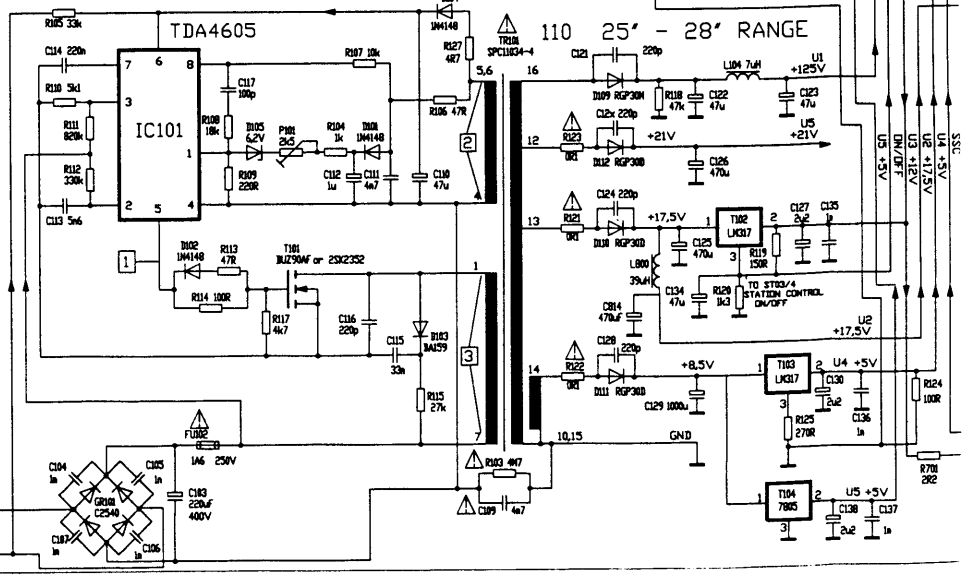
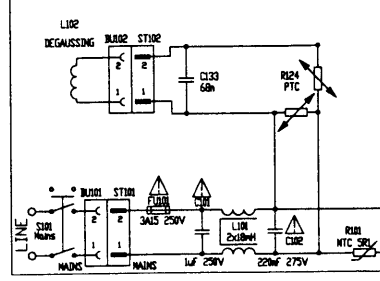


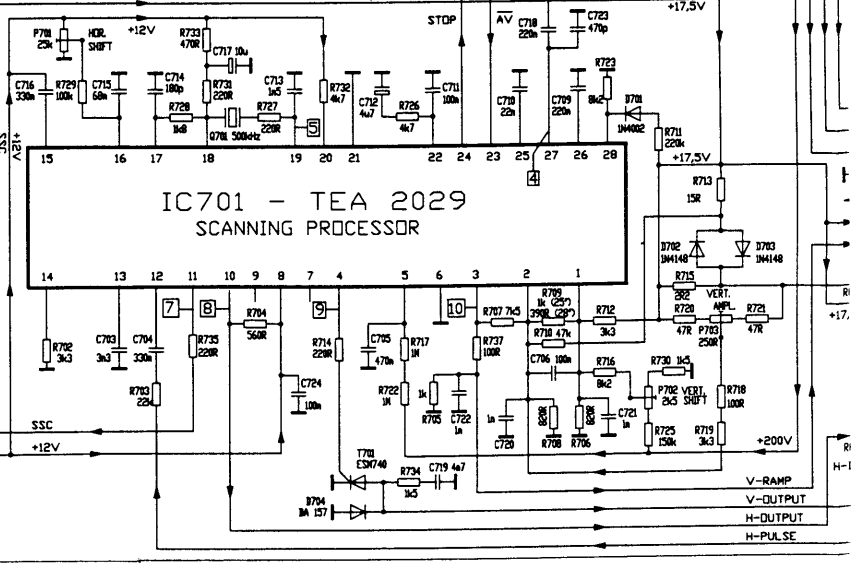
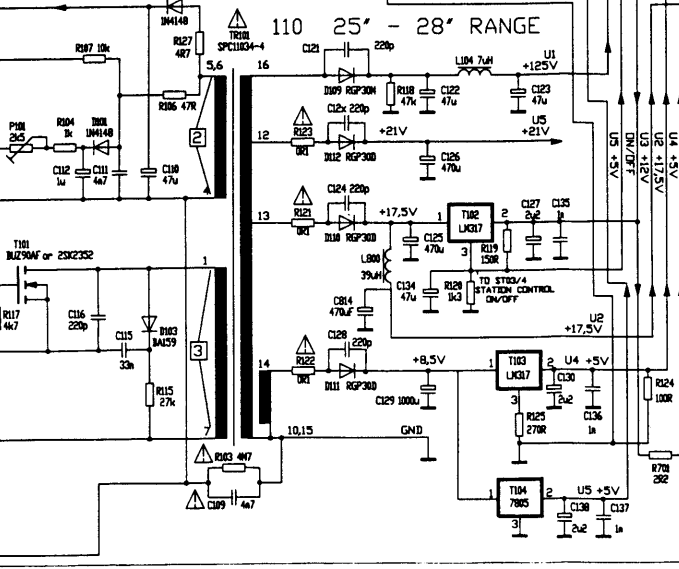
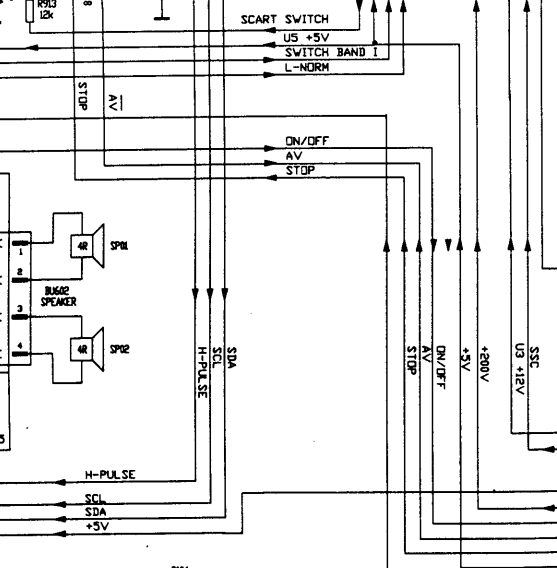
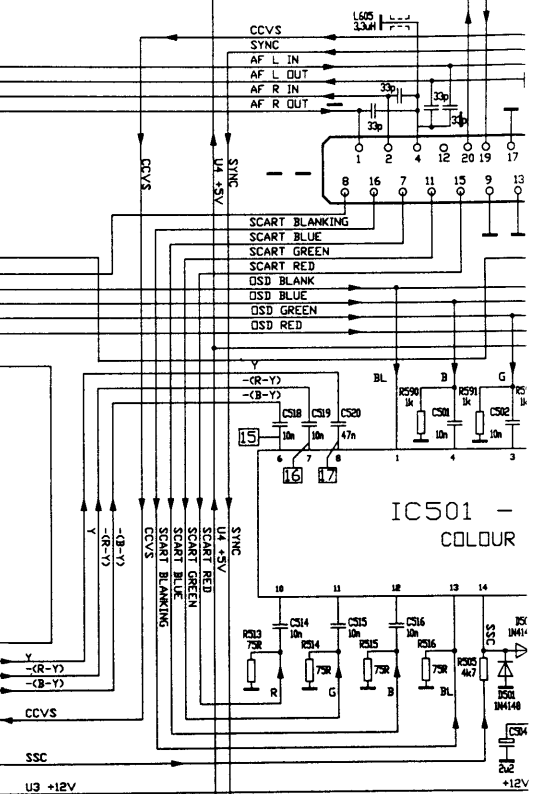
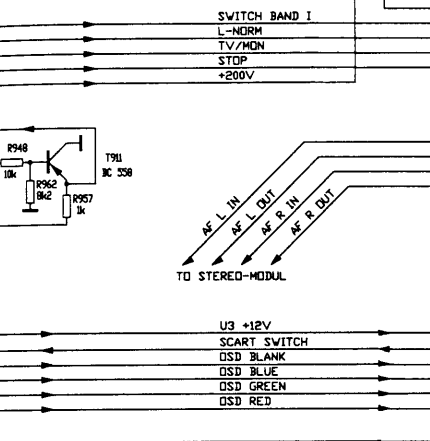
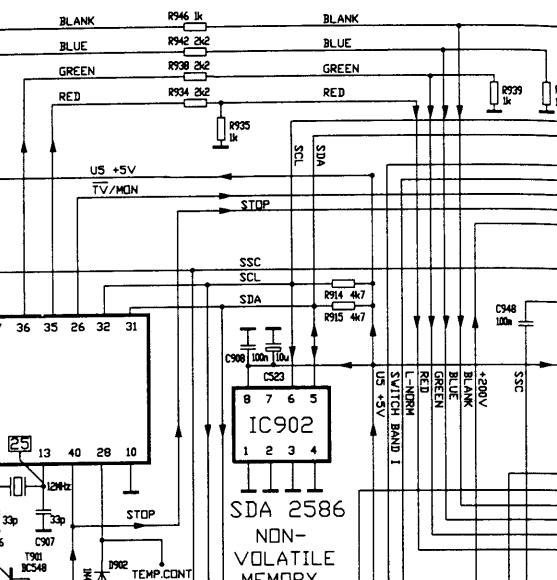
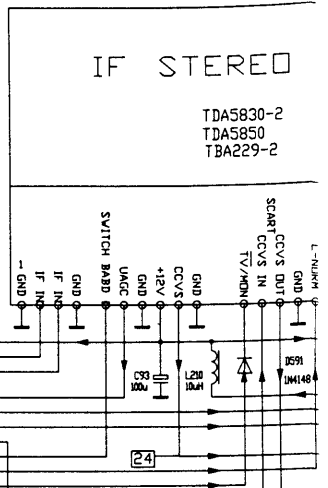
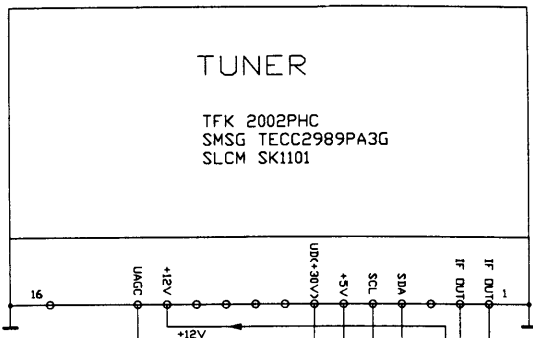
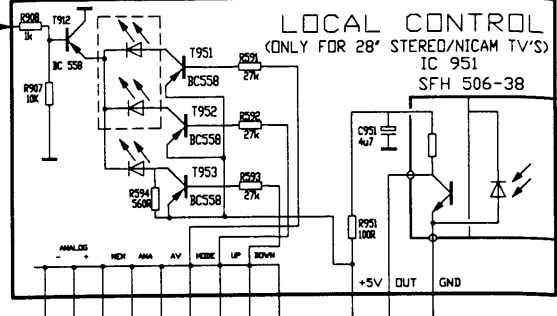
⚠ Components designated by the safety symbol should only be replaced by original parts produced and proofed by the manufacturer.

Sicherheitsbauteile in sinn der sicherheitsbestimmung. Diese teile durfen nur durch originalteile ersetzt werden.

Contrassegno di sicurezza. I componenti devono, corrispondere ai ricambi originali e devono essere montati a regola d'arte.

Acceleration voltage: max.29kV  
 Beschleunigungsspannung: max.29kV  
 Tensione di accelerazione: max.29kV

