	32167-208-550	ERC 24-06 TAPG	RQ11	32137-301-560	KSC 2331-Y(TAPG)
D809	32167-208-550	ERC 24-06 TAPG			
D821	32167-208-550	ERC 24-06 TAPG		COILS	
D822	32167-208-550	ERC 24-06 TAPG	DL501	32469-105-070	EFD-EN645A 31M/ADL-CS344
D823	32167-208-550	ERC 24-06 TAPG	L102	32429-020-010	0.5UH-K
DZ807	32167-408-080	EQA02-06D/MTZ6.2B(TAPG)	L103	32429-904-580	1.5UH-K
DZ824	32119-101-360	KA 33V(TAPG)	L200	32427-805-110	1UH-M
IC101	32119-102-250	TDA8305	L201	32427-803-130	10UH-K TAPG
IC201	32119-101-010	TEA2014	L403	32429-805-980	6800UH-K
IC301	32119-102-300	KA 2131	L404	32449-705-020	DS48-157UH
IC501	32119-103-360	TDA3561A/N8	L501	32427-803-410	8.2UH-M
IC601	32109-301-900	CD4066BCN	L502	32427-803-410	8.2UH-M
IC602	32119-201-070	TDA1013A/N4	L503	32427-822-010	15UH-J TAPG
IC801	32119-401-010	TDA4601	L802	32429-226-080	1UH-K
IC802	32119-901-110	MC7812C	L803	32429-226-160	4.7UH-K
IC803	32119-401-110	MC7805C	L824	32429-039-170	100UH (1A)
JN02	32167-401-800	EQA02-06A/MTZ5.6B(TAPG)	L901	32429-039-090	170UH-K
LD01	32309-110-230	DS2 (DL-ILR)/SL-5R	T101	32719-513-800	38.9MHZ(S-60)
P801	32189-605-500	PTH45 A102BG180N270	T401	32849-070-002	7.3MH/105UH
P802	32189-102-030	P2462-J29/J29-P190-A20	T402	32779-114-010	K-20-14
PREAMP	32199-411-001	GPIU721Q	T444	32859-136-010	PCM-2015AL(M)
Q101	32139-301-090	2SC 388-A	T501	32709-024-260	4MHZ
Q201	32137-301-720	KSC 815-Y (TAPG)	T601	32729-601-020	5.5MHZ
Q401	32137-301-560	KSC 2331-Y(TAPG)	T801	32899-002-405	P:160-260 S:125/18/12V
Q404	32159-210-003	2SD1651YD	X201	32469-200-000	CDL471P
Q601	32137-301-720	KSC 815-Y (TAPG)			

Loc No	Supplier Part No.	Description	Loc No	Supplier Part No.	Description
MISCELLANEOUS			3 . ASSY - TRANSMITTER		
CN201	33347-114-810	YW025-04(AUTO)	*3F14-00009-103 TM09,RM109,29,BLK,NO		
CN601	33347-108-310	67094-003(AUTO)	PCB	33004-144-721	54XD143X1.0T <S.N.A>
CN801	33054-801-114	GTBS-2F/7.5F+BLK-HOU	RT06	31018-177-101	RD 1/8T 100-J
CN901	33355-211-003	YCH 250-05	RT04	31018-177-101	RD 1/8T 100-J
CN901	33058-111-040	2877/F5/400	RT02	31018-177-103	RD 1/8T 10K-J
CN902	33058-111-021	2877,3P,400	RT03	31018-177-109	RD 1/8T 1-J
CN902	33355-211-001	YCH 250-03	RT05	31018-177-332	RD 1/8T 3.3K-J
F801	34709-084-730	FST 250V 3.15A 20MM SEMK	CT02	31507-127-003	ECQB1H332J-F3
F801	33167-001-001	PFC 5000-0202	CT01	31507-127-003	ECQB1H332J-F3
L804	34047-019-060	3.5X6X1.0	CT03	31607-401-460	CE04W TAPG 16V 47M
L805	34047-019-060	3.5X6X1.0	ICT01	32109-401-004	SAA3027P
PERI	33134-103-030	HXC-1510-01-300A	QT01	32137-301-720	KSC 815-Y (TAPG)
RX01	34539-001-000	10MHZ	QT02	32137-401-530	KSA 539-Y(TAPG)
SPK	34209-169-140	5902BR 3W	DT02	32167-406-480	1N4148TAPG
SW801	33529-150-150	70060-200 ME 5C TV-5	DT02	32167-406-480	1N4148TAPG
TACT-2	33609-101-010	KPT 2105	DT03	32309-101-090	CL-2(F)/SSIR-5D
TACT-6	33609-101-009	KPT-2105-31	DT02	32309-101-090	CL-2(F)/SSIR-5D
TU001	34519-970-060	ECC-5883CE(D)	DT04	32309-101-090	CL-2(F)/SSIR-5D
V999A	33359-050-010	B12-262 BASE	DT01	32309-101-090	CL-2(F)/SSIR-5D
X501	34539-070-210	HC-18/U,8.86723MHZ	LT01	32427-904-914	EL 0607RA-272J
Z101	34529-700-010	SAF39.5MZ80Z			
Z201	34529-437-010	TPS 6.0MB			
Z601	34527-460-007	SFE6.0MBTF21			
Z603	34529-421-010	TPS 4.5MC			
2 . ASSY - CRT					
V999	32019-400-015	51GGB91X			
DY	32439-090-010	DIE-1992GL			
V999M	34099-023-010	JH-8210			
SP-DY	36814-101-911	NEOPRENE VO BLK			
D-COI	32479-029-210	9.3RT25L2300			

