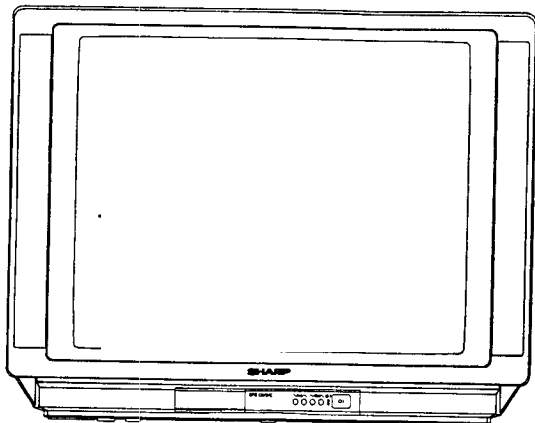


SHARP

SERVICE MANUAL

SEJY66CS03H2



ELECTRICAL INFORMATION

CS-CHASSIS

PAL SYSTEM COLOUR TELEVISION

MODELS 66CS03H
59CS03H

In the interests of user safety (required by safety regulations in some countries) the set should be restored to its original condition and only parts identical to those specified should be used.

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SHARP CORPORATION

ELECTRICAL SPECIFICATIONS

● Power Input.....220-240 VAC 50Hz

● Power Consumption (at 240 VAC)

Normal operating.....130 Wmax.

Stand-by Operating..... 3Wmax.

● Audio Power

Output Rating.....10W(MPO)x2

Speaker.....6cm. x 13 cm. (elliptic)

Voice coil impedance.....8 ohms

● Convergence.....Self Converging System

Focus.....Bi-Potencial Electrostatic

Sweep.....Magnetic

● White Level

Set brightness control to get total picture tube cathode current of 600 microampere under no signal condition. Maximum necessary correction of each picture tube cathode current to get 8900 degrees K-20MPCD screen temperature should not exceed 15% of its original value.

X=0.290

Y=0.284

● Intermediate Frequencies

Picture IF Frequency39.5MHz

Sound IF Carrier Frequency

Stereo Nicam.....32.948MHz

FM Mono33.05MHz

Colour Sub-Carrier

Frequency.....35.06 MHz (Nominal)

● Aerial Input Impedance

UHF75 ohm Unbalanced

Tuning Ranges471.25MHz to 855.25MHz

Specifications are subject to change without prior notice

WARNING

The chassis in this receiver is partially hot. Use an isolation transformer between the line cord plug and power receptacle, when servicing this chassis.

To prevent electric shock, do not remove cover. No user-serviceable parts inside. Refer servicing to qualified service personnel.

IMPORTANT SERVICE NOTES

Maintenance and repair of this receiver should be done by qualified service personnel only.

SERVICING OF HIGH VOLTAGE SYSTEM AND PICTURE TUBE

When servicing the high voltage system, remove static charge from it by connecting a 10 k ohm Resistor in series with an insulated wire (such as test probe) between picture tube ground tag and high voltage lead. (AC line cord should be disconnected from AC outlet.)

1. Picture tube this receiver employs integral implosion protection.
2. Replace with tube of the same type number for continued safety.
3. Do not lift picture tube by the neck.
4. Handle the picture tube only when wearing shatterproof goggles and after discharging the high voltage completely.

X-RAY

This receiver is designed so that any X-Ray radiation is kept to an absolute minimum. Since certain malfunctions or servicing may produce potentially hazardous radiation with prolonged exposure at close range, the following precautions should be observed:

1. When repairing the circuit, be sure not to increase the high voltage to more than 30.0 kV, (at beam 1000 μ A) for the set.
2. To keep the set in a normal operation, be sure to make it function on 26kV \pm 1.5kV (at beam 1300 μ A) in the case of the set. The set has been factory- Adjusted to the above-mentioned high voltage.

If there is a possibility that high voltage fluctuates as a result of the repairs, never forget to check for such high voltage after the work.

3. Do not substitute a picture tube with unauthorized types and/or brands which may cause excess X-ray radiation.

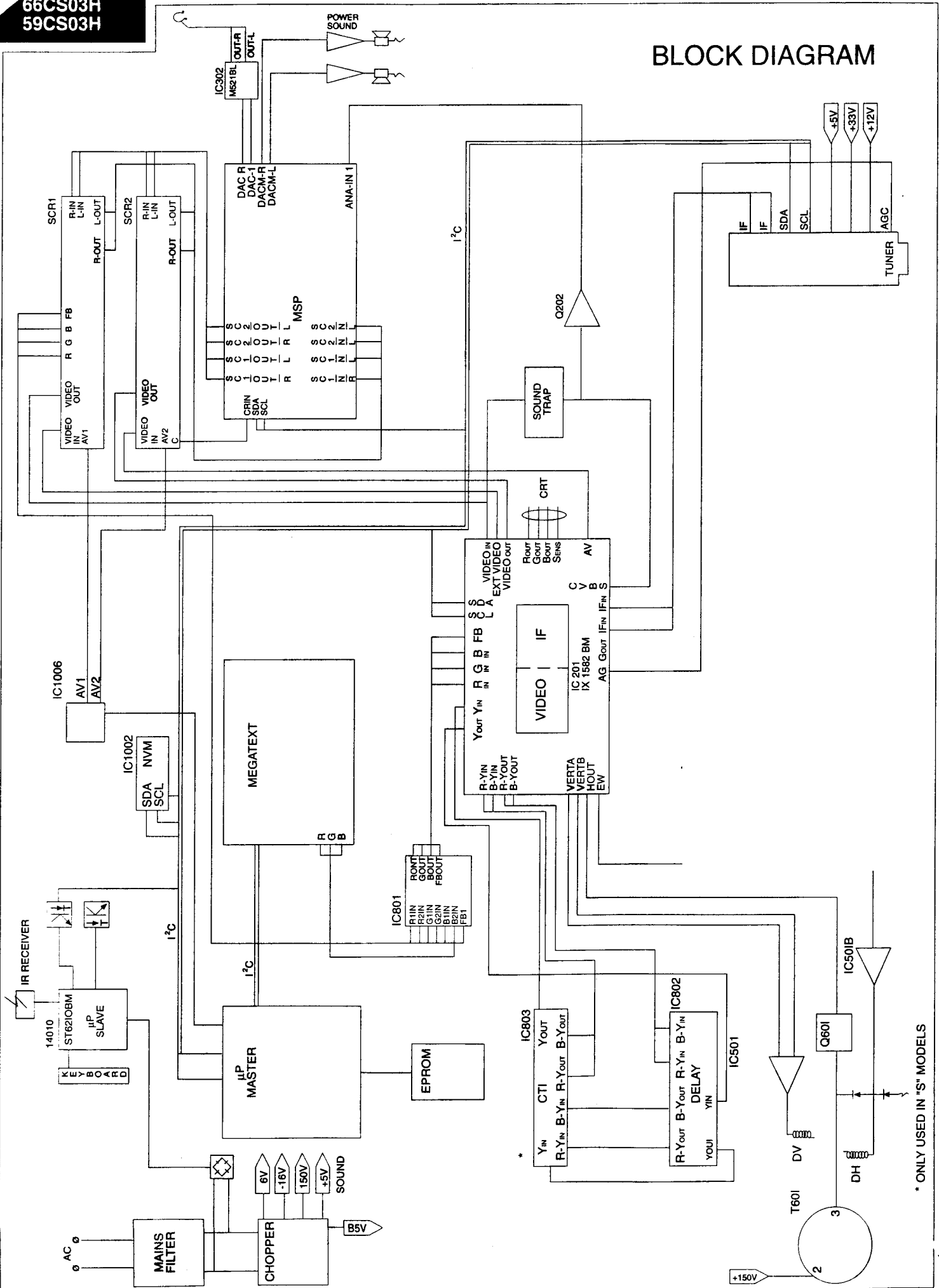
BEFORE RETURNING THE RECEIVER

Before returning the receiver to the user, perform the following safety checks.

1. Inspect all lead dress to make certain that leads are not pinched or that hardware is not logged between the chassis and other metal parts in the receiver.
2. Inspect all protective devices such as non-metallic control knobs, insulating fishpapers, cabinet backs, adjustment and compartment covers or shields, insulation resistor-capacity networks, mechanical insulators etc.

66CS03H
59CS03H

BLOCK DIAGRAM



* ONLY USED IN 'S' MODELS

PREVIOUS NOTES

Since most of the power amplifiers of this TV, works in switching mode (class D) a general explanation of this system is as follows.

The system is based on moving the duty cycle of a square wave according to a modulator wave of any shape as is shown in fig. 1:

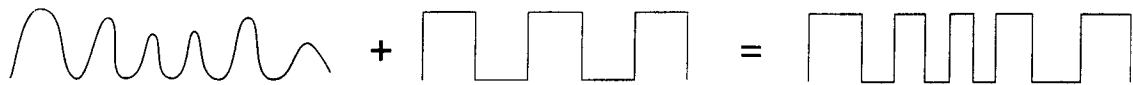


Fig. 1

The way of working the signal is known as PWM (Pulse With Modulation).

After the modulated signal is amplified, a conversion to the original signal shape is made by using adequate low pass filters (LC filters), fig. 2:

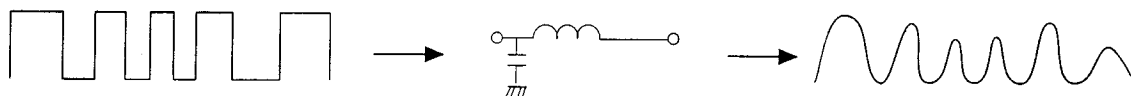


Fig. 2

VERTICAL AMPLIFIER

Horizontal pulses are modulated (PWM mode) with the vertical saw-tooth signal (IC501A) to get the switching modulated signal, once it is amplified it is driven out through the low pass filter (L501) to the deflection coils.

E/W AMPLIFIER

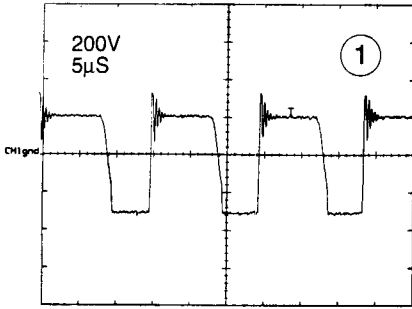
As in the above case, the horizontal pulses are modulated with the E/W signal generated by the IC201. This is done by means of the IC501B and L605.

AUDIO POWER AMPLIFIER

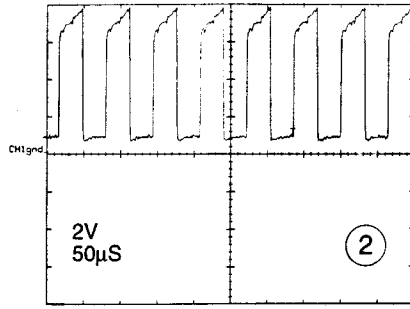
The audio amplifier consists of an oscillator whose frequency and duty cycle moves according to the audio signal. This is done by IC303 and the switching signal is converted back into its original shape by means of L302/L304.