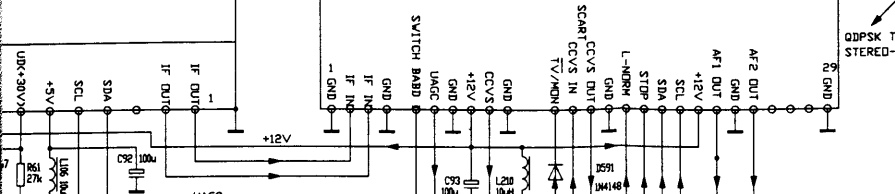




PHC  
2989PA3G  
001

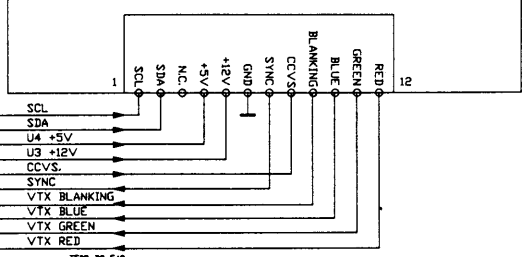
# IF STEREO MODUL

TDA5830-2  
TDA5850  
TBA229-2

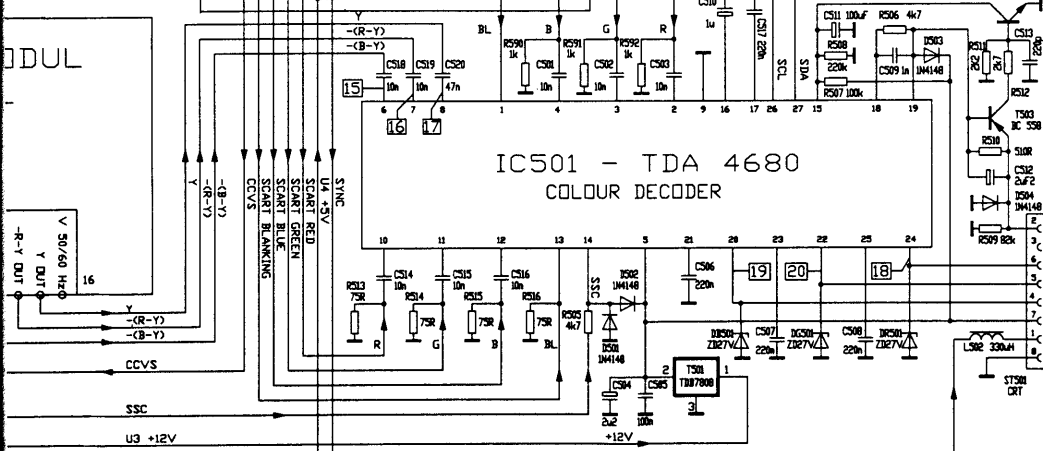


# TELETEXT MODUL

SDA 5231  
SDA 5248  
UPD 4364-15L OR HYB 514256A-10

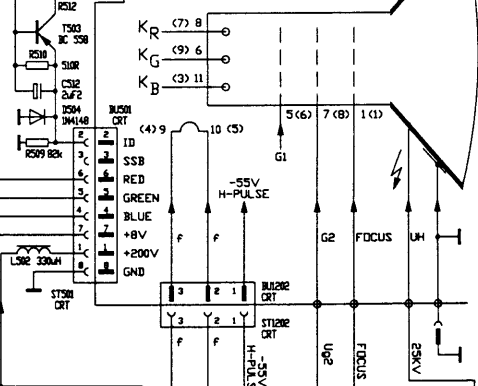


# IC501 - TDA 4680 COLOUR DECODER

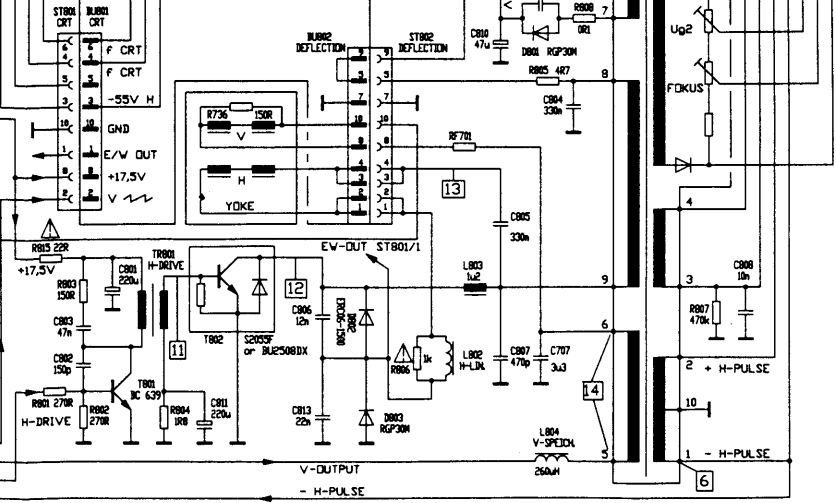


# CRT MODUL

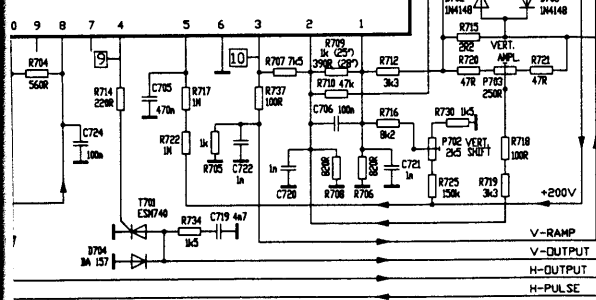
MAX ANODE VOLTAGE IS 29KV

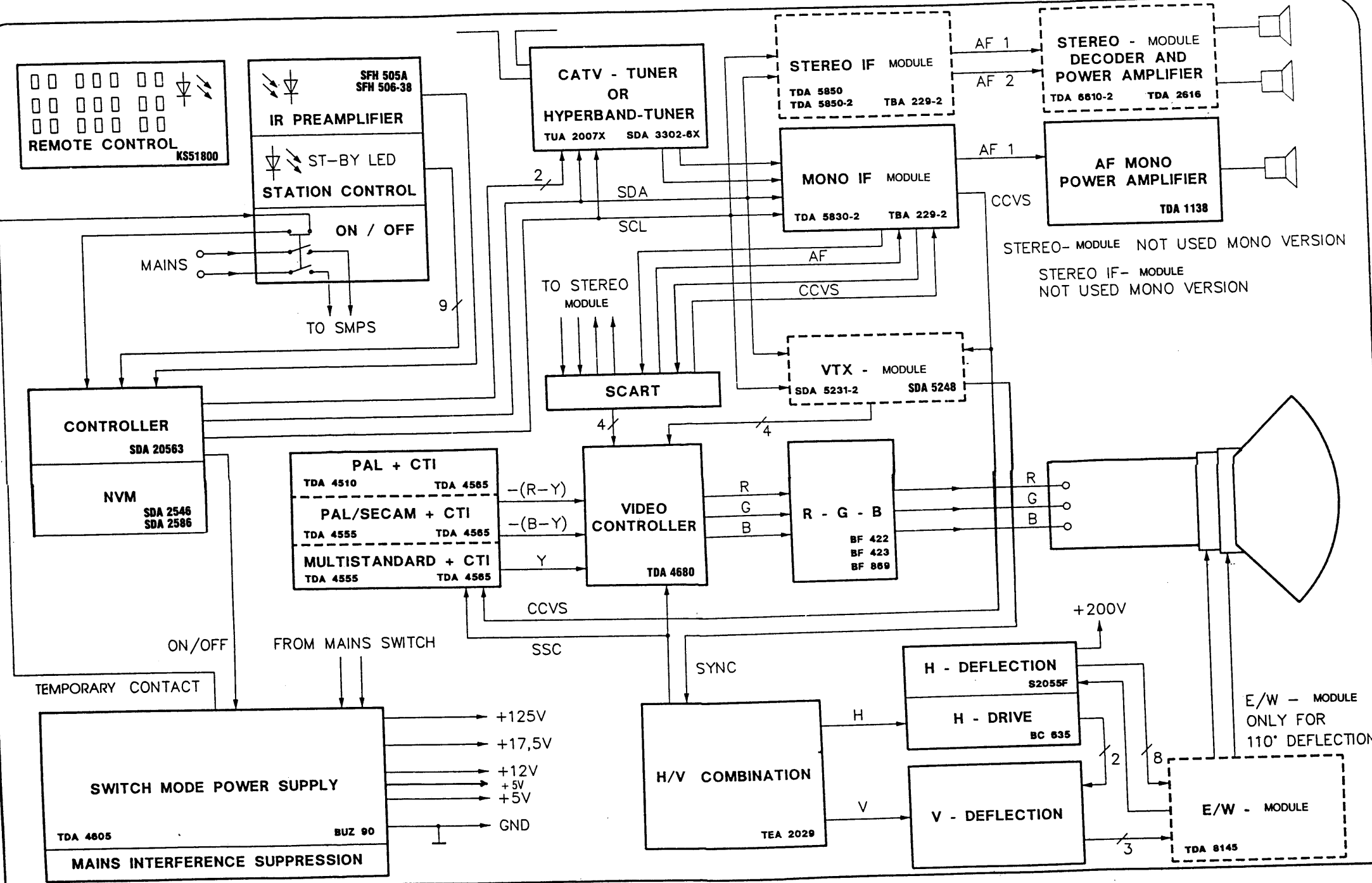


# E/W MODUL



# 1 - TEA 2029 ANNING PROCESSOR



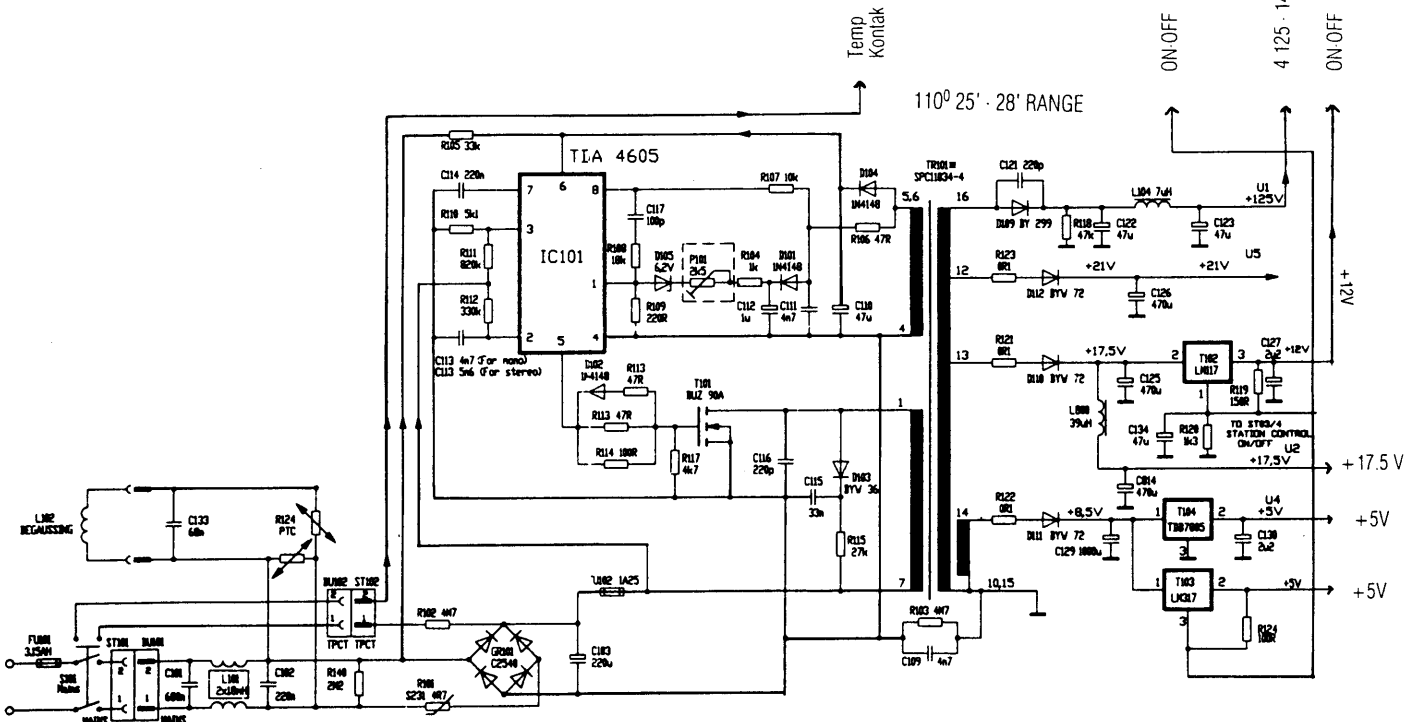
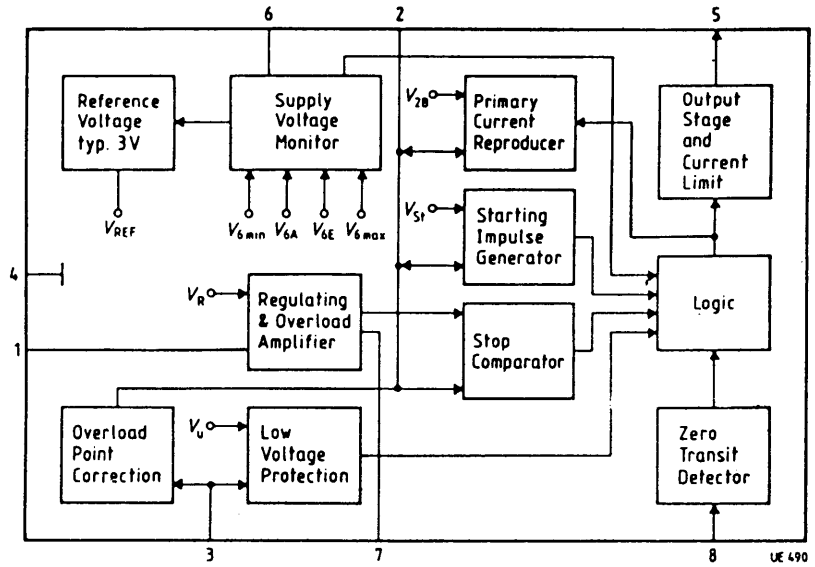


**Bekoteknik SIESTA BLOCK DIAGRAM**

# POWER SUPPLY

TDA 4605  
Control IC for Switched-Mode  
Power Supplies using  
MOS Transistors

Block Diagram



## START UP

When TV is switched ON a start voltage (9V) is generated over R105 at pin 6 of IC 101, TDA4605. IC101 produces a 50 kHz squarewave, which is supplied to the base of T101, BUZ90A over D102, R113 and R114. Collector of T101 is connected to 330 V with switch mode transformer TR101. 330 V is chopped at primary side of the transformer. This generates various voltages at pins 5, 6, 13, 14, 16 of the secondary side of the transformer TR101.

## NORMAL OPERATION

Voltage from pin 5, 6 of transformer TR101 is rectified with D104 and applied to pin 6 of IC101. When this stable voltage 12 V DC reaches pin 6, start voltage is interrupted.

