

**Service  
Service  
Service****7661**

# ServiceManual

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## IMPORTANT SAFETY NOTICE

Proper service and repair is important to the safe, reliable operation of all Philips Consumer Electronics Company\*\* Equipment. The service procedures recommended by Philips and described in this service manual are effective methods of performing service operations. Some of these service operations require the use of tools specially designed for the purpose. The special tools should be used when and as recommended.

It is important to note that this manual contains various **CAUTIONS** and **NOTICES** which should be carefully read in order to minimize the risk of personal injury to service personnel. The possibility exists that improper service methods may damage the equipment. It also is important to understand that these **CAUTIONS** and **NOTICES ARE NOT EXHAUSTIVE**. Philips could not possibly know, evaluate and advise the service trade of all conceivable ways in which service might be done, or of the possible hazardous consequences of each way. Consequently, Philips has not undertaken any such broad evaluation. Accordingly, a servicer who uses a service procedure or tool which is not recommended by Philips must first satisfy himself thoroughly that neither his safety nor the safe operation of the equipment will be jeopardized by the service method selected.


\*\* Hereafter throughout this manual, Philips Consumer Electronics Company will be referred to as Philips.

### WARNING

**Critical components having special safety characteristics are identified with a  or "S" by the Ref. No. in the parts list and enclosed within a broken line\* (where several critical components are grouped in one area) along with the safety symbol  on the schematics or exploded views. Use of substitute replacement parts which do not have the same specified safety characteristics may create shock, fire, or other hazards. Under no circumstances should the original design be modified or altered without written permission from Philips. Philips assumes no liability, express or implied, arising out of any unauthorized modification of design. Servicer assumes all liability.**

\* **Broken Line** \_\_\_\_\_

## FIRE AND SHOCK HAZARD

1. Be sure all components are positioned in such a way as to avoid the possibility of adjacent component shorts. This is especially important on those chassis which are transported to and from the service shop.
2. Never release a repaired unit unless all protective devices such as insulators, barriers, covers, strain reliefs, and other hardware have been installed in accordance with the original design.
3. Soldering and wiring must be inspected to locate possible cold solder joints, solder splashes, sharp solder points, frayed leads, pinched leads, or damaged insulation (including the ac cord). Be certain to remove loose solder balls and all other loose foreign particles.
4. Check across-the-line components and other components for physical evidence of damage or deterioration and replace if necessary. Follow original layout, lead length, and dress.
5. No lead or component should touch a receiving tube or a resistor rated at 1 watt or more. Lead tension around protruding metal surfaces or edges must be avoided.
6. Critical components having special safety characteristics are identified with an 'S' by the Ref. No. in the parts list and enclosed within a broken line\* (where several critical components are grouped in one area) along with the safety symbol  on the schematic diagrams and /or exploded views.
7. When servicing any unit, always use a separate isolation transformer for the chassis. Failure to use a separate isolation transformer may expose you to possible shock hazard, and may cause damage to servicing instruments.
8. Many electronic products use a polarized ac line cord (one wide pin on the plug). Defeating this safety feature may create a potential hazard to the servicer and the user. Extension cords which do not incorporate the polarizing feature should never be used.
9. After reassembly of the unit, always perform an ac leakage test or resistance test from the line cord to all exposed metal parts of the cabinet. Also, check all metal control shafts (with knobs removed), antenna terminals, handles, screws, etc., to be sure the unit may be safely operated without danger of electrical shock.

\* **Broken line** \_\_\_\_\_

## LEAKAGE CURRENT COLD CHECK

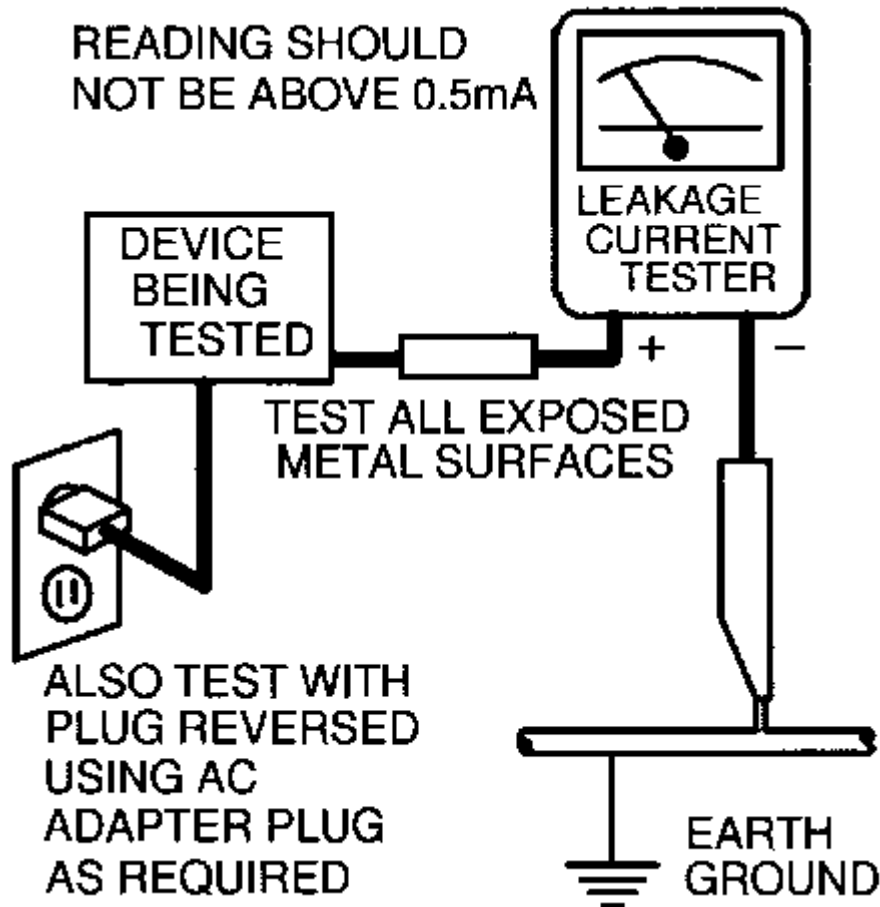
1. Unplug the ac line cord and connect a jumper between the two prongs of the plug.
2. Turn on the power switch.
3. Measure the resistance value between the jumpered ac plug and all exposed cabinet parts of the receiver, such as screw heads, antennas, and control shafts. When the exposed metallic part has a return path to the chassis, the reading should be between 1 megohm and 5.2 megohms. When the exposed metal does not have a return path to the chassis, the reading must be infinity. Remove the jumper from the ac line cord.

## LEAKAGE CURRENT HOT CHECK

1. Do not use an isolation transformer for this test. Plug the completely reassembled receiver directly into the ac outlet.
2. Connect a 1.5k, 10W resistor paralleled by a 0.15uF. capacitor between each exposed metallic cabinet part and a good earth ground such as a water pipe, as shown below.
3. Use an ac voltmeter with at least 5000 ohms/volt sensitivity to measure the potential across the resistor.
4. The potential at any point should not exceed 0.75 volts. A leakage current tester may be used to make this test; leakage current must not exceed 0.5mA. If a measurement is outside of the specified limits, there is a possibility of shock hazard. The receiver should be repaired and rechecked before returning it to the customer.
5. Repeat the above procedure with the ac plug reversed. (Note: An ac adapter is necessary when a polarized plug is used. Do not defeat the polarizing feature of the plug.)

## OR

With the instrument completely reassembled, plug the ac line cord directly into a 120Vac outlet. (Do not use an isolation transformer during this test.) Use a leakage current tester or a metering system that complies with American National Standards Institute (ANSI) C101.1 Leakage Current for Appliances and Underwriters Laboratories (UL) 1410, (50.7). With the instrument ac switch first in the on position and then in the off position, measure from a known earth ground (metal water pipe, conduit, etc.) to all exposed metal parts of the instrument (antennas, handle brackets, metal cabinet, screw heads, metallic overlays, control shafts, etc.), especially any exposed metal parts that offer an electrical return path to the chassis. Any current measured must not exceed 0.5mA. Reverse the instrument power cord plug in the outlet and repeat the test. See the graphic below.



# TV SAFETY NOTES

## SAFETY CHECKS

After the original service problem has been corrected, a complete safety check should be made. Be sure to check over the entire set, not just the areas where you have worked. Some previous servicer may have left an unsafe condition, which could be unknowingly passed on to your customer. Be sure to check all of the following:

- Fire and Shock Hazard
- Implosion
- X-Radiation
- Leakage Current Cold Check
- Leakage Current Hot Check
- Picture Tube Replacement
- Parts Replacement

**WARNING:** Before removing the CRT anode cap, turn the unit OFF and short the HIGH VOLTAGE to the CRT DAG ground.

**SERVICE NOTE:** The CRT DAG is not at chassis ground.

## IMPLOSION

1. All picture tubes used in current model receivers are equipped with an integral implosion system. Care should always be used, and safety glasses worn, whenever handling any picture tube. Avoid scratching or otherwise damaging the picture tube during installation.
2. Use only replacement tubes specified by the manufacturer.

## X-RADIATION

1. Be sure procedures and instructions to all your service personnel cover the subject of X-radiation. Potential sources of X-rays in TV receivers are the picture tube and the high voltage circuits. The basic precaution which must be exercised is to keep the high voltage at the factory recommended level.
2. To avoid possible exposure to X-radiation and electrical shock, only the manufacturer's specified anode connectors must be used.
3. It is essential that the service technician has an accurate HV meter available at all times. The calibration of this meter should be checked periodically against a reference standard.
4. When the HV circuitry is operating properly there is no possibility of an X-radiation problem. High voltage should always be kept at the manufacturer's rated value - no higher - for optimum performance. Every time a color set is serviced, the brightness should be run up and down while monitoring the HV with a meter to be certain that the HV is regulated correctly and does not exceed the specified value. We suggest that you and your technicians review test procedures so that HV and HV regulation are always checked as a standard servicing procedure, and the reason for this prudent routine is clearly understood by everyone. It is important to use an accurate and reliable HV meter. It is recommended that the HV reading be recorded on each customer's invoice, which will demonstrate a proper concern for the customer's safety.

5. When troubleshooting and making test measurements in a receiver with a problem of excessive high voltage, reduce the line voltage by means of a Variac to bring the HV into acceptable limits while troubleshooting. Do not operate the chassis longer than necessary to locate the cause of the excessive HV.
6. New picture tubes are specifically designed to withstand higher operating voltages without creating undesirable X-radiation. It is strongly recommended that any shop test fixture which is to be used with the new higher voltage chassis be equipped with one of the new type tubes designed for this service. Addition of a permanently connected HV meter to the shop test fixture is advisable. The CRT types used in these new sets should never be replaced with any other types, as this may result in excessive X-radiation.
7. It is essential to use the specified picture tube to avoid a possible X-radiation problem.
8. Most TV receivers contain some type of emergency "Hold Down" circuit to prevent HV from rising to excessive levels in the presence of a failure mode. These various circuits should be understood by all technicians servicing them, especially since many hold down circuits are inoperative as long as the receiver performs normally.

## **PICTURE TUBE REPLACEMENT**

The primary source of X-radiation in this television receiver is the picture tube. The picture tube utilized in this chassis is specially constructed to limit X-radiation emissions. For continued X-radiation protection, the replacement tube must be the same type as the original, including suffix letter, or a Philips approved type.

## **PARTS REPLACEMENT**

Many electrical and mechanical parts in Philips television sets have special safety related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. The use of a substitute part which does not have the same safety characteristics as the Philips recommended replacement part shown in this service manual may create shock, fire, or other hazards.

## **PRODUCT SAFETY GUIDELINES FOR ALL PRODUCTS**

**CAUTION:** Do not modify any circuit. Service work should be performed only after you are thoroughly familiar with all of the following safety checks. Risk of potential hazards and injury to the user increases if safety checks are not adhered to.

**USE A SEPARATE ISOLATION TRANSFORMER FOR THIS UNIT WHEN SERVICING.**

## PREVENTION OF ELECTROSTATIC DISCHARGE (ESD)

Some semiconductor solid state devices can be damaged easily by static electricity. Such components commonly are called Electrostatically Sensitive (ES) Devices, Examples of typical ES devices are integrated circuits and some field-effect transistors and semiconductor "chip" components. The following techniques should be used to help reduce the incidence of component damage caused by electrostatic discharge (ESD).

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any ESD on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging ESD wrist strap, which should be removed for potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.
3. Use only a grounded-tip soldering iron to solder or unsolder ES devices.
4. Use only an anti-static solder removal device. Some solder removal devices not classified as "antistatic (ESD protected)" can generate an electrical charge sufficient to damage ES devices.
5. Do not use Freon propelled chemicals. These can generate electrical charges sufficient to damage ES devices.
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it (most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive material).
7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.

**CAUTION:** Be sure no power is applied to the chassis or circuit and observe all other safety precautions.

8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your feet from a carpeted floor can generate static electricity (ESD) sufficient to damage an ES device.)

### **NOTE to CATV system Installer:**

This reminder is provided to call the CATV system installer's attention to article 820-22 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.



## PRACTICAL SERVICE PRECAUTIONS

**IT MAKES SENSE TO AVOID EXPOSURE TO ELECTRICAL SHOCK.** While some sources are expected to have a possible dangerous impact, others of quite high potential are of limited current and are sometimes held in less regard.

**ALWAYS RESPECT VOLTAGES.** While some may not be dangerous in themselves, they can cause unexpected reactions – reactions that are best avoided. Before reaching into the powered color TV set, it is best to test the high voltage insulation. It is easy to do, and is just a good service precaution.

**BEFORE POWERING UP THE TV WITH THE BACK OFF** (or on a test fixture), attach a clip lead to the CRT DAG ground and to a screwdriver blade that has a well insulated handle. After the TV is powered on and high voltage has developed, probe the anode lead with the blade, starting at the bottom of the High Voltage Transformer (flyback – IFT). Move the blade to within two inches of the connector of the CRT. **IF THERE IS AN ARC, YOU FOUND IT THE EASY WAY, WITHOUT GETTING A SHOCK!** If there is an arc to the screwdriver blade, replace the High Voltage Transformer or the lead, (if removable) whichever is causing the problem.

## PICTURE TUBE REPLACEMENT PROCEDURE

Note: a. Two (2) people are required to handle this picture tube.  
b. Safety Glasses must be worn during this procedure or whenever directly handling a picture tube.  
c. Take care in each step not to damage the CRT or the cabinet.

1. Remove the Chassis and the CRT Socket Board Module from the cabinet.
2. A furniture pad or blanket should be positioned on the floor to support only the CRT Face. This pad or blanket should be high enough to keep the CRT Face approximately 12 to 14 inches off the floor.
3. Using two people, place the cabinet in a front down position with the CRT Face on the pad or blanket.
4. Place padded blocks under each corner of the cabinet to keep it from rocking.
5. Remove the four screws, at the corners of the CRT.
6. With two people lowering the cabinet to the floor, leave the CRT elevated by the pad or blanket.

Note: Take care not to grasp the neck of the CRT during this procedure, as it is extremely fragile.

7. Two (2) people may then lift the CRT from the cabinet.
8. Remove the degaussing coil from the defective CRT and mount on the replacement. Take care to maintain the exact shape and fit.

To install the new CRT, reverse steps 1 to 7.

## Technical Specifications, Connections, and Chassis Overview

**Note:** Described specifications are valid for the *whole* product range.

**Note:** Figures below can deviate slightly from the actual situation, due to different set executions.

### Technical Specifications

#### Reception

Feature	Data
Tuning system	: PLL
Color systems	: NTSC
Sound systems	: BTSC
Channel selections	: 181, full cable
IF picture carrier	: 45.75 MHz
Aerial input	: 75 Ohm, F-type
A/V Connections	: NTSC M (3.58 - 4.5)

#### Miscellaneous

Audio output:

Feature	Data
•	: 2 x 5 W
	: 2 x 10 W

Power supply:

<b>Feature</b>	<b>Data</b>
Mains voltage range	: 90 - 140 V <sub>ac</sub>
Mains frequency	: 60 Hz

Ambient conditions:

<b>Feature</b>	<b>Data</b>
Temperature range	: +5 to +45 deg. C
Maximum humidity	: 90 % R.H.

Power consumption:

<b>Feature</b>	<b>Data</b>
Normal operation	: from 79 W (20") : to 119 W (32")
Standby	: < 1 W

# Connections

**Note:** The following connector color abbreviations are used (acc. to DIN/IEC 757): Bk= Black, Bu= Blue, Gn= Green, Gy= Grey, Rd= Red, Wh= White, Ye= Yellow.

## Top Control and Front / Side Connections

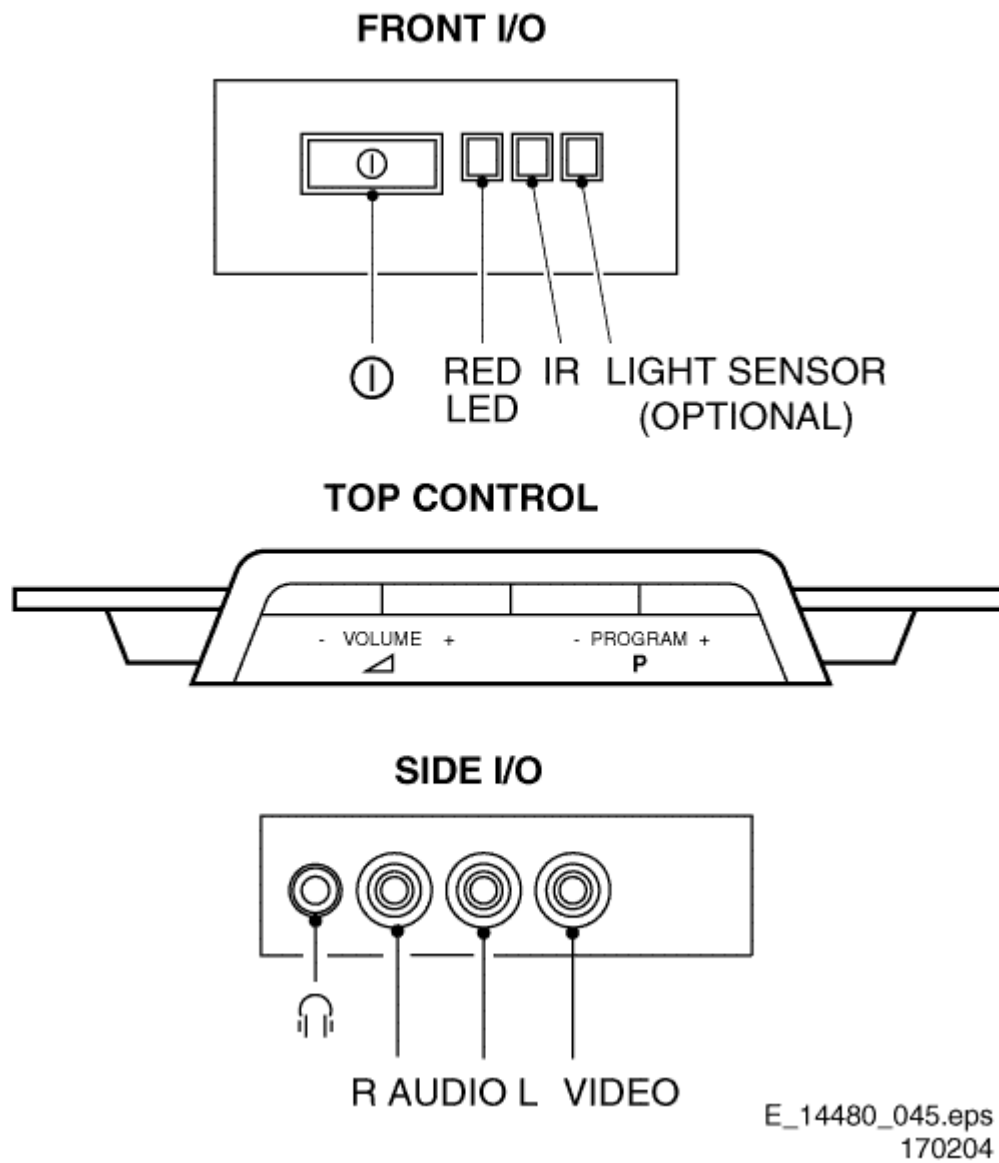






Figure: Top control and Front / Side connections

## Audio / Video In

Connector	Kind	Value	Symbol
Ye	Video (CVBS)	1 V <sub>pp</sub> / 75 ohm	
Wh	Audio - L	0.2 V <sub>rms</sub> / 10 kohm	
Rd	Audio - R	0.2 V <sub>rms</sub> / 10 kohm	
Bk	Headphone	8 - 600 Ohm / 4 mW	

## Rear Connections

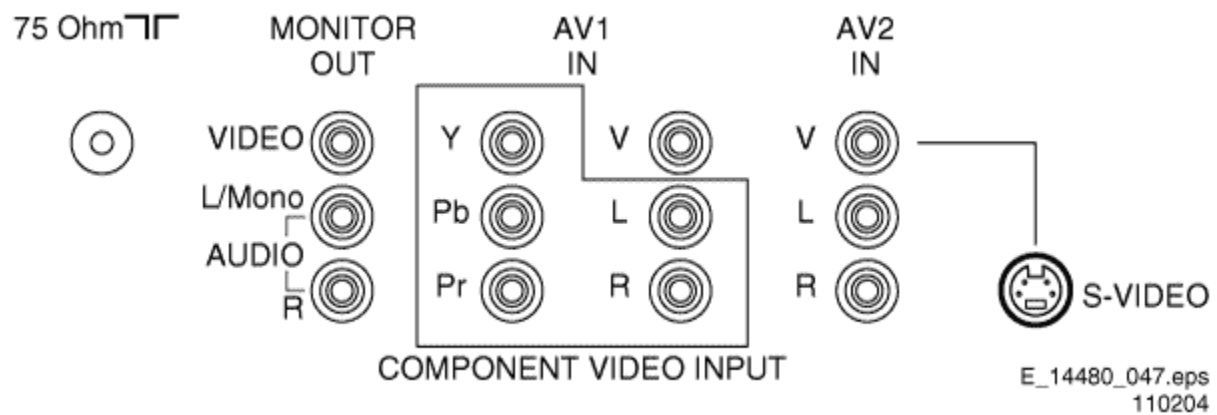






Figure: Rear connections




## Aerial In

Connector	Kind	Value	Symbol
	F-type	Coax, 75 ohm	




### **Monitor Out**

<b>Connector</b>	<b>Kind</b>	<b>Value</b>	<b>Symbol</b>
Ye	Video (CVBS)	1 V <sub>pp</sub> / 75 ohm	
Wh	Audio - L	0.5 V <sub>rms</sub> / 1 kohm	
Rd	Audio - R	0.5 V <sub>rms</sub> / 1 kohm	




### **YUV In**

<b>Connector</b>	<b>Kind</b>	<b>Value</b>	<b>Symbol</b>
Bu	U	0.7 V <sub>pp</sub> / 75 ohm	
Rd	V	0.7 V <sub>pp</sub> / 75 ohm	
Gn	Y	0.7 V <sub>pp</sub> / 75 ohm	





### **AV1 In**

<b>Connector</b>	<b>Kind</b>	<b>Value</b>	<b>Symbol</b>
Ye	Video (CVBS)	1 V <sub>pp</sub> / 75 ohm	
Wh	Audio - L	0.5 V <sub>rms</sub> / 10 kohm	
Rd	Audio - R	0.5 V <sub>rms</sub> / 10 kohm	

### **AV2 In**

<b>Connector</b>	<b>Kind</b>	<b>Value</b>	<b>Symbol</b>
Ye	Video (CVBS)	1 V <sub>pp</sub> / 75 ohm	
Wh	Audio - L	0.5 V <sub>rms</sub> / 10 kohm	
Rd	Audio - R	0.5 V <sub>rms</sub> / 10 kohm	

### **AV2 In (SVHS)**

<b>Connector</b>	<b>Kind</b>	<b>Value</b>	<b>Symbol</b>
1	Ground	GND	
2	Ground	GND	
3	Y	1 V <sub>pp</sub> / 75 ohm	
4	C	0.3 V <sub>pp</sub> / 75 ohm	

Your home's signal input might come from a single (75 ohm) round cable, a Converter Box, or from an antenna. In either case the connection to the TV is very easy.

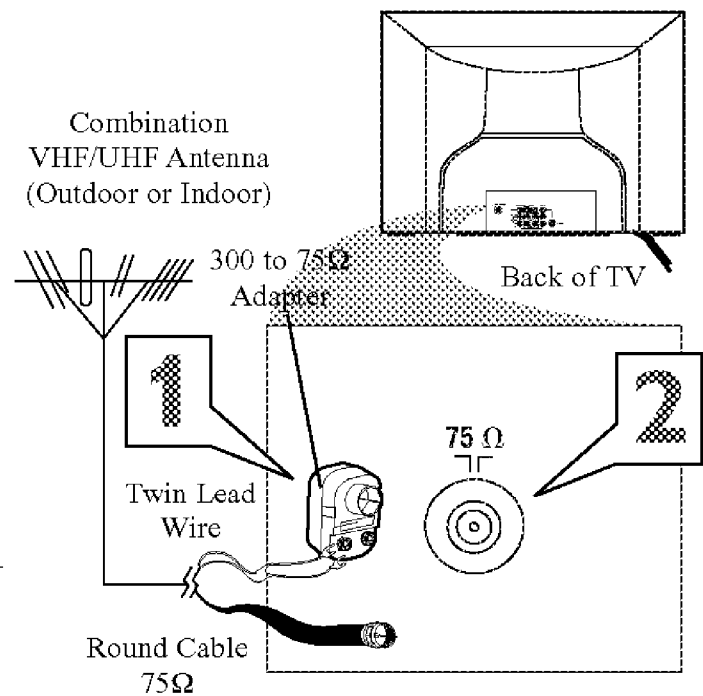
**1** If your Cable TV signal or Antenna signal is a round cable (75 ohm) then you're ready to connect to the TV. If your antenna has flat twin-lead wire (300 ohm), you first need to attach the antenna wires to the screws on a 300 to 75 ohm adapter.

**If you have a Cable Converter Box:** Connect the Cable TV signal to the Cable Signal IN(put) plug on the Converter.

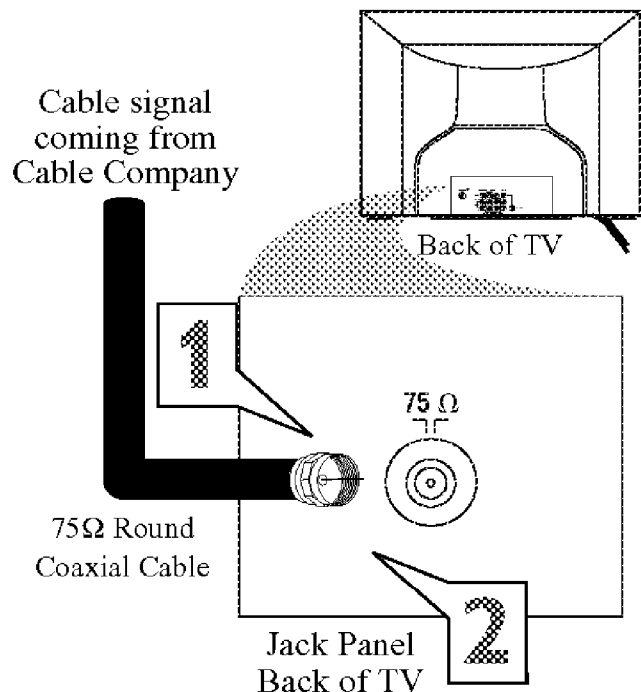
**2** Connect the Cable TV cable or Antenna cable (or 300 to 75 ohm adapter) to the 75Ω plug on the TV.

**If you have a Cable Converter Box:** Connect the OUT(put) plug from the Converter to the 75Ω plug on the TV.

## Antenna Connection



## Direct Cable Connection



## HELPFUL HINT

After using the AutoProgram Control, press the CH + and - buttons to scroll through all the channels stored in the television's memory.



## 2

### CABLE BOX CONNECTIONS

If your cable signal uses a cable box or decoder, follow the easy steps below to complete the connection.

#### Cable Box (w/RF In/Outputs):

This connection will be mono.

- 1 Connect the Cable Company supplied cable to the signal IN (put) plug on the back of the Cable Box.
- 2 Using a separate round coaxial cable, connect one end to the OUT (put) (TO TV) plug on the back of the Cable Box.
- 3 Connect the other end of the round coaxial cable to the 75Ω input on the back of the television. Screw it down finger tight.

**NOTE:** If applicable, set the OUTPUT CHANNEL SWITCH on the back of the cable box to CH 3 or 4. Tune the TV to the same channel and change channels at the cable box. In some cases, the cable box will automatically tune to either channel 3 or 4, change channels until the picture appears.

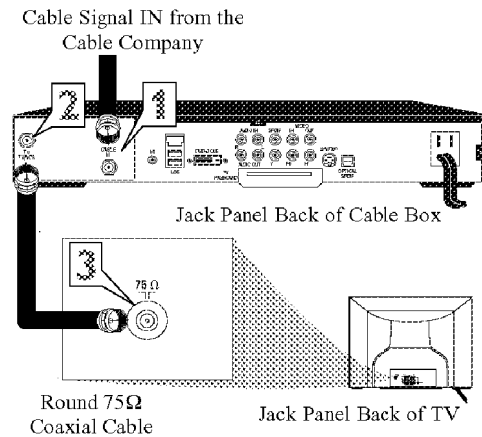
#### Cable Box (w/Audio/Video Outputs):

This connection will supply Stereo sound.

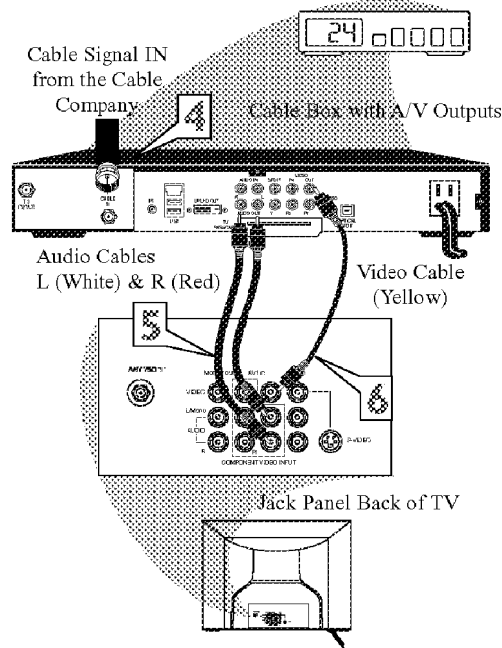
- 4 Connect the Cable Company supplied cable to the cable signal IN (put) plug on the back of the Cable Box.
- 5 Using a RCA type Video Cable, connect one end of the cable to the Video (or ANT, your cable box may be labeled differently) Out jack on the cable box and the other end to the AV1 Video Input on the TV.
- 6 Connect one end of the Audio Left and Right Cable to the left and right Audio Out L & R jacks on the cable box. Connect the other end to the AV1 Audio L & R Input jacks on the TV.

**NOTE:** Use the AV button on the TV remote control to tune to the AV1 channel for the cable box signal. Once tuned, change channels at the cable box, not the television.

#### Cable Box (w/RF In/Outputs):



#### Cable Box (w/Audio/Video Outputs):

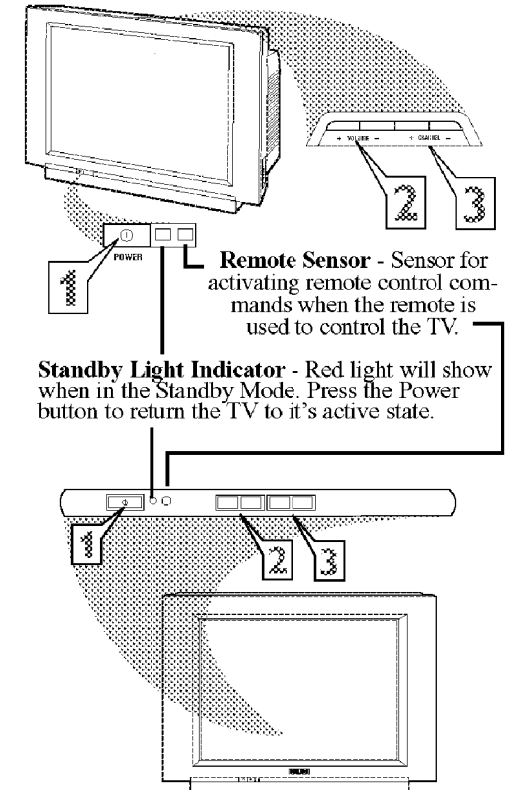


## 3

### BASIC TV AND REMOTE CONTROL OPERATION

- 1 Press the **POWER** button to turn the TV ON.  
Note: You can also press any button on the front of the TV to turn the TV ON.
- 2 Press the **VOLUME +** button to increase the sound level, or the **VOLUME -** button to lower the sound level.  
  
Pressing both buttons at the same time will display the on-screen menu. Once in the menu, use these buttons to make adjustments or selections.
- 3 Press the **CHANNEL UP +** or **DOWN -** button to select TV channels.
- 4 Point the remote control toward the remote sensor window on the TV when operating the TV with the remote.

Example of Models 27PT6441/37 and 27PT6442/37

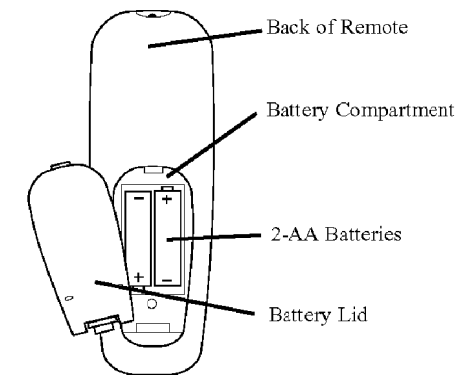


Example of Models 27PT5441/37 and 32PT5441/37

### REMOTE CONTROL

To load the supplied batteries into the remote:

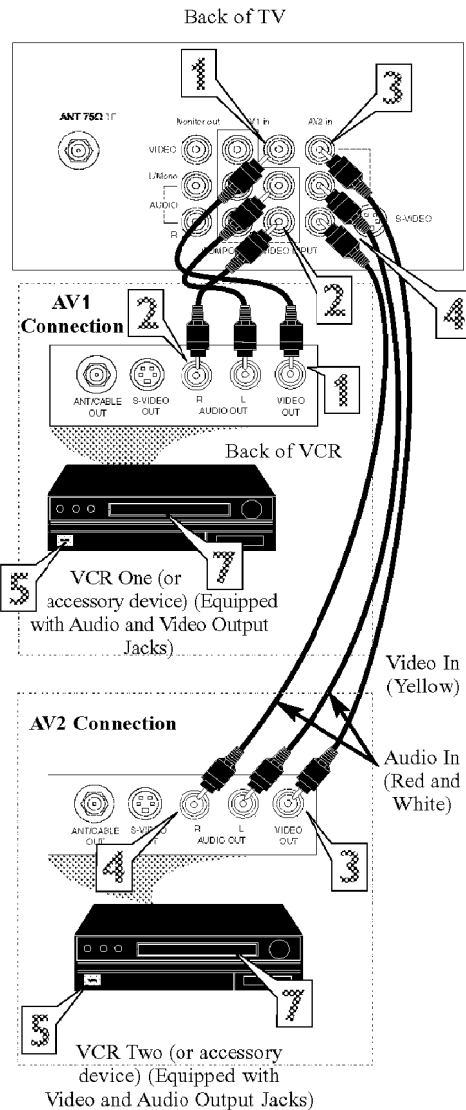
1. Remove the battery compartment lid on the back of the remote.
2. Place the batteries (2-AA) in the remote. Be sure the (+) and (-) ends of the batteries line up correctly (inside of case is marked.)
3. Reattach the battery lid.



## 4 AV (AUDIO/VIDEO) INPUT CONNECTION

The TV's audio/video input jacks are for direct picture and sound connections between the TV and a VCR (or similar device) that has audio/video output jacks. Both the AV1 and AV2 Input Jack connections are shown on this page, but either one can be connected alone. Follow the easy steps below to connect your accessory device to the AV1 and AV2 IN Jacks located on the back of the TV.

- 1 Connect the VIDEO (yellow) cable to the VIDEO AV1 IN (or AV2 IN) jack on the back of the TV.
- 2 Connect the AUDIO (red and white) cables to the AUDIO (left and right) AV1 IN (or AV2 IN) jacks on the rear of the TV.
- 3 Connect the VIDEO (yellow) cable to the VIDEO OUT jack on the back of the VCR (either one or two) or accessory device being used.
- 4 Connect the AUDIO (red and white) cables to the AUDIO (left and right) OUT jacks on the rear of the VCR (either one or two) or accessory device being used.
- 5 Turn the VCR (either one or two) or accessory device and the TV ON.
- 6 Press the AV button to set the TV to its AV1 or AV2 channel.
- 7 With either of the VCRs (or accessory devices) ON and a pre-recorded tape (CD, DVD, etc.) inserted, press the PLAY button to view the tape on the television.

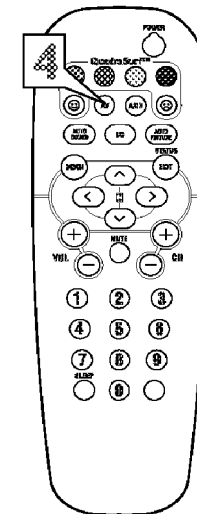
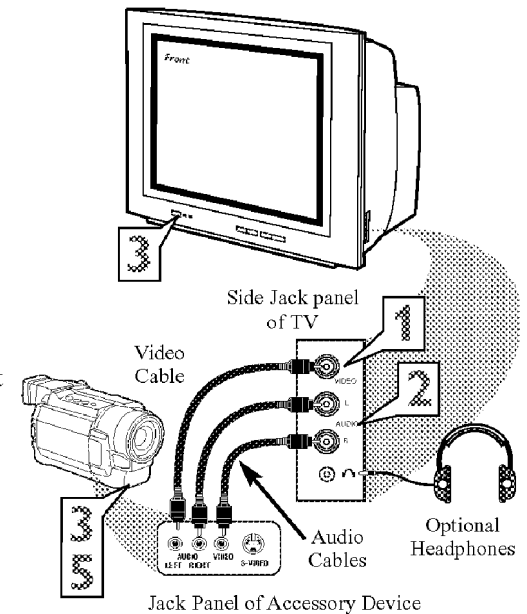


## 5 SIDE AV CONNECTIONS

Audio and Video Side Inputs are available for a quick connection of a VCR, to playback video from a camera, or attach a gaming device. Use the AV button on the remote control to tune these inputs.

- 1 Connect the video (yellow) cable from the Video output on the Camera (or accessory device) to the Video (yellow) Input located on the SIDE of the TV.
- 2 For Stereo Devices: Connect the audio cable (red and white) from the Audio Left and Right Outputs on the Camera to the Audio In (white) jack on the SIDE of the television.
- For Mono Devices: Connect one end of the audio cable from the Audio Out jack on the device to the Audio In (white) jack on the SIDE of the television.

- 3 Turn the TV and the accessory device ON.
- 4 Press the AV button on the remote control to tune the TV to the side input jacks. "Front" will appear on the TV screen.
- 5 Press the PLAY button on the accessory device to view playback, or to access the accessory device (camera, gaming unit, etc.).



### HELPFUL HINT

Audio and video cables are not supplied with the TV, but are available from Philips or electronics retailers.

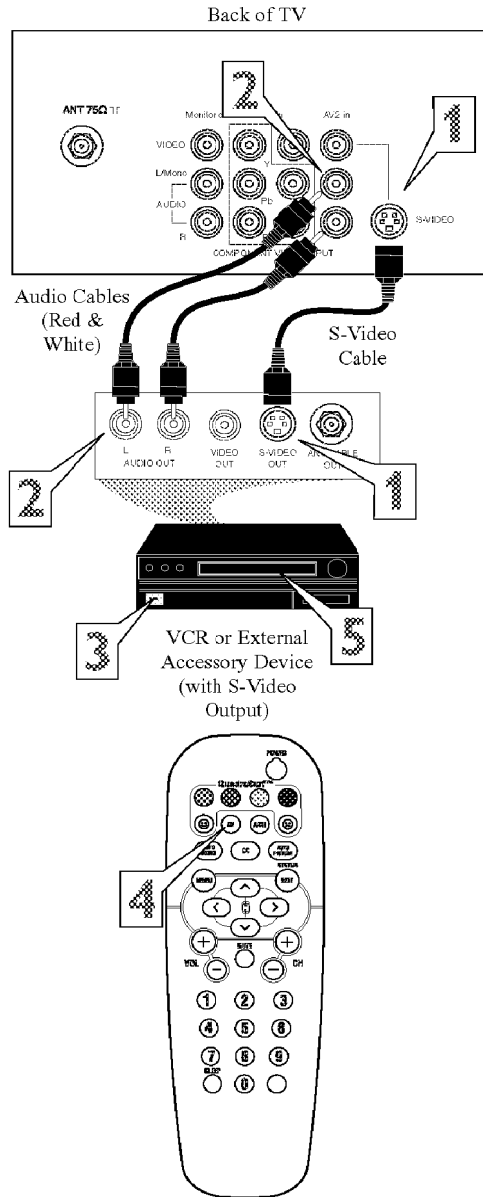
# 6

## S-VIDEO (S-VHS) INPUT CONNECTIONS

The S(uper)-Video connection on the rear of the TV can provide you with better picture detail and clarity for the playback of accessory sources such as DBS (digital broadcast satellite), DVD (digital video discs), video games, and S-VHS VCR (video cassette recorder) tapes than the normal antenna picture connections.

**NOTE:** The accessory device must have an S-VIDEO OUT (put) jack in order for you to complete the connection on this page.

- 1** Connect one end of the S-VIDEO CABLE to the S-VIDEO jack on the back of the TV. Then connect one end the AUDIO (red and white) CABLES to the AV1 in AUDIO L and R (left and right) jacks on the rear of the TV.
- 2** Connect other end of the S-VIDEO CABLE to the S-VHS (S-Video) OUT jack on the back of the VCR. Then connect the other ends of the AUDIO (red and white) CABLES to the AUDIO (left and right) OUT jacks on the rear of the VCR.
- 3** Turn the VCR and the TV ON.
- 4** Press the AV button or the CH + or CH - buttons on the remote to scroll the channels until SVHS appears in the upper left corner of the TV screen.
- 5** Now your ready to place a pre-recorded video tape in the VCR and press the PLAY button.



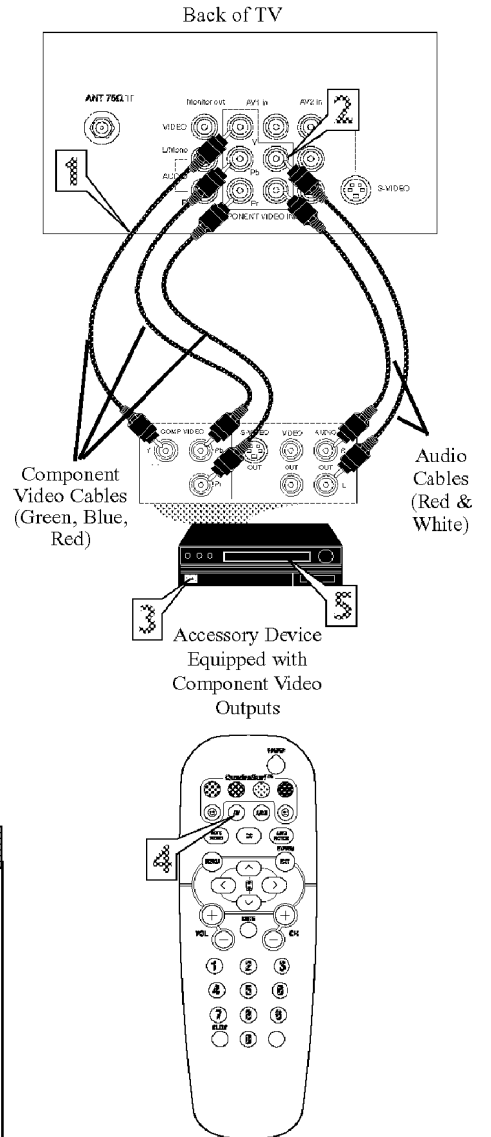
# 7

## COMPONENT VIDEO (CVI) INPUT CONNECTIONS

Component Video inputs provide for the highest possible color and picture resolution in the playback of digital signal source material, such as with DVD players. The color difference signals (Pb, Pr) and the luminance (Y) signal are connected and received separately, which allows for improved color bandwidth information (not possible when using composite video or S-Video connections).

The CVI connection will be demate over the AV1 in Video Input. When a Component Video Device is connected as described, it is best not to have a video signal connected to the AV1 in Video Input jack.

- 1** Connect the Component (Y, Pb, Pr) Video OUT jacks from the DVD player (or similar device) to the (Y, Pb, Pr) in (put) jack on the TV. When using the Component Video Inputs, it is best not to connect a signal to the AV in Video Jack.
- 2** Connect the red and white AUDIO CABLES to the Audio (left and right) output jacks on the rear of the accessory device to the Audio (L and R) AV1 in Input Jacks on the TV.
- 3** Turn the TV and the DVD (or digital accessory device) ON.
- 4** Press the AV button or the CH + or CH - buttons to scroll the available channels until CVI appears in the upper left corner of the TV screen.
- 5** Insert a DVD disc into the DVD player and press the PLAY button on the DVD Player.



### HELPFUL HINT

The description for the component video connectors may differ depending on the DVD player or accessory digital source equipment used (for example, Y, Pb, Pr; Y, B-Y, R-Y; Y, Cr, Cb). Although abbreviations and terms may vary, the letters *b* and *r* stand for the blue and red color component signal connectors, and *Y* indicates the luminance signal. Refer to your DVD or digital accessory owner's manual for definitions and connection details.

# 8

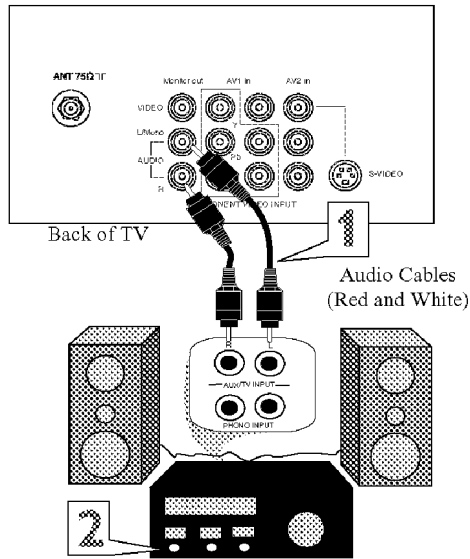
## MONITOR OUT(PUT) CONNECTIONS

The Audio/Video (Monitor) Output jacks are great for recording with a VCR or used to connect an external audio system for better sound reproduction.

### AUDIO SYSTEM CONNECTION:

- 1 Connect one end of the R(right) and L(left) AUDIO (Monitor Out) jacks on the TV to the R and L audio input jacks on your amplifier or sound system. Set the audio system's volume to a normal listening level.
- 2 Turn the TV and audio system ON. To adjust the volume on the audio system, you will need to change the volume at the external audio system, not the television.

### AUDIO SYSTEM CONNECTION:



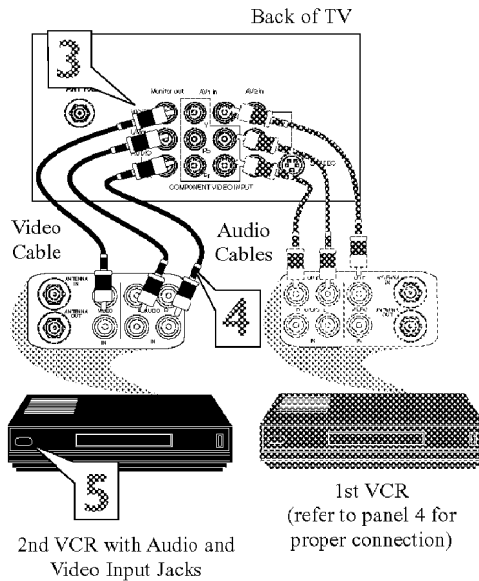
### SECOND VCR CONNECTION:

**NOTE:** Refer to panel number 4 for the proper hookup of the first VCR. Follow the instructions on how to tune to the AV1 channel to view a pre-recorded tape.

The following steps allow you to connect a second VCR to record the program while your watching it.

- 3 Connect one end of the yellow Video Cable to the Monitor Out VIDEO plug. Connect the other end to the VIDEO IN plug on the second VCR.
- 4 Connect one end of the red and white Audio cable from the Monitor Out AUDIO L and R plugs on the TV to the AUDIO IN plugs on the VCR.
- 5 Turn the Second VCR ON, insert a VHS tape and it's ready to record what's being viewed on the TV screen.

### SECOND VCR CONNECTION:



# 9

## REMOTE CONTROL BUTTON DESCRIPTIONS

### QUADRASURF Buttons

(Red, Green, Yellow, Blue) Allows you to store and surf up to 10 channels you choose for each colored button.

### AV Button

Press to select an accessory signal input from the front AV Inputs.

### SMILEY Button

Press to add channels to the "QuadraSurf" lists. Works with all colored buttons.

### AUTO SOUND Button

Press repeatedly to choose from different factory pre-defined sound settings. Choose from Personal (how you set the Sound Menu options), Voice (for programming with speaking only), Music (for musical type programs such as concerts), or Theatre (used when watching movies).

### MENU Button

Press to display the on-screen menu. Also can be used to back out of the on-screen menu until it disappears from the TV's screen.

### CC Button

Press to activate the Closed Captioning options. Repeatedly pressing the CC button will scroll the available options on the TV screen.

### VOL(ume) + or - Buttons

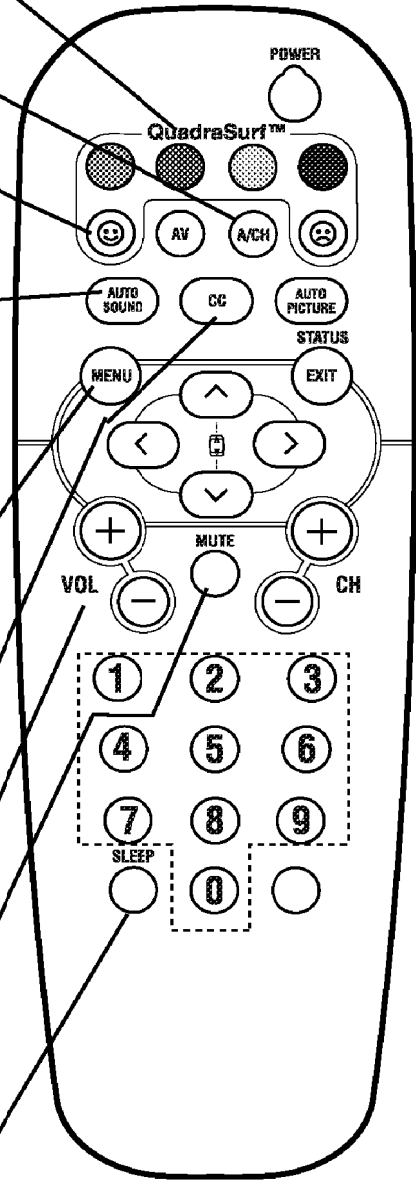
Press the VOL + button to increase the TV's sound level. Press the VOL - button to decrease the TV's sound level.

### MUTE Button

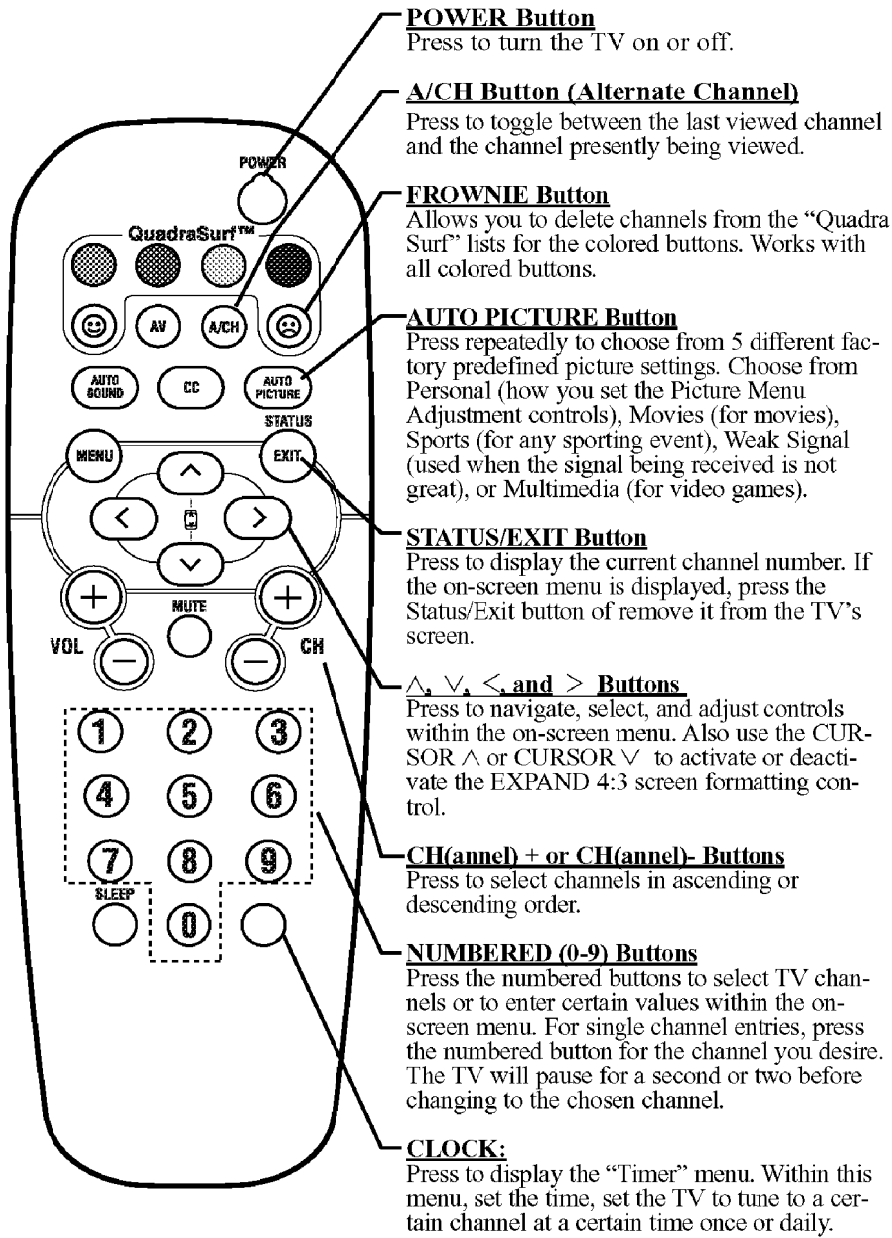
Press the mute button to eliminate the sound being heard from the TV. "MUTE" will be displayed on the TV's screen. Press again to restore the TV's volume to it's previous level. pressing this button for 3-4 seconds will activate the Demo Mode. (See panel 30 for more details.)