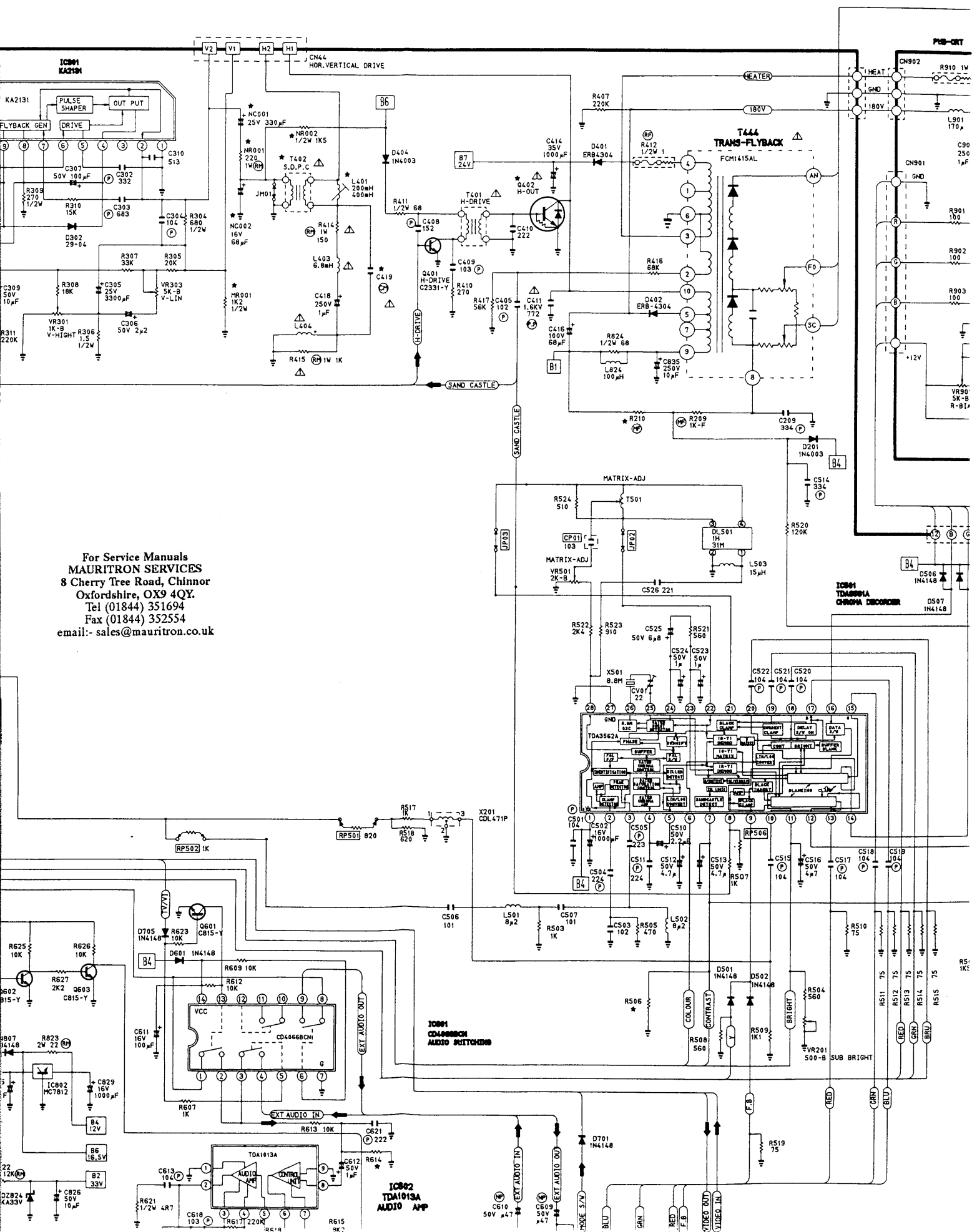


PAL- | RM109 REMOTE SYSTEM  
(38104-182-810)

