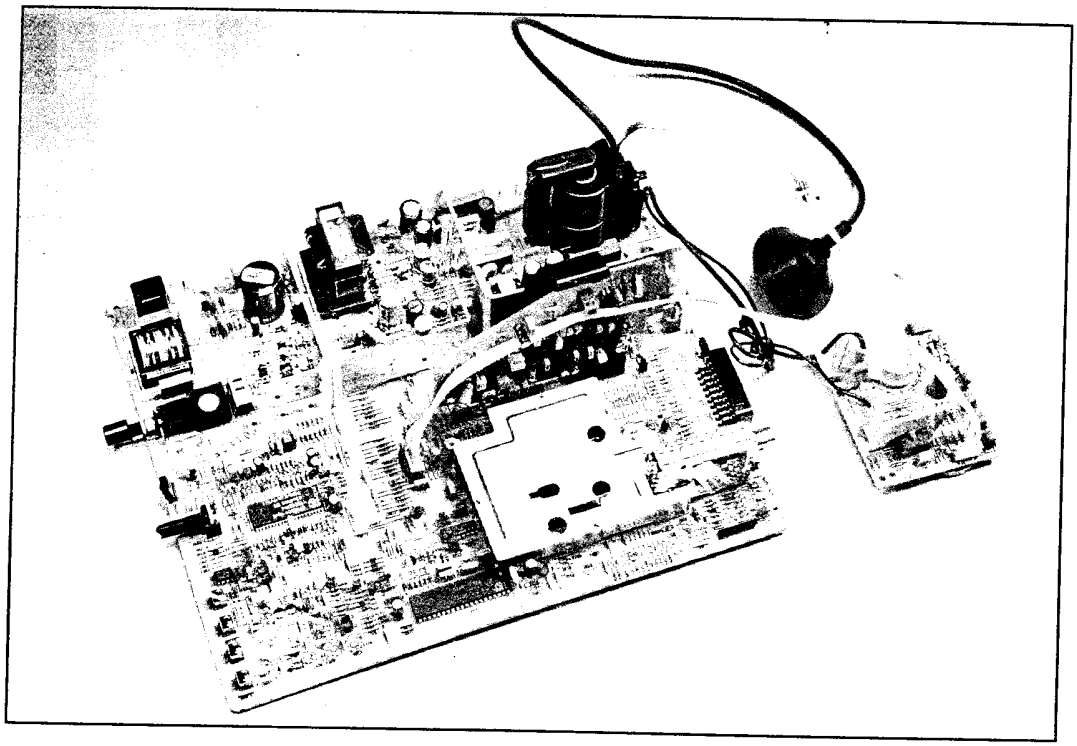
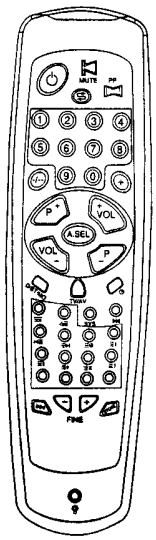
SERVICE MANUAL

PT-11 CHASSIS

For Service Manuals Contact
MAURITRON TECHNICAL SERVICES
8 Cherry Tree Rd, Chinnor
Oxon OX9 4QY
Tel:- 01844-351694 Fax:- 01844-352554
Email:- enquiries@mauritron.co.uk





CONTENTS

RECOMMENDATION FOR SERVICE REPAIRS

1- Use only original spare parts. Only use components with the same specifications for replacement.
2- Original fuse value only should be used.
3- Main leads and connecting leads should be checked for external damage before connection.
Check the insulation.
4- Parts contributing to the safety of the product must not be damaged or obviously unsuitable.
This is valid especially for insulators and insulating parts.
5- Thermally loaded solder pads are to be sucked off and re-soldered.
6- Ensure that the ventilation slots are not obstructed.
7- Potentials as high as 25 KV are present when this receiver is operating. Operation of the receiver outside the cabinet or with back cover removed involve a shock hazard from the receiver.
Servicing should not be attempted by anyone who is not thoroughly familiar with the precautions necessary when working on high voltage equipment.
Perfectly discharge the high potential of the picture tube before handling the tube. The picture tube is highly evacuated and if broken.
Glass frogments will be violently expelled.
Always discharge the picture tube anode to the receiver chassis to keep of the shock hazard before removing the anode cap.
8- Keep wire away from the high voltage or high temperature components.
9- When replacing a wattage resistor in circuit board, keep the resistor 10 mm away from circuit board.

HANDLING OF MOS CHIP COMPONENTS

MOS circuit requires special attention with regard to static charges. Static charges may occur with any highly insulating plastics and can be transferred to persons wearing clothes and shoes made of synthetic materials. Protective circuits on the inputs and outputs of mos circuits give protection to a limited extend only due to time of reaction.

Please observe the following instructions to protect the components against damage from static charges.
1- Keep mos components in conductive package until they are used. Most components must never be stored in styropor materials or plastic magazines.
2- Persons have to rid themselves of electrostatic charges by touching MOS components.
3- Hold the component by the body touching the terminals.
4- Use only grounded instruments for testing and processing purposes.
5- Remove or connect MOS ICs when operating voltage is disconnected.

X-RAY RADIATION PRECAUTION

1- Excessive high voltage can be produce potentially hazardous X-RAY radiation. To avoid such hazard, the high voltage must not be above the specified limit. The nominal value of the high voltage of this receiver is 25KV at zero beam current (minimum brightness) under 220V AC power source. The high voltage must not under any circumstance, exceed 30KV. It is recommended the reading of the high voltage be recorded as a part of the service record. It is important to use an accurate and reliable high voltage meter.
2- The primary source of X-RAY radiation in this TV receiver is the picture tube. For continued X-RAY radiation protection, the replacement tube must be exactly the same type tube as specified in the part list.

PT-11 CHASSIS ADJUSTMENT PROCEDURE

1- System Voltage (+B) Adjustment :

- Before switching on TV, all potentiometers should be adjusted at medium level. Then TV is switched on;
- Adjust all of the analog parameters to minimum with RC
- Adjust P1 trimpot until find +115 V on the cathode of D2 diode

2- AFT Adjustment:

- Place a balloon coil (300 Ohm dc resistance) parallel to L104
- Apply 80 dB uV 38.9 MHz (39.5 MHz for I) signal via balloon coil
- Connect a voltmeter to aft pin (pin 9) of IC301
- Adjust T101 coil until the voltage of this pin being 2.5 V dc

3- Adjustment of G2:

- Apply Philips Test pattern
- Adjust all of the analog parameters to minimum with RC
- Adjust G2 trimpot until seeing two bars on gray scale

4- Horizontal and Vertical Adjustment:

- Apply Philips Test pattern signal
- Center the picture horizontally while picture shifting to right and left with P101,
- Make vertical amplitude adjustment with P602 until seeing top and lower lines of picture will be seen
- Center the picture with P601

5- AGC Adjustment:

- Apply Philips Test Pattern whose amplitude is 60 dB uV to the rf input
- Adjust P102 until find a picture without snowy

6- Focus Adjustment:

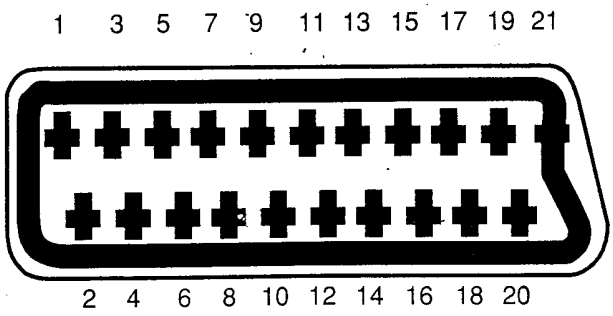
- Apply Cross-Hatch Pattern signal
- Find the optimum concentration point between H and V intersection in the middle of screen.

7- White Balance Adjustment :

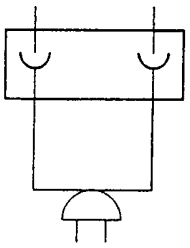
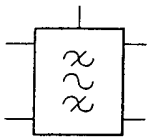
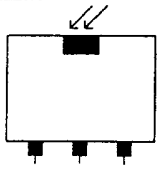
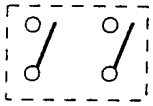
- Apply Philips Test Pattern signal
- Adjust all of the trimpots on CRT board to medium level
- Adjust color, contrast, brightness to minimum by RC
- Adjust G2
- Apply white pattern, settle in the probe of color analyzer to screen
- Increase brightness until geting Y=10 nits
- Adjust x=270 - 276 nits y=270 - 276 nits via "VR201, VR203, VR205"
- Increase brightness and contrast until Y=90 - 100 nits
- Adjust x, y to same values via "VR202 and VR204"
- Check white balance at high and low contrast level. Again make adjustment if it's necessary.

SPECIFICATIONS OF THE CONNECTOR (EURO SCART)

I- Audio output 1. right channel 0.5 VRMS/<I k 0
2- Audio input 1. right channel 0.5 VRMS (connected to No.6)
3- Audio output 2. left channel 0.5 VRMS (connected toNo.1)
4- GND (audio)
5- GND
6- Audio input 2. left channel 0.5 VRMS/>10k 0
7- RGB input, blue (B)
8- Switch signal video (status)
9- GND
10- Reserved for clock signals (not connected)
11- RGB input, green (G)
12- Reserved for remote control (not connected)
13- GND
14- GND switch signal RGB
15- RGB input, red (R)
16- Switch signal RGB
17- GND (video)
18- GND19- Video output 1 Vpp/75 ohm
20- Video input 1 Vpp/75 ohm
21- Shield



COMPONENT DESCRIPTIONS

	POWER CORD
	SAW FILTER
	IR SENSOR
	VOLTAGE REGULATOR
	ON/OFF SWITCH
	LINE FILTER
	PTC
	NPN TRANSISTOR
	PNP TRANSISTOR
	CERAMIC FILTER
	COIL
	LINEARITY COIL
	FUSIBLE RESISTOR
	IW METAL OXIDE RESISTOR
	1/2W METAL OXIDE RESISTOR
	1/4 OR 1/6W CARBON FILM RESISTOR
	CERAMIC CAPACITOR /POLYESTER CAPACITOR
	ELECTROLITIC CAPACITOR
	DIODE
	ZENER DIODE
	SWITCH JUMPER
	NET (INPUT)
	NET (OUTPUT)
	TACT SWITCH

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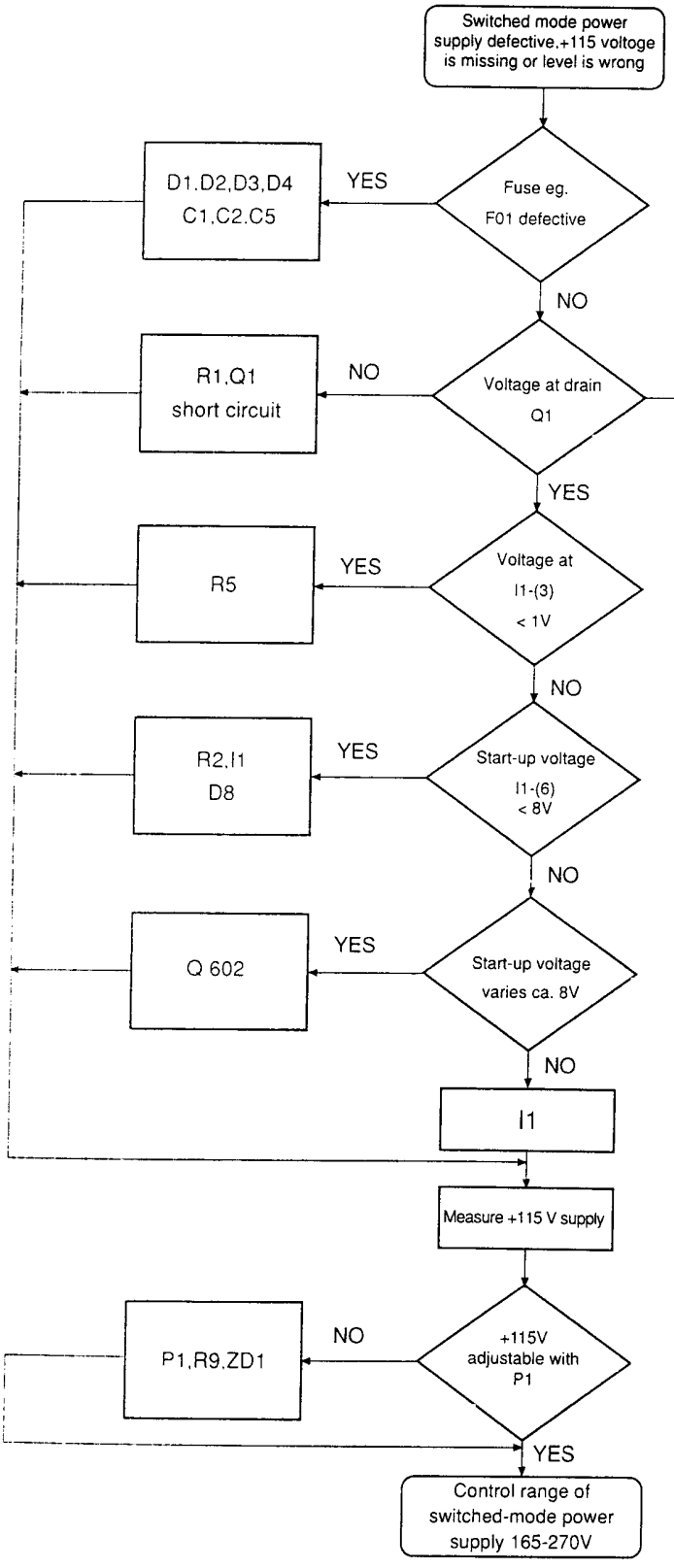
FAULT TRACING DIAGRAM-POWER SUPPLY



Important Service Note :
Before changing a component in the Primary Mains Stage it is imperative, that C5 is discharged by a resistor of approx. 100 Ohm.

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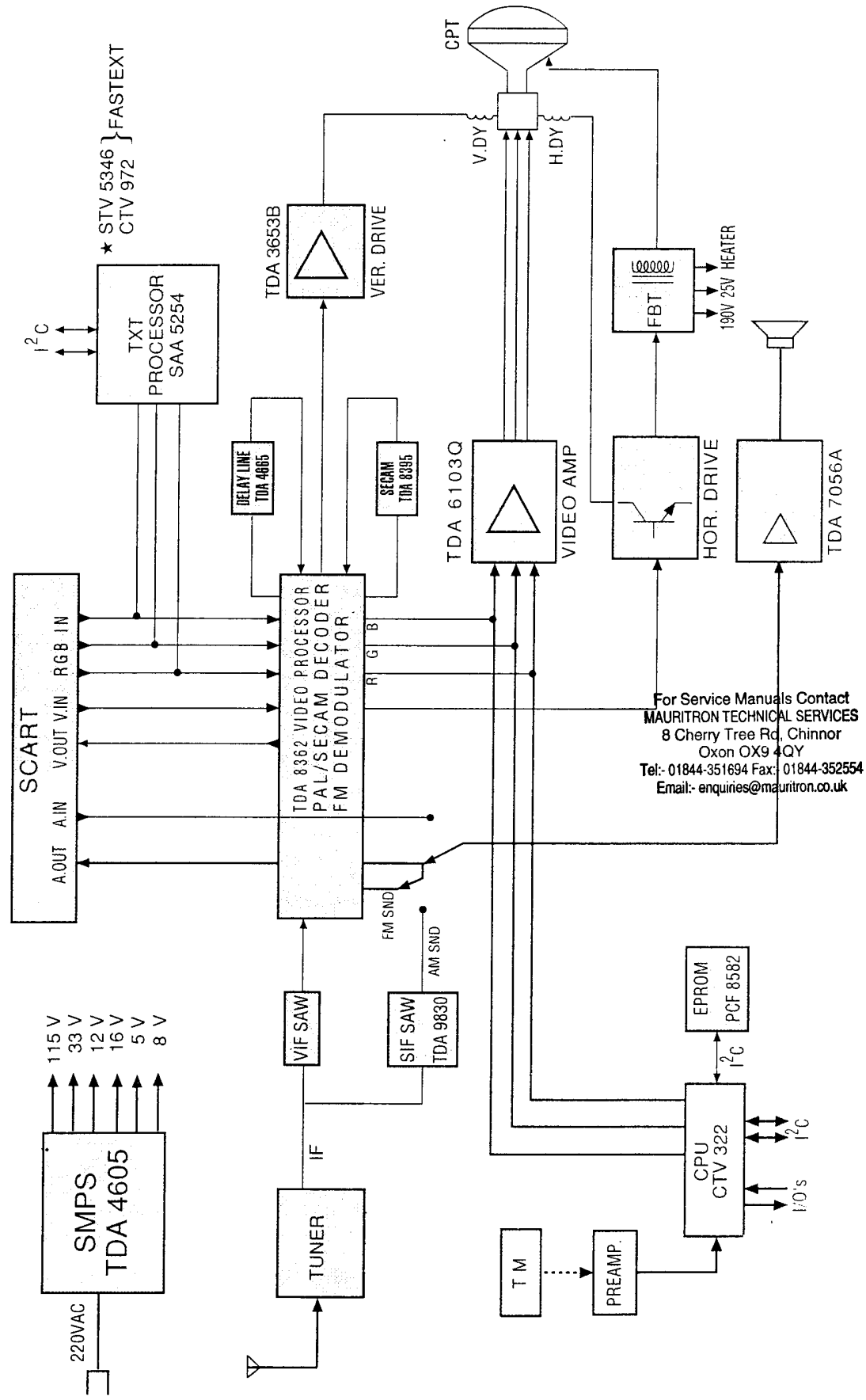
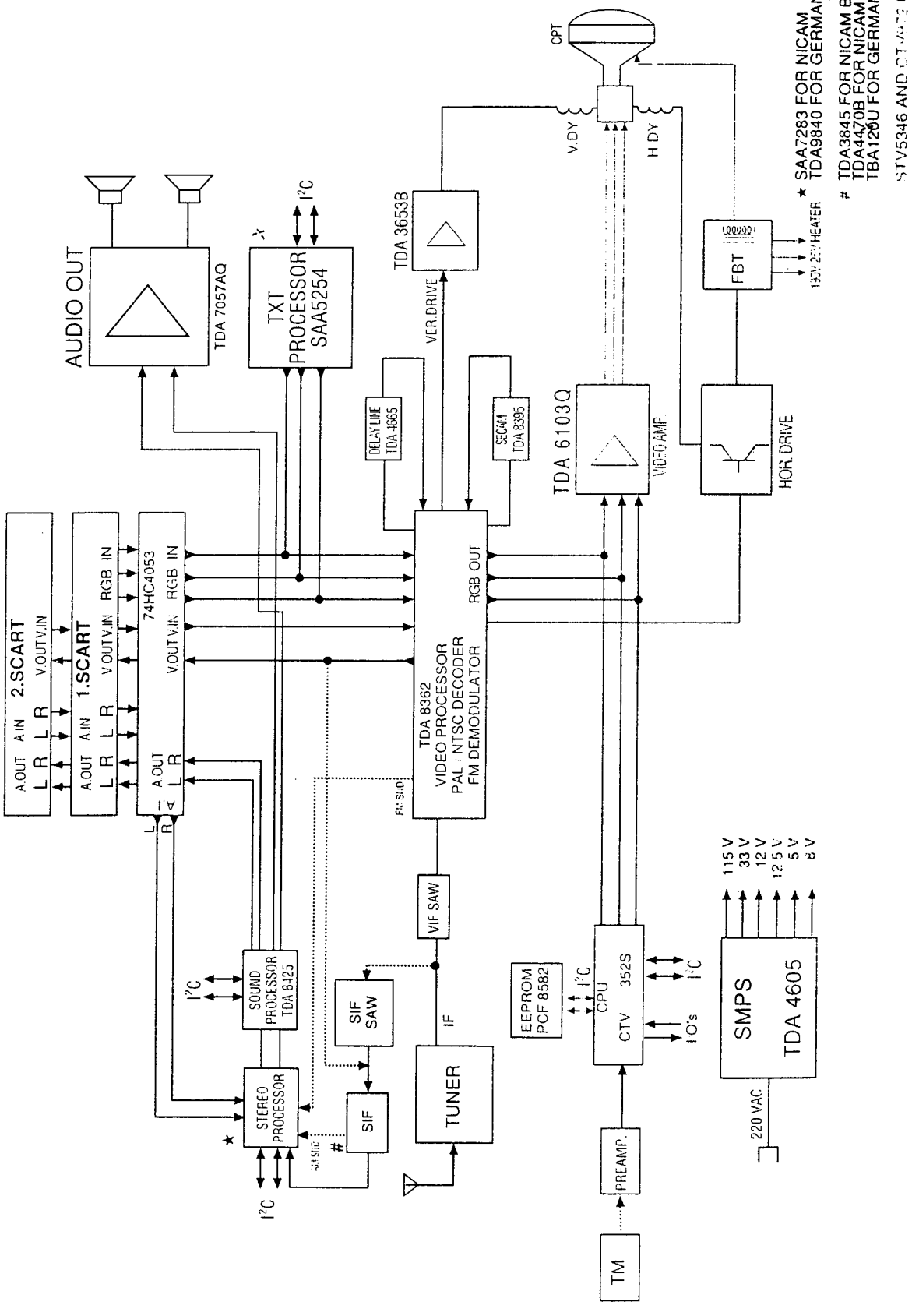
TROUBLESHOOTING GUIDE FOR MAIN PCB

TROUBLE	CHECK POINTS
No color	I101, T102, C127, I102, check pin 38-SSC
No vertical deflection	Check +K, I601, pin 42 I401, pin 43 I401
Vertical linearity	C 625, R 623
Vertical size	C 625, R 624
Vertical shift	R 626, P 601
Horizontal linearity	L 601, C 608
Horizontal size	+B, C 607, L 602
Flue picture	I101 pin 25, ABL, FOCUS, HEATER, EHT
Dark picture	I101 pin 17, SCREEN, EHT, +M
Noise picture	TU01, AGC, IF, FI101
Vert./horizontal synchrony	I401
Interference	TU01, IF, FI101
No sound	Check I101 pin 5 and pin 50, I401 pin 3, pin 5, +G
Low sound	I101 pin 5, pin 50, I401 pin 5, +G, R 403
Sound distortion	I401, +G, R 403
Contrast	I301 pin 5, I101 pin 25, ABL
Brightness	I301 pin 3, I101 pin 17
Color saturation	I301 pin 4, I101 pin 26
Tuning	I301 pin 1, Q 301, +D, TU01
Memory	I 302, I 301, SDA, SCL
Band select	I 301 pin 7/8, I 303, +K, TU01
No video-out on the SCART	Check TV-VID signals, Q 651
No video-in on the SCART	Check I301 pin 12, I101 pin 16 on AV mode, check the video signals on AV mode SCART pin 20 and I101 pin 15
No sound out on the SCART	I101 pin 1, Q 653 , Q654
No sound in on the SCART	Check the audio signals on SCART pin 2/6 and I101 pin 6
No remote control reception	Check signals on pin 3 IR01and I301 pin 35

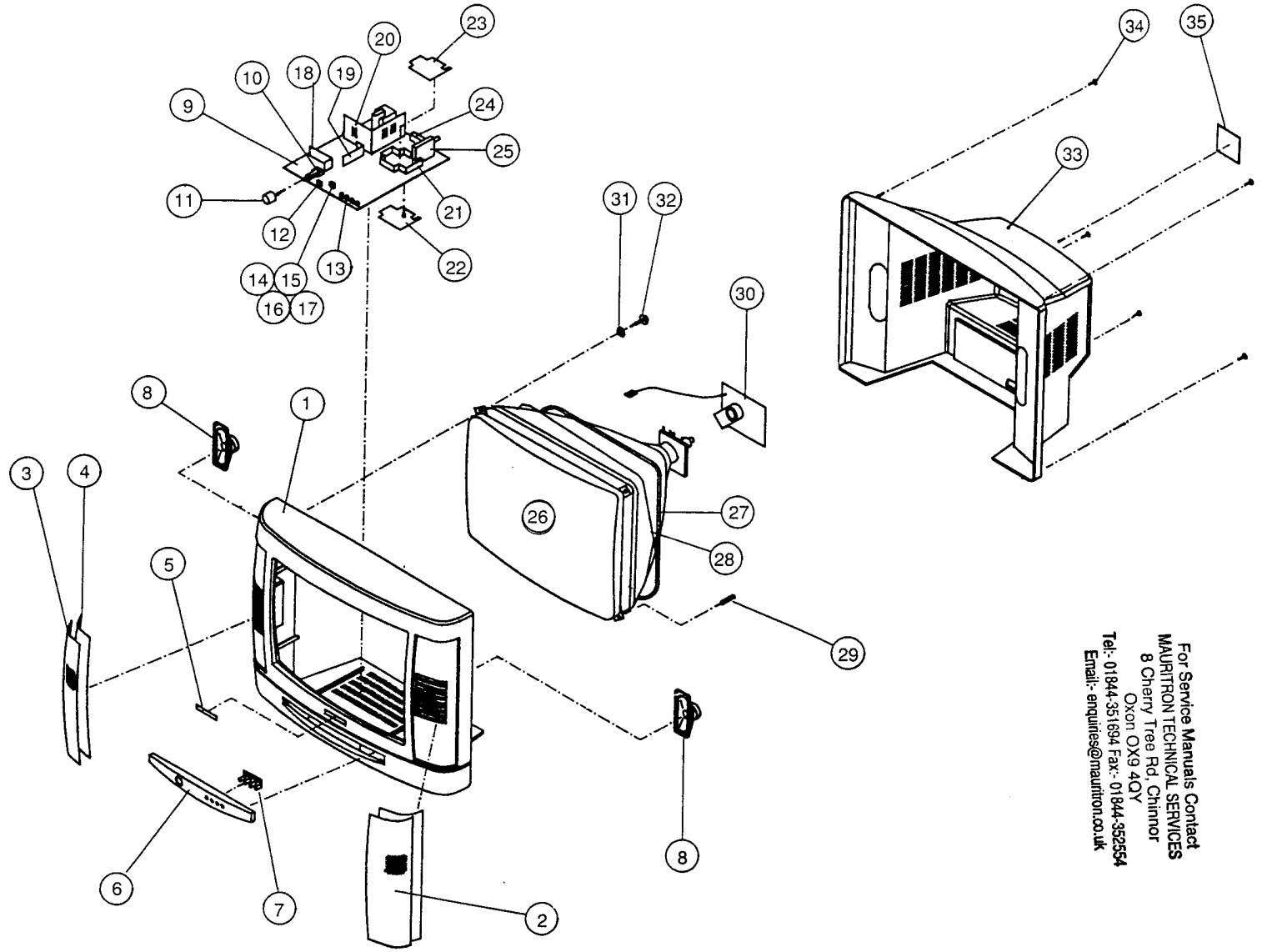
PT-11 CHASSIS BLOCK DIAGRAM (MONO)



PT CHASSIS BLOCK DIAGRAM (STEREO)



EXPLODED VIEW



01) Front Cabinet
02) Spk. Grill (Right)
03) Spk. Grill (Left)
04) Felt
05) Logo
06) Acrylic Window
07) Multiple Button
08) Speaker,
09) Main Board
10) Power Switch
11) ON/OFF Button
12) Preamplifier
13) Tact Switch
14) Led PCB Holder,
15) Led PCB
16) Led Holder
17) Led
18) Heatsink Blk. PT2
19) Heatsink Blk. PT3
20) Heatsink Blk. PTI
21) IF Shield
22) IF Bottom Cover
23) IF Top Cover
24) Scart Socket
25) Tuner
26) Picture Tube
27) Degaussing Coil
28) Mass Wire
29) Spring
30) CRT PCB Bik.
31) Washer
32) CRT Screw 5x3O
33) Back Cover
34) Screw 3.9xl9
35) Back Cover Label

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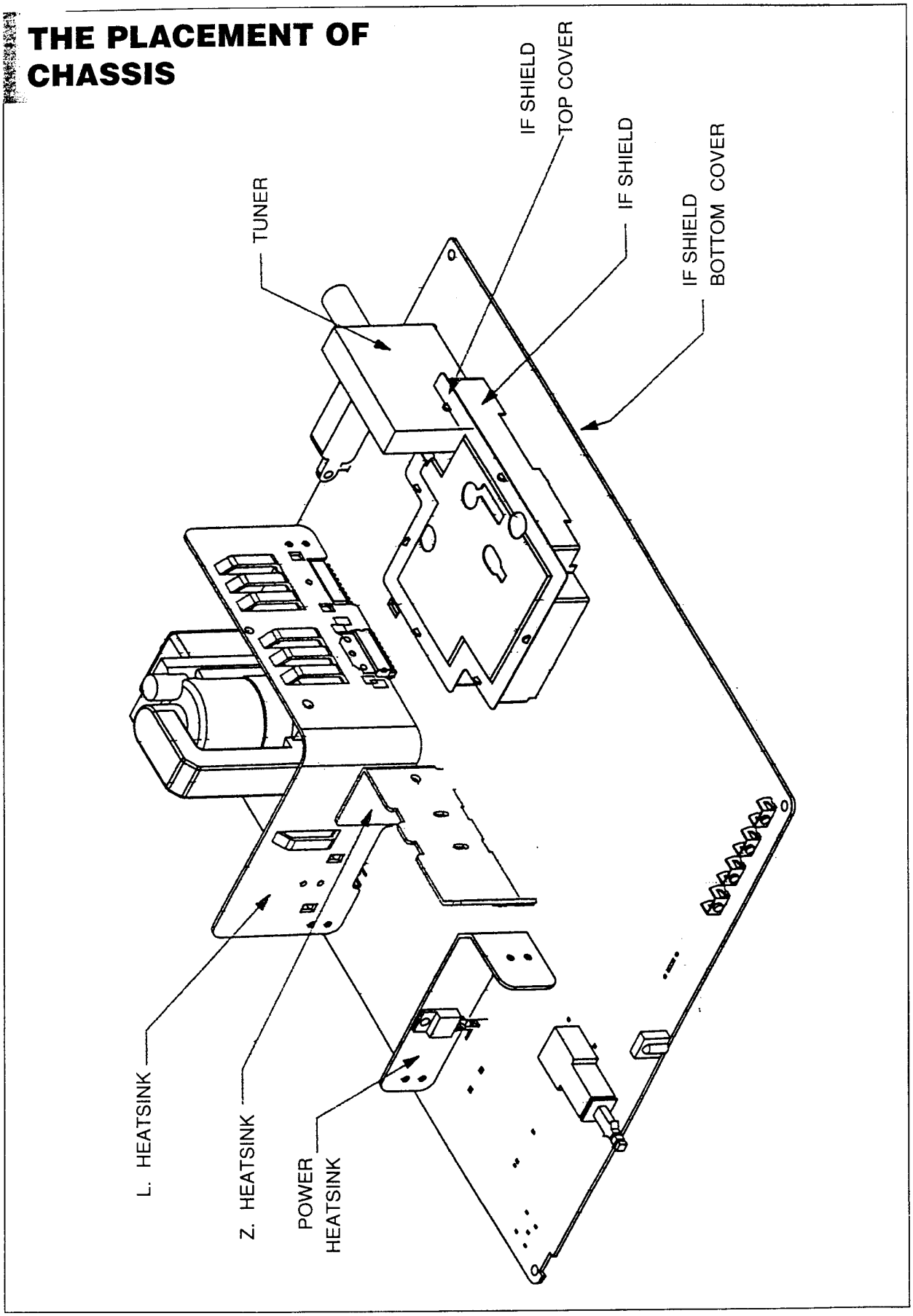
THE PLACEMENT OF CHASSIS



DESCRIPTONS OF THE PARTS

1- SWITCH MODE POWER SUPPLY STAGE

In order to supply the DC voltage required at various parts of the chassis, a SMPS transformer controlled by the IC TDA 4605 and switching transistor 3N90 is used. CI, EM1, C2 filter circuit prevents the network noises and the effects of high frequency which produced in TV set. After rectifying DC voltage is filtered by using C5. The stat up voltage of TDA4605 is obtained from R2 at the same time a square wave ii produced from pin 5 of IC TDA4605. This square wave reaches QI passing through R8. After that Q1 form and induction on TR1. which produces a voltage on pin 6. This voltage rectified by D6 is used as a supply voltage of IC 1. IC 1 does not operates SMPS by stopping pulses at pin 5, when the network is higher or lower than fixed limits. Pin 2 is control pin of overload. This stage produces 115V for FBT, 12V for audio part, 33 V for tuning circuit 5V, 12V (tuner and some ICs) and 8V (for TDA8362) are produce by the means of the regulators LM7805. LM317 and LM7808. This circuit operates between 165 VAC and 250VAC (5OHz).

2- MICROCONTROLLER STAGE

Below items are controlled or generated by means of these controllers.

- CTV 322S V2.0 (for mono models) and CTV 352S V1.4 (for stereo models) are used as controller on PT chassis.
- Voltage synthesis tuning
- On screen display
- Control of two transmission standard
- Controls of the simple text or fastext decoder
- Full peri-TV (scart) switching and double scart switching on stereo models,
- Controls of stereo decoder TDA 9840 as German Stereo Decoder
- SAA 7283 as Nicam decoder
- Sound processing (Bass, treble, balance)
- Controls of the analog values of the picture (Brightness, Color, Contrast)

3- ANALOG OPERATION PART WITH TDA 8362

TDA8362 is a single-chip TV processor which contains nearly all small signal functions that are required for color television receiver. Fora complete receiver the following circuits need to be added a base-band delay line (TDA4665) a tuner and output stages for audio, video and horizontal and vertical deflection. TDA8362 can handle signals with positive modulation and it supplies the signals which are required for secam decoder TDA8395.

VIDEO IF AMPLIFIER

The IF amplifier contains 3 AC-coupled control stages with a total gain control range of greater than 60 dB.The reference carrier for the video demodulator is obtained by means of passive regeneration of the picture carrier. The external reference tuned circuit is the only remaining adjustment of the IC.

In the TDA8362 the polarity of the demodulator can be switched so that the circuit is suitable for both positive and negative modulated signals. The AFC circuit is driven with the same reference signal as the video demodulator. To ensure that the video content does not disturb the AFC operation a sample and hold circuit incorporated: the capacitor for this function is internal. the AFC output voltages 6V. The AGC detector operates on levels, top sync for negative modulated and top white for positive modulated signals . The AGC detector time constant capacitor is connected externally.

SOUND IF CIRCUIT

On mono models;

The sound bandpass and trap filters have to be connected externally. The filtered intercarrier signal is fed to a limiter circuit and is demodulated by means of PLL demodulator. The PLL circuit tunes itself automatically to the incoming signal, consequently, no adjustment is required.

The volume is DC controlled. The composite audio output signal has an amplitude of 700 mV RMS at a volume control setting of -6 dB. The de-emphasis capacitor has to be connected externally. The non-controlled audio signal can be obtained from pin 1 via a buffer stage. The amplitude of this signal is 350 mV RMS.

The TDA8362 external audio input signal must have an amplitude of 350 mV RMS. The audio/video switch is controlled via the chrominance input pin.

On stereo models;

On stereo models, the adjustable sound output pin (pin50) is used for mono sound. An external sound IF circuit TDA3845 is used for NICAM B/G, I stereo systems. For NICAM L stereo system, TDA4470B Sound IF IC is used so that obtain AM sound and NICAM I sound carrier. On German Stereo system, TBA120U is used as FM demodulator for second sound carrier.

SYNCHRONIZATION CIRCUIT

The sync separator is preceded by a voltage controlled amplifier which adjusts the sync pulse amplitude to a fix level. The sync pulses are then fed to the slicing stage (separator) which operates at 50 % of the amplitude.

The separated sync pulses are fed to the first phase detector and to the coincidence detector. The coincidence detector is used for transmitter identification and to detect whether the line oscillator is synchronized. When the circuit is not synchronized, the voltage on the peaking control pin (pin 14) is LOW so that this condition can be detected externally

The IC TDA8362 contains a start up circuit for the horizontal oscillator. When this feature is required a current of 6.5 mA has to be supplied to pin 36.

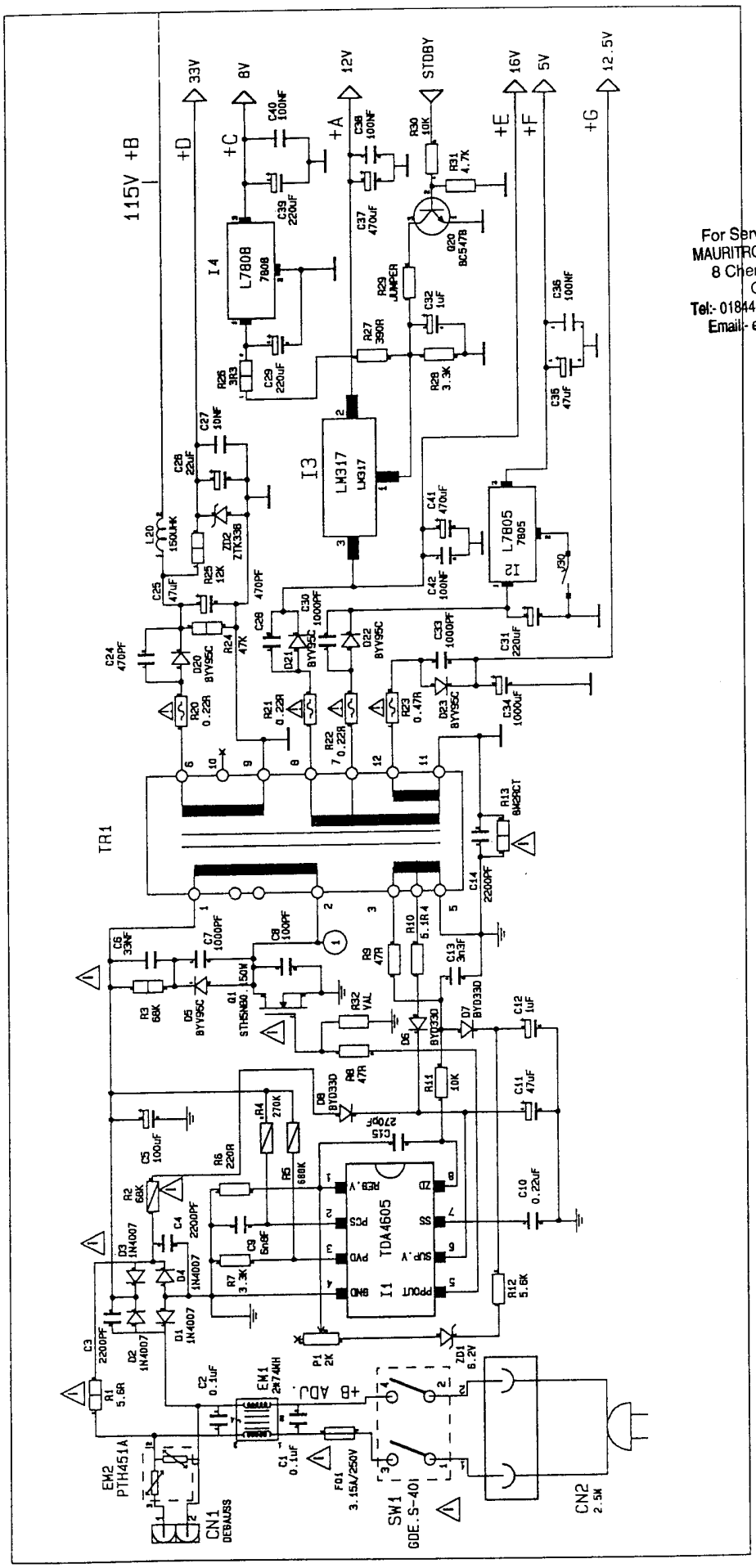
COLOR DECODING

TDA8362 contains PAL and NTSC decoder (TDA8361 contains only PAL decoder) but it can cooperate with the secam add-on secam decoder TDA8395. The communication between two IC's is achieved via pin 32. The TDA8362 supplies the reference signal (4.43 MHz) for the calibration system of the TDA8395, identification of the color standard is via the same connection. When a SECAM signal is detected by the TDA8395 the IC will draw a current of 150 uA. When TDA8362 has not identified a color signal in this condition it will go into the SECAM mode, that means it will switch of the

R-Y and B-Y outputs and increase voltage level on pin 32.

4- VERTICAL DEFLECTION CIRCUIT WITH TDA3653B

The TDA3653B is vertical deflection circuit for drive of various deflection systems with currents up to 1.5 A peak to peak. Pin 5 is the output pin. the supply for the output stage is fed to pin 6 and the output stage ground is connected to pin 4. Pin 1 is the input for the driver of the output stage . The signal at pin 1 is also applied via external resistors to pin 3 which is the input of the switching circuit. When the flyback starts, this switching circuit rapidly turns off the lower output stage and so limits the turn-off dissipation. It should be noted that the lowest voltage at pin 8 is > 2.5 V, during normal operation.



SMPS STAGE CIRCUIT DIAGRAM

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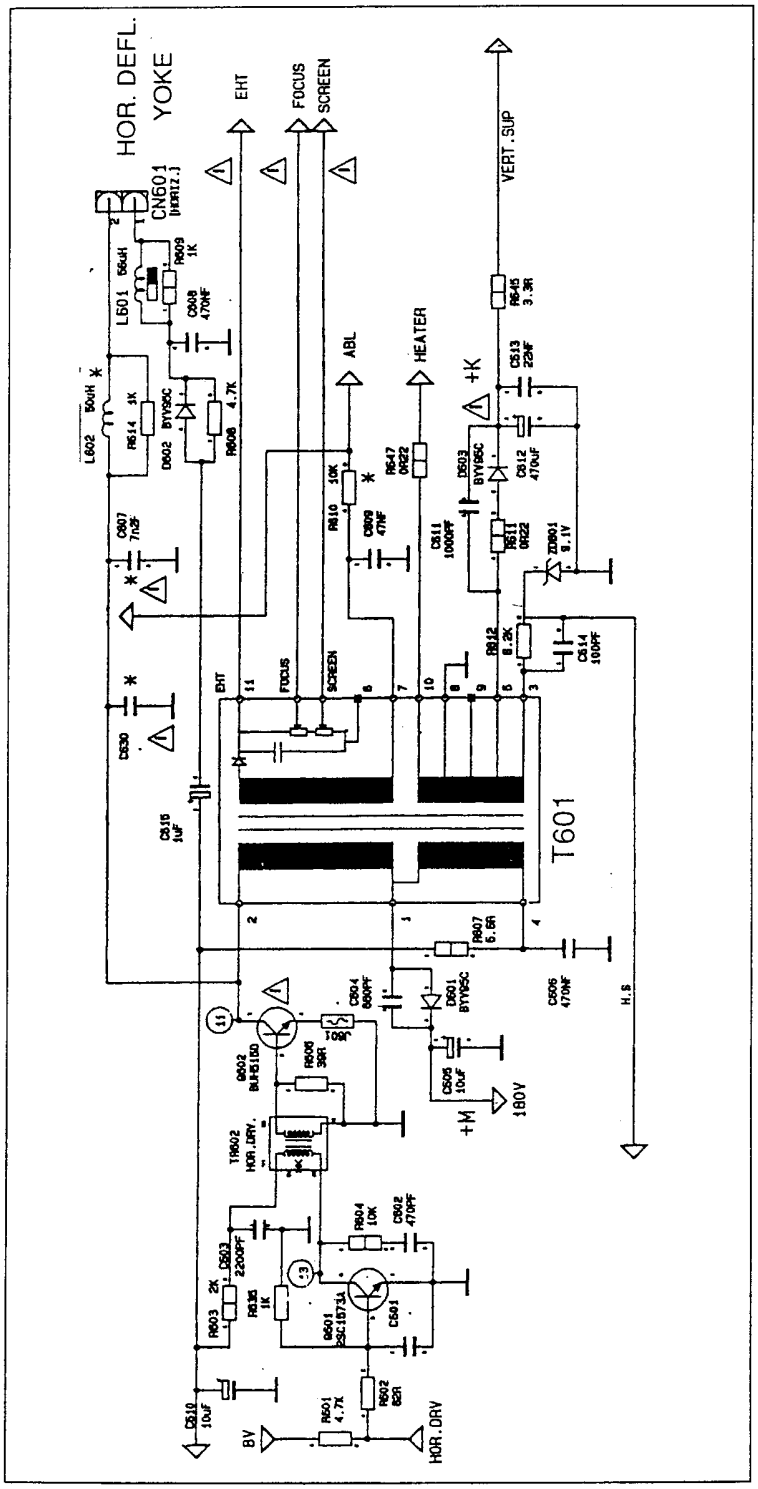
5- HORIZONTAL DRIVE CIRCUIT

The horizontal drive pulses obtained from pin 37 of the TDA8362 are connected to base of Q601(2SC1573) via R602 . Q601 drives Q602 (BUH515D) via the drive transformer TR602. TR601 is the EHT transformer. + B (115 V) is switched by Q602 and TR601 generates both "EHT, FOCUS, G2 voltages required for CPT" and "170 V, Heater voltage and 26 V vertical supply voltage". The anode beam current information from pin 7 of TR601 is used for reducing contrast at too high beam currents, in order to stabilize the voltages derived from power supply.



HORIZONTAL DRIVE PART CIRCUIT DIAGRAM

6- SOUND OUTPUT STAGE

On mono models, TDA7056A is used as sound output amplifier with DC volume control. Pin 50 of the TDA8362 is AC coupled to the input pin 3 of the TDA7056A via a RC filter. It is supplied by + 12V coming from a separate winding in the SMPS transformer.

On stereo models, TDA7057AQ is used as sound amplifier. The sound level is controlled by sound processor TDA8425 via I^2C bus on stereo boards. The outputs of TDA8425 (pin 9 and pin 13) is connected to TDA7057AQ via a divider circuit and two capacitors.

7- TELETEXT STAGE

The teletext stage consists of I SAA5254. On this stage, it should be paid attention that there is video signal on pin 8 of I SAA5254 after a RCL filter, on condition that existence of the other requirements such as +5V, periferical components.

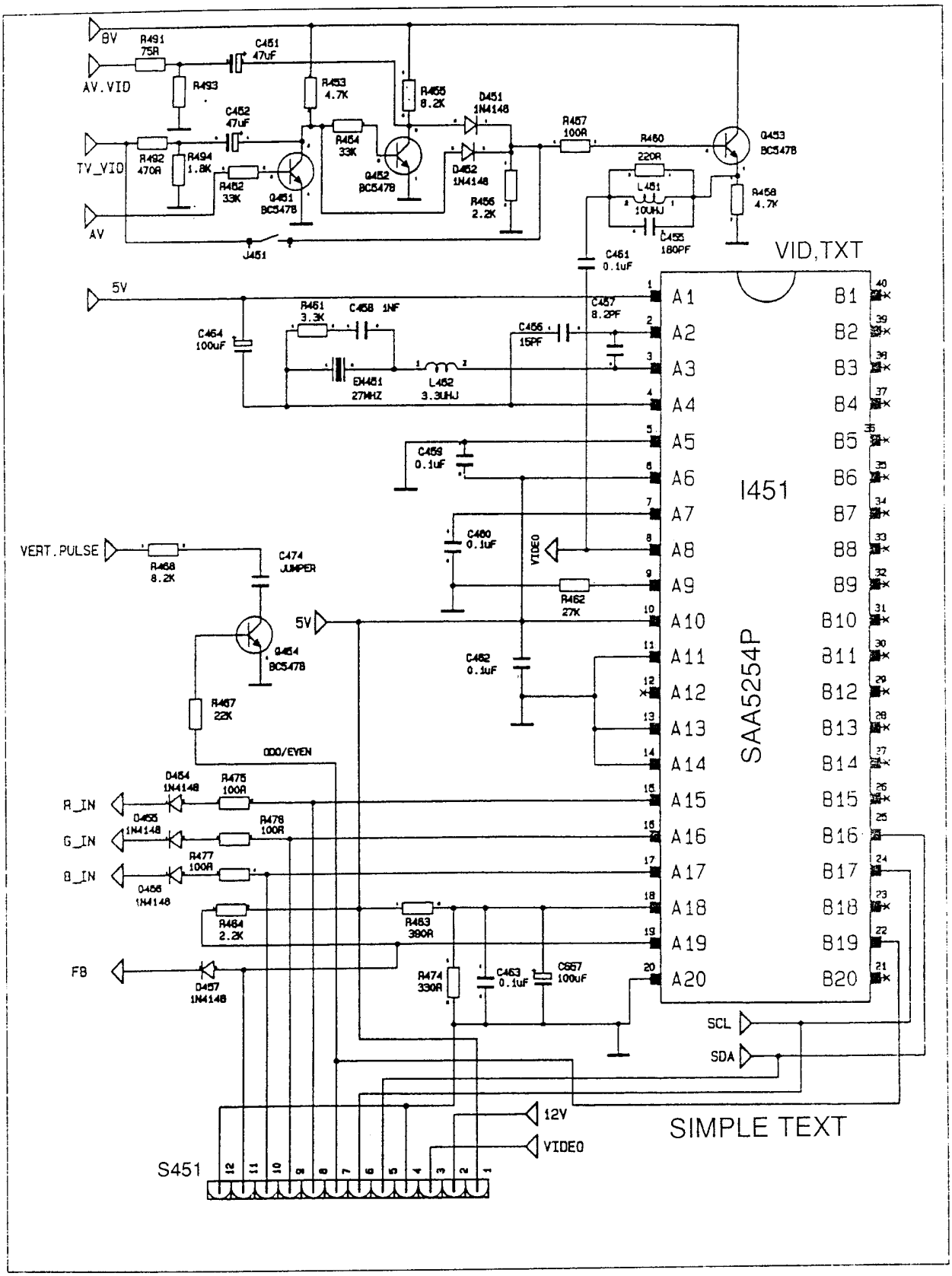
Basically, fastext stage consists two I's, STV5346 Teletext decoder and CTV 974 fastext controller with I^2C bus interface. For List Mode a 2K EEPROM (PCF8582) can be added.

8- CRT STAGE

The TDA6103Q is used on CRT stage as video output amplifier. The TDA6103Q consists of three monolithic video output amplifiers. Each amplifier can be seen as an operational amplifier with negative feedback. The advantage of negative feedback is that the amplifier characteristics do not play an important role up to certain frequencies.

The device needs only one power supply voltage (+M). In contrast to previous types of DMOS video amplifiers, the TDA 6103Q does not need a second supply voltage (12V.), so it saves one wire from motherboard to CRT stage.

As the TDA 8362 has no white point adjustment and no black current set-up, two adjustments are required for gain and three adjustments for black setting.