### SLEEP Button

Press the Sleep button to set the TV to automatically turn itself off after a set period of time. Press repeatedly to select 15, 30, 45, 60, 90, 120, 180, or 240 minutes.



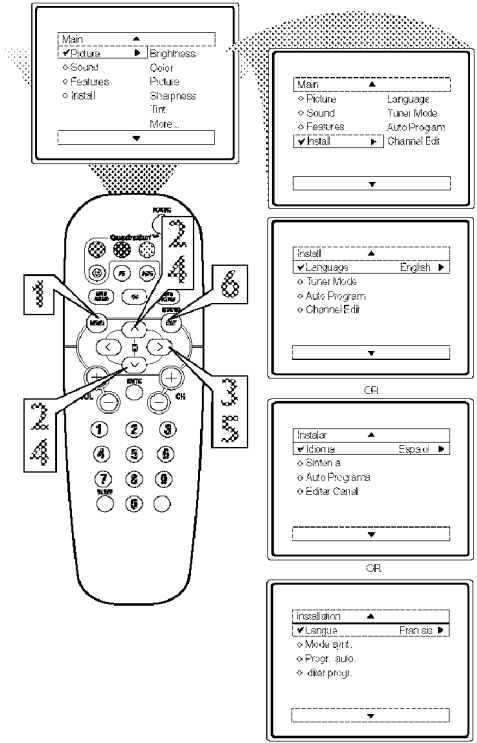
## 10 REMOTE CONTROL BUTTON DESCRIPTIONS



## 11 HOW TO USE THE LANGUAGE CONTROL

*For French and Spanish speaking TV owners an onscreen Language option is present. With the Language control you can set the TV's on-screen menu to be shown in English, French, or Spanish.*

- 1 Press the MENU button** on the remote control to show the on-screen menu.
- 2 Press the CURSOR UP ▲ or DOWN ▼ buttons** to scroll through the on-screen menu until the word **Install** is highlighted.
- 3 Press the CURSOR RIGHT > button** to display the **Install** menu features.
- 4 Press the CURSOR UP ▲ or DOWN ▼ buttons** to scroll through the **Install** features until the word **Language** is highlighted.
- 5 Press the CURSOR RIGHT > button repeatedly** to select **English**, **Francais** (French), or **Español** (Spanish).
- 6 When finished, press the STATUS/EXIT button** to remove the menu from the TV's screen.



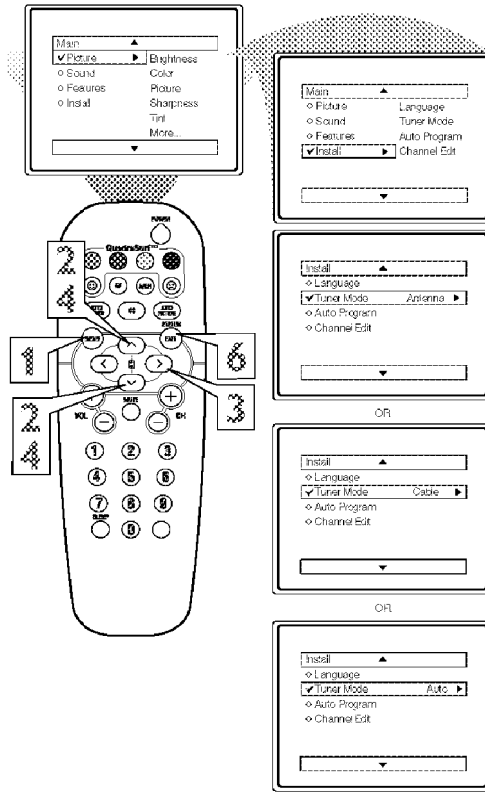
### HELPFUL HINT

The Language control only makes the TV's on-screen Menu items appear in English, Spanish, or French text. It does not change the other on-screen text features such as Closed Caption (CC) TV shows.

## 12 HOW TO USE THE TUNER MODE CONTROL

The **TUNER MODE** control allows you to change the TV's input signal to either **ANTENNA**, **CABLE**, or **AUTO** mode. It's important for the TV to know what type of signal to look for (Cable TV or an Antenna). In the **AUTO** mode, when the **AUTO PROGRAM** feature is activated, the TV will automatically choose the correct mode.

- 1 Press the **MENU** button on the remote to show the on-screen menu.
- 2 Press the **CURSOR UP**  $\wedge$  or **DOWN**  $\vee$  buttons to scroll through the on-screen menu until the word **Install** is highlighted.
- 3 Press the **CURSOR RIGHT** button to display the **Install** menu features.
- 4 Press **CURSOR UP**  $\wedge$  or **DOWN**  $\vee$  buttons to scroll the Install features until the words **Tuner Mode** is highlighted.
- 5 Press the **CURSOR RIGHT** button to select either **Antenna**, **Cable**, or **Auto** mode.
- 6 When finished, press the **STATUS /EXIT** button to remove the on-screen menu from the TV's screen.



### HELPFUL HINTS

When **CABLE** is selected, channels 1-125 are available.

When **ANTENNA** is selected, channels 2-69 are available.

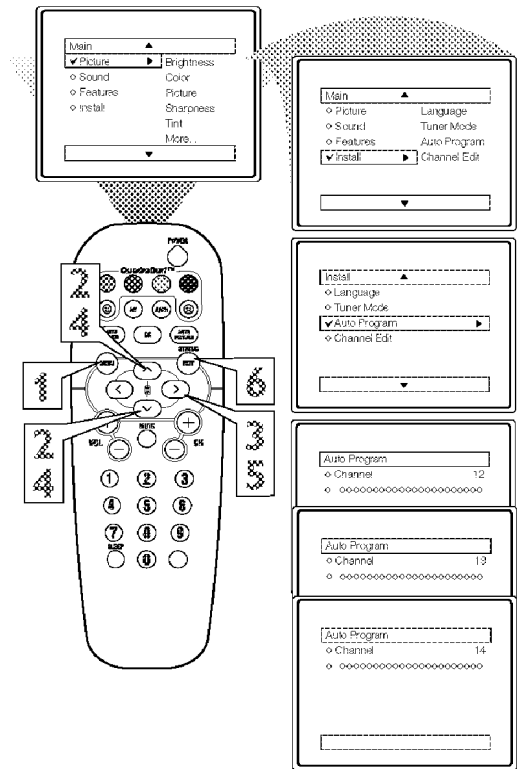
When **AUTO** is selected, the TV will automatically set itself to the correct mode based on the type of signal it detects when the **AUTO PROGRAM** feature is activated.

## 13 AUTOMATICALLY PROGRAM

Your TV can automatically set itself for local area (or Cable TV) channels. This makes it easy for you to select only the TV stations in your area when the **CHANNEL (+), (-)** buttons are pressed.

Note: Make sure the antenna or cable signal connection has been completed before **AUTO PROGRAM** is activated.

- 1 Press the **MENU** button on the remote to show the on-screen menu.
- 2 Press the **CURSOR UP**  $\wedge$  or **DOWN**  $\vee$  buttons to scroll through the on-screen menu until the word **Install** is highlighted.
- 3 Press the **CURSOR RIGHT**  $\>$  button to display the **Install** menu features.
- 4 Press **CURSOR UP**  $\wedge$  or **DOWN**  $\vee$  buttons to scroll the Install features until the words **Auto Program** are highlighted.
- 5 Press the **CURSOR RIGHT**  $\>$  button to start the Auto Program scanning of channels. Auto Programming will store all available channels in the TV's memory then tune to the lowest available channel when done.
- 6 When finished, press the **STATUS /EXIT** button to remove the menu from the TV's screen.



### HELPFUL HINTS

When **CABLE** is selected, channels 1-125 are available.

When **ANTENNA** is selected, channels 2-69 are available.

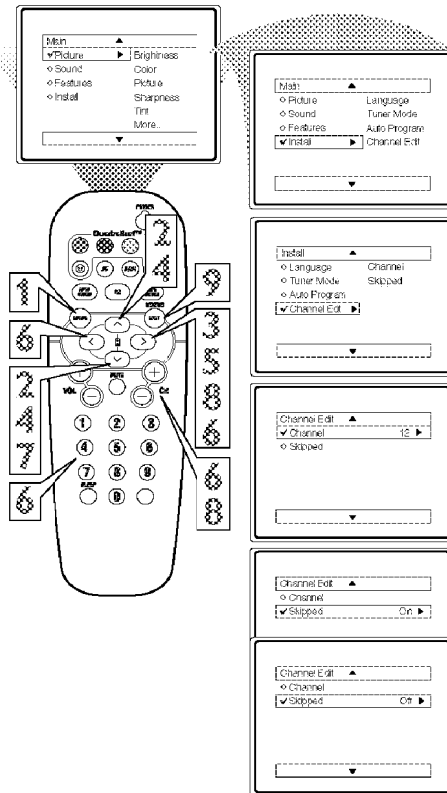
When **AUTO** is selected, the TV will automatically set itself to the correct mode based on the type of signal it detects when the **AUTO PROGRAM** feature is activated.

# 14

## CHANNEL EDIT

*Channel Edit makes it easy for you to ADD or DELETE channels from the list of channels stored in the TV's memory.*

- 1** Press the **MENU** button on the remote control to show the on-screen menu.
- 2** Press the **CURSOR UP**  $\wedge$  or **DOWN**  $\vee$  buttons to scroll through the on-screen menu until the word **Install** is highlighted.
- 3** Press the **CURSOR RIGHT**  $\>$  button to display the **Install** menu features.
- 4** Press the **CURSOR UP**  $\wedge$  or **DOWN**  $\vee$  buttons to scroll through the Install features until the words **Channel Edit** are highlighted.
- 5** Press the **CURSOR RIGHT**  $\>$  button to display the Channel Edit options.
- 6** With the **Channel Edit** options displayed, and **Channel** highlighted; you can use the cursor buttons to scroll through all available channels that you wish to add (skipped OFF) or delete (Skipped ON) from the TV's memory. You can also use the **NUMBERED** buttons to go directly to a specific numbered channel that you want to add or skip. Or, you can also use the **CH+** or **CH-** to quickly scan through the channels that have not been skipped.
- 7** Using the **CURSOR DOWN**  $\vee$  button, scroll the menu to highlight the word **SKIPPED**.
- 8** Now use the **CURSOR RIGHT**  $\>$  to toggle between **On** or **Off**. If **ON** is selected the channels is skipped when scrolling channels with the **CH+** or **CH-** buttons. If **OFF** is selected the channels is not skipped when scrolling channels with the **CH+** or **CH-** buttons.
- 9** When finished, press the **STATUS/EXIT** button to remove the menu from the screen.



### HELPFUL HINTS

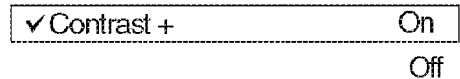
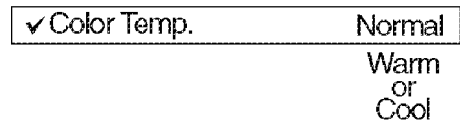
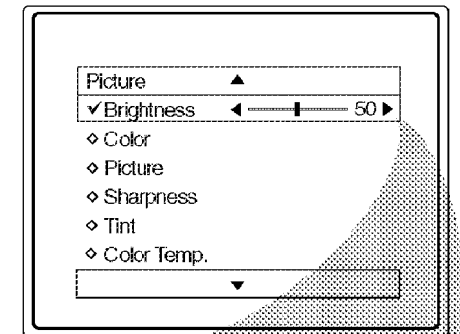
An "X" appearing in front of any channel will indicate that channel has skip on. When the **CH +** or **CH -** buttons are used, those channels will be skipped.

# 15

## PICTURE MENU CONTROLS

*To adjust your TV picture controls, select a channel and use the Picture Menu Controls listed below:*

- 1** **Brightness Control** - Press the **CURSOR RIGHT**  $\>$  or **LEFT**  $\<$  buttons until the darkest parts of the picture are as bright as you prefer.
- 2** **Color Control** - Press the **CURSOR RIGHT**  $\>$  or **LEFT**  $\<$  buttons to add or eliminate color.
- 3** **Picture Control** - Press the **CURSOR RIGHT**  $\>$  or **LEFT**  $\<$  buttons until lightest parts of the picture show good detail.
- 4** **Sharpness Control** - **CURSOR RIGHT**  $\>$  or **LEFT**  $\<$  buttons to improve detail in the picture.
- 5** **Tint Control** - Press the **CURSOR RIGHT**  $\>$  or **LEFT**  $\<$  buttons to obtain natural skin tones.
- 6** **Color Temp Control** - Press the **CURSOR RIGHT**  $\>$  or **LEFT**  $\<$  buttons to select Normal, Cool, or Warm picture preferences. (Normal will keep the whites, white; Cool will make the whites, bluish; and Warm will make the whites, reddish.)
- 7** **DNR Control** - Press the **CURSOR RIGHT**  $\>$  or **LEFT**  $\<$  buttons to turn DNR On or Off. Dynamic Noise Reduction helps to eliminate "noise" from the picture.
- 8** **Contrast + Control** - Press the **CURSOR RIGHT**  $\>$  or **LEFT**  $\<$  buttons to toggle the control On or OFF. The Contrast + control helps to "sharpen" the picture quality. The black portions of the picture become richer in darkness and the whites become brighter.

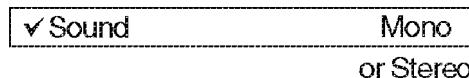
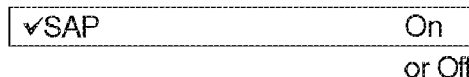
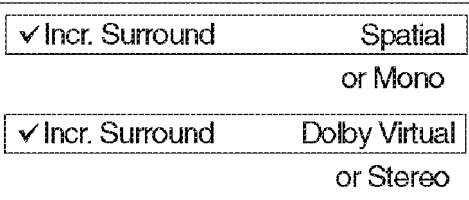
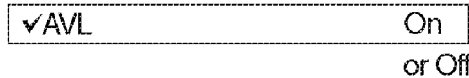
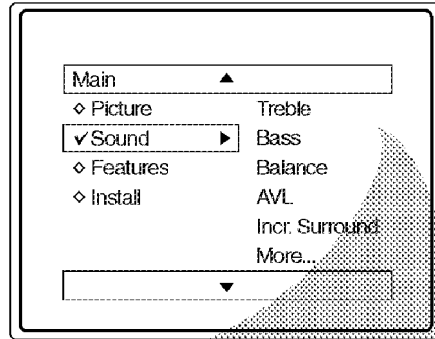


# 16

## SOUND MENU CONTROLS

To adjust your TV sound, select and use the Sound Menu Controls listed below:

- 1 Treble:** Press the **CURSOR RIGHT >** or **LEFT <** buttons to adjust the control. The control will enhance the high frequency sounds.
- 2 Bass:** Press the **CURSOR RIGHT >** or **LEFT <** buttons to adjust the control. The control will enhance the low frequency sounds.
- 3 Balance:** Press the **CURSOR RIGHT >** or **LEFT <** buttons to adjust the level of sound coming from the left and right speakers.
- 4 AVL:** (Auto Volume Leveler) Press the **CURSOR RIGHT >** or **LEFT <** buttons to turn the control On or Off. When On, AVL will level out the sound being heard when sudden changes in volume occur during commercial breaks or channel changes.
- 5 Incr. Surround:** Press the **CURSOR RIGHT >** or **LEFT <** buttons to select between Dolby Virtual or Stereo settings (If Stereo), or select Spatial or Mono (If Mono).
- 6 SAP:** Press the **CURSOR RIGHT >** or **LEFT <** buttons to toggle this control to On or Off. SAP is short for Secondary Audio Programming and is sent as a third audio channel, a SAP signal can be heard apart from the current TV program sound. Note: If SAP is not present on a selected show No SAP will appear on the screen.
- 7 Sound:** Press the **CURSOR RIGHT >** or **LEFT <** buttons to select between Stereo or Mono settings. Note: If Stereo is not present on a selected show and the TV is placed in the Stereo mode, the sound coming from the TV will remain in the Mono mode.



# 17

## HOW TO USE THE 4:3 EXPAND FORMAT CONTROL

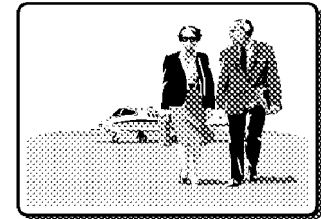
Many times while watching movies from a DVD player the image is shown in "letter box" format. This is the format that is shown in movie theaters. When shown on a TV screen, the image will have areas of black on top and bottom of the screen.

- 1** Press the **CURSOR UP ^** or **DOWN v** buttons to select one of the two options 4:3 or Expand 4:3.

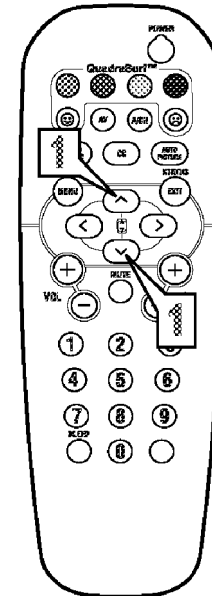
**4:3** - Standard format for the TV.  
**Expand 4:3** - Enlarges the picture to fill out the entire screen area, eliminating the "letter box" effect.



4:3



Expand 4:3

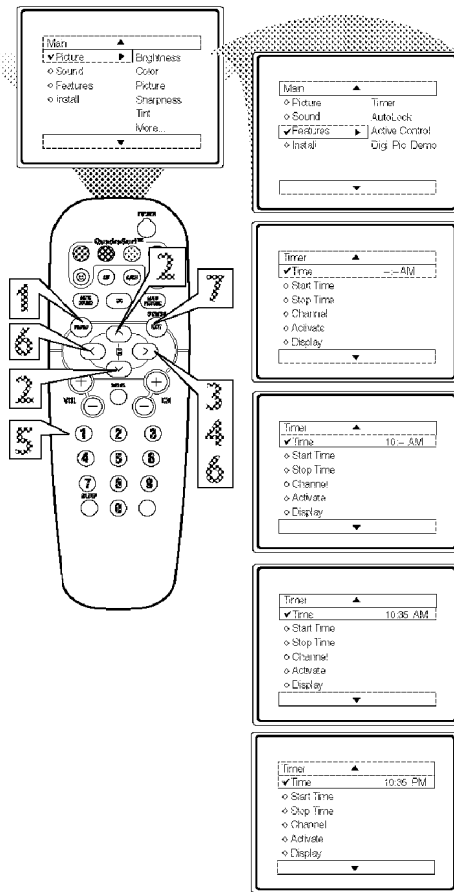




## 18 SETTING THE TV CLOCK USING THE TIMER CONTROL

Your television comes with an on-screen clock. During normal operation, the clock appears on the screen when the STATUS/EXIT button is pressed or if the Timer Display control is turned On.

- 1 Press the MENU button on the remote to show the on-screen menu.
- 2 Press the CURSOR UP  $\wedge$  or DOWN  $\vee$  buttons to scroll through the on-screen menu until the word Features is highlighted.
- 3 Press the CURSOR RIGHT  $\>$  button to display the Features menu.
- 4 Press the CURSOR RIGHT  $\>$  button to display the Timer menu.
- 5 Enter the correct time by using the Numbered buttons.
- 6 Press the CURSOR RIGHT  $\>$  or CURSOR LEFT  $\leftarrow$  buttons to change the AM or PM setting.
- 7 When finished, press the STATUS /EXIT button to remove the on-screen menu from the TV's screen.



### HELPFUL HINTS

Remember, be sure to press "0" and then the hour number for single digit entries.

You can get to the Clock setting by pressing the Clock button on the remote control.

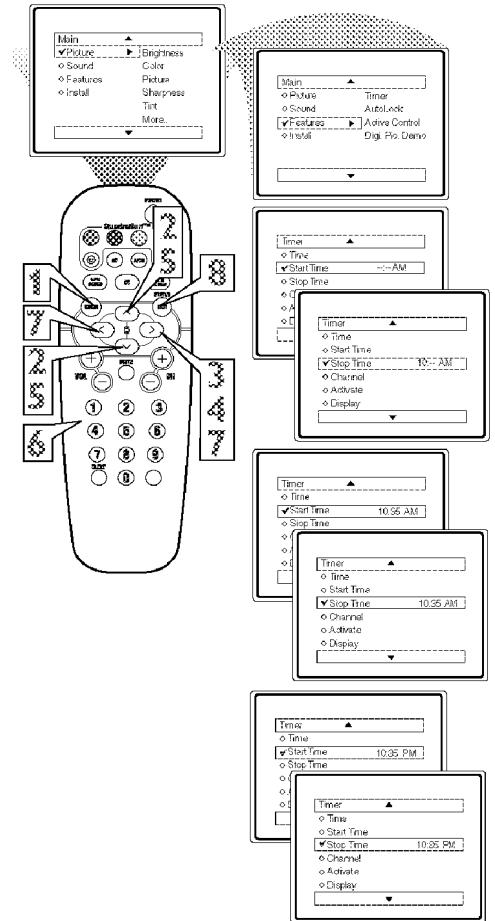
The TV's clock settings may be lost when the TV is unplugged or when AC power to the set is interrupted.

**NOTE:** Active Control will only appear in the menu of models 27PT6441/37 and 27PT6442/37.

## 19 SETTING TV TO TURN ON OR OFF USING START OR STOP CONTROLS

You can set your TV to turn itself on or off. You can set the TV to turn itself On or Off once or at the same time everyday. Follow the steps below to set the Start and Stop Time.

- 1 Press the MENU button on the remote to show the on-screen menu.
- 2 Press the CURSOR UP  $\wedge$  or DOWN  $\vee$  buttons to scroll through the on-screen menu until the word Features is highlighted.
- 3 Press the CURSOR RIGHT  $\>$  button to display the Features menu.
- 4 Press the CURSOR RIGHT  $\>$  button to display the Timer menu.
- 5 Press the CURSOR UP  $\wedge$  or DOWN  $\vee$  buttons to scroll through the Timer menu until Start Time or Stop Time is highlighted.
- 6 Enter the correct time by using the Numbered buttons.
- 7 Press the CURSOR RIGHT  $\>$  or CURSOR LEFT  $\leftarrow$  buttons to change the AM or PM setting.
- 8 When finished, press the STATUS /EXIT button to remove the on-screen menu from the TV's screen.



### HELPFUL HINTS

Remember, be sure to press "0" and then the hour number for single digit entries.

You can get to the Clock setting by pressing the Clock button on the remote control.

The TV's clock settings may be lost when the TV is unplugged or when AC power to the set is interrupted.

**NOTE:** The Activate Control must be set to Once or Daily for the television to turn On or Off at the specified time. See panel 21 for more details.

**NOTE:** Active Control will only appear in the menu of models 27PT6441/37 and 27PT6442/37.

## 20 SETTING TV TO STARTUP ON A SPECIFIC CHANNEL

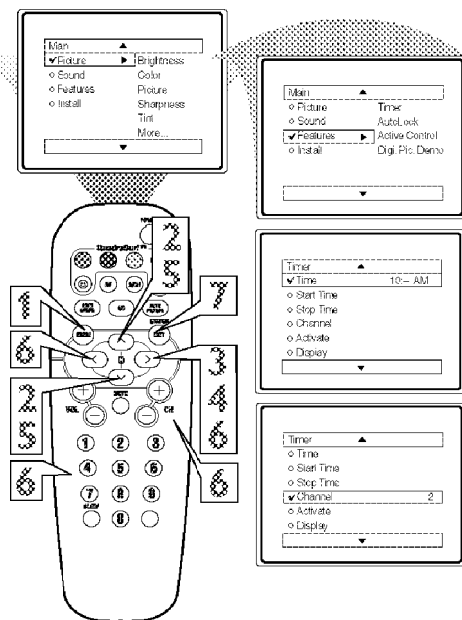
You can select a specific channel that the television will tune to when the timer turns the set On. Follow these steps to select the channel.

- 1 Press the **MENU** button on the remote to show the on-screen menu.
- 2 Press the **CURSOR UP**  $\wedge$  or **DOWN**  $\vee$  buttons to scroll through the on-screen menu until the word **Features** is highlighted.
- 3 Press the **CURSOR RIGHT**  $\>$  button to display the **Features** menu.
- 4 With **Timer** selected, press the **CURSOR RIGHT**  $\>$  button to display the **Timer** menu.
- 5 Press the **CURSOR UP**  $\wedge$  or **DOWN**  $\vee$  buttons to scroll through the **Timer** menu until **Channel** is highlighted.
- 6 Press the **Numbered** buttons to enter the desired start-up channel. Or, press the **CURSOR RIGHT**  $\>$  or **CURSOR LEFT**  $\leftarrow$  or the **CH+** or **CH-** buttons repeatedly to enter the start-up channel you want.

**NOTE:** The Activate Control must be set to Once or Daily for this Channel control to take effect.

- 7 When finished, press the **STATUS /EXIT** button to remove the on-screen menu from the TV's screen.

**NOTE:** Active Control will only appear in the menu of models 27PT6441/37 and 27PT6442/37.



### HELPFUL HINTS

Remember, be sure to press "0" and then the hour number for single digit entries.

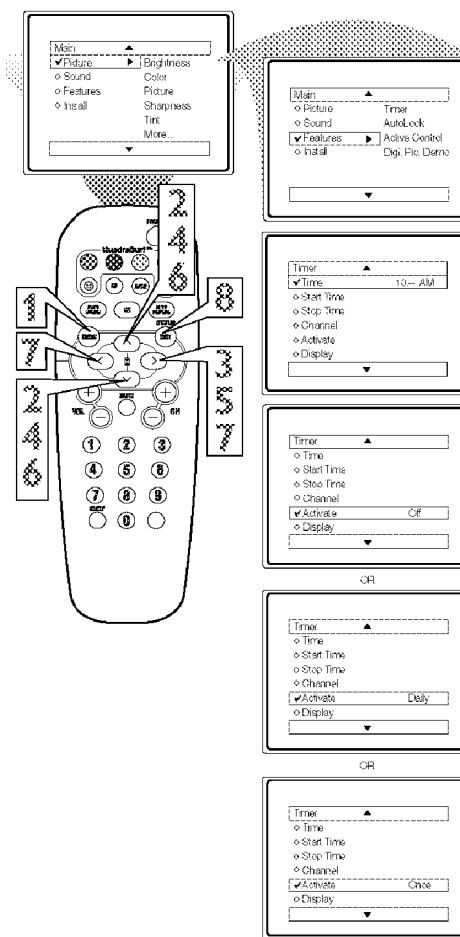
You can get to the Clock setting by pressing the Clock button on the remote control.

The TV's clock settings may be lost when the TV is unplugged or when AC power to the set is interrupted.

## 21 ACTIVATE CONTROL

After you have set the Time, Start Time, Stop Time, and Start Channel, the timer must be set to come on Once or Daily, or turned Off through the Activate control.

- 1 Press the **MENU** button on the remote to show the on-screen menu.
- 2 Press the **CURSOR UP**  $\wedge$  or **DOWN**  $\vee$  buttons to scroll through the on-screen menu until the word **Features** is highlighted.
- 3 Press the **CURSOR RIGHT**  $\>$  button to display the **Features** menu.
- 4 Press the **CURSOR UP**  $\wedge$  or **DOWN**  $\vee$  buttons to scroll through the on-screen menu until the word **Timer** is highlighted.
- 5 Press the **CURSOR RIGHT**  $\>$  button to display the **Timer** menu.
- 6 Press the **CURSOR UP**  $\wedge$  or **CURSOR DOWN**  $\vee$  buttons to highlight the **Activate** Control.
- 7 Press the **CURSOR RIGHT**  $\>$  or **CURSOR LEFT**  $\leftarrow$  buttons repeatedly to select Once, Daily, or Off.
- 8 When finished, press the **STATUS /EXIT** button to remove the on-screen menu from the TV's screen.



### HELPFUL HINTS

Remember, before setting the Timer controls, the TV's clock must be set to the correct time, see panel 18 for details.

The TV's clock settings may be lost when the TV is unplugged or when AC power to the set is interrupted.

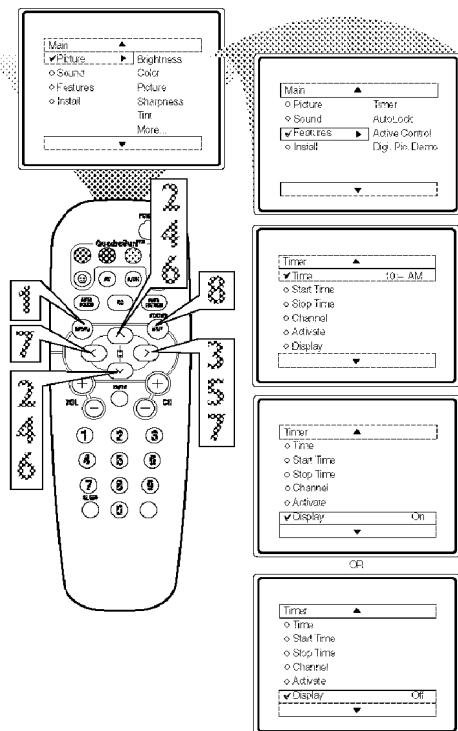
You can get to the Clock setting by pressing the Clock button on the remote control.

**NOTE:** Active Control will only appear in the menu of models 27PT6441/37 and 27PT6442/37.

## 22 HOW TO VIEW TIME USING THE DISPLAY CONTROL

After the TV's clock has been set, you can use your TV as a clock. The Display control allows you to permanently display the time in the upper right corner of the screen.

- 1 Press the **MENU** button on the remote to show the on-screen menu.
- 2 Press the **CURSOR UP**  $\wedge$  or **DOWN**  $\vee$  buttons to scroll through the on-screen menu until the word **Features** is highlighted.
- 3 Press the **CURSOR RIGHT**  $>$  button to display the **Features** menu.
- 4 Press the **CURSOR UP**  $\wedge$  or **DOWN**  $\vee$  buttons to scroll through the on-screen menu until the word **Timer** is highlighted.
- 5 With **Timer** highlighted, press the **CURSOR RIGHT**  $>$  button to display the **Timer** menu.
- 6 Press the **CURSOR UP**  $\wedge$  or **CURSOR DOWN**  $\vee$  buttons to highlight the **Display Control**.
- 7 Press the **CURSOR RIGHT**  $>$  or **CURSOR LEFT**  $<$  buttons repeatedly to select **On** or **Off**.
- 8 When finished, press the **STATUS /EXIT** button to remove the on-screen menu from the TV's screen.



**NOTE: Active Control will only appear in the menu of models 27PT6441/37 and 27PT6442/37.**

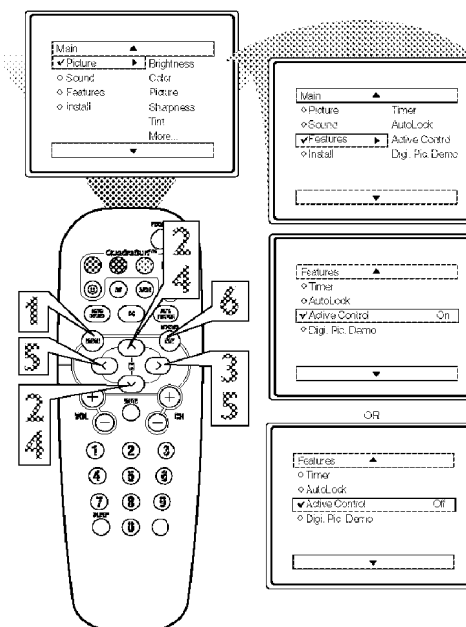
## 23 ACTIVE CONTROL OPTIONS

The Active Control monitors and adjusts incoming video signals to help provide the best picture quality.

When you choose to turn the Active Control On, the picture sharpness and noise reduction are controlled automatically. Active Control adjusts these picture settings continuously and automatically.

*NOTE: Active Control is only available in models 27PT6441/37 and 27PT6442/37.*

- 1 Press the **MENU** button on the remote to show the on-screen menu.
- 2 Press the **CURSOR UP**  $\wedge$  or **DOWN**  $\vee$  buttons to scroll through the on-screen menu until the word **Features** is highlighted.
- 3 Press the **CURSOR RIGHT**  $>$  button to display the **Features** menu.
- 4 Press the **CURSOR UP**  $\wedge$  or **DOWN**  $\vee$  buttons to repeatedly until **Active Control** is highlighted.
- 5 Press the **CURSOR RIGHT**  $>$  or **CURSOR LEFT**  $<$  buttons to toggle the Active Control **On** or **Off**.
- 6 When finished, press the **STATUS /EXIT** button to remove the on-screen menu from the TV's screen.



**NOTE: Active Control will only appear in the menu of models 27PT6441/37 and 27PT6442/37.**

The AutoLock™ feature is an integrated circuit that receives and processes data sent by broadcasters, or other program providers, that contain program content advisories. When programmed by the viewer, a TV with AutoLock™ can respond to the content advisories and block program content that may be found objectionable (such as offensive language, violence, sexual situations, etc.). This is a great feature to censor the type of viewing children may watch.

### AutoLock™ offers various BLOCKING controls from which to choose:

**Access Code** - An Access Code must be set to prevent children from unblocking questionable or censored programming set by their parents.

**Channel Block** - After an access code has been programmed, you can block individual channels including the A/V inputs.

**Clear All** - Allows you clear all channels being blocked from your viewing set with the Channel Block Control.

**Block All** - Allows you to block ALL channels and A/V inputs at one time.

**Movie Ratings** - Certain blocking options exist which will block programming based on ratings patterned by the Motion Pictures Association of America.

**TV Ratings** - Just like the Movie Ratings, programs can be blocked from viewing using standard TV ratings set by TV broadcasters.

### MOVIE RATINGS

**G: General Audience** - All ages admitted. Most parents would find this program suitable for all ages.

**PG: Parental Guidance Suggested** - This programming contains material that parents may find unsuitable for younger children.

**PG-13: Parents Strongly Cautioned** - This programming contains material that parents may find unsuitable for children under the age of 13.

### MOVIE RATINGS Continued

**R: Restricted** - This is programming is specifically designed for adults. Anyone under the age of 17 should only view this programming with an accompanying parent or adult guardian.

**NC-17: No one under the age of 17 will be admitted.** - This type of programming should be viewed by adults only.

**X: Adults Only** - This type of programming contains one or more of the following: very graphic violence, very graphic and explicit or indecent sexual acts, very coarse and intensely suggestive language.

### TV RATINGS

**TV-Y** -- Designed for a very young audience, including children ages 2-6.

**TV-Y7** -- It may be appropriate for children age 7 and above who have acquired the development skills needed to distinguish between make-believe and reality.

**TV-G** -- Suitable for most audiences, this type of programming contains little or no violence, no strong language, and little or no sexual dialogue or situations.

**TV-PG** -- This program contains material that parents may find unsuitable for younger children. Could contain Moderate violence (V), some sexual situations (S), infrequent coarse language (L), or some suggestive dialogue (D).

**TV-14** -- This program contains some material that many parents would find unsuitable for children under 14 years of age. This type of programming contains one or more of the following: intense violence (V), intense sexual situations (S), strong coarse language (L), or intensely suggestive dialogue (D).

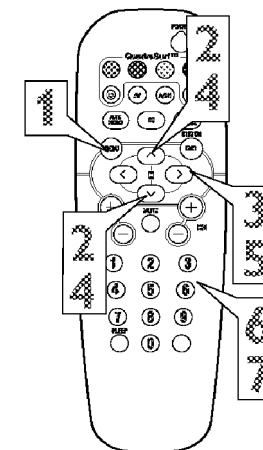
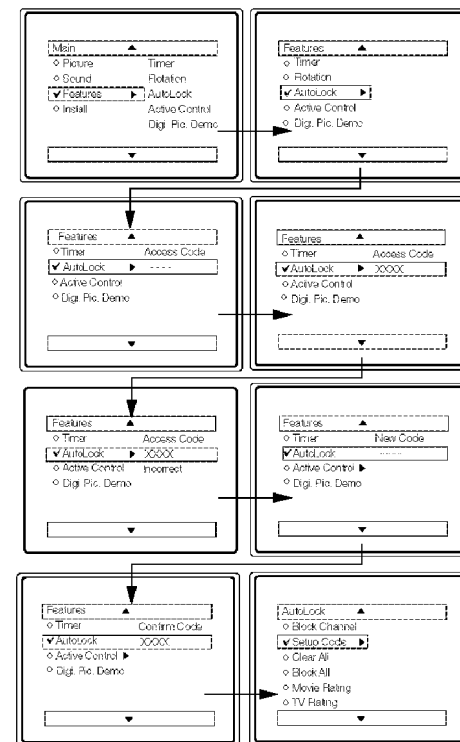
**TV-MA** -- This program is specifically designed to be viewed by adults and therefore may be unsuitable for children under 17. This type of programming contains one or more of the following: graphic violence (V), explicit sexual situations (S), or crude indecent language (L).

Over the next few panels you'll learn how to block channels and get a better understanding of the rating terms for certain programming.

First, let's start by learning how to set a personal access code:

- 1 Press the **MENU** button on the remote to display the on-screen menu.
- 2 Press the **CURSOR UP**  $\wedge$  or **DOWN**  $\vee$  buttons until the word **Features** is highlighted.
- 3 Press the **CURSOR RIGHT**  $>$  button to display the Features menu options.
- 4 Press the **CURSOR UP**  $\wedge$  or **DOWN**  $\vee$  buttons until the words **Auto Lock™** are highlighted.
- 5 Press the **CURSOR RIGHT**  $>$  button. The screen will read, "Access Code - - - -."
- 6 Using the **NUMBERED** buttons, enter **0, 7, 1, 1**. "XXXX" appears on the Access Code screen as you press the numbered buttons. "Incorrect Code" will appear on the screen, and you will need to enter **0, 7, 1, 1** again.
- 7 The screen will ask you to enter a "New Code." Enter a "new" 4 digit code using the **NUMBERED** buttons. The screen will then ask you to **CONFIRM** the code you just entered. Enter your new code again. "XXXX" will appear when you enter your new code and then display the AutoLock™ menu options.

Proceed to the next panel to learn more...

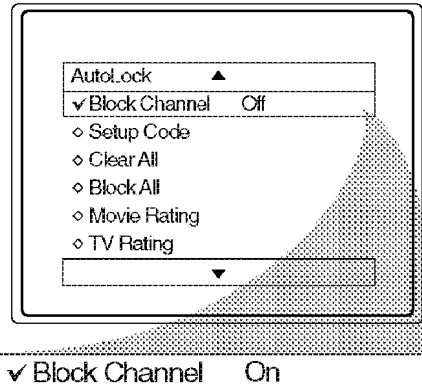


**NOTE:** Active Control will only appear in the menu of models 27PT6441/37 and 27PT6442/37.

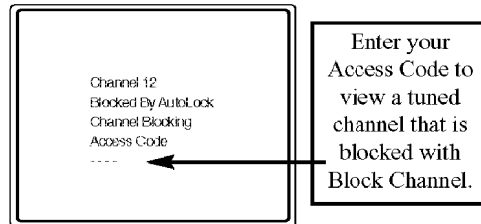
After your personal access code has been set (see previous page), you are now ready to select the channels or the A/V Inputs you want to block out or censor.

Once you've entered your access code and the AutoLock™ features are displayed on the screen:

**1** Press the **CURSOR UP**  $\wedge$  or **DOWN**  $\vee$  buttons until the words **Block Channel** are highlighted.



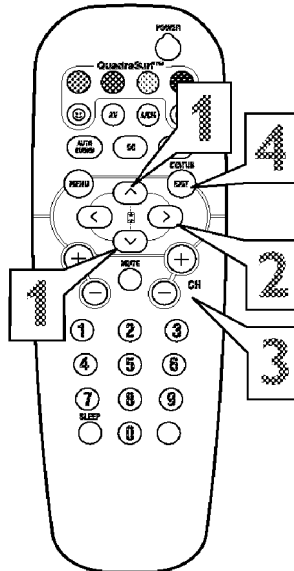
**2** Press the **CURSOR RIGHT**  $\>$  button to turn blocking **ON** or **OFF** for that channel. When **ON** is selected the channel will be blocked.



**3** Press the **CH +** or **CH -** button to select other channels you wish to block. Repeat steps 2-3 to block the new channel.

**4** When finished, press the **STATUS/EXIT** button to remove the menu from the screen.

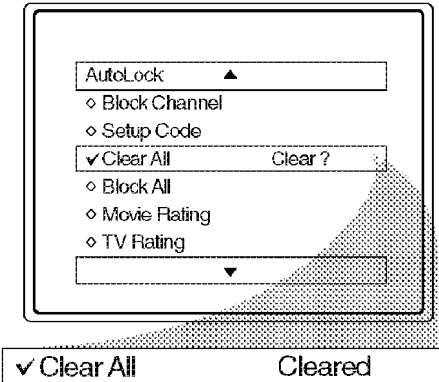
**NOTE:** If you ever forget your code, the 0, 7, 1, 1 code is the factory default and can be used to enter and create a new access code.



After blocking specific channels there may come a time when you want to block or clear all the channels at the same time.

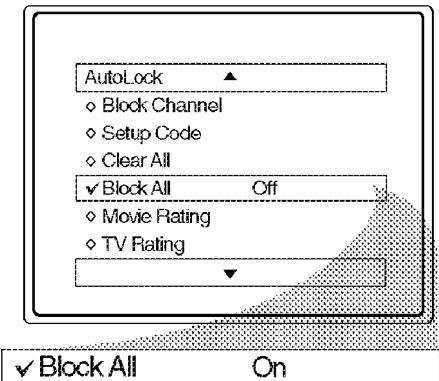
Once you've entered your access code and the AutoLock™ features are displayed on the screen:

**1** Press the **CURSOR UP**  $\wedge$  or **DOWN**  $\vee$  buttons to select either **Clear All** or **Block All**.



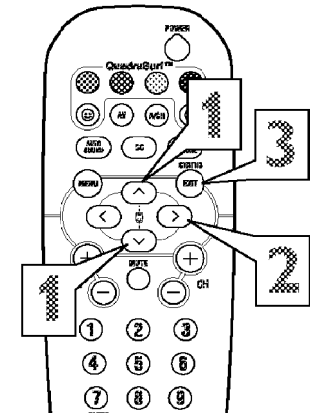
**2** If **Clear All** is selected, press the **CURSOR RIGHT**  $\>$  button to clear all blocked channels. All channels will be viewable.

If **Block All** is selected, press the **CURSOR RIGHT**  $\>$  button to turn the control **On** or **Off**. When **On** is selected, ALL available channels will be blocked from viewing.



**3** When finished, press the **STATUS/EXIT** button to remove the menu from the screen.

**NOTE:** If you ever forget your code, the 0, 7, 1, 1 code is the factory default and can be used to enter and create a new access code.

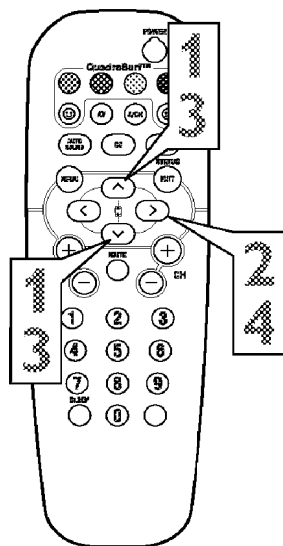
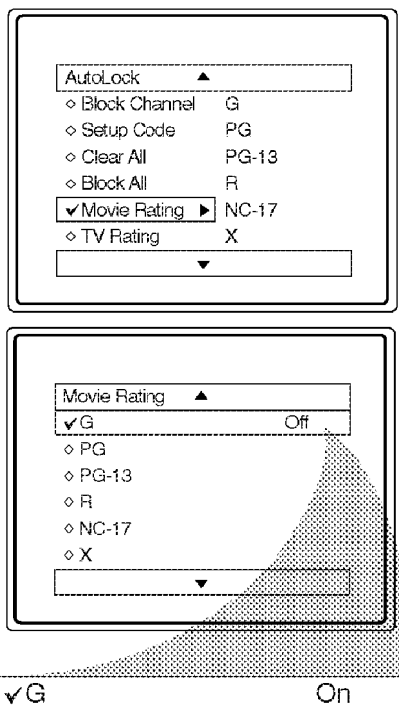


The AutoLock™ feature can block programming based on the Movie Industry ratings. Once you've entered your access code and the AutoLock™ features are displayed on the screen:

- 1 Press the **CURSOR UP**  $\wedge$  or **DOWN**  $\vee$  buttons to highlight the words **Movie Rating**.
- 2 Press the **CURSOR RIGHT**  $\>$  button to display the **Movie Rating** options (G, PG, PG-13, R, NC17, or X).
- 3 Press the **CURSOR UP**  $\wedge$  or **DOWN**  $\vee$  buttons to highlight any of the **Movie Rating** options. When highlighted, all these options can be turned **On** (which will allow blocking) or **Off** (which will allow viewing).
- 4 Use the **CURSOR RIGHT**  $\>$  button on the remote to turn the rating option **On** or **Off**.

When a rating level is chosen to be blocked, any higher level rating will also be blocked from viewing. (i.e.: If "R" is selected to be blocked, NC-17 and X will automatically be blocked.)

**NOTE:** If you ever forget your code, the 0, 7, 1, 1 code is the factory default and can be used to enter and create a new access code.



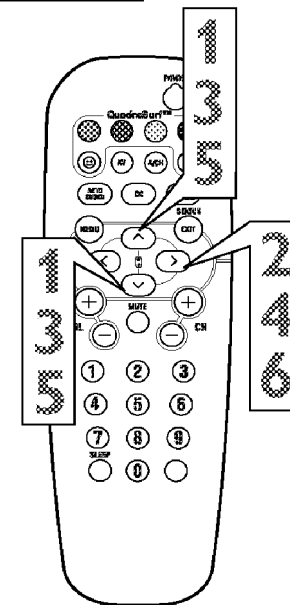
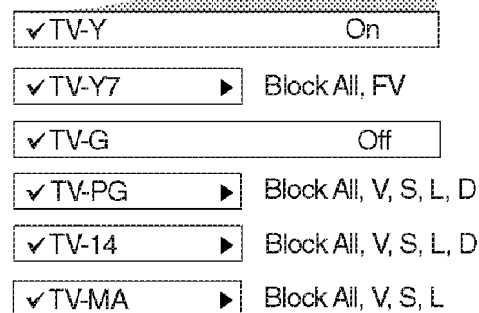
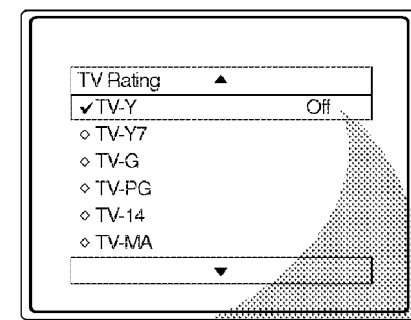
The AutoLock™ feature can block programming based on the TV Industry ratings.

Once you've entered your access code and the AutoLock™ features are displayed on the screen:

- 1 Press the **CURSOR UP**  $\wedge$  or **DOWN**  $\vee$  buttons to highlight the words **TV Rating**.
- 2 Press the **CURSOR RIGHT**  $\>$  button to display the **TV Rating** options (TV-Y, TV-Y7, TV-G, TV-PG, TV-14, or TV-MA).
- 3 Press the **CURSOR UP**  $\wedge$  or **DOWN**  $\vee$  buttons to highlight any of the **TV Rating** options. When highlighted, all these options can be turned **On** (which will allow blocking) or **Off** (which will allow viewing).

**NOTE:** Some TV RATING options also have sub-ratings. The ratings of TV-Y7, TV-PG, TV-14, TV-MA can be customized to block V (violence), FV (fantasy violence), S (sexual situations), L (coarse language), or D (suggestive dialogue).

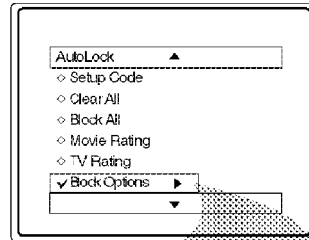
- 4 Press the **CURSOR RIGHT**  $\>$  button on the remote to turn the TV-Y or TV-G rating **On** or **Off**. Or, press the **CURSOR RIGHT**  $\>$  button to enter the sub-menus for the TV-Y7, TV-PG, TV-14 or TV-MA ratings.
- 5 If the TV-Y7, TV-PG, TV-14 or TV-MA sub-menu is accessed, press the **CURSOR UP**  $\wedge$  or **DOWN**  $\vee$  buttons to select one of the options (Block All, V, S, L, D, or FV).
- 6 Press the **CURSOR RIGHT**  $\>$  button on the remote to turn the option **ON** or **OFF**.



**AutoLock™** offers the viewer other blocking features as well. With these Blocking Options, the censoring can be turned ON or OFF.

Once you've entered your access code and the AutoLock™ features are displayed on the screen:

- 1 Press the **CURSOR UP**  $\wedge$  or **DOWN**  $\vee$  buttons until the words **Block Options** are highlighted.



- 2 Press the **CURSOR RIGHT**  $\>$  button to display the **Blocking Options (Blocking, Unrated, or No Rating)** menu.

**Blocking:** Might be the "master switch" for AutoLock™. When On, ALL blocking/censoring will take place. When Off, ALL blocking is disabled.

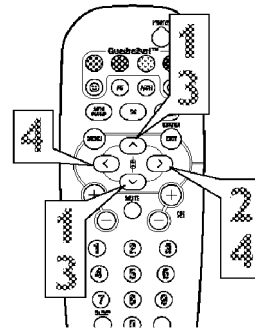
**Unrated:** ALL unrated programs based on the Movie Ratings or Parental (TV) Guidelines can be blocked if this feature is set to On and the Blocking feature is set to OFF.

**No Rating:** ALL programming with NO content advisory data can be blocked if set to On and the Blocking feature is set to OFF.

- 3 Press the **CURSOR UP**  $\wedge$  or **DOWN**  $\vee$  buttons to highlight the desired feature.

- 4 When highlighted, each feature can be turned **On** or **Off** using the **CURSOR RIGHT**  $\>$  or the **CURSOR LEFT**  $\leftarrow$  buttons on the remote.

✓Blocking	On
✓Unrated	On
✓No Rating	On

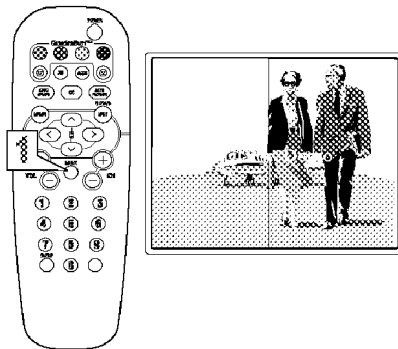


## DEMO MODE

With Demo Mode On, a split screen demo will be shown on the screen. The Demo Mode will show the right side with a sharper image with more natural motion.

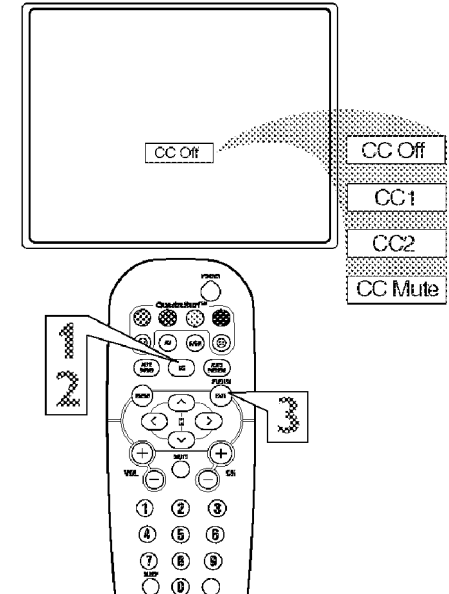
- 1 Press the **MUTE** button on the remote approximately 3-4 seconds. The split screen demo appears. After 20 seconds, the TV will automatically return to normal operation.

**Note:** You can also turn the Digital Picture Demo On or Off by using on-screen menu.



**Closed Captioning (CC)** allows you to read the voice content of television programs on the TV screen. Designed to help the hearing impaired, this feature uses on-screen "text boxes" to show dialogue and conversations while the TV program is in progress.

- 1 Press the **CC** button on the remote to display the current Closed Caption setting.
- 2 Press the **CC** button repeatedly to choose from the four Closed Caption options (CC Off, CC1, CC2, CC Mute).
- 3 When finished, press the **STATUS /EXIT** button to remove the menu from the TV's screen.

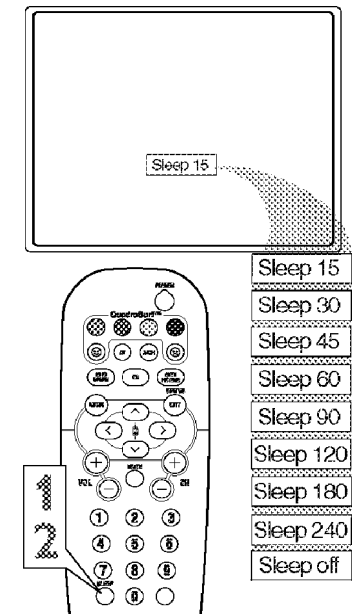


## SLEEPTIMER

Your TV can be set to automatically turn itself off at a given amount of time.

- 1 Press the **SLEEP** button on the remote control and the SLEEP timer display will appear on the screen.
- 2 Press the **SLEEP** button repeatedly to pick the amount of time (15, 30, 45, 60, 90, 120, 180, or 240 minutes) before the TV will turn itself off.

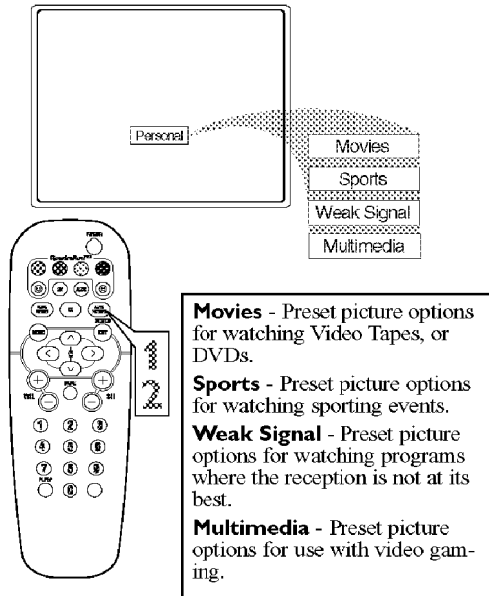
**NOTE:** An on-screen count down will appear during the last minute before the TV shuts itself off. If any button is pressed during the last minute of the countdown, the Sleptimer setting will be cancelled.



Whether you're watching a movie or a sporting event, your TV has automatic video control settings matched for your current program source or content.

- 1 Press the **AUTO PICTURE** button on the remote control. The current Auto Picture setting will be displayed on the screen.
- 2 Press the **AUTO PICTURE** button repeatedly to select either Personal, Movies, Sports, Weak Signal, or MULTIMEDIA picture settings.

