Order DCS - DEZ2004 - 002 - MS

Service Manual

Color Television

TC-21FJ30LA

GP3 Chassis

Specifications

TELEVISOR	TC-21FJ30LA
Power source	110V / 220V AC, 60Hz automatic switch
Consumption	90W
Antenna input jack	75Ω - VHF/UHF/CATV
Color systems	PAL-M / NTSC / PAL-N
Tuning system	F.S.T.
Channel capability	2 to 13 (VHF), 14 to 69 (UHF) and 1 to 125 (Cable)
Picture Tube (visual diagonal)	PANABLACK - 21” Flat CRT, 53 cm (NBR5258) - 51 cm diagonal visual
Potência de áudio	8 W + 8 W max (RMS)
Video input jack	1 (rear) + 1 (frontal)
Audio input jack	1 (rear) + 1 (frontal)
Video output jack	1 (rear)
Audio output jack	1 (rear) + 1 (headphone)
DVD input jack	1 (rear)
Dimension (width, height, depth)	648 x 472 x 488 mm
Weight	23,8 Kg

Specifications are subject to change without notice. Weight and dimensions shown are approximate.

REMOTE CONTROL TRANSMITER:
- Model: TNQ2B3302
- Power source: 3V (2 AA type batteries)
- Infrared Length: 9500 Å (angstron)

SUPPLIED ACCESSORIES:
- 1 Remote Control Transmitter
- 1 300Ω/75Ω Aerial Adaptor
- 2 “AA” type batteries

Panasonic®

Important Safety Notice

Special components are used in this television set which are important for safety. These parts are identified on the schematic diagram by the symbol ⚠ . It is essential that these critical parts are replaced with the manufacturer's specified replacement parts to prevent X-ray radiation, shock, fire or other hazards. Do not modify the original design without manufacturer's permission.

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General Guidelines

An Isolation Transformer should always be used during the servicing of a receiver whose chassis is not isolated from the AC power line. Use a transformer of adequate power rating as this protects the technician from accidents resulting in personal injury from electrical shocks. It will also protect the Receiver from being damaged by accidental shorting that may occur during servicing.

When servicing, observe the original lead dress, especially in the high voltage circuit. Replace all damaged parts (also parts that show signs of overheating.)

Always Replace Protective Devices, such as fishpaper, isolation resistors and capacitors, and shields after servicing the Receiver. Use only manufacturer's recommended rating for fuses, circuit breakers, etc.

High potentials are present when this Receiver is operating. Operation of the Receiver without the rear cover introduces danger from electrical shock. Servicing should not be performed by anyone who is not thoroughly familiar with the necessary precautions when servicing high-voltage equipment.

Extreme care should be practiced when Handling the Picture Tube. Rough handling may cause it to implode due to atmospheric pressure (14.7 lbs per sq. in). Do not sick or scratch the glass or subject it to any undue pressure. When handling, use safety goggles and heavy gloves for protection. Discharge the picture tube by shorting the anode to chassis ground (not to the cabinet or to other mounting hardware). When discharging, connect cold ground (i.e. dag ground lead) to the anode with a well insulated wire or use a grounding probe.

Avoid prolonged exposure at close range to unshielded areas of the picture tube to prevent exposure to X-ray radiation.

The Test Picture Tube used for servicing the chassis at the bench should incorporate safety glass and magnetic shielding. The safety glass provides shielding for the tube viewing area against X-ray radiation as well as implosion. The magnetic shield limits X-ray radiation around the bell of the picture tube in addition to restricting magnetic effects. When using a picture tube test jig for service, ensure that the jig is capable of handling 31kV without causing X-ray radiation.

Before returning a serviced receiver to the owner, the service technician must thoroughly test the unit to ensure that is completely safe to operate. Do not use a line isolation transformer when testing.

Warning !

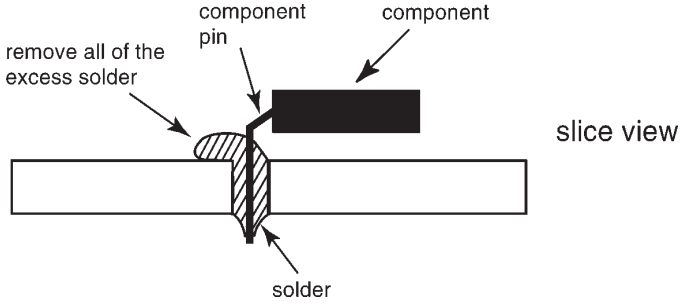
It is essential that these critical parts are replaced with the manufacturer's specified replacement parts to prevent X-ray radiation, shock, fire or other hazards.

■ ABOUT LEAD FREE SOLDER (PbF)

Note:
In the information below, Pb, the symbol for lead in the periodic table of elements, will refer to standard solder or solder that contains lead.
We will use PbF solder when discussing the lead free solder used in our manufacturing process which is made from Tin (Sn), Silver, (Ag), and Copper, (Cu).
This model, and others like it, manufactured using lead free solder will have PbF stamped on the PCB. For service and repair work we suggest using the same type of solder although, with some precautions, standard Pb solder can also be used.

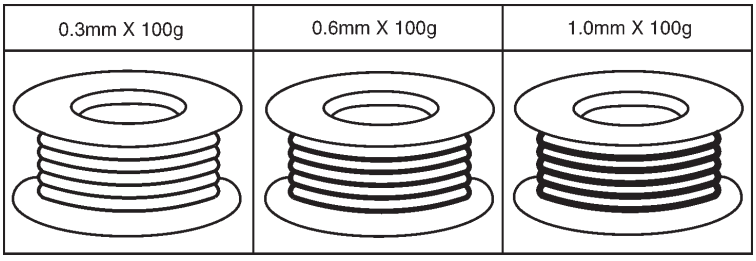
Caution

- PbF solder has a melting point that is 50° ~ 70° F, (300° ~ 400°C) higher than Pb solder. Please use a soldering iron with temperature control and adjust it to 700° ± 20° F, (370° ± 10°C).In case of using high temperature soldering iron, please be careful not to heat too long.
- PbF solder will tend to splash if it is heated much higher than its melting point, approximately 1100°F, (600°C).
- If you must use Pb solder on a PCB manufactured using PbF solder, remove as much of the original PbF solder as possible and be sure that any remaining is melted prior to applying the Pb solder.
- When applying PbF solder to double layered boards, please check the component side for excess which may flow onto the opposite side (See figure, below).



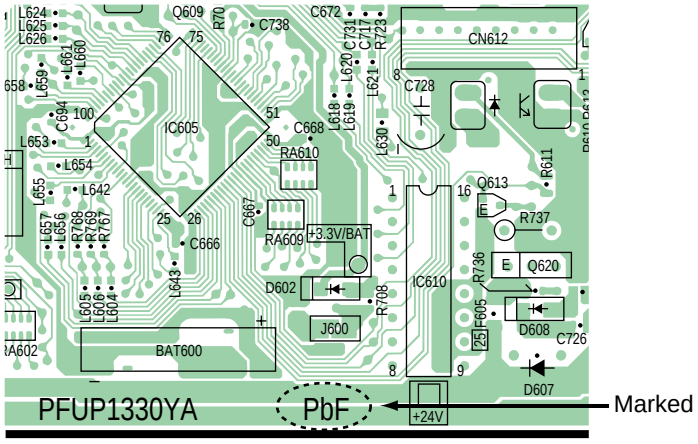
■ SUGGESTED PbF SOLDER

There are several types of PbF solder available commercially. While this product is manufactured using Tin, Silver, and Copper, (Sn+Ag+Cu), you can also use Tin and Copper, (Sn+Cu), or Tin, Zinc, and Bismuth, (Sn+Zn+Bi). Please check the manufac turer's specific instructions for the melting points of their products and any precautions for using their product with other materials.
The following lead free (PbF) solder wire sizes are recommended for service of this product: 0.3mm, 0.6mm and 1.0mm.



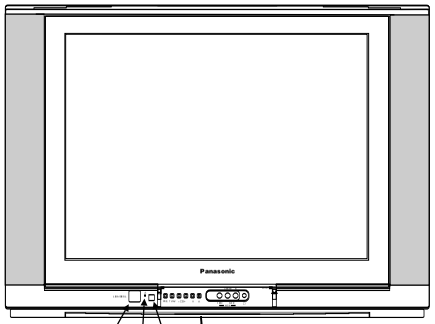
■ HOW TO RECOGNIZE THAT PB FREE SOLDER IS USED

P.C.Boards marked as "PbF" use Pb Free solder. (See the figure below.) Pb Free is not used the Power Supply Board of this unit.
(Example : Digital Board)



DIGITAL BOARD COMPONENT VIEW

Vista Frontal de la Televisión

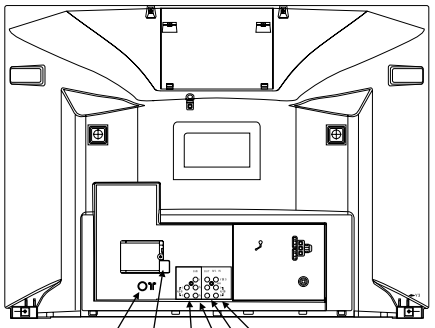


Interruptor Encendido/ Apagado

Sensor de Control Remoto

Luz indicadora

Vista Trasera de la Televisión



Terminal de la antena

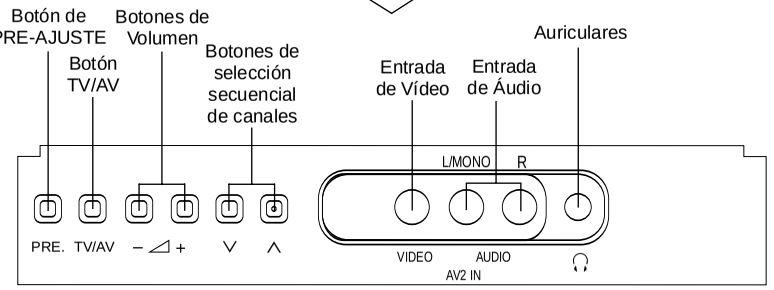
Salida del cable de alimentación

Entrada de Áudio

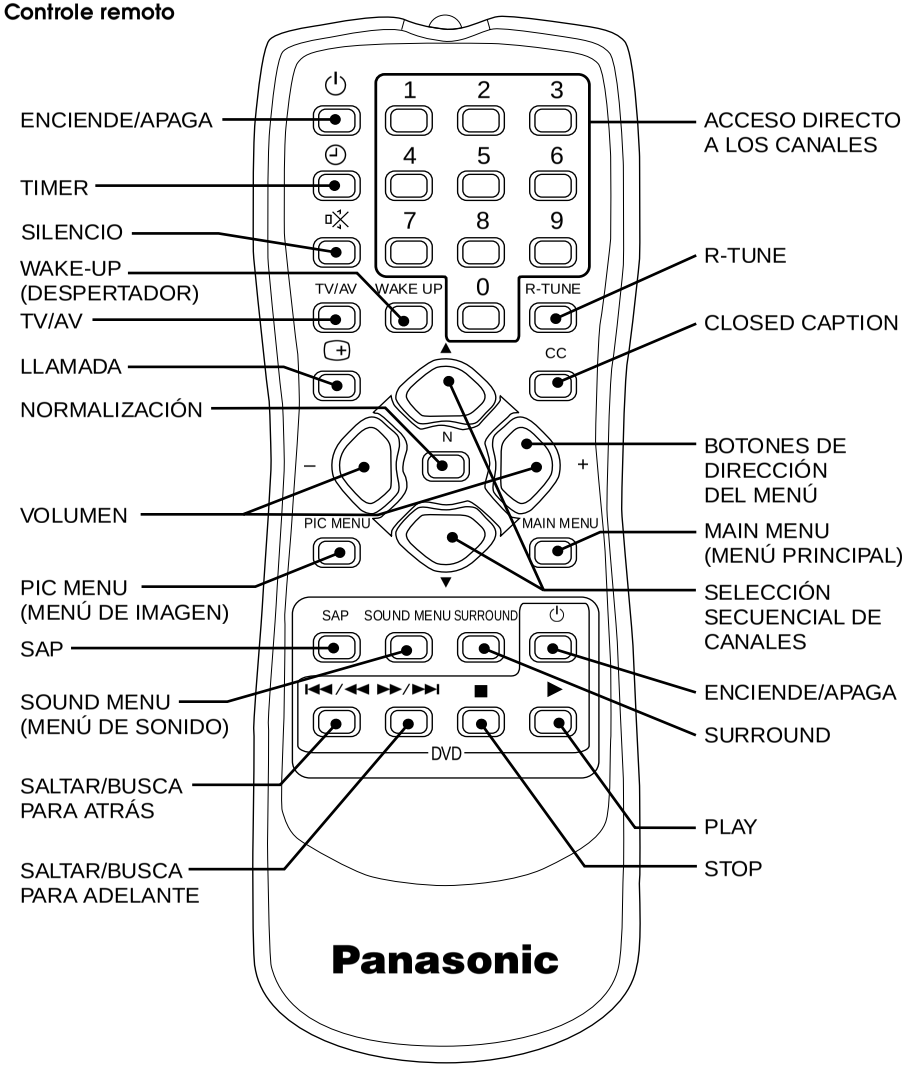
Entradas para DVD

Salida de Áudio/Vídeo

Entradas de Vídeo/Áudio



Controle remoto



■ IC601 - PINOUT

Symbol	Pin	Description
P3.1/ADC1	1	port 3.1 or ADC1 input
P3.2/ADC2	2	port 3.2 or ADC2 input
P3.3/ADC3	3	port 3.3 or ADC3 input
VSSC/P	4	digital ground for m-Controller core and periphery
P0.5	5	port 0.5 (8 mA current sinking capability for direct drive of LEDs)
P0.6/CVBSTD	6	port 0.6 (8 mA current sinking capability for direct drive of LEDs) or Composite video input. A positive-going 1V (peak-to-peak) input is required
VSSA	7	digital ground of TV-processor
SECPLL	8	SECAM PLL decoupling
VP2	9	2nd supply voltage TV-processor (+8V)
DECDIG	10	supply voltage decoupling of digital circuit of TV-processor
PH2LF	11	phase-2 filter
PH1LF	12	phase-1 filter
GND3	13	ground 3 for TV-processor
DECBG	14	bandgap decoupling
EWD	15	East-West drive output
VDRB	16	vertical drive B output
VDRA	17	vertical drive A output
IFIN1	18	IF input 1
IFIN2	19	IF input 2
IREF	20	reference current input
VSC	21	vertical sawtooth capacitor
AGCOUT	22	tuner AGC output
SIFIN1	23	SIF input 1
SIFIN2	24	SIF input 2
GND2	25	ground 2 for TV processor
SNDPLL	26	narrow band PLL filter
AVL/REF0/SNDIF (1)	27	Automatic Volume Levelling / subcarrier reference output / sound IF input
AUDIO2	28	audio 2 input
AUDIO3	29	audio 3 input
HOUT	30	horizontal output
FBISO	31	flyback input/sandcastle output
DECSDEM	32	decoupling sound demodulator
QSSO/AMOUT/ AUDEEM (1)	33	QSS intercarrier output / AM output in stereo applications or deemphasis (front-end audio out) / AM output in mono applications
EHTO	34	EHT/overvoltage protection input
PLLIF	35	IF-PLL loop filter
SIFAGC	36	AGC sound IF
INTCO	37	intercarrier output (from QSS or vision IF amplifier)
IFVO/SVO (1)	38	IF video output / selected CVBS output
VP1	39	main supply voltage TV processor
CVBS1	40	internal CVBS input
GND	41	ground for TV processor
CVBS2	42	external CVBS2 input
GND	43	ground for TV-processor
CVBS3/Y	44	CVBS3/Y input
C	45	chroma input
WHSTR	46	white stretch capacitor
CVBSO	47	CVBS output
AUDOUT /AMOUT	48	audio output /AM audio output (volume controlled)
SVM	49	scan velocity modulation output
INSSW2	50	2nd RGB / YUV insertion input
R2/VIN	51	2nd R input / V (R-Y) input / PR input
G2/YIN	52	2nd G input / Y input
B2/UIN	53	2nd B input / U (B-Y) input / PB input
BCLIN	54	beam current limiter input
BLKIN	55	black current input / V-guard input
RO	56	Red output
GO	57	Green output

IC601 - PINOUT

Symbol	Pin	Pin
BO	58	Blue output
VDDA	59	analog supply of Teletext decoder and digital supply of TV-processor (3.3 V)
VPE	60	OTP Programming Voltage
VDDC	61	digital supply to core (3.3 V)
OSCGND	62	oscillator ground supply
XTALIN	63	crystal oscillator input
XTALOUT	64	crystal oscillator output
RESET	65	reset
VDDP	66	digital supply to periphery (+3.3 V)
P1.0/INT1	67	port 1.0 or external interrupt 1 input
P1.1/T0	68	port 1.1 or Counter/Timer 0 input
P1.2/INT0	69	port 1.2 or external interrupt 0 input
P1.3/T1	70	port 1.3 or Counter/Timer 1 input
P1.6/SCL	71	port 1.6 or I2C-bus clock line
P1.7/SDA	72	port 1.7 or I2C-bus data line
P2.0/TPWM	73	port 2.0 or Tuning PWM output
P2.1/PWM0	74	port 2.1
P2.2/PWM1	75	port 2.2
P2.3/PWM2	76	port 2.3
P2.4/PWM3	77	port 2.4
P2.5/PWM4	78	port 2.5
SYNC_FILTER	79	CVBS (i.e. P0.6/CVBS) Sync filter input: This pin should be connected to VSSA via a 100 nF capacitor.
P3.0/ADC0	80	port 3.0 or ADC0 input

IC VOLTAGE TABLES

IC601

Pin	Voltage	Pin	Voltage
1	3,3	41	0
2	21.2mV	42	3,8
3	2	43	0
4	0	44	3,3
5	2,56	45	0
6	97.5mV	46	3,6
7	0	47	2,9
8	2,3	48	3,5
9	8	49	4,4
10	5	50	2,5
11	3,3	51	2,7
12	3,9	52	2,7
13	0	53	2,7
14	4	54	2
15	11.6mV	55	5,3
16	1,3	56	3
17	1,3	57	3
18	1,9	58	3
19	1,9	59	3,3
20	3,9	60	0
21	3,8	61	3,3
22	146.7mV	62	28.5mV
23	181.3mV	63	1,9
24	181.3mV	64	1,9
25	0	65	0
26	1,3	66	3,3
27	2,5	67	105mV
28	3,7	68	4,7
29	3,7	69	5
30	0,6	70	3,2
31	0,5	71	2,3
32	2,3	72	3
33	2,8	73	55.9mV
34	1,6	74	0
35	1,5	75	0
36	198mV	76	3,7
37	0,4	77	0
38	2,7	78	0
39	8	79	0
40	3,6	80	0

IC451

Pin	Voltage
1	0,3V
2	15,6V
3	-14V
4	-15,6V
5	67mV
6	16,5V
7	0,3V

IC801

Pin	Voltage
1	183V
2	0V
3	22,7V
4	22,3V
5	96mV
6	1,5V
7	0,52V

IC851

Pin	Voltage
1	10,5V
2	10,5V
3	6,5V
4	4,3mV
5	6,3V
6	8V
7	5V

IC802

Pin	Voltage
1	141V
2	8,5V
3	-8,7mV

IC880

Pin	Voltage
1	10,4V
2	5V
3	-3,9mV

IC1103

Pin	Voltage
1	7,3mV
2	7,3mV
3	7,3mV
4	7,3mV
5	3,8V
6	3,8V
7	0,2V
8	5V

IC1201

Pin	Voltage
1	5V
2	6,4mV
3	1,27V
4	3,3V
5	6,4mV
6	5V

T801

Pin	Voltage
(V2) 1	22,5mV
(V1) 2	23mV
(P2) 5	180V
(PT) 7	170V
(P1) 8	168V
(S6) 11	0,5V
(S1) 12	0,2V
(S2) 15	0,7V
(S3) 17	0,2V