SIMPLE TEXT PART CIRCUIT DIAGRAM

THE DETAILS OF THE BOARDS

Mother Board Contains

- TDA 8362 multistandard TV processor
- CTV 322 / CTV 352 S micro controller with OSD
- TDA 4605 Switch Mode Power Supply Controller
- TDA 4665 Baseband Delay Line
- TDA 8395 Secam Decoder
- TDA 7056A Audio Output Amplifier (for mono)
  TDA 7057AQ Audio Output Amplifier (for stereo)
- PCF 8582 2K EEPROM
- TDA 3653B Vertical Driver
- SAA 5254 Simple Text Processor
- TDA 9830 AM Demodulator
- LM 317 Voltage Regulator
  LM 7805 Voltage Regulator
  LM 7808 Voltage Regulator
- Tuner
- Infrared Receiver
- Horizontal Deflection Part
- Degaussing Circuit
- 4 push buttons (p+, p-, v+, v-)
- Stand By Led
- Main Switch
- Scart Jack
- Extension Connectors

CRT Board

- TDA 6103Q Video Output Amplifier

Extension Boards

Nicam L Board

- SAA 7283 QPSK Demodulator, Nicam Decoder
- TDA 4470 B SIF and AM Demodulator
- TDA 8425 Sound Processor

Nicam BG, I Board

- SAA 7283 QPSK Demodulator , Nicam Decoder
- TDA 3845 SIF
- TDA 8425 Sound Processor

German Stereo Board

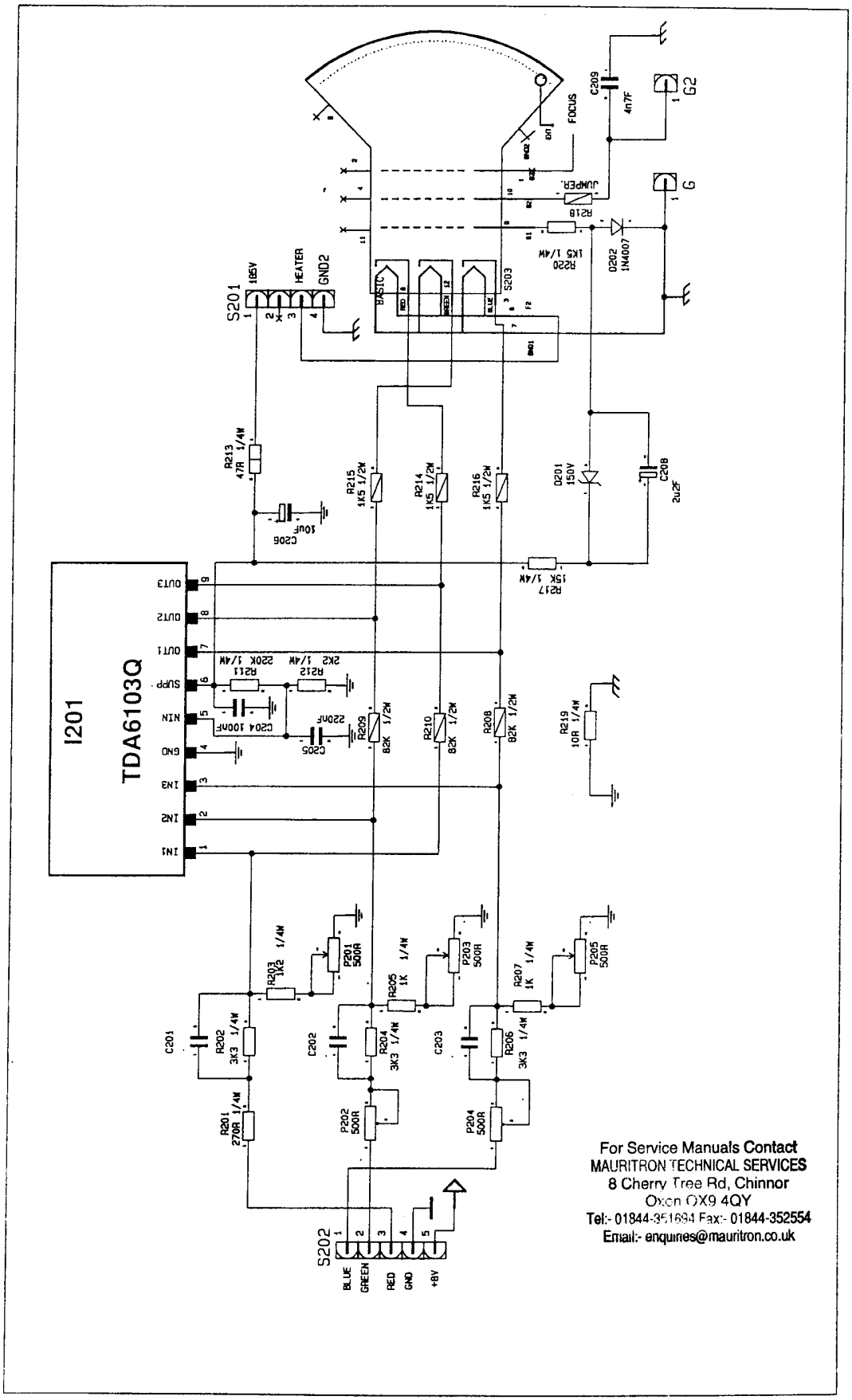
- TDA 9840 Stereo Processor
- TBA 120U SIF
- TDA 8425 Sound Processor

Fastext Board

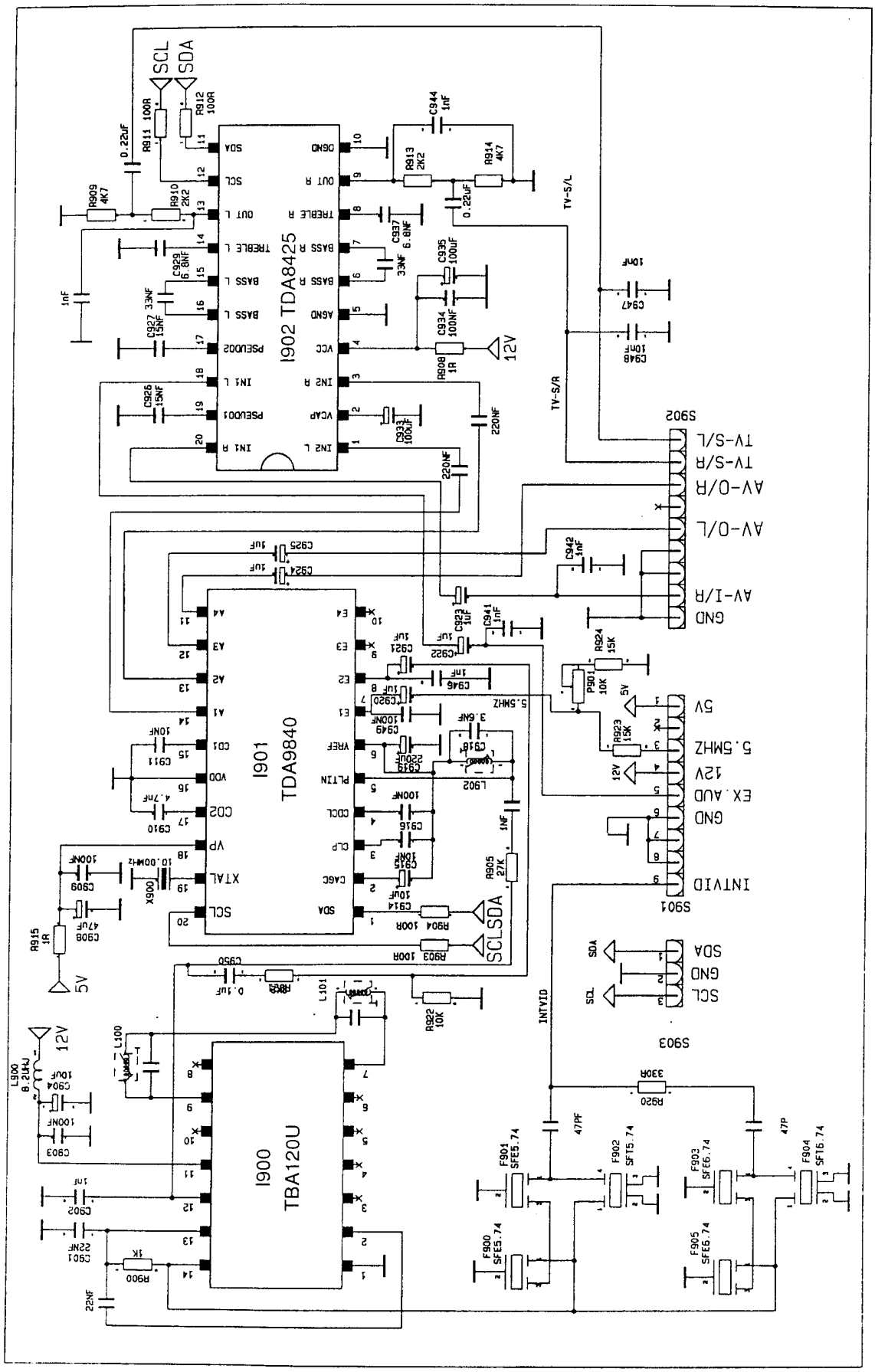
- STV5346 Teletext Processor
- CTV972 Fastext Processor
- PCF8582 2K EEPROM

Double Scart Board

- 74HC4053 DEMUX

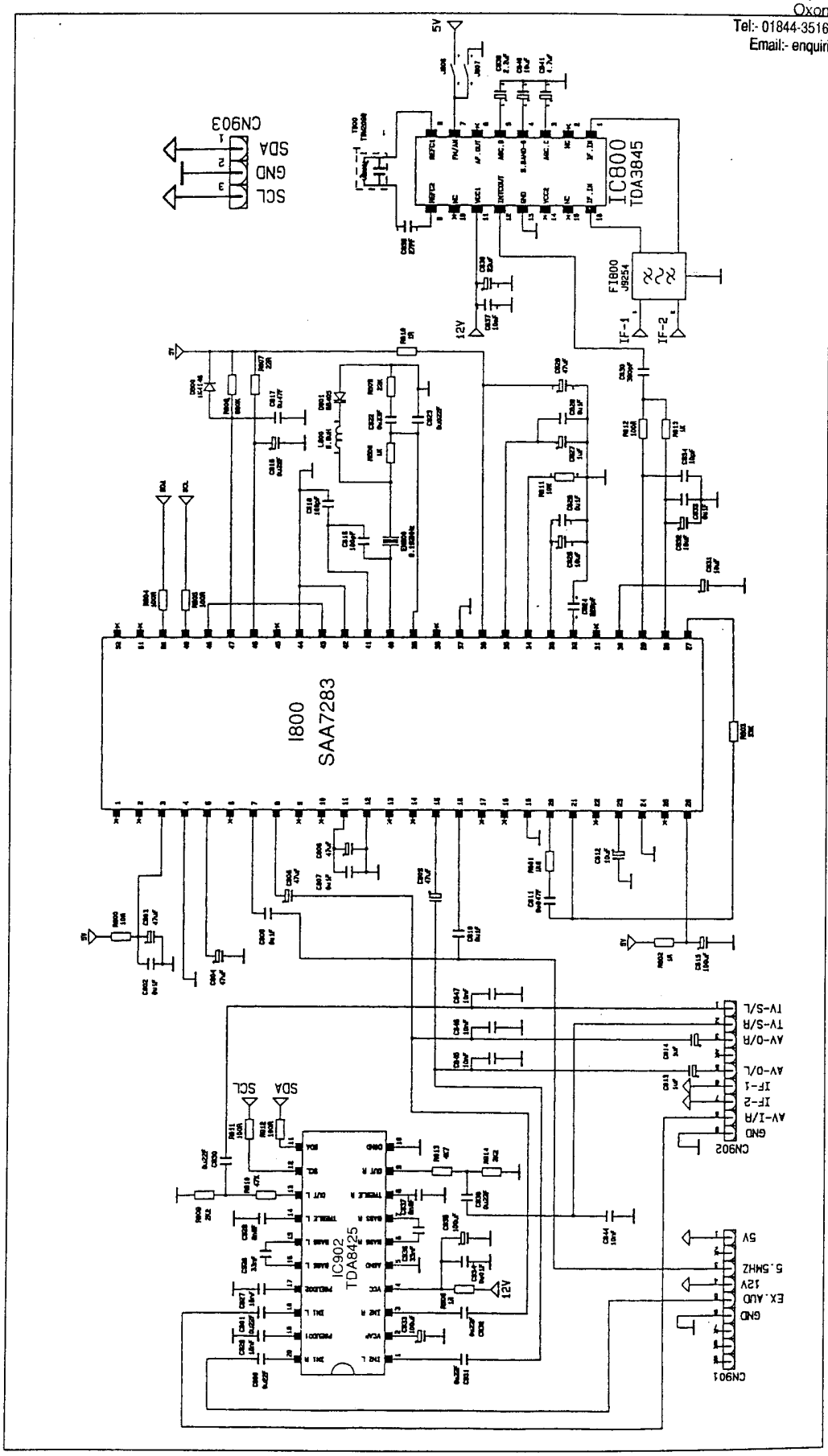


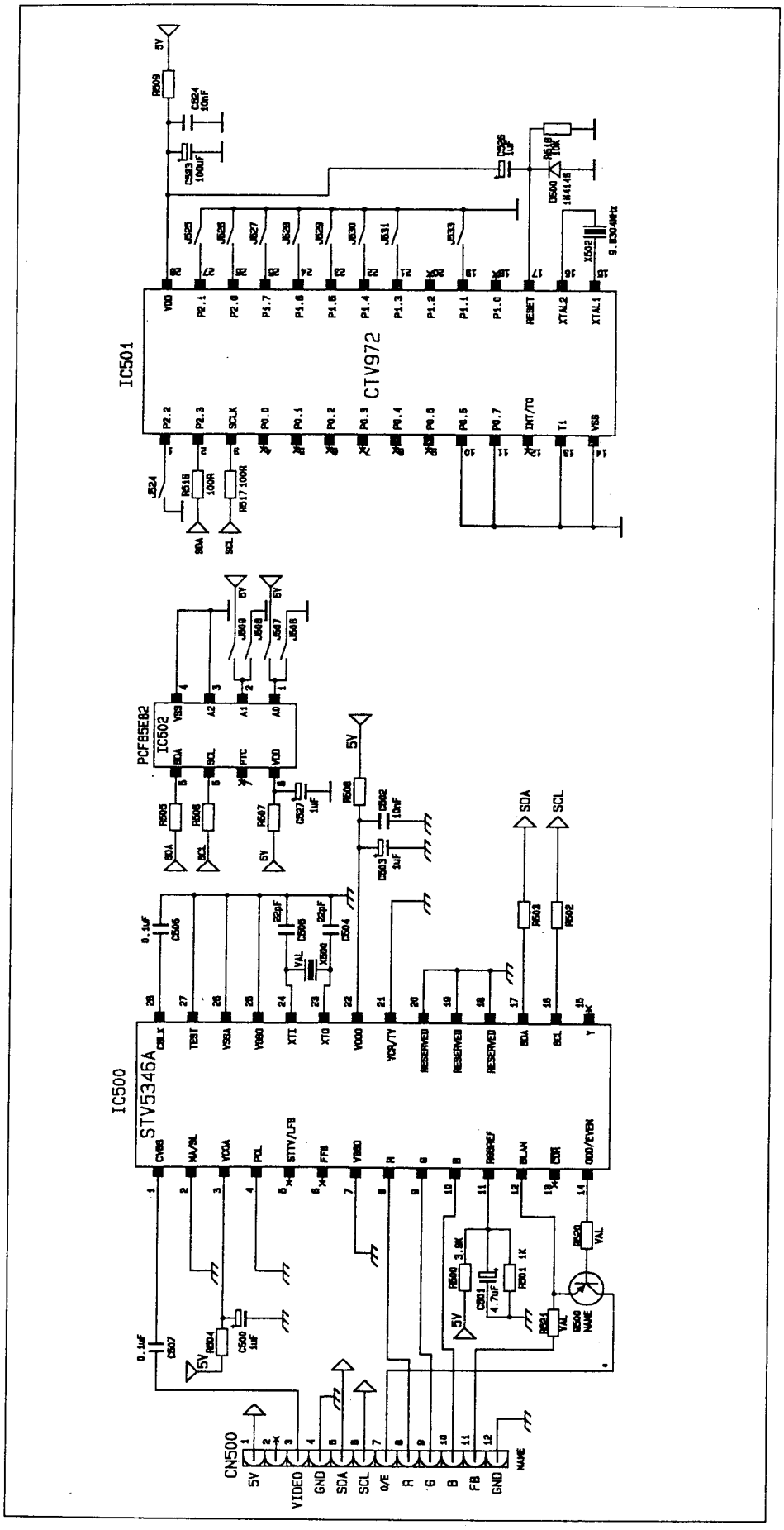
CRT BOARD CIRCUIT DIAGRAM



GERMAN STEREO BOARD CIRCUIT DIAGRAM

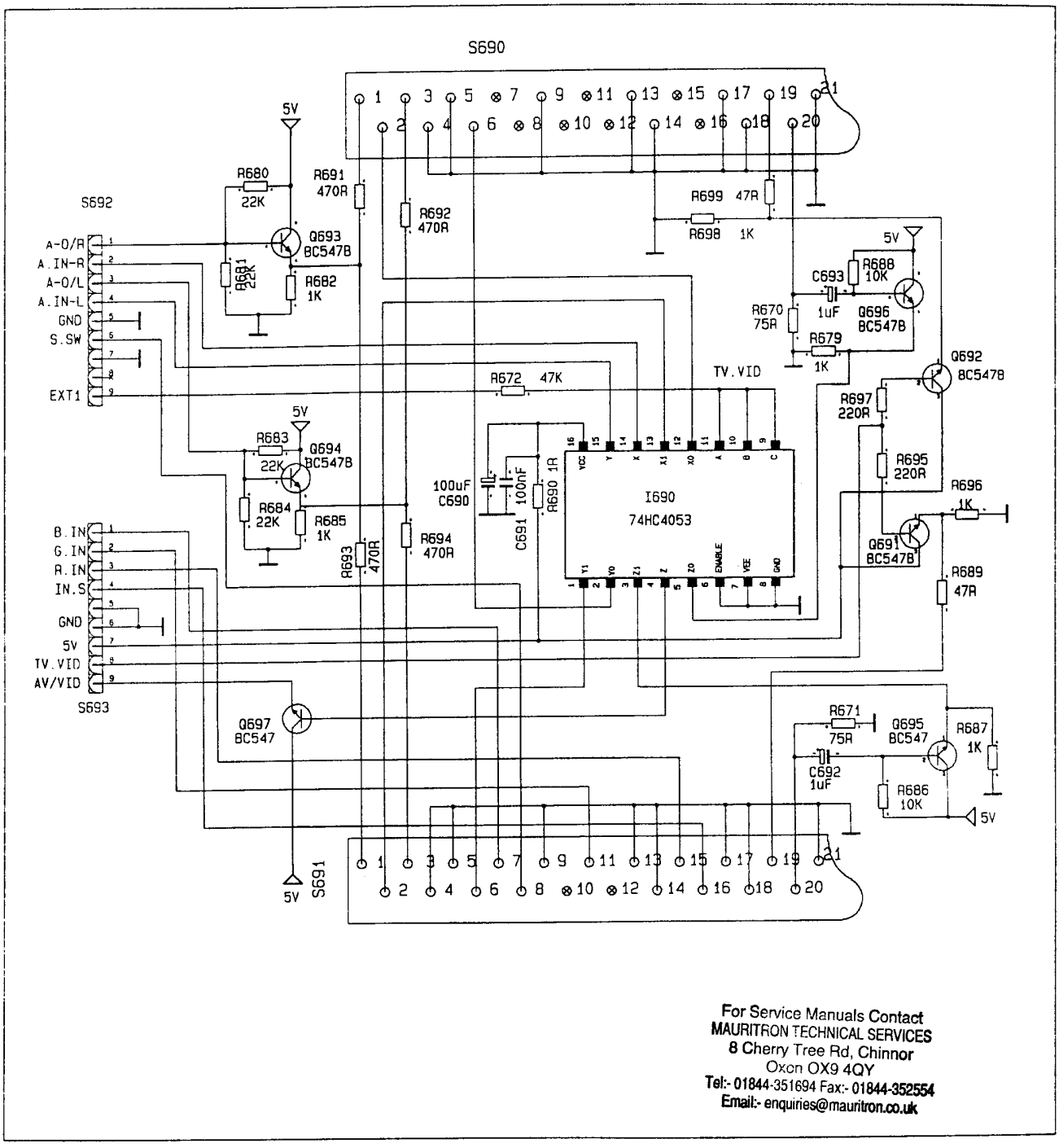
NICAM BOARD CIRCUIT DIAGRAM





FASTEXT BOARD CIRCUIT DIAGRAM

DOUBLE SCART BOARD CIRCUIT DIAGRAM



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Oxon OX9 4QY
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Email:- enquiries@mauritron.co.uk

MAIN CHARACTERISTICS

▸ Tube	: 90° narrov neckCPT
▸ Chassis	: Push through chassis for keyboard
▸ Color And Sound System	: European Standards B, G, I, L, L' and DK with automatic PAL, SECAM Decoding
▸ Power Source	: AC 175V - 250V
▸ Power Consumption	: 70W (stereo), 60W (mono)
▸ Stand-By Power Consumption	: 12 W
▸ Channel Coverage	: VHF (2-4, 5-12) UHF (21-69) CATV (S1-S41)
▸ Number of Programs	: 70 (stereo), 90 (mono)
▸ Audio Outputs	: 2*4 Watts (stereo), 4 Watts (mono) at 10% THD
▸ Speakers	: 2*8 Ohm (stereo), 8 Ohm (mono)
▸ Antenna Input	: 75 Ohm IEC

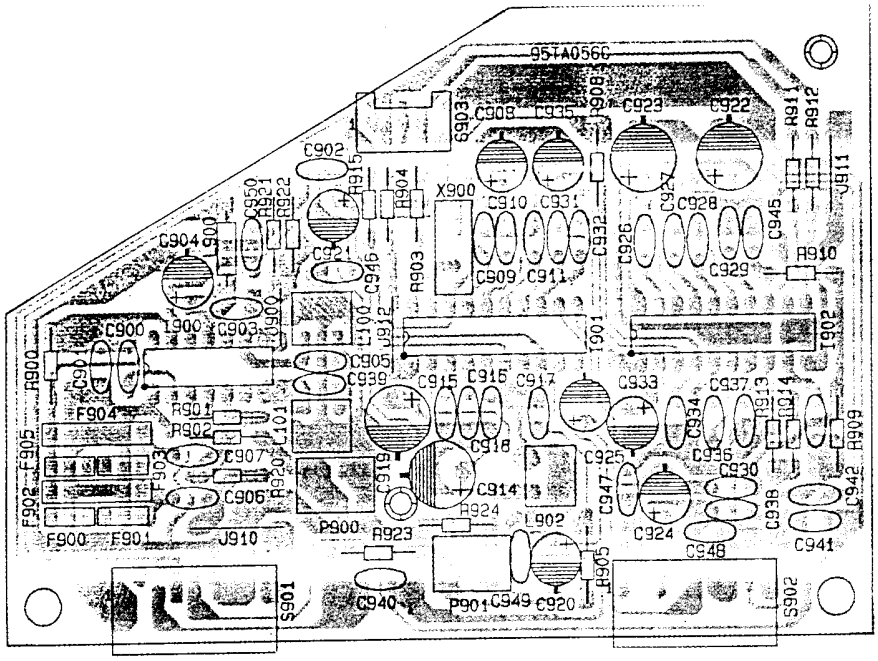
Standard Features

- ▸ Auto search
- ▸ Personal Preference
- ▸ Auto Shut-off
- ▸ Scart with RGB
- ▸ Swap function
- ▸ Store function on RC
- ▸ On - Screen Display
- ▸ Fine tunning
- ▸ Prog ±, Vol ± control buttons on the set
- ▸ Sleep timer
- ▸ RC Hand Unit: TM45L type

Optional Features

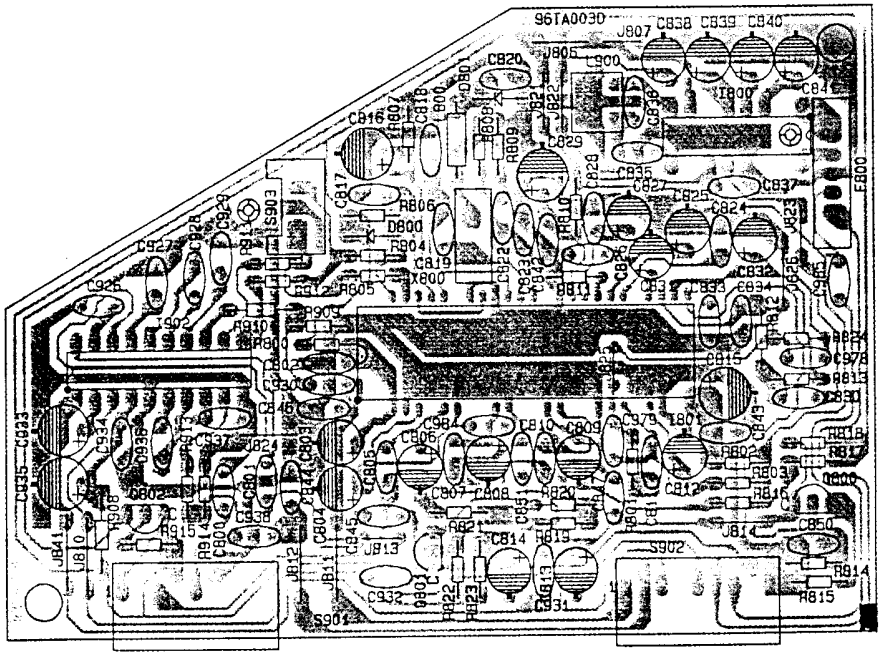
- ▸ Fastext
- ▸ Simple Text
- ▸ German Stereo
- ▸ Nicam B/G, I, L
- ▸ Double Scart

THE BOARD LAYOUTS

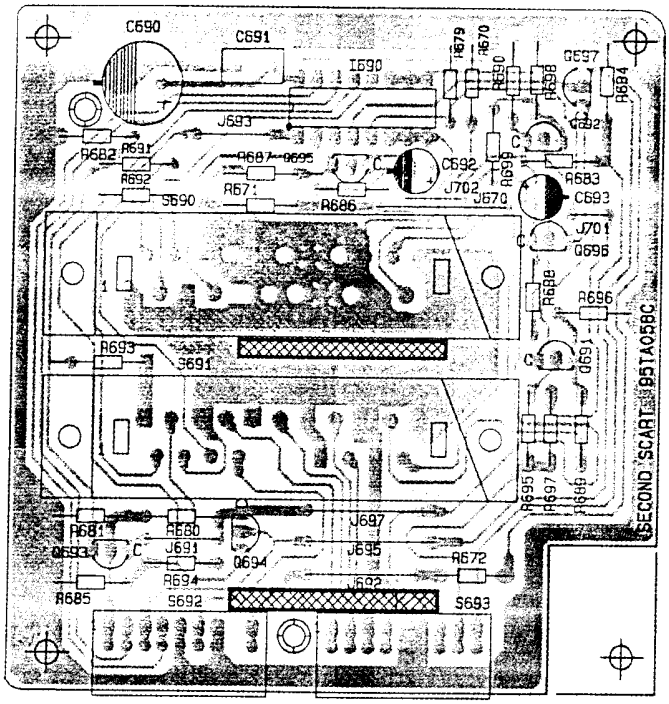


GERMAN STEREO BOARD

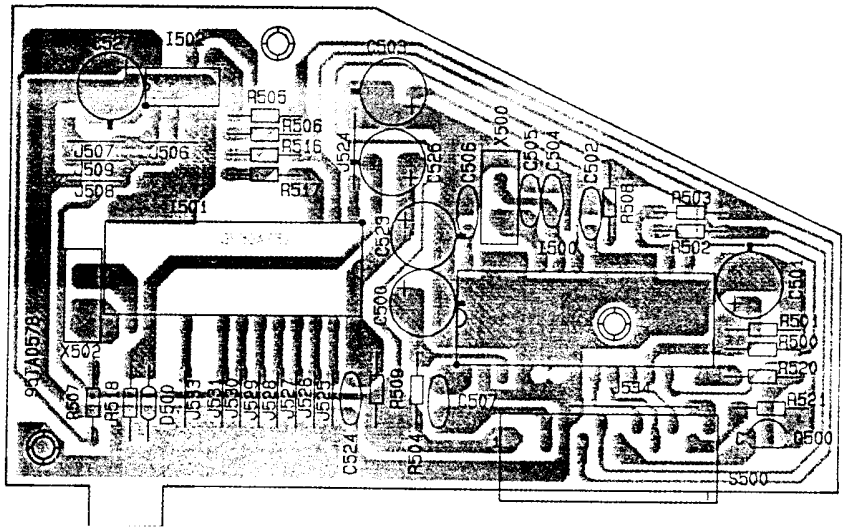
For Service Manuals Contact
MAURITRON TECHNICAL SERVICES
8 Cherry Tree Rd, Chinnor
Oxon OX9 4QY
Tel:- 01844-351694 Fax:- 01844-352554
Email:- enquiries@mauritron.co.uk



NICAM BOARD



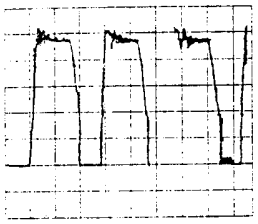
DOUBLE SCART BOARD



FASTEXT BOARD

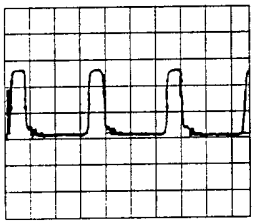
OSCILLOSCOPE SHAPES

1) 5usn/div 100 volt/div



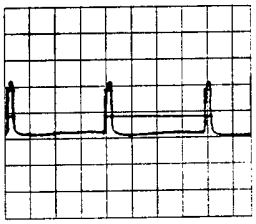
Drain of Q1

2) 20 usn/div 2 volt/div



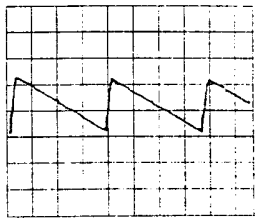
I 301 pin 26

3) 5 msn/div 2 volt/div



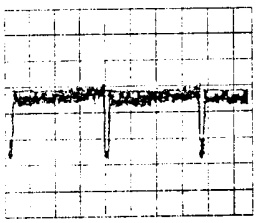
I 301 pin 27

4) 5 msn/div 0.5 volt/div



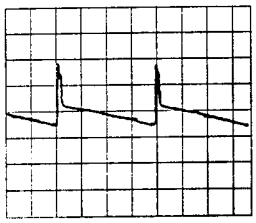
I 101 pin 41

5) 5msn/div 1 volt/div



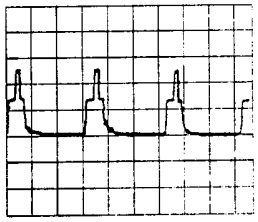
I 601 pin 3

6) 5usn/div 20 volt/div



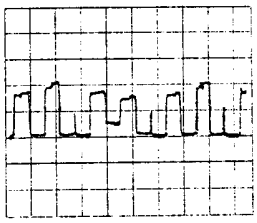
I 601 pin 5

7) 20usn/div 2 volt/div



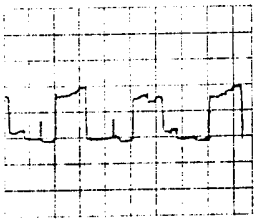
I 101 pin 38

8) 20usn/div 2 volt/div



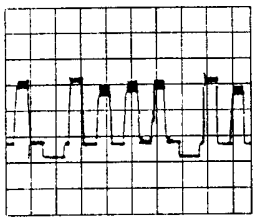
I 101 pin 20

9) 5usn/div 2 volt/div



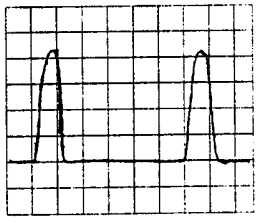
I 101 pin 19

10) 10 usn/div 2 volt/div



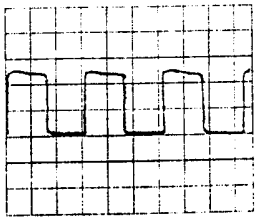
I 101 pin 18

11) 10 usn/div 250 volt/div



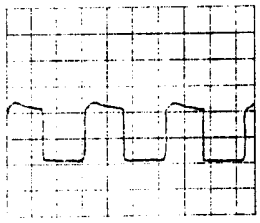
Collector of Q602

12) 20 usn/div 0.2 volt/div



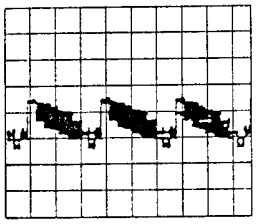
I 101 pin 37

13) 20usn/div 50 volt/div



Collector of Q601

14) 20usn/div 1 volt/div



I 101 pin 13

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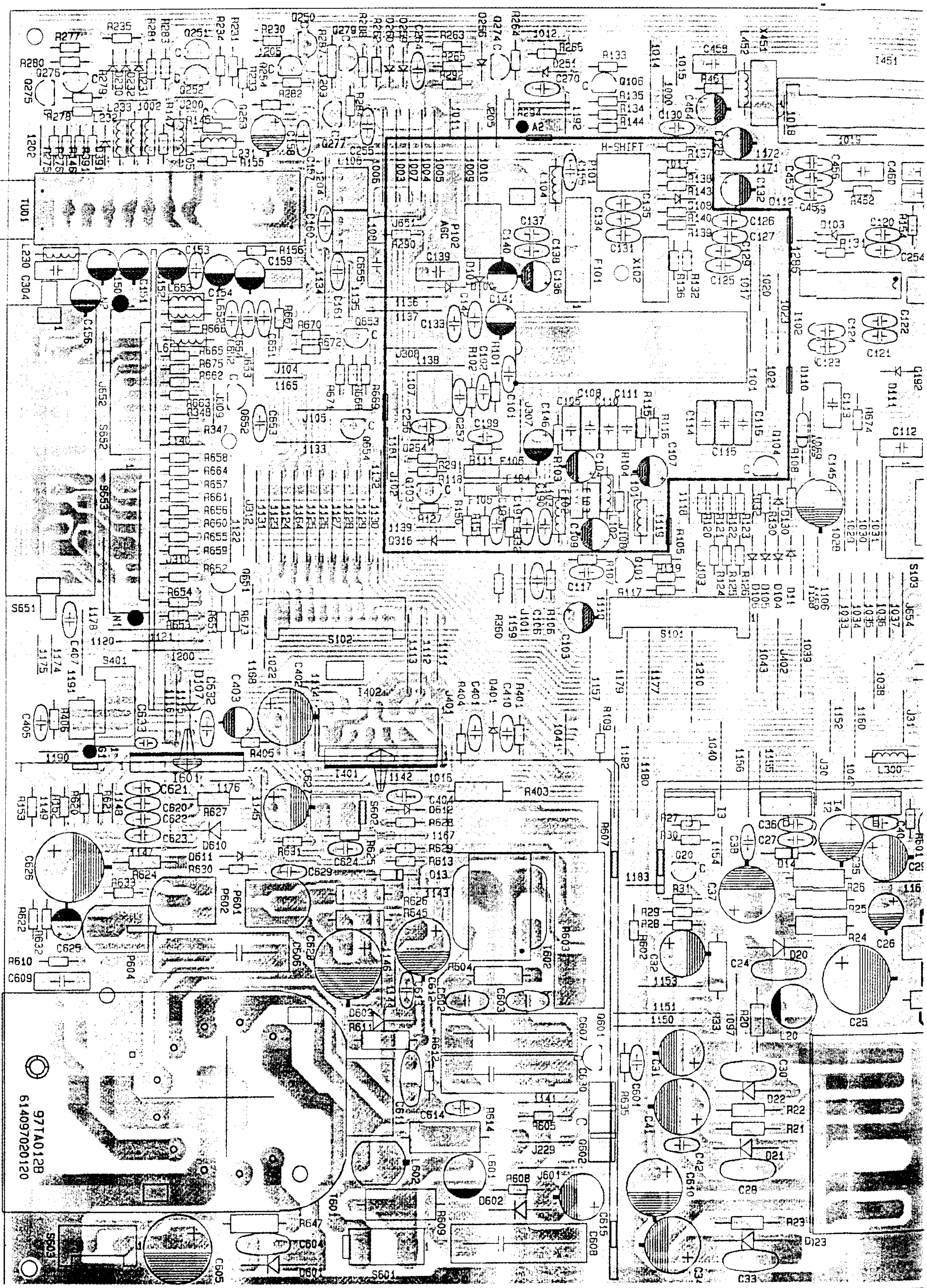
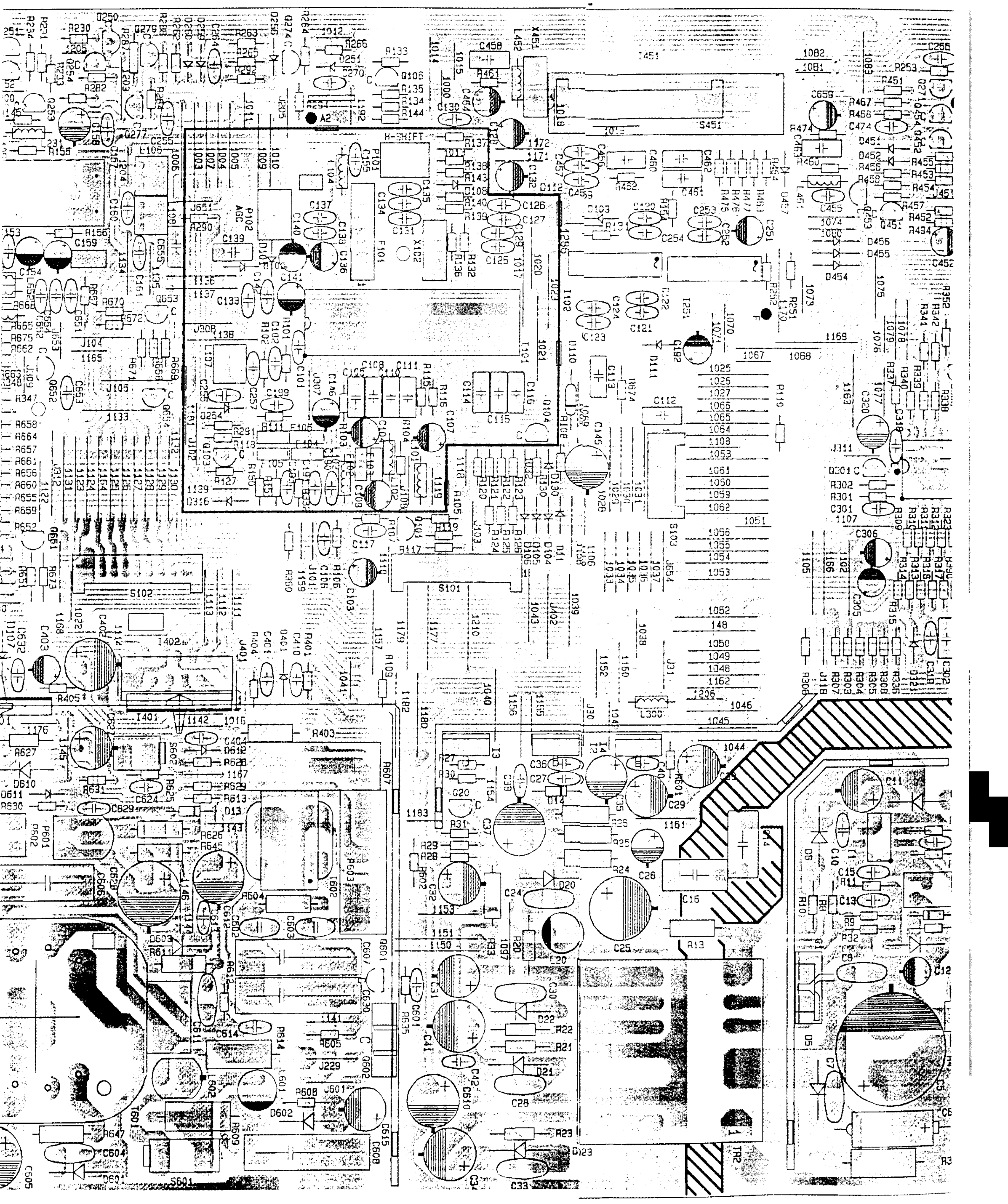
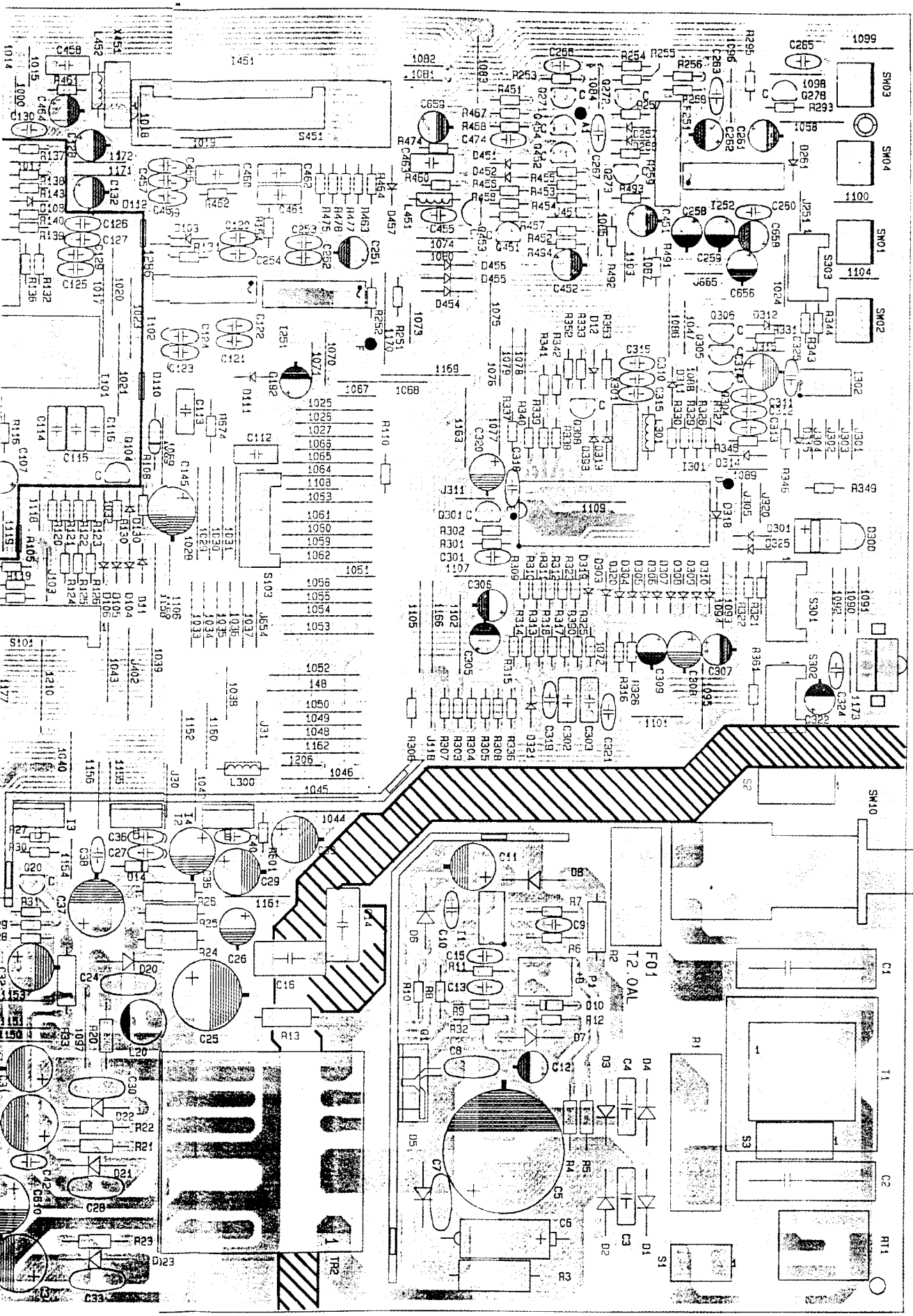
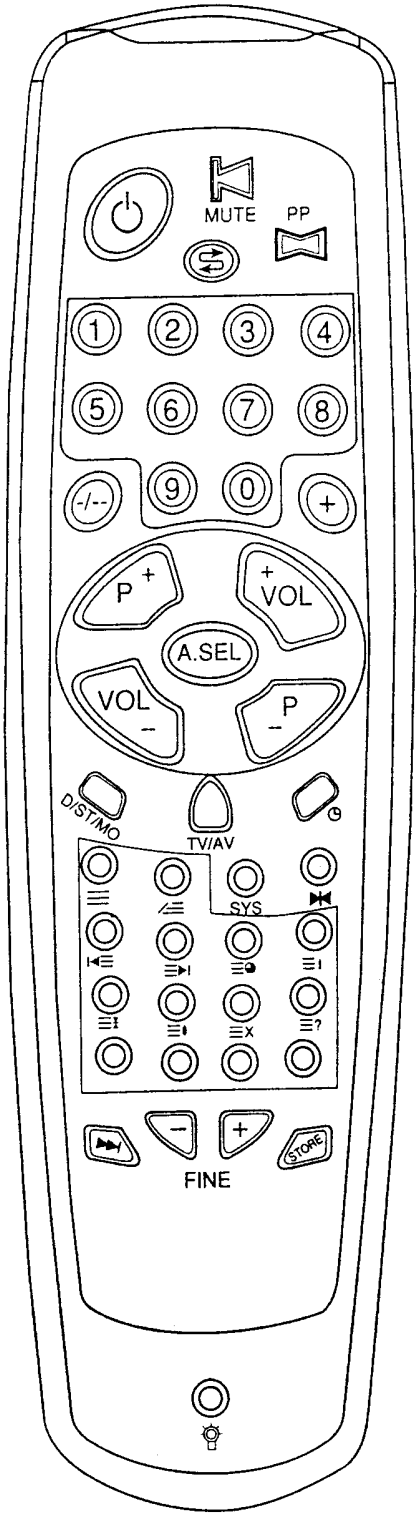


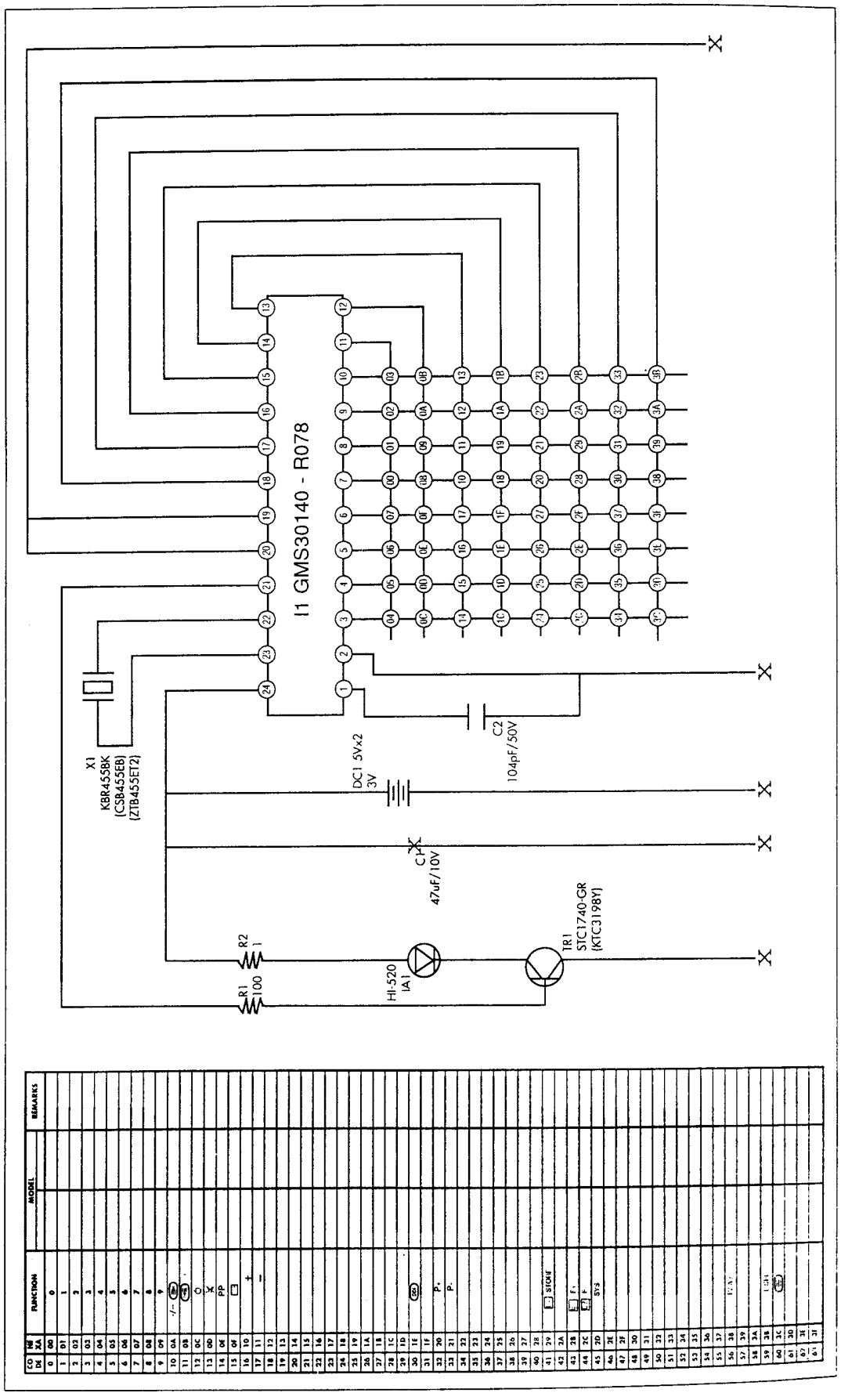

H-SHIFT
S451
I451
S101
S102
S103
I401
I402
TR2



RC HAND UNIT AND CIRCUIT DIAGRAM



REMOTE CONTROLLER TRANSMITTER PCB CIRCUIT DIAGRAM



THE DESCRIPTION OF THE INTEGRATED CIRCUITS

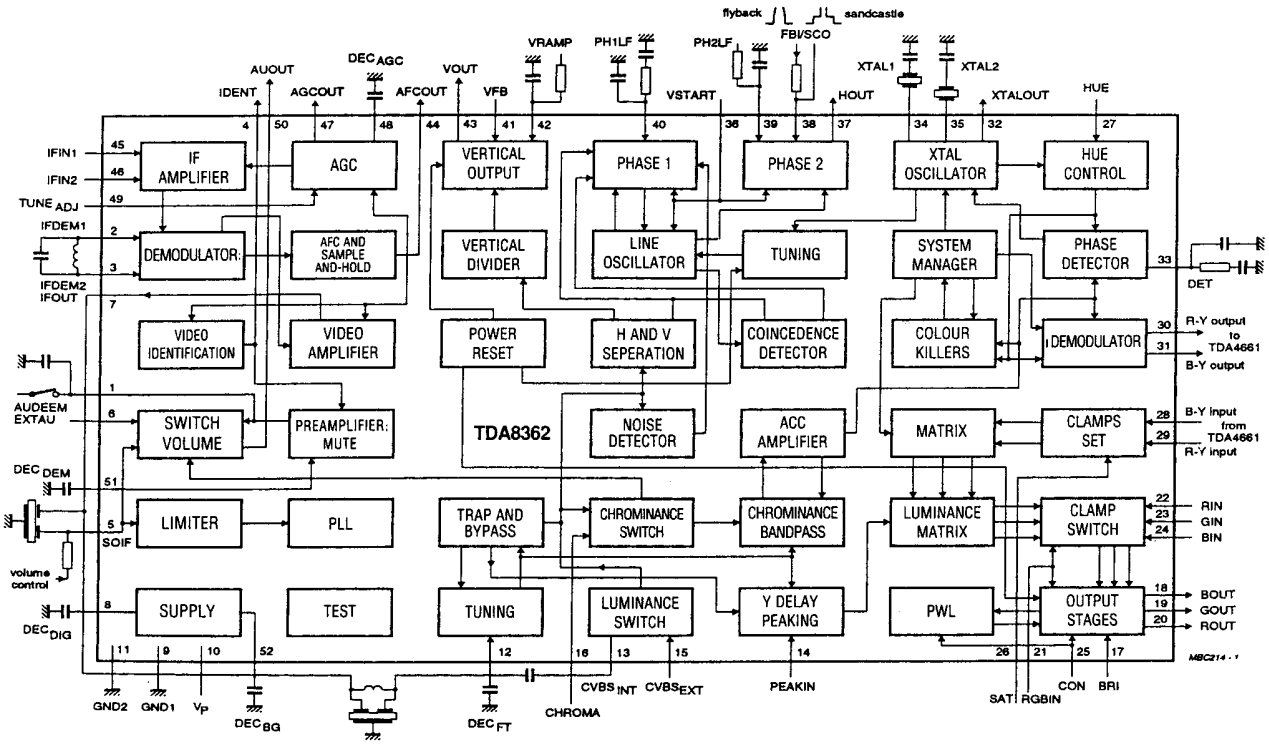
Video Processing Unit With TDA8362

Video and time base is based on the TDA 8362 Multistandard TV Processor(Pal Decoder),TDA 4665 Base-band Delay Line and TDA8395 Secam Decoder.

The Features of this Concept:

- Multistandard vision IF circuit (positive and negative modulation)
- Multistandard FM sound demodulator (4.5 MHz to 6.5 MHz)
- External Video and Audio Switches
- Integrated chrominance traps and baseband filters
- Integrated luminance delay line
- RGB control circuit with linear RGB inputs
- Horizontal synchronization with two loops and alignment-free horizontal oscillator without external components.
- Vertical count-down circuit (50-60 Hz) and vertical preamplifier
- Low dissipation
- Only one adjustment (vision IF demodulator)

Block Diagram



PINNING

PIN		PIN VOLTAGE
1	Audio deemphasis and +/- mod.switch	: 3V and 0.3Vrms(FM Audio)
2	IF-demodulator tuned circuit	: 6V
3	IF-demodulator tuned circuit	: 6V
4	Video identification output	: 5V
5	Sound IF plus volume control	: 0.5V - 4V
6	External audio input	: 4V
7	IF video output	: 2.5V and 2.0 Vpp (Video)
8	Decoupling digital supply	: 8V
9	Ground	: -
10	Positive supply (8V)	: 8V
11	Ground	: -
12	Decoupling filter tuning	: 3.25V
13	Internal CVBS input	: 4.25V
14	Peaking input	: 4V
15	External CVBS input	: 3.5V
16	Chroma + A/V switch input	: 0V(TV)-8V (AV)
17	Brightness control input	: 1V - 3.5V
18	B-output	: 2.5V - 4Vpp
19	G-output	: 2.5V - 4Vpp
20	R-output	: 2.5V - 4Vpp
21	RGB-insertion and blanking	: 0V TV and 1.5V RGB mode
22	R-input for insertion	: 3.3V and 0.7 Vpp
23	G-input for insertion	: 3.3V and 0.7 Vpp
24	B-input for insertion	: 3.3V and 0.7 Vpp
25	Contrast control input	: 0V - 3V
26	Saturation control input	: 0V - 3V
27	Hue control input (or chroma out)	: 6V
28	B-Y input signal	: 4V
29	R-Y input signal	: 4V
30	R-Y output signal	: 1.5V
31	B-Y output signal	: 1.5V
32	4.43MHz output for TDA8395	:1.6V(PAL) 4.5V(SEC)
33	Loop filter burst phase detector	: 4.5V
34	3.58 MHz X-tal connection	: 3V
35	4.43MHz X-tal connection	: 2V
36	Start horizontal oscillator	: 8V

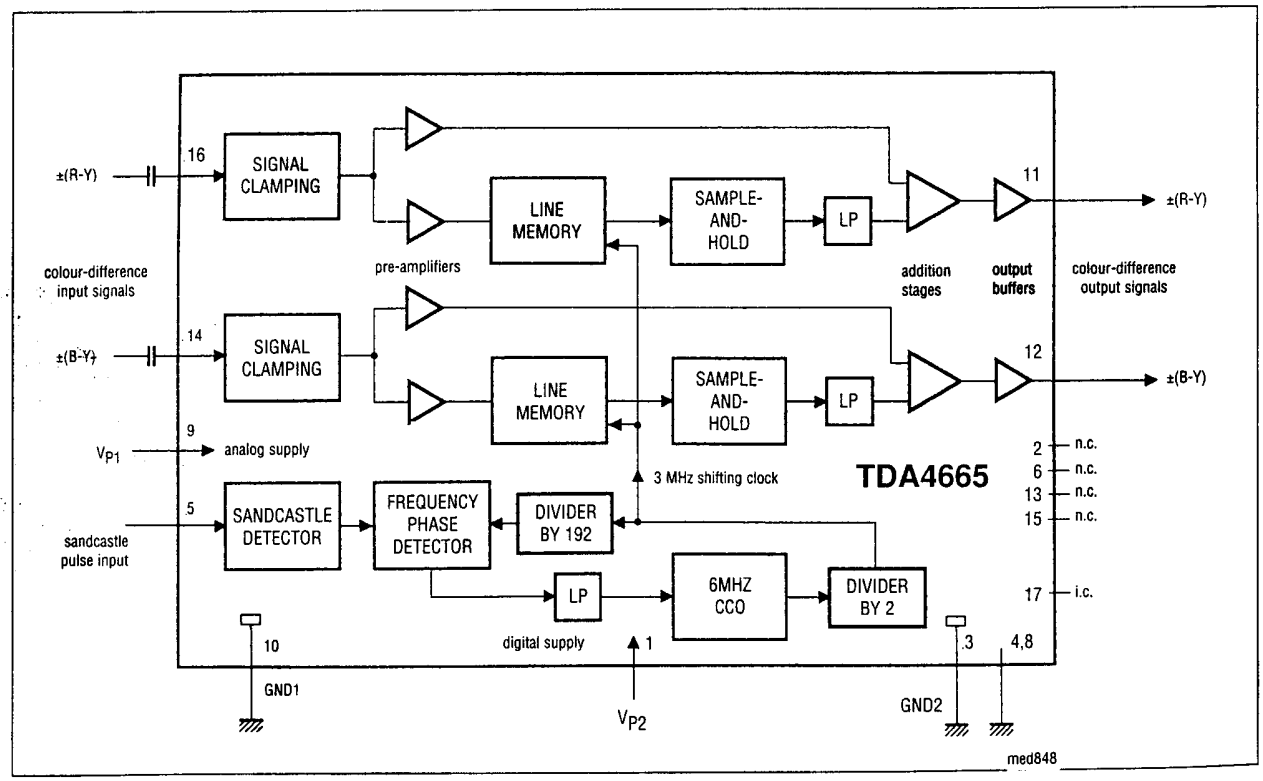
PIN		PIN VOLTAGE
37	Horizontal output	: 0.6Vp-p 15.6 KHz
38	Flyback input / sandcastle output	: 6Vpp
39	G2 loop filter	: 3V
40	G1 loop filter	: 3.75V
41	Vertical feedback input	: 2.5V and 1.0Vpp
42	Vertical ramp generator	: 2.5V and 1.5Vpp
43	Vertical output	: 2.5V
44	AFC output	:
45	IF-input	: 4V
46	IF-input	: 4V
47	Tuner AGC output	: -
48	AGC decoupling capacitor	: 4V
49	Tuner take-over adjustment	: -
50	Audio output	: 3.4V
51	Decoupling sound demodulator	: 4.5V
52	Decoupling bandgap supply	: 6.5V

TDA 4665

The TDA4665 is an integrated baseband delay line circuit. It provides a delay of 64 us for the color difference signals. (R-Y) and (B-Y), in multi-standard TVs.

PINNING		PIN VOLTAGE
1	Digital supply voltage	: 5V
2	Not connected	: -
3	Digital ground	: 0V
4	Test input	: 0V
5	Sandcastle input	: -
6	Not connected	: -
7	Test input	: -
8	Test input	: -
9	Analog supply voltage	: 5V
10	Analog ground	: -
11	-(R-Y) output	: 3.25 V
12	-(B-Y) output	: 3.25 V
13	Reference current	: -
14	-(B-Y) input	: 1.35 V
15	Not connected	: -
16	-(R-Y) input	: 1.35 V

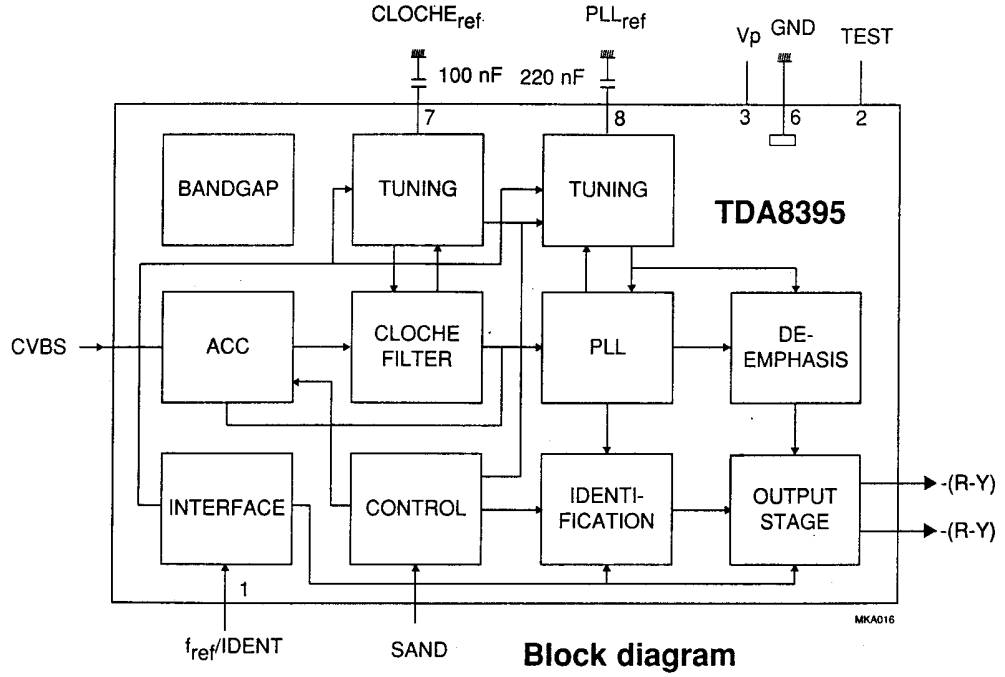
Block diagram



TDA 8395

The TDA8395 is a self calibrating fully integrated SECAM decoder.

PINNING		PIN VOLTAGE
1	Reference frequency input	: -
2	Test output	: -
3	Positive supply voltage	: 8V
4	Not connected	: -
5	Not connected	: -
6	Ground	: 0V
7	Cloche reference filter	: -
8	PLL reference	: -
9	-(R-Y) output	: 1V
10	-(B-Y) output	: 1.3V
11	Not connected	-
12	Not connected	: -
13	Not connected	: -
14	Not connected	: -
15	Sandcastle pulse input	: 6Vpp
16	Video input	: -



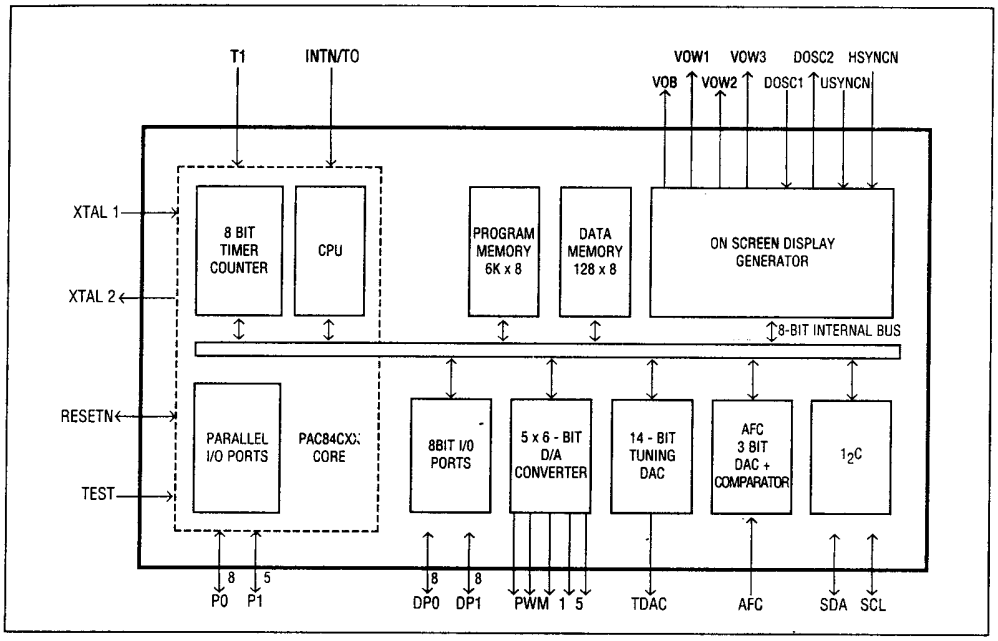
Block diagram

Microcontroller Unit

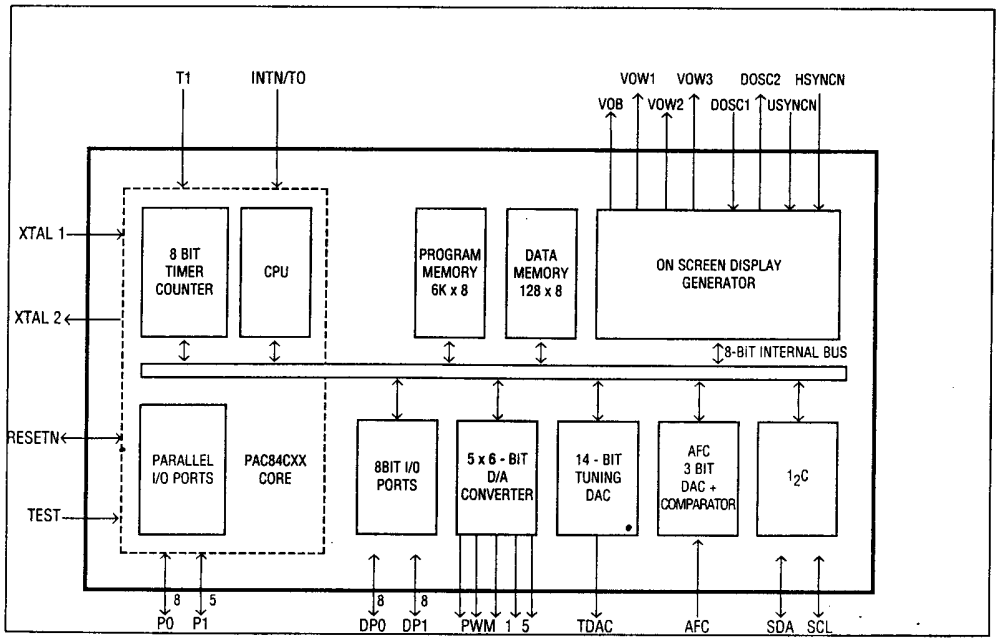
CTV 352 S(for stereo) and CTV 322(for mono) are a voltage synthesis tuning system with on screen display OSD of all relevant control function. Analog picture settings are controlled by 4 on-chip digital to analog converters. Sound volume can be controlled by the fifth on-chip digital to analog converter in mono only system. Full sound (volume, bass, treble, balance) in German Stereo and Nicam configuration and Teletext can be controlled via the I2C bus using a sound processor and teletext decoder. This controllers can control up to two scart plugs.