**NOTE:** The way you choose to set the Picture Menu Controls will become your Personal setting.

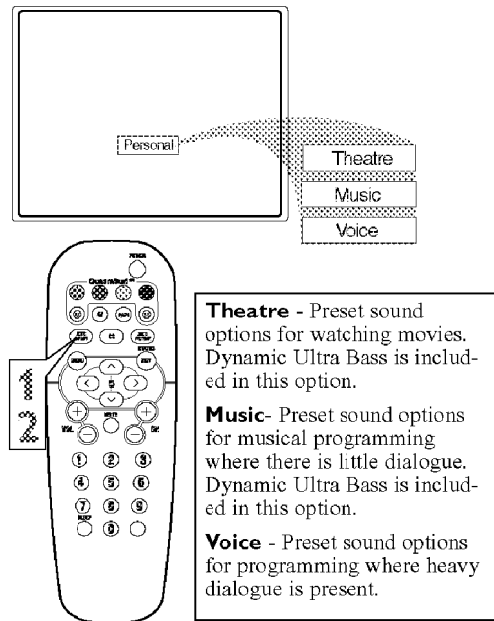


## AUTO SOUND

The Auto Sound feature allows the listener to select between four different factory set sound options.

- 1 Press the **AUTO SOUND** button on the remote control. The current Auto Sound setting will appear in the middle of the screen.
- 2 Press the **AUTO SOUND** button repeatedly to toggle between the four settings. (Personal, Theatre, Music, or Voice)

**NOTE:** The way you choose to set the Sound Menu Controls will become your Personal setting.



The QuadraSurf™ control allows you set up four different personal channel Surf lists using the colored buttons (on the remote control), each holding up to ten channels in its quick viewing "list."

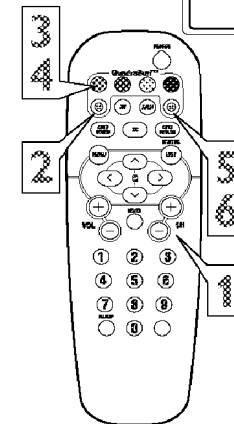
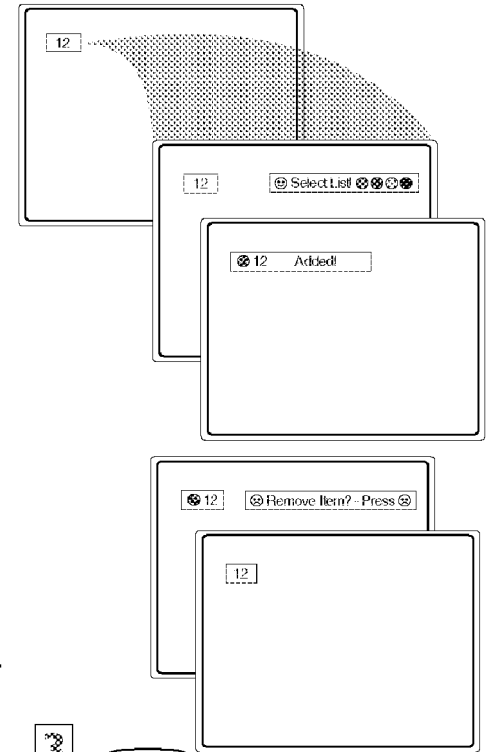
- 1 Press the **CHANNEL (+) or (-) buttons** (or the **NUMBER** buttons) to select a channel to add to one of the SURF lists.
- 2 Press the **SMILEY ☺ button** on the remote control to **ADD** the channel to one of the SURF lists.
- 3 Press the corresponding **COLORED (Red, Green, Yellow or Blue) button** to add the channel to that button's Surf list. (Up to ten channels per button can be stored.)

Repeat steps 1 through 3 to add additional channels (up to 10) to each of the the SURF lists.

**To remove a channel from one of the SURF lists;**

- 4 Press the **COLORED Quadra Surf button** until the desired channel appears. The screen will display the channel number with a colored "Smiley" face to indicate the Colored button it relates to.
- 5 While the "Smiley" face channel indicator is displayed, press the **FROWNIE ☹ face button**. The screen will read, "Remove item? - Press ☹."
- 6 Press the **FROWNIE ☹ face button again** to confirm your decision to remove the channel from the Surf list.

Repeat steps 4-6 to remove other channels from Surf lists.

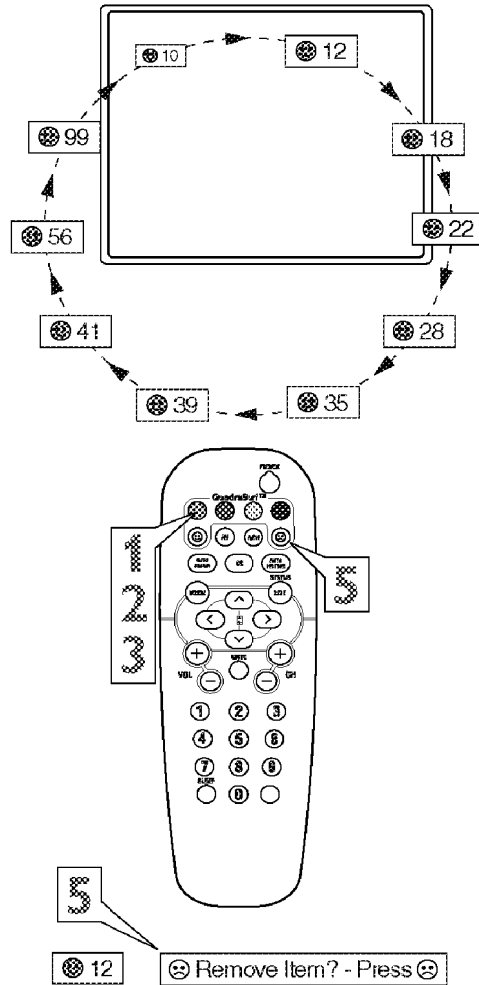




The Quadra Surf buttons on your remote control allow you to store up to 10 channels per button (40 total). You can even program the A/V Input channels for each button making them a “source” button.

Assuming channels have now been added to the four Quadra Surf lists (the four colored buttons, see the previous page), let's review how the feature works.

- 1 Press one of the pre-programmed COLORED buttons on the remote (Red, Green, Yellow or Blue). The screen will display a smiley face with the first programmed channel for that surf list.
  - 2 While the colored “smiley” face still appears on the screen, press the same COLORED button on the remote to tune the second channel programmed for that specific surf list.
  - 3 Repeatedly pressing the same COLORED button while the “smiley” face appears will tune all the programmed channels. Pressing the COLORED button again will return you to the first channel in the list.
- If the “smiley” face disappears from the screen and the same COLORED button is pressed, the surf channels will be displayed starting with the FIRST programmed channel again.
- 4 Repeat steps 1-3 for the other three COLORED buttons (Surf lists) if desired.
  - 5 Any time the “smiley” face appears with the channel number, pressing the “frownie” face button will allow you to remove it from the list (see the previous page for more details).



#### No Power

- Check the TV power cord. Unplug the TV, wait 10 seconds, then reinsert the plug into the outlet and push the POWER button again.
- Check that the outlet is not on a wall switch.
- Be sure the fuse is not blown on the AC power strip, if one is being used.

#### No Picture

- Check antenna connections. Are they properly secured to the TV's ANT 75Ω plug?
- Check the TUNER MODE control for the correct tuner setting.
- Try running the Auto Program feature to find all available channels.
- Press the AV button on the remote to make sure the correct signal source is selected (FRONT or Current Channel).

#### No Sound

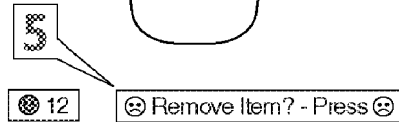
- Check the VOLUME buttons.
- Check the MUTE button on the remote control.
- If you're attempting to hook up auxiliary equipment, check the audio jack connections located on the front of the TV.

#### Remote Does Not Work

- Check the batteries. If necessary, replace them with AA Heavy Duty (Zinc Chloride) or Alkaline batteries.
- Clean the remote control and the remote control sensor window on the TV.
- Check the TV power cord. Unplug the TV, wait 10 seconds, then reinsert the plug into the outlet and push the POWER button again.
- Be sure the fuse is not blown on the AC power strip, if one is being used.
- Check to be sure the TV outlet is not on a wall switch.

#### TV Displays Wrong Channel or No Channels Above 13

- Repeat channel selection.
- Add the desired channel numbers (using the CHANNEL EDIT control) into the TV's memory.
- Check to be sure the TUNER MODES are set to the CABLE option and run the Auto Program feature to find all available channels.



# Mechanical Instructions

Index of this chapter:

1. Set Disassembly
2. Service Position
3. Assembly/Panel Removal
4. Set Re-assembly

**Note:** Figures below can deviate slightly from the actual situation, due to different set executions.

## Set Disassembly

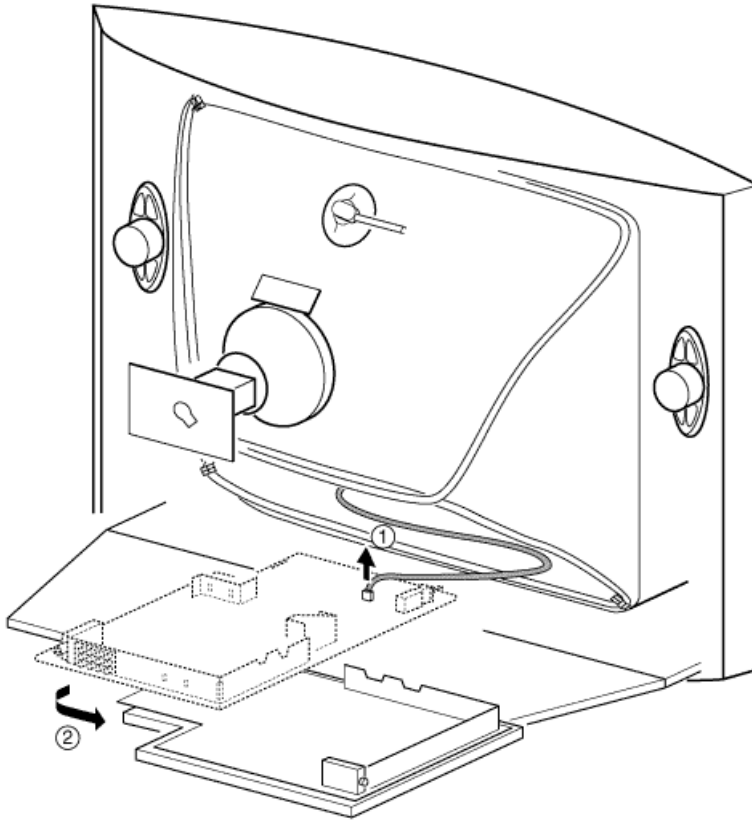
**Warning:** Be sure to disconnect the AC power from the set before opening it.

### Rear Cover

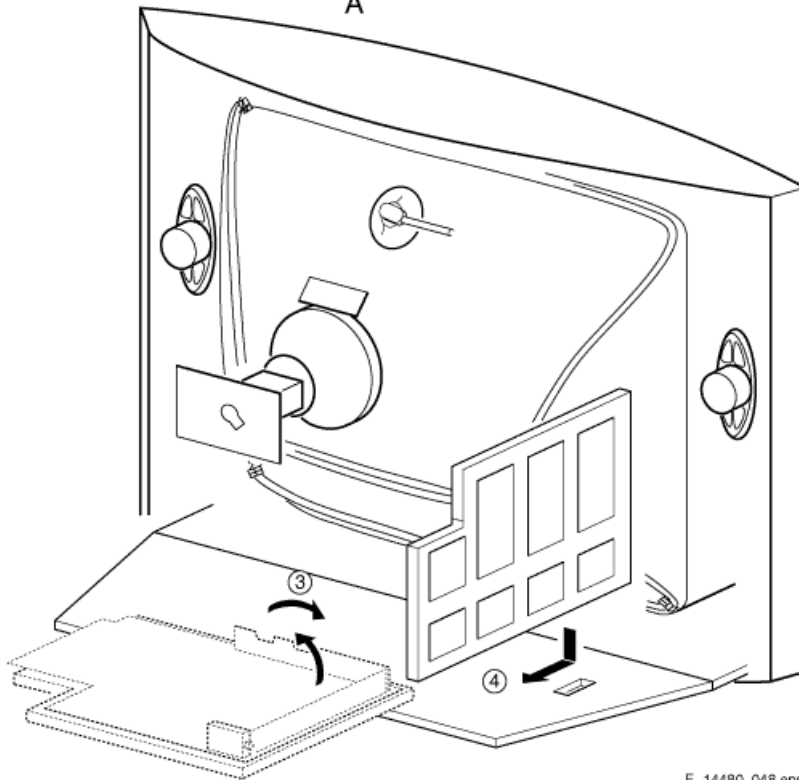
1. Remove all fixation screws of the rear cover (do not forget the screws that hold the rear connection panel).
2. Pull the rear cover backwards to remove it.

## Service Position

Before placing the Mono Carrier in its service position, remove the Front Interface assembly/panel (see paragraph "Front Interface Assembly/Panel removal") and the Side AV assembly/panel (see paragraph "Side AV Assembly/Panel removal").



A



B

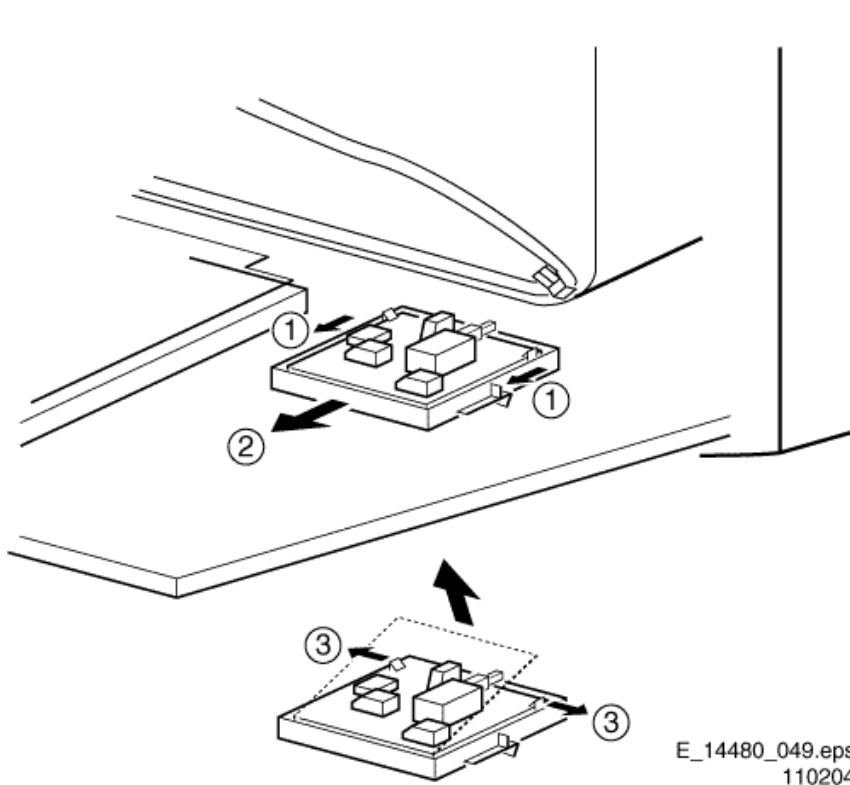
E\_14480\_04B.eps  
110204

Figure: Service position Mono Carrier

1. Disconnect the degaussing coil [1].
2. Release the two fixation clamps (at the mid left and mid right side of the bracket), and remove the bracket from the bottom tray, by pulling it backwards [2].
3. Turn the chassis tray 90 degrees counter clockwise.
4. Move the panel bracket somewhat to the left and flip it 90 degrees [3], with the components towards the CRT.
5. Turn the panel bracket with the rear I/O toward the CRT.
6. Place the hook of the tray in the fixation hole of the cabinet bottom [4] and secure it.

## Assembly/Panel Removal

### Front Interface Assembly/Panel Removal



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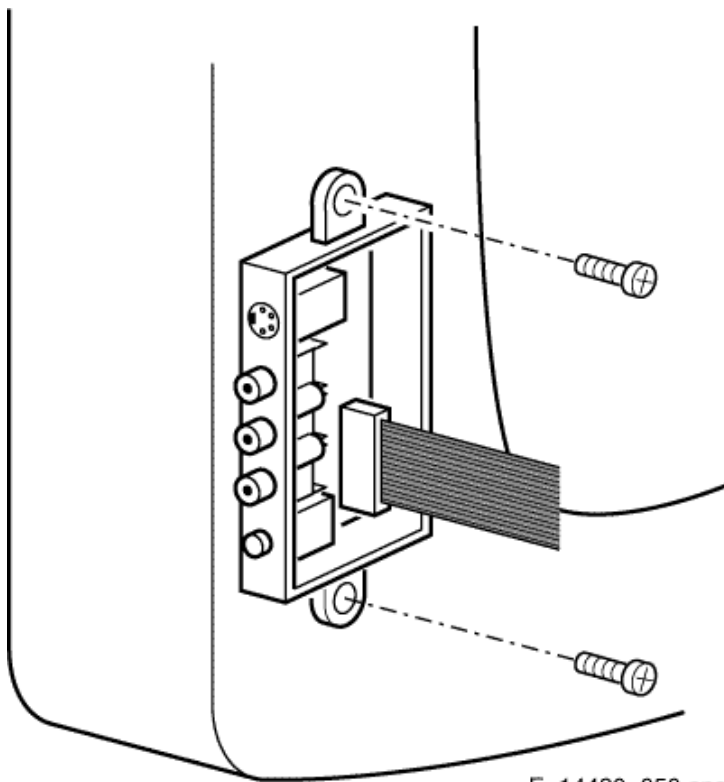
Figure: Front interface assembly/panel removal

1. Remove the complete module from the bottom plate, by pulling the two fixation clamps upward [1], while sliding the module away from the CRT [2].

**Note:** these clamps are difficult to access.

2. Release the two fixation clamps [3] at the side of the bracket, and lift the panel out of the bracket (it hinges at one side).

### Side AV Assembly/Panel Removal



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**Figure:** Side AV assembly/panel removal

1. Remove the two fixation screws, and remove the complete Side AV assembly.
2. Release the two fixation clamps, and lift the panel out of the bracket.

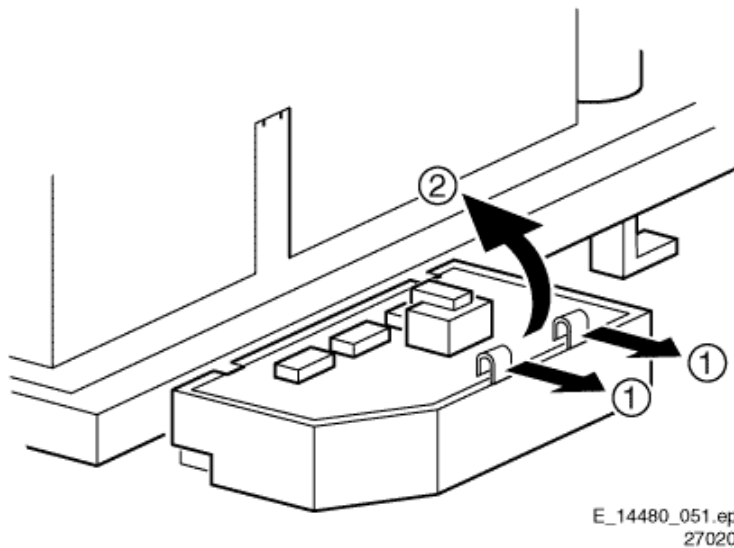
## LTI/CTI Interface Panel Removal

Remove the LTI/CTI Interface panel from the Mono Carrier, by disconnecting it from connector 1212.

## Top Control Assembly/Panel Removal

1. Remove the two fixation screws.
2. Push the assembly a little bit upwards, and then pull it backwards to release it from the front hinge.
3. Lift the panel from its bracket, while releasing the two fixation clamps. The panel hinges on the other side.

## Linearity Assembly/Panel Removal



**Figure: Linearity assembly/panel removal**

1. Release the two fixation clamps [1] to lift the panel out of the bracket [2].

## Set Re-assembly

To re-assemble the whole set, do all processes in reverse order.

**Note:** before you mount the rear cover, perform the following checks:

1. Check whether the AC power cord is mounted correctly in its guiding brackets.
2. Check whether all cables are replaced in their original position

# Service Modes, Error Codes, and Fault Finding

Index of this chapter:

1. Test Points
2. Service Modes
3. Problems and Solving Tips (related to CSM)
4. ComPair
5. Error Codes
6. The Blinking LED Procedure
7. Protections
8. Repair Tips

## Test Points

This chassis is equipped with test points in the service printing. In the schematics test points are identified with a rectangle box around Fxxx or Ixxx. These test points are specifically mentioned in the "Test Point Overview" as "half moons" with a dot in the center.



**Table: Test point overview**

Test point	Circuit	Diagr.
F508, F535, F536, F537, F552, F561, F563, F573, F664, I513, I518, I519, I524, I531, I533, I546	Power supply	A1
F401, F412, F413, F414, F418, F452, F453, F455, F456, F458, F459, F460, F461, I408, I416, I417, I420, I462, I468	Line & Frame Deflection	A2
F003, F004, I001, I002	Tuner IF	A3
F201, F203, F205, F206	Hercules	A4
F240, F241, F242	Features & Connectivities	A5
F952, F955, I951, I952	Audio Amplifier	A7
F692	Front Control	A9
F331, F332, F333, F338, F339, F341, F351, F353, F354	CRT Panel	B1
F361, F362, F381, F382	ECO Scavem	B2

Perform measurements under the following conditions:

- Television set in Service Default Alignment Mode.
- Video input: Color bar signal.
- Audio input: 3 kHz left channel, 1 kHz right channel.

## Service Modes

Service Default mode (SDM) and Service Alignment Mode (SAM) offers several features for the service technician, while the Customer Service Mode (CSM) is used for communication between the call center and the customer.

This chassis also offers the option of using ComPair, a hardware interface between a computer and the TV chassis. It offers the abilities of structured troubleshooting, error code reading, and software version readout for all chassis.

*Minimum requirements for ComPair:* a Pentium processor, a Windows OS, and a CD-ROM drive (see also paragraph 'ComPair').

**Table: Software cluster overview**

SW Cluster	SW name	UOC Type	12 NC	Features
L4LUS1	L04US1_x.y	TDA12000	9352 753 88557	CC+BTSC
L4LUS1	L04US1_x.y	TDA12001	9352 753 89557	CC+BTSC+CMB+DW
L4LUS1	L04US1_x.y	TDA12001	9352 753 35557	CC+BTSC+CMB
<p>U= USA (NAFTA), S= Stereo dBx, CC= Closed Caption, BTSC= Broadcast Television Systems Committee, CMB= Comb Filter, DW = Double Window</p>				

## Service Default Mode (SDM)

### *Purpose*

- To create a predefined setting for measurements to be made.
- To override software protections.
- To start the blinking LED procedure.

### *Specifications*

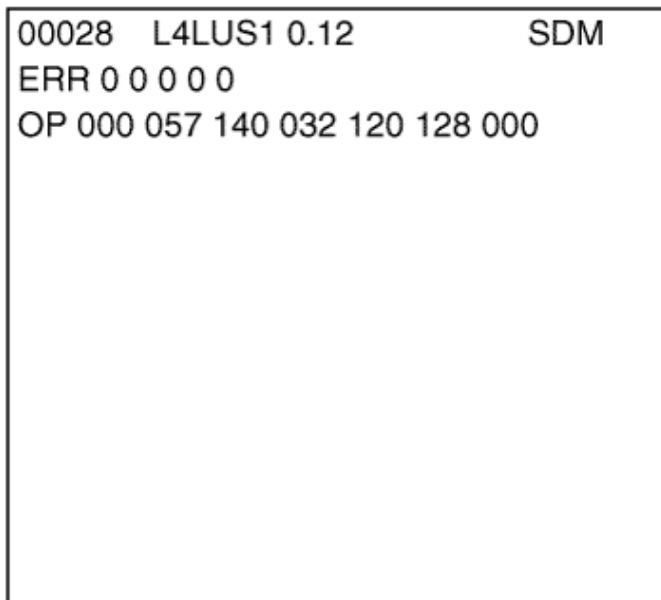
- Tuning frequency: 61.25 MHz (channel 3).
- Color system: NTSC M.
- All picture settings at 50% (brightness, color contrast, hue).
- Bass, treble and balance at 50 %; volume at 25 %.
- All service-unfriendly modes (if present) are disabled. The service unfriendly modes are:
  - Timer / Sleep timer.
  - Child / parental lock.
  - Blue mute.
  - Hotel / hospital mode.
  - Auto shut off (when no "IDENT" video signal is received for 15 minutes).
  - Skipping of non-favorite presets / channels.
  - Auto-storage of personal presets.
  - Auto user menu time-out.
  - Auto Volume Leveling (AVL).

## How to enter

To enter SDM, use one of the following methods:

- Press the following key sequence on the remote control transmitter: "062596" directly followed by the MENU button (do not allow the display to time out between entries while keying the sequence).
- Short jumper wires 9252 and 9275 on the family board (see Fig. 8-1) and apply AC power. Then press the power button (remove the short after start-up).  
**Caution:** Entering SDM by shorting wires 9252 and 9275 will override the +8V-protection. Do this only for a short period. When doing this, the service-technician must know exactly what he is doing, as it could damage the television set.
- Or via ComPair.

After entering SDM, the following screen is visible, with SDM in the upper right corner of the screen to indicate that the television is in Service Default Alignment Mode.



E\_14480\_066.eps  
190204

Figure: SDM menu

### *How to navigate*

Use one of the following methods:

- When you press the MENU button on the remote control, the set will switch on the normal user menu in the SDM mode.
- On the TV, press and hold the VOLUME DOWN and press the CHANNEL DOWN for a few seconds, to switch from SDM to SAM and reverse.

### *How to exit*

Switch the set to STANDBY by pressing the POWER button on the remote control transmitter or the television set.

If you turn the television set off by removing the AC power (i.e., unplugging the television) without using the POWER button, the television set will remain in SDM when AC power is re-applied, and the error buffer is not cleared.

## **Service Alignment Mode (SAM)**

### *Purpose*

- To change option settings.
- To display / clear the error code buffer.
- To perform alignments.

## *Specifications*

- Operation hours counter (maximum five digits displayed).
- Software version, Error codes, and Option settings display.
- Error buffer clearing.
- Option settings.
- AKB switching.
- Software alignments (Tuner, White Tone, Geometry & Audio).
- NVM Editor.
- ComPair Mode switching.

## *How to enter*

To enter SAM, use one of the following methods:

- Press the following key sequence on the remote control transmitter: "062596" directly followed by the OSD/STATUS button (do not allow the display to time out between entries while keying the sequence).
- Or via ComPair.

After entering SAM, the following screen is visible, with SAM in the upper right corner of the screen to indicate that the television is in Service Alignment Mode.

```

00028 L4LUS1 0.12 SAM
ERR 0 0 0 0 0

OP 000 057 140 032 120 128 000

. Clear          Clear ? ▶
. Options        ▶
. AKB            On
. Tuner          ▶
. White Tone     ▶
. Geometry       ▶
. Audio          ▶
. NVM Editor     ▶
. ComPair        ▶ on

```

E\_14480\_067.eps  
190204

Figure: SAM menu

### Menu explanation

1. **LLLLL**. This represents the run timer. The run timer counts normal operation hours, but does not count standby hours.
2. **AAABCD-X.Y**. This is the software identification of the main microprocessor:
  - **A** = the project name (L04).
  - **B** = the region: E= Europe, A= Asia Pacific, U= NAFTA, L= LATAM.
  - **C** = the software diversity:
    - **Europe:** T= 1 page TXT, F= Full TXT, V= Voice control.
    - **LATAM and NAFTA:** N= Stereo non-dBx, S= Stereo dBx.
    - **Asian Pacific:** T= TXT, N= non-TXT, C= NTSC.
    - **ALL regions:** M= mono, D= DVD, Q= Mk2.
  - **D** = the language cluster number.
  - **X** = the main software version number (updated with a major change that is incompatible with previous versions).
  - **Y** = the sub software version number (updated with a minor change that is compatible with previous versions).



3. **SAM.** Indication of the Service Alignment Mode.
4. **Error Buffer.** Shows all errors detected since the last time the buffer was erased. Five errors possible.
5. **Option Bytes.** Used to set the option bytes. See "Options" in the Alignments section for a detailed description. Seven codes are possible.
6. **Clear.** Erases the contents of the error buffer. Select the CLEAR menu item and press the MENU RIGHT key. The content of the error buffer is cleared.
7. **Options.** Used to set the option bits. See "Options" in the Alignments section for a detailed description.
8. **AKB.** Used to disable (Off) or enable (On) the "black current loop" (AKB= Auto Kine Bias).
9. **Tuner.** Used to align the tuner. See "Tuner" in the Alignments section for a detailed description.
10. **White Tone.** Used to align the white tone. See "White Tone" in the Alignments section for a detailed description.
11. **Geometry.** Used to align the geometry settings of the television. See "Geometry" in the Alignments section for a detailed description.
12. **Audio.** No audio alignment is necessary for this television set.
13. **NVM Editor.** Can be used to change the NVM data in the television set. See table "NVM data" further on.
14. **ComPair.** Can be used to switch on the television to In System Programming (ISP) mode, for software uploading via ComPair. **Caution:** When this mode is selected without ComPair connected, the TV will be blocked. Remove the AC power to reset the TV.

### *How to navigate*

- In SAM, select menu items with the MENU UP/DOWN keys on the remote control transmitter. The selected item will be highlighted. When not all menu items fit on the screen, use the MENU UP/DOWN keys to display the next / previous menu items.
- With the MENU LEFT/RIGHT keys, it is possible to:
  - Activate the selected menu item.
  - Change the value of the selected menu item.
  - Activate the selected submenu.
- In SAM, when you press the MENU button twice, the set will switch to the normal user menus (with the SAM mode still active in the background). To return to the SAM menu press the MENU or STATUS/EXIT button.
- When you press the MENU key in while in a submenu, you will return to the previous menu.

### *How to store SAM settings*

To store the settings changed in SAM mode, leave the top level SAM menu by using the POWER button on the remote control transmitter or the television set.

### *How to exit*

Switch the set to STANDBY by pressing the POWER button on the remote control transmitter or the television set.

If you turn the television set "off" by removing the AC power (i.e., unplugging the television) without using the POWER button, the television set will remain in SAM when AC power is re-applied, and the error buffer is not cleared.

## Customer Service Mode (CSM)

### *Purpose*

The Customer Service Mode shows error codes and information on the TV's operation settings. The call center can instruct the customer (by telephone) to enter CSM in order to identify the status of the set. This helps the call center to diagnose problems and failures in the TV set before making a service call.

The CSM is a read-only mode; therefore, modifications are not possible in this mode.

### *How to enter*

To enter CSM, press the following key sequence on the remote control transmitter: "123654" (do not allow the display to time out between entries while keying the sequence).

Upon entering the Customer Service Mode, the following screen will appear:

```
1 00028 L4LUS1 0.12 CSM
2 CODES 0 0 0 0 0
3 OP 000 057 140 032 120 128 000
4 nnXXnnnn/nnX
5 P3C-1
6 NOT TUNED
7 NTSC
8 STEREO
9 CO 50 CL 50 BR 50 HU 0
0 AVL Off BS 50
```

E\_14480\_068.eps  
190204

**Figure: CSM menu**

## ***Menu explanation***

1. Indication of the decimal value of the operation hours counter, Software identification of the main microprocessor (see 'Service Default or Alignment Mode' for an explanation), and the service mode (CSM= Customer Service Mode).
2. Displays the last five errors detected in the error code buffer.
3. Displays the option bytes.
4. Displays the type number version of the set.
5. Reserved item for P3C call centers (AKBS stands for Advanced Knowledge Base System).
6. Indicates the television is receiving an 'IDENT' signal on the selected source. If no 'IDENT' signal is detected, the display will read 'NOT TUNED'
7. Displays the detected Color system (e.g. PAL/NTSC).
8. Displays the detected Audio (e.g. stereo/mono).
9. Displays the picture setting information.
10. Displays the sound setting information.

## ***How to exit***

To exit CSM, use one of the following methods:

- Press the MENU, STATUS/EXIT, or POWER button on the remote control transmitter.
- Press the POWER button on the television set.

# Problems and Solving Tips Related to CSM

## Picture Problems

**Note:** The problems described below are all related to the TV settings. The procedures used to change the value (or status) of the different settings are described.

### *Picture too dark or too bright*

*If:*

- The picture improves when you have press the AUTO PICTURE button on the remote control transmitter, or
- The picture improves when you enter the Customer Service Mode,

*Then:*

1. Press the AUTO PICTURE button on the remote control transmitter repeatedly (if necessary) to choose PERSONAL picture mode.
2. Press the MENU button on the remote control transmitter. This brings up the normal user menu.
3. In the normal user menu, use the MENU UP/DOWN keys to highlight the PICTURE sub menu.
4. Press the MENU LEFT/RIGHT keys to enter the PICTURE sub menu.
5. Use the MENU UP/DOWN keys (if necessary) to select BRIGHTNESS.
6. Press the MENU LEFT/RIGHT keys to increase or decrease the BRIGHTNESS value.
7. Use the MENU UP/DOWN keys to select PICTURE.
8. Press the MENU LEFT/RIGHT keys to increase or decrease the PICTURE value.
9. Press the MENU button on the remote control transmitter twice to exit the user menu.
10. The new PERSONAL preference values are automatically stored.

### *White line around picture elements and text*

***If:***

The picture improves after you have pressed the AUTO PICTURE button on the remote control transmitter,

***Then:***

1. Press the AUTO PICTURE button on the remote control transmitter repeatedly (if necessary) to choose PERSONAL picture mode.
2. Press the MENU button on the remote control transmitter. This brings up the normal user menu.
3. In the normal user menu, use the MENU UP/DOWN keys to highlight the PICTURE sub menu.
4. Press the MENU LEFT/RIGHT keys to enter the PICTURE sub menu.
5. Use the MENU UP/DOWN keys to select SHARPNESS.
6. Press the MENU LEFT key to decrease the SHARPNESS value.
7. Press the MENU button on the remote control transmitter twice to exit the user menu.
8. The new PERSONAL preference value is automatically stored.

### *Snowy picture*

Check CSM line 6. If this line reads "Not Tuned", check the following:

- Antenna not connected. Connect the antenna.
- No antenna signal or bad antenna signal. Connect a proper antenna signal.
- The tuner is faulty (in this case line 2, the Error Buffer line, will contain error number 10). Check the tuner and replace/repair the tuner if necessary.

### ***Black and white picture***

***If:***

- The picture improves after you have pressed the AUTO PICTURE button on the remote control transmitter,

***Then:***

1. Press the AUTO PICTURE button on the remote control transmitter repeatedly (if necessary) to choose PERSONAL picture mode.
2. Press the MENU button on the remote control transmitter. This brings up the normal user menu.
3. In the normal user menu, use the MENU UP/DOWN keys to highlight the PICTURE sub menu.
4. Press the MENU LEFT/RIGHT keys to enter the PICTURE sub menu.
5. Use the MENU UP/DOWN keys to select COLOR.
6. Press the MENU RIGHT key to increase the COLOR value.
7. Press the MENU button on the remote control transmitter twice to exit the user menu.
8. The new PERSONAL preference value is automatically stored.

### ***Menu text not sharp enough***

***If:***

- The picture improves after you have pressed the AUTO PICTURE button on the remote control transmitter,

*Then:*

1. Press the AUTO PICTURE button on the remote control transmitter repeatedly (if necessary) to choose PERSONAL picture mode.
2. Press the MENU button on the remote control transmitter. This brings up the normal user menu.
3. In the normal user menu, use the MENU UP/DOWN keys to highlight the PICTURE sub menu.
4. Press the MENU LEFT/RIGHT keys to enter the PICTURE sub menu.
5. Use the MENU UP/DOWN keys to select PICTURE.
6. Press the MENU LEFT key to decrease the PICTURE value.
7. Press the MENU button on the remote control transmitter twice to exit the user menu.
8. The new PERSONAL preference value is automatically stored.

## ComPair

### Introduction

ComPair (Computer Aided Repair) is a service tool for Philips Consumer Electronics products. ComPair is a further development on the European DST (service remote control), which allows faster and more accurate diagnostics. ComPair has three big advantages:

- ComPair helps you to quickly get an understanding on how to repair the chassis in a short time by guiding you systematically through the repair procedures.
- ComPair allows very detailed diagnostics (on I2C level) and is therefore capable of accurately indicating problem areas. You do not have to know anything about I2C commands yourself because ComPair takes care of this.
- ComPair speeds up the repair time since it can automatically communicate with the chassis (when the microprocessor is working) and all repair information is directly available. When ComPair is installed together with the SearchMan electronic manual of the defective chassis, schematics and PWBs are only a mouse click away.



## Specifications

ComPair consists of a Windows based faultfinding program and an interface box between PC and the (defective) product. The ComPair interface box is connected to the PC via a serial or RS232 cable.

In this chassis, the ComPair interface box and the TV communicate via a bi-directional service cable via the service connector.

The ComPair faultfinding program is able to determine the problem of the defective television. ComPair can gather diagnostic information in two ways:

- **Automatic** (by communication with the television): ComPair can automatically read out the contents of the entire error buffer. Diagnosis is done on I2C level. ComPair can access the I2C bus of the television. ComPair can send and receive I2C commands to the micro controller of the television. In this way, it is possible for ComPair to communicate (read and write) to devices on the I2C busses of the TV-set.
- **Manually** (by asking questions to you): Automatic diagnosis is only possible if the micro controller of the television is working correctly and only to a certain extent. When this is not the case, ComPair will guide you through the faultfinding tree by asking you questions (e.g. *Does the screen give a picture? Click on the correct answer: YES / NO*) and showing you examples (e.g. *Measure test-point 17 and click on the correct waveform you see on the oscilloscope*). You can answer by clicking on a link (e.g. text or a waveform picture) that will bring you to the next step in the faultfinding process.

By a combination of automatic diagnostics and an interactive question / answer procedure, ComPair will enable you to find most problems in a fast and effective way.

Beside fault finding, ComPair provides some **additional features** like:

- Up- or downloading of pre-sets.
- Managing of pre-set lists.
- Emulation of the Dealer Service Tool (DST).
- If both ComPair and SearchMan (Electronic Service Manual) are installed, all the schematics and the PWBs of the set are available by clicking on the appropriate hyperlink. **Example:** *Measure the DC-voltage on capacitor C2568 (Schematic/Panel) at the Mono-carrier .*
  - Click on the "Panel" hyperlink to automatically show the PWB with a highlighted capacitor C2568.
  - Click on the "Schematic" hyperlink to automatically show the position of the highlighted capacitor.
- Software downloading (as soon as this is supported by ComPair).

## How To Connect

1. First, install the ComPair Browser software (see the Quick Reference Card for installation instructions).
2. Connect the RS232 interface cable between a free serial (COM) port of your PC and the PC connector (marked with "PC") of the ComPair interface.
3. Connect the mains adapter to the supply connector (marked with "POWER 9V DC") of the ComPair interface.
4. Switch the ComPair interface "off".
5. Switch the television set "off" with the Power switch.
6. Connect the ComPair interface cable between the connector on the rear side of the ComPair interface (marked with "I2C") and the ComPair (or *Service*) connector at the rear side of the TV (for its location see figure 8 item "D").

7. Plug the mains adapter in a mains outlet, and switch the interface "on". The green and red LEDs light up together. The red LED extinguishes after approx. 1 second while the green LED remains lit.
8. Start the ComPair program and read the "Introduction" chapter.

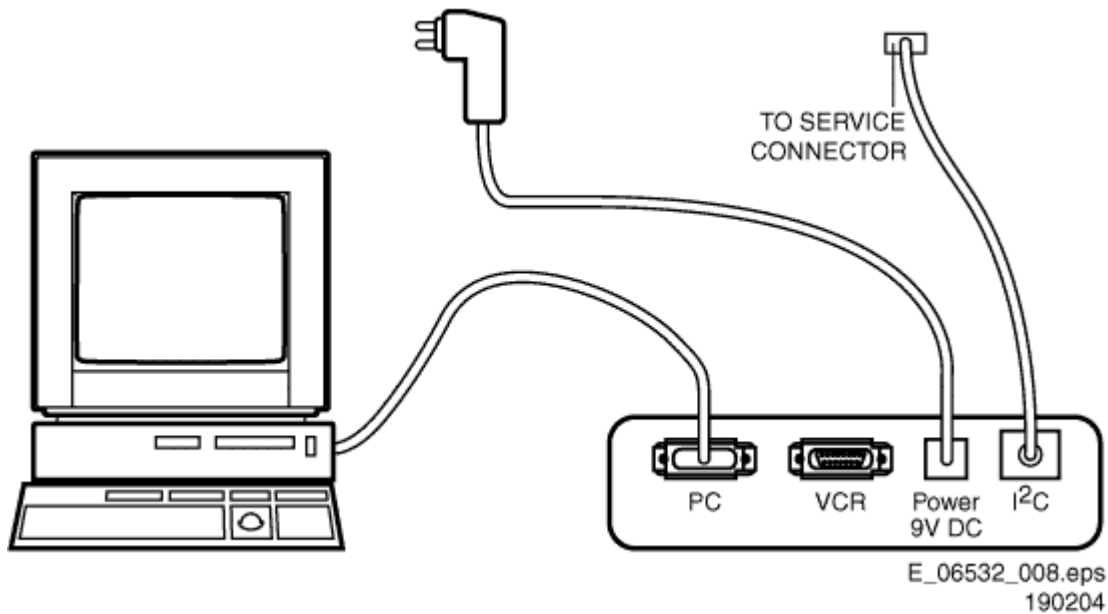


Figure: ComPair Interface connection

## How To Order

ComPair order codes:

- ComPair Software: ST4191.
- ComPair Interface Box: 4822 727 21631.
- AC Adapter: T405-ND.
- ComPair Quick Start Guide: ST4190.

**Note:** If you encounter any problems, contact your local support desk.

# Error Codes

The error code buffer contains all errors detected since the last time the buffer was erased. The buffer is written from left to right. When an error occurs that is not yet in the error code buffer, it is displayed at the left side and all other errors shift one position to the right.

## How To Read The Error Buffer

You can read the error buffer in 3 ways:

- On screen via the SAM (if you have a picture). **Examples:**
  - ERROR: 0 0 0 0 0 : No errors detected
  - ERROR: 6 0 0 0 0 : Error code 6 is the last and only detected error
  - ERROR: 9 6 0 0 0 : Error code 6 was detected first and error code 9 is the last detected (newest) error
- Via the blinking LED procedure (when you have no picture). See "The Blinking LED Procedure".
- Via ComPair.

## How To Clear The Error Buffer

The error code buffer is cleared in the following cases:

- By using the CLEAR command in the SAM menu:
  - To enter SAM, press the following key sequence on the remote control transmitter: "062596" directly followed by the OSD/STATUS button (do not allow the display to time out between entries while keying the sequence).

- Make sure the menu item CLEAR is highlighted. Use the MENU UP/DOWN buttons, if necessary.
- Press the MENU RIGHT button to clear the error buffer. The text on the right side of the "CLEAR" line will change from "CLEAR?" to "CLEARED"
- If the contents of the error buffer have not changed for 50 hours, the error buffer resets automatically.

**Note:** If you exit SAM by disconnecting the AC power from the television set, the error buffer is not reset.

## Error Codes

In case of non-intermittent faults, write down the errors present in the error buffer and clear the error buffer before you begin the repair. This ensures that old error codes are no longer present.

If possible, check the entire contents of the error buffer. In some situations, an error code is only the result of another error and not the actual cause of the problem (for example, a fault in the protection detection circuitry can also lead to a protection).

**Table: Error code overview**

Error	Device	Error description	Check item	Diagram
0	Not applicable	No Error		
1	Not applicable	X-Ray/Over-voltage protection (US only)	2411, 2412, 2413, 6404, 6411, 6412	A2
2	Not applicable	High beam (BCI) protection	3404, 7405	A2

Error	Device	Error description	Check item	Diagram
3	Not applicable	Vertical guard protection	3466, 7451, 7452, 7453, 7454	A2
4	Tuner	I2C error while communicating with 2nd tuner	1000, 5010, (PIP Module)	F2
5	Not applicable	+5v protection	7604, 7605	A5
6	I2C bus	General I2C error	7200, 3207, 3214	A4
7	Not applicable	-	-	-
8	Not applicable	-	-	-
9	24C16	I2C error while communicating with the EEPROM	7601, 3604, 3605	A5
10	Tuner	I2C error while communicating with the PLL tuner	1000, 5001	A3
11	TDA6107/A	Black current loop instability protection	7330, 3351, CRT	B1
12	SDA9488X	I2C error while communicating with the PIP processor	7242 (PIP Module)	F1
13	Not applicable	-	-	-
14	DVD Loader	I2C error while communicating with DVD Interface module	DVD Interface module	DVD Loader

Error	Device	Error description	Check item	Diagram
15	TDA9178T/N1	I2C error while communicating with LTI module	7610	H
16	TDA9887	I2C error while communicating with PIP_Demodulator	7201	F2
17	Not applicable	-	-	-
18	Not applicable	-	-	-
19	TDA1200x	I2C error while communicating with SSD stereo sound decoder	7200	A4
20	TDA1200x	I2C error while communicating with video cosmic in Hercules IC	7200	A4

## The Blinking LED Procedure

Using this procedure, you can make the contents of the error buffer visible via the front LED. This is especially useful when there is no picture.

When the SDM is entered, the front LED will blink the contents of the error-buffer:

- When all the error-codes are displayed, the sequence finishes with a LED blink of 1.5 seconds,
- The sequence starts again.

**Example** of error buffer: **12 9 6 0 0**

After entering SDM, the following occurs:

- 1 long blink of 5 seconds to start the sequence,
- 12 short blinks followed by a pause of 1.5 seconds,
- 9 short blinks followed by a pause of 1.5 seconds,
- 6 short blinks followed by a pause of 1.5 seconds,
- 1 long blink of 1.5 seconds to finish the sequence,
- The sequence starts again at 12 short blinks.

## Protections

If a fault situation is detected, an error code will be generated; and, if necessary, the television set will go into protection mode. Blinking of the red LED at a frequency of 3 Hz indicates the protection mode. In some error cases, the microprocessor does not put the set in protection mode. The error codes of the error buffer and the blinking LED procedure can be read via the Service Default Menu (SDM), or via ComPair.



To get a quick diagnosis the chassis has three service modes implemented:

- The Customer Service Mode (CSM).
- The Service Default Mode (SDM).
- The Service Alignment Mode (SAM).

For a detailed mode description, see the relevant sections.

## Fault Finding and Repair Tips

### Notes:

- It is assumed that the components are mounted correctly with correct values and no bad solder joints.
- Before any fault finding actions, check if the correct options are set.

### NVM Editor

In some cases, it can be handy if one directly can change the NVM contents. This can be done with the “NVM Editor” in SAM mode. In the next table, the default NVM values are given.

**Table: NVM default values for NAFTA-region**

<b>NAFTA Region</b>	<b>Address (dec)</b>	<b>Value (hex)</b>
EW (EW width)	19	25
PW (EW parabola width)	20	0A

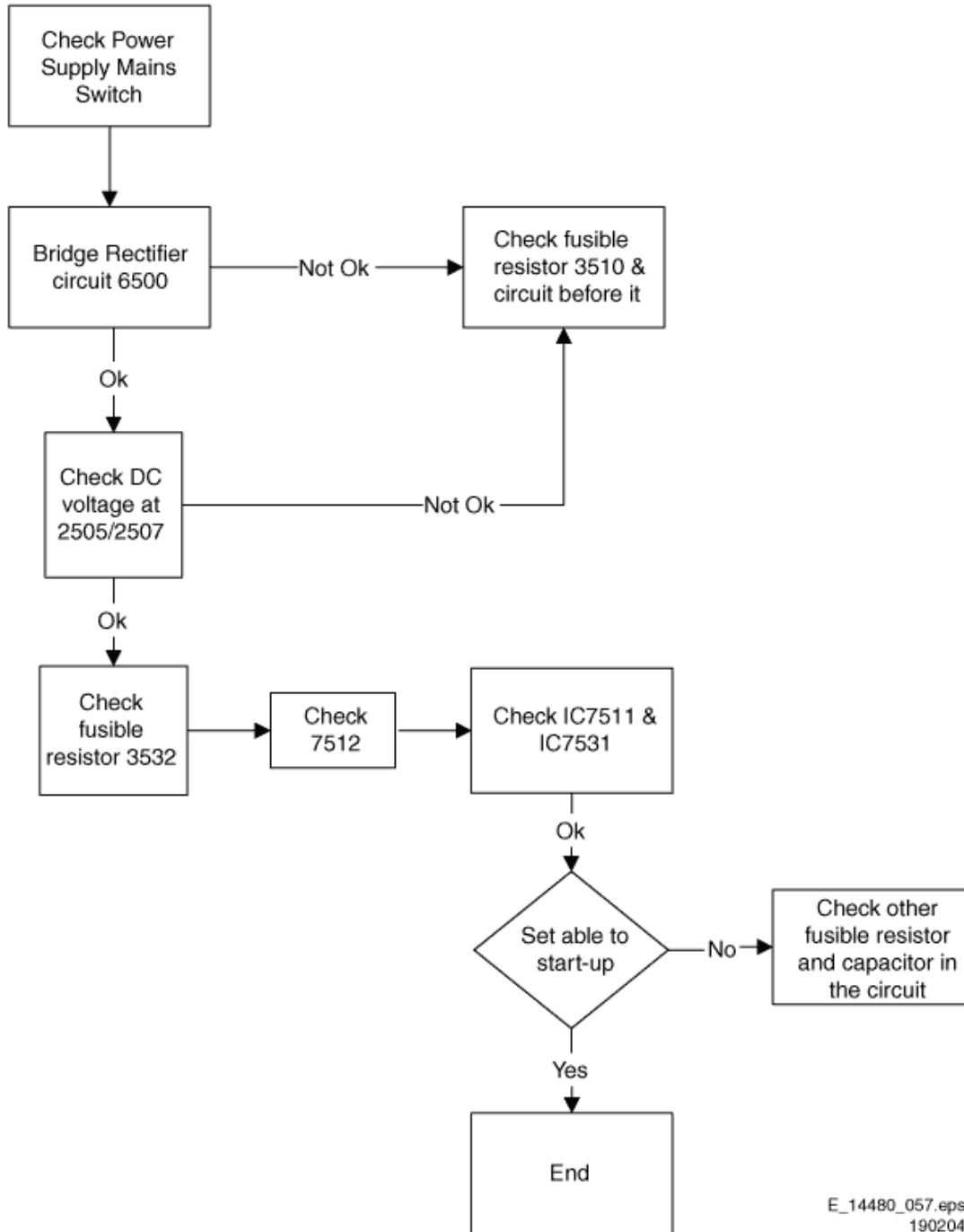
<b>NAFTA Region</b>	<b>Address (dec)</b>	<b>Value (hex)</b>
HS (Horizontal shift)	21	1A
HP (Horizontal parallelogram)	22	1F
HB (Horizontal Bow)	23	1F
UCP (EW upper corner parabola)	24	1E
LCP (EW lower corner parabola)	25	28
TC (EW trapezium)	26	1A
VS (Vertical slope)	27	25
VA (Vertical amplitude)	28	1E
SC (S-Correction)	29	19
VSH (Vertical Shift)	30	1A
VX (Vertical Zoom)	31	19
VSL (Vertical scroll)	32	20
VL (Vertical linearity)	33	20
BLOR (Black level Offset - Red)	34	1D
BLOG (Black level Offset - Green)	35	13
AGC (AGC Takeover)	36	14
OIF (IF-PLL Offset)	37	26
AGC10 (AGC 10)	38	2
H60 (60 Hz Horizontal Shift)	39	9
PF_SC_PWL (Peaking Frequency, Soft Clipper, Peak White Limit)	40	0A
COR (Phase 1 time constant, Video Dependant Coring, Ratio & White stretch)	41	0C

<b>NAFTA Region</b>	<b>Address (dec)</b>	<b>Value (hex)</b>
60 Hz Vertical amplitude	42	40
YD & CL	43	58
RGB amplitude for full teletext mode	46	8
NVM_TABLE_VERSION	60	19
OPTION_TABLE_VERSION	61	8
CVI_BLOR	62	15
CVI_BLOG	63	0F
TXT Brightness	64	17
V60 offset (60Hz Vertical Amplitude)	66	FE
FOAB, CHSE	139	3
SPR, WS	140	0
VMA, SVM	141	32
NVM_SOC_SMD	142	3
CCC_Preset_Gain_Red	143	1F
CCC_Preset_Gain_Green	144	1F
CCC_Preset_Gain_Blue	145	1F
NVM_FMWS	149	3
NVM_ASD_SC1_THR	150	10
NVM_CRYSTAL_ALIGN	208	3F
Last Brightness (VID PP others)	264	2A
Last Color (VID PP others)	265	30
Last Contrast (VID PP others)	266	55
Last Sharpness (VID PP others)	267	37

<b>NAFTA Region</b>	<b>Address (dec)</b>	<b>Value (hex)</b>
Last Hue (VID PP others)	268	32
Last Colour Temperature (VID PP others)	269	1
White-D Cool Red	294	FD
White-D Cool Blue	296	5
White-D Normal Red	297	1A
White-D Normal Green	298	20
White-D Normal Blue	299	1B
White-D Warm Red	300	2
White-D Warm Blue	302	FA
Last Volume	343	14
Last Balance	344	32
Last Treble (AUD PP others)	345	32
Last Bass (AUD PP others)	346	32

# Power Supply

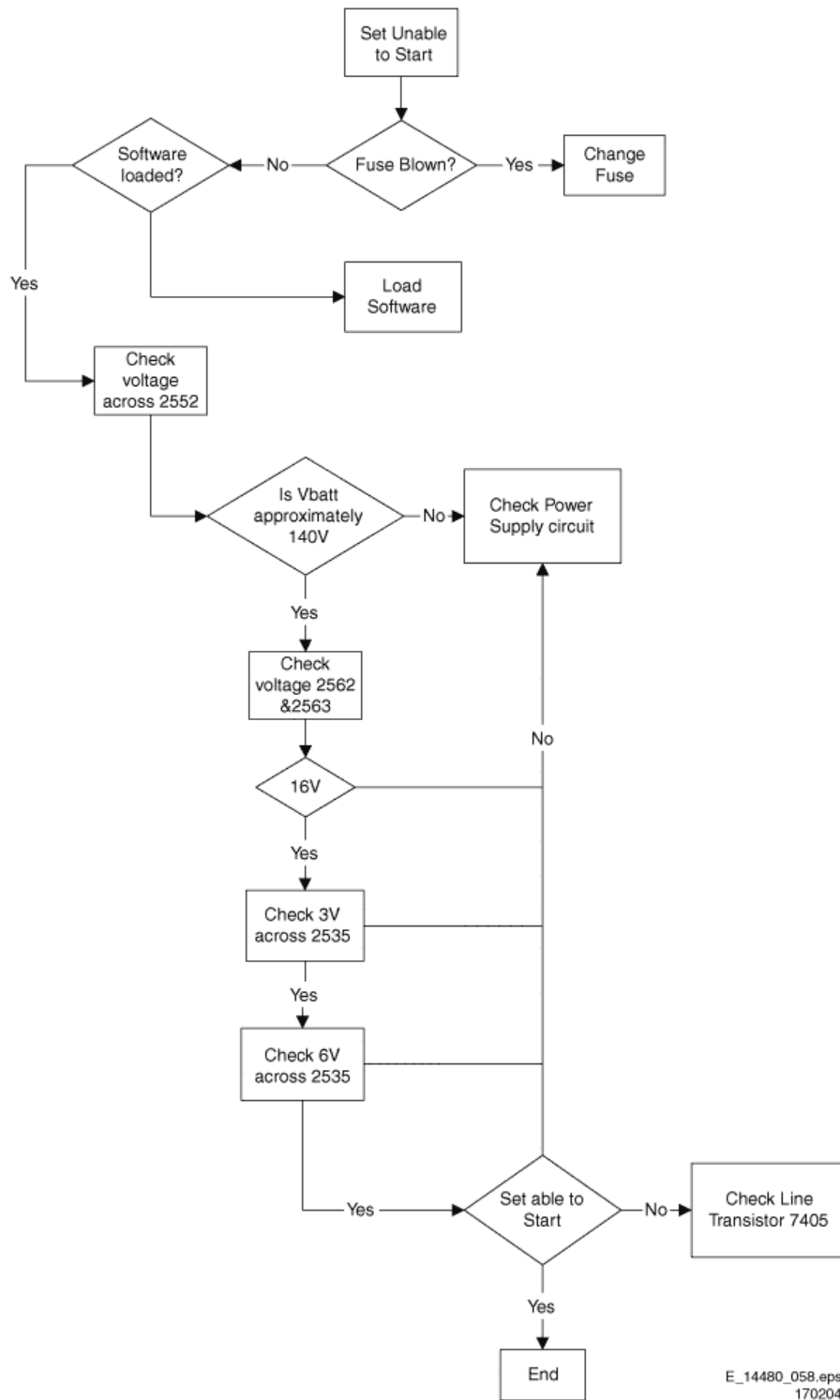
## Set Not Working



E\_14480\_057.eps  
190204

Figure: Fault finding tree "Set not working"

## Set Does Not Start Up



E\_14480\_058.eps  
170204

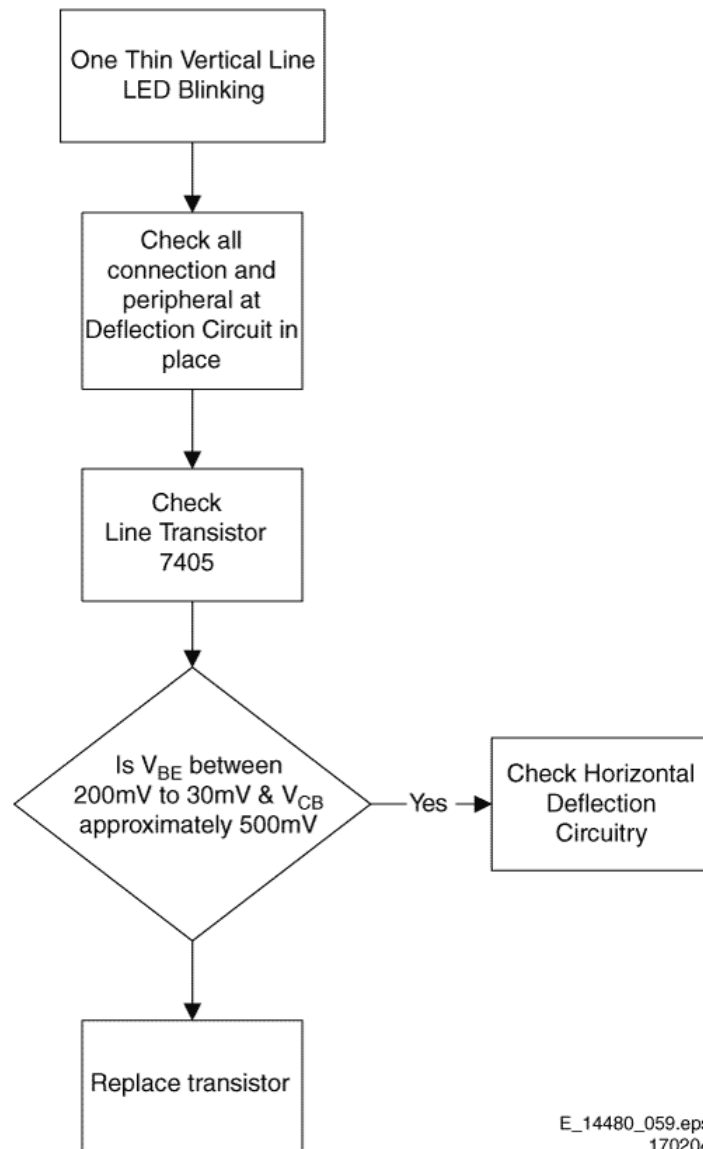
Figure: Fault finding tree "Set does not start up"

## Deflection

### One Thin Vertical Line

Quick check:

- Set in protection mode.
- LED blinking with error "3".