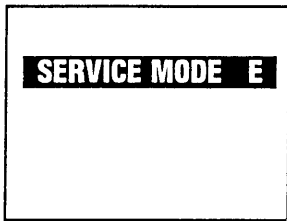
## VOLTAGE REGULATION

Voltage obtained from D104 goes over D101, R104, P101, D105 6.2V zener diode to pin 1 of IC101, TDA 4605. This circuit regulates the main supply voltage U1 125V. Pin 8 of IC101 is connected over R107 to pin 8 of TR101, which performs automatic voltage control.

# SERVICE MODE ADJUSTMENTS

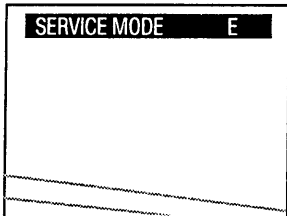
## 1.0. WHITE BALANCE ADJUSTMENT

1.1. Switch on TV over mains switch while pressing up/down buttons on control unit.



Appears on screen.

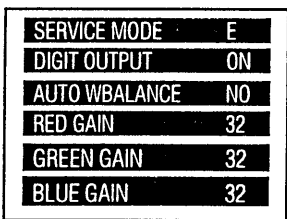
1.2. Push balance button on R/C hand set.



Appears on screen.

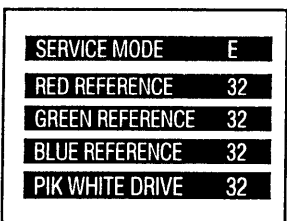
Adjust screen potentiometer until only two lower flyback lines are visible.

1.3. Push colour button on R/C hand set If auto WBalance is yes push up button.



Appears on screen.

1.4. Push colour button on remote control hand set repeatedly.



Appears on screen.

Digit output .... Yes

Adjust  $\left\langle \begin{array}{l} \text{Red reference} \\ \text{Green reference} \\ \text{Blue reference} \end{array} \right\rangle$  to levels given in below table

Digit output .... No  
Digit output .... Yes

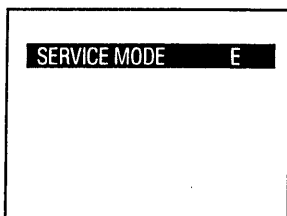
$\left. \begin{array}{l} \text{Red gain} \\ \text{Green gain} \\ \text{Blue gain} \end{array} \right\}$  Adjust to values 20 higher than the present ones to increase contrast when needed.

The value of flashing line can be changed by up or down button.

Switch off and on tv over main switch to Leave service mode.

## 2.0. Selection of external connections

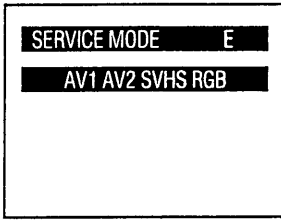
2.1. Switch on TV Over main switch while pressing up and down buttons on R/C control unit.



Appears on screen.

|      | SAMSUNG | PHILIPS | PANASONIC | VIDEO COLOR |  |  |                  |
|------|---------|---------|-----------|-------------|--|--|------------------|
| 14 " |         | 34      |           |             |  |  | RED REF          |
|      |         | 32      |           |             |  |  | GREEN REF        |
|      |         | 23      |           |             |  |  | BLUE REF         |
|      |         | 32      |           |             |  |  | PEAK WHITE DRIVE |
| 15 " |         | 34      |           |             |  |  | RED REF          |
|      |         | 32      |           |             |  |  | GREEN REF        |
|      |         | 23      |           |             |  |  | BLUE REF         |
|      |         | 32      |           |             |  |  | PEAK WHITE DRIVE |
| 20 " |         | 23      |           |             |  |  | RED REF          |
|      |         | 27      |           |             |  |  | GREEN REF        |
|      |         | 20      |           |             |  |  | BLUE REF         |
|      |         | 32      |           |             |  |  | PEAK WHITE DRIVE |
| 21 " |         |         | 25        | 41          |  |  | RED REF          |
|      |         |         | 28        | 23          |  |  | GREEN REF        |
|      |         |         | 24        | 20          |  |  | BLUE REF         |
|      |         |         | 32        | 32          |  |  | PEAK WHITE DRIVE |
| 25 " |         |         | 25        | 41          |  |  | RED REF          |
|      |         |         | 23        | 23          |  |  | GREEN REF        |
|      |         |         | 22        | 20          |  |  | BLUE REF         |
|      |         |         | 32        | 32          |  |  | PEAK WHITE DRIVE |
| 28 " |         |         | 25        | 41          |  |  | RED REF          |
|      |         |         | 25        | 23          |  |  | GREEN REF        |
|      |         |         | 22        | 20          |  |  | BLUE REF         |
|      |         |         | 32        | 32          |  |  | PEAK WHITE DRIVE |

## 2.2 Push AV button on R/C hand set



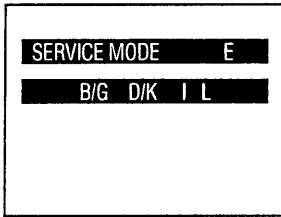
Appears on screen.

By pressing O.K. Button flashing character will turn from white to purple

By pressing (+) or (-) buttons flashing position changes  
FOR MONO T.V. AV1 indicates 1. scart

## 3.0. SYSTEM SELECTION

### 3.1. Push a/b button on r/c hand set



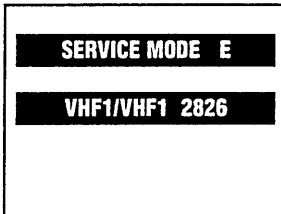
Appears on screen.

3.2. By pressing O.K. Button flashing character will turn from white to purple.

3.3. By pressing (+) or (-) buttons flashing position changes. White characters indicate receivable system.

## 4.0. CHANNEL COVERAGE SELECTION

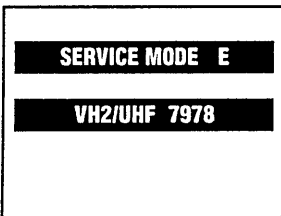
### 4.1. PUSH PS BUTTON ON R/C HAND SET



Appears on screen. check!

If not, to reach 2826 push up or down button. Mute button changes 3. digit of this number.

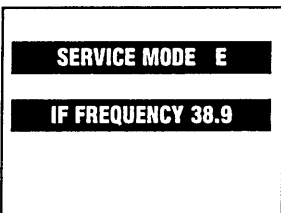
### 4.2. PUSH PS BUTTON ON R/C HAND SET



Appears on screen. Check!

If not, to reach 7978 push up or down button. Mute button changes 3. Digit of this number

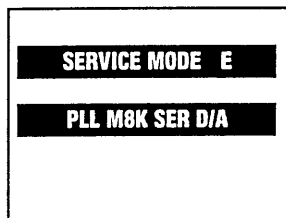
### 4.3. PUSH SERVICE SWITCH ON R/C HAND SET



Appears on screen. Check!

If not, change this value with up or down buttons.

#### 4.4. PUSH SERVICE SWITCH ON R/C HAND SET



Appears on screen.

Press O.K. Button and convert colour of flashing characters from purple to white. Repeat this procedure for all characters on this menu.

M8K WHITE 100Programme

M8K PURPLE 50Programme

#### 5.0. PREPARING A SERVICE R/C HAND SET

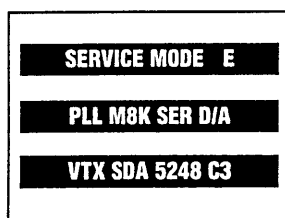
##### 5.1. MOUNT A MICRO SWITCH ON R/C HAND SET

##### 5.2. CONNECT PIN 10 AND 19 OF R/C IC KS 51800 BY A MICRO SWITCH.

When micro switch pushed these pins are short.

#### 6.0. SETTINGS OF TELETEXT

##### 6.1. PUSH T.V.-T.T. BUTTON ON R/C HAND SET



Appears on screen.

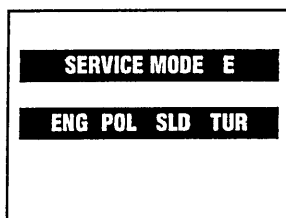
The digit behind C determines teletext decoding languages.  
Change this digit by pushing up or down buttons.

C1. English, German, Swedish, Italian, French, Spanish.

C2. English, German, Scandinavian, German, Serbocroat, Czech-slovak, Romanian.

C3. English, German, Swedish, Italian, French, Spanish, Turkish.

##### 6.2. PUSH T.V.-T.T. BUTTON



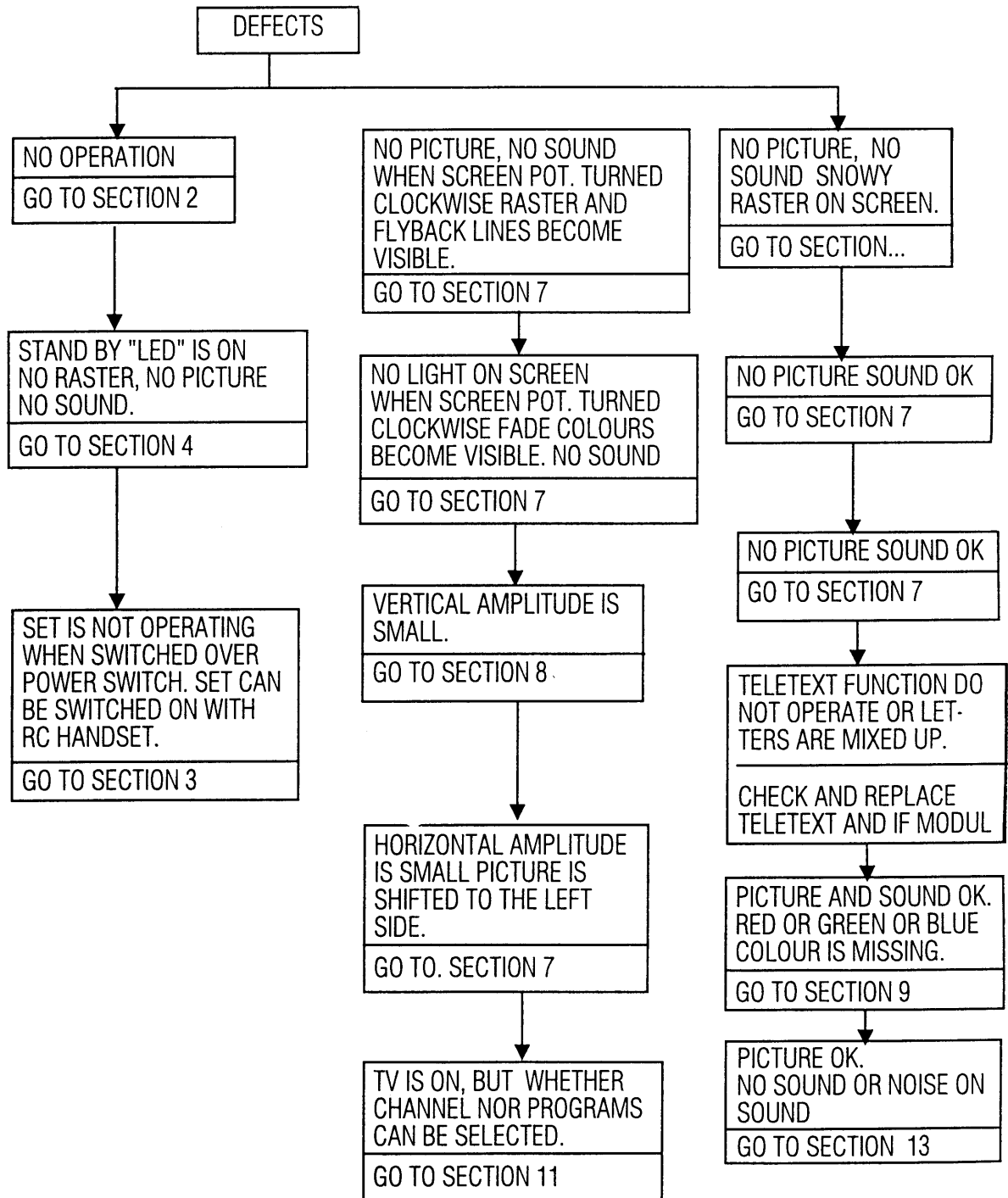
Appears on screen.

From this menu teletext message language can be chosen. Pressing O.K. Button changes colour and pressing up or down button changes position of flashing characters. White language indication shows teletext message language.