OSCILLOSCOPE WAVE FORM

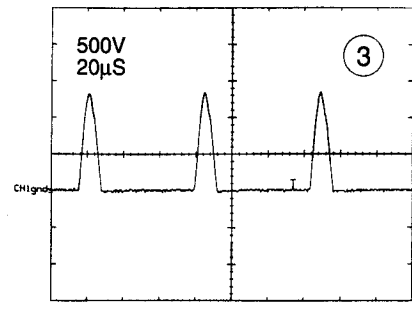
CH1 200V A 5ms -506 V VERT



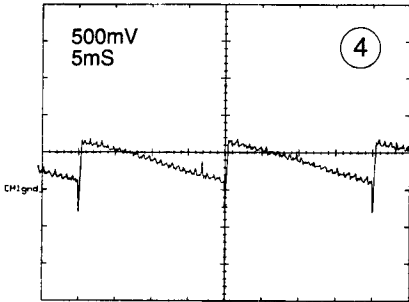
CH1 20V A 50ns 1.98 V VERT



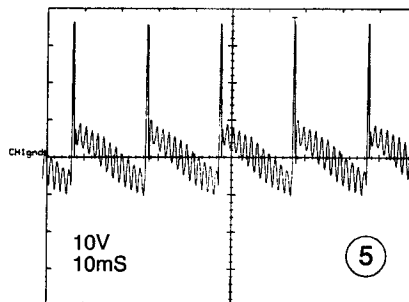
CH1 500V A 20ns -506 V VERT



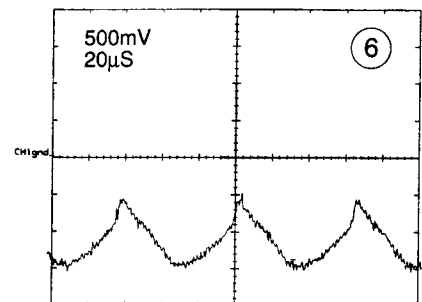
CH1 500mV A 5ms -256mV VERT



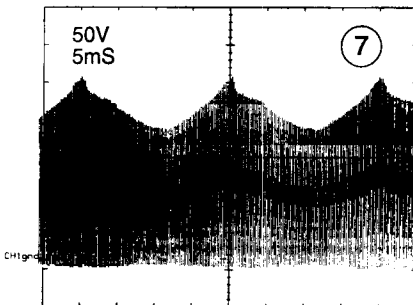
CH1 10V A 10ms 25.9 V VERT



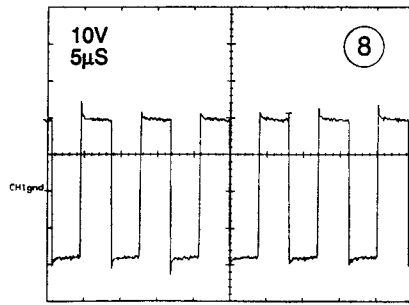
CH1 500mV A 20ns -1.96 V VERT



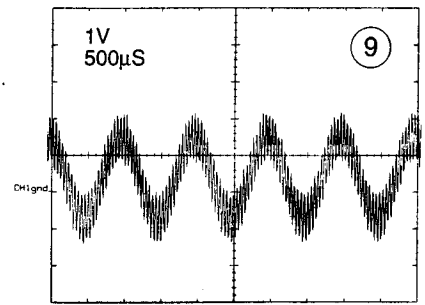