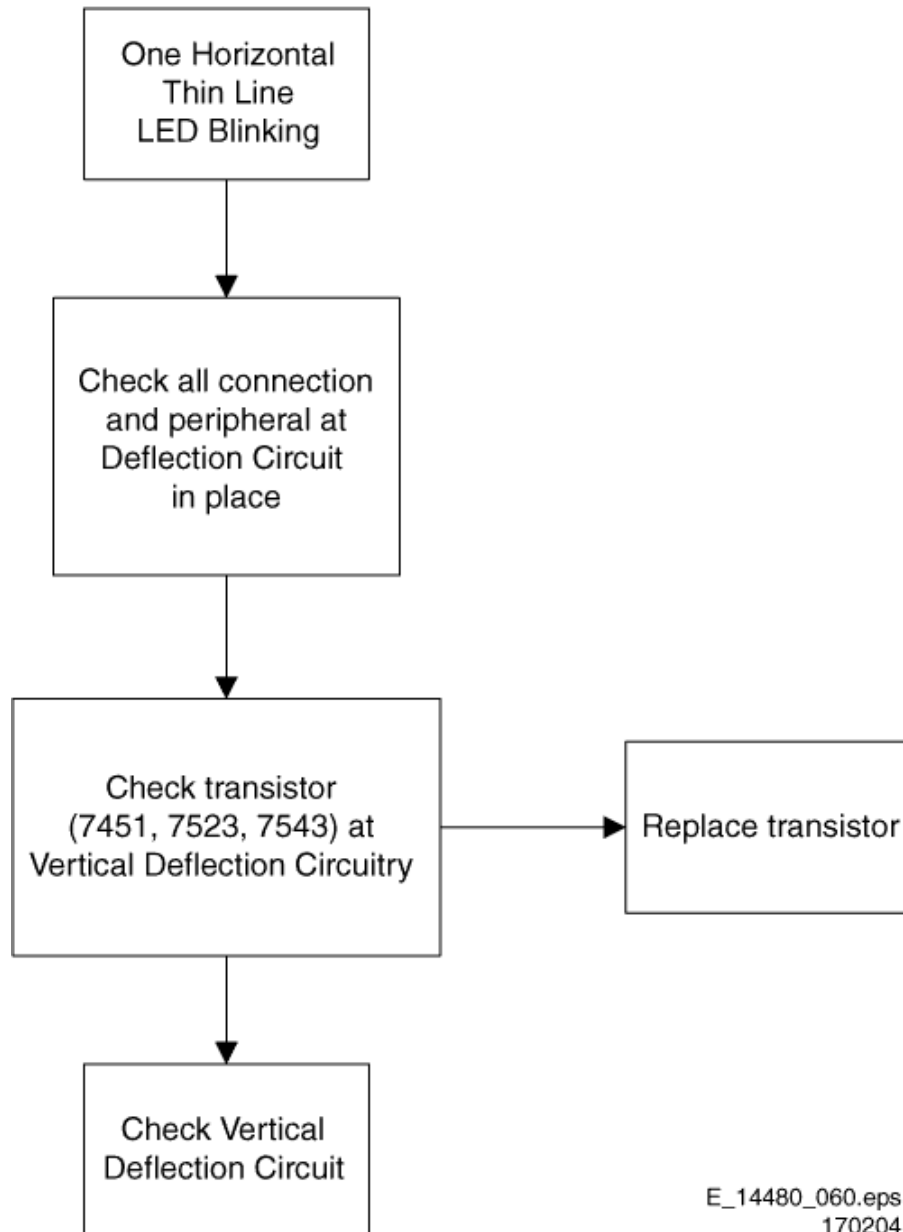
E\_14480\_059.eps  
170204

Figure: Fault finding tree "One thin vertical line"

## One Thin Horizontal Line

Quick check:

- Set in protection mode.
- LED blinking with error "2".

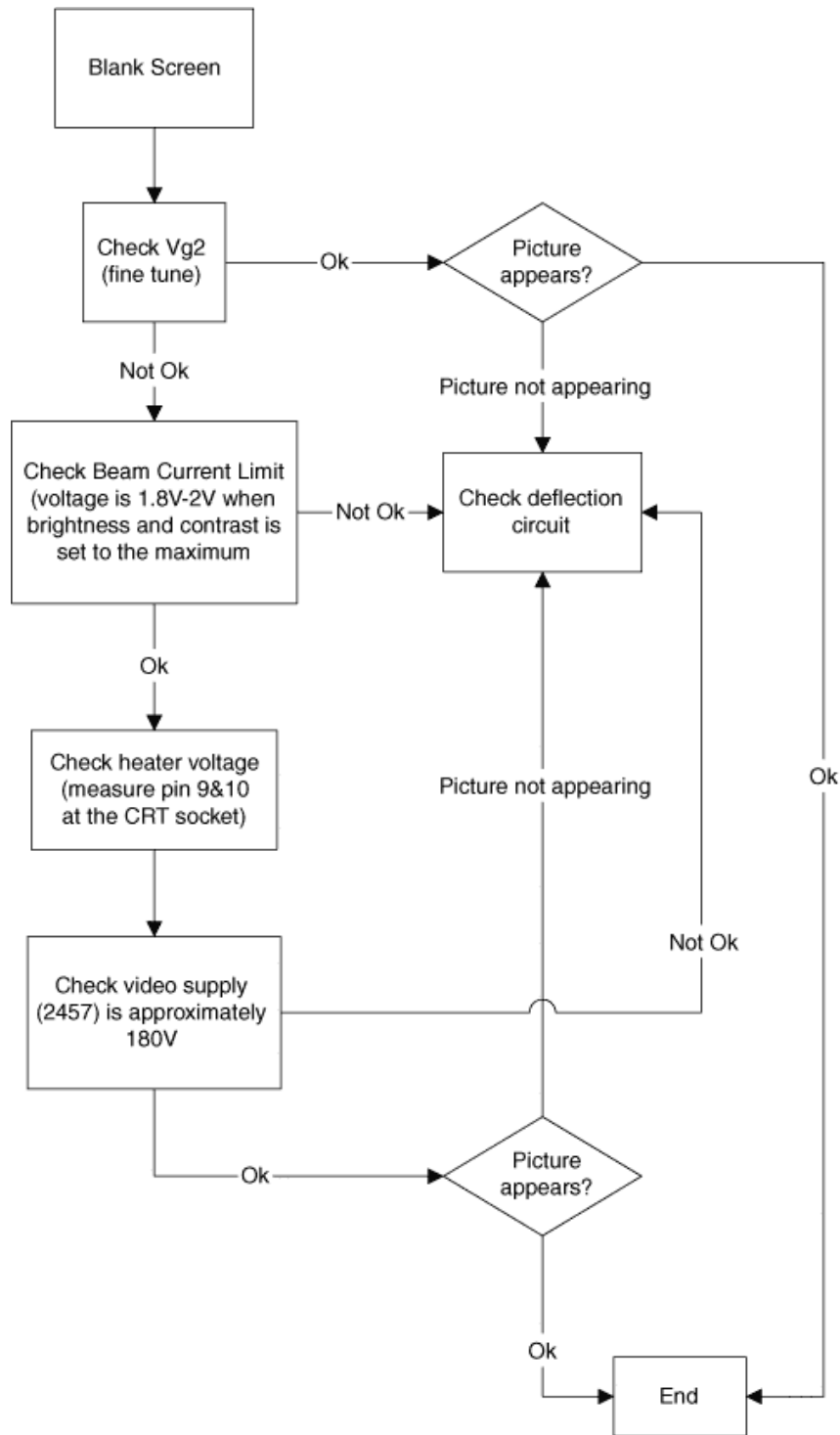


E\_14480\_060.eps  
170204

Figure: Fault finding tree "One thin horizontal line"



## Blank Screen



E\_14480\_061.eps  
170204

Figure: Fault finding tree "Blank screen"

## Source Selection

### *Set is not able to go into AV or any missing AV is encountered*

E.g. AV1 is available but not able to enter to AV1: Check if the option setting is correct.

### *Set is able to go to AV, but no audio is heard.*

1. Check that continuity of signal is there from the SCART/Cinch input to the input of the Hercules.
2. If continuity is there and still no audio, check that option settings are correct.
3. If logic setting is correct and still no audio, proceed to Audio Decoder/Processor troubleshooting section.

### *Set is able to go into AV but no video is available:*

1. Check continuity from AV input to Hercules depending on the input.
2. If continuity is available and yet no video, proceed to Video Processor troubleshooting section.

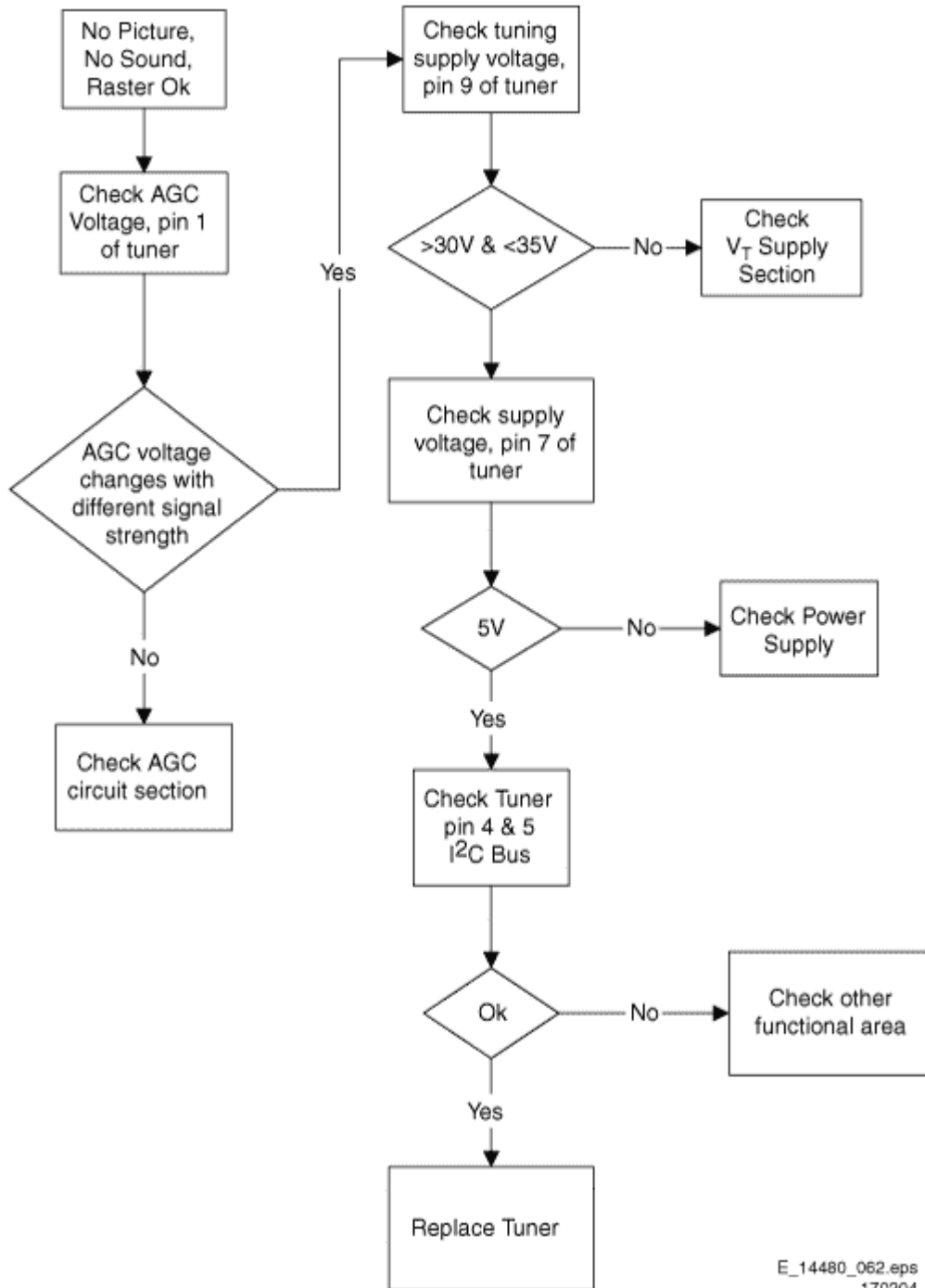
## Tuner and IF

### *No Picture*

1. Check that the Option settings are correct.
2. If correct, check that supply voltages are there.
3. If supply voltages are present, check whether picture is present in AV.
4. If picture is present in AV, check with the scope the Tuner IF output signal by manual storage to a known channel.
5. If IF output is present, Tuner is working fine. If no IF output, I2C data lines may be open, check continuity of I2C lines. If I2C lines are ok, Tuner may be defect, replaced Tuner.

- If Tuner IF is present and yet still no picture in RF mode, go to Video Processing troubleshooting section.

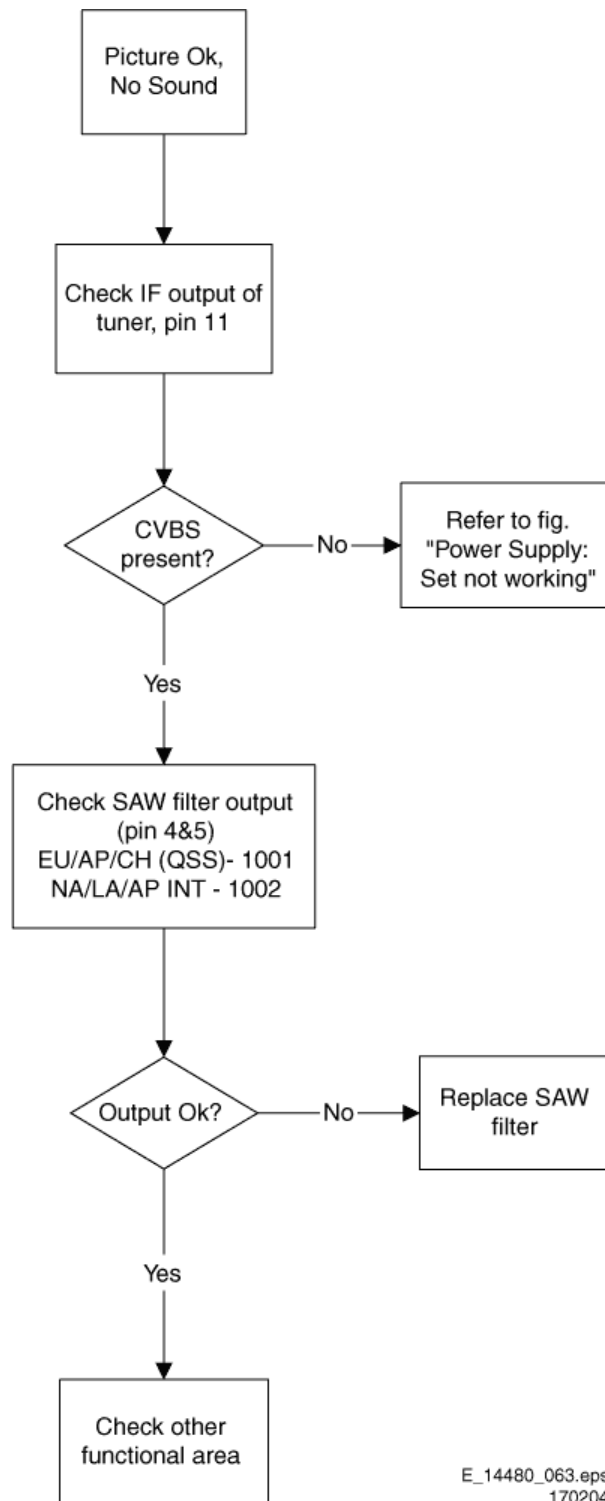
**No Picture, No Sound**



E\_14480\_062.eps  
170204

Figure: Fault finding tree "No picture, no sound"

*Picture Ok, No Sound*



E\_14480\_063.eps  
170204

**Figure: Fault finding tree "Picture ok, no sound"**

## Unable To Perform Tuning

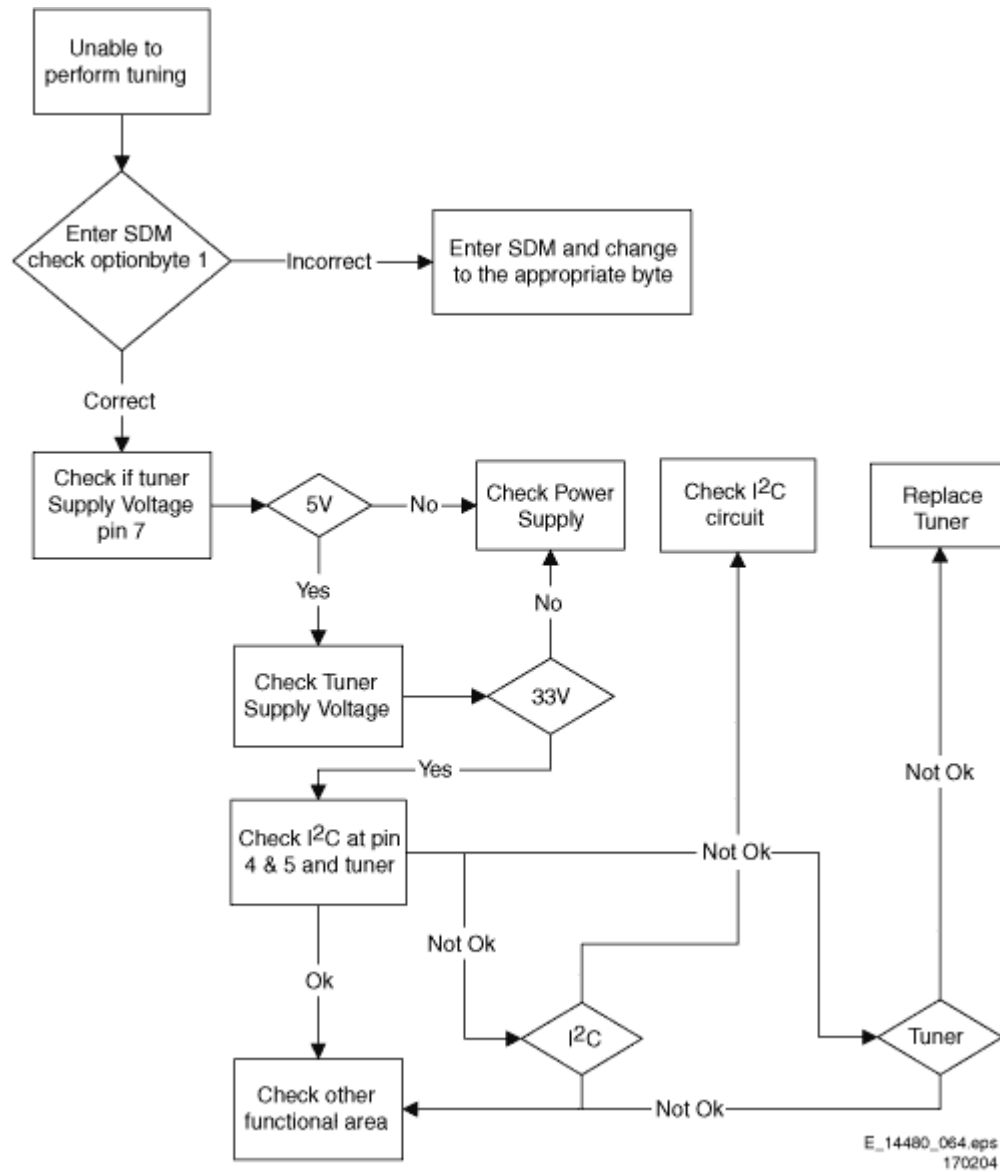


Figure: Fault finding tree "Unable to perform tuning"

## Controller

Below are some guidelines for troubleshooting of the Micro Controller function. Normally Micro Controller should be checked when there is a problem of startup.

1. Check that both +3.3 V<sub>dc</sub> and +1.8 V<sub>dc</sub> are present.
2. Check that crystal oscillator is working.
3. Check that Power Good signal is at "high" logic, normal operation.
4. Check that Hercules is not in standby mode. Pin 15 of Hercules should be 0 V<sub>dc</sub>.
5. Make sure H-drive pulse is there. This can be checked at resistor R3239. If H-drive does not exist, remove resistor R3239 to check if there is loading.

**Note:** When the set shuts down after a few second after power "on", the main cause is that Vg2 not aligned properly, try adjusting Vg2 during the few seconds of power "on".

## Video Processing

### *No Picture*

When "no picture in RF", first check if the microprocessor is functioning ok in section "Controller". If that is ok, follow the next steps.

When "no picture in AV", first check if the video source selection is functioning ok in section "Source Selection". If that is ok, follow the next steps.

1. Check that normal operating conditions are met.
2. Check that there is video signal at pin 81. If no video, demodulator part of the Hercules is faulty, replace with new Hercules.
3. If video signal is available at pin 81, check pin 56, 57, and 58 for the RGB signal.

4. If signal is not available, try checking the BRIGHTNESS and/or CONTRAST control, and make sure it is not at zero.
5. If still with the correct settings and no video is available, proceed to the CRT/RGB amplifier diagram.

For sets with TDA9178, follow steps below:

1. Put Option Byte 2 bit 4 to "0"; if video signal is not available, then check fault finding section "Controller", Section "Source Selection", and steps above.
2. If video is available but not correct, put Option Byte 2 bit 4 to "1", then check if LTI panel is present. If not, put LTI panel in the main chassis (connector 1221).
3. If LTI panel is in main chassis, check cable between LTI panel and main chassis (position is 1206). If it is connected, then the LTI panel is faulty, replace it.

For sets with Scavem, and Scavem does not work, follow steps below:

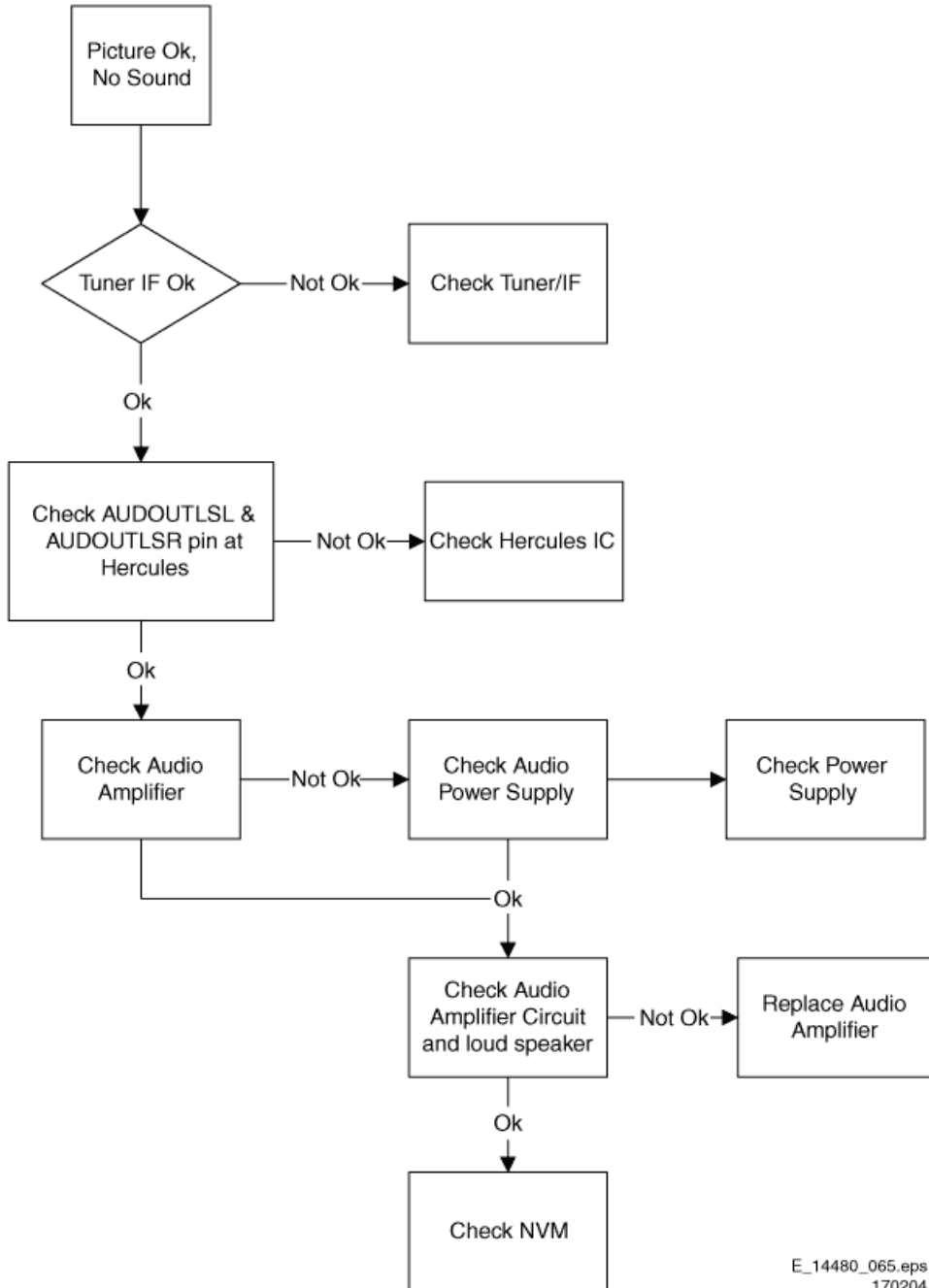
1. Check Scavem coil connector (position is 1361) if connected; if not, connect it.
2. If connected, check NVM "bit storage" byte 1 bit 7; if it is not "1", set it to "1".
3. If it is "1", then check the data of the NVM addresses as in the next table. If the data is not correct, then set these addresses to diagram values.
4. If it still not works, track Scavem output from pin64 of Hercules to CRT panel.

**Table: NVM default values for Scavem**

Description	Address (dec)	Address (hex)	Value (hex)
SPR, WS	140	8C	00
VMA, SVM	141	8D	32
NVM_SOC_SMD	142	8E	03

# Audio Processing

## No Sound



E\_14480\_065.eps  
170204

Figure: Fault finding tree "No sound"



### ***No RF audio for QSS/Inter-Carrier stereo sets.***

1. Check pin 99 and 100 for SIF signal (for QSS) or pin 104 and 105 for video with SIF (for Inter-Carrier)
2. If signal is not present, check for the QSS/FMI bit settings. Check also the NVM data.
3. If signals are present and still no audio, check the audio supply voltage +8V are present.
4. If still no audio signal at Hercules output, Hercules is faulty.

### ***No AV audio.***

1. Check troubleshooting methods in section "Source Selection".
2. Check the output of the Hercules to see if there is signal available. If no, check the normal operating condition and also the NVM data.
3. If still no audio signal at Hercules output, Hercules is faulty.

**Note:** If there is audio signal at Hercules output and no audio at loudspeaker, proceed to Audio Amplifier troubleshooting methods.

## **Audio Amplifier**

### ***No RF as well as AV audio at the loudspeaker:***

1. Check that the normal operation condition of the amplifier is met.
2. If normal operation conditions are met, check the continuity from Hercules output to input of the amplifier.
3. If continuity is there and still no audio, check speaker wire connections. If still no audio, amplifier IC might be faulty.

# Alignments

Index of this chapter:

1. General Alignment Conditions
2. Hardware Alignments
3. Software Alignments and Settings

## Note:

- The Service Default Mode (SDM) and Service Alignment Mode (SAM) are described in chapter 5 "Service Modes, ...".
- Menu navigation is done with the CURSOR UP, DOWN, LEFT, or RIGHT keys of the remote control transmitter.

## General Alignment Conditions

Perform all electrical adjustments under the following conditions:

- AC voltage and frequency: 120 V<sub>ac</sub> / 60 Hz or 240 V<sub>ac</sub> / 50 Hz (region dependent).
- Connect the set to the AC power (a.k.a. Mains voltage) via an isolation transformer with a low internal resistance.
- Allow the set to warm up for approximately 20 minutes.
- Measure the voltages and waveforms in relation to chassis ground (with the exception of the voltages on the primary side of the power supply). Never use the cooling fins / plates as ground.
- Test probe:  $R_i > 10 \text{ Mohm}$ ;  $C_i < 2.5 \text{ pF}$ .
- Use an isolated trimmer / screwdriver to perform the alignments.

# Hardware Alignments

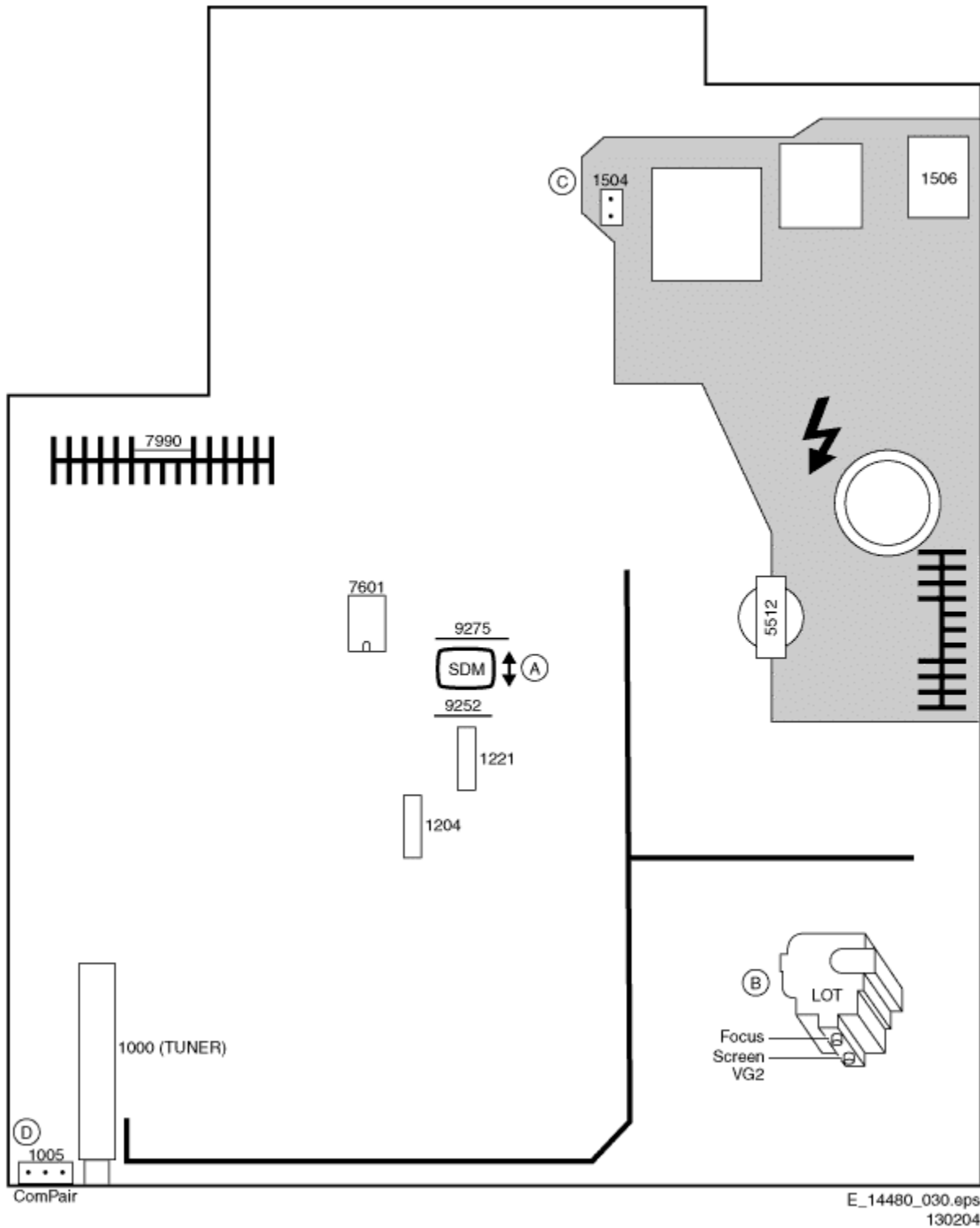


Figure: Top view family board

## Vg2 Adjustment

1. Activate the SAM.
2. Go to the WHITE TONE sub menu.
3. Set the values of NORMAL RED, GREEN and BLUE to "32".
4. Go, via the MENU key, to the normal user menu and set
5. SATURATION/COLOR to "0".
6. CONTRAST to "0".
7. BRIGHTNESS to minimum (OSD just visible).
8. Return to the SAM via the MENU key.
9. Connect the RF output of a pattern generator to the antenna input. Test pattern is a 'black' picture (blank screen on CRT without any OSD info) with a signal strength of 1 V<sub>pp</sub>.
10. Set the channel of the oscilloscope to 50 V/div and the time base to 0.2 ms (external triggering on the vertical pulse). Ground the scope at the CRT panel and connect a 10:1 probe to one of the cathodes of the picture tube socket (see diagram B).
11. Measure the cut off pulse during first full line after the frame blanking (see figure "V<sub>cutoff</sub> waveform"). You will see two pulses, one being the "cut off" pulse and the other being the "white drive" pulse. Choose the one with the lowest value; this is the "cut off" pulse.
12. Select the cathode with the highest V<sub>dc</sub> value for the alignment. Adjust the V<sub>cutoff</sub> of this gun with the SCREEN potentiometer (see figure "Top view family board") on the LOT to 160 V<sub>dc</sub>, except for the 25/28BLD picture tube (Black Line Display, for EU only); this tube must be aligned to 140 V<sub>dc</sub>.
13. Restore BRIGHTNESS and CONTRAST to normal (= 31).

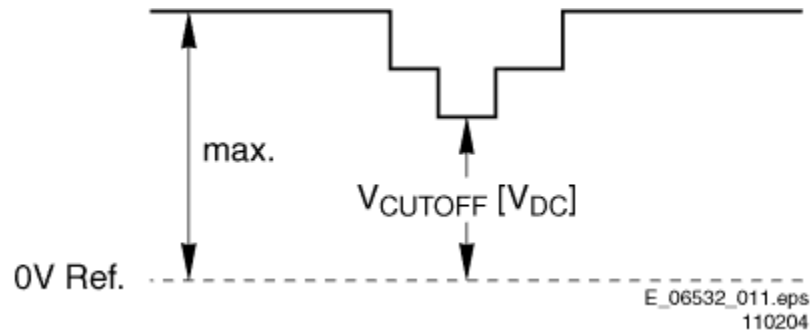


Figure:  $V_{\text{cutoff}}$  waveform

## Focusing

1. Tune the set to a circle or crosshatch test pattern (use an external video pattern generator).
2. Choose picture mode NATURAL (or MOVIES) with the SMART PICTURE button on the remote control transmitter.
3. Adjust the FOCUS potentiometer (see figure "Top view family board") until the vertical lines at  $2/3$  from east and west, at the height of the centerline, are of minimum width without visible haze.

# Software Alignments and Settings

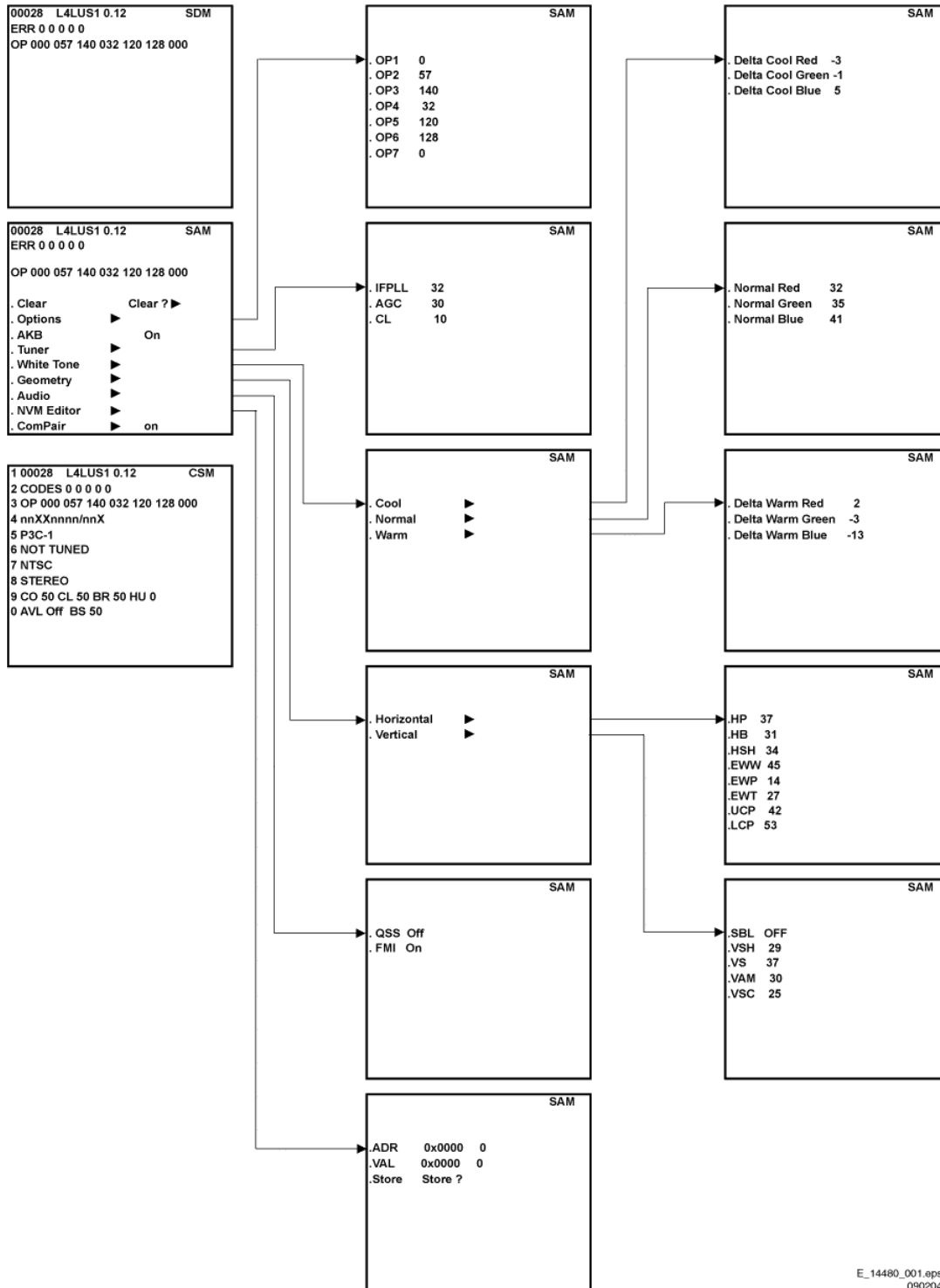


Figure: Service Mode overview

Enter the Service Alignment Mode (see also chapter 5 "Service Modes, ...").

To enter SAM, use one of the following methods:

- Press the following key sequence on the remote control transmitter: "062596" directly followed by the OSD/STATUS button (do not allow the display to time out between entries while keying the sequence).
- Or via ComPair.

The SAM menu will now appear on the screen. Select one of the following alignments:

- Options
- Tuner
- White Tone
- Geometry
- Audio

## Options

Options are used to control the presence/absence of certain features and hardware.

### *How to change an Option Byte*

An Option Byte represents a number of different options. Changing these bytes directly, makes it possible to set all options very quickly. All options are controlled via seven option bytes. Select the option byte (OP1.. OP7) with the MENU UP/DOWN keys, and enter the new value.

Leaving the OPTION submenu saves the changes in the Option Byte settings. Some changes will only take effect after the set has been switched "off" and "on" with the AC power switch (cold start).

### *How to calculate the value of an Option Byte*

Calculate an Option Byte value (OP1 .. OP7) in the following way:

- Check the status of the single option bits (OB): are they enabled (1) or disabled (0).
- When an option bit is enabled (1) it represents a certain value (see column "Bit value" in table below). When an option bit is disabled, its value is 0.
- The total value of an Option Byte (decimal) is formed by the sum of its eight option bits. The factory values are printed on a sticker on the CRT.

**Table: Option Byte calculation**

Bit (value)	OP1	OP2	OP3	OP4	OP5	OP6	OP7
7 (128)	OP1-7	OP2-7	OP3-7	OP4-7	OP5-7	OP6-7	OP7-7
6 (64)	OP1-6	OP2-6	OP3-6	OP4-6	OP5-6	OP6-6	OP7-6
5 (32)	OP1-5	OP2-5	OP3-5	OP4-5	OP5-5	OP6-5	OP7-5
4 (16)	OP1-4	OP2-4	OP3-4	OP4-4	OP5-4	OP6-4	OP7-4
3 (8)	OP1-3	OP2-3	OP3-3	OP4-3	OP5-3	OP6-3	OP7-3
2 (4)	OP1-2	OP2-2	OP3-2	OP4-2	OP5-2	OP6-2	OP7-2
1 (2)	OP1-1	OP2-1	OP3-1	OP4-1	OP5-1	OP6-1	OP7-1
0 (1)	OP1-0	OP2-0	OP3-0	OP4-0	OP5-0	OP6-0	OP7-0
Total:	Sum	Sum	Sum	Sum	Sum	Sum	Sum



**Table: Option code overview per model (OP1 - OP4)**

	25PT6341/85	26PW6341/37	27MS6341/37	27PT5441/37	27PT6441/37	28PW6341/85	29PT6441/44	29PT6441/85
<b>Bit Byte_1 (OP1)</b>								
7 Philips Tuner	0	0	0	0	0	0	0	0
6 FM Radio	0	0	0	0	0	0	0	0
5 LNA	0	0	0	0	0	0	0	0
4 ATS(EU)	0	0	0	0	0	0	0	0
3 ACI	0	0	0	0	0	0	0	0
2 UK PNP	0	0	0	0	0	0	0	0
1 Virgin Mode	0	0	0	0	0	0	0	0
0 China	0	0	0	0	0	0	0	0
Decimal	0	0	0	0	0	0	0	0

-

		25PT6341/85	26PW6341/37	27MS6341/37	27PT5441/37	27PT6441/37	28PW6341/85	29PT6441/44	29PT6441/85
Bit	Byte_2 (OP2)								
7	SC	0	0	0	0	0	0	0	0
6	Green_UI	0	0	1	0	0	0	0	0
5	Channel Naming	0	0	0	0	0	0	0	0
4	LTI	0	1	0	0	0	1	0	0
3	Tilt	0	1	0	0	0	1	0	0
2	Fine Tuning	0	0	0	0	0	0	0	0
1	PIP Philips Tuner	0	0	0	0	0	0	0	0
0	Hue	1	1	1	1	1	1	1	1
	Decimal	1	25	65	1	1	25	1	1

-

		25PT6341/85	26PW6341/37	27MS6341/37	27PT5441/37	27PT6441/37	28PW6341/85	29PT6441/44	29PT6441/85
Bit	Byte_3 (OP3)								
7	EW Function	0	0	0	0	0	0	0	0
6	2 Tuner PIP	0	0	0	0	0	0	0	0
5	PIP_Splitter	0	0	0	0	0	0	0	0
4	Splitter	0	0	0	0	0	0	0	0
3	Virtual Dolby	0	1	0	0	0	1	0	0
2	Wide Screen	0	1	0	0	0	1	0	0
1	WSSB(EU)	0	0	0	0	0	0	0	0
0	Eco_Subwoofer	0	0	0	0	0	0	0	0
	Decimal	0	12	0	0	0	12	0	0

-

		25PT6341/85	26PW6341/37	27MS6341/37	27PT5441/37	27PT6441/37	28PW6341/85	29PT6441/44	29PT6441/85
Bit	Byte_4 (OP4)								
7	-	0	0	0	0	0	0	0	0
6	-	0	0	0	0	0	0	0	0
5	Ultra Bass	1	1	0	1	1	1	1	1
4	Delta Volume	0	0	0	0	0	0	0	0
3	-	0	0	0	0	0	0	0	0
2	Volume Limiter	0	0	0	0	0	0	0	0
1	-	0	0	0	0	0	0	0	0
0	Stereo_Nicam_2CS	0	0	0	0	0	0	0	0
	Decimal	32	32	0	32	32	32	32	32



		29PT6541/44	29PT6541/85	30PW6341/37	32MS6341/37	32PT5441/37	32PT6441/37	32PW6341/85	33PT5441/85
Bit	Byte_2 (OP2)								
7	SC	0	0	0	0	0	0	0	0
6	Green_UI	0	0	0	1	0	0	0	0
5	Channel Naming	0	0	0	0	0	0	0	0
4	LTI	1	1	1	0	0	0	1	0
3	Tilt	0	0	1	1	0	1	1	0
2	Fine Tuning	0	0	0	0	0	0	0	0
1	PIP Philips Tuner	0	0	0	0	0	0	0	0
0	Hue	1	1	1	1	1	1	1	1
	Decimal	17	17	25	73	1	9	25	1

-

		29PT6541/44	29PT6541/85	30PW6341/37	32MS6341/37	32PT5441/37	32PT6441/37	32PW6341/85	33PT5441/85
Bit	Byte_3 (OP3)								
7	EW Function	0	0	0	0	0	0	0	0
6	2 Tuner PIP	0	0	0	0	0	0	0	0
5	PIP_Splitter	0	0	0	0	0	0	0	0
4	Splitter	0	0	0	0	0	0	0	0
3	Virtual Dolby	1	1	1	0	0	0	1	0
2	Wide Screen	0	0	1	0	0	0	1	0
1	WSSB(EU)	0	0	0	0	0	0	0	0
0	Eco_Subwoofer	0	0	0	0	0	0	0	0
	Decimal	8	8	12	0	0	0	12	0

-

		29PT6541/44	29PT6541/85	30PW6341/37	32MS6341/37	32PT5441/37	32PT6441/37	32PW6341/85	33PT5441/85
Bit	Byte_4 (OP4)								
7	-	0	0	0	0	0	0	0	0
6	-	0	0	0	0	0	0	0	0
5	Ultra Bass	1	1	1	0	1	1	1	1
4	Delta Volume	0	0	0	0	0	0	0	0
3	-	0	0	0	0	0	0	0	0
2	Volume Limiter	0	0	0	0	0	0	0	0
1	-	0	0	0	0	0	0	0	0
0	Stereo_Nicam_2CS	0	0	0	0	0	0	0	0
	Decimal	32	32	32	0	32	32	32	32















## *Option Bit Assignment*

Following are the option bit assignments for all software clusters.

- **Option Byte 1 (OP1)**
  - OB17: PHILIPS TUNER
  - OB16: FM RADIO
  - OB15: LNA
  - OB14: ATS (EU)
  - OB13: ACI
  - OB12: UK PNP
  - OB11: VIRGIN MODE
  - OB10: CHINA
- **Option Byte 2 (OP2)**
  - OB27: SC
  - OB26: GREEN UI
  - OB25: CHANNEL NAMING
  - OB24: LTI
  - OB23: TILT
  - OB22: FINE TUNING
  - OB21: PIP PHILIPS TUNER
  - OB20: HUE
- **Option Byte 3 (OP3)**
  - OB37: EW FUNCTION
  - OB36: 2 TUNER PIP
  - OB35: PIP SPLITTER
  - OB34: SPLITTER
  - OB33: VIRTUAL DOLBY
  - OB32: WIDE SCREEN
  - OB31: WSSB (EU)
  - OB30: ECO SUBWOOFER

- **Option Byte 4 (OP4)**
  - OB47: Reserved (value= 0)
  - OB46: Reserved (value= 0)
  - OB45: ULTRA BASS
  - OB44: DELTA VOLUME
  - OB43: Reserved (value= 0)
  - OB42: VOLUME LIMITER
  - OB41: Reserved (value= 0)
  - OB40: STEREO NICAM 2CS
  
- **Option Byte 5 (OP5)**
  - OB57: AV1
  - OB56: AV2
  - OB55: AV3
  - OB54: CVI
  - OB53: SVHS2
  - OB52: SVHS3
  - OB51: HOTEL MODE
  - OB50: Reserved (value= 0)
  
- **Option Byte 6 (OP6)**
  - OB67: PERSONAL ZAPPING
  - OB66: Reserved (value= 0)
  - OB65: FM TRAP
  - OB64: COMB FILTER
  - OB63: ACTIVE CONTROL
  - OB62: VIDEO TEXT
  - OB61: LIGHT SENSOR
  - OB60: DUAL TEXT



- **Option Byte 7 (OP7)**
  - OB77: TIME WIN1
  - OB76: Reserved (value= 0)
  - OB75: Reserved (value= 0)
  - OB74: Reserved (value= 0)
  - OB73: Reserved (value= 0)
  - OB72: Reserved (value= 0)
  - OB71: Reserved (value= 0)
  - OB70: Reserved (value= 0)

### *Option bit definition*

#### *Option Byte 1 (OP1)*

- **OB17: PHILIPS TUNER**
  - 0 : ALPS / MASCO compatible tuner is in use.
  - 1 : Philips compatible tuner is in use.
- **OB16: FM RADIO**
  - 0 : FM radio feature is disabled or not applicable.
  - 1 : FM radio feature is enabled.
- **OB15: LNA**
  - 0 : Auto Picture Booster is not available or not applicable.
  - 1 : Auto Picture Booster is available.
- **OB14: ATS**
  - 0 : Automatic Tuning System (ATS) feature is disabled or not applicable.
  - 1 : ATS feature is enabled. When ATS is enabled, it sorts the program in an ascending order starting from program "1".
- **OB13: ACI**
  - 0 : Automatic Channel Installation (ACI) feature is disabled or not applicable.
  - 1 : ACI feature is enabled.