# ① TROUBLE SHOOTING

- 1 -TROUBLE SHOOTING GUIDE
- 2 -GENERAL POWER SUPPLY DEFECTS
- 3 -POWER I-POWER SUPPLY DEFECTS
- 4 -POWER II-POWER SUPPLY DEFECTS
- 5 -SWITCH MODE TRANSFORMER DEFECTS
- 6 -PROTECTION CIRCUIT DEFECTS
- 7 -DEFECTS RELATED TO DARK SCREEN
- 8 -DEFLECTION CIRCUIT DEFECTS
- 9 -TEA 2029 AND PERIPHERAL DEFECTS
- 10 -COLOUR DECODER DEFECTS
- 11 -CRT DRIVE BOARD AND IC501 DEFECTS
- 12 -MICROPROCESSOR DEFECTS
- 13 -SOUND CIRCUIT DEFECTS

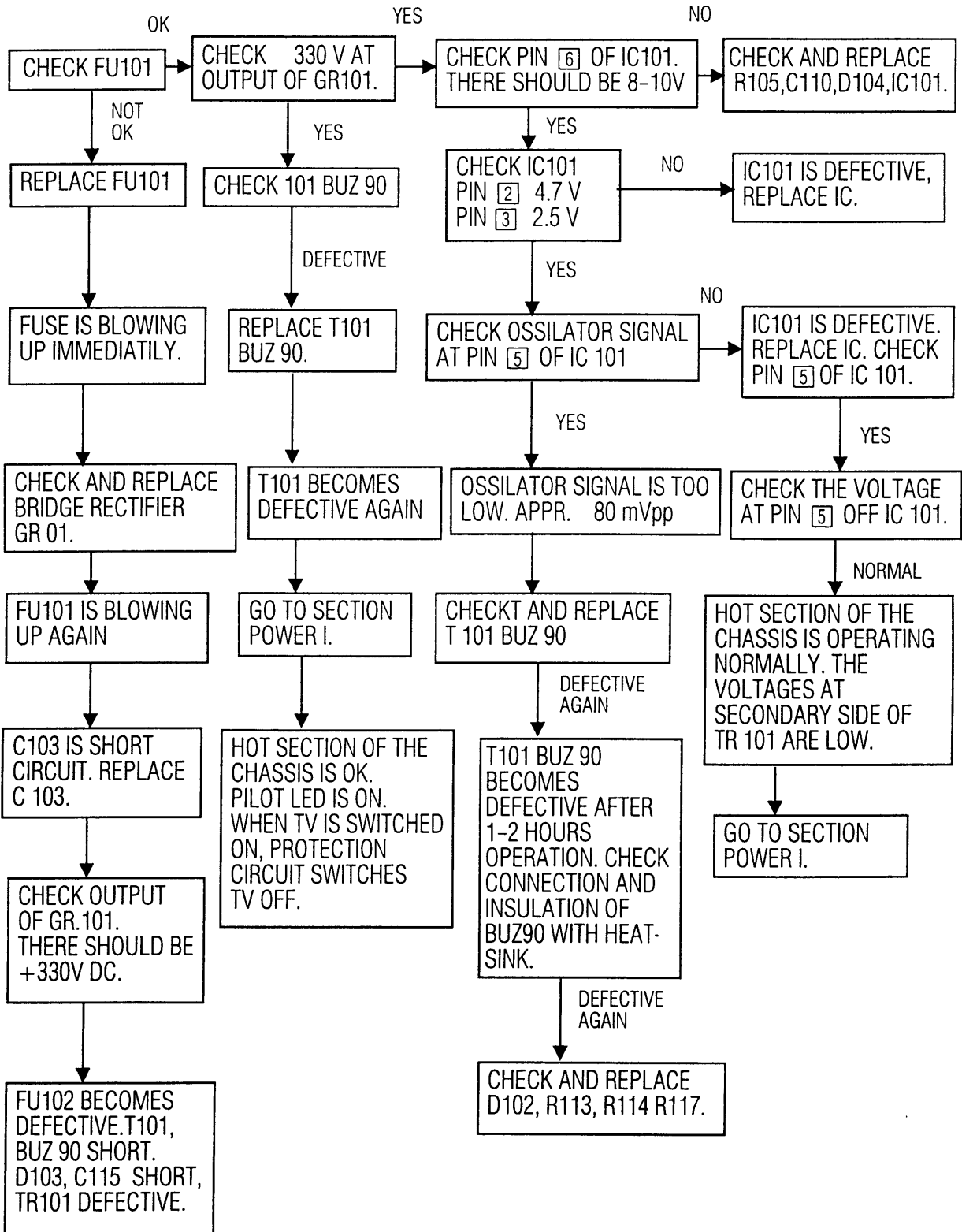


**NOTE:** ALL ANALOG CONTROL (LUMINANCE, CONTRAST, COLOUR, VOLUME), SHOULD BE AT MEDIUM LEVEL.

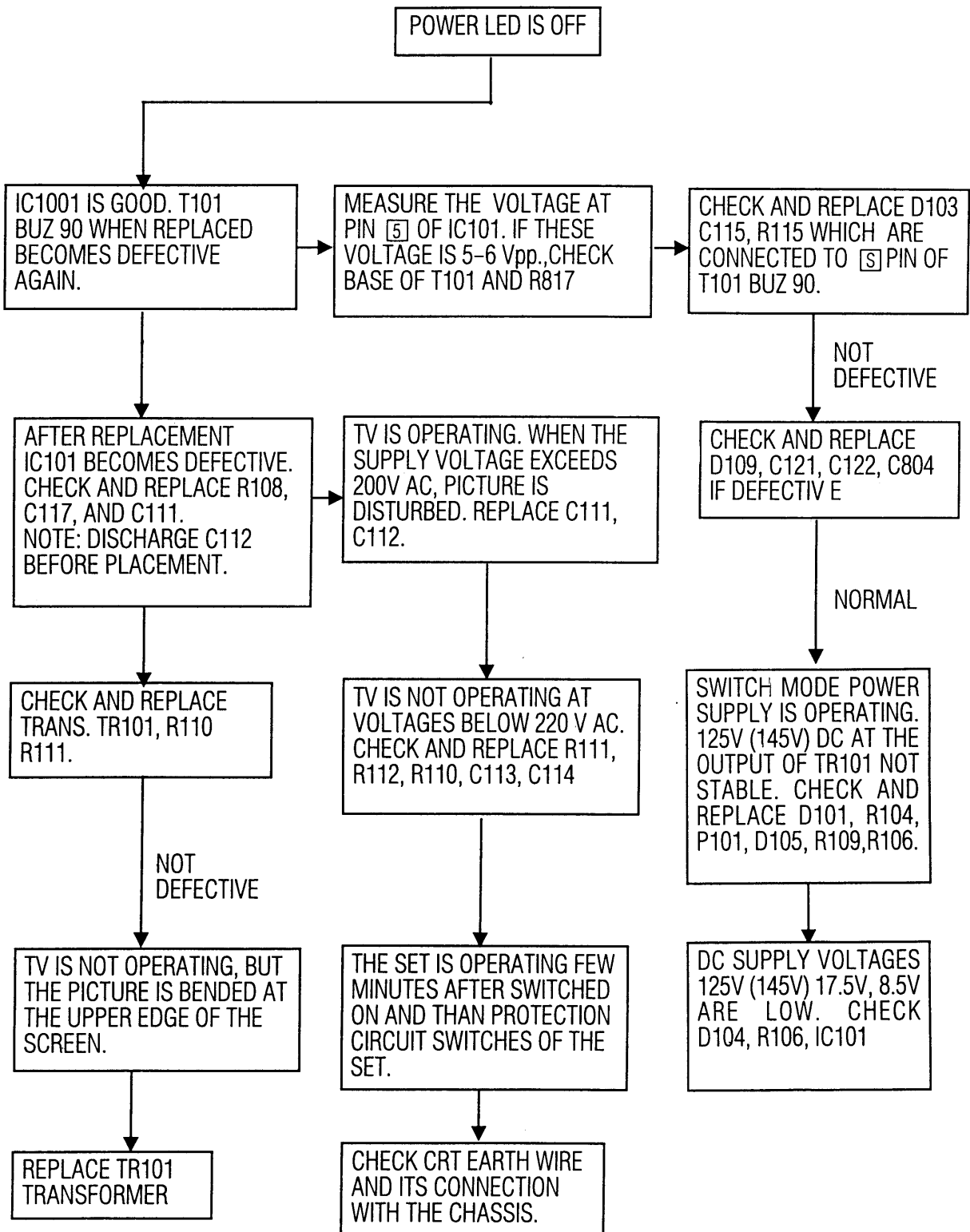
2

# NO OPERATION

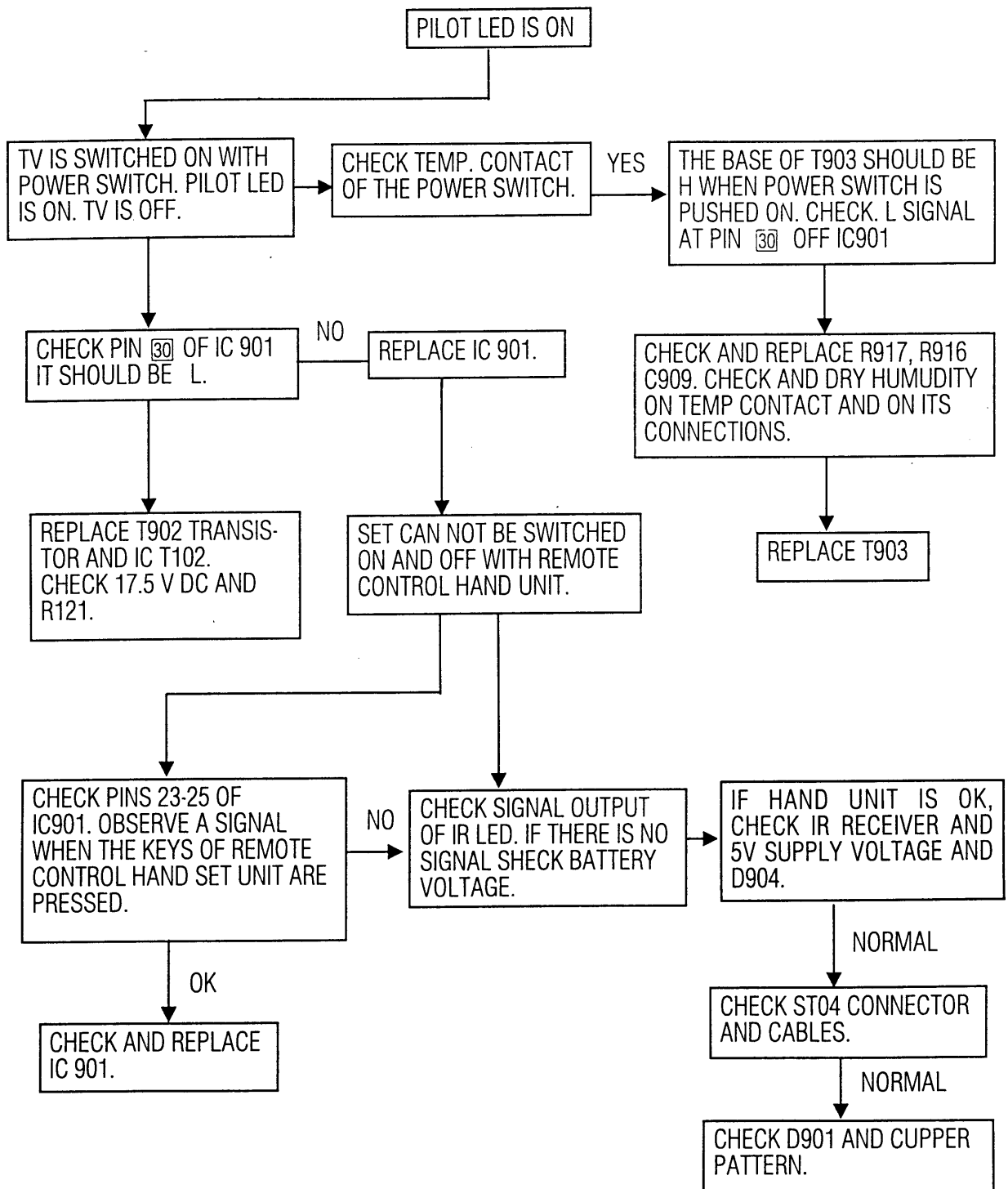
STAND BY LED IS OFF



## POWER I DEFECTS

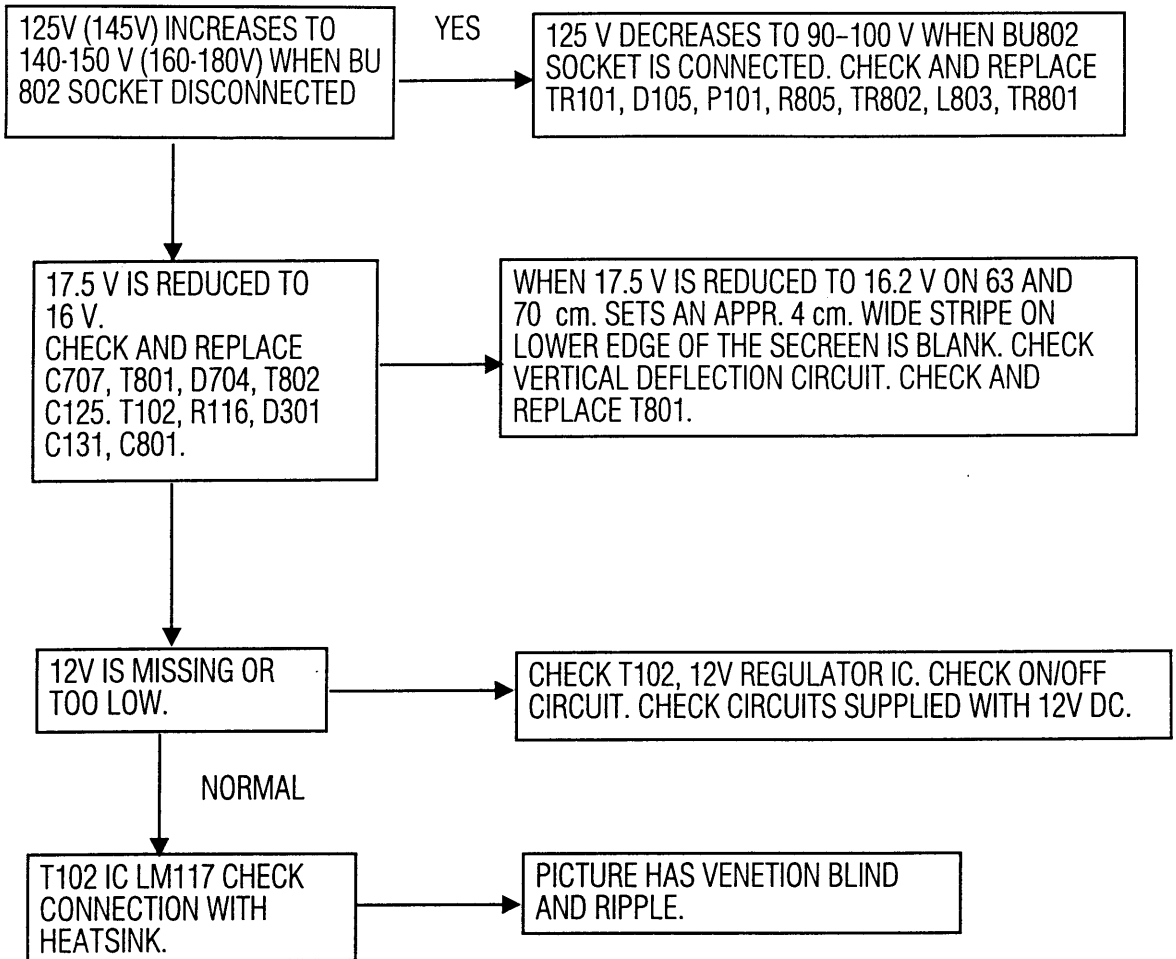


## POWER II DEFECTS



5

## SWITCH MODE TRANSFORMER TR101 AND PERIPHERAL DEFECTS



6

## SET GOES TO STANDBY DURING OPERATION

12 V DC VOLTAGE  
IS MISSING

IF PIN 30 IC901 IS AT 4V. THIS IC HAS SWITCHED OFF THE SET. STATIC DISCHARGE CAN CAUSE PROTECTION CIRCUIT TO REACT. CHECK CRT DRIVE BOARD AND ITS EART CONNECTION.

CHECK EARTH PINS OF DST TRANSFORMER. RETOUCH-  
SOLDERS OF DST PINS OR REPLACE DST.

MUTING SIGNAL ON PIN 28 OF IC701 IS MISSING  
REPLACE IC 701.

12 V DC VOLTAGE  
IS NORMAL.

CHECK VOLTAGE AT PIN 28 OF IC701. DURING NORMAL OPERATION THIS VOLTAGE IS LESS THAN 0.7 V. DURING PROTECTION, THIS VOLTAGE IS HIGHER THAN 0.7 V. CHECK + 17.5 AND DRY SOLDER ON VERTICAL CIRCUIT.

125V (145V) AND 12V DC  
VOLTAGES ARE MISSING