PINNING		PIN VOLTAGE
1	Tuning voltage control output	: 5V - 0V
2	Volume control output	: 0 - 5V
3	Brightness control output	: 0 - 5V
4	Color control output	: 0 - 5V
5	Contrast or hue control output	: 0 - 5V
6	Tone, balance or hue control output	: -
7	Band-switch 0-output	: -
8	Band-switch 1-output	: -
9	Analogue AFC sense input	: 2-4V
10	Dual/Non Dual language sound input	: -
11	VTR time constant control output	: -
12	Ext./int. audio/video source control output	: 5V (TV) - 0V (AV)
13	Keyboard scan line input/output	: -
14	Keyboard scan line input/output	: -
15	Keyboard scan line input/output	: -
16	Keyboard scan line input/output	: -
17	Keyboard scan line input/output	: -
18	Keyboard scan line input/output	: -
19	Keyboard scan line input/output	: -
20	System mode strobe output	: 5V
21	Ground supply input	: -
22	OSD red output	: 4.5Vpp
23	OSD green output	: 4.5Vpp
24	OSD blue output	: 4.5Vpp
25	OSD fast blanking output	: 4.5Vpp
26	Horizontal synchronization input	: 5Vpp HF
27	Vertical synchronization input	: 5Vpp HF
28	LC oscillator input for OSD	: 5V
29	LC oscillator output for OSD	: 5V
30	Test input; connected to ground	: -
31	Oscillator input; 10MHz crystal	: -
32	Oscillator output	: 2V
33	Power-on reset input/output	: 5V
34	Horizontal coincidence input	: 4.5V
35	RC-5 remote control input	: 4V
36	Mono/Stereo or language 1/2 output	

PINNING		PIN VOLTAGE
37	Sound effect control output	: -
38	System select output	: -
39	I^2C-bus clock signal output	: 5V and 5Vpp
40	I^2C-bus data signal output	: 5V and 5Vpp
41	Standby/On control input/output	: 0V (ST-BY) 5V (Open)
42	+5V supply voltage input	: 5V



Block diagram of PCA84C641



Block diagram of PCA84C841

Power Supply With TDA4605

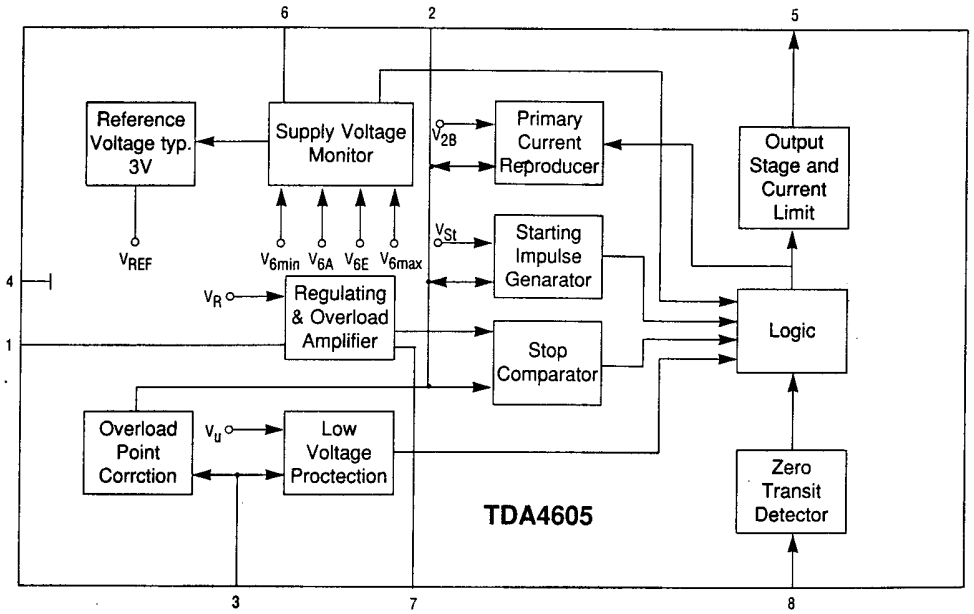
The IC TDA 4605 controls the MOS power transistor and performs all necessary regulation and monitoring functions in free running flyback converters.

Features

- Overload protection
- Burst operation under short circuit conditions
- Loop error protection
- Switch-off if line voltage is too low
- Line voltage compensation of overload point
- Soft start for quite start up
- Chip over temperature protection
- On-chip parasitic transformer oscillation suppression circuit

TDA 4605-3

PINNING		PIN VOLTAGE	
		ST-BY	NORM.
1	Information Input Concerning Secondary Voltage	0.4V	0.4V
2	Information Input Regarding the Primary Current	1V	1.2V
3	Input for Primary Voltage Monitor	2.1V	2V
4	Ground	0V	0V
5	Output	0.8V	8V (10Vpp)
6	Supply voltage Input	12V	12.8V
7	Input for Soft-Start and Integrator Circuit	1.1V	1.9V
8	Input for the Feedback of the Oscillator	0.3V	0.4V



Pin Definitions and Functions

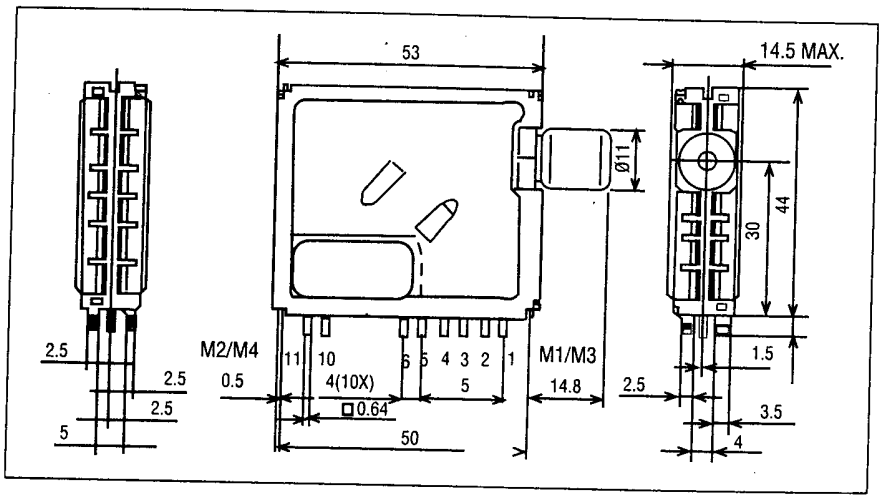
Pin No.	Function
1	**Information Input Concerning Secondary Voltage** By comparing the regulating voltage - obtained trom the regulating winding of the transformer - with the internal reference voltage, the output impulse width on pin 5 is adjusted to the load of the secondary side (normal, overload, short-circuit, no load).
2	**Information Input Regarding the Primary Current** The primary current rise in the primary winding is simulated at pin 2 as a voltage rise by means of external RC-element. When a voltage level is reached thats derived from the regulating voltage at pin 1, the output impulse at pin 5 is terminated. The RC-element serves to set the maximum po-wer at the overload point set.
3	**Input for Primary Voltage Monitoring** In the normal operation V3 is moving between the thresholds V3H and V3L (V3H > V3 > V3L)- V3 < V3L: SMPS is switched OFF (line voltage too low). V3 > V3H : Compensation of the overload point regulation (controlled by pin 2) starts at V3H : V3L = 1.7.
4	**Ground**
5	**Output** Push-pull output provides ±1 A for rapid charge and discharge of the gate capacitance of the po-wer MOS-transistor.
6	**Supply Voltage Input** A stable internal reference voltage VREF is derived from the supply voltage also the switching thresholds V6A, V6E, V6 max and V6 min for the supply voltage detector. If V6 > V6E then VREF is switched on and swiched off when V6 < V6A - In addition the logic is only enable for V6 min < V6 < V6 max-
7	**Input for Soft-Start** Start-up will begin with short pulses by connecting a capacitor from pin 7 to ground.
8	**Input for the Oscillation Feedback** After starting oscillation, every zero transition of the feedback voltage (falling edge) through zero (failing edge) triggers an output pulse at pin 5. The trigger threshold is at + 50 mV typical.

TUNER (Word Standard)

Specifications

TV STANDARD		B, G, H, D, K, I, I', L, L'
Channels (Ch)	Low	E2 - S10 (48.25 MHz - 168.25 MHz)
	Mid	E5 - S39 (175.25 MHz - 447.25 MHz)
	High	S40 - E69 (455.25 MHz - 855.25 MHz)
IF Frequencies	Picture	38.90 MHz
	Sound	33.40 MHz
Input Impedance		75 Ohm unbalanced
Output Impedance		75 Ohm unbalanced, balanced
Input VSWR	All channels	max. 5
Noise Figure	All channels	typ. 6 dB
Gain	All channels	min. 38 dB, max. 50 dB
Image Rejection	Ch E2 - S20	min. 70 dB
	Ch S21 - S39	min. 66 dB
	Ch S40 - E69	min. 50 dB
IF Rejection	All channels	min. 60 dB
Supply Voltage		+5V DC

TERMINAL		DESCRIPTION
1	AGC	AGC Voltage
2	TU	Tuning Voltage
3	HIGH	Bandswitch - High
4	MID	Bandswitch - Mid
5	LOW	Bandswitch - Low
6	B+	Supply Voltage
10	IF2/GND	IF2 Output / Ground
11	IF1	IF1 Output
M1..M4	GND	Mounting Tags

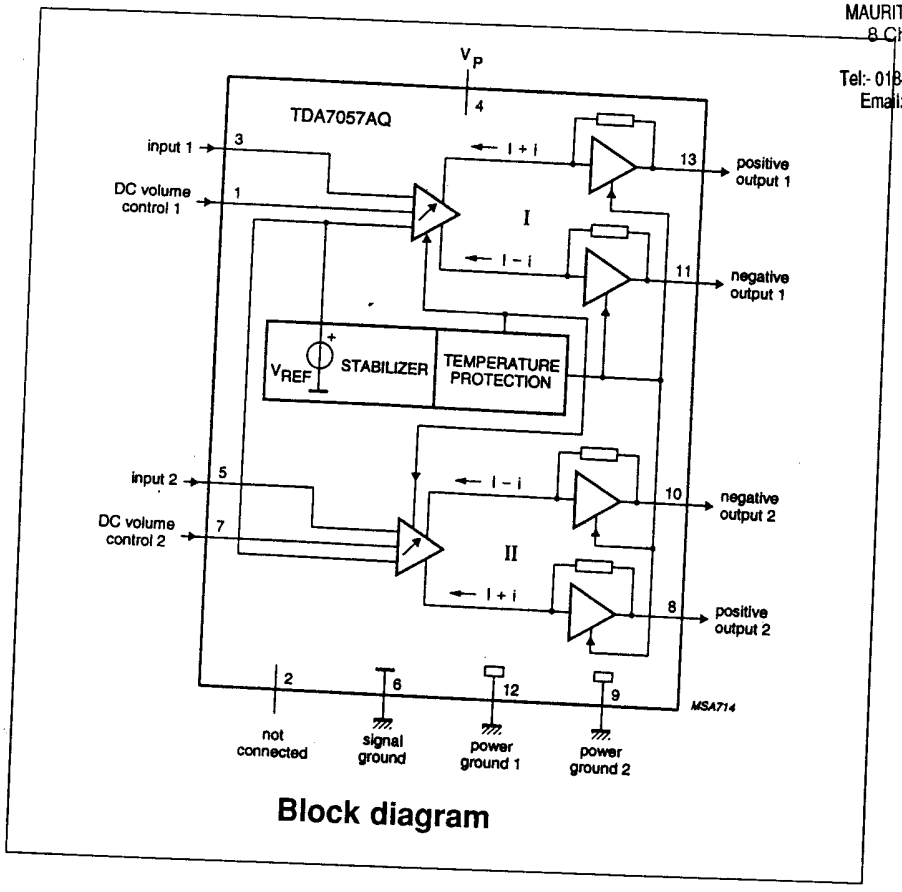


Audio Output Amplifiers

TDA 7056A Audio amplifier is used on mono TV sets. Output is 4 W RMS on 16 Ohms speaker at 10 % THD. On stereo models TDA 7057AQ is used . Outputs are 2X4 W RMS on 8 Ohms speakers at 10 % THD.

TDA 7057AQ

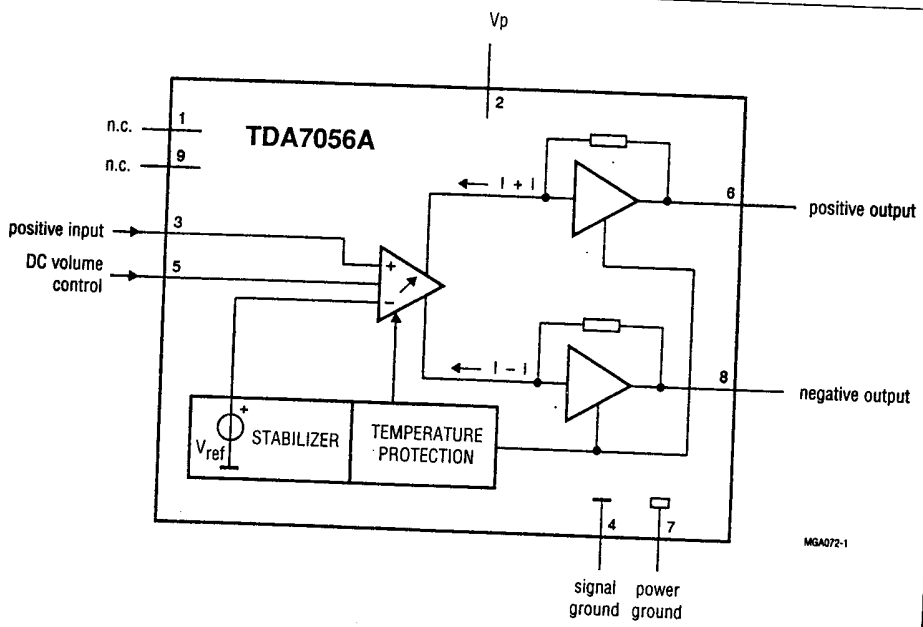
PINNING		PIN VOLTAGE
1	DC volume control 1	: 1.0V
2	Not connected	: -
3	Voltage input 1	: 1.5Vpp
4	Positive supply Voltage	: 12.5V
5	Voltage input 2	: 1.5Vpp
6	Signal ground	: -
7	DC volume control 2	: 1.0V
8	Positive output 2	: -
9	Power ground 2	: -
10	Negative output 2	: -
11	Negative output 1	: -
12	Power ground 1	: -
13	Positive output 1	: -



Block diagram

TDA 7056A

PINNING		PIN VOLTAGE
1	Not connected	:
2	Positive supply voltage	: 12.5V
3	Voltage input	: 1.0Vpp
4	Signal ground	:
5	DC volume control	: 1.0V
6	Positive output	
7	Power ground	:
8	Negative output	:
9	Not connected	:



Block diagram

Sound IF Circuit

On L system, TDA 9830 is used as AM Demodulator on mono TV sets, TDA 4470B is used for Nicam sound intercarrier and AM Demodulator on stereo TV sets with suitable SAW filters

On BG and I systems , TDA 3845 is used for sound intercarrier with a SAW filter on Nicam TV sets.

On German Stereo models, TBA 120U is used as FM demodulator for stereo sound carrier.

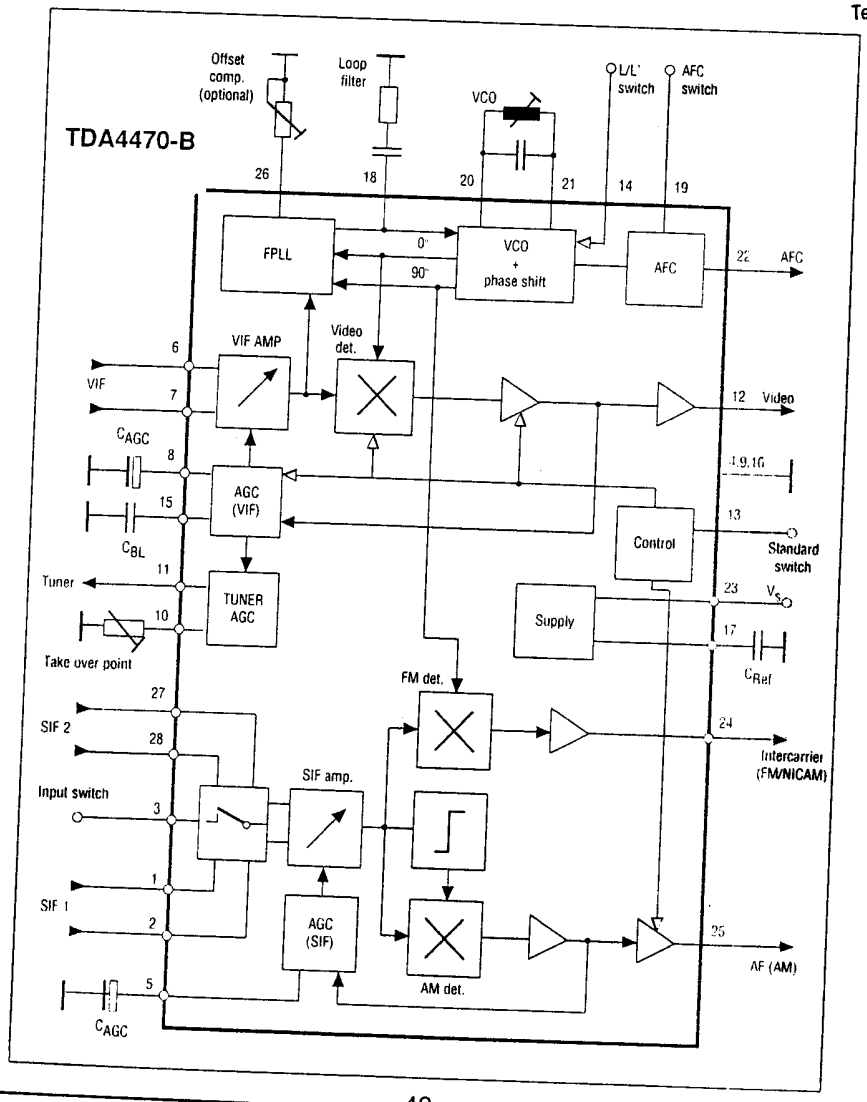
TDA4470B

The TDA4470B is an integrated bipolar circuit for multistandard video/sound IF signal processing in TV/VCR and multimedya applications.

Features

- 5 V supply voltage, low power consumption
- Active carrier generation by FPLL principle for true synchronous demodulation
- Very linear video demodulation, good pulse response and excellent intermodulation figures
- VCO circuit is operating on picture carrier frequency, the VCO frequency is swithcable for the L` mode
- Alignment free AFC without external reference circuit, polarity of the AFC curve is switchable
- VIF AGC for negative modulated signals and for positive modulation
- Tuner AGC with adjustable take over point
- Alignment free quasi parallel sound (QPS) mixer for FM/NICAM sound IF signals
- Intercarrier output signals is gain controlled
- Complete alignment free AM demodulator with gain controlled AF output
- Separate SIF AGC with average detection
- Two independent SIF inputs

Parallel operation of the AM demodulator and QPS mixer (for NICAM L stereo sound)



TDA 4470 - B

PINNING		PIN VOLTAGE
1	SIF1 input (symmetrical)	: -
2	SIF1 input (symmetrical)	: -
3	Input selector switch	: 0 V - 5 V
4	Ground	: 0 V
5	SIF-AGC (time constant)	: -
6	VIF input (symmetrical)	: -
7	VIF input (symmetrical)	: -
8	VIF-AGC (time constant)	: -
9	Ground	: 0 V
10	Take over point, tuner AGC	: -
11	Tuner AGC output current	: -
12	Video output	: -
13	Standard switch	: 0 V - 5 V
14	L' switch	: 0 V - 5 V
15	Black level capacitor	: -
16	Ground	: 0 V
17	Internal reference voltage	: -
18	Loop filter	: -
19	AFC switch	: -
20	VCO circuit	: -
21	VCO circuit	: -
22	AFC output	: -
23	Supply voltage	: -
24	Intercarrier output	: -
25	AF output - AM sound	: -
26	Offset compensation	: -
27	SIF2 input (symmetrical)	: -
28	SIF2 input (symmetrical)	: -

TDA3845

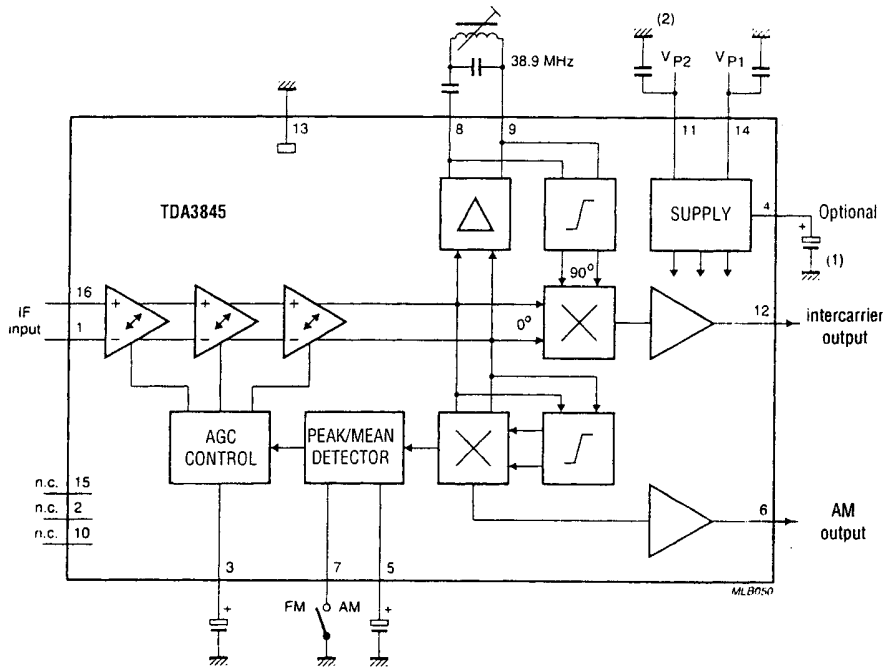
The TDA3845 is a quasi split -sound IF circuit which is designed to provide high performance television FM/AM sound.

Features

- Gain controlled wide band IF amplifier
- High precision internal 90` phase shifter for quadrature demodulator
- Amplitude detector for gain control which operates as a peak detector for FM sound and as a mean level detector for AM sound (switchable)
- In-phase wideband synchronous demodulator for AM detection
- Stabilizer circuit for ripple rejection and constant output signals
- ESD protection for all pins
- Suitable for all FM standards and L as well as L- accent standard
- NICAM compatible

TDA 3845

PINNING		PIN VOLTAGE
1	IF amplifier input 2	: -
2	Not connected	: -
3	AGC control capacitor	: -
4	Optional capacitor (see note 10 to the characteristics)	: -
5	Peak/mean detector capacitor	: -
6	AM output	: 1.0 Vpp
7	FM/AM switch	: 0Vpp
8	LC reference circuit for the picture carrier	:
9	LC reference circuit for the picture carrier	:
10	Not connected	:
11	Positive supply voltage 2 (+12V); note 1	: 12V
12	Intercarrier output	:
13	Ground (0V)	: 0V
14	Positive supply voltage 1 (+5V)	:
15	Not connected	:
16	IF amplifier input 1	:



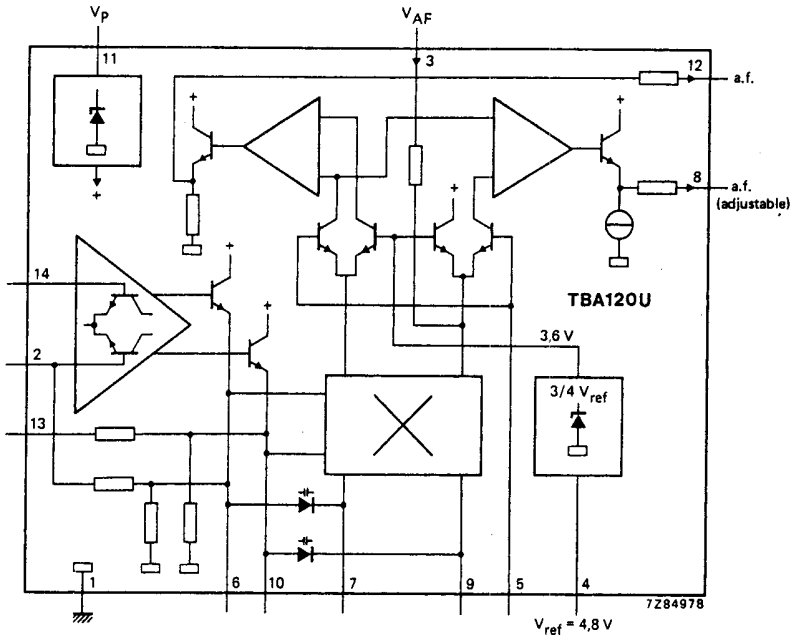
Block diagram

TBA120U

The TBA120U is an IF amplifier with a symmetrical FM demodulator and an AF amplifier with adjustable output voltage.

TBA 120U

PINNING		PIN VOLTAGE
1	Ground	: 0V
2	Mute	: -
3	Input resistance	: -
4	Supply current and the reference	: -
5	Adjustment voltage	: -
6	IF output voltage	: -
7	Tank to reference	: -
8	Adjustable output	: -
9	Tank to reference	: -
10	IF output voltage	: -
11	Positive supply	: 12V
12	De-emphesize out	: 0.5Vpp
13	SIF input	: -
14	SIF input	: -



Block diagram

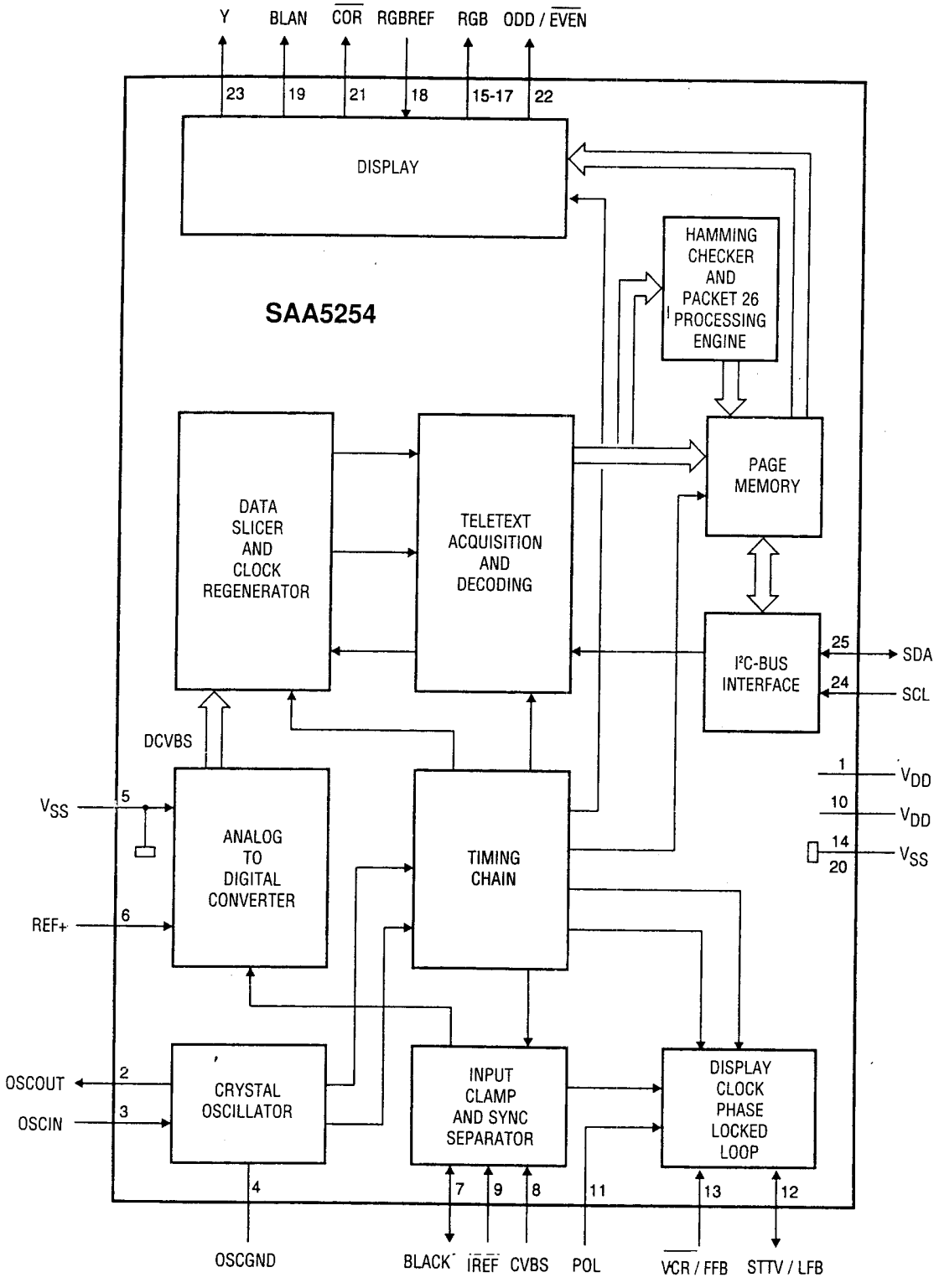
TELETEXT PART

Simple text stage consists of SAA 5254 Teletext decoder. This I is controlled via I²C bus.

Basically fastext stage consists two I's, STV 5346 Teletext decoder and CTV 974 Fastext controller with I²C bus interface. For List Mode a 2K EEPROM (PCF8582) can be added.

SAA 5254

PINNING		PIN VOLTAGE
1	+ 5V supply	: -
2	27 MHz crystal oscillator output	: -
3	27 MHz crystal oscillator input	: -
4	0V crystal oscillator ground	: 0V
5	0V ground	: 0V
6	Positive reference voltage for the ADC.	: 5V
7	Video black level storage pin, connected to ground via a 100 nF capacitor	: -
8	Composite video input pin	: 1Vpp
9	Reference current input pin, connected to ground via a 27kohm resistor	: -
10	+5V supply	: 5V
11	STTV/FB/FFB polarity selection pin	: -
12	Sync to TV output pin/line flyback input pin. Function controlled by an internal register bit (scan sync mode)	: -
13	PLL time constant switch/field flyback input pin. Function controlled by an internal register bit (scan sync mode)	: -
14	0V ground	: 0V
15	Dot rate character output of the RED color information	
16	Dot rate character output of the GREEN color information	
17	Dot rate character output of the BLUE color information	
18	DC input voltage to define the output high level on the RGB pins	
19	Dot rate fast blanking output	
20	Ground	: 0V
21	Programmable output to provide contrast reduction of the TV picture formixed text and picture displays or when viewing newflash/subtitle pages;open drain output	: -
22	25Hz output synchronized with the CVBS input's field sync pulses to produce a non-interlaced display by adjustment of the vertical deflection currents	: -
23	Dot rate character output of teletext foreground color information; open drain output	: -
24	Serial clock input for the I²C-bus. It can still be driven during power-down of the device	: 5Vpp
25	Serial data port for the I²C-bus; open drain output. It can still be driven during power-down of the device	: 5Vpp
26	to 40 Internally connected.Must be left open-circuit in application	: -



Block diagram for SIT129 (DIL40) package

PCF84C81 (CTV 974)

PINNING		PIN VOLTAGE	
		WITH TEXT	WITHOUT TEXT
1	4-bit I/O Port Bit 2 (P2.2)	: 5V	5V
2	4-bit I/O Port Bit 3 (P2.3) .	: 4.4V	4.4V
3	Bidirectional Clock for Serial I/O	: 4.4V	4.4V
4	8-bit I/O Port Bit 0 (P0.0)	: 5V	5V
5	8-bit I/O Port Bit 1 (P0.1)	: 5V	5V
6	8-bit I/O Port Bit 2 (P0.2)	: 0V	0V
7	8-bit I/O Port Bit 3 (P0.3)	: 4.18V	0V
8	8-bit I/O Port Bit 4 (P0.4)	: 5V	5V
9	8-bit I/O Port Bit 5 (P0.5)	: 0V	0V
10	8-bit I/O Port Bit 6 (P0.6)	: 5V	5V
11	8-bit I/O Port Bit 7 (P0.7)	: 0V	0V
12	Interrupt input / Test Input 0	: 0.2V	0V
13	Test Input 1	: 0.2V	0V
14	Ground	: 0 V	0V
15	Oscillator Input	: 2.46V	2.46V
16	Oscillator Output	: 2.46V	2.46V
17	Reset Input	: 5V	0V
18	8-bit I/O Port Bit 0 (P1.0)	: 5V	5V
19	8-bit I/O Port Bit 1 (P1.1)	: 5V	5V
20	8-bit I/O Port Bit 2 (P1.2)	: 0V	5V
21	8-bit I/O Port Bit 3 (P1.3)	: 0V	0V
22	8-bit I/O Port Bit 4 (P1.4)	: 5V	5V
23	8-bit I/O Port Bit 5 (P1.5)	: 0V	0V
24	8-bit I/O Port Bit 6 (P1.6)	: 5V	5V
25	8-bit I/O Port Bit 7 (P1.7)	: 0V	0V
26	4-bit I/O Port Bit 0 (P2.0)	: 5V	5V
27	4-bit I/O Port Bit 1 (P2.1)	:	

STV 5346A

PINNING	
1	Composite Video Signal Input through Coupling Capacitor
2	Master/Slave Selection Mode
3	+5V
4	STTV/LFB/FFB Polarity Selection
5	Composite Sync Output.Line Flyback Input
6	Field Flyback Input
7	Digital Ground
8	Video Red Signal
9	Video Green Signal
10	Video Blue Signal
11	DC Voltage to define RGB High Level
12	Fast Blanking Output TTL Level
13	Open Drain Contrast Reduction Output
14	25Hz Output Field synchronized for non-interlaced display
15	Open Drain Foreground Information Output
16	Serial Clock Input
17	Serial Data Input/Output
18	To be connected to VssD
19	To be connected to VssD
20	To be connected to VssD
21	PLL Time Constant Selection
22	+5V
23	Oscillator Output 13.875Mhz
24	Oscillator Output 13.875 Mhz
25	Oscillator Ground
26	Analog Ground
27	Grounded to VssA
28	To connect Black Level Storage Capacitor

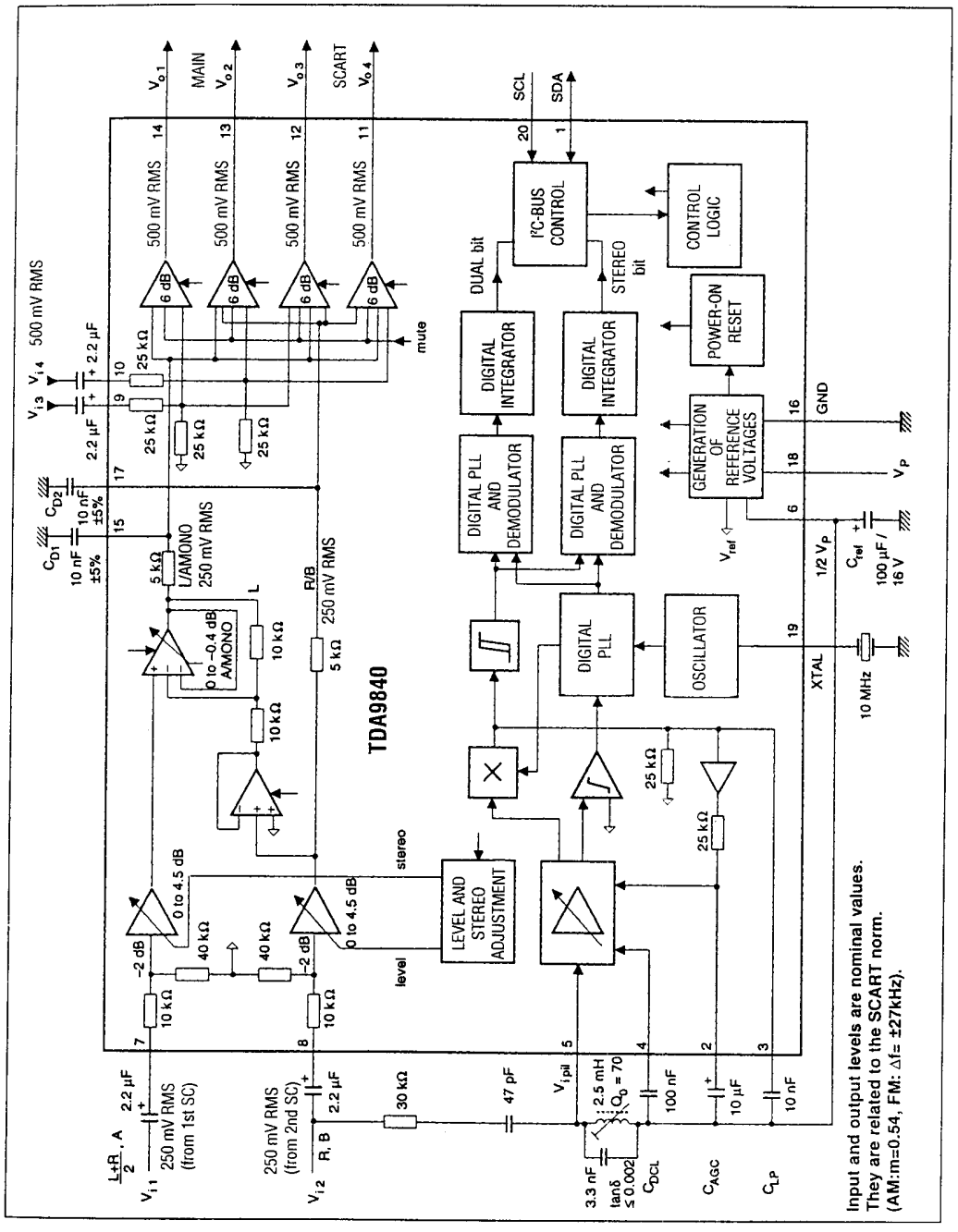
Stereo Part

TDA 9840 is used as German Stereo decoder and SAA 7283 is used Nicam decoder via I²C bus interface. On outputs of G/S and Nicam decoder IC's, TDA 8425 sound processor is used . Also this IC controls via I²C bus.

TDA 9840

PINNING		PIN VOLTAGE
1	I²C-bus data input/output	: 5Vpp
2	AGC capacitor of pilot frequency amplifier	: -
3	Identification low-pass capacitor	: -
4	DC loop capacitor	: -
5	Pilot frequency input input voltage	: -
6	Capacitor of reference voltage (1/2 Vp)	: 2.5V
7	AF input signal Vi_1 (from 1st sound carrier)	: 0.25 Vpp
8	AF input signal Vi_2 (from 2nd sound carrier)	: 0.25 Vpp
9	AF input signal Vi_3 (NICAM or AM sound (standard L)	: -
10	AF input signal Vi_4 (NICAM)	: -
11	AF output signal Vo_4 (SCART)	: 1.0 Vpp
12	AF output signal Vo_3 (SCART)	: 1.0 Vpp
13	AF output signal Vo_2 (main)	: 0.5 Vpp
14	AF output signal Vo_1 (main)	: 0.5 Vpp
15	50 us de-emphasis capacitor of AF Channel 1	: -
16	Ground	: 0V
17	50 us de-emphasis capacitor of AF Channel 2	: -
18	Supply voltage (+5 to +8V)	: 5V
19	10 MHz crystal input	: -
20	I²C-bus clock input	: 5V

Block diagram

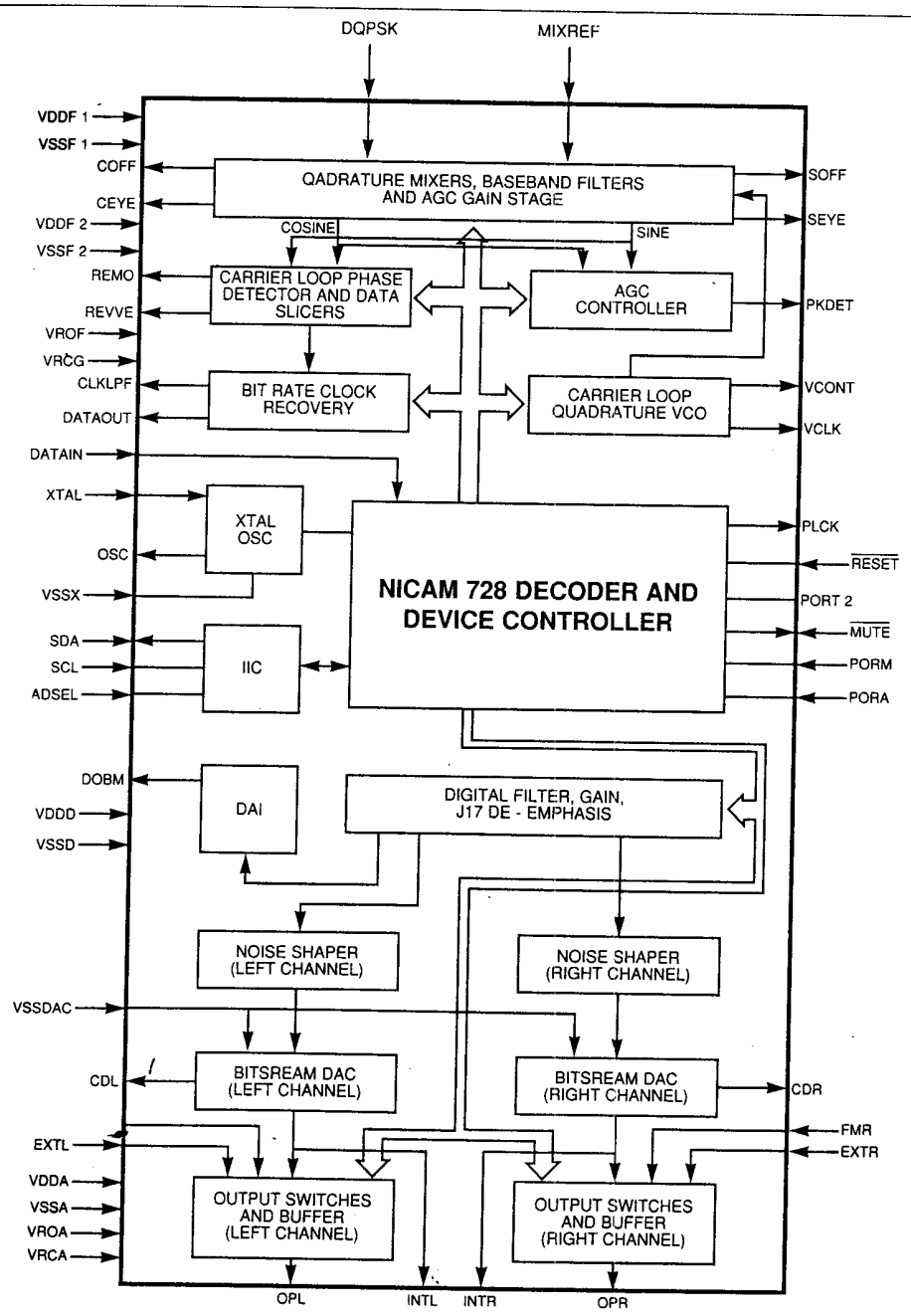


Block diagram of the biplar TV/VTR-stereo decoder

SAA 7283

PINNING		PIN VOLTAGE
1	Mute input	5V
2	Digital audio interference output	2.54V
3	Audio VDD	5V
4	Audio V-SS	0V
5	Internal audio reference voltage buffer	2.5V
6	External analogue input (Right)	0.3V
7	Fm sound input (Right)	2.5V
8	Analogue output (Right)	2.5V 9
9	Not connected	0V
10	Not connected	0V
11	Internal audio reference voltage buffer output	2.5V
12	Quit VSS to DACs	0V
13	Not connected	0V
14	Not connected	0V
15	Analogue audio output (Left)	2.5V
16	FM sound input (Left)	2.5V
17	External analogue input (Left)	0.4V
18	Power-on reset mute	5V
19	Power-on reset audio select	-
20	Carrier loop filter connection	-
21	Carrier loop filter output	-
22	Sine channel eve pattern output	-
23	Sine channel offset compensator capacitor	2.5V
24	Demodulator Vss	0V
25	VCO control voltage input	2.5V
26	Demodulator V_{DD}	5.8V
27	VCO control voltage input	5V
28	Mixer voltage reference	2.4V
29	DQPSK input	2.5V
30	Cosine channel offset compensator capacitor	2.5V
31	Cosine channel eye pattern output	2.5V
32	AGC peak detector storage capacitor	2.5V
33	Internal demodulator reference voltage buffered output	2.5V
34	Internal demodulator reference current output	2.5V
35	Internal demodulator reference voltage unbuffered output	2.5V
36	Demodulator V_{DD}	2.5V
37	Demodulator Vss	5V
38	Not connected	0V
39	Clock loop phase comparator output	2V
40	8.192MHz X-tal input	3.1V
41	8.192MHz X-tal output	2.5V
42	X-tal oscillator Vss	0V
43	Data input (Serial - 728 kbits/s)	2.5V
44	Data output (Serial - 728 kbits/s)	0V

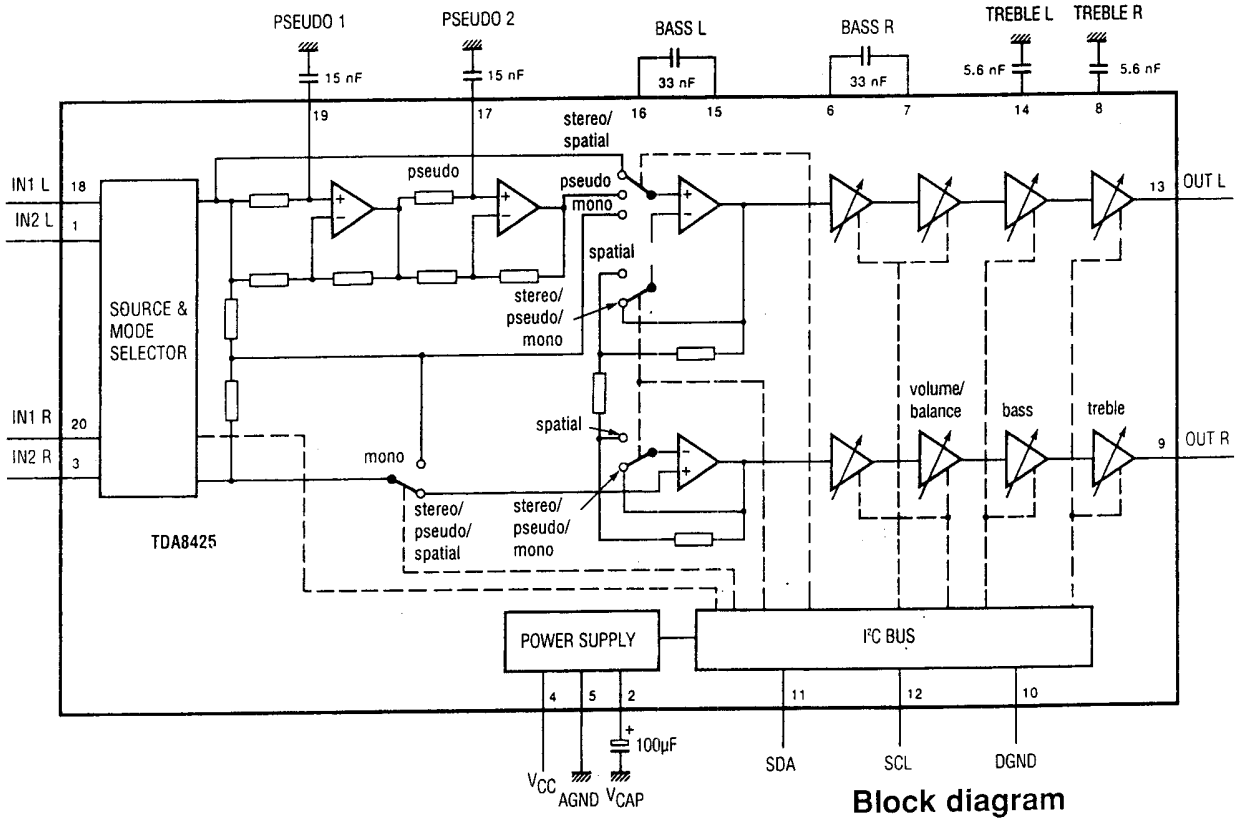
PINNING		PIN VOLTAGE
45	Clock output (728khz)	0.5V
46	Digital Vss	5V
47	Digital V_{DD}	5V
48	Data output (Serial - 728 kbits/s)	2.5V
49	Clock input (for I²C)	5Vpp
50	Data input/output (for I²C)	5Vpp
51	I²C address bit 0 input	0V
52	I² C bus bit (controled from PORT2)	5V



Block diagram of SAA7283

TDA 8425

PINNING		PIN VOLTAGE
1	Input 2 (Left)	5.83V
2	External decouplage capacitor (VCAP)	11.66V
3	Input 2 (Right)	5.84V
4	Supply voltage	11.76V
5	Ground	0V
6	Bass (Right)	5.84V
7	Bass (Right)	5.85V
8	Treble (Right)	5.85V
9	Output (Right)	5.85V
10	Ground	0V
11	Voltage Range	4.3V
12	Voltage Range	4.3V
13	Output (Left)	5.85V
14	Treble (Left)	5.85V
15	Bass (Left)	5.85V
16	Bass (Left)	5.84V
17	External capacitors 2	5.84V
18	Input 1 (left)	5.83V
19	External capacitor 1	5.83V
20	Input (Right)	5.83V



Block diagram

Vertical Deflection Circuit With TDA3653B

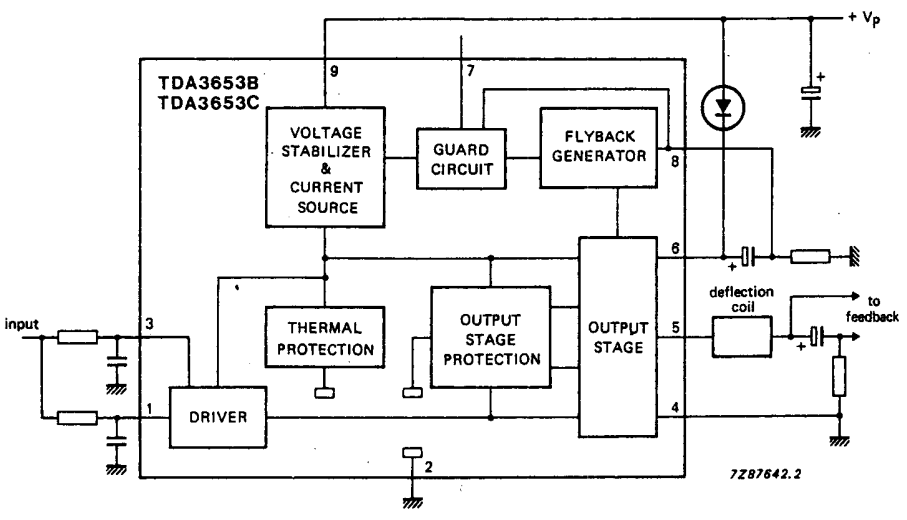
The TDA3653B is a vertical deflection output circuit for drive of various deflection systems with current up to 1.5 A peak to peak.

Features

- Driver
- Output Stage
- Thermal Protection
- Flyback Generator
- Voltage Stabilizer
- Guard Circuit

TDA 3653B

PINNING		PIN VOLTAGE
1	Output Stage Driver Input	1.2V and 2Vpp
2	Ground	-
3	Switching Circuit Input	1.2V and 2Vpp
4	Output Stage Ground	-
5	Output Voltage	13V and 45Vpp
6	Supply Voltage for the Output Stage	26V
7	DC Voltage produced by the Guard Circuit	-
8	Flyback Generator Output	8V
9	Supply Voltage	26V



Block diagram

Video Output Amplifier

On CRT Board, TDA 6103Q is used as video output amplifier. The TDA 6103Q includes three video output amplifier intended to drive the three cathodes of color CRT.