- **OB12: UK PNP**
  - 0 : UK's default Plug and Play setting is not available or not applicable.
  - 1 : UK's default Plug and Play setting is available. When UK PNP and VIRGIN MODE are set to "1" at the initial setup and after exiting from menu, VIRGIN MODE will be set automatically to "0" while UK PNP remains "1".
- **OB11: VIRGIN MODE**
  - 0 : Virgin mode is disabled or not applicable.
  - 1 : Virgin mode is enabled. Plug and Play menu item will be displayed to perform installation at the initial startup of the TV when VIRGIN MODE is set to "1". After installation is finished, this option bit will be automatically set to "0".
- **OB10: CHINA**
  - 0 : Tuning is not for China set, or this option bit is not applicable.
  - 1 : Tuning is for China set.

*Option Byte 2 (OP2)*

- **OB27: SC**
  - 0 : Soft clipping is disabled.
  - 1 : Soft clipping is enabled.
- **OB26: GREEN UI**
  - 0 : Green UI is disabled (for Philips brand).
  - 1 : Green UI is enabled (for Magnavox brand).
  - Note: only for NAFTA region.
- **OB25: CHANNEL NAMING**
  - 0 : Name FM Channel is disabled or not applicable.
  - 1 : Name FM Channel is enabled.
  - Note : Name FM channel can be enabled only when FM RADIO= "1".

- **OB24: LTI**
  - 0 : Luminance Transient Improvement (LTI) is disabled or not applicable.
  - 1 : LTI is enabled.
- **OB23: TILT**
  - 0 : Rotate Picture is disabled or not applicable.
  - 1 : Rotate Picture is enabled.
- **OB22: FINE TUNING**
  - 0 : Fine Tuning for Channel Offset is disabled or not applicable.
  - 1 : Fine Tuning for Channel Offset is enabled.
- **OB21: PIP PHILIPS TUNER**
  - 0 : ALPS / MASCO compatible tuner is in use for PIP module.
  - 1 : Philips compatible tuner is in use for PIP module.
- **OB20: HUE**
  - 0 : Hue/Tint Level is disabled or not applicable.
  - 1 : Hue/Tint Level is enabled.

*Option Byte 3 (OP3)*

- **OB37: EW FUNCTION**
  - 0 : EW function is disabled. In this case, only Expand 4:3 is allowed, Compress 16:9 is not applicable.
  - 1 : EW function is enabled. In this case, both Expand 4:3 and Compress 16:9 are applicable.
- **OB36: 2 TUNER PIP**
  - 0 : Software selection no PIP
  - 1 : Software selection with PIP
  - Note: Only for EU/AP region for sets with PIP.

- **OB35: PIP SPLITTER**
  - 0 : Normal Tuner in PIP
  - 1 : Splitter in PIP
  - Note: Only for EU/AP region. For PIP sets and build in with Splitter in PIP tuner.
- **OB34: SPLITTER**
  - 0 : Normal Tuner for main chassis
  - 1 : Splitter Tuner for main chassis
  - Note: Only for EU/AP region.
- **OB33: VIRTUAL DOLBY**
  - 0 : Virtual Dolby is not applicable.
  - 1 : Virtual Dolby is applicable.
- **OB32: WIDE SCREEN**
  - 0 : Software is used for 4:3 sets or not applicable.
  - 1 : Software is used for 16:9 sets.
- **OB31: WSSB (EU)**
  - 0 : WSSB is disabled or not applicable.
  - 1 : WSSB is enabled.
  - Note : This option bit can be set to "1" only when WIDE SCREEN= "1".
- **OB30: ECO SUBWOOFER**
  - 0 : Feature is disabled or not applicable.
  - 1 : Feature is enabled.

*Option Byte 4 (OP4)*

- **OB47: Reserved**
  - Default setting is "0".
- **OB46: Reserved**
  - Default setting is "0".

- **OB45: ULTRA BASS**
  - 0 : Ultra Bass is disabled or not applicable.
  - 1 : Ultra Bass is enabled.
  - Default setting is "0".
- **OB44: DELTA VOLUME**
  - 0 : Delta Volume Level is disabled or not applicable.
  - 1 : Delta Volume Level is enabled.
- **OB43: Reserved**
  - Default setting is "0".
- **OB42: VOLUME LIMITER**
  - 0 : Volume Limiter Level is disabled or not applicable.
  - 1 : Toggle Volume Limiter Level is enabled.
- **OB41: Reserved**
  - Default setting is "0".
- **OB40: STEREO NICAM 2CS**
  - 0 : For AV Stereo.
  - 1 : For NICAM Stereo 2CS.

*Option Byte 5 (OP5)*

- **OB57: AV1**
  - 0 : AV1 source is not present.
  - 1 : AV1 source is present.
- **OB56: AV2**
  - 0 : AV2 source is not present.
  - 1 : AV2 source is present.
  - Note : For EU, when AV2="1", both EXT2 and SVHS2 should be included in the OSD loop.

- **OB55: AV3**
  - 0 : Side/Front AV3 source is not present.
  - 1 : Side/Front AV3 source is present.
- **OB54: CVI**
  - 0 : CVI source is not available.
  - 1 : CVI source is available.
- **OB53: SVHS2**
  - 0 : SVHS2 source is not available.
  - 1 : SVHS2 source is available.
  - Note : This option bit is not applicable for EU.
- **OB52: SVHS3**
  - 0 : SVHS3 source is not available.
  - 1 : SVHS3 source is available.
  - Note : This option bit is not applicable for EU.
- **OB51: HOTEL MODE**
  - 0 : Hotel mode is disabled or not applicable.
  - 1 : Hotel mode is enabled.
- **OB50: Reserved**
  - Default setting is "0".

*Option Byte 6 (OP6)*

- **OB67: PERSONAL ZAPPING**
  - 0 : Personal Zapping feature is disabled or not applicable.
  - 1 : Personal Zapping feature is enabled.
- **OB66: Reserved**
  - Default setting is "0".

- **OB65: FM TRAP**
  - 0 : FM Trap is not present.
  - 1 : FM Trap is present.
  - Note: Only for LATAM region.
- **OB64: COMBFILTER**
  - 0 : 3D-combfilter is not present.
  - 1 : 3D-combfilter is present.
- **OB63: ACTIVE CONTROL**
  - 0 : Active Control feature is disabled or not applicable.
  - 1 : Active Control feature is enabled.
- **OB62: VIDEO TEXT**
  - 0 : Video Text (DW with TXT) is disabled or not applicable.
  - 1 : Video Text (DW with TXT) is enabled.
  - Note: For EU only.
- **OB61: LIGHT SENSOR**
  - 0 : Light sensor feature is disabled or not applicable.
  - 1 : Light sensor feature is enabled.
- **OB60: DUAL TEXT**
  - 0 : Dual Text and Text Dual Screen are disabled or not applicable.
  - 1: Dual Text and Text Dual Screen are enabled.

*Option Byte 7 (OP7)*

- **OB77: TIME WIN1**
  - 00 : The time window is set to 1.2 s.
  - 01 : The time window is set to 2 s.
  - Note :The time-out for all digit entries depends on this setting.
- **OB76: Reserved**
  - Default setting is "0".

- **OB75: Reserved**
  - Default setting is "0".
- **OB74: Reserved**
  - Default setting is "0".
- **OB73: Reserved**
  - Default setting is "0".
- **OB72 Reserved**
  - Default setting is "0".
- **OB71 Reserved**
  - Default setting is "0".
- **OB70: Reserved**
  - Default setting is "0".

### *ITV Option Bit Assignment*

**Table: ITV Option code overview per model**

		27ST6210/27	32ST6210/27
Bit	Byte_0 (TV System)		
7	Not Used	0	0
6	Not Used	0	0
5	Default sound	1	1
4	"BG (orWEST EU)-001,I(or UK)-010"	0	0
3	"DK (or EAST EU)-011,M-100,LL (or FRANCE)-101"	0	0
2	Sound Board	0	0
1	"Mono-000,Multi Stereo-001"	1	1
0	"BTSC Stereo-010, AVStereo-011"	0	0
	Decimal	34	34



Bit	Byte_1 (Pin Usage)		
7	Not Used	0	0
6	WideScreen	0	0
5	Rotation	0	1
4	QSS	0	0
3	Uir Msg	0	0
2	SPI I2C	1	1
1	Not Used	0	0
0	Not Used	0	0
	Decimal	4	36
Bit	Byte_2 (Devices)		
7	SCAVEM	1	1
6	Comb Filter	0	1
5	EW	1	1
4	OSD FRONT	0	0
3	Radio	0	0
2	LNA	0	0
1	Tuner	1	1
0	"None-00, Philips-01, Alps-10"	0	0
	Decimal	162	226

Bit	Byte_3 (Devices)		
7	Not Used	0	0
6	Soft Clipper	0	0
5	Not Used	0	0
4	Not Used	0	0
3	SmartPort	1	1
2	Active-Off LED	0	0
1	WSL	0	0
0	"None-00, 4136-01, 34836-10"	1	1
	Decimal	9	9
Bit	"Byte_4 (AV, Tuning)"		
7	Not Used	0	0
6	AV3YC	0	0
5	CVI	1	1
4	AV2YC	1	1
3	AV3	1	1
2	AV2	1	1
1	AV1	0	0
0	RGB	0	0
	Decimal	60	60

Bit	Byte_5 (Feature)		
7	ITV Ring	0	0
6	Protection	1	1
5	WatchDog	1	1
4	No Ident Standby	1	1
3	Buzzer Type	0	0
2	"None=00, Internal=01, External=10"	1	1
1	Clock Type	0	0
0	"None-00, OSD-01, LED-10"	1	1
	Decimal	117	117
Bit	Byte_6 (Power)		
7	Not Used	0	0
6	Not Used	0	0
5	Not Used	0	0
4	Not Used	0	0
3	Not Used	0	0
2	Not Used	0	0
1	Card POR	0	0
0	Not Used	0	0
	Decimal	0	0

## Tuner

**Note:** Described alignments are only necessary when the NVM (item 7601) is replaced.

### *IF PLL*

This adjustment is auto-aligned. Therefore, no action is required.

### *AGC (AGC take over point)*

1. Set the external pattern generator to a color bar video signal and connect the RF output to aerial input. Set amplitude to 10 mV and set frequency to 61.25 MHz (channel 3).
2. Connect a DC multimeter to pin 1 of the tuner (item 1000 on the main panel).
3. Activate the SAM.
4. Go to the TUNER sub menu.
5. Select AGC with the UP/DOWN cursor keys.
6. Adjust the AGC-value (default value is 27) with the LEFT/RIGHT cursor keys until the voltage at pin 1 of the tuner lies between 3.8 and 2.3 V (default value is "20").
7. Switch the set to STANDBY, in order to store the alignments.

### *CL (Cathode drive level)*

Always set to "5".

## White Tone

In the WHITE TONE sub menu, the values of the black cut off level can be adjusted.

Normally, no alignment is needed, and you can use the given default values.

The color temperature mode (NORMAL, COOL and WARM) and the color (R, G, and B) can be selected with the UP/DOWN RIGHT/LEFT cursor keys. The value can be changed with the LEFT/RIGHT cursor keys. First, select the values for the NORMAL color temperature. Then select the values for the COOL and WARM mode. After alignment, switch the set to STANDBY, in order to store the alignments.

Default settings:

- **NORMAL** (color temperature= 9300 K):
  - NORMAL R= "26"
  - NORMAL G= "32"
  - NORMAL B= "27"
- **COOL** (color temperature= 12500 K):
  - DELTA COOL R= "-3"
  - DELTA COOL G= "0"
  - DELTA COOL B= "5"
- **WARM** (color temperature= 6500 K):
  - DELTA WARM R= "2"
  - DELTA WARM G= "0"
  - DELTA WARM B= "-6"

## Geometry

The geometry alignments menu contains several items to align the set, in order to obtain correct picture geometry.

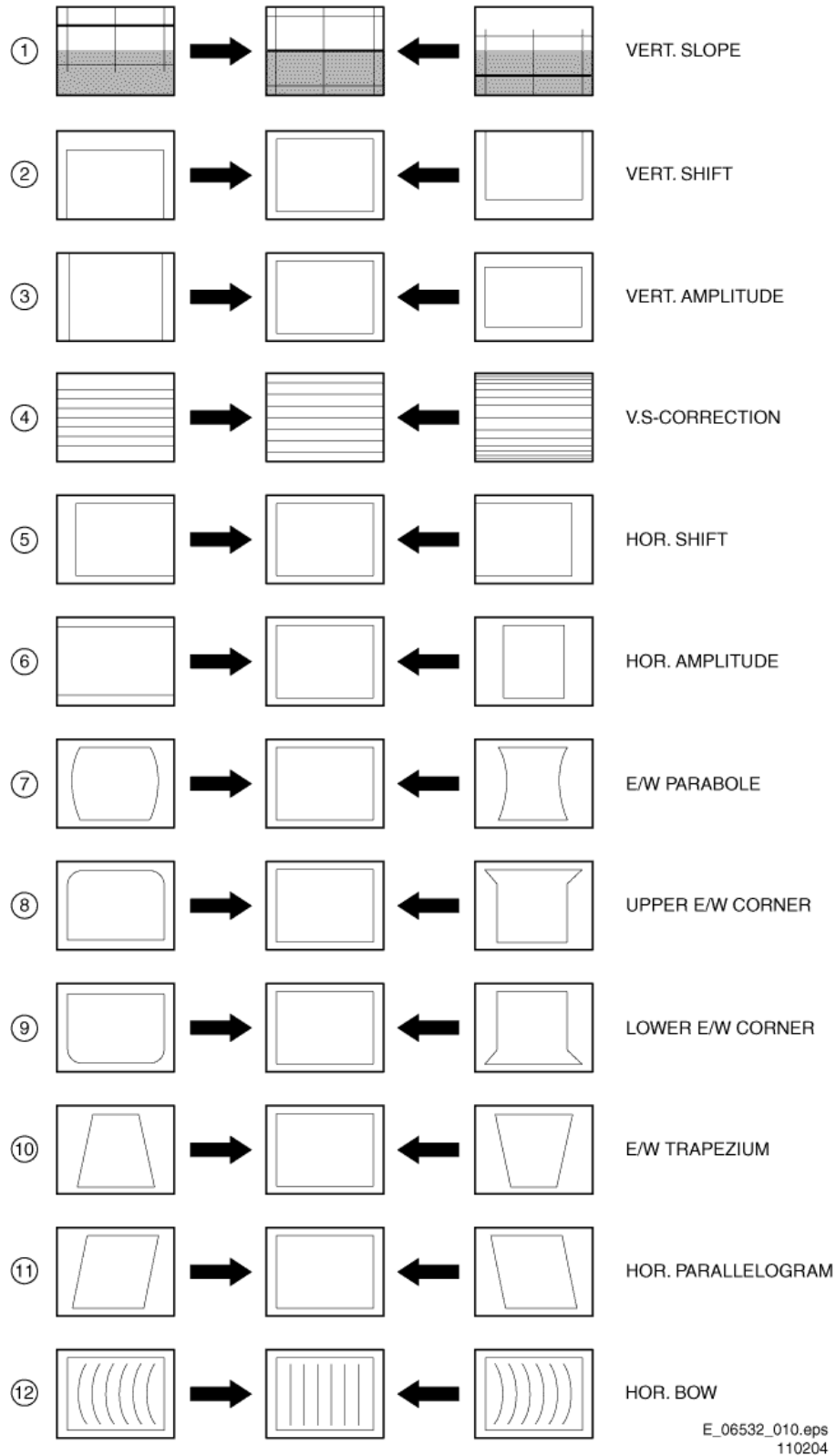


Figure: Geometry alignments

1. Connect an external video pattern generator to the aerial input of the TV-set and input a crosshatch test pattern. Set the generator amplitude to at least 1 mV and set frequency to 61.25 MHz (channel 3).
2. Set 'Smart Picture' to NATURAL (or MOVIES).
3. Activate the SAM menu (see chapter 5 "Service Modes, ...").
4. Go to the GEOMETRY sub menu.
5. Choose HORIZONTAL or VERTICAL alignment

Now the following alignments can be performed:

### *Horizontal*

- **Horizontal Parallelogram (HP)**. Align straight vertical lines in the top and the bottom; vertical rotation around the center.
- **Horizontal Bow (HB)**. Align straight horizontal lines in the top and the bottom; horizontal rotation around the center.
- **Horizontal Shift (HSH)**. Align the horizontal center of the picture to the horizontal center of the CRT.
- **East West Width (EWW)**. Align the picture width until the complete test pattern is visible.
- **East West Parabola (EWP)**. Align straight vertical lines at the sides of the screen.
- **Upper Corner Parabola (UCP)**. Align straight vertical lines in the upper corners of the screen.
- **Lower Corner Parabola (LCP)**. Align straight vertical lines in the lower corners of the screen.
- **East West Trapezium (EWT)**. Align straight vertical lines in the middle of the screen.
- **H60 (Delta HSH for 60Hz, if present)**. Align straight horizontal lines if NTSC system is used (60 Hz) i.s.o. PAL (50 Hz). Default value is "9".

## Vertical

- **Service blanking (SBL).** Switch the blanking of the lower half of the screen “on” or “off” (to be used in combination with the vertical slope alignment).
- **Vertical Shift (VSH).** Align the vertical centering so that the test pattern is located vertically in the middle. Repeat the 'vertical amplitude' alignment if necessary.
- **Vertical slope (VS).** Align the vertical center of the picture to the vertical center of the CRT. This is the first of the vertical alignments to perform. For an easy alignment, set SBL to “on”.
- **Vertical Amplitude (VAM).** Align the vertical amplitude so that the complete test pattern is visible.
- **Vertical S-Correction (VSC).** Align the vertical linearity, meaning that vertical intervals of a grid pattern must be equal over the entire screen height.
- **Vertical Zoom (VX, if present).** The vertical zoom is added in for the purpose of development. It helps the designer to set proper values for the movie expand or movie(16x9) compress. Default value is “25”.
- **V60 (Delta VAM for 60Hz, if present).** Align straight vertical lines if NTSC system (60 Hz) is used i.s.o. PAL (50 Hz). Default value is “-2”.

In the next table, you will find the GEOMETRY default values for the different sets.

**Table: Default geometry values**

Alignment	Default values
HP (Horizontal parallelogram)	31
HB (Horizontal Bow)	31
HSH (Horizontal shift)	26
EWV (EW width)	37
EWP (EW parabola width)	10
EWT (EW trapezium)	26



Alignment	Default values
UCP (EW upper corner parabola)	30
LCP (EW lower corner parabola)	40
-	
VSH (Vertical Shift)	26
VS (Vertical slope)	37
VAM (Vertical amplitude)	30
VSC (Vertical S-Correction)	25

## Audio

No alignments are needed for the audio sub menu. Use the given default values.

### *QSS (Quasi Split Sound)*

- For NICAM/2CS sound system (EU/AP, except for AP-NTSC), set to "On".
- For AV-Stereo sound system (sets without NICAM), set to "On".
- For all other sets (NAFTA/LATAM/AP-NTSC), set to "Off".

### *FMI (Freq. Modulation Intercarrier)*

- For NICAM/2CS sound system (EU/AP, except for AP-NTSC), set to "On".
- For AV-Stereo sound system (sets without NICAM), set to "Off".
- For dBx/non-dBx sound systems, set to "On",

### *NICAM Alignment*

- For sets with NICAM/2CS (EU/AP, except for AP-NTSC) sound system, set to "79".
- For all other sets (NAFTA/LATAM/AP-NTSC), set to "63" (= don't care).

## Circuit Descriptions, List of Abbreviations, and IC Data Sheets

Index of this chapter:

1. Introduction
2. Power Supply
3. Deflection
4. Control
5. Tuner and IF
6. Source Selection
7. Audio
8. Video
9. Abbreviations
10. IC Data Sheets

### Notes:

- Only **new** circuits compared to the M8 (L01.1 for other regions) chassis are described in this chapter. For the other circuit descriptions, see the manual of the M8 (L01.1) chassis.
- Figures can deviate slightly from the actual situation, due to different set executions.
- For a good understanding of the following circuit descriptions, please use the diagrams in sections "Block Diagrams, ...", and/or "Electrical Diagrams". Where necessary, you will find a separate drawing for clarification.

## Introduction

The 'L04' chassis is a global TV chassis for the model year 2004 and is used for TV sets with large screen sizes (from 21 to 36 inch), in Super Flat and Real Flat executions (both in 4:3 and 16:9 variants).

There are three types of CRT namely the 100 degrees, 110 degrees and Wide Screen CRT.

- The 100 deg. 4:3 CRT is raster-correction-free and does not need East/West Correction (except when used in AP regions), therefore the corrections needed are Horizontal Shift, Vertical Slope, Vertical Amplitude, Vertical S-Correction, Vertical Shift, and Vertical Zoom for geometry corrections.
- The 110 deg. 4:3 CRT comes with East/West Correction. In addition to the parameter mentioned above, it also needs the Horizontal Parallelogram, Horizontal Bow, Horizontal Shift, East/West Width, East/West Parabola, East/West Upper and Lower Corners, and East/West Trapezium correction.
- The Wide Screen TV sets have all the correction of the 110 deg. 4:3 CRTs and also have additional picture format like the 4:3 format, 16:9, 14:9, 16:9 zoom, subtitle zoom, and the Super-Wide picture format.

In comparison to its predecessor (the M8/L01.1), this chassis is has the following (new) features:

- Audio: The sound processor is part of the UOC processor (called "Hercules").
- Video: Enhanced video features, video drivers, and Active Control.
- Control: Comparable to M8/L01.1 (e.g. Dual clock, I/O mapping, I/O switching).
- Power Supply: Adapted to supply the Hercules IC, and to enable 0.5 W Standby power dissipation. Also provisions are made for future extensions like DVD and iDTV.

The standard architecture consists of a Main panel (called 'family board'), a Picture Tube panel, a Side I/O panel, and a Top Control panel. The Main panel consists primarily of conventional components with some surface mounted devices in the audio and video processing part.

The functions for video/audio processing, microprocessor (P), and CC/Teletext (TXT) decoder are all combined in one IC (TDA1200x, item 7200), the so-called third generation Ultimate One Chip (UOC-III) or "Hercules". This chip is mounted on the "solder" side of the main panel, and has the following features:

- Control, small signal, mono/stereo, and extensive Audio/Video switching in one IC.
- Upgrade with digital sound & video processing.
- Alignment free IF, including SECAM-L/L1 and AM.
- FM sound 4.5/5.5/6.0/6.5, no traps/bandpass filters.
- Full multi-standard color decoder.
- One Xtal reference for all functions (microprocessor, RCP, TXT/CC, RDS, color decoder, and stereo sound processor).

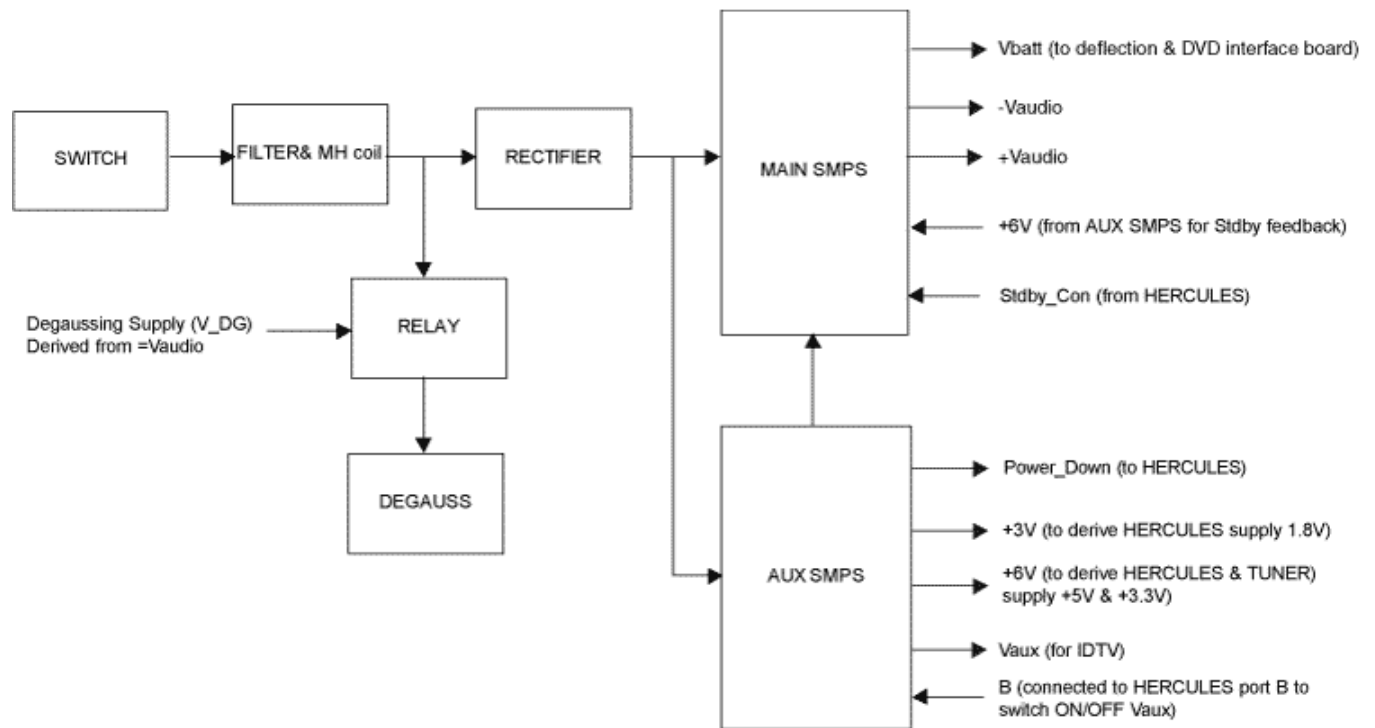
The tuning system features 181 channels with on-screen display. The main tuning system uses a tuner, a microcomputer, and a memory IC mounted on the main panel. The microcomputer communicates with the memory IC, the customer keyboard, remote receiver, tuner, signal processor IC and the audio output IC via the I2C bus. The memory IC retains the settings for favorite stations, customer-preferred settings, and service / factory data.

The on-screen graphics and closed caption decoding are done within the microprocessor where they are added to the main signal.

The chassis uses a Switching Mode Power Supply (SMPS) for the main voltage source. The chassis has a 'hot' ground reference on the primary side and a cold ground reference on the secondary side of the power supply and the rest of the chassis.

# Power Supply

## Block Diagram



E\_14480\_072.eps  
200204

Figure: Block diagram power supply

### *Stdby\_con signal*

The Hercules generates this signal. This line is logic "low" (0 V) under normal operation and in semi-Standby of the TV, and is "high" (3.3 V) during Standby.

### *Power\_down signal*

The AUX SMPS generates this signal. It is logic "high" (3.3 V) under normal operation of the TV and goes "low" (0 V) when the AC power (or Mains) input voltage supply goes below 70 V<sub>ac</sub>.

## B (Hercules port)

This port is used to switch the AUX SMPS output V<sub>aux</sub> "On/Off". This is required for DVD and iDTV (for future extensions).

## Timing Diagrams

### Power ON - To Standby - Out of Standby - Power OFF

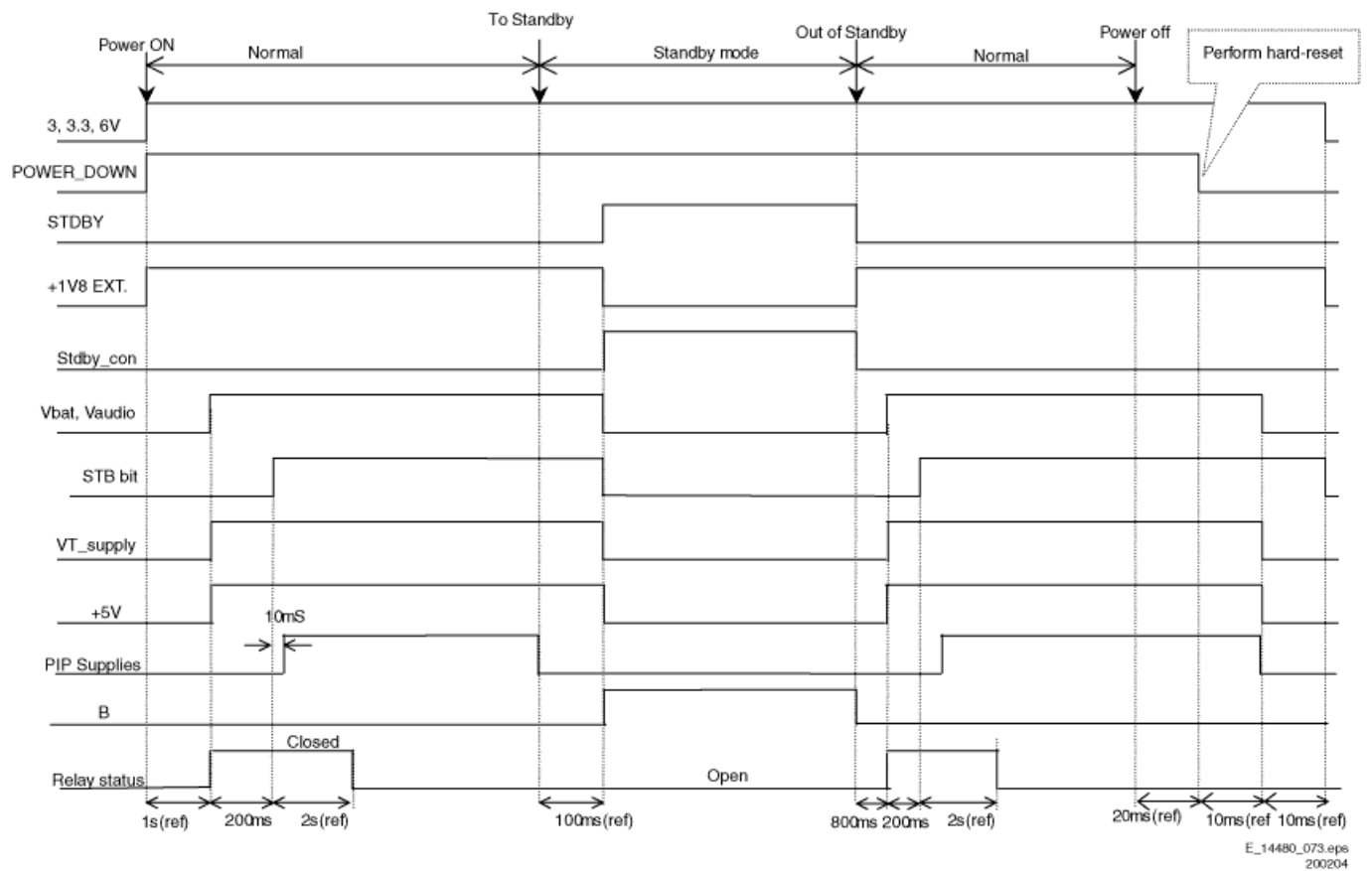


Figure: Timing diagram Standby

## Power ON - To Semi Standby - Out of Semi Standby - Power OFF

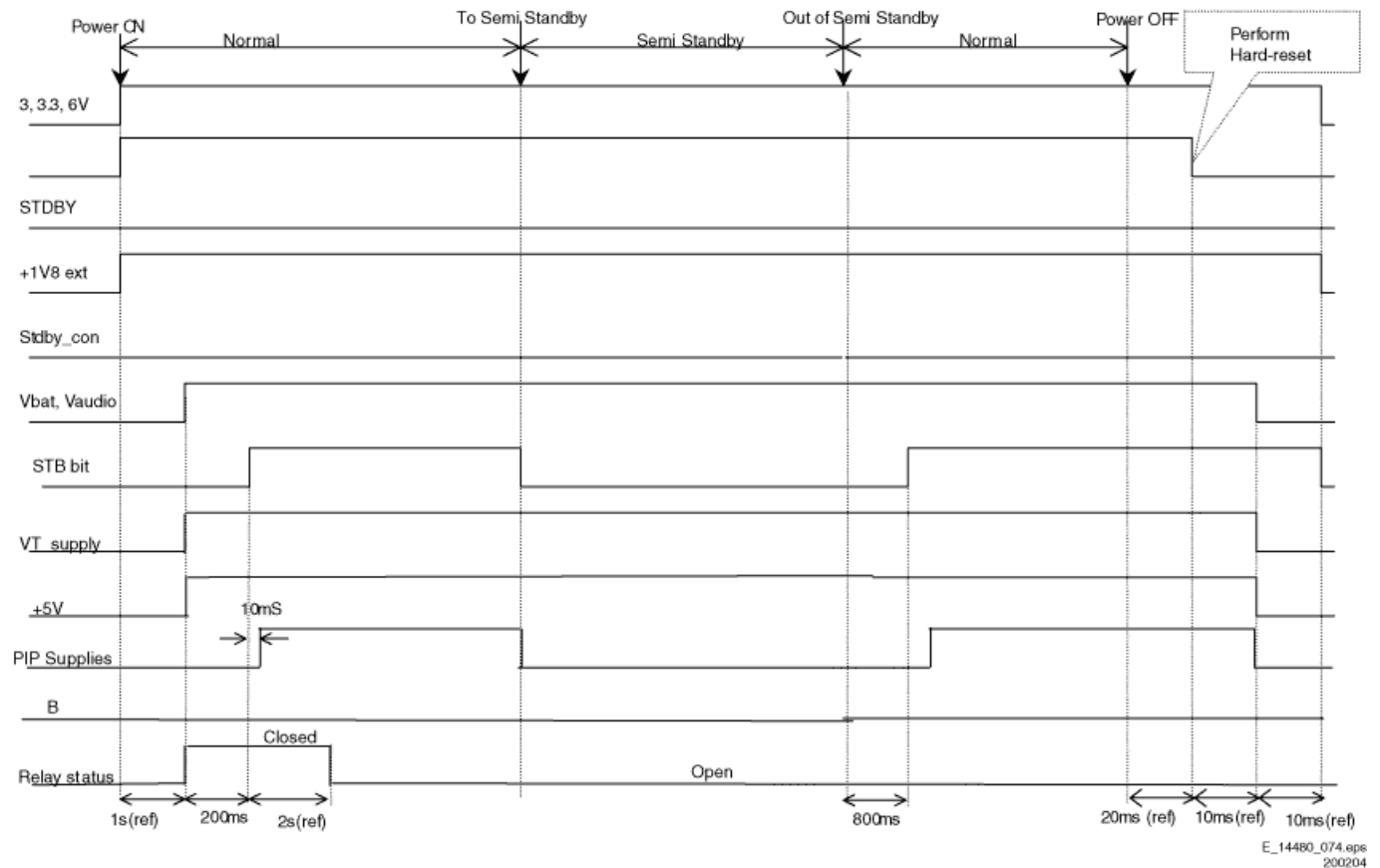


Figure: Timing diagram Semi Standby

## Startup Sequence

When the set is connected to the AC power, the rectified line voltage (via winding 4-5 of L5531 connected to pin 14 of IC7531) will start the internal voltage source to charge the  $V_{cc}$  capacitor (C2532). The IC starts to switch as soon as the  $V_{cc}$  reaches the  $V_{cc}$  start level of 9.5 V. This supply is automatically taken over by winding 1-2, as soon as the  $V_{cc}$  is high enough, and the internal supply source will stop (for high efficiency switching).

**Table: Pinning overview TEA1523**

Pin	Symbol	Description
2	Gnd	This pin is Ground of the IC.
3	V <sub>cc</sub>	This pin is connected to the supply voltage. An internal current charges the V <sub>cc</sub> capacitor (2532), and the start-up sequence is initiated when this voltage reaches a level of 9.5 V. Note: The output power is disabled when the voltage gets below 9 V (UVLO). Operating range is between 0 to 40 V.
5	RC	Frequency setting
6	REG	This pin is connected to the feedback loop. The pin contains two functions: 1) Between 1 to 1.425 V it controls the 'on' time. 2) Above the threshold of 3.5 V, it is possible to initiate 'burst mode' standby.
11	Demag	This pin is connected to the V <sub>cc</sub> winding of 5531. It has three functions: 1) During Magnetisation, the input voltage is sensed to compensate OCP level for OPP. 2) During demagnetisation, the output voltage is sensed for OVP and 3) A comparator is used to prevent continuous conduction when output is overloaded.
12	Sense	This pin contains three different functions.: 1) Detection of soft start, protection levels of 2) OCP, and 3) SWP.
14	Drain	This pin is connected to the drain of the switch or center tap of the transformer. It contains three functions: 1) M-level (mains-dependent operation-enabling level), 2) Supply for start-up current, and 3) Valley detection.



As C2532 of IC7531 is charged, it will also start to charge the V<sub>cc</sub> capacitor (C2511) of IC7511. Via resistor R3519 and C2511, the TEA1506 starts to switch as soon as the V<sub>cc</sub> voltage reaches the V<sub>cc</sub> start level of is about 11 V. The V<sub>cc</sub> voltage is automatically taken over by the main transformer L5512 (winding 2-3) when the V<sub>cc</sub> is high enough (when this voltage is even higher than the voltage on C2511, there is no current flow from C2532 to C2511 due to diode D6512).

**Table: Pinning overview TEA1506**

Pin	Symbol	Description
2	Vcc	This pin is connected to the supply voltage. When this voltage is high (V <sub>cc_start</sub> level, about 11 V), the IC will start switching. When the voltage is lower than V <sub>cc_uvlo</sub> (about 8.7 V), the IC will stop switching. Note: This pin is not self supplied by internal source like in TEA1507.
3	Gnd	This pin is Ground of the IC.
6	Ctrl	This pin is connected to the feedback loop. The pin will control the 'on' time between 1 V to 1.5 V.
7	Demag	This pin is connected to the V <sub>cc</sub> winding of 5512. It contains three functions: 1) During magnetisation, the input voltage is sensed to compensate OCP level for OPP, 2) During demagnetisation, the output voltage is sensed for OVP and 3) a comparator is used to prevent continuous conduction when the output is overloaded.
9	Sense	This pin contains three different functions: 1) detection of soft start, protection levels of 2) OCP, and 3) SWP.
11	Driver	This pin will drive the (MOSFET) switch.
12	HVS	This is High Volt Spacer (n.a.)
14	Drain	Connected to the Drain of the external MOSFET switch, this is the input for valley sensing and initial internal supply.

## Standby Mode

In this mode, IC7511 (TEA1506) will be totally disabled. So there is no voltage on the main transformer output. But IC7531 (TEA1523) will still work and will provide the necessary output voltages (6V -> 5V, 3.3V, 3V -> 1.8V) to the Hercules (IC7200).

**Table: PSU voltage overview**

Voltage	Normal operation	Stdby mode
V_batt	130 - 143 V	0 V
V_audio	+/- 15.5 V	0 V
+6V	6 V	6 V
+3V	3 V	3 V
Stdby_con	0 V	3.3 V

## Deflection

### Synchronization

Before the Hercules (IC7200) can generate horizontal drive pulses, the +3.3V supply voltages must be present. After the start up command of the microprocessor (via I2C), the Hercules outputs the horizontal pulses. These horizontal pulses begin "initially" with double line frequency and then change "gradually" to line frequency in order to limit the current in the line stage (slow-start).

The VDRA and VDRB signals are the balanced output currents (sawtooth shaped) of the frame oscillator (pins 106 and 107 of the Hercules). These output signals are balanced, so they are less sensitive to disturbances.

There is a current source inside the UOC at pin 102. This pumps energy in the capacitor connected to this pin producing a pure saw tooth. The vertical drive signals and the E/W correction signal are derived.

Pin 108 is the East-West drive (or AVL), and it is a single ended current output. The correction for "horizontal width for changed EHT" from this pin is available by setting the HCO bit to "1".

The Phase-2 Compensation available at pin 113 gives frame correction for high beam currents. The phase compensation signal is used to correct the phase of the picture from the horizontal drive signal.

Pin 63 is the SANDCASTLE output (contains all sync info) and also HORIZONTAL FLYBACK (HFB) input.

Pin 97 is the EHT tracking/over-voltage protection pin. The HCO bit can switch on the tracking on EW. If the voltage at pin 97 exceeds 3.9 V, the over-voltage protection will be activated and the horizontal drive is switched "off" via a slow stop.

## Horizontal Deflection

There are several executions (depending on the CRT):

- **Sets with no East-West correction.** The principle of the horizontal deflection is based on the quasi-diode modulation circuit. This horizontal deflection circuit supplies the deflection current and auxiliary voltages from the LOT.
- **Sets with East-West correction.** The principle of the horizontal deflection is based on a diode modulator with east-west correction. This horizontal deflection circuit supplies the deflection current and auxiliary voltages from the LOT.
- **Sets with dynamic East-West correction.** The principle of the horizontal deflection is based on a diode modulator with dynamic east-west correction for picture tubes with inner pincushion. This horizontal deflection circuit supplies the deflection current and auxiliary voltages from the LOT.

## ***Basic Principle***

During a scan period, either the Line Transistor or diode(s) conduct to ensure a constant voltage over the deflection coil (that results in a linear current). During the flyback period, the Line Transistor stops conducting, and the flyback capacitor(s) together with the inductance of the deflection coil creates oscillation.

## ***First Part of Scan***

Pin 62 of the UOC delivers the horizontal drive signal for the Line Output stage. This signal is a square pulse of line frequency. L5402 is the flyback drive transformer. This transformer de-couples the line output stage from the UOC. It has a direct polarization. The flyback drive circuit works with the start-up supply taken from +6V of the Aux supply (and subsequently taking from VlotAux+9V). When the H-drive is high, TS7404 conducts, and transformer L5402 starts to store energy. The base of the line transistor TS7405 is low and therefore blocks. The current in the deflection coil returns from diode D6404.

## ***Second Part of Scan***

When the H-drive is low, TS7404 does not conduct, and the energy that is stored in the transformer will transfer to the secondary, making the base of the Line Transistor high. Then the Line Transistor starts to conduct. The current in the deflection coil returns from the transistor in another direction.

## ***Flyback***

At the moment the H-drive becomes high, the base of the Line Transistor becomes low. Both the Line Transistor and the Flyback Diode will block. There is an oscillation between the flyback capacitor C2412 and the deflection coil. Because of the inductance

of the LOT, the Line Transistor cannot stop conducting immediately. After the Line Transistor is out of conduction, the flyback pulse is created. The flyback capacitor charges until the current in the deflection coil reduce to zero. Then it discharges through the deflection coil and the deflection current increases from the other direction. The flyback diode conducts and is back to the first part of the scan.

### ***Linearity Correction***

Because the deflection coil has a certain resistance, a picture without any linearity issues cannot be expected. L5401 is the linearity coil to compensate for this resistance. It is a coil with a pre-magnetized core. This correction is called linearity correction.

### ***Horizontal S-Correction***

Because the electronic beam needs to travel a longer distance to both sides of the screen than the center, the middle of the screen would become narrower than both sides. To prevent this, a parabolic voltage is applied across the deflection coil during scan. To create this parabolic voltage, a capacitor called S-cap (C2417/C2418) is used as a voltage source during scan. The sawtooth current of the deflection through this capacitor creates the required parabolic voltage. This correction is called S-Correction.

### ***Mannheim-Circuit***

When the EHT is heavily loaded with a bright line, the flyback time can be increased a bit in this situation. As a result, the scan delays a bit causing a DC-shift to the right in the next line, which would create a small spike on the S-cap. This spike oscillates with the inductance of the deflection coil and the primary of LOT. The result is visible in vertical lines under horizontal white line. This is called the Mannheim-effect.

To prevent this from happening, a circuit called Mannheim-circuit is added. This consists of C2415, R3404, R3417 and D6406. During the scan, C2415 is charged via R3417. During the flyback, the S-correction parabola across the S-Cap C2417/C2418 is in its most negative, and D6406 conducts. Thus, C2415 is switched in parallel to C2417/C2418 during flyback. As C2415 is much larger than C2417/C2418, the voltage across C2415 reduces the Mannheim-effect oscillation.

### ***Class D East-West Driver***

To reduce the power loss of the normal used linear East-West amplifier, a class-D East-West circuit is used. To achieve this, the East-West parabola waveform EW\_DRIVE from the Hercules (frame frequency) is sampled with a saw tooth (line frequency) taken from the line aux output. Then a series of width-modulated pulses is formed via two inverted phase amplifiers, filtered by an inductor, which then directly drive the diode modulated line circuit.

### ***East-West Correction***

To achieve a good geometry, **dynamic** S-correction is needed. The design is such that the tube/yoke needs East-West correction. Besides that, an inner pincushion is present after East-West correction. The line deflection is modulated with a parabolic voltage (frame frequency). In this way it is not so much at top and bottom, and much more in the middle.

Upon entering the picture geometry menu in the SAM mode, the following corrections will be displayed.

- EWW: East West Width.
- EWP: East West Parabola.
- UCP: Upper Corner Parabola.

- LCP: Lower Corner Parabola.
- EWT: East West Trapezium.

The East-West drive circuit realizes them all. The settings can be changed by a remote control. All changed data will be stored into the NVM after the geometry alignment.

### ***Panorama***

For Wide Screen sets, the S-correction of the picture has to adapt between the different picture modes. In particular, between 16:9 Wide Screen and 4:3 picture modes. This is achieved with the (separate) Panorama circuit (see diagram "G"). A signal (I2SDI1) from the UOC controls the state of TS7463. When in the normal 16:9 Wide Screen mode, the signal is "low" and therefore TS7463 is switched "off".

When the 4:3 mode is selected, this signal from the UOC is pulled "high", switching TS7463 "on". The relay 1463 on the Panorama panel is subsequently turned "on" and, in effect, paralleling capacitor C2475/C2474 to the S-Cap C2469/C2470. This changes the overall effective S-correction. The relay is switched "on" in 4:3 and Superwide picture modes.

### **Auxiliary Voltages**

The horizontal deflection provides various auxiliary voltages derived either directly or indirectly from the secondary pins of the LOT:

- +9V: This supplies the Hercules's flyback driver.
- +11V: This supplies the frame amplifier.
- -12V: This supplies the frame amplifier.
- 50V: This supplies the frame amplifier.
- Filament: This supplies the heater pins of the picture tube.

- VideoSupply (+200V from primary side of LOT): This supplies the RGB amplifier and Scavem circuit at the CRT panel.

#### Notes:

- The V\_T voltage (to tuner) is drawn from V\_batt.
- The EHT voltage is generated by the Line Output Transformer (LOT). The Focus and Vg2 voltages are created with two potentiometers integrated in the transformer.

### Beam Current

The beam current is adjusted with R3451 and R3452. The components R3473, R3453 and C2451 determine the EHT\_info characteristic. The voltage across C2412 varies when the beam current changes. This EHT\_info is used to compensate the picture geometry via pin 97 of the Hercules when the picture changes rapidly, and compensate the phase 2 loop via pin 113 of the Hercules. Also from the EHT\_info line, a BCL signal is derived and sent to the Hercules for controlling the picture's contrast and brightness.

When the picture content becomes brighter, it will introduce:

- Geometry distortion due to the impedance of the LOT causing the EHT to drop.
- Picture blooming due to the picture characteristics

Because of the above mentioned, we will need a circuit for Beam Current Limiter (BCL) and EHT compensation (EHT\_info). These two circuits derive the signal from the picture tube current info through LOT pin 10.



## ***BCL***

- When the BCL pin voltage goes to 2.8 V, the Hercules will start to limit CONTRAST gain.
- When it reaches 1.7 V, then the BRIGHTNESS gain limit will start to react.
- When BCL pin voltage goes to 0.8 V, the RGB will be blanked.

Components TS7483, R3490, R3491, R3492, and C2483 are for fast beam current limiting (e.g. with a Black-to-White pattern).

Components R3454, D6451, D6450, C2453, R3493, and C2230 are for average beam current limiting. C2453 and R3493 also control the timing where average beam current limiting is more active or less active.

## ***EHT\_info***

The "PHI2 correction" is to correct the storage time deviation of the Line Output Transistor, which is causing geometry distortion due to brightness change.

Line EHT\_info is to correct the geometry distortion due to EHT deviation.

Both of them feedback through the EHTO and PH2LF pin, and correct the geometry through the East-West circuit.

## ***Power Down***

The power down connection is for EHT discharge during AC Power "Off" state. In the Hercules, if EHT\_info > 3.9 V, it will trigger the X-ray protection circuit via a 2fH soft stop sequence. The Hercules bits OSO (Switch Off in Vertical Over scan) and FBC (Fixed Beam Current Switch Off) will discharge the EHT with 1mA cathode current at over-scan position.

During switch-off, the H\_out frequency is doubled immediately and the duty cycle is set to 25% fixed, during 43 ms. The RGB outputs are driven "high" to get a controlled discharge of the picture tube with 1 mA during 38 ms. This will decrease the EHT to about half the nominal value (= safety requirement). When bit OSO is set, the white spot/flash during switch-off will be written in overscan and thus will not be visible on the screen. Careful application must guarantee that the vertical deflection stays operational until the end of the discharge period.

## DAF

The Dynamic Astigmatic Focus (DAF) circuit is required by 34RF sets only. It provides vertical DAF and horizontal DAF. Both of the parabola signals are derived through integration by using chassis available signals:

- The vertical parabola is using RC integration (via R3403 and C2401) on the Frame sensing resistor saw tooth (Frame\_FB).
- The horizontal parabola is obtained by 2 RC integration (R3409, R3410, C2402, C2403) on the +9V LOT output.

Both of the parabolas are added on the output stage through adder TS7402 and TS7403. The collector of TS7402 emitter-drives TS7401 and is amplified by pull up resistor R3411. D6401 and C2405 provide the rectified supply voltage.

## X-ray Protection

The X-ray protection circuit rectifies the filament voltage and uses it to trigger TS7481 when the EHT is too high. TS7481 is biased at "off" condition by D6480, R3482, and R3483 during normal operation. When the EHT goes too high, the voltage across R3482 will tend to increase as well, while the voltage across D6481 is fixed. Up to certain level (triggering point), TS7481 will be "on" and will force the EHT\_info > 3.9 V. The chassis will be shut down through a soft stop sequence.

## Vertical Deflection

The Frame stage consists fully of discrete components. This has the advantage for better flash behavior than when an IC was used.

The Frame differential drive signal from the Hercules comes from a current source. Resistors R3460 and R3461 convert them into a voltage, and feed them into the differential amplifier TS7455 and TS7456. The output of TS7456 is input to the next amplification stage of TS7452. Finally, TS7451 and TS7453 deliver the Vertical yoke current to the coil and feedback through the sensing resistors R3471 and R3472. D6458 and TS7454 are used to bias TS7451 and TS7453, to get rid of zero crossovers, which can cause horizontal lines at the screen center.

The negative supply is from -12V and the positive scanning supply is from +12V through D6459. The flyback supply is derived from D6455, D6456 and C2456. This circuit is a voltage doubler, which stores energy in C2456 during the Line flyback period and delivers the energy to C2465 during the Line scanning period. Throughout the Frame period, the charging and discharging of C2456 works alternatively. However, at the first half of the Frame scanning, TS7451 is "on" and consumes all the charge from C2456. When entering 2nd half Frame period, TS7451 is "off", so C2456 will gradually charge up to the required flyback supply.

C2463, R3464 and D6457 are for boosting the base voltage of TS7451 during the flyback period and the 1st half Frame period as well. C2463 is charged by D6457 during the 2nd half scanning. R3467 and R3468 are for oscillation damping.

The V\_guard protection is to protect the Frame stage if a fault condition happens. The V\_guard will sense the pulse with voltage > 3.8 V and period < 900 us. Any signal out of this range will be considered as fault, and the chassis will be shut down.

## Tilt and Rotation

The rotation control signal is a PWM output from the UOC. It is filtered by R3252, R3246, R3259 and C2259. The DC voltage after filtering at C2259 will be amplified by R3245 (Main Board) and R3390 (CRT panel).

The output stage functions similarly as in M8/L01.1 with rotation IC TDA8941P. TS7331/TS7382 and TS7332/TS7381 will function alternatively corresponding to the rotation setting.

## CRT panel

The RGB amplifier stage is exactly the same as in M8/L01.1. However, the RGB amplifier IC has been changed to TDA6107AJF or TDA6108AJF. The "A" indication is with gain of "80" rather than "50" in M8/L01.1. The diode D6332 used in the former chassis, to solve the bright screen during start up, is not required because this IC has the error correction implemented.

## Scavem

In certain versions, the Scavem feature is used to enhance the sharpness of the picture. The RGB signals are first differentiated and subsequently amplified before feeding to an auxiliary coil known as the SVM coil. The current, flowing through the SVM coil during the picture intensity transients, modulates the deflection field and thus the scan velocity.

During the first half of the intensity increase, the scan velocity is increased (thus decreasing the current density by spreading it on a wider area). During the second half of the intensity increase, the scan velocity is decreased (increasing the current density by concentrating it on a smaller area). The increasing current density transition is sharpened. A decreasing current density transition is processed in a similar way and is also sharpened.

In this chassis the SCAVEM signal is different from its predecessor because the Hercules generates the differential SCAVEM signal inside the IC.

The supply of the SCAVEM is taken from V\_bat through a 1k5 / 5 W resistor. Compared with the M8/L01.1, this has the advantage of getting better performance for the pattern with tremendous SCAVEM current (like V\_sweep). In this former chassis, because the supply was taken from the 200 V through a 8k2 / 5 W resistor, the supply dropped significantly during a large SCAVEM current. In this chassis, the drop due to the pattern will be less because of the lower supply voltage impedance.

In the Main Board, 1st stage amplification is taken care by 7208 with the pull up resistors (3361, 3387) located in the CRT panel.

TS7361 and TS7362 is the current buffer delivering the current to the output stage. The diode D6361 is to lightly bias these transistors, to get rid of the zero crossover of the stage.

After that, the signal is ac-coupled to TS7363 and TS7364 where the emitter resistors (R3364 and R3370) will determine the final SCAVEM current. TS7363 and TS7364 are biased by R3363, R3366, R3367 and R3368.

C2387, R3388, R3389, R3365, R3369, C2384, and C2385 are used for suppressing unwanted oscillations.

The function of TS7376 is to limit the SCAVEM current from going too high. It basically senses the voltage after R3373 and clamps the SCAVEM signal through D6367 and C2376.