HORIZONTAL OUTPUT STAGE INCLUDES A COMPONENT  
CAUSING OVER CURRENT CHECK AND REPLACE T802,  
TR802, C813, C810, D801.

CRT PRODUCES TOO  
MUCH STATIC ELEKTRIC  
CHARGE.

CHECK CRT EART WIRE, CRT-CHASSIS EART  
CONNECTION, CRT SOCKET-CHASSIS EART  
CONNECTION. WHEN OK REPLACE CRT.

SCREEN IS DARK. WHEN SCREEN POTENTIOMETER TURNED CLOCKWISE RASTER AND FLYBACK LINES APPEAR ON SCREEN.

CHECK SDA AND SCL SIGNALS AND 2-4 V DC AT PINS [31], [32] OF IC 901.

IF ONE OF SDA OR SCL IS MISSING.

IN MONO SETS SDA AND SCL SIGNAL LINES ARE SEPARATED FROM TELETEXT BOARD TUNER AND MEMORY IC. THIS WAY SHORT CIRCUIT OF THIS SIGNALS CAN BE LOCALIZED. IN STEREO SETS SDA AND SCL SIGNAL LINES ARE SEPARATED FROM STEREO BOARD OR IF BOARD. SHORT CIRCUIT CAN BE LOCALIZED, AND DEFECTIVE MODULE CAN BE REPLACED.

SDA-SCL SIGNALS ARE NORMAL, SCREEN IS DARK.

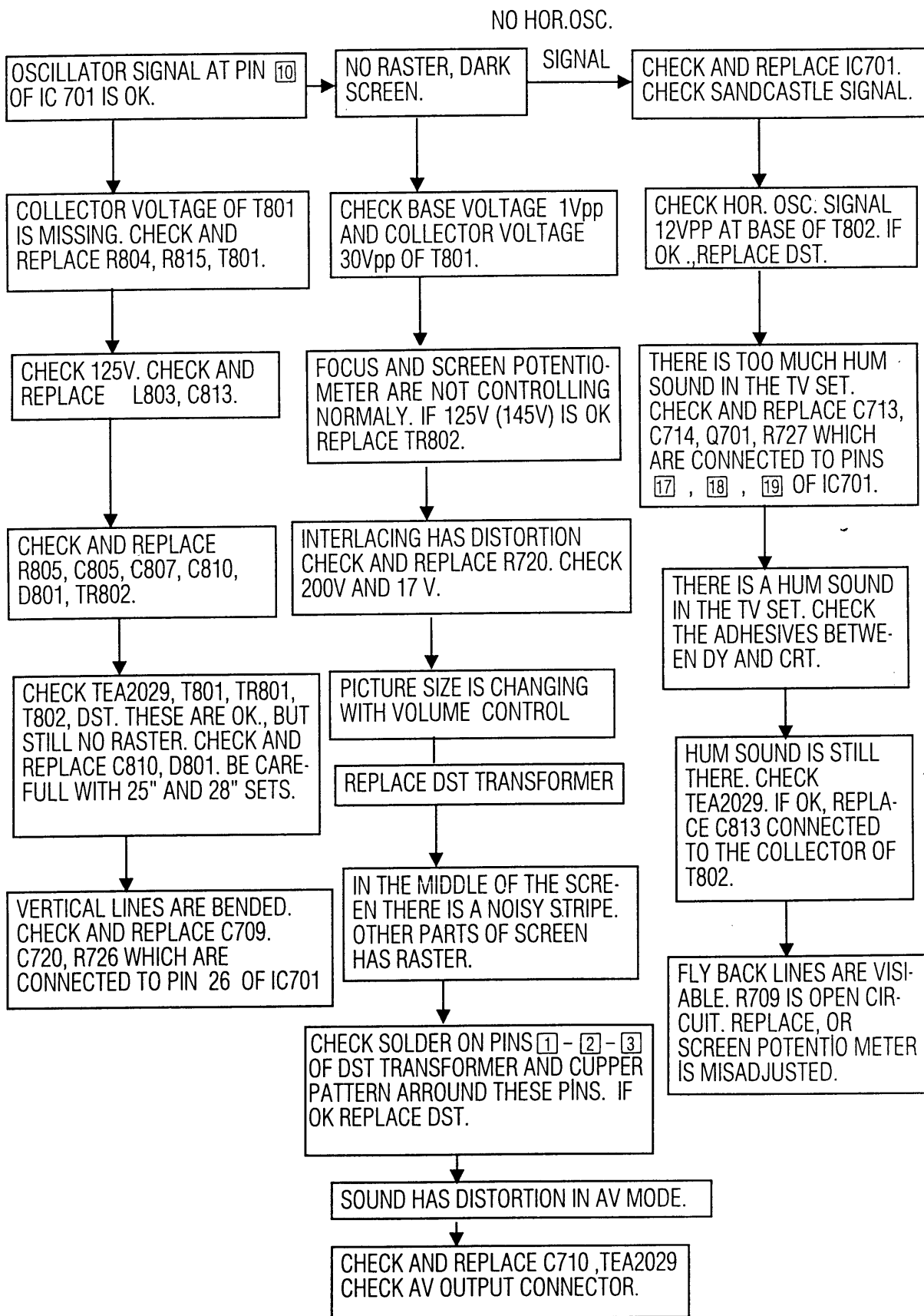
CHECK PIN VOLTAGES AND SURROUND COMPONENTS OF IC501. CHECK 5.3 V AT PIN [26]. PINS [19], [20] ARE FOR CONTRAST AND BRIGHTNESS. CHECK VOLTAGES AT THESE PINS VARIING BETWEEN 1-4.5 V. CHECK 12V DC AT PIN [6]. CHECK Y-LUMINANCE SIGNAL ON PIN [15]. IF ALL ITEMS ARE NORMAL, IC501 OR CRT DRIVE BOARD IS DEFECTIVE.

REPLACE CRT DRIVE BOARD. CHECK AND REPLACE D501, D503, C503. CHECK VOLTAGE AT PIN [9] OF IC501.

SCREEN IS DARK. RASTER IS AVAILABLE.

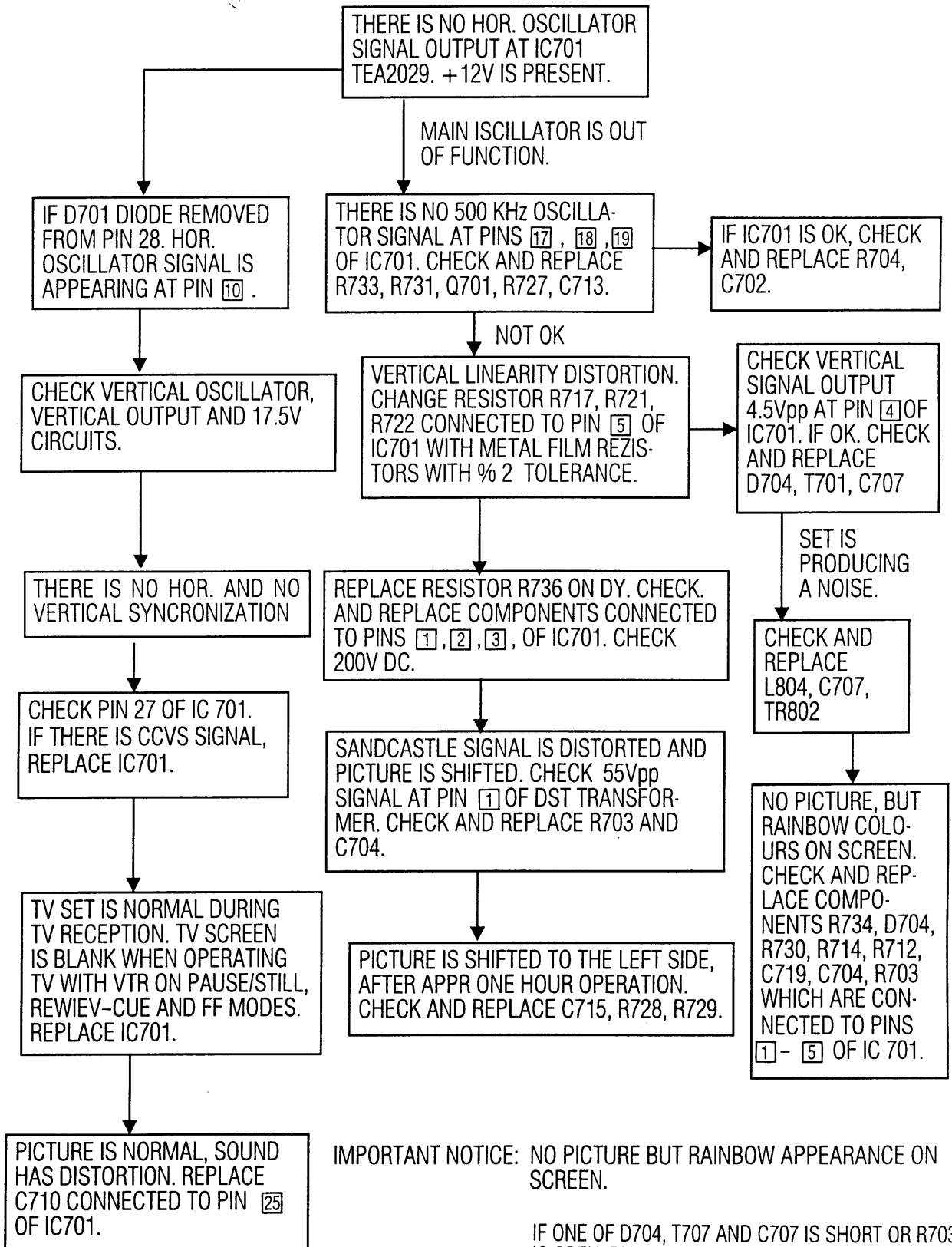
PUSH AV BUTTON ON REMOTE CONTROL HAND UNIT. CHECK SQUARE WAVE ON PIN [15] OF IC 501. IF OK, CHECK SQUARE WAVE AT PINS [1], [3], [5]. IF OK, CRT DRIVE BOARD IS DEFECTIVE. IF NOT, REPLACE IC501.

