



# TELEVISOR A COLOR

Chassis : KS7D(N)\_Prime-2  
Model : CL29Z50MQTXXAO

# *MANUAL* Servicio

## TELEVISOR A COLOR



CL-29Z50MQ

## CARACTERÍSTICAS

- GREEN CRT
- Turbo Voice

Referirse al manual de servicio en GSPN (véase página siguiente) para más información.



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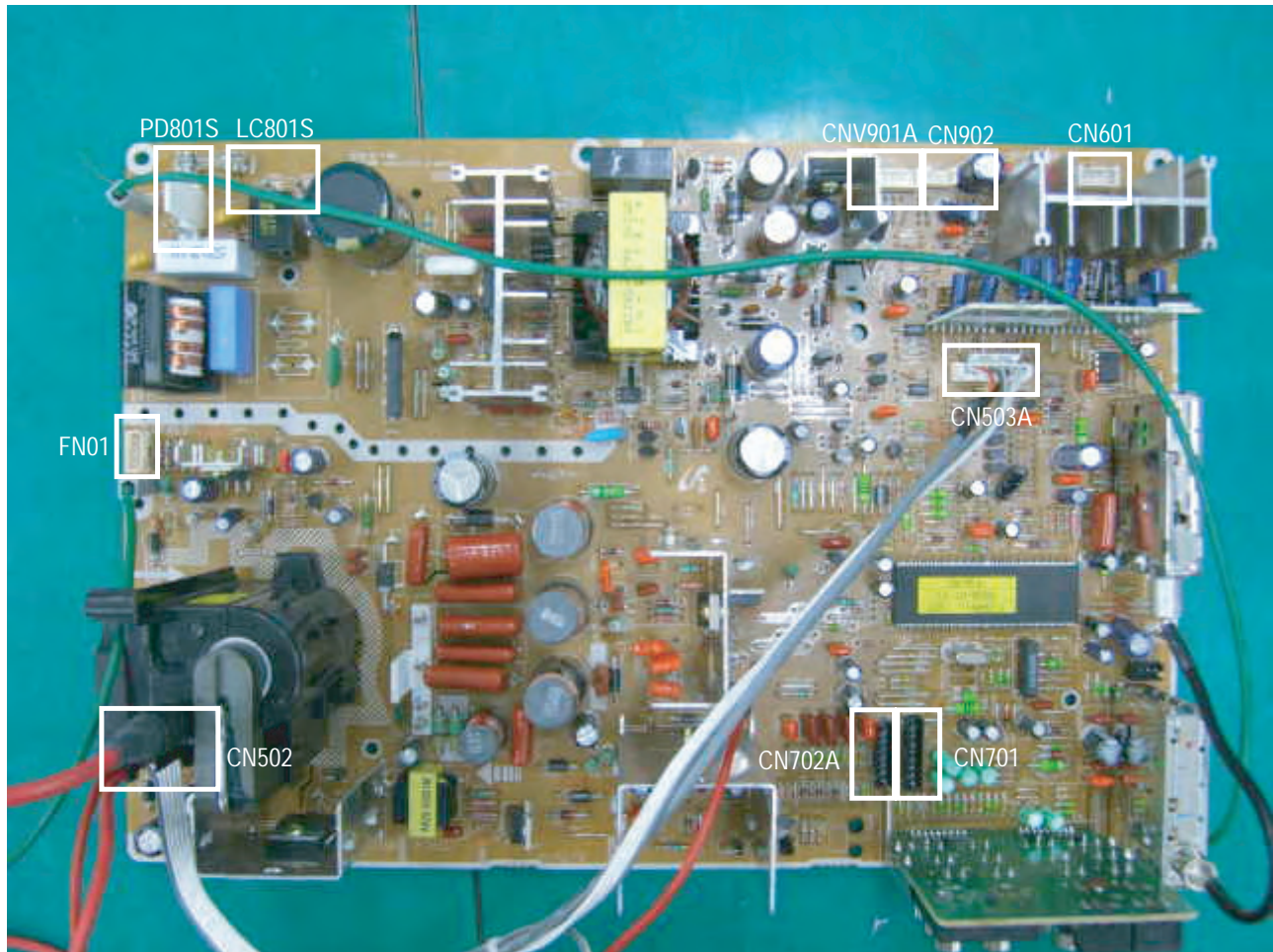
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## 9. PCB Diagram

### 9-1 Main Board

#### 9-1-1 Assy Main Board



#### 9-1-2 Names & Roles of Key Parts

- \* PD801S : This is a 3P connected to Power-cord.
- \* FN01 : This is a 4P connected to Tilt-Coil.
- \* CN502 : This is a 6P connected to Video amp B+,Heater Voltage in CRT PCB.
- \* CN702A : This is a 7P connected to S-VHS signal in Side AV PCB.
- \* CN701: This is a 8P connected to AV2 signal in Side AV PCB.
- \* CN503A : This is a 8P connected from MAIN PCB to CRT PCB for R,G,B,AKB signal.
- \* CNV901A : This is a 6P connected from Tact,S/W pcb for IR,LED,5V.
- \* CN902 : This is a 4P connected from Control PCB for Key1,Key2 input signal.
- \* CN601 : This is a 4P connected to Speaker for Sound output signal.

**9-1-3 Main Board Connector Pin**

CN601

Connected to the Side Sound Port

PIN No.	Pin Name
1	R -
2	R+
3	L+
4	L-

CN503A

Connected to the CRT Ass'y

PIN No.	Pin Name
1	B
2	G
3	R
4	GND
5	SE
6	GND
7	F/B
8	TILT

CN503B

Connecte to the CRT Ass'y

PIN No.	Pin Name
1	-16.5V
2	+16.5V
3	GND
4	HEATER
5	NC
6	200V

CN701

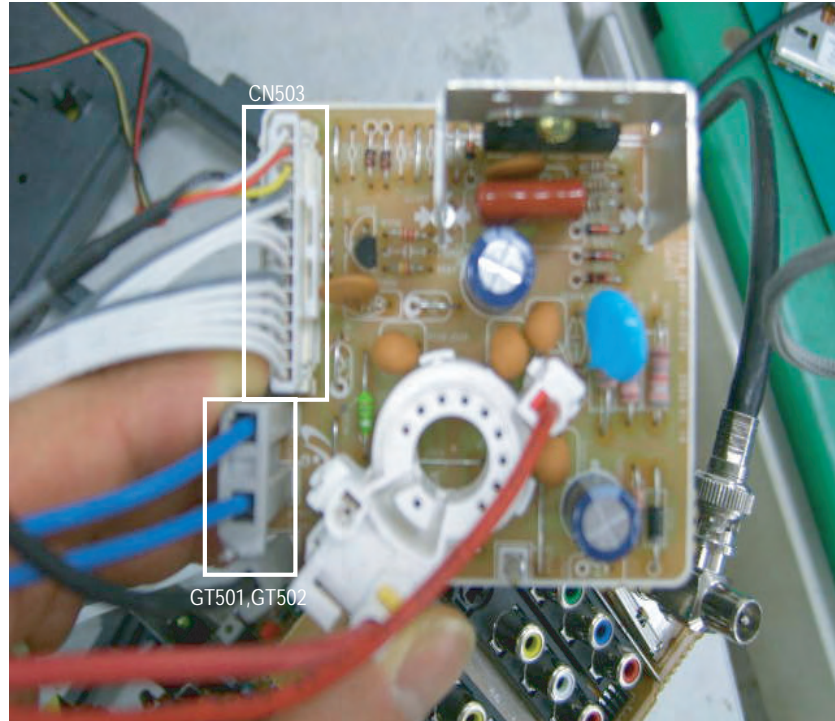
Connected to the Side AV Port

PIN No.	Pin Name
1	VO
2	GND
3	VI
4	GND
5	LO
6	RO
7	LI
8	RI

## 9-2 CRT Board

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### 9-2-1 Assy CRT Board



#### ■ CRT Drive

This supplies the final R/G/B signal from the Main Board and the CRT deflection signal to the CRT.

### 9-2-2 Names & Roles of Key Parts

\* CN503 : This is a 14P connected from MAIN PCB for R/G/B/AKB/HEATER/B+200V.

\* GT501,GT502 : This is a 2P connected to TBC-WIRE.

### 9-2-3 CRT Board Connector Pin

CN503

Connects the R/G/B signal and power for the CRT and AMP from the Main Board.

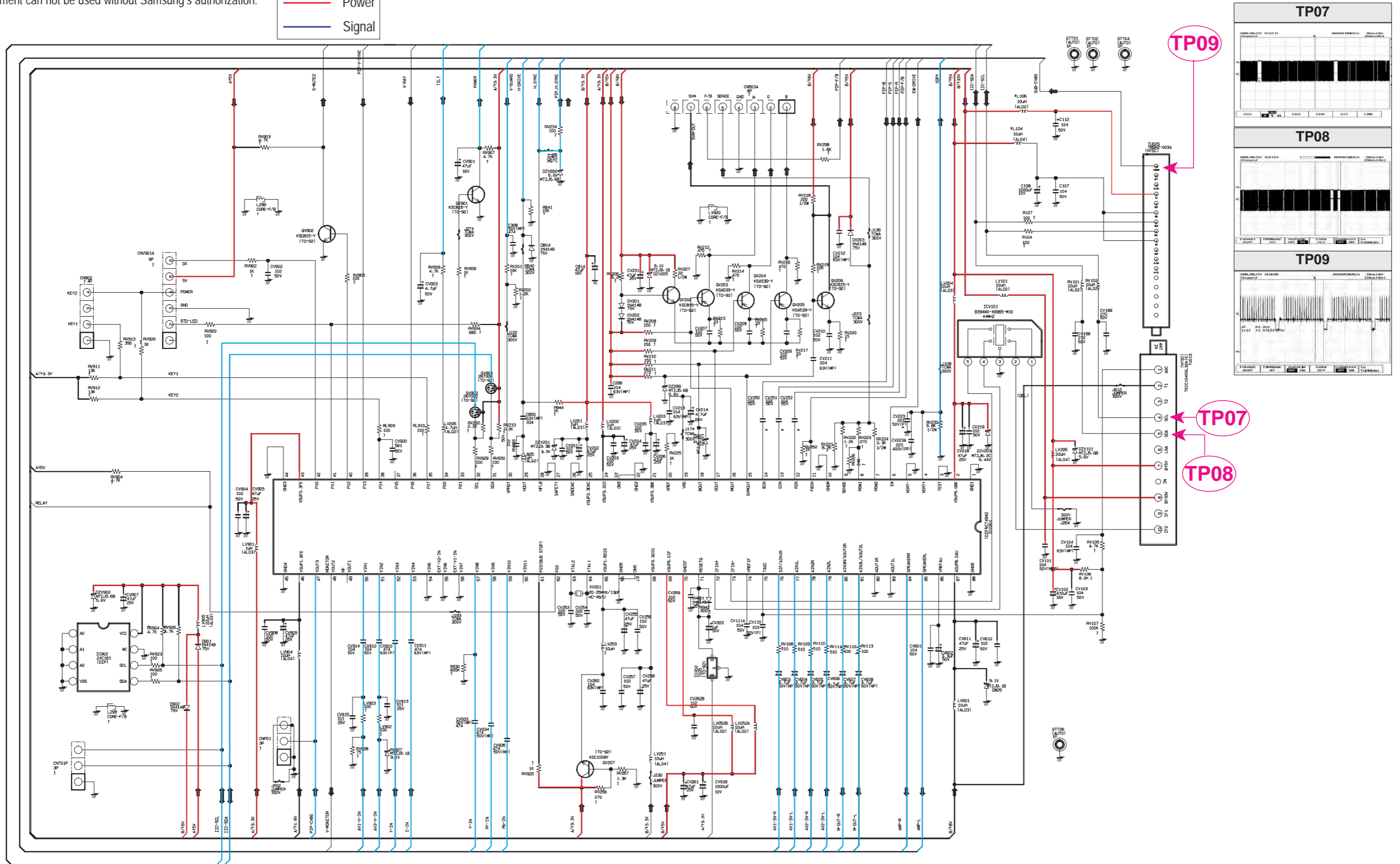
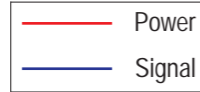
PIN No.	Pin NAME
1	B
2	G
3	R
4	GND
5	SE
6	GND
7	F/B
8	TILT
9	-16.5
10	+16.5
11	GND
12	Heater
13	NC
14	+200V



# 10. Diagramas Esquemáticos

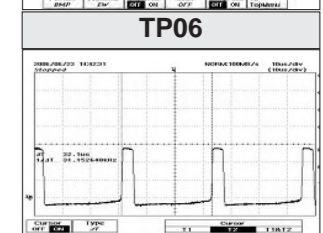
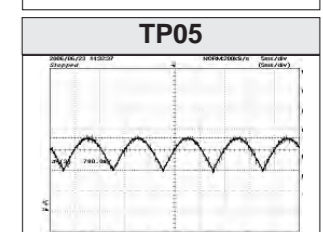
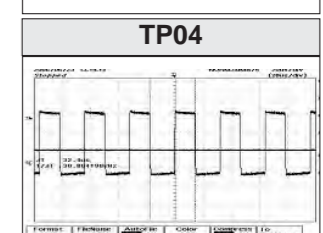
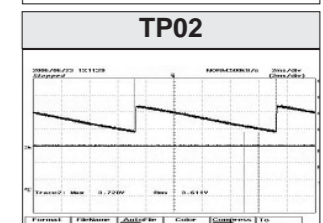
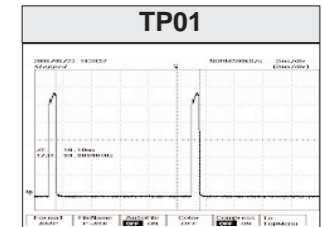
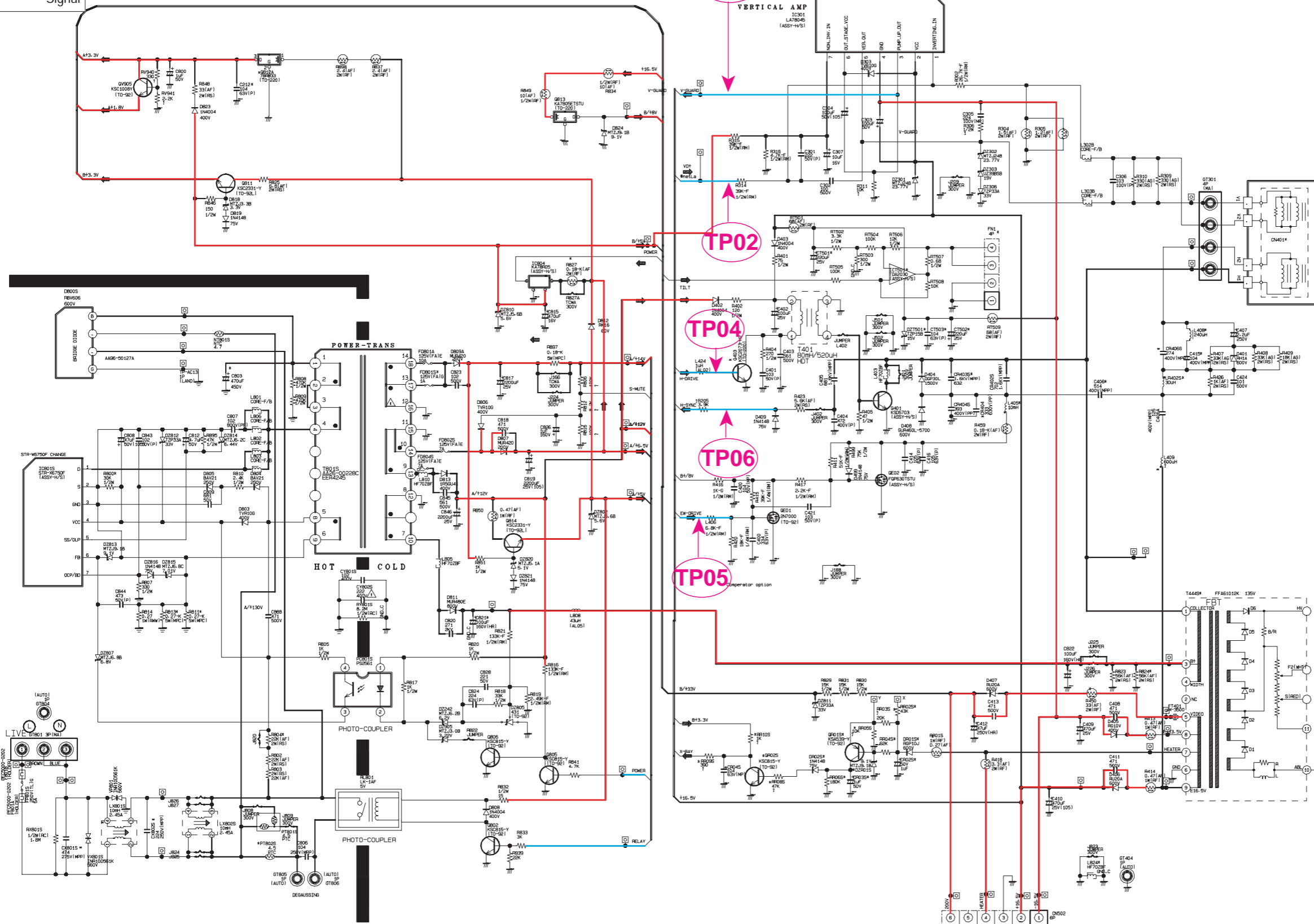
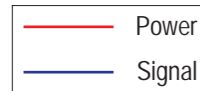
## 10-1 MAIN

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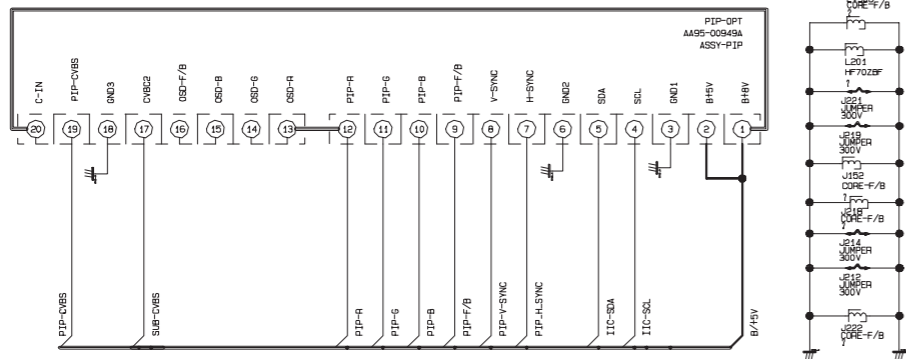
# 10-2 POWER

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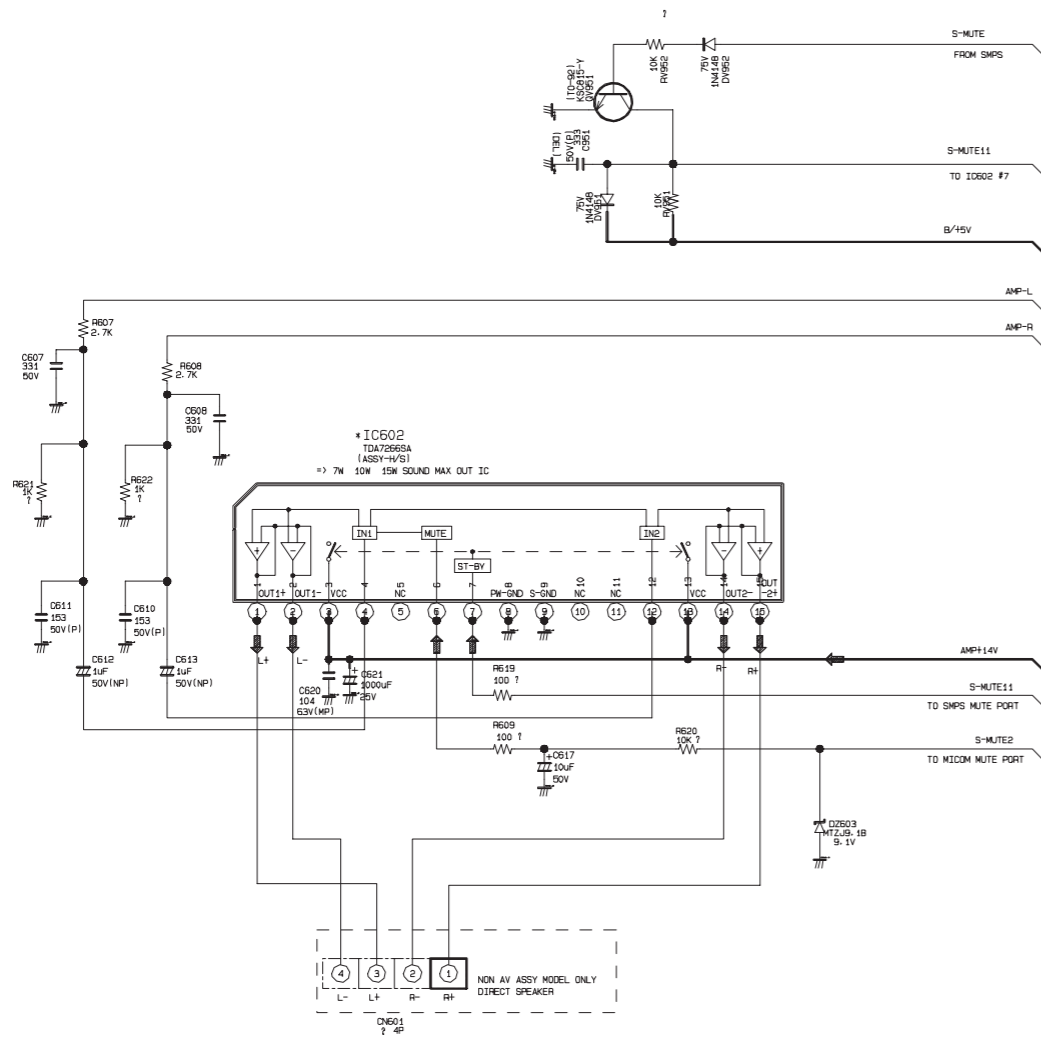


### 10-3 Sound

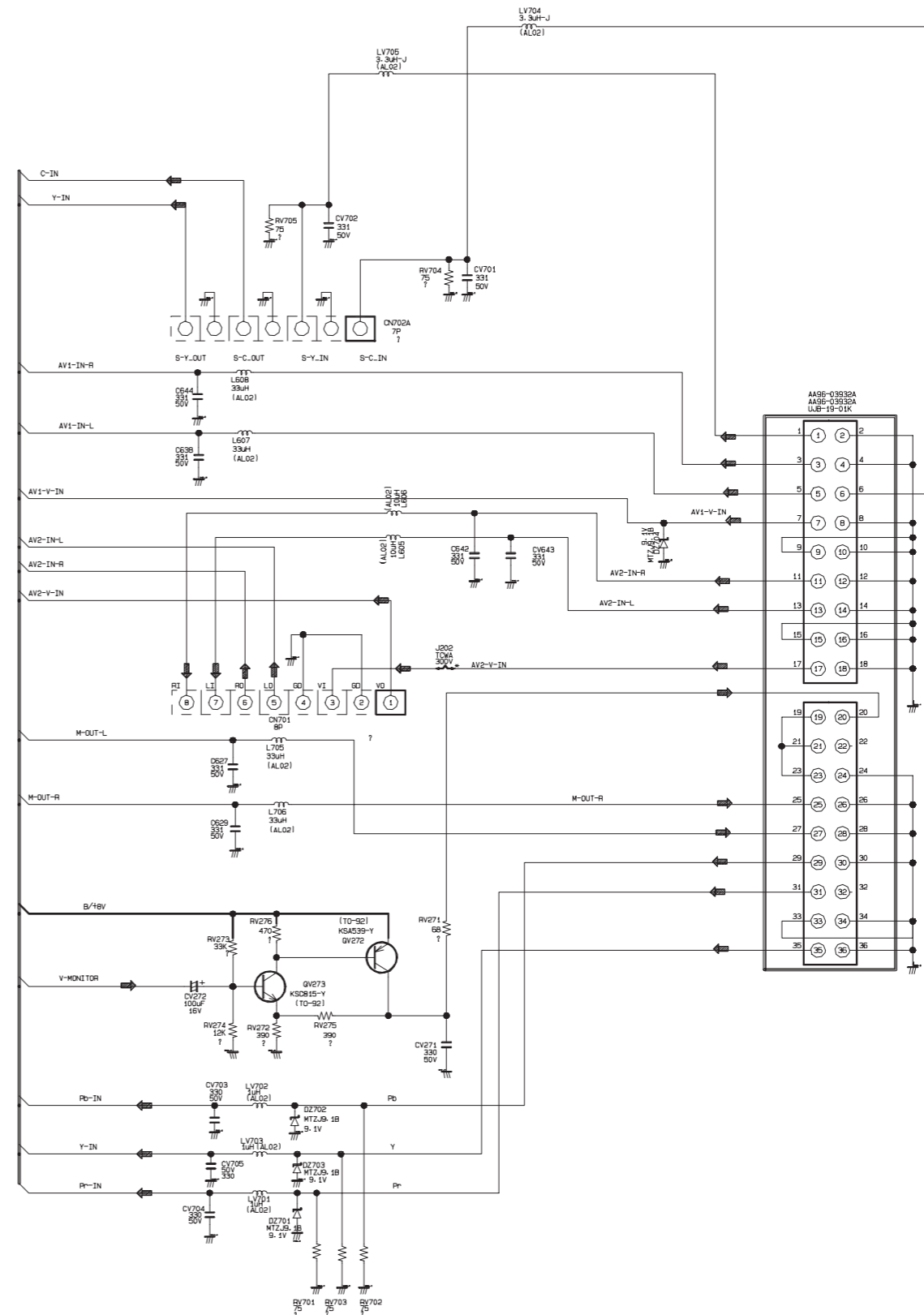
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PI P MODULE ( TDA9488 ) BLOCK



SOUND OUTPUT & JACK BLOCK

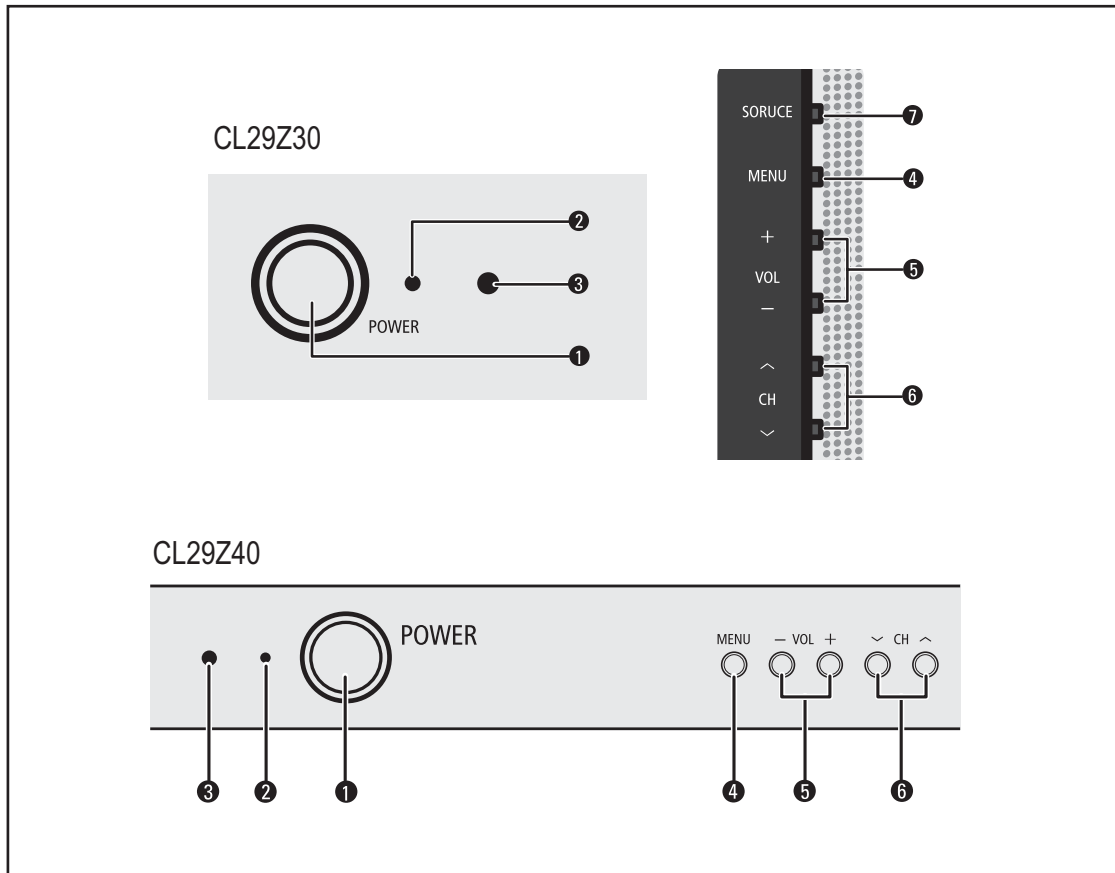


# 11. Instrucciones de Instalación y Operación

## 11-1 Características del Producto y Funciones

### 11-1-1 Botones del Panel Frontal

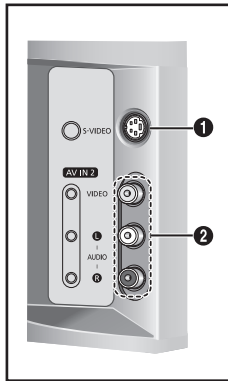
The buttons on the lower-right panel control your TV's basic features, including the on-screen menu. To use the more advanced features, you must use the remote control.



- 1 **POWER**  
Press to turn the TV on and off.
- 2 **Power Indicator**  
Blinks and turns off when the power is on and lights up in stand-by mode.
- 3 **REMOTE CONTROL SENSOR**  
Aim the remote control towards this spot on the TV.
- 4 **MENU**  
Press to see an on-screen menu of your TV's features.
- 5 **+ VOL -**  
Press to increase or decrease the volume.  
In the on-screen menu, use the + VOL - button as you would use the button on the remote control.
- 6 **^ CH v**  
Press to change channels.  
In the on-screen menu, use the ^ CH v button as you would use the and button on the remote control.
- 7 **SOURCE**  
Toggles between all the available input sources (TV, AV1, AV2, S-Video, Component).  
In the on-screen menu, use this button as you would use the button on the remote control.