CH1 50V A 5ms 311mV CH2



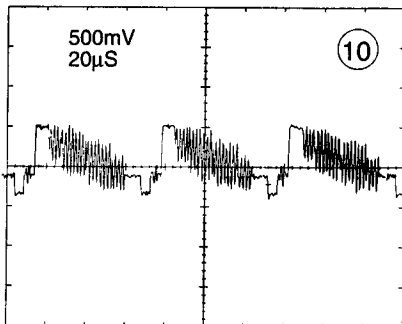
CH1 10V A 5ms 180 V VERT



CH1 1V A 500ns 8.20 V VERT

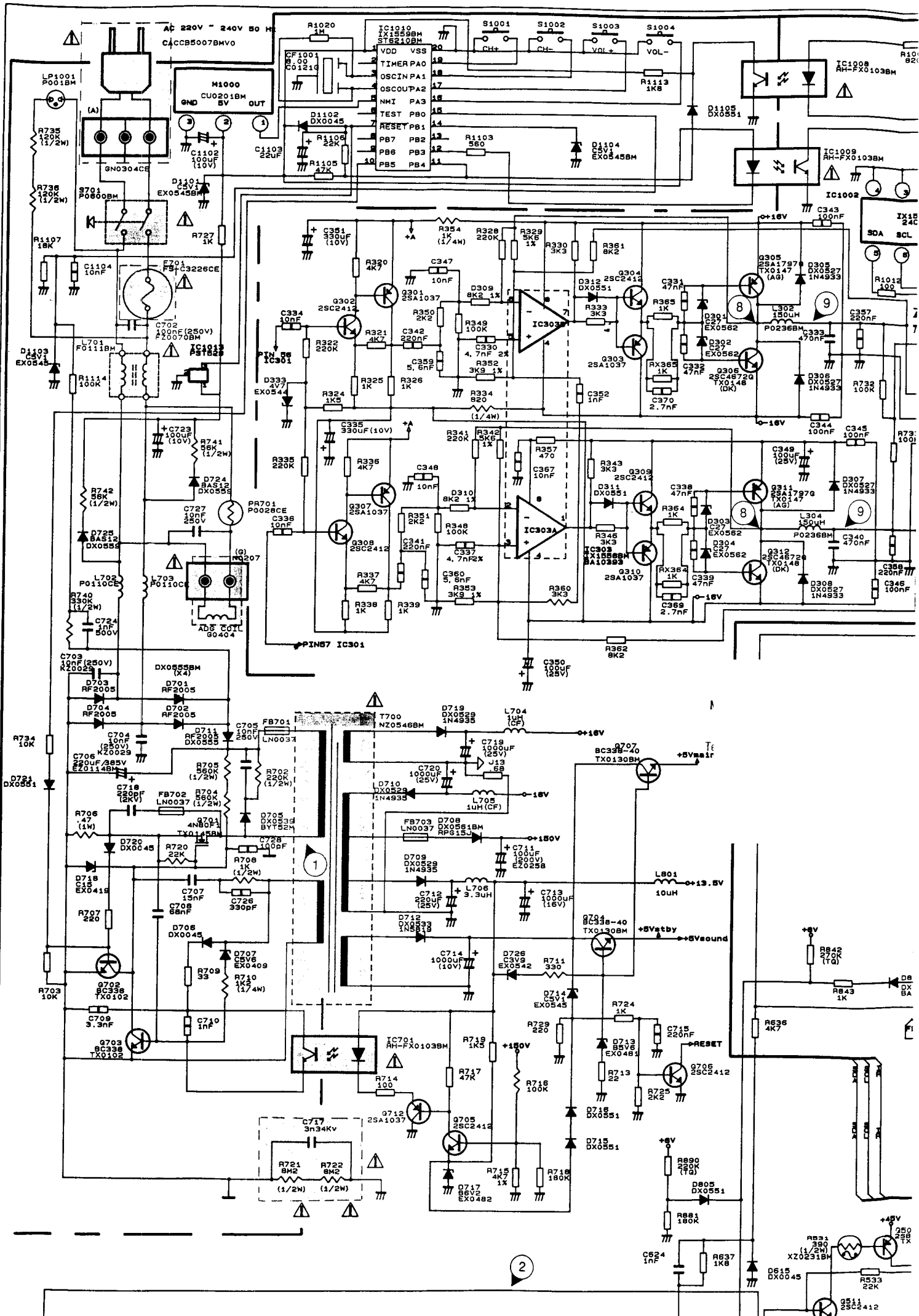


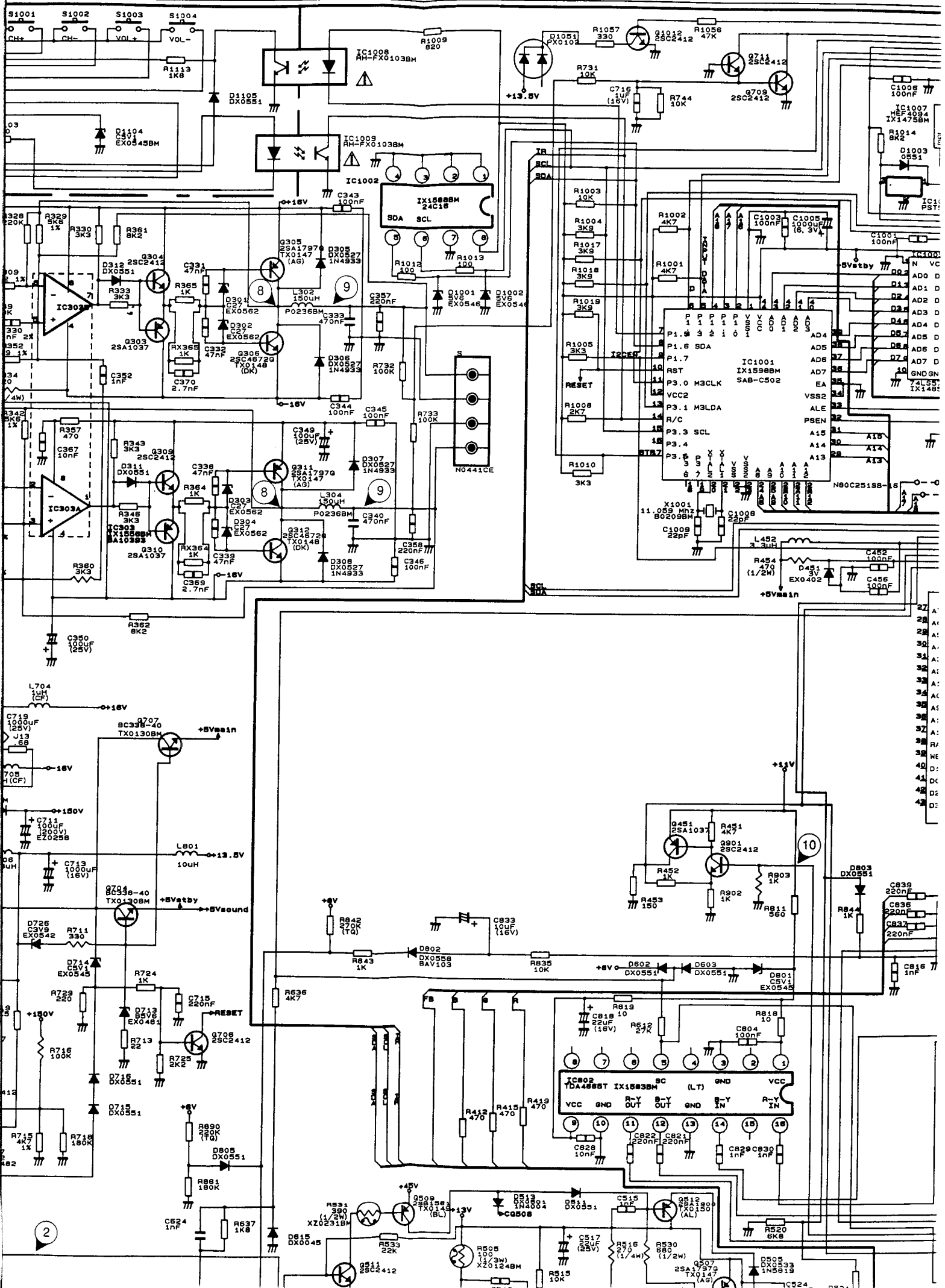
CH1 500mV A 20ns TVLN

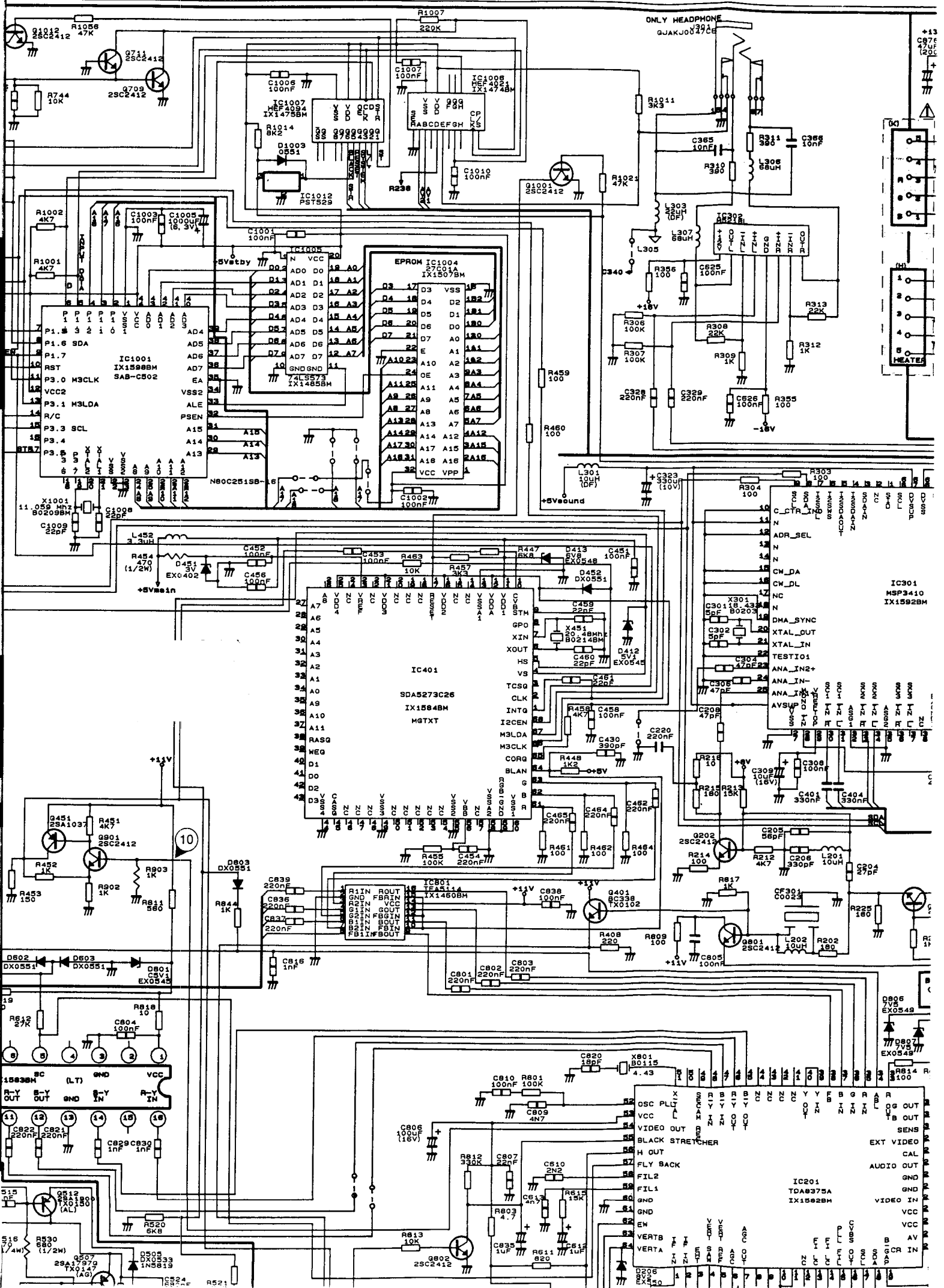


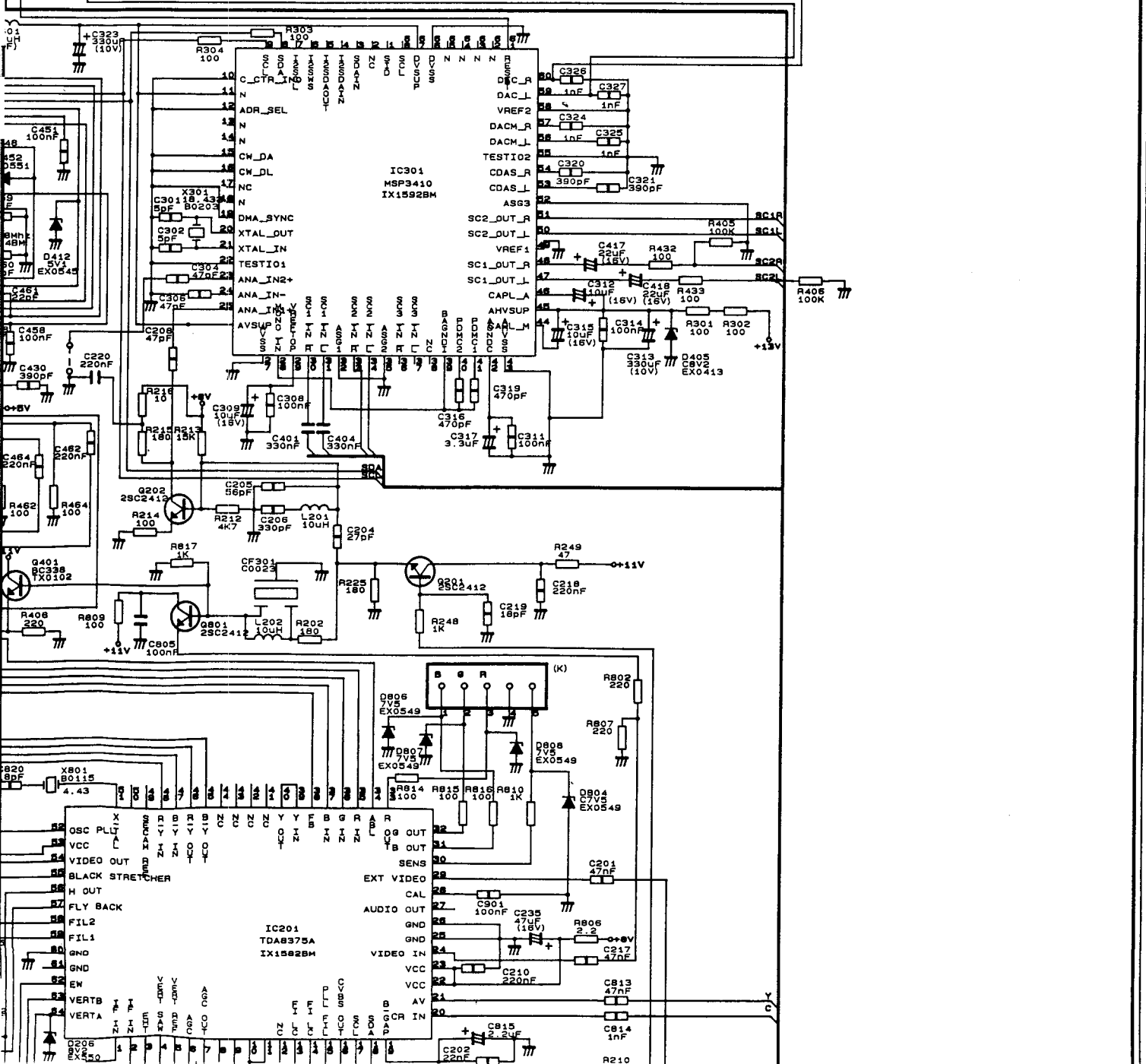
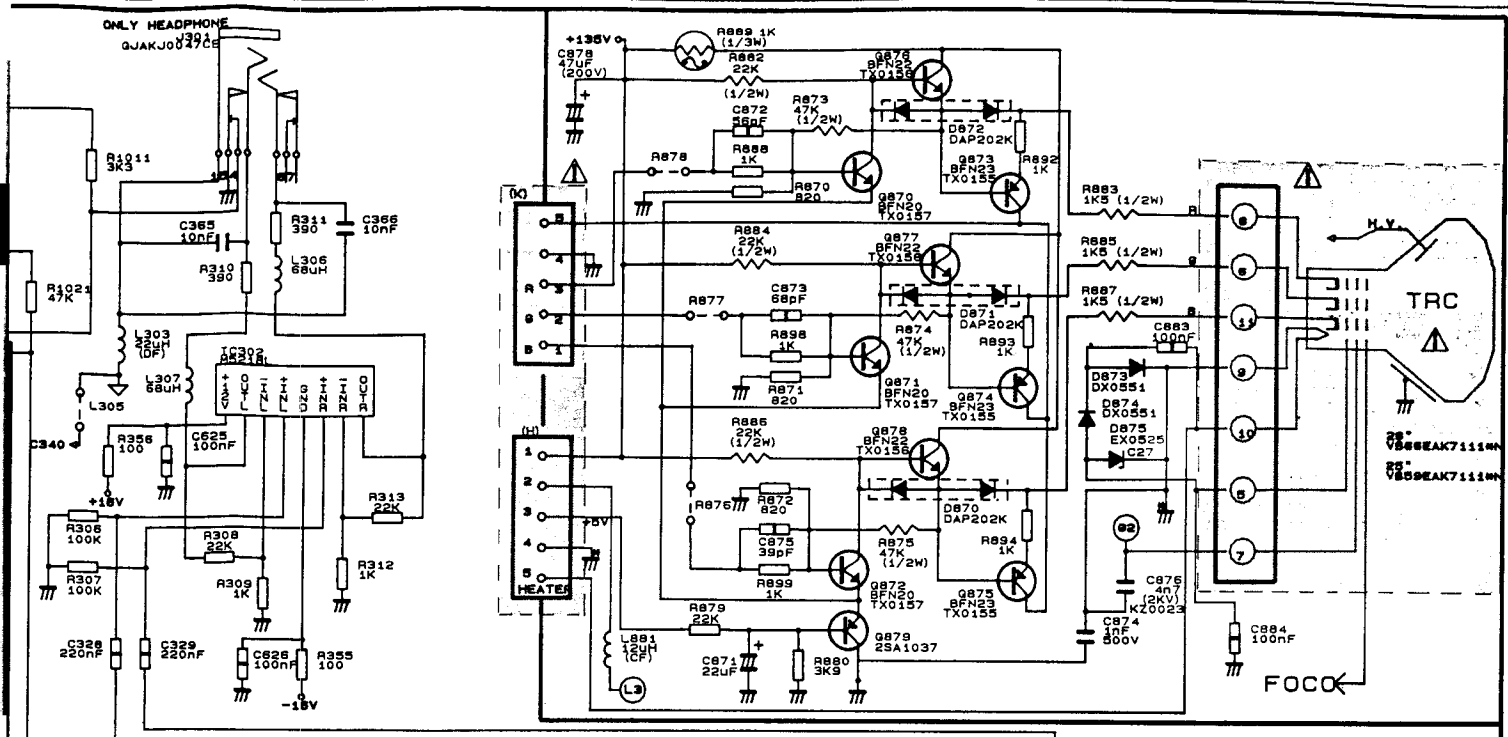
NOTE:

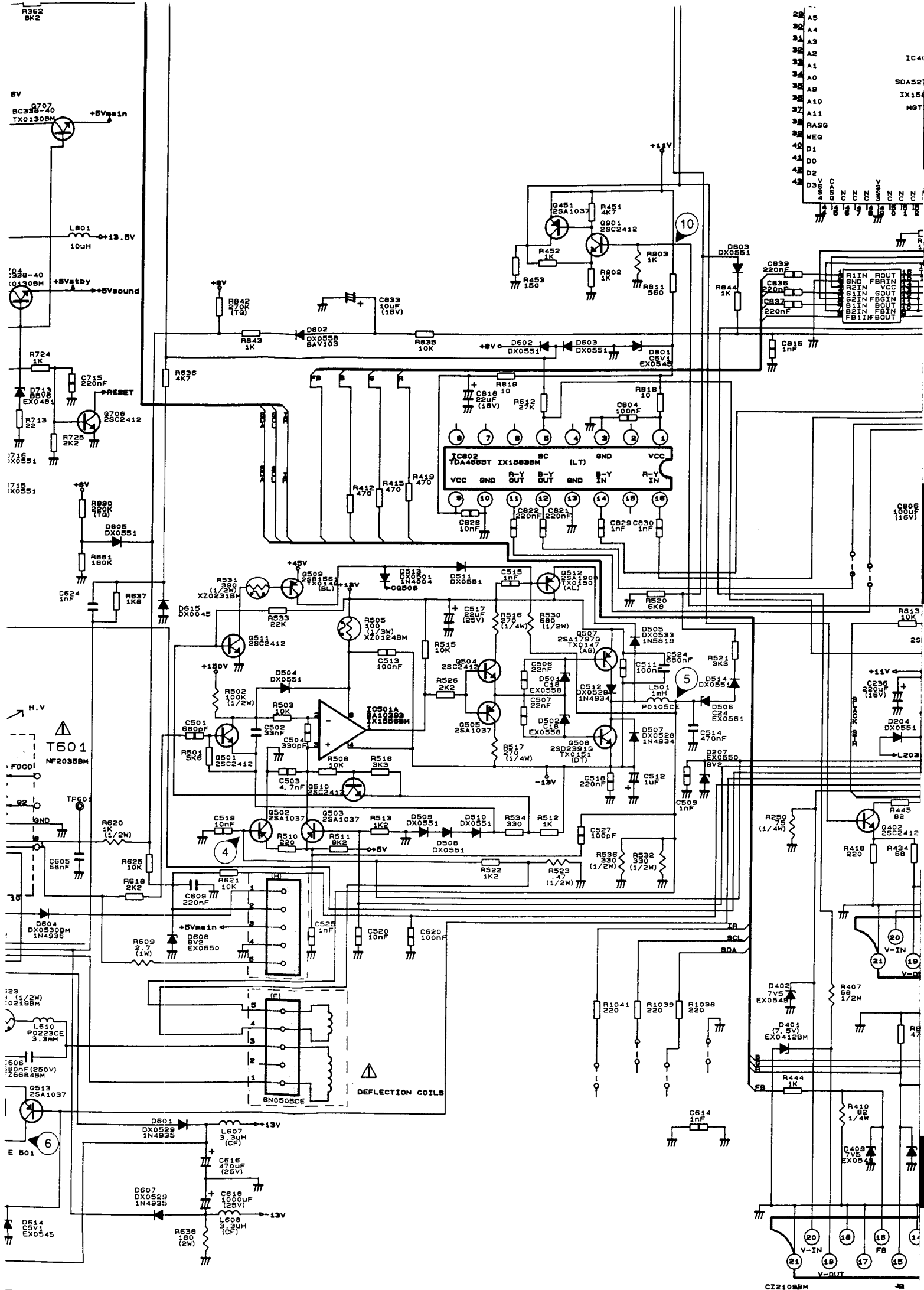
Wave forms are obtained with a colour bar signal of 79dB/µV via antenna.