# VERTICAL-HORIZONTAL OUTPUT AND DST CIRCUIT DEFECTS



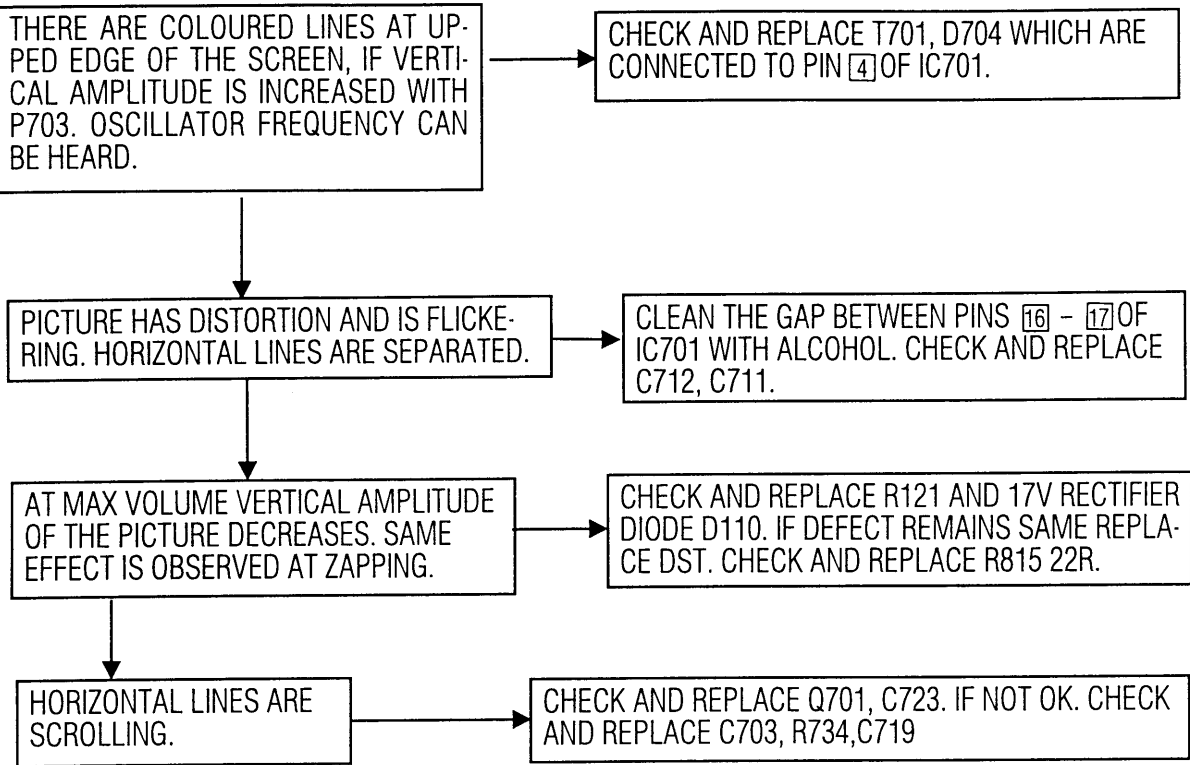


# TEA 2029 AND PERIPHERAL CIRCUIT DEFECTS



IMPORTANT NOTICE: NO PICTURE BUT RAINBOW APPEARANCE ON SCREEN.

IF ONE OF D704, T707 AND C707 IS SHORT OR R703 IS OPEN, DY WILL WARM UP AND BREAK CRT NECK.



10

## COLOUR DECODER DEFECTS

NO COLOUR. DO FOLLOWING CHECKS

CHECK BURST SIGNAL AT PINS 15,28 OF IC TDA4555. CHECK OSC. SIGNAL AT PIN 19 OF IC TDA4555. CHECK SANDCASTLE SIGNAL AT PIN 24. CHECK (R-Y), (B-Y) SIGNALS AT PINS 1, 2 OF TDA 4555.

CHECK COLOUR CONTROL VOLTAGE AT PIN 18 VARYING BETWEEN 1-4.5 V DC.

CHECK 12 V, S.S.C. AND CCVS ON CRT DRIVE BOARD.

IF SIGNALS AT PINS 1, 3 OF IC 1 ARE AVAILABLE, CHECK SIGNALS AT PINS 1, 2 OF IC TDA4565. CHECK SIGNAL AT PIN 7,8. IF IT IS MISSING, REPLACE IC 2.

UPPER HALF OF THE PICTURE IS GREENISH. LOWER HALF OF THE PICTURE IS OK. CHECK CONNECTION FROM PIN 1 OF DST TO PIN 12 OF IC 701. CHECK PIN 12 OF IC 701. THERE SHOULD BE A SQUARE WAVE WITH 13 - 14 V<sub>pp</sub> AMPLITUDE.

NO COLOUR OR COLOURS ARE DISTORTED.

CHECK AMPLITUDE AND SHAPE OF SSC. IT SHOULD BE 9-11 V<sub>pp</sub>.

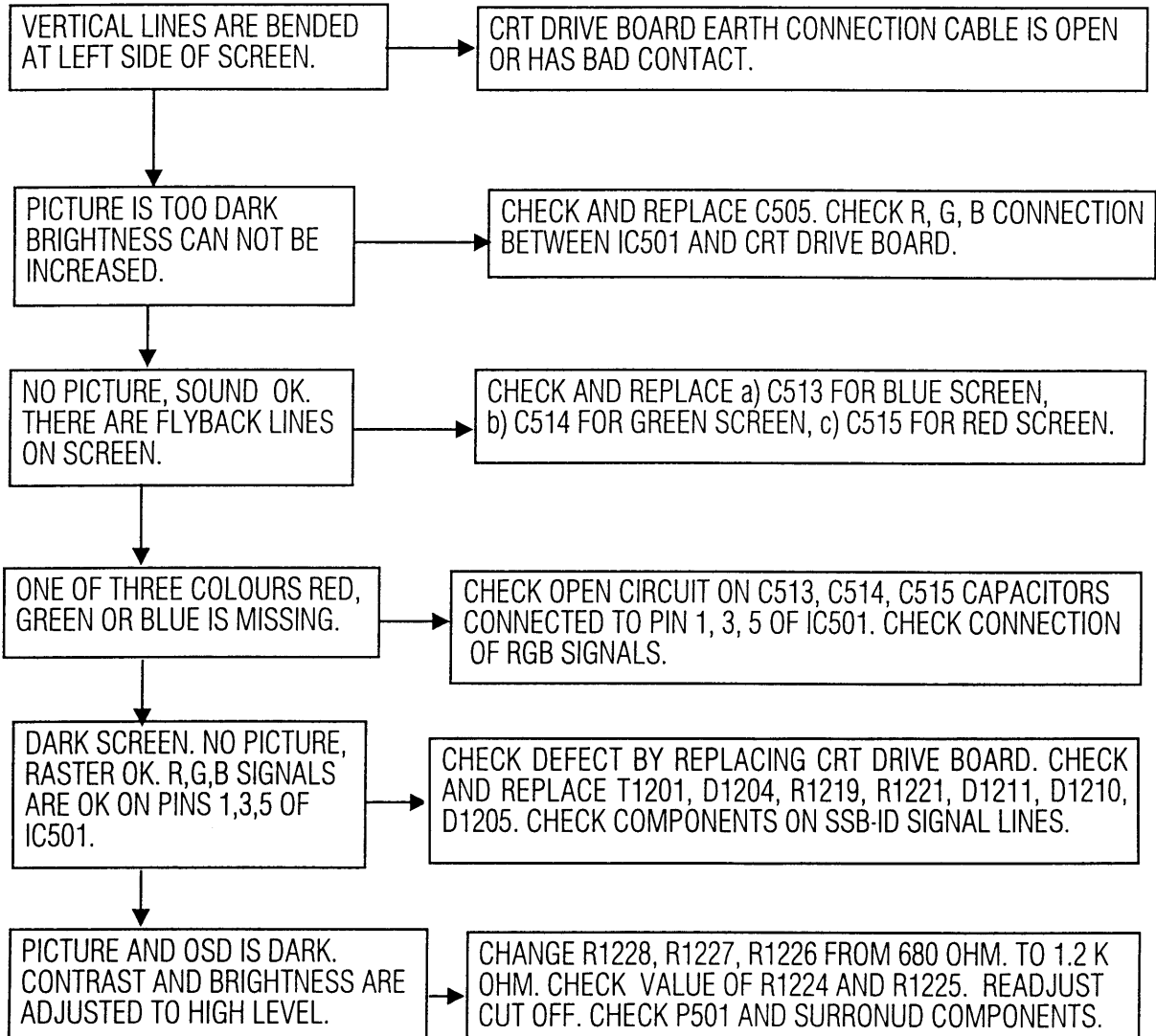
COLOURS ARE FADED AND MIXED UP.

CHECK AND REPLACE C506 AND C507 CONNECTED TO PINS 16, 17 OF IC501.