## Control

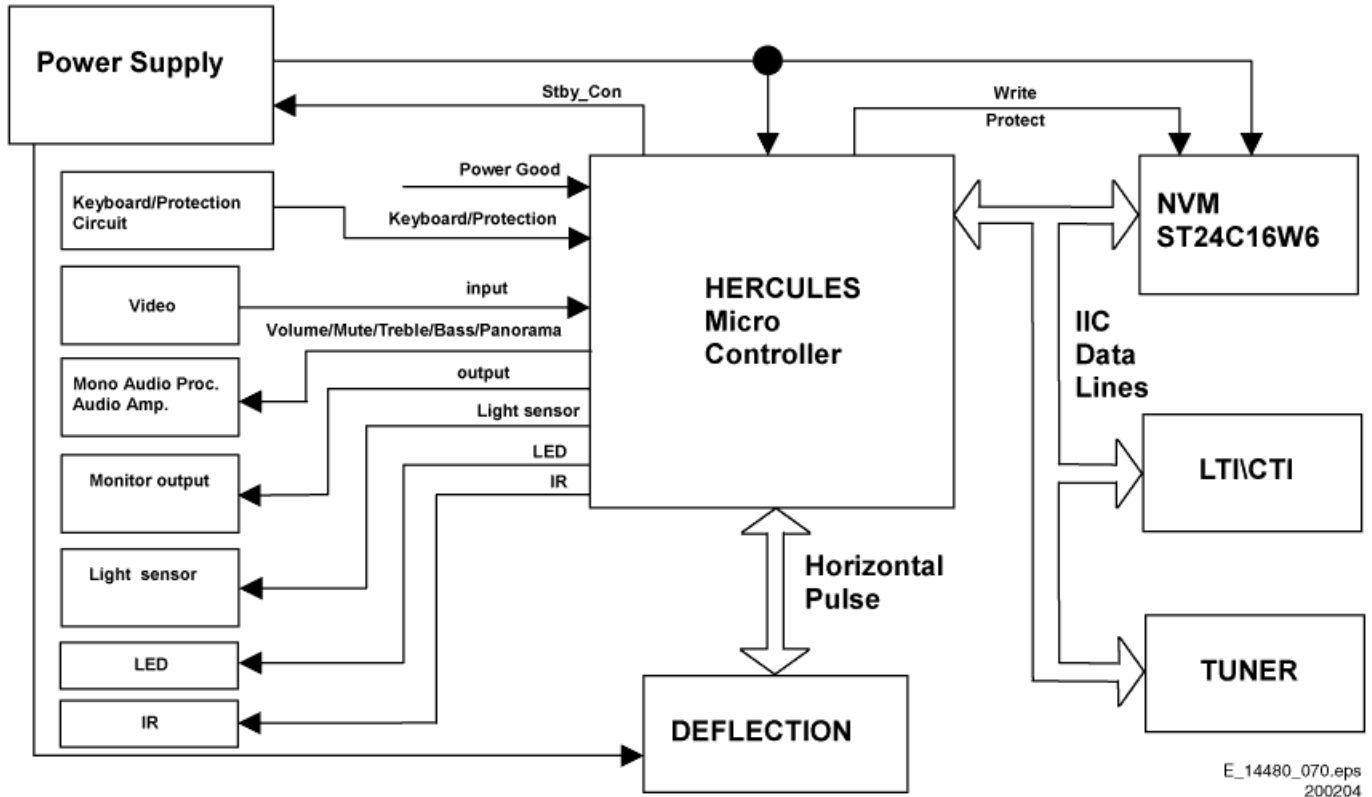
The Micro Controller is integrated with the Video Processor, and is called the Hercules. For dynamic data storage, such as SMART PICTURE and SMART SOUND settings, an external NVM IC is being used.

Another feature includes an optional Teletext/Closed Caption decoder with the possibility of different page storage depending on the Hercules type number.

The Micro Controller ranges in ROM from 128 kB with no TXT-decoder to 128 kB with a 10 page Teletext or with Closed Caption.

## Block Diagram

The block diagram of the Micro Controller application is shown below.



E\_14480\_070.eps  
200204

Figure: Micro Controller block diagram

## Basic Specification

The Micro Controller operates at the following supply voltages:

- +3.3 V<sub>dc</sub> at pins 33, 125, and 19.
- +1.8 V<sub>dc</sub> at pins 126, 36, and 33.
- I2C pull up supply: +3.3V<sub>dc</sub>.

## Pin Configuration and Functionality

The ports of the Micro Controller can be configured as follows:

- A normal input port.
- An input ADC port.
- An output Open Drain port.
- An output Push-Pull port.
- An output PWM port.
- Input/Output Port

The following table shows the ports used for the L04 control:

**Table: Micro Controller ports overview**

Pin	Name	Description	Configuration
32	INT0/ P0.5	IR	INT0
31	P1.0/ INT1	PWRDOWN	INT1
30	P1.1/ T0	LED	P1.1
27	P0.4/ I2SWS	(for future use)	-
26	P0.3/ I2SCLK	(for future use)	-
25	P0.2/ I2SDO2	SEL_SC2_INTERFACE/ SDM	P0.2
24	P0.1/ I2SDO1	(for future use)	P0.1
23	P0.0/ I2SDI/O	Panorama	P0.0
22	P1.3/ T1	Write Protect	P1.3
21	P1.6/ SCL	SCL	SCL
20	P1.7/ SDA	SDA	SDA
18	P2.0/ TPWM	VOL_MUTE	P2.0
17	P2.1/ PWM0	ROTATION	PWM0

Pin	Name	Description	Configuration
16	P2.2/ PWM1	SEL_LL'/M	P2.2
15	P2.3/ PWM2	STANDBY_CON	P2.3
14	P3.0/ ADC0	Light Sensor	ADC0
13	P3.1/ ADC1	(for future use)	-
10	P3.2/ ADC2	(for future use)	-
9	P3.3/ ADC3	KEYBOARD	ADC3
7	P2.4/ PWM3	A (for future use)	P2.4
6	P2.5/ PWM4	B (for future use)	P2.5
3	P1.2/ INT2	C (for future use)	INT2
2	P1.4/ RX	E (for future use)	-
1	P1.5/ TX	D (for future use)	-

The description of each functional pin is explained below:

- **LED.** This signal is used as an indication for the Standby, Remote and Error Indicator. Region diversity:
  - During protection mode, the LED blinks and the set is in standby mode.
  - During error conditions it blinks at a predefined rate.
  - After receiving a valid RC-5 or local keyboard command it flashes once.
  - For sets with error message indication, the LED blinks when message is active and the set is in standby mode.



**Table: LED signal diversity**

LED	Europe	AP/ LATAM	NAFTA			
0	LED brighter	Standby	LED lighted	Standby	LED lighted	Normal
1	LED dimmer	Normal	LED 'off'	Normal	LED 'off'	Standby

- **SCL.** This is the clock wire of the two-wire single master bi-directional I2C bus.
- **SDA.** This is the data wire of the two-wire single master bi-directional I2C bus.
- **STDBY\_CON.** The Hercules generates this signal. This can enable the MAIN SMPS in normal operation and disable it during Standby. It is of logic "low" (0 V) under normal operation and "high" (3.3 V) during Standby.
- **IR.** This input pin is connected to an RC5 remote control receiver.
- **SEL-IF-LL'/ M-TRAP.** For AP: All L04 AP sets are Multi System QSS set. This is an output pin to switch the Video SAW filter between M system and other systems.
  - 0: NTSC M (default)
  - 1: PAL B/G, DK, I, L
- **Write Protect.** The global protection line is used to enable and disable write protection to the NVM. When write to the NVM is required, pin 7 of the NVM must be pulled to logic '0' first (via Write\_Protect of the micro-controller pin) before a write is performed. Otherwise pin 7 of NVM must always be at logic "1"
  - 0: Disabled
  - 1: Enabled (default)
- **Mute.** This pin is use to MUTE the audio amplifier. It is configured as push pull.
- **Rotation.** This pin is configured as PWM for the Rotation feature. The output of the PWM is proportional to the feature control.

- **Light Sensor.** This pin is configured as ADC input for the Light Sensor.
- **Sel\_SC2\_Interface.** This pin is use to switch between the SC2\_CVBS\_OUT and the INTF\_CVBS\_OUT for the SCART\_2\_CVBS\_OUT/ MONITOR\_OUT signal.
  - 0: Hercules CVBS Output (default)
  - 1: Interface CVBS Output
- **PWRDOWN.** The AUX SMPS generates this signal. Logic "high" (3.3 V) under normal operation of the TV and goes "low" (0 V) when the Mains input voltage supply goes below 70 V<sub>ac</sub>.
- **Keyboard.** Following are the Keyboard functions and the step values (8 bit) for it.

**Table: Local keyboard values**

Function	Voltage (V <sub>dc</sub> )	Step values (8 bit)
NAFTA Standby	0	0 - 6
Ch +	0.43	7 - 33
Exit Factory (Ch- and Vol-)	0.69	34 - 53
Ch -	0.93	54 - 73
Menu (Vol - and Vol +)	1.19	74 - 96
Vol -	1.49	97 - 121
DVD Eject	1.8	122 - 147
Vol +	2.12	148 - 169

- **SDM.** This pin is configured as Open Drain during the cold start only. If this pin is shorted to ground during cold start, it will enter the SDM mode (for Service use).
- **ISP.** This pin is configured as Open Drain during the cold start only. If this pin is shorted to ground during cold start, it will enter the ISP mode (for Service use).
- **PANEL.** This pin is configured as Open Drain during the cold start only. If this pin is shorted to ground during that, then it will enter to the PANEL mode.

- **ResetEnabled.** This is an output pin to switch the control transistor (pos. TS7202) "high" or "low" for the reset of 1.8 V in case there is a corruption in the Hercules.

## Tuner and IF

The tuner used in this chassis comes from two sources, from Philips and from Alps. Both tuner sources have the same pin configuration so they are 1 to 1 compatible except for the software, which will be selected by means of Option Settings.

Some features:

- Multi-Standard alignment free PLL-IF, including SECAM L/L'.
- Integrated IF-AGC time constant.
- Integrated sound band-passes and traps (4.5 / 5.5 / 6.0 / 6.5 MHz).
- Group delay compensation (for NTSC and for PAL).
- QSS versions with digital Second-Sound-IF SSIF (AM demodulator for free).
- FM mono operation possible: Inter-Carrier or QSS.

## Diversity

The following Tuners can be present (depending on the region and the set execution):

- Normal tuner without PIP.
- FM radio tuner without PIP.
- Normal tuner with PIP (main tuner with splitter).
- FM radio set with PIP (PIP tuner with splitter).

The SAW filter used, depends on the application concept (whether it is a QSS concept or an Inter-carrier):

- OFWM3953M for QSS Video.
- OFWK9656M for QSS Audio.
- OFWM1971M for Inter-carrier.

## Pin Assignments and Functionality

Pin assignment of the Tuner:

**Table: Pinning Tuner**

Pin	Pin Description	DC Voltages
1	RF-AGC	4V for Maximum Gain < 4V for Strong Signal Condition
2	FM Radio Input or N.C	-
3	NC (Address Pin)	-
4	SCL	0 to 3.3 V <sub>dc</sub>
5	SDA	0 to 3.3 V <sub>dc</sub>
6/7	Supply Voltage	5 V <sub>dc</sub> +/- 0.25 V
8	N.C	-
9	Tuning Supply Voltage	30 to 35 V <sub>dc</sub>
10	FM Radio IF Output/Ground	-
11	TV IF Output	-

Pin assignment of the several SAW filters (depends on region/execution):

**Table: Pinning SAW filters**

Pin	QSS Video (item 1002)	QSS Video (item 1003)	QSS Audio (item 1001)	Intercarrier (item 1002)
1	Input	Input	Input	Input
2	Input Ground	Input Ground	Switching Input	Input Ground
3	Ground	Ground	Ground	Ground
4	Output	Output	Output	Output
5	Output	Output	Output	Output
6	-	n.c.	-	-
7	-	n.c.	-	-
8	-	Ground	-	-
9	-	Free	-	-
10	-	Switching input	-	-

The table below shows the switching behavior of SAW filter.

**Table: Switching behavior SAW filter**

	Condition	
	High	Low
System	M	BG/DK//L

**Note:** The logic level is measured at the base of transistor 7001.

## Option Settings

The option settings for the Tuner type can be found in Option setting 1 of the SAM mode. The Option settings for Option 1 are as follows:

- Option Byte 1
  - Bit 7: OP\_PHILIPS\_TUNER
  - Bit 6: OP\_FM\_RADIO
  - Bit 5: OP\_LNA
  - Bit 4: OP\_ATS
  - Bit 3: OP\_ACI
  - Bit 2: OP\_UK\_PNP
  - Bit 1: OP\_VIRGIN\_MODE
  - Bit 0: OP\_CHINA

For more details on the option settings, please refer to the chapter 8 "Alignments".

## Source Select

For this chassis, the audio/video source selection is controlled via the Hercules. The Audio/Video Source Select is one of the more complex functions due to its diversity and complex switching. The Audio/Video Source Select comprises of the following components:

- The Hercules itself for Mono Audio and Video Source Selection.
- The HEF switch for Stereo Audio as well as Video Selection.

## Options

The option settings for the Source Selection can be found in Option settings of the SAM mode. The Option settings for Option 5 are as follows:

- Option Byte 5
  - Bit 7: AV1
  - Bit 6: AV2
  - Bit 5: AV3
  - Bit 4: CVI
  - Bit 3: SVHS2
  - Bit 2: SVHS3
  - Bit 1: HOTEL MODE
  - Bit 0:

For more detail on the option settings, please refer to the chapter 8 "Alignments".

## Diversity

The basic diversity of the Audio/Video Source Select is between the Mono and the Stereo sets and the number of Cinch/SCART's as specified in the product specification.

The table below shows the Audio/Video Source Select diversity for all regions:

**Table: AV Source Select diversity**

Pin	Symbol	Remark
51	R/Pr IN3	AV1 (CVI)
50	G/Y IN3	
49	B/Pb IN3	
52	INSSW3	
74	CVBS2/Y2	
95	AUDIO IN5 L	
94	AUDIO IN5 R	
73	AUDIO IN3 L	AV2 (SVHS)
72	AUDIO IN3 R	
71	CVBS3/Y3	
70	C2/C3	
80	AUDIO IN4 L	Side (SHVS)
79	AUDIO IN4 R	
78	CVBS4/Y4	
77	C4	
81	IFVO/SVO/CVBSI	Monitor Out
67	AUD OUT HP L	
66	AUD OUT HP R	
69	AUD OUT LS L (AUD OUT/AM OUT)	HP/ LS Out
68	AUD OUT LS R	



59	V IN (R/Pr IN2/CX)	Interface
58	U IN (B/Pb IN2)	
57	Y IN (G/Y IN2/CVBS-Yx)	
54	U OUT (INSSW2)	
76	AUDIO IN2 L	
75	AUDIO IN2 R	
86	DVBO/IFVO/FMRO	N.C.
65	CVBSO/PIP	PIP application
56	Y SYNC	100 nF
55	Y OUT	100 nF
53	V OUT (SWO)	N.C.
93	AUD OUT S L	N.C.
92	AUD OUT S R	N.C.

**Table: SCART Source Select diversity**

Pin	Symbol	Remark
51	R/Pr IN3	SCART 1
50	G/Y IN3	
49	B/Pb IN3	
52	INSSW3	
74	CVBS2/Y2	
86	DVBO/IFVO/FMRO	
95	AUDIO IN5 L	
94	AUDIO IN5 R	
93	AUD OUT S L	
92	AUD OUT S R	
71	CVBS3/Y3	SCART 2
70	C2/C3	
81	IFVO/SVO/CVBSI	
73	AUDIO IN3 L	
72	AUDIO IN3 R	
67	AUD OUT HP L	
66	AUD OUT HP R	
80	AUDIO IN4 L	Side I/O
79	AUDIO IN4 R	
78	CVBS4/Y4	
77	C4	
69	AUD OUT LS L (AUD OUT/AM OUT)	LS/ HP/ MON OUT
68	AUD OUT LS R	

Pin	Symbol	Remark
59	V IN (R/Pr IN2/CX)	Interface
58	U IN (B/Pb IN2)	
57	Y IN (G/Y IN2/CVBS-Yx)	
54	U OUT(INSSW2)	
76	AUDIO IN2 L	
75	AUDIO IN2 R	
65	CVBSO/PIP	for PIP
56	YSYNC	100 nF
55	YOUT	100 nF
53	VOUT(SWO)	N.C.

## Audio Source Selection

The signals coming out of the DEMDEC (internal demodulator/decoder block of the Hercules) are selectable and consist of the following (depending on the transmission):

- DEC L/R (Can be NICAM, FM 2CS, or BTSC Stereo).
- Mono (Refers to fallback/forced Mono in Stereo Transmission).
- SAP.

For L04, the assigned I/O with respect to the Hercules is as follows:

- SCART1 or AV1 Input assigned to **Audio In 5** .
- SCART2 or AV2 Input assigned to **Audio In 3** .
- Side AV Input assigned to **Audio In 4** .
- External Interface Input assigned to **Audio In 2** .
- SCART1 Output assigned to **SCART Output** .

- SCART2 Output (EU) or Monitor Output (LA/NA/AP) assigned to **Headphone Output** .
- Constant Level Output assigned to **Loudspeaker Output** .

## Video Source Selection

Video source selection is done inside the Hercules. Therefore it provides a video switch with 3 external CVBS inputs and a CVBS output. All CVBS inputs can be used as Y-input for Y/C signals. However, only 2 Y/C sources can be selected because the circuit has 2 chroma inputs.

All input signals are converted to YUV, and looped through an external interface. This to enable picture improvement features (like LTI/CTI) or PIP.

## Video Processing

The Video Processor is basically the Hercules and the TDA9178 (CTI/LTI). Video processing is done in these two chips such as the Brightness Control, Contrast Control and so on.

Some features:

- Full YUV-loop interface (alternative functions: DVD, RGB or Y/C).
- Internal OSD insertion (not Saturation or Contrast controlled).
- Double window implementation.
- Linear / non linear scaling for 16:9 sets.
- Tint (hue) on UV signals (including DVD).
- Peaking, Coring, Black \ Blue \ White-stretch.
- Transfer-Ratio and Scavem (also on TXT).

## Features

The features included in the Hercules are as follows:

- Brightness Control.
- Contrast Control.
- Saturation Control.
- Sharpness Control.
- Peak White Limiter.
- Beam Current Limiter.
- Black Stretch (Contrast Plus).

For sets with the TDA9178, there are two extra features:

- Luminance Transient Improvement (LTI).
- Color Transient Improvement (CTI).

## Block Diagram

Following diagram is the block diagram of the video processing part:

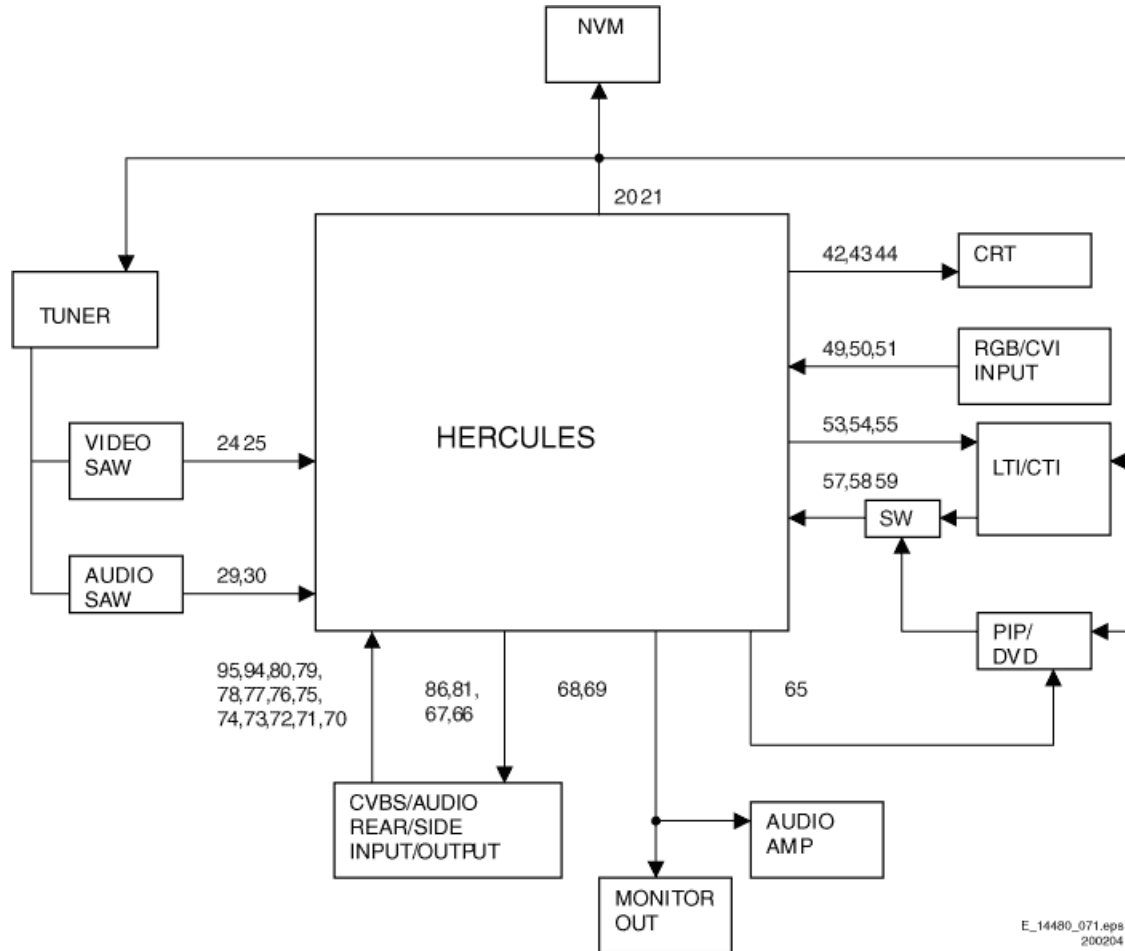


Figure: Video processing block diagram

## LTI/CTI

The TDA9178 is an I2C-bus controlled IC (INCREDIBLE chip) with YUV interface. This IC can do mainly histogram processing, color transient improvement (CTI) and line transient improvement (LTI).

- Luminance Vector Processing involves histogram function, which provides scene dependent contrast improvement, adaptive black and white point stretching.

- Color Vector Processing involves skin tone correction, green enhancement and blue stretch.
- Spectral Processor involves step improvement processing, contour processing, smart sharpness control, color dependant sharpness and Color Transient Improvement.
- Noise detector, feature mode detector and cue flash functions.
- Demonstration mode shows all the improvement features in one picture.

**Table: Pinning overview TDA9178**

Pin	Symbol	Description
1	SC	Sandcastle input pin
2	n.c.	Not connected pin
3	ADEXT1	External AD-conversion #1 input pin
4	ADEXT2	External AD-conversion #2 input pin
5	ADEXT3	External AD-conversion #3 input pin
6	Y in	Luminance input pin
7	ADR	Address selection input pin
8	U in	-(B-Y) signal input pin
9	V in	-(R-Y) signal input pin
10	TP	Testpin, connected to ground
11	SCL	I2C-bus: clock input pin
12	n.c.	Not connected pin
13	n.c.	Not connected pin
14	SDA	I2C-bus: data input pin
15	DECDIG	Decoupling digital supply
16	V out	-(R-Y) signal output pin

Pin	Symbol	Description
17	U out	-(B-Y) signal output pin
18	V ee	Ground pin
19	Y out	Luminance output pin
20	V cc	Supply-voltage pin
21	S out	Luminance output for SCAVEM
22	CF	Cue-flash output pin
23	n.c.	Not connected pin
24	n.c.	Not connected pin

## Options

The option settings allow for process of the video as per set specification. The option settings can be found in "Option 2" and "Option 6" in the SAM mode. The option settings are as follows:

- Option Byte 2
  - Bit 7:
  - Bit 6 :OP\_GREEN\_UI
  - Bit 5: OP\_CHANNEL\_NAMING,
  - Bit 4: OP\_LTI,
  - Bit 3: OP\_TILT,
  - Bit 2: OP\_FINE\_TUNING
  - Bit 1: OP\_PIP\_PHILIPS\_TUNER,
  - Bit 0: OP\_HUE,



- Option Byte 6
  - Bit 7: OP\_PERSONAL\_ZAPPING,
  - Bit 6:
  - Bit 5: OP\_FMTRAP
  - Bit 4: OP\_COMBFILTER
  - Bit 3: OP\_ACTIVE\_CONTROL
  - Bit 2: OP\_VIDEO\_TEXT
  - Bit 1 :OP\_LIGHT\_SENSOR,
  - Bit 0: OP\_DUAL\_TEXT

For more details on the option settings, please refer to the chapter 8 "Alignments".

## Audio Processing

The audio decoding is done entirely via the Hercules. The IF output from the Tuner is fed directly to either the Video-IF or the Sound-IF input depending on the type of concept chosen. There are mainly two types of decoder in the Hercules, an analog decoder that decodes only Mono, regardless of any standards, and a digital decoder (or DEMDEC) that can decode both Mono as well as Stereo, again regardless of any standards.

In this chassis, the analog decoder is used in two cases:

- It is used for AM Sound demodulation in the Europe SECAM LL' transmission.
- It is used for all FM demodulation in AP AV-Stereo sets.

## Diversity

The diversity for the Audio decoding can be broken up into two main concepts:

- The Quasi Split Sound concept used in Europe and some AP sets.
- The Inter Carrier concept, used in NAFTA and LATAM.

The UOC-III family makes no difference anymore between QSS- and Intercarrier IF, nearly all types are software-switchable between the two SAW-filter constructions.

Simple data settings are required for the set to determine whether it is using the Inter Carrier or the QSS concept. These settings are done via the "QSS" and "FMI" bit found in SAM mode. Due to the diversity involved, the data for the 2 bits are being placed in the NVM location and it is required to write once during startup.

On top of that, it can be further broken down into various systems depending on the region. The systems or region chosen, will in turn affect the type of sound standard that is/are allowed to be decoded.

- For the case of **Europe**, the standard consists of BG/DK/I/LL' for a Multi-System set. There are also versions of Eastern Europe and Western Europe set and the standard for decoding will be BG/DK and I/DK respectively. FM Radio is a feature diversity for the Europe sets. The same version can have either FM Radio or not, independent of the system (e.g. sets with BG/DK/I/LL' can have or not have FM radio).
- For the case of **NAFTA** and **LATAM**, there is only one transmission standard, which is the M standard. The diversity then will be based on whether it has a dBx noise reduction or a Non-dBx (no dBx noise reduction).
- For the case of **AP**, the standard consists of BG/DK/I/M for a Multi-System set. The diversity here will then depends on the region. AP China can have a Multi-System and I/DK version. For India, it might only be BG standard.

## Functionality

The features available in the Hercules are as follows:

- Treble and Bass Control.
- Surround Sound Effect that includes:
  - Incredible Stereo.
  - Incredible Mono.
  - 3D Sound (not for AV Stereo).
  - TruSurround (not for AV Stereo).
  - Virtual Dolby Surround, VDS422 (not for AV Stereo).
  - Virtual Dolby Surround, VDS423 (not for AV Stereo).
  - Dolby Pro-Logic (not for AV Stereo).
- Bass Feature that includes:
  - Dynamic Ultra-Bass.
  - Dynamic Bass Enhancement.
  - BBE (not for AV Stereo).
- Auto-Volume Leveler.
- 5 Band Equalizer.
- Loudness Control.

All the features stated are available for the Full Stereo versions and limited features for the AV Stereo

## Audio Amplifier

The audio amplifier part is very straightforward. It uses the integrated power amplifier TDA2616Q, and delivers a maximum output of 2 x 10 W<sub>rms</sub>.

The maximum operating condition for this amplifier is 21 V unloaded. Normal operating supply is from 7.5 V to 16 V.

Muting is done via the VOLUME\_MUTE line connected to pin 2 of the amplifier-IC and coming from the UOC.

The following table shows pin functionality of the Audio Amplifier:

**Table: Pinning overview TDA2616**

Pin	Pin Name	Normal Operation
1	Input Left	Input AC signal
2	Mute	16 V <sub>dc</sub>
3	Ground	0 V
4	Output L Channel	AC waveform
5	Supply Voltage (negative)	-16 V <sub>dc</sub>
6	Output R Channel	AC waveform
7	Supply Voltage (positive)	+ 16 V <sub>dc</sub>
8	Inverting inputs L and R	0 V
9	Input Right	Input AC signal

## Abbreviation list

<b>Abbreviation</b>	<b>Description</b>
2CS	2 Carrier (or Channel) Stereo
ACI	Automatic Channel Installation: algorithm that installs TV sets directly from cable network by means of a predefined TXT page
ADC	Analogue to Digital Converter
AFC	Automatic Frequency Control: control signal used to tune to the correct frequency
AFT	Automatic Fine Tuning
AGC	Automatic Gain Control: algorithm that controls the video input of the feature box
AM	Amplitude Modulation
AP	Asia Pacific region
AR	Aspect Ratio: 4 by 3 or 16 by 9
ATS	Automatic Tuning System
AV	External Audio Video
AVL	Automatic Volume Leveler
BCL	Beam Current Limitation
B/G	Monochrome TV system. Sound carrier distance is 5.5 MHz

BTSC	Broadcast Television Standard Committee. Multiplex FM stereo sound system, originating from the USA and used e.g. in LATAM and AP-NTSC countries
CC	Closed Caption
CCC	Continuous Cathode Calibration
ComPair	Computer aided rePair
CRT	Cathode Ray Tube or picture tube
CSM	Customer Service Mode
CTI	Color Transient Improvement: manipulates steepness of chroma transients
CVBS	Composite Video Blanking and Synchronization
CVI	Component Video Input
DAC	Digital to Analogue Converter
DBX	Dynamic Bass Expander or noise reduction system in BTSC
D/K	Monochrome TV system. Sound carrier distance is 6.5 MHz
DFU	Direction For Use: description for the end user
DNR	Dynamic Noise Reduction
DSP	Digital Signal Processing
DST	Dealer Service Tool: special remote control designed for dealers to enter e.g. service mode

DVD	Digital Versatile Disc
EEPROM	Electrically Erasable and Programmable Read Only Memory
EHT	Extra High Tension
EHT-INFO	Extra High Tension information
EPG	Electronic Programming Guide
EU	Europe
EW	East West, related to horizontal deflection of the set
EXT	External (source), entering the set via SCART or Cinch
FBL	Fast Blanking: DC signal accompanying RGB signals
FILAMENT	Filament of CRT
FM	Field Memory or Frequency Modulation
H	Horizontal sync signal
HP	Headphone
I	Monochrome TV system. Sound carrier distance is 6.0 MHz
I2C	Integrated IC bus
IF	Intermediate Frequency
IIC	Integrated IC bus
ITV	Institutional TV
LATAM	Latin American countries like Brazil, Argentina, etc.

LED	Light Emitting Diode
L/L'	Monochrome TV system. Sound carrier distance is 6.5 MHz. L' is Band I, L is all bands except for Band I
LS	Large Screen or Loudspeaker
M/N	Monochrome TV system. Sound carrier distance is 4.5 MHz
NC	Not Connected
NICAM	Near Instantaneous Compounded Audio Multiplexing. This is a digital sound system, mainly used in Europe.
NTSC	National Television Standard Committee. Color system mainly used in North America and Japan. Color carrier NTSC M/N = 3.579545 MHz, NTSC 4.43 = 4.433619 MHz (this is a VCR norm, it is not transmitted off-air)
NVM	Non Volatile Memory: IC containing TV related data e.g. alignments
OB	Option Bit
OC	Open Circuit
OP	Option Byte
OSD	On Screen Display
PAL	Phase Alternating Line. Color system mainly used in West Europe (color carrier = 4.433619 MHz) and South America (color carrier PAL M = 3.575612 MHz and PAL N = 3.582056 MHz)



PCB	Printed Circuit board
PLL	Phase Locked Loop. Used for e.g. FST tuning systems. The customer can give directly the desired frequency
POR	Power-On Reset
PTP	Picture Tube Panel (or CRT-panel)
RAM	Random Access Memory
RC	Remote Control handset
RGB	Red, Green, and Blue video signals
ROM	Read Only Memory
SDAM	Service Default / Alignment Mode
SAP	Second Audio Program
SC	Sandcastle: pulse derived from sync signals
S/C	Short Circuit
SCL	Serial Clock
SDA	Serial Data
SECAM	SEquence Couleur Avec Memoire. Color system mainly used in France and East Europe. Color carriers = 4.406250 MHz and 4.250000 MHz
SIF	Sound Intermediate Frequency
SS	Small Screen
STBY	Standby

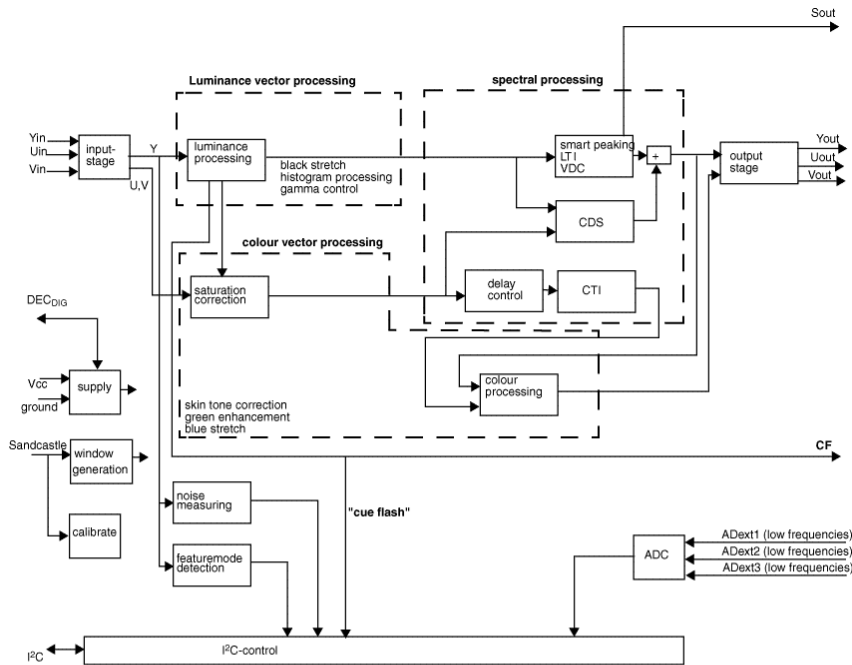
SVHS	Super Video Home System
SW	Software
THD	Total Harmonic Distortion
TXT	Teletext
uP	Microprocessor
UOC	Ultimate One Chip
V	Vertical sync signal
V_BAT	Main supply voltage for the deflection stage (mostly 141 V)
V-chip	Violence Chip
VCR	Video Cassette Recorder
WYSIWYR	What You See Is What You Record: record selection that follows main picture and sound
XTAL	Quartz crystal
YC	Luminance (Y) and Chrominance (C) signal

# IC Data Sheets

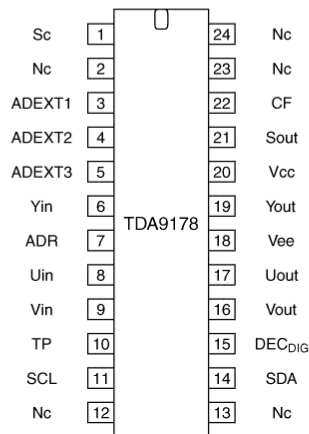
This section shows the internal block diagrams and pin layouts of ICs that are drawn as 'black boxes' in the electrical diagrams (with the exception of 'memory' and 'logic' ICs).

## Diagram H, TDA9178 (IC7610)

### BLOCK DIAGRAM

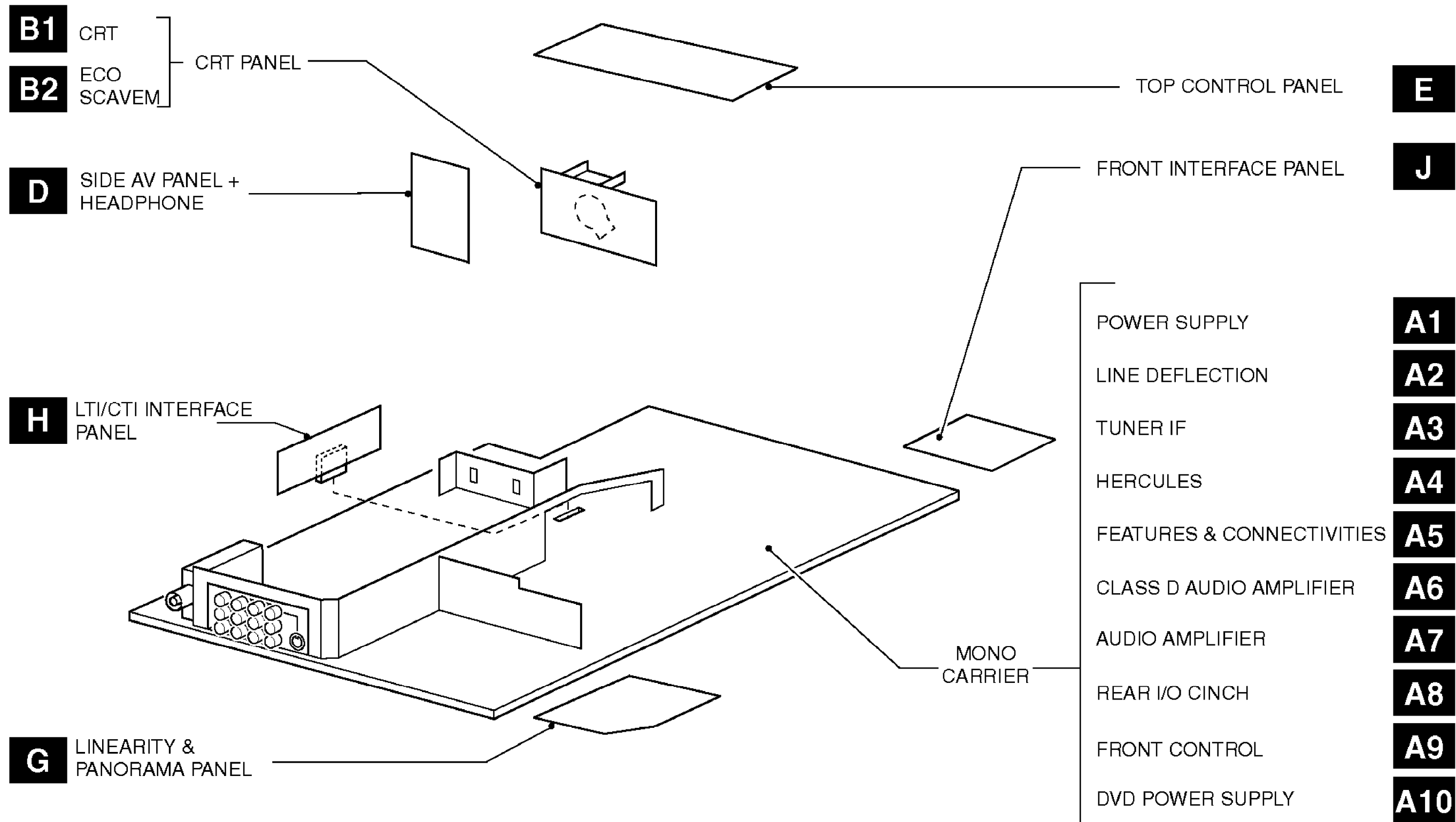


### PIN CONFIGURATION



E\_14480\_075.eps  
270204

Figure: Internal Block Diagram and Pin Configuration



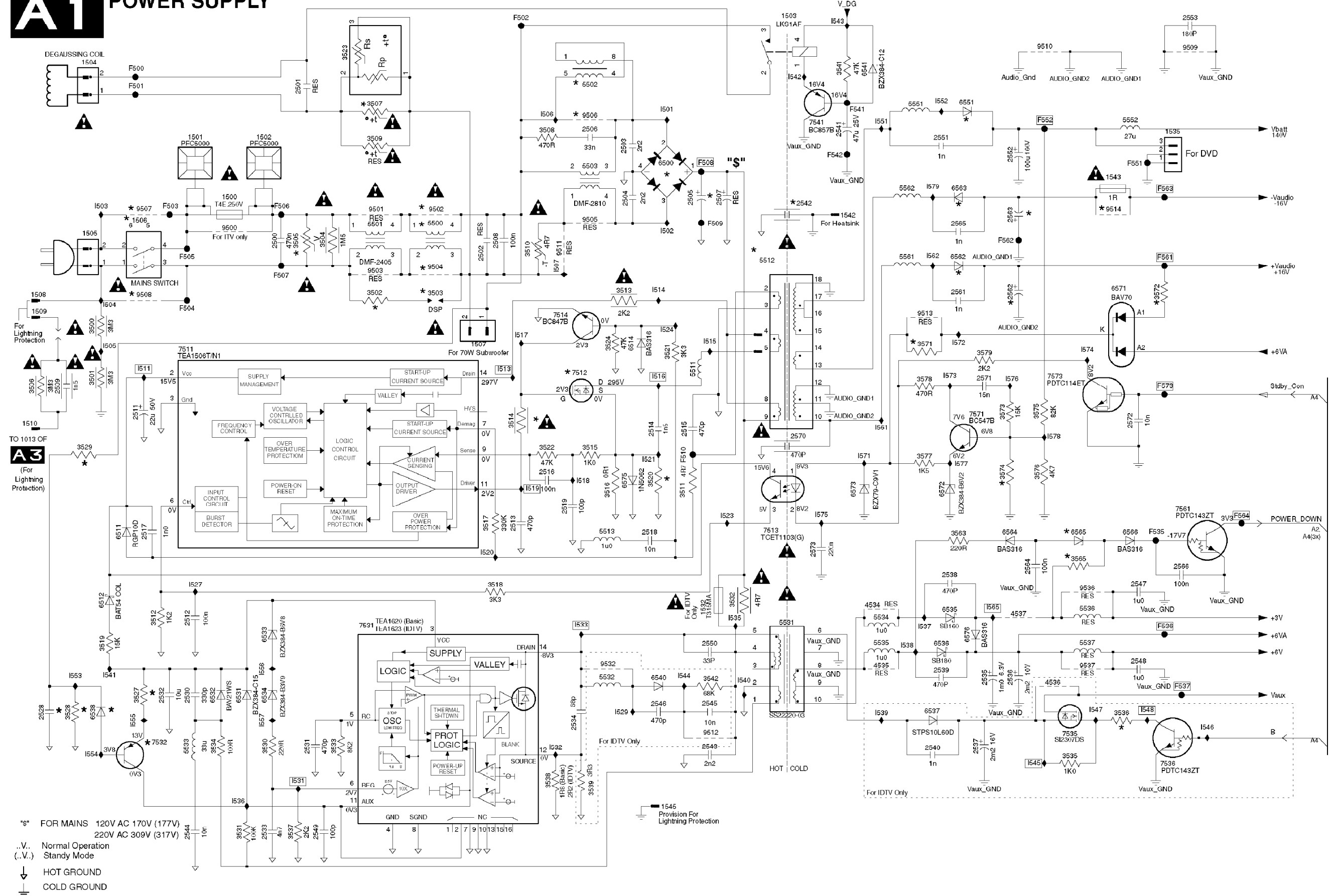
**FOR COMMERCIAL MODELS ONLY**

EPS MODULE

SP/LS MODULE

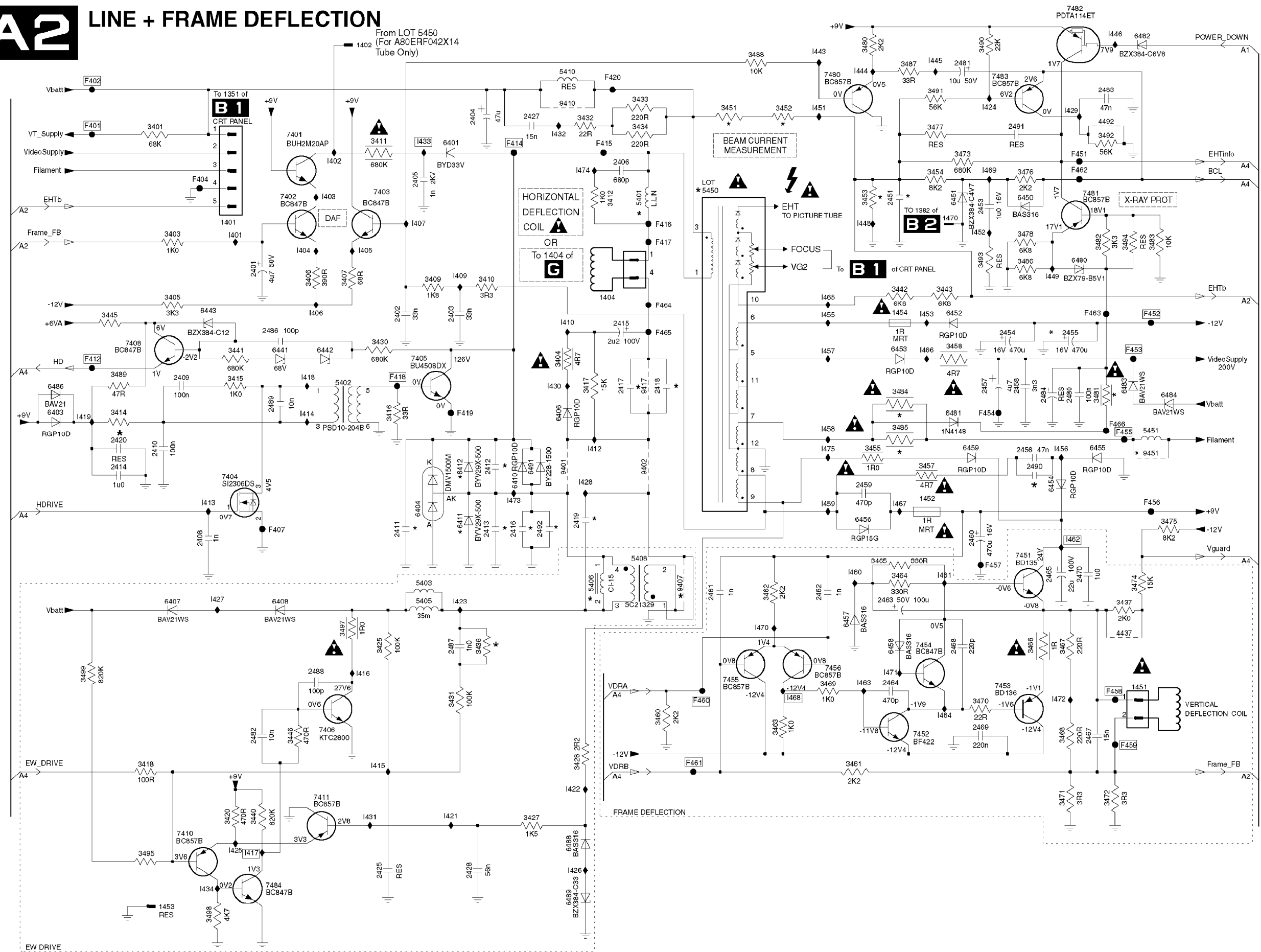
ITV INTERFACE MODULE

# A1 POWER SUPPLY



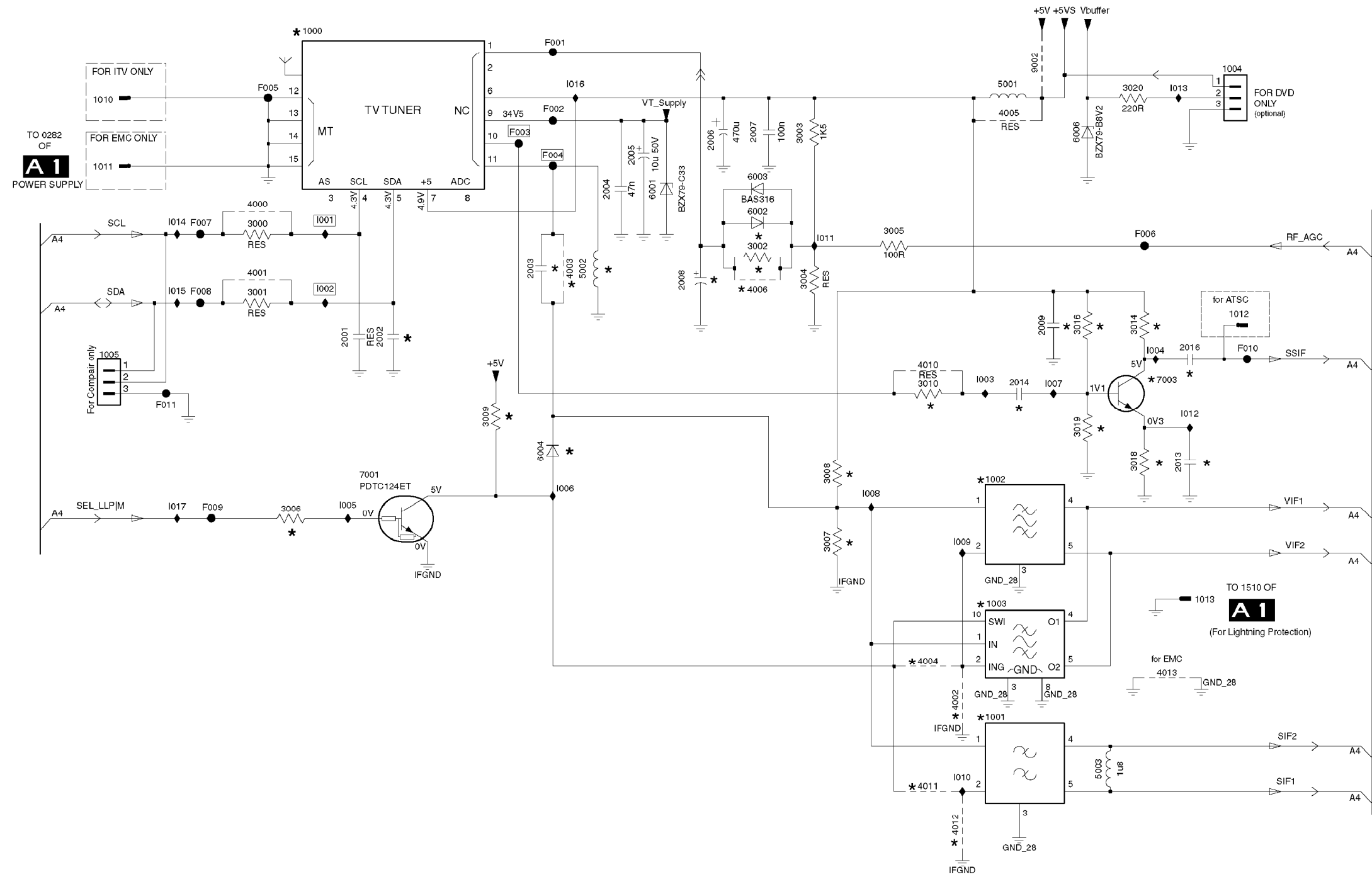
# A2

## LINE + FRAME DEFLECTION

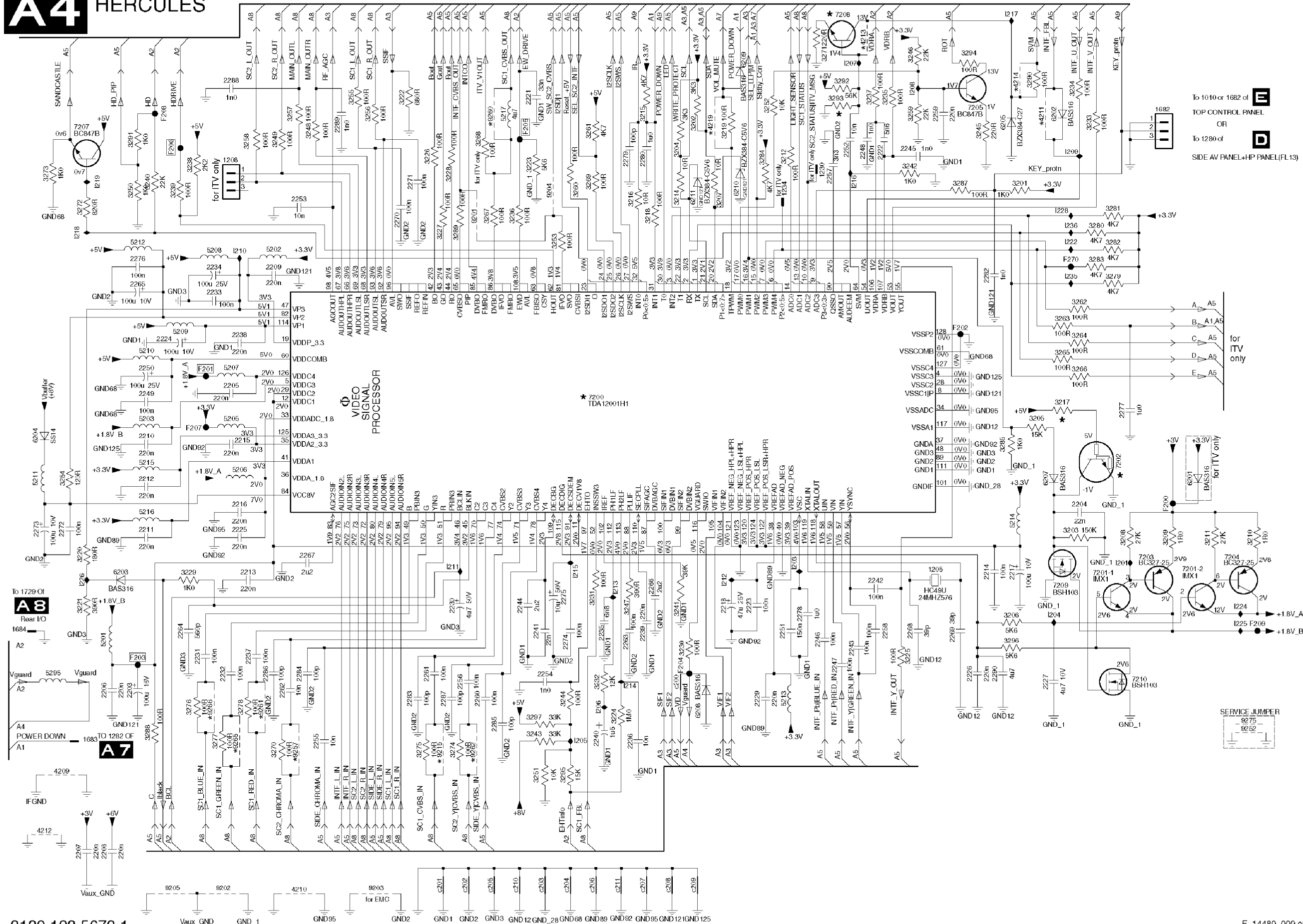


From LOT 5450  
(For A80ERF042X14  
Tube Only)