### 11-1-2 Connection Jacks (Side)

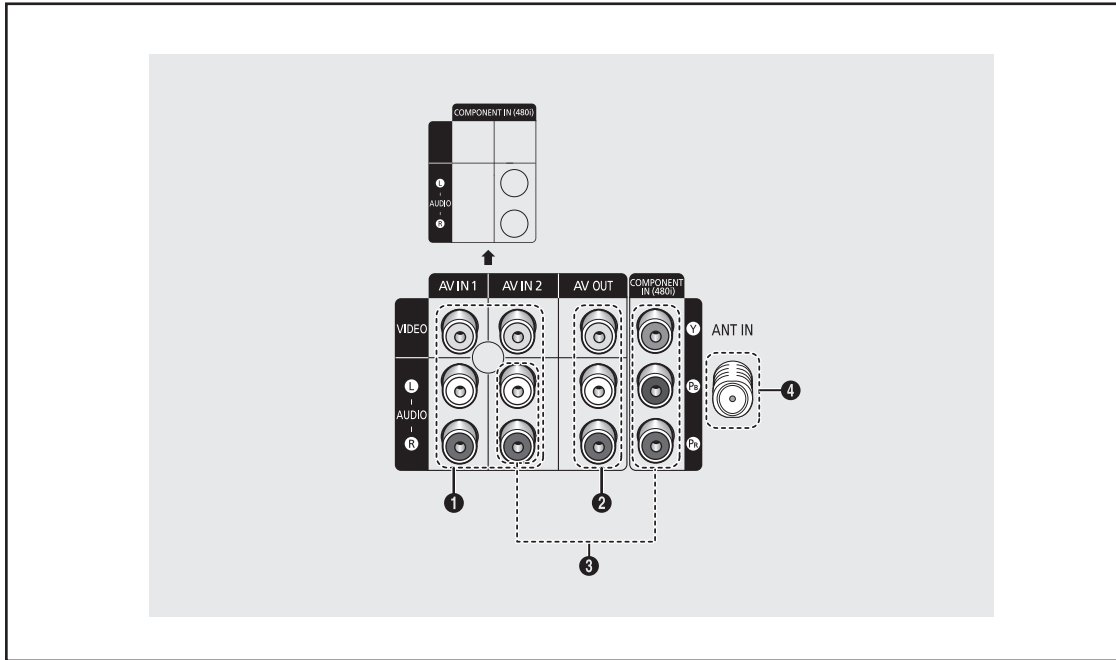
Use the left side panel jacks to connect a component that is used only occasionally, such as a camcorder or video game.



- 1 S-VIDEO  
Video inputs for external devices with an S-Video output.
- 2 AV IN 2  
Video and audio inputs for external devices.

### 11-1-3 Connection Jacks (Rear)

Use the rear panel jacks to connect A/V components that will be connected continuously, such as VCR or DVD players.

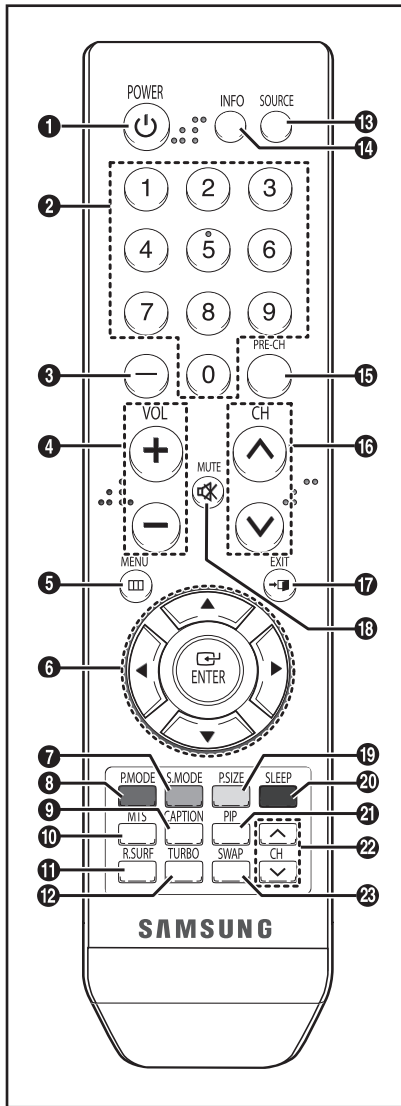


- 1 AV IN 1, 2  
Connect to the video output jacks of VCRs, DVD players and similar devices.
- 2 AV OUT  
Connect to the audio/video input jacks of a recording VCR.

- 3 COMPONENT IN (480i)  
Connect to the Component audio and video outputs of a DVD or DTV set-top box. 480i video signal input is available.
- 4 ANT IN  
Connect to an antenna or cable TV system.

## 11-1-4 Remote Control

You can use the remote control up to a distance of about 23 feet from the TV. When using the remote control, always point it directly at the TV. You can also use your remote control to operate your VCR, Cable box, DVD player, or Set-Top Box.



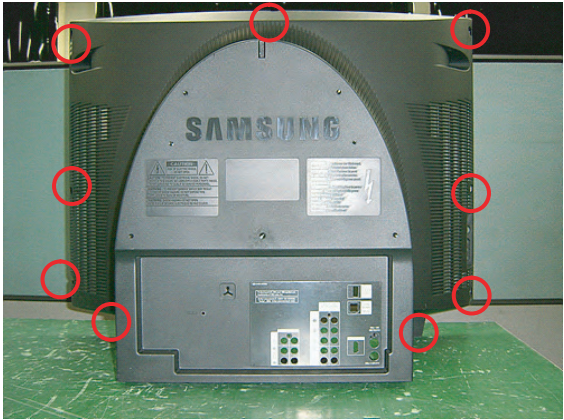
- |  |  |
|--|--|
| <ol style="list-style-type: none"> <li>1 POWER<br/>Turns the TV on and off.</li> <li>2 NUMERIC BUTTONS<br/>Press to change the channel.</li> <li>3 -<br/>Use to select a channel over 100, For example, for channel 122, press "-", then "2", then "2".</li> <li>4 + VOL -<br/>Press to increase or decrease the volume.</li> <li>5 MENU<br/>Displays the main on-screen menu.</li> <li>6 UP▲ / DOWN▼ / LEFT◀ / RIGHT▶ / ENTER<br/>Use to select on-screen menu items and change menu values.</li> <li>7 S.MODE<br/>Press to select the sound mode.</li> <li>8 P. MODE<br/>Press to select the picture mode.</li> <li>9 CAPTION<br/>Controls the caption decoder.</li> <li>10 MTS<br/>Press to choose stereo, mono or Separate Audio Program (SAP broadcast).</li> <li>11 R.SURF<br/>Press to automatically return to a preferred channel after a user-preset time delay.</li> <li>12 TURBO<br/>Press to select Turbo sound.</li> <li>13 SOURCE<br/>Press to display all of the available</li> </ol> | <ol style="list-style-type: none"> <li>video sources.</li> <li>14 INFO<br/>Press to display information on the TV screen.</li> <li>15 PRE-CH<br/>Tunes to the previous channel.</li> <li>16 ^ CH v<br/>Press to change channels.</li> <li>17 EXIT<br/>Press to exit the menu.</li> <li>18 MUTE<br/>Press to temporarily cut off the sound.</li> <li>19 P.SIZE<br/>Press to change the screen size.</li> <li>20 SLEEP<br/>Press to select a preset time interval for automatic shut off.</li> <li>21 PIP (depending on the model)<br/>Picture-in Picture ON/OFF.</li> <li>22 CH (depending on the model)<br/>Displays the available channels in sequence. (These buttons change channels in the PIP window only.)</li> <li>23 SWAP (depending on the model)<br/>Switches the main and sub (PIP) picture.</li> </ol> |
|--|--|

➤ This is a special remote control for the visually impaired, and has Braille points on the Power, Channel and Volume buttons.

## 12. Desensamble & Ensemble

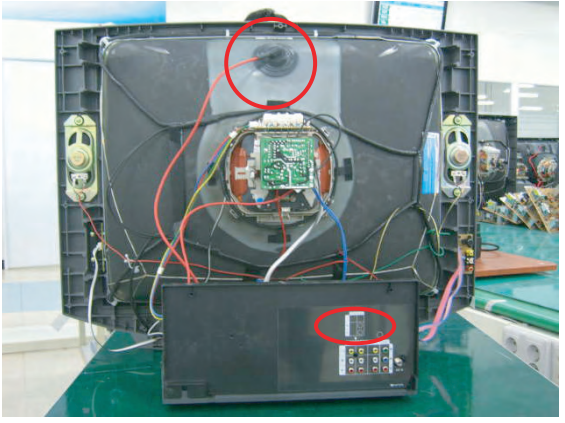
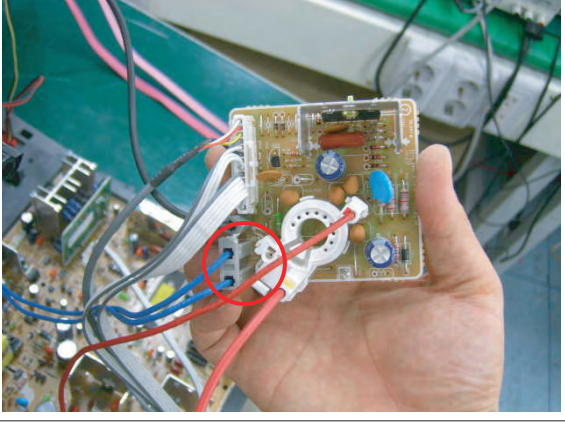
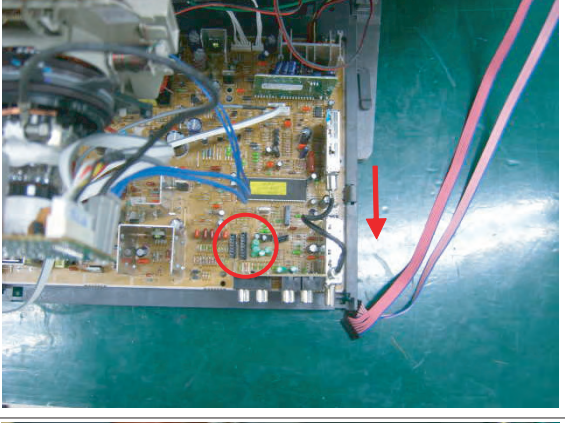
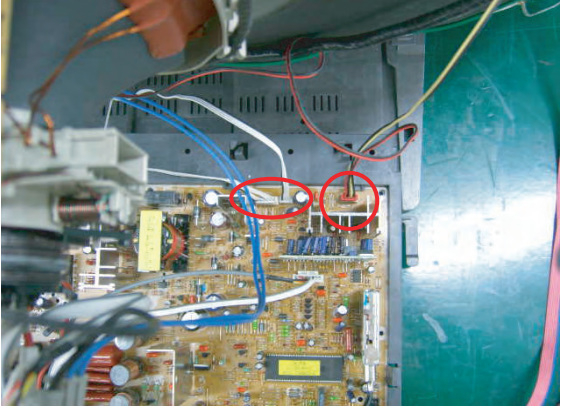
### 12-1 Overhaul Disassembly & Reassembly

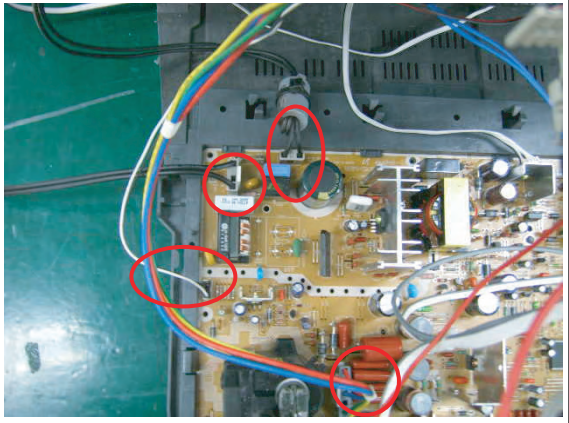
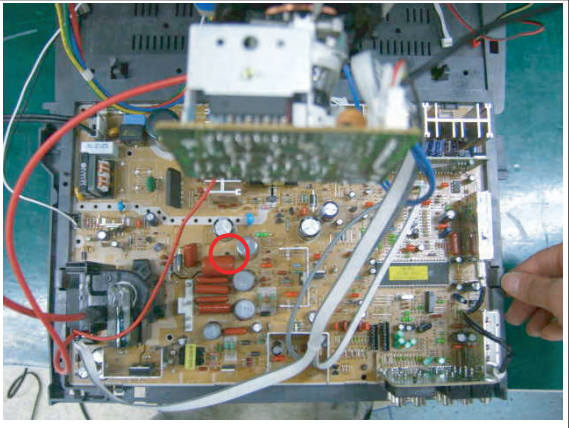
#### 12-1-1 Disassembling the Cabinet

Part Name	Description	Description Photo
Back Cover	<p>① Remove the 9 screws fixing the Back Cover. : RH, +, B, M4, L15, ZPC(BLK), SWRCH18A</p> <p>② Tap the upper part of the Back Cover 2 or 3 times and pull the Back Cover to separate it from the unit.</p> <p>⚠: Disassemble the product after disconnecting the power cord and discharge the unit to prevent an electric shock and damage to the product due to static electricity.</p>	

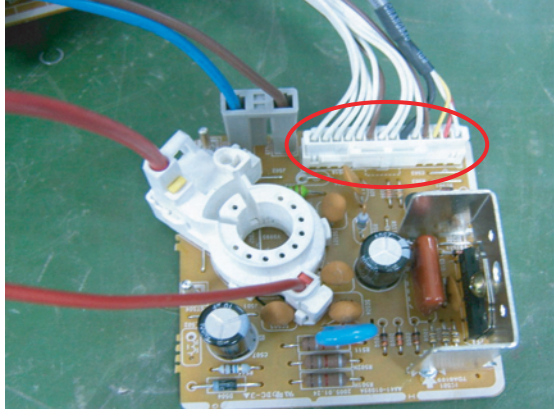
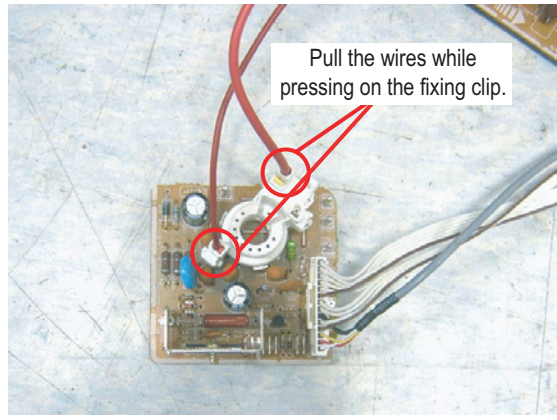


### 12-1-2 Disassembling the CRT and Chassis

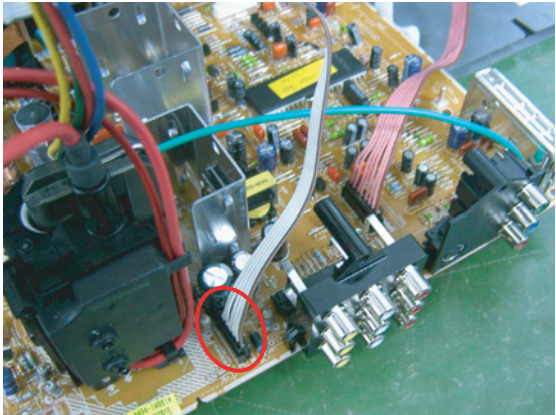
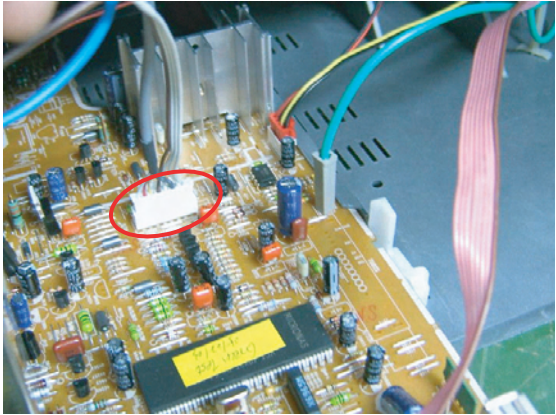
Part Name	Description	Description Photo
Chassis Holder	<p>① Remove the screw, and Separate the Terminal Board.</p> <p>② Separate the cables connecting the FBT and the CRT.</p> <p>⚠ : Since there may be a remaining high-voltage current within the CRT, take care not to touch the CRT hole with metal or a part of yourself when separating the cables.</p>	
	<p>① Separate the CRT Ass'y from the CRT.</p> <p>② Separate the TBC wire, cables from the CRT Ass'y sequentially.</p>	
	<p>① Separate the Side AV Wire from the Front Cabinet and the Main Board.</p> <p>② Pull Holder Chassis like the picture arrow direction.</p>	
	<p>① Separate the Control 4P Wire, 6P Wire, Speaker Wire from the Front Cabinet and the Main Board.</p>	

Part Name	Description	Description Photo
Chassis Holder	① Separate the Power cord,D-COIL,TILT,DY connector from Main Board	 A photograph showing the internal components of a device chassis. The main board is visible with various components like capacitors and integrated circuits. Several colored wires (red, blue, yellow, green) are connected to the board. Four red circles are drawn on the board to highlight specific connection points: one near the top center, one near the top right, one near the bottom left, and one near the bottom right.
	① Remove the screw.	 A close-up photograph of the main board. A hand is shown using a screwdriver to remove a screw from the board. The screw is located near the center of the board, where a red circle highlights its position. The board is held in place by a metal chassis holder.

### 12-1-3 Disassembling the CRT Ass'y

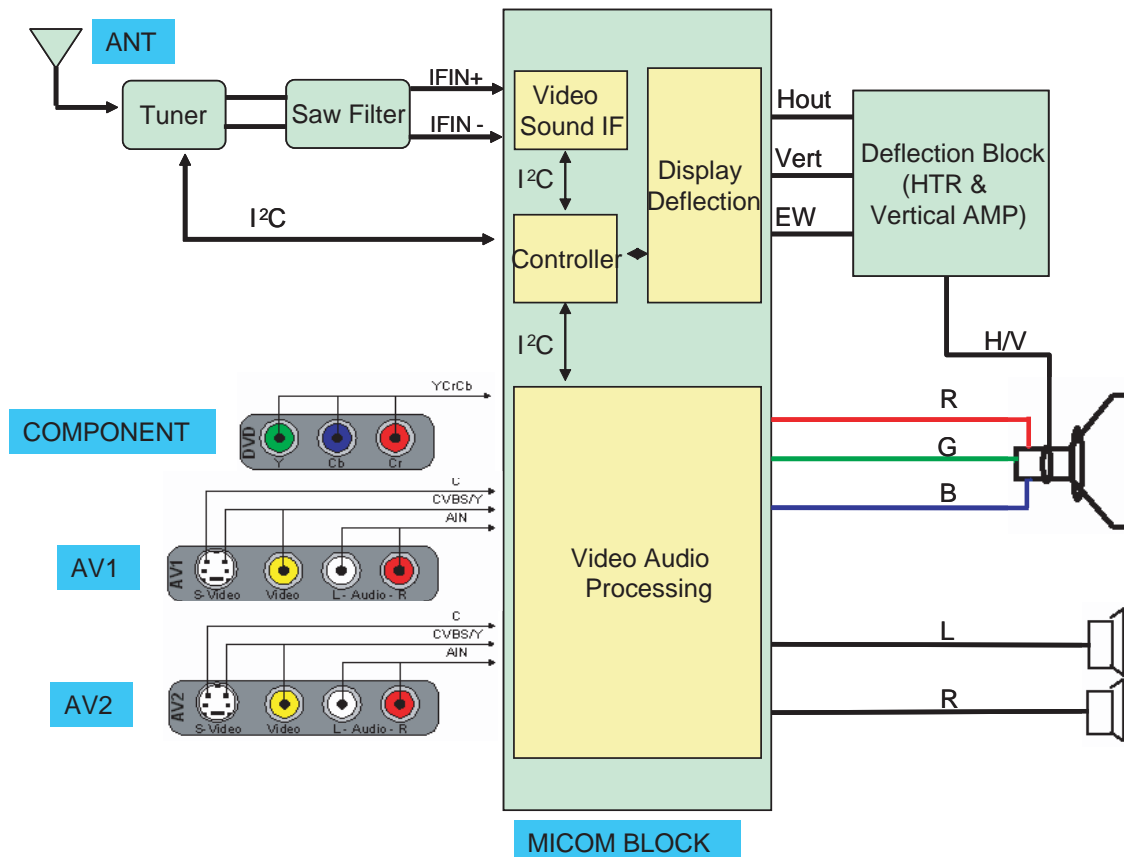
Part Name	Description	Description Photo
<p>CRT Ass'y</p>	<p>① Separate the cables from the Main Board and CRT Ass'y</p>	
	<p>① Separate the wires from the FBT of the Main Board and the CRT Ass'y.</p> <p>② To separate the thick red wires, pull the wires while pressing the push-type clip at the connector.</p> <p>③ To separate the thin red wire, insert a pin in the small hold next to the hole and pull the wire.</p> <p>⚠: Take care when separating the wires because pulling the wires by force may damage the socket. In addition, separate the wires on a flat and clean surface so as to prevent scratching of the material and the PCB.</p>	

**12-1-4 Disassembling the Main Board**

Part Name	Description	Description Photo
Main Board	① Separate the cable from the Main Board.	
	① Separate the cable from the Main Board.	

## 13. Descripción del Circuito

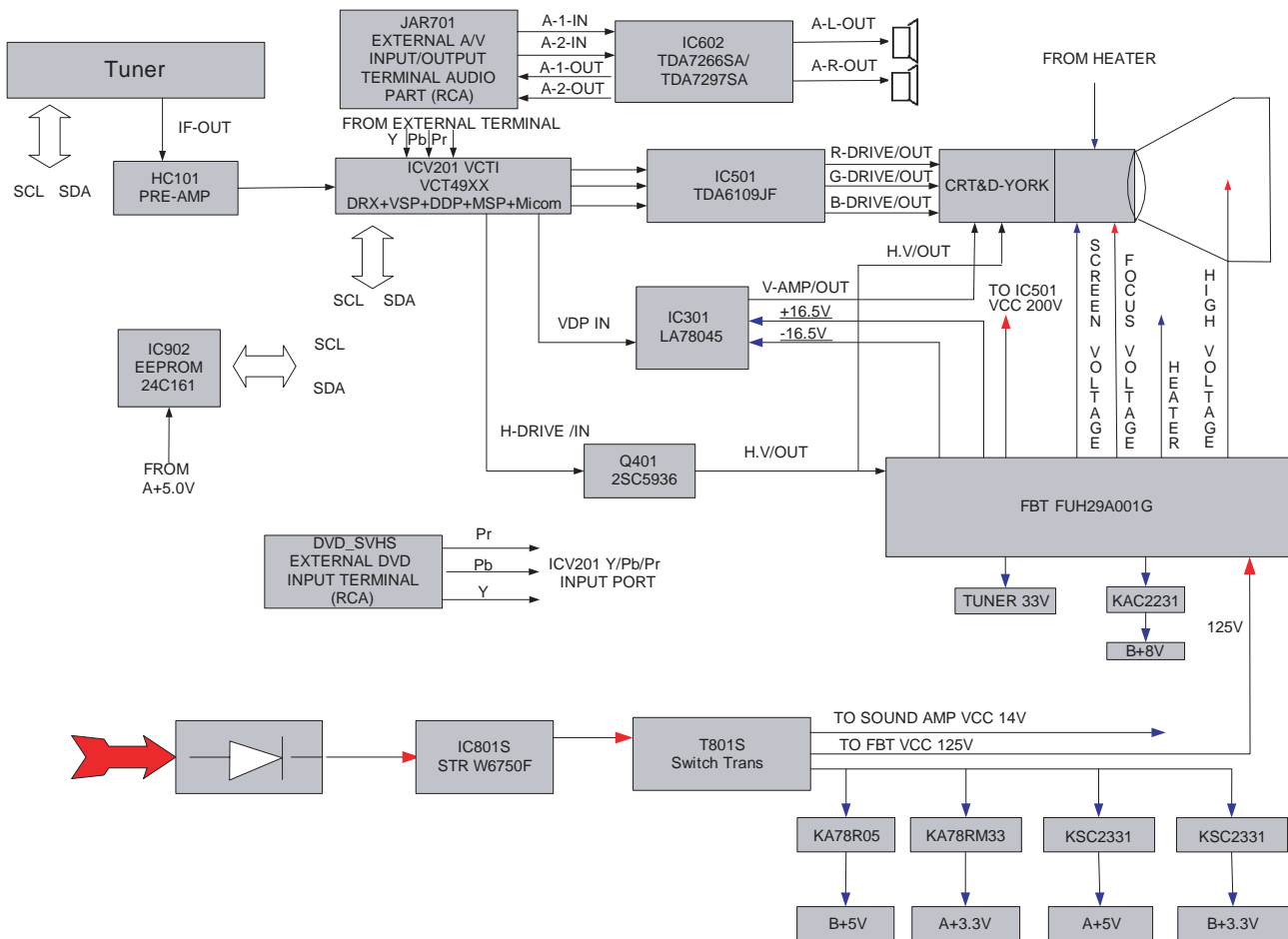
### 13-1 Descripción General en Bloque



- \* The functional part of a direct view type TV consists of the System, Deflection and Power parts.
- \* The Assy's are classified by the corresponding functions, by adopting GREEN CRT.
- \* The Power Block is different from the KS7A's in the power supply chip. STR and TRANS have been changed. Assy's has been changed too.
- \* The System Block is looked similar to that for the existing model (KS7A).
- \* The AV signal is input through the AV port and Side AV port of the System Block.
- \* The audio signal is processed as same as for KS7A'S.
- \* Micom Block is same as the KS7A'S in the hardware. But it is different from KS7A'S in the software.
- \* The Deflection Block is consists of the CRT Driver part of the System Block, the CRT Assy part and the Deflection Block controls the all of the deflection.
- \* Micom Block consists of five aspects as: Video & Sound IF Processor, Sound Processor, Video Processor, Display and Deflection Processor and Controller, OSD, Text Processing.
- \* TDQ-6F/13F2S (Tuner): RF signal processing, output IF signal.

## 13-2 Descripción en Bloque Parcial

### 13-2-1 Descripción en Bloque Tarjeta de Sistema



\* VCT4953: DRX+VSP+MSP+TVT. It contains the entire IF, audio, video, display and deflection processing for 4:3 and 16:9 50/60Hz mono and stereo TV sets. The integrated microcontroller is supported by a powerful OSD generator with integrated Teletext and CC acquisition including on-chip page memory.

\* 2SC5936: Inputted H-DRIVE signal which comes from VCT4953. It amplifies the H-DRIVE then outputs to Deflection Yoke.

\* LA78045: Inputted VDP signal which comes from VCT4953. It amplifies the VDP then outputs to Deflection Yoke.

\* TDA7266SA/TDA7297SA: It is a dual channel audio amplifier. The two audio signals L and R input to it and are amplified, then output to speaker.

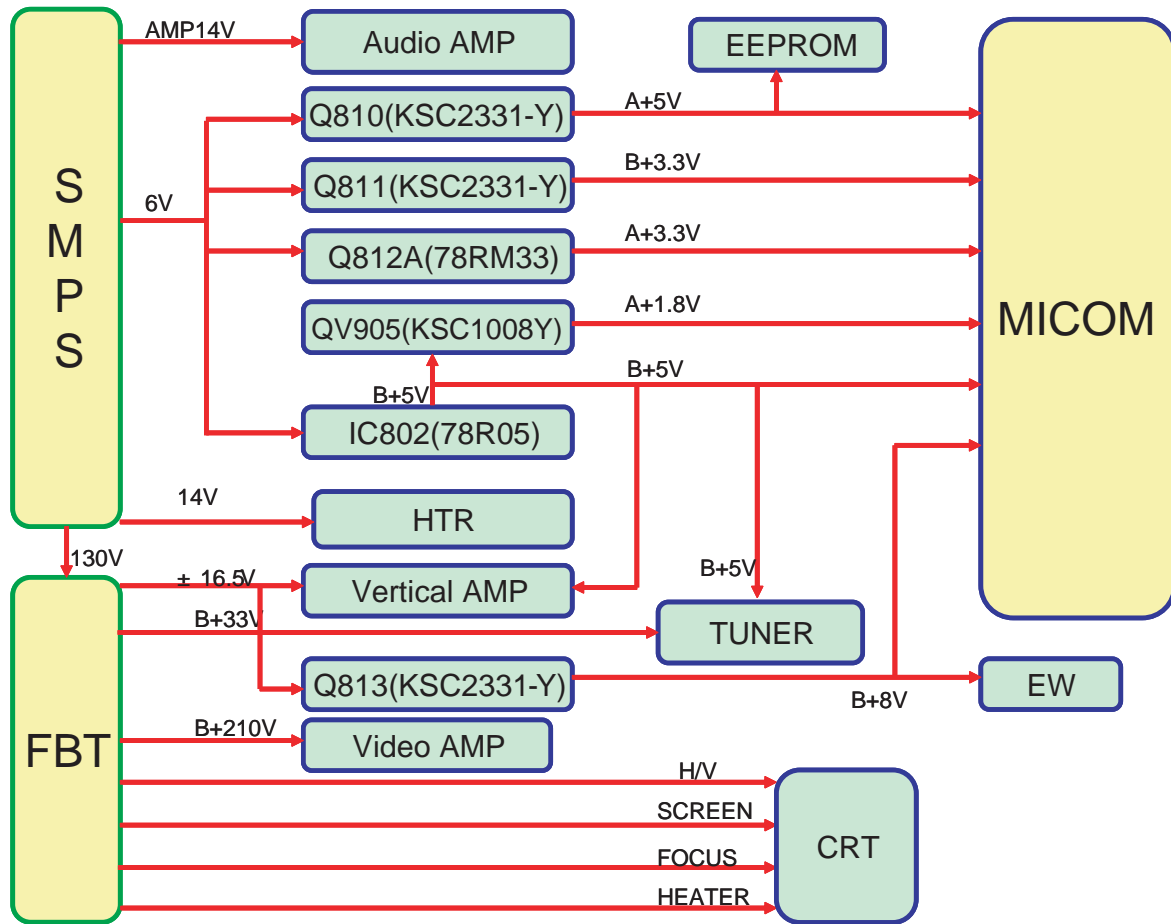
\* TDA6109JF: It includes three video output amplifiers and is intended to drive the three cathodes of a color CRT directly. The output R, G, B signals will connect to the CRT socket pins directly.