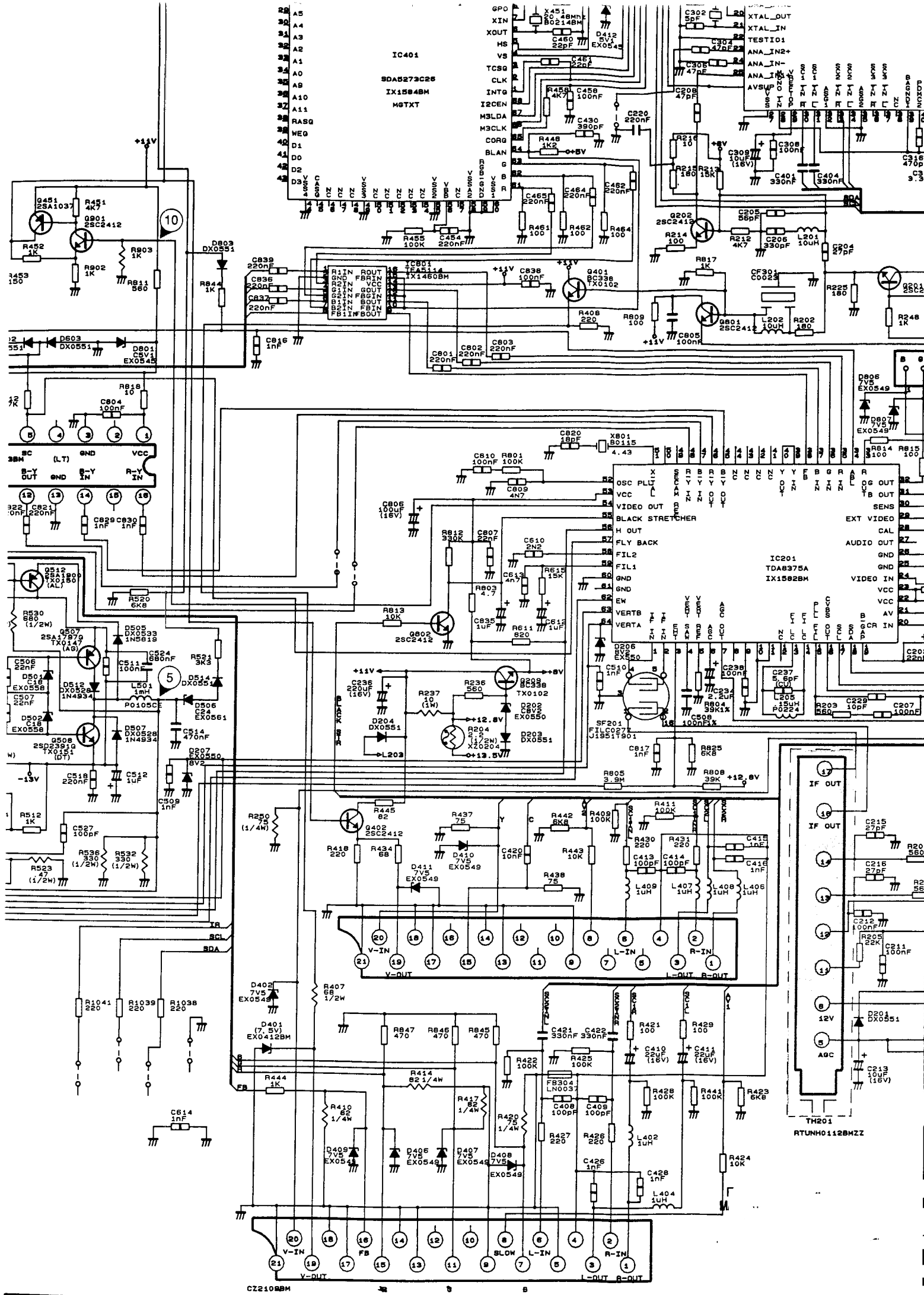






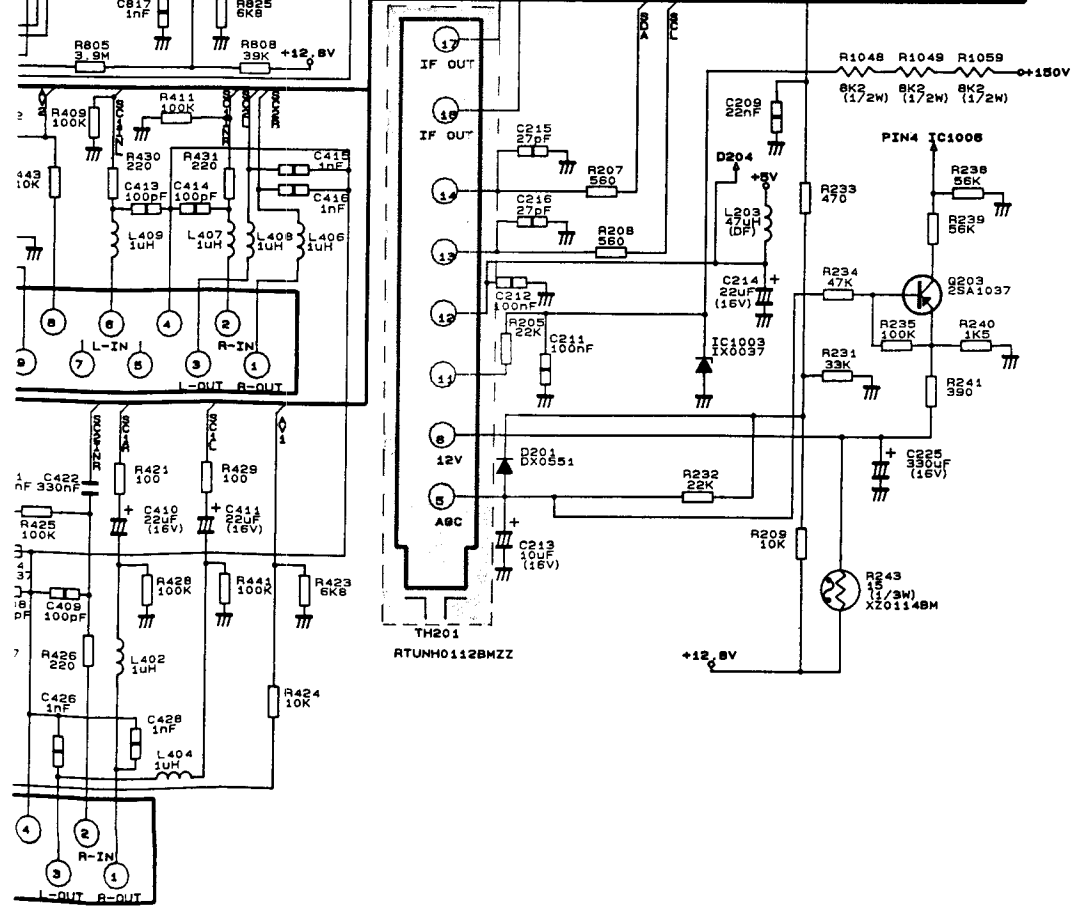
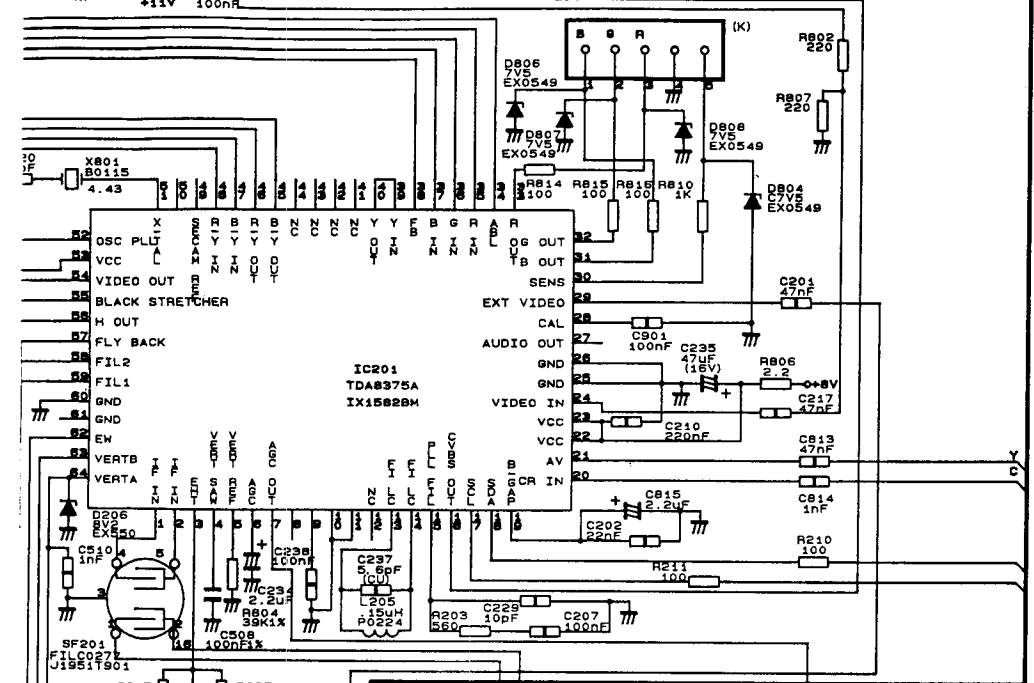
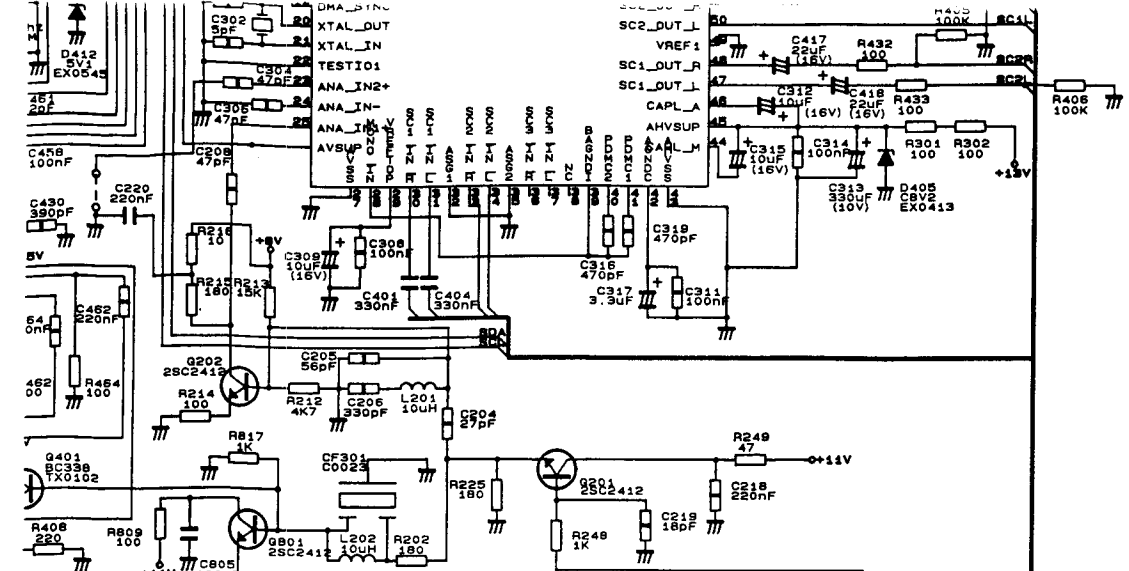