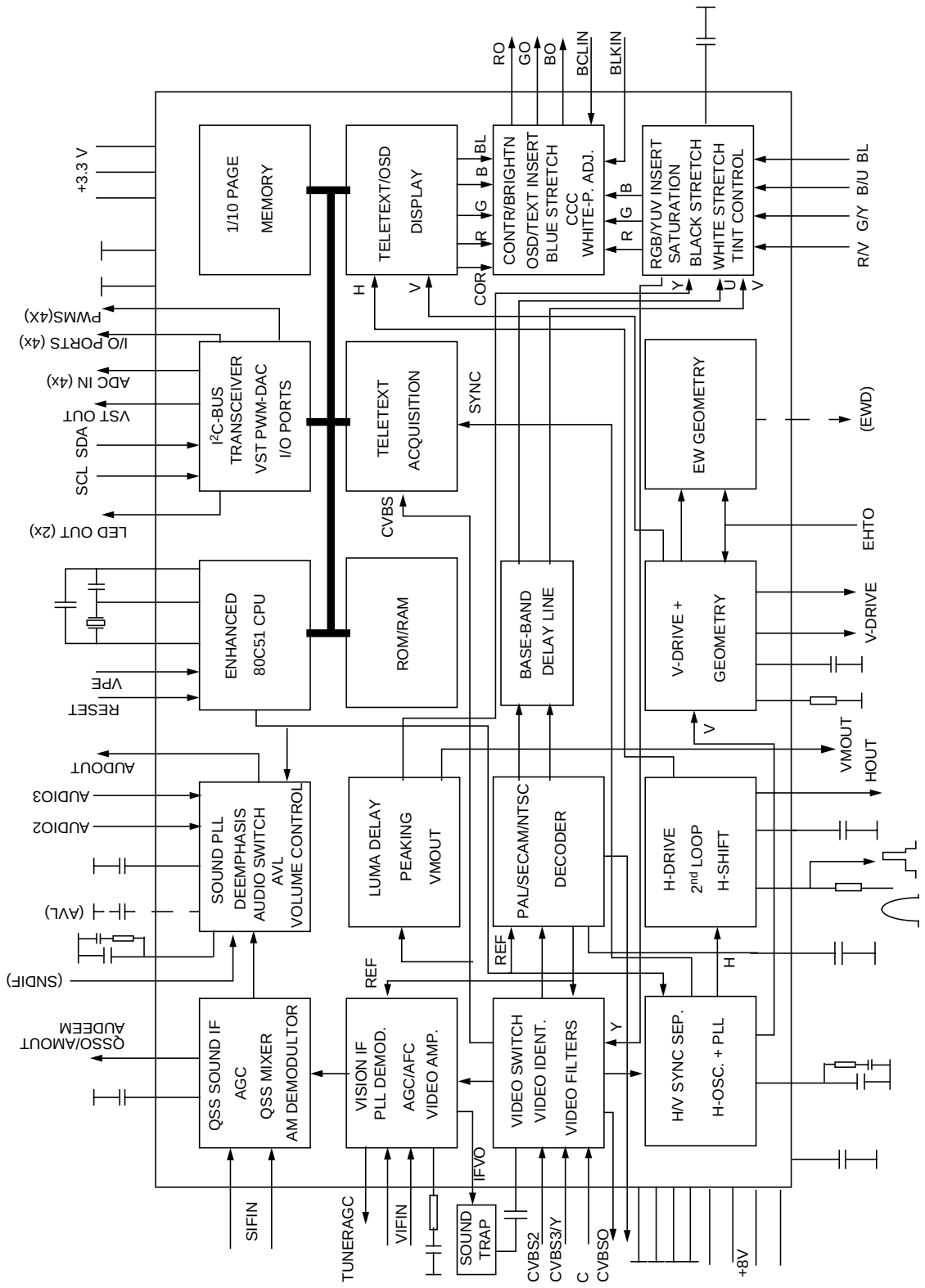
TPA10	142V
TPA11	11,2V

X101

Pin	Voltage
1	0,25V
2	0,25V
3	1,9V
4	1,9V

All voltage measurements were made in POWER ON mode, with 127V 60Hz power source and Color Bars Video Pattern.

■ IC601 - BLOCK DIAGRAM



■ CHASSIS GP3 FEATURE SUMMARY

CHASSIS	: **GP3**
MODEL	: TC-21FJ30LA
SYSTEM	: (PAL-M/PAL-N/NTSC) (PAL-M 50Hz)
POWER SOURCE	: AC automatic power switching 110/220V, 50/60Hz
MEMORY	: 125 positions
TV TUNING RANGE	: 181 channels (TV / CATV)
OSD LANGUAGE	: Spanish , Portuguese and English
AUDIO SYSTEM	: Stereo
VERTICAL MAGNETIC FELD	: -0.15 ±0.03 (ARGENTINA)
COLOR TEMPERATURE	: (High Light) x= 0.275 ± 0.01, y=0.284 ± 0.01, Y=150 (nit))
	(Low Light) x= 0.273 ± 0.01, y=0.283 ± 0.01, Y=7.0 (nit)

REFERENCE VOLTAGE

CONTENTS	REFERENCE	TEST POINT	ADJUSTMENT POINTS	SPECIFICATIONS
+B VOLTAGE	002	TPA10		140 ± 1,5V
		TPA8		8 ±1V
		TPA9		5 ±1V
		TPA21		175 ±15V
Buzzing confirmation	007	A22-1 - A22-3 or A22-2 - A22-4		0.5 Vp-p
PAL color output	009	TPL2	D	2.45 ±0.1Vo-p
		TPL1	C	2.45 ±0.5Vo-p
NTSC color output	010	TPL1	C	1.2 ±0.5Vo-p
Anode (EHT) voltage	008	ANODO DO CRT		28,5 +0.7 (Kv) 28,5 -1.5 (kV)
Memory Data	[A]=C4, [B]=00, [C]=00, [D]=33, [E]=03, [F]=20, [G]=00, [H]=09			

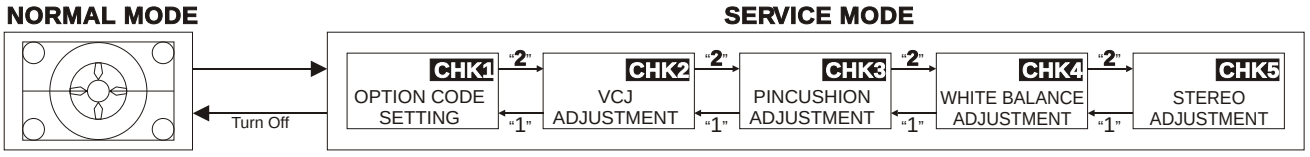
THE DAC CONTROL FOR GP3 CHASSIS FUNCTIONS AND ADJUSTMENTS

HOW TO ENTER IN THE SERVICE MODE:

1- Set the "**OFF TIMER**" to 30 minutes.
2- Press simultaneously "**RECALL**" key on the remote control and **VOL(-)** button on the unit.

After a couple of seconds, the expression "**CHK**" should appear on the right superior side of the screen. (To change the memory data, press **MUTE** and **VOLUME(–)** simultaneously while the OSD is still on CHK1 mode. Key "4" moves forward in the memory, and key "3" moves back in the memory

Note: To alter from CHK1 mode to CHK2, CHK3 or CHK4 modes, press key "2" to move forward and the key "1" to move back, as illustrated below.



TO EXIT SERVICE MODE AND RETURN TO NORMAL MODE:

Press the **"NORMAL"** key on the remote control unit or turn off the TV.

CHK1 - OPTIONS

On CHK1 mode, it is possible to adjust the options below:

OPTION1 ("4")	OPTION1 ("4")	OPTION2 ("4")	OPTION2 ("4")
DIGITO MSB ("3")	DIGITO LSB ("3")	DIGITO MSB ("3")	DIGITO LSB ("3")
OPTION3 ("4")	OPTION3 ("4")	OPTION4 ("4")	OPTION4 ("4")
DIGITO MSB ("3")	DIGITO LSB ("3")	DIGITO MSB ("3")	DIGITO LSB ("3")
OPTION5 ("4")	OPTION5 ("4")	OPTION6 ("4")	OPTION6 ("4")
DIGITO MSB ("3")	DIGITO LSB ("3")	DIGITO MSB ("3")	DIGITO LSB ("3")
OPTION7 ("4")	OPTION8 ("4")	OPTION1 ("4")	
DIGITO MSB ("3")	DIGITO LSB ("3")	DIGITO MSB ("3")	

Note:
To select an option, type "4" to move forward and "3" to move back.
After having selected the desired option, adjust it by pressing the "**VOL(–)**" or "**VOL(+)**" keys.
Press "**0**" to memorize the adjustment.

CHK1 MODE - OPTIONS

On CHK1 mode it is possible to adjust the items of the table shown here.
Note:
To select an item, type "4" to move forward and "3" to move back.
After having selected the desired option, adjust it by pressing the "VOL(–)" or "VOL(+)" keys. The OSD color will change for red.
Press "0" To memorize the adjustment.

CHK1 MODE TABLE	
Standard values	
OPTION1	C4
OPTION2	00
OPTION3	00
OPTION4	33
OPTION5	03
OPTION6	20
OPTION7	00
OPTION8	09

■ ADJUSTMENTS

CHK2 MODE - VCJ ADJUSTMENTS

On CHK2 mode it is possible to adjust the items of the table shown here.
Note:
To select an item, type “4” to move forward and “3” to move back.
After having selected the desired option, adjust it by pressing the “VOL(–)” or “VOL(+)” keys. The OSD color will change for red.
Press “0” To memorize the adjustment.

CHK2 MODE TABLE	
	Standard values
RF AGC	22
CONT	100
COL	50
S-COL	36
TINT	50
S-TINT	18
BRT	49

CHK3 MODE - PINCUSHION ADJUSTMENTS

On CHK3 mode it is possible to adjust the items of the table shown here.
Note:
To select an item, type “4” to move forward and “3” to move back.
After having selected the desired option, adjust it by pressing the “VOL(–)” or “VOL(+)” keys. The OSD color will change for red.
Press “0” To memorize the adjustment.

CHK3 MODE TABLE	
	Standard values
V-SLOPE	31
V-SHIFT	34
V-AMP	48
H-SHIFT	31
S-CORR	30

CHK4 MODE - WHITE BALANCE ADJUSTMENTS

On CHK4 mode it is possible to adjust the items of the table shown here.
Note:
To select an item, type “4” to move forward and “3” to move back.
After having selected the desired option, adjust it by pressing the “VOL(–)” or “VOL(+)” keys. The OSD color will change for red.
Press “0” To memorize the adjustment.

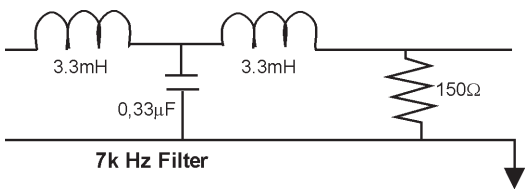
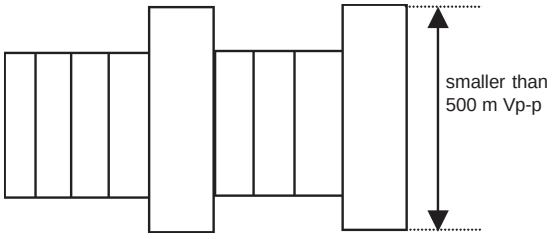
CHK4 MODE TABLE	
	Standard values
R-CUT	14
G-CUT	20
BRT	49
S-BRT	30
CONT	100
S-CONT	04
R-DRIVE	37
G-DRIVE	31
B-DRIVE	43
RGB CONTRASTE	02

■ TEST AND MEASUREMENT EQUIPMENTS

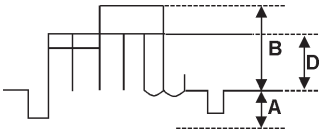
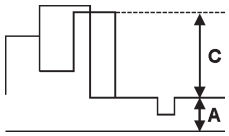
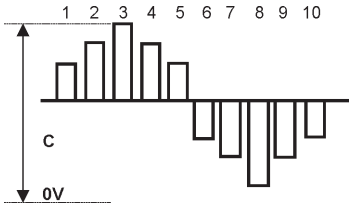
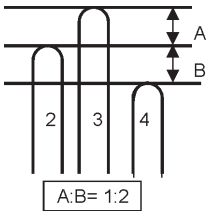
To execute all these electrical adjustments, the following equipment are required:

- Dual-Trace Oscilloscope
  Voltage Range: 0.001 V to 50 V/Div.
  Frequency Range: DC to 50 MHz
  Probes: 10:1, 1:1
- NTSC Video Pattern Generator
- DVM (Digital Volt Meter)
- MTS/SAP Signal Generator
- (TV Multi-Channel Sound Modulator (U.S.A.))
- Plastic Tip Driver and Non-Metal Driver
- Isolation Transformer (Variable)
- Degaussing Coil
- White Pattern Generator
- Audio Generator

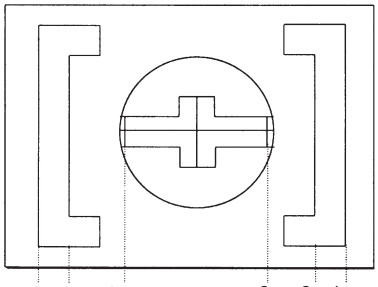
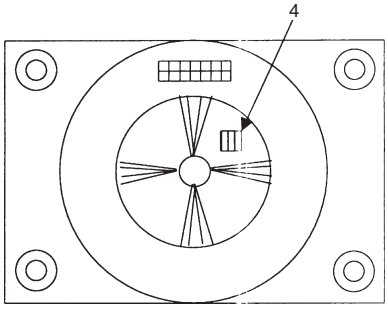
■ ADJUSTMENTS

ITEM / PREPARATION	PROCEDURE
1- RF AGC ADJUSTMENT 1. Supply a color bar pattern and adjust the RF input signal of 69 dB μV (75Ω opened channel 07 RF freq.: 175.25 MHz). 2. Connect the digital multimeter in TPA15.	**ADJUSTMENT:** 1. Select “RF AGC” on “CHK2” service mode. 2. Adjust "RF AGC" by pressing VOL(+) or (-) until obtaining 2.2±0.1V in TPA15. 3. Increase the input level by +2 dB and confirm that the voltage decreases in TPA15.
2- VIF DETECTOR OUTPUT LEVEL CONFIRMATION	**CONFIRMATION**: 1. Install the chassis in the VIF calibration JIG and tune in a 63 dBU colorbar pattern (75Ω opened). 2. Connect the oscilloscope in TPA31. 3. Confirm that the output video sign is 1.05 ± 0.15 Vp-p in TPA 31.
3- BUZZING CONFIRMATION (AUDIO CIRCUIT) 1. Connect the oscilloscope with a 7kHz filter between A22-2 and A22-3 speakers terminals . 2. Adjust the sound to maximum. 3. Adjust **AVL**: OFF  	**CONFIRMATION:** 1. Supply a colorbar signal with local frequency adjusted and the AFC ON (Channel with sound bearer and without modulation). 2. Assure that the width in the buzzing waveform is smaller than 500 m Vp-p. 
4- ANODE AND HEATER VOLTAGE CONFIRMATION 1. Supply a crosshatch signal. 2. Adjust the current beam to zero. (0 beam). 3. Adjust “SCREEN VR” and “CONTRAST” to minimum. **Nota**: (When using a high voltage meter resistive type, it is necessary to use an electrostatic meter type to verify the values)	**CONFIRMATION** 1. Connect a voltage meter between TPA10 and ground. Confirm that the voltage +B is within a range of 140.5V± 1.5V 2. Connect a high frequency voltage meter (VRMS) among the heater, and confirm that the voltage is 6,30±0,24Vrms 3. Connect the high voltage meter in the CRT anode pin, and confirm that the high voltage is within 30,5KV~27,6KV range.

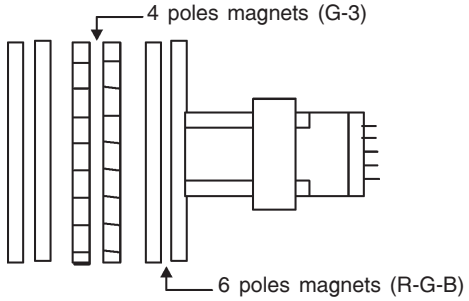
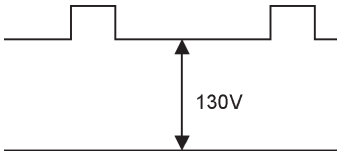
■ ADJUSTMENTS

ITEM / PREPARATION	PROCEDURE
5- PAL COLOR OUTPUT SIGNAL ADJUSTMENT 1. Supply a color bar signal and adjust the local frequency. 2. Adjust “IMAGE” to DYNAMIC NORMAL, “CONTRAST” to 63 and “SUB-CONTRAST” to 21. 3. Adjust the “CHANNEL COLOR” level to NORMAL. 4. Set to CHK2 service mode option, press “5” on the remote control unit and confirm that OSD becomes blue (AKB turned off). 5. Set ABL to OFF (in CHK2 mode, to access BRT, CONT, S-CONT or S-TINT). 6. Adjust [A] for 2.3 ± 0.2V through the BRIGHT control variation in the test point TPL2. 7. Confirm that the RGB Contrast is 11DAC and {352} = 1B 8. Fix G-DRIVE GAIN, R-DRIVE GAIN and B-DRIVE GAIN data in 1FH or 31 DAC. R-DRIVE GAIN: [SLV(8A), SUB (16)] G-DRIVE GAIN: [SLV(8A), SUB (17)] B-DRIVE GAIN: [SLV(8A), SUB (18)]	**CALIBRATION:** 1. Connect the oscilloscope in TPL2 (G-OUT) with a 10KΩ resistor and adjust “CONTRAST”, so that the [**B**] waveform it is 2.3±0.1V with 14” CRT and 2.6±0.1V with 20” CRT. 2. Adjust “SUB-COLOR” to obtain 2,45±0.1V in [**D**] according to fig. 1. 3. Connect the oscilloscope in TPL1 (R-OUT) with a 10KΩ resistor and confirm that the [**C**] waveform it is 2.45±0.1V according to fig. 2. 4. Press the key “5” (AKB ON) and confirm that OSD becomes white.  **Fig. 1** **A** = 2.3 ±0.1Vo-p **B** = 2.4±0.1V **D** = 2.45±0.1V  **Fig. 2** **A** = 2.3 ±0.2Vo-p **C** = 2.45±0.1V
6- NTSC SUB-TINT CALIBRATION 1. Connect the oscilloscope in TPL1 (R-OUT) with a 10KΩ resistor. 2. Supply a Rainbow signal (NTSC 3.58 MHz) through VIDEO IN. 3. Select “IMAGE” to DYNAMIC NORMAL. 4. Select “COLOR FOR CHANNEL” to NORMAL. 5. On CHK2 service mode, press “5” (AKB OFF) and confirm that OSD becomes blue (AKB turned off). 6. Set ABL to OFF (on CHK2 mode, to access BRT, CONT, S-CONT or S-TINT).	**CALIBRATION:** 1. Adjust [C] for 5.0±0.2V through the BRIGHT control variation (CHK2) according to fig. 1. 2. Adjust SUB TINT-NTSC so that the levels of positions 2, 3 and 4 of Fig. 1 in accordance with the Fig. 2. 3. Set ABL to ON. 4. Press “5” and confirm that OSD becomes white (AKB turned on).  **Fig. 1**  **Fig. 2**
7- PROTECTION CIRCUIT (SHUTDOWN) CONFIRMATION OF OPERATION 1. Supply a crosshatch pattern signal and adjust the CONTRAST and BRIGHT DAC controls to minimum. (Ibeam=0 μA)	**CONFIRMATION:** 1. Connect the voltmeter in TPA22 and confirm that the voltage is smaller than 18,7 V. 2. Connect a DC source in TPA22 and confirm that the protection circuit doesn’t act when the voltage is 19,5V. 3. Confirm that the protection circuit acts with smaller voltage than21,5V.