\* EEPROM: As an extended ROM of TVT. It contains some data which is used to program executing.

\* STR W6750F: SMPS control HIC. Provides switching signal in order to control the trans working.

\* TDQ-6F/13F2S(TUNER): Receives the RF signal and outputs a fixed IF to Micom.

13-2-2 Power Block



## 13-2-3 IC Line Up

### ■ Main Board

Items	Descriptions	Remarks
MICOM	VCT4953_F1 Micronas	
Tuner	TECC1040SL32A(E),XUGUANG	
BRIDGE DIODE	GSIB460,VISHAY	
Trans Switching	42B135,DK	
STR	STR-W6750F,SANKEN	
FET	FQP630TSTU,FAIRCHILD	
Vertical DEF.	LA78045,SANYO	
Horizontal DEF.	2SC5936M,MATSUSHITA	
SOUND AMP	TDA7297SA, SGS-TOMSON	10W+10W
SOUND AMP	TDA7266SA, SGS-TOMSON	7W+7W
EEPROM	24C161,SAMSUNG	
VIDEO AMP	TDA6109JF, Philips	
Regulator	78R05	B+5V Regulator
Regulator	78RM33	A+3.3V Regulator
Regulator	KSC2328A-Y	A+5V Regulator
Regulator	KSC2331-Y	B+3.3V Regulator



# 14. Información de Referencia

## 14-1 Option Byte

Green KS7B	Model	VOLT	Master S/W	Tact S/W	Tilt	VM	PIP	X-Ray	DMle - Jr	21" Ear-Phone	BACK S-VIDEO	SIDE S-VIDEO	LNA	AV Multi (Philippine)	Remocon (AA59-)	Sound Output	Micom	Energy Star	TIMER/ST-BY	Remark
Korea	CT-29K10V	AC220V	0	x	x	x	x	x	x	x	0	x	x	x		7W x2		X	ST-BY	
	CT-29M20V	AC220V	0	x	x	x	x	x	x	x	0	x	x	x		7W x2		X	ST-BY	
	CT-29M16V	AC220V	0	x	x	x	x	x	x	x	0	x	x	x		7W x2		X	ST-BY	
	CT-29K12V	AC220V	0	x	x	x	x	x	x	x	0	x	x	x		7W x2	AA97-16044A T_TGNNKU_1000	X	ST-BY	
	CT-29K6V	AC220V	0	x	x	x	x	x	x	x	0	x	x	x		7W x2		X	ST-BY	
USA CANADA	TXR2728GXAA	AC120V	x	0	x	x	x	0	x	x	0	x	x	x		7W x2		0	Timer	
	TXR2728GXAC	AC120V	x	0	x	x	x	0	x	x	0	x	x	x			AA97-16044A T_TGNNKU_1000			
PANAMA	CL29MT16MODXXAP	AC220V	x	0	x	x	x	0	x	x	0	x	x	x		10W x2		X	Timer	
MEXICO	CL29MT16MODXXAX	AC120V	x	0	x	x	x	x	x	x	0	x	x	x		10W x2		0	Timer	
Others Latin	CL29MT16MODXGSU	Free Volt	x	0	x	x	x	x	x	x	0	x	x	x		10W x2		X	Timer	
	CL29MT16MODXSTR	Free Volt	x	0	x	x	x	x	x	x	0	x	x	x		10W x2		X	Timer	
	CL29MT16MODXXAO	Free Volt	x	0	x	x	x	x	x	x	0	x	x	x		10W x2	AA97-16044A T_TGNNKU_1000	X	Timer	
	CL29MT16MODXRCL	Free Volt	x	0	x	x	x	x	x	x	0	x	x	x		10W x2		X	Timer	

## 14-2 Términos Técnicos

---

### **Mono**

Es un tipo de interfaz de audio que transmite señales de audio a través de un canal sencillo.

Por medio de una interfaz mono, es una experiencia real de sonido estereofónico y sonido reproducido sólo por un altavoz.

### **Amplificación Sensible a la Recepción**

Una técnica de amplificación de la señal que amplifica las señales débiles de difusión aplicando tecnología satelital para proveer una mejor calidad visual incluso para usuarios en regiones donde sólo hay disponibles señales de difusión débiles.

### **Estéreo**

Es un tipo de interfaz de audio que transmite señales de audio a través de 2 canales.

Las Señales de audio Estereo se transmite por los canales derecho y izquierdo de modo que pueda experimentar sonido estereofónico y el sonido es reproducido con 2 altavoces.

### **Subtítulo Ingles**

Es una función que muestra el subtítulo English o información texto incluido en la señal difundida o video cinta. Puede usar ésta función para estudiar Inglés mirando AFKN o video cintas marcadas CC.

### **Puertos Video/Audio**

Puede experimentar mala calidad visual y audio al mirar una video cinta en el canal 3 o 4 a través del cable de la antena. Puede experimentar mejor calidad visual y de audio conectando el TV y VCR por medio de los puertos Video/Audio. El puerto video se distingue por el color amarillo, y los puertos de audio distinguidos por los colores blanco (izq) y rojo (der).

### **Entrada Externa**

La Entrada Externa es para conectar dispositivos de video como un VCR, videocámara, receptor DTV, DVD, etc. como fuentes de video.

### **Difusión Satelital**

La Difusión Satelital transmite programas vía satélite de modo que la difusión esté disponible en todas las áreas con una alta calidad visual y de sonido. Provee aproximadamente 100 canales incluyendo canales de difusión pública. Para ver difusión satelital, debe instalar un receptor adicional.

### **Difusión Alambrada**

La Difusión Satelital se refiere a películas, programas de entretenimiento y educación transmitidos por la estación de emisión en un hotel o colegio.

### **Audio Multimix**

Audio Multimix provee 2 idiomas para el audio en la emisión extranjera de película, teatro, noticias, etc. Puede seleccionar y escuchar uno de los idiomas soportados o puede seleccionar y escuchar ambos idiomas simultáneamente.

### **Puerto Componente (Verde, Azul, Rojo)**

El puerto componente transmite por separado la señal de luminiscencia y proporciona la mejor calidad de todos los tipos de conexión video.

### **Difusión por Cable**

La Difusión por Cable transmite programas vía cable en vez de ondas de radio. Para mirar difusión por cable, necesita suscribirse a su proveedor de servicio de difusión por cable local y instalar un receptor adicional.

### **Tuner**

Procesamiento de señal RF, salida de señal IF.

### **DVD (Disco Versátil Digital)**

El DVD es un medio de gran capacidad que puede grabar contenido multimedia como video, juegos, aplicaciones de audio, etc; usando tecnología de compresión de video MPEG-2 en un disco.

### **Puerto S-VIDEO IN (ENTRADA)**

Éste es llamado super video. S-Video es un tipo de señal de video que tiene las señales de color y luminiscencia del video separadas para proveer una mejor calidad visual.

### **VHF/UHF**

El VHF refiere a canales TV del 2 al 13, y UHF refiere a canales TV del 14 al 69.

### **Sonido Turbo**

Sonido Turbo realza las frecuencias bajas y altas para sumar calidad al sonido.

Turbo Plus : Puede intensificar el bajo mientras disfruta la música y películas.

Voice : Puede realzar la señal de discurso, tal como aclarar voz, Cuando mira noticias, Drama y Documentales, etc.

# 1. Precauciones

Para evitar posibles daños o descargas eléctricas o exposición a radiación, siga las instrucciones de abajo relacionadas con la seguridad, instalación, servicio y ESD.

## 1-1 Precauciones de Seguridad

1. Cerciorece de que todos los dispositivos protectores estén correctamente instalados incluyendo las manijas no-metálicas y las cubiertas del compartimiento al instalar o reinstalando el chasis o ensamblajes del chasis.
2. Cerciorece que los niños no inserten sus dedos en ninguno de los espacios que hay entre los gabinetes para evitar que reciban descargas eléctricas. Los espacios antes mencionados incluyen los agujeros de ventilación de una magnitud demasiado grande entre el tubo de vacío y la máscara del gabinete, y la instalación incorrecta del gabinete posterior.

Los errores pueden ocurrir cuando la resistencia es menor a  $1.0 \text{ M}\Omega$  o mayor a  $5.2 \text{ M}\Omega$ .

En estos casos, cerciorece que el dispositivo sea reparado antes de enviarlo de nuevo al cliente.

3. Inspeccione en busca de Fuga de Electricidad (Figura 1-1) Advertencia: No utilizar transformador de aislamiento para comprobar la fuga. Sólo use probadores de corriente o sistemas similares que se cumplan con ANSIC 101.1 y las especificaciones del laboratorio del suscriptor (UL1410, 59.7).

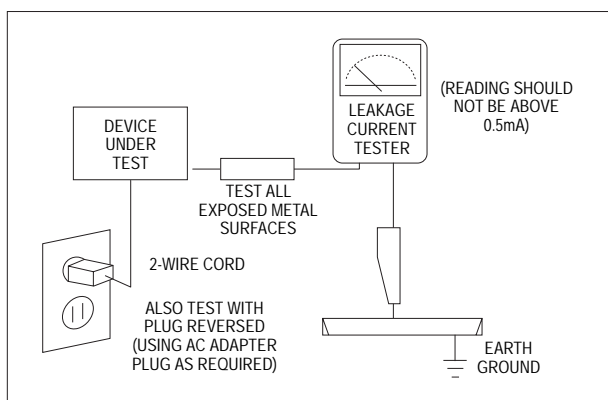


Fig. 1-1 AC Prueba de Fuga

4. Un alto voltaje es mantenido dentro de límites especificados usando piezas de seguridad, calibración y tolerancias. Cuando el voltaje exceda los límites especificados, compruebe cada pieza especial.



5. Cuidado con los cambios de ingeniería: Nunca hacer cambios o adiciones al diseño del circuito o a piezas internas en este producto. Ej: No añadir ningún conector de accesorios de audio o video. Esto puede causar daño físico. Además, cualquier cambio o adición al diseño/ingeniería original invalidarán la garantía.
6. Advertencia - Chasis caliente: Algunos chasis de TV's están conectados directamente a un extremo del cable energía AC por razones eléctricas. Sin los transformadores de aislamiento, el producto puede ser reparado sin problema cuando el chasis está conectado con el extremo de la fuente puesto a tierra .

Asegúrese que el cable de energía AC esté conectado correctamente, seguir las instrucciones de abajo. Use el voltímetro para medir el voltaje entre chasis y el punto a tierra. Si la medición es mayor a 1.0V, desenchufe el cable de energía AC y cambie la polaridad antes de volver a insertarlo. Medir el voltaje entre el chasis y la tierra nuevamente.

7. Algunos chasis de TV son distribuidos con un sistema secundario adicional de puesta a tierra. El sistema secundario está contiguo a la línea de energía AC. Estos dos sistemas de tierra son separadas en el circuito usando un material de aislamiento irrompible/incambiable.
8. Cuando alguna pieza, material o cableado aparece recalentado o dañado, reemplacelas por nuevas inmediatamente. Cuando algún daño o recalentamiento es detectado, corregir ésto inmediatamente y hacer una comprobación regular de posibles errores.
9. Comprobar el buen estado del conductor, especialmente el cableado de la antena, algún borde agudo, la energía AC y el alto voltaje. Comprobar cuidadosamente si el cableado está demasiado apretado, instalado incorrectamente o flojo. Nunca cambiar el espacio entre las partes y la tarjeta del circuito impreso. Comprobar el cable de alimentación AC en busca de daños. Mantener partes o conductores lejos de cualquier material emisor de calor.

10. Indicación de seguridad:

Algunos circuitos eléctricos o materiales relacionados al dispositivo requieren la atención especial a sus características de seguridad, que no pueden verse a simple vista. Si una parte original se substituye por otra irregular, la seguridad o las características protectoras se perderán así el nuevo tenga un voltaje más alto o más vatios.

Las partes críticas de seguridad deben soportar-( ). se usando sólo las piezas habituales para los reemplazos (particularmente, resistencia a la llama y especificaciones de intensidad dieléctrica). Las partes o materiales inhabituales pueden causar descarga eléctrica o fuego.

## 1-2 Precauciones de Servicio

---

1 Advertencia: Primero lea cuidadosamente la "Instrucción de Seguridad" en éste manual de servicio.

Cuando hay un conflicto entre el servicio y las instrucciones de seguridad, seguir siempre las instrucciones de seguridad.

2 Advertencia: Un condensador electrolítico instalado con la polaridad incorrecta puede estallar.

1. Las instrucciones de servicio están impresas en el gabinete, el personal de servicio debe seguirlas.
2. Asegúrese de desconectar el cable de la alimentación AC de la toma antes de iniciar cualquier reparación.
  - (a) Remover o re-instalar partes o ensamblajes.
  - (b) Desconecte el enchufe eléctrico o conector, si lo hay.
  - (c) Conecte la parte de prueba en paralelo con el capacitor electrolítico.
3. Algunas partes sobresalen de la tarjeta impresa. Para esto se usan tubos o cinta aislantes con ese propósito. El cableado interno es sujetado usando hebillas para evitar el contacto con partes que emitan calor. Esas partes son instaladas por detrás de su posición original.
4. Después de la reparación, asegúrese de comprobar si los tornillos, partes o cables están instalados correctamente. Cerciérese de no causar daño a las partes reparadas y sus alrededores.
5. Comprobar el aislamiento entre la lámina del enchufe AC y cualquier material conductor (panel metálico, terminal de entrada, clavija auricular, etc).
6. Procedimiento para Comprobar Aislamiento: Desconecte el cable eléctrico de la fuente AC y ubique el interruptor de energía en ON. Conecte medidor de resistencia (500 V) a las láminas del enchufe de AC.  
La resistencia del aislamiento entre la lámina del enchufe AC y las partes conductoras accesibles debe ser más de 1 MΩ.
7. Ningún interlock B+ debe dañarse.  
Si el disipador de calor no está instalado correctamente, no debe hacerse la conexión a la fuente AC.
8. Asegúrese que el conductor de la tierra del tester esté conectado a la tierra del chasis antes de conectar el conductor positivo. El conductor tierra del tester debe removerse de último.
9. Aguardarse de riesgo de cualquier fuga de corriente que entre en contacto con el capacitor de alta-capacidad.
10. Los bordes agudos del material metálico pueden causar daño físico, así que protéjase usando guantes durante la reparación

## 1-3 Precauciones con la Electricidad Estática

---

1. Algunos dispositivos semiconductores ("Estado sólido") son vulnerables a la electrostática. Dichos componentes se conocen como ESD. Los ESD incluyen el circuito integrado y el transistor de efecto de campo. Para evitar cualquier daño de materiales por descarga electrostática, seguir las instrucciones descritas abajo.
2. Remover cualquier electricidad estática de su cuerpo haciendo contacto con un punto aterrizado antes de manipular cualquier parte semi-conductora o ensamble. Alternativamente, use una pulsera antiestática. (Asegúrese de remover cualquier electricidad estática antes de conectar la fuente de energía - ésta es una instrucción de seguridad para evitar descargas eléctricas)
3. Remover el ensamble ESD y colocarlo sobre una superficie conductora como papel aluminio para prevenir acumulación de carga electrostática.
4. Not use ningún producto químico en base de Freon. Dichos productos químicos podrían generar electricidad estática y dañar el ESD.
5. Para soldar los objetos sólo use los que tienen aterrizada la parte metálica.
6. Sólo use dispositivos de soldadura anti-estáticos. La mayoría de dispositivos de soldadura no soportan una característica anti-estática. Un dispositivo de soldadura sin la característica anti-estática puede almacenar suficiente estática como para dañar el ESD.
7. No remover el ESD de su empaque protector hasta que no se vaya a instalar. La mayoría de reemplazos ESD son cubiertos con material conductor, que causará un corto a la unidad ocasionado por la espuma conductora, papel aluminio o otros materiales conductivos.
8. Remover el material protector del reemplazo ESD inmediatamente después de conectarlo al chasis o circuito de ensamble.
9. Tener extrema precaución al manipular cualquier reemplazo ESD destapado. Acciones como rozar la ropa o levantar su pierna de un piso alfombrado puede generar suficiente estática como para dañar el ESD.

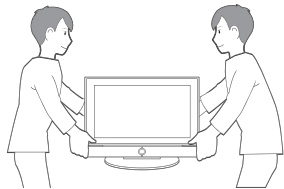
### PRECAUCIÓN

Estas instrucciones de servicio son para ser usadas solamente por el personal de servicio calificado. Para reducir el riesgo de descarga eléctrica no realizar ningún mantenimiento sin tener en cuenta el contenido de instrucciones de operación a menos que usted esté calificado que sea así.

## 1-4 Precauciones de Instalación

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1. Por motivos de seguridad, son requeridas más de dos personas para cargar el producto.



2. Mantenga el cable eléctrico lejos de cualquier dispositivo que emita calor, una cubierta derretida puede causar incendio o descarga eléctrica.
3. No ubicar el producto en áreas con de mala ventilación tal como un estante o un armario. El incremento de la temperatura interna puede causar incendio.
4. Doblar el cable de la antena externa al conectarlo al producto. Esto es una forma de protegerla contra la humedad. De lo contrario, puede causar un incendio o una descarga eléctrica.
5. Cerciórese de apagar y desenchufar el cable eléctrico del toma antes de reubicar el producto. También compruebe que el cable de la antena o conectores externos si están completamente desenchufadas. El daño en el cable pueden causar incendio o descarga eléctrica.
6. Mantener la antena alejada de cualquier cable de alta tensión e instálela firmemente. El contacto con el cable del alto voltaje o exceso de temperatura puede causar incendio o descarga eléctrica
7. Compruebe los ajustes básicos de la pantalla.  
- Posición / tamaño de la image, ajustes de inclinación

## 2. Especificaciones del Producto

### 2-1 Características del Producto

Block	Specification	Core Parts	Remark
CRT	- 29" Slim-fit		
RF Part	- Analog Tuners	NTSC Tuner(Argentma option)	
Power	- Input Voltage: AC100-240V(Mexico : AC127V) -Stand-By: Less than 2.6W	STR-X6750F	
Video	-1H Comb Filter -Digital Nr -BLE	VCT4822_F1	
Audio	- OutPut: 10W+10W - Fuction: Melody on/off, Turbo Voice, Auto Volume, Pseudo Stereo	VCT4822_F1 TDA7297SA (10W+10W)	
Cabinet	Front and Back Cabinets	Z30 Design Applied	Material: HIPS
Other	- Development Level : Level 4 - ProtoType Model:CL29Z30PQTXXAX - Receiving(P/G) CH: VHF:2 ~ 13, UHF:14 ~ 69, CATV:1 - 125		

#### ■ Funciones de Partes Principales

- VCT4822\_F1: Procesador de Sonido, Procesador de Video, Controlador del Procesador de Display y Deflection, OSD y Procesado de Texto
- TDA7297SA : Amplifica la Señal de Sonido
- STR-X6750F: Suministro de Energía HIC
- TDQ-6F/13F2S (Tuner): Procesamiento de señal RF, salida de señal IF
- TECCIO4OSL32A(E) : Tuner Principal PIP-2Tuner
- TMOH2-003A,2 Tuner Secundario PIP-tuner



## 2-2 Características Principales

Modelo	CL-29Z50MQ
Voltaje	AC100-240 V(Mejico : AC127V)
Frecuencia de Operación	50/60 Hz
Consumo de Energía	140 Watts
Dimensiones (mm/pulgadas)	36.7 x 15.9 x 22.3 inches 934 x 406 x 568 mm
Peso (Kg/ lbs)	54.5 kg / 120.1 lbs

- Configuración H/W
  - Adoptado CRT Slim fit 29"

- Imagen
  - System NTSC-M & Pal-M/N
  - OSD: Half tone Menu
  - DVD-input (Y,Pb,Pr) & S-VHS Option,
  - AKB(Auto kinetic Bias)
  - Comb Filter: 1H Comb filter
  - Auto Peaking Control, Fine Tuneless, Group Delay Correction

- Sonido
  - System: Stereo, Nicam
  - Output:10W+10W
  - AVL, Melody, Auto Stereo, Auto Mute, Equalizer

- Características
  - Auto program, Sleep timer, Clock
  - Caption
  - Zoom, Previous channel, Blue Screen, Color Tone



- In/Out Terminals
  - Front: AV IN, S-VHS Input (Rear)
  - Rear: 2 AV Input & Component video share
    - 1 Component Input : 480i, RF 1 Input
    - 1 AV Output

- Remocon
  - TM85








- Power Supply
  - 100V ~ 240V, (Mexico : 120V)

- Power Consumption
  - Standy-by: Less than 2.6W
  - Standard Power: 140W

## 2-3 Análisis de Especificaciones

Model		CL29M6PQ	CL-29Z50MQ
Chassis		KS7A	KS7D
Design			
Picture	Screen Size	29"	29"
	CRT	FLAT	SLIM-FIT
	DNle Jr.	■	X
	Comb Filter	1H	1H
	Velocity Modulation	0	X
	Video Noise Reduction	0	0
	Auto Kinetic Bias	0	0
	Color Tone Control	0	0
	Tilt Control	0	0
Picture Mode	4 Mode	4 Mode	
Sound	MTS/SAP	0	0
	Output Power(RMS)	15W*2	10W*2
	Tweeter	X	X
	BBE	X	X
	Surround	0	0
	Sound Mode	5 Mode	5 Mode
	Graphic Equalizer	0	X
	Sub-Woofer Speaker	X	X
	Auto Volume Leveler	0	0
Convenience	Melody On/Off	0	0
	Turbo Sound	0	0
	PIP	2T	2T
	Plug & Play	0	0
	Zoom Mode	0	0
	OSD Demo	0	0
	OSD Language	E/F/S/P	E/F/S/P
	Previous Channel	0	0
	Closed Caption	0	0
	On/Off Timer	0	0
	Sleep Timer	0	0
	Auto Power Off	0	0
	Clock	0	0
	Channel Scan	X	X
	Self-diagnostic System	X	X
	Remote Control	TM76	TM85
Power Consumption	Remote Surf	0	0
	Channel Labelling	0	0
Jacks	Blue Screen	0	0
	Rack	X	X
	Voltage	100~240	AC120V
	Power On	145W	140W
	Stand-by	under 3W	under 3W
	RF Input	R1	R1
	A/V Input	S1/R2	S1/R2
Jacks	Monitor Output	R1	R1
	S-VHS Input	S1/R1	S1
	Headphone	X	X
	DVD Input	0	0
	PC Input(VGA)	X	X

## 2-4 Accesorios

Accessories		Item	Item code	Remark
Supplied Accessories		Remote Control Batteries	AA59-00385A 4301-000103	Samsung Service center
		Owner's Instructions Safety Guide Manual	AA68-03805A AA68-03242F	
		Warranty Card Registration Card	AA68-03727A -	
Accessories that can be purchased additionally		Video Cable / Audio Cable	-	Electronics Store/ Internal shopping mall
		S-Video Cable	-	
		Component Cable	-	
		Antenna Cable	-	

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## 3. Alineación y Ajuste

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### 3-1 Instrucción de Servicio

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#### 1. Ajuste General :

En general, un TV a color puede proporcionar una calidad visual ideal ajustando las configuraciones básicas como el tamaño vertical, tamaño horizontal, foco, etc.

Exhibir una imagen blanco y negro en la pantalla para comprobar si la imagen se visualiza claramente. Si hay algunos puntos 'manchados' en la pantalla cuando se visualiza una imagen blanco y negro, desmagnetice la pantalla usando la bobina de desmagnetización. Si los puntos manchados permanecen, re-ajuste la pureza y la convergencia. Esto completa la inspección básica de funcionamiento.

#### ⚠ Nota.

- Estos ajustes y la lista de comprobación son aplicados sólo a modelos que apliquen chasis KS7D.
- En Norte América use 110V, Sur y América Central use 220v para el sistema de medición.  
Es recomendado usar un transformador de aislamiento cuando suministre energía al sistema para prevenir descargas al sistema o a usted mismo.
- Estas especificaciones de ajustes se han creado en base al modelo de chasis doméstico KS7D que aplica control remoto.  
Algunos de los contenidos pueden haberse cambiado debido a la ubicación de venta y especificaciones del producto.

#### 2. Cuando reemplace la Main Board :

Se requieren estos ajustes: Focus, voltaje de pantalla y W/B.

#### 3. Cuando reemplace el Ensamble CRT: No se requieren ajustes.

#### 4. Cuando reemplace el Side AV : No se requieren ajustes.

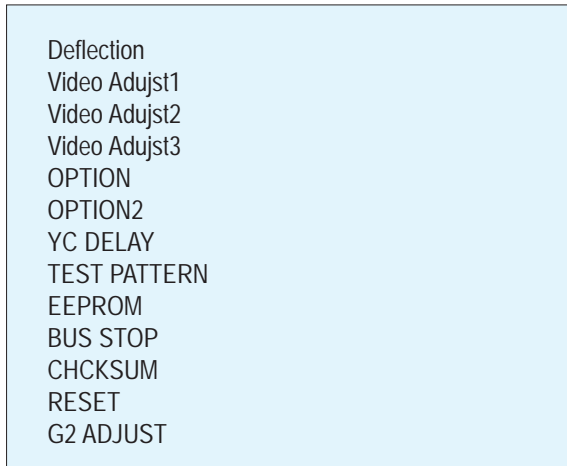
## 3-2 Cómo Acceder a Modo Servicio

1. Para ingresar al Modo Servicio, presione las teclas en el control remoto de acuerdo a la siguiente secuencia. (en Stand-by)

Mute → 1 → 8 → 2 → Encender

※ Cuando no pueda ingresar al Modo Servicio, repita el procedimiento de arriba.

2. La pantalla inicial del Modo Servicio.



3. Funciones de los botones dentro del Modo de Servicio.

MENU	Muestra todos los menús
▲ / ▼	Mover el cursor para seleccionar un ítem.
◀ / ▶	Ajusta el valor de la configuración seleccionada

### 3-3 Datos de fábrica

★ Los ítems subrayados son a los que aplican ajuste durante el servicio. Ninguno de los otros deben ajustarse.