# A3 TUNER IF



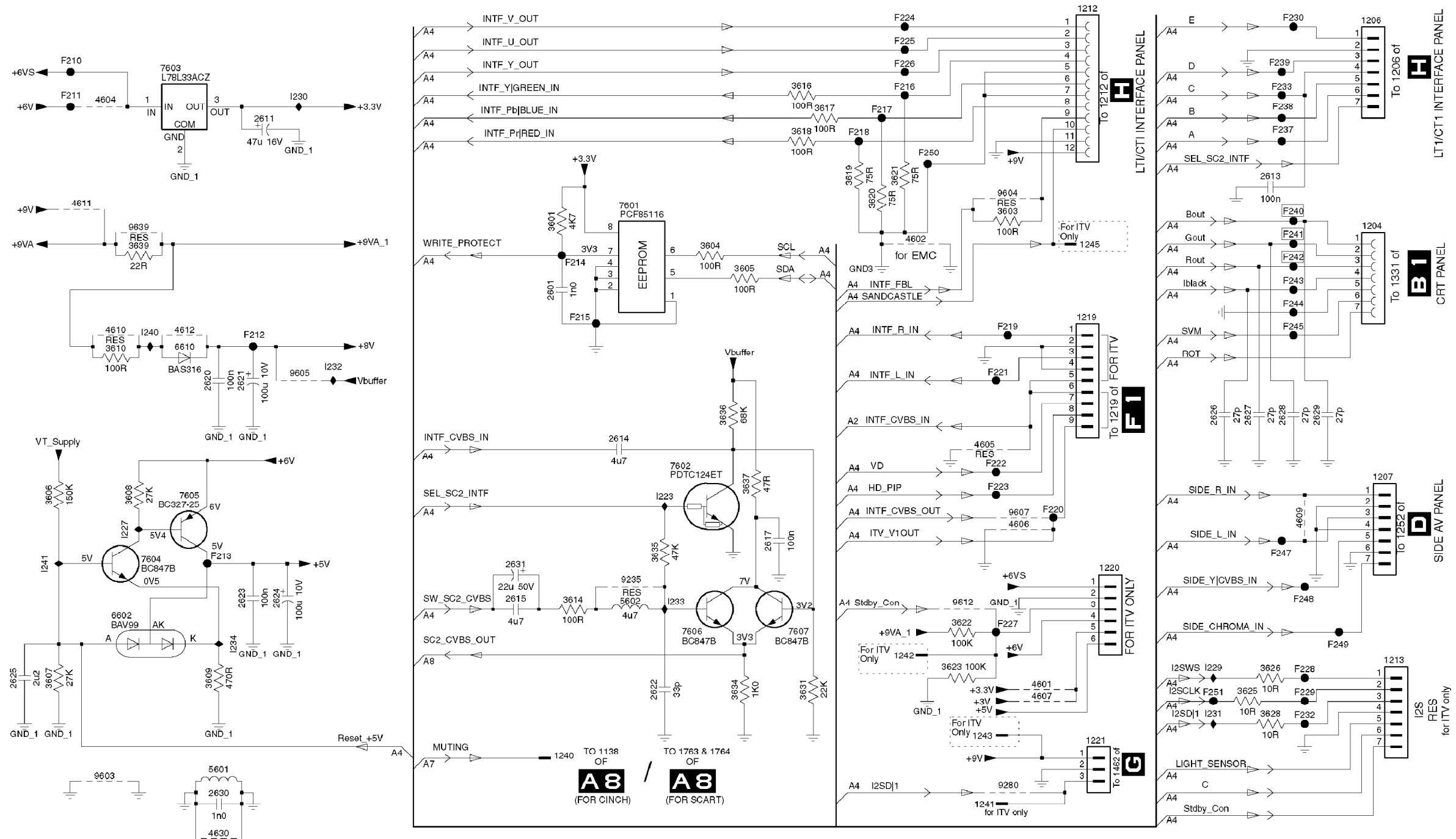
# A4 HERCULES



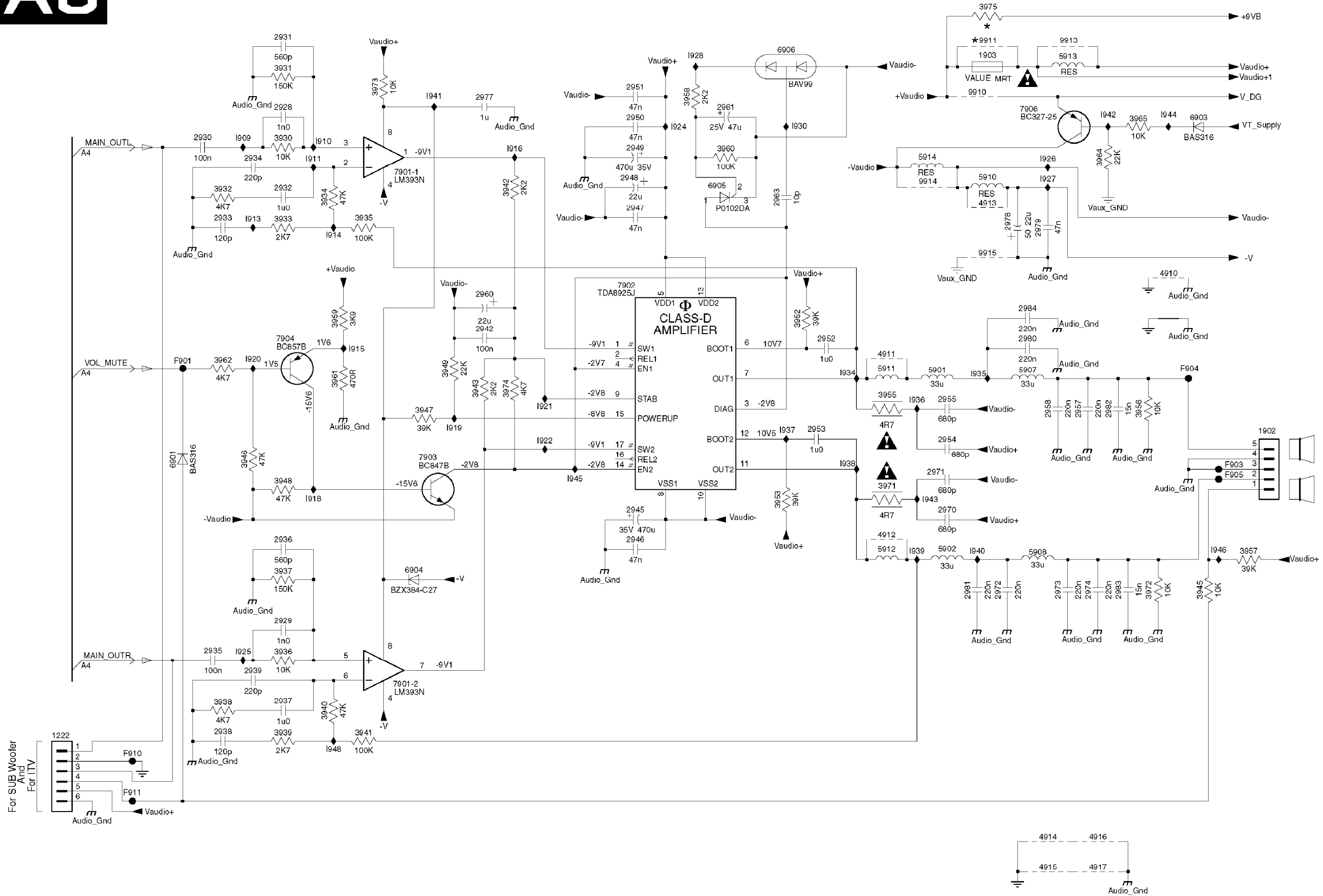
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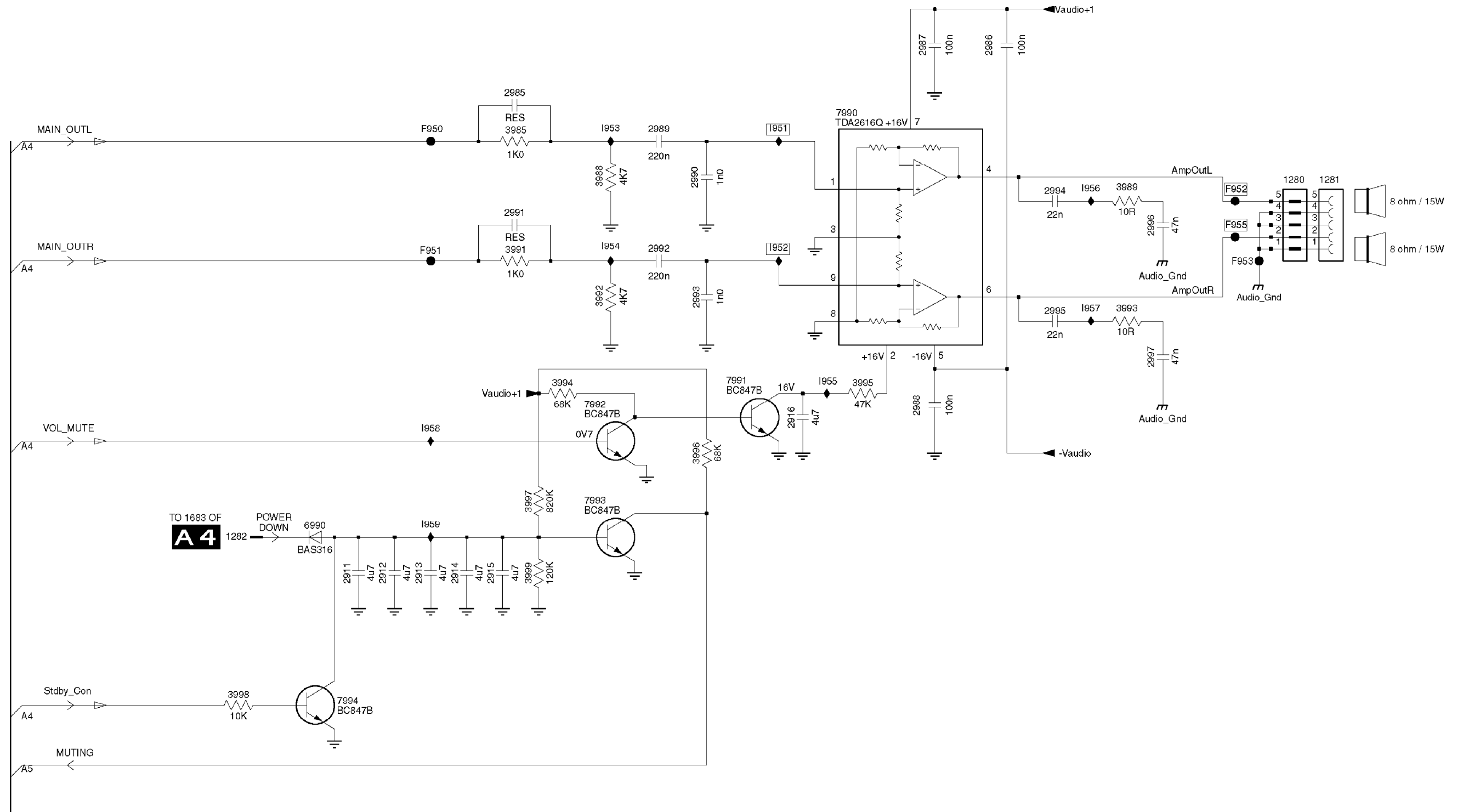
# A5 FEATURES & CONNECTIVITIES



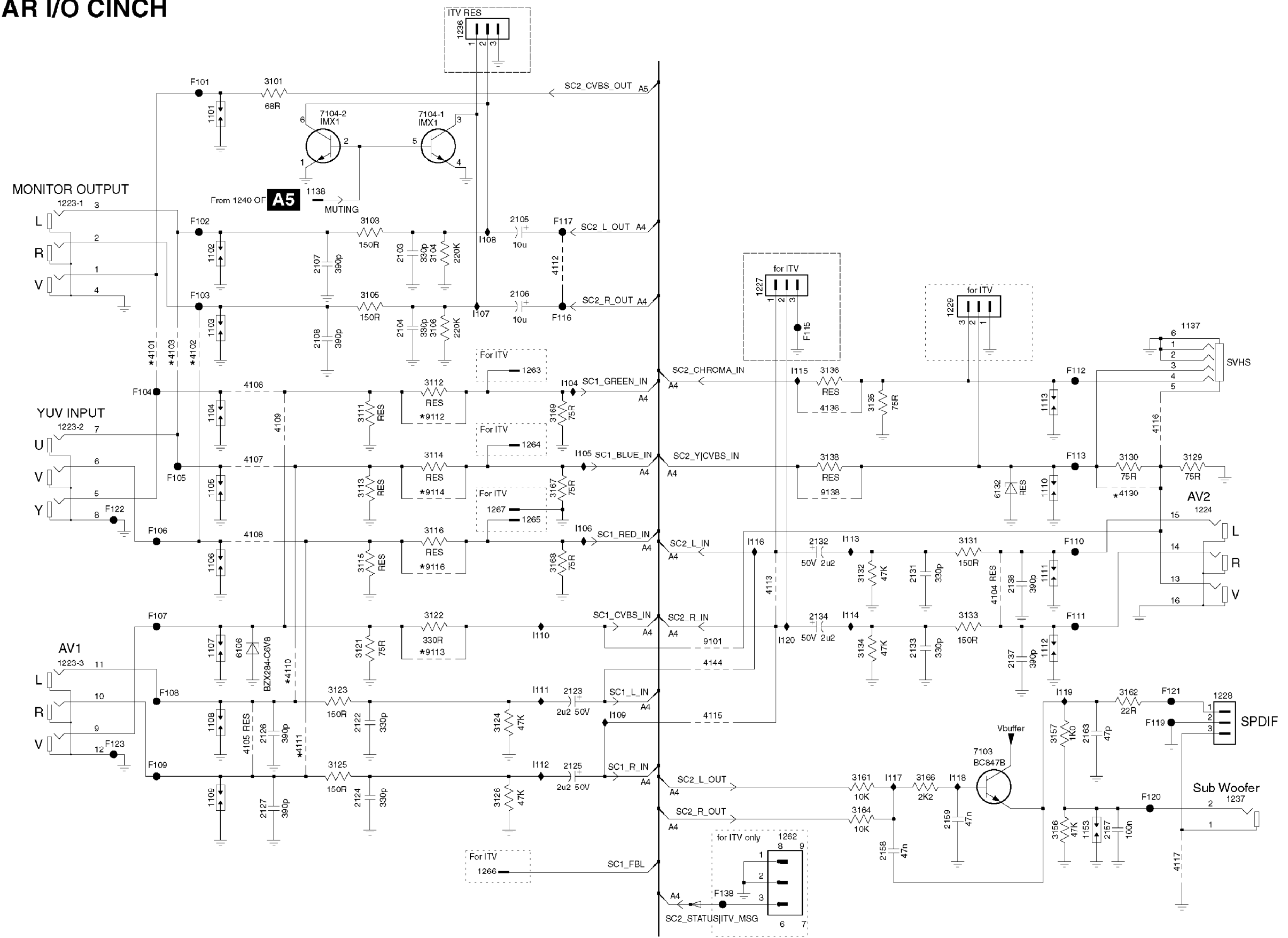
# A6 CLASS D - AUDIO AMP (RESERVED)



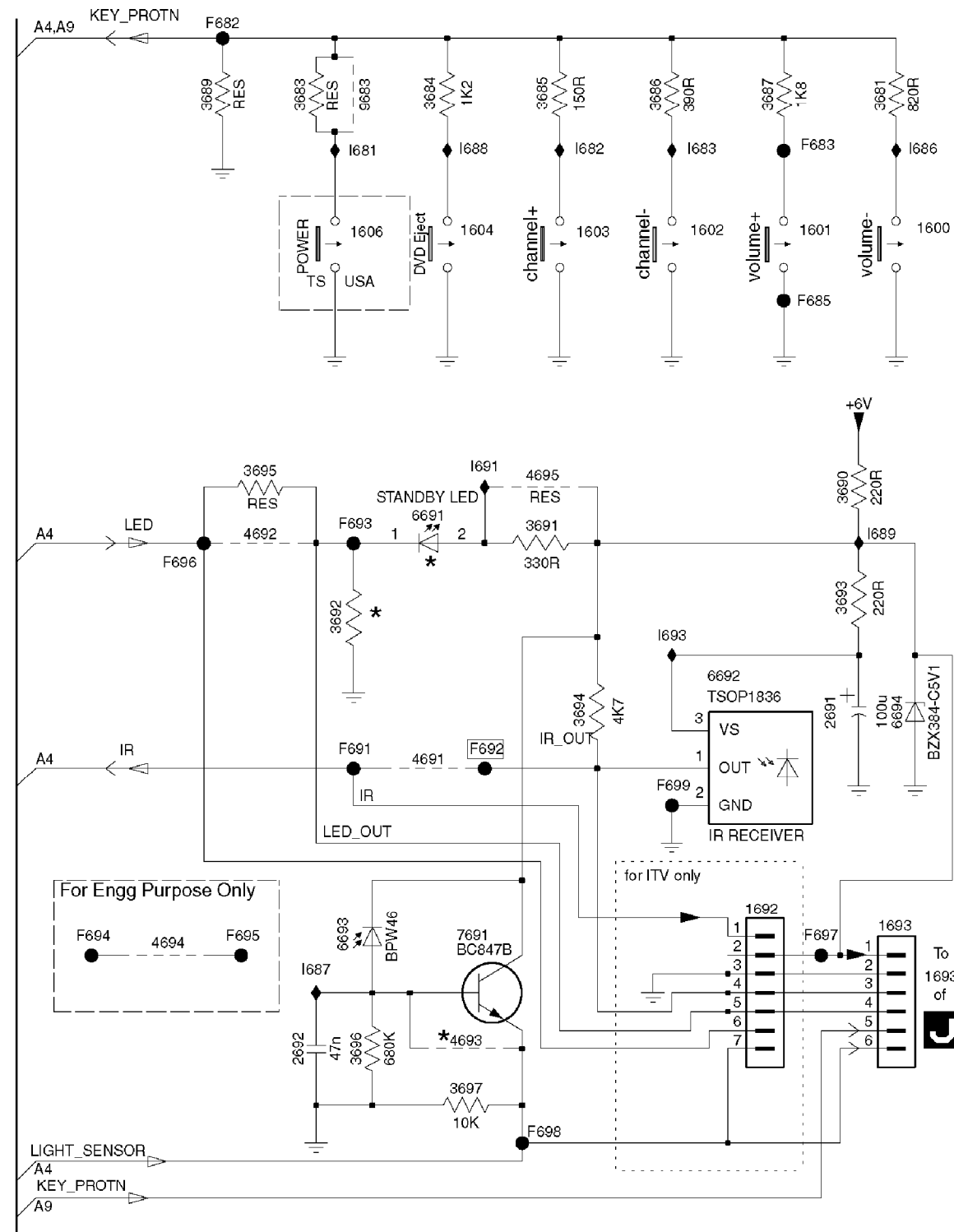
# A7 AUDIO\_AMPLIFIER



# A8 REAR I/O CINCH

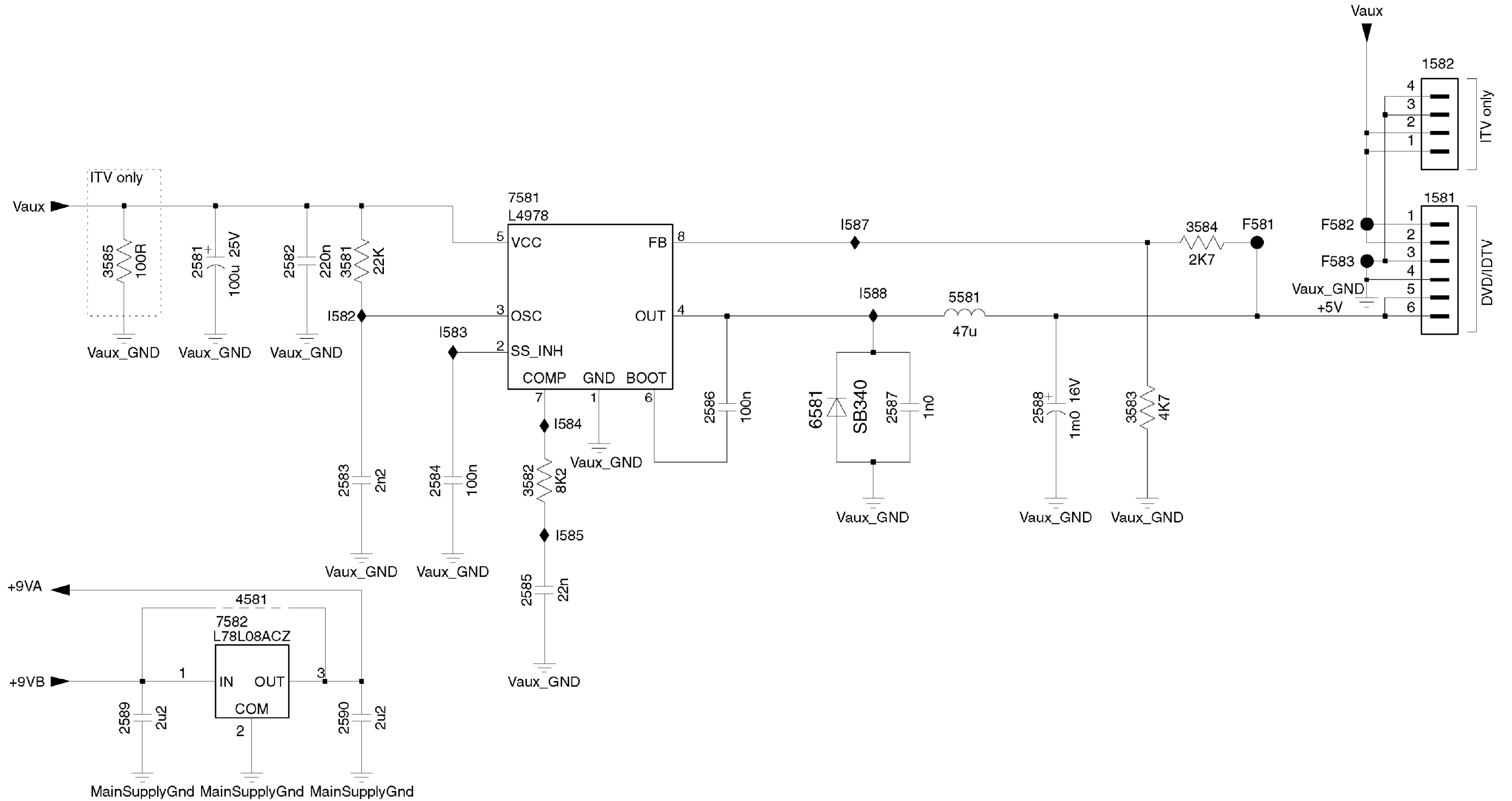


# A9 FRONT CONTROL

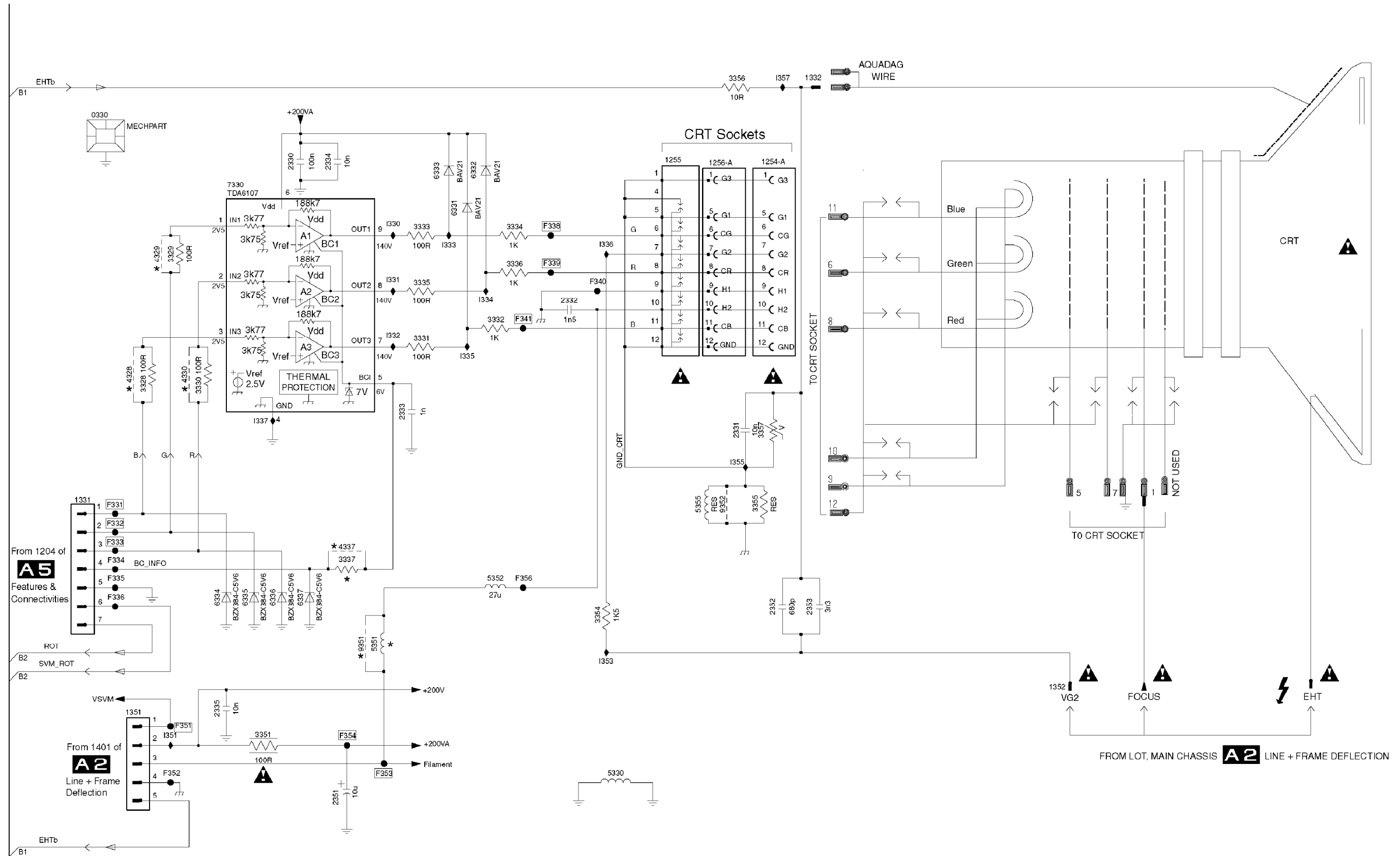




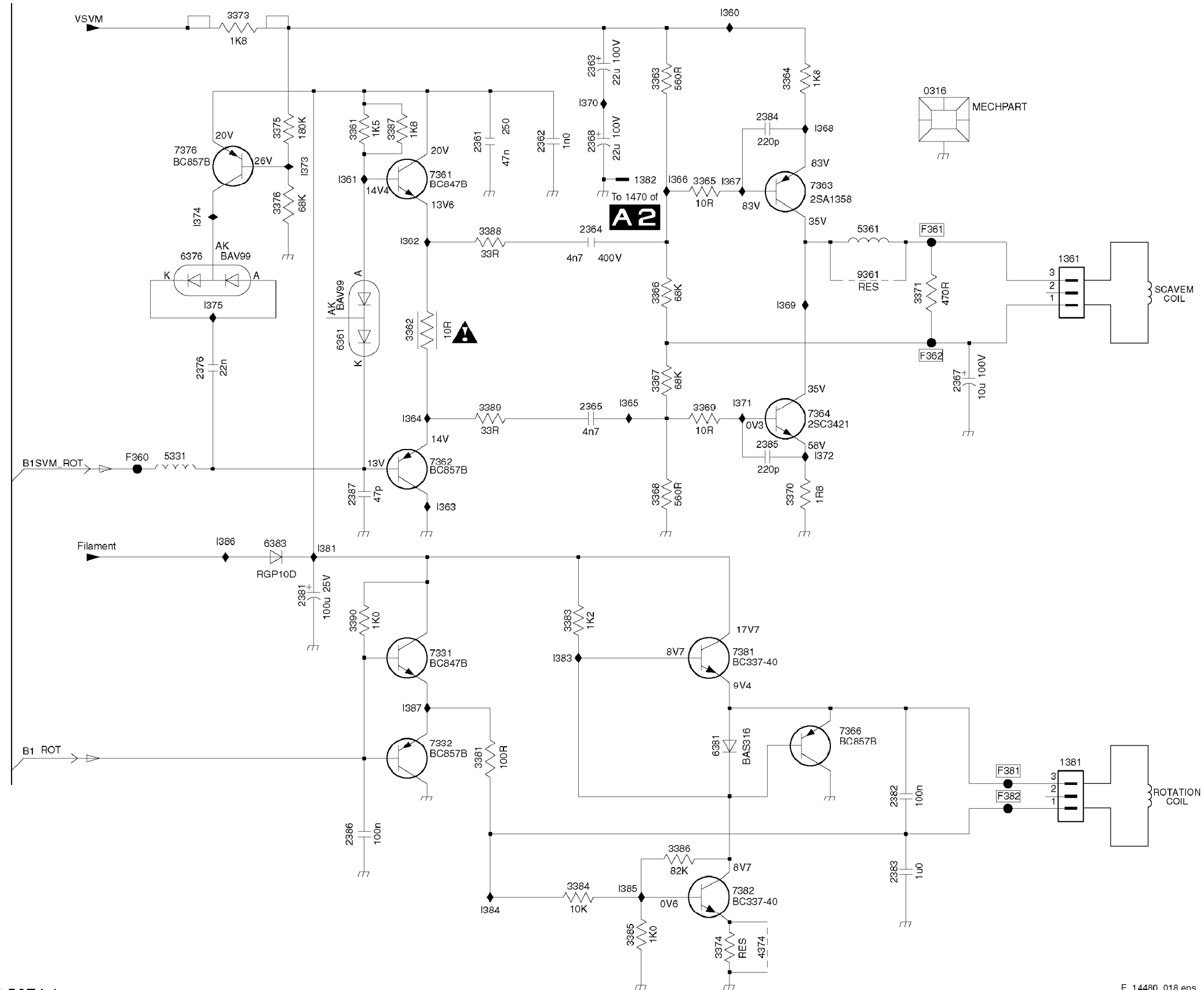
# DVD POWER SUPPLY (RESERVED)



# B1 CRT PANEL

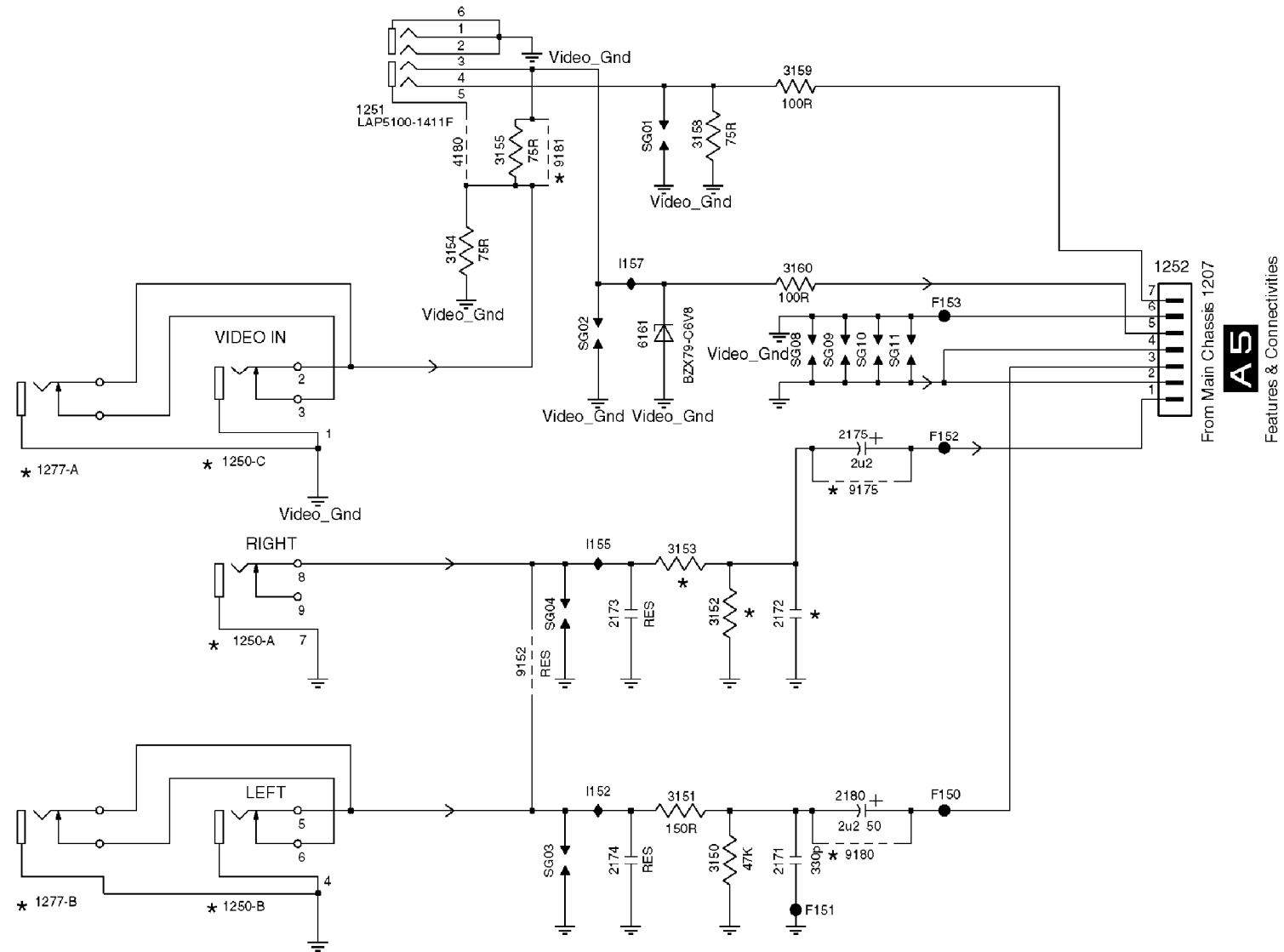


# B2 ECO SCAVEM

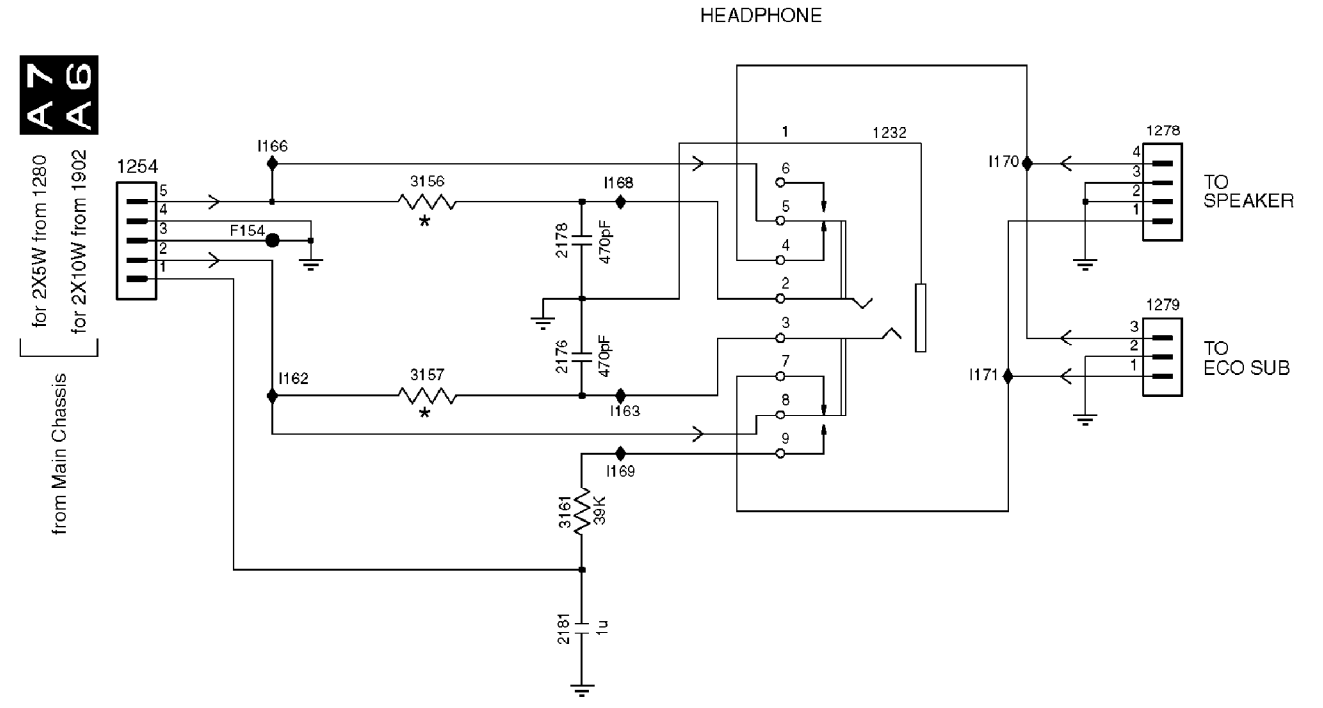




# SIDE AV PANEL + HP PANEL

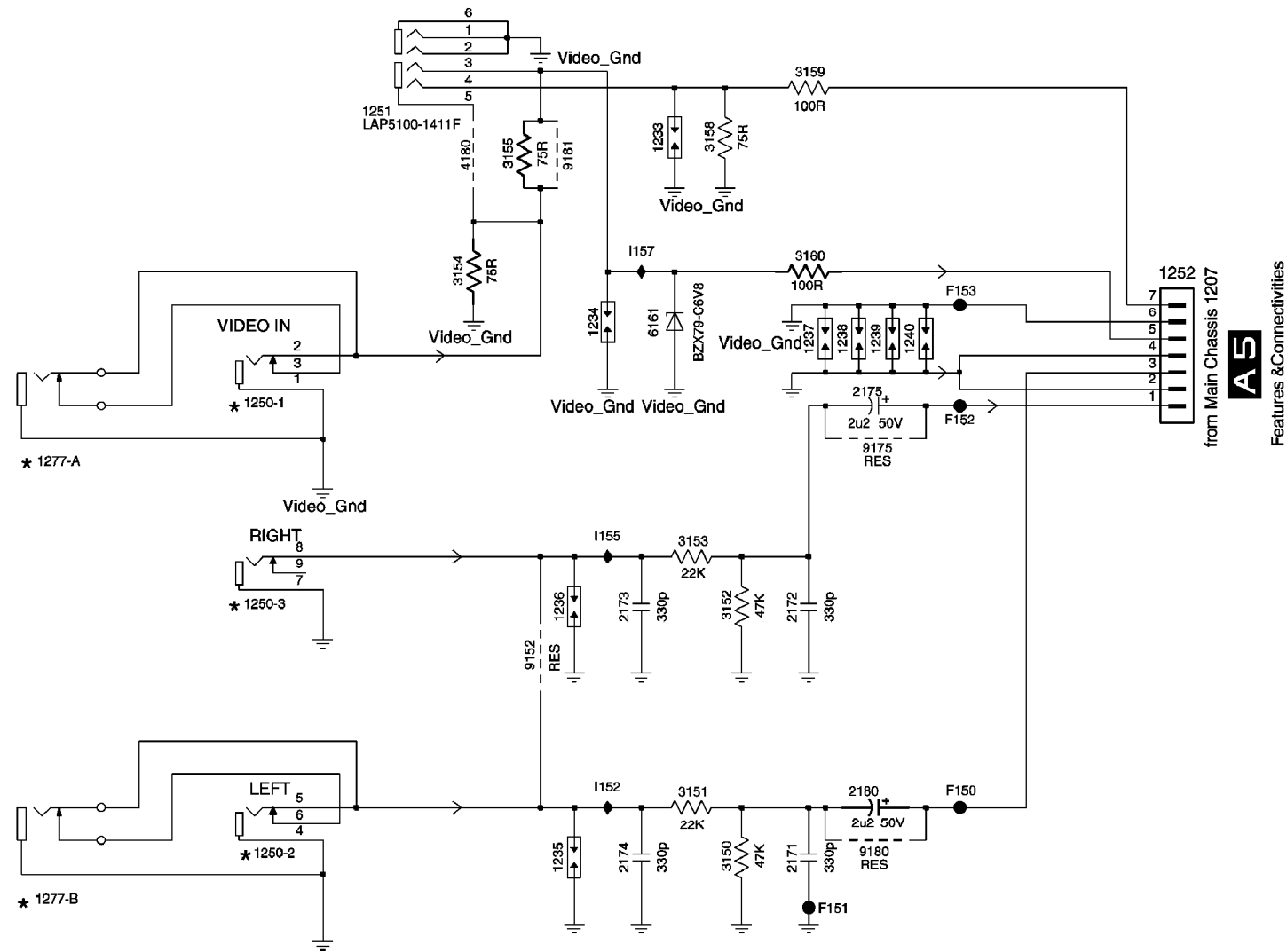


**A5**  
From Main Chassis 1207  
Features & Connectivities



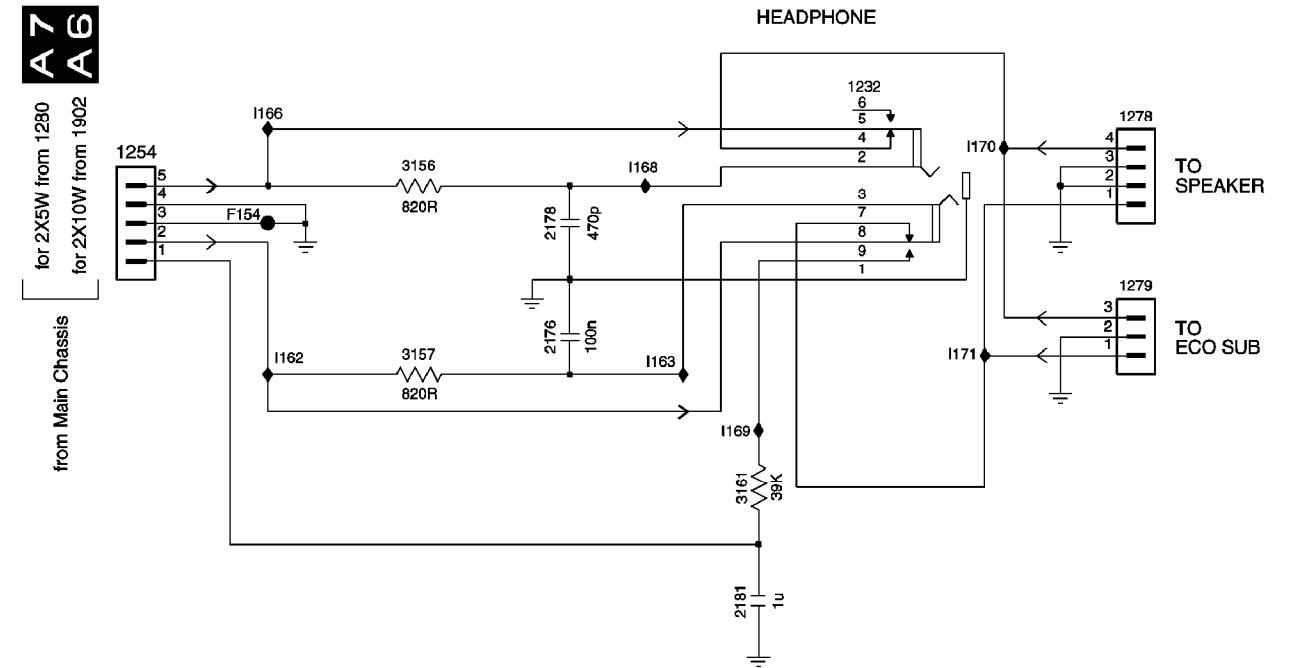
3139 123 5718.1

# SIDE AV PANEL + HP PANEL WIDE



**A5**  
from Main Chassis 1207

Features & Connectivities



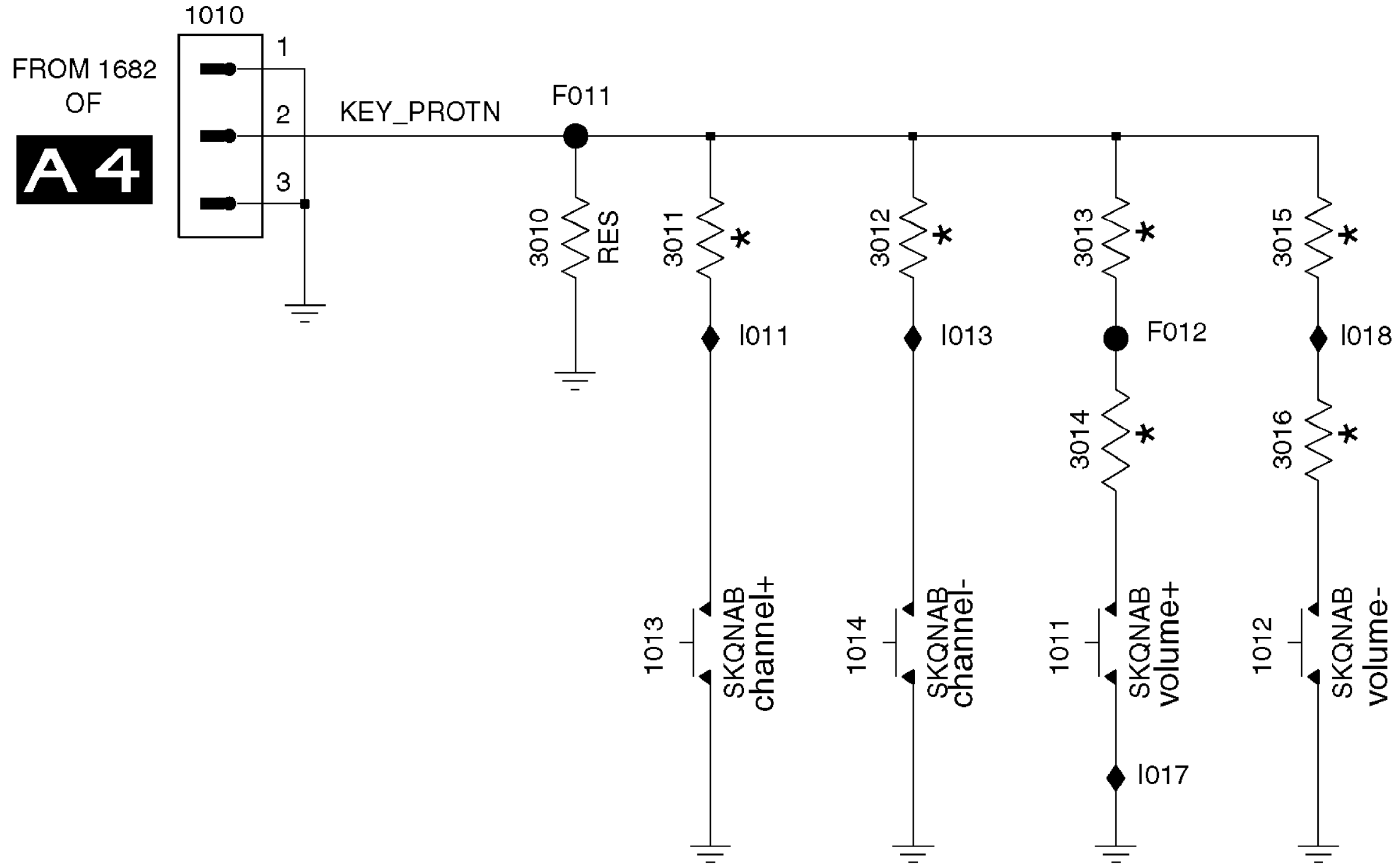
**A7**  
**A6**

for 2X5W from 1280  
for 2X10W from 1902  
from Main Chassis

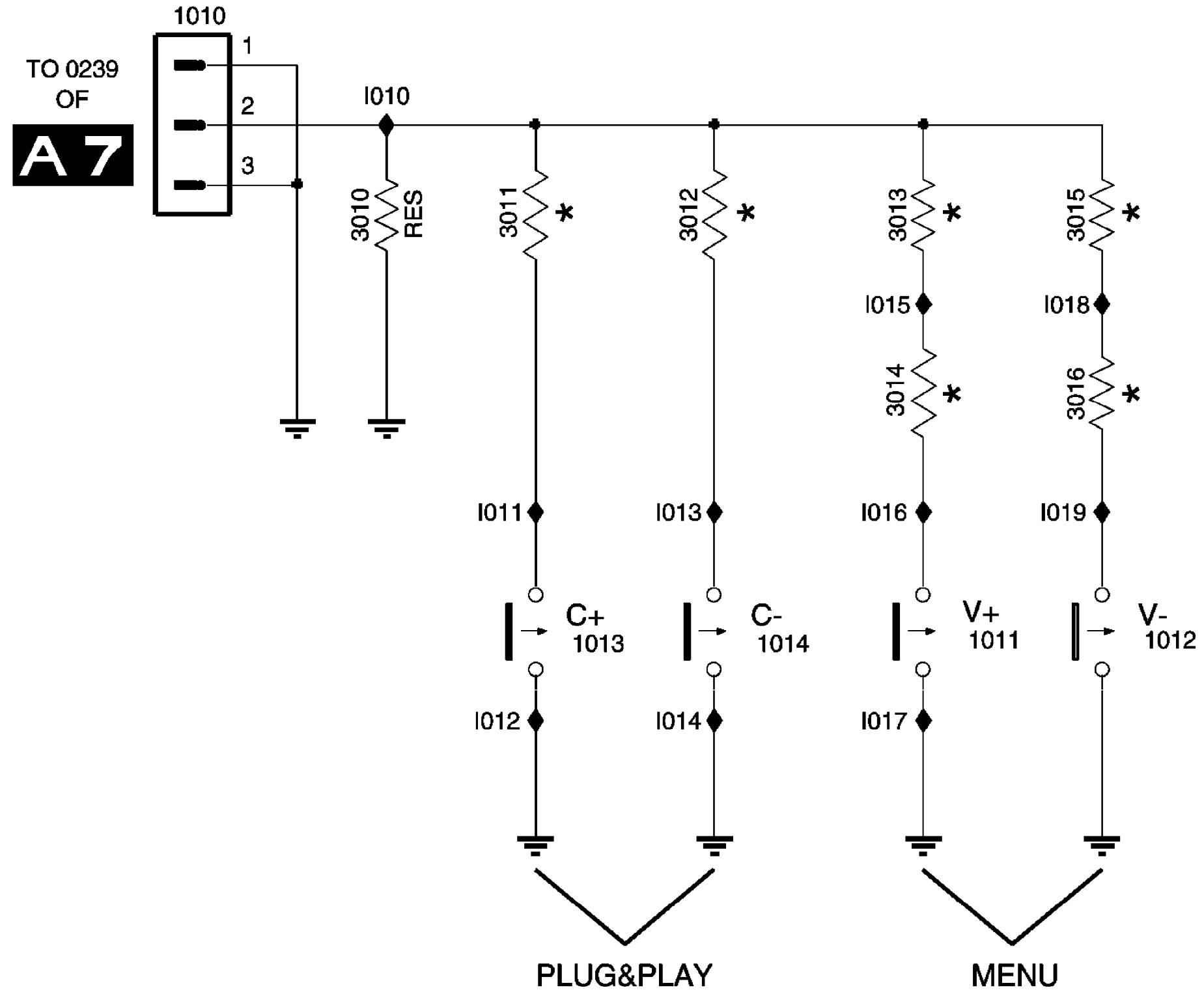
HEADPHONE

TO SPEAKER  
TO ECO SUB

# **E** TOP CONTROL (PV2)

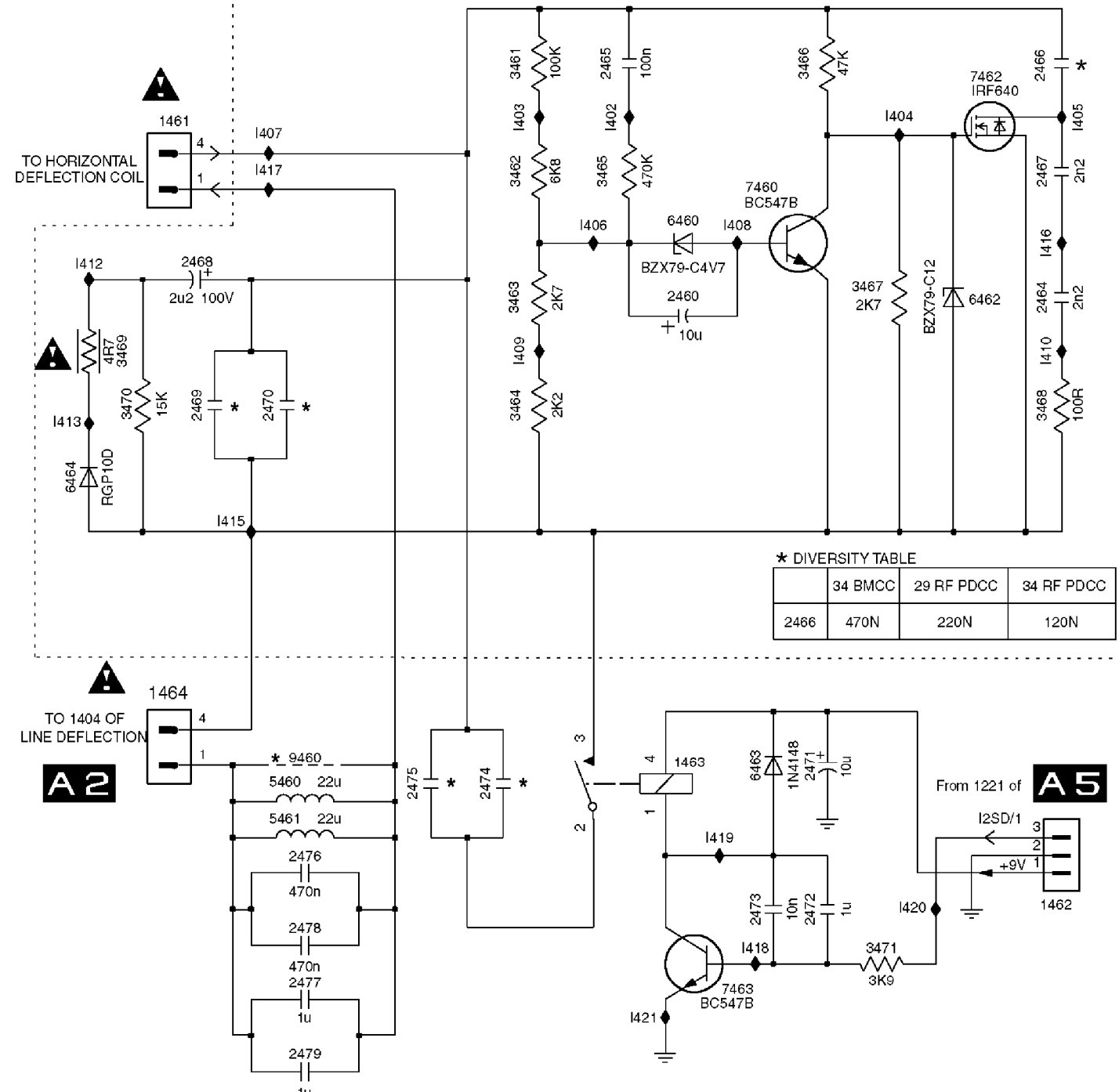


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# G LINEARITY & PANORAMA PANEL