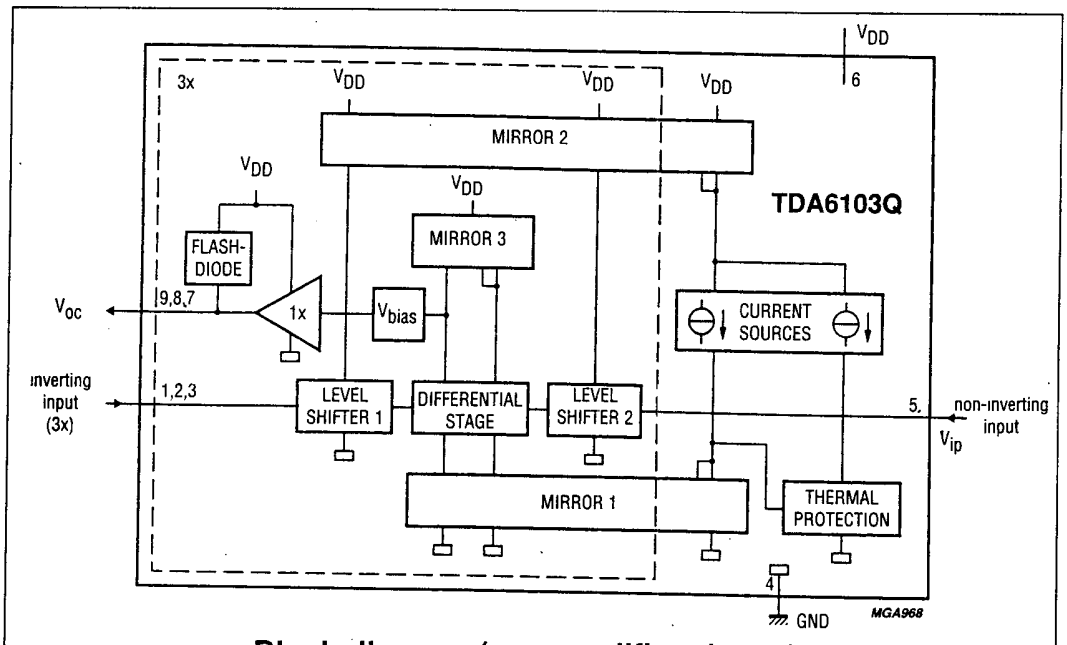
Features

- High Bandwith : 7.5 Mhz typical
- High slew rate : 1600 V/us
- Simple application with a variety of color decoders
- Only one supply voltage needed
- Internal protection against positive appearing CRT flashover discharges
- One non-inverting input with a low minimum input voltage of 1V
- Thermal protection
- Controllable switch-off behavior

For Service Manuals Contact
MAURITRON TECHNICAL SERVICES
8 Cherry Tree Rd, Chinnor
Oxon OX9 4QY
Tel:- 01844-351694 Fax:- 01844-352554
Email:- enquiries@mauritron.co.uk

TDA 6103Q

PINNING		PIN VOLTAGE
1	Inverting input 1	:1.0Vpp
2	Inverting input 2	:1.0Vpp
3	Inverting input 3	:1.0Vpp
4	Ground, fin	: -
5	Non-inverting input	:1.8V
6	Supply voltage	:180V
7	Cathode output 3	: 90Vpp
8	Cathode output 2	: 90Vpp
9	Cathode output 1	: 90Vpp



Block diagram (one amplifier shown)

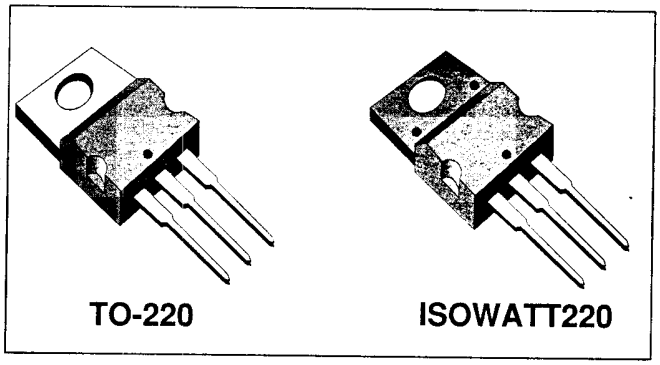
POWER MOS AND HORIZONTAL DRIVE TRANSISTORS SPECS

STH3N90 / STP3N90FI

N-CHANNEL ENHANCEMENT MODE POWER MOS TRANSISTOR

TYPE	V_{DSS}	$R_{DS(on)}$	I_D
STH5N90	900 V	< 2.4 Ω	5.3 A
STH5N90FI	900 V	< 2.4 Ω	3.5 A

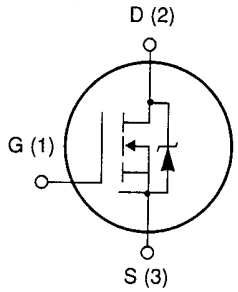
- Typical $R_{DS(on)}$ = 3.9 Ω
- Avalanche Rugged technology
- 100% avalanche tested
- Repetitive avalanche data at 100°C
- Low input capacitance
- Low gate charge
- Application oriented characterization



APPLICATIONS

- High current, high speed switching
- Switch mode power supplies (SMPS)
- Consumer and industrial lighting
- DC-AC inverters for welding equipment and uninterruptible power supply (UPS)

INTERNAL SCHEMATIC DIAGRAM



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value		Unit
		STH3N90	STH3N90FI	
V_{DS}	Drain-source Voltage (V_{GS} = 0)	900		V
V_{DGR}	Drain-gate Voltage (R_{GS} = 20 kΩ)	900		V
V_{GS}	Gate-source Voltage	± 20		V
I_D	Drain Current (continuous) at T_C = 25 °C	3.2	1.9	A
I_D	Drain Current (continuous) at T_C = 100 °C	2	1.2	A
I_{DM} (•)	Drain Current (pulsed)	13	13	A
P_{tot}	Total Dissipation at T_C = 25 °C	100	40	W
	Derating Factor	0.8	0.32	W / ° C
V_{ISO}	Insulation Withstand Voltage (DC)	-	2000	V
Tstg	Storage Temperature	-65 to 150		° C
T_j	Max. Operating Junction Temperature	150		° C

(•) *Pulse width limited by safe operating area*

THERMAL DATA

			TO-218	ISOWATT218	
$R_{thj\text{-}case}$	Thermal Resistance Junction-case	Max	1.25	3.12	°C/W
$R_{thj\text{-}amb}$	Thermal Resistance Junction-ambient	Max	62.5		°C/W
$R_{thc\text{-}sink}$	Thermal Resistance Case-sink	Typ	0.5		°C/W
T_l	Maximum Lead Temperature For Soldering Purpose		300		°C

AVALANCHE CHARACTERISTICS

Symbol	Parameter	Max Value	Unit
I_{AR}	Avalanche Current, Repetitive or Not-Repetitive (pulse width limited by T_j max, $\delta < 1\%$)	3.2	A
E_{AS}	Single Pulse Avalanche Energy (starting Tj = 25 °C, $I_D = I_{AR}$, V_{DD} = 50 V)	160	mJ
E_{AR}	Repetitive Avalanche Energy (pulse width limited by T_j max, $\delta < 1\%$)	4.2	mJ
I_{AR}	Avalanche Current, Repetitive or Not-Repetitive (T_c = 100 °C, pulse width limited by T_j max, $\delta < 1\%$)	2	A

ELECTRICAL CHARACTERISTICS (T_{case} = 25 °C unless otherwise specified)

OFF

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$V_{(BR)DSS}$	Drain-source Breakdown Voltage	I_D = 250 µA V_{GS} = 0	900			V
I_{DSS}	Zero Gate Voltage Drain Current (V_{GS} = 0)	V_{DS} = Max Rating V_{DS} = Max Rating x 0.8 T_c = 125 °C			250 1000	µA µA
I_{GSS}	Gate-body Leakage Current (V_{DS} = 0)	V_{GS} = ± 20 V			± 100	nA

ON (*)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$V_{GS(th)}$	Gate Threshold Voltage	V_{DS} = V_{GS} I_D = 250 µA	2	3	4	V
$R_{DS(on)}$	Static Drain-source On Resistance	V_{GS} = 10V I_D = 1.7 A V_{GS} = 10V I_D = 1.7 A T_c = 100 °C		3.9	4.5 9	Ω Ω
$I_{D(on)}$	On State Drain Current	V_{DS} > $I_{D(on)}$ x $R_{DS(on)max}$ VGS = 10 V	3.2			A

DYNAMIC

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
g_{fs} (*)	Forward Transconductance	V_{DS} > $I_{D(on)}$ x $R_{DS(on)max}$ I_D = 1.7 A	1	3.5		S
C_{iss} C_{oss} C_{rss}	Input Capacitance Output Capacitance Reverse Transfer Capacitance	V_{DS} = 25 V f = 1 MHz V_{GS} = 0		650 82 28	850 105 40	pF pF pF

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$t_{d(on)}$ t_r	Turn-on Time Rise Time	V_{DD} = 30 V I_D =2.1 A R_G = 50 Ω V_{GS} = 10 V (see test circuit, figure 3)		 85	50 105	ns ns
$(di/dt)_{on}$	Turn-on Current Slope	V_{DD} = 640 V I_D = 3 A R_G = 50 Ω V_{GS} = 10 V (see test circuit, figure 5)		170		A/µs
Q_g Q_{gs} Q_{gd}	Total Gate Charge Gate-Source Charge Gate-Drain Charge	V_{DD} = 400V I_D = 3 A V_{GS} = 10 V		 42 6 17	 55	 nC nC nC

SWITCHING OFF

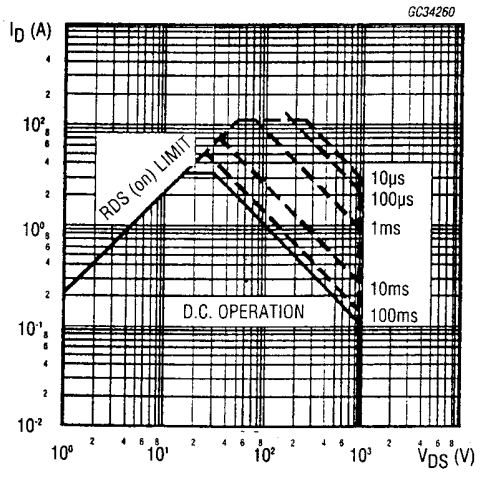
Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$t_{r(Voff)}$ t_f t_c	Off-voltage Rise Time Fall Time Cross-over Time	V_{DD} = 640 V I_D = 3 A R_G = 50 Ω V_{GS} = 10 V (see test circuit, figure 5)		95 20 120	120 25 165	ns ns ns

SOURCE DRAIN DIODE

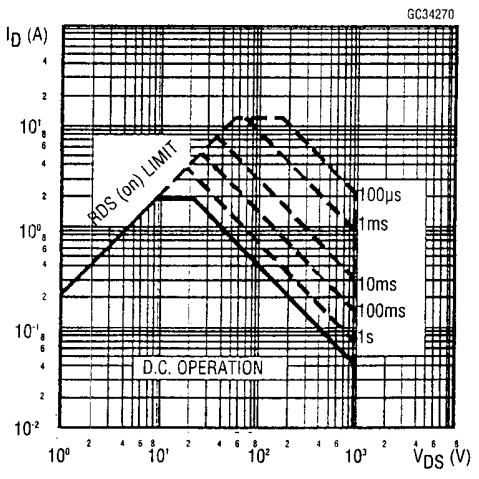
Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{SD} I_{SDM} (•)	Source-drain Current Source-drain Current (pulsed)				3.2 1.3	A A
V_{SD} (*)	Forward On Voltage	I_{SD} = 3.2 A V_{GS} = 0			2	V
t_{rr} Q_{rr} I_{RRM}	Reverse Recovery Time Reverse Recovery Charge Reverse Recovery Current	I_{SD} =3 A di/dt = 100 A/µs V_{DD} = 80 V T_j = 150°C (see test circuit, figure 5)		700 8.8 25		ns µC A

(*) *Pulsed: Pulse duration = 300 µs, duty cycle 15%* (•) *Pulse width limited by safe operating area*

Safe Operating Areas For TO-218



Safe Operating Areas For ISOWATT218



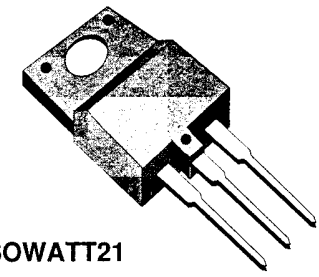
BUH515D

CRT HORIZONTAL DEFLECTION
HIGH VOLTAGE NPN FASTSWITCHING TRANSISTOR

- High breakdown voltage capability
- Fully insulated package for easy mounting
- Low saturation voltage
- High switching speed
- Complete characterization of power losses and switching times as a function of negative base current for optimum drive

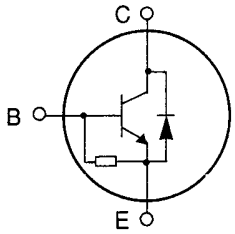
APPLICATIONS:

- Horizontal deflection stage in standard and high resolution dis-plays for TV's and monitors



ISOWATT21

INTERNAL SCEMATIC DIAGRAM



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_{CB0}	Collector-Base Voltage (I_E = 0)	1500	V
V_{CE0}	Collector-Emitter Voltage (I_B = 0)	700	V
V_{EB0}	Emitter-Base Voltage (I_C = 0)	5	V
I_C	Collector Current	8	A
I_{CM}	Collector Peak Current (t_p < 5 ms)	15	A
I_B	Base Current	5	A
I_{BM}	Base Peak Current (t_p < 5 ms)	8	A
P_{tot}	Total Dissipation at Tc = 25°C	60	W
T_{stg}	Storage Temperature	-65 to 150	°C
T_j	Max. Operating Junction Temperature	150	°C

For Service Manuals Contact
MAURITRON TECHNICAL SERVICES
8 Cherry Tree Rd, Chinnor
Oxon OX9 4QY
Tel:- 01844-351694 Fax:- 01844-352554
Email:- enquiries@mauritron.co.uk

BUH515D

THERMAL DATA

$R_{thj\text{-}case}$	Thermal Resistance Junction-case	Max	2.08	°C/W

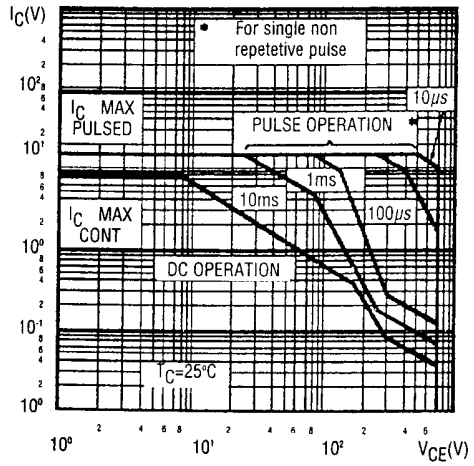
ELECTRICAL CHARACTERISTICS (Tcase = 25°C unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{CES}	Collector Cut-off Current (V_{BE} = 0)	V_{CE} = 1500 V V_{CE} = 1500 V T_j = 125°C			1 2	mA mA
I_{EBO}	Emitter Cut-off Current (I_C = 0)	V_{EB} = 5 V			300	mA
$V_{CE(sat)}$*	Collector-Emitter Saturation Voltage	I_C = 5 A I_B = 1.25 A			1.5	V
$V_{BE(sat)}$*	Base-Emitter Saturation Voltage	I_C = 5 A I_B = 1.25 A			1.3	V
h_{FE}*	DC Current Gain	I_c = 5 A V_{CE} = 5 V I_c = 5 A V_{CE} = 5 V T_J= 100 °C	5 3			
t_s t_f	RESISTIVE LOAD Storage Time Fall Time	Vcc = 400 V I_C = 5 A I_{B1} = 1.25 A I_{B2} = 2.5 A		2.4 170	3.6 260	µs ns
t_s t_f	INDUCTIVE LOAD Storage Time Fall Time	I_c = 5 A f = 15625 Hz I_{B1} = 1.25 A I_{B2} = 2.5 A $V_{ceflyback} = 1050 \sin \left\{ \frac{\pi}{10} 10^6 \right\} t$ V		3.5 4.50		µs ns
V_f	Diode Forward Voltage	I_F = 5 A			2	V

* *Pulsed: Pulse duration = 300 µs, duty cycle 1.5%*

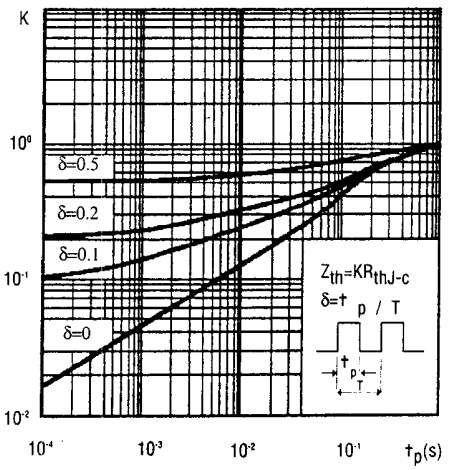
Safe operating Areas

GC32910

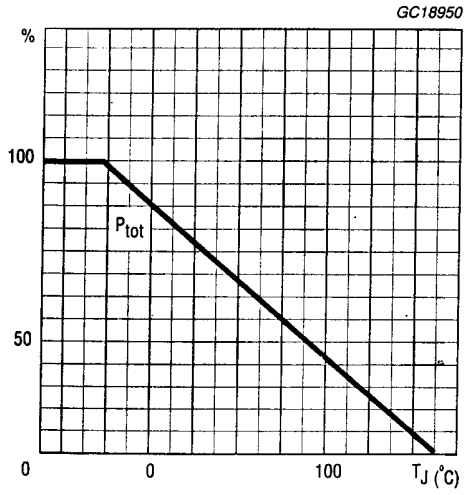


Thermal Impedance

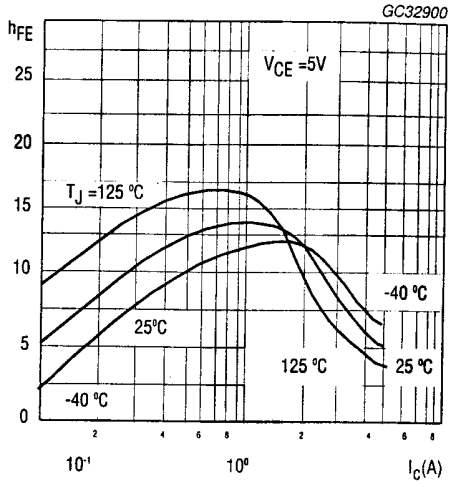
GC32710



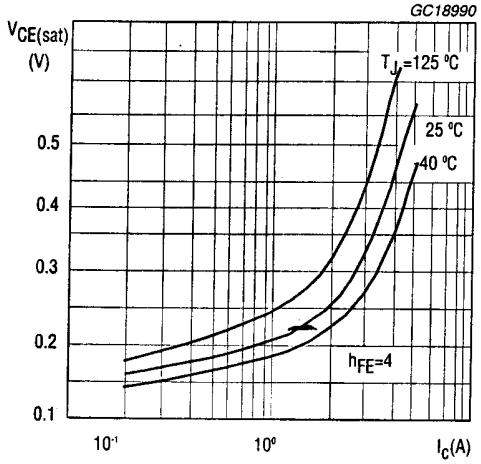
Derating Curves



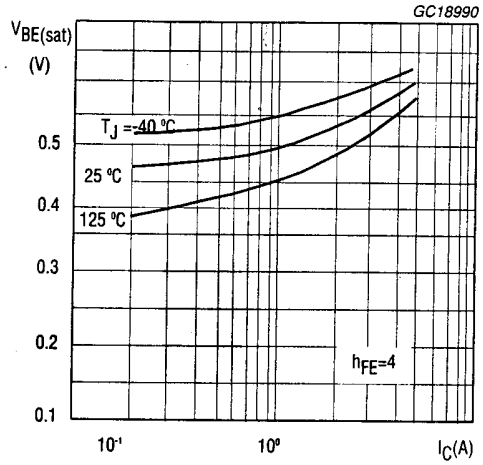
DC Current Gain



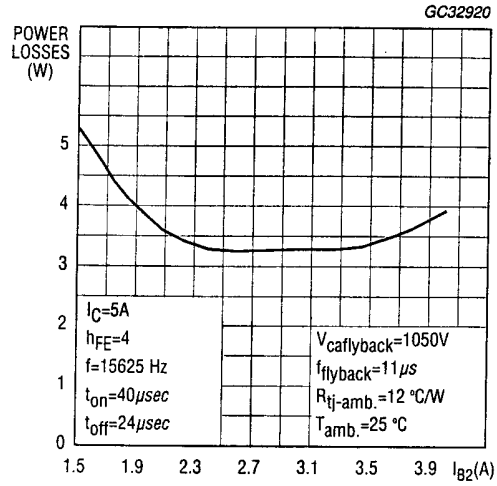
Collector-Emitter Saturation Voltage



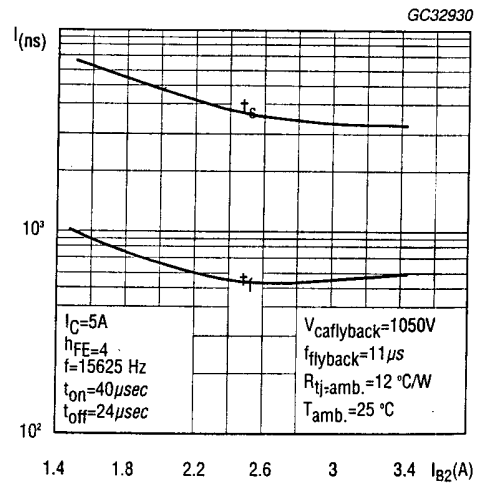
Base-Emitter Saturation Voltage



Power Losses at 16 KHz



Switching Time Inductive Load 16 KHz



For Service Manuals Contact
MAURITRON TECHNICAL SERVICES
8 Cherry Tree Rd, Chinnor
Oxon OX9 4QY
Tel:- 01844-351694 Fax:- 01844-352554
Email:- enquiries@mauritron.co.uk

CHASSIS REPLACEMENT PART LIST

PRODUCT NAME	FIDELITY CTV 3014F
PRODUCT NO	10934
COUNTRY	ENGLAND
COMPANY	AMSTRAD
CRT TYPE	14" EKRANAS
SYSTEM	PAL I
TXT	NO
STEREO	NO
CABINET TYPE	PREMIER 003
REMOTE CONTROL	TM-36 M
CHASSIS TYPE	PT-11

SPARE PART LIST

PART NO	COMPONENT	POS
002013202360	CABLE 2P*1SKT 35CM YPT	
002021000300	CABLE 2P*1SKT.35CM DEG.	
002021000301	CABLE 2P*1SKT.35CM S/B DEG.SGS	
002033200300	CABLE 3P*1SKT.40CMPRE.28SM1YPT	
002042000031	CABLE 4P(3P)*2SKT.38CM SM1	
002052000401	CABLE 5P*2SKT.38CM SM1	
002099502710	CABLE 2P*1SKT.50CM HOP-TWETTER	
002344500020	CABLE 2P*1SKT.40CM VERT.	
002344500021	CABLE 2P*1SKT.40CM BROWN/BLACK	
002344500030	CABLE 2P*1SKT.40CM HORZ.	
002344500031	CABLE 2P*1SKT.40CM RED-WHITE	
002421512100	CABLE 4P*1SKT.40CM PRG.VOL.YPT	
002521517030	CABLE SINGLE(ICICOK)7*0.25BLACK	I601
002528503041	POWER CABLE PAL-I 500UH	
002720517040	CABLE 24*0.20*300EMC14,28,LUMA	
005051084621	SILICON ISALATOR TO-220	I003
005051084631	BEAD ISALATORTO220BBH/TO22DBH	I003
005410029580	BRACKET CRT 14'	
005410129940	BUTTON ON-OFF 14' 003	
005415027840	BACK COVER STICKER FIDELITY CTV3014F	
005455002150	HOLDER CABLE(0.5MT)	
005455423460	LOGO FIDELITY 14"	
013283020760	SPRIN OF BUTTON ON-OFF 002-003-Y.PRM	
013610711400	GRIL SPEAKER 14" TLFK-003 SMTRK	
013926020540	BRACKET ON-OFF GDE 001Y	
030010610211	RESISTOR C.F 1K 1/8W 5%	
030010627421	RESISTOR M.O 270K 1W 5%	R004
030020610131	RESISTOR C.F 100R 1/4W 5%	R057
030020610131	RESISTOR C.F 100R 1/4W 5%	R063
030020610131	RESISTOR C.F 100R 1/4W 5%	R070
030020610331	RESISTOR C.F 10K 1/4W 5%	R032
030020610331	RESISTOR C.F 10K 1/4W 5%	R075
030020610331	RESISTOR C.F 10K 1/4W 5%	R076

PART NO	COMPONENT	POS
030020615231	RESISTOR C.F 1.5K 1/4W 5%	R055
030020615231	RESISTOR C.F 1.5K 1/4W 5%	R061
030020615231	RESISTOR C.F 1.5K 1/4W 5%	R068
030020615231	RESISTOR C.F 1.5K 1/4W 5%	R074
030020622511	RESISTOR C.F 2.2M 1/4W 5%	R073
030020633231	RESISTOR C.F 3.3K 1/4W 5%	R072
030020639131	RESISTOR C.F 390R 1/4W 5%	R051
030020639131	RESISTOR C.F 390R 1/4W 5%	R058
030020639131	RESISTOR C.F 390R 1/4W 5%	R065
030020647131	RESISTOR C.F 470R 1/4W 5%	R056
030020647131	RESISTOR C.F 470R 1/4W 5%	R062
030020647131	RESISTOR C.F 470R 1/4W 5%	R069
030020647231	RESISTOR C.F 4.7K 1/4W 5%	R007
030020647231	RESISTOR C.F 4.7K 1/4W 5%	R608
030020647231	RESISTOR C.F 4.7K 1/4W 5%	R077
030020668111	RESISTOR C.F 680R 1/4W 5%	R064
030020668111	RESISTOR C.F 680R 1/4W 5%	R071
030020682111	RESISTOR C.F 820R 1/4W 5%	R054
030050615901	RESISTOR M.O 1.5R 1/2W 5%	R624
030050622111	RESISTOR C.F 220R 1/2W 5%	R625
030050622111	RESISTOR C.F 220R 1/2W 5%	R627
030050647001	RESISTOR M.O 470R 1/2W5%NONFLM	R626
030050647511	RESISTOR C.F 4.7M 1/2W 5% SFTY	R013
030055722811	RESISTOR FUSIBLE 0.22R 1/2W 5%	R021
030055722811	RESISTOR FUSIBLE 0.22R 1/2W 5%	R022
030055722811	RESISTOR FUSIBLE 0.22R 1/2W 5%	R023
030055722811	RESISTOR FUSIBLE 0.22R 1/2W 5%	R611
030059627211	RESISTOR M.O 2.7K1/2W5%NONFLM	R052
030059627211	RESISTOR M.O 2.7K1/2W5%NONFLM	R059
030059627211	RESISTOR M.O 2.7K1/2W5%NONFLM	R066
030105622811	RESISTOR FUSIBLE 0.22R 1W 5%	R020
030105622811	RESISTOR FUSIBLE 0.22R 1W 5%	R647
030108633911	RESISTOR M.O 3.3R 1W 5%	R645
030108647311	RESISTOR C.F 47K 1W 5%	R024
030108668411	RESISTOR M.O 680K 1W 5%	R005
030108712311	RESISTOR M.O 12K 1W 5%	R025
030140610101	RESISTOR C.F 100R 1/6W 5%	R104
030140610101	RESISTOR C.F 100R 1/6W 5%	R106
030140610101	RESISTOR C.F 100R 1/6W 5%	R121
030140610101	RESISTOR C.F 100R 1/6W 5%	R122
030140610101	RESISTOR C.F 100R 1/6W 5%	R123
030140610101	RESISTOR C.F 100R 1/6W 5%	R303
030140610101	RESISTOR C.F 100R 1/6W 5%	R330
030140610101	RESISTOR C.F 100R 1/6W 5%	R338
030140610101	RESISTOR C.F 100R 1/6W 5%	R339
030140610101	RESISTOR C.F 100R 1/6W 5%	R340
030140610101	RESISTOR C.F 100R 1/6W 5%	R343
030140610101	RESISTOR C.F 100R 1/6W 5%	R344
030140610201	RESISTOR C.F 1K 1/6W 5%	R103

PART NO	COMPONENT	POS
030140610201	RESISTOR C.F 1K 1/6W 5%	R111
030140610201	RESISTOR C.F 1K 1/6W 5%	R120
030140610201	RESISTOR C.F 1K 1/6W 5%	R131
030140610201	RESISTOR C.F 1K 1/6W 5%	R145
030140610201	RESISTOR C.F 1K 1/6W 5%	R301
030140610201	RESISTOR C.F 1K 1/6W 5%	R309
030140610201	RESISTOR C.F 1K 1/6W 5%	R312
030140610201	RESISTOR C.F 1K 1/6W 5%	R323
030140610201	RESISTOR C.F 1K 1/6W 5%	R333
030140610201	RESISTOR C.F 1K 1/6W 5%	R336
030140610201	RESISTOR C.F 1K 1/6W 5%	R401
030140610201	RESISTOR C.F 1K 1/6W 5%	R652
030140610201	RESISTOR C.F 1K 1/6W 5%	R659
030140610311	RESISTOR C.F 10K 1/6W 5%	R153
030140610311	RESISTOR C.F 10K 1/6W 5%	R011
030140610311	RESISTOR C.F 10K 1/6W 5%	R030
030140610311	RESISTOR C.F 10K 1/6W 5%	R136
030140610311	RESISTOR C.F 10K 1/6W 5%	R152
030140610311	RESISTOR C.F 10K 1/6W 5%	R310
030140610311	RESISTOR C.F 10K 1/6W 5%	R610
030140610311	RESISTOR C.F 10K 1/6W 5%	R621
030140610411	RESISTOR C.F 100K 1/6W 5%	R127
030140610411	RESISTOR C.F 100K 1/6W 5%	R132
030140610411	RESISTOR C.F 100K 1/6W 5%	R315
030140610411	RESISTOR C.F 100K 1/6W 5%	R318
030140610411	RESISTOR C.F 100K 1/6W 5%	R326
030140610411	RESISTOR C.F 100K 1/6W 5%	R360
030140610411	RESISTOR C.F 100K 1/6W 5%	R663
030140612121	RESISTOR C.F 120R 1/6W 5%	R361
030140612311	RESISTOR C.F 12K 1/6W 5%	R139
030140612311	RESISTOR C.F 12K 1/6W 5%	R307
030140612311	RESISTOR C.F 12K 1/6W 5%	R390
030140612311	RESISTOR C.F 12K 1/6W 5%	R632
030140612311	RESISTOR C.F 12K 1/6W 5%	R662
030140612311	RESISTOR C.F 12K 1/6W 5%	R665
030140612311	RESISTOR C.F 12K 1/6W 5%	R666
030140612311	RESISTOR C.F 12K 1/6W 5%	R675
030140615311	RESISTOR C.F 15K 1/6W 5%	R305
030140615311	RESISTOR C.F 15K 1/6W 5%	R306
030140615311	RESISTOR C.F 15K 1/6W 5%	R633
030140615421	RESISTOR C.F 150K 1/6W 5%	R405
030140618121	RESISTOR C.F 180R 1/6W 5%	R101
030140618201	RESISTOR C.F 1.8K 1/6W 5%	P604
030140618201	RESISTOR C.F 1.8K 1/6W 5%	R028
030140618201	RESISTOR C.F 1.8K 1/6W 5%	R494
030140618201	RESISTOR C.F 1.8K 1/6W 5%	R667
030140622101	RESISTOR C.F 220R 1/6W 5%	R006
030140622101	RESISTOR C.F 220R 1/6W 5%	R651
030140622101	RESISTOR C.F 220R 1/6W 5%	R668

PART NO	COMPONENT	POS
030140622221	RESISTOR C.F 2.2K 1/6W 5%	R108
030140622221	RESISTOR C.F 2.2K 1/6W 5%	R117
030140622221	RESISTOR C.F 2.2K 1/6W 5%	R337
030140622221	RESISTOR C.F 2.2K 1/6W 5%	R629
030140622221	RESISTOR C.F 2.2K 1/6W 5%	R635
030140622221	RESISTOR C.F 2.2K 1/6W 5%	R669
030140622311	RESISTOR C.F 22K 1/6W 5%	R109
030140622311	RESISTOR C.F 22K 1/6W 5%	R146
030140622311	RESISTOR C.F 22K 1/6W 5%	R346
030140622411	RESISTOR C.F 220K 1/6W 5%	R325
030140622511	RESISTOR C.F 2.2M 1/6W 5%	R308
030140622901	RESISTOR C.F 2.2R 1/6W%5NONFLM	R154
030140622911	RESISTOR C.F 2.2R 1/6W 5%	R406
030140627311	RESISTOR C.F 27K 1/6W 5%	R317
030140627311	RESISTOR C.F 27K 1/6W 5%	R345
030140633101	RESISTOR C.F 330R 1/6W 5%	R027
030140633201	RESISTOR C.F 3.3K 1/6W 5%	R302
030140633201	RESISTOR C.F 3.3K 1/6W 5%	R341
030140633201	RESISTOR C.F 3.3K 1/6W 5%	R342
030140633411	RESISTOR C.F 330K 1/6W 5%	R143
030140633511	RESISTOR M.F 3.3M 1/6W 5%	R140
030140639021	RESISTOR C.F 39R 1/2W 5%	R605
030140639111	RESISTOR C.F 390R 1/6W 5%	R105
030140639111	RESISTOR C.F 390R 1/6W 5%	R352
030140639211	RESISTOR C.F 3.9K 1/6W 5%	R620
030140639301	RESISTOR C.F 39K 1/6W 5%	R311
030140639301	RESISTOR C.F 39K 1/6W 5%	R613
030140639411	RESISTOR C.F 390K 1/6W 5%	R672
030140647011	RESISTOR C.F 47R 1/6W 5%	R008
030140647011	RESISTOR C.F 47R 1/6W 5%	R009
030140647111	RESISTOR C.F 470R 1/6W 5%	R492
030140647211	RESISTOR C.F 4.7K 1/6W 5%	R116
030140647211	RESISTOR C.F 4.7K 1/6W 5%	R147
030140647211	RESISTOR C.F 4.7K 1/6W 5%	R316
030140647211	RESISTOR C.F 4.7K 1/6W 5%	R353
030140647211	RESISTOR C.F 4.7K 1/6W 5%	R601
030140647311	RESISTOR C.F 47K 1/6W 5%	R118
030140647311	RESISTOR C.F 47K 1/6W 5%	R151
030140647311	RESISTOR C.F 47K 1/6W 5%	R348
030140647311	RESISTOR C.F 47K 1/6W 5%	R631
030140647411	RESISTOR C.F 470K 1/6W 5%	R138
030140647921	RESISTOR C.F 4.7R 1/6W5%NONFLM	R137
030140650911	RESISTOR C.F 5.1R 1/6W 5%	R010
030140656011	RESISTOR C.F 56R 1/6W 5%	R653
030140656211	RESISTOR C.F 5.6K 1/6W 5%	R102
030140656211	RESISTOR C.F 5.6K 1/6W 5%	R144
030140656211	RESISTOR C.F 5.6K 1/6W 5%	R304
030140656311	RESISTOR C.F 56K 1/6W 5%	R622
030140668201	RESISTOR C.F 6.8K 1/6W 5%	R115

For Service Manuals Contact
MAURITRON TECHNICAL SERVICES
8 Cherry Tree Rd, Chinnor
Oxon OX9 4QY
Tel:- 01844-351694 Fax:- 01844-352554
Email:- enquiries@mauritron.co.uk

PART NO	COMPONENT	POS
030140668311	RESISTOR C.F 68K 1/6W 5%	R150
030140668411	RESISTOR C.F 680K 1/6W 5%	R671
030140675011	RESISTOR C.F 75R 1/6W 5%	R110
030140675011	RESISTOR C.F 75R 1/6W 5%	R655
030140675011	RESISTOR C.F 75R 1/6W 5%	R656
030140675011	RESISTOR C.F 75R 1/6W 5%	R658
030140675011	RESISTOR C.F 75R 1/6W 5%	R674
030140675201	RESISTOR C.F 7.5K 1/6W 5%	R012
030140682011	RESISTOR C.F 82R 1/6W 5%	R107
030140682011	RESISTOR C.F 82R 1/6W 5%	R602
030140682121	RESISTOR C.F 820R 1/6W 5%	R670
030140682211	RESISTOR C.F 8.2K 1/6W 5%	R031
030140682211	RESISTOR C.F 8.2K 1/6W 5%	R612
030140682211	RESISTOR C.F 8.2K 1/6W 5%	R630
030208610311	RESISTOR M.O 10K 2W %5	R604
030208668311	RESISTOR M.O 68K 2W 5%	R002
030208668311	RESISTOR M.O 68K 2W 5%	R003
030208682211	RESISTOR C.F 8.2K 2W 5%	R053
030208682211	RESISTOR C.F 8.2K 2W 5%	R060
030208682211	RESISTOR C.F 8.2K 2W 5%	R067
030218610911	RESISTOR M.O 1R 3W 5%	R403
032053620211	RESISTOR W.W 2K 5W 10%	R603
032053656921	RESISTOR W.W 5.6R 5W 10%	R001
032053656921	RESISTOR W.W 5.6R 5W 10%	R607
034710303631	THERM PTC 18R 30% 3P 10/2.5MM	RT01
037720007821	FILTER TRAP 6.0MHZ TPS 6.0MB	F102
037720007831	FILTER CER 6.0MHZ SFE6.0MB	F104
037790007871	FILTER SAW J1952M I MONO INTCR	F101
040030043921	CAP CER 390PF 50V 10% SL	C652
040032041801	CAP CER 18P 50V 5% CH	C127
040032041801	CAP CER 18P 50V 5% CH	C301
040032041801	CAP CER 18P 50V 5% CH	C315
040032041801	CAP CER 18P 50V 5% CH	C316
040034042701	CAP CER 27PF 50V 5% CH 05	C170
040034042701	CAP CER 27PF 50V 5% CH 05	C171
040040032211	CAP CER 220PF 50V 10% B	C051
040040032211	CAP CER 220PF 50V 10% B	C052
040040041021	CAP CER 1N 50V 10% B	C407
040040041021	CAP CER 1N 50V 10% B	C620
040040042211	CAP CER 220PF 50V 10% SL	C319
040040044701	CAP CER 47PF 50V 10% CH	C106
040040044701	CAP CER 47PF 50V 10% CH	C190
040040044721	CAP CER 4.7NF 50V 10% B	C621
040040044721	CAP CER 4.7NF 50V 10% B	C622
040040141011	CAP CER 100PF 500V 10% B	C614
040040152211	CAP CER 2.2NF 1KV 10% BN	C003
040040152211	CAP CER 2.2NF 1KV 10% BN	C004
040040152211	CAP CER 2.2NF 1KV 10% BN	C603
040040154711	CAP CER 470PF 1KV 10% B	C015

PART NO	COMPONENT	POS
040040154711	CAP CER 470PF 1KV 10% B	C024
040040154711	CAP CER 470PF 1KV 10% B	C028
040040156811	CAP CER 680PF 1KV 10% BN	C604
040040171021	CAP CER 1NF 2KV 10% BN	C007
040040174711	CAP CER 470PF 2KV 10% BN	C602
040042041001	CAP CER 10PF 50V 10% CH	C155
040042042201	CAP CER 22PF 50V 10% CH	C102
040042042201	CAP CER 22PF 50V 10% CH	C310
040042042201	CAP CER 22PF 50V 10% CH	C311
040042042201	CAP CER 22PF 50V 10% CH	C312
040042042201	CAP CER 22PF 50V 10% CH	C313
040042045611	CAP CER 560PF 50V 10% B	C053
040046151021	CAP CER 1NF 1KV 10% BN	C008
040046151021	CAP CER 1NF 1KV 10% BN	C030
040046151021	CAP CER 1NF 1KV 10% BN	C033
040046151021	CAP CER 1NF 1KV 10% BN	C611
040060174721	CAP CER 4.7NF 2KV 20% BN	C058
040070021021	CAP CER 1NF 25V +80-20% F	C199
040070021021	CAP CER 1NF 25V +80-20% F	C653
040070021031	CAP CER 100NF 25V +80-20% F	C036
040070021031	CAP CER 100NF 25V +80-20% F	C038
040070021031	CAP CER 100NF 25V +80-20% F	C042
040070021031	CAP CER 100NF 25V +80-20% F	C120
040070021031	CAP CER 100NF 25V +80-20% F	C123
040070021031	CAP CER 100NF 25V +80-20% F	C124
040070021031	CAP CER 100NF 25V +80-20% F	C126
040070021031	CAP CER 100NF 25V +80-20% F	C138
040070021031	CAP CER 100NF 25V +80-20% F	C153
040070021031	CAP CER 100NF 25V +80-20% F	C157
040070021031	CAP CER 100NF 25V +80-20% F	C318
040070021031	CAP CER 100NF 25V +80-20% F	C321
040070021031	CAP CER 100NF 25V +80-20% F	C325
040070021031	CAP CER 100NF 25V +80-20% F	C401
040070041021	CAP CER 1NF 50V +80-20% F	C117
040070041021	CAP CER 1NF 50V +80-20% F	C121
040070041021	CAP CER 1NF 50V +80-20% F	C122
040070041021	CAP CER 1NF 50V +80-20% F	C623
040070041031	CAP CER 10NF 50V +80-20% F	C027
040070041031	CAP CER 10NF 50V +80-20% F	C129
040070041031	CAP CER 10NF 50V +80-20% F	C130
040070042231	CAP CER 22NF 50V +80-20% F	C135
040070042231	CAP CER 22NF 50V +80-20% F	C137
040070042231	CAP CER 22NF 50V +80-20% F	C142
040070042231	CAP CER 22NF 50V +80-20% F	C613
040071042221	CAP CER 2.2NF 50V +80-20% F	C404
040258764721	CAP CER 4.7N400VAC 4KV20% SFTY	C014
042140161071	CAP ELECT 100MF 16V 20%	C320
042140164771	CAP ELECT 470MF 16V 20%	C037
042140164771	CAP ELECT 470MF 16V 20%	C054

PART NO	COMPONENT	POS
042184502251	CAP ELECT 2.2MF 50V 20% RU	C625
042194504751	CAP ELECT 4.7MF 50V 20%	C146
042194504751	CAP ELECT 4.7MF 50V 20%	C192
042414251061	CAP ELECT 10MF 25V 20%	C104
042414251061	CAP ELECT 10MF 25V 20%	C107
042414251061	CAP ELECT 10MF 25V 20%	C109
042414251061	CAP ELECT 10MF 25V 20%	C140
042414251061	CAP ELECT 10MF 25V 20%	C150
042414251061	CAP ELECT 10MF 25V 20%	C154
042414251061	CAP ELECT 10MF 25V 20%	C306
042414251061	CAP ELECT 10MF 25V 20%	C307
042414631071	CAP ELECT 100MF 63V 20%	C627
042414861051	CAP ELECT 1MF 250V 20%	C615
042416351081	CAP ELECT 1000MF 35V 20% RSS	C626
042416501051	CAP ELECT 1MF 50V 20%	C012
042416501051	CAP ELECT 1MF 50V 20%	C032
042416501051	CAP ELECT 1MF 50V 20%	C103
042416501051	CAP ELECT 1MF 50V 20%	C128
042416501051	CAP ELECT 1MF 50V 20%	C132
042416501051	CAP ELECT 1MF 50V 20%	C305
042416501051	CAP ELECT 1MF 50V 20%	C309
042416501051	CAP ELECT 1MF 50V 20%	C403
042416502261	CAP ELECT 22MF 50V 20%	C026
042417162271	CAP ELECT 220MF 16V 20%	C031
042417163361	CAP ELECT 33MF 16V 20%	C156
042419834761	CAP ELECT 47MF 160V 20%	C025
042440251091	CAP ELECT 1000MF 25V 20% 10*20	C034
042440354771	CAP ELECT 470MF 35V 20%	C041
042440354771	CAP ELECT 470MF 35V 20%	C402
042440354771	CAP ELECT 470MF 35V 20%	C612
042440861061	CAP ELECT 10MF 250V 20%	C605
042440861061	CAP ELECT 10MF 250V 20%	C610
042446161061	CAP ELECT 10MF 16V 20%	C158
042446502251	CAP ELECT 2.2MF 50V 20%	C136
042446502251	CAP ELECT 2.2MF 50V 20%	C141
042446502251	CAP ELECT 2.2MF 50V 20%	C308
042446862251	CAP ELECT 2.2MF 250V 20%	C056
042447164761	CAP ELECT 47MF 16V 20%	CALT
042447164761	CAP ELECT 47MF 16V 20%	C011
042447164761	CAP ELECT 47MF 16V 20%	C035
042447164761	CAP ELECT 47MF 16V 20%	C322
042449502271	CAP ELECT 220MF 50V 20%	C628
042719901071	CAP ELECT 100MF400V20% SNAP-IN	C005
045000000761	IC TDA4605	I001
045000000971	IC TDA7056A 3W MONO AMP	I401
045000001011	IC ST24C02B&PCF8582C-2P EEPROM	I302
045000001021	IC TDA3653B VERTICAL DEFLECTIO	I601
045000001031	IC TDA4665 DELAY LINE P/S	I102
045101070201	IC CTV322S V2 PCA84C641	I301

PART NO	COMPONENT	POS
045190083791	IC TDA8361-5Y PAL SIG. PROCES.	I101
045238103051	IC LM317 1.5A ADJ V REG TO-220	I003
045238103081	IC LM7805 5V1A VOLT REG TO-220	I002
046000000051	TRS.2SC1573A TO-92	Q601
046000000211	TRS.BUZ90AF	Q001
046000000251	TRS.2SK2545	Q001
046000022101	TRS.PH2369 TO-92	Q301
046246022281	TRS.BC547B	Q020
046246022281	TRS.BC547B	Q101
046246022281	TRS.BC547B	Q103
046246022281	TRS.BC547B	Q304
046246022281	TRS.BC547B	Q305
046246022281	TRS.BC547B	Q306
046246022281	TRS.BC547B	Q651
046246022281	TRS.BC547B	Q652
046246022281	TRS.BC547B	Q653
046246022281	TRS.BC547B	Q654
046472261011	TRS.BF869 TO-202	Q051
046472261011	TRS.BF869 TO-202	Q052
046472261011	TRS.BF869 TO-202	Q053
046926112281	TRS.BC546B TO-92	Q020
046926112281	TRS.BC546B TO-92	Q101
046926112281	TRS.BC546B TO-92	Q103
046926112281	TRS.BC546B TO-92	Q304
046926112281	TRS.BC546B TO-92	Q305
046926112281	TRS.BC546B TO-92	Q306
046926112281	TRS.BC546B TO-92	Q651
046926112281	TRS.BC546B TO-92	Q652
046926112281	TRS.BC546B TO-92	Q653
046926112281	TRS.BC546B TO-92	Q654
046926265281	TRS.BC556B TO-92	Q308
046926666291	TRS.BC557B	Q308
046932183031	TRS.BUH515D ISOWATT-218	Q602
046933000041	TRS.STP5N80FI ISOWATT-220	Q001
046933000051	TRS.STP3N90FI ISOWATT-220	Q001
046933000061	TRS.STP6N60FI ISOWATT-220	Q001
048000000011	DIODE RECT.BYD33D SOD-81	D006
048000000011	DIODE RECT.BYD33D SOD-81	D007
048000000011	DIODE RECT.BYD33D SOD-81	D610
048000000021	DIODE RECT.BYV95C SOD-57	D005
048000000021	DIODE RECT.BYV95C SOD-57	D020
048000000021	DIODE RECT.BYV95C SOD-57	D021
048000000021	DIODE RECT.BYV95C SOD-57	D022
048000000021	DIODE RECT.BYV95C SOD-57	D023
048000000021	DIODE RECT.BYV95C SOD-57	D601
048000000021	DIODE RECT.BYV95C SOD-57	D602
048000000021	DIODE RECT.BYV95C SOD-57	D603
048100255121	DIODE ZNR.3V6 BZX55C DO-35	D012
048210411001	DIODE GP.1N4148 DO-35	D107

PART NO	COMPONENT	POS
048210411001	DIODE GP.1N4148 DO-35	D306
048210411001	DIODE GP.1N4148 DO-35	D311
048210411001	DIODE GP.1N4148 DO-35	D313
048210411001	DIODE GP.1N4148 DO-35	D315
048210411001	DIODE GP.1N4148 DO-35	D316
048210411001	DIODE GP.1N4148 DO-35	D319
048210411001	DIODE GP.1N4148 DO-35	D321
048210411001	DIODE GP.1N4148 DO-35	D325
048210411001	DIODE GP.1N4148 DO-35	D393
048210411001	DIODE GP.1N4148 DO-35	D401
048210411001	DIODE GP.1N4148 DO-35	D612
048321423201	DIODE RECT.1N4007 DO-41	D001
048321423201	DIODE RECT.1N4007 DO-41	D002
048321423201	DIODE RECT.1N4007 DO-41	D003
048321423201	DIODE RECT.1N4007 DO-41	D004
048321423201	DIODE RECT.1N4007 DO-41	D051
048540733021	DIODE ZNR.33V ZTK33B DO-35	D014
048542613621	DIODE ZNR.6V2 BZX55C DO-35	D010
048548637001	DIODE ZNR.9V1 BZX55C DO-35	D013
048774406001	DIODE LED LTL4221N RED 3MM	
049030000151	CRYSTAL 10.000 MHZ HC49U	X301
049030000501	CRYSTAL 4.433619 MHZ HC49U	X102
065001003820	INSTRUCTION MANUAL FIDELITY CTV3014F	
067310001821	FUSE 2A 250V 5X20MM TIME-LAG	F001
067600002161	ANTENNA LOOP 14" PAL-I	
070362110111	CRT 14' (A33LPE02X01)EKRANAS	
075020800031	SOCKET CRT K-HPS0359-01-040 29M	
075030211000	CONN 2P KLTLI 5MM TPK50 VERT	S602
075030211001	CONN 2P KLTSZ 5MM 5279-2A VERT	S602
075030261001	CONN 2P KLTSZ 10MM 5283-2A HRZ	S601
075030411011	CONN 4P(3P)HORZ.VERT.	
075030511000	CONN 5P HORZ.VERT.KLTSZ TMK2105	S103
075030511000	CONN 5P HORZ.VERT. KLTSZ TMK2105	
075040210010	SOCKET SCART 14'/20'/21' ORTAK	S651
075100210020	CONN 2P HORZ.VERT. KLTSZ 9.3MM	S002
075100211130	CONN 2P HORZ.VERT. KLTLI GNST2052	S401
075100211140	CONN 2P KLTLI 10MM TPK100MAIN	S601
075100211150	CONN 2P KLTLI 7.5MM TPK75 DEG	S001
075100211781	CONN 2P KLTSZ 7.5MM 5287-2ADEG	S001
075100311580	CONN 3P HORZ.VERT.KLTLI TMK2003	S302
075100411000	CONN 4P HORZ.VERT. KLTLI TMK2004	S301
075100411000	CONN 4P HORZ.VERT.KLTLI TMK2004	S603
081002124911	SWITCH POWER GDE 310.04.137.1	
399593000060	BATTERY 1.5V AAA GREENLINE	
602300033051	TRF.HRZ.DRIVE AT-ETH-20Y20BY	T602
602470003400	TRF.SMPS 14'20'21 PT (12V)	T002
604200000291	TRF.FBT 14/20/21' PT W/BLEEDER	T601
608000000021	COIL 10UH 5% 0.16A AXIAL FIXED	L101
608000000021	COIL 10UH 5% 0.16A AXIAL FIXED	L102

PART NO	COMPONENT	POS
608000000021	COIL 10UH 5% 0.16A AXIAL FIXED	L105
608000000071	COIL 3.3UH 5% 0.21A AXIAL FIX	L232
608000002781	COIL 150UH 5% 0.039A AXIAL FIX	L151
608080000191	COIL 8.2UH 5% 0.165A AXIAL FIX	L103
608080000191	COIL 8.2UH 5% 0.165A AXIAL FIX	L652
608280001881	COIL VARIABLE 38.9MHZ TSW2099	L107
608380002361	COIL CHOKE 150UH %10PK0912151K	L020
608380002361	COIL CHOKE 150UH %10PK0912151K	L602
608580003580	COIL DEGAUSSING 14' CPT	
608980000101	COIL 12UH 5% 0.15A AXIAL FIXED	L301
608980000111	COIL 1UH 5% 0.27A AXIAL FIXED	L104
608980000111	COIL 1UH 5% 0.27A AXIAL FIXED	L230
608980000111	COIL 1UH 5% 0.27A AXIAL FIXED	L231
608980003721	LINE FILTER 2*75MH ELF-18D615	T001
609330001131	PREAMPLIFIER TSOP1136	
610316050001	SPEAKER 16R 3W/5W 50/90MM	
611180011031	TRIMPOT 10K 0.1W 30%H-ADJ5/2.5	V051
611180011031	TRIMPOT 10K 0.1W 30%H-ADJ5/2.5	V052
611180011031	TRIMPOT 10K 0.1W 30%H-ADJ5/2.5	V054
611180015011	TRIMPOT 500R 0.1W30%H-ADJ5/2.5	V053
611180015011	TRIMPOT 500R 0.1W30%H-ADJ5/2.5	V055
611380011031	TRIMPOT 10K 0.1W 30% V-ADJ 5/5	P101
611380011031	TRIMPOT 10K 0.1W 30% V-ADJ 5/5	P102
611380012021	TRIMPOT 2K 0.1W 30% V-ADJ 5/5	P001
611380015011	TRIMPOT 500R 0.1W30% V-ADJ 5/5	P602
611380015021	TRIMPOT 5K 0.1W 30% V-ADJ 5/5	P601
616800020171	TUNER TECC2949VG28C WSP SMSNG	TU01
618004001031	CAP KT 10NF 100V 10%	C113
618014006821	CAP KT 6.8NF 100V 10%	C009
618024004721	CAP KT 4.7NF 100V 10%	C101
618024004721	CAP KT 4.7NF 100V 10%	C131
618024074701	CAP KT 4.7NF 100V 10%	C125
619323776221	CAP MKP 6.2NF 1.6KV 2.5%	C607
620004014731	CAP MKT 47NF 100V 10%	C609
620004071031	CAP MKT 10NF 100V 10%	C133
620004072241	CAP MKT 220NF 63V 10% 5MM.	C304
620004072241	CAP MKT 220NF 63V 10% 5MM.	C632
620004083341	CAP MKT 330NF 63V 5%	C302
620005141041	CAP MKT 100NF 275VAC 20% RFIX2	C002
620013054741	CAP MKP 470NF 250VDC 5%	C606
620013054741	CAP MKP 470NF 250VDC 5%	C608
620013081041	CAP MKT 100NF 63V 5%	C105
620013081041	CAP MKT 100NF 63V 5%	C108
620013081041	CAP MKT 100NF 63V 5%	C110
620013081041	CAP MKT 100NF 63V 5%	C111
620013081041	CAP MKT 100NF 63V 5%	C112
620013081041	CAP MKT 100NF 63V 5%	C114
620013081041	CAP MKT 100NF 63V 5%	C115
620013081041	CAP MKT 100NF 63V 5%	C116

PART NO	COMPONENT	POS
620013081041	CAP MKT 100NF 63V 5%	C134
620013081041	CAP MKT 100NF 63V 5%	C139
621003133331	CAP KT 33NF 630V 5%	C006
621004001041	CAP MKT 100NF 50V 10%	C303
621004001041	CAP MKT 100NF 50V 10%	C405
621004001041	CAP MKT 100NF 50V 10%	C624
621004002241	CAP MKT 220NF 50V 10%	C010
621004002241	CAP MKT 220NF 50V 10%	C655
621004003321	CAP KT 3.3NF 100V 10%	C013
621014064741	CAP MKT 470NF 275VAC 10% RFIX2	C001
821000036003	REMOE CONTROL TM36/M (SKD)	
841100010934	MAIN CHASSIS YPT11 P-I EKR TEKBAND	9SKT
841104013418	COMPLETE CRT SOCKET 14' PT IHR	1TUP
841107010992	COMPLETE PREAMP.PT SASE 14'	7PRE
841108013126	COMPLETE KEYBOARD PT PRM/PRNS/FUT	6TUS
841110010926	CRT BLOCK 14' (LITVANYA)	1TUP
841270010981	COMPLETE ON-OFF BLOCK 14'001IHRP7PI	7KBL
905100142020	FRONT CABIN PAINTED 14' 001/002/003	4KBN
905102145370	PAINTED KNT.PANO 14'003	BKNP
905108010985	PAINTED ON-OFF BUTTON SM1 003PRM	BDGM
905110141080	BACK COVER 14' YPT 001/002/003	ARKP
905111007250	FRAME MAIN CHASSIS PT/ECO ECO 14'PRM	CRCV
905227080280	COVER SW TOKO 14'IHR.PL2-SM1	KPSW
905461003490	ACR.WINDOW 14' 003	5AKR
966001491020	STRAPHOR 14' 001/002/003 YPT	STRH

PRODUCT NAME	**AMSTRAD 3121N**
PRODUCT NO	**13965**
COUNTRY	**ENGLAND**
COMPANY	**AMSTRAD**
CRT TYPE	**21" HITACHI**
SYSTEM	**PAL I**
TXT	**FAST TXT**
STEREO	**NICAM**
CABINET TYPE	**BIGALAXY 001**
REMOTE CONTROL	**TM-45 L**
CHASSIS TYPE	**PT-11**

SPARE PART LIST

PART NO	COMPONENT	POS
002020511030	CABLE INC.COK.BLACK 7*0.20	
002021000300	CABLE 2P*1SKT.35CM DEG.	
002021000301	CABLE 2P*1SKT.35CM S/B DEG.SGS	
002041100050	CABLE 4P*1SKT 50/50CM STR.HOP	
002042000031	CABLE 4P(3P)*2SKT.38CM SM1	
002052000401	CABLE 5P*2SKT.38CM SM1	
002344500020	CABLE 2P*1SKT.40CM VERT.	
002344500021	CABLE 2P*1SKT.40CM BROWN/BLACK	
002344500030	CABLE 2P*1SKT.40CM HORZ.	
002344500031	CABLE 2P*1SKT.40CM RED-WHITE	
002521517020	CABLE KLN.COK 12*0.19 BLACK	SOGP
002521517030	CABLE SINGLE(ICICOK)7*0.25 BLACK	I601
002528503041	POWER CABLE PAL-I 500UH	
002720517060	CABLE 24*0.20*180 EMC2021 ERA	
005015023130	HOLDER LED PCB MONITOR-BISONIC	
005051084621	SILICON ISALATOR TO-220	I003
005051084631	BEAD ISALATORTO220BBH/TO22DBH	I003
005112007110	BACK COVER BISONIC 20-21'	ARKP
005415022950	HOLDER POWER CABLE	
005455002150	HOLDER CABLE(0.5MT)	
013010000390	FRAME CRT PT SASE YENI	
013010000400	COVER CRT TOP PT SASE YENI	
013010000410	COVER CRT BOTTOM PT SASE YENI	
013610711520	GRIL SPEAKER 20-21'SA□ BISONIC	
013610711530	GRIL SPEAKER 20-21'SOL BISONIC	
030010627421	RESISTOR M.O 270K 1W 5%	R004
030020610231	RESISTOR C.F 1K 1/4W 5%	R203
030020610231	RESISTOR C.F 1K 1/4W 5%	R205
030020610231	RESISTOR C.F 1K 1/4W 5%	R207
030020610331	RESISTOR C.F 10K 1/4W 5%	R032
030020610921	RESISTOR C.F 1R 1/4W%5NONFLMBL	R810
030020615231	RESISTOR C.F 1.5K 1/4W 5%	R220
030020615331	RESISTOR C.F 15K 1/4W 5%	R217
030020622011	RESISTOR C.F. 22R 1/4W 5%	R807
030020622231	RESISTOR C.F 2.2K 1/4W 5%	R212

PART NO	COMPONENT	POS
030020622411	RESISTOR C.F 220K 1/4W 5%	R211
030020622511	RESISTOR C.F 2.2M 1/4W 5%	R221
030020639131	RESISTOR C.F 390R 1/4W 5%	R201
030020639231	RESISTOR C.F 3.9K 1/4W 5%	R202
030020639231	RESISTOR C.F 3.9K 1/4W 5%	R204
030020639231	RESISTOR C.F 3.9K 1/4W 5%	R206
030020647231	RESISTOR C.F 4.7K 1/4W 5%	R007
030020647231	RESISTOR C.F 4.7K 1/4W 5%	R608
030020647511	RESISTOR C.F 4.7M 1/4W 5%	
030025610011	RESISTOR FUSIBLE 10R 1/4W 5%	R213
030050615211	RESISTOR C.F 1.5K 1/2W 5%	R214
030050615211	RESISTOR C.F 1.5K 1/2W 5%	R215
030050615211	RESISTOR C.F 1.5K 1/2W 5%	R216
030050615901	RESISTOR M.O 1.5R 1/2W 5%	R624
030050622111	RESISTOR C.F 220R 1/2W 5%	R625
030050622111	RESISTOR C.F 220R 1/2W 5%	R627
030050647001	RESISTOR M.O 470R 1/2W5%NONFLM	R626
030050647511	RESISTOR C.F 4.7M 1/2W 5% SFTY	R013
030050682321	RESISTOR C.F 82K 1/2W 5%	R208
030050682321	RESISTOR C.F 82K 1/2W 5%	R209
030050682321	RESISTOR C.F 82K 1/2W 5%	R210
030055722811	RESISTOR FUSIBLE 0.22R 1/2W 5%	R021
030055722811	RESISTOR FUSIBLE 0.22R 1/2W 5%	R022
030055722811	RESISTOR FUSIBLE 0.22R 1/2W 5%	R026
030055722811	RESISTOR FUSIBLE 0.22R 1/2W 5%	R611
030105622811	RESISTOR FUSIBLE 0.22R 1W 5%	R020
030105622811	RESISTOR FUSIBLE 0.22R 1W 5%	R023
030105622811	RESISTOR FUSIBLE 0.22R 1W 5%	R647
030108633911	RESISTOR M.O 3.3R 1W 5%	R645
030108647311	RESISTOR C.F 47K 1W 5%	R024
030108668411	RESISTOR M.O 680K 1W 5%	R005
030108712311	RESISTOR M.O 12K 1W 5%	R025
030140610011	RESISTOR C.F. 10R1/6W5%NONFLMB	R504
030140610011	RESISTOR C.F. 10R1/6W5%NONFLMB	R508
030140610011	RESISTOR C.F. 10R1/6W5%NONFLMB	R509
030140610011	RESISTOR C.F. 10R1/6W5%NONFLMB	R800
030140610101	RESISTOR C.F 100R 1/6W 5%	R502
030140610101	RESISTOR C.F 100R 1/6W 5%	R503
030140610101	RESISTOR C.F 100R 1/6W 5%	R516
030140610101	RESISTOR C.F 100R 1/6W 5%	R517
030140610101	RESISTOR C.F 100R 1/6W 5%	R804
030140610101	RESISTOR C.F 100R 1/6W 5%	R805
030140610101	RESISTOR C.F 100R 1/6W 5%	R812
030140610101	RESISTOR C.F 100R 1/6W 5%	R911
030140610101	RESISTOR C.F 100R 1/6W 5%	R912
030140610101	RESISTOR C.F 100R 1/6W 5%	R104
030140610101	RESISTOR C.F 100R 1/6W 5%	R106
030140610101	RESISTOR C.F 100R 1/6W 5%	R121
030140610101	RESISTOR C.F 100R 1/6W 5%	R122
030140610101	RESISTOR C.F 100R 1/6W 5%	R123
030140610101	RESISTOR C.F 100R 1/6W 5%	R303

PART NO	COMPONENT	POS
030140610101	RESISTOR C.F 100R 1/6W 5%	R330
030140610101	RESISTOR C.F 100R 1/6W 5%	R338
030140610101	RESISTOR C.F 100R 1/6W 5%	R339
030140610101	RESISTOR C.F 100R 1/6W 5%	R340
030140610101	RESISTOR C.F 100R 1/6W 5%	R343
030140610101	RESISTOR C.F 100R 1/6W 5%	R344
030140610101	RESISTOR C.F 100R 1/6W 5%	R457
030140610101	RESISTOR C.F 100R 1/6W 5%	R475
030140610101	RESISTOR C.F 100R 1/6W 5%	R476
030140610101	RESISTOR C.F 100R 1/6W 5%	R477
030140610201	RESISTOR C.F 1K 1/6W 5%	R521
030140610201	RESISTOR C.F 1K 1/6W 5%	R813
030140610201	RESISTOR C.F 1K 1/6W 5%	R818
030140610201	RESISTOR C.F 1K 1/6W 5%	R823
030140610201	RESISTOR C.F 1K 1/6W 5%	R103
030140610201	RESISTOR C.F 1K 1/6W 5%	R111
030140610201	RESISTOR C.F 1K 1/6W 5%	R120
030140610201	RESISTOR C.F 1K 1/6W 5%	R131
030140610201	RESISTOR C.F 1K 1/6W 5%	R145
030140610201	RESISTOR C.F 1K 1/6W 5%	R301
030140610201	RESISTOR C.F 1K 1/6W 5%	R309
030140610201	RESISTOR C.F 1K 1/6W 5%	R312
030140610201	RESISTOR C.F 1K 1/6W 5%	R323
030140610201	RESISTOR C.F 1K 1/6W 5%	R333
030140610201	RESISTOR C.F 1K 1/6W 5%	R336
030140610201	RESISTOR C.F 1K 1/6W 5%	R652
030140610201	RESISTOR C.F 1K 1/6W 5%	R659
030140610311	RESISTOR C.F 10K 1/6W 5%	R518
030140610311	RESISTOR C.F 10K 1/6W 5%	R811
030140610311	RESISTOR C.F 10K 1/6W 5%	R814
030140610311	RESISTOR C.F 10K 1/6W 5%	R819
030140610311	RESISTOR C.F 10K 1/6W 5%	R153
030140610311	RESISTOR C.F 10K 1/6W 5%	R011
030140610311	RESISTOR C.F 10K 1/6W 5%	R030
030140610311	RESISTOR C.F 10K 1/6W 5%	R136
030140610311	RESISTOR C.F 10K 1/6W 5%	R152
030140610311	RESISTOR C.F 10K 1/6W 5%	R310
030140610311	RESISTOR C.F 10K 1/6W 5%	R610
030140610311	RESISTOR C.F 10K 1/6W 5%	R621
030140610411	RESISTOR C.F 100K 1/6W 5%	R808
030140610411	RESISTOR C.F 100K 1/6W 5%	R127
030140610411	RESISTOR C.F 100K 1/6W 5%	R132
030140610411	RESISTOR C.F 100K 1/6W 5%	R315
030140610411	RESISTOR C.F 100K 1/6W 5%	R318
030140610411	RESISTOR C.F 100K 1/6W 5%	R326
030140610411	RESISTOR C.F 100K 1/6W 5%	R360
030140610411	RESISTOR C.F 100K 1/6W 5%	R405
030140610411	RESISTOR C.F 100K 1/6W 5%	R663
030140610911	RESISTOR C.F 1R 1/6W5%NONFLMBL	R802
030140610911	RESISTOR C.F 1R 1/6W5%NONFLMBL	R908
030140612121	RESISTOR C.F 120R 1/6W 5%	R361