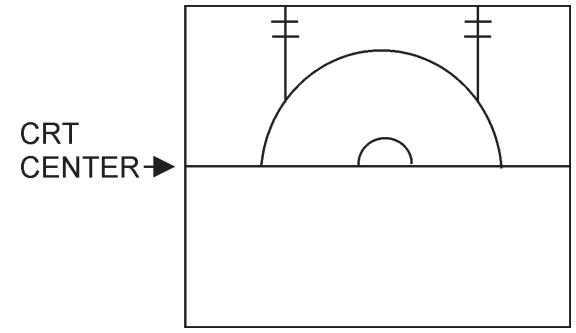
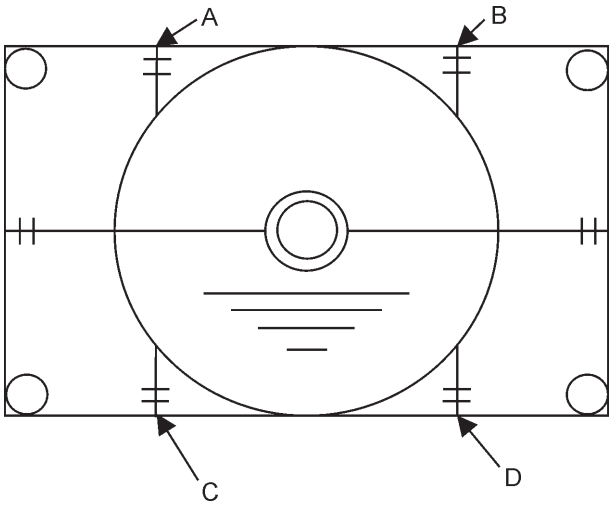
■ ADJUSTMENTS

ITEM / PREPARATION	PROCEDURE
8- SUB-BRIGHT AND SUB-CONTRAST CALIBRATION 1. Supply a WINDOW pattern signal. 2. Adjust IMAGE MENU to DYNAMIC NORMAL	**SUB-BRIGHT CALIBRATION** 1. Position the color analyzer in the LOW LIGHT image area. 2. Ajust S-BRT <CHK 4> control, so that it is Y=0,7±0.2. **SUB-CONTRAST CALIBRATION** 1. Position the color analyzer in the HIGH LIGHT image area. 2. Ajust S-CONT <CHK 4> DAC control, so that it is Y=230±20. 3. If impossible to obtain that adjustment, adjust SUB-CONT <CHK 4> again. 4. Check the SUB-BRIGHT adjust.
9- FOCUS CALIBRATION • Assure that the SUB-BRIGHTNESS adjustment has been done. 1. Supply a Philips or monoscope pattern signal. 2. Adjust IMAGE MENU to DYNAMIC NORMAL.  Fig. 1	**CALIBRATION**: 1. Adjust the FOCUS variable resistor for the point of better adjustment. • **with PHILIPS signal** .... take as reference for adjustment the third vertical line (fig. 1). • **with MONOSCOPE signal** in the number 4 (fig.2).  Fig. 2
10- PURITY CALIBRATION 1. Adjust the HELMHOLTZ device for the local magnetic field (HORIZONTAL: 0 ± 0.03 X 10-4T) 2. Let the set warm up (aging time) for a minimum of 60 minutes. 3. Supply a purity pattern (white pattern). 4. Adjust CONTRAST and BRIGHT to MAXIMUM. 5. The static convergence adjustment must have been made preliminarily. 6. Connect a DC ampere meter between FBT pin11 (-) and FBT pin3 (+), and adjust to 1200mA±10%, varying the S-BRT DAC control.	**CALIBRATION**: 1. Position the “ears” of the purity magnets both upward. 2. Adjust the purity until the markers in the purity jig monitorscope becomes symmetrical in the horizontal direction. 3. The vertical centralization correction is made through the purity magnets for stripe CRT type only. 4. Slide the yoke forward by 10 mm±5 in the monitor. Then, tighten the deflection yoke. 5. Repeat the procedures 2 ~ 4. 6. Press the belt of deflection yoke. 7. Adjust “beam landing” using a microscope. (for model change or instrument check only)

■ ADJUSTMENTS

ITEM / PREPARATION	PROCEDURE
11- WHITE QUALITY CALIBRATION **PREPARATION:** 1. Adjust the HELMHOLTZ device to local magnetic field. Horizontal: 0 ± 0.003 x 10^{-4}T 2. Receive a white purity pattern. 3. Adjust CONTRAST and BRIGHT controls to maximum. 4. Previously adjust the CONVERGENCE. 5. Fully degauss the CRT by using an external degaussing coil.	**CALIBRATION:** 1. Adjust the magnetic field in 0.4x10-4T (400 mG), and check the white quality with the CRT turned to EAST and to WEST. 2. Receive a red pattern, adjust the COLOR control to maximum and confirm the purity adjustment. 3. If purity error is found at the CRT corners, apply magnetic tapes to correct it, fully degauss the CRT again and repeat the steps 1 and 2. Don't use this magnetic tapes on the internal side of the yoke. 4. Receive a white purity pattern, adjust the COLOR control to minimum and confirm the purity adjustment.
12- CONVERGENCE CALIBRATION 1. Adjust the HELMHOLTZ device to local magnetic field. 2. Receive a crosshatch pattern. 3. Adjust IMAGE menu to DINÂMIC NORMAL and the DAC BRIGHT control for the crosshatch pattern to be gray. 4. Remove the DY wedges and slightly tilt the deflection yoke to the vertically and horizontally to obtain the good overall convergence. 5. If purity error is found, repeat “Color Purity” adjustment  	**CALIBRATION** Static convergence calibration I) Assure that the magnets are positioned according to illustration 1. II) Adjust the 4 poles magnets to align the R and B CENTRAL DOTS and adjust the 6 poles magnets to align both DOTS with G. III) After adjustment above, assure that the magnets are sealed, through the application of white glue. **Note**: The electron beams are moved rotationally when the static convergence magnets are rotated. The reduction of rotational beams differ depending of the two magnets angle. Therefore, it is necessary to repeat the magnets calibrations sometimes, until obtaining a good alignment.
13- CRT CUT OFF CALIBRATION 1. Supply a WINDOWS signal. 2. Position DACs with the data below: **BRT** —> 50H **S-BRT** —> 31H **RGB CONTRAST** —> 11DAC **SUB-CONTRAST** —> 21H **R,G,B DRIVE** —> 31H **R,G CUT** —> 31H	**CALIBRATION:** 1. Press “5” (AKB OFF) and confirm that OSD becomes blue. 2. Connect the oscilloscope in TPL5 and adjust BRT to obtain 130V as in the Fig. 1 below. 3. Adjust the SCREEN to obtain a horizontal fine line in the screen center. Y = 1.0 +1.0 -0.5 4. Press “5” (AKB ON) and confirm that OSD becomes white.  Fig. 1

■ ADJUSTMENTS

ITEM / PREPARATION	PROCEDURE
14- VERTICAL DEFLECTION CALIBRATION AND CONFIRMATION 1. Adjust IMAGE to DYNAMIC NORMAL  **Fig. 1**  **Fig. 2**	**S-CORR CONFIRMATION AND CALIBRATION** **1) Confirmation in 50Hz** 1. Supply a PHILIPS PAL-N signal. 2. Confirm that S-CORR 50Hz is in 33 DAC . **2) Confirmation in 60Hz** 1. Supply a MONOSCOPE signal. 2. Confirm that S-CORR 60Hz is in 33 DAC. **3) V-SLOPE calibration** 1. Supply a MONOSCOPE signal. 2. Adjust V_SLOPE (CHK3) so that the beginning of the black part of the image is aligned with the center of the CRT as Fig. 1. **4) VERTICAL CENTRALIZATION 50 HZ CALIBRATION** 1. Supply a PAL-N Philips signal. 2. Adjust V-SHIFT 50Hz (CHK3) so that the Philips pattern's center it is in the center of the CRT. **5) VERTICAL CENTRALIZATION 60 HZ CALIBRATION** 1. Supply a MONOSCOPE signal. 2. Adjust V-SHIFT 60Hz (CHK3) so that the monoscope pattern´s center it is in the center of the CRT. **6) VERTICAL HEIGHT (V-AMP 50HZ) CALIBRATION** 1. Supply a PHILIPS PAL-N signal. 2. Adjust V-AMP-50Hz (CHK3) so that the Philips pattern's circle height be the same dimension of the width. **7) VERTICAL HEIGHT (V-AMP 60HZ) CALIBRATION** 1. Supply a MONOSCOPE signal. 2. Adjust V-AMP-60Hz (CHK3) according to box. 3. MEMORIZE in EEPROM. **C,D** 1.5 ~ 2.0 **A,B** 1.5 ~ 1.6
15- WHITE BALANCE CALIBRATION 1. Adjust the HELMHOLTZ device to local magnetic field. 2. Let the set warm up for a minimum of 30 minutes. 3. Receive a white balance. (This sign should contain burst sign). 4. Adjust the IMAGE menu to DINÂMIC NORMAL. 5. Fully degauss the CRT by using an external degaussing coil. 6. Position the color analyzer in contact with the CRT face.	**CALIBRATION:** **[1] LOW LIGHT CALIBRATION** 1. Adjust S-BRT, so that Y = 7 2. Adjust R-CUT OFF, so that x = 0.273 ±0.01 3. Adjust G-CUT OFF, so that y = 0,283 ±0.01 **[2] HIGH LIGHT CALIBRATION** (Confirm that G-DRIVE is 31 DAC) 1. Adjust S-BRT, so that Y = 150 2. Adjust R-DRIVE, so that x = 0,275 ±0.01 3. Adjust B-DRIVE, so that y = 0,284 ±0.01 **[3] Repeat the procedures [1] and [2].**

Assure that not entering light for the meter borders and that the CUT OFF voltage calibration has been done. If the value in the color analyzer is below 150, adjust CONTRAST to 50 and press "8" in CHK2 mode.

■ EEPROM MEMORY MAPS

TABLE 0

	COLUNA 0	COLUNA 1	COLUNA 2	COLUNA 3	COLUNA 4	COLUNA 5	COLUNA 6	COLUNA 7	COLUNA 8	COLUNA 9	COLUNA A	COLUNA B	COLUNA C	COLUNA D	COLUNA E	COLUNA F
LINHA 0	02	00	06	01	00	06	02	00	06	03	00	06	04	00	06	05
LINHA 1	00	06	06	00	06	07	00	06	08	00	06	09	00	06	0A	00
LINHA 2	06	0B	00	06	0C	00	06	0D	00	06	0E	00	06	0F	00	06
LINHA 3	10	00	06	11	00	06	12	00	06	13	00	06	14	00	06	15
LINHA 4	00	06	16	00	06	17	00	06	18	00	06	19	00	06	1A	00
LINHA 5	06	1B	00	06	1C	00	06	1D	00	06	1E	00	06	1F	00	06
LINHA 6	20	00	06	21	00	06	22	00	06	23	00	06	24	00	06	25
LINHA 7	00	06	26	00	06	27	00	06	28	00	06	29	00	06	2A	00
LINHA 8	06	2B	00	06	2C	00	06	2D	00	06	2E	00	06	2F	00	06
LINHA 9	30	00	06	31	00	06	32	00	06	33	00	06	34	00	06	35
LINHA A	00	06	36	00	06	37	00	06	38	00	06	39	00	06	3A	00
LINHA B	06	3B	00	06	3C	00	06	3D	00	06	3E	00	06	3F	00	06
LINHA C	40	00	06	41	00	06	42	00	06	43	00	06	44	00	06	45
LINHA D	00	06	46	00	06	47	00	06	48	00	06	49	00	06	4A	00
LINHA E	06	4B	00	06	4C	00	06	4D	00	06	4E	00	06	4F	00	06
LINHA F	50	00	06	51	00	06	52	00	06	53	00	06	54	00	06	55

TABLE 1

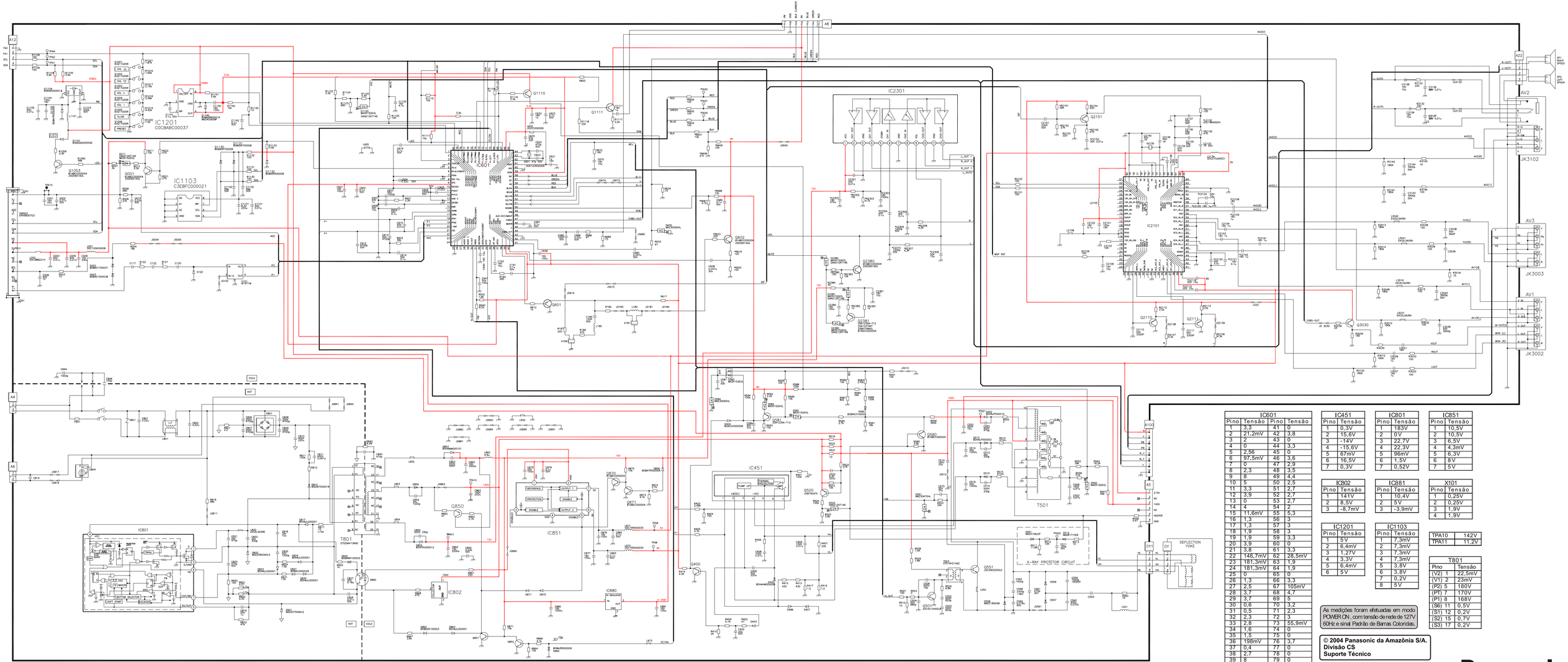
	COLUNA 0	COLUNA 1	COLUNA 2	COLUNA 3	COLUNA 4	COLUNA 5	COLUNA 6	COLUNA 7	COLUNA 8	COLUNA 9	COLUNA A	COLUNA B	COLUNA C	COLUNA D	COLUNA E	COLUNA F
LINHA 0	00	06	56	00	06	57	00	06	58	00	06	59	00	06	5A	00
LINHA 1	06	5B	00	06	5C	00	06	5D	00	06	5E	00	06	5F	00	06
LINHA 2	60	00	06	61	00	06	62	00	06	63	00	06	64	00	06	65
LINHA 3	00	06	66	00	06	67	00	06	68	00	06	69	00	06	6A	00
LINHA 4	06	6B	00	06	6C	00	06	6D	00	06	6E	00	06	6F	00	06
LINHA 5	70	00	06	71	00	06	72	00	06	73	00	06	74	00	06	75
LINHA 6	00	06	76	00	06	77	00	06	78	00	06	79	00	06	7A	00
LINHA 7	06	7B	00	06	7C	00	06	7D	00	06	0F	00	00	FF	01	0E
LINHA 8	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
LINHA 9	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
LINHA A	06	00	00	00	00	00	00	00	00	00	01	02	01	02	03	04
LINHA B	01	86	04	C4	00	00	37	8F	9F	8F	02	02	02	02	02	02
LINHA C	02	02	5E	5E	60	40	D0	C0	A0	0A	08	18	1D	04	00	00
LINHA D	C8	C8	C8	C2	C2	C2	40	40	00	00	00	00	00	00	00	00
LINHA E	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
LINHA F	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00

TABLE 2

	COLUNA 0	COLUNA 1	COLUNA 2	COLUNA 3	COLUNA 4	COLUNA 5	COLUNA 6	COLUNA 7	COLUNA 8	COLUNA 9	COLUNA A	COLUNA B	COLUNA C	COLUNA D	COLUNA E	COLUNA F
LINHA 0	02	00	A5	5A	00	01	01	00	00	08	00	03	09	09	03	00
LINHA 1	02	00	00	00	00	00	10	0C	0B	10	18	0B	0C	0C	0C	0B
LINHA 2	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
LINHA 3	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
LINHA 4	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
LINHA 5	32	32	32	64	4B	32	32	32	4B	44	2D	32	32	41	32	32
LINHA 6	18	0B	09	0D	14	3C	D0	0D	00	0C	04	04	16	00	FC	0E
LINHA 7	00	00	00	00	00	00	00	00	00	00	00	00	03	02	78	BB
LINHA 8	32	32	32	64	4B	32	32	32	4B	44	2D	32	32	41	32	10
LINHA 9	0C	0B	10	18	0B	0C	0C	0C	0B	18	0B	09	0D	14	00	00
LINHA A	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	03
LINHA B	00	00	00	0C	00	1B	0C	08	1C	40	40	40	00	00	00	00
LINHA C	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
LINHA D	0C	10	15	04	06	06	00	04	00	00	00	00	00	00	00	00
LINHA E	00	00	00	00	00	00	00	00	C4	00	00	33	03	20	00	09
LINHA F	00	00	18	20	15	1A	00	00	00	00	00	00	00	A5	3F	A5

TABLE 3

	COLUNA 0	COLUNA 1	COLUNA 2	COLUNA 3	COLUNA 4	COLUNA 5	COLUNA 6	COLUNA 7	COLUNA 8	COLUNA 9	COLUNA A	COLUNA B	COLUNA C	COLUNA D	COLUNA E	COLUNA F
LINHA 0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
LINHA 1	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
LINHA 2	00	00	00	00	00	30	30	C0	A4	94	22	88	28	20	31	24
LINHA 3	00	00	25	1D	21	16	1E	33	21	25	19	19	1F	1F	1F	1F
LINHA 4	1F	00	06	00	FD	00	1B	29	80	00	2A	00	34	20	30	21
LINHA 5	02	48	12	44	00	80	34	03	F4	FD	00	00	00	00	03	08
LINHA 6	04	FE	32	00	20	19	00	00	00	00	00	00	00	00	00	00
LINHA 7	00	00	00	00	00	00	00	00	00	10	00	00	00	00	00	00
LINHA 8	00	00	00	00	00	00	00	00	0E	11	0D	06	0C	0C	07	02
LINHA 9	09	00	00	FA	00	00	00	0A	F8	00	00	00	00	00	00	03
LINHA A	01	03	02	03	03	00	34	28	28	28	20	63	03	10	03	00
LINHA B	CA	49	4B	02	31	00	00	FF	FD	04	05	FF	03	F5	FE	04
LINHA C	20	07	4F	40	40	00	00	00	00	00	00	00	00	00	00	00
LINHA D	05	0A	05	F7	FE	FE	00	00	00	F7	00	F0	01	00	00	00
LINHA E	10	04	2F	71	75	3B	3A	02	02	0E	3A	37	00	11	0B	05
LINHA F	33	30	2A	27	26	25	24	00	00	00	00	00	00	00	00	11