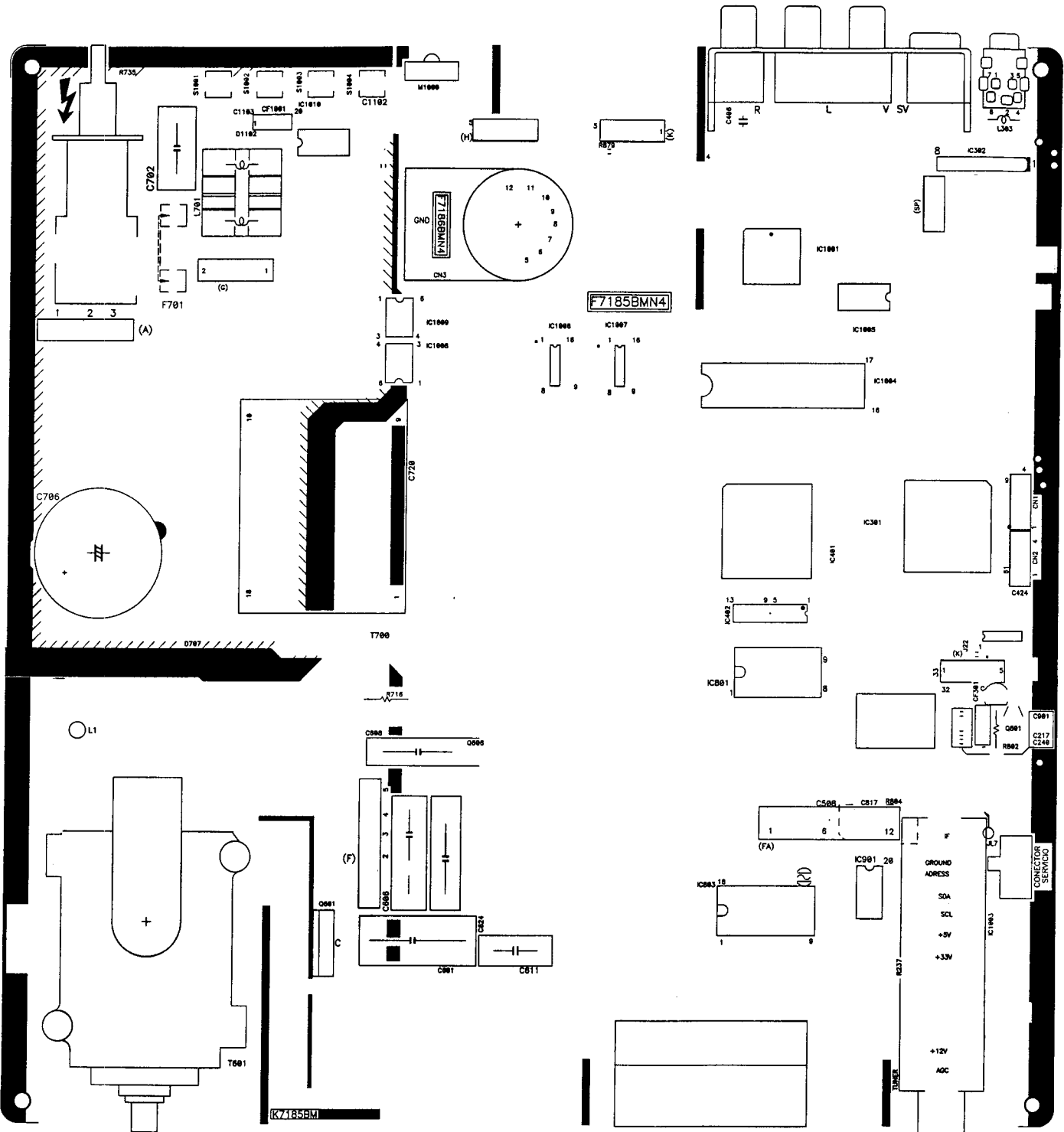


CZ21088M

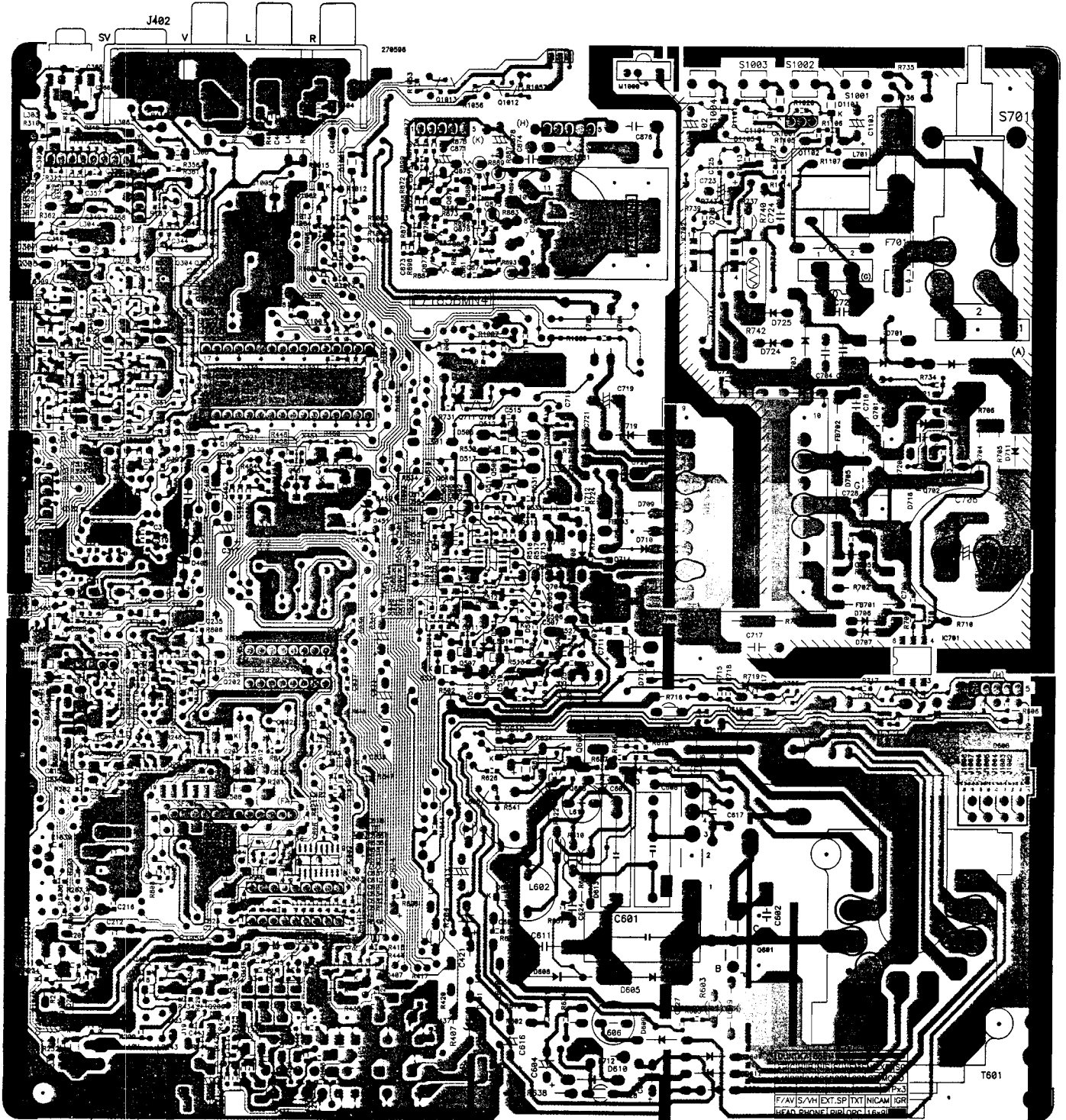
RTUNH01128MZZ



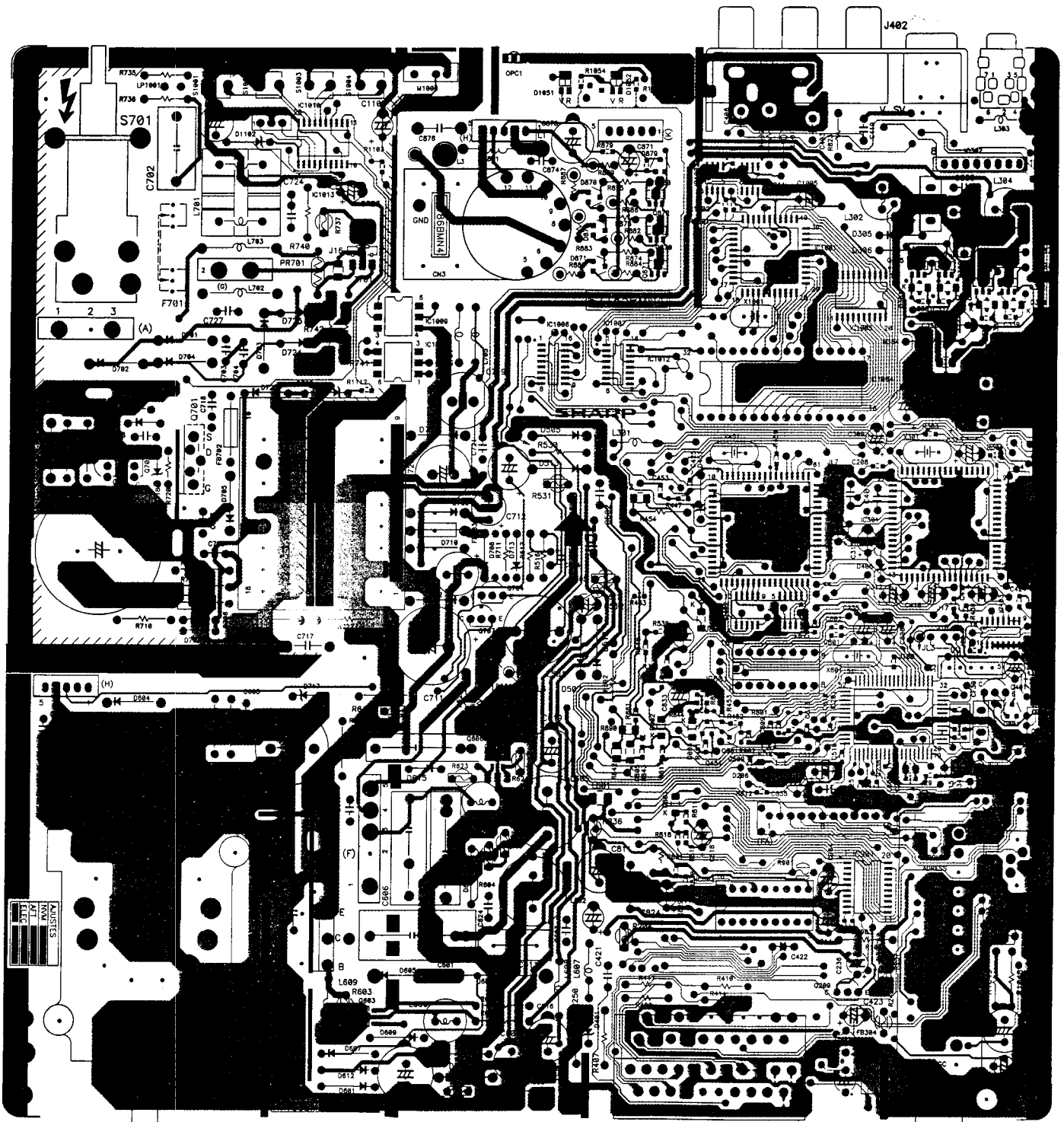
CHASSIS LAYOUT



PRINTED WIRING BOARD (SOLDER SIDE)



PRINTED WIRING BOARD (COMPONENTS SIDE)



**PARTS LIST
REPLACEMENT PARTS**

Replacement parts which have special safety characteristics are identified in this manual. Electrical components having such features are identified by Δ in the Replacement Parts list.
The use of a substitute replacement part which does not have the same safety characteristics as the factory recommended is not permitted. Replacement parts not shown in this service manual may create shock, fire or other hazards.

HOW TO ORDER REPLACEMENT PARTS

To have your order completed promptly and correctly please supply the following information.