NO SOUND, NO PICTURE, SNOWY RASTER ON SCREEN

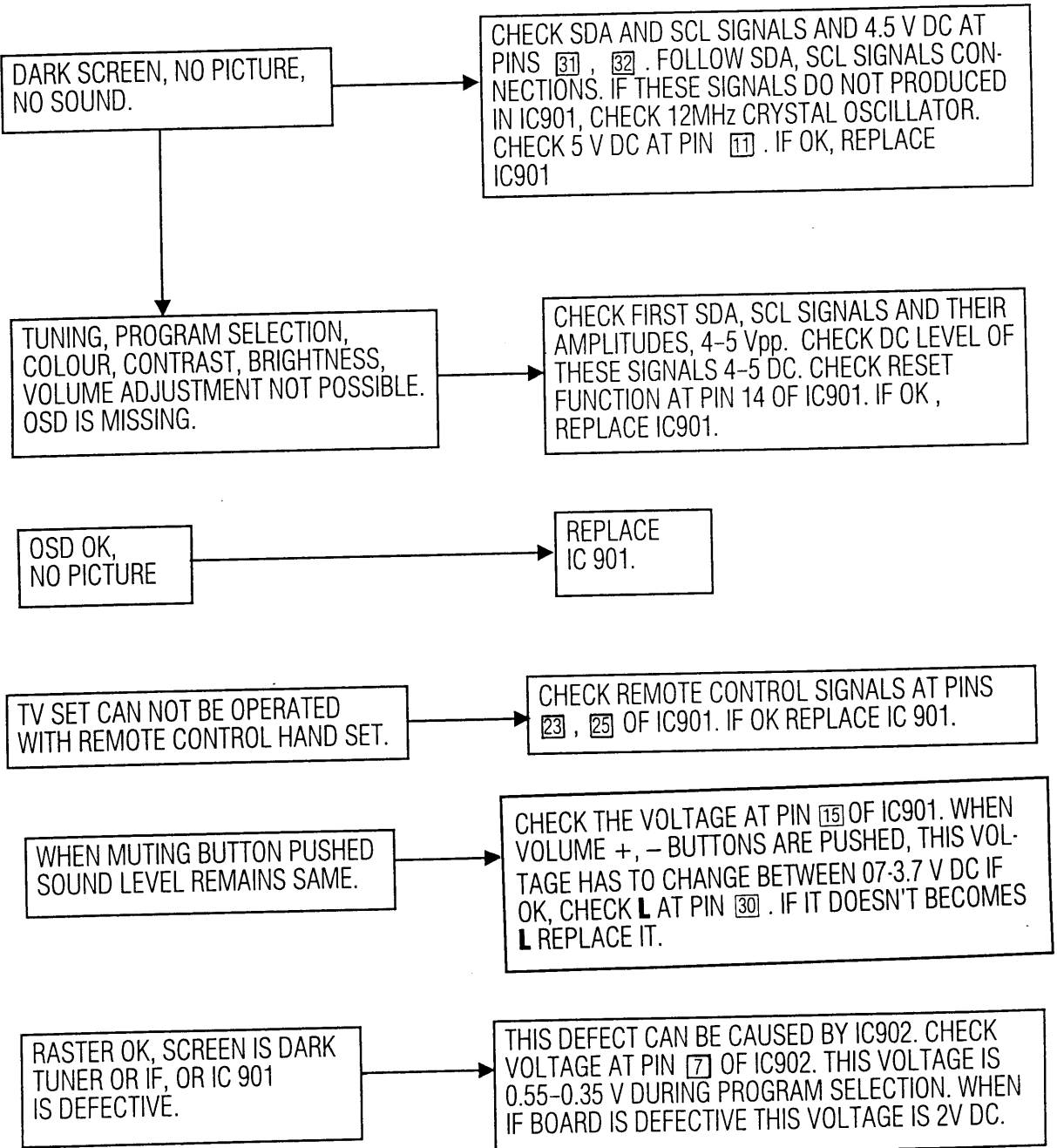
CHECK AND REPLACE TUNER AND IF MODULS

## CRT DRIVE BOARD AND IC501 DEFECTS

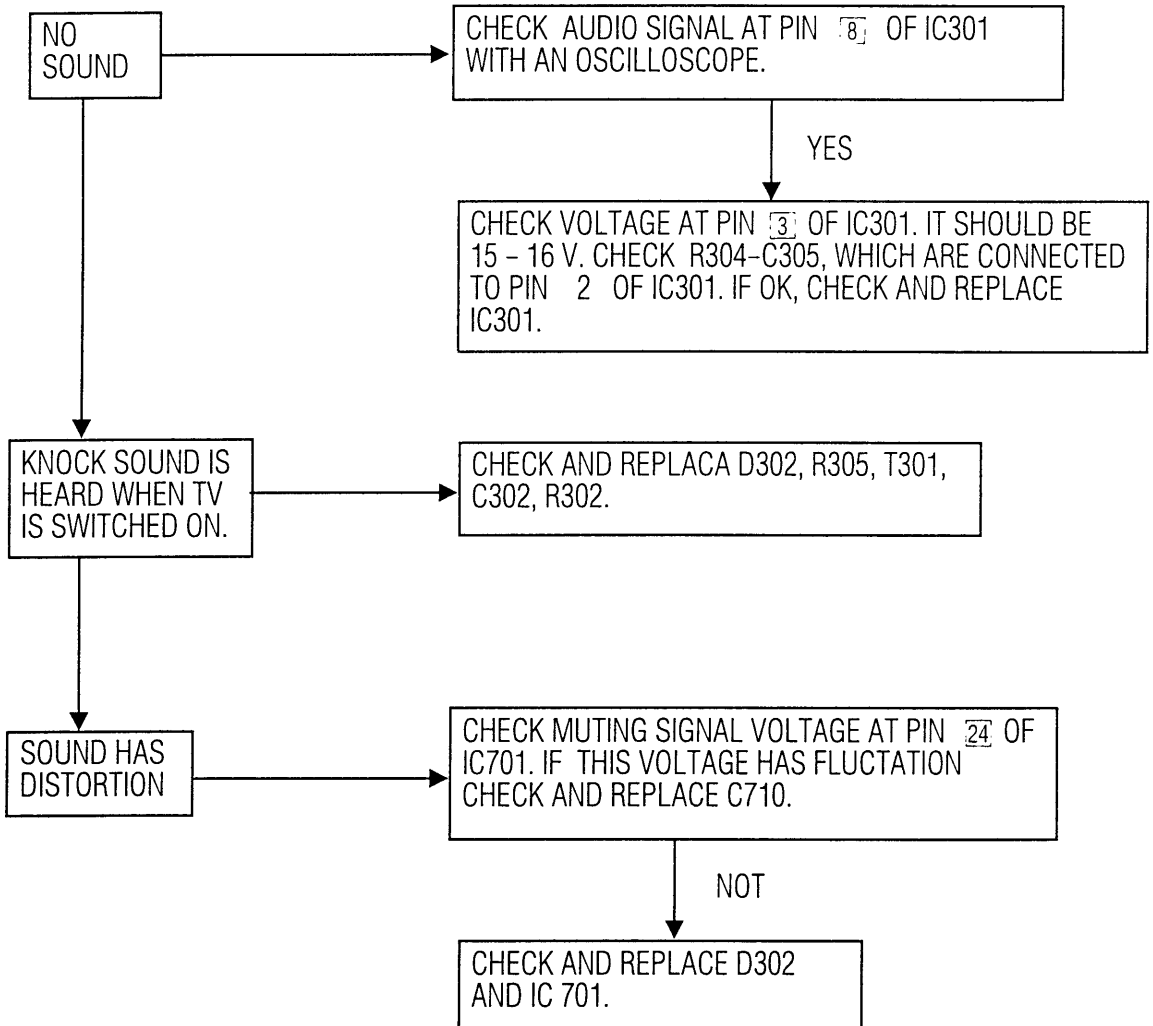


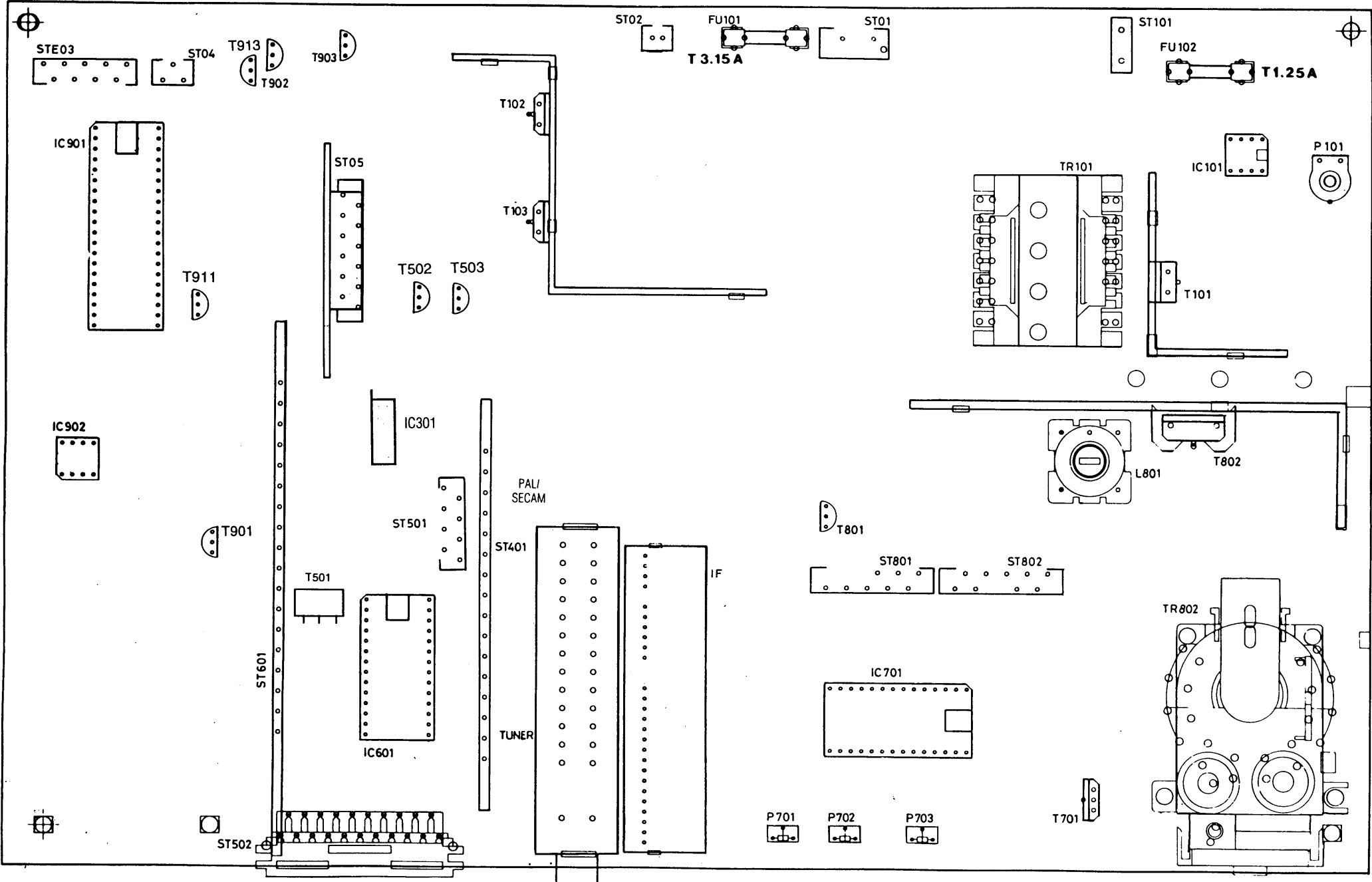
12

## MICROPROCESSOR IC 901 AND PERIPHERAL CIRCUITRY DEFECTS

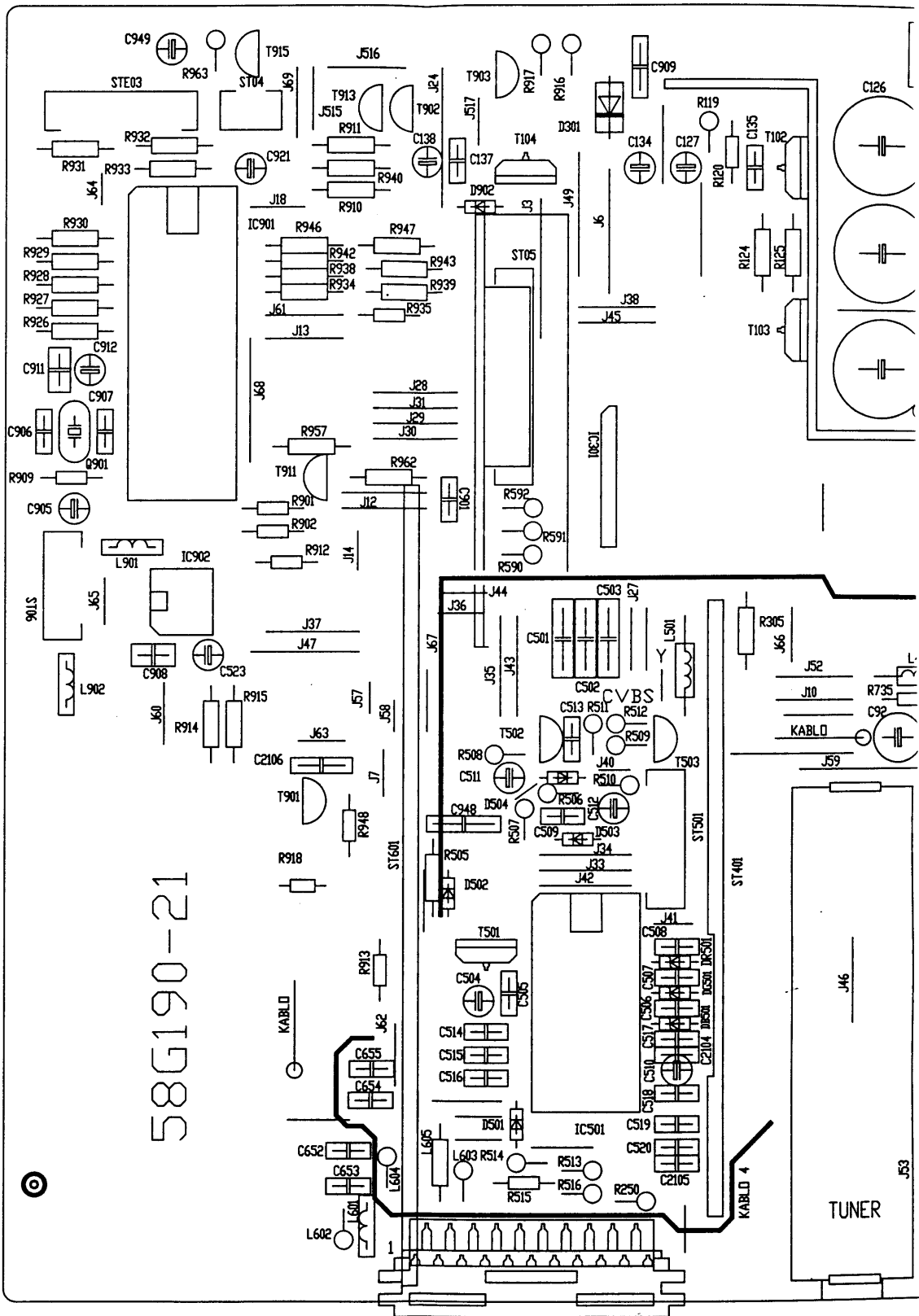


# SOUND CIRCUIT DEFECTS





# MAIN CHASSIS 110° STEREO



58G190-21