#### 1. Deflection(NT 60Hz)

No	Item	Remark	29" SLIM	29" SLIM
			CL-29Z30PQ	CL-29Z30MQ
1	<u>V Amp</u>	ADJ	42	42
2	<u>V Shift</u>	ADJ	-24	-24
3	<u>H EW</u>	ADJ	-6	-6
4	<u>H Shift</u>	ADJ	130	130
5	<u>V Linearity</u>	ADJ	-3	-3
6	V SC	FIX	43	43
7	<u>H Parabola</u>	ADJ	78	78
8	<u>Upper Corner</u>	ADJ	11	11
9	<u>Lower Corner</u>	ADJ	-29	-29
10	Upper Corner6	FIX	-18	-18
11	Lower Corner6	FIX	3	3
12	<u>H Trapezium</u>	ADJ	29	29
13	<u>Bow</u>	ADJ	2	2
14	Angle	FIX	-1	-1
15	EHT Time	FIX	20	20
16	EHT Threshold	FIX	1	1
17	EHT Vertical	FIX	0	0
18	EHT Horizontal	FIX	24	24
19	EHT Vertical2	FIX	4	4
20	EHT Horizontal2	FIX	7	7

## 2. Deflection(PAL 50Hz)

No	Item	Remark	29" SLIM	29" SLIM
			CL-29Z30PQ	CL-29Z30MQ
1	<u>V Amp</u>	ADJ	4	4
2	<u>V Shift</u>	ADJ	-5	-5
3	<u>H EW</u>	ADJ	2	2
4	<u>H Shift</u>	ADJ	-17	-17
5	<u>V Linearity</u>	ADJ	0	0
6	V SC	FIX	0	0
7	<u>H Parabola</u>	ADJ	2	2
8	<u>Upper Corner</u>	ADJ	-7	-7
9	<u>Lower Corner</u>	ADJ	-5	-5
10	<u>Upper Corner6</u>	ADJ	4	4
11	<u>Lower Corner6</u>	ADJ	6	6
12	<u>H Trapezium</u>	ADJ	-8	-8
13	Bow	FIX	2	2
14	Angle	FIX	0	0
15	EHT Time	FIX	20	20
16	EHT Threshold	FIX	1	1
17	EHT Vertical	FIX	0	0
18	EHT Horizontal	FIX	24	24
19	EHT Vertical2	FIX	4	4
20	EHT Horizontal2	FIX	7	7

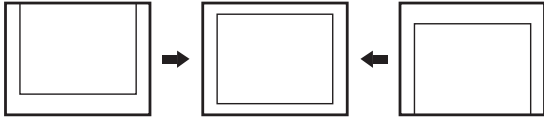
0 V-AMP



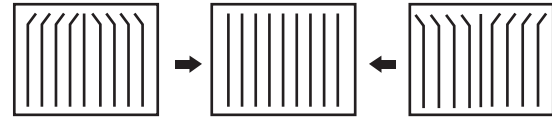
6 H-Parabola



1 V-Shift



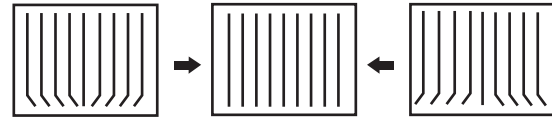
7 Upper Coner



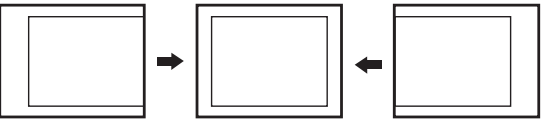
2 H-EW



8 Low Coner



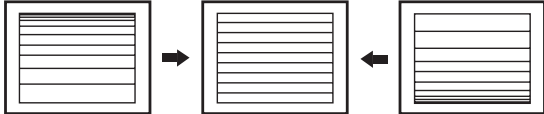
3 H-Shift



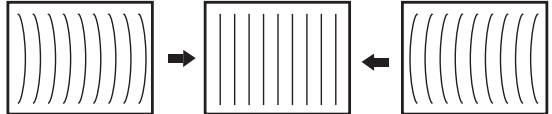
9 H-Trapezium



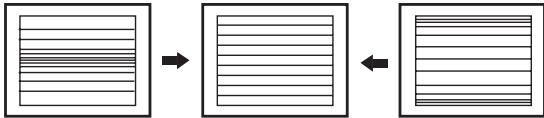
4 V-Linearity



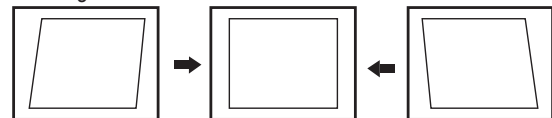
10 BOW



5 V-SC



11 Angle





## 3. Video Adjust 1

No	Item	Remark	29" SLIM	29" SLIM
			CL-29Z30PQ	CL-29Z30MQ
1	<u>R Cutoff</u>	ADJ	127	127
2	G Cutoff	FIX	127	127
3	<u>B Cutoff</u>	ADJ	127	127
4	<u>R Drive</u>	ADJ	127	127
5	G Drive	FIX	127	127
6	<u>B Drive</u>	ADJ	127	127
7	<u>Sub Bright</u>	ADJ	52	52
8	<u>Sub Contrast</u>	ADJ	32	32
9	Sub Color	FIX	2	2
10	Sub Tint	FIX	46	46
11	AKB Option	FIX	1	1
12	BCL Threshold	FIX	19	19
13	BCL Gain	FIX	240	240
14	BCL Time	FIX	255	255
15	Sub Sharpness	FIX	12	12
16	Pilot Low	FIX	7	7
17	Pilot High	FIX	13	13
18	V-Mute(x100ms)	FIX	3	3
19	BCL TCUP	FIX	100	100

## 4. Video Adjust 2

No	Item	Remark	29" SLIM	29" SLIM
			CL-29Z30PQ	CL-29Z30MQ
1	VSU	FIX	2	2
2	Melody Volume	FIX	5	5
3	HB Start	FIX	159	159
4	HB Stop	FIX	149	149
5	RF AGC	FIX	4	4
6	VM Gain	FIX	0	0
7	VM Delay	FIX	0	0
8	V Peaking	FIX	12	12
9	BLE Tilt	FIX	12	12
10	BLE Gain	FIX	1	1
11	BLE Mode	FIX	2	2
12	BLE Break	FIX	1	1
13	CTI Gain	FIX	1	1
14	CTI Coring	FIX	15	15
15	LTI Gain	FIX	15	15
16	D-EHT Time	FIX	5	5
17	DCT Ratio	FIX	50	50
18	VSP COMB	FIX	3	3

## 5. Video Adjust 3

No	Item	Remark	29" SLIM	29" SLIM
			CL-29Z30PQ	CL-29Z30MQ
1	NR Off Value	FIX	3	3
2	Gamma Mode	FIX	1	1
3	Gamma Correction	FIX	70	70
4	BST StartPoint	FIX	145	145
5	BST Gain(B)	FIX	50	50
6	DPWL Gain	FIX	80	80
7	DPWL Start	FIX	185	185
8	PIP Contrast	FIX	8	8
9	PIP Tint	FIX	57	57
10	PIP Color	FIX	6	6
11	PIP PAL V.Pos	FIX	24	24
12	PIP NTSC V.Pos	FIX	24	24
13	PIP H.Pos	FIX	46	46
14	PIP R Cutoff	FIX	6	6
15	PIP B Cutoff	FIX	9	9
16	PIP R Drive	FIX	161	161
17	PIP B Drive	FIX	141	141

## 6. YC Delay

No	Item	Remark	29" SLIM	29" SLIM
			CL-29Z30PQ	CL-29Z30MQ
1	PAL Delay	FIX	0	0
2	SECAM Delay	FIX	-2	-2
3	NTSC Delay	FIX	0	0
4	PAL(AV) Delay	FIX	0	0
5	SECAM(AV) Delay	FIX	-3	-3
6	NTSC(AV) Delay	FIX	0	0

## 7. Test Pattern

No	Item	Remark	29" SLIM	29" SLIM
			CL-29Z30PQ	CL-29Z30MQ
1	G2 Adjust	-	-	-
2	Read Cut	-	-	-
3	Read Drive	-	-	-
4	IBRM	FIX	180	180
5	WDRM	FIX	50	50
6	CDL	FIX	254	254
7	COLR G B	FIX	50 / 50 / 50	50 / 50 / 50

## 8. EEPROM

No	Item	Remark	MIN	MAX	29" SLIM	29" SLIM
					CL-29Z30PQ	CL-29Z30MQ
0	Dynamic Contrast	FIX	0	255	100	100
1	Dynamic Brightness	FIX	0	255	45	45
2	Dynamic Sharpness	FIX	0	255	65	65
3	Dynamic Color	FIX	0	255	43	43
4	Dynamic Tint	FIX	0	255	50	50
5	Standard Contrast	FIX	0	255	82	82
6	Standard Brightness	FIX	0	255	45	45
7	Standard Sharpness	FIX	0	255	50	50
8	Standard Color	FIX	0	255	45	45
9	Standard Tint	FIX	0	255	50	50
10	Movie Contrast	FIX	0	255	50	50
11	Movie Brightness	FIX	0	255	55	55
12	Movie Sharpness	FIX	0	255	25	25
13	Movie Color	FIX	0	255	40	40
14	Movie Tint	FIX	0	255	50	50
15					255	255
16					255	255
17					255	255
18					255	255
19	DVD SUB TINT	FIX	0		10	10
20	16:9 V-SHIFT	FIX	0	100	15	15
21	16:9 PARAVOLA	FIX	0	100	5	5
22	PIP BRIGHTNESS	FIX	0	15	0	0
23	Double TTX Contrast	FIX			255	255
24	TTX V Position	FIX	0	255	255	255
25	TTX H Position	FIX	0	255	255	255
26	TTX Contrast	FIX	0	255	255	255
27	TTX Brightness	FIX	0	255	255	255
28	OSD Contrast	FIX	0	255	115	115
29	OSD Brightness	FIX	0	255	15	15
30	Double TTX H Position	FIX	0	255	255	255
31	Standard Equ100(Std BASS)	FIX	0	8	50	50
32	Standard Equ300(Std TREBLE)	FIX	0	13	50	50
33	Standard Equ1K(Music BASS)	FIX	0	14	85	85
34	Standard Equ3K(Music TREBLE)	FIX	0	13	70	70
35	Standard 10K(Movie BASS)	FIX	0	12	95	95
36	Music Equ100(Movie TREBLE)	FIX	0	18	50	50
37	Music Equ300(Speech BASS)	FIX	0	14	40	40

No	Item	Remark	MIN	MAX	29" SLIM	29" SLIM
					CL-29Z30PQ	CL-29Z30MQ
38	Music Equ1K(Speech TREBLE)	FIX	0	11	50	50
39	Music Equ3K	FIX	0	14	255	255
40	Music 10K	FIX	0	18	255	255
41	Movie Equ100	FIX	0	22	255	255
42	Movie Equ300	FIX	0	15	255	255
43	Movie Equ1K	FIX	0	11	255	255
44	Movie Equ3K	FIX	0	12	255	255
45	Movie 10K	FIX	0	13	255	255
46	Speech Equ100	FIX	0	6	255	255
47	Speech Equ300	FIX	0	11	255	255
48	Speech Equ1K	FIX	0	14	255	255
49	Speech Equ3K	FIX	0	13	255	255
50	Speech 10K	FIX	0	11	255	255
51	Brightness(RGB/DVD)	FIX	0	255	6	6
52	Contrast(RGB/DVD)	FIX	0	63	42	42
53	U Saturation(RGB/DVD)	FIX	0	63	44	44
54	V saturation(RGB/DVD)	FIX	0	63	43	43
55	V/FBL Delay	FIX	0	255	85	85
56	CrCb Delay	FIX	0	255	84	84
57	d/w h-position	FIX	0	255	255	255
58	d/w -blanking 1	FIX	0	255	255	255
59	d/w -blanking 2	FIX	0	255	255	255
60	PIP G CUTOFF	FIX	0	255	4	4
61	PIP G DRIVE	FIX	0	255	170	170
62	OSD/PIP BRIGHT BALANCE	FIX	0	31	31	31
63	PIP BRIGHT OFFSET	FIX	0	255	86	86
64	MDB_STRENGTH	FIX	0	127	68	68
65	MDB_HARMONIC	FIX	0	127	37	37
66	MDB_HP	FIX	0	30	9	9
67	MDB_LP	FIX	0	30	11	11
68	MDB_LIM	FIX	0	255	252	252
69	MDB_CUTOFF	FIX	0	40	12	12
70	EHT POSITION 1	FIX	0	255	5	5
71	EHT POSITION 2	FIX	0	255	249	249
72	3.4CH SLLTHD (TV-NO NOISE)	FIX	0	3	0	0
73	CH SLLTHD (TV-NO NOISE)	FIX	0	3	0	0
74	LNA Operating Point	FIX	0	255	166	166
75	SLLTHDV(TV NO NOISE)	FIX	0	6	0	0

No	Item	Remark	MIN	MAX	29" SLIM	
					CL-29Z30PQ	CL-29Z30MQ
76	LNA Default	FIX	0	1	0	0
77	LNA SWITCH	FIX	0	1	0	0
78	LMIXOFS	FIX	0	13	13	13
79	H-OUTDEL	FIX	0	255	72	72
80	CR-P Initial	FIX	0	255	4	4
81	CR-I Initial	FIX	0	255	5	5
82	DRX_CR_AMP_TH	FIX	0	255	10	10
83	Over Modulation Return Counter	FIX	0	255	100	100
84	VCR Mode Counter	FIX	0	255	5	5
85	"VID_AMP_HEAD_BS(In the modulation)"	FIX	0	255	40	40
86	CR_P (In the Over Modulation)	FIX	0	255	4	4
87	"THRSEL(picture shaking when weak signal)"	FIX	0	255	2	2
88	SLLTHDVP	FIX	0	255	1	1
89	EEP_BC_MIN_LIMIT	FIX	0	255	150	150

## 9. OPTION

No	Item	29" SLIM	29" SLIM
		CL-29Z30PQ	CL-29Z30MQ
1	System	CL	CL
2	ACS	Off	Off
3	AV Jack	2RCA+S+DVD	2RCA+S+DVD
4	Tilt	On	On
5	Vchip	Off	Off
6	Caption	On	On
7	PIP	Off	2-Tuner
8	LNA	Off	On
9	Auto On	Off	Off
10	StandBy LED	Off	Off
11	Philippines(AV MULTI)	Off	Off
12	Osd Language	English	English
13	FM Radio	Off	Off
14	Antenna Disp	Off	Off
15	Hi-Deviation	Off	Off
16	Plug & Play	On	On
17	DNle Jr	Off	Off
18	Volume Curve	Small	Small
19	Color Matrix	Japan	Japan
20	PWM/Parabola	Parabola	Parabola



11. White Balance

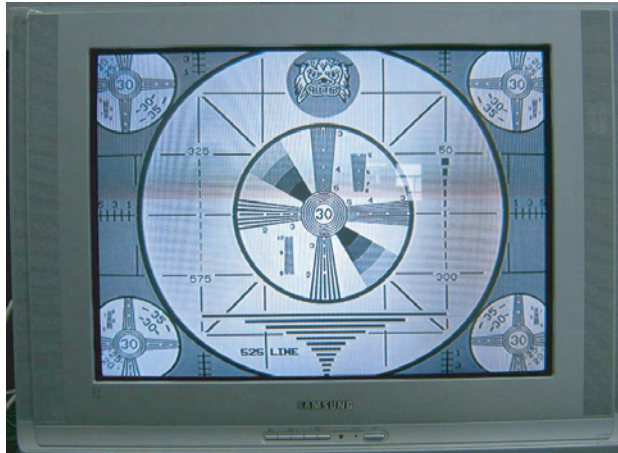
No	Item	Remark	29" SLIM	29" SLIM
			CL-29Z30PQ	CL-29Z30MQ
1	H	-	$269 \pm 3/274 \pm 3/40 \pm 0.3$	$269 \pm 3/274 \pm 3/40 \pm 0.3$
2	L	-	$269 \pm 3/274 \pm 3/2.0 \pm 0.2$	$269 \pm 3/274 \pm 3/2.0 \pm 0.2$

## 3-4 Ajuste de Servicio

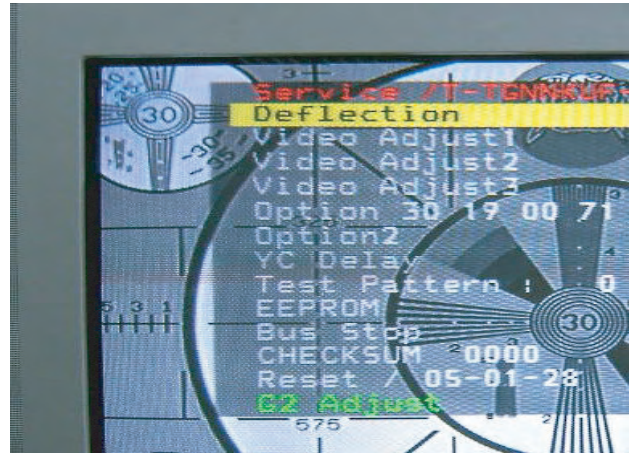
### 3-4-1 Ajuste del Tamaño de la Imagen

■ Dado que el chasis KS7D tiene datos de ajuste dentro de Datos Fábrica, El tamaño de la imagen tiene que ajustarse cuando reemplace la Main Board, de acuerdo al siguiente procedimiento.

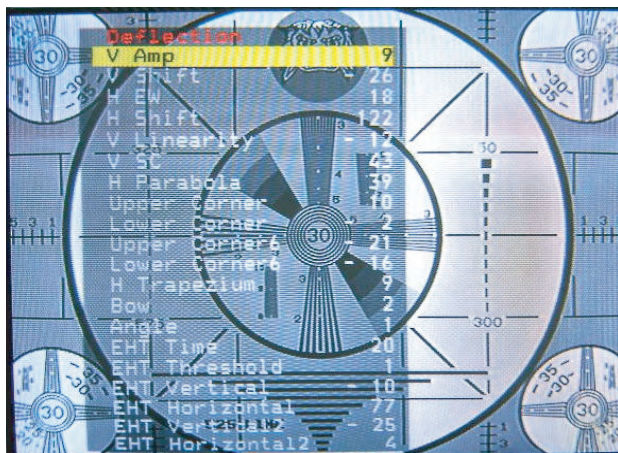
① Pantalla del Patrón Lion.



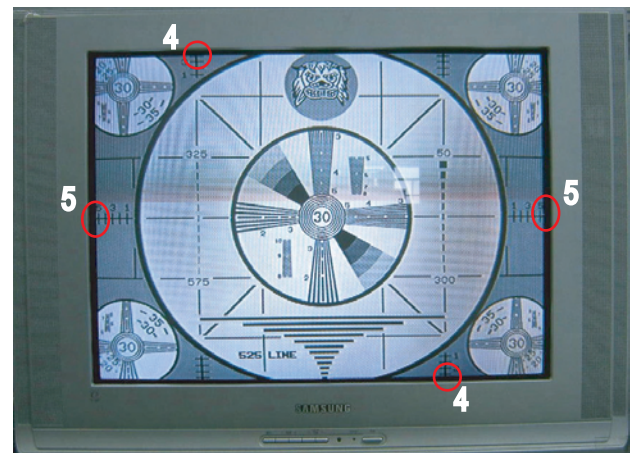
② Presionar "Apagar → Mute → 1 → 8 → 2 → Encender" usando el control remoto e ingrese al Modo Fábrica.



③ Ingrese al Modo Deflection.

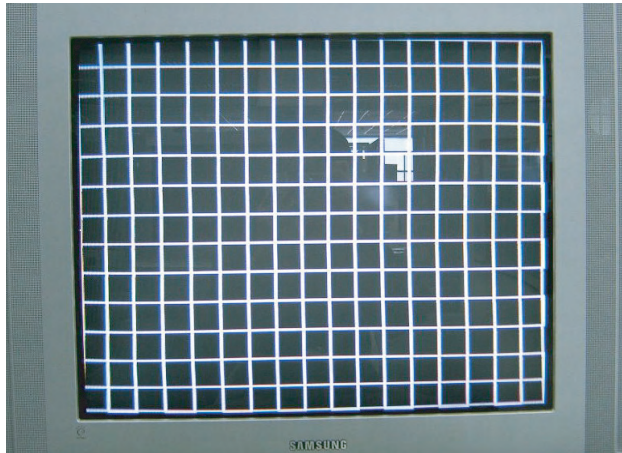


④ Ajuste items V-AMP, V-SHIFT, H-AMP y H-SHIFT de modo que el anchura sea 5 y el altura 4.



### 3-4-2 Ajuste de las Líneas Rectas de la Imagen

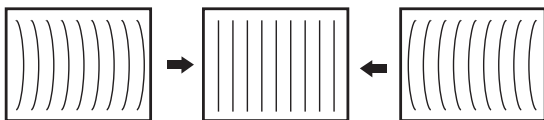
- ① Pantalla del patrón Cross Hatch.



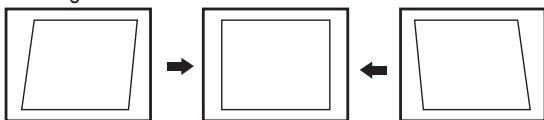
- ② Ajustar con excepción de V-AMP, V-SHIFT, H-AMP and H-SHIFT de modo que las líneas rectas se vean sin curvas.

- ③ Ajuste BOW y configuración de Angle de modo que la línea central quede recta.

10 BOW

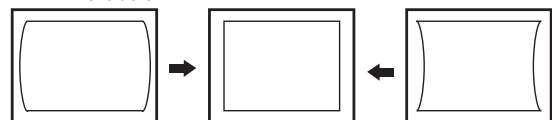


11 Angle



- ④ Ajuste las configuraciones H-Parabola y H-Trapezium de modo que las líneas izquierda y derecha sean rectas.

6 H-Parabola

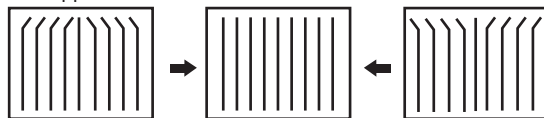


9 H-Trapezium

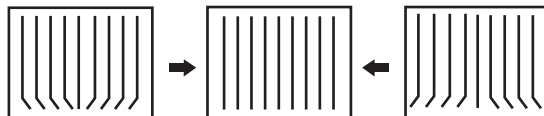


- ⑤ Ajuste las configuraciones de Upper Corner y Low Corner de modo que los extremos de las líneas sean rectas.

7 Upper Corner

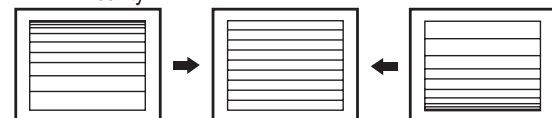


8 Low Corner

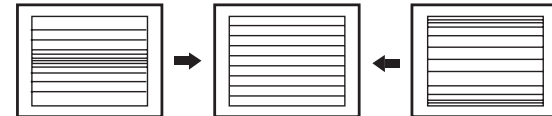


- ⑥ Ajuste las configuraciones V-Linearity y V-SC de modo que los intervalos de las líneas horizontales sean uniformes.

4 V-Linearity



5 V SC



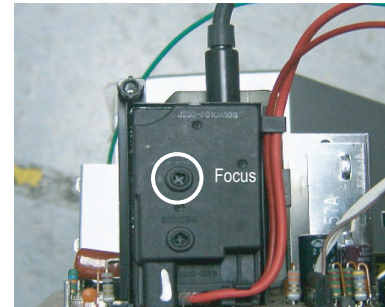
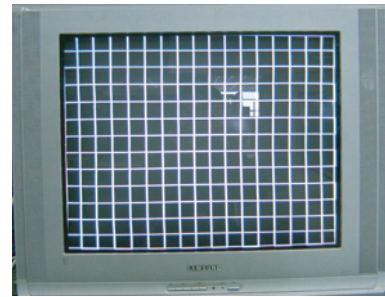
- ⑦ Al finalizar los ajustes, exhibir el patrón Lion y verificar que el tamaño de la imagen no ha cambiado.  
Si no hay cambio, finalice los ajustes.

## 3-5 Reemplazos & Calibración

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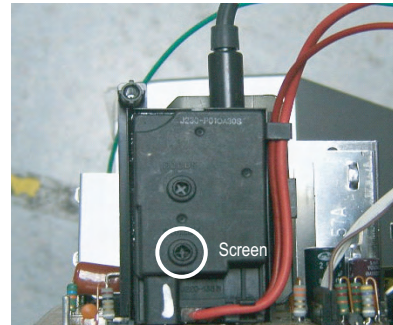
### 3-5-1 Ajuste de Focus

1. Exhibir el patrón Cross Hatch.
2. Gire el Focus a la derecha para optimizar la posición.
3. Gire lentamente Focus a la derecha de modo que la línea cruzada sea vea lo más claro posible.



### 3-5-2 Ajuste del Voltaje de la Pantalla

1. "Apagar → Mute → 1 → 8 → 2 → Encender" para ingresar al Modo Servicio.
2. Aplicar el patrón Toshiba.

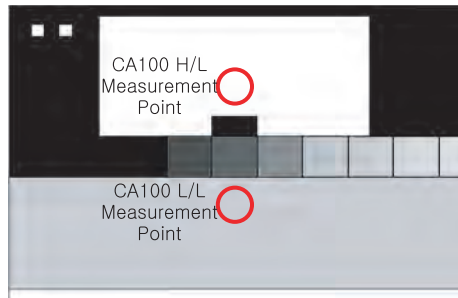


3. Use control remoto para ir al modo "G2 Adjust" manualmente.
4. Gire VR Screen en FBT y confirme que los caracteres de abajo cambien de Rojo a Verde.



### 3-5-3 Ajuste de Balance de Blancos

1. "Apagar → Mute → 1 → 8 → 2 → Encender" para ingresar al Modo Servicio.
2. Inicializar todos los ajustes a los valores apropiados al correspondiente modelo.
3. Aplicar el patrón Toshiba y ajuste el Balance de Blancos usando CA100 con las coordenadas del modelo correspondiente.



[CA100]

4. Ingrese a Video Adjust1 del Modo de Servicio. Ajuste Low/Light.
  - Ajuste Sub Bright to set Y.
  - Ajuste B Cutoff to set y.
  - Ajuste R Cutoff to set x.
5. Ingrese a Video Adjust1 del Modo de Servicio. Ajuste High/Light.
  - Ajuste Sub Contrast to set Y.
  - Ajuste B Drive to set y.
  - Ajuste R Drive to set x.
6. Chequee Low/Light y reajústela si sus valores han cambiado.
7. Si ha reajustado Low/Light, reajuste High/Light hasta que los dos valores sean idénticos a las coordenadas del modelo correspondiente.

※ Datos Estándar de Balance de Blancos

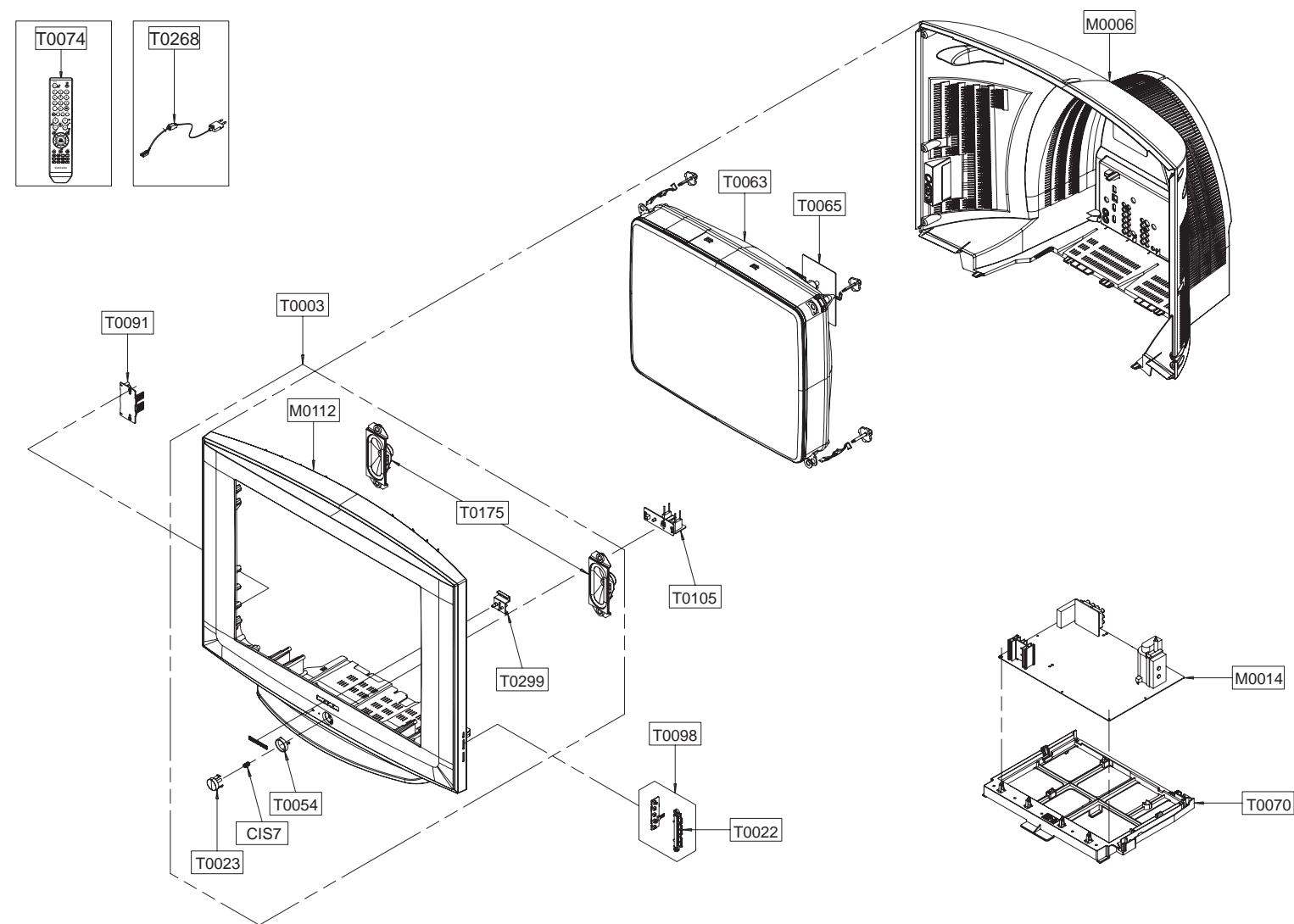
No	Item	29" SLIM	29" SLIM	Required Adjustment
		CL-29Z30PQ	CL-29Z30MQ	
1	Balance de Blancos	269 ± 3/274 ± 3/40 ± 0.3 269 ± 3/274 ± 3/2.0 ± 0.2	269 ± 3/274 ± 3/40 ± 0.3 269 ± 3/274 ± 3/2.0 ± 0.2	White Balance (Standardization Applied)

### 3-5-4 Lista de Comprobación para los Ajustes de Voltaje de Pantalla y Balance de Blancos

1. El Voltaje de Pantalla y el Balance de Blancos están conectados, y los dos tienen que ser configurados en los valores correctos.
2. Ajuste el Balance de Blancos después que el Voltaje de Pantalla sea ajustada, y comprobar si el Voltaje Pantalla es normal después de ajustar el Balance de Blancos.
3. Si se reajusta el Balance de Blancos, comprobar el Voltaje Pantalla nuevamente.
4. Cuando finalice el ajuste, comprobar los siguientes puntos.
  - Si hay un punto en la pantalla al apagar/encender el TV, ajuste el Voltaje de Pantalla nuevamente.
  - Si hay una línea fantasma en la pantalla, ajuste el Voltaje de Pantalla nuevamente.