PART NO	COMPONENT	POS
030140612311	RESISTOR C.F 12K 1/6W 5%	R139
030140612311	RESISTOR C.F 12K 1/6W 5%	R307
030140612311	RESISTOR C.F 12K 1/6W 5%	R390
030140612311	RESISTOR C.F 12K 1/6W 5%	R632
030140612311	RESISTOR C.F 12K 1/6W 5%	R662
030140615311	RESISTOR C.F 15K 1/6W 5%	R305
030140615311	RESISTOR C.F 15K 1/6W 5%	R306
030140615311	RESISTOR C.F 15K 1/6W 5%	R633
030140615421	RESISTOR C.F 150K 1/6W 5%	R405
030140618121	RESISTOR C.F 180R 1/6W 5%	R815
030140618121	RESISTOR C.F 180R 1/6W 5%	R820
030140618121	RESISTOR C.F 180R 1/6W 5%	R101
030140618201	RESISTOR C.F 1.8K 1/6W 5%	R801
030140618201	RESISTOR C.F 1.8K 1/6W 5%	P604
030140618201	RESISTOR C.F 1.8K 1/6W 5%	R494
030140622101	RESISTOR C.F 220R 1/6W 5%	R006
030140622101	RESISTOR C.F 220R 1/6W 5%	R460
030140622101	RESISTOR C.F 220R 1/6W 5%	R651
030140622221	RESISTOR C.F 2.2K 1/6W 5%	R816
030140622221	RESISTOR C.F 2.2K 1/6W 5%	R821
030140622221	RESISTOR C.F 2.2K 1/6W 5%	R910
030140622221	RESISTOR C.F 2.2K 1/6W 5%	R913
030140622221	RESISTOR C.F 2.2K 1/6W 5%	R108
030140622221	RESISTOR C.F 2.2K 1/6W 5%	R117
030140622221	RESISTOR C.F 2.2K 1/6W 5%	R337
030140622221	RESISTOR C.F 2.2K 1/6W 5%	R456
030140622221	RESISTOR C.F 2.2K 1/6W 5%	R629
030140622221	RESISTOR C.F 2.2K 1/6W 5%	R635
030140622311	RESISTOR C.F 22K 1/6W 5%	R809
030140622311	RESISTOR C.F 22K 1/6W 5%	R146
030140622311	RESISTOR C.F 22K 1/6W 5%	R230
030140622311	RESISTOR C.F 22K 1/6W 5%	R232
030140622311	RESISTOR C.F 22K 1/6W 5%	R235
030140622311	RESISTOR C.F 22K 1/6W 5%	R346
030140622311	RESISTOR C.F 22K 1/6W 5%	R467
030140622411	RESISTOR C.F 220K 1/6W 5%	R325
030140622511	RESISTOR C.F 2.2M 1/6W 5%	R308
030140622901	RESISTOR C.F 2.2R 1/6W%5NONFLM	R154
030140627311	RESISTOR C.F 27K 1/6W 5%	R231
030140627311	RESISTOR C.F 27K 1/6W 5%	R233
030140627311	RESISTOR C.F 27K 1/6W 5%	R234
030140627311	RESISTOR C.F 27K 1/6W 5%	R317
030140627311	RESISTOR C.F 27K 1/6W 5%	R345
030140633101	RESISTOR C.F 330R 1/6W 5%	R501
030140633101	RESISTOR C.F 330R 1/6W 5%	R349
030140633201	RESISTOR C.F 3.3K 1/6W 5%	R028
030140633201	RESISTOR C.F 3.3K 1/6W 5%	R302
030140633201	RESISTOR C.F 3.3K 1/6W 5%	R341
030140633201	RESISTOR C.F 3.3K 1/6W 5%	R342
030140633301	RESISTOR C.F 33K 1/6W 5%	R803
030140633301	RESISTOR C.F 33K 1/6W 5%	R452

PART NO	COMPONENT	POS
030140633301	RESISTOR C.F 33K 1/6W 5%	R454
030140633411	RESISTOR C.F 330K 1/6W 5%	R143
030140633511	RESISTOR M.F 3.3M 1/6W 5%	R140
030140639021	RESISTOR C.F 39R 1/2W 5%	R605
030140639111	RESISTOR C.F 390R 1/6W 5%	R027
030140639111	RESISTOR C.F 390R 1/6W 5%	R105
030140639111	RESISTOR C.F 390R 1/6W 5%	R352
030140639211	RESISTOR C.F 3.9K 1/6W 5%	R620
030140639301	RESISTOR C.F 39K 1/6W 5%	R311
030140639301	RESISTOR C.F 39K 1/6W 5%	R613
030140647011	RESISTOR C.F 47R 1/6W 5%	R008
030140647011	RESISTOR C.F 47R 1/6W 5%	R009
030140647111	RESISTOR C.F 470R 1/6W 5%	R500
030140647111	RESISTOR C.F 470R 1/6W 5%	R492
030140647211	RESISTOR C.F 4.7K 1/6W 5%	R909
030140647211	RESISTOR C.F 4.7K 1/6W 5%	R914
030140647211	RESISTOR C.F 4.7K 1/6W 5%	R116
030140647211	RESISTOR C.F 4.7K 1/6W 5%	R147
030140647211	RESISTOR C.F 4.7K 1/6W 5%	R316
030140647211	RESISTOR C.F 4.7K 1/6W 5%	R353
030140647211	RESISTOR C.F 4.7K 1/6W 5%	R453
030140647211	RESISTOR C.F 4.7K 1/6W 5%	R458
030140647211	RESISTOR C.F 4.7K 1/6W 5%	R493
030140647211	RESISTOR C.F 4.7K 1/6W 5%	R601
030140647211	RESISTOR C.F 4.7K 1/6W 5%	R673
030140647211	RESISTOR C.F 4.7K 1/6W 5%	1112
030140647211	RESISTOR C.F 4.7K 1/6W 5%	1113
030140647311	RESISTOR C.F 47K 1/6W 5%	R520
030140647311	RESISTOR C.F 47K 1/6W 5%	R817
030140647311	RESISTOR C.F 47K 1/6W 5%	R822
030140647311	RESISTOR C.F 47K 1/6W 5%	R118
030140647311	RESISTOR C.F 47K 1/6W 5%	R151
030140647311	RESISTOR C.F 47K 1/6W 5%	R321
030140647311	RESISTOR C.F 47K 1/6W 5%	R322
030140647311	RESISTOR C.F 47K 1/6W 5%	R348
030140647311	RESISTOR C.F 47K 1/6W 5%	R631
030140647411	RESISTOR C.F 470K 1/6W 5%	R138
030140647921	RESISTOR C.F 4.7R 1/6W5%NONFLM	R137
030140650911	RESISTOR C.F 5.1R 1/6W 5%	R010
030140656211	RESISTOR C.F 5.6K 1/6W 5%	R102
030140656211	RESISTOR C.F 5.6K 1/6W 5%	R144
030140656211	RESISTOR C.F 5.6K 1/6W 5%	R304
030140656211	RESISTOR C.F 5.6K 1/6W 5%	R665
030140656211	RESISTOR C.F 5.6K 1/6W 5%	R666
030140656311	RESISTOR C.F 56K 1/6W 5%	R150
030140656311	RESISTOR C.F 56K 1/6W 5%	R622
030140668201	RESISTOR C.F 6.8K 1/6W 5%	R115
030140668411	RESISTOR C.F 680K 1/6W 5%	R806
030140675011	RESISTOR C.F 75R 1/6W 5%	R110
030140675011	RESISTOR C.F 75R 1/6W 5%	R491
030140675011	RESISTOR C.F 75R 1/6W 5%	R653

PART NO	COMPONENT	POS
030140675011	RESISTOR C.F 75R 1/6W 5%	R655
030140675011	RESISTOR C.F 75R 1/6W 5%	R656
030140675011	RESISTOR C.F 75R 1/6W 5%	R658
030140675011	RESISTOR C.F 75R 1/6W 5%	R674
030140675201	RESISTOR C.F 7.5K 1/6W 5%	R012
030140682011	RESISTOR C.F 82R 1/6W 5%	R107
030140682011	RESISTOR C.F 82R 1/6W 5%	R602
030140682211	RESISTOR C.F 8.2K 1/6W 5%	R031
030140682211	RESISTOR C.F 8.2K 1/6W 5%	R455
030140682211	RESISTOR C.F 8.2K 1/6W 5%	R468
030140682211	RESISTOR C.F 8.2K 1/6W 5%	R612
030140682211	RESISTOR C.F 8.2K 1/6W 5%	R630
030208610311	RESISTOR M.O 10K 2W %5	R604
030208668311	RESISTOR M.O 68K 2W 5%	R002
030208668311	RESISTOR M.O 68K 2W 5%	R003
030218610211	RESISTOR M.O 1K 3W 5%	R609
030218610911	RESISTOR M.O 1R 3W 5%	R403
032053620211	RESISTOR W.W 2K 5W 10%	R603
032053656921	RESISTOR W.W 5.6R 5W 10%	R001
032053656921	RESISTOR W.W 5.6R 5W 10%	R607
034710303631	THERM PTC 18R 30% 3P 10/2.5MM	RT01
037720007821	FILTER TRAP 6.0MHZ TPS 6.0MB	F102
037720007831	FILTER CER 6.0MHZ SFE6.0MB	F104
037730007841	FILTERSAWG9251MB/GNIC AUDI	F800
037790007861	FILTER SAW J1951M I NIC INTCR	F101
040030043901	CAP CER 39PF 50V 5% CH	C835
040030043921	CAP CER 390PF 50V 10% SL	C830
040030043921	CAP CER 390PF 50V 10% SL	C651
040030043921	CAP CER 390PF 50V 10% SL	C652
040032041001	CAP CER 10PF 50V 5% CH	C834
040032041011	CAP CER 100PF 50V 5% CH	C978
040032041011	CAP CER 100PF 50V 5% CH	C979
040032041801	CAP CER 18P 50V 5% CH	C127
040032041801	CAP CER 18P 50V 5% CH	C301
040032041801	CAP CER 18P 50V 5% CH	C315
040032041801	CAP CER 18P 50V 5% CH	C316
040034042701	CAP CER 27PF 50V 5% CH 05	C170
040034042701	CAP CER 27PF 50V 5% CH 05	C171
040037041811	CAP CER 180PF 50V 5% CH	C455
040040041011	CAP CER 100PF 50V 10% SL	C818
040040041011	CAP CER 100PF 50V 10% SL	C819
040040041021	CAP CER 1N 50V 10% B	C407
040040041021	CAP CER 1N 50V 10% B	C620
040040042211	CAP CER 220PF 50V 10% SL	C824
040040042211	CAP CER 220PF 50V 10% SL	C319
040040043331	CAP CER 330PF 25V 10% B	C653
040040043331	CAP CER 330PF 25V 10% B	C654
040040044701	CAP CER 47PF 50V 10% CH	C106
040040044701	CAP CER 47PF 50V 10% CH	C190
040040044721	CAP CER 4.7NF 50V 10% B	C844
040040044721	CAP CER 4.7NF 50V 10% B	C846

PART NO	COMPONENT	POS
040040044721	CAP CER 4.7NF 50V 10% B	C621
040040044721	CAP CER 4.7NF 50V 10% B	C622
040040141011	CAP CER 100PF 500V 10% B	C614
040040152211	CAP CER 2.2NF 1KV 10% BN	C003
040040152211	CAP CER 2.2NF 1KV 10% BN	C004
040040152211	CAP CER 2.2NF 1KV 10% BN	C603
040040154711	CAP CER 470PF 1KV 10% B	C015
040040154711	CAP CER 470PF 1KV 10% B	C024
040040154711	CAP CER 470PF 1KV 10% B	C028
040040156811	CAP CER 680PF 1KV 10% BN	C604
040040171021	CAP CER 1NF 2KV 10% BN	C007
040040174711	CAP CER 470PF 2KV 10% BN	C602
040040176861	CAP CER 6.8NF 2KV 10% BB	C209
040040202221	CAP CER 2,2NF 400VAC20%4KVSFTY	C014
040042041001	CAP CER 10PF 50V 10% CH	C201
040042041001	CAP CER 10PF 50V 10% CH	C202
040042041001	CAP CER 10PF 50V 10% CH	C203
040042041021	CAP CER 1N 50V %10 SL	C985
040042042201	CAP CER 22PF 50V 10% CH	C504
040042042201	CAP CER 22PF 50V 10% CH	C505
040042042201	CAP CER 22PF 50V 10% CH	C102
040042042201	CAP CER 22PF 50V 10% CH	C310
040042042201	CAP CER 22PF 50V 10% CH	C311
040042042201	CAP CER 22PF 50V 10% CH	C312
040042042201	CAP CER 22PF 50V 10% CH	C313
040046151021	CAP CER 1NF 1KV 10% BN	C008
040046151021	CAP CER 1NF 1KV 10% BN	C030
040046151021	CAP CER 1NF 1KV 10% BN	C033
040046151021	CAP CER 1NF 1KV 10% BN	C611
040067041031	CAP CER 100NF 50V 20% D	C802
040067041031	CAP CER 100NF 50V 20% D	C842
040067041031	CAP CER 100NF 50V 20% D	C843
040067041031	CAP CER 100NF 50V 20% D	C934
040070021021	CAP CER 1NF 25V +80-20% F	C199
040070021031	CAP CER 100NF 25V +80-20% F	C807
040070021031	CAP CER 100NF 25V +80-20% F	C826
040070021031	CAP CER 100NF 25V +80-20% F	C828
040070021031	CAP CER 100NF 25V +80-20% F	C833
040070021031	CAP CER 100NF 25V +80-20% F	C036
040070021031	CAP CER 100NF 25V +80-20% F	C038
040070021031	CAP CER 100NF 25V +80-20% F	C040
040070021031	CAP CER 100NF 25V +80-20% F	C042
040070021031	CAP CER 100NF 25V +80-20% F	C120
040070021031	CAP CER 100NF 25V +80-20% F	C123
040070021031	CAP CER 100NF 25V +80-20% F	C124
040070021031	CAP CER 100NF 25V +80-20% F	C126
040070021031	CAP CER 100NF 25V +80-20% F	C138
040070021031	CAP CER 100NF 25V +80-20% F	C153
040070021031	CAP CER 100NF 25V +80-20% F	C157
040070021031	CAP CER 100NF 25V +80-20% F	C318
040070021031	CAP CER 100NF 25V +80-20% F	C321

PART NO	COMPONENT	POS
040070021031	CAP CER 100NF 25V +80-20% F	C325
040070021031	CAP CER 100NF 25V +80-20% F	C401
040070031031	CAP CER 10NF 50V +80-20% D	C850
040070031031	CAP CER 10NF 50V +80-20% D	C851
040070041021	CAP CER 1NF 50V +80-20% F	C845
040070041021	CAP CER 1NF 50V +80-20% F	C847
040070041021	CAP CER 1NF 50V +80-20% F	C121
040070041021	CAP CER 1NF 50V +80-20% F	C122
040070041021	CAP CER 1NF 50V +80-20% F	C623
040070041031	CAP CER 10NF 50V +80-20% F	C502
040070041031	CAP CER 10NF 50V +80-20% F	C524
040070041031	CAP CER 10NF 50V +80-20% F	C837
040070041031	CAP CER 10NF 50V +80-20% F	C027
040070041031	CAP CER 10NF 50V +80-20% F	C129
040070041031	CAP CER 10NF 50V +80-20% F	C130
040070042231	CAP CER 22NF 50V +80-20% F	C135
040070042231	CAP CER 22NF 50V +80-20% F	C137
040070042231	CAP CER 22NF 50V +80-20% F	C142
040070042231	CAP CER 22NF 50V +80-20% F	C613
040071041041	CAP CER 100NF 50V +80-20% F	C984
042140161071	CAP ELECT 100MF 16V 20%	C501
042140161071	CAP ELECT 100MF 16V 20%	C815
042140161071	CAP ELECT 100MF 16V 20%	C933
042140161071	CAP ELECT 100MF 16V 20%	C935
042140161071	CAP ELECT 100MF 16V 20%	C320
042140164771	CAP ELECT 470MF 16V 20%	C037
042184502251	CAP ELECT 2.2MF 50V 20% RU	C625
042194162261	CAP ELECT 22MF 16V 20%	C813
042194162261	CAP ELECT 22MF 16V 20%	C814
042194504751	CAP ELECT 4.7MF 50V 20%	C146
042194504751	CAP ELECT 4.7MF 50V 20%	C192
042414251061	CAP ELECT 10MF 25V 20%	C523
042414251061	CAP ELECT 10MF 25V 20%	C812
042414251061	CAP ELECT 10MF 25V 20%	C825
042414251061	CAP ELECT 10MF 25V 20%	C831
042414251061	CAP ELECT 10MF 25V 20%	C832
042414251061	CAP ELECT 10MF 25V 20%	C104
042414251061	CAP ELECT 10MF 25V 20%	C107
042414251061	CAP ELECT 10MF 25V 20%	C109
042414251061	CAP ELECT 10MF 25V 20%	C140
042414251061	CAP ELECT 10MF 25V 20%	C150
042414251061	CAP ELECT 10MF 25V 20%	C151
042414251061	CAP ELECT 10MF 25V 20%	C152
042414251061	CAP ELECT 10MF 25V 20%	C154
042414251061	CAP ELECT 10MF 25V 20%	C306
042414251061	CAP ELECT 10MF 25V 20%	C307
042414631071	CAP ELECT 100MF 63V 20%	C627
042414861051	CAP ELECT 1MF 250V 20%	C615
042416161051	CAP ELECT 1MF 16V 20%	C800
042416161051	CAP ELECT 1MF 16V 20%	C801
042416161051	CAP ELECT 1MF 16V 20%	C930

PART NO	COMPONENT	POS
042416161051	CAP ELECT 1MF 16V 20%	C938
042416351081	CAP ELECT 1000MF 35V 20% RSS	C626
042416501051	CAP ELECT 1MF 50V 20%	C500
042416501051	CAP ELECT 1MF 50V 20%	C503
042416501051	CAP ELECT 1MF 50V 20%	C526
042416501051	CAP ELECT 1MF 50V 20%	C827
042416501051	CAP ELECT 1MF 50V 20%	C012
042416501051	CAP ELECT 1MF 50V 20%	C032
042416501051	CAP ELECT 1MF 50V 20%	C128
042416501051	CAP ELECT 1MF 50V 20%	C132
042416501051	CAP ELECT 1MF 50V 20%	C305
042416501051	CAP ELECT 1MF 50V 20%	C309
042416501051	CAP ELECT 1MF 50V 20%	C403
042416502261	CAP ELECT 22MF 50V 20%	C838
042416502261	CAP ELECT 22MF 50V 20%	C026
042417162271	CAP ELECT 220MF 16V 20%	C029
042417162271	CAP ELECT 220MF 16V 20%	C031
042417162271	CAP ELECT 220MF 16V 20%	C039
042417163361	CAP ELECT 33MF 16V 20%	C156
042419834761	CAP ELECT 47MF 160V 20%	C025
042440251081	CAP ELECT 1000MF 25V 20%	C402
042440251091	CAP ELECT 1000MF 25V 20% 10*20	C034
042440354771	CAP ELECT 470MF 35V 20%	C041
042440354771	CAP ELECT 470MF 35V 20%	C612
042440861061	CAP ELECT 10MF 250V 20%	C605
042440861061	CAP ELECT 10MF 250V 20%	C610
042440861061	CAP ELECT 10MF 250V 20%	C206
042446161061	CAP ELECT 10MF 16V 20%	C158
042446164751	CAP ELECT 4.7MF 16V 20%	C841
042446502251	CAP ELECT 2.2MF 50V 20%	C806
042446502251	CAP ELECT 2.2MF 50V 20%	C809
042446502251	CAP ELECT 2.2MF 50V 20%	C839
042446502251	CAP ELECT 2.2MF 50V 20%	C136
042446502251	CAP ELECT 2.2MF 50V 20%	C141
042446502251	CAP ELECT 2.2MF 50V 20%	C308
042446862251	CAP ELECT 2.2MF 250V 20%	C208
042447164761	CAP ELECT 47MF 16V 20%	CALT
042447164761	CAP ELECT 47MF 16V 20%	C803
042447164761	CAP ELECT 47MF 16V 20%	C804
042447164761	CAP ELECT 47MF 16V 20%	C808
042447164761	CAP ELECT 47MF 16V 20%	C829
042447164761	CAP ELECT 47MF 16V 20%	C011
042447164761	CAP ELECT 47MF 16V 20%	C035
042447164761	CAP ELECT 47MF 16V 20%	C322
042447164761	CAP ELECT 47MF 16V 20%	C451
042447164761	CAP ELECT 47MF 16V 20%	C452
042449502271	CAP ELECT 220MF 50V 20%	C628
042719901071	CAP ELECT 100MF400V20% SNAP-IN	C005
045000000071	IC PCF84C81AP/CTV972 TXT CONT.	I501
045000000701	IC TDA8425 STEREO AUDIO PROCES	I902
045000000761	IC TDA4605	I001

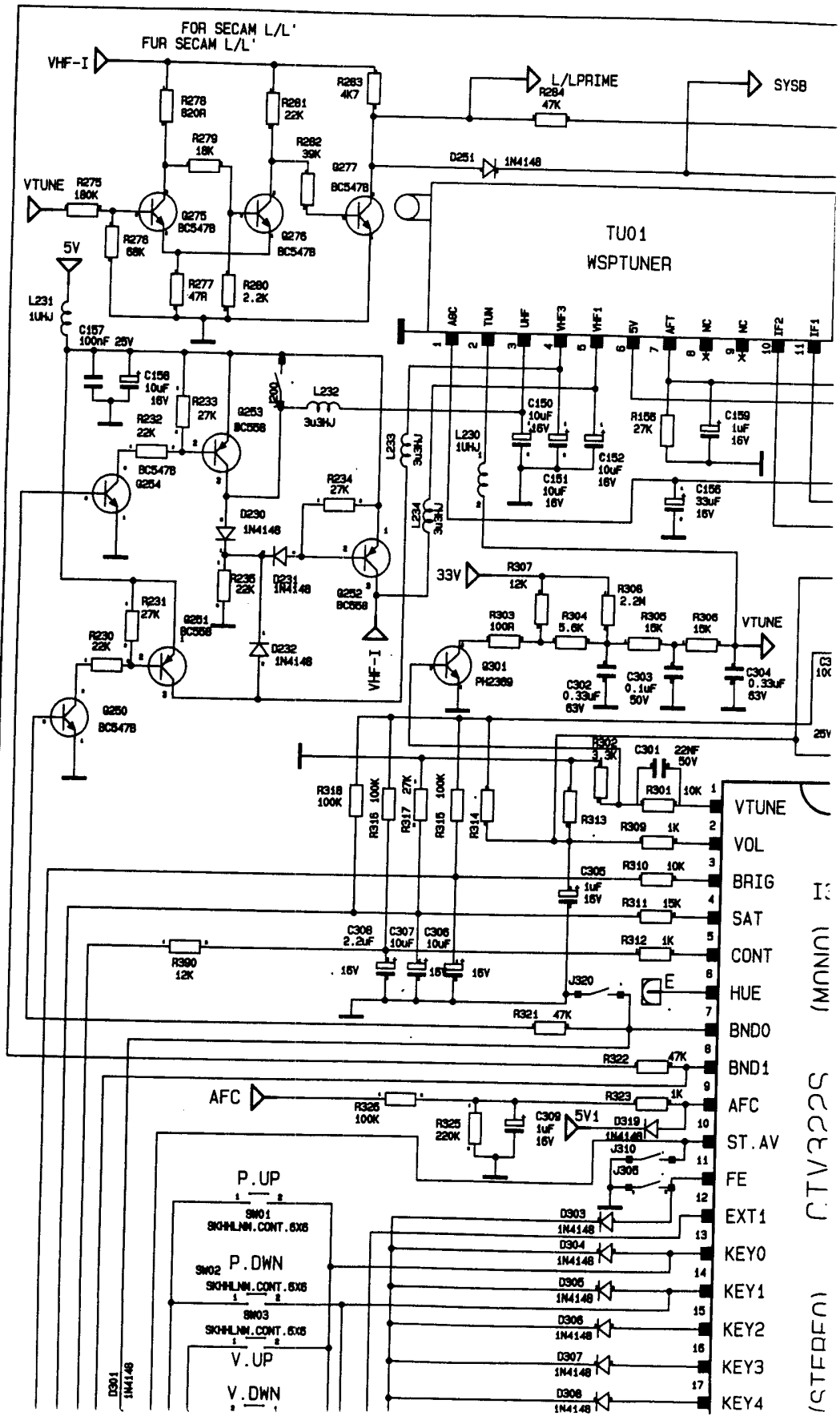
PART NO	COMPONENT	POS
045000000961	IC TDA6103Q RGB OUTPUT AMP.	I201
045000000981	IC TDA7057AQ 2X5W STEREO AMP.	I402
045000000991	IC TDA3845 QSS&AM SOUND DEMOD.	I800
045000001011	IC ST24C02B&PCF8582C-2P EEPROM	I302
045000001021	IC TDA3653B VERTICAL DEFLECTIO	I601
045000001031	IC TDA4665 DELAY LINE P/S	I102
045000001401	IC SAA7283ZP M2 NICAM DECODER	I801
045000001421	IC TDA4605-3 SMPS CONTROLLER	I001
045018113181	IC 7808 8V 1A VOLT REG TO-220	I004
045101070221	IC PCA84C841/076-2/CTV350SV2.1	I301
045101070251	IC STV5346 A/T TXT TURKISH EUR	I500
045101070361	IC STV5346 TXT WEST EUROPE	I500
045190083791	IC TDA8361-5Y PAL SIG. PROCES.	I101
045238103051	IC LM317 1.5A ADJ V REG TO-220	I003
045238103081	IC LM7805 5V1A VOLT REG TO-220	I002
046000000051	TRS.2SC1573A TO-92	Q601
046000000211	TRS.BUZ90AF	Q001
046000000251	TRS.2SK2545	Q001
046000022101	TRS.PH2369 TO-92	Q301
046246022281	TRS.BC547B	Q800
046246022281	TRS.BC547B	Q801
046246022281	TRS.BC547B	Q020
046246022281	TRS.BC547B	Q101
046246022281	TRS.BC547B	Q103
046246022281	TRS.BC547B	Q250
046246022281	TRS.BC547B	Q254
046246022281	TRS.BC547B	Q304
046246022281	TRS.BC547B	Q305
046246022281	TRS.BC547B	Q306
046246022281	TRS.BC547B	Q451
046246022281	TRS.BC547B	Q452
046246022281	TRS.BC547B	Q453
046246022281	TRS.BC547B	Q454
046246022281	TRS.BC547B	Q651
046246022281	TRS.BC547B	Q652
046926090281	TRS.BC558B TO-92	Q251
046926090281	TRS.BC558B TO-92	Q252
046926090281	TRS.BC558B TO-92	Q253
046926112281	TRS.BC546B TO-92	Q800
046926112281	TRS.BC546B TO-92	Q801
046926112281	TRS.BC546B TO-92	Q020
046926112281	TRS.BC546B TO-92	Q101
046926112281	TRS.BC546B TO-92	Q103
046926112281	TRS.BC546B TO-92	Q304
046926112281	TRS.BC546B TO-92	Q305
046926112281	TRS.BC546B TO-92	Q306
046926112281	TRS.BC546B TO-92	Q451
046926112281	TRS.BC546B TO-92	Q452
046926112281	TRS.BC546B TO-92	Q453
046926112281	TRS.BC546B TO-92	Q454
046926112281	TRS.BC546B TO-92	Q651

PART NO	COMPONENT	POS
046926112281	TRS.BC546B TO-92	Q652
046926265281	TRS.BC556B TO-92	Q500
046926265281	TRS.BC556B TO-92	Q308
046926666291	TRS.BC557B	Q500
046926666291	TRS.BC557B	Q308
046932183031	TRS.BUH515D ISOWATT-218	Q602
046933000041	TRS.STP5N80FI ISOWATT-220	Q001
046933000051	TRS.STP3N90FI ISOWATT-220	Q001
046933000061	TRS.STP6N60FI ISOWATT-220	Q001
048000000011	DIODE RECT.BYD33D SOD-81	D006
048000000011	DIODE RECT.BYD33D SOD-81	D007
048000000011	DIODE RECT.BYD33D SOD-81	D610
048000000021	DIODE RECT.BYV95C SOD-57	D005
048000000021	DIODE RECT.BYV95C SOD-57	D020
048000000021	DIODE RECT.BYV95C SOD-57	D021
048000000021	DIODE RECT.BYV95C SOD-57	D022
048000000021	DIODE RECT.BYV95C SOD-57	D601
048000000021	DIODE RECT.BYV95C SOD-57	D602
048000000021	DIODE RECT.BYV95C SOD-57	D603
048000000191	DIODE CAP.BB405B DO-34	D801
048100255121	DIODE ZNR.3V6 BZX55C DO-35	D012
048210411001	DIODE GP.1N4148 DO-35	D500
048210411001	DIODE GP.1N4148 DO-35	D800
048210411001	DIODE GP.1N4148 DO-35	D107
048210411001	DIODE GP.1N4148 DO-35	D230
048210411001	DIODE GP.1N4148 DO-35	D231
048210411001	DIODE GP.1N4148 DO-35	D232
048210411001	DIODE GP.1N4148 DO-35	D306
048210411001	DIODE GP.1N4148 DO-35	D311
048210411001	DIODE GP.1N4148 DO-35	D313
048210411001	DIODE GP.1N4148 DO-35	D315
048210411001	DIODE GP.1N4148 DO-35	D316
048210411001	DIODE GP.1N4148 DO-35	D319
048210411001	DIODE GP.1N4148 DO-35	D320
048210411001	DIODE GP.1N4148 DO-35	D321
048210411001	DIODE GP.1N4148 DO-35	D325
048210411001	DIODE GP.1N4148 DO-35	D393
048210411001	DIODE GP.1N4148 DO-35	D401
048210411001	DIODE GP.1N4148 DO-35	D451
048210411001	DIODE GP.1N4148 DO-35	D452
048210411001	DIODE GP.1N4148 DO-35	D454
048210411001	DIODE GP.1N4148 DO-35	D455
048210411001	DIODE GP.1N4148 DO-35	D456
048210411001	DIODE GP.1N4148 DO-35	D457
048210411001	DIODE GP.1N4148 DO-35	D612
048321423201	DIODE RECT.1N4007 DO-41	D001
048321423201	DIODE RECT.1N4007 DO-41	D002
048321423201	DIODE RECT.1N4007 DO-41	D003
048321423201	DIODE RECT.1N4007 DO-41	D004
048321423201	DIODE RECT.1N4007 DO-41	D202
048326428001	DIODE RECT.BYW72 SOD-64	D023

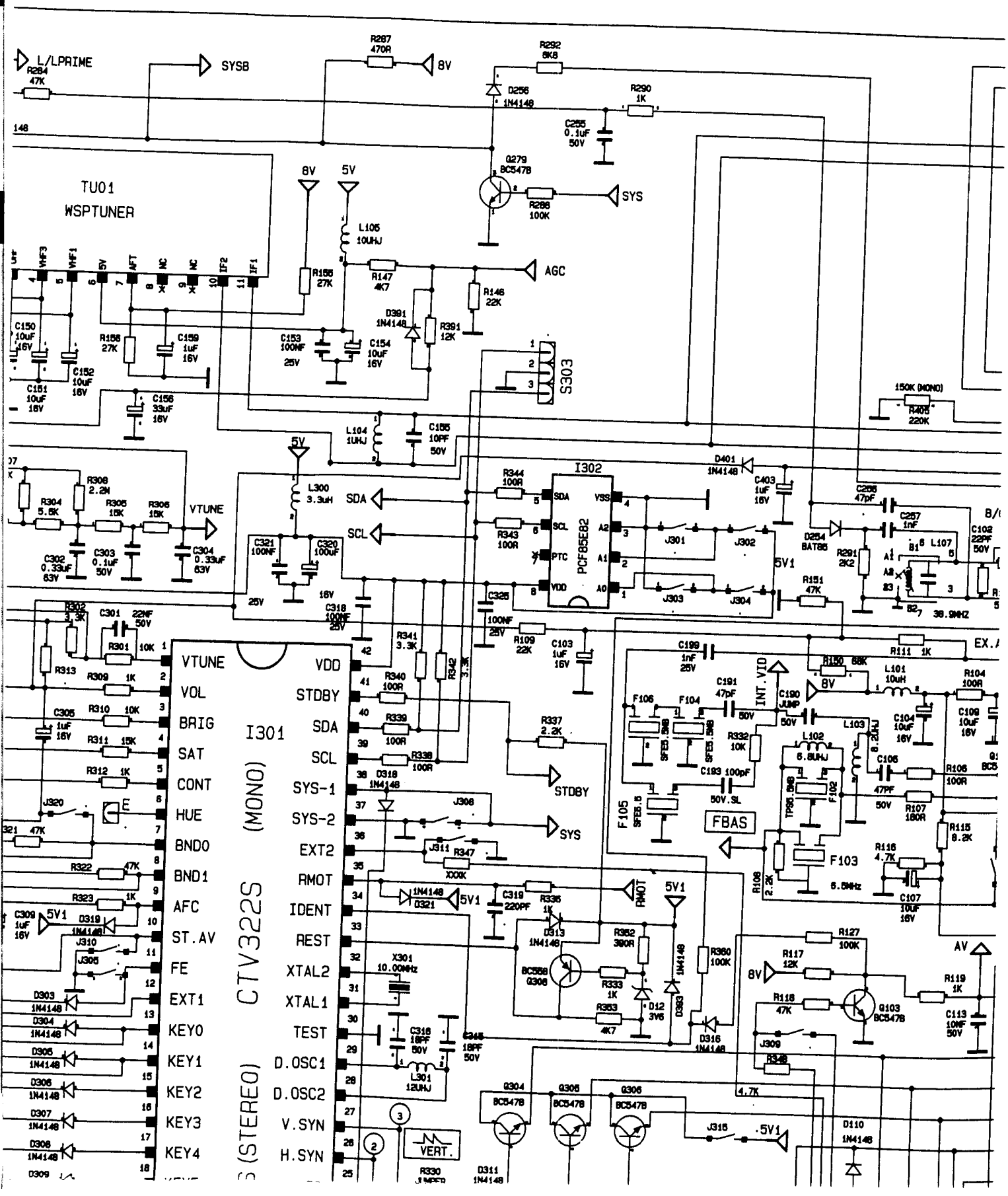
PART NO	COMPONENT	POS
048540733021	DIODE ZNR.33V ZTK33B DO-35	D014
048542613621	DIODE ZNR.6V2 BZX55C DO-35	D010
048548637001	DIODE ZNR.9V1 BZX55C DO-35	D013
048773809001	DIODE LED KLR114L RED 5MM	D300
049030000081	CRYSTAL 8.192 MHZ HC49U	X800
049030000151	CRYSTAL 10.000 MHZ HC49U	X301
049030000161	CRYSTAL 13.875 MHZ HC49U	X500
049030000451	CRYSTAL 9.8304 MHZ HC49U	X502
049030000501	CRYSTAL 4.433619 MHZ HC49U	X102
067310001821	FUSE 2A 250V 5X20MM TIME-LAG	F001
070552111291	CRT 21'(A51JSY63X13)SEG-HITCH	
075020800031	SOCKET CRT K-HPS0359-01-040 29M	S203
075030211000	CONN 2P KLTLI 5MM TPK50 VERT	S602
075030211001	CONN 2P KLTSZ 5MM 5279-2A VERT	S602
075030261001	CONN 2P KLTSZ 10MM 5283-2A HRZ	S601
075030511000	CONN 5P HORZ.VERT.KLTSZ TMK2105	S103
075030511000	CONN 5P HORZ..VERT KLTSZ TMK2105	S202
075030910871	CONN 9P BRD TO BRD MKF19399	S901
075030910871	CONN 9P BRD TO BRD MKF19399	S902
075040210010	SOCKET SCART 14'/20'/21' ORTAK	S651
075100210020	CONN 2P HORZ.VERT.KLTSZ 9.3MM	S002
075100211050	CONN 2P FEMALE KLTSZ 9.3MM GRAY	
075100211140	CONN 2P KLTLI 10MM TPK100MAIN	S601
075100211150	CONN 2P KLTLI 7.5MM TPK75 DEG	S001
075100211781	CONN 2P KLTSZ 7.5MM 5287-2ADEG	S001
075100311580	CONN 3P HORZ.VERT.KLTLI TMK2003	EC10
075100311580	CONN 3P HORZ.VERT.KLTLI TMK2003	S303
075100411000	CONN 4P HORZ.VERT.KLTLI TMK2004	S401
075100411000	CONN 4P HORZ.VERT.KLTLI TMK2004	S603
075100411000	CONN 4P HORZ.VERT. KLTLI TMK2004	S201
075100911000	CONN 9P HORZ.VERT. KLTLI TMK2009	S101
075100911000	CONN 9P HORZ.VERT. KLTLI TMK2009	S102
075101211100	CONN 12P HORZ.VERT.KLTLI TMK2012	S451
075101260001	CONN 12P BRD TO BRD MKF19402	S500
081000000031	SWITCH POWER GDE 310.04.747.1	SW10
081101114021	SWITCH TACT SKHHLN MTLCONT6*6	SW01
081101114021	SWITCH TACT SKHHLN MTLCONT6*6	SW02
081101114021	SWITCH TACT SKHHLN MTLCONT6*6	SW03
081101114021	SWITCH TACT SKHHLN MTLCONT6*6	SW04
399593000050	BATTERY 1.5V AA GREENLINE	
602300033051	TRF.HRZ.DRIVE AT-ETH-20Y20BY	T602
602470003400	TRF.SMPS 14'20'21 PT (12V)	T002
604200000280	TRF.FBT 14'/20'/21' PT	T601
608000000021	COIL 10UH 5% 0.16A AXIAL FIXED	L101
608000000021	COIL 10UH 5% 0.16A AXIAL FIXED	L102
608000000021	COIL 10UH 5% 0.16A AXIAL FIXED	L105
608000000021	COIL 10UH 5% 0.16A AXIAL FIXED	L451
608000000071	COIL 3.3UH 5% 0.21A AXIAL FIX	L232
608000000071	COIL 3.3UH 5% 0.21A AXIAL FIX	L233
608000000071	COIL 3.3UH 5% 0.21A AXIAL FIX	L234
608080000161	COIL 6.8UH 5% 0.175A AXIAL FIX	L800

PART NO	COMPONENT	POS
608080000191	COIL 8.2UH 5% 0.165A AXIAL FIX	L103
608080000191	COIL 8.2UH 5% 0.165A AXIAL FIX	L651
608080000191	COIL 8.2UH 5% 0.165A AXIAL FIX	L652
608280001881	COIL VARIABLE 38.9MHZ TSW2099	L900
608280001881	COIL VARIABLE 38.9MHZ TSW2099	L107
608380000100	COIL CHOKE 110UH 15% 0.5A	L602
608380002361	COIL CHOKE 150UH %10PK0912151K	L020
608580003750	COIL DEGAUSSING 20/21' CPT	
608980000101	COIL 12UH 5% 0.15A AXIAL FIXED	L301
608980000111	COIL 1UH 5% 0.27A AXIAL FIXED	L104
608980000111	COIL 1UH 5% 0.27A AXIAL FIXED	L230
608980000111	COIL 1UH 5% 0.27A AXIAL FIXED	L231
608980003721	LINE FILTER 2*75MH ELF-18D615	T001
608980004051	COIL LINEARITY 50UH	L601
609330001131	PREAMPLIFIER TSOP1136	IR01
610206612091	SPEAKER 8R 7W/10W 50/120MM	
611180011021	TRIMPOT 1K 0.1W 30% H-ADJ5/2.5	P202
611180011021	TRIMPOT 1K 0.1W 30% H-ADJ5/2.5	P204
611340014701	TRIMPOT 470R 0.1W30%H-ADJ5/2.5	P201
611340014701	TRIMPOT 470R 0.1W30%H-ADJ5/2.5	P203
611340014701	TRIMPOT 470R 0.1W30%H-ADJ5/2.5	P205
611380011031	TRIMPOT 10K 0.1W 30% V-ADJ 5/5	P101
611380011031	TRIMPOT 10K 0.1W 30% V-ADJ 5/5	P102
611380012021	TRIMPOT 2K 0.1W 30% V-ADJ 5/5	P001
611380015011	TRIMPOT 500R 0.1W30% V-ADJ 5/5	P602
611380015021	TRIMPOT 5K 0.1W 30% V-ADJ 5/5	P601
616800020171	TUNER TECC2949VG28C WSP SMSNG	TU01
618004001031	CAP KT 10NF 100V 10%	C113
618014002231	CAP KT 22NF 50V 10%	C823
618014006821	CAP KT 6.8NF 100V 10%	C929
618014006821	CAP KT 6.8NF 100V 10%	C937
618014006821	CAP KT 6.8NF 100V 10%	C009
618014014741	CAP KT 470NF 63V 10%	C139
618024004721	CAP KT 4.7NF 100V 10%	C131
618024074701	CAP KT 4.7NF 100V 10%	C125
619005064741	CAP MKT 470NF 63V 10%	C817
619323778221	CAP MKP 8.2NF 1.6KV 2.5%	C607
620004014731	CAP MKT 47NF 100V 10%	C609
620004071031	CAP MKT 10NF 100V 10%	C133
620004072241	CAP MKT 220NF 63V 10% 5MM.	I401
620004072241	CAP MKT 220NF 63V 10% 5MM.	ARKA
620004072241	CAP MKT 220NF 63V 10% 5MM.	C805
620004072241	CAP MKT 220NF 63V 10% 5MM.	C810
620004072241	CAP MKT 220NF 63V 10% 5MM.	C304
620004072241	CAP MKT 220NF 63V 10% 5MM.	C632
620004072241	CAP MKT 220NF 63V 10% 5MM.	C205
620004083341	CAP MKT 330NF 63V 5%	C822
620004083341	CAP MKT 330NF 63V 5%	C302
620005141041	CAP MKT 100NF 275VAC 20% RFIX2	C002
620013054741	CAP MKP 470NF 250VDC 5%	C606
620013054741	CAP MKP 470NF 250VDC 5%	C608

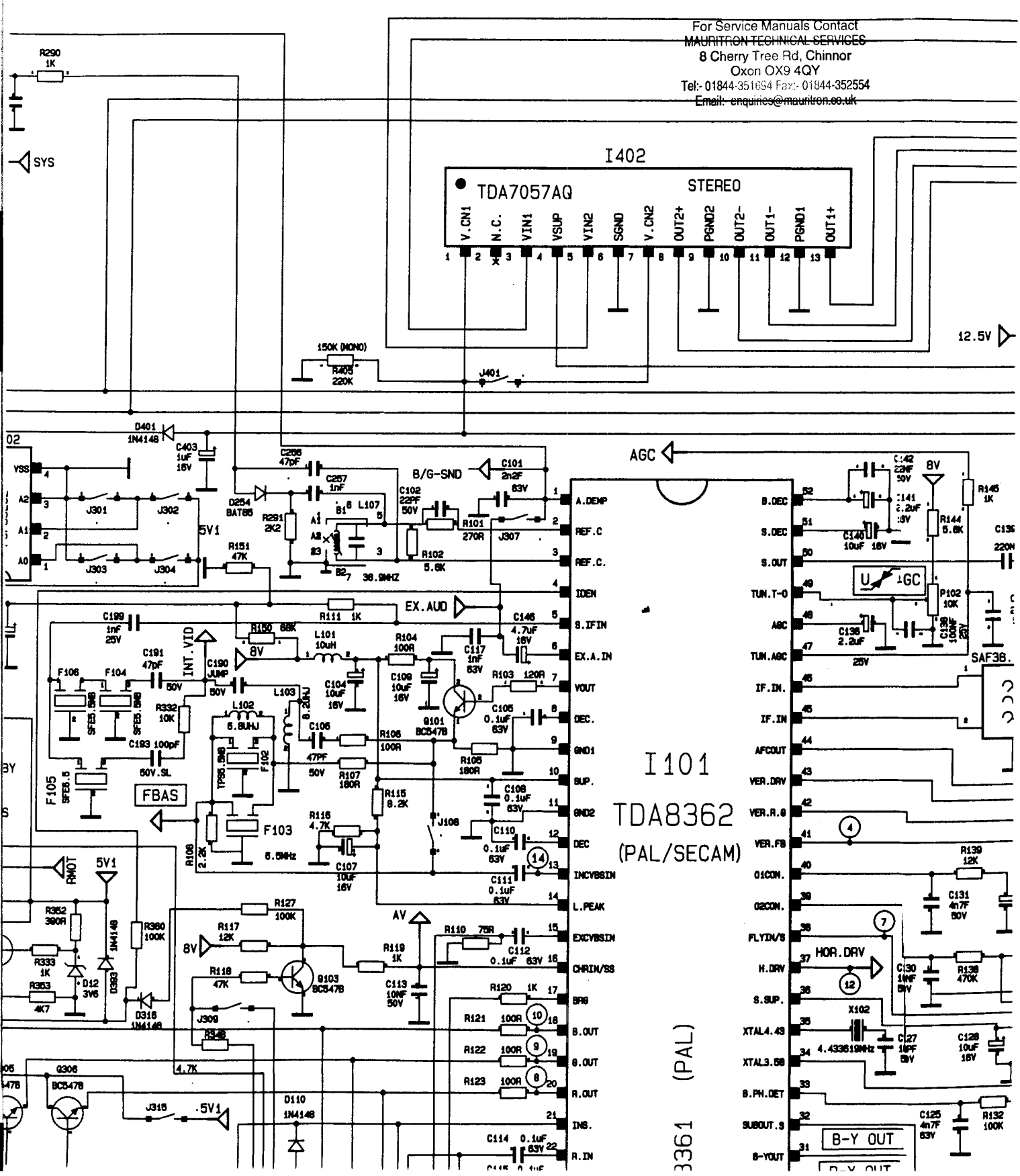
PART NO	COMPONENT	POS
620013081041	CAP MKT 100NF 63V 5%	C105
620013081041	CAP MKT 100NF 63V 5%	C108
620013081041	CAP MKT 100NF 63V 5%	C110
620013081041	CAP MKT 100NF 63V 5%	C111
620013081041	CAP MKT 100NF 63V 5%	C112
620013081041	CAP MKT 100NF 63V 5%	C114
620013081041	CAP MKT 100NF 63V 5%	C115
620013081041	CAP MKT 100NF 63V 5%	C116
620013081041	CAP MKT 100NF 63V 5%	C134
620013081041	CAP MKT 100NF 63V 5%	C461
621003003331	CAP KT 33NF 100V 5%	C928
621003003331	CAP KT 33NF 100V 5%	C936
621003133331	CAP KT 33NF 630V 5%	C006
621004001041	CAP MKT 100NF 50V 10%	C506
621004001041	CAP MKT 100NF 50V 10%	C507
621004001041	CAP MKT 100NF 50V 10%	C303
621004001041	CAP MKT 100NF 50V 10%	C624
621004001531	CAP KT 15NF 50V 10%	C926
621004001531	CAP KT 15NF 50V 10%	C927
621004002241	CAP MKT 220NF 50V 10%	C931
621004002241	CAP MKT 220NF 50V 10%	C932
621004002241	CAP MKT 220NF 50V 10%	C010
621004003321	CAP KT 3.3NF 100V 10%	C013
621004003321	CAP KT 3.3NF 100V 10%	C101
621004004731	CAP KT 47NF 100V 10%	C811
621004051041	CAP MKP 100NF 250VAC 10% RFIX2	C204
621014064741	CAP MKT 470NF 275VAC 10% RFIX2	C001
821000045001	REMOE CONTROL TM45/L (SKD)	
841100000000	LED PCB BLOK M001,B001	1LED
841100013965	MAIN CHASSIS FTX B-1 PT11 P-I N H	9SKT
841109013967	CRT BLOCK 21'SEG-HITACHI	1TUP
841130013118	COMPLETE NIC.STR.(BG) PT SASE	YNCM
841140012123	COMPLETE FTXT.PTSASE 5346 A/T	YFTX
841140013487	COMPLETE CRT SOCKET 20'21' PT SASE	1TUP
841271013918	COMPLETE POWER CABLE SM1P-I PRMFX	3KMP
905102212020	FRONT CABIN PAINTED 21'BISONIC-001	4KBN
905112000090	BUTTON ON-OFF BISON-MONITOR 001	2DYM
905113007060	ACR.WINDOW BISO-MONIT 001	5AKR
905118142090	BUTTON 4'KEYS 2021'BISON-MONIT001	2DY4
966000030040	STRAPHOR 20-21' BISONIC	STRH