IC601			
Pino	Tensão	Pino	Tensão
1	3,3	41	0
2	21,2mV	42	3,8
3	2	43	0
4	0	44	3,3
5	2,56	45	0
6	97,5mV	46	3,6
7	0	47	2,9
8	2,3	48	3,5
9	8	49	4,4
10	5	50	2,5
11	3,3	51	2,7
12	3,9	52	2,7
13	0	53	2,7
14	4	54	2
15	11,6mV	55	5,3
16	1,3	56	3
17	1,3	57	3
18	1,9	58	3
19	1,9	59	3,3
20	3,9	60	0
21	3,8	61	3,3
22	146,7mV	62	28,5mV
23	181,3mV	63	1,9
24	181,3mV	64	1,9
25	0	65	0
26	1,3	66	3,3
27	2,5	67	105mV
28	3,7	68	4,7
29	3,7	69	5
30	0,6	70	3,2
31	0,5	71	2,3
32	2,3	72	3
33	2,8	73	55,9mV
34	1,6	74	0
35	1,5	75	0
36	198mV	76	3,7
37	0,4	77	0
38	2,7	78	0
39	8	79	0
40	3,6	80	0

IC451	
Pino	Tensão
1	0,3V
2	15,6V
3	-14V
4	-15,6V
5	67mV
6	16,5V
7	0,3V

IC801	
Pino	Tensão
1	183V
2	0 V
3	22,7V
4	22,3V
5	96mV
6	1,5V
7	0,52V

IC851	
Pino	Tensão
1	10,5V
2	10,5V
3	6,5V
4	4,3mV
5	6,3V
6	8V
7	5V

IC802	
Pino	Tensão
1	141V
2	8,5V
3	-8,7mV

IC881	
Pino	Tensão
1	10,4V
2	5V
3	-3,9mV

X101	
Pino	Tensão
1	0,25V
2	0,25V
3	1,9V
4	1,9V

IC1201	
Pino	Tensão
1	5V
2	6,4mV
3	1,27V
4	3,3V
5	6,4mV
6	5V

IC1103	
Pino	Tensão
1	7,3mV
2	7,3mV
3	7,3mV
4	7,3mV
5	3,8V
6	3,8V
7	0,2V
8	5V

TPA10	142V
TPA11	11,2V

T801	
Pino	Tensão
(V2) 1	22,5mV
(V1) 2	23mV
(P2) 5	180V
(P1) 7	170V
(P1) 8	168V
(S6) 11	0,5V
(S1) 12	0,2V
(S2) 15	0,7V
(S3) 17	0,2V

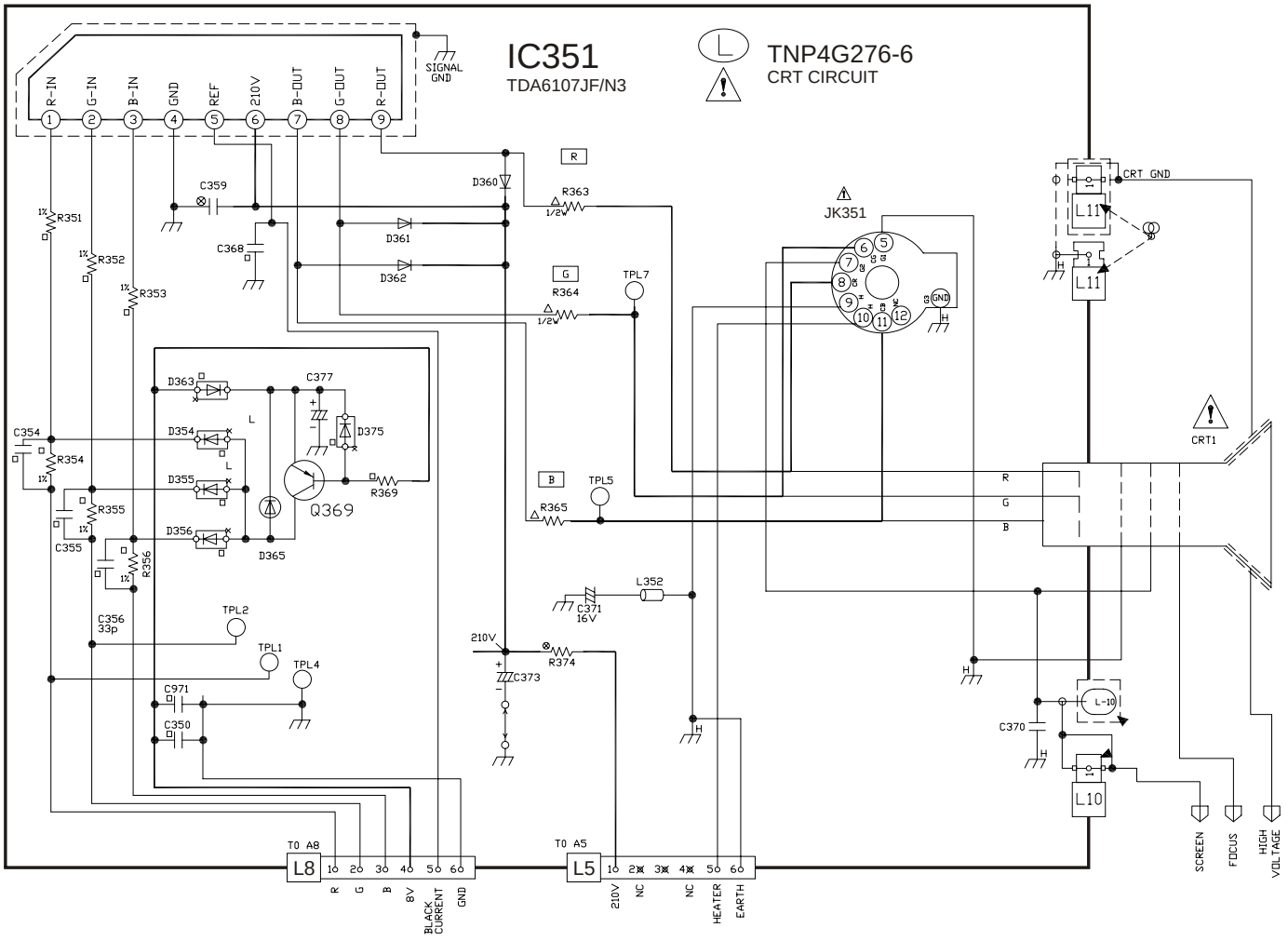
As medições foram efetuadas em modo POWER ON, com tensão de rede de 127V 60Hz e sinal Padrão de Barras Coloridas.

ORDEM DCS - DEZ2004 - 002 - MS

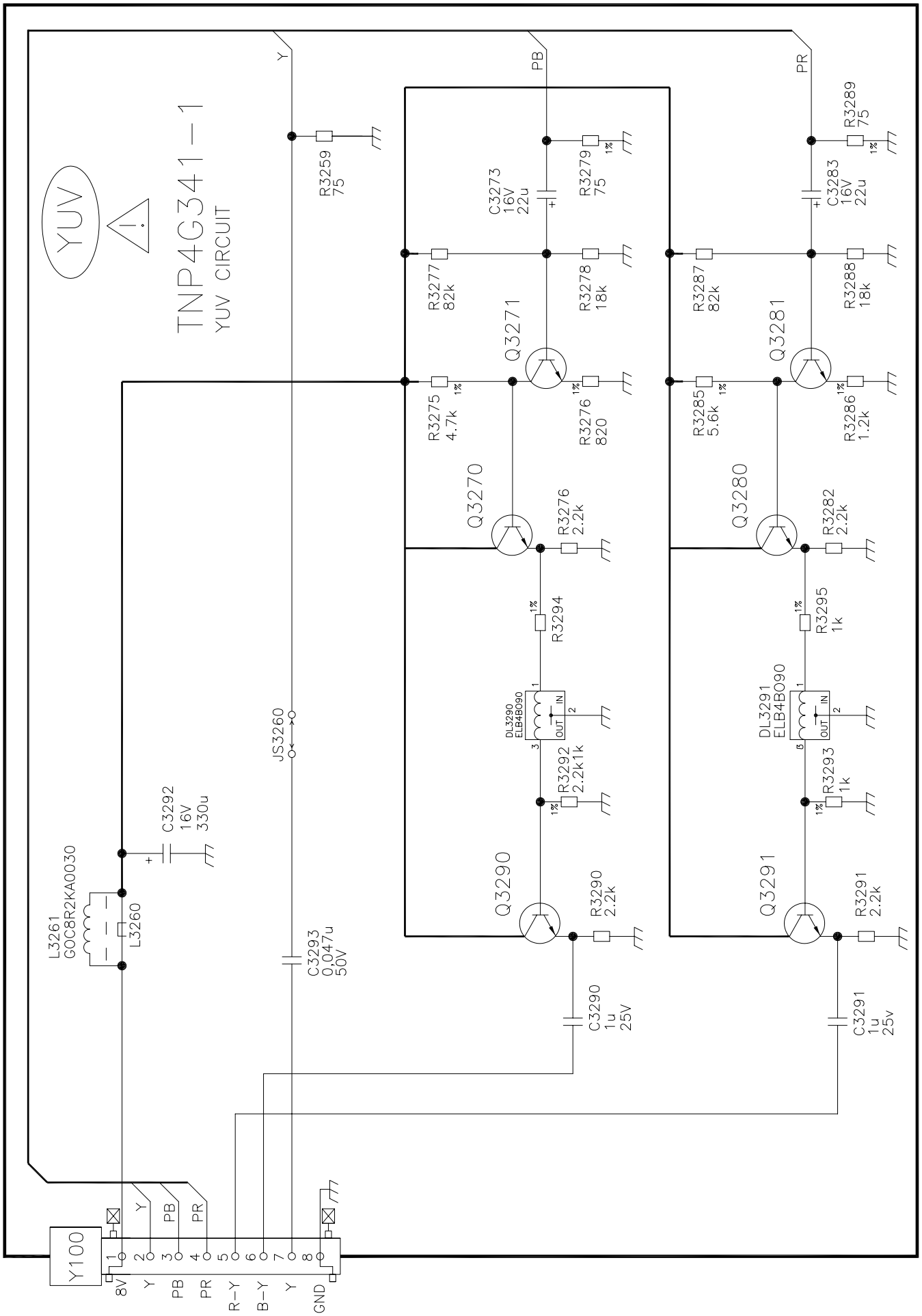
Panasonic

■ SCHEMATICS DIAGRAMS

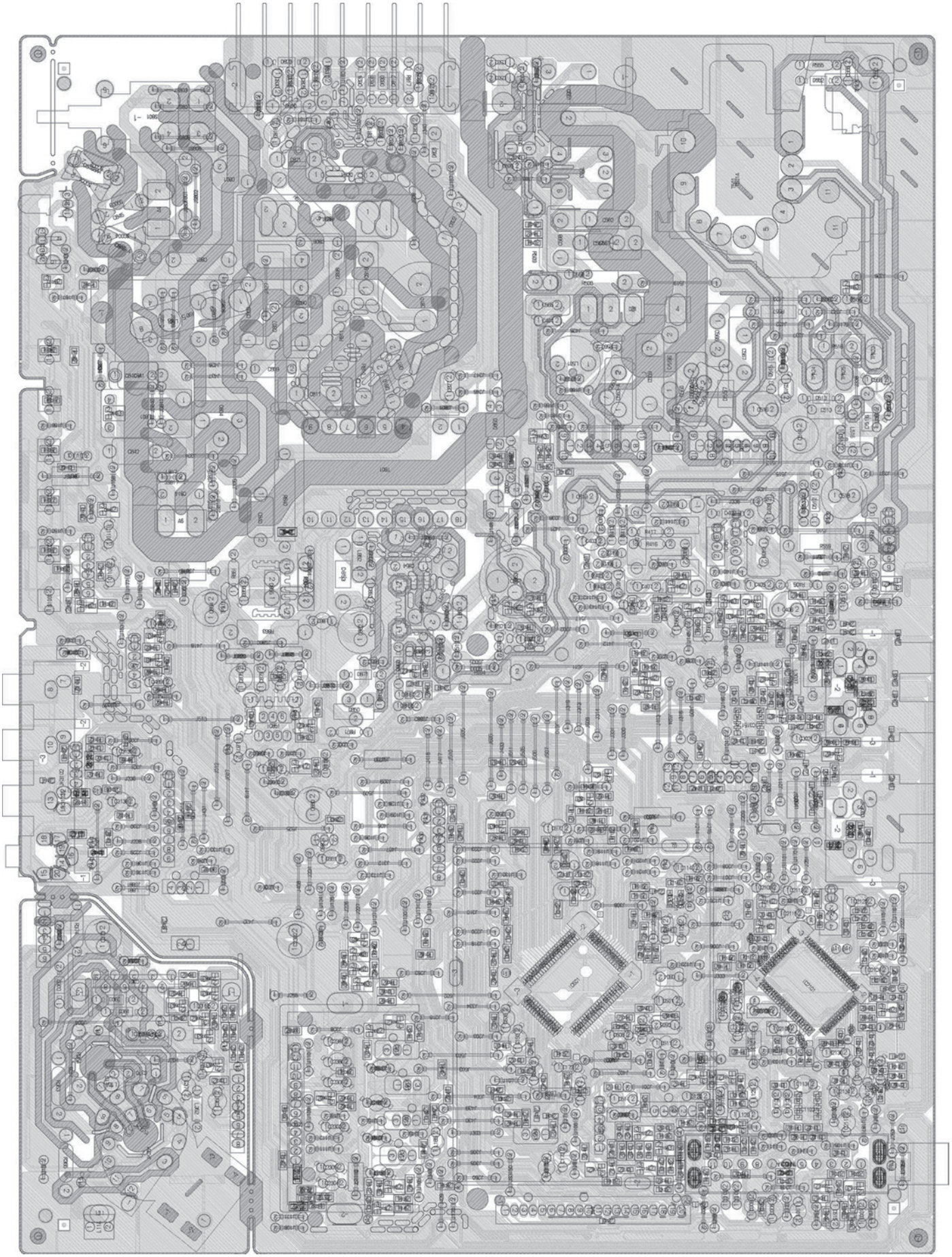
■ "L" P.C.B. SCHEMATIC DIAGRAM



■ “YUV” P.C.B. SCHEMATIC DIAGRAM



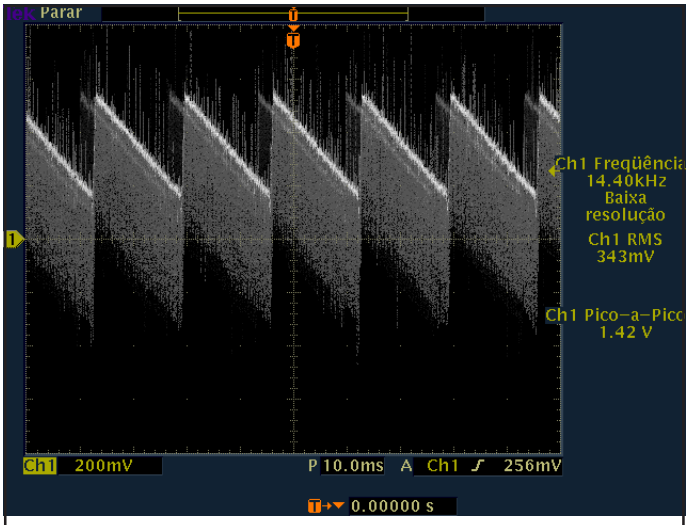
■ MAIN BOARD CIRCUIT LAYOUT



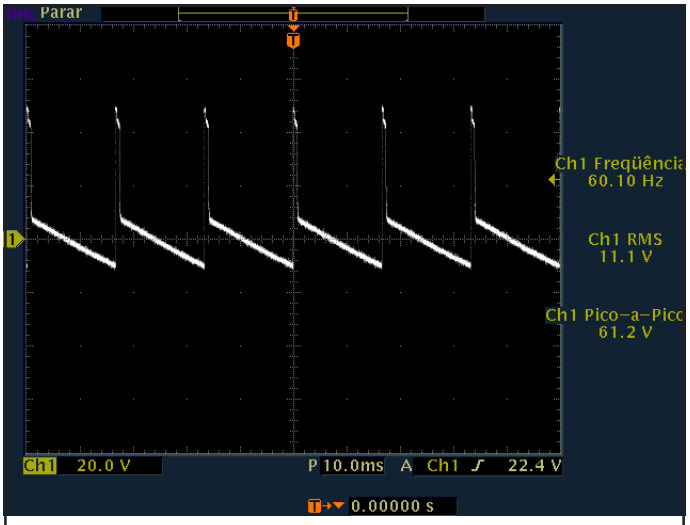
SIGNAL WAVEFORM

• All waveforms were obtained using 127V 60Hz power source and Color Bars Pattern (Model: TC-20KL04)