## 4. Vista Explotada y Lista de Partes

### 4-1 CL29Z50MQTXXAO



Loc.No.	Code No.	Description	Specification	Q'ty	SA/SNA	Remark
CIS7	AA61-60003J	SPRING ETC-CS	-,SUS304,-,OD6,N7,OD6,-,	1	S.N.A	
M0006	AA63-01563D	COVER-REAR	29Z50(HQ,SAMEX),HIPS,T2.7,HB,	1	S.N.A	
M0014	AA94-15816B	ASSY PCB MAIN	CL29Z30MQTXXAZ,KS7D,TIME C	1	S.A	
M0112	AA63-01562F	COVER-FRONT	29Z50(HQ,SAMEX,SEDA),HIPS,T2	1	S.N.A	
T0003	AA96-04725P	ASSY COVER P-FRONT	29Z50(HQ,SAMEX,SEDA),	1	S.A	
T0022	AA64-04437A	KNOB CONTROL	29Z50,ABS,HB,GR515,SVM3012	1	S.N.A	
T0023	AA64-04434A	KNOB POWER	29Z50,ABS,HB,GR515,BKN3576	1	S.N.A	
T0054	AA64-04428A	KNOB-DECORATION	29Z50,ABS,HB,GR515,AL	1	S.N.A	
T0063	AA03-00486A	CRT COLOR	A68QFZ893X101,0,1.10,13.3,1.33	1	S.A	
T0065	AA94-15815B	ASSY PCB CRT	WITH OUT CRT PCB	1	S.A	
T0070	AA61-01424A	HOLDER-CHASSIS	32Z30,HIPS V0,T2.0,-,G4	1	S.N.A	
T0074	AA59-00385A	REMOCON	TIMECOP,TM85,20p samsung,39,INTE	1	S.A	
T0091	AA94-15813A	ASSY PCB MISC-A/V SIDE	,KS7D,TIME COP	1	S.A	
T0098	AA94-16132A	ASSY PCB MISC-CONTROL	CT-29Z50,K71A,PRIM	1	S.A	
T0105	AA94-15802A	ASSY PCB MISC-TACT S/W	K63A,NATURAL	1	S.A	
T0175	AA96-04414A	ASSY SPEAKER P	8ohm,10W,L:YELLOW/BLAVK60	1	S.A	
T0268	AA39-10006X	CBF-POWER CORD	-,KKP419C,3P,-,BLK,-,	1	S.A	
T0299	AA64-04438A	WINDOW-RMC LED	29Z50(HQ,SAMEX,SEDA),PC,C	1	S.N.A	

## 5. Lista de Partes Eléctricas

### 5-1 CL29Z50MQTXXAO

Loc.No.	Code No.	Description	Specification	Q'ty	SA/SNA	Remark
<b>ASSY CHASSIS</b>						
M0017	AA91-10812A	ASSY CHASSIS	CL29Z50MQTXXAP	1	S.N.A	
<b>T0105</b>	<b>AA94-15802A</b>	<b>ASSY PCB MISC-TACT S/W</b>	<b>K63A,NATURAL</b>	<b>1</b>	<b>S.A</b>	
CC01	2401-002291	C-AL	47uF,20%,16V,GP,TP,6.3x5,5	1	S.A	
CN330	3711-001031	HEADER-BOARD TO CABLE	BOX,6P,1R,2.5MM,AN	1	S.A	
DC01	0401-000005	DIODE-SWITCHING	1N4148,75V,150mA,DO-35,T	1	S.A	
DC02	0401-000005	DIODE-SWITCHING	1N4148,75V,150mA,DO-35,T	1	S.A	
DZC01	0403-000508	DIODE-ZENER	MTZJ5.6B,5.45-5.73V,500mW,DO	1	S.A	
L0405	0601-000262	LED	ROUND,RED,5mm,700nm	1	S.A	
M2893	BP39-00033C	LEAD CONNECTOR	K62A(CORE),UL1007#26,UL/C	1	S.A	
PCB	AA41-01198A	PCB SUB-TACT S/W	CT-32Z40HDK,FR-1,1L,A,1	1	S.N.A	
RC01	2001-000020	R-CARBON(S)	220HM,5%,1/2W,AA,TP,2.4X6.4M	1	S.A	
RC02	2001-000281	R-CARBON	100OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
RM01	0609-001202	Module Remocon	HORIZONTAL,12.4mm,TR	1	S.A	
T0245	0202-001492	SOLDER-WIRE FLUX	HSE-02 LFM48 SR-34 S,-,	0.001	S.N.A	
T0313	3404-000243	SWITCH-TACT	15V,20mA,160gf,6x3.4mm,SPST	1	S.A	
	AA97-16522A	ASSY AUTO-TACT S/W	TXS3082WHX/XAA,K63A,N	1	S.N.A	
<b>T0091</b>	<b>AA94-15813A</b>	<b>ASSY PCB MISC-AV SIDE</b>	<b>,KS7D,TIME COP</b>	<b>1</b>	<b>S.A</b>	
C701	2202-000231	C-CERAMIC,MLC-AXIAL	0.33NF,10%,50V,Y5P,T	1	S.A	
C702	2202-000121	C-CERAMIC,MLC-AXIAL	0.1nF,10%,50V,Y5P,-,	1	S.A	
C703	2202-000121	C-CERAMIC,MLC-AXIAL	0.1nF,10%,50V,Y5P,-,	1	S.A	
C704	2202-000231	C-CERAMIC,MLC-AXIAL	0.33NF,10%,50V,Y5P,T	1	S.A	
DZ701	0403-000720	DIODE-ZENER	MTZJ9.1B,8.57-9.01V,500mW,DO	1	S.A	
DZ702	0403-000720	DIODE-ZENER	MTZJ9.1B,8.57-9.01V,500mW,DO	1	S.A	
JA332	3722-000544	JACK-VHS	4P,AG,BLK,STRAIGHT	1	S.A	
JA333	3722-001663	JACK-PIN	3P,NI,RED/WHT/YEL,STRAIGHT	1	S.A	
L2514	3301-000287	BEAD-AXIAL	,3.5x1.0x6.0mm,3000mA,TP,,,50	1	S.N.A	
L2514	3301-000287	BEAD-AXIAL	,3.5x1.0x6.0mm,3000mA,TP,,,50	1	S.N.A	
L701	2701-000114	INDUCTOR-AXIAL	10UH,10%,2534	1	S.A	
L702	2701-000168	INDUCTOR-AXIAL	3.3UH,5%,2534	1	S.A	
L703	2701-000168	INDUCTOR-AXIAL	3.3UH,5%,2534	1	S.A	
L704	2701-000114	INDUCTOR-AXIAL	10UH,10%,2534	1	S.A	
M2893	AA39-20068J	LEAD CONNECTOR	,8P,600MM,YBNH250-08,6709	1	S.A	
PCB	AA41-01212A	PCB SUB-SIDE AV	KS7D,FR-1,-,00,1.6.245"	1	S.N.A	
R701	2001-000969	R-CARBON	75OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R702	2001-000969	R-CARBON	75OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R703	2001-000969	R-CARBON	75OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
T0245	0202-001492	SOLDER-WIRE FLUX	HSE-02 LFM48 SR-34 S,-,	0.003	S.N.A	
T0245	AA39-20070B	LEAD CONNECTOR-ASSY	,7P,600,YBNH025-07,6	1	S.A	
T0569	AA97-16525A	ASSY AUTO-AV SIDE	,KS7D,TIME COP	1	S.N.A	
<b>T0065</b>	<b>AA94-15815B</b>	<b>ASSY PCB CRT</b>	<b>WITH OUT CRT PCB</b>	<b>1</b>	<b>S.A</b>	
C504	2301-001259	C-FILM,LEAD-PPF	100nF,5%,400V,TP,19x8x16	1	S.A	
C506	2401-000430	C-AL	10uF,20%,250V,GP,TP,10x16mm,5m	1	S.A	
C507	2401-000430	C-AL	10uF,20%,250V,GP,TP,10x16mm,5m	1	S.A	
C508	2201-000723	C-CERAMIC,DISC	4.7NF,20%,3KV,Y5U,TP,16X5	1	S.A	
C509	2201-002147	C-CERAMIC,DISC	2.7NF,10%,500V,Y5P,TP,10X	1	S.A	
C510	2201-002147	C-CERAMIC,DISC	2.7NF,10%,500V,Y5P,TP,10X	1	S.A	
CN330	3711-003241	HEADER-BOARD TO CABLE	BOX,14P,1R,2.5MM,S	1	S.A	
D501	0401-000006	DIODE-SWITCHING	BAV21,250V,200mA,DO-35,T	1	S.A	
D502	0401-000006	DIODE-SWITCHING	BAV21,250V,200mA,DO-35,T	1	S.A	
D503	0401-000006	DIODE-SWITCHING	BAV21,250V,200mA,DO-35,T	1	S.A	
D504	0402-000546	DIODE-RECTIFIER	TVR10G,400V,1A,DO-41,TP	1	S.A	
DZ501	0403-000720	DIODE-ZENER	MTZJ9.1B,8.57-9.01V,500mW,DO	1	S.A	
DZ502	0403-000720	DIODE-ZENER	MTZJ9.1B,8.57-9.01V,500mW,DO	1	S.A	
DZ503	0403-000720	DIODE-ZENER	MTZJ9.1B,8.57-9.01V,500mW,DO	1	S.A	
EL501	6042-000001	EYELET	ID2.2,OD2.7,L3.1,NI+SN,BSP3-1/2H	1	S.N.A	



Electrical Part List

Loc.No.	Code No.	Description	Specification	Q'ty	SA/SNA	Remark
EL502	6042-000001	EYELET	ID2.2,OD2.7,L3.1,NI+SN,BSP3-1/2H	1	S.N.A	
F101	2901-000299	FILTER-EMI ON BOARD	-,6A,UL/CSA,-,9x7.5,	1	S.A	
GT501	BH71-40300A	PIN-HINGE	BRASS,D2.36!,HEAT/SINK,SN	1	S.N.A	
GT502	BH71-40300A	PIN-HINGE	BRASS,D2.36!,HEAT/SINK,SN	1	S.N.A	
GT503	BH71-40300A	PIN-HINGE	BRASS,D2.36!,HEAT/SINK,SN	1	S.N.A	
GT504	BH71-40300A	PIN-HINGE	BRASS,D2.36!,HEAT/SINK,SN	1	S.N.A	
IC501	AA96-50311N	ASSY HEAT SINK P	AA62-30175D,TDA6109JF,S	1	S.N.A	
L503A	2702-001092	INDUCTOR-RADIAL	2.2uH,10%,4x6mm	1	S.A	
M0081	6003-000334	SCREW-TAPTITE	RH,+,-,2S,M3,L6,ZPC(WHT),S	1	S.N.A	
M2893	AA39-00376B	LEAD CONNECTOR	ET-PAL CIS,UL1007/1185#26	1	S.A	
PCB	AA41-01187A	PCB CRT	CS29M20,FR-1,9L,00,1.6T,245*245,	1	S.N.A	
Q503	0501-000283	TR-SMALL SIGNAL	KSA539,PNP,400mW,TO-92,T	1	S.A	
R501	2001-000281	R-CARBON	100OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R501H	2002-001008	R-COMPOSITION	1.8Kohm,10%,1/2W,AA,TP,3.7	1	S.A	
R502H	2002-001008	R-COMPOSITION	1.8Kohm,10%,1/2W,AA,TP,3.7	1	S.A	
R504	2001-000281	R-CARBON	100OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R505	2001-000281	R-CARBON	100OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R511	2002-001008	R-COMPOSITION	1.8Kohm,10%,1/2W,AA,TP,3.7	1	S.A	
R514	2001-001062	R-CARBON(S)	10MOHM,5%,1/2W,AA,TP,2.4X6.4	1	S.A	
R550	2001-000449	R-CARBON	2.2KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R551	2001-000761	R-CARBON	430OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R553	2001-000411	R-CARBON	18KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
T0074	1201-002114	IC-VIDEO AMP	TDA6109JF,SDIP,9P,18.5mm,-,	1	S.A	
T0100	AA97-16527B	ASSY AUTO-CRT		1	S.N.A	
T0175	AA62-30175D	HEAT SINK-PS	-,SECC,T11.0,-,33X15X30 FT-2	1	S.N.A	
T0245	AA39-20010D	LEAD CONNECTOR-ASSY	,1P,400,YFH800-01,S,	1	S.A	
T0245	0202-001492	SOLDER-WIRE FLUX	HSE-02 LFM48 SR-34 S,-,	0.003	S.N.A	
T0310	4715-000001	SURGE ABSORBER	1000V,+50-10%,-,-,-	1	S.A	
T0310	4715-000001	SURGE ABSORBER	1000V,+50-10%,-,-,-	1	S.A	
T0310	4715-000001	SURGE ABSORBER	1000V,+50-10%,-,-,-	1	S.A	
T0310	4715-000001	SURGE ABSORBER	1000V,+50-10%,-,-,-	1	S.A	
△ V999S	3704-001197	SOCKET-CRT	8P+SEN,29PI,22.5PI,NI+SN,-	1	S.A	
<b>M0014</b>	<b>AA94-15816B</b>	<b>ASSY PCB MAIN</b>	<b>CL29Z30MOTXXAZ,KS7D,TIME C</b>	<b>1</b>	<b>S.A</b>	
C107	2202-002037	C-CERAMIC,MLC-AXIAL	100nF,80-20%,50V,Y5V	1	S.A	
C108	2401-003578	C-AL	1000uF,20%,10V,GP,TP,8x20mm,5	1	S.A	
C112	2202-002037	C-CERAMIC,MLC-AXIAL	100nF,80-20%,50V,Y5V	1	S.A	
C212	2305-000665	C-FILM,LEAD-PEF	100nF,5%,63V,TP,7.5x4.0x	1	S.A	
C299	2305-000665	C-FILM,LEAD-PEF	100nF,5%,63V,TP,7.5x4.0x	1	S.A	
C301	2301-000342	C-FILM,LEAD-PEF	2.2nF,5%,50V,TP,7.4x3.9x	1	S.A	
C302	2201-000192	C-CERAMIC,DISC	0.01nF,0.25pF,500V,C0G,-,	1	S.A	
C303	2401-000360	C-AL	100uF,20%,50V,GP,TP,8x11.5,5	1	S.A	
C304	2401-000360	C-AL	100uF,20%,50V,GP,TP,8x11.5,5	1	S.A	
C305	2305-000285	C-FILM,LEAD-PEF	220NF,5%,100V,TP,10.5X5.	1	S.A	
C306	2301-000148	C-FILM,LEAD-PEF	10nF,5%,100V,TP,7x3.2x7m	1	S.A	
C307	2401-000050	C-AL	10uF,20%,16V,GP,TP,5x11,2.5	1	S.A	
C308	2305-000411	C-FILM,LEAD-PEF	470nF,5%,50V,TP,7.3x4.8x	1	S.A	
C400	2305-001037	C-FILM,LEAD-PEF	330nF,5%,63V,TP,7.5x5.5x	1	S.A	
C401	2301-000383	C-FILM,LEAD-PEF	10nF,5%,50V,TP,6x7x3.2mm	1	S.A	
C402	2401-000302	C-AL	100uF,20%,25V,GP,TP,6.3x11,5	1	S.A	
C403	2201-000599	C-CERAMIC,DISC	0.56NF,10%,500V,Y5P,TP,5.	1	S.A	
C404	2305-000382	C-FILM,LEAD-PEF	4.7nF,5%,400V,TP,-,5mm	1	S.A	
C405	2301-001338	C-FILM,LEAD-OTHER	0.68NF,5%,1.6KV,BK,28X	1	S.A	
C406	2301-001271	C-FILM,LEAD-PPF	510nF,5%,400V,BK,26x13.5	1	S.A	
C406A	2301-001420	C-FILM,LEAD-PPF	1200nF,5%,400V,BK,31x16.	1	S.A	
C408	2201-000556	C-CERAMIC,DISC	0.47NF,10%,500V,Y5P,TP,5.	1	S.A	
C409	2401-001397	C-AL	470uF,20%,25V,GP,TP,10x16,5	1	S.A	
C410	2401-001397	C-AL	470uF,20%,25V,GP,TP,10x16,5	1	S.A	
C411	2201-000556	C-CERAMIC,DISC	0.47NF,10%,500V,Y5P,TP,5.	1	S.A	
C412	2401-001527	C-AL	47uF,20%,250V,HR,TP,13x25mm,5m	1	S.A	
C413	2201-000556	C-CERAMIC,DISC	0.47NF,10%,500V,Y5P,TP,5.	1	S.A	
C414	2305-000237	C-FILM,LEAD-PEF	1uF,5%,63V,TP,7.5x15.5mm	1	S.A	
C415	2301-001259	C-FILM,LEAD-PPF	100nF,5%,400V,TP,19x8x16	1	S.A	
C416	2305-000237	C-FILM,LEAD-PEF	1uF,5%,63V,TP,7.5x15.5mm	1	S.A	
C420	2306-000122	C-FILM,LEAD-PPF	100nF,5%,50V,TP,7.3x4.0x	1	S.A	
C421	2301-000383	C-FILM,LEAD-PEF	10nF,5%,50V,TP,6x7x3.2mm	1	S.A	
C424	2201-000132	C-CERAMIC,DISC	0.1NF,10%,500V,Y5P,TP,6.5	1	S.A	
C607	2202-000231	C-CERAMIC,MLC-AXIAL	0.33NF,10%,50V,Y5P,T	1	S.A	

Loc.No.	Code No.	Description	Specification	Q'ty	SA/SNA	Remark
C608	2202-000231	C-CERAMIC,MLC-AXIAL	0.33NF,10%,50V,Y5P,T	1	S.A	
C610	2301-000175	C-FILM,LEAD-PEF	15nF,5%,50V,TP,7.1x3.5x1	1	S.A	
C611	2301-000175	C-FILM,LEAD-PEF	15nF,5%,50V,TP,7.1x3.5x1	1	S.A	
C612	2401-001914	C-AL	1uF,20%,50V,BP,TP,5x11,5	1	S.A	
C613	2401-001914	C-AL	1uF,20%,50V,BP,TP,5x11,5	1	S.A	
C617	2401-000493	C-AL	10uF,20%,50V,LZ,TP,5x11mm,5mm	1	S.A	
C620	2305-000665	C-FILM,LEAD-PEF	100nF,5%,63V,TP,7.5x4.0x	1	S.A	
C621	2401-001998	C-AL	1000uF,20%,25V,GP,TP,10x20,5mm	1	S.A	
C627	2202-000231	C-CERAMIC,MLC-AXIAL	0.33NF,10%,50V,Y5P,T	1	S.A	
C629	2202-000231	C-CERAMIC,MLC-AXIAL	0.33NF,10%,50V,Y5P,T	1	S.A	
C638	2202-000231	C-CERAMIC,MLC-AXIAL	0.33NF,10%,50V,Y5P,T	1	S.A	
C642	2202-000231	C-CERAMIC,MLC-AXIAL	0.33NF,10%,50V,Y5P,T	1	S.A	
C644	2202-000231	C-CERAMIC,MLC-AXIAL	0.33NF,10%,50V,Y5P,T	1	S.A	
C800	2401-000603	C-AL	1UF,20%,50V,GP,TP,5X11,2	1	S.A	
C803	2401-003025	C-AL	330uF,20%,400V,GP,BK,30x40,10	1	S.A	
C806	2306-000112	C-FILM,LEAD-PPF	100nF,20%,250V,BK,-,15mm	1	S.A	
C807	2301-001158	C-FILM,LEAD-PPF	1nF,5%,800V,TP,15x12x5.5	1	S.A	
C808	2401-001585	C-AL	47uF,20%,50V,WT,TP,8x11.5,5	1	S.A	
C809	2201-000863	C-CERAMIC,DISC	0.68NF,10%,50V,Y5P,TP,5X3	1	S.A	
C812	2401-002075	C-AL	4.7uF,20%,50V,GP,TP,5x11,5	1	S.A	
C814	2401-002144	C-AL	47uF,20%,16V,GP,TP,5x11,5	1	S.A	
C815	2401-002463	C-AL	470uF,20%,16V,GP,TP,8x11.5,5	1	S.A	
C817	2401-000703	C-AL	2200uF,20%,25V,GP,-,12.5x25mm,	1	S.A	
C818	2201-000556	C-CERAMIC,DISC	0.47NF,10%,500V,Y5P,TP,5.	1	S.A	
C819	2401-003141	C-AL	2200uF,20%,25V,WT,TP,13x25,5mm	1	S.A	
C820	2201-000406	C-CERAMIC,DISC	0.27NF,10%,2KV,Y5P,TP,6.3	1	S.A	
C821	2401-000262	C-AL	100uF,20%,160V,HR,TP,16x25,7.5	1	S.A	
C822	2401-000262	C-AL	100uF,20%,160V,HR,TP,16x25,7.5	1	S.A	
C823	2201-000291	C-CERAMIC,DISC	1NF,10%,500V,Y5P,TP,7.5X3	1	S.A	
C824	2305-000289	C-FILM,LEAD-PEF	220nF,5%,63V,TP,-,5mm	1	S.A	
C826	2401-000560	C-AL	1uF,20%,160V,GP,TP,6.3x11,5	1	S.A	
C828	2201-000374	C-CERAMIC,DISC	0.22NF,5%,50V,C0G,TP,10.5	1	S.A	
C843	2301-000192	C-FILM,LEAD-PEF	1nF,5%,50V,TP,5.3x10mm,5	1	S.A	
C844	2301-000356	C-FILM,LEAD-PEF	47nF,5%,50V,TP,7.5x4.0x6	1	S.A	
C845	2201-000599	C-CERAMIC,DISC	0.56NF,10%,500V,Y5P,TP,5.	1	S.A	
C846	2401-000703	C-AL	2200uF,20%,25V,GP,-,12.5x25mm,	1	S.A	
C850	2305-001037	C-FILM,LEAD-PEF	330nF,5%,63V,TP,7.5x5.5x	1	S.A	
C888	2201-000556	C-CERAMIC,DISC	0.47NF,10%,500V,Y5P,TP,5.	1	S.A	
CIS1	0205-001154	OIL-SILICON	G746,-,-	0.1	S.N.A	
CIS1	0205-001154	OIL-SILICON	G746,-,-	0.1	S.N.A	
CIS1	0205-001154	OIL-SILICON	G746,-,-	0.2	S.N.A	
CIS1	0205-001154	OIL-SILICON	G746,-,-	0.1	S.N.A	
CIS1	0205-001154	OIL-SILICON	G746,-,-	0.2	S.N.A	
CIS1	0205-001154	OIL-SILICON	G746,-,-	0.2	S.N.A	
CIS3	AA40-00016A	TUNER	TDQ-6F/13F2S,NTSC,181CH,45.75MHZ,7	1	S.A	
CN330	3711-001038	HEADER-BOARD TO CABLE	BOX,6P,1R,2.5mm,ST	1	S.A	
CN330	3711-001084	HEADER-BOARD TO CABLE	BOX,8P,1R,2.5MM,ST	1	S.A	
CN330	3711-003043	HEADER-BOARD TO CABLE	BOX,4P,1R,2.5MM,ST	1	S.A	
CN330	3711-004379	HEADER-BOARD TO CABLE	BOX,4P,1R,2mm,STRA	1	S.A	
CN330	3711-002643	HEADER-BOARD TO CABLE	BOX,4P,1R,2.5mm,ST	1	S.A	
CN330	3711-002645	HEADER-BOARD TO CABLE	BOX,6P,1R,2.5mm,ST	1	S.A	
CN330	3711-002646	HEADER-BOARD TO CABLE	BOX,7P,1R,2.5mm,ST	1	S.A	
CN330	3711-002647	HEADER-BOARD TO CABLE	BOX,8P,1R,2.5mm,ST	1	S.A	
CN909	AA37-00001A	CONNECTOR-FBT FIX PIN	JM-3500,CPTTV,0.36	1	S.A	
△ CR402S	2306-000330	C-FILM,LEAD-PPF	7.7NF,3%,1.6KV,BK,28.5X1	1	S.A	
△ CR403S	2306-000327	C-FILM,LEAD-PPF	6.3nF,3%,1.6KV,TP,28.5x1	1	S.A	
△ CR404S	2301-001065	C-FILM,LEAD-PPF	47nF,5%,630V,TP,19x15.5x	1	S.A	
△ CR406S	2301-001091	C-FILM,LEAD-PPF	470nF,5%,400V,BK,26x21.5	1	S.A	
CT501	2401-000832	C-AL	220uF,20%,25V,GP,TP,8x11.5,5	1	S.A	
CT502	2401-000832	C-AL	220uF,20%,25V,GP,TP,8x11.5,5	1	S.A	
CT503	2305-000665	C-FILM,LEAD-PEF	100nF,5%,63V,TP,7.5x4.0x	1	S.A	
CV101	2306-000122	C-FILM,LEAD-PPF	100nF,5%,50V,TP,7.3x4.0x	1	S.A	
CV102	2401-002463	C-AL	470uF,20%,16V,GP,TP,8x11.5,5	1	S.A	
CV103	2202-002037	C-CERAMIC,MLC-AXIAL	100nF,80-20%,50V,Y5V	1	S.A	
CV104	2305-000665	C-FILM,LEAD-PEF	100nF,5%,63V,TP,7.5x4.0x	1	S.A	
CV110	2301-000383	C-FILM,LEAD-PEF	10nF,5%,50V,TP,6x7x3.2mm	1	S.A	
CV111A	2202-002253	C-CERAMIC,MLC-AXIAL	100.0nF,+80-20%,50.0	1	S.A	

## Electrical Part List

Loc.No.	Code No.	Description	Specification	Q'ty	SA/SNA	Remark
CV198	2202-000216	C-CERAMIC,MLC-AXIAL	0.027NF,5%,50V,SL,TP	1	S.A	
CV199	2202-000216	C-CERAMIC,MLC-AXIAL	0.027NF,5%,50V,SL,TP	1	S.A	
CV201	2202-000796	C-CERAMIC,MLC-AXIAL	1NF,10%,50V,Y5P,TP,3	1	S.A	
CV202	2401-002619	C-AL	47uF,20%,25V,GP,TP,5x11,5	1	S.A	
CV203	2202-000796	C-CERAMIC,MLC-AXIAL	1NF,10%,50V,Y5P,TP,3	1	S.A	
CV204	2401-002619	C-AL	47uF,20%,25V,GP,TP,5x11,5	1	S.A	
CV205	2202-000796	C-CERAMIC,MLC-AXIAL	1NF,10%,50V,Y5P,TP,3	1	S.A	
CV206	2401-002619	C-AL	47uF,20%,25V,GP,TP,5x11,5	1	S.A	
CV207	2202-000796	C-CERAMIC,MLC-AXIAL	1NF,10%,50V,Y5P,TP,3	1	S.A	
CV208	2202-000796	C-CERAMIC,MLC-AXIAL	1NF,10%,50V,Y5P,TP,3	1	S.A	
CV209	2202-000796	C-CERAMIC,MLC-AXIAL	1NF,10%,50V,Y5P,TP,3	1	S.A	
CV212	2305-000665	C-FILM,LEAD-PEF	100nF,5%,63V,TP,7.5x4.0x	1	S.A	
CV213	2305-000665	C-FILM,LEAD-PEF	100nF,5%,63V,TP,7.5x4.0x	1	S.A	
CV214	2401-002075	C-AL	4.7uF,20%,50V,GP,TP,5x11,5	1	S.A	
CV218	2401-002619	C-AL	47uF,20%,25V,GP,TP,5x11,5	1	S.A	
CV219	2202-000796	C-CERAMIC,MLC-AXIAL	1NF,10%,50V,Y5P,TP,3	1	S.A	
CV222	2401-000603	C-AL	1UF,20%,50V,GP,TP,5X11,2	1	S.A	
CV223A	2301-001211	C-FILM,LEAD-PPF	22nF,5%,400V,TP,20x7x14m	1	S.A	
CV231	2401-002619	C-AL	47uF,20%,25V,GP,TP,5x11,5	1	S.A	
CV250	2202-000632	C-CERAMIC,MLC-AXIAL	100nF,20%,50V,Z5U,TP	1	S.A	
CV251	2202-000632	C-CERAMIC,MLC-AXIAL	100nF,20%,50V,Z5U,TP	1	S.A	
CV252	2202-000632	C-CERAMIC,MLC-AXIAL	100nF,20%,50V,Z5U,TP	1	S.A	
CV253	2201-000389	C-CERAMIC,DISC	0.022NF,5%,50V,C0G,TP,5X3	1	S.A	
CV254	2201-000389	C-CERAMIC,DISC	0.022NF,5%,50V,C0G,TP,5X3	1	S.A	
CV255	2401-002619	C-AL	47uF,20%,25V,GP,TP,5x11,5	1	S.A	
CV256	2202-000796	C-CERAMIC,MLC-AXIAL	1NF,10%,50V,Y5P,TP,3	1	S.A	
CV257	2202-000796	C-CERAMIC,MLC-AXIAL	1NF,10%,50V,Y5P,TP,3	1	S.A	
CV258	2401-002619	C-AL	47uF,20%,25V,GP,TP,5x11,5	1	S.A	
CV259	2202-000796	C-CERAMIC,MLC-AXIAL	1NF,10%,50V,Y5P,TP,3	1	S.A	
CV260	2305-000665	C-FILM,LEAD-PEF	100nF,5%,63V,TP,7.5x4.0x	1	S.A	
CV261	2401-002619	C-AL	47uF,20%,25V,GP,TP,5x11,5	1	S.A	
CV262B	2202-000796	C-CERAMIC,MLC-AXIAL	1NF,10%,50V,Y5P,TP,3	1	S.A	
CV271	2202-000243	C-CERAMIC,MLC-AXIAL	33pF,5%,50V,SL,TP,3.	1	S.A	
CV272	2401-000025	C-AL	100uF,20%,16V,GP,TP,6.3x11,5	1	S.A	
CV601	2202-002037	C-CERAMIC,MLC-AXIAL	100nF,80-20%,50V,Y5V	1	S.A	
CV602	2401-001026	C-AL	3.3UF,20%,50V,GP,TP,5X11,5	1	S.A	
CV603	2401-001989	C-AL	4.7uF,20%,50V,BP,TP,5x11,5	1	S.A	
CV604	2401-001989	C-AL	4.7uF,20%,50V,BP,TP,5x11,5	1	S.A	
CV605	2401-001989	C-AL	4.7uF,20%,50V,BP,TP,5x11,5	1	S.A	
CV606	2401-001989	C-AL	4.7uF,20%,50V,BP,TP,5x11,5	1	S.A	
CV607	2401-001989	C-AL	4.7uF,20%,50V,BP,TP,5x11,5	1	S.A	
CV608	2401-001989	C-AL	4.7uF,20%,50V,BP,TP,5x11,5	1	S.A	
CV611	2401-002619	C-AL	47uF,20%,25V,GP,TP,5x11,5	1	S.A	
CV612	2202-000796	C-CERAMIC,MLC-AXIAL	1NF,10%,50V,Y5P,TP,3	1	S.A	
CV643	2202-000231	C-CERAMIC,MLC-AXIAL	0.33NF,10%,50V,Y5P,T	1	S.A	
CV701	2202-000231	C-CERAMIC,MLC-AXIAL	0.33NF,10%,50V,Y5P,T	1	S.A	
CV702	2202-000231	C-CERAMIC,MLC-AXIAL	0.33NF,10%,50V,Y5P,T	1	S.A	
CV703	2202-000243	C-CERAMIC,MLC-AXIAL	33pF,5%,50V,SL,TP,3.	1	S.A	
CV704	2202-000243	C-CERAMIC,MLC-AXIAL	33pF,5%,50V,SL,TP,3.	1	S.A	
CV705	2202-000243	C-CERAMIC,MLC-AXIAL	33pF,5%,50V,SL,TP,3.	1	S.A	
CV901	2401-000603	C-AL	1UF,20%,50V,GP,TP,5X11,2	1	S.A	
CV902	2202-000796	C-CERAMIC,MLC-AXIAL	1NF,10%,50V,Y5P,TP,3	1	S.A	
CV903	2401-002075	C-AL	4.7uF,20%,50V,GP,TP,5x11,5	1	S.A	
CV904	2202-000796	C-CERAMIC,MLC-AXIAL	1NF,10%,50V,Y5P,TP,3	1	S.A	
CV905	2401-002619	C-AL	47uF,20%,25V,GP,TP,5x11,5	1	S.A	
CV907	2401-002619	C-AL	47uF,20%,25V,GP,TP,5x11,5	1	S.A	
CV908	2202-000796	C-CERAMIC,MLC-AXIAL	1NF,10%,50V,Y5P,TP,3	1	S.A	
CV909	2401-002619	C-AL	47uF,20%,25V,GP,TP,5x11,5	1	S.A	
CV910	2305-000412	C-FILM,LEAD-PEF	470nF,5%,63V,TP,-,5mm	1	S.A	
CV911	2305-000412	C-FILM,LEAD-PEF	470nF,5%,63V,TP,-,5mm	1	S.A	
CV912	2202-002037	C-CERAMIC,MLC-AXIAL	100nF,80-20%,50V,Y5V	1	S.A	
CV913	2202-000121	C-CERAMIC,MLC-AXIAL	0.1nF,10%,50V,Y5P,-,	1	S.A	
CV914	2202-002037	C-CERAMIC,MLC-AXIAL	100nF,80-20%,50V,Y5V	1	S.A	
CV915	2202-000121	C-CERAMIC,MLC-AXIAL	0.1nF,10%,50V,Y5P,-,	1	S.A	
CV918	2401-003578	C-AL	1000uF,20%,10V,GP,TP,8x20mm,5	1	S.A	
CV920	2202-000863	C-CERAMIC,MLC-AXIAL	560pF,10%,50V,Y5P,TP	1	S.A	
CV933	2305-000411	C-FILM,LEAD-PEF	470nF,5%,50V,TP,7.3x4.8x	1	S.A	
CV934	2305-000411	C-FILM,LEAD-PEF	470nF,5%,50V,TP,7.3x4.8x	1	S.A	