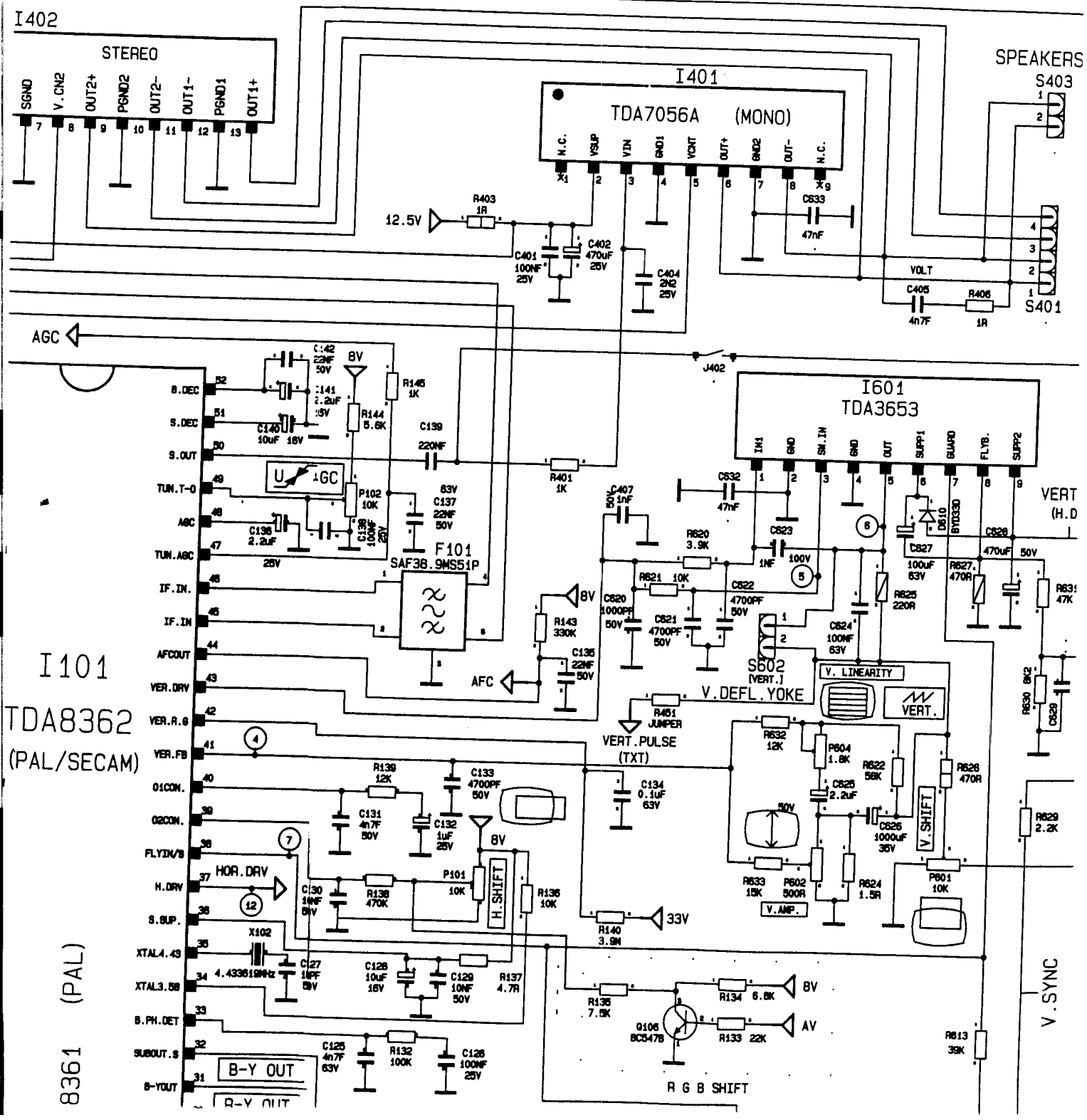
PT 11 CHASSIS CIRCUI



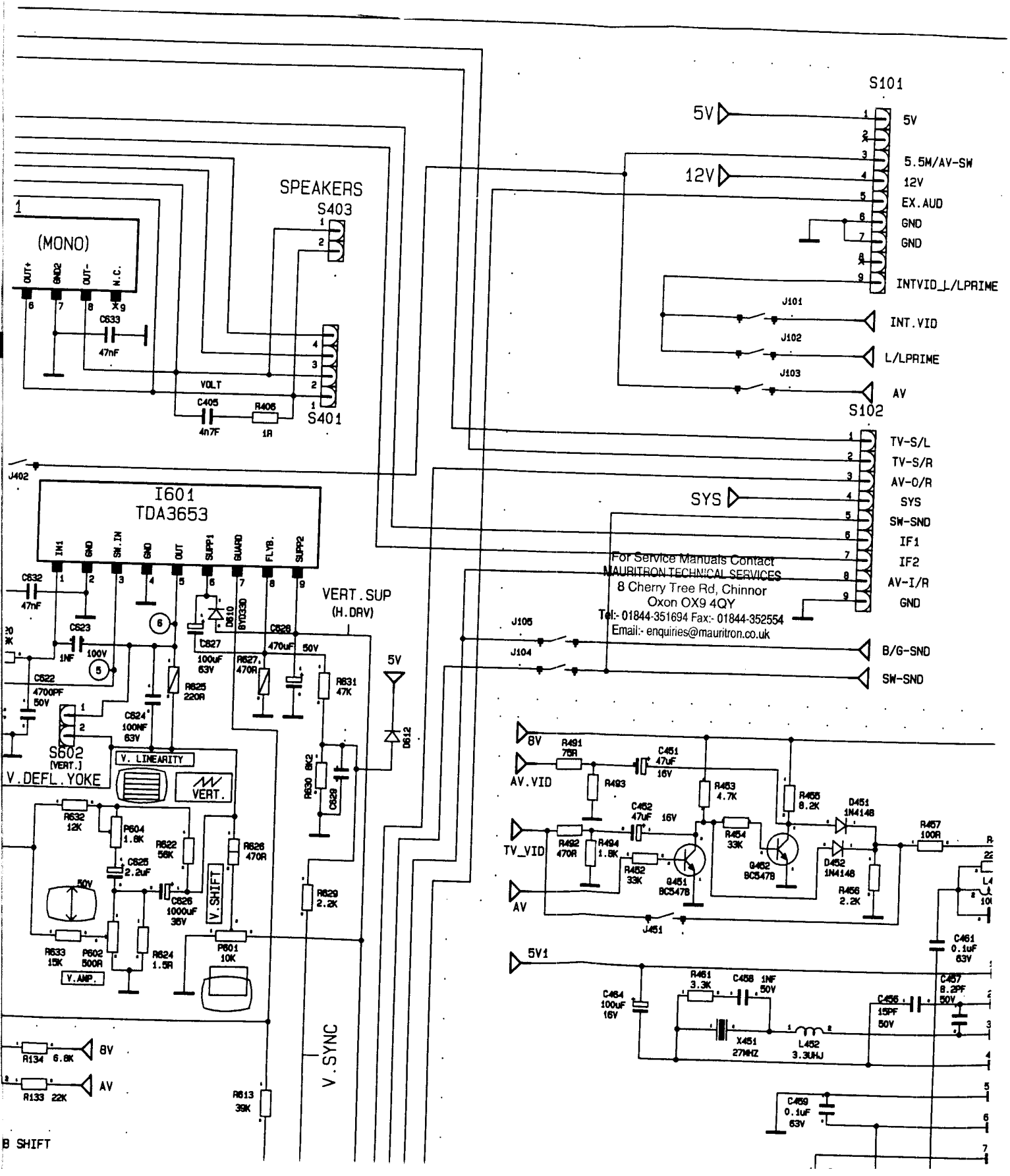
CHASSIS CIRCUIT DIAGRAM / PT 11 SCH

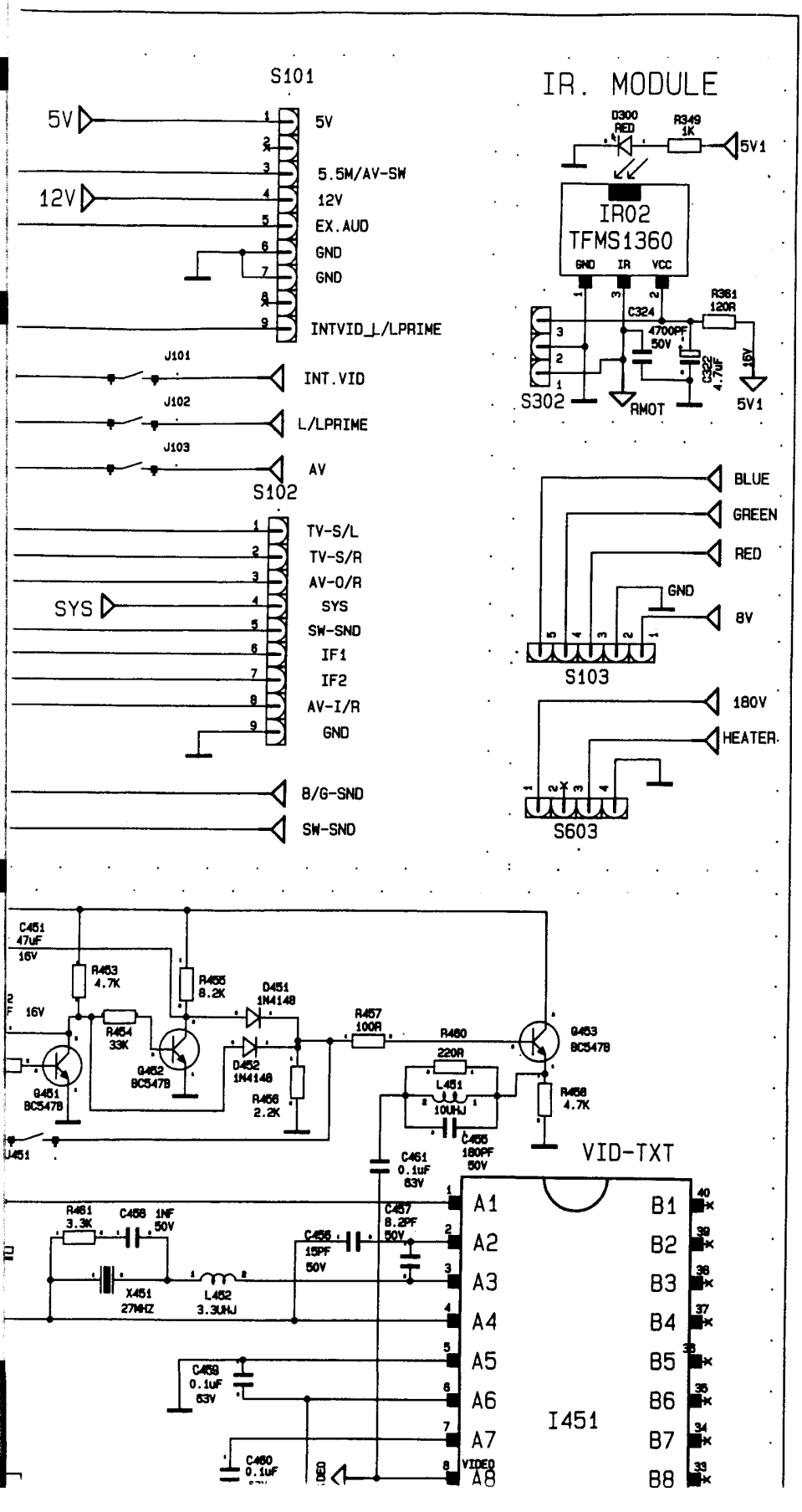


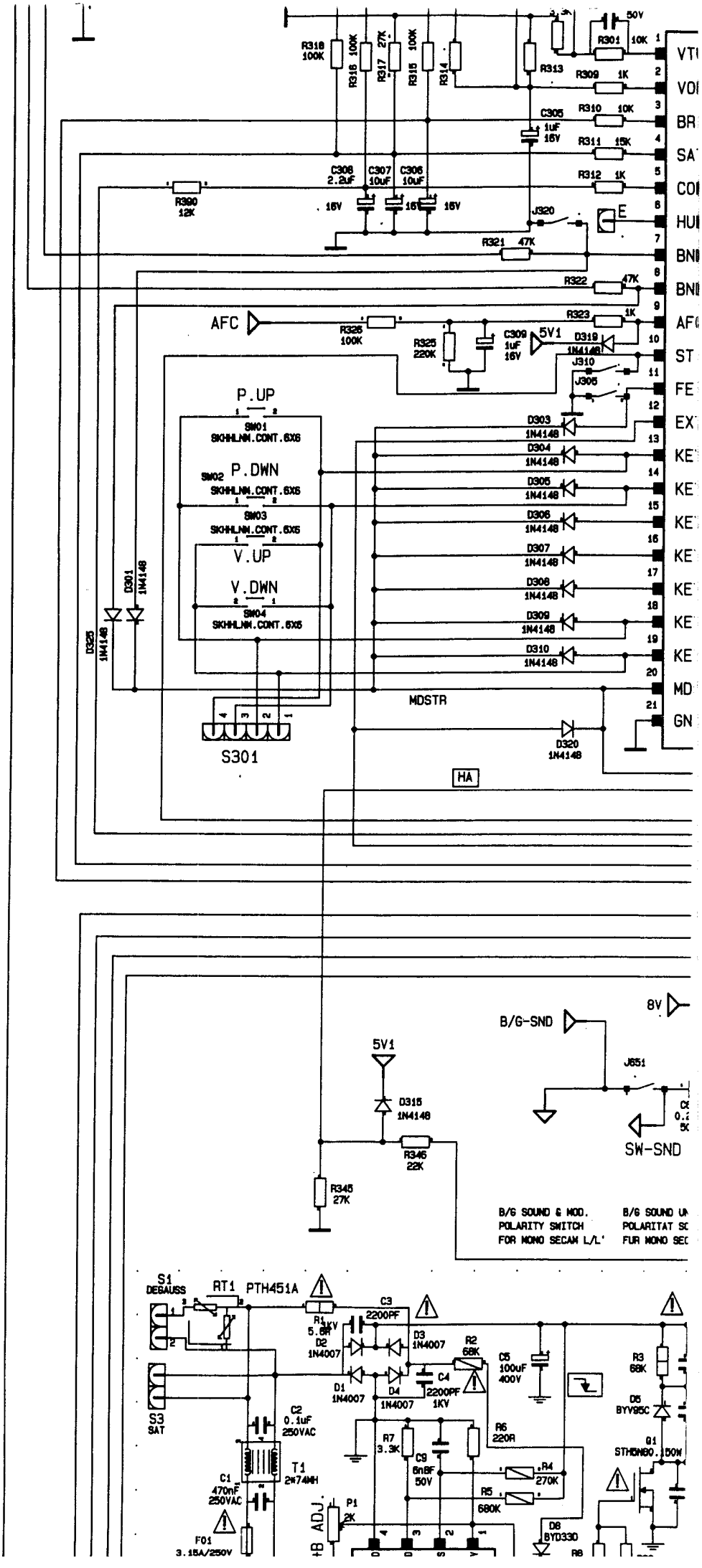
RAM / PT 11 SCHASSI GESAMTSCHALTP

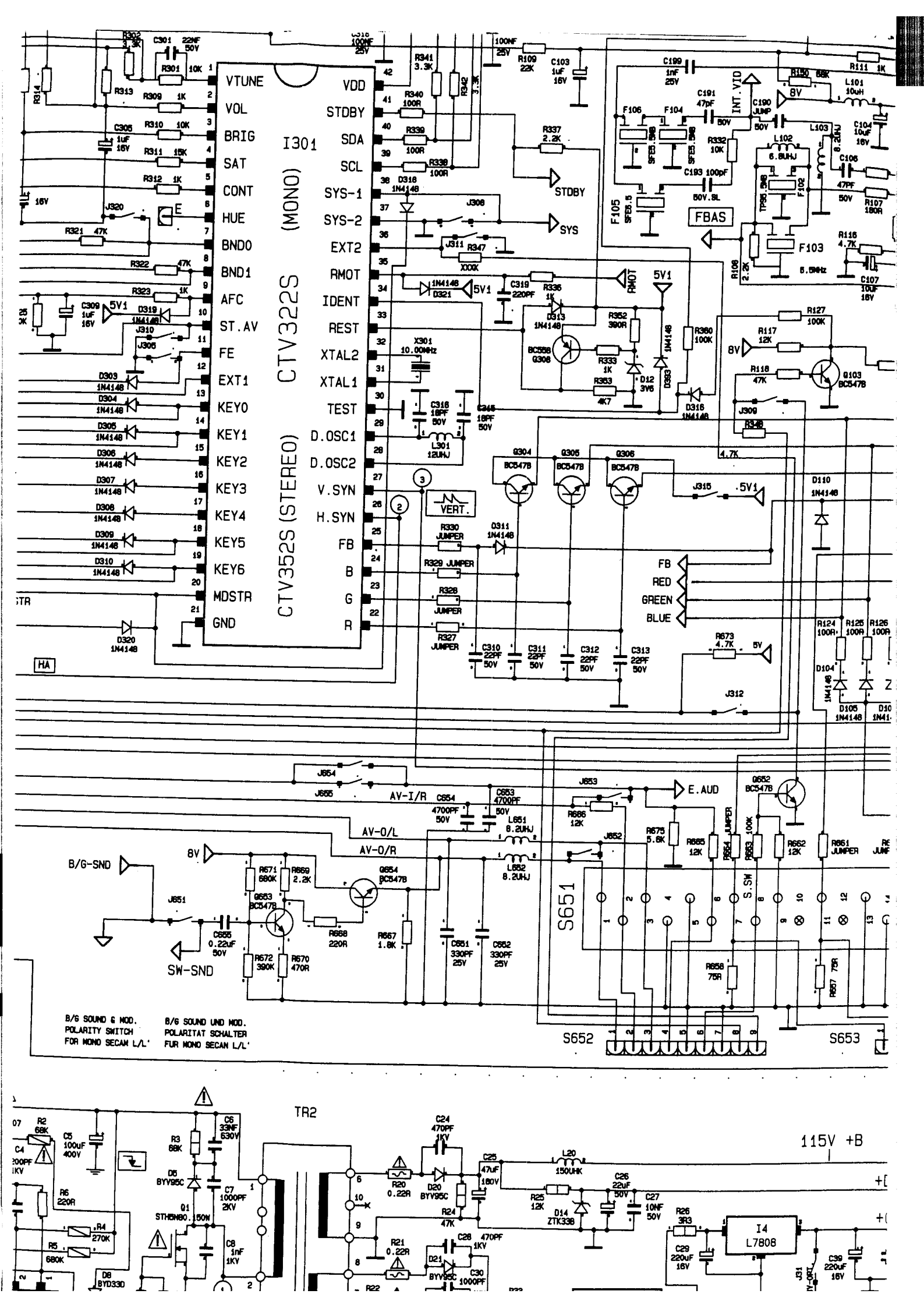


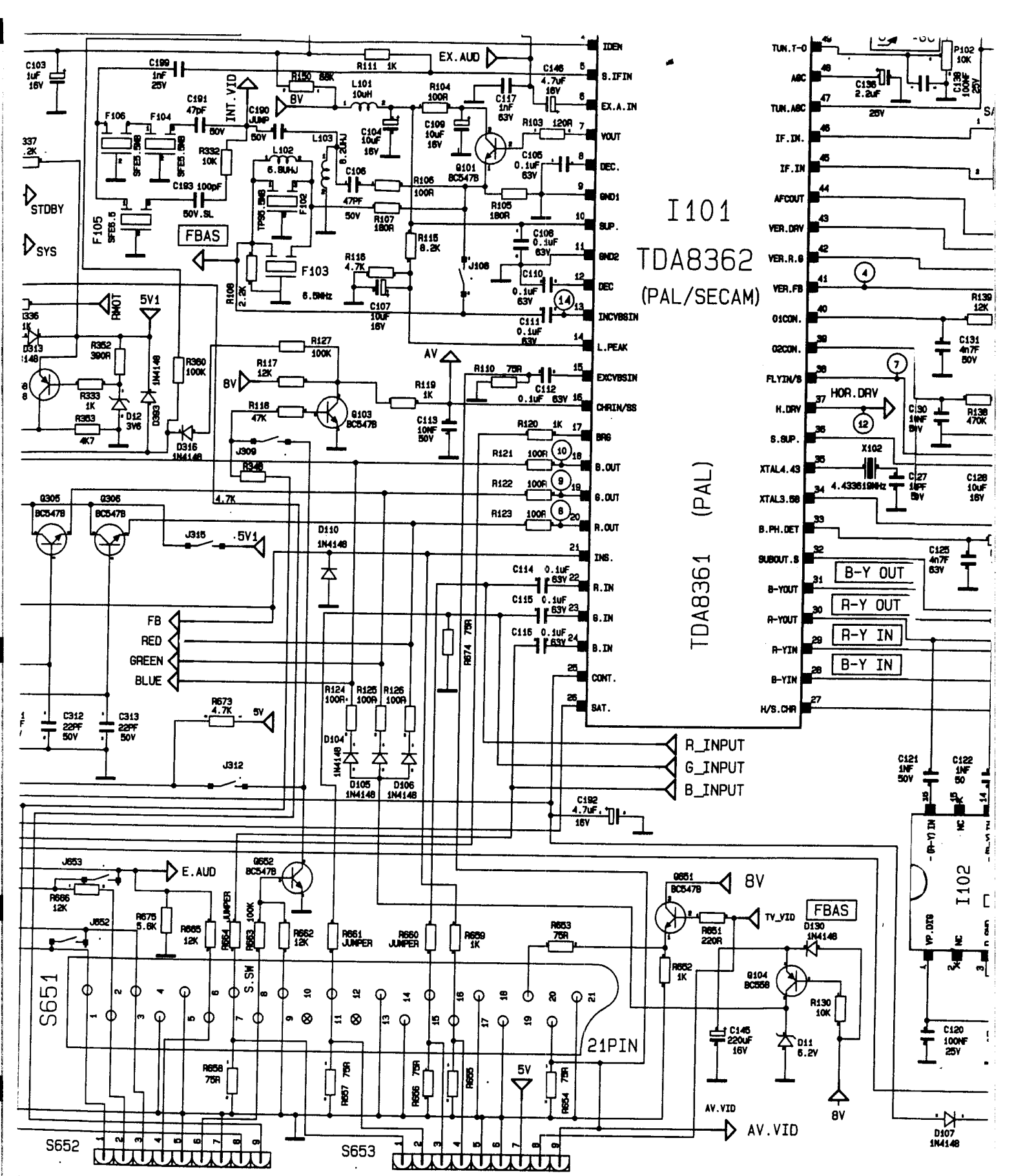
AMTSCHALTPLAN

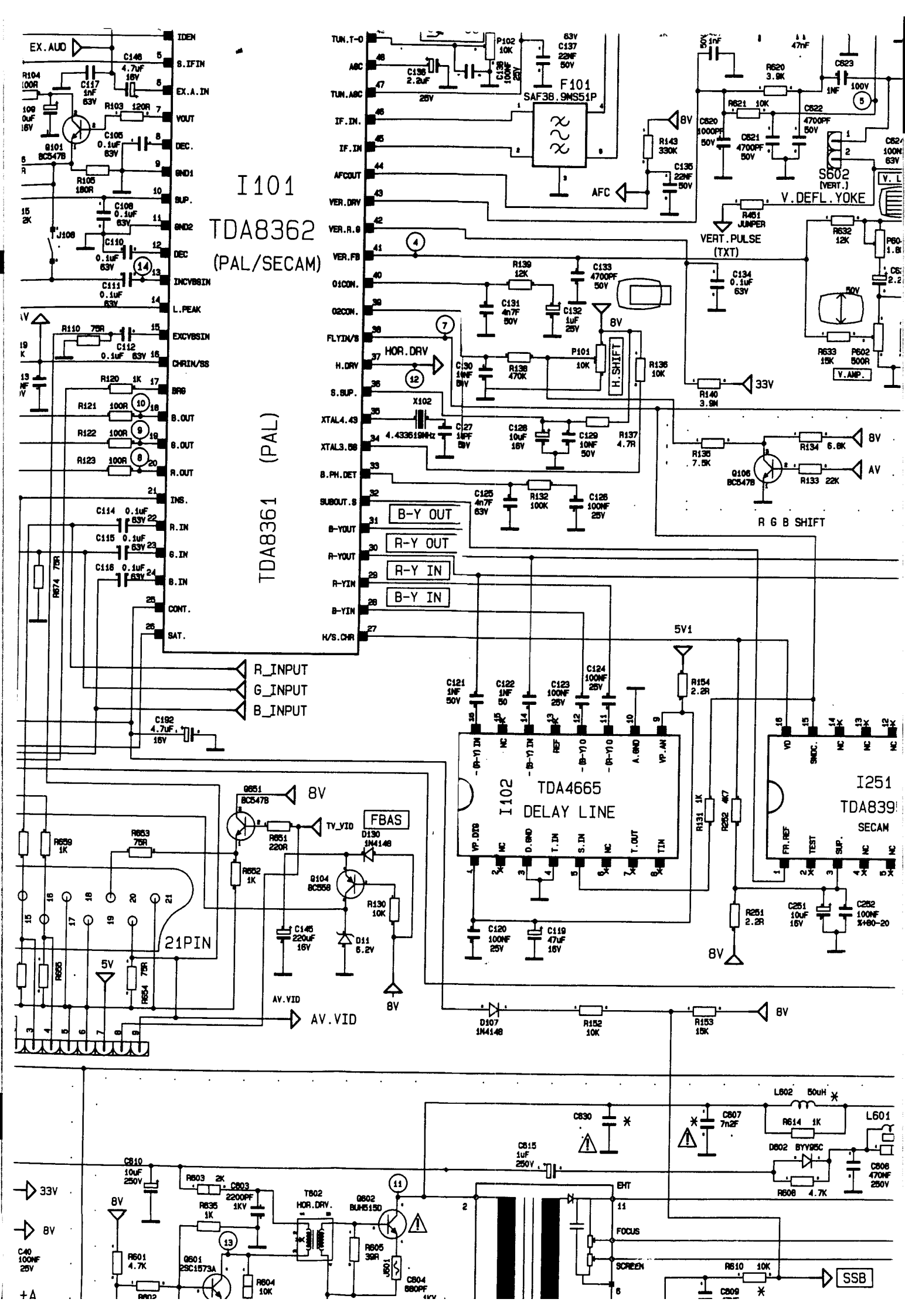


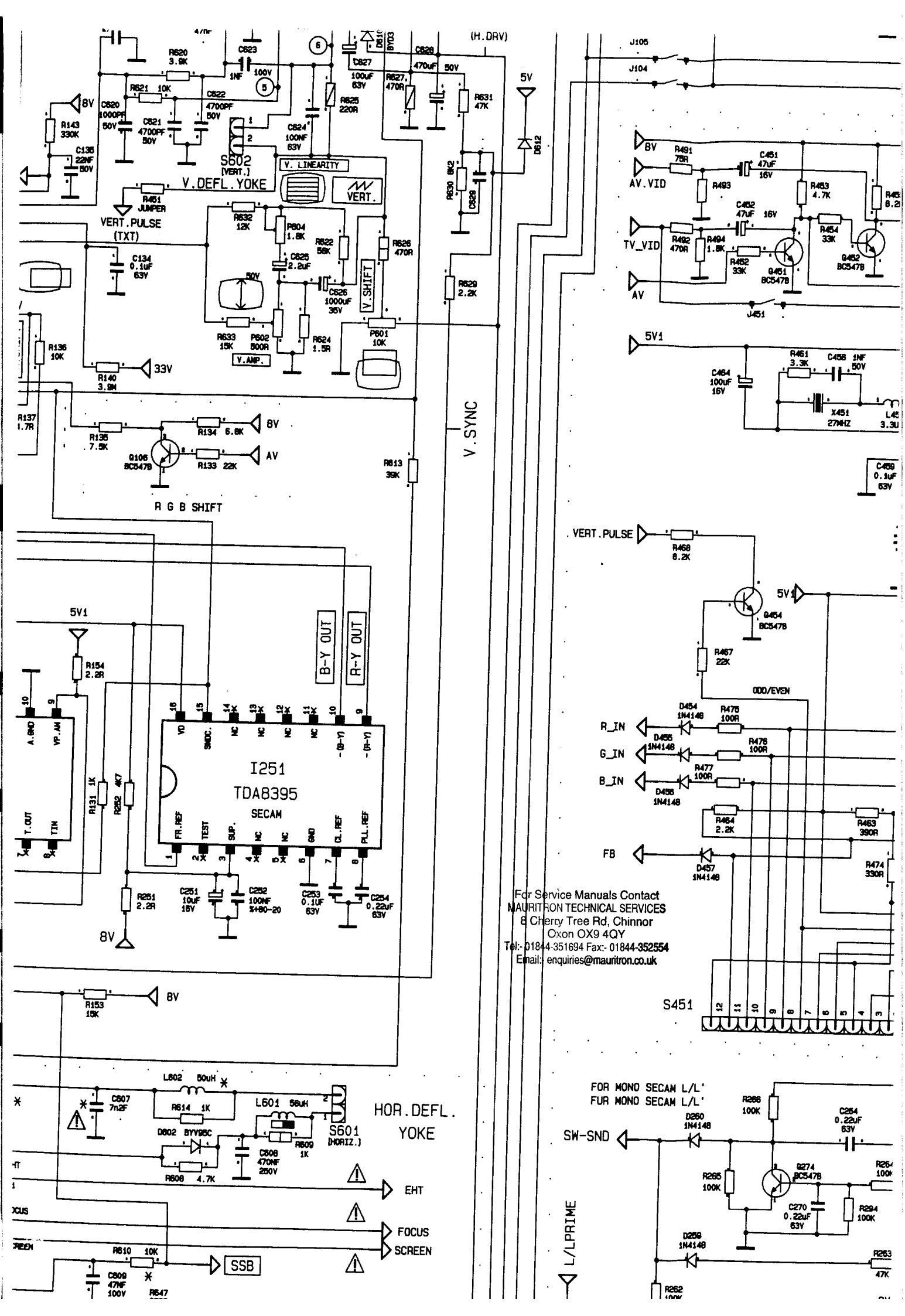

S101
5V
12V
5V
5.5M/AV-SW
12V
EX.AUD
GND
GND
INTVID_L/LPRIME
J101
INT.VID
J102
L/LPRIME
J103
AV
S102
TV-S/L
TV-S/R
AV-O/R
SYS
SW-SND
IF1
IF2
AV-I/R
GND
SYS
B/G-SND
SW-SND
IR. MODULE
D300 RED
R349 1K
5V1
IR02
TFMS1360
GND IR VCC
C324
R361 120R
4700PF 50V
C322 4.7uF 16V
S302
RMOT
5V1
BLUE
GREEN
RED
GND
8V
S103
180V
HEATER
S603
C451 47uF 16V
R453 4.7K
R455 8.2K
D451 1N4148
16V
R454 33K
Q452 BC547B
Q451 BC547B
D452 1N4148
R456 2.2K
R457 100R
R460 220R
Q453 BC547B
L451 10UHJ
R458 4.7K
C455 180PF 50V
VID-TXT
C461 0.1uF 63V
R461 3.3K
C458 1NF 50V
C457 8.2PF 50V
C456 15PF 50V
X451 27MHZ
L452 3.3UHJ
C459 0.1uF 63V
C460 0.1uF
I451
A1
A2
A3
A4
A5
A6
A7
A8
B1
B2
B3
B4
B5
B6
B7
B8
VIDEO

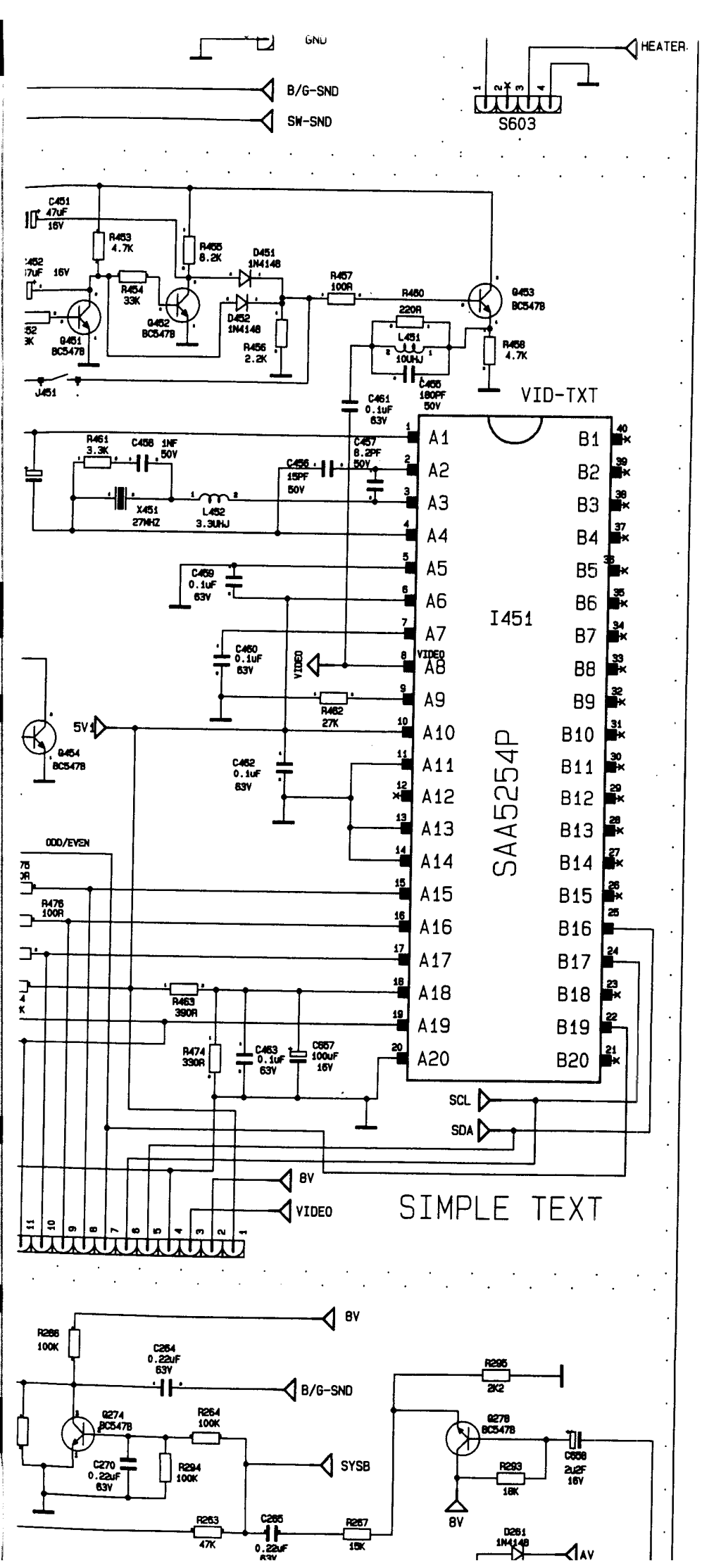

R318 100K
R316 100K
R317 27K
R315 100K
R314
R313
R301 10K
50V
R309 1K
R310 10K
C305 1uF 16V
R311 15K
R312 1K
C306 2.2uF
C307 10uF
C308 10uF
R390 12K
J320
E
R321 47K
R322 47K
R323 1K
AFC
R326 100K
R325 220K
C309 1uF 16V
5V1
D319 1N4148
J310
J305
P.UP
SW01 SKHHLNM.CONT.6X6
P.DWN
SW02 SKHHLNM.CONT.6X6
SW03 SKHHLNM.CONT.6X6
V.UP
V.DWN
SW04 SKHHLNM.CONT.6X6
D301 1N4148
D325 1N4148
D303 1N4148
D304 1N4148
D305 1N4148
D306 1N4148
D307 1N4148
D308 1N4148
D309 1N4148
D310 1N4148
MDSTR
S301
D320 1N4148
HA
8V
B/G-SND
5V1
J651
D315 1N4148
R346 22K
SW-SND
R345 27K
B/G SOUND & MOD. POLARITY SWITCH FOR MONO SECAM L/L'
S1 DEGAUSS
RT1 PTH451A
C3 2200PF
R1 5.6R
D2 1N4007
D3 1N4007
R2 68K
C5 100uF 400V
D1 1N4007
D4 1N4007
C4 2200PF 1KV
R3 68K
D5 BYV95C
S3 SAT
C2 0.1uF 250VAC
R6 220R
R7 3.3K
C9 6n8F 50V
R4 270K
R5 680K
T1 2x74MH
C1 470nF 250VAC
P1 2K
D8 BYD33D
F01 3.15A/250V
Q1 STHDN80.150W

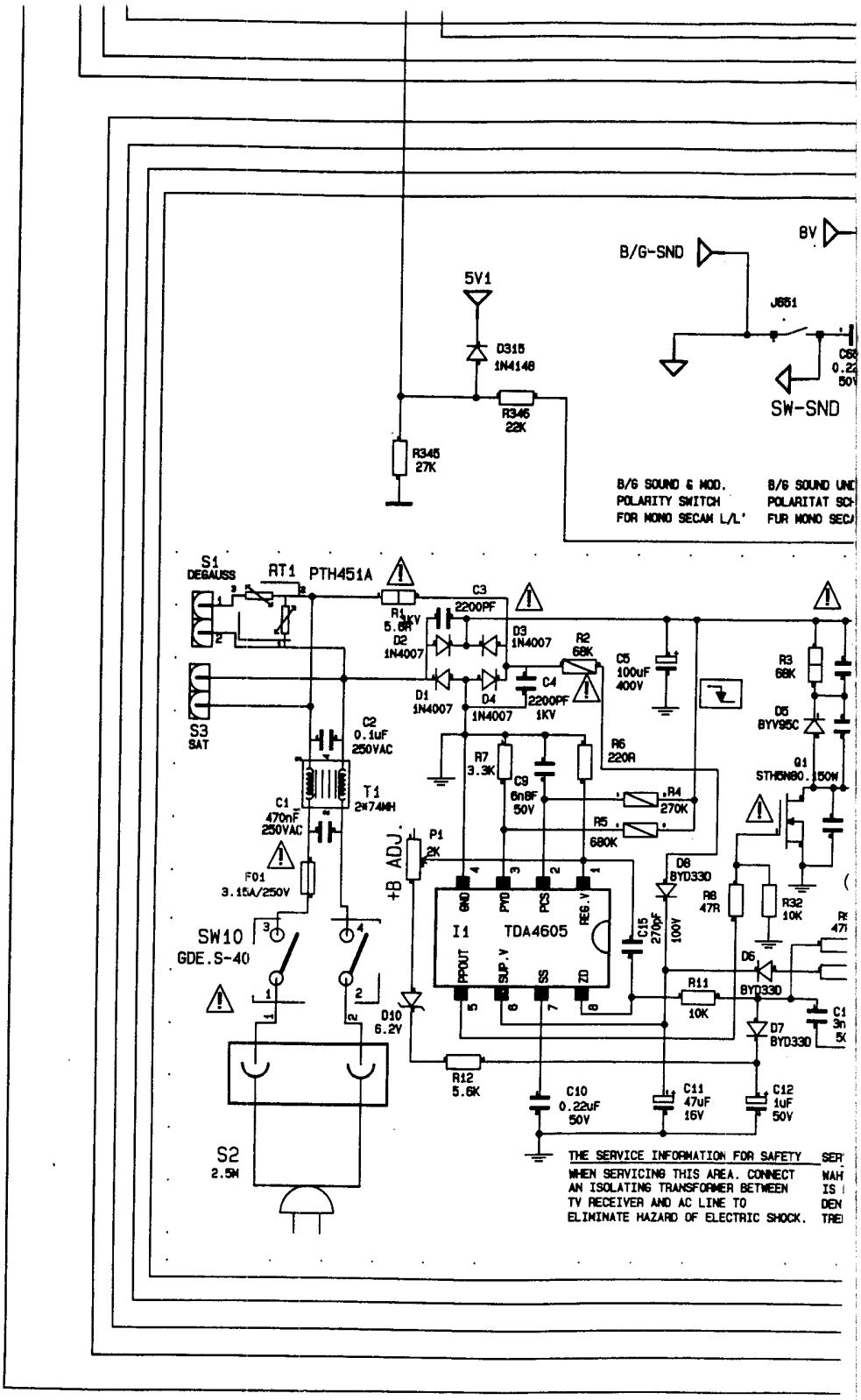

I301
CTV352S (STEREO)
CTV322S (MONO)
VTUNE
VOL
BRIG
SAT
CONT
HUE
BND0
BND1
AFC
ST.AV
FE
EXT1
KEY0
KEY1
KEY2
KEY3
KEY4
KEY5
KEY6
MDSTR
GND
VDD
STDBY
SDA
SCL
SYS-1
SYS-2
EXT2
RMOT
IDENT
REST
XTAL2
XTAL1
TEST
D.OSC1
D.OSC2
V.SYN
H.SYN
FB
B
G
R
VERT.
FBAS
INT.VID
FB
RED
GREEN
BLUE
E.AUD
S.SW
S651
S652
S653
B/G-SND
SW-SND
AV-I/R
AV-O/L
AV-O/R
B/G SOUND & MOD. POLARITY SWITCH FOR MONO SECAM L/L'
B/G SOUND UND MOD. POLARITAT SCHALTER FUR MONO SECAN L/L'
TR2
115V +B
I4
L7808


I101
TDA8362
(PAL/SECAM)
TDA8361 (PAL)
IDEN
S.IFIN
EX.A.IN
VOUT
DEC.
GND1
SUP.
GND2
DEC
INCVBSIN
L.PEAK
EXCVBSIN
CHRIN/SS
BRG
B.OUT
G.OUT
R.OUT
INS.
R.IN
G.IN
B.IN
CONT.
SAT.
TUN.T-O
AGC
TUN.AGC
IF.IN.
IF.IN
AFCOUT
VER.DRV
VER.R.G
VER.FB
O1CON.
O2CON.
FLYIN/S
H.DRV
S.SUP.
XTAL4.43
XTAL3.58
B.PH.DET
SUBOUT.S
B-YOUT
R-YOUT
R-YIN
B-YIN
H/S.CHR
B-Y OUT
R-Y OUT
R-Y IN
B-Y IN
HOR.DRV
4.433619MHz
EX.AUD
INT.VID
FBAS
STDBY
SYS
5V1
8V
AV
FB
RED
GREEN
BLUE
R_INPUT
G_INPUT
B_INPUT
E.AUD
TV_VID
AV.VID
S651
S652
S653
21PIN
I102
115V +B
+D
33V
+C
8V
I4
L7808
For Service Manuals Contact
MAURITRON TECHNICAL SERVICES
8 Cherry Tree Rd, Chinnor
Oxon OX9 4QY
Tel:- 01844-351694 Fax:- 01844-352554
Email:- enquiries@mauritron.co.uk

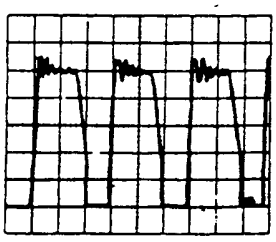

I101
TDA8362
(PAL/SECAM)
TDA8361 (PAL)
EX.AUD
IDEN
S.IFIN
EX.A.IN
VOUT
DEC.
GND1
SUP.
GND2
DEC
INCVBSIN
L.PEAK
EXCVBSIN
CHRIN/SS
BR0
B.OUT
G.OUT
R.OUT
INS.
R.IN
G.IN
B.IN
CONT.
SAT.
TUN.T-O
AGC
TUN.AGC
IF.IN.
IF.IN
AFCOUT
VER.DRV
VER.R.G
VER.FB
O1CON.
O2CON.
FLYIN/S
H.DRV
S.SUP.
XTAL4.43
XTAL3.58
B.PH.DET
SUBOUT.S
B-YOUT
R-YOUT
B-YIN
R-YIN
H/S.CHR
F101
SAF38.9MS51P
AFC
VERT.PULSE
(TXT)
V.DEFL.YOKE
S602
(VERT.)
V.AMP.
HOR.DRV
H.SHIFT
X102
4.433619MHz
B-Y OUT
R-Y OUT
R-Y IN
B-Y IN
R G B SHIFT
R_INPUT
G_INPUT
B_INPUT
I102
TDA4665
DELAY LINE
I251
TDA839
SECAM
21PIN
FBAS
TV_VID
AV.VID
5V1
8V
33V
5V
EHT
FOCUS
SCREEN
SSB
T802
HOR.DRV.
Q602
BUH5150
Q601
2SC1573A
L601
L602
D602
BYV95C




GND
B/G-SND
SW-SND
HEATER
S603
C451 47uF 16V
R453 4.7K
R455 8.2K
D451 1N4148
R454 33K
Q452 BC547B
D452 1N4148
R457 100R
R460 220R
Q453 BC547B
L451 10UHJ
C466 180PF 50V
R458 4.7K
R456 2.2K
Q451 BC547B
J451
VID-TXT
C461 0.1uF 63V
R461 3.3K
C458 1NF 50V
C457 8.2PF 50V
C456 15PF 50V
X451 27MHZ
L452 3.3UHJ
C459 0.1uF 63V
C460 0.1uF 63V
VIDEO
R462 27K
5V1
Q454 BC547B
C462 0.1uF 63V
I451
SAA5254P
A1 A2 A3 A4 A5 A6 A7 A8 A9 A10 A11 A12 A13 A14 A15 A16 A17 A18 A19 A20
B1 B2 B3 B4 B5 B6 B7 B8 B9 B10 B11 B12 B13 B14 B15 B16 B17 B18 B19 B20
ODD/EVEN
R476 100R
R463 390R
R474 390R
C463 0.1uF 63V
C467 100uF 16V
SCL
SDA
8V
VIDEO
SIMPLE TEXT
R266 100K
C264 0.22uF 63V
B/G-SND
Q274 BC547B
R264 100K
C270 0.22uF 63V
R294 100K
SYSB
R263 47K
C265 0.22uF
R267 15K
R295 2K2
Q276 BC547B
C268 2U2F 16V
R293 18K
8V
D261 1N4148
AV

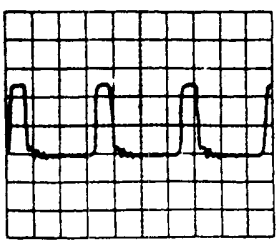


1) 5 usn/div 100 volt/div



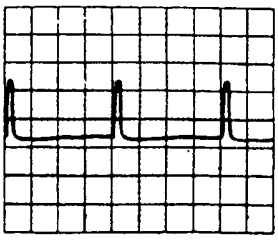
Drain of Q1

2) 20 usn/div 2volt/div

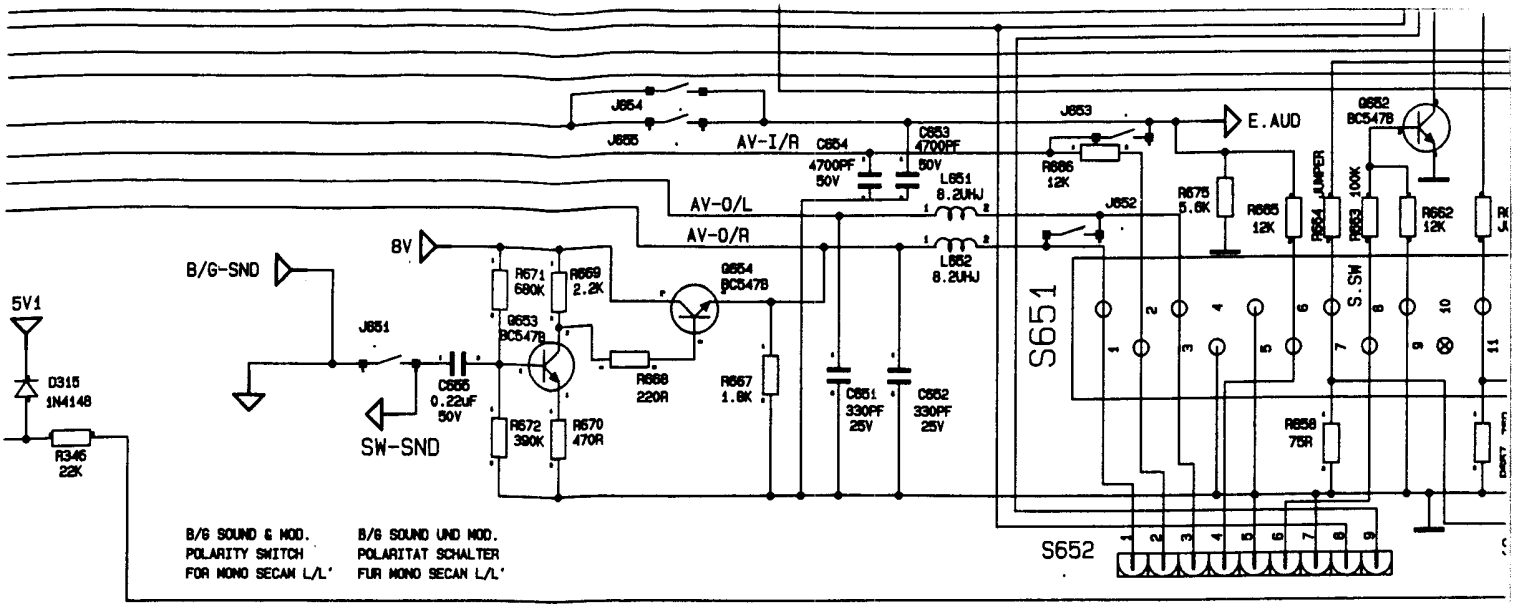


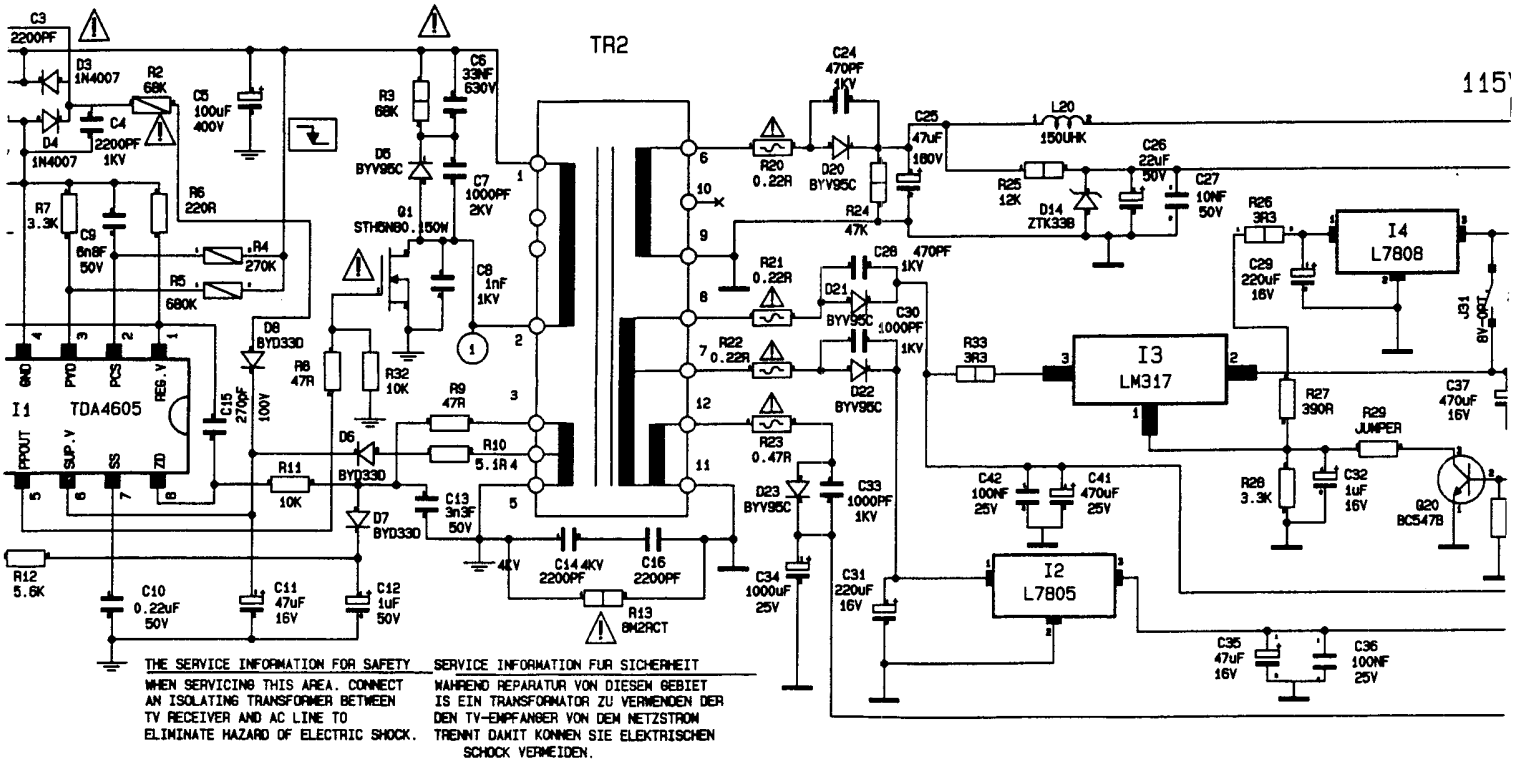
IC 301 pin 26

3) 5m sn/div 2volt/div



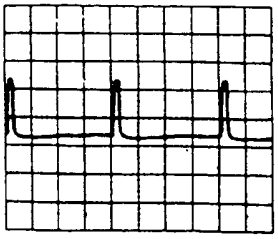
IC 301 pin 27





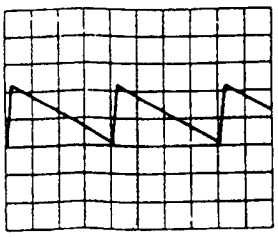
For Service Manuals Contact
MAURITRON TECHNICAL SERVICES
8 Cherry Tree Rd, Chinnor
Oxon OX9 4QY
Tel:- 01844-351694 Fax: 01844-352554
Email:- enquiries@mauritron.co.uk

3) 5m sn/div 2volt/div



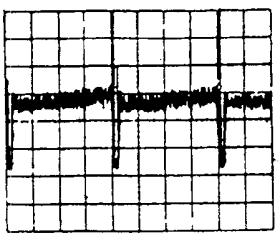
IC 301 pin 27

4) 5 msn/div 0,5 volt/div



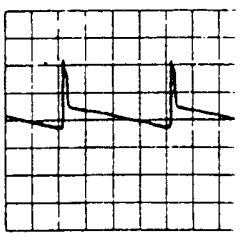
IC 101 pin 41

5) 5 msn/div 1 volt/div

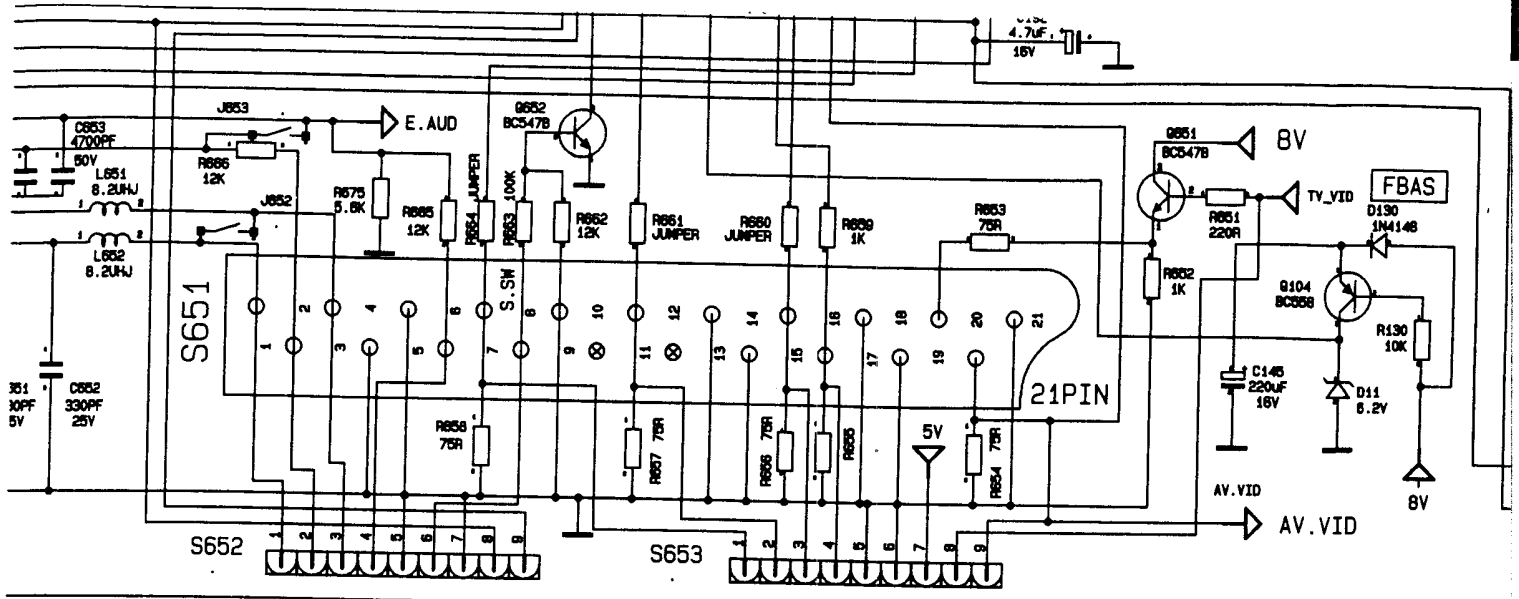


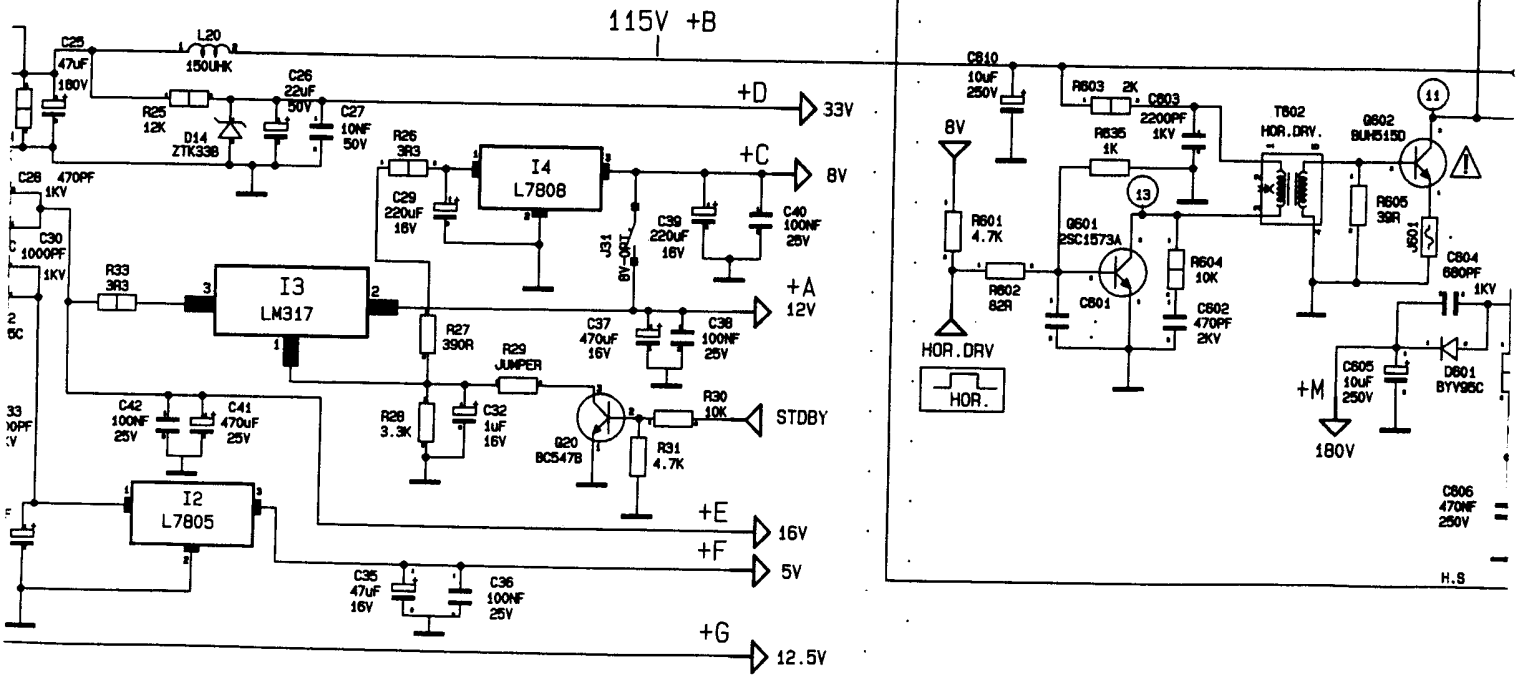
IC 601 pin 3

6) 5 msn/div 20 vol



IC 601 pin 5

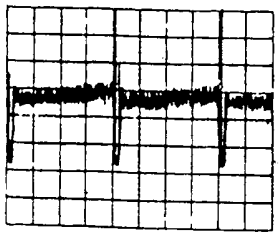




AV-O/R
AV-O/L
AV-I/R
EX.AUD

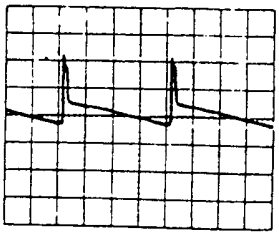
OSCILLOSCOPE SHAPES / OSZILLOG

5) 5 msn/div 1 volt/div



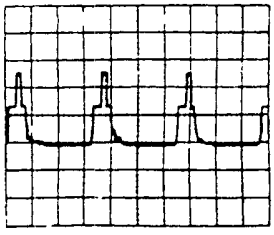
IC 601 pin 3

6) 5 msn/div 20 volt/div



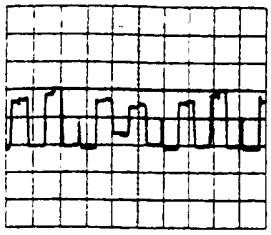
IC 601 pin 5

7) 20 usn/div 2 volt/div

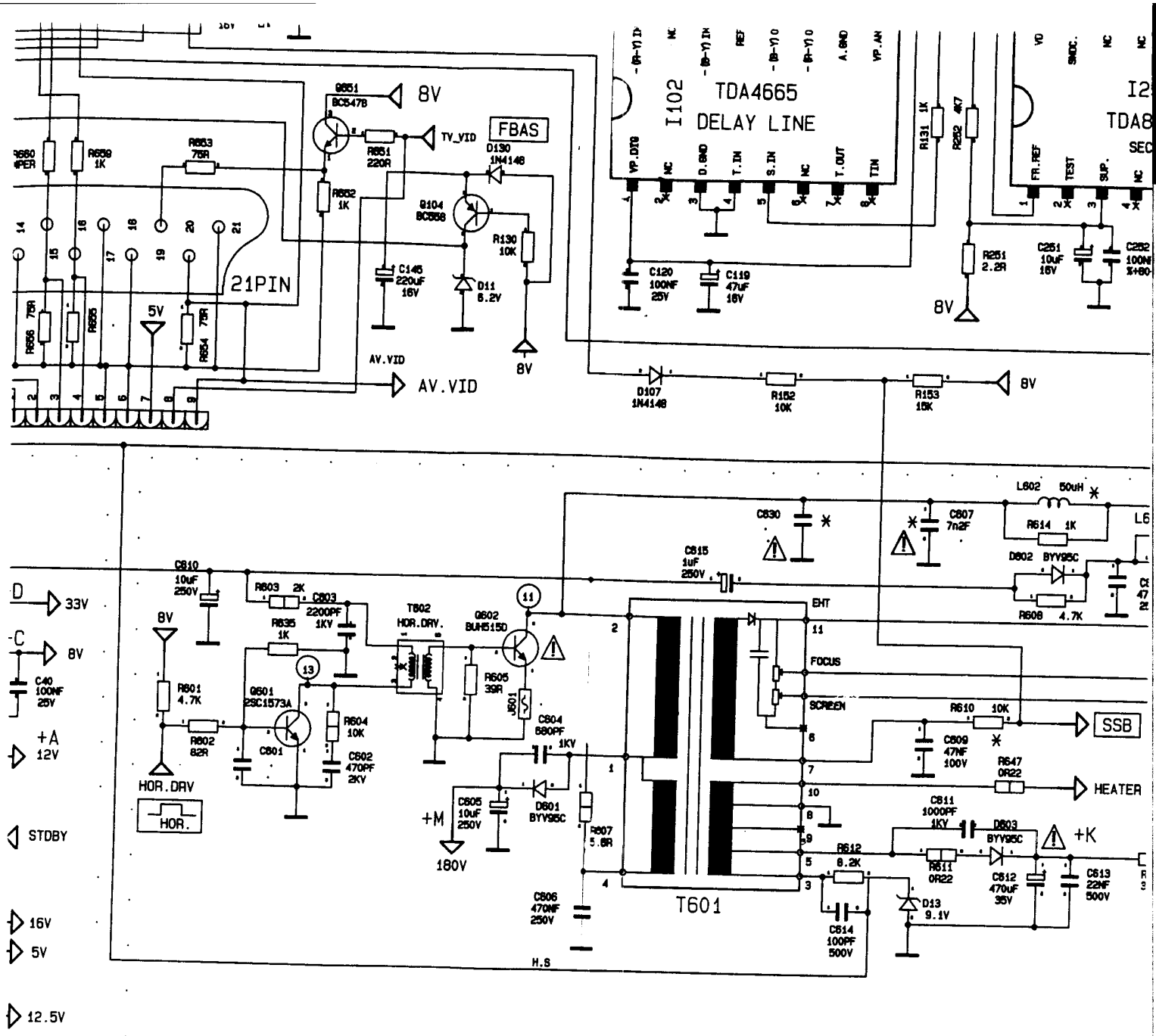


IC 101 pin 38

8) 20 usn/div 2 volt/div

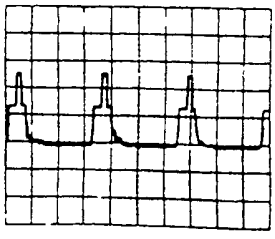


IC 101 pin 20



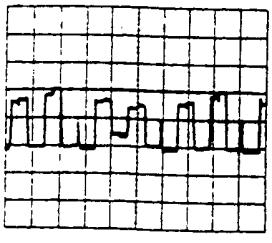
OSCILLOSCOPE SHAPES / OSZILLOGRAMME

7) 20 usn/div 2 volt/div



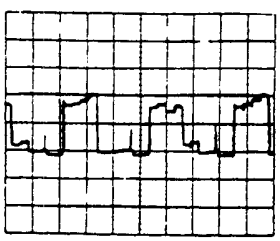
IC 101 pin 38

8) 20 usn/div 2 volt/div



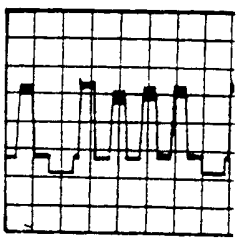
IC 101 pin 20

9) 20 usn/div 2 volt/div

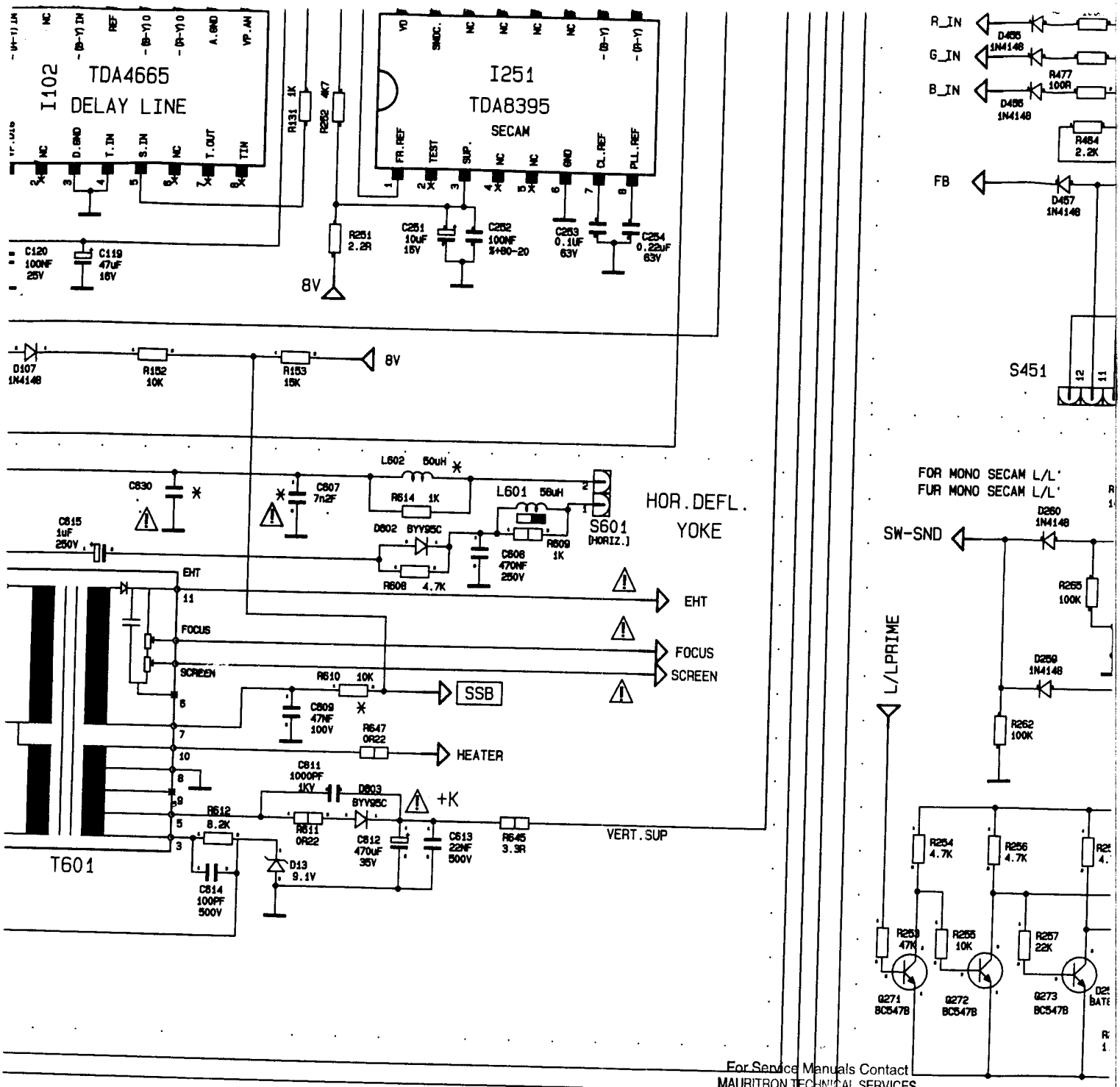


IC 101 pin 19

10) 10 usn/div 2 v

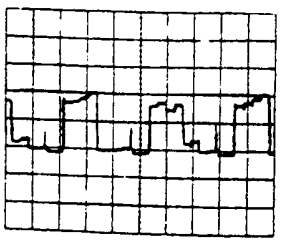


IC 101 pin 18



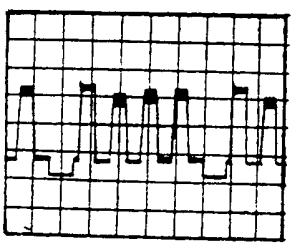
MME

9) 20 usn/div 2 volt/div



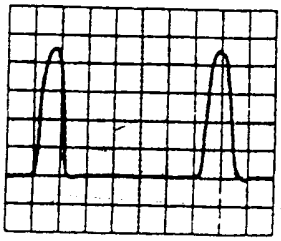
IC 101 pin 19

10) 10 usn/div 2 volt/div



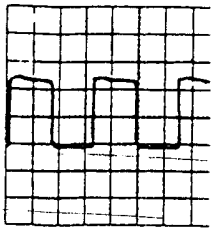
IC 101 pin 18

11) 10 usn/div 250 volt/div

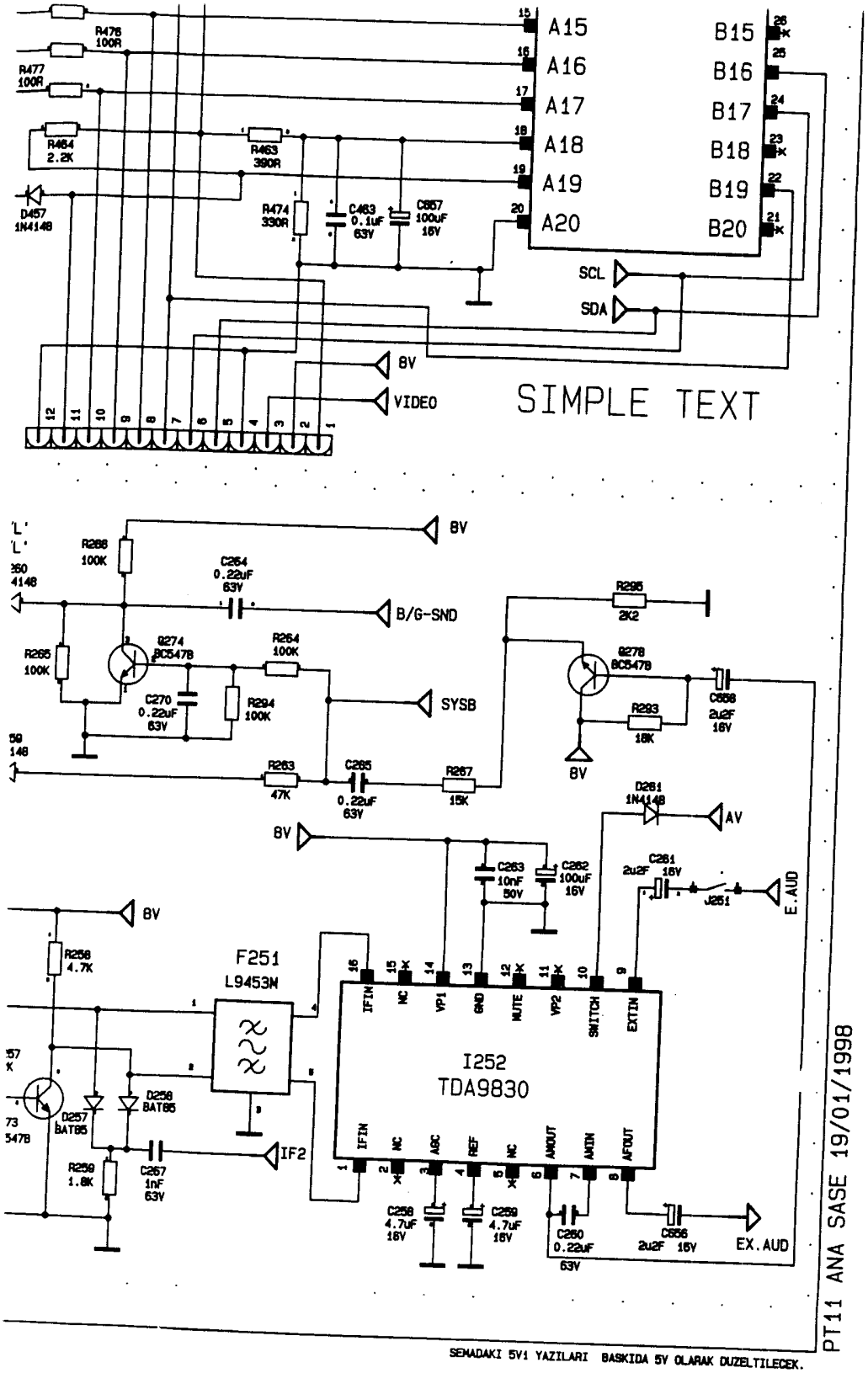


Collector of Q602

12) 20 usn/div 0.2



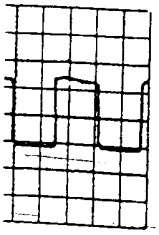
IC 101 pin 37



PT11 ANA SASE 19/01/1998

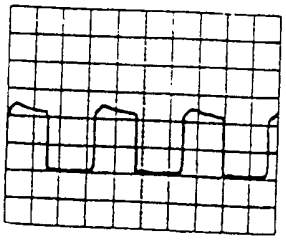
SEMADAKI 5V1 YAZILARI BASKIDA 5V OLARAK DUZELTILECEK.