- | | |
|-----------------|----------------|
| 1. MODEL NUMBER | 2. REF. NO. |
| 3. PART NO. | 4. DESCRIPTION |
| 5. CODE | 6. QUANTITY |

★ MARK: SPARE PARTS DELIVERY SECTION CODEX: EUROPEAN MARKET • CODE SP: SPANISH MARKET

| REF. NO. | PART NO. | * | DESCRIPTION | CODE EX |
|---|-------------------------------|--------|---|---------|
| PICTURE TUBE | | | | |
| Δ | CCILG0404BMV0 | S | DG. COIL NUCTOR 28" | AV |
| Δ | VB66EAK7111*N | S | CRT 28" | CW |
| Δ | CCILG0403BMV0 | S | DG. COIL NUCTOR 25" | AR |
| Δ | VB59EAK7111*N | S | CRT 25" | CW |
| PRINTED WIRING BOARD ASSEMBLIES (Not replacement item) | | | | |
| PWB-A PWB-B | DSETV7185BMV4 DUNT7186BMV4 | - - | Mother Unit CRT Socket Unit | |
| PWB-A MOTHER UNIT | | | | |
| TUNER | | | | |
| NOTE: The parts shown here are supplied | | | | |
| TH 0201 | RTUNH0112BMZZ | S | as an assembly but not separately. TUNER UTP212S THOMSON | BC |
| INTEGRATED CIRCUIT | | | | |
| IC 1002 | RH-IX1588BMZZ | S | IC NVM | AQ |
| IC 1004 | CH-IX-1600CJH5 | S | EPROM SOFT 66CS03H | AW |
| IC 1004 | CH-IX-1507CJH7 | S | EPROM SOFT 59CS03H | AW |
| IC 0201 | RH-IX1582BMZZ | S | IC TDA 8375A QFP64 PHILIP | BB |
| IC 0301 | RH-IX1592BMZZ | S | IC MSP3400C-PS-C6 PLCC | BA |
| IC 0302 | VHIM5218L/-1 | S | IC M5218L | AF |
| IC 0303 | RH-IX1556BMZZ | S | IC BA10393 SOP8 SMD ROHM | AD |
| IC 0401 | RH-IX1584BMZZ | S | IC MGTEXT3 SDA5273C26 SIEM | AN |
| IC 0501 | RH-IX1556BMZZ | S | IC BA10393 SOP8 SMD ROHM | AD |
| Δ IC 0701 | RH-FX0103BMZZ | S | OPTOCOUPLER MOC 8105 SR2V | AD |
| IC 0801 | RH-IX1460BMZZ | S | IC TEA 5114A | AL |
| IC 0802 | RH-IX1583BMZZ | S | IC TDA 4665 T | AM |
| IC 1001 | RH-IX1598BMZZ | S | IC SAB-C502 PLCC SIEMENS | AZ |
| IC 1003 | RH-IX0037CEZZ | S | IC UPC 574J 33V NEC | AD |
| IC 1005 | RH-IX1485BMZZ | S | IC SN74ALS 573 CDWR SMD | AK |
| IC 1006 | RH-IX1474BMZZ | S | IC HEF 4021BT EMB SMD | AE |
| IC 1007 | RH-IX1475BMZZ | S | IC HEF 4094BT EMB SMD | AE |
| Δ IC 1008 | RH-FX0103BMZZ | S | OPTOCOUPLER MOC8105 SR2V | AD |
| Δ IC 1009 | RH-FX0103BMZZ | S | OPTOCOUPLER MOC8105 SR2V | AD |
| IC 1010 | RH-IX1559BMZZ | S | IC ST6210BM SMD THOMSON | AU |
| IC 1012 | VHIPST529C2-1 | S | IC PST 529 | AD |
| IC 1013 | VHIPST529C2-1 | S | IC | AB |
| | | | I | |
| | | | T | |

| REF. NO. | PART NO. | * | DESCRIPTION | CODE EX |
|--------------------|---------------|---|----------------------------|------------|
| TRANSISTORS | | | | |
| Q 0201 | VS2SC2412KQ-1 | S | TRT NPN BC817 SMD | AB |
| Q 0202 | VS2SP2412KQ-1 | S | TRT NPN BC817 SMD | AB |
| Q 0203 | VS2SA1037KQ-1 | S | TRT PNP BC807 SMD | AB |
| Q 0209 | RH-TX0102BMZZ | S | TRT BC338 | AB |
| Q 0301 | VS2SA1037KQ-1 | S | TRT PNP BC807 SMD | AB |
| Q 0302 | VS2SC2412KQ-1 | S | TRT NPN BC817 SMD | AB |
| Q 0303 | VS2SA1037KQ-1 | S | TRT PNP BC807 SMD | AB |
| Q 0304 | VS2SC2412KQ-1 | S | TRT NPN BC817 SMD | AB |
| Q 0305 | RH-TX0147BMZZ | S | TRT 2SA1797T100/Q SMD ROHM | AD |
| Q 0306 | RH-TX0148BMZZ | S | TRT 2SC4672T100/Q SMD ROHM | AD |
| Q 0307 | VS2SA1037KQ-1 | S | TRT PNP BC807 SMD | AB |
| Q 0308 | VS2SC2412KQ-1 | S | TRT NPN BC817 SMD | AB |
| Q 0309 | VS2SC2412KQ-1 | S | TRT NPN BC817 SMD | AB |
| Q 0310 | VS2SA1037KQ-1 | S | TRT PNP BC807 SMD | AB |
| Q 0311 | RH-TX0147BMZZ | S | TRT 2SA1797T100/Q SMD ROHM | AD |
| Q 0312 | RH-TX0148BMZZ | S | TRT 2SC4672T100/Q SMD ROHM | AD |
| Q 0401 | RH-TX0102BMZZ | S | TRT BC338 | AB |
| Q 0402 | VS2SC2412KQ-1 | S | TRT NPN BC817 SMD | AB |
| Q 0451 | VS2SA1037KQ-1 | S | TRT PNP BC807 SMD | AB |
| Q 0503 | VS2SC2412KQ-1 | S | TRT NPN BC817 SMD | AB |
| Q 0504 | VS2SA1037KQ-1 | S | TRT PNP BC807 SMD | AB |
| Q 0505 | VS2SA1037KQ-1 | S | TRT PNP BC807 SMD | AB |
| Q 0507 | VS2SC2412KQ-1 | S | TRT NPN BC817 SMD | AB |
| Q 0508 | VS2SA1037KQ-1 | S | TRT PNP BC807 SMD | AB |
| Q 0507 | RH-TX0147BMZZ | S | TRT 2SA1797T100/Q SMD ROHM | AD |
| Q 0508 | RH-TX0151BMZZ | S | TRT 2SD2391Q SMD ROHM | AD |
| Q 0509 | RH-TX0149BMZZ | S | TRT 2SB1561 SMD ROHM | AD |
| Q 0510 | VS2SC2412KQ-1 | S | TRT NPN BC817 SMD | AA |
| Q 0511 | VS2SC2412KQ-1 | S | TRT NPN BC817 SMD | AA |
| Q 0512 | RH-TX0150BMZZ | S | TRT 2SA1900T100/Q SMD ROHM | AC |
| Q 0513 | VS2SA1037KQ-1 | S | TRT PNP BC807 SMD | AA |
| Q 0601 | RH-TX0144BMZZ | S | TRT BUH 515 THOMSON | AK |
| Q 0603 | RH-TX0146BMZZ | S | TRT 2SD2153T100/W SMD ROHM | AD |
| Q 0605 | RH-TX0152BMZZ | S | TRT BC846BLT1 SMD MOTOROLA | AA |
| Q 0606 | RH-TX0149BMZZ | S | TRT 2SB1561 SMD ROHM | AD |
| Q 0607 | RH-TX0152BMZZ | S | TRT BC846BLT1 SMD MOTOROLA | AA |
| Q 0701 | RH-TX0145BMZZ | S | TRT 4NA80FI THOMSON | AM |
| Q 0702 | RH-TX0102BMZZ | S | TRT BC338 | AB |
| Q 0703 | RH-TX0102BMZZ | S | TRT BC338 | AB |
| Q 0704 | RH-TX0130BMZZ | S | TRT BC338-40 | AB |
| Q 0705 | VS2SC2412KQ-1 | S | TRT NPN BC817 SMD | AB |
| Q 0706 | VS2SC2412KQ-1 | S | TRT NPN BC817 SMD | AB |
| Q 0707 | RH-TX0130BMZZ | S | TRT BC338-40 | AB |
| Q 0709 | VS2SC2412KQ-1 | S | TRT PNP BC817 SMD | AB |
| Q 0711 | VS2SC2412KQ-1 | S | TRT PNP BC817 SMD | AB |
| Q 0712 | VS2SC1037KQ-1 | S | TRT PNP BC807 SMD | AB |
| Q 0801 | VS2SC2412KQ-1 | S | TRT NPN BC817 SMD | AB |
| Q 0802 | VS2SA2412KQ-1 | S | TRT NPN BC817 SMD | AB |
| Q 0901 | VS2SC2412KQ-1 | S | TRT NPN BC817 SMD | AB |
| Q 1001 | VS2SC2412KQ-1 | S | TRT NPN BC817 SMD | AB |
| Q 1012 | VS2SC2412KQ-1 | S | TRT NPN BC817 SMD | AB |
| DIODES | | | | |
| D 0201 | RH-DX0551BMZZ | S | DIODE LL4148 TFK SMD | AA |
| D 0202 | RH-EX0550BMZZ | S | ZENER TZMC8V2 TFK SMD | AB |
| D 0203 | RH-DX0551BMZZ | S | DIODE LL4148 TFK SMD | AA |
| D 0204 | RH-DX0551BMZZ | S | DIODE LL4148 TFK SMD | AA |
| D 0301 | RH-EX0562BMZZ | S | ZENER TZMC27 TFK SMD | AB |
| D 0302 | RH-EX0562BMZZ | S | ZENER TZMC27 TFK SMD | AB |
| D 0303 | RH-EX0562BMZZ | S | ZENER TZMC27 TFK SMD | AB |
| D 0304 | RH-EX0562BMZZ | S | ZENER TZMC27 TFK SMD | AB |
| D 0305 | RH-DX0527BMZZ | S | DIODE 1N4933 RECTRON | AA |
| D 0306 | RH-DX0527BMZZ | S | DIODE 1N4933 RECTRON | AA |
| D 0307 | RH-DX0527BMZZ | S | DIODE 1N4933 RECTRON | AA |
| D 0308 | RH-DX0527BMZZ | S | DIODE 1N4933 RECTRON | AA |
| D311 | RH-DX0562BMZZ | S | DIODE DA204U ROHM | AB |
| D312 | RH-DX0562BMZZ | S | DIODE DA204U ROHM | AB |
| D206 | RH-EX0552BMZZ | S | ZENER TZMC8V2 TFK SMD | AB |