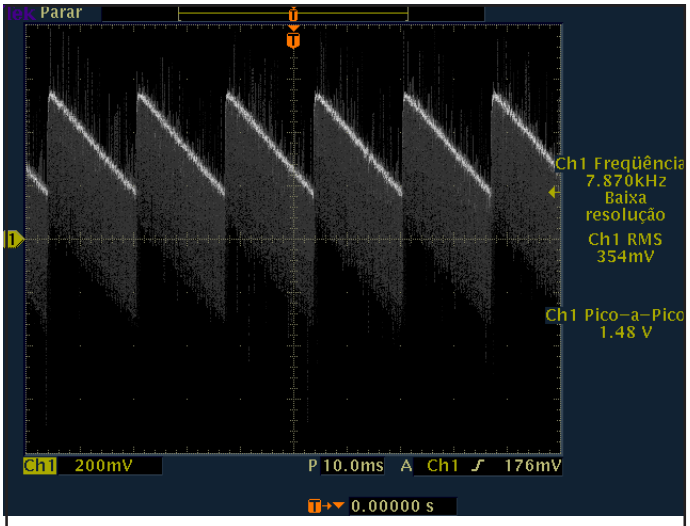
IC451



Pino 1

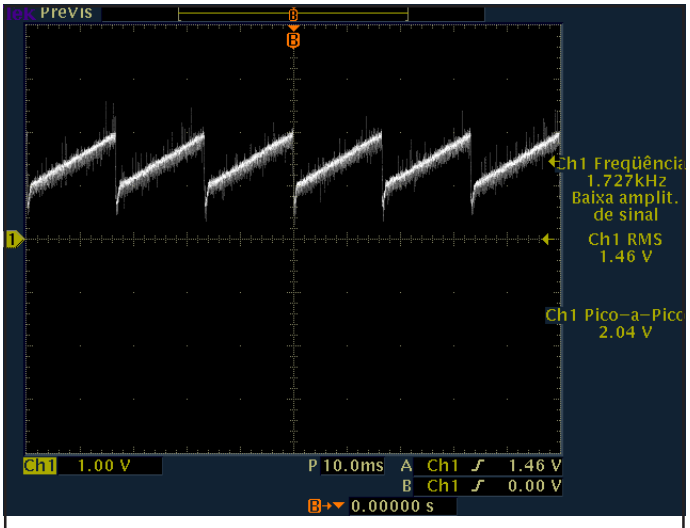


Pino 5

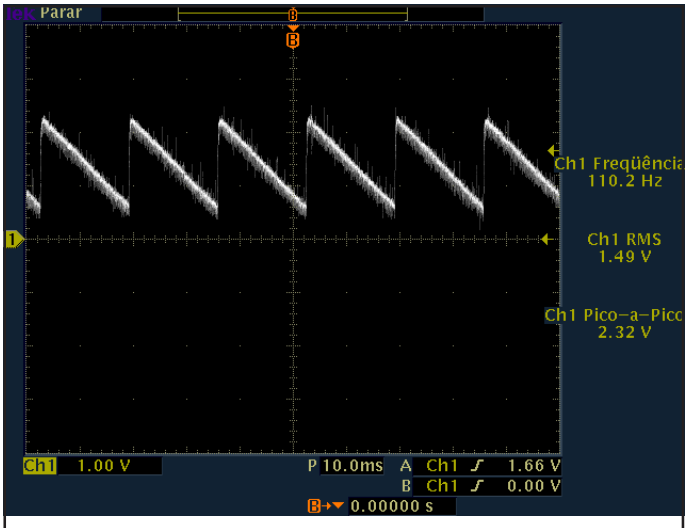


Pino 7

IC601

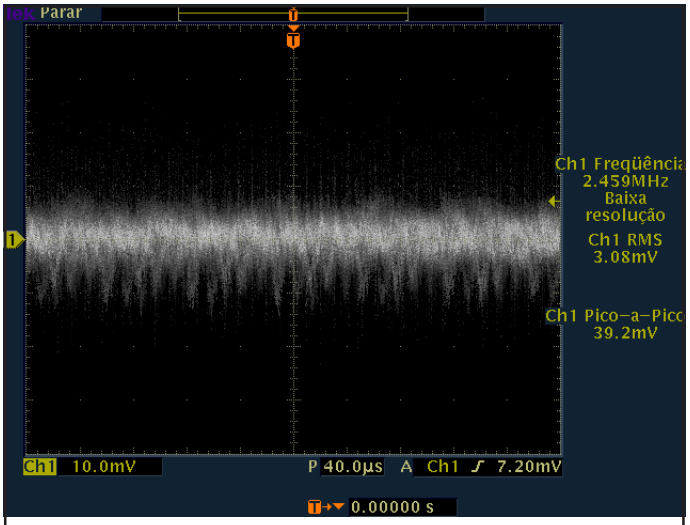


Pino 16

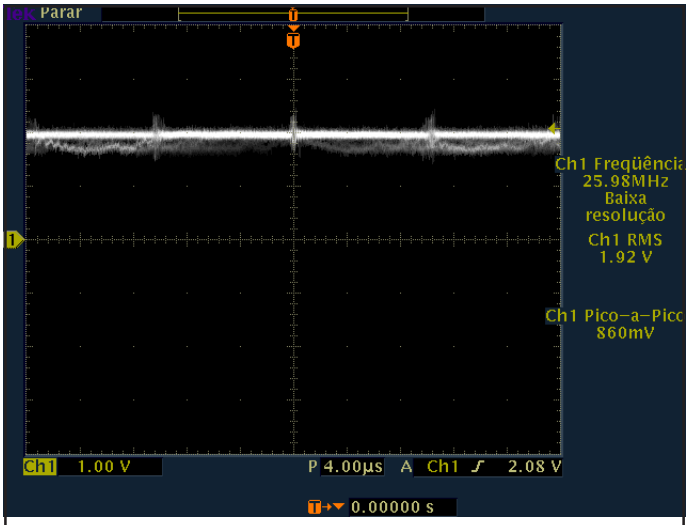


Pino 17

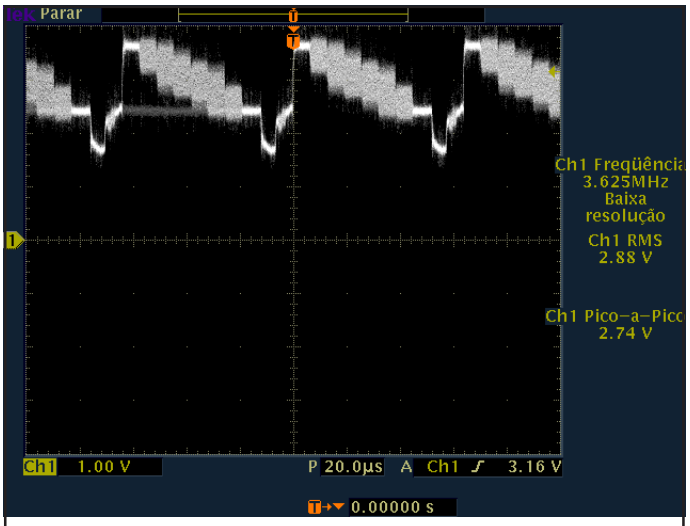
IC601



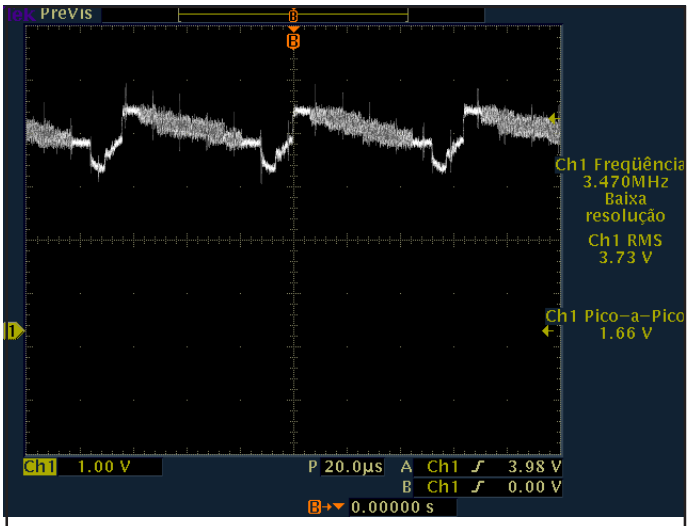
Pino 18



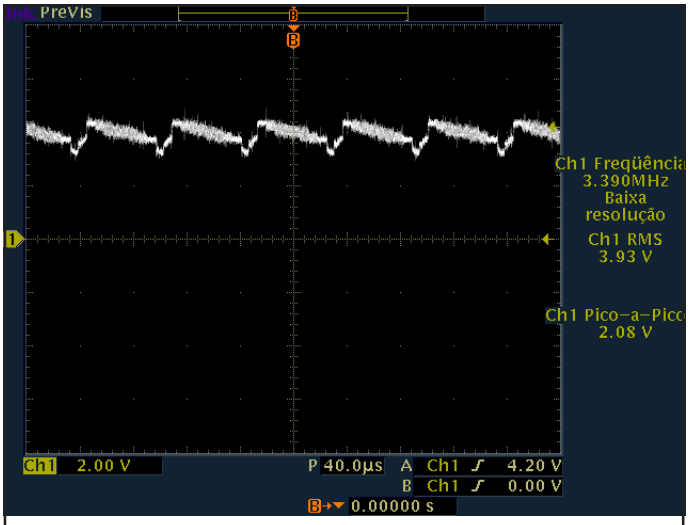
Pino 19



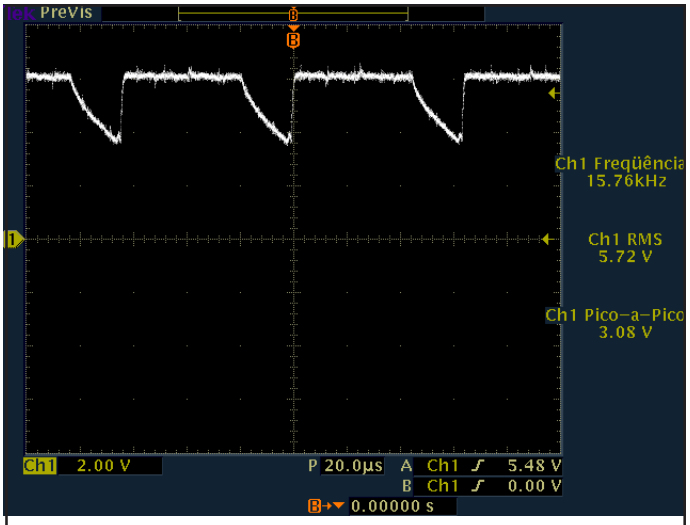
Pino 38



Pino 40

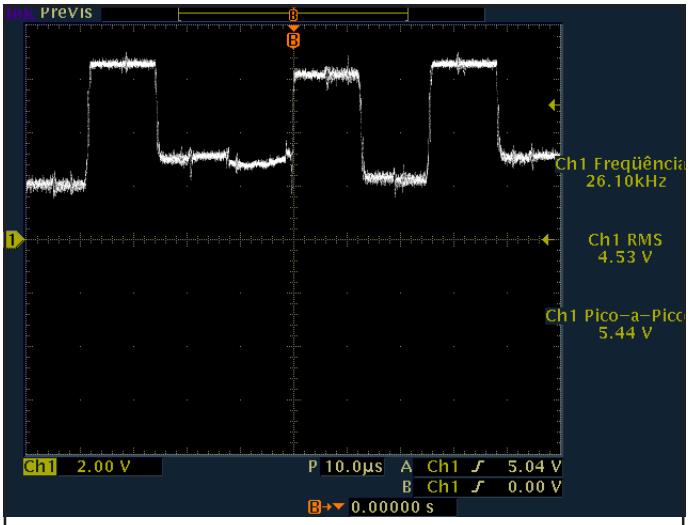


Pino 42

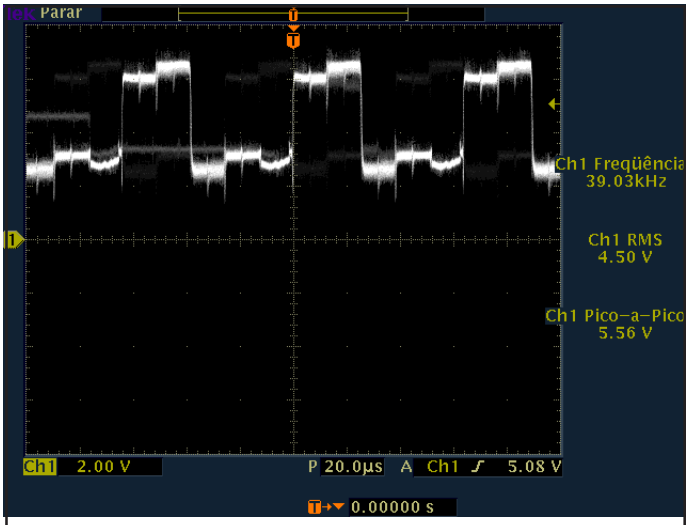


Pino 55

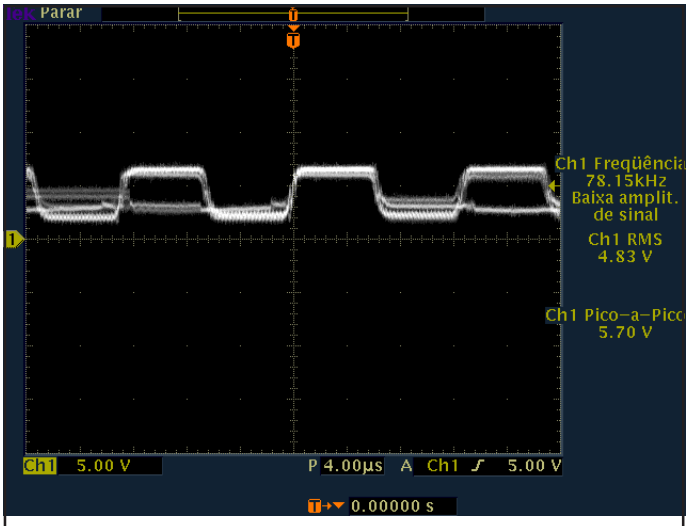
IC601



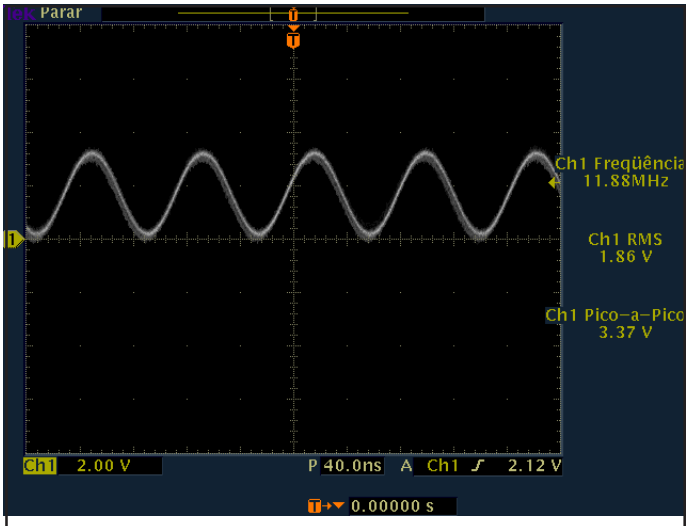
Pino 56



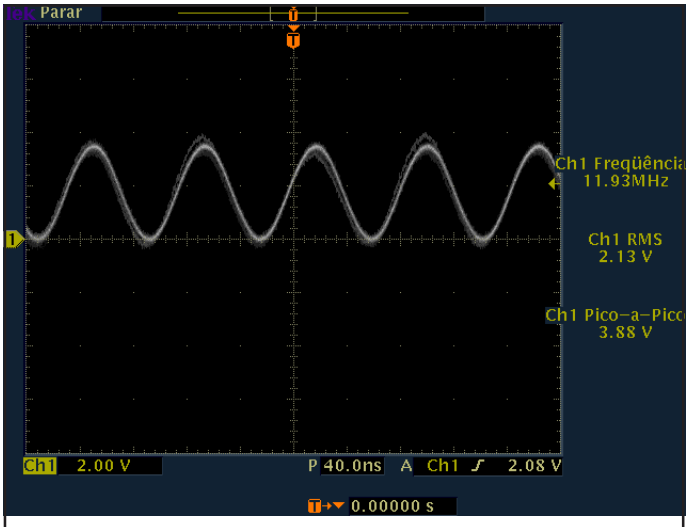
Pino 57



Pino 58

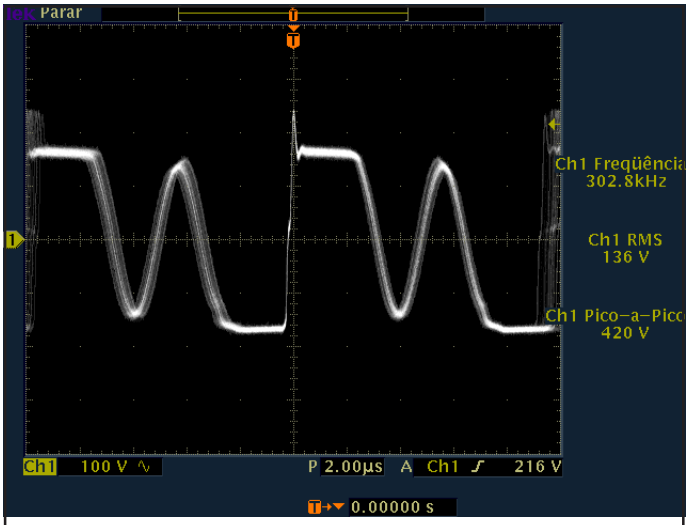


Pino 63



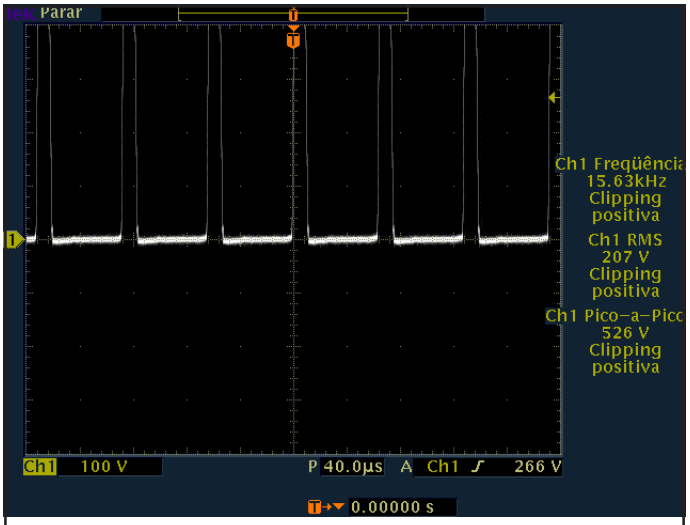
Pino 64

IC801



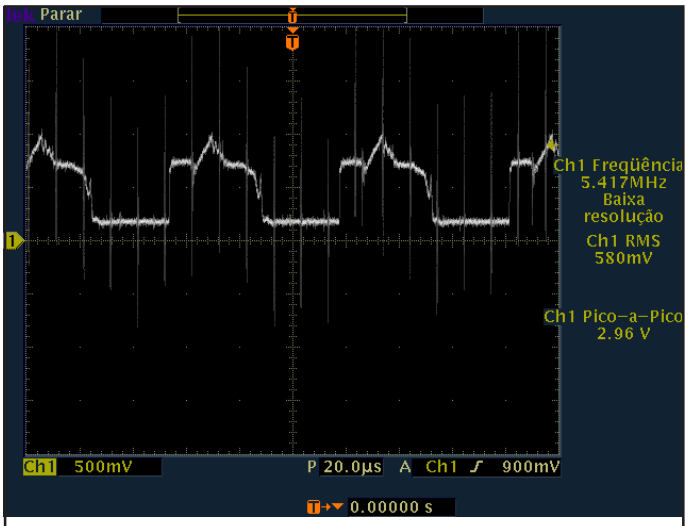
Pino 1

Q551

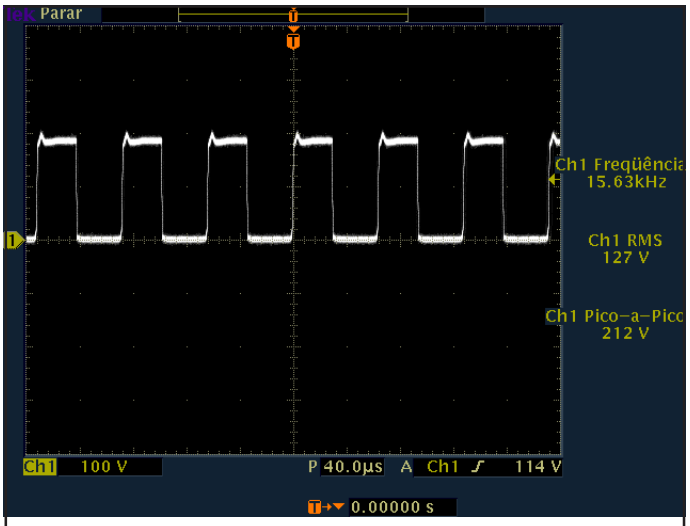


Coletor

Q501



Base



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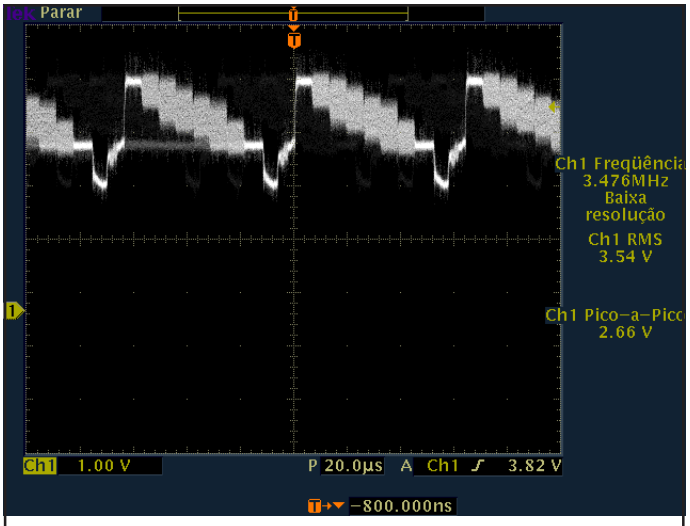
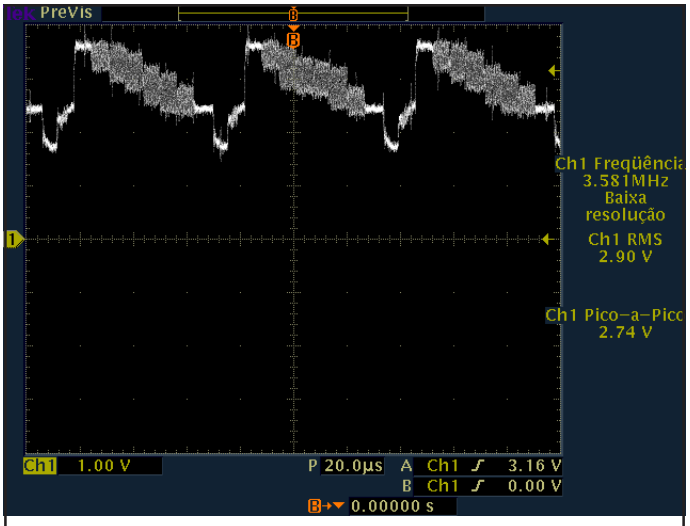