div 0.2 volt/div



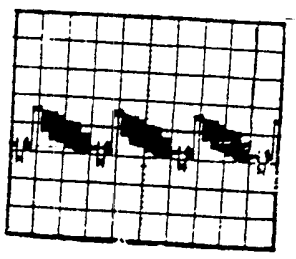
7

13) 20 usn/div 50 volt/div

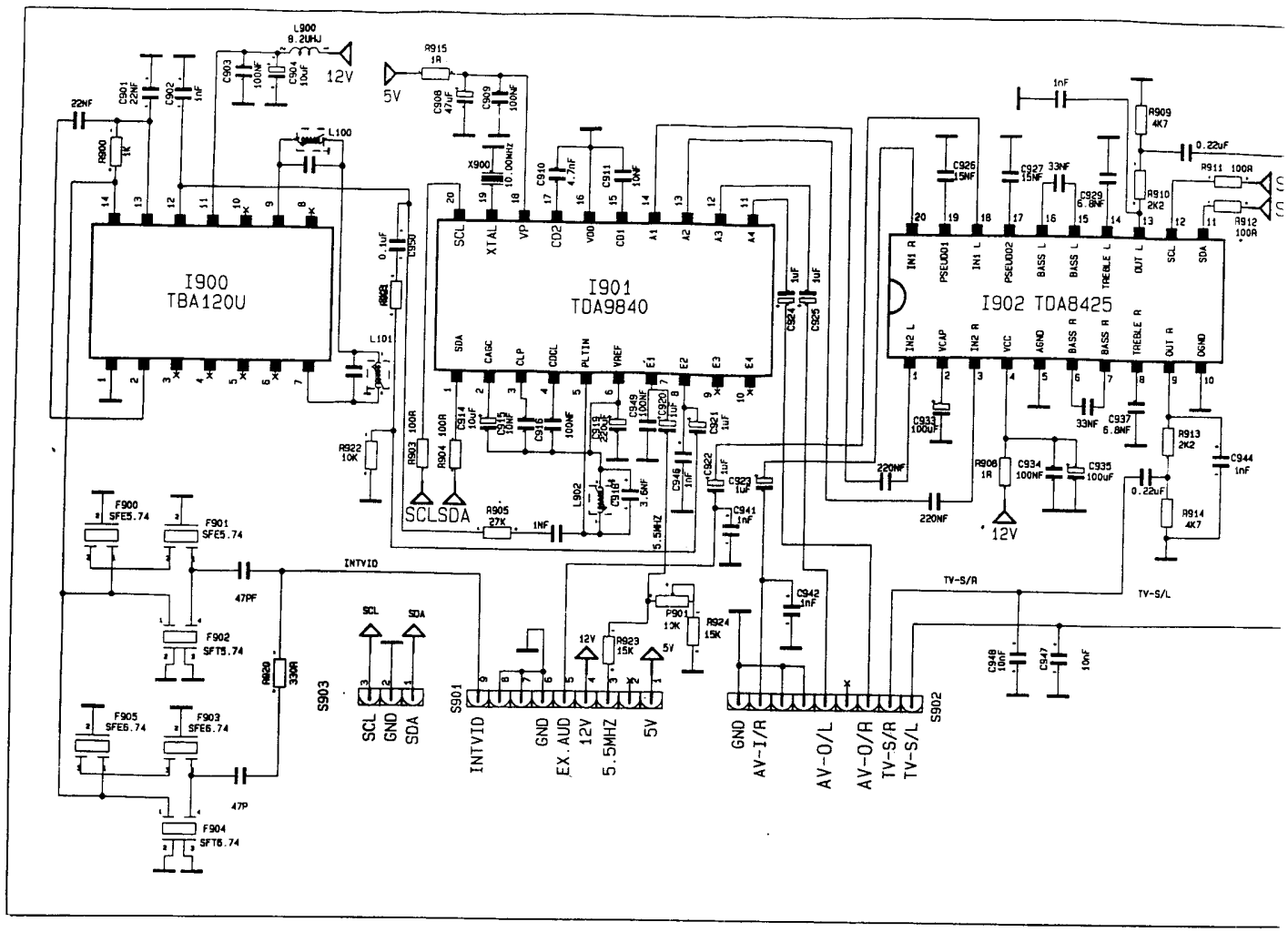


Collector of Q601

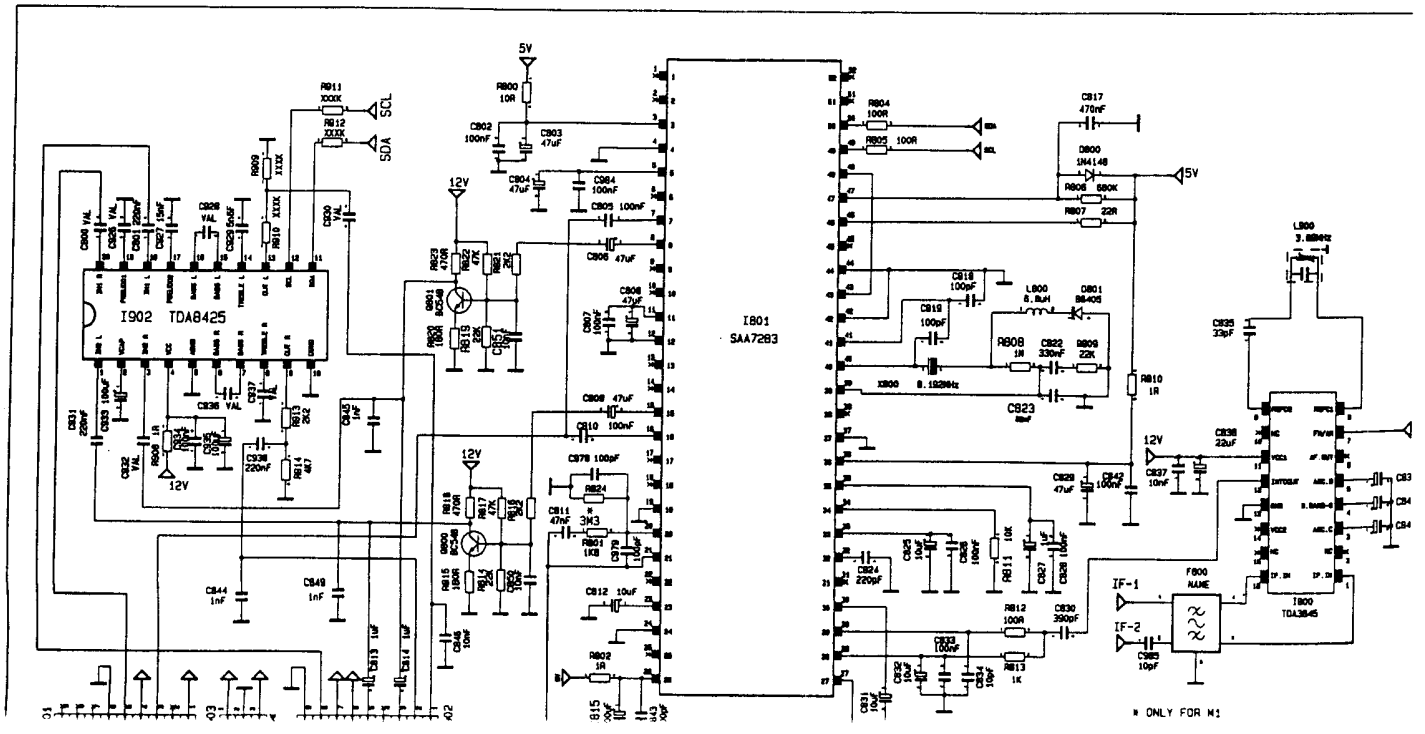
14) 20 usn/div 1 volt/div

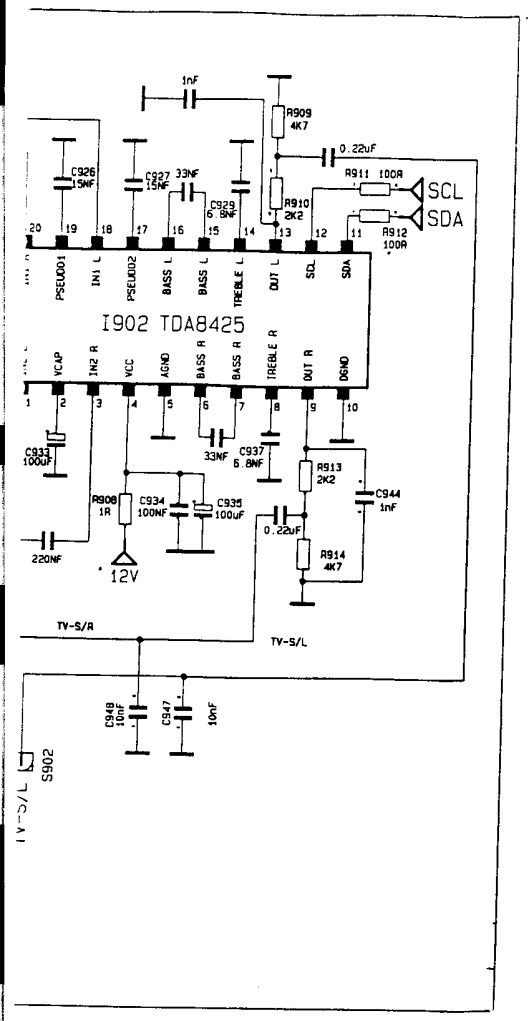


IC 101 pin 13

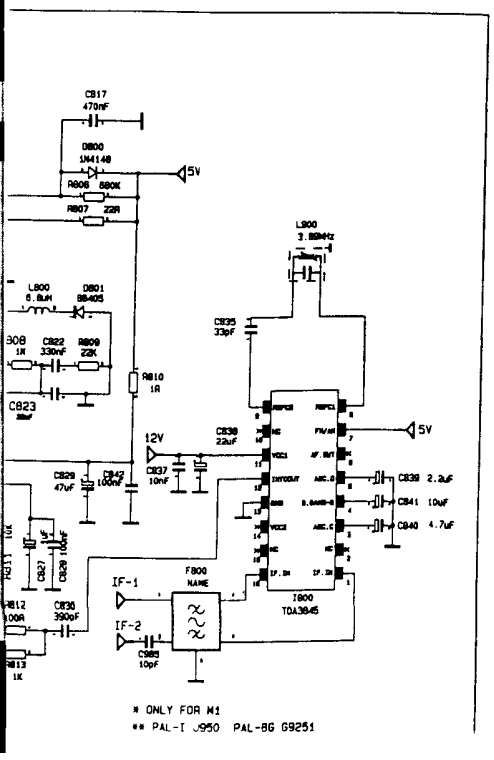


GERMAN STEREO BOARD CIRCUIT DIAGRAM / GERMAN STEREO BAUSTEIN SCHALTUNGSPLAN





SPLAN



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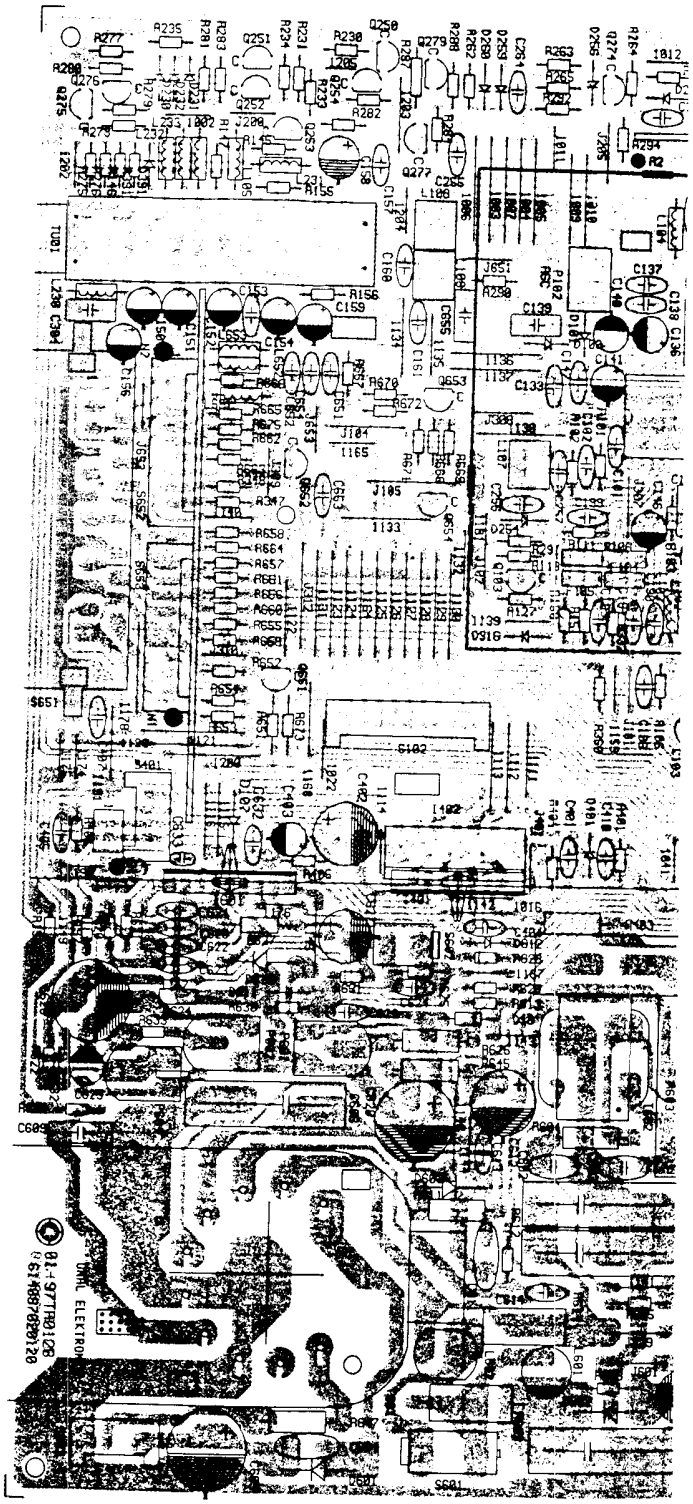
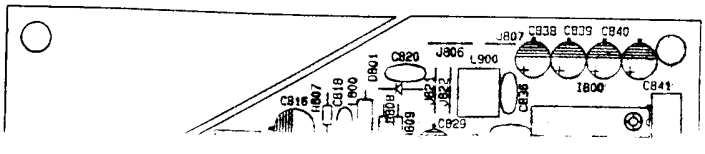
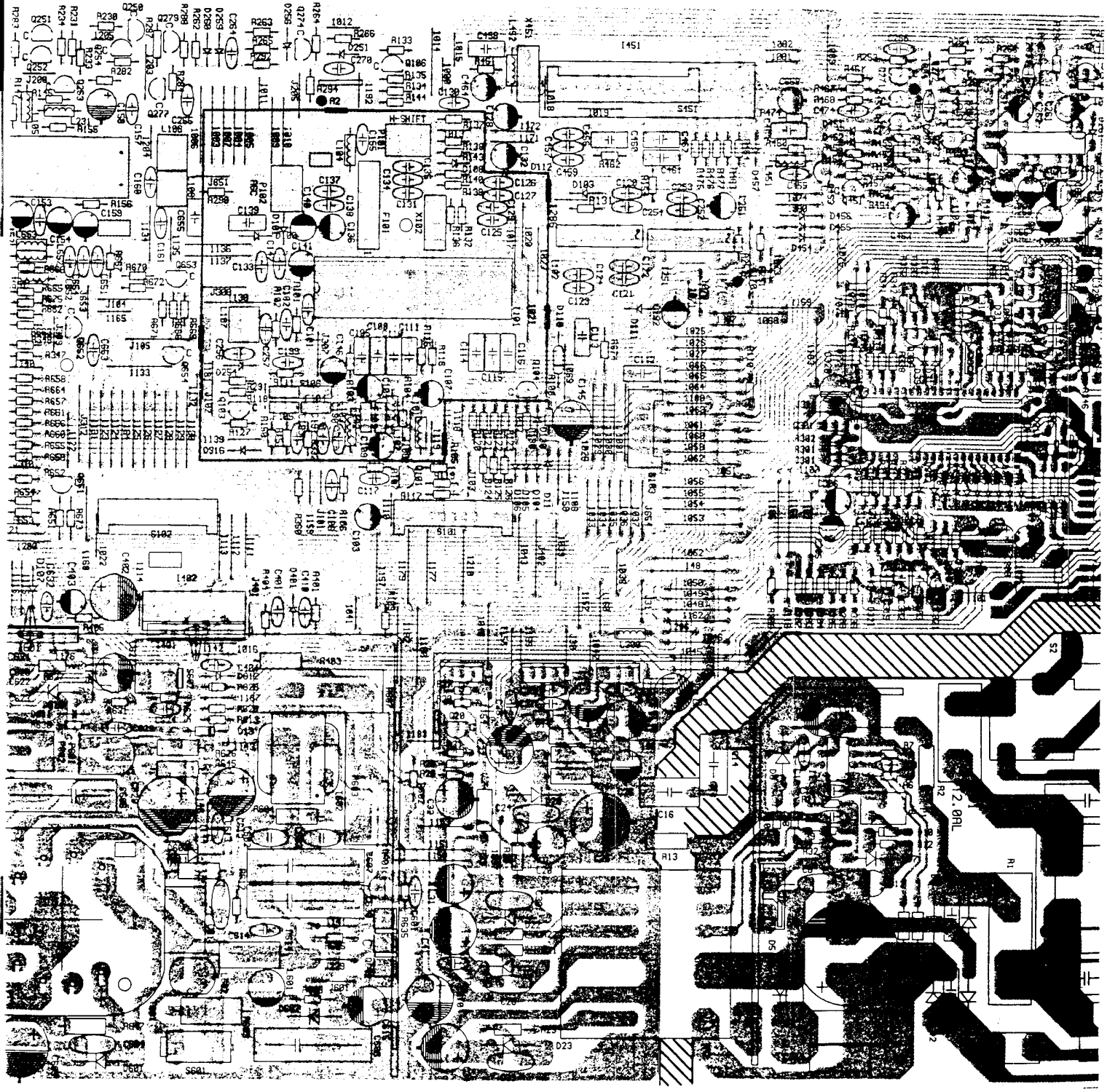
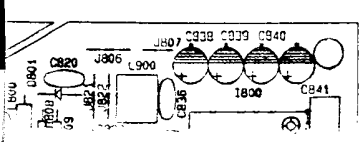


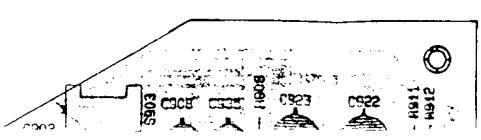
MAIN CHASSIS BOARD / CHASSISPLATE

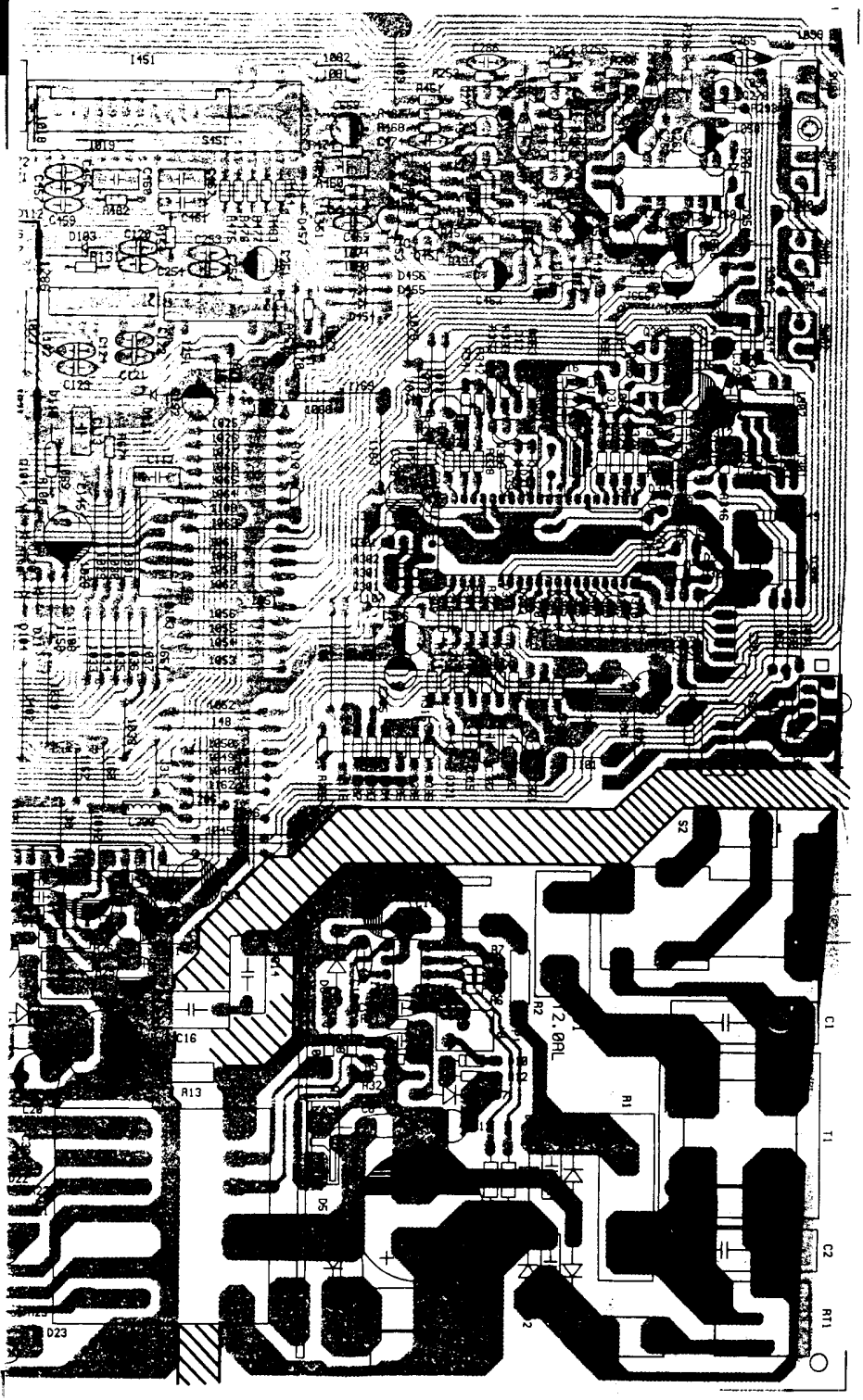


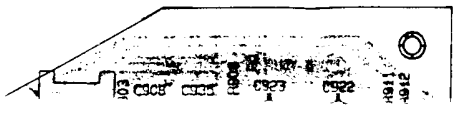


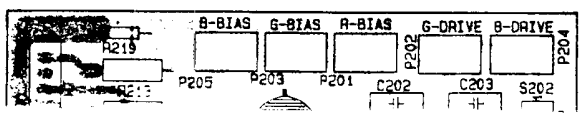
BOARD / CHASSISPLATE

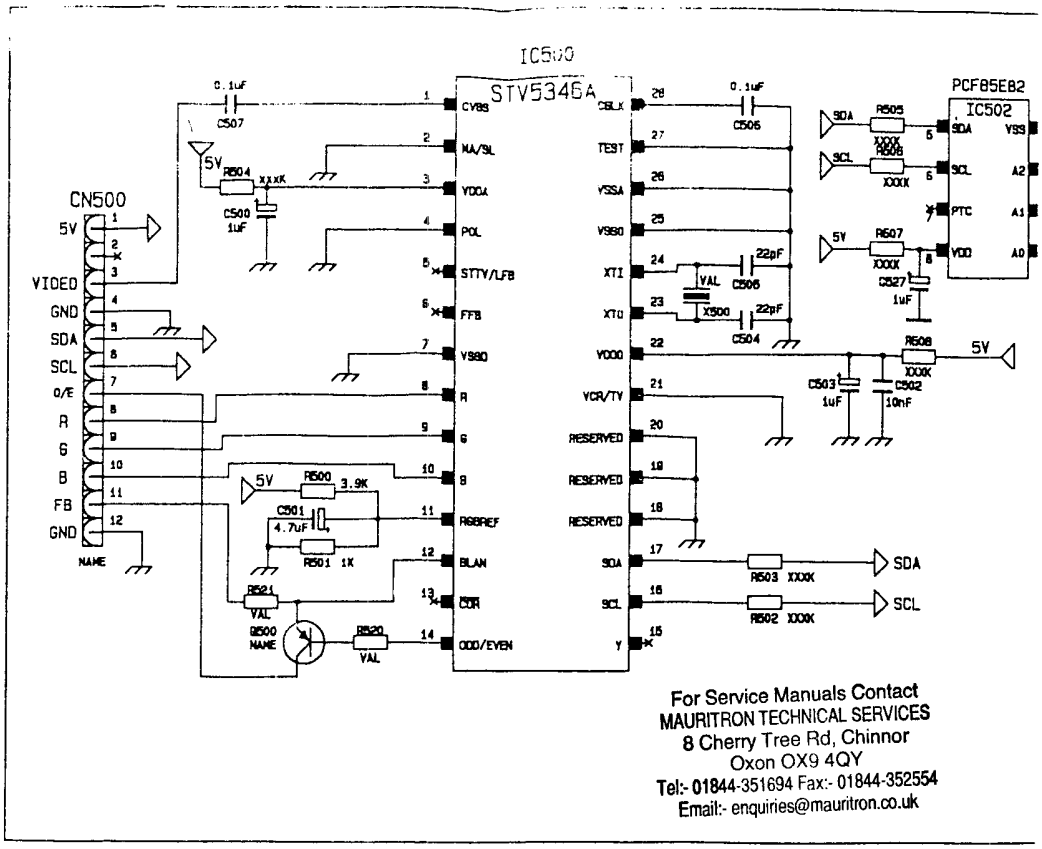




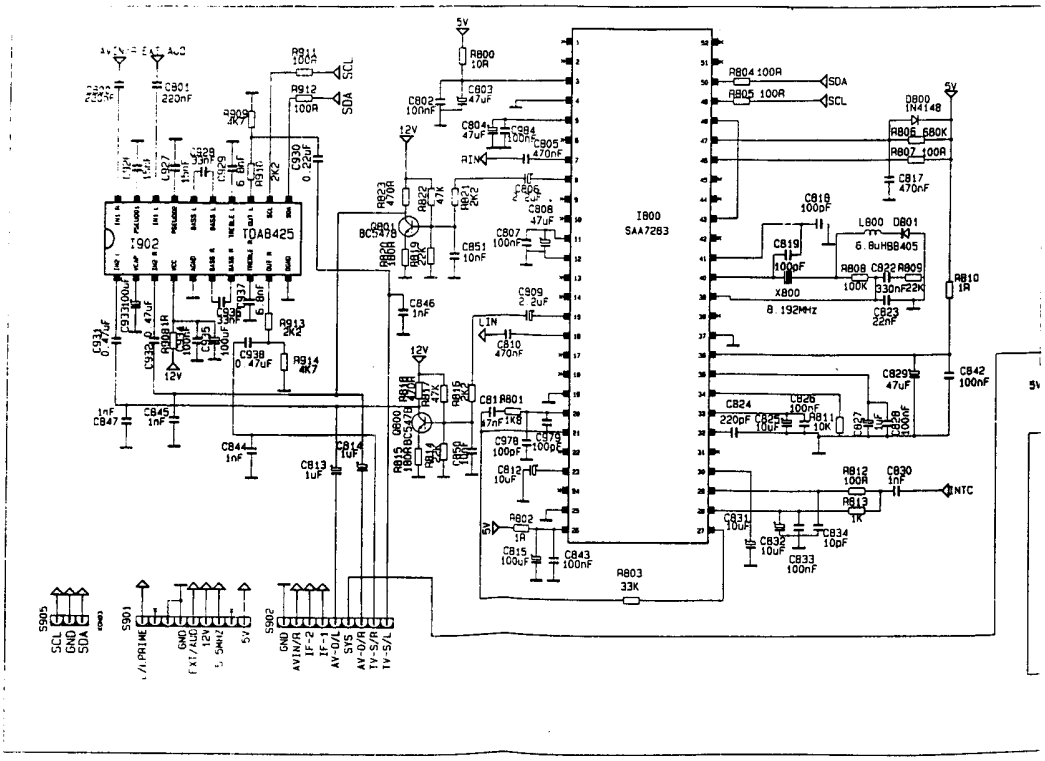




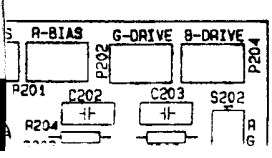

B-BIAS
G-BIAS
R-BIAS
G-DRIVE
B-DRIVE
P204
P202
P205
P203
P201
C202
C203
S202
R219

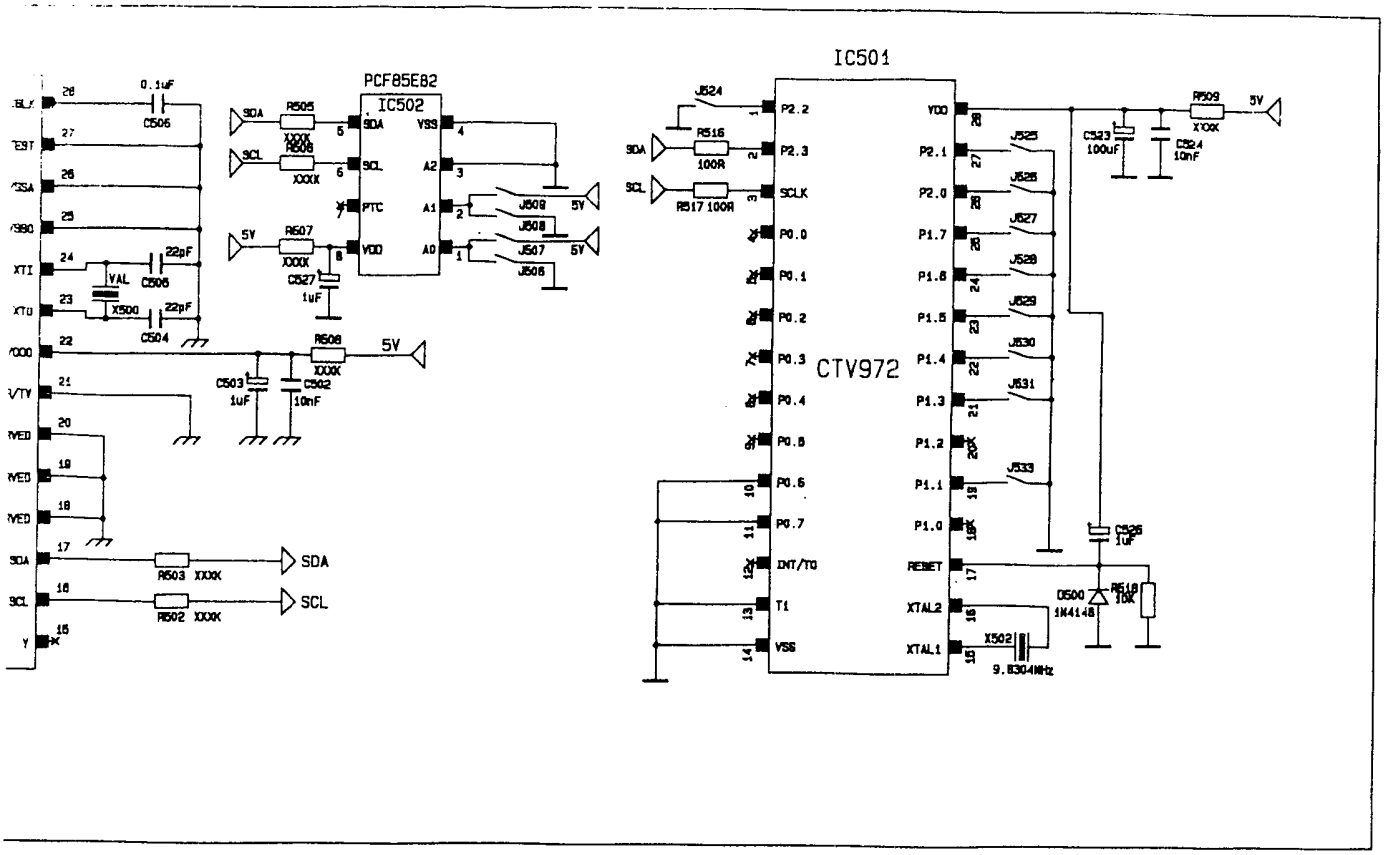


FASTEXT BOARD CIRCUIT DIAGRAM / FASTEXT BAUSTEIN SCHALTUNGSPLAN

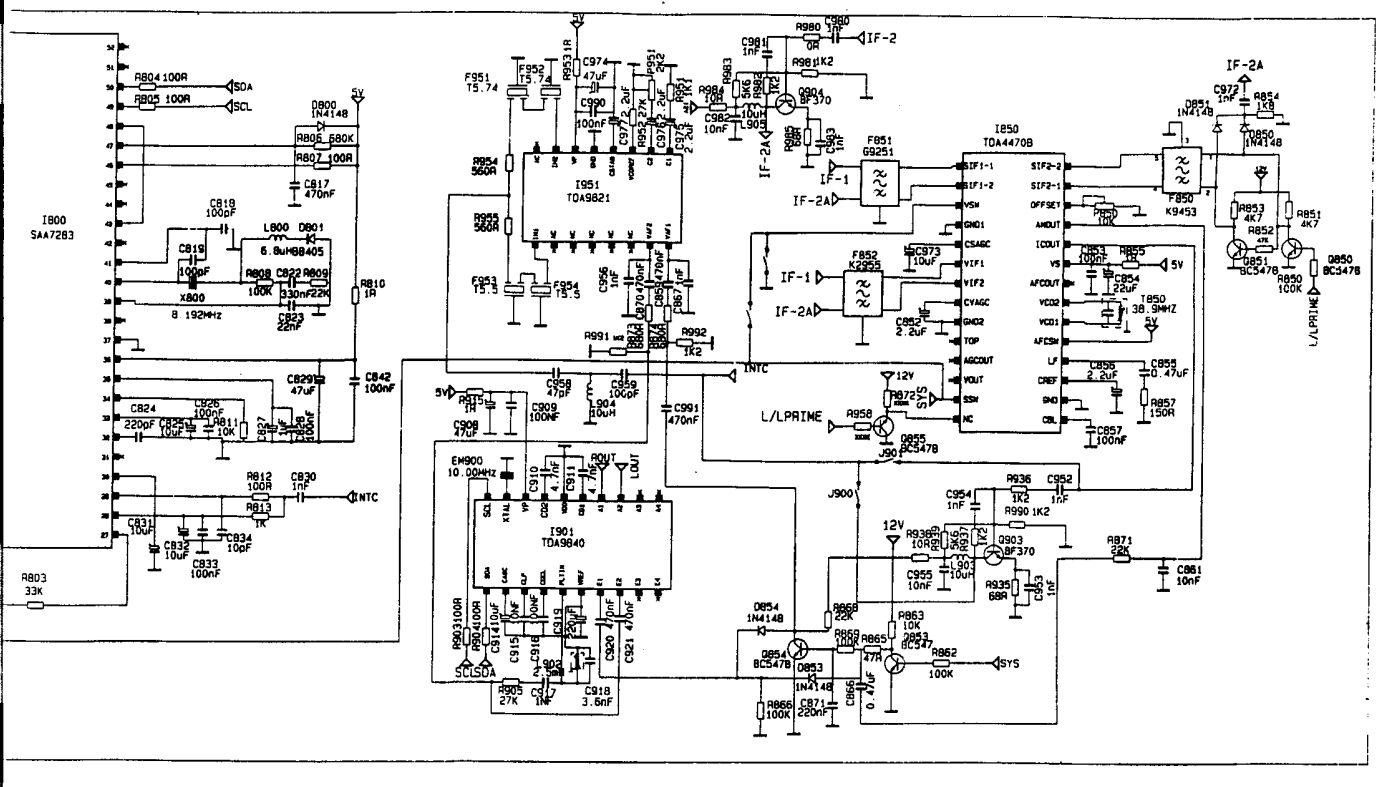


A2+NICAM L BOARD CIRCUIT DIAGRAM / A2+NICAM L BAUSTEIN SCHALTUNGSPLAN

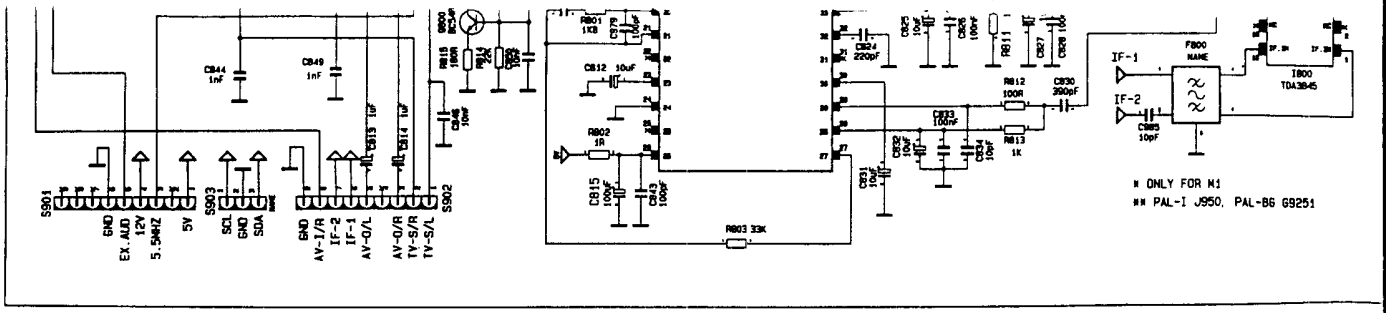




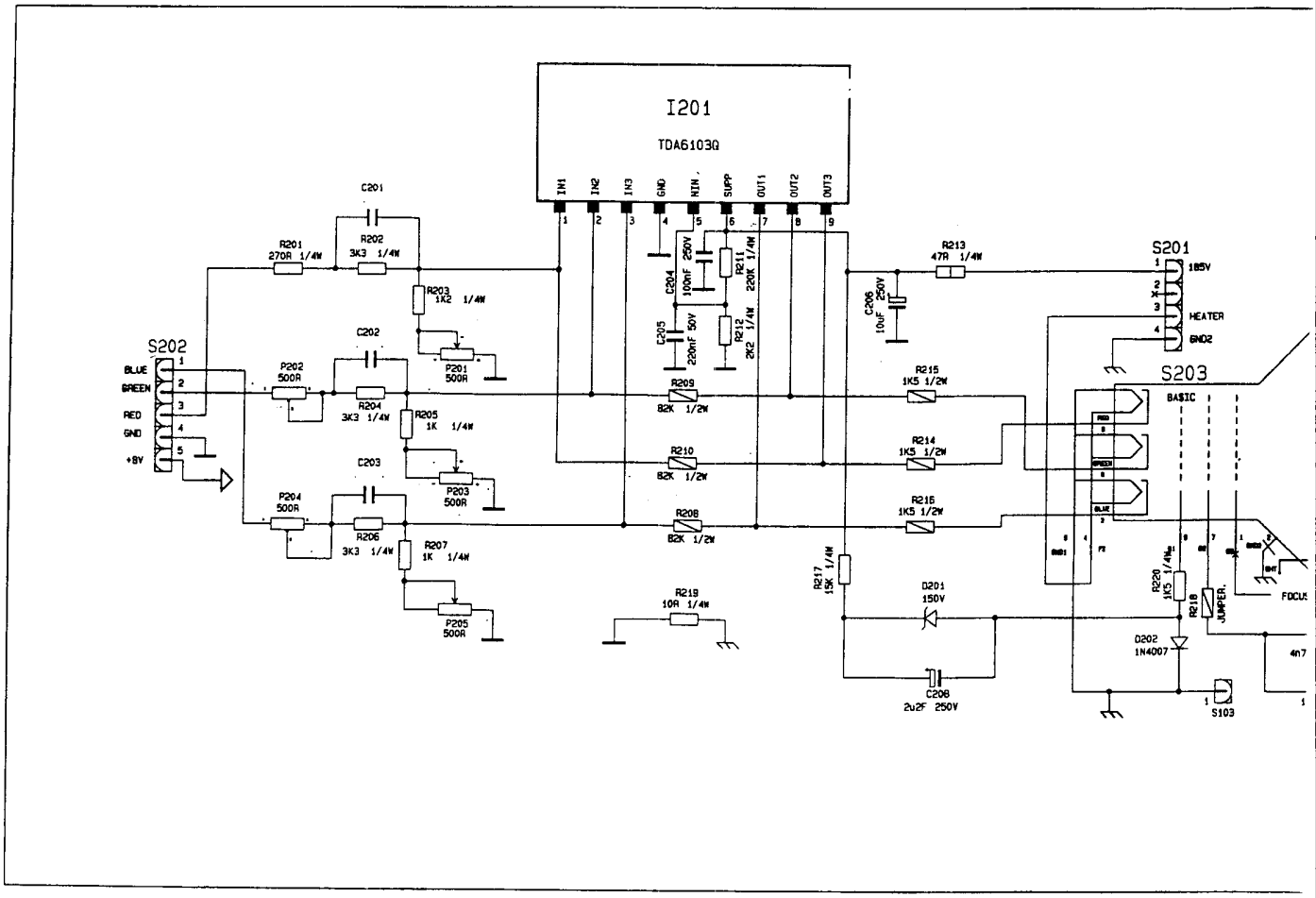
TEIN SCHALTUNGSPLAN



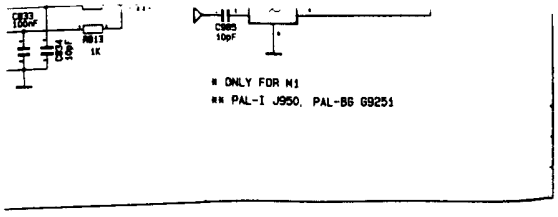
BAUSTEIN SCHALTUNGSPLAN

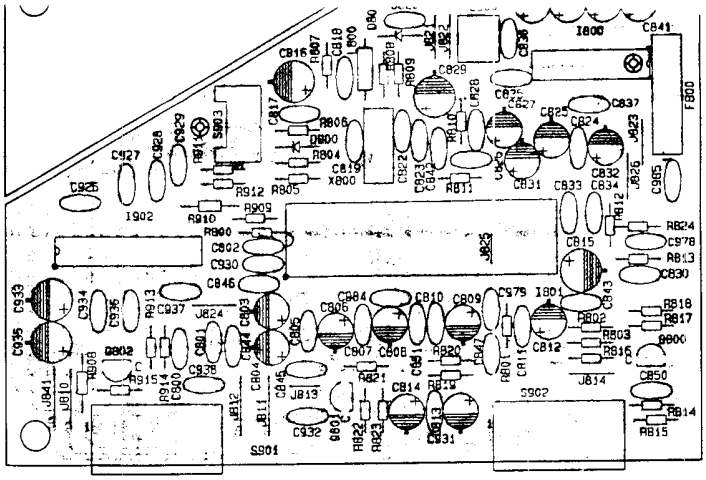


NICAM BOARD CIRCUIT DIAGRAM / NICAM BAUSTEIN SCHALTUNGSPLAN

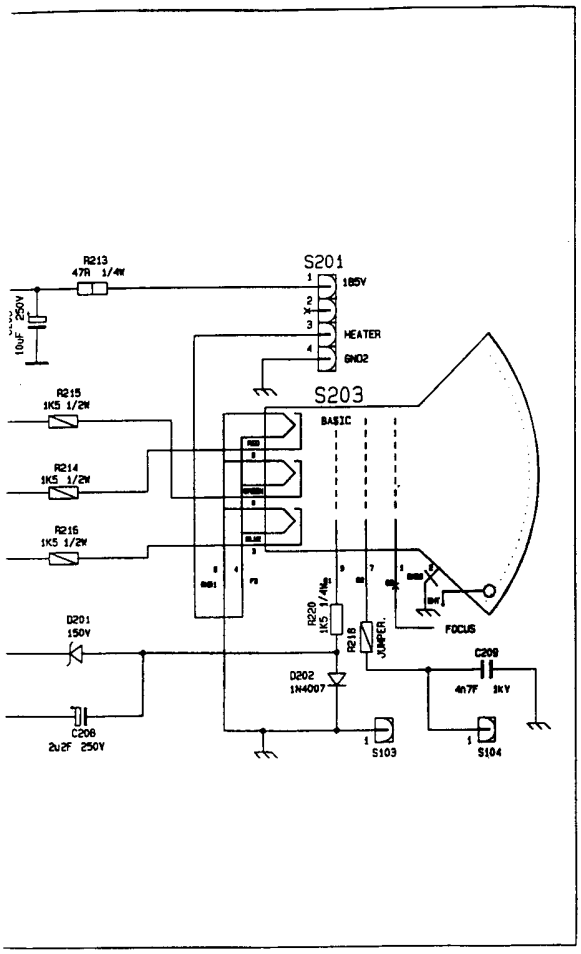


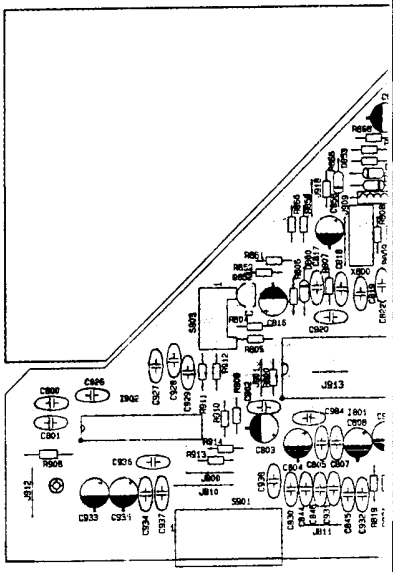
CRT BOARD CIRCUIT DIAGRAM / CRT BAUSTEIN SCHALTUNGSPLAN





NICAM BOARD / NICAM BAUSTEIN





NICAM L BOARD / NICAM L BAUSTI

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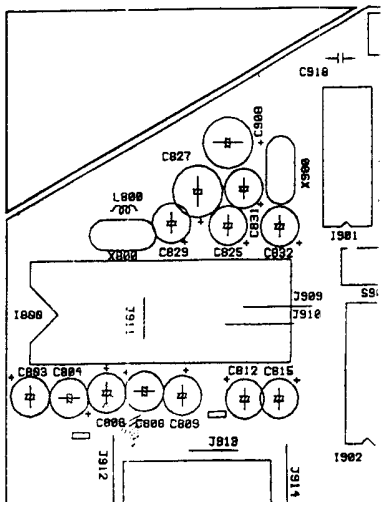
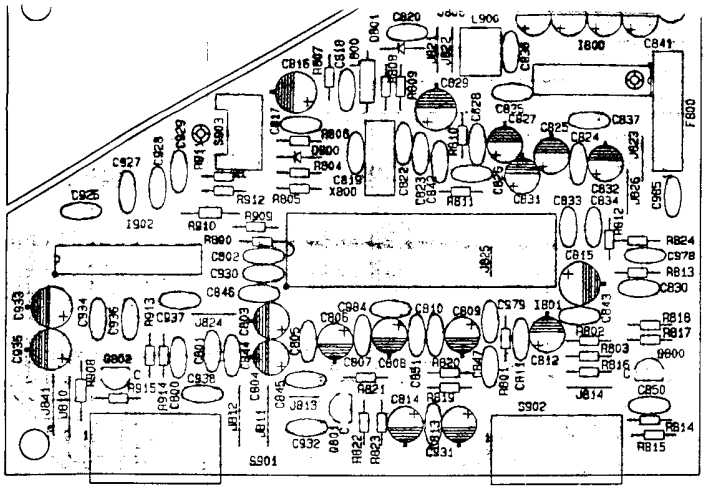
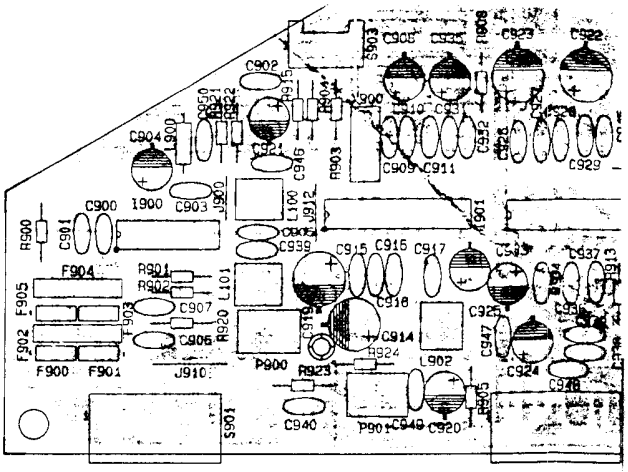
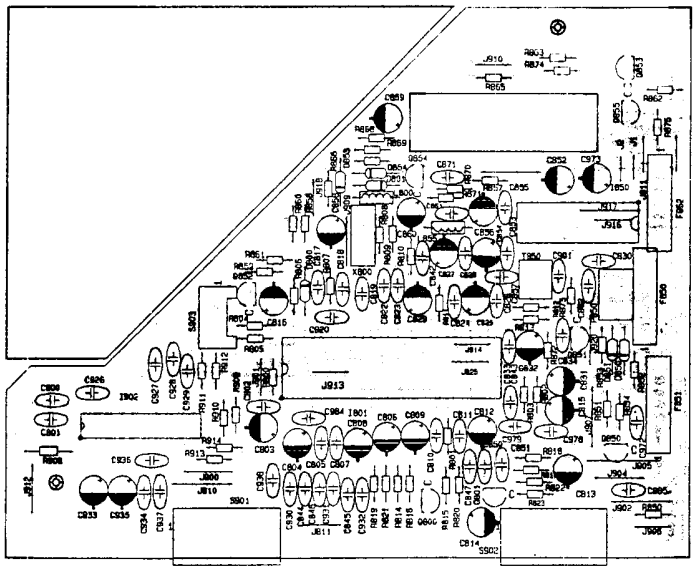