TUNER

KABLO

KABLO 4

KABLO

KABLO

KABLO

KABLO

KABLO

KABLO

KABLO

KABLO

KABLO

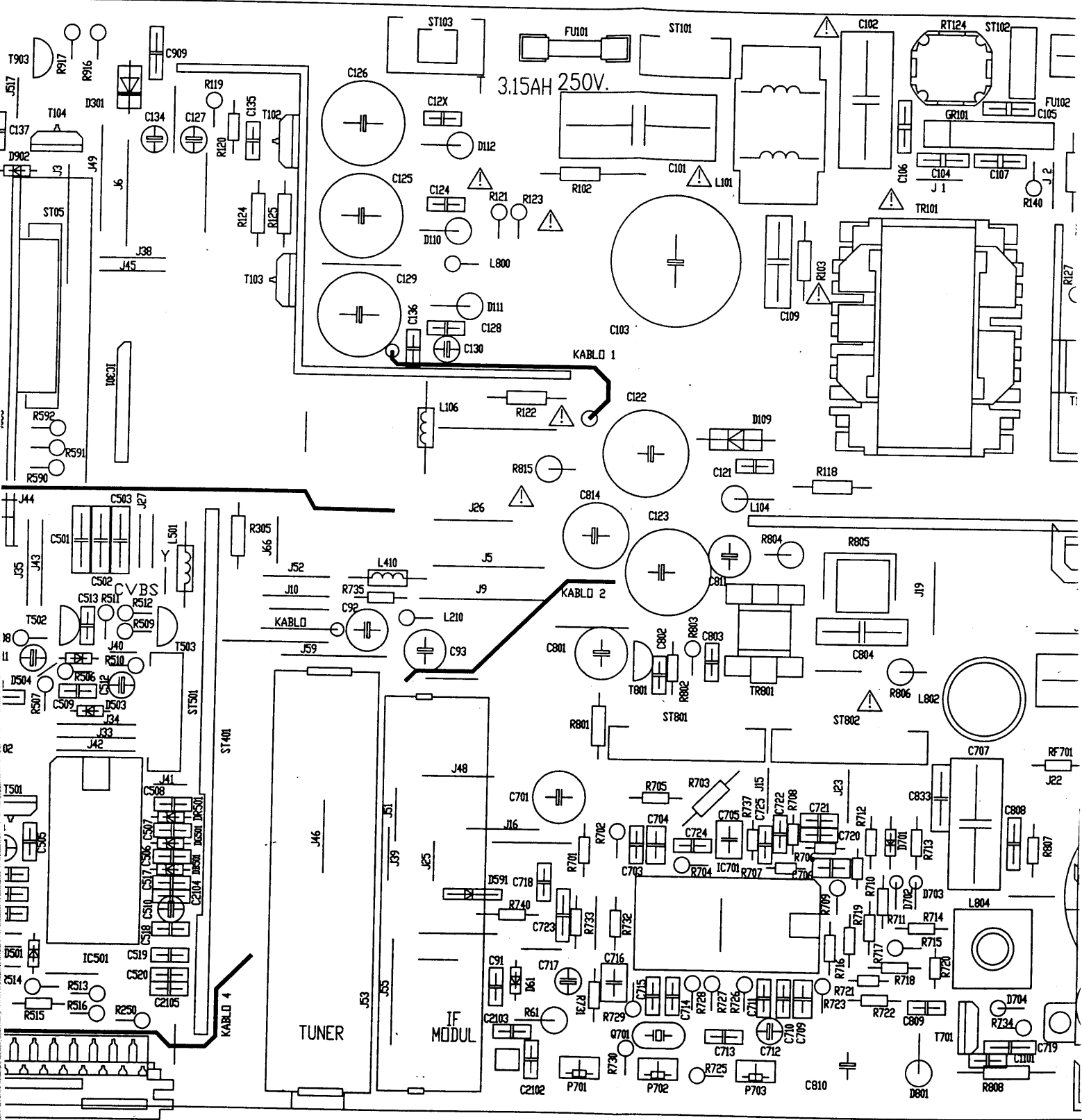
KABLO

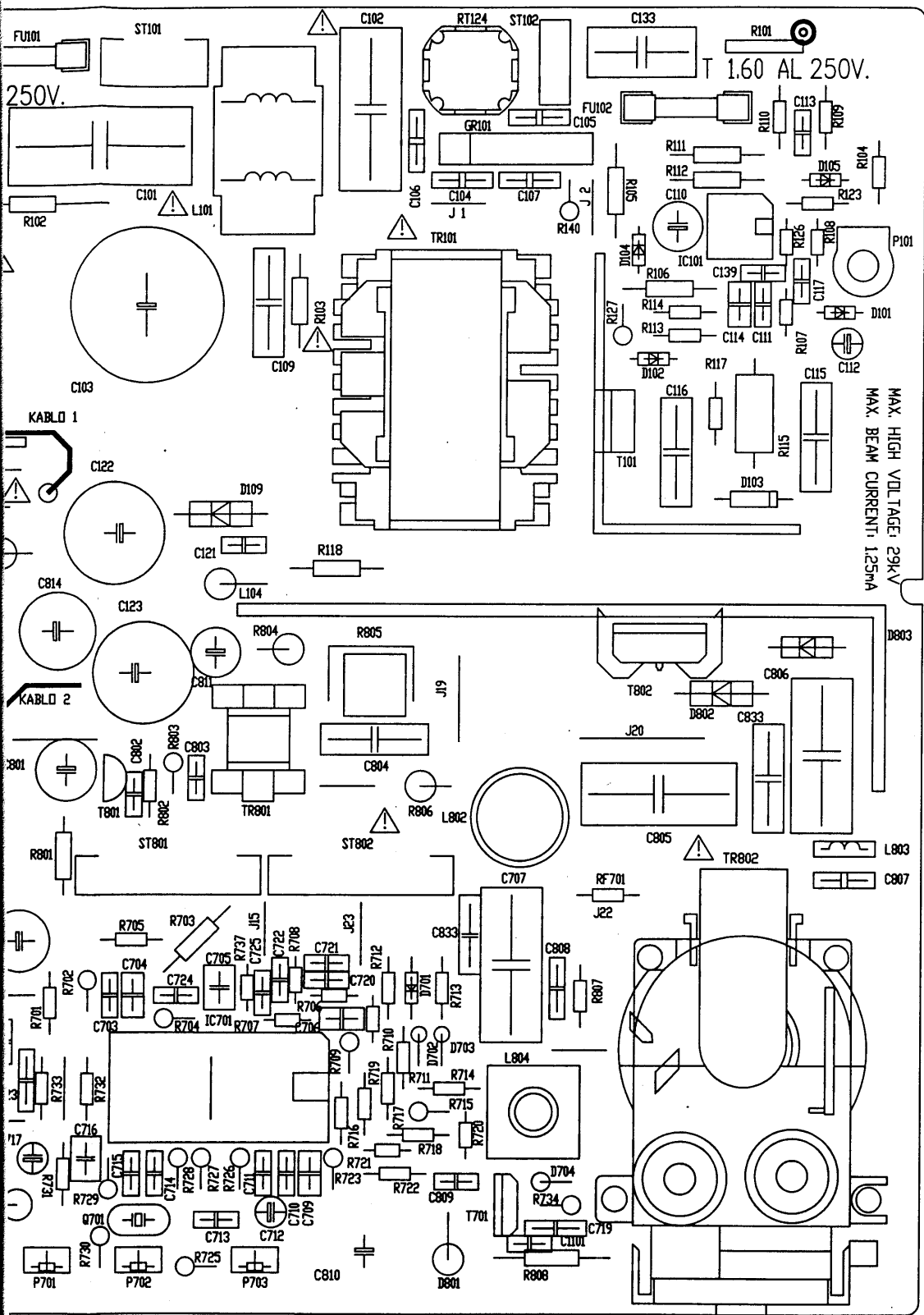
KABLO

KABLO

KABLO







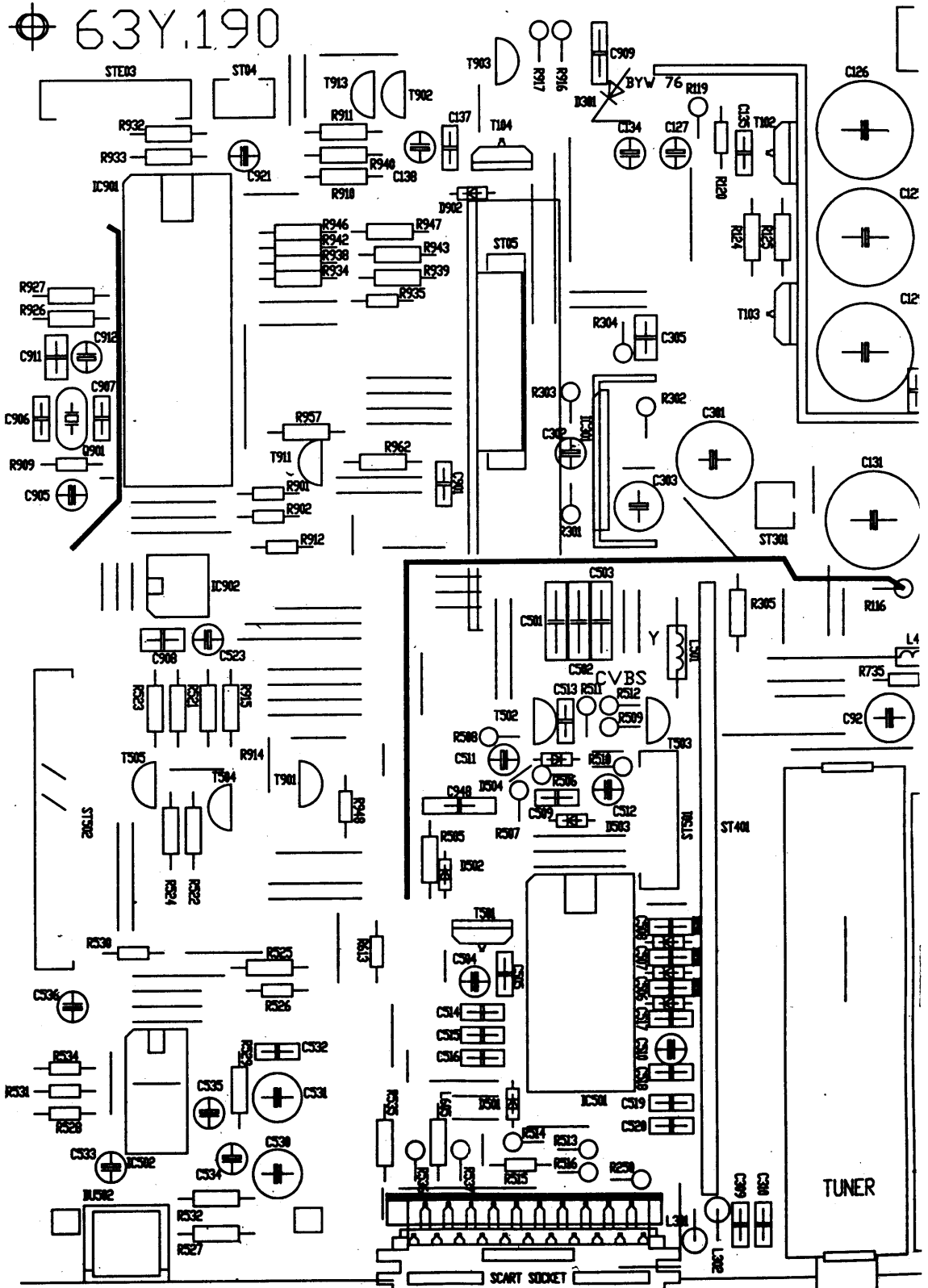
MAX. HIGH VOLTAGE! 29kV  
 MAX. BEAM CURRENT! 125mA

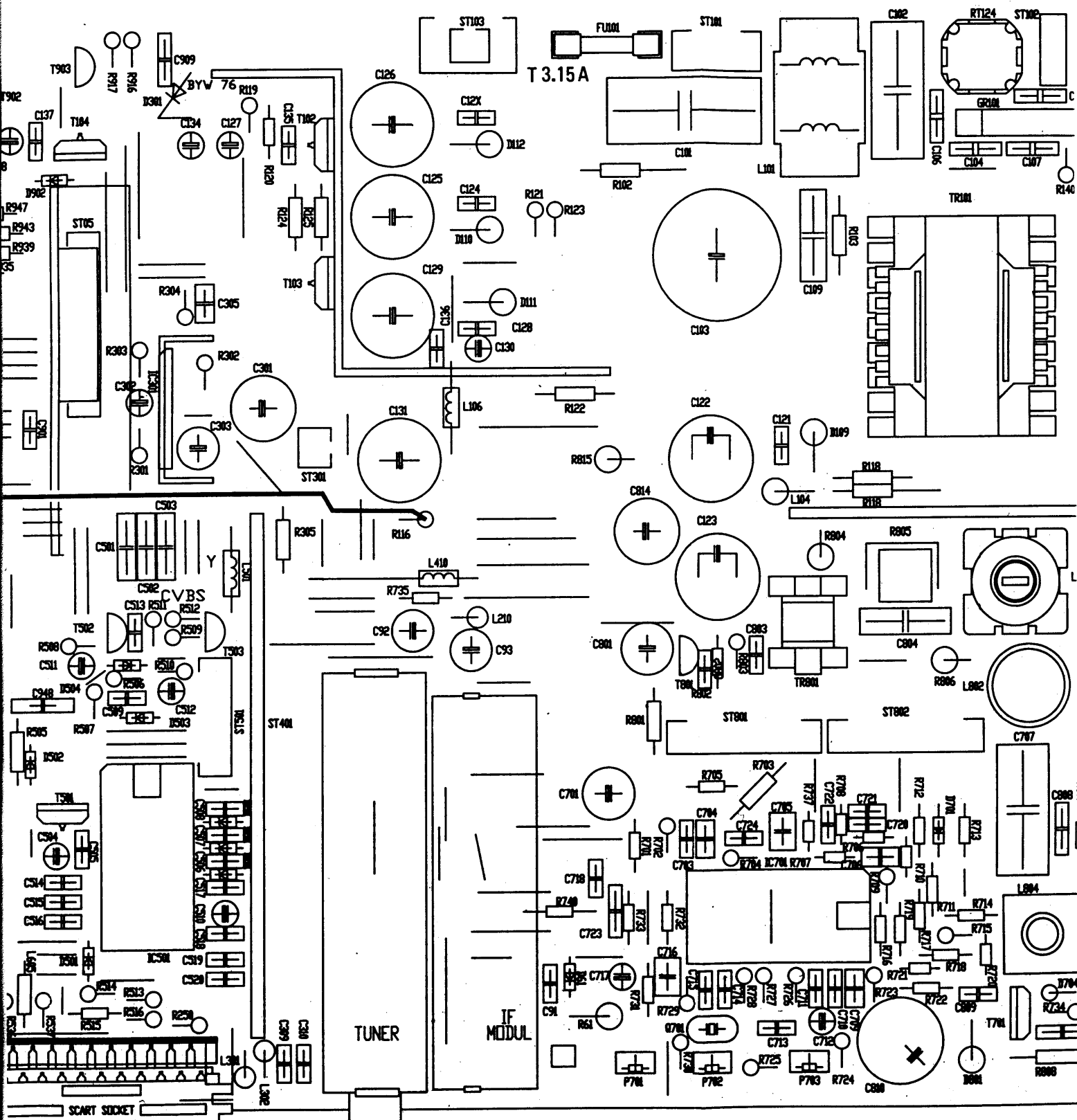
250V.

1.60 AL 250V.

# MAIN CHASSIS 90° MONO

Φ 63Y.190





CH10.0308