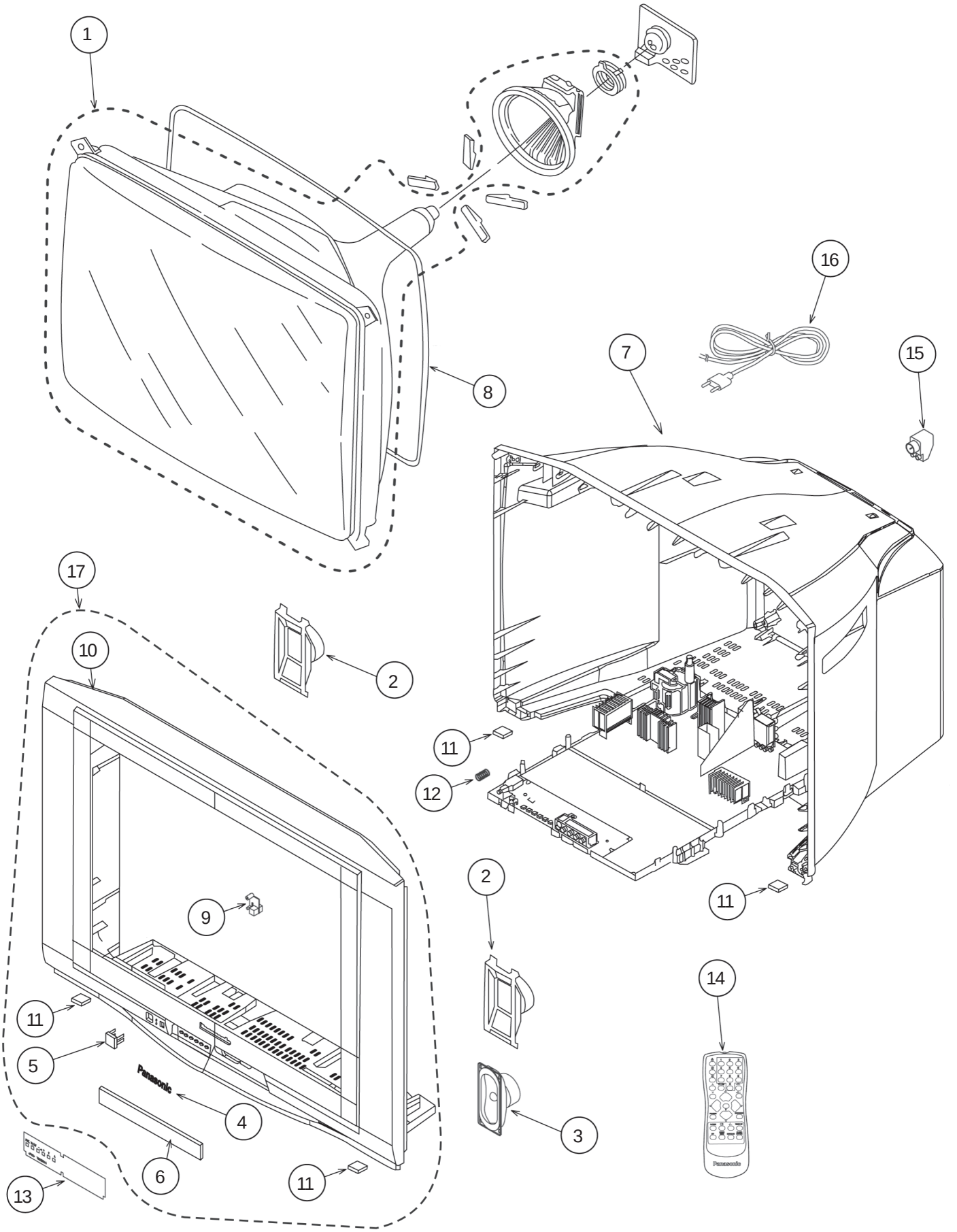
Emissor

Q602



Coletor

■ EXPLODED VIEW



■ REPLACEMENT MECHANICAL PARTS LIST

Ref. No.	Part No.	Part Name & Description
1	A51QDX993X004	PICTURE TUBE 21" (FLAT SAMSUNG)
2	TKK4G8597	SPEAKER SUPPORT
3	EASG15S02H2	SPEAKER
4	TBM4G3013	PANASONIC LOGO
5	TBX4G90110	POWER BUTTON
6	TKP4G13030	CONTROL PANEL DOOR
7	T-TKU2B22702	REAR COVER
8	TLK4G9037X	DEGAUSSING COIL
9	TKP4G13062	LED GUIDE
10	TKY2B2201-1	FRONTAL CABINET
11	TBL4G3407	LEG CUSHION
12	TES4G214	POWER BUTTON SPRING
13	TBM2B053-1	CONTROL PANEL
14	TNQ2B3302	REMOTE CONTROL
15	S-U5012	ADAPTOR BALLUM 300Ω
16	TSX2BA04	AC CABLE
17	TXPTKY2B2201-1	FRONTAL CABINET ASS´Y

■ REPLACEMENT ELECTRICAL PARTS LIST

Ref. No.	Part No.	Part Name & Description
FULLY ASSEMBLED BOARDS		
"A"	PAL21FJ30LAMON	"A"+"L" P.C.B. ASS´Y
"YUV"	PYUV20KM04MON	"YUC" P.C.B. ASS´Y
CAPACITORES		
C001	ECEA1CKA220B	ELECTROLYTICAL CAP. 22,00 µF 16,0 V
C002	ECJ2VF1H103Z	CERAMIC CAP. 10,00 nF 50,0 V
C003	ECJ2VF1H103Z	CERAMIC CAP. 10,00 nF 50,0 V
C005	ECJ2VF1H104Z	CERAMIC CAP. 100,00 nF 50,0 V
C006	F2A1A331A161	ELECTROLYTICAL CAP. 330,00 µF 10,0 V
C008	ECEA1HKA010B	ELECTROLYTICAL CAP. 1,00 µF 50,0 V
C117	ECJ2VB1H103J	CERAMIC CAP. 10,00 nF 50,0 V
C180	ECJ2VC1H151J	CERAMIC CAP. 150,00 PF 50,0 V
C191	ECJ2YB1H104K	CERAMIC CAP. 100,00 nF 50,0 V
C193	F2A1C100A180	ELECTROLYTICAL CAP. 10,00 µF 16,0 V
C350	F2A1C101A180	ELECTROLYTICAL CAP. 100,00 µF 16,0 V
C354	ECJ2VC1H330J	CERAMIC CAP. 33,00 PF 50,0 V
C355	ECJ2VC1H330J	CERAMIC CAP. 33,00 PF 50,0 V
C356	ECJ2VC1H330J	CERAMIC CAP. 33,00 PF 50,0 V
C359	ECQM4104KZB	POLYESTER CAP. 100,00 nF 400,0 V
C368	ECJ2VC1H122J	CERAMIC CAP. 1,20 nF 50,0 V
C370	ECKW3D102KBP	CERAMIC CAP. 1,00 nF 2.000,0 V
C371	ECEA1CN100UB	ELECTROLYTICAL CAP. 10,00 µF 16,0 V
C373	F2A2E1000011	ELECTROLYTICAL CAP. 10,00 µF 250,0 V
C377	F2A1C101A180	ELECTROLYTICAL CAP. 100,00 µF 16,0 V
C402	F2A1H1010039	ELECTROLYTICAL CAP. 100,00 µF 50,0 V
C403	F2A1H220A182	ELECTROLYTICAL CAP. 22,00 µF 50,0 V
C404	ECQB1103JF3	POLYESTER CAP. 0,01 µF 100,0 V
C406	ECA1HHG221B	ELECTROLYTICAL CAP. 220,00 µF 50,0 V
C408	ECQB1274JF3	POLYESTER CAP. 270,00 nF 100,0 V
C502	F1B2H821A025	CERAMIC CAP. 820,00 PF 500,0 V
C503	F1B2H821A025	CERAMIC CAP. 820,00 PF 500,0 V
C504	ECJ2VB1H681K	CERAMIC CAP. 680,00 PF 50,0 V
C506	F1A2H1000002	CERAMIC CAP. 10,00 PF 500,0 V 0,50 PF
C511	F2A1V1010038	ELECTROLYTICAL CAP. 100,00 µF 35,0 V
C513	ECKW3D331JBP	CERAMIC CAP. 330,00 PF 2.000,0 V
C514	F2A1E102A151	ELECTROLYTICAL CAP. 1.000,00 µF 25,0 V
C515	F1B2H331A025	CERAMIC CAP. 330,00 PF 500,0 V
C516	F2A1E102A151	ELECTROLYTICAL CAP. 1.000,00 µF 25,0 V
C519	F2A2C330A020	ELECTROLYTICAL CAP. 33,00 µF 160,0 V
C520	F2A0J221A181	ELECTROLYTICAL CAP. 220,00 µF 6,3 V
C552	F2A2E1000011	ELECTROLYTICAL CAP. 10,00 µF 250,0 V
C555	F1B2H471A025	CERAMIC CAP. 470,00 PF 500,0 V
C558	ECQB1104JF3	POLYESTER CAP. 100,00 nF 100,0 V
C559	ECWH16752JVB	POLYPROPILENE CAP. 7,50 nF 1.600,0 V
C560	ECQM4333JZW	POLYESTER CAP. 33,00 nF 400,0 V
C561	ECKW3D271KBR	CERAMIC CAP. 270,00 PF 2.000,0 V
C562	ECKW3D152JBR	CERAMIC CAP. 1,50 nF 2.000,0 V
C563	ECWF2224JSR	POLYPROPILENE CAP. 220,00 nF 250,0 V
C565	ECQP1H183JZ3	POLYPROPILENE CAP. 18,00 nF 50,0 V
C568	ECWH16332JVB	POLYPROPILENE CAP. 3,30 nF 1.600,0 V
C570	ECJ2VC1H330J	CERAMIC CAP. 33,00 PF 50,0 V
C580	F2A1H220A182	ELECTROLYTICAL CAP. 22,00 µF 50,0 V
C581	ECQV1H105JL3	POLYESTER CAP. 1,00 µF 50,0 V
C601	ECEA1CKA101B	ELECTROLYTICAL CAP. 100,00 µF 16,0 V
C602	ECJ2YB1H104K	CERAMIC CAP. 100,00 nF 50,0 V
C603	ECJ2VB1H472K	CERAMIC CAP. 4.700,00 PF 50,0 V
C604	ECQV1H224JL3	POLYESTER CAP. 220,00 nF 50,0 V
C605	ECQV1H224JL3	POLYESTER CAP. 220,00 nF 50,0 V
C606	ECJ2VC1H222J	CERAMIC CAP. 2.200,00 PF 50,0 V
C607	ECEA1HKA010B	ELECTROLYTICAL CAP. 1,00 µF 50,0 V
C608	ECEA1HKA100B	ELECTROLYTICAL CAP. 10,00 µF 50,0 V
C609	ECJ2YB1H104K	CERAMIC CAP. 100,00 nF 50,0 V
C610	ECJ2VB1H103J	CERAMIC CAP. 10,00 nF 50,0 V
C612	ECJ2VB1H472K	CERAMIC CAP. 4.700,00 PF 50,0 V
C613	ECJ2VB1H472K	CERAMIC CAP. 4.700,00 PF 50,0 V
C614	ECQV1H104JL3	POLYESTER CAP. 100,00 nF 50,0 V
C615	ECQV1H224JL3	POLYESTER CAP. 220,00 nF 50,0 V
C619	ECQV1H104JL3	POLYESTER CAP. 100,00 nF 50,0 V
C620	ECJ2VC1H470J	CERAMIC CAP. 47,00 PF 50,0 V
C621	ECJ2VB1H471K	CERAMIC CAP. 470,00 PF 50,0 V
C622	ECJ2VF1H104Z	CERAMIC CAP. 100,00 nF 50,0 V
C623	ECJ2VC1H470J	CERAMIC CAP. 47,00 PF 50,0 V
C625	ECEA0JN221UB	ELECTROLYTICAL CAP. 220,00 µF 6,3 V
C628	ECJ2YB1H473K	CERAMIC CAP. 47,00 nF 50,0 V
C631	ECJ2VB1H222K	CERAMIC CAP. 2.200,00 PF 50,0 V
C632	ECJ2VB1H392K	CERAMIC CAP. 3.900,00 PF 50,0 V
C633	ECJ2VF1C105Z	CERAMIC CAP. 1,00 µF 16,0 V
C636	F2A1C101A180	ELECTROLYTICAL CAP. 100,00 µF 16,0 V
C640	F2A1C100A180	ELECTROLYTICAL CAP. 10,00 µF 16,0 V
C641	ECJ2VC1H100C	CERAMIC CAP. 10,00 PF 50,0 V
C670	F2A1C100A180	ELECTROLYTICAL CAP. 10,00 µF 16,0 V
C680	ECJ2YB1H473K	CERAMIC CAP. 47,00 nF 50,0 V
C685	ECJ2VC1H101J	CERAMIC CAP. 100,00 PF 50,0 V
C686	ECJ2YB1H473K	CERAMIC CAP. 47,00 nF 50,0 V
C687	ECJ2VF1H104Z	CERAMIC CAP. 100,00 nF 50,0 V
C689	ECJ2VF1H104Z	CERAMIC CAP. 100,00 nF 50,0 V
C801	ECQU2A224BN9	POLYPROPILENE CAP. 220,00 nF 100,0 V
C806	ECKWAE472ZED	CERAMIC CAP. 4,70 nF 250,0 V
C807	ECKWAE472ZED	CERAMIC CAP. 4,70 nF 250,0 V
C808	ECKWAE472ZED	CERAMIC CAP. 4,70 nF 250,0 V
C809	ECKWAE472ZED	CERAMIC CAP. 4,70 nF 250,0 V
C810	EETHC2G221C:	ELECTROLYTICAL CAP. 220,00 µF 400,0 V
C811	ECQM4473JZW	POLYESTER CAP. 47,00 nF 400,0 V
C814	ECQE2A473JFB	POLYESTER CAP. 47,00 nF 250,0 V
C816	F2A1H330A115	ELECTROLYTICAL CAP. 33,00 µF 50,0 V
C816	F2A1V100A096	ELECTROLYTICAL CAP. 10,00 µF 35,0 V
C816	F2A1V100A096	ELECTROLYTICAL CAP. 10,00 µF 35,0 V
C819	F2A1H1R00053	ELECTROLYTICAL CAP. 1,00 µF 50,0 V
C821	ECKW3D471JBR	CERAMIC CAP. 0,47 nF 2.000,0 V
C822	ECKW3D331JBR	CERAMIC CAP. 330,00 PF 2.000,0 V
C825	ECQB1H471JF3	POLYESTER CAP. 470,00 PF 50,0 V
C826	F0A1H103A039	POLYPROPILENE CAP. 0,01 µF 50,0 V
C827	ECQB1H683JF3	POLYESTER CAP. 68,00 PF 50,0 V
C827	ECQB1H683JF3	POLYESTER CAP. 68,00 PF 50,0 V
C827	ECQV1H184JL3	POLYESTER CAP. 180,00 nF 50,0 V
C830	ECQB1H102JF3	POLYESTER CAP. 1,00 nF 50,0 V
C840	ECKCNA102MB7	CERAMIC CAP. 1,00 nF 4.000,0 V
C841	ECKCNA471MB7	CERAMIC CAP. 470,00 PF 440,0 V
C842	ECKCNA471MB7	CERAMIC CAP. 470,00 PF 440,0 V
C844	ECKCNA102MB7	CERAMIC CAP. 1,00 nF 4.000,0 V
C850	ECJ2VF1H224Z	CERAMIC CAP. 220,00 nF 50,0 V
C853	F1B2H561A025	CERAMIC CAP. 560,00 PF 500,0 V
C854	ECKW3D122KBP	CERAMIC CAP. 1,20 nF 2.000,0 V
C855	F1B2H331A025	CERAMIC CAP. 330,00 PF 500,0 V
C862	ECA1CHG332E	ELECTROLYTICAL CAP. 3.300,00 µF 16,0 V
C863	F2A2C221A021	ELECTROLYTICAL CAP. 220,00 µF 160,0 V
C864	F2A1C102A116	ELECTROLYTICAL CAP. 1.000,00 µF 16,0 V
C875	F2A1E1010056	ELECTROLYTICAL CAP. 100,00 µF 25,0 V
C876	F2A1C101A180	ELECTROLYTICAL CAP. 100,00 µF 16,0 V
C877	F2A1C4710045	ELECTROLYTICAL CAP. 470,00 µF 16,0 V
C879	ECQV1H104JL3	POLYESTER CAP. 100,00 nF 50,0 V
C880	F2A1C1020049	ELECTROLYTICAL CAP. 1.000,00 µF 16,0 V
C881	F2A1C101A180	ELECTROLYTICAL CAP. 100,00 µF 16,0 V
C882	ECJ2VF1H104Z	CERAMIC CAP. 100,00 nF 50,0 V
C883	ECJ2VF1H104Z	CERAMIC CAP. 100,00 nF 50,0 V
C971	ECJ2VF1H103Z	CERAMIC CAP. 10,00 nF 50,0 V
C1101	ECJ2VF1H103Z	CERAMIC CAP. 10,00 nF 50,0 V
C1103	ECJ2VC1H331J	CERAMIC CAP. 330,00 PF 50,0 V
C1104	F2A1C101A180	ELECTROLYTICAL CAP. 100,00 µF 16,0 V
C1105	ECJ2VF1H103Z	CERAMIC CAP. 10,00 nF 50,0 V
C1125	ECEA1CKA100B	ELECTROLYTICAL CAP. 10,00 µF 16,0 V
C1130	ECJ2VC1H560J	CERAMIC CAP. 56,00 PF 50,0 V
C1131	F2A0J221A181	ELECTROLYTICAL CAP. 220,00 µF 6,3 V
C1132	ECJ2VC1H560J	CERAMIC CAP. 56,00 PF 50,0 V
C1140	ECEA1CKA101B	ELECTROLYTICAL CAP. 100,00 µF 16,0 V
C1141	ECJ2VF1H104Z	CERAMIC CAP. 100,00 nF 50,0 V
C1142	ECJ2VF1H104Z	CERAMIC CAP. 100,00 nF 50,0 V
C2101	F2A1C101A180	ELECTROLYTICAL CAP. 100,00 µF 16,0 V
C2102	ECJ2VF1E104Z	CERAMIC CAP. 100,00 nF 25,0 V
C2103	ECJ2VF1C105Z	CERAMIC CAP. 1,00 µF 16,0 V
C2104	ECJ2VF1C105Z	CERAMIC CAP. 1,00 µF 16,0 V
C2105	ECJ2VF1C105Z	CERAMIC CAP. 1,00 µF 16,0 V
C2106	ECJ2VF1C105Z	CERAMIC CAP. 1,00 µF 16,0 V
C2109	F2A1C100A180	ELECTROLYTICAL CAP. 10,00 µF 16,0 V
C2110	ECJ2VB1H332K	CERAMIC CAP. 3,30 nF 50,0 V
C2111	ECJ2VB1H332K	CERAMIC CAP. 3,30 nF 50,0 V