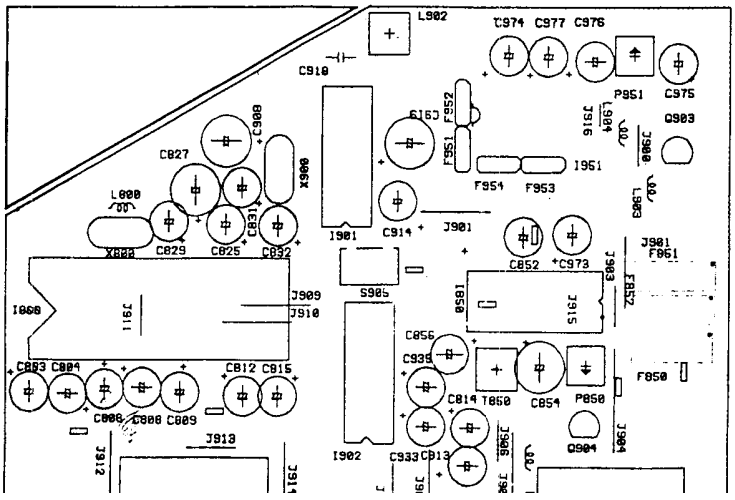
NICAM BOARD / NICAM BAUSTEIN

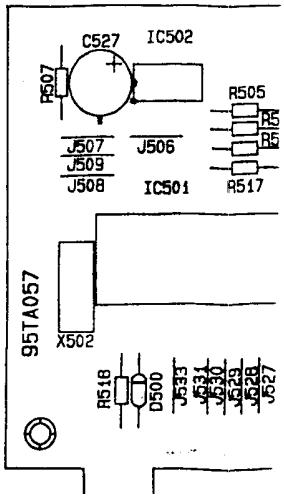


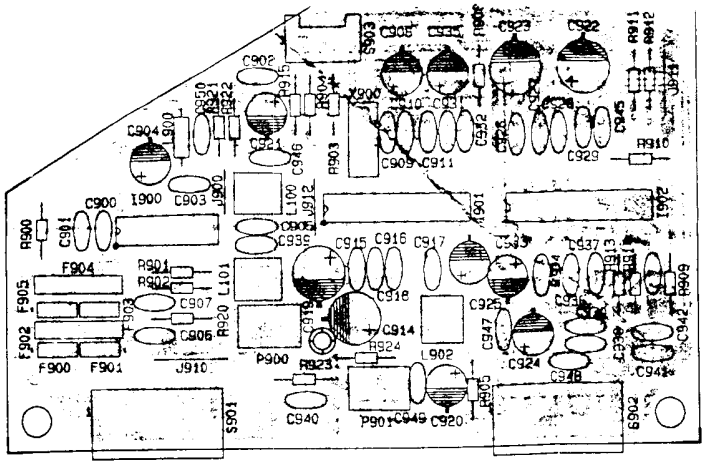
GERMAN STEREO BOARD / GERMAN STEREO BAUSTEIN



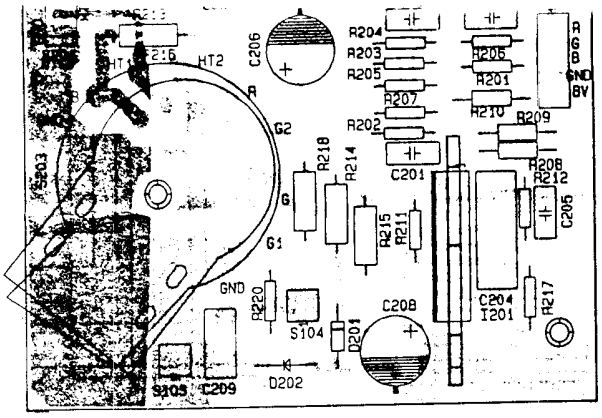
NICAM L BOARD / NICAM L BAUSTEIN



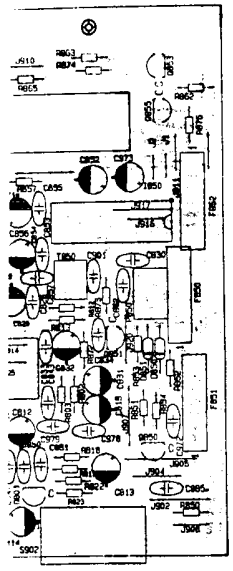


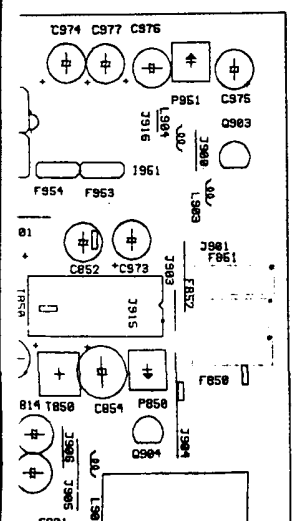


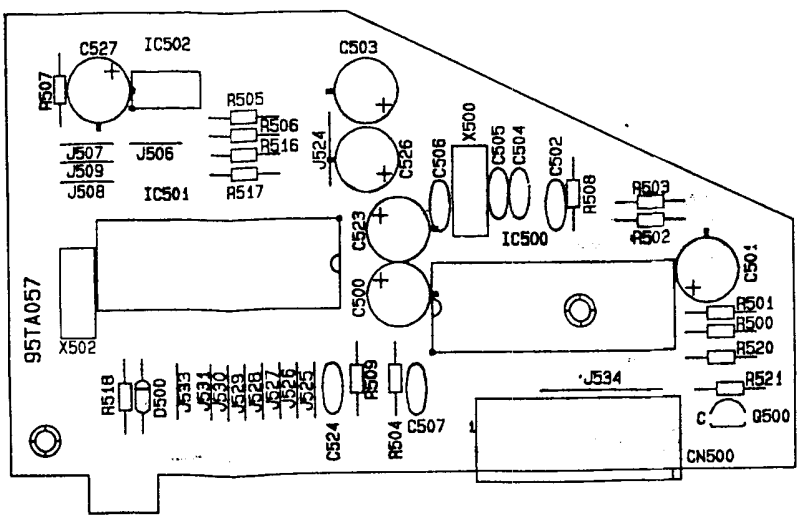
GERMAN STEREO BOARD / GERMAN STEREO BAUSTEIN



CRT BOARD / CRT BAUSTEIN







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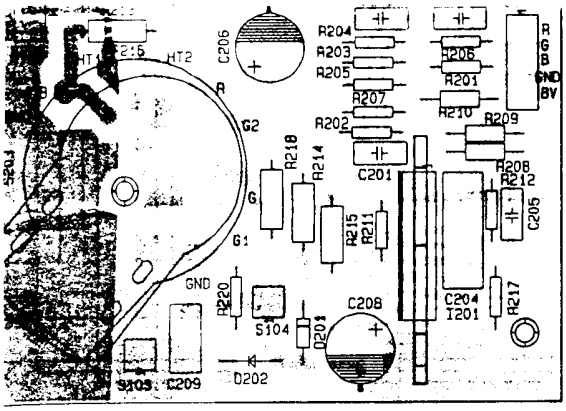
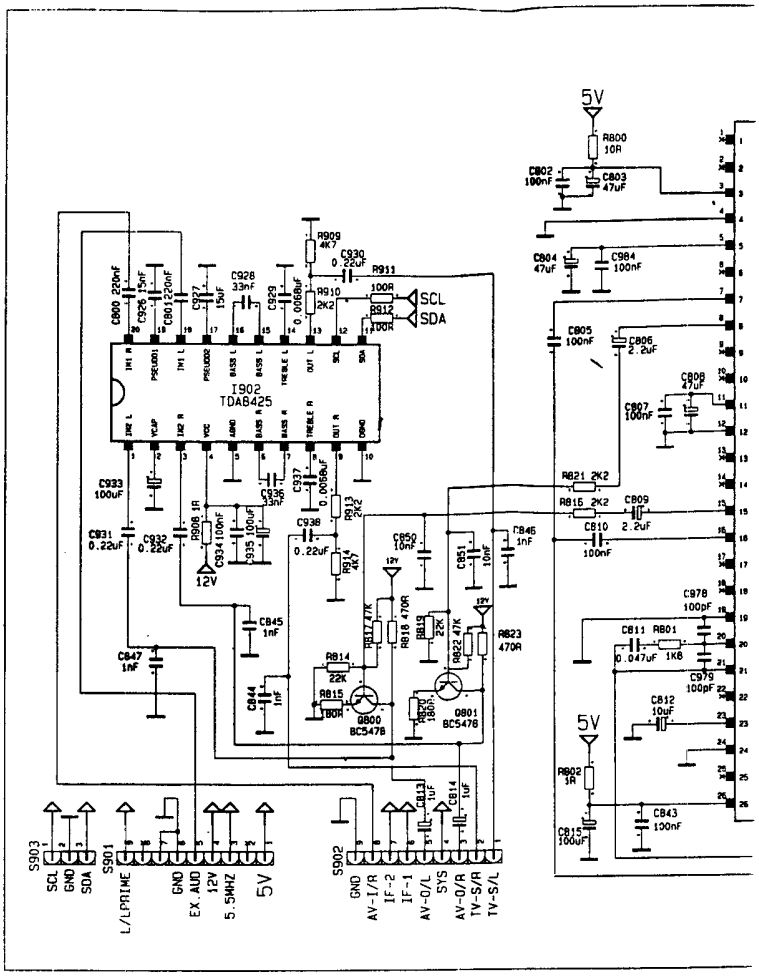


RT BOARD / CRT BAUSTEIN



NICAM L BOARD CIRCUIT DIAGRAM / NICAM L BAUSTEIN SCHALTUN

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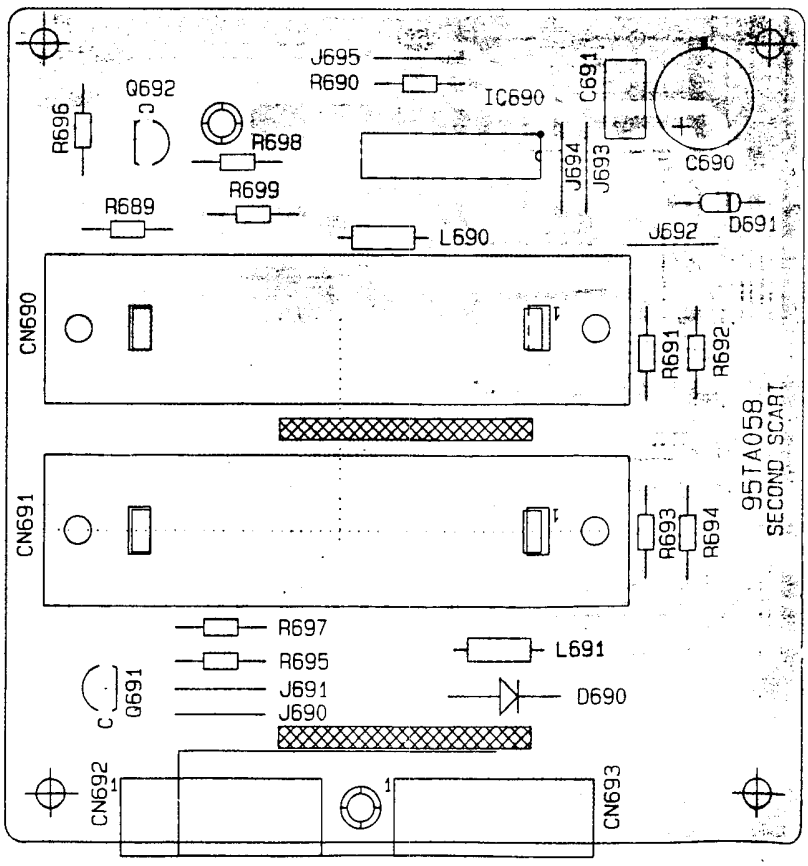
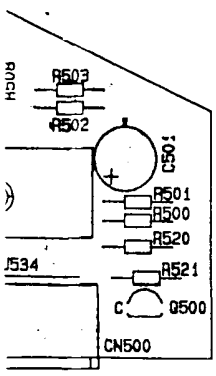
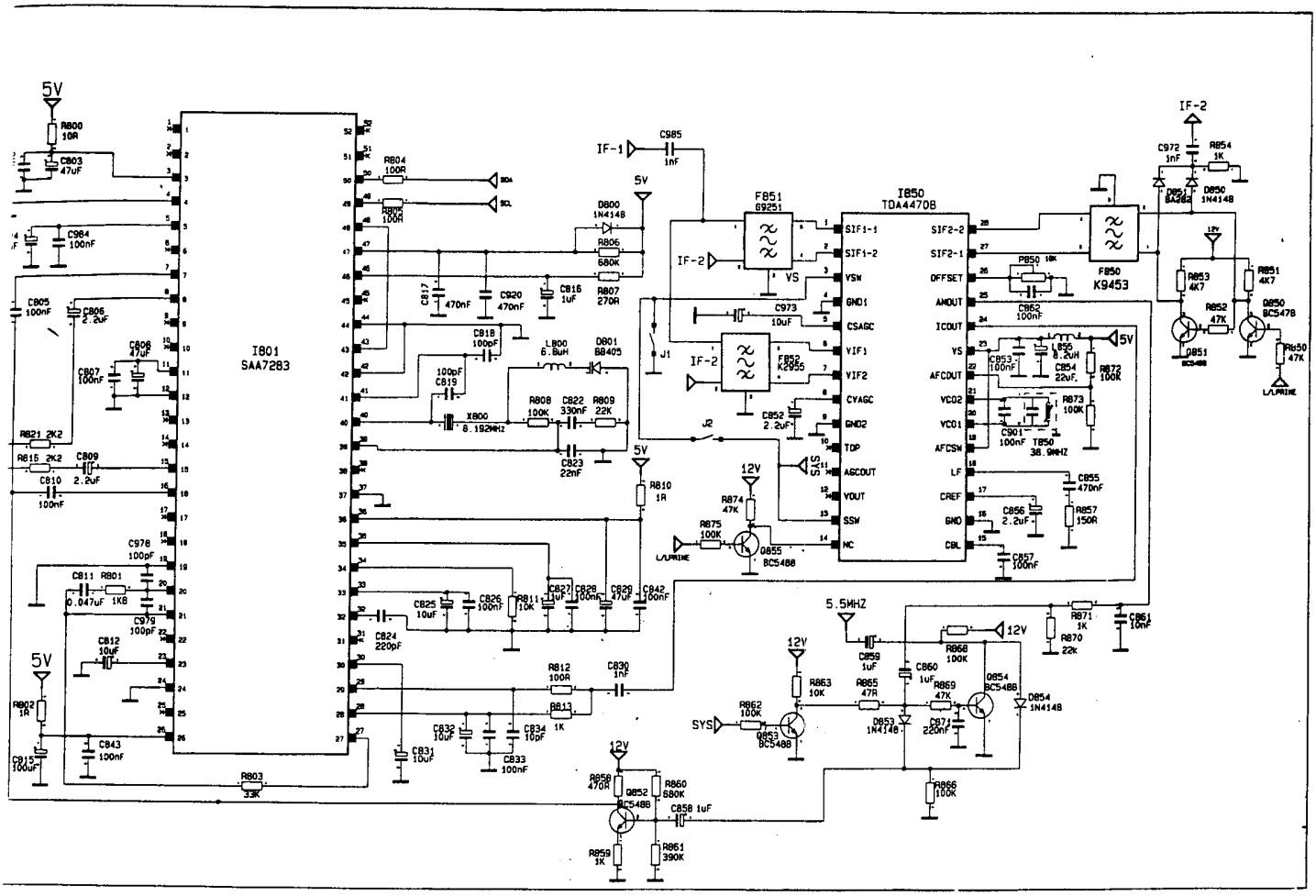
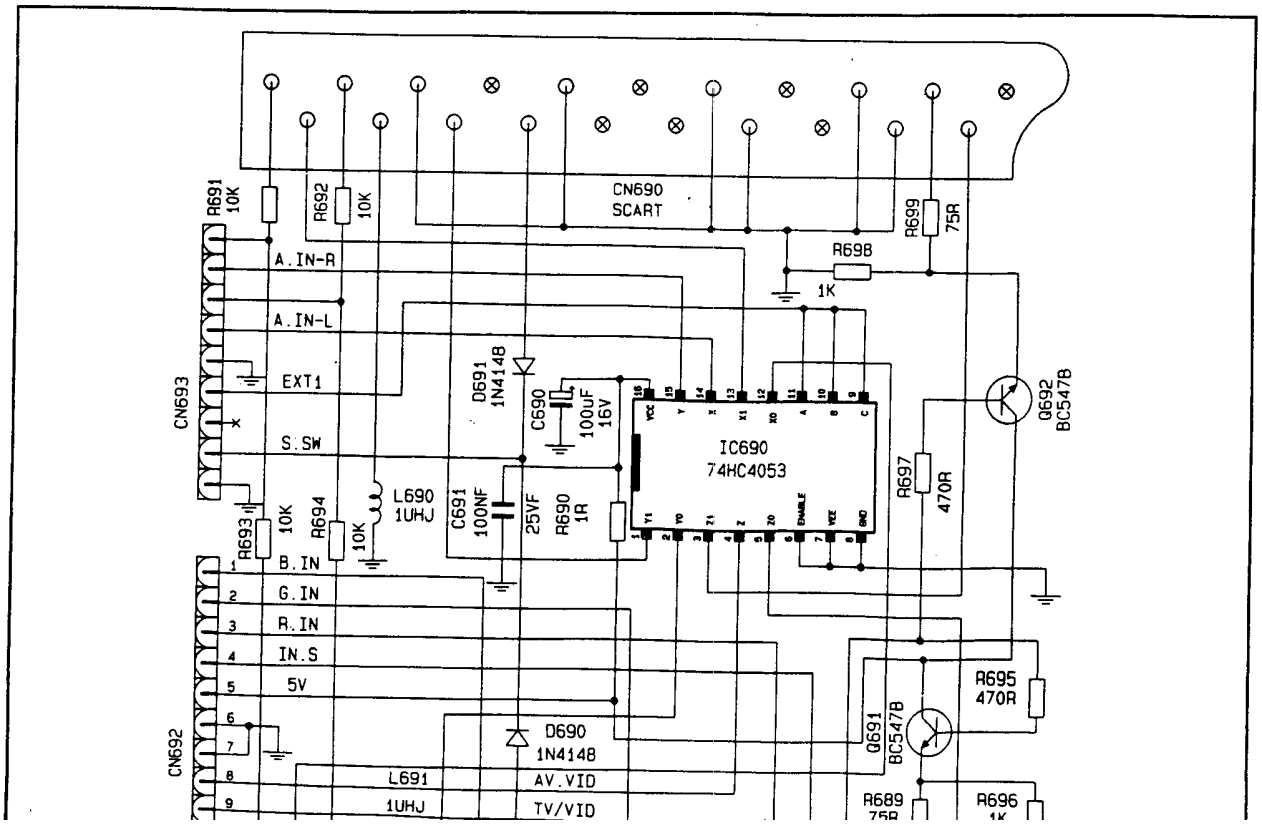


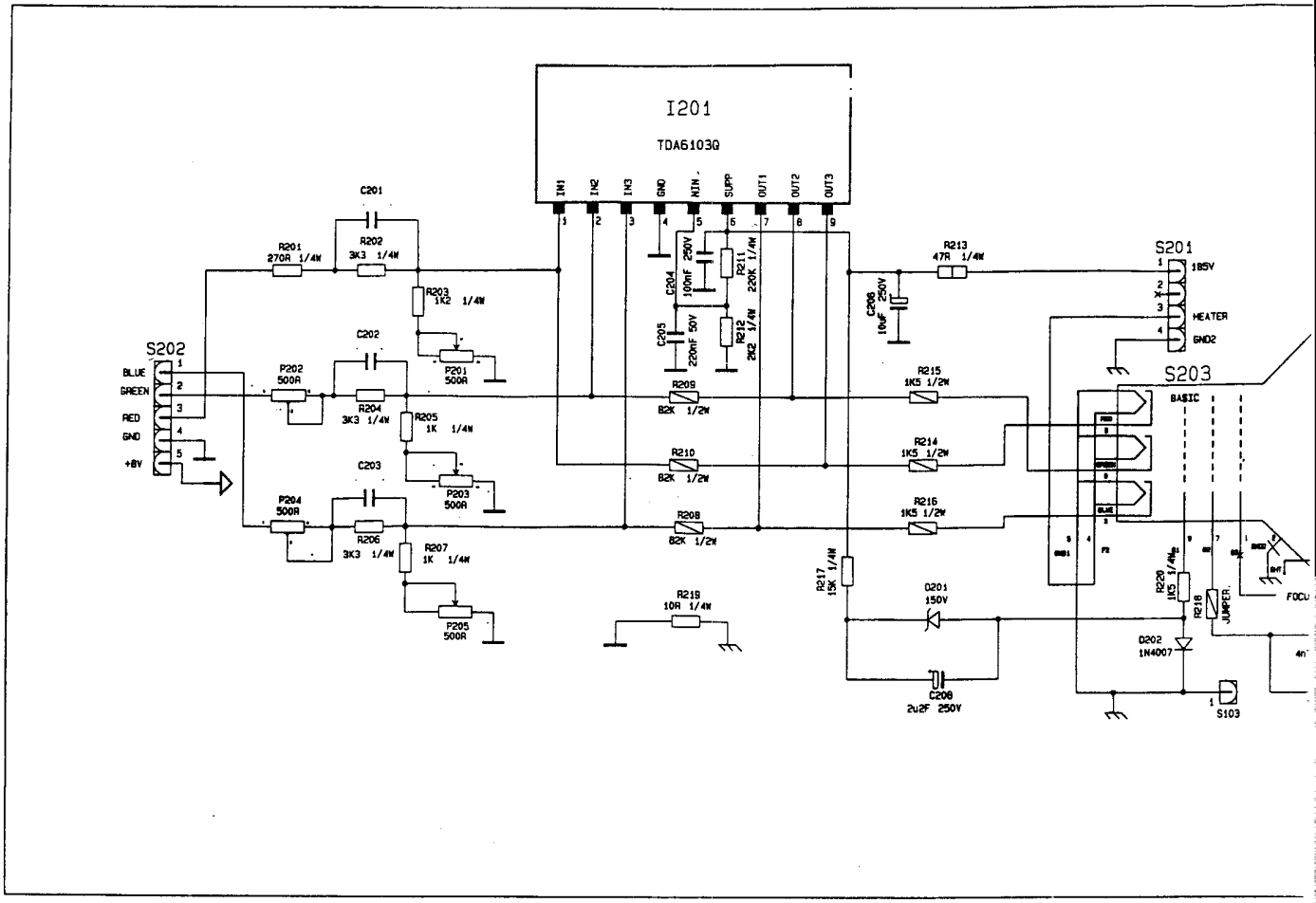
DOUBLE SCART BOARD / DOPPEL - SCART BAUSTEIN



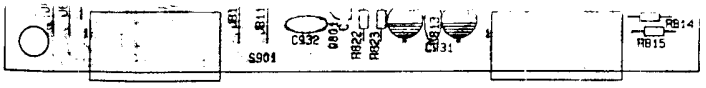


JSTEIN SCHALTUNGSPLAN

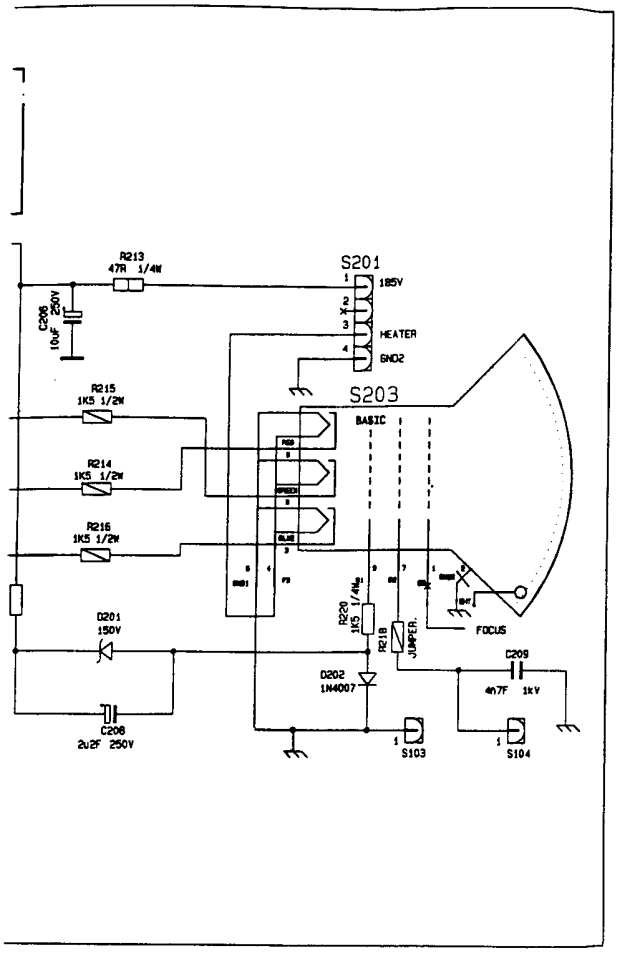


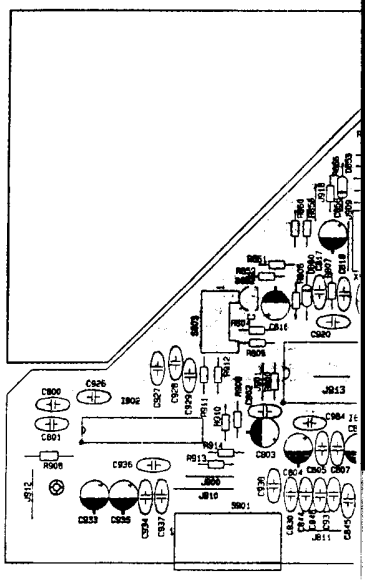


CRT BOARD CIRCUIT DIAGRAM / CRT BAUSTEIN SCHALTUNGSPLAN



NICAM BOARD / NICAM BAUSTEIN





NICAM L BOARD / NICAM L BAUS

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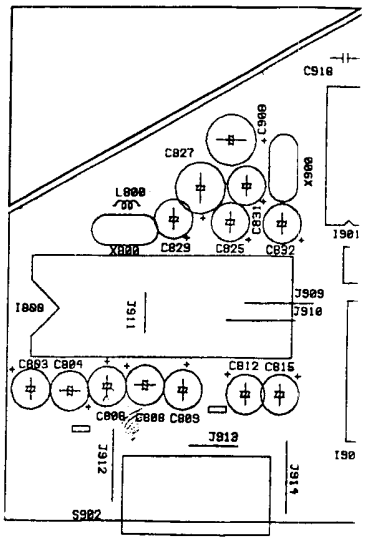
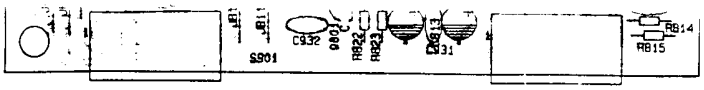
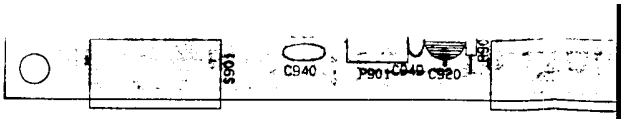


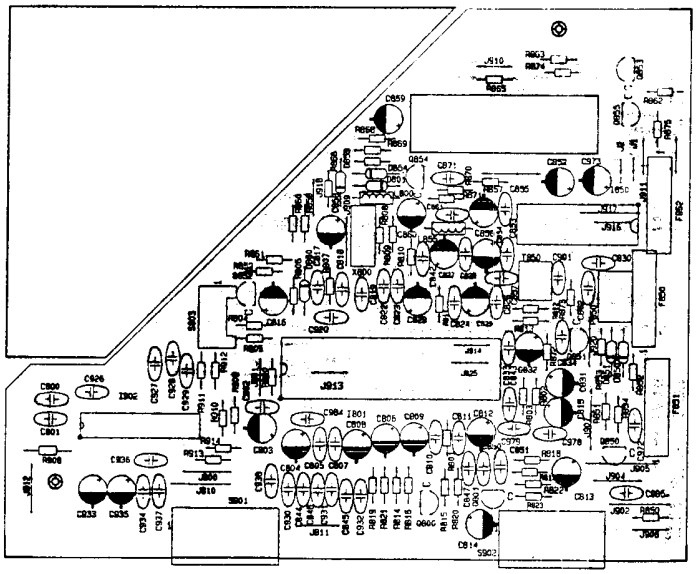
A2+NICAM L BOARD / A2+NICAM



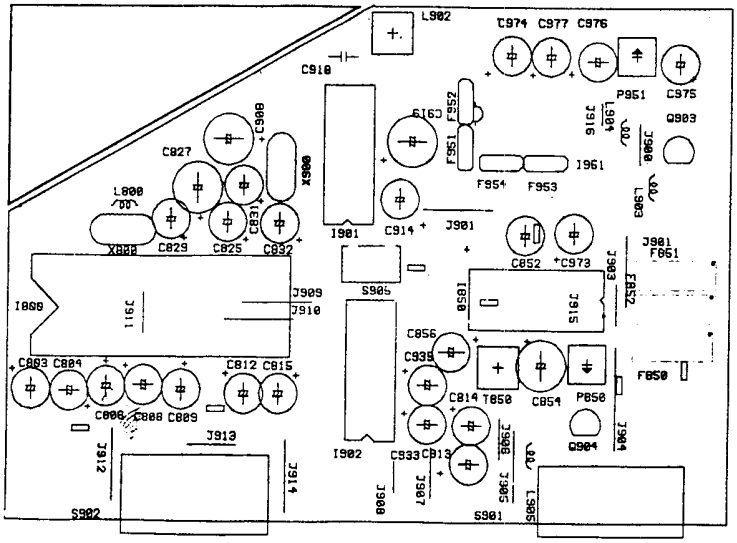
NICAM BOARD / NICAM BAUSTEIN



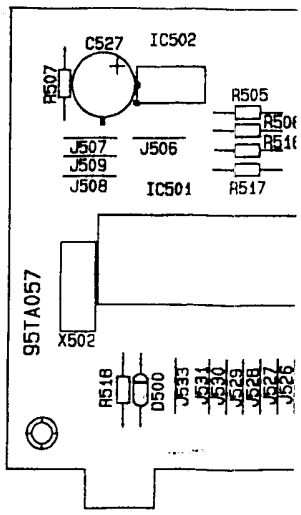
GERMAN STEREO BOARD / GERMAN STEREO BAUSTEI



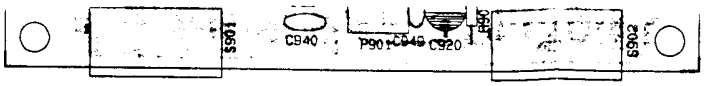
NICAM L BOARD / NICAM L BAUSTEIN



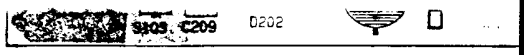
A2+NICAM L BOARD / A2+NICAM L BAUSTEIN



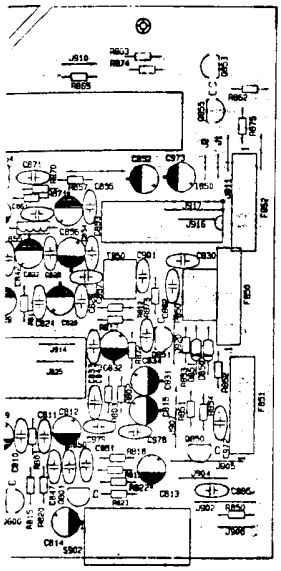
FASTEXT BOARD / FASTE)

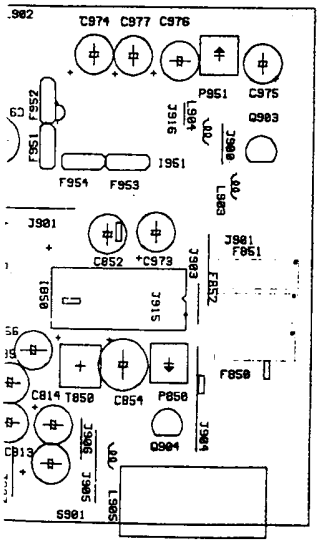


GERMAN STEREO BOARD / GERMAN STEREO BAUSTEIN

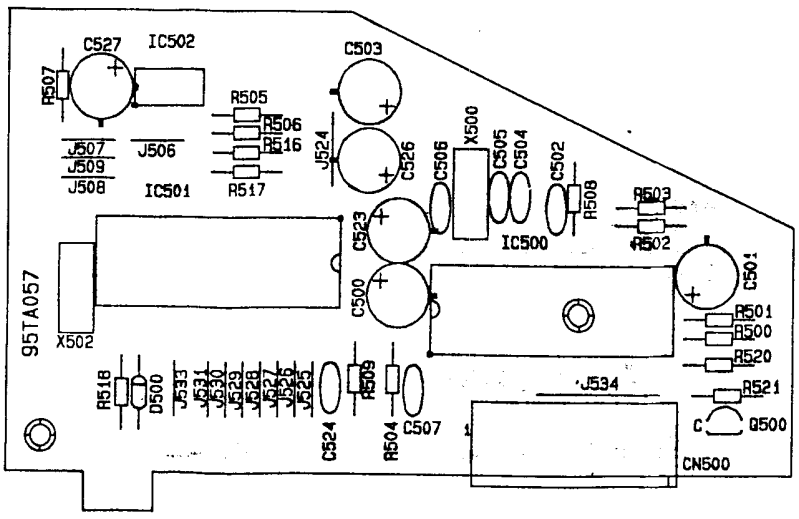


CRT BOARD / CRT BAUSTEIN





USTEIN



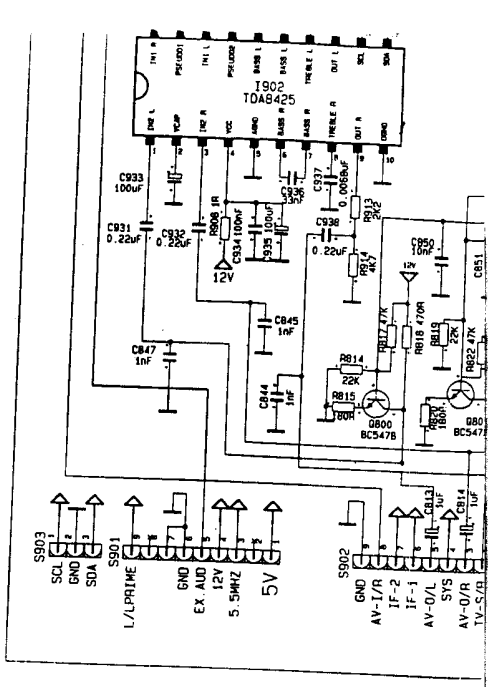
FASTEXT BOARD / FASTEXT BAUSTEIN

CN690

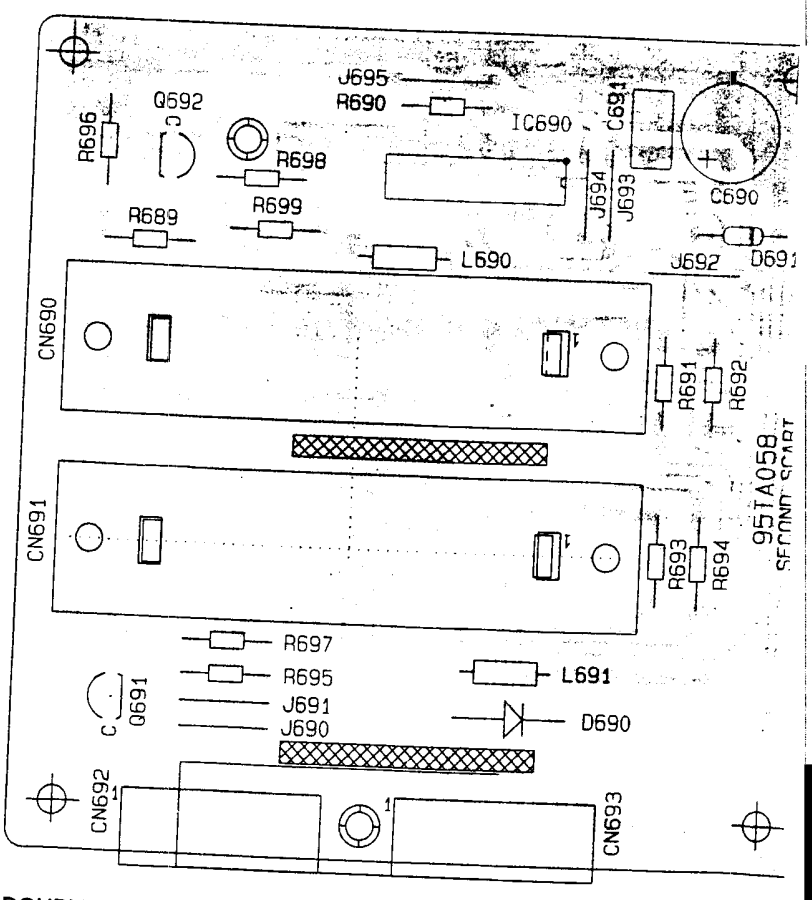
CN691

DC

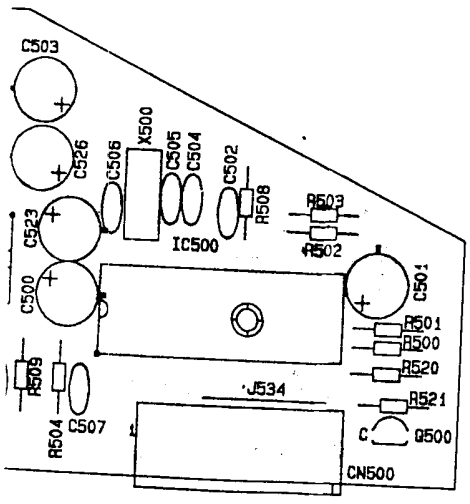
CRT BOARD / CRT BAUSTEIN



NICAM L BOARD CIRCUIT DIAGRAM / NICAM

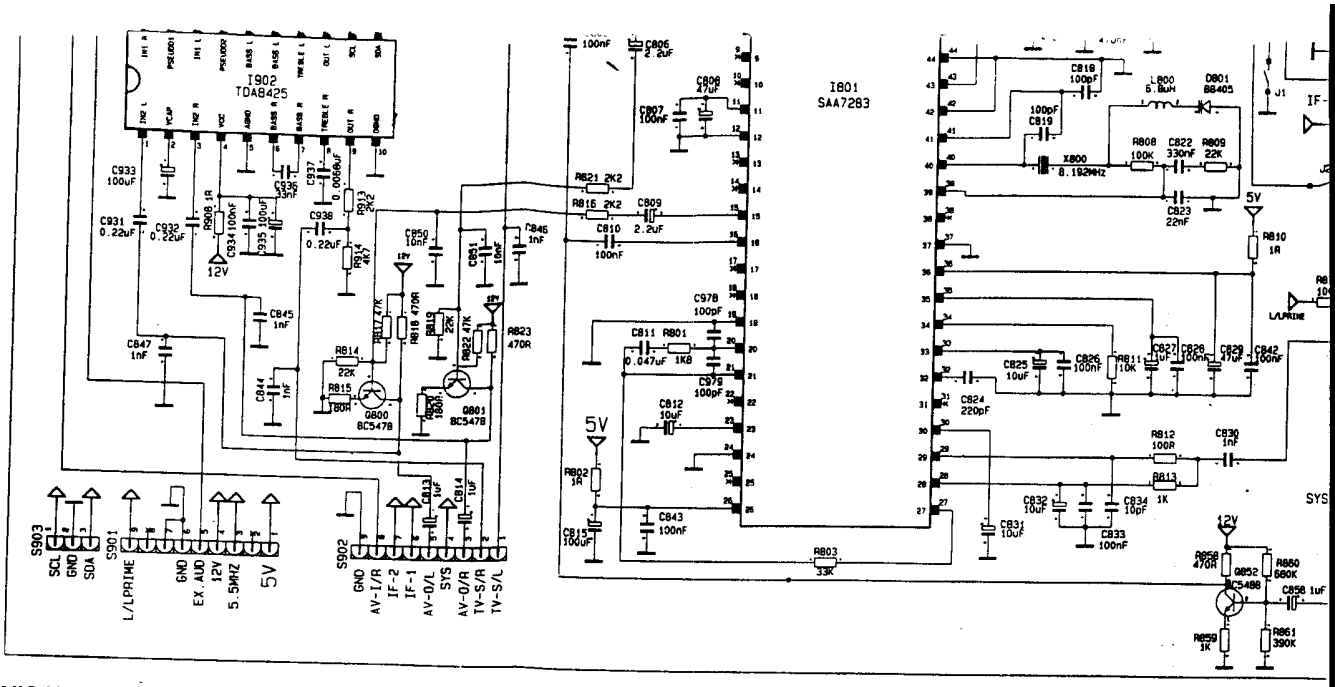


DOUBLE SCART BOARD / DOPPEL - SCART BAUSTEIN

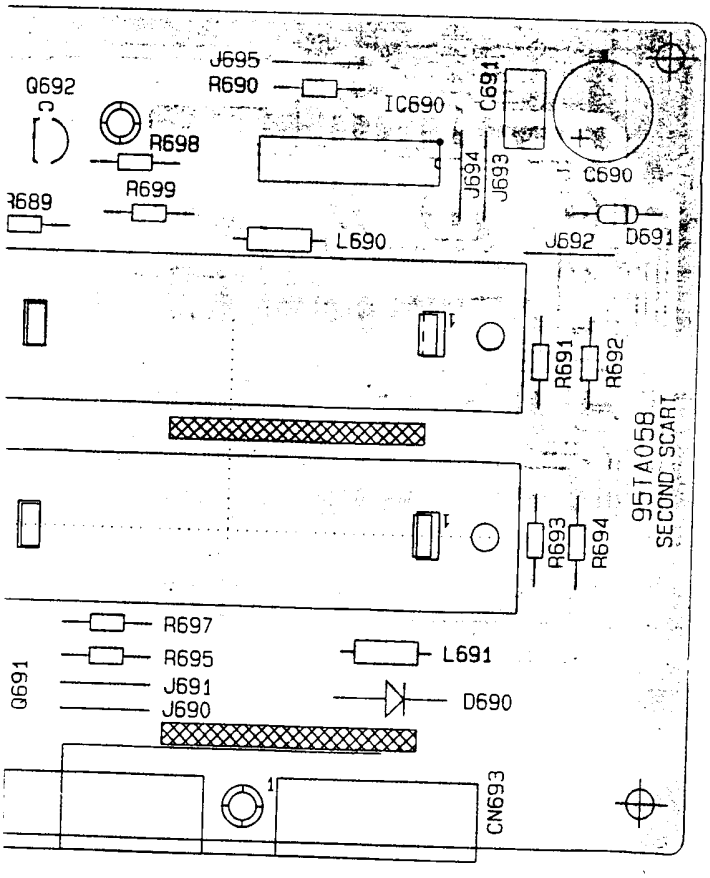


AUSTEIN

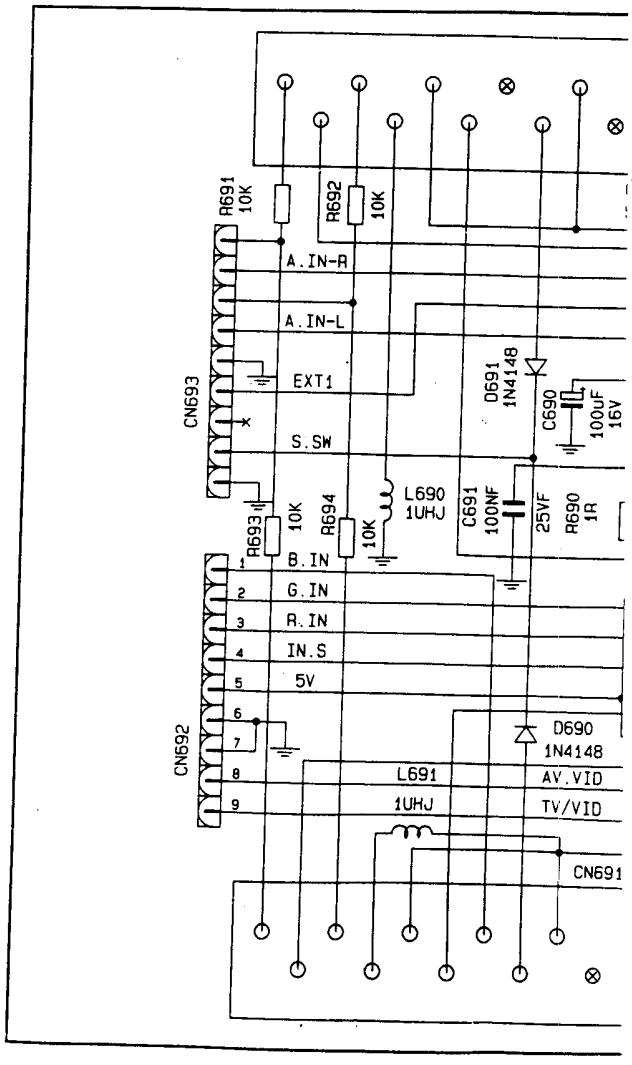
For Service Manuals Contact
MAURITRON TECHNICAL SERVICES
8 Cherry Tree Rd, Chinnor
Oxon
Tel:- 01844-351
Email:- enquiries@



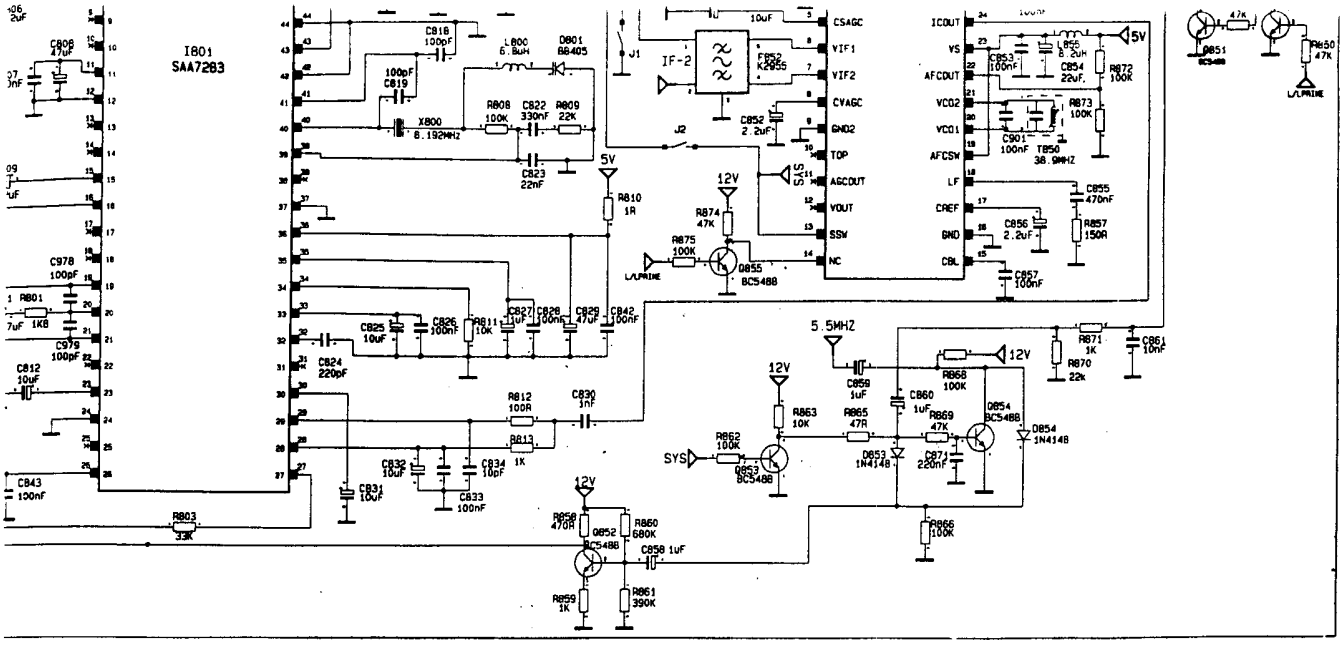
NICAM L BOARD CIRCUIT DIAGRAM / NICAM L BAUSTEIN SCHALTUNGSPLAN



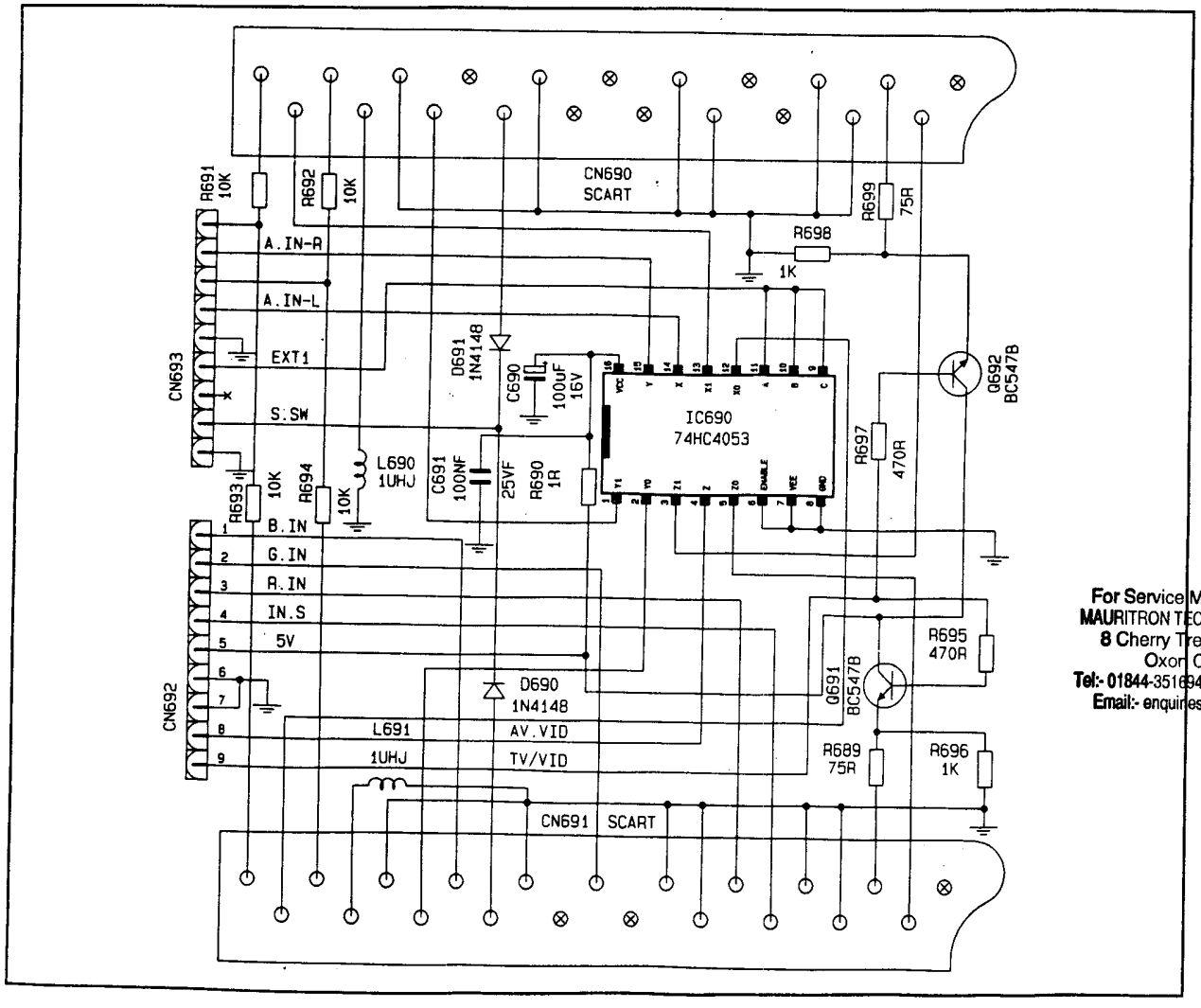
CART BOARD / DOPPEL - SCART BAUSTEIN



DOUBLE SCART BOARD CIRCUIT DIAGRAM / DOPPEL - S



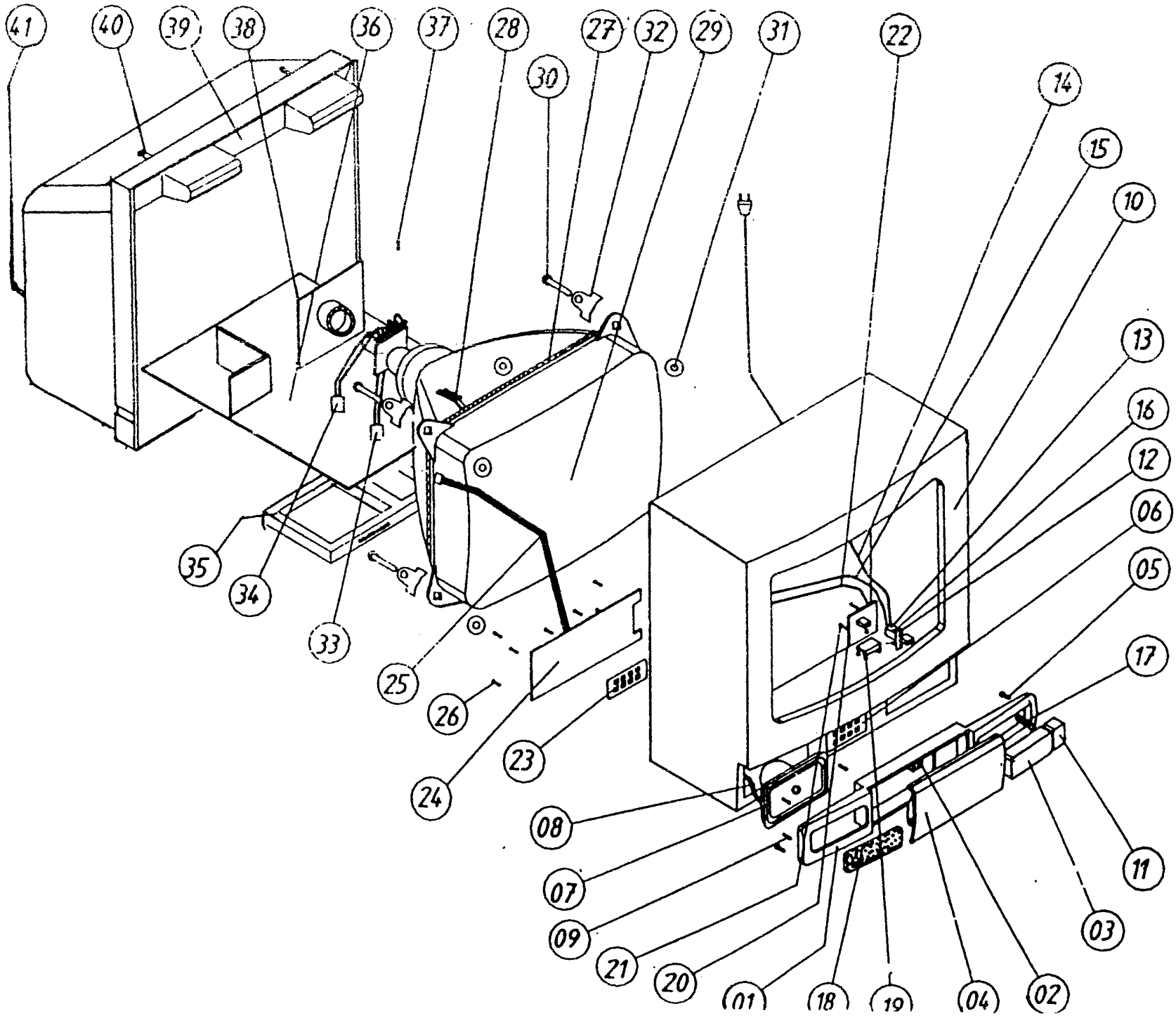
SCHALTUNGSPLAN



DOUBLE SCART BOARD CIRCUIT DIAGRAM / DOPPEL - SCART BAUSTEIN SCHALTUNGSPLAN

IDELITY CTV 3014 F

CONTROL PANEL	905 102 145 370
DOOR LOCK	005 410 001 421
DISPLAY WINDOW	005 461 003 490
CONTROL COVER	905 102 142 010
SCREW 2.9 X 9.5	015 511 210 290
CONTROL PANEL LABEL	005 415 123 140
LOUDSPEAKER	610 306 509 081
CAMBE 2P X 15KT	002 021 114 500
SCREW 2.9 X 9.5	015 511 210 290
CABINET	905 100 142 020
KNOB ON/OFF	005 410 129 940
ON/OFF SWITCH BRACKET	013 926 020 510
ON/OFF SWITCH	081 004 120 001
POWER CAMBE	002 528 554 031
ON/OFF CAMBE	002 344 500 021
SCREW 2.9 X 9.5	015 611 895 290
SPRING	013 283 020 770
GRIL	013 610 711 400
POWER CAMBE HOLDER	005 410 628 480
PREAMP PCB	614 096 000 160
SCREW 2.9 X 6.5	015 611 207 290
CAMBE 4P X 15KT	002 421 512 100
SILICON RUBBER	005 951 085 511
KEY PANEL PCB	614 098 000 010
CAMBE 8P X 15KT	002 001 000 490
SCREW 2.9 X 6.5	015 511 207 290
DEGAUSSING BOBIN	608 580 003 580
ANODE CAMBE HOLDER	005 410 823 830
TUBE	070 362 110 101
SCREW 4.2 X 38	015 611 238 420
RUBBER DONUT	005 451 025 080
TUBE HOLDER	005 420 012 460
CAMBE 2P X 15KT	002 344 500 021
CAMBE 2P X 15KT	002 344 500 031
MAIN CHASSIS	005 415 003 040
MAIN BOARD	614 094 000 120
SCREW 2.9 X 13	015 511 213 290
TUBE PCB	614 094 000 380
BACK COVER 14"	905 110 161 010
SCREW 3.9 X 19	015 541 819 390
SCREW 2.9 X 13	015 541 213 290



AMSTRAD 3121 N

Exp. View No: Description

1 Front Cabinet

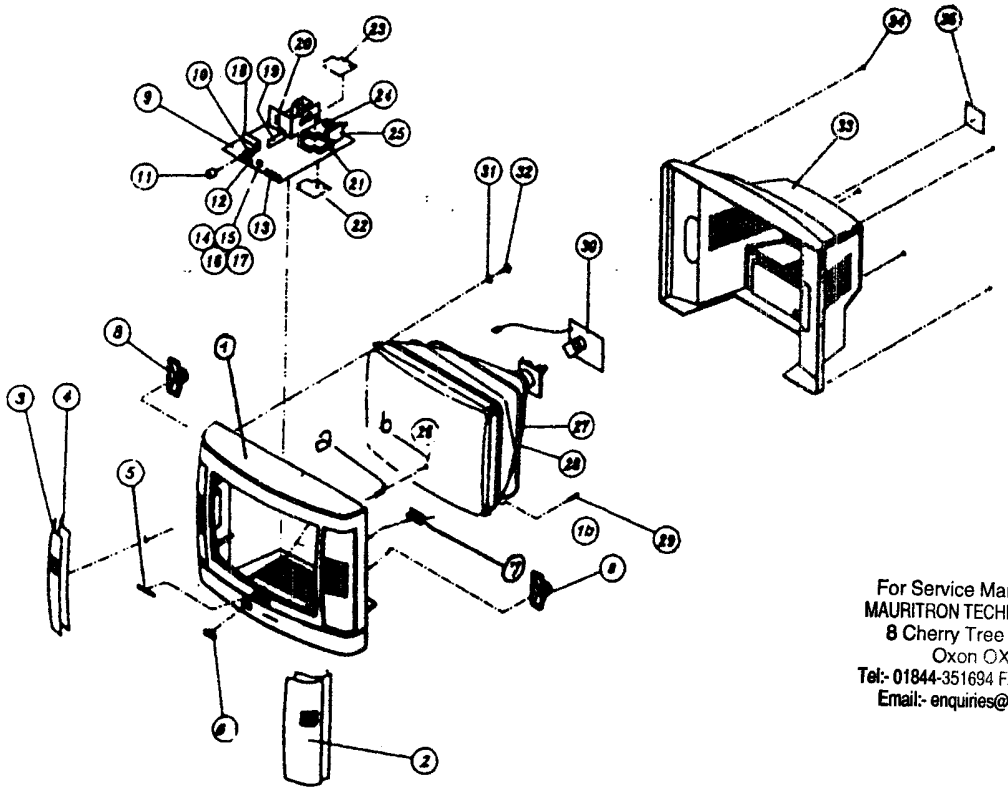
2 Speaker Grill (Right)
3 Speaker Grill (Left)
4 Speaker Felt
5 Logo

6 Acyrilic Window

7 Multiple Button

8 Speaker
9 Main Board Assy
10 Power Switch GDE
11 On/Off Button
12 Preamplifier
13 Tact Switch
14 Led PCB Holder
15 Led PCB
16 Led Holder
17 Led
18 Heatsink Block PT2
19 Heatsink Block PT3
20 Heatsink Block PT1
21 IF Shield
22 IF Bottom Cover
23 IF Top Cover
24 Scart Socket
25 Tuner
26 Picture Tube
27 Degaussing Coil
28 Mass Wire
29 Spring
30 CRT PCB Assy
31 Washer
32 CRT Screw 5x30
33 Back Cover
34 Screw 3.9x19
35 Back Cover Label
a Lens
b Screw 2.9x9.5

* Please don't forget writing you. Model No. completely whenever you order spare parts given above !



For Service Manuals Contact
MAURITRON TECHNICAL SERVICES
8 Cherry Tree Rd, Chinnor
Oxon OX9 4QY
Tel:- 01844-351694 Fax:- 01844-352554
Email:- enquiries@mauritron.co.uk