Loc.No.	Code No.	Description	Specification	Q'ty	SA/SNA	Remark
	CV935	2305-000411	C-FILM,LEAD-PEF	470nF,5%,50V,TP,7.3x4.8x	1	S.A
△	CX801S	2306-000321	C-FILM,LEAD-PPF	470NF,20%,275V,BK,31X11X	1	S.A
△	CY801S	2201-000963	C-CERAMIC,DISC	1NF,20%,400V,Y5U,TP,9.5X6	1	S.A
△	CY802S	2201-000987	C-CERAMIC,DISC	2.2NF,20%,400V,Y5U,BK,12.	1	S.A
	D0254	0404-001056	DIODE-SCHOTTKY	RK16,60V,1500MA,DO-204AC,	1	S.A
	D303	0402-000546	DIODE-RECTIFIER	TVR10G,400V,1A,DO-41,TP	1	S.A
	D402	0402-000132	DIODE-RECTIFIER	1N4004,400V,1A,DO-41,TP	1	S.A
	D403	0402-000132	DIODE-RECTIFIER	1N4004,400V,1A,DO-41,TP	1	S.A
	D404	0402-001599	DIODE-RECTIFIER	DGP30L,1500,3A,DO-201AD(	1	S.A
	D405	0402-000534	DIODE-RECTIFIER	RG10V,400V,1.2A,DO-201,T	1	S.A
	D406	0402-000540	DIODE-RECTIFIER	RU20A,600V,1.5A,-,TP	1	S.A
	D407	0402-000540	DIODE-RECTIFIER	RU20A,600V,1.5A,-,TP	1	S.A
	D408	0402-001295	DIODE-RECTIFIER	GUR460L-5700,600V,4A,DO-	1	S.A
	D409	0401-000005	DIODE-SWITCHING	1N4148,75V,150mA,DO-35,T	1	S.A
	D499	0401-000005	DIODE-SWITCHING	1N4148,75V,150mA,DO-35,T	1	S.A
△	D800S	0402-000116	DIODE-BRIDGE	RBV606,600V,6A,SIP-4,ST	1	S.A
	D803	0402-000546	DIODE-RECTIFIER	TVR10G,400V,1A,DO-41,TP	1	S.A
	D804	0401-000006	DIODE-SWITCHING	BAV21,250V,200mA,DO-35,T	1	S.A
	D805	0401-000006	DIODE-SWITCHING	BAV21,250V,200mA,DO-35,T	1	S.A
	D806	0402-000546	DIODE-RECTIFIER	TVR10G,400V,1A,DO-41,TP	1	S.A
	D807	0402-001604	DIODE-RECTIFIER	MUR420,200V,4A,DO-201AD,	1	S.A
	D808	0402-000132	DIODE-RECTIFIER	1N4004,400V,1A,DO-41,TP	1	S.A
	D809A	0402-001604	DIODE-RECTIFIER	MUR420,200V,4A,DO-201AD,	1	S.A
	D811	0402-001603	DIODE-RECTIFIER	MUR480E,800V,4A,DO-201AD	1	S.A
	D813	0402-000493	DIODE-RECTIFIER	1R5GU41,400V,1.5A,DO-15L	1	S.A
	D814	0401-000005	DIODE-SWITCHING	1N4148,75V,150mA,DO-35,T	1	S.A
	D818	0403-000714	DIODE-ZENER	MTZJ3.3B,3.32-3.53V,500mW,DO	1	S.A
	D819	0401-000005	DIODE-SWITCHING	1N4148,75V,150mA,DO-35,T	1	S.A
	D823	0402-000132	DIODE-RECTIFIER	1N4004,400V,1A,DO-41,TP	1	S.A
	D824	0403-000720	DIODE-ZENER	MTZJ9.1B,8.57-9.01V,500mW,DO	1	S.A
	D825	0403-000720	DIODE-ZENER	MTZJ9.1B,8.57-9.01V,500mW,DO	1	S.A
	D901	0401-000005	DIODE-SWITCHING	1N4148,75V,150mA,DO-35,T	1	S.A
	DU410	1201-000010	IC-OP AMP	2030,PENTAWATT,5P,-,SINGLE,-,C	1	S.A
	DV201	0401-000005	DIODE-SWITCHING	1N4148,75V,150mA,DO-35,T	1	S.A
	DV202	0401-000005	DIODE-SWITCHING	1N4148,75V,150mA,DO-35,T	1	S.A
	DV203	0401-000005	DIODE-SWITCHING	1N4148,75V,150mA,DO-35,T	1	S.A
	DV901	0401-000005	DIODE-SWITCHING	1N4148,75V,150mA,DO-35,T	1	S.A
	DV951	0401-000005	DIODE-SWITCHING	1N4148,75V,150mA,DO-35,T	1	S.A
	DV952	0401-000005	DIODE-SWITCHING	1N4148,75V,150mA,DO-35,T	1	S.A
	DZ201	0403-000508	DIODE-ZENER	MTZJ5.6B,5.45-5.73V,500mW,DO	1	S.A
	DZ242	0403-000510	DIODE-ZENER	MTZJ6.2B,5.96-6.27V,500mW,DO	1	S.A
	DZ299	0403-000508	DIODE-ZENER	MTZJ5.6B,5.45-5.73V,500mW,DO	1	S.A
	DZ301	0403-001329	DIODE-ZENER	MTZJ24B,22.75-23.73V,500mW,D	1	S.A
	DZ302	0403-001329	DIODE-ZENER	MTZJ24B,22.75-23.73V,500mW,D	1	S.A
	DZ303	0403-001221	DIODE-ZENER	UZ39BSB,35.36-37.19V,500mW,D	1	S.A
	DZ306	0403-000700	DIODE-ZENER	TZP33A,5%,1000mW,DO-41,TP	1	S.A
	DZ603	0403-000720	DIODE-ZENER	MTZJ9.1B,8.57-9.01V,500mW,DO	1	S.A
	DZ701	0403-000720	DIODE-ZENER	MTZJ9.1B,8.57-9.01V,500mW,DO	1	S.A
	DZ702	0403-000720	DIODE-ZENER	MTZJ9.1B,8.57-9.01V,500mW,DO	1	S.A
	DZ703	0403-000720	DIODE-ZENER	MTZJ9.1B,8.57-9.01V,500mW,DO	1	S.A
	DZ704	0403-000720	DIODE-ZENER	MTZJ9.1B,8.57-9.01V,500mW,DO	1	S.A
	DZ802	0403-000509	DIODE-ZENER	MTZJ5.6B,5.4-5.7V,500mW,DO-3	1	S.A
	DZ807	0403-000718	DIODE-ZENER	MTZJ6.8B,6.52-6.79V,500mW,DO	1	S.A
	DZ810	0403-000509	DIODE-ZENER	MTZJ5.6B,5.4-5.7V,500mW,DO-3	1	S.A
	DZ811	0403-000700	DIODE-ZENER	TZP33A,5%,1000mW,DO-41,TP	1	S.A
	DZ812	0403-000700	DIODE-ZENER	TZP33A,5%,1000mW,DO-41,TP	1	S.A
	DZ813	0403-000720	DIODE-ZENER	MTZJ9.1B,8.57-9.01V,500mW,DO	1	S.A
	DZ814	0403-001320	DIODE-ZENER	MTZJ6.2C,6.16-6.4V,500mW,DO-	1	S.A
	DZ815	0403-001321	DIODE-ZENER	MTZJ6.8C,6.7-6.97V,500mW,DO-	1	S.A
	DZ816	0401-000005	DIODE-SWITCHING	1N4148,75V,150mA,DO-35,T	1	S.A
	DZ820	0403-001373	DIODE-ZENER	MTZJ5.1A,4.85-5.03V,500mW,DO	1	S.A
	DZ821	0401-000005	DIODE-SWITCHING	1N4148,75V,150mA,DO-35,T	1	S.A
	DZ905	0403-001317	DIODE-ZENER	MTZJ3.0B,3.01-3.22V,500mW,DO	1	S.A
	DZV101	0403-000508	DIODE-ZENER	MTZJ5.6B,5.45-5.73V,500mW,DO	1	S.A
	DZV200	0403-000508	DIODE-ZENER	MTZJ5.6B,5.45-5.73V,500mW,DO	1	S.A
	DZV201	0403-000714	DIODE-ZENER	MTZJ3.3B,3.32-3.53V,500mW,DO	1	S.A
	DZV203	0403-001320	DIODE-ZENER	MTZJ6.2C,6.16-6.4V,500mW,DO-	1	S.A
	DZV205	0403-000720	DIODE-ZENER	MTZJ9.1B,8.57-9.01V,500mW,DO	1	S.A



Loc.No.	Code No.	Description	Specification	Q'ty	SA/SNA	Remark
EY818	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY819	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY820	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY821	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY822	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY823	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY824	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY825	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY826	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY827	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY828	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY829	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY830	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY831	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY832	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY833	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY834	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY835	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY836	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY837	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY838	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY839	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY840	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
F101	2901-000297	FILTER-EMI ON BOARD	-,3A,-,3.5x5mm,TP,-	1	S.A	
F101	2901-000297	FILTER-EMI ON BOARD	-,3A,-,3.5x5mm,TP,-	1	S.A	
F101	2901-000297	FILTER-EMI ON BOARD	-,3A,-,3.5x5mm,TP,-	1	S.A	
F101	2901-000297	FILTER-EMI ON BOARD	-,3A,-,3.5x5mm,TP,-	1	S.A	
F801A	3602-000114	FUSE-HOLDER	-,-,30mohm	1	S.A	
F801B	3602-000114	FUSE-HOLDER	-,-,30mohm	1	S.A	
FD801A	3601-001228	FUSE-AXIAL LEAD	125V,10A,FAST-ACTING,EPO	1	S.A	
FD802	3601-000297	FUSE-CARTRIDGE	250V,5A,TIME-LAG,GLASS,5.	1	S.A	
△ FD802S	3601-001163	FUSE-AXIAL LEAD	125V,7A,-,EPOXY,2.4X7.1M	1	S.A	
GT301	AA60-40012F	PIN-GT	4P,2.36PI,6/12/14mm,NYLON66,LOCKI	1	S.N.A	
GT404	BH71-40300A	PIN-HINGE	BRASS,D2.36!,HEAT/SINK,SN	1	S.N.A	
GT801	AA60-40012G	PIN-GT	3P,2.36PI,10/5mm,NYLON66,LOCKING	1	S.N.A	
GT804	BH71-40300A	PIN-HINGE	BRASS,D2.36!,HEAT/SINK,SN	1	S.N.A	
GT805	BH71-40300A	PIN-HINGE	BRASS,D2.36!,HEAT/SINK,SN	1	S.N.A	
GT806	BH71-40300A	PIN-HINGE	BRASS,D2.36!,HEAT/SINK,SN	1	S.N.A	
GTT01	BH71-40300A	PIN-HINGE	BRASS,D2.36!,HEAT/SINK,SN	1	S.N.A	
GTT02	BH71-40300A	PIN-HINGE	BRASS,D2.36!,HEAT/SINK,SN	1	S.N.A	
H/S	AA61-01390A	BRACKET	CT-29A20HR,SECC,T1.0	1	S.N.A	
IC012	1203-001217	IC-POSI.ADJUST REG.	431,TO-92,3P,4.58MIL	1	S.A	
IC063	AA13-00114A	IC HYBRID	STR-X6750F,EMPEROR,7,-20~+125,	1	S.A	
IC112	1103-001171	IC-EEPROM	24C161,2Kx8,DIP,8P,9.2x6.4mm,2	1	S.A	
IC202	1203-001943	IC-VOL. DETECTOR	7025,TO-92,3P,-,PLASTIC	1	S.A	
IC301	AA96-00623F	ASSY HEAT SINK P	LA78045,SCREW,AA62-0005	1	S.N.A	
IC602	BP96-00418B	ASSY HEAT SINK P	AA62-30182F,SCREW,TDA72	1	S.N.A	
△ IC801S	AA96-50371S	ASSY HEAT SINK P	AA62-30181H,SCREW,STR-X	1	S.N.A	
IC804	AA96-00243K	ASSY HEAT SINK P	-,REGULATOR,AA62-000450	1	S.N.A	
ICT501	BH99-00007T	ASSY HEAT/SINK	BH62-00007A,SCREW,TDA2030	1	S.N.A	
ICV101	2904-001196	FILTER-SAW AV	44MHZ,SIP5K,ST,16.2DB,-,42	1	S.A	
ICV201	AA09-00463B	IC MICOM MTP	VCT4822,VCT49X3F-PY,F1,CT-2	1	S.N.A	
L104	2701-000116	INDUCTOR-AXIAL	10UH,10%,4298	1	S.A	
L106	2701-000114	INDUCTOR-AXIAL	10UH,10%,2534	1	S.A	
L2514	3301-000287	BEAD-AXIAL	,3.5x1.0x6.0mm,3000mA,TP,,,50	1	S.N.A	
L2514	3301-000287	BEAD-AXIAL	,3.5x1.0x6.0mm,3000mA,TP,,,50	1	S.N.A	
L2514	3301-000287	BEAD-AXIAL	,3.5x1.0x6.0mm,3000mA,TP,,,50	1	S.N.A	
L2514	3301-000287	BEAD-AXIAL	,3.5x1.0x6.0mm,3000mA,TP,,,50	1	S.N.A	
L2514	3301-000287	BEAD-AXIAL	,3.5x1.0x6.0mm,3000mA,TP,,,50	1	S.N.A	
L2514	3301-000287	BEAD-AXIAL	,3.5x1.0x6.0mm,3000mA,TP,,,50	1	S.N.A	
L2514	3301-000287	BEAD-AXIAL	,3.5x1.0x6.0mm,3000mA,TP,,,50	1	S.N.A	
L2514	3301-000287	BEAD-AXIAL	,3.5x1.0x6.0mm,3000mA,TP,,,50	1	S.N.A	
L2514	3301-000287	BEAD-AXIAL	,3.5x1.0x6.0mm,3000mA,TP,,,50	1	S.N.A	
L2514	3301-000287	BEAD-AXIAL	,3.5x1.0x6.0mm,3000mA,TP,,,50	1	S.N.A	
L2514	3301-000287	BEAD-AXIAL	,3.5x1.0x6.0mm,3000mA,TP,,,50	1	S.N.A	
L2514	3301-000287	BEAD-AXIAL	,3.5x1.0x6.0mm,3000mA,TP,,,50	1	S.N.A	
L2514	3301-000287	BEAD-AXIAL	,3.5x1.0x6.0mm,3000mA,TP,,,50	1	S.N.A	
L406	2004-001402	R-METAL(S)	6.8Kohm,1%,1/2W,AA,TP,2.4x6.4	1	S.A	
L424	2701-000142	INDUCTOR-AXIAL	1UH,10%,2534	1	S.A	
L605	2701-000114	INDUCTOR-AXIAL	10UH,10%,2534	1	S.A	

## Electrical Part List

Loc.No.	Code No.	Description	Specification	Q'ty	SA/SNA	Remark
L606	2701-000114	INDUCTOR-AXIAL	10UH,10%,2534	1	S.A	
L607	2701-000177	INDUCTOR-AXIAL	33UH,10%,2534	1	S.A	
L608	2701-000177	INDUCTOR-AXIAL	33UH,10%,2534	1	S.A	
L705	2701-000177	INDUCTOR-AXIAL	33UH,10%,2534	1	S.A	
L706	2701-000177	INDUCTOR-AXIAL	33UH,10%,2534	1	S.A	
L808	2701-001030	INDUCTOR-AXIAL	43UH,10%,4514	1	S.A	
L825	2701-000142	INDUCTOR-AXIAL	1UH,10%,2534	1	S.A	
LV101	2701-000114	INDUCTOR-AXIAL	10UH,10%,2534	1	S.A	
LV201	2701-000143	INDUCTOR-AXIAL	1UH,10%,3070	1	S.A	
LV202	2701-000143	INDUCTOR-AXIAL	1UH,10%,3070	1	S.A	
LV203	2701-000143	INDUCTOR-AXIAL	1UH,10%,3070	1	S.A	
LV204	2701-000115	INDUCTOR-AXIAL	10UH,10%,3070	1	S.A	
LV205	2701-000159	INDUCTOR-AXIAL	22UH,10%,4298	1	S.A	
LV206	2701-000184	INDUCTOR-AXIAL	4.7UH,10%,2534	1	S.A	
LV251	2701-000116	INDUCTOR-AXIAL	10UH,10%,4298	1	S.A	
LV252A	2701-000114	INDUCTOR-AXIAL	10UH,10%,2534	1	S.A	
LV252B	2701-000114	INDUCTOR-AXIAL	10UH,10%,2534	1	S.A	
LV253	2702-001094	INDUCTOR-RADIAL	10uH,10%,4x6mm	1	S.A	
LV601	2701-000115	INDUCTOR-AXIAL	10UH,10%,3070	1	S.A	
LV701	2701-000142	INDUCTOR-AXIAL	1UH,10%,2534	1	S.A	
LV702	2701-000142	INDUCTOR-AXIAL	1UH,10%,2534	1	S.A	
LV703	2701-000142	INDUCTOR-AXIAL	1UH,10%,2534	1	S.A	
LV704	2701-000168	INDUCTOR-AXIAL	3.3UH,5%,2534	1	S.A	
LV705	2701-000168	INDUCTOR-AXIAL	3.3UH,5%,2534	1	S.A	
LV901	2701-000143	INDUCTOR-AXIAL	1UH,10%,3070	1	S.A	
LV902	2001-000281	R-CARBON	100OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
LV903	2001-000281	R-CARBON	100OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
LV904	2701-000116	INDUCTOR-AXIAL	10UH,10%,4298	1	S.A	
LV905	2701-000158	INDUCTOR-AXIAL	22UH,10%,2534	1	S.A	
△ LX801S	AA29-00011A	FILTER LINE NOISE	C232W8,-,0.20MAX,1.5KV	1	S.A	
M0014	AA97-16528B	ASSY AUTO-MAIN	CL29Z30MQTXXAZ,KS7D,TIME	1	S.N.A	
M0018	AA97-16687A	ASSY MICOM	T-TIMNKU-1702,KS7D,20060512,A	1	S.A	
M0020	AA96-04061A	ASSY BOARD P	CL29Z30MQ,S-AMERICA	1	S.A	
M0081	6003-000335	SCREW-TAPTITE	RH,+,-,2S,M3,L8,ZPC(WHT),S	1	S.N.A	
M0081	6003-000334	SCREW-TAPTITE	RH,+,-,2S,M3,L6,ZPC(WHT),S	1	S.N.A	
M0081	6003-000334	SCREW-TAPTITE	RH,+,-,2S,M3,L6,ZPC(WHT),S	1	S.N.A	
M0081	6003-000334	SCREW-TAPTITE	RH,+,-,2S,M3,L6,ZPC(WHT),S	1	S.N.A	
M0081	6003-000335	SCREW-TAPTITE	RH,+,-,2S,M3,L8,ZPC(WHT),S	1	S.N.A	
M0081	6003-000333	SCREW-TAPTITE	RH,+,-,2S,M3,L10,ZPC(WHT),	1	S.N.A	
M0081	6003-000333	SCREW-TAPTITE	RH,+,-,2S,M3,L10,ZPC(WHT),	1	S.N.A	
P803T	1404-001264	THERMISTOR-PTC	4.5OHM,+30/-20%,220V,290V	1	S.A	
△ PC801S	0604-001032	PHOTO-COUPLER	TR,170-260%,300mW,DIP-4,ST	1	S.A	
Q401	AA96-00624A	ASSY HEAT SINK P	-,POWER,AA62-00057A,KSD	1	S.N.A	
Q403	0502-001007	TR-POWER	KSC2073-H2,NPN,25W,TO-220,ST,6	1	S.A	
Q409	0505-001723	FET-SILICON	FQP630TSTU,N,200V,9A,0.4OHM,	1	S.A	
Q409	0505-000109	FET-SILICON	2N7000,N,60V,200mA,5ohm,400m	1	S.A	
Q409	0505-000109	FET-SILICON	2N7000,N,60V,200mA,5ohm,400m	1	S.A	
Q409	0505-000109	FET-SILICON	2N7000,N,60V,200mA,5ohm,400m	1	S.A	
Q802	0501-000389	TR-SMALL SIGNAL	KSC815,NPN,400mW,TO-92,T	1	S.A	
Q805	0501-000389	TR-SMALL SIGNAL	KSC815,NPN,400mW,TO-92,T	1	S.A	
Q806	0501-000389	TR-SMALL SIGNAL	KSC815,NPN,400mW,TO-92,T	1	S.A	
Q811	0501-000369	TR-SMALL SIGNAL	KSC2331-Y,NPN,1000mW,TO-	1	S.A	
Q814	0501-000369	TR-SMALL SIGNAL	KSC2331-Y,NPN,1000mW,TO-	1	S.A	
QE02	AA96-00624G	ASSY HEAT SINK P	SCREW,AA62-00057B,FQP63	1	S.N.A	
QV202	0501-000389	TR-SMALL SIGNAL	KSC815,NPN,400mW,TO-92,T	1	S.A	
QV203	0501-000283	TR-SMALL SIGNAL	KSA539,PNP,400mW,TO-92,T	1	S.A	
QV204	0501-000283	TR-SMALL SIGNAL	KSA539,PNP,400mW,TO-92,T	1	S.A	
QV205	0501-000283	TR-SMALL SIGNAL	KSA539,PNP,400mW,TO-92,T	1	S.A	
QV207	0501-000010	TR-SMALL SIGNAL	KSC1008,NPN,800mW,TO-92,	1	S.A	
QV272	0501-000283	TR-SMALL SIGNAL	KSA539,PNP,400mW,TO-92,T	1	S.A	
QV273	0501-000389	TR-SMALL SIGNAL	KSC815,NPN,400mW,TO-92,T	1	S.A	
QV901	0501-000389	TR-SMALL SIGNAL	KSC815,NPN,400mW,TO-92,T	1	S.A	
QV902	0501-000389	TR-SMALL SIGNAL	KSC815,NPN,400mW,TO-92,T	1	S.A	
QV905	0501-000010	TR-SMALL SIGNAL	KSC1008,NPN,800mW,TO-92,	1	S.A	
QV951	0501-000389	TR-SMALL SIGNAL	KSC815,NPN,400mW,TO-92,T	1	S.A	
R104	2001-000281	R-CARBON	100OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R107	2001-000281	R-CARBON	100OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R205	2001-000613	R-CARBON	3.9KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	

Loc.No.	Code No.	Description	Specification	Q'ty	SA/SNA	Remark
R302	2004-001984	R-METAL(S)	26.7Kohm,1%,1/2W,AA,TP,2.4x6.	1	S.A	
R304	2008-001015	R-FUSIBLE(S)	1.5ohm,5%,2W,AF,TP,3.9x10mm	1	S.A	
R305	2008-001013	R-FUSIBLE(S)	1.2ohm,5%,2W,AF,TP,3.9x10mm	1	S.A	
R306	2001-000016	R-CARBON(S)	10OHM,5%,1/2W,AA,TP,2.4X6.4MM	1	S.A	
R309	2003-002205	R-METAL OXIDE(S)	330ohm,5%,2W,AG,TP,3.9X	1	S.A	
R310	2003-002205	R-METAL OXIDE(S)	330ohm,5%,2W,AG,TP,3.9X	1	S.A	
R311	2001-000290	R-CARBON	10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R314	2004-005054	R-METAL(S)	39KOHM,1%,1/2W,AA,TP,2.4X6.4M	1	S.A	
R315	2004-005054	R-METAL(S)	39KOHM,1%,1/2W,AA,TP,2.4X6.4M	1	S.A	
R316	2004-001397	R-METAL(S)	4.7Kohm,1%,1/2W,AA,TP,2.4x6.4	1	S.A	
R401	2001-001187	R-CARBON(S)	75OHM,5%,1/2W,AA,TP,2.4X6.4M	1	S.A	
R402	2001-001070	R-CARBON(S)	120OHM,5%,1/2W,AA,TP,2.4X6.4	1	S.A	
R404	2001-001114	R-CARBON(S)	270OHM,5%,1/2W,AA,TP,2.4X6.4	1	S.A	
R405	2001-001153	R-CARBON(S)	47ohm,5%,1/2W,AA,TP,2.4x6.4m	1	S.A	
R408	2003-002193	R-METAL OXIDE(S)	33Kohm,5%,2W,AG,TP,3.9X	1	S.A	
R411	2004-002022	R-METAL(S)	51Kohm,1%,1/2W,AA,TP,2.4x6.4m	1	S.A	
R413	2008-000253	R-FUSIBLE(S)	0.47ohm,5%,1W,AF,TP,3.9x10m	1	S.A	
R414	2008-000253	R-FUSIBLE(S)	0.47ohm,5%,1W,AF,TP,3.9x10m	1	S.A	
R415	2004-000861	R-METAL	39Kohm,1%,1/4W,AA,TP,2.4x6.4mm	1	S.A	
R416	2004-001390	R-METAL(S)	1Kohm,2%,1/2W,AA,TP,2.4x6.4mm	1	S.A	
R417	2004-005051	R-METAL(S)	2.2KOHM,1%,1/2W,AA,TP,2.4X6.4	1	S.A	
R418	2008-000292	R-FUSIBLE(S)	3.3ohm,5%,2W,AF,TP,3.9x10mm	1	S.A	
R420	2004-000412	R-METAL	18Kohm,1%,1/4W,AA,TP,2.4x6.4mm	1	S.A	
R423	2003-001042	R-METAL OXIDE(S)	5.6Kohm,5%,2W,AF,TP,3.9	1	S.A	
R426	2003-000540	R-METAL OXIDE(S)	1Kohm,5%,2W,AF,TP,4x12m	1	S.A	
R450	2008-000294	R-FUSIBLE(S)	33ohm,5%,2W,AF,TP,3.9x10mm	1	S.A	
R459	2008-001011	R-FUSIBLE(S)	0.18ohm,10%,2W,AF,TP,3.9x10	1	S.A	
R499	2001-001186	R-CARBON(S)	75KOHM,5%,1/2W,AA,TP,2.4X6.4	1	S.A	
R607	2001-000472	R-CARBON	2.7KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R608	2001-000472	R-CARBON	2.7KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R609	2001-000281	R-CARBON	100OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R619	2001-000281	R-CARBON	100OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R620	2001-000290	R-CARBON	10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R621	2001-000429	R-CARBON	1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R622	2001-000429	R-CARBON	1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R802	2003-000586	R-METAL OXIDE(S)	22Kohm,5%,2W,AF,TP,4x12	1	S.A	
R803	2003-000586	R-METAL OXIDE(S)	22Kohm,5%,2W,AF,TP,4x12	1	S.A	
R804	2003-000586	R-METAL OXIDE(S)	22Kohm,5%,2W,AF,TP,4x12	1	S.A	
R805	2001-001088	R-CARBON(S)	1KOHM,5%,1/2W,AA,TP,2.4X6.4M	1	S.A	
R806	2001-000273	R-CARBON	100KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R807	2001-000037	R-CARBON(S)	330OHM,5%,1/2W,AA,TP,2.4X6.4	1	S.A	
R808	2001-001150	R-CARBON(S)	470KOHM,5%,1/2W,AA,TP,2.4X6.	1	S.A	
R809	2001-001150	R-CARBON(S)	470KOHM,5%,1/2W,AA,TP,2.4X6.	1	S.A	
R810	2001-001097	R-CARBON(S)	2.4KOHM,5%,1/2W,AA,TP,2.4X6.	1	S.A	
R811	2009-001012	R-METAL PLATE	0.27OHM,10%,5W,CL,TP,5X14X	1	S.A	
R812	2001-000977	R-CARBON	8.2KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R813	2009-001012	R-METAL PLATE	0.27OHM,10%,5W,CL,TP,5X14X	1	S.A	
R815	2001-000273	R-CARBON	100KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R816	2004-001891	R-METAL(S)	133Kohm,1%,1/2W,AA,TP,2.5x6.5	1	S.A	
R817	2001-001088	R-CARBON(S)	1KOHM,5%,1/2W,AA,TP,2.4X6.4M	1	S.A	
R818	2001-001131	R-CARBON(S)	33KOHM,5%,1/2W,AA,TP,2.4X6.4	1	S.A	
R819	2004-001983	R-METAL(S)	2.49Kohm,1%,1/2W,AA,TP,2.4x6.	1	S.A	
R820	2001-001088	R-CARBON(S)	1KOHM,5%,1/2W,AA,TP,2.4X6.4M	1	S.A	
R821	2004-001891	R-METAL(S)	133Kohm,1%,1/2W,AA,TP,2.5x6.5	1	S.A	
R823	2003-002020	R-METAL OXIDE(S)	56Kohm,5%,2W,AF,TP,3.9x	1	S.A	
R824	2003-002020	R-METAL OXIDE(S)	56Kohm,5%,2W,AF,TP,3.9x	1	S.A	
R825	2003-000762	R-METAL OXIDE(S)	6.8ohm,5%,2W,AF,TP,4x12	1	S.A	
R827	2008-001011	R-FUSIBLE(S)	0.18ohm,10%,2W,AF,TP,3.9x10	1	S.A	
R829	2001-001078	R-CARBON(S)	15KOHM,5%,1/2W,AA,TP,2.4X6.4	1	S.A	
R830	2001-001078	R-CARBON(S)	15KOHM,5%,1/2W,AA,TP,2.4X6.4	1	S.A	
R831	2001-001078	R-CARBON(S)	15KOHM,5%,1/2W,AA,TP,2.4X6.4	1	S.A	
R832	2001-001079	R-CARBON(S)	15OHM,5%,1/2W,AA,TP,2.4X6.4M	1	S.A	
R833	2001-000007	R-CARBON	3KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R834	2008-000205	R-FUSIBLE(S)	10ohm,5%,1/2W,AF,TP,2.5x6.5	1	S.A	
R837	2008-000290	R-FUSIBLE(S)	2.4ohm,5%,2W,AF,TP,3.9x10mm	1	S.A	
R841	2001-000734	R-CARBON	4.7KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R846	2001-001077	R-CARBON(S)	150OHM,5%,1/2W,AA,TP,2.4X6.4	1	S.A	
R848	2003-000664	R-METAL OXIDE(S)	33ohm,5%,2W,AF,TP,4x12m	1	S.A	