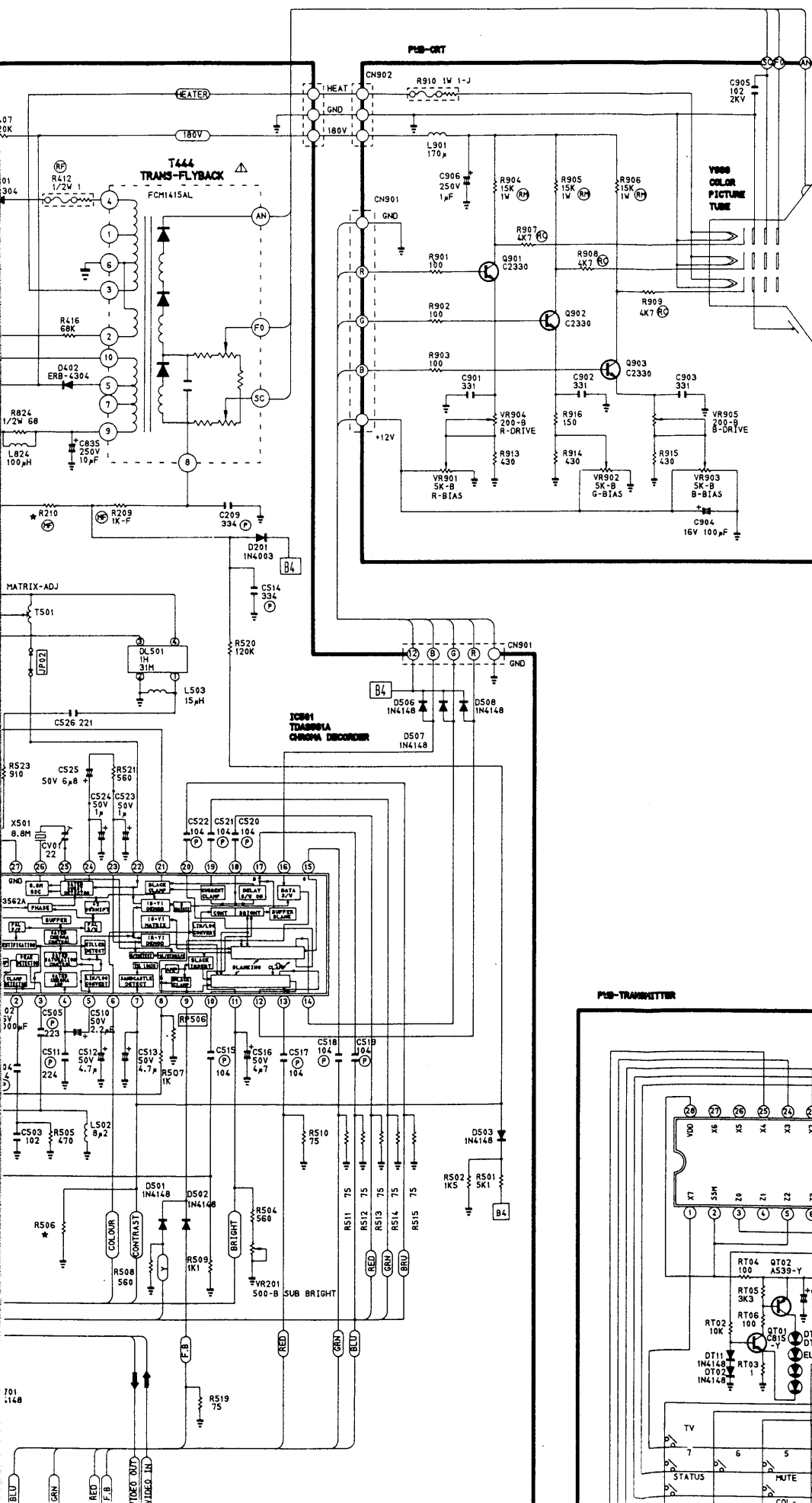




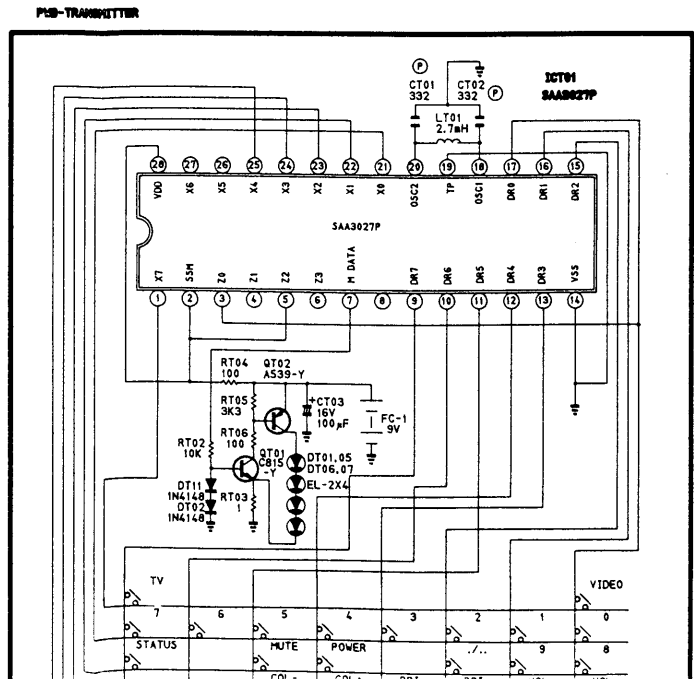


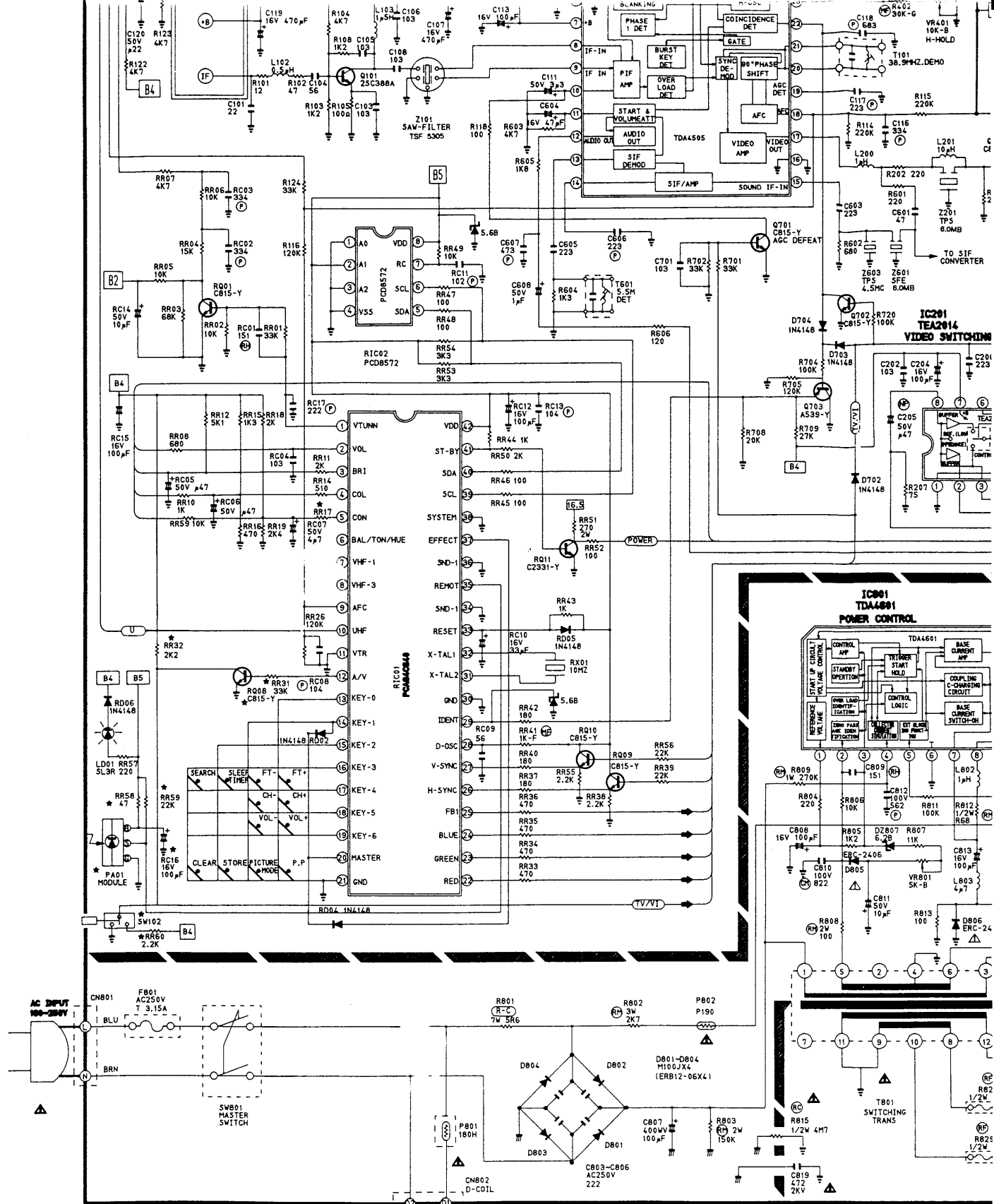


For Service Manuals  
MAURITRON SERVICES  
8 Cherry Tree Road, Chinnor  
Oxfordshire, OX9 4QY.  
Tel (01844) 351694  
Fax (01844) 352554  
email:- sales@mauriton.co.uk



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DIFFERENT PARTS  
FOR  
20 INCH AND 14 INCHS

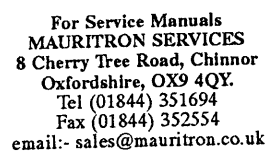