## INNER PIN CUSHION CORRECTION

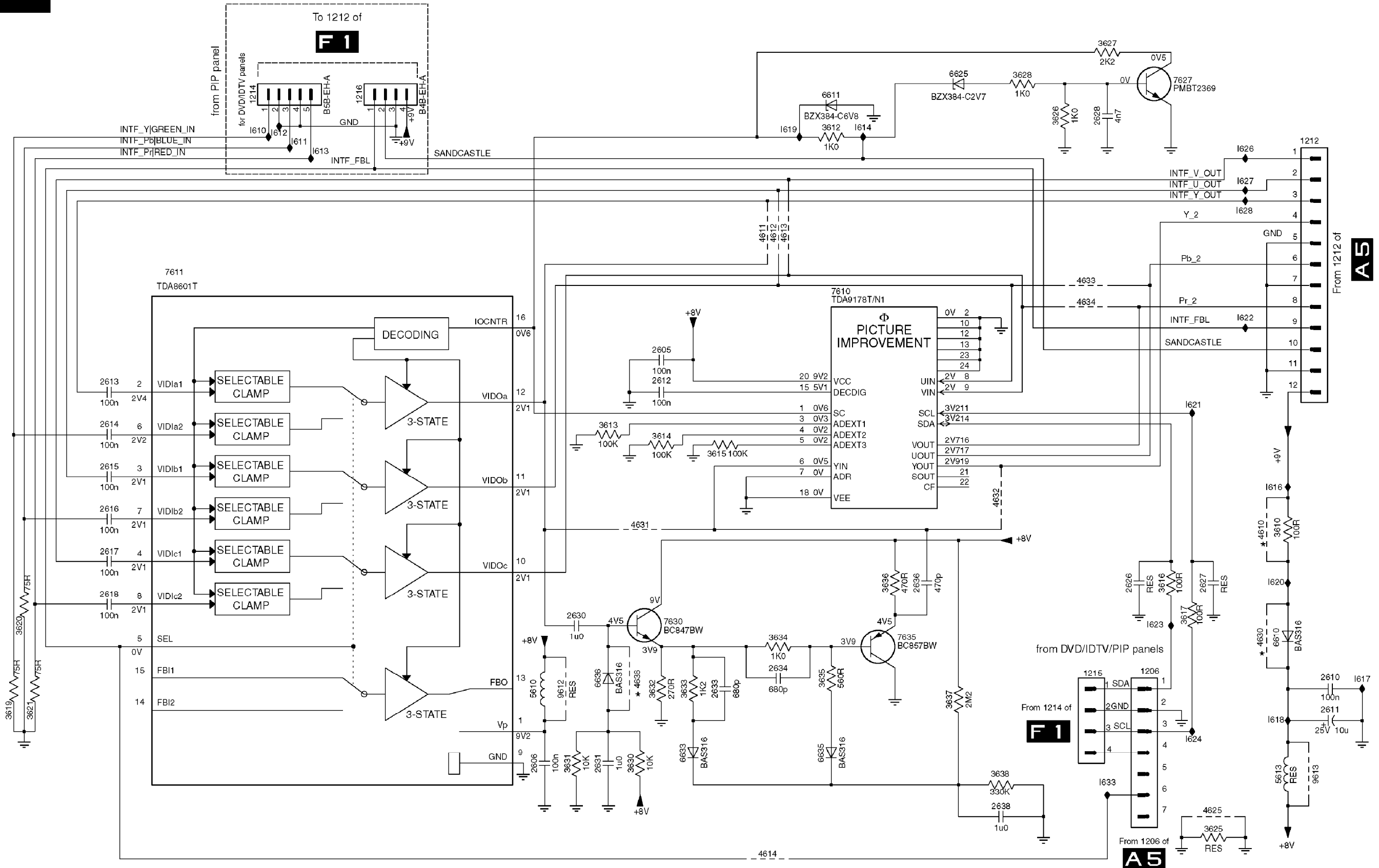


\* DIVERSITY TABLE

	34 BMCC	29 RF PDCC	34 RF PDCC
2466	470N	220N	120N



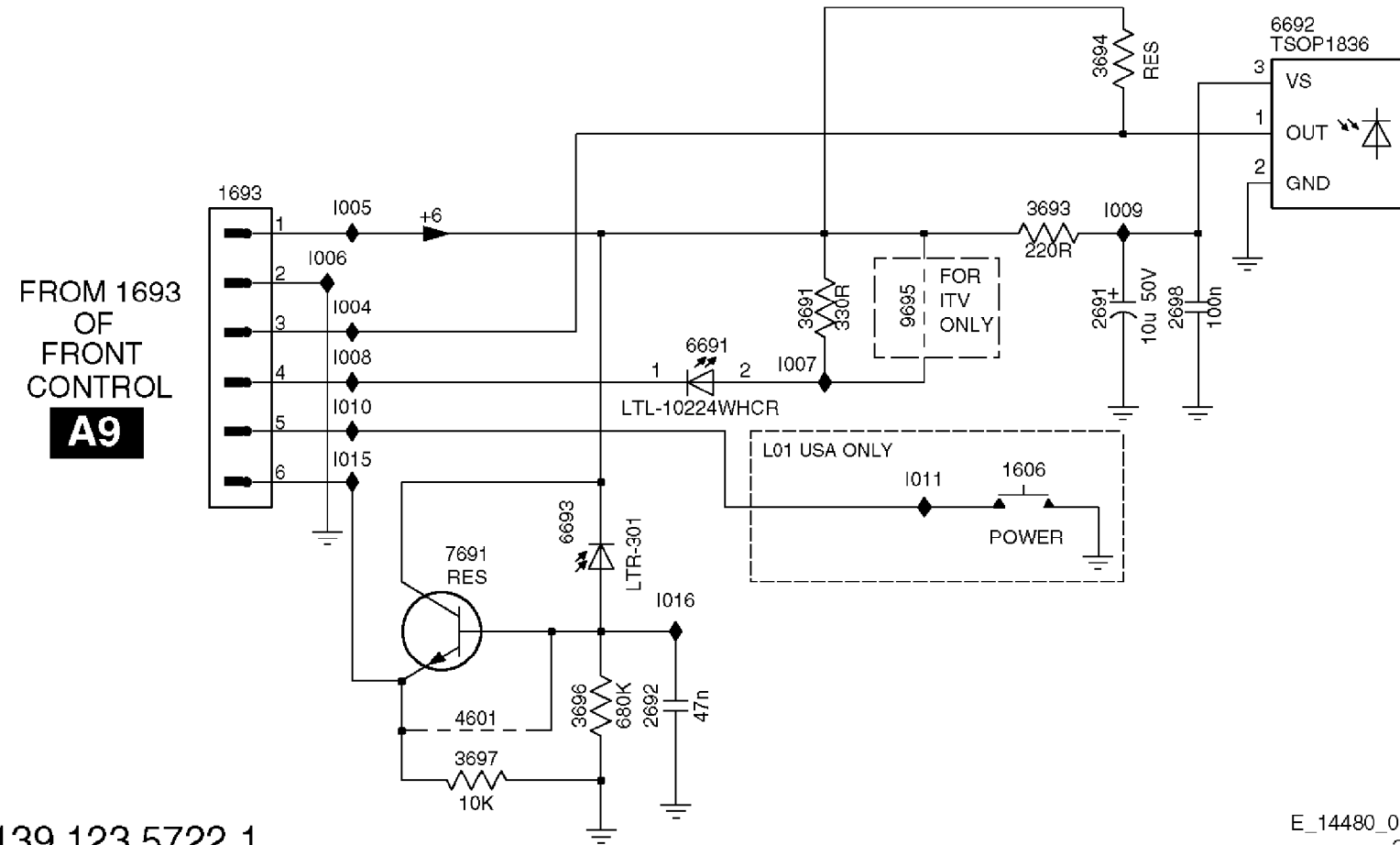
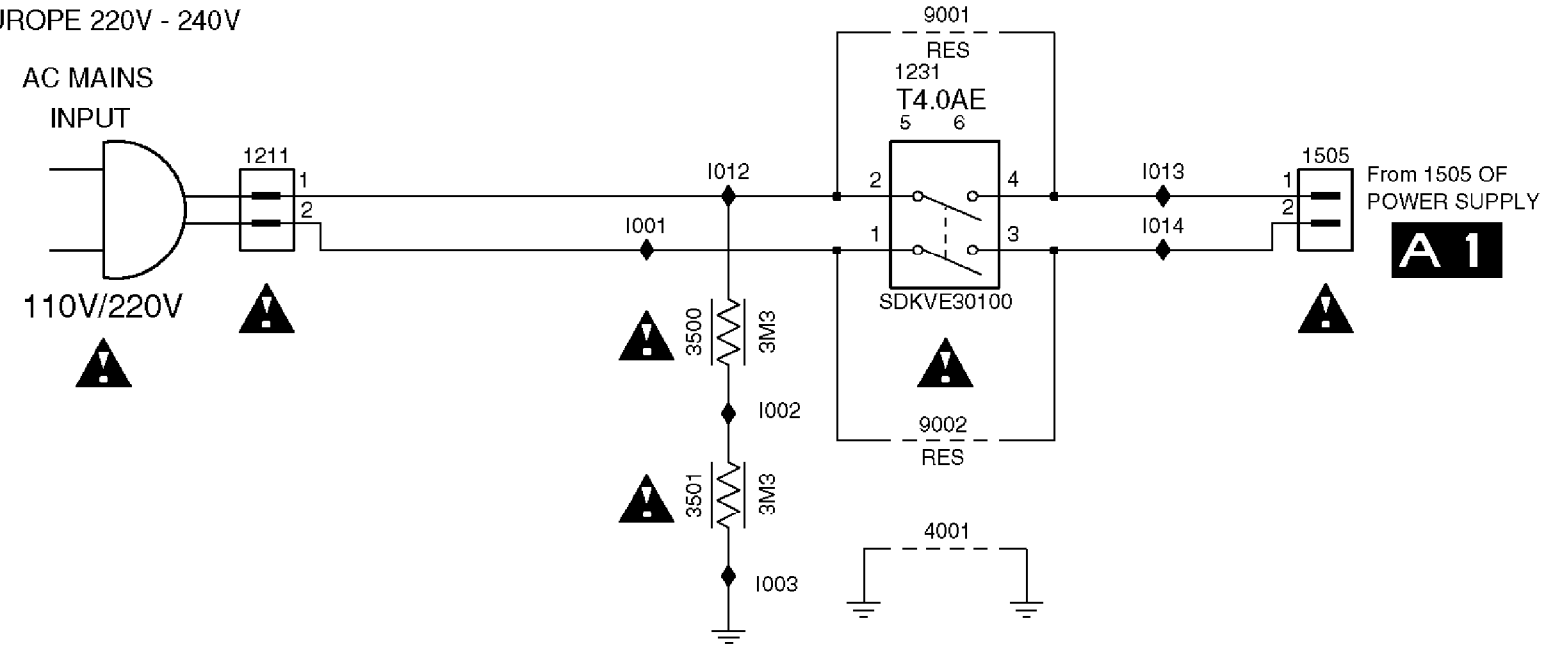
# LT/CTI INTERFACE PANEL



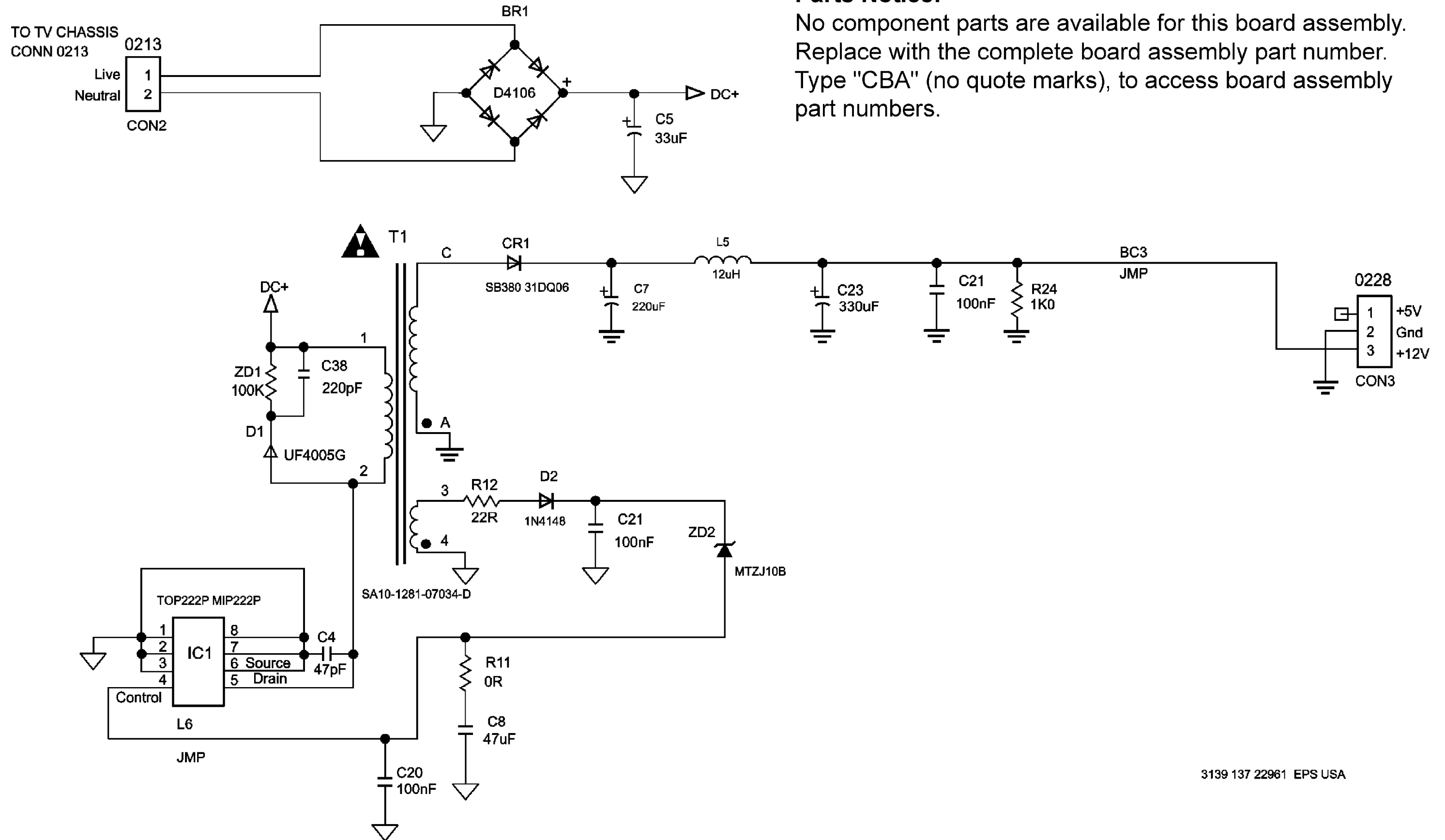


# FRONT INTERFACE PANEL

LATAM 100V - 250V  
NAFTA 110V  
EUROPE 220V - 240V



# EPS MODULE SCHEMATIC

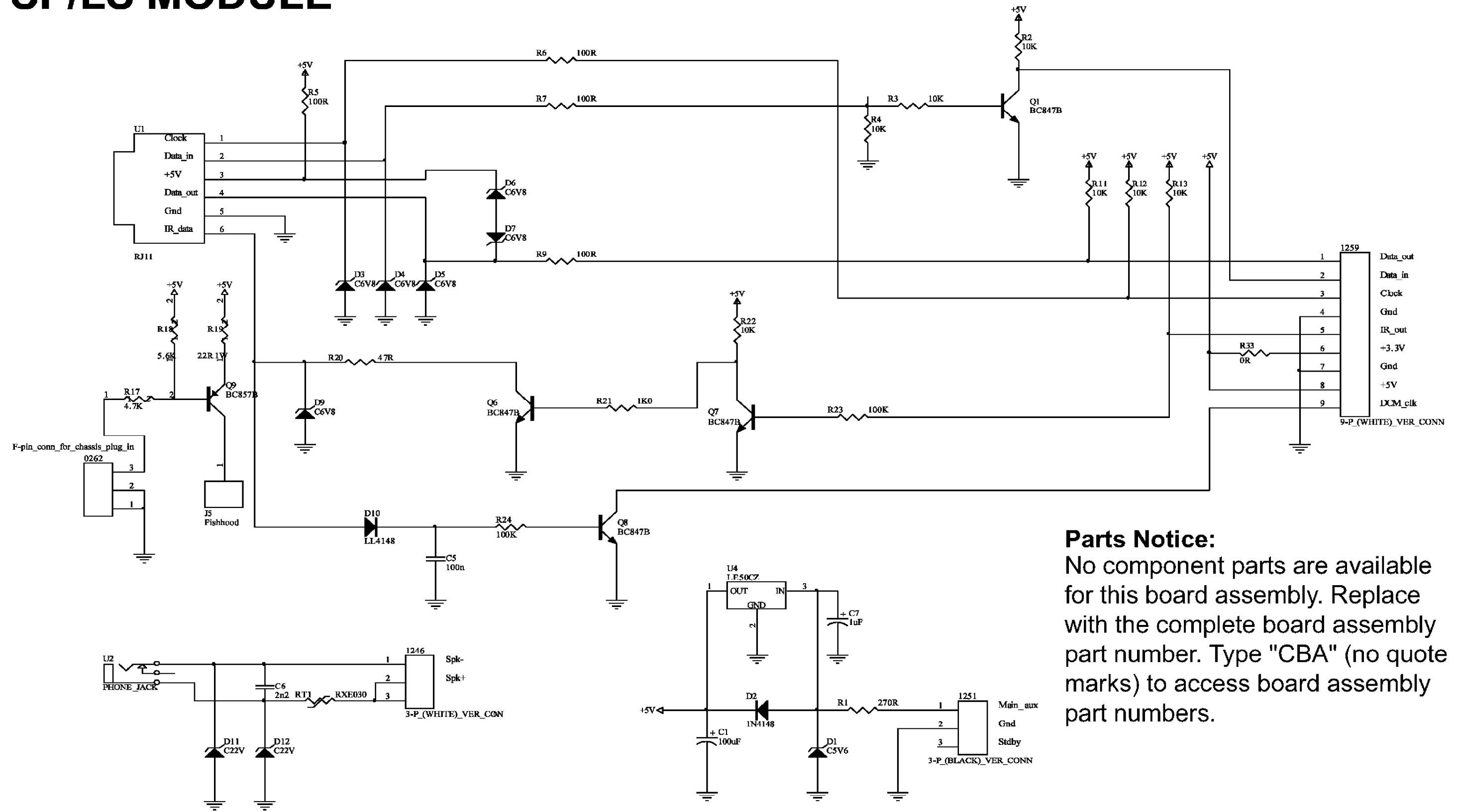


## Parts Notice:

No component parts are available for this board assembly. Replace with the complete board assembly part number. Type "CBA" (no quote marks), to access board assembly part numbers.



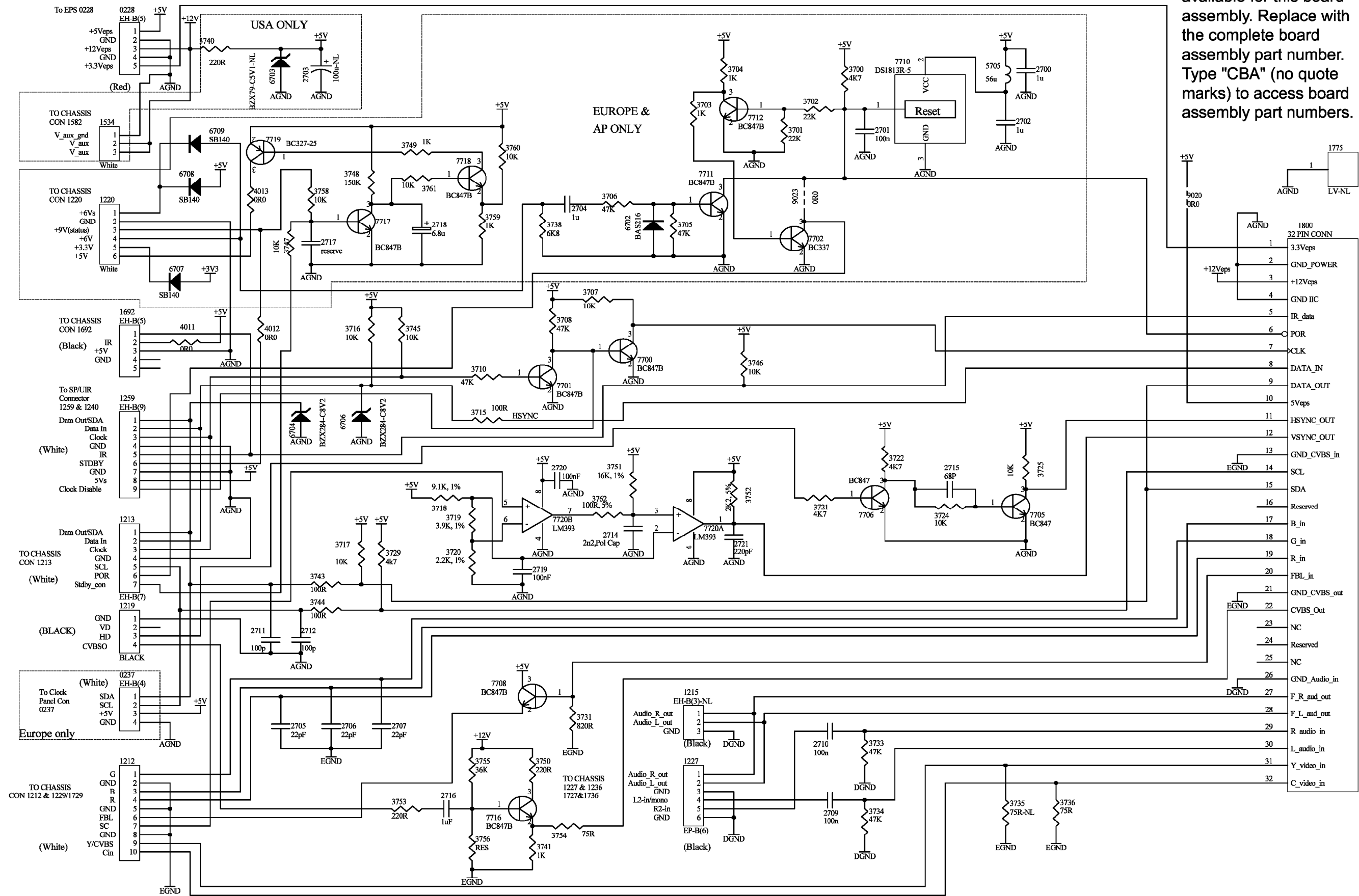
# SP/LS MODULE

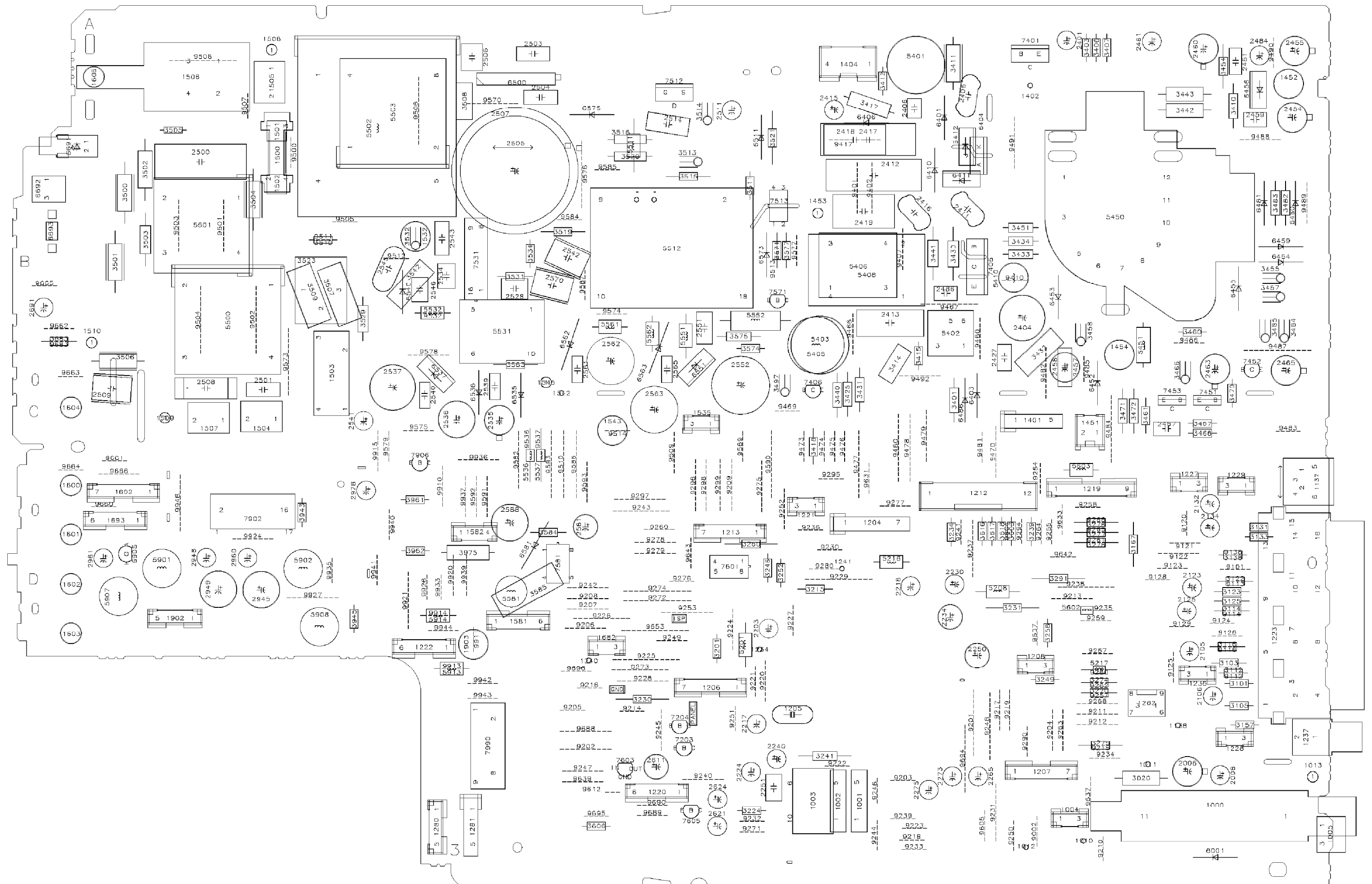


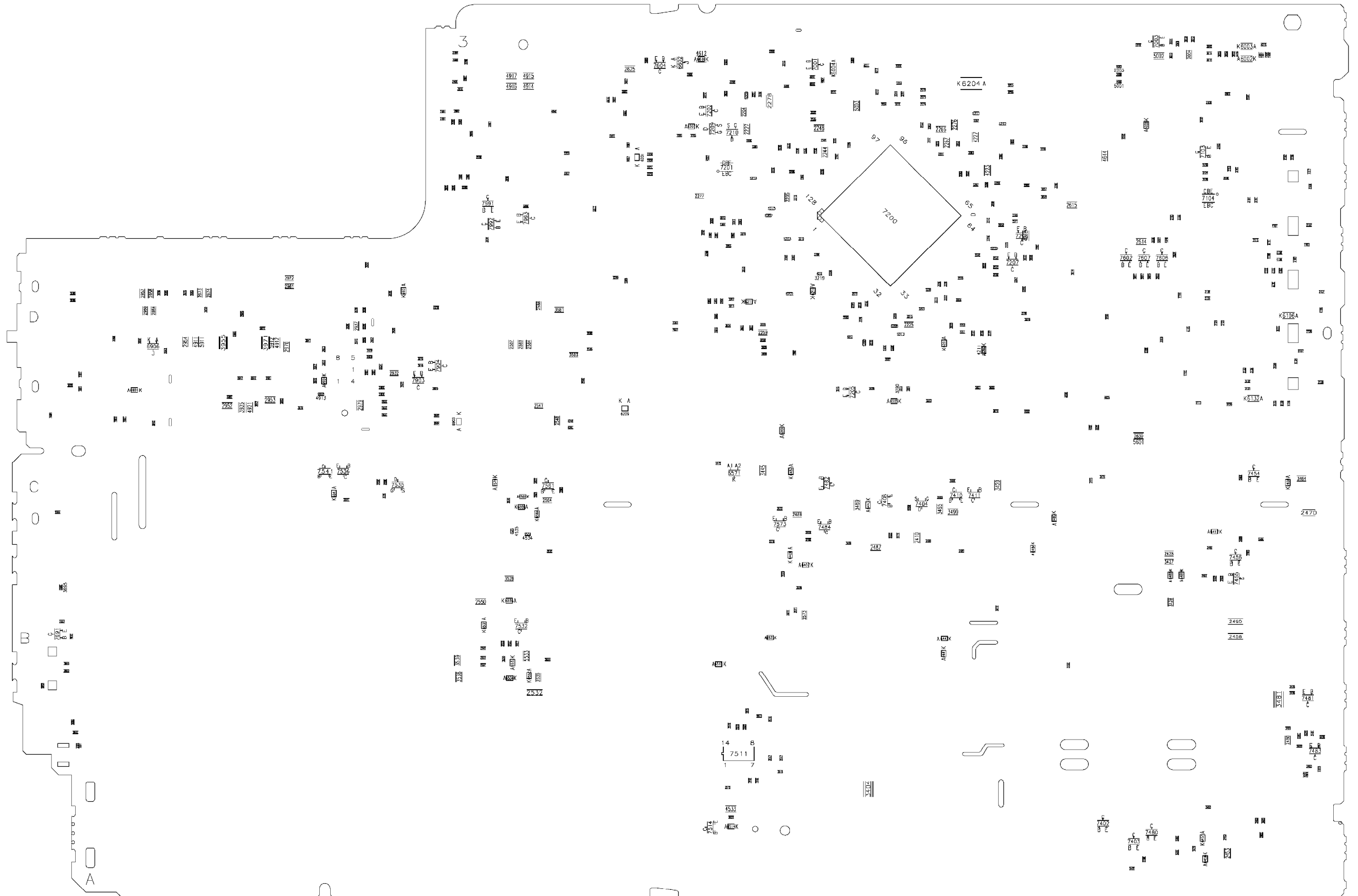
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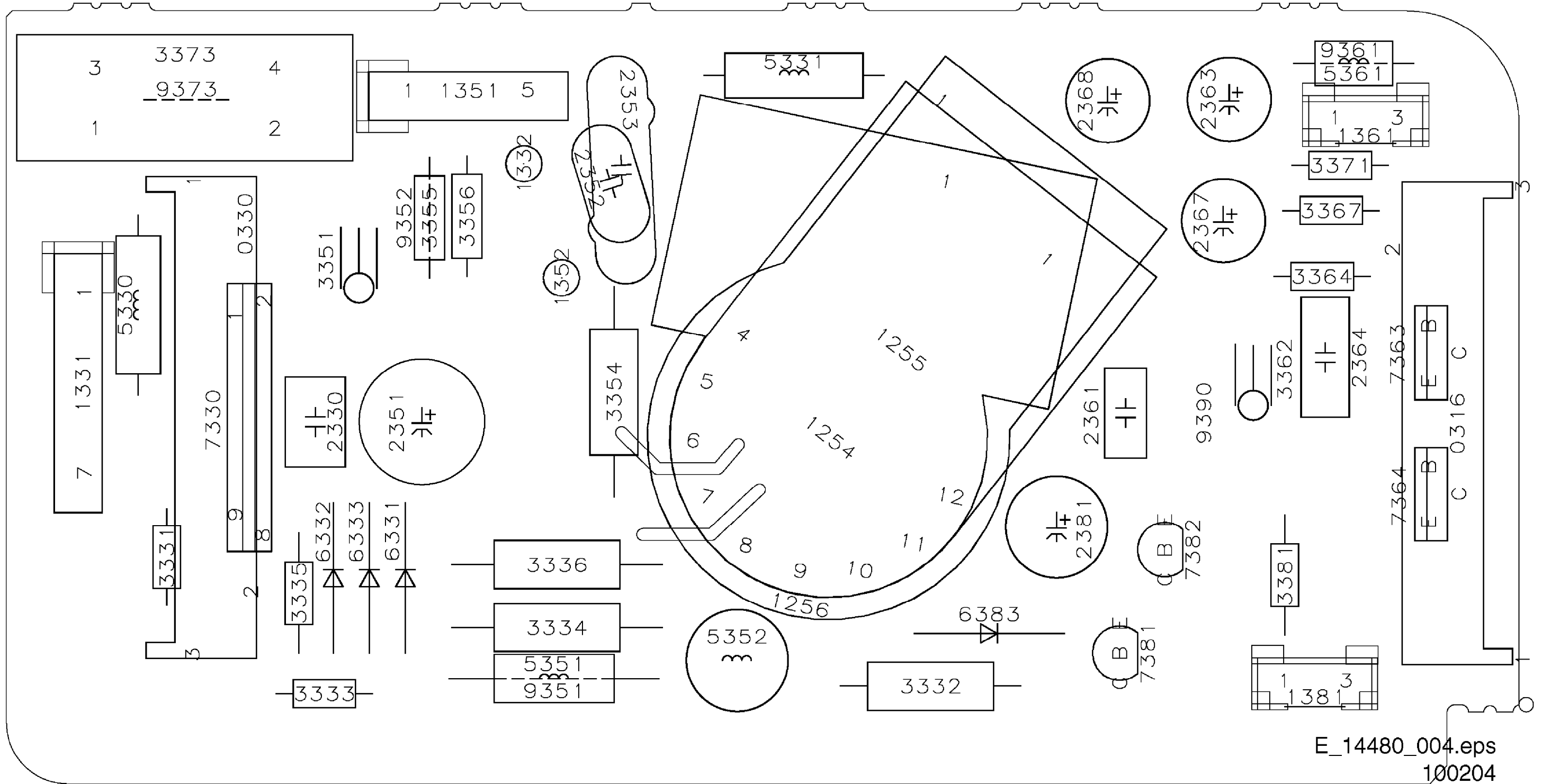
# ITV INTERFACE MODULE

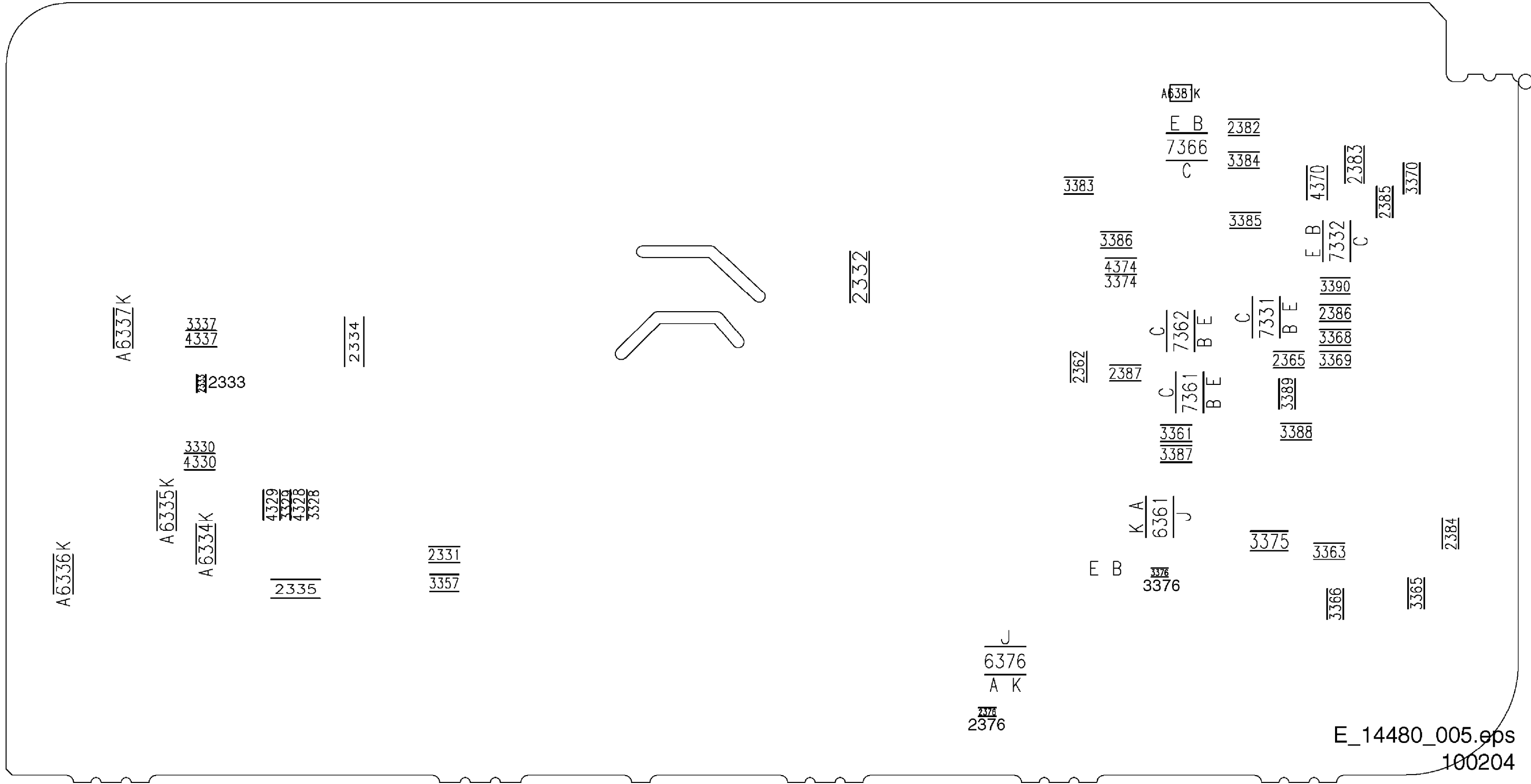
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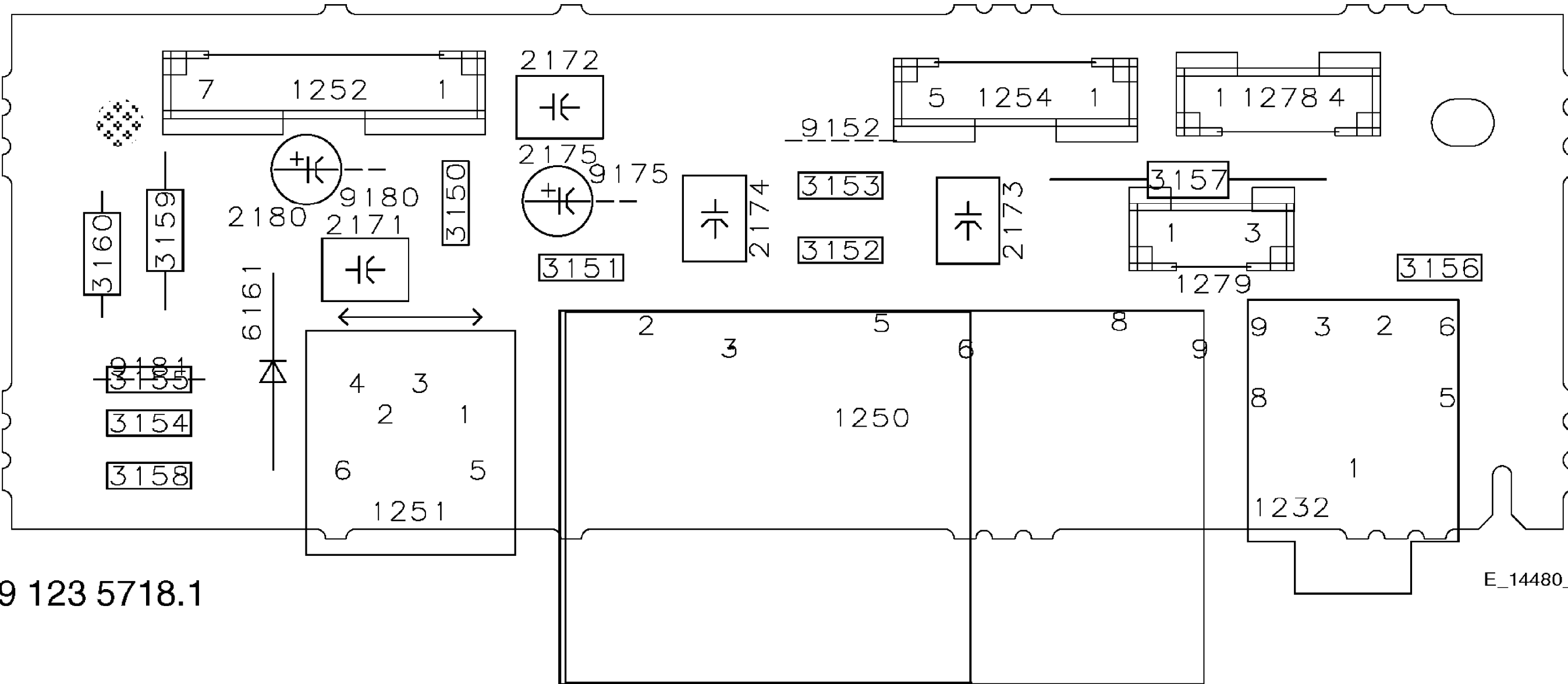




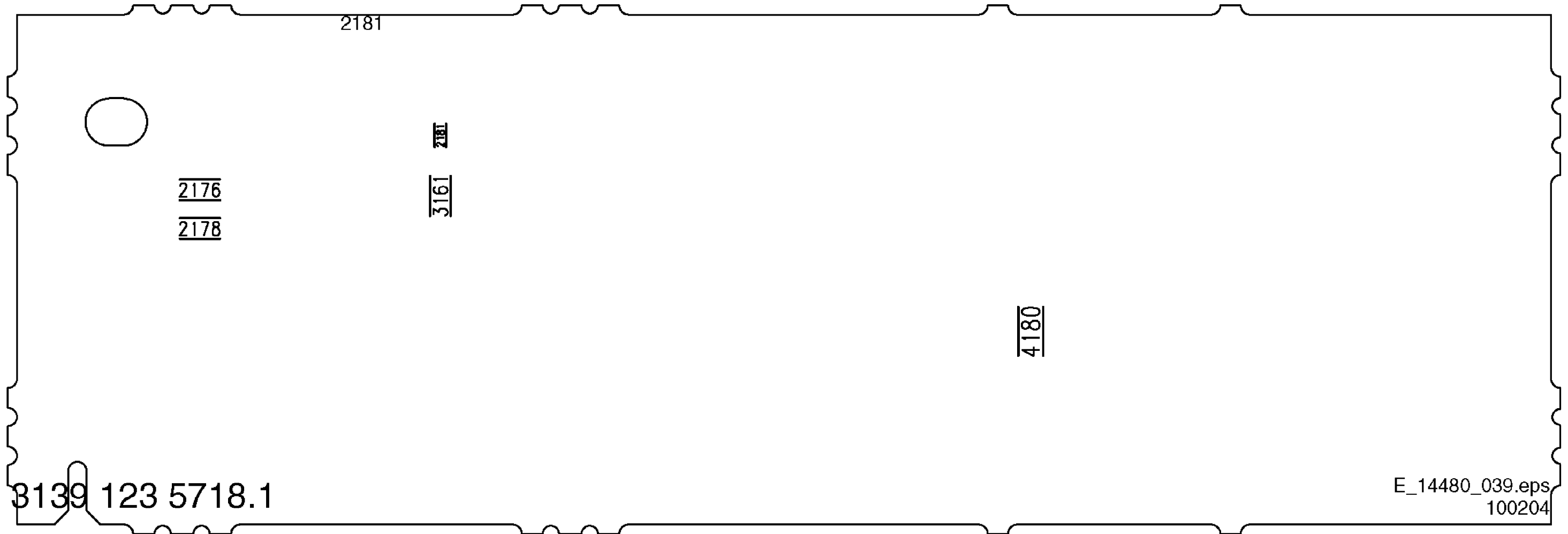




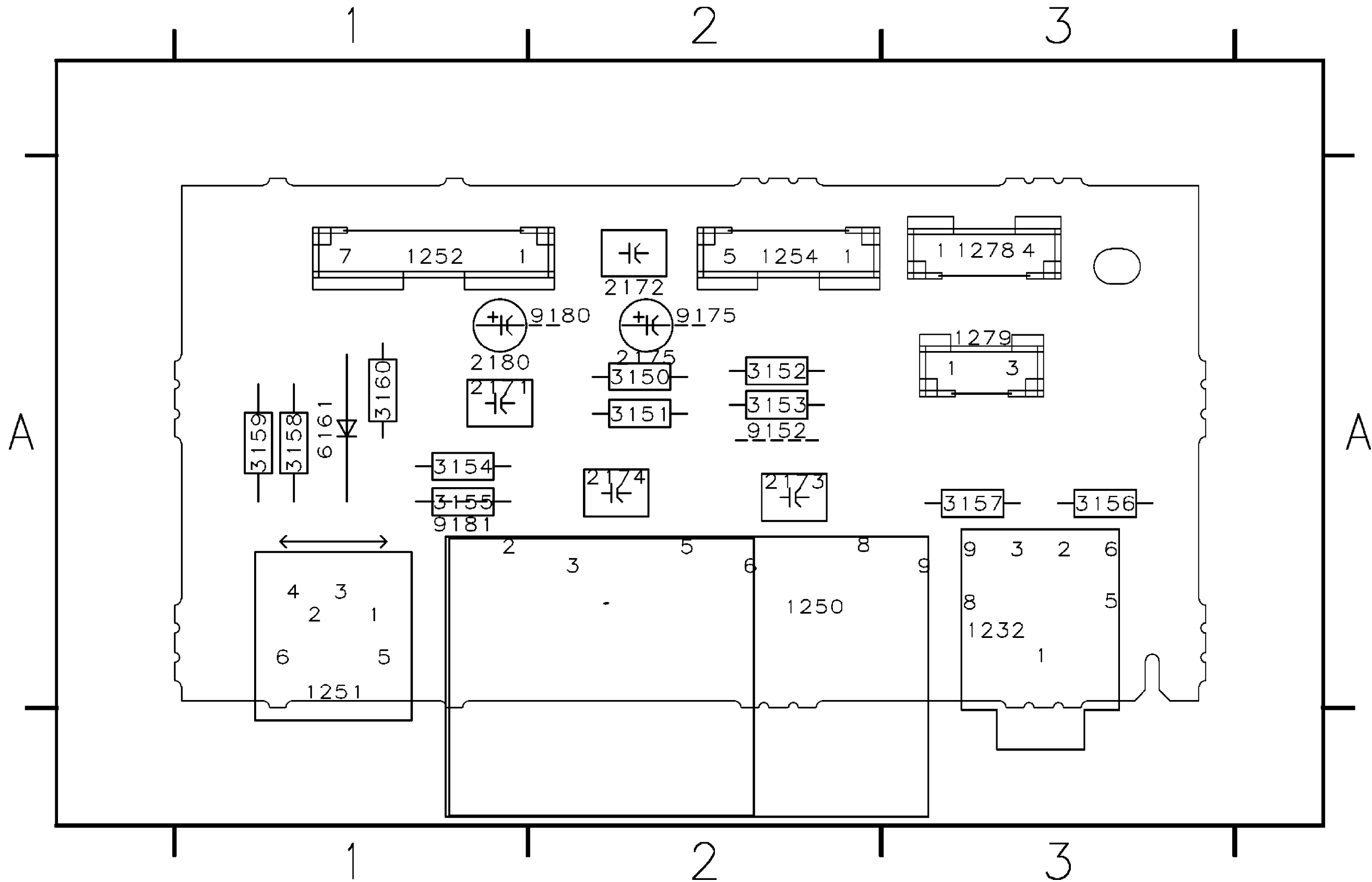




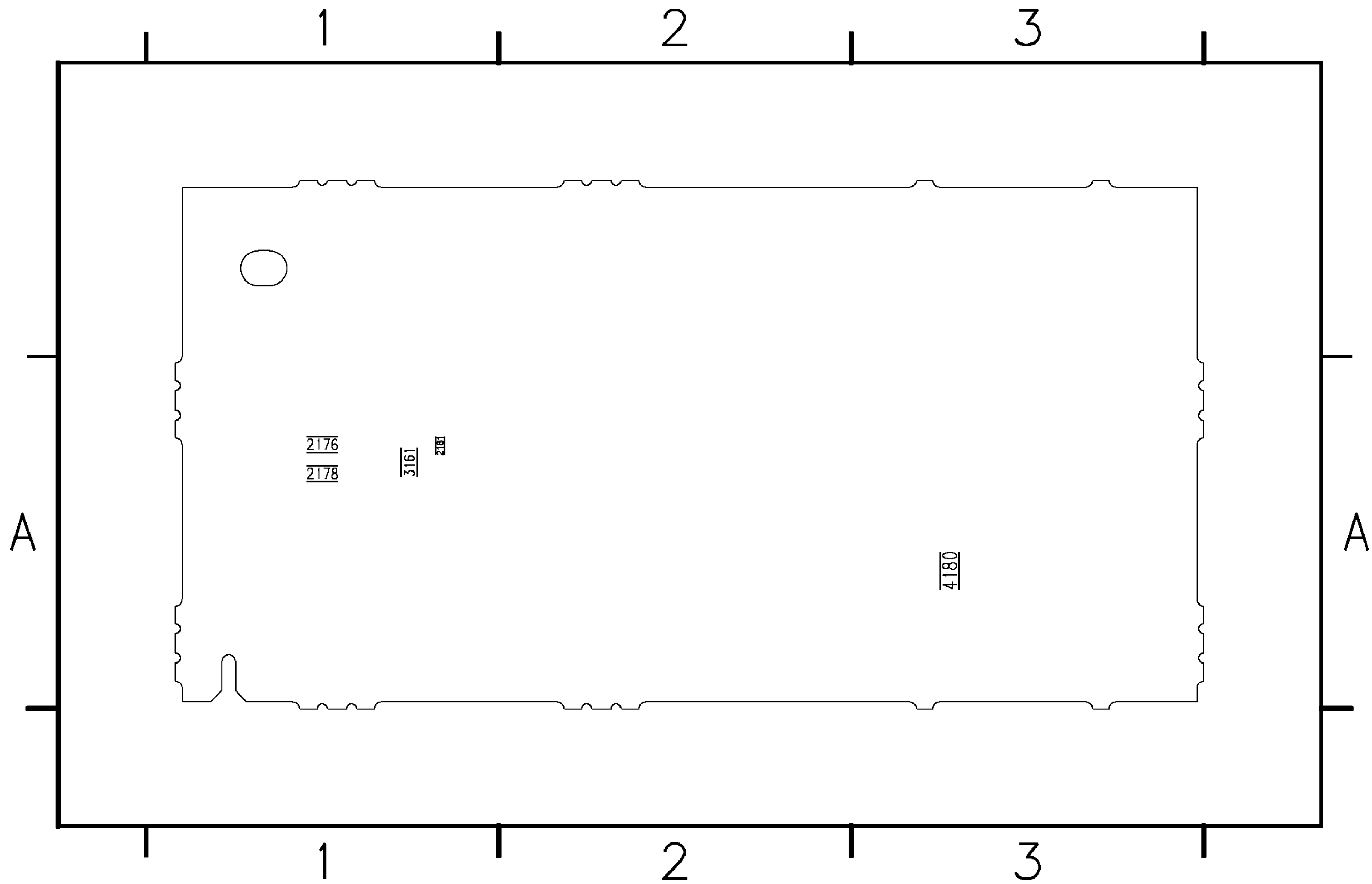
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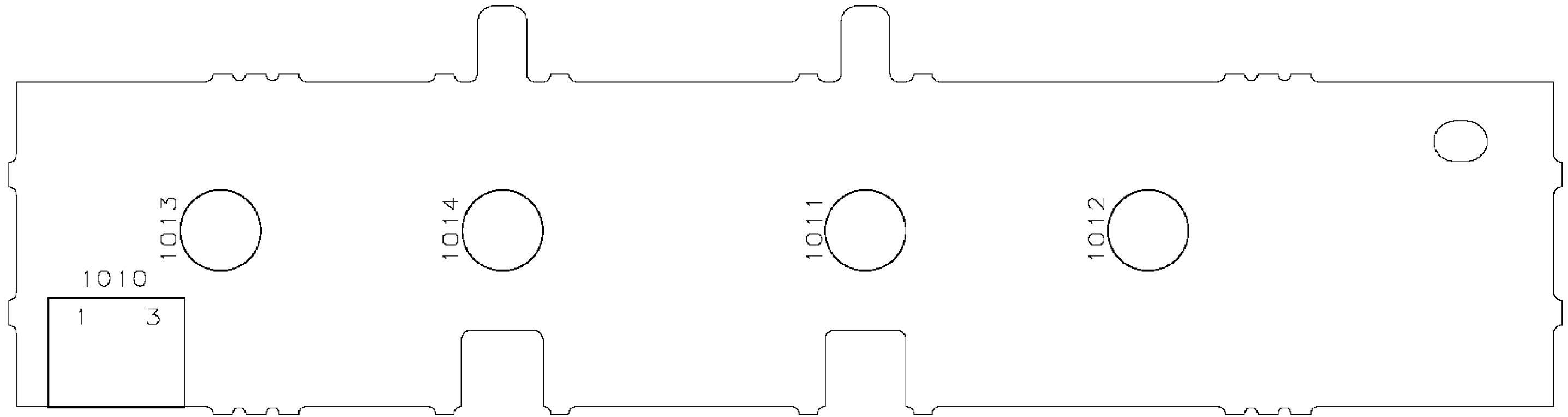


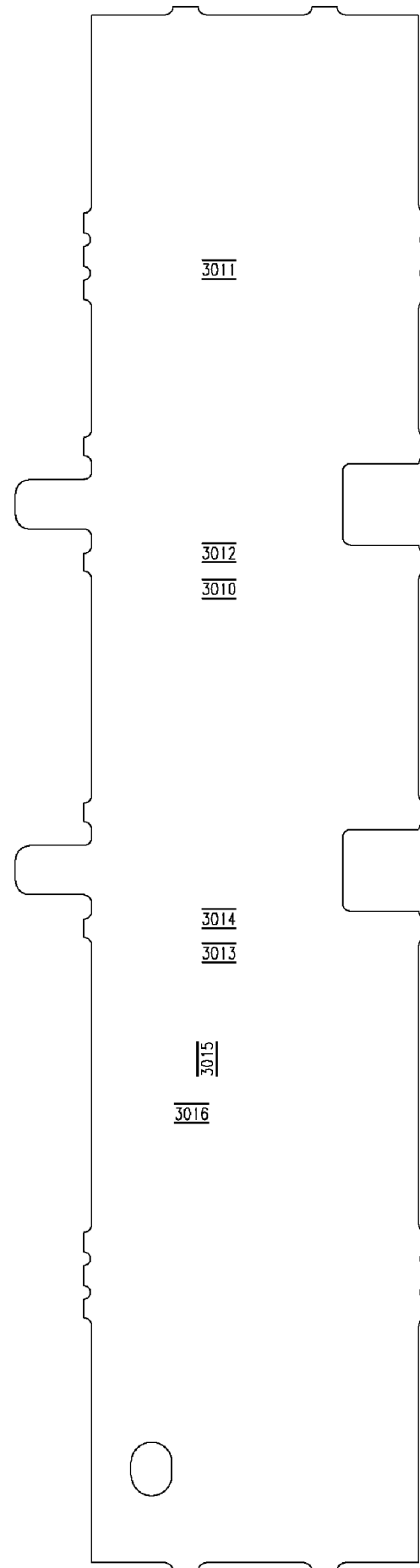