## Electrical Part List

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R849	2008-000205	R-FUSIBLE(S)	10ohm,5%,1/2W,AF,TP,2.5x6.5	1	S.A	
R850	2008-000252	R-FUSIBLE(S)	0.47ohm,10%,1/2W,AF,TP,2.5x	1	S.A	
R851	2001-001088	R-CARBON(S)	1KOHM,5%,1/2W,AA,TP,2.4X6.4M	1	S.A	
R895	2001-001152	R-CARBON(S)	47KOHM,5%,1/2W,AA,TP,2.4X6.4	1	S.A	
R898	2008-000290	R-FUSIBLE(S)	2.4ohm,5%,2W,AF,TP,3.9x10mm	1	S.A	
R930	2001-000989	R-CARBON	820KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R939	2001-000522	R-CARBON	22KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R941	2001-000290	R-CARBON	10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R942	2001-000995	R-CARBON	820OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R944	2001-000429	R-CARBON	1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
RL801	3501-001053	RELAY-POWER	5Vdc,530mW,10000mA,1FormA,15	1	S.A	
RL909	2001-000281	R-CARBON	100OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
RL910	2001-000281	R-CARBON	100OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
△ △ RR09S	2001-000005	R-CARBON	390ohm,5%,1/8W,AA,TP,1.8x3.2mm	1	S.A	
RR10S	2001-000429	R-CARBON	1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
RT501	2008-001047	R-FUSIBLE(S)	68ohm,5%,2W,AF,TP,3.9x10mm	1	S.A	
RT502	2001-000052	R-CARBON(S)	3.3KOHM,5%,1/2W,AA,TP,2.4X6.	1	S.A	
RT503	2001-001126	R-CARBON(S)	300OHM,5%,1/2W,AA,TP,2.4X6.4	1	S.A	
RT504	2001-000273	R-CARBON	100KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
RT505	2001-000273	R-CARBON	100KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
RT506	2001-001071	R-CARBON(S)	12KOHM,5%,1/2W,AA,TP,2.4X6.4	1	S.A	
RT507	2001-001040	R-CARBON(S)	0.68OHM,5%,1/2W,AA,TP,2.4X6.	1	S.A	
RT508	2001-000290	R-CARBON	10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
RT509	2008-001047	R-FUSIBLE(S)	68ohm,5%,2W,AF,TP,3.9x10mm	1	S.A	
RV101	2701-000114	INDUCTOR-AXIAL	10UH,10%,2534	1	S.A	
RV102	2701-000114	INDUCTOR-AXIAL	10UH,10%,2534	1	S.A	
RV105	2001-000734	R-CARBON	4.7KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
RV106	2001-000977	R-CARBON	8.2KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
RV107	2001-000273	R-CARBON	100KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
RV108	2001-000429	R-CARBON	1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
RV109	2001-000429	R-CARBON	1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
RV110	2001-000429	R-CARBON	1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
RV111	2001-000429	R-CARBON	1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
RV112	2001-000281	R-CARBON	100OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
RV113	2001-000281	R-CARBON	100OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
RV201	2001-000290	R-CARBON	10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
RV202	2001-000221	R-CARBON	1.2KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
RV206	2001-000878	R-CARBON	6.2KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
RV207	2001-000020	R-CARBON(S)	22OHM,5%,1/2W,AA,TP,2.4X6.4M	1	S.A	
RV208	2001-000362	R-CARBON	150OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
RV209	2001-000362	R-CARBON	150OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
RV210	2001-000362	R-CARBON	150OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
RV212	2001-000780	R-CARBON	470OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
RV213	2001-000666	R-CARBON	33OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
RV214	2001-000780	R-CARBON	470OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
RV215	2001-000666	R-CARBON	33OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
RV216	2001-000780	R-CARBON	470OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
RV217	2001-000666	R-CARBON	33OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
RV221	2001-000977	R-CARBON	8.2KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
RV222	2001-000221	R-CARBON	1.2KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
RV223	2001-000554	R-CARBON	270OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
RV224	2001-000052	R-CARBON(S)	3.3KOHM,5%,1/2W,AA,TP,2.4X6.	1	S.A	
RV225	2001-000429	R-CARBON	1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
RV230	2001-001168	R-CARBON(S)	6.8KOHM,5%,1/2W,AA,TP,2.4X6.	1	S.A	
RV232	2001-000449	R-CARBON	2.2KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
RV233	2001-000449	R-CARBON	2.2KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
RV234	2001-000281	R-CARBON	100OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
RV252	2001-000429	R-CARBON	1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
RV256	2001-000554	R-CARBON	270OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
RV257	2001-000232	R-CARBON	1.3KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
RV258	2001-000252	R-CARBON	1.6Kohm,5%,1/8W,AA,TP,1.8x3.2mm	1	S.A	
RV271	2001-000938	R-CARBON	68OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
RV272	2001-000005	R-CARBON	390ohm,5%,1/8W,AA,TP,1.8x3.2mm	1	S.A	
RV273	2001-000660	R-CARBON	33KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
RV274	2001-000331	R-CARBON	12KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
RV275	2001-000005	R-CARBON	390ohm,5%,1/8W,AA,TP,1.8x3.2mm	1	S.A	
RV276	2001-000780	R-CARBON	470OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
RV701	2001-000969	R-CARBON	75OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	

Loc.No.	Code No.	Description	Specification	Q'ty	SA/SNA	Remark
RV702	2001-000969	R-CARBON	75OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
RV703	2001-000969	R-CARBON	75OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
RV704	2001-000969	R-CARBON	75OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
RV705	2001-000969	R-CARBON	75OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
RV902	2001-000429	R-CARBON	1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
RV903	2001-000734	R-CARBON	4.7KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
RV904	2001-000734	R-CARBON	4.7KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
RV905	2001-000290	R-CARBON	10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
RV906	2001-000429	R-CARBON	1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
RV907	2001-000734	R-CARBON	4.7KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
RV908	2001-000734	R-CARBON	4.7KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
RV909	2001-000007	R-CARBON	3KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
RV911	2001-000347	R-CARBON	13KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
RV912	2001-000347	R-CARBON	13KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
RV913	2001-000005	R-CARBON	390ohm,5%,1/8W,AA,TP,1.8x3.2mm	1	S.A	
RV920	2001-000281	R-CARBON	100OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
RV922	2001-000429	R-CARBON	1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
RV923	2001-000281	R-CARBON	100OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
RV924	2001-000734	R-CARBON	4.7KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
RV925	2001-000281	R-CARBON	100OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
RV926	2001-000734	R-CARBON	4.7KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
RV927	0403-000720	DIODE-ZENER	MTZJ9.1B,8.57-9.01V,500mW,DO	1	S.A	
RV928	2001-000969	R-CARBON	75OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
RV929	2001-000281	R-CARBON	100OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
RV930	2001-000281	R-CARBON	100OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
RV934	2001-000924	R-CARBON	680OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
RV940	2001-000003	R-CARBON	330ohm,5%,1/8W,AA,TP,1.8x3.2mm	1	S.A	
RV941	2001-000449	R-CARBON	2.2KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
RV951	2001-000290	R-CARBON	10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
RV952	2001-000290	R-CARBON	10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
RV999	2202-000796	C-CERAMIC,MLC-AXIAL	1NF,10%,50V,Y5P,TP,3	1	S.A	
△ RX801S	2002-001010	R-COMPOSITION	1.8Mohm,5%,1/2W,AA,TP,3.7x	1	S.A	
△ RY801S	2002-001012	R-COMPOSITION	8.2Mohm,5%,1/2W,AA,TP,3.7x	1	S.A	
T0010	AA27-00056B	COIL CHOKE	600uH,YL9N 15x27.5 C:9.5,0.12	1	S.A	
T0010	AA27-00057B	COIL CHOKE	10mH,YL-9N 15x27.5 C:9.5,0.3m	1	S.A	
T0010	AA27-00067A	COIL CHOKE	-,240uH,YL9N 12x20 C:6.0,0.12	1	S.A	
T0066	AA62-30182F	HEAT SINK-ES	CS29M6,A6063S,T2.0,26.2,52.	1	S.N.A	
T0066	AA62-30181H	HEAT SINK-ES	-,AL6063 EXTR.,2,WHT,50MM,-	1	S.N.A	
T0077	AA41-01206C	PCB MAIN	CL29Z30MQT,FR-1,1,00,1.6,330X24	1	S.N.A	
T0081	BH62-00007A	HEAT SINK-TR	-,T1.0,L20*H30,CDA	1	S.N.A	
T0085	1201-002118	IC-AUDIO AMP	TDA7297SA,ZIP,15P,-,DUAL,32	1	S.A	
T0087	1203-003954	IC-POSI.FIXED REG.	KA78R05CTU,TO-220F,4P	1	S.A	
T0087	1203-001944	IC-POSI.FIXED REG.	78RM33,TO-220,3P,-,PL	1	S.A	
T0087	1203-003950	IC-POSI.FIXED REG.	KA7808ETSTU,TO-220,3P	1	S.A	
T0088	1204-002183	IC-VERTICAL PROCESSO	LA78045,TO220,7P,15	1	S.A	
T0098	AA62-00057B	HEAT SINK	CT-29K12P,A1050S,1.0,41,60,WHI	1	S.N.A	
T0105	AA60-30001A	WASHER-PLATE	M3,JD3.5,15X8.5,T1.0,SBHG	1	S.N.A	
T0175	AA62-00045A	HEAT SINK-PS	-,T1.0,-,DREAM,-,-,-,-,-	1	S.N.A	
T0175	AA62-00056A	HEAT SINK-PS	-,T1.0,-,41*35*70,D2,-,-,-	1	S.N.A	
T0175	AA62-00057A	HEAT SINK-PS	-,T1.0,-,41*20*60,D2,-,-,-	1	S.N.A	
T0245	0202-001492	SOLDER-WIRE FLUX	HSE-02 LFM48 SR-34 S,-,	0.025	S.N.A	
T0296	AA27-00035B	COIL LINEARITY	30uH,DR15x18,11.0mm,19x45	1	S.A	
T0900	1404-001045	THERMISTOR-NTC	4.7ohm,4.565A,2900K,-,-,-	1	S.A	
T401	AA26-50001M	TRANS-H.DRIVE	-,,-,80mH,-,-,520uH,-,-,-	1	S.A	
T444	AA26-00266A	TRANS FBT	FUH29A001V,CORSET2,3.50mH,PM5	1	S.A	
△ T801S	AA26-00228C	TRANS SWITCHING	VD082-02,S60A,300V,90-26	1	S.A	
VP801	1405-000152	VARISTOR	560V,2500A,14x8.5mm,TP	1	S.A	
△ VX801S	1405-000152	VARISTOR	560V,2500A,14x8.5mm,TP	1	S.A	
XV201	2801-004019	CRYSTAL-UNIT	20.25MHz,30ppm,28-AAM,13pF,	1	S.A	
	0502-001136	TR-POWER	KSD5703,NPN,70W,TO-3PF,ST,8-	1	S.A	
T0098	AA94-16132A	ASSY PCB MISC-CONTROL	CT-29Z50,K71A,PRIM	1	S.A	
CY01	2202-000796	C-CERAMIC,MLC-AXIAL	1NF,10%,50V,Y5P,TP,3	1	S.A	
LY01	2701-000114	INDUCTOR-AXIAL	10UH,10%,2534	1	S.A	
M0119	AA41-01266A	PCB CONTROL	PRIME,FR-1,1L,A,1.6T,245X245	1	S.N.A	
M2893	BH39-00419A	LEAD CONNECTOR	CT-32Z32HD,UL1007#26,UL/C	1	S.A	
RY02	2001-000577	R-CARBON	2KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
RY03	2001-000007	R-CARBON	3KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	

Loc.No.	Code No.	Description	Specification	Q'ty	SA/SNA	Remark
RY04	2001-000878	R-CARBON	6.2KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
RY05	2001-000009	R-CARBON	20KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
T0022	AA64-04437A	KNOB CONTROL	29Z50,ABS,HB,GR515,SVM3012	1	S.N.A	
T0057	AA97-16968A	ASSY AUTO-CONTROL	CT-29Z50,K71A,PRIME MA	1	S.N.A	
T0245	0202-001492	SOLDER-WIRE FLUX	HSE-02 LFM48 SR-34 S,-	0.001	S.N.A	
T0313	3404-000243	SWITCH-TACT	15V,20mA,160gf,6x3.4mm,SPST	1	S.A	
T0313	3404-000243	SWITCH-TACT	15V,20mA,160gf,6x3.4mm,SPST	1	S.A	
T0313	3404-000243	SWITCH-TACT	15V,20mA,160gf,6x3.4mm,SPST	1	S.A	
T0313	3404-000243	SWITCH-TACT	15V,20mA,160gf,6x3.4mm,SPST	1	S.A	
T0313	3404-000243	SWITCH-TACT	15V,20mA,160gf,6x3.4mm,SPST	1	S.A	

### ASSY FIXING

T0892	AA91-10814A	ASSY FIXING	CL29Z50MQTXXAP	1	S.N.A	
△ T0268	AA39-10006X	CBF-POWER CORD	-,KKP419C,3P,-,-,BLK,-,	1	S.A	
M2893	AA39-20010B	LEAD CONNECTOR	,1P,500,YFH800-01,S,1617#	1	S.A	
T0010	AA61-20284A	HOLDER	P-CORD,PP,-,-,-,BLK,VO,KE-002	1	S.N.A	
T0527	AA65-00029A	CLAMPER CORE-WIRE	PJTV,NYLON66,OD24,DONG	1	S.N.A	
T0527	AA65-30018A	CLAMPER CORE-WIRE	DONG-A,NYLON-66,-,-,-,	1	S.N.A	
T0527	AA65-30111A	CLAMPER CORE-WIRE	ALL MODEL,NYLON,VO,WHT	1	S.N.A	
T0070	AA61-01424A	HOLDER-CHASSIS	32Z30,HIPS V0,T2.0,-,-,G4	1	S.N.A	
M0081	6003-001023	SCREW-TAPTITE	PWH,+,-,B,M3,L10,ZPC(WHT),	2	S.N.A	

### ASSY ACCESSORY

M0045	AA92-11549F	ASSY ACCESSORY	CL29Z40MQTXXAO	1	S.N.A	
T0251	3721-000136	PLUG-CONVERSION	2P,4.0mm,N,NI	1	S.A	
T0524	6902-000009	BAG PE	HDPE,T0.03,L400,W240,TRP,8,2,PE M	1	S.N.A	
T0074	AA59-00385A	REMOCON	TIMECOP,TM85,20p samsung,39,INTE	1	S.A	
0	AA68-03242F	MANUAL FLYER-02	SAFETY GUIDE All Model,S	1	S.N.A	
T0175	AA68-03727A	MANUAL FLYER-01,WARRANTY CARD		All,SAMSUN1	S.N.A	
	AA68-03777A	MANUAL USERS-CARD,05	comm,Samsung,Englis	1	S.N.A	
T0511	AA68-03806F	MANUAL USERS	COMM,Samsung,Spanish,S.Amer	1	S.N.A	

### ASSY P/MATERIAL

M0113	AA92-11975A	ASSY P/MATERIAL	CS29Z50HPSXBWT	1	S.N.A	
T0376	6902-000001	BAG AIR	LDPE,T0.2,L1800,W1000,TRP,,,LDPE	0.015	S.N.A	
T0376	6902-000061	BAG AIR	LDPE,T0.2,L1000,W500,TRP,,,	0.05	S.N.A	
T0214	AA60-40006A	PIN-STAPLE	AUTO,33X17.8X2.4,H18,33X17.8X	6	S.N.A	
T0524	6902-000005	BAG PE	HDPE/NITRON/HDPE,T0.015/T0.5/T0.0	1	S.N.A	

### ASSY BOX

M0003	AA92-12100D	ASSY BOX	CL29Z50MQTXXAO	1	S.N.A	
T0130	AA69-03785P	BOX-00,SET	29Z50,CB,CB,DY-06,AB,YEL,LATI	1.01	S.N.A	

### ASSY COVER REAR

M0002	AA90-05776U	ASSY COVER REAR	29Z50(SAMEX),HIPS,HB,BK5	1	S.N.A	
T0069	AA60-00091K	SPACER-FELT	-,FELT,330X10,-,-,BLK,T0.35,	3	S.N.A	
M0006	AA63-01563D	COVER-REAR	29Z50(HQ,SAMEX),HIPS,T2.7,HB,	1	S.N.A	
T0578	AA64-04297J	INLAY AV	32Z30,PS,SHEET,T0.5,K63A	1	S.N.A	
T0066	AA64-04345D	INLAY-BACK	Z50,NT,PS,SHEET,T0.5,BLACK,SI	1	S.N.A	
T0522	AA65-30008A	CLAMPER CORE-CORD	-,PE,HB,-,BLK,-	1	S.N.A	

### ASSY COVER FRONT

M0001	AA90-05791D	ASSY COVER FRONT	CL29Z50MQTXXAO	1	S.N.A	
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Loc.No.	Code No.	Description	Specification	Q'ty	SA/SNA	Remark
M0081	6003-001026	SCREW-TAPTITE	RH,+ ,B,M4,L15,ZPC(BLK),SWR	7	S.A	
M0081	6003-001026	SCREW-TAPTITE	RH,+ ,B,M4,L15,ZPC(BLK),SWR	2	S.A	
M0081	6003-001268	SCREW-TAPTITE	TH,+ ,-,B,M4,L12,ZPC(WHT),S	1	S.N.A	
M0081	6003-001268	SCREW-TAPTITE	TH,+ ,-,B,M4,L12,ZPC(WHT),S	2	S.N.A	
M0081	6003-001268	SCREW-TAPTITE	TH,+ ,-,B,M4,L12,ZPC(WHT),S	2	S.N.A	
T0238	AA60-10050V	BOLT-HEX	-,SWRCH18A,M6,L30,HH,+ ,WC,- ,Z	4	S.N.A	
T0609	AA63-60004Z	SPACER-GUM,CRT	ALL MODEL,NTR RUBBER,- ,-,	4	S.N.A	
T0003	AA96-04725P	ASSY COVER P-FRONT	29Z50(HQ,SAMEX,SEDA),	1	S.A	
M0081	6003-001268	SCREW-TAPTITE	TH,+ ,-,B,M4,L12,ZPC(WHT),S	1	S.N.A	
M0081	6006-001096	SCREW-TAPTITE	BH,+ ,WP,B,M4.0,L12,ZPC(BLK	4	S.N.A	
T0069	AA60-00091J	SPACER-FELT	-,FELT,330X10,- ,-,BLK,T0.5,-	1	S.N.A	
T0069	AA60-00091R	SPACER-FELT	-,FELT,250X10,,,BLK,T0.5,,	2	S.N.A	
CIS7	AA61-60003J	SPRING ETC-CS	-,SUS304,- ,-,OD6,N7,OD6,- ,	1	S.N.A	
M0112	AA63-01562F	COVER-FRONT	29Z50(HQ,SAMEX,SEDA),HIPS,T2	1	S.N.A	
	AA64-04422A	LOGO-BADGE	Z50,AL,1.2.2.0g,65mm,LEAD 3,S	1	S.N.A	
T0054	AA64-04428A	KNOB-DECORATION	29Z50,ABS,HB,GR515,AL	1	S.N.A	
T0023	AA64-04434A	KNOB POWER	29Z50,ABS,HB,GR515,BKN3576	1	S.N.A	
T0299	AA64-04438A	WINDOW-RMC LED	29Z50(HQ,SAMEX,SEDA),PC,C	1	S.N.A	
T0175	AA96-04414A	ASSY SPEAKER P	8ohm,10W,L:YELLOW/BLAVK60	1	S.A	
T0382	BP61-00509C	HOLDER-CARE	PJT,ACRYL-FOAM,T0.25,W20.0mm	0.28	S.N.A	
T0382	BP61-00495C	HOLDER-CARE	PJT,ACRYL-FOAM,T0.25,W30.0mm	0.2	S.N.A	

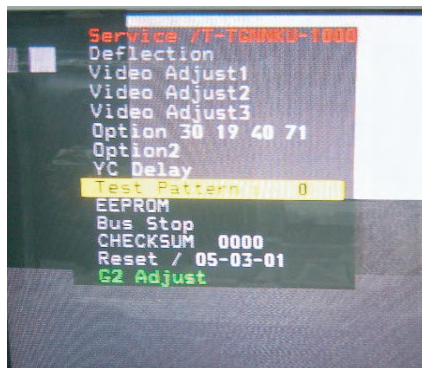
### ASSY CPT

T0521	AA91-07877Q	ASSY CPT	A68QFZ893X001,0MG,29 INCH	1	S.N.A	
T0090	AA27-00314A	COIL DEGAUSSING-TILT	TILT,CPTTV,33.5mH,2	1	S.A	
T0527	AA65-00056A	CLAMPER CORE-WIRE	32Z30,NYLON-66,V0,NTR	4	S.N.A	
T0527	AA65-00061A	CLAMPER CORE-D,COIL	NYLON-66,V0,NTR	4	S.N.A	
T0603	AA96-04062A	ASSY TBC WIRE P	K64A,29,NTSC,2P	1	S.N.A	
T0089	AA27-00359A	COIL DEGAUSSING	CORSET,9.45mH,130Turns,4	1	S.A	
△ T0063	AA03-00486A	CRT COLOR	A68QFZ893X101,0,1.10,13.3,1.33	1	S.A	

## 6. Troubleshooting

### 6-1 Checkpoints by Error Mode

- Power LED: Check that the LED works when turning the Tact Switch ON/OFF
- LED Indicators: See table 6-2-1 Basic Troubleshooting: LED Diagnosis on the Front Panel.
- In case of a power failure or abnormal screen, check the following items.
  - 1) Check that the power cord is correctly connected to electrical source equipment.
  - 2) Check that the Tact Switch has been pressed.
  - 3) Check that the signal cable is properly connected.
  - 4) Check that channel setting has been set.
- When the picture is abnormally displayed on the screen, display the Test pattern and check the adjustment status.



■ Troubleshooting Mechanism :

- The System Block has the last output terminal, VCTI, which shows the internal Test pattern.
- The Power Block supplies power to the Deflection Block
- The System Block receives all signal inputs, the signal-processed signal is sent to CRT Ass'y.

Deflection and focus are controlled by the Deflection Block

Troubleshooting by Modules

1) Enter Service Mode

(In SET STANDBY status, if you press "Mute", "1", "8", "2" and "Power" in sequence on the remote control, the screen is turned on and the Service Mode screen appears.)

2) Check if the System Block is out of order.

Press OPTION → TEST PATTERN → Right direction key:

The TOSHIBA pattern, COLOR BAR, BLACK pattern and WHITE pattern etc are displayed on the screen.

If the pattern is not displayed or is displayed abnormally, the VCTI or the System Block is out of order.

3) Check if the Power BLOCK, which supplies power to the System block and the Deflection block, is out of order.

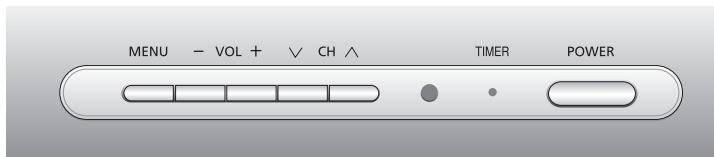
If you cannot turn the screen on by pressing the POWER ON/OFF button or the screen repeatedly turns on and off when pressing the POWER ON/Off button, check if the Power BLOCK is out of order.

4) Check if the Deflection Block is out of order.

When the screen is not properly displayed and the left or right side of the picture is shrunk, or the top or bottom of the screen is expanded or shrunk, check if the Deflection Block is out of order.

## 6-2 Troubleshooting Procedures by Error Modes

### 6-2-1 Basic Troubleshooting: Diagnosis of LED on the Front Panel



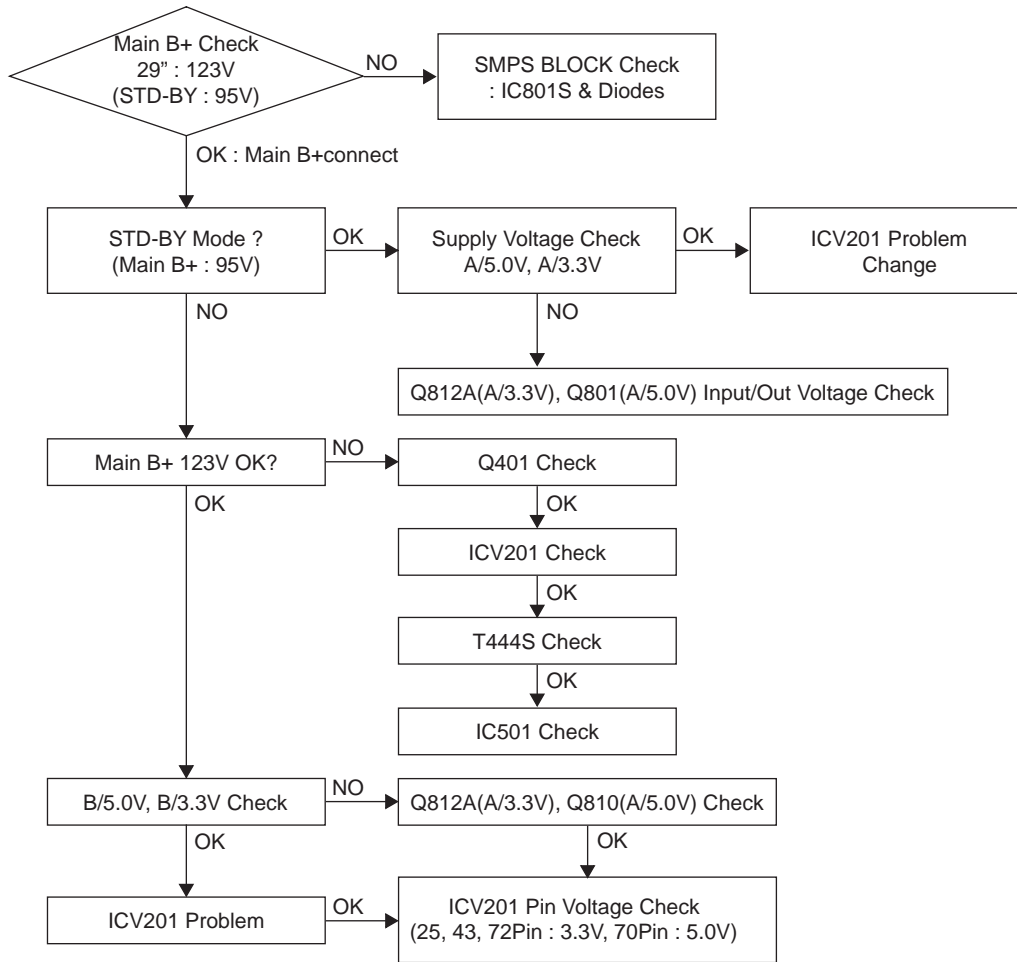
● : Light is Blinking

○ : Light is Off

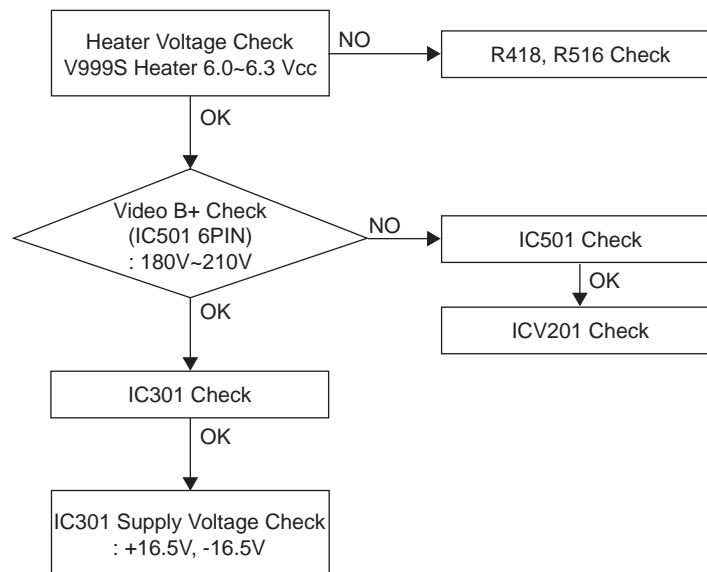
Power	Description
○	This happens when the Tact Switch is not pressed or the power cord is disconnected.
○ → ●	If you press the power switch of the or the channel key on the remote control when in St-BY status, the screen will be turned on. If the LED blinks and the screen is not displayed, check the connection between the Power and the Main Board.