| REF. NO. | PART NO. | ★ | DESCRIPTION | CODE EX |
|---------------|---------------|---|---------------------------|------------|
| DIODES | | | | |
| D 0333 | RH-EX0544BMZZ | S | ZENER TZMC4V7 TFK SMD | AB |
| D 0401 | RH-EX0412BMZZ | S | DIODE ZENER BZX79C7V5 | AB |
| D 0402 | RH-EX0549BMZZ | S | ZENER TZMC7V5 TFK SMD | AA |
| D 0405 | RH-EX0413BMZZ | S | DIODE ZENER BZX79C8V2 | AB |
| D 0406 | RH-EX0549BMZZ | S | ZENER TZMC7V5 TFK SMD | AA |
| D 0407 | RH-EX0549BMZZ | S | ZENER TZMC7V5 TFK SMD | AA |
| D 0408 | RH-EX0549BMZZ | S | ZENER TZMC7V5 TFK SMD | AA |
| D 0409 | RH-EX0549BMZZ | S | ZENER TZMC7V5 TFK SMD | AA |
| D 0410 | RH-EX0549BMZZ | S | ZENER TZMC7V5 TFK SMD | AA |
| D 0411 | RH-EX0549BMZZ | S | ZENER TZMC7V5 TFK SMD | AA |
| D 0412 | RH-EX0545BMZZ | S | ZENER TZMC5V1 TFK SMD | AA |
| D 0413 | RH-EX0548BMZZ | S | ZENER TZMC6V8 TFK SMD | AB |
| D 0451 | RH-EX0402BMZZ | S | DIODE ZENER BZX79C3V0 | AB |
| D 0452 | RH-DX0551BMZZ | S | DIODE LL4148 TFK SMD | AA |
| D 0501 | RH-EX0558BMZZ | S | ZENER TZMC18 TFK SMD | AA |
| D 0502 | RH-EX0558BMZZ | S | ZENER TZMC18 TFK SMD | AA |
| D 0504 | RH-DX0551BMZZ | S | DIODE LL4148 TFK SMD | AA |
| D 0505 | RH-DX0533BMZZ | S | DIODE 1N5819 RECTRON | AD |
| D 0506 | RH-EX0561BMZZ | S | ZENER TZMC24 TFK SMD | AB |
| D 0507 | RH-DX0528BMZZ | S | DIODE 1N4934 RECTRON | AA |
| D 0508 | RH-DX0551BMZZ | S | DIODE LL4148 TFK SMD | AA |
| D 0509 | RH-DX0551BMZZ | S | DIODE LL4148 TFK SMD | AA |
| D 0510 | RH-DX0551BMZZ | S | DIODE LL4148 TFK SMD | AA |
| D 0511 | RH-DX0551BMZZ | S | DIODE LL4148 TFK SMD | AA |
| D 0512 | RH-DX0528BMZZ | S | DIODE 1N4934 RECTRON | AA |
| D 0513 | RH-DX0501BMZZ | S | DIODE 1N4004 | AA |
| D 0514 | RH-DX0551BMZZ | S | DIODE LL4148 TFK SMD | AA |
| D 0601 | RH-DX0529BMZZ | S | DIODE 1N4935 RECTRON | AB |
| D 0602 | RH-DX0551BMZZ | S | DIODE LL4148 TFK SMD | AA |
| D 0603 | RH-DX0551BMZZ | S | DIODE LL4148 TFK SMD | AA |
| D 0604 | RH-DX0530BMZZ | S | DIODE 1N4936 RECTRON | AA |
| D 0605 | RH-DX0299BMZZ | S | DIODE BY 228-20 | AE |
| D 0606 | RH-DX0301BMZZ | S | DIODE BY 299 PREFOR C6.3 | AD |
| D 0607 | RH-DX0529BMZZ | S | DIODE 1N4935 RECTRON | AB |
| D 0608 | RH-EX0550BMZZ | S | ZENER TZMC8V2 TFK SMD | AB |
| D 0609 | RH-DX0527BMZZ | S | DIODE 1N4933 RECTRON | AA |
| D 0610 | RH-DX0528BMZZ | S | DIODE 1N4934 RECTRON | AA |
| D 0611 | RH-DX0551BMZZ | S | DIODE LL4148 TFK SMD | AA |
| D 0614 | RH-EX0545BMZZ | S | ZENER TZMC5V1 TFK SMD | AA |
| D 0615 | RH-DX0045BMZZ | S | DIODE 1N4148 | AA |
| D 0616 | RH-DX0551BMZZ | S | DIODE LL4148 TFK SMD | AA |
| D 0617 | RH-EX0568BMZZ | S | ZENER TZMC47 TFK SMD | AB |
| D 0618 | RH-EX0542BMZZ | S | ZENER TZMC3V9 TFK SMD | AB |
| D 0619 | RH-EX0425BMZZ | S | DIODE ZENER BZX79C27V | AA |
| D 0701 | RH-DX0555BMZZ | S | DIODE RF2005 FAGOR | AB |
| D 0702 | RH-DX0555BMZZ | S | DIODE RF2005 FAGOR | AB |
| D 0703 | RH-DX0555BMZZ | S | DIODE RF2005 FAGOR | AB |
| D 0704 | RH-DX0555BMZZ | S | DIODE RF2005 FAGOR | AB |
| D 0705 | RH-DX0539BMZZ | S | DIODE BYT52M TFK | AC |
| D 0706 | RH-DX0045BMZZ | S | DIODE 1N4148 | AA |
| D 0707 | RH-EX0409BMZZ | S | DIODE ZENER BZX79C5V6 | AA |
| D 0708 | RH-DX0561BMZZ | S | DIODE RGP15J FAGOR | AD |
| D 0709 | RH-DX0529BMZZ | S | DIODE 1N4935 RECTRON | AB |
| D 0710 | RH-DX0529BMZZ | S | DIODE 1N4935 RECTRON | AB |
| D 0711 | RH-DX0555BMZZ | S | DIODE RF2005 FAGOR | AB |
| D 0712 | RH-DX0533BMZZ | S | DIODE 1N5819 RECTRON | AD |
| D 0713 | RH-EX0481BMZZ | S | DIODE ZENER BZX79 B5V6 2% | AB |
| D714 | RH-EX0545BMZZ | S | ZENER TZMC5V1T FK SMD | AA |
| D 0715 | RH-DX0551BMZZ | S | DIODE LL4148 TFK SMD | AA |
| D 0716 | RH-DX0551BMZZ | S | DIODE LL4148 TFK SMD | AA |
| D 0717 | RH-EX0482BMZZ | S | DIODE ZENER BZX79 B6V2 2% | AA |
| D 0718 | RH-EX0419BMZZ | S | ZENER BZX79C15V 0.4W | AB |
| D 0719 | RH-DX0529BMZZ | S | DIODE 1N4935 RECTRON | AB |
| D 0720 | RH-DX0045BMZZ | S | DIODE 1N4148 | AA |
| D 0721 | RH-DX0551BMZZ | S | DIODE LL4148 TFK SMD | AA |
| D 0724 | RH-DX0559BMZZ | S | DIODE BAS12 PHILIPS | AC |
| D 0725 | RH-DX0559BMZZ | S | DIODE BAS12 PHILIPS | AC |
| D 0726 | RH-EX0542BMZZ | S | ZENER TZMC3V9 TFK SMD | AB |
| D 0801 | RH-EX0545BMZZ | S | ZENER TZMC5V1 TFK SMD | AA |
| D 0802 | RH-DX0558BMZZ | S | DIODE BAV103 TEMIC | AB |
| D 0803 | RH-DX0551BMZZ | S | DIODE LL4148 TFK SMD | AA |
| D 0804 | RH-EX0549BMZZ | S | ZENER TZMC7V5 TFK SMD | AA |

| REF. NO. | PART NO. | ★ | DESCRIPTION | CODE EX |
|-------------------------|----------------|---|--------------------------|---------|
| DIODES | | | | |
| D 0805 | RH-DX0551BMZZ | S | DIODE LL4148 TFK SMD | AA |
| D 0806 | RH-EX0549BMZZ | S | ZENER TZMC7V5 TFK SMD | AA |
| D 0807 | RH-EX0549BMZZ | S | ZENER TZMC7V5 TFK SMD | AA |
| D 0808 | RH-EX0549BMZZ | S | ZENER TZMC7V5 TFK SMD | AA |
| D 1001 | RH-EX0546BMZZ | S | ZENER TZMC5V6 TFK SMD | AB |
| D 1002 | RH-EX0546BMZZ | S | ZENER TZMC5V6 TFK SMD | AB |
| D 1003 | RH-DX0551BMZZ | S | DIODE LL4148 TFK SMD | AA |
| D 1051 | RH-PX0102BMZZ | S | LED SML010MT SMD ROHM | AC |
| D 1101 | RH-EX0545BMZZ | S | ZENER TZMC5V1 TFK SMD | AA |
| D 1102 | RH-DX0045BMZZ | S | DIODE 1N4148 | AA |
| D 1103 | RH-EX0545BMZZ | S | ZENER TZMC5V1 TFK SMD | AA |
| D 1104 | RH-EX0545BMZZ | S | ZENER TZMC5V1 TFK SMD | AA |
| D 1105 | RH-DX0551BMZZ | S | DIODE LL4148 TFK SMD | AA |
| PACKAGED CIRCUIT | | | | |
| X 0301 | RCRSB0203BMZZ | S | CRYSTAL 18.432 MHZ | AG |
| X 0451 | RCRSB0214BMZZ | S | CRYSTAL 20.48 MHZ SEL | AH |
| X 0801 | RCRSB0115BMZZ | S | CRYSTAL 4.43 MHZ | AG |
| X 1001 | RCRSB0209BMZZ | S | CRYSTAL 11.0592 MHZ | AG |
| COILS | | | | |
| L 0201 | VP-NM100KR42N | S | COIL 10μH SMD | AB |
| L 0202 | VP-NM100KR42N | S | COIL 10μH SMD | AB |
| L 0203 | VP-DF470K0000 | S | COIL 47μH 10% | AB |
| L 0205 | RCILP0224BMZZ | S | COIL 145μH LQN1HR14J SMD | AE |
| L 0301 | VP-DF100K0000 | S | COIL 10μH 10% | AB |
| L 0302 | RCILP0236BMZZ | S | COIL AR621LY-101K=R TOKO | AQ |
| L 0303 | VP-DF2203K0000 | S | COIL 3.3μH 10% | AB |
| L 0304 | RCILB0236BMZZ | S | COIL AR621LY-101K=R TOKO | AQ |
| L 0402 | VP-NM1ROMR10N | S | COIL 3.3μH SMD | AD |
| L 0404 | VP-NM1ROMR10N | S | COIL 3.3μH SMD | AD |
| L 0406 | VP-NM3R3MR19N | S | COIL 1μH SMD | AB |
| L 0407 | VP-NM1R0MR10N | S | COIL 3.3 μH SMD | AD |
| L 0408 | VP-NM3R3MR19N | S | COIL 1μH SMD | AB |
| L 0409 | VP-NM1R0MR10N | S | COIL 3.3μH SMD | AD |
| L 0452 | VP-NM3R3MR19N | S | COIL FL15H102J TAIYO | AG |
| L 0501 | RCILP0105CEZZ | S | L/C DELAY | AG |
| L 0602 | RCILZ0599CEZZ | S | COIL FL15H102J TAIYO | AG |
| L 0604 | RCILP0105CEZZ | S | COIL FL15H153J TAITO | AG |
| L 0605 | RCILP0104CEZZ | S | COIL AR621LY-151K=R TOKO | AE |
| L 0606 | RCILP0237BMZZ | S | COIL 3.3μH 10% | AB |
| L 0607 | VP-CF3R3K0000 | S | COIL 3.3μH 10% | AB |
| L 0608 | VP-CF3R3K0000 | S | COIL 4.7μH 10% | AB |
| L 0609 | VP-CF4R7K0000 | S | COIL PEAK LHL08TB332J | AD |
| L 0610 | RCILP0223CEZZ | S | LINE FILTER HR-19043 | AL |
| △ L 0701 | RCILF0111BMZZ | S | COIL | AD |
| L 0702 | RCILP0110CEZZ | S | COIL | AD |
| L 0703 | RCILP0110CEZZ | S | COIL 1μH | AB |
| L 0704 | VP-CF1R0K0000 | S | COIL 1μH | AB |
| L 0705 | VP-CF1R0K0000 | S | COIL 3.3μH SMD | AD |
| L 0706 | VP-NM3R3MR19N | S | COIL 10μH SMD | AC |
| L 0801 | VP-NM100KR42N | S | NEON 4/3μB NEOTRONIC | AC |
| TRANSFORMERS | | | | |
| △ T 0601 | RTRNF2035BMZZ | S | FLYBACK | BC |
| △ T 0700 | RTRNZ0546BMZZ | S | CHOPER | AQ |
| | QCQNW-2732BMZZ | S | MAT CABLE OREGA FST | AL |