Ref. No.	Part No.	Part Name & Description
C2113	ECA1HM4R7B	ELECTROLYTICAL CAP. 4,70 µF 50,0 V
C2115	ECA1HM4R7B	ELECTROLYTICAL CAP. 4,70 µF 50,0 V
C2118	ECQV1H104JL3	POLYESTER CAP. 100,00 nF 50,0 V
C2120	ECEA1HKS3R3B	ELECTROLYTICAL CAP. 3,30 µF 50,0 V
C2121	ECJ2VF1E104Z	CERAMIC CAP. 100,00 nF 25,0 V
C2124	F2A1H100A182	ELECTROLYTICAL CAP. 10,00 µF 50,0 V
C2125	ECJ2VF1C105Z	CERAMIC CAP. 1,00 µF 16,0 V
C2133	ECJ2VC1H560J	CERAMIC CAP. 56,00 PF 50,0 V
C2134	ECJ2VC1H470J	CERAMIC CAP. 47,00 PF 50,0 V
C2135	ECJ2VC1H560J	CERAMIC CAP. 56,00 PF 50,0 V
C2136	ECJ2VC1H560J	CERAMIC CAP. 56,00 PF 50,0 V
C2137	ECJ2VC1H560J	CERAMIC CAP. 56,00 PF 50,0 V
C2138	ECJ2VC1H470J	CERAMIC CAP. 47,00 PF 50,0 V
C2139	ECJ2VC1H010C	CERAMIC CAP. 1,00 PF 50,0 V
C2140	ECJ2VC1H010C	CERAMIC CAP. 1,00 PF 50,0 V
C2141	ECJ2VF1C105Z	CERAMIC CAP. 1,00 µF 16,0 V
C2142	ECJ2VF1C105Z	CERAMIC CAP. 1,00 µF 16,0 V
C2151	ECJ2VC1H331J	CERAMIC CAP. 330,00 PF 50,0 V
C2152	ECJ2VF1H103Z	CERAMIC CAP. 10,00 nF 50,0 V
C2302	F2A1C222A117	ELECTROLYTICAL CAP. 2.200,00 µF 16,0 V
C2303	F2A1C100A180	ELECTROLYTICAL CAP. 10,00 µF 16,0 V
C2304	ECEA1HKN010B	ELECTROLYTICAL CAP. 1,00 µF 50,0 V
C2305	ECEA1HKN010B	ELECTROLYTICAL CAP. 1,00 µF 50,0 V
C2306	F2A1H100A182	ELECTROLYTICAL CAP. 10,00 µF 50,0 V
C2307	ECJ2VC1H122J	CERAMIC CAP. 1,20 nF 50,0 V
C2308	ECJ2VC1H122J	CERAMIC CAP. 1,20 nF 50,0 V
C2380	F2A1C101A180	ELECTROLYTICAL CAP. 100,00 µF 16,0 V
C2381	F2A1C100A180	ELECTROLYTICAL CAP. 10,00 µF 16,0 V
C3020	ECJ2VC1H561K	CERAMIC CAP. 560,00 PF 50,0 V
C3021	F2A1C4710045	ELECTROLYTICAL CAP. 470,00 µF 16,0 V
C3028	ECJ2VF1C105Z	CERAMIC CAP. 1,00 µF 16,0 V
C3036	ECJ2VC1H561K	CERAMIC CAP. 560,00 PF 50,0 V
C3037	ECJ2VF1C105Z	CERAMIC CAP. 1,00 µF 16,0 V
C3038	ECJ2VC1H561K	CERAMIC CAP. 560,00 PF 50,0 V
C3039	ECJ2VC1H561K	CERAMIC CAP. 560,00 PF 50,0 V
C3136	ECJ2VB1H103J	CERAMIC CAP. 10,00 nF 50,0 V
C3137	ECJ2VB1H103J	CERAMIC CAP. 10,00 nF 50,0 V
C3138	F2A1C100A180	ELECTROLYTICAL CAP. 10,00 µF 16,0 V
C3139	F2A1C100A180	ELECTROLYTICAL CAP. 10,00 µF 16,0 V
C3143	ECJ2VC1H561K	CERAMIC CAP. 560,00 PF 50,0 V
C3144	ECJ2VC1H561K	CERAMIC CAP. 560,00 PF 50,0 V
C3273	F2A1C220A180	ELECTROLYTICAL CAP. 22,00 µF 16,0 V
C3283	F2A1C220A180	ELECTROLYTICAL CAP. 22,00 µF 16,0 V
C3290	ECJ2VB1E105K	CERAMIC CAP. 1,00 µF 25,0 V
C3291	ECJ2VB1E105K	CERAMIC CAP. 1,00 µF 25,0 V
C3292	F2A1C3310039	ELECTROLYTICAL CAP. 330,00 µF 16,0 V
C3293	ECJ2YB1H473K	CERAMIC CAP. 47,00 nF 50,0 V
CONNECTORS		
A100	K1KB08A00054	CONNECTOR
A12-A22	BJP11V04-AP	CONNECTOR
A22-SPK	TXAJTA22CB20K	CONNECTOR
A5-L5	TXAJTA5CB14A12	CONNECTOR
A8-L8	TXAJTA8CB29K	CONNECTOR
JK3002	K4BK09B00006	AV TERMINAL (STEREO)
JK3003	K4BK07B00008	AV TERMINAL (YPBPR)
JK3102	K4BC14B00004	AV TERMINAL (FRONTAL)
JK351	330550044K2F	CRT 20" SOCKET
Y100	K1KA08B00121	CONNECTOR
DIODES		
D002	B0BA01700031	ZENER DIODE 17,0 V 0,5 W 5,0 mA
D003	B0BA01500036	ZENER DIODE 15,0 V 0,5 W 5,0 mA
D011	MA3X152K0L	SWITCHING DIODE 80,0 V 100,0 mA
D354	MA3X152K0L	SWITCHING DIODE 80,0 V 100,0 mA
D355	MA3X152K0L	SWITCHING DIODE 80,0 V 100,0 mA
D356	MA3X152K0L	SWITCHING DIODE 80,0 V 100,0 mA
D360	B0HAGP000003	RECTIFIER DIODE 400,0 V 0,5 A
D361	B0HAGP000003	RECTIFIER DIODE 400,0 V 0,5 A
D362	B0HAGP000003	RECTIFIER DIODE 400,0 V 0,5 A
D363	MA3X152K0L	SWITCHING DIODE 80,0 V 100,0 mA
D365	B0BA9R900005	ZENER DIODE 9,9 V 0,5 W 5,0 mA
D375	MA3X152K0L	SWITCHING DIODE 80,0 V 100,0 mA
D402	B0HAHM000008	RECTIFIER DIODE 200,0 V 0,6 A
D403	B0ACCK000005	SWITCHING DIODE 90,0 V 100,0 mA
D404	B0ACCK000005	SWITCHING DIODE 90,0 V 100,0 mA

Ref. No.	Part No.	Part Name & Description
D511	MAZ4108J0F	ZENER DIODE 10,8 V 0,37 W 250,0 mA
D512	MA2B17100E	SWITCHING DIODE 200,0 Ma
D513	B0HAJP000015	RECTIFIER DIODE 400,0 V 0,7 A
D515	B0HAJP000015	RECTIFIER DIODE 400,0 V 0,7 A
D520	MA3X152K0L	SWITCHING DIODE 80,0 V 100,0 mA
D551	MAZ30470HL	ZENER DIODE 4,9 V 0,2 W 5,0 mA
D552	B0HAJP000015	RECTIFIER DIODE 400,0 V 0,7 A
D555	MA3X152K0L	SWITCHING DIODE 80,0 V 100,0 mA
D556	B0EAKV000008	RECTIFIER DIODE 1.000,0 V 1,0 A
D557	RU2AMV1	RECTIFIER DIODE 600,0 V 1,1 A
D558	MA2C18500E	SWITCHING DIODE 200,0 V 200,0 mA
D580	B0BA03100002	ZENER DIODE 31,0 V 0,5 W 5,0 Ma
D581	MA3X152K0L	SWITCHING DIODE 80,0 V 100,0 mA
D582	MA3X152K0L	SWITCHING DIODE 80,0 V 100,0 mA
D583	MA3X152E0L	SWITCHING DIODE 80,0 V 100,0 mA
D584	MAZ30560HL	ZENER DIODE 5,8 V 0,2 W 5,0 mA
D630	MAZ30560HL	ZENER DIODE 5,8 V 0,2 W 5,0 mA
D801	ERZV10V621CS	VARISTOR
D803	B0EBNT000002	RECTIFIER DIODE 800,0 V 4,0 A
D804	TAP4GA0005	POSISTOR 12,0 OHM
D810	B0EAKT000019	RECTIFIER DIODE 800,0 V 1,0 A
D817	B0HAJL000001	RECTIFIER DIODE 100,0 V 0,7 A
D820	MAZ20820A0LS	ZENER DIODE 8,0 V 1/2 W
D821	MAZ20750A0LS	ZENER DIODE 7,2 V 1/2 W
D823	B0HAJL000001	RECTIFIER DIODE 100,0 V 0,7 A
D824	B0HAJL000001	RECTIFIER DIODE 100,0 V 0,7 A
D825	B0BA6R100003	ZENER DIODE 6,1 V 0,5 W 5,0 mA
D830	B0HAJL000001	RECTIFIER DIODE 100,0 V 0,7 A
D831	B0BA02400029	ZENER DIODE 24,0 V 0,5 W 5,0 mA
D853	B0HAMM000101	RECTIFIER DIODE 200,0 V 1,5 A
D854	B0HAPV000009	RECTIFIER DIODE 1.000,0 V 3,0 A
D855	B0HFRJ000012	RECTIFIER DIODE 80,0 V 5,0 A
D856	B0BA7R500006	ZENER DIODE 7,5 V 1/2 W 5,0 mA
D860	B3PAA0000135	PHOTO COUPLER
D862	B0BA2R100003	ZENER DIODE 2,1 V 0,5 W 5,0 mA
D863	B0HAJL000001	RECTIFIER DIODE 100,0 V 0,7 A
D865	B0BA3R500006	ZENER DIODE 3,5 V 0,5 W 5,0 mA
D870	B0HAJL000001	RECTIFIER DIODE 100,0 V 0,7 A
D871	B0HAJL000001	RECTIFIER DIODE 100,0 V 0,7 A
D1105	B0BA7R500006	ZENER DIODE 7,5 V 1/2 W 5,0 mA
D1120	MA3X152K0L	SWITCHING DIODE 80,0 V 100,0 mA
D1130	B0BA5R700008	ZENER DIODE 5,7 V 0,5 W 5,0 mA
D1131	B0BA5R700008	ZENER DIODE 5,7 V 0,5 W 5,0 mA
D1132	B0BA5R400008	ZENER DIODE 5,4 V 1/2 W 5,0 mA
D1140	B0BA5R600016	ZENER DIODE 5,6 V 0,5 W 5,0 mA
D1151	EL333ID/S928	LED DIODE
D2380	MA3X152K0L	SWITCHING DIODE 80,0 V 100,0 mA
D2381	MA3X152K0L	SWITCHING DIODE 80,0 V 100,0 mA
D2382	MA3X152K0L	SWITCHING DIODE 80,0 V 100,0 mA
FUSE		
F801	K5D402BK0004	FUSE (4A / 250V)
INTEGRATED CIRCUITS		
IC351	TDA6107JF/N3	IC RGB DRIVE
IC451	AN5522	IC VERTICAL DRIVE
IC601	TDA9580H/N3	IC PROCESSOR/CONTROLLER
IC801	C5HABZZ00116	IC OSCILLATOR
IC802	C0EAS0000026	IC 10V DETECTOR
IC851	C0DAAHF00005	IC 5V / 8V REGULATOR
IC880	AN78L05-TA	IC 5V REGULATOR
IC1103	C3EBFC000021	IC EEPROM
IC1104	B3RAD0000012	IC RC RECEPTOR
IC1201	C0CBABC00037	IC 3,3V REGULATOR
IC2101	C1AB00001960	C.I. AUDIO PROCESSOR
IC2301	AN17820B	IC
COILS		
J333	EXCELSA39V	BEAD CORE Z=80 OHMS
L001	G0C100K00008	PIC COIL 10,00 µH I=0,4A
L002	EXC3BB221H	BEAD CORE Z=200 OHMS I= 0,2 A
L182	TALV35VB6R8K	PIC COIL 6,80 µH I=0,4A
L185	G0C100JA0021	COIL 10,00 µH
L352	J0JKA0000022	BEAD CORE I=6 A / Z= 60 OHMS
L401	EXCELSA35T	BEAD CORE
L501	ELH5L4152	LINEARITY COIL 87,0 Mh
L502	EXCELSA35T	BEAD CORE

Ref. No.	Part No.	Part Name & Description
L510	EXCELSA35T	BEAD CORE
L511	EXCELSA35T	BEAD CORE
L550	J0JKB0000038	BEAD CORE I=6 A / Z= 100 OHMS
L602	J0JKA0000024	BEAD CORE I=6 A / Z= 100 OHMS
L603	J0JKA0000024	BEAD CORE I=6 A / Z= 100 OHMS
L605	EXCELSA35T	BEAD CORE
L606	EXCELSA35T	BEAD CORE
L607	J0JKB0000034	PIC COIL I = 6 A / Z=100 OHMS (100MHZ)
L620	J0JCC0000009	BEAD CORE 200MA, 2,25KOHM
L801	ELF21V012S	LINE FILTER 25,00 mH
L820	EXCELSA39E	FERRITE Z=80 OHMS I=6A
L821	EXCELSA35T	BEAD CORE
L852	EXCELSA35B	FERRITE Z=40 OHMS I=6A
L853	EXCELSA39E	FERRITE Z=80 OHMS I=6A
L854	EXCELSA35B	FERRITE Z=40 OHMS I=6A
L862	G0C1R5KA0030	PIC COIL 1,50 µH
L871	G0C1R5KA0030	PIC COIL 1,50 µH
L872	G0C100K00008	PIC COIL 10,00 µH I=0,4A
L873	EXCELSA39V	BEAD CORE Z=80 OHMS
L1051	J0JKA0000022	BEAD CORE I=6 A / Z= 60 OHMS
L1101	TALV35VB331K	PIC COIL 330,00 µH I=0,4A
L1110	EXCELSA35T	BEAD CORE
L2104	G0C330JA0021	PIC COIL 33,00 µH
L2132	G0C180KA0004	PIC COIL 18,00 µH
L2134	G0C270JA0021	PIC COIL 27,00 µH
L2142	EXCELSA35T	FERRITE
L3016	J0JKA0000024	BEAD CORE I=6 A / Z= 100 OHMS
L3037	J0JKA0000024	BEAD CORE I=6 A / Z= 100 OHMS
L3041	J0JKA0000024	BEAD CORE I=6 A / Z= 100 OHMS
L3042	J0JKA0000024	BEAD CORE I=6 A / Z= 100 OHMS
L3137	J0JKA0000024	BEAD CORE I=6 A / Z= 100 OHMS
L3261	G0C8R2KA0030	PIC COIL 8,20 µH
TRANSISTORS		
Q001	B1ABCE000005	TRANSISTOR NPN 0,2W 200,0 mA
Q369	2SB0709A0L	TRANSISTOR PNP 1/5 W 50,0 V 100,0 mA
Q400	B1ABCE000005	TRANSISTOR NPN 0,2W 200,0 mA
Q501	2SC4212H00LB	TRANSISTOR NPN 1 W 300,0 V
Q520	2SB792ATX	TRANSISTOR PNP 0,2 W 185,0 V 50,0 Ma
Q551	2SC5902000LK	TRANSISTOR NPN 1.000,0 V 8,0 A
Q580	B1ABCE000005	TRANSISTOR NPN 0,2W 200,0 mA
Q581	2SB0709A0L	TRANSISTOR PNP 1/5 W 50,0 V 100,0 mA
Q601	2SB0709A0L	TRANSISTOR PNP 1/5 W 50,0 V 100,0 mA
Q602	B1ABCE000005	TRANSISTOR NPN 0,2W 200,0 mA
Q850	B1BCCM000002	TRANSISTOR PNP 200,0 V 2,0 A
Q852	B1ABCE000005	TRANSISTOR NPN 0,2W 200,0 mA
Q857	2SC54190RA	TRANSISTOR NPN 1 W 187,0 V 70,0 mA
Q870	B1ABCE000005	TRANSISTOR NPN 0,2W 200,0 mA
Q871	B1ABCE000005	TRANSISTOR NPN 0,2W 200,0 mA
Q1053	B1ABCE000005	TRANSISTOR NPN 0,2W 200,0 mA
Q1110	2SB0709A0L	TRANSISTOR PNP 1/5 W 50,0 V 100,0 mA
Q2110	B1ADDF000003	TRANSISTOR PNP 0,2 W 50,0 V 200,0 mA
Q2111	B1ADDF000003	TRANSISTOR PNP 0,2 W 50,0 V 200,0 mA
Q2151	B1ABCE000005	TRANSISTOR NPN 0,2W 200,0 mA
Q2380	B1ABCE000005	TRANSISTOR NPN 0,2W 200,0 mA
Q2381	2SB0709A0L	TRANSISTOR PNP 1/5 W 50,0 V 100,0 mA
Q3030	B1ABCE000005	TRANSISTOR NPN 0,2W 200,0 mA
Q3270	B1ABCE000005	TRANSISTOR NPN 0,2W 200,0 Ma
Q3271	B1ABCE000005	TRANSISTOR NPN 0,2W 200,0 Ma
Q3280	B1ABCE000005	TRANSISTOR NPN 0,2W 200,0 Ma
Q3281	B1ABCE000005	TRANSISTOR NPN 0,2W 200,0 Ma
Q3290	B1ABCE000005	TRANSISTOR NPN 0,2W 200,0 Ma
Q3291	B1ABCE000005	TRANSISTOR NPN 0,2W 200,0 Ma
RESISTORS		
JA12	ERJ6GEY0R00V	FILM RESISTOR 0,00 Ohm 1/8 W
JA5	ERJ6GEY0R00V	FILM RESISTOR 0,00 Ohm 1/8 W
JA6	ERJ6GEY0R00V	FILM RESISTOR 0,00 Ohm 1/8 W
JS3260	ERJ6GEY0R00V	FILM RESISTOR 0,00 Ohm 1/8 W
R003	ERJ6GEYJ100V	FILM RESISTOR 10,00 Ohm 1/8 W
R004	ERG3FJ183H	FILM RESISTOR 18,00 kOhm 3 W ,
R006	ERJ6GEYJ273V	FILM RESISTOR 27,00 kOhm 1/8 W
R007	ERJ6GEYJ472V	FILM RESISTOR 4,70 kOhm 1/8 W
R008	ERJ6GEYJ681V	FILM RESISTOR 680,00 Ohm 1/8 W
R011	ERJ6GEYJ103V	FILM RESISTOR 10,00 kOhm 1/8 W
R012	ERJ6GEYJ332V	FILM RESISTOR 3,30 kOhm 1/8 W