## 6-3 Troubleshooting Procedures by ASS'Y

### 1. NO Power

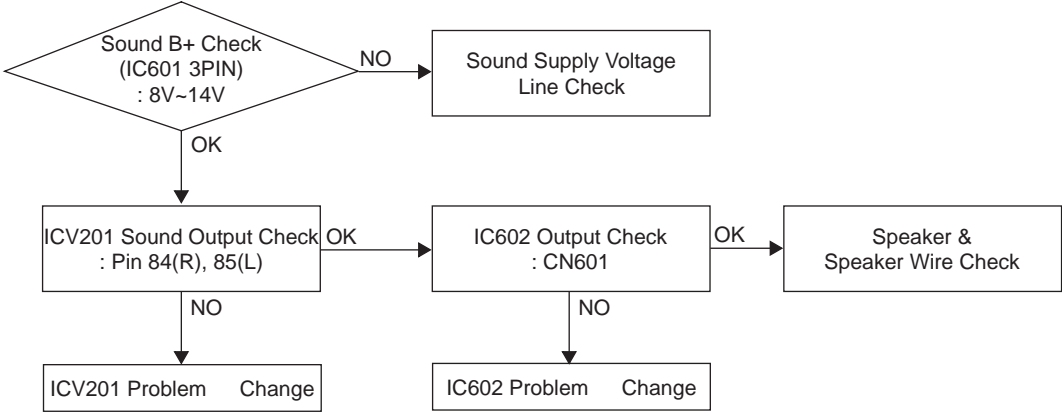


### 2. NO Video

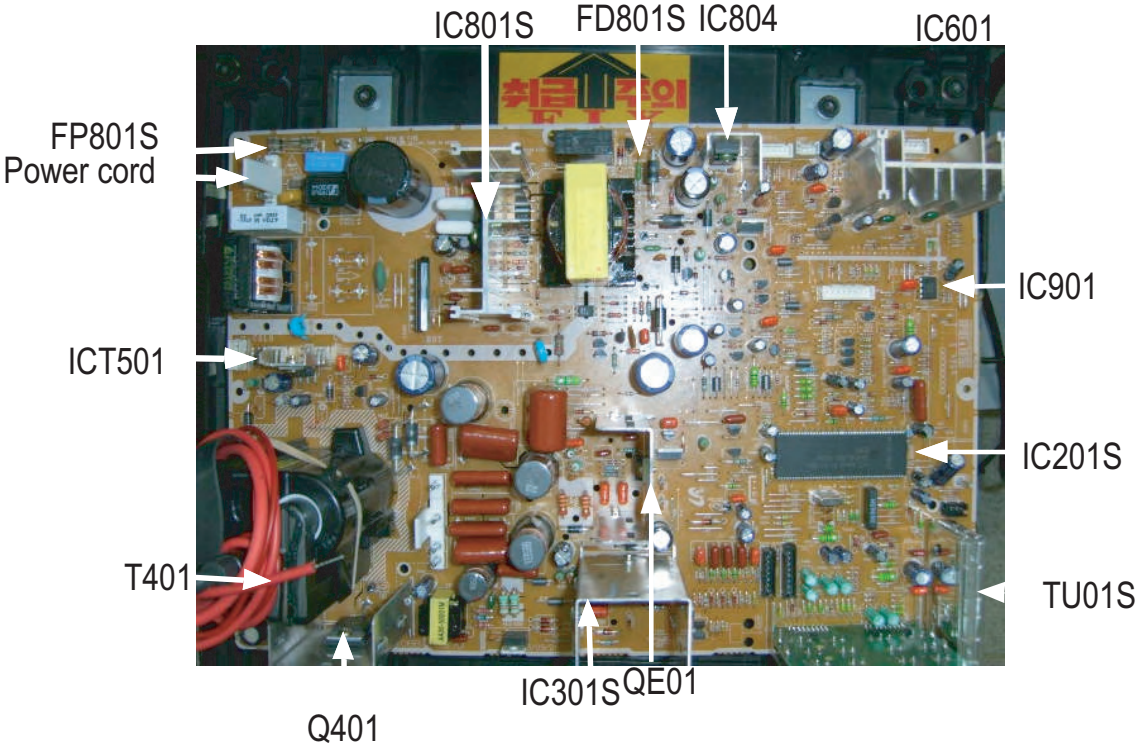
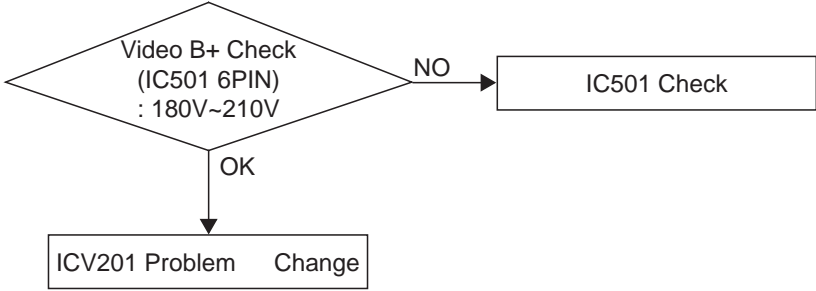




3. NO Sound



4. Fly Back Lion Badness



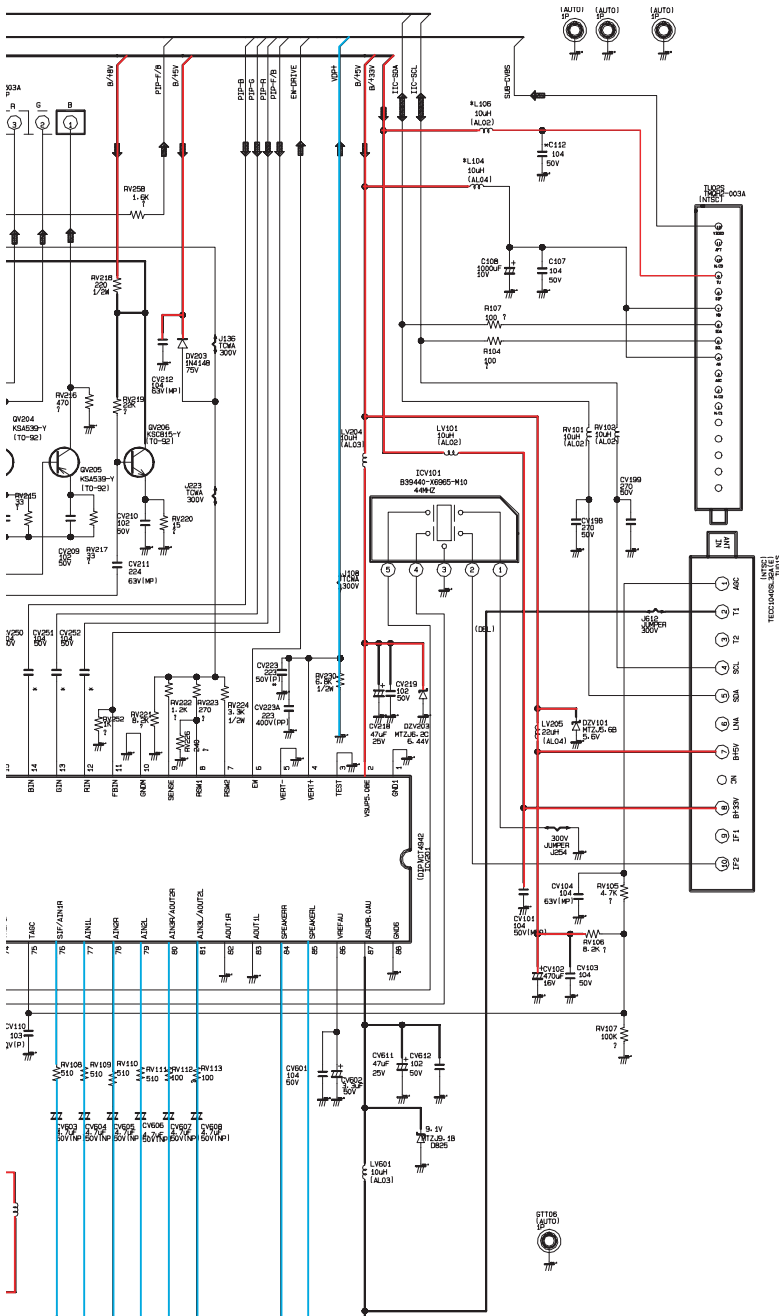
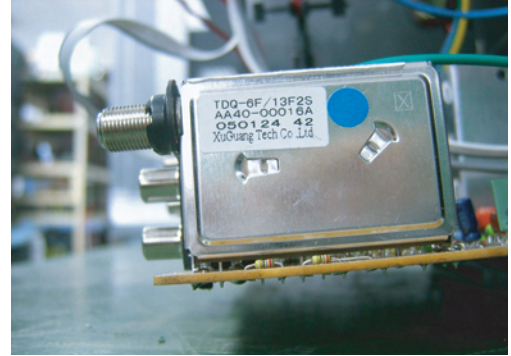
## 6-4 Troubleshooting by Blocks

### 6-4-1 Troubleshooting Main Board

#### 1. Tuner Diagnosis

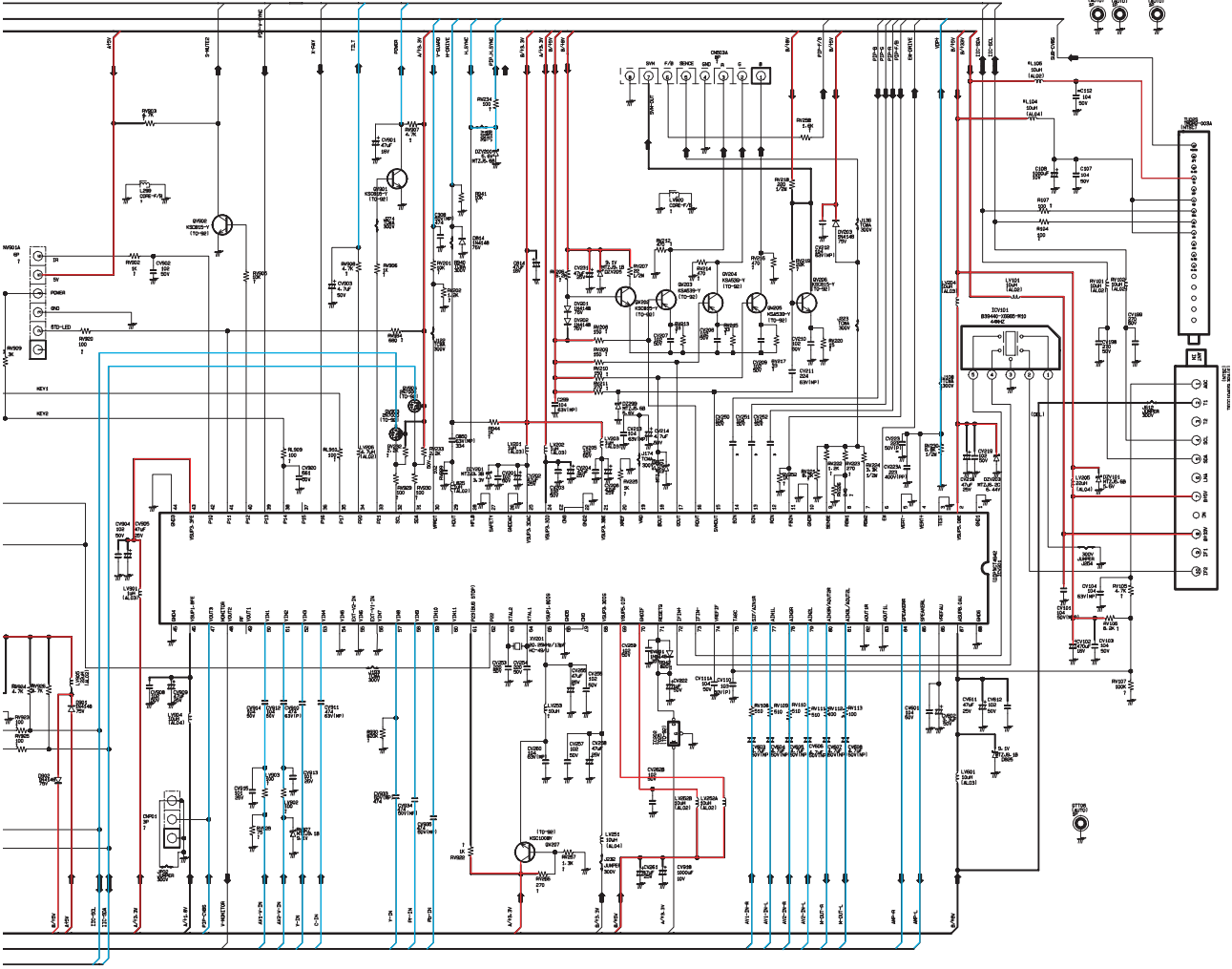
The RF / CTV signal is transmitted to the Tuner of the Main Board. If the signal is not received, check the following items.

- Power supply: 5V, 33V
- Check for RF defects: Check the IF output
- Check for AUDIO defect: Check the SIF Signal output



2. Micom Diagnosis  
VSP/MSP/DRX Block ETC

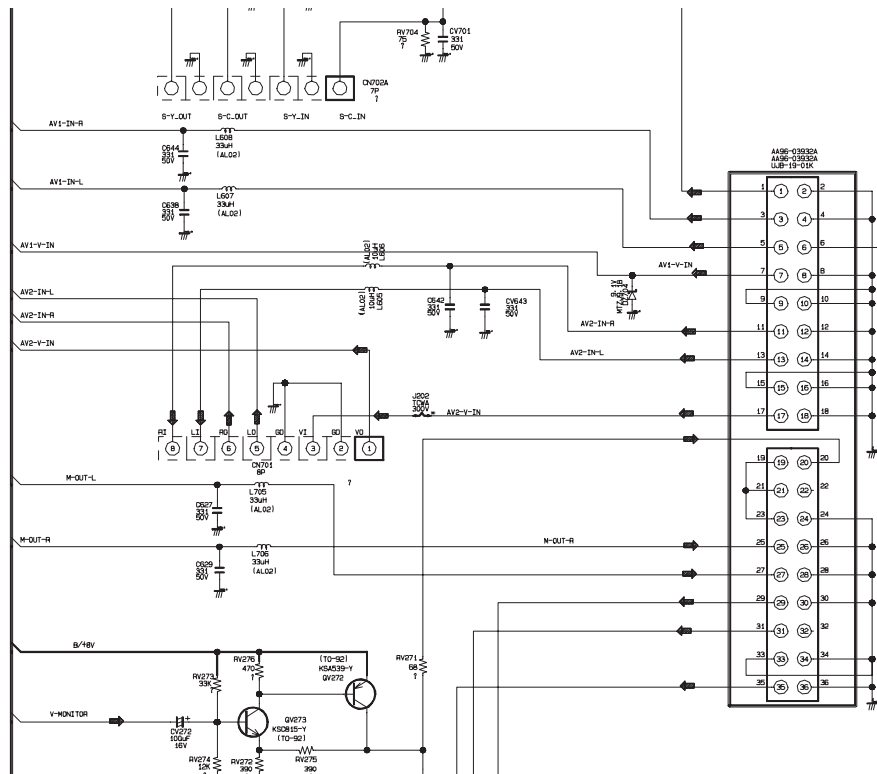
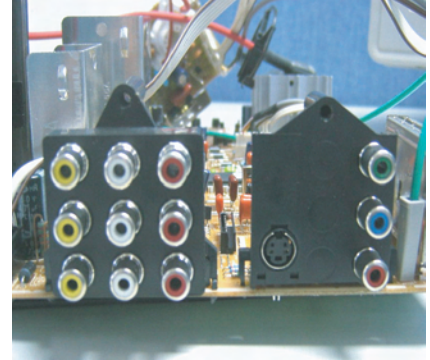
- Power supply: 3.3V, 5V, 8V
- Check for input defects: Y/C(VBS, S-VHS), 480i Y/Pb/Pr signal



### 3. External Input Diagnosis

This consists of AV1/2, S-VHS and Component signal inputs as well as monitor output (Video, Audio). The signals are sent to VCTI and the selected signals are output. If the signal input or output does not work, check the following items.

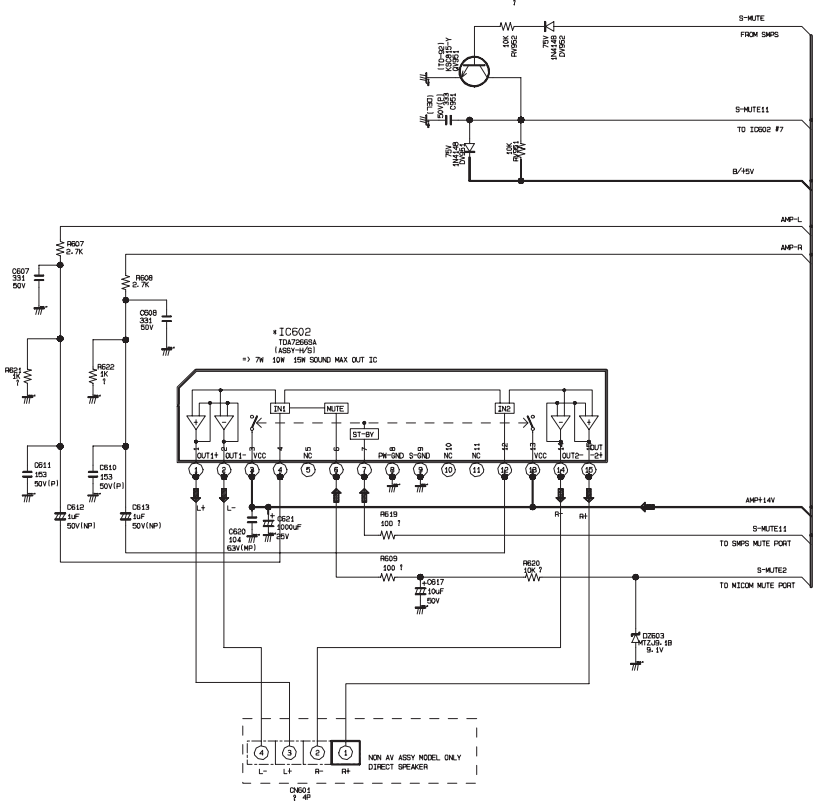
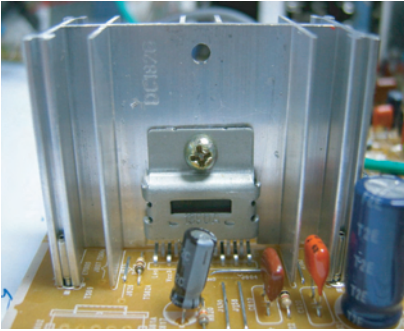
- Check for input defects: Check the Micom input pin.
- Check for output defects: Check JAR701 (for RF/AV) or JA701(for comp/S\_VHS)



4. TDA7266SA / TDA7297SA (Audio Processor) Diagnosis

This receives the signal from the Audio Processor (VCTI) and outputs the in7W+7W / 10W + 10W sound.

- Power supply : 14V
- Check for input defects : AMP-R,AMP-L
- Check for output defects : L+, L-, R+,R-



SOUND OUTOUT & JACK BLOCK

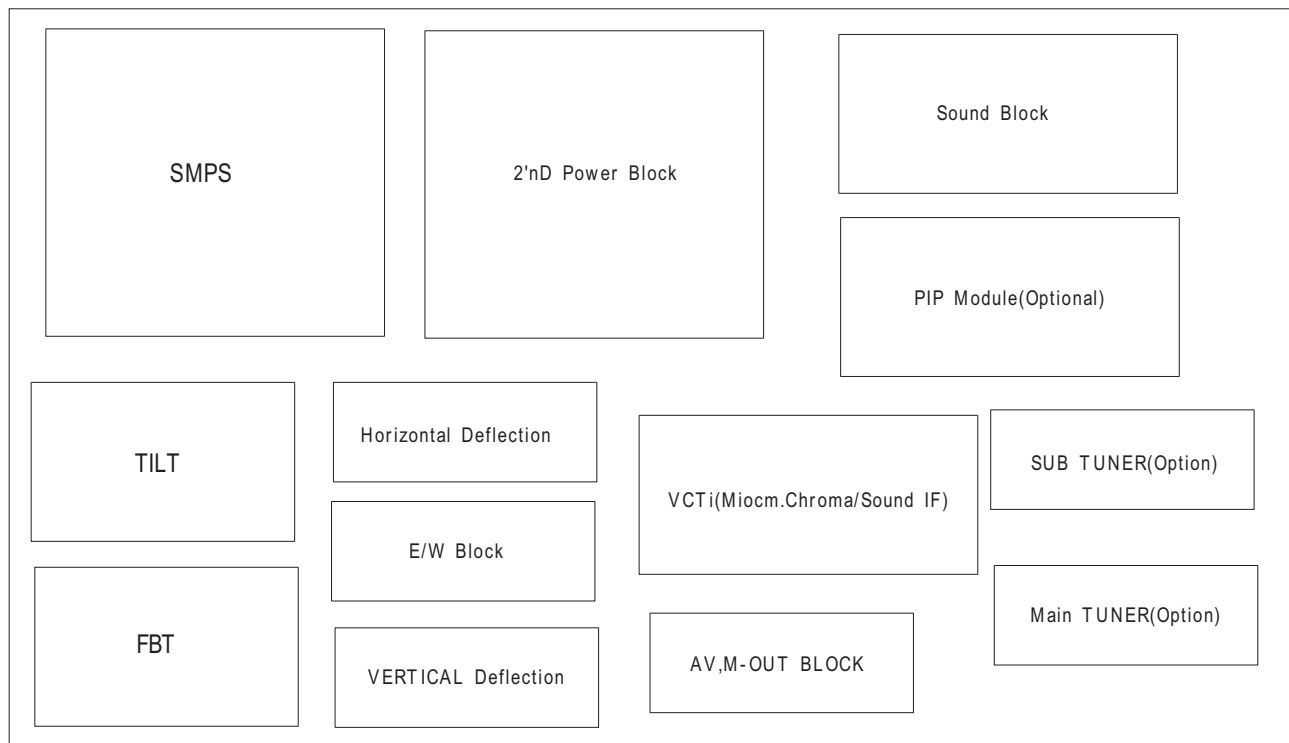
## 6-4-2 Troubleshooting Deflection Block

### ■ Countermeasures by Deflection Types

1. The screen is blank and only the relay repeats close and open when turning the power on.
  - ▶ This happens when the vertical voltage or vertical signal is not supplied, and because the Micom operates for 5 to 10 seconds and then turns the power off by force as it cannot detect the vertical signal.
2. CHECK POINT
  - Check that the vertical output voltage is measured in the FBT terminal.
    - VCC (+) : +16.5V
    - VCC (-) : -16.5V
    - ▶ If you cannot measure the output voltage, check that the collector voltage of the horizontal TR is 1360V.  
If the voltage is measured, the problem is a defect in the FBT unit.  
(When you don't have an oscilloscope, and you can hear the high-voltage sound, you can determine that the horizontal TR is normal.)
  - Is the vertical input waveform output from the VCTI VDP Pin.

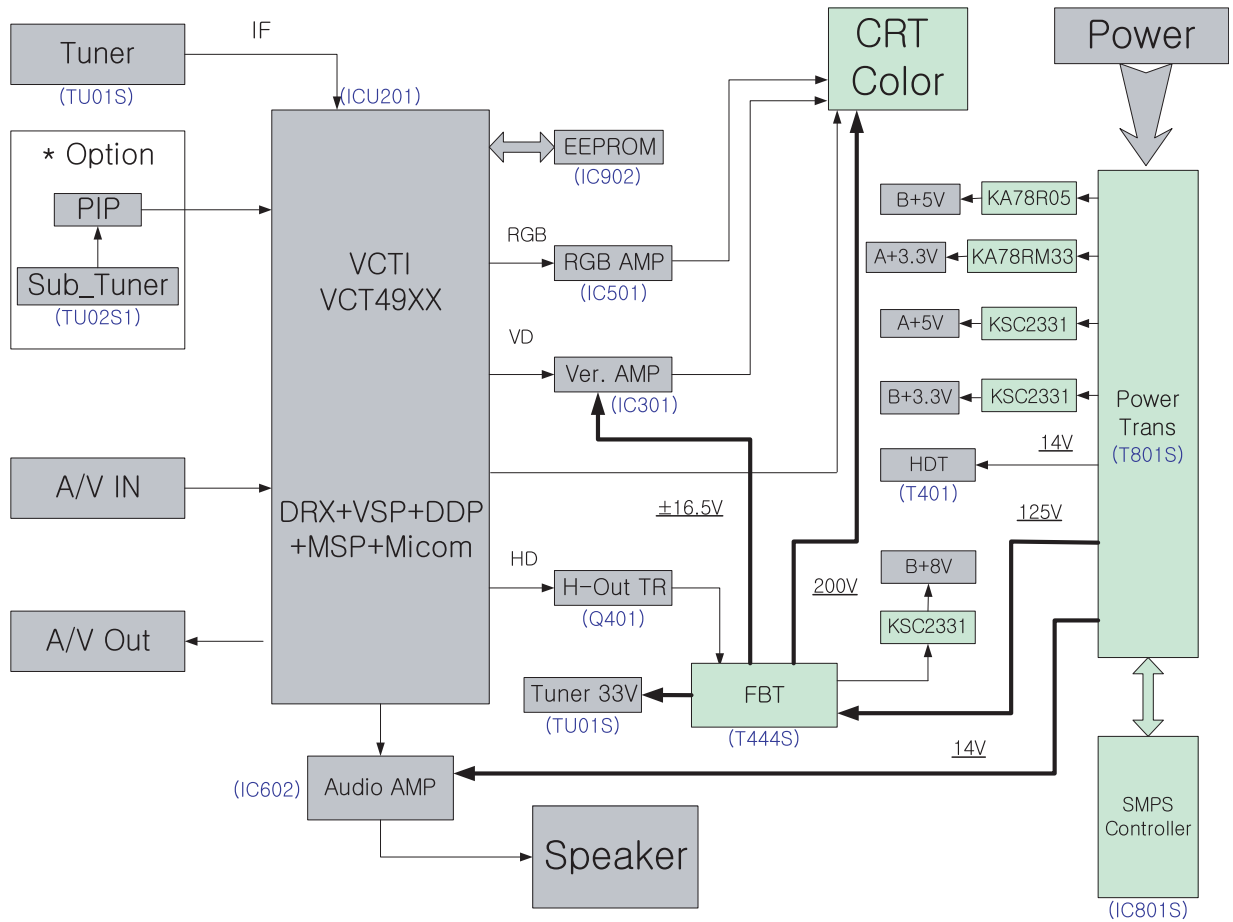
## 7. Diagramas en Bloque

### 7-1 Diagramas en Bloque General



## 7-2 Diagramas en Bloque Parcial

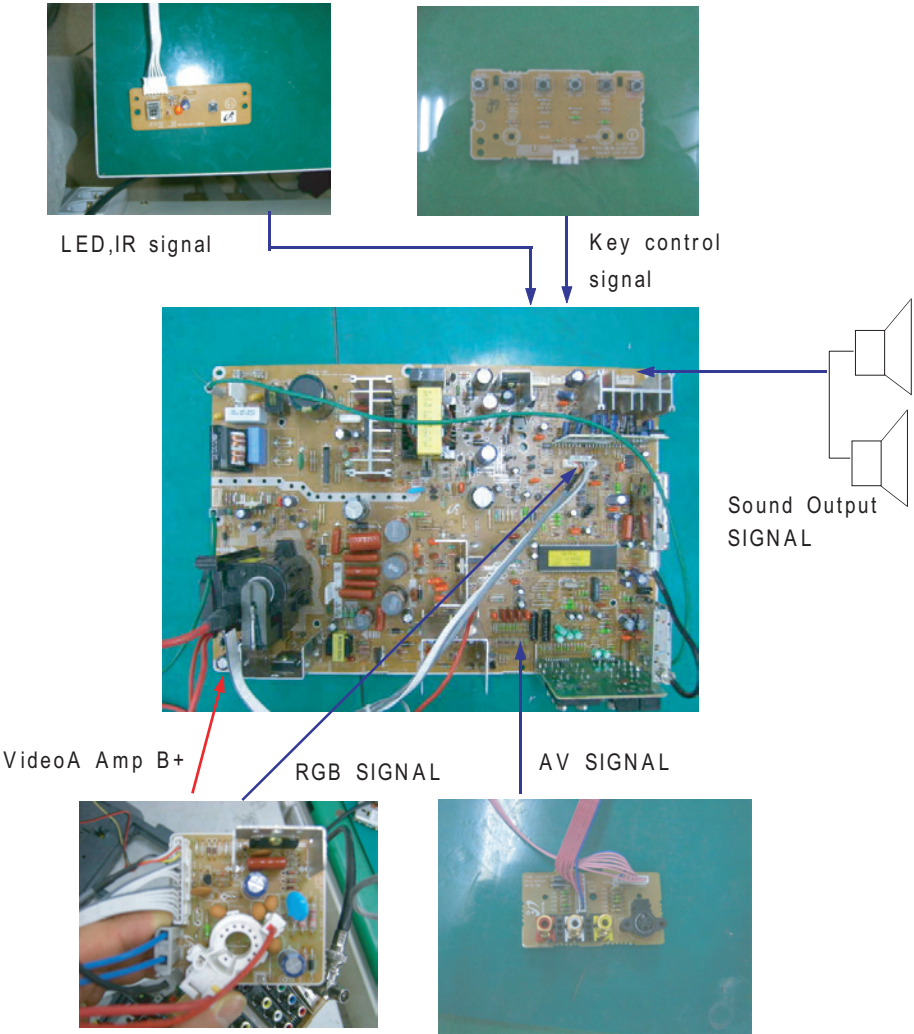
### 7-2-1 System Board Block Diagram





# 8. Diagrama de Conexiones

## 8-1 Conexiones Generales



## 8-2 Pin Connection