| REF. NO. | PART NO. | ★ | DESCRIPTION | CODE EX |
|-------------------|---------------|---|-------------------------------|------------|
| CAPACITORS | | | | |
| C 0225 | VCEAGA1CW337 | S | ELEC C 330μF 20% 16V μF | AC |
| C 0236 | VCEAGA1CW227 | S | ELEC C 220μF 20% 16V μF | AC |
| C 0237 | VCCUTV1HJ5RGC | S | CERAM C 6.8pF 50V UJ SMD ROHM | AA |
| C 0313 | VCEAGA1AW337 | S | ELEC C 330pF 20% 10V μF | AB |
| C 0323 | VCEAGA1AW337 | S | ELEC C 330μF 20% 10V μF | AB |
| C 0333 | RC-FZ9474BMNJ | J | FILM C POL 470nF 5% 63V μF | AD |
| C 0335 | VCEAGA1AW337 | S | ELEC C 330μF 20% 10V | AB |
| C 0340 | RC-FZ9474BMNJ | J | FILM C POL 470nF 5% 63V μF | AD |
| C 0349 | VCEAGA1EW107 | S | ELEC C 100μF 20% 25V | AB |
| C 0350 | VCEAGA1EW107 | S | ELEC C 100μF 20% 25V | AB |
| C 0351 | VCEAGA1EW337 | S | ELEC C 330μF 20% 10V | AB |
| C 0401 | RC-FZ9334BMNJ | J | FILM C POL 330nF 5% 63V | AC |
| C 0404 | RC-FZ9334BMNJ | J | FILM C POL 330nF 5% 63V | AC |
| C 0421 | RC-FZ9334BMNJ | J | FILM C POL 330nF 5% 63V | AC |
| C 0422 | RC-FZ9334BMNJ | J | FILM C POL 330 nF 5% 63V | AC |
| C 0430 | VCCSPA1HL391J | S | CERAM C 390pF 5% 50V | AA |
| C 0502 | RC-FZ9333BMNJ | J | FILM C POL 33nF 5% 63V | AB |
| C 0508 | RC-FZ9104BMNJ | J | FILM C POL 100nF 5% 63V | AB |
| C 0514 | RC-FZ9474BMNJ | J | FILM C POL 470nF 5% 63V | AD |
| C 0524 | RC-FZ9684BMNJ | J | FILM C POL 680nF 5% 63V | AD |
| C 0526 | VCCCPA1HH100D | S | CERAM C 10pF 05% 50V | AA |
| C 0601 | RC-FZ0152BMZZ | S | POLIP B32650 12nf 1.5kv | AE |
| C 0603 | RC-FZ9223BMNJ | J | FILM C POL 22nF 5% 63 V | AB |
| C 0604 | VCEAGA1AW337M | S | ELEC C 330μF 20% 10V | AB |
| C 0605 | RC-FZ9683BMNJ | J | FILM C POL 68nF 5% 63V | AB |
| C 0606 | RC-FZ6684BMNJ | J | FILM C POL 680nF 5% 250V | AE |
| C 0607 | RC-FZ6474BMNJ | J | FILM C PP 470nF 5% 250V | AE |
| C 0608 | RC-FZ6474BMNJ | J | FILM C PP 470nF 5% 250V | AE |
| C 0609 | RC-FZ9224BMNJ | J | FILM C POL 220nF 5% 63V | AC |
| C 0611 | VCPSC2GA273K | J | FILM C PP 27nF 10% 400V | AB |
| C 0615 | RC-KZ0073CEZZ | S | CERAM C 2.2nF 2KV | AD |
| C 0616 | VCEAGA1EW477 | S | ELEC C 470μF 20% 25V | AD |
| C 0618 | VCEAGA1EW108 | S | ELEC C 1000μF 20% 25V | AD |
| C 0619 | VCEAGA1JW107M | S | ELEC C 100μF 20% 63V | AD |
| C 0702 | RC-FZ0070BMZZ | S | PLAS C MET 0,1μF 250 V | AD |
| C 0703 | RC-KZ0029CEZZ | S | CERAM C 10nF 250V | AC |
| C 0704 | RC-KZ0029CEZZ | S | CERAM C 10nF 250V | AC |
| C 0705 | RC-KZ0029CEZZ | S | CERAM C 10nF 250 V | AC |
| C 0706 | RC-EZ0114BMZZ | S | ELEC 200μF 385V25X40SIEM | AS |
| C 0707 | RC-FZ9153BMNJ | J | FILM C POL 15nF 5% 63V | AB |
| C 0708 | RC-FZ9683BMNJ | J | FILM C POL 68nF 5% 63V | AB |
| C 0711 | RC-EZ0258CEZZ | S | ELEC C 100μF 200V | AH |
| C 0712 | VCEAGA1EW227 | S | ELEC C 220μF 20% 25V | AB |
| C 0713 | VCEAGA1CW108 | S | ELEC C 1000μF 20% 16V | AD |
| C 0714 | VCEAGA1AW108 | S | C. ELEC. 1000μF 20% 10V | AC |
| △ C 0717 | RC-KZ0156CEZZ | S | CERAM C 3300pF 4KV | AD |
| C 0718 | RC-KZ0035CEZZ | S | CERAM C 200pF 2KV | AC |
| C 0719 | VCEAGA1EW108 | S | ELEC C 1000μF 20% 25V | AD |
| C 0720 | VCEAGA1EW108 | S | ELEC C 1000μF 20% 25V | AD |
| C 0724 | VCKYPA2HB102K | S | CERAM C 1nF 10% 500V | AA |
| C 0727 | RC-KZ0029CEZZ | S | CERAM C 10nF 250V | AC |
| C 0805 | RC-FZ9104BMNJ | J | FILM C POL 15nF 5% 63V | AB |
| C 0806 | VCEAGA1CW107 | S | ELEC C 100μF 20% 16V | AB |
| C 0811 | VCEAGA1CW337 | S | ELEC C 330μF 20% 16V | AC |
| C 1005 | VCEAGA0JW108M | S | ELEC C 1000μF 20% 6.3 V | AB |
| C 1102 | VCEAGA1AW107 | S | ELEC C 100μF 20% 10V | AA |
| RESISTORS | | | | |
| R 0204 | RR-XZ0204BMZZ | S | FUS RES 2.2 OHM TAP 5% 1/2W | AB |
| R 0237 | VRS-PU3AB100J | S | MET OX RES 10 OHM 1W PHIL | AB |
| R 0243 | RR-XZ0114BMZZ | S | FUS RES 15 OHM TAP 5% 1/3W | AB |
| R 0505 | RR-XZ0124BMZZ | S | FUS RES 100 OHM TAP 5% 1/3W | AA |
| R 0531 | RR-XZ0231BMZZ | S | FUS RES390 OHM TAP 5% 1/2W | AB |
| R 0603 | RR-XZ0116BMZZ | S | FUS RES 22 OHM TAP 5% 1/3W | AB |
| R 0609 | VRN-VV3AB2R7J | S | MET FILM R 2.7 OHM 5% 1W | AA |
| R 0610 | RR-XZ0242BMZZ | S | FUS RES 3.3 KOHM TAP 5% 1/2W | AB |
| R 0623 | RR-XZ0219BMZZ | S | FUS RES 39 OHM TAP 5% 1/2W | AB |
| R 0624 | RR-XZ0218BMZZ | S | FUS RES 33 OHM TAP 5% 1/2W | AB |
| R 0638 | VRS-VV3DB181J | S | RAST15 RES 180 OHM 5% 2W | AA |

| REF. NO. | PART NO. | ★ | DESCRIPTION | CODE EX |
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| RESISTORS | | | | |
| R 0640 | RR-XZ227BMZZ | S | FUS RES 180 OHM TAP 5% 1/2W | AB |
| R 0706 | VRN-VV3ABR47J | S | MET FILM R 47 OHM 5% 1W | AA |
| R 0712 | VRN-VV3AB5R6J | S | MET FILM R 5.6 OHM 5% 1W | AA |
| △ R 0721 | VRC-UA2HG825K | S | RES 8.2 MOHM 10% 1/2W | AA |
| △ R 0722 | VRC-UA2HG825K | S | RES 8.2 MOHM 10% 1/2W | AA |
| R 0836 | RR-XZ0120BMZZ | S | FUS RES 47 OHM TAP 5% 1/3W | AB |
| R 0842 | VRS-TQ2BD274J | S | RE OX 270KOHM 5% 1/8W SMD | AA |
| R 0890 | VRS-TQ2BD224J | S | RE OX 220KOHM 5% 1/8W SMD | AE |
| MISCELLANEOUS PARTS | | | | |
| CF 0301 | RFILC0023CEZZ | S | TRAP TPS5.5MBTF21 | AE |
| FB 0304 | RBLN-0037CEZZ | S | FERRITE BEAT | AB |
| FB 0701 | RBLN-0037CEZZ | S | FERRITE BEAT | AB |
| FB 0702 | RBLN-0037CEZZ | S | FERRITE BEAT | AB |
| FB 0703 | RBLN-0037CEZZ | S | FERRITE BEAT | AB |
| PR 0701 | RMPTP0028CEZZ | S | PCT | AG |
| S 0701 | QSW-P0600BMZZ | S | SWITCH S40 3110432713 GDE | AL |
| △ S 1001 | QSW-K0079GEZZ | S | SWITCH | AL |
| S 1002 | QSW-K0079GEZZ | S | SWITCH | AB |
| S 1003 | QSW-K0079GEZZ | S | SWITCH | AB |
| S 1004 | QSW-K0079GEZZ | S | SWITCH | AB |
| SF 0201 | RFILC0277BMZZ | S | SAW FILTER G1984T901 SIEMENS | AB |
| CF 1001 | RFILC0121GEZZ | S | FILTER CST8.00MTW MURATA | AK |
| J 0301 | QJAKJ0047CEZZ | S | EARPHONE JACK | AE |
| | QSOCN0302CEZZ | S | SOCKET | AG |
| | QSOCN0660BMZZ | S | SOCKET | AC |
| | QTIPM0025CEZZ | S | SOCKET PIN | AD |
| | QFS-C2050CEZZ | S | FUSE 250V V 3.15A HIGH BREAK | AA |
| | QFSDH1009CEZZ | S | FUSE HOLDER | AD |
| | QFSDH1010CEZZ | S | FUSE HOLDER | AA |
| | QSOCZ2051SC32 | S | SOCKET 32 PIN IC | AB |
| | QSOCZ2109BMZZ | S | DOUBLE SCART JR21A13 | AC |
| M1000 | RRMCU0201BMZ | S | R/C | AL |
| (A) 0000 | QPLGN0304CEZZ | S | CON AC (3 PINS) | AN |
| △ (F) 0000 | QPLGN0505CEZZ | S | CONNECTOR | AB |
| △ (G) | QPLGN0207CEZZ | S | DEGAUSSIAN CON. (2 PINS) | AB |
| △ (H) | QCNW-2711BMZZ | S | CABLE (K) | AA |
| △ (K) | QCNW-2731BMZZ | S | CABLE (KA) | AG |
| (L501) A | QLUGP0105CEFW | S | TERMINAL | AL |
| (L501) B | QLUGP0105CEFW | S | TERMINAL | AA |
| (S) 0000 | QPLGN0441CEZZ | S | CONNECTOR 4PINS | AA |
| | | | | AB |
| PWB-B CRT SOCKET UNIT | | | | |
| DIODES | | | | |
| D 0870 | VHDDAP202K/-1 | S | DIODE DAP 202K SMD | AB |
| D 0871 | BHDDAP202K/-1 | S | DIODE DAP 202K SMD | AB |
| D 0872 | VHDDAP202K/-1 | S | DIODE DAP 202K SMD | AB |
| D 0873 | RH-DX0551BMZZ | S | DIODE LL4148 TFK SMD | AA |
| D 0874 | RH-DX0551BMZZ | S | DIODE LL4148 TFK SMD | AA |
| D 0875 | RH-EX0562BMZZ | S | ZENER BZX55C27 TFK | AB |
| COIL | | | | |
| L 0881 | VP-CF120K0000 | S | COIL 12μH 10% | AC |
| CAPACITORS | | | | |
| C 0872 | | S | CERAM C 56μF 50V 2125SMD | AA |
| C 0873 | | S | CERAM C 68μF 50V 2125SMD | AA |
| C 0874 | VCKYPA2HB102K | S | CERAM C 1μF 10% 500V | AA |
| C 0875 | | S | CERAM C 39μF 50V 2125SMD | AA |

| REF. NO. | PART NO. | ★ | DESCRIPTION | CODE EX |
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| CAPACITORS | | | | |
| C 0876 C 0878 | RC-KZ0023CEZZ VCEAGA2DW476 | S S | CERAM C 4700µF 20% 2KV ELEC C 47µF 20% 200V | AD AE |
| RESISTORS | | | | |
| R 0889 | RR-XZ0136BMZZ | S | FUS RES 1KOHM TAP 5% 1/3W | AA |
| TRANSISTORS | | | | |
| Q 0870 | RH-TX0157BMZZ | S | TRT BFN20 SMD SIEMENS | AE |
| Q 0871 | RH-TX0157BMZZ | S | TRT BFN20 SMD SIEMENS | AE |
| Q 0872 | RH-TX0157BMZZ | S | TRT BFN20 SMD SIEMENS | AE |
| Q 0873 | RH-TX0155BMZZ | S | TRT BFN23 SMD SIEMENS | AB |
| Q 0874 | RH-TX0155BMZZ | S | TRT BFN23 SMD SIEMENS | AB |
| Q 0875 | RH-TX0155BMZZ | S | TRT BFN23 SMD SIEMENS | AB |
| Q 0876 | RH-TX0156BMZZ | S | TRT BFN22 SMD SIEMENS | AB |
| Q 0877 | RH-TX0156BMZZ | S | TRT BFN22 SMD SIEMENS | AB |
| Q 0878 | RH-TX0156BMZZ | S | TRT BFN22 SMD SIEMENS | AB |
| Q 0879 | VS2SA1037KQ-1 | S | TRT PNP BC807 SMD | AA |
| MISCELLANEOUS PARTS | | | | |
| | QCNW-1064CEZZ QSOCV0103BMZZ QTIPM0017CEFM | S S S | CBL 1 VIA 550 L3 SOC HPS1521-014408 HOSHID BUTTON | AD AH AA |
| MISCELLANEOUS PARTS | | | | |
| | VSPRA09PB018B QACCA5007BMSA QCNW-2677BMZZ RRMCG1036BMS TINS-6381BMN0 | S S S S S | SPEAKER AC CORD CABLE (S) R/C OPERATION MANUAL | AW AR AK BB AL |
| GABINETS PARTS | | | | |
| | GDORF1045BMS GMADT1064BMS HBDGB3013MESA HINDP5076BMSA JBTN-1028BMSA JBTN-1029BMSA CCABA1130BMV0 CCABA1151BMV0 CCABB1045BMV0 CCABB1046BMV0 | S S S S S S S S S S | DOOR WINDOW SHARP BUDGE INDICATOR BUTTON UP-DOWN BUTTON POWER FRONT CABINET ASSEMBLY 66CS03H FRONT CABINET ASSEMBLY 59CS03H REAR CABINET 66CS03H REAR CABINET 59CS03H | AE AG AG AG AE AC AC BQ BK BD BC |