Ref. No.	Part No.	Part Name & Description
R021	ERJ6GEYJ273V	FILM RESISTOR 27,00 kOhm 1/8 W
R022	ERJ6GEYJ473V	FILM RESISTOR 47,00 kOhm 1/8 W
R182	ERJ6GEYJ221V	FILM RESISTOR 220,00 Ohm 1/8 W
R186	ERJ6GEYJ471V	FILM RESISTOR 470,00 Ohm 1/8 W
R187	ERJ6GEYJ221V	FILM RESISTOR 220,00 Ohm 1/8 W
R190	ERJ6GEYJ391V	FILM RESISTOR 390,00 Ohm 1/8 W
R351	ERJ6ENF1001V	FILM RESISTOR 1,00 kOhm 1/10 W
R352	ERJ6ENF1001V	FILM RESISTOR 1,00 kOhm 1/10 W
R353	ERJ6ENF1001V	FILM RESISTOR 1,00 kOhm 1/10 W
R354	ERJ6ENF7870V	FILM RESISTOR 787,00 Ohm 1/10 W
R355	ERJ6ENF7870V	FILM RESISTOR 787,00 Ohm 1/10 W
R356	ERJ6ENF7870V	FILM RESISTOR 787,00 Ohm 1/10 W
R363	ERC12GK222V	CARBON RESISTOR 2,20 kOhm 1/2 W
R364	ERC12GK222V	CARBON RESISTOR 2,20 kOhm 1/2 W
R365	ERC12GK222V	CARBON RESISTOR 2,20 kOhm 1/2 W
R369	ERJ6GEYJ103V	FILM RESISTOR 10,00 kOhm 1/8 W
R374	ERQ12AJ181P	FUSISTOR 180,00 Ohm 1/2 W
R401	ERDS2TJ104T	CARBON RESISTOR 100,00 kOhm 1/4 W
R402	ERJ6GEYJ470V	FILM RESISTOR 47,00 Ohm 1/8 W
R403	EROS2THF2491	FILM RESISTOR 2,49 kOhm 0,25 W I
R404	ERDS2TJ751T	CARBON RESISTOR 750,00 Ohm 1/4 W
R405	EROS2THF2701	FILM RESISTOR 2,70 kOhm 0,25 W
R406	ERDS1FJ1R0T	CARBON RESISTOR 1,00 Ohm 1/2 W
R407	ERG2FJ331H	FILM RESISTOR 330,00 Ohm 2 W
R408	ERD25V0R00T	CARBON RESISTOR 0,00 Ohm 1/4 W
R409	ERJ6GEYJ512V	FILM RESISTOR 5,10 kOhm 1/8 W
R410	ERJ6GEYJ202V	FILM RESISTOR 2,00 kOhm 1/8 W
R411	ERDS2TJ202T	CARBON RESISTOR 2,00 kOhm 1/4 W
R412	ERDS2TJ332T	CARBON RESISTOR 3,30 kOhm 1/4 W
R413	ERDS2TJ431T	CARBON RESISTOR 430,00 Ohm 1/4 W
R414	ERJ6GEYJ432V	FILM RESISTOR 4,30 kOhm 1/10 W
R415	ERDS2TJ431T	CARBON RESISTOR 430,00 Ohm 1/4 W
R416	ERDS1TJ1R2T	CARBON RESISTOR 1,20 Ohm 1/2 W
R417	ERDS1TJ1R2T	CARBON RESISTOR 1,20 Ohm 1/2 W
R502	ERJ6GEYJ182V	FILM RESISTOR 1,80 kOhm 1/8 W
R504	ERG2SJ682E	FILM RESISTOR 6,80 kOhm
R507	ERJ6GEYJ101V	FILM RESISTOR 100,00 Ohm 1/8 W
R508	ERG3FJ152H	FILM RESISTOR 1,50 kOhm 3 W
R509	ERG3FJ182H	FILM RESISTOR 1,80 kOhm 3 W ,
R511	ERJ6ENF1002V	FILM RESISTOR 10,00 kOhm 1/10 W
R512	ERJ6ENF1152V	FILM RESISTOR 11,50 kOhm 1/10 W
R513	ERQ14AJ100E	FUSISTOR 10,00 Ohm 1/4 W
R519	ERQ12AJ100E	FUSISTOR 10,00 Ohm 1/2 W
R520	ERQ12AJ100E	FUSISTOR 10,00 Ohm 1/2 W
R521	ERQ12AJ100E	FUSISTOR 10,00 Ohm 1/2 W
R522	ERJ6GEYJ273V	FILM RESISTOR 27,00 kOhm 1/8 W
R523	ERJ6GEYJ103V	FILM RESISTOR 10,00 kOhm 1/8 W
R524	ERJ6GEYJ104V	FILM RESISTOR 100,00 kOhm 1/8 W
R525	ERJ6GEYJ392V	FILM RESISTOR 3,90 kOhm 1/8 W
R553	ERJ6GEYJ223V	FILM RESISTOR 22,00 kOhm 1/8 W
R555	ERQ14AJ2R0P	FUSISTOR 2,00 Ohm 1/4 W
R556	ERO50PKF5603	FILM RESISTOR 560,00 kOhm 1/2 W
R557	ERO50PKF9532	FILM RESISTOR 95,30 kOhm 1/2 W
R558	ERDS2TJ223T	CARBON RESISTOR 22,00 kOhm 1/4 W
R559	ERQ1CJP2R2S	FUSISTOR 2,20 Ohm 1 W
R560	ERG1SJ102E	FILM RESISTOR 1,00 kOhm 1 W
R580	ERJ6GEYJ392V	FILM RESISTOR 3,90 kOhm 1/8 W
R581	ERJ6GEYJ183V	FILM RESISTOR 18,00 kOhm 1/8 W
R582	ERJ6GEYJ154V	FILM RESISTOR 150,00 kOhm 1/8 W
R583	ERJ6GEYJ274V	FILM RESISTOR 270,00 kOhm 1/8 W
R584	ERJ6GEYJ563V	FILM RESISTOR 56,00 kOhm 1/8 W
R585	ERJ6GEYJ272V	FILM RESISTOR 2,70 kOhm 1/8 W
R586	ERJ6GEYJ103V	FILM RESISTOR 10,00 kOhm 1/8 W
R587	ERJ6GEYJ823V	FILM RESISTOR 82,00 kOhm 1/8 W
R588	ERJ6GEYJ104V	FILM RESISTOR 100,00 kOhm 1/8 W
R589	ERJ6GEYJ103V	FILM RESISTOR 10,00 kOhm 1/8 W
R590	ERJ6GEYJ333V	FILM RESISTOR 33,00 kOhm 1/8 W
R591	ERJ6GEYJ103V	FILM RESISTOR 10,00 kOhm 1/8 W
R592	ERJ6GEYJ222V	FILM RESISTOR 2,20 kOhm 1/8 W
R593	ERJ6GEYJ103V	FILM RESISTOR 10,00 kOhm 1/8 W
R594	ERJ6GEYJ104V	FILM RESISTOR 100,00 kOhm 1/8 W
R601	ERJ6GEYJ153V	FILM RESISTOR 15,00 kOhm 1/8 W
R603	ERJ6GEYJ393V	FILM RESISTOR 39,00 kOhm 1/8 W
R604	ERJ6GEYJ101V	FILM RESISTOR 100,00 Ohm 1/8 W

Ref. No.	Part No.	Part Name & Description
R605	ERJ6GEYJ101V	FILM RESISTOR 100,00 Ohm 1/8 W
R606	ERJ6GEYJ101V	FILM RESISTOR 100,00 Ohm 1/8 W
R607	ERJ6GEYJ102V	FILM RESISTOR 1,00 kOhm 1/8 W
R608	ERJ6GEYJ103V	FILM RESISTOR 10,00 kOhm 1/8 W
R609	ERJ6GEYJ153V	FILM RESISTOR 15,00 kOhm 1/8 W
R612	ERJ6GEYJ102V	FILM RESISTOR 1,00 kOhm 1/8 W
R614	ERJ6GEYJ392V	FILM RESISTOR 3,90 kOhm 1/8 W
R617	ERJ6GEYJ391V	FILM RESISTOR 390,00 Ohm 1/8 W
R619	ERJ6GEYJ121V	FILM RESISTOR 120,00 Ohm 1/8 W
R620	ERJ6GEYJ121V	FILM RESISTOR 120,00 Ohm 1/8 W
R623	ERJ6GEYJ331V	FILM RESISTOR 330,00 Ohm 1/8 W
R633	ERJ6GEYJ470V	FILM RESISTOR 47,00 Ohm 1/8 W
R634	ERJ6GEYJ750V	FILM RESISTOR 75,00 Ohm 1/8 W
R640	ERJ6GEYJ822V	FILM RESISTOR 8,20 kOhm 1/8 W
R672	ERJ6GEYJ181V	FILM RESISTOR 180,00 Ohm 1/8 W
R686	ERJ6GEYJ470V	FILM RESISTOR 47,00 Ohm 1/8 W
R687	ERJ6GEYJ472V	FILM RESISTOR 4,70 kOhm 1/8 W
R688	ERJ6GEYJ103V	FILM RESISTOR 10,00 kOhm 1/8 W
R689	ERJ6GEYJ750V	FILM RESISTOR 75,00 Ohm 1/8 W
R801	D0D72R2KA002	WIRE RESITOR 2,20 Ohm 7 W
R810	ERG2FJ470	FILM RESISTOR 47,00 Ohm 2 W
R811	ERG2FJ104H	FILM RESISTOR 100,00 kOhm 2 W
R817	ERDS1TJ100T	CARBON RESISTOR 10,00 Ohm 1/2 W
R817	ERDS1TJ220T	CARBON RESISTOR 22,00 Ohm 1/2 W
R818	ERG2FJ473H	FILM RESISTOR 47,00 kOhm 2 W
R818	ERG2FJ473H	FILM RESISTOR 47,00 kOhm 2 W
R818	ERG2FJ683H	FILM RESISTOR 68,00 kOhm 2 W
R820	ERX12SJR33E	FILM RESISTOR 0,33 Ohm 1/2 W
R821	ERX12SJR27E	FILM RESISTOR 0,27 Ohm 1/2 W
R824	ERDS2TJ152T	CARBON RESISTOR 1,50 kOhm 1/4 W
R825	ERDS2TJ102T	CARBON RESISTOR 1,00 kOhm 1/4 W
R830	ERDS2TJ101T	CARBON RESISTOR 100,00 Ohm 1/4 W
R831	EROS2THF1102	FILM RESISTOR 11,00 kOhm 1/2 W
R832	ERDS2TJ473T	CARBON RESISTOR 47,00 kOhm 1/4 W
R840	ERD75TAJ825	CARBON RESISTOR 8,20 MOhm 3/4 W
R850	ERG2SJ470E	FILM RESISTOR 47,00 Ohm
R852	ERDS2TJ272T	CARBON RESISTOR 2,70 kOhm 1/4 W
R861	ERDS1TJ221T	CARBON RESISTOR 220,00 Ohm 1/2 W
R864	ERJ6GEYJ103V	FILM RESISTOR 10,00 kOhm 1/8 W
R866	ERJ6GEYJ472V	FILM RESISTOR 4,70 kOhm 1/8 W
R867	ERDS2TJ272T	CARBON RESISTOR 2,70 kOhm 1/4 W
R867	ERDS2TJ362T	CARBON RESISTOR 3,60 kOhm 1/4 W
R868	ERDS1TJ471T	CARBON RESISTOR 470,00 Ohm 1/2 W
R871	ERDS1TJ103T	CARBON RESISTOR 10,00 kOhm 1/2 W
R872	ERJ6GEYJ272V	FILM RESISTOR 2,70 kOhm 1/8 W
R873	ERJ6GEYJ472V	FILM RESISTOR 4,70 kOhm 1/8 W
R875	ERJ6GEYJ103V	FILM RESISTOR 10,00 kOhm 1/8 W
R1016	ERJ6ENF1651V	FILM RESISTOR 1,65 kOhm 1/10 W
R1017	ERJ6ENF2151V	FILM RESISTOR 2,15 kOhm 1/10 W
R1018	ERJ6ENF3091V	FILM RESISTOR 3,09 kOhm 1/10 W
R1019	ERJ6ENF4421V	FILM RESISTOR 4,42 kOhm 1/10 W
R1020	ERJ6ENF7501V	FILM RESISTOR 7,50 kOhm 1/10 W
R1021	ERJ6ENF1871V	FILM RESISTOR 1,87 kOhm 1/10 W
R1059	ERJ6GEYJ222V	FILM RESISTOR 2,20 kOhm 1/8 W
R1060	ERJ6GEYJ683V	FILM RESISTOR 68,00 kOhm 1/8 W
R1104	ERJ6GEYJ562V	FILM RESISTOR 5,60 kOhm 1/8 W
R1105	ERJ6GEYJ562V	FILM RESISTOR 5,60 kOhm 1/8 W
R1106	ERJ6GEYJ102V	FILM RESISTOR 1,00 kOhm 1/8 W
R1108	ERJ6GEYJ101V	FILM RESISTOR 100,00 Ohm 1/8 W
R1109	ERJ6GEYJ101V	FILM RESISTOR 100,00 Ohm 1/8 W
R1110	ERJ6GEYJ103V	FILM RESISTOR 10,00 kOhm 1/8 W
R1111	ERJ6GEYJ103V	FILM RESISTOR 10,00 kOhm 1/8 W
R1112	ERJ6GEYJ332V	FILM RESISTOR 3,30 kOhm 1/8 W
R1115	ERJ6GEYJ103V	FILM RESISTOR 10,00 kOhm 1/8 W
R1116	ERJ6GEYJ332V	FILM RESISTOR 3,30 kOhm 1/8 W
R1120	ERJ6GEYJ432V	FILM RESISTOR 4,30 kOhm 1/10 W
R1122	ERJ6GEYJ332V	FILM RESISTOR 3,30 kOhm 1/8 W
R1123	ERJ6GEYJ681V	FILM RESISTOR 680,00 Ohm 1/8 W
R1125	ERJ6GEYJ103V	FILM RESISTOR 10,00 kOhm 1/8 W
R1130	ERJ6GEYJ101V	FILM RESISTOR 100,00 Ohm 1/8 W
R1131	ERJ6GEYJ101V	FILM RESISTOR 100,00 Ohm 1/8 W
R1132	ERJ6GEYJ101V	FILM RESISTOR 100,00 Ohm 1/8 W
R1133	ERJ6GEYJ562V	FILM RESISTOR 5,60 kOhm 1/8 W
R1140	ERJ6ENF1002V	FILM RESISTOR 10,00 kOhm 1/10 W

Ref. No.	Part No.	Part Name & Description
R1141	ERJ6GEYJ562V	FILM RESISTOR 5,60 kOhm 1/8 W
R1142	ERJ6GEYJ100V	FILM RESISTOR 10,00 Ohm 1/8 W
R2101	ERJ6GEYJ101V	FILM RESISTOR 100,00 Ohm 1/8 W
R2102	ERJ6GEYJ101V	FILM RESISTOR 100,00 Ohm 1/8 W
R2106	ERJ6GEYJ432V	FILM RESISTOR 4,30 kOhm 1/10 W
R2107	ERJ6GEYJ432V	FILM RESISTOR 4,30 kOhm 1/10 W
R2109	ERJ6GEYJ101V	FILM RESISTOR 100,00 Ohm 1/8 W
R2112	ERJ6GEYJ222V	FILM RESISTOR 2,20 kOhm 1/8 W
R2113	ERJ6GEYJ222V	FILM RESISTOR 2,20 kOhm 1/8 W
R2120	ERJ6GEYJ184V	FILM RESISTOR 180,00 kOhm 1/8 W
R2130	ERJ6GEYJ471V	FILM RESISTOR 470,00 Ohm 1/8 W
R2131	ERJ6GEYJ101V	FILM RESISTOR 100,00 Ohm 1/8 W
R2151	ERJ6GEYJ563V	FILM RESISTOR 56,00 kOhm 1/8 W
R2152	ERJ6GEYJ273V	FILM RESISTOR 27,00 kOhm 1/8 W
R2153	ERJ6GEYJ221V	FILM RESISTOR 220,00 Ohm 1/8 W
R2154	ERJ6GEYJ621V	FILM RESISTOR 620,00 Ohm 1/8 W
R2155	ERJ6GEYJ471V	FILM RESISTOR 470,00 Ohm 1/8 W
R2302	ERJ6GEYJ153V	FILM RESISTOR 15,00 kOhm 1/8 W
R2303	ERJ6GEYJ472V	FILM RESISTOR 4,70 kOhm 1/8 W
R2380	ERJ6GEYJ151V	FILM RESISTOR 150,00 Ohm 1/8 W
R2381	ERJ6GEYJ102V	FILM RESISTOR 1,00 kOhm 1/8 W
R2382	ERJ6GEYJ102V	FILM RESISTOR 1,00 kOhm 1/8 W
R2383	ERJ6GEYJ103V	FILM RESISTOR 10,00 kOhm 1/8 W
R2384	ERJ6GEYJ100V	FILM RESISTOR 10,00 Ohm 1/8 W
R3010	ERJ6GEYJ184V	FILM RESISTOR 180,00 kOhm 1/8 W
R3012	ERJ6GEYJ184V	FILM RESISTOR 180,00 kOhm 1/8 W
R3013	ERJ6GEYJ184V	FILM RESISTOR 180,00 kOhm 1/8 W
R3014	ERJ6GEYJ184V	FILM RESISTOR 180,00 kOhm 1/8 W
R3015	ERJ6GEYJ101V	FILM RESISTOR 100,00 Ohm 1/8 W
R3022	ERJ6GEYJ101V	FILM RESISTOR 100,00 Ohm 1/8 W
R3032	ERJ6GEYJ101V	FILM RESISTOR 100,00 Ohm 1/8 W
R3033	ERJ6GEYJ101V	FILM RESISTOR 100,00 Ohm 1/8 W
R3034	ERJ6GEYJ181V	FILM RESISTOR 180,00 Ohm 1/8 W
R3035	ERJ6GEYJ560V	FILM RESISTOR 56,00 Ohm 1/8 W
R3036	ERJ6GEYJ330V	FILM RESISTOR 33,00 Ohm 1/10 W
R3038	ERJ6GEYJ101V	FILM RESISTOR 100,00 Ohm 1/8 W
R3039	ERJ6GEYJ101V	FILM RESISTOR 100,00 Ohm 1/8 W
R3048	ERJ6GEYJ184V	FILM RESISTOR 180,00 kOhm 1/8 W
R3132	ERJ6GEYJ331V	FILM RESISTOR 330,00 Ohm 1/8 W
R3133	ERJ6GEYJ331V	FILM RESISTOR 330,00 Ohm 1/8 W
R3141	ERJ6GEYJ184V	FILM RESISTOR 180,00 kOhm 1/8 W
R3142	ERJ6GEYJ184V	FILM RESISTOR 180,00 kOhm 1/8 W
R3144	ERJ6GEYJ101V	FILM RESISTOR 100,00 Ohm 1/8 W
R3145	ERJ6GEYJ101V	FILM RESISTOR 100,00 Ohm 1/8 W
R3259	ERJ6GEYJ750V	FILM RESISTOR 75,00 Ohm 1/8 W
R3272	ERJ6GEYJ222V	FILM RESISTOR 2,20 kOhm 1/8 W
R3275	ERJ6ENF4701V	FILM RESISTOR 4,70 kOhm 1/10 W
R3276	ERJ6ENF8200V	FILM RESISTOR 820,00 Ohm 1/10 W
R3277	ERJ6GEYJ823V	FILM RESISTOR 82,00 kOhm 1/8 W
R3278	ERJ6GEYJ183V	FILM RESISTOR 18,00 kOhm 1/8 W
R3279	ERJ6ENF75R0V	FILM RESISTOR 75,00 Ohm 1/10 W
R3282	ERJ6GEYJ222V	FILM RESISTOR 2,20 kOhm 1/8 W
R3285	ERJ6ENF5601V	FILM RESISTOR 5,60 kOhm 1/10 W
R3286	ERJ6ENF1201V	FILM RESISTOR 1,20 kOhm 1/10 W
R3287	ERJ6GEYJ823V	FILM RESISTOR 82,00 kOhm 1/8 W
R3288	ERJ6GEYJ183V	FILM RESISTOR 18,00 kOhm 1/8 W
R3289	ERJ6ENF75R0V	FILM RESISTOR 75,00 Ohm 1/10 W
R3290	ERJ6GEYJ222V	FILM RESISTOR 2,20 kOhm 1/8 W
R3291	ERJ6GEYJ222V	FILM RESISTOR 2,20 kOhm 1/8 W
R3292	ERJ6ENF1001V	FILM RESISTOR 1,00 kOhm 1/10 W
R3293	ERJ6ENF1001V	FILM RESISTOR 1,00 kOhm 1/10 W
R3294	ERJ6ENF1001V	FILM RESISTOR 1,00 kOhm 1/10 W
R3295	ERJ6ENF1001V	FILM RESISTOR 1,00 kOhm 1/10 W
SWITCHES		
S801	ESB92DA1B	SWITCH
S1001	EVQ11G05R	SWITCH
S1002	EVQ11G05R	SWITCH
S1003	EVQ11G05R	SWITCH
S1004	EVQ11G05R	SWITCH
S1005	EVQ11G05R	SWITCH
S1006	EVQ11G05R	SWITCH

Ref. No.	Part No.	Part Name & Description
TRANSFORMERS		
T501	ZTFN82001A	FLYBACK
T553	ETH19Y210AZZ	HORIZONTAL DRIVER
T801	ETS35AH1A6AC	CHOPPER TRANSFORMER
TUNER		
TNR001	ENV56K05G3	TUNER
OSCILLATORS		
X101	M1971M	SAW FILTER
X181	EFCT4R5MW5	CERAMIC FILTER
X184	EFCT4R5MS5W	CERAMIC FILTER
X601	H0D120500006	CRYSTAL 12,00 MHz
X2130	H0D184500008	CRYSTAL 18,4 MHZ
OTHERS		
F801-L	K3GD9BB00001	FUSE HOLDER
F801-R	K3GD9BB00001	FUSE HOLDER

Panasonic da Amazônia S.A.

CS DIVISION - TECHNICAL SUPPORT

Rod. Presidente Dutra, Km 155
São José dos Campos - SP