LOCATION	14 INCH		20 INCH
	NORMAL	MINI-NECK	
NR002	1/2W 1K5		1/2W 1K5
NC001	25V 330µF		25V 330µF
NC002	16V 68µF		16V 68µF
R614	3K3	3K3	4K3
R210	13K-F(1/2W)	13K-F(1/2W)	120K-G(1/2W)
C419	200V 364		200V 434
L401		200mH/480mH	
L404	D548-157µH	K10/195µH	D548-157µH
T402	K-20-14		K-20-14
Q402	2SD1650	2SD1650	2SD1651
T444	FCH1415AL	FCH-14A004	FCH-2015AL
Y999	3720B22	A34EAC00X	5100H91X
R506	8.2K	8.2K	10K
RR17	3K	3K	1K

DIFFERENT PART  
FOR SOFT-TOUCH AND REMOCON MODEL

LOCATION	SOFT-TOUCH	REMOCON
SW102	KSA-2272	
RR60	2.2K	
PA01		GPIU721Q
RC16		16V 100µF
RR58		1/8W 47
RR59		1/8W 22K
RR32		2.2K
RR31		1/8W 33K
RQ08		CB15-Y

DIFFERENT PARTS FOR  
PAL-B/G AND SECAM-B/G/D/K

LOCATION	PAL-B/G	SECAM-B/G
R517	1K	820
R518	620	110
RP501	820	
RP502	1K	
CP01	103	



DIFFERENT PARTS FOR  
PAL-B/G AND SECAM-B/G.D/K



email:- sales@mauritron.co.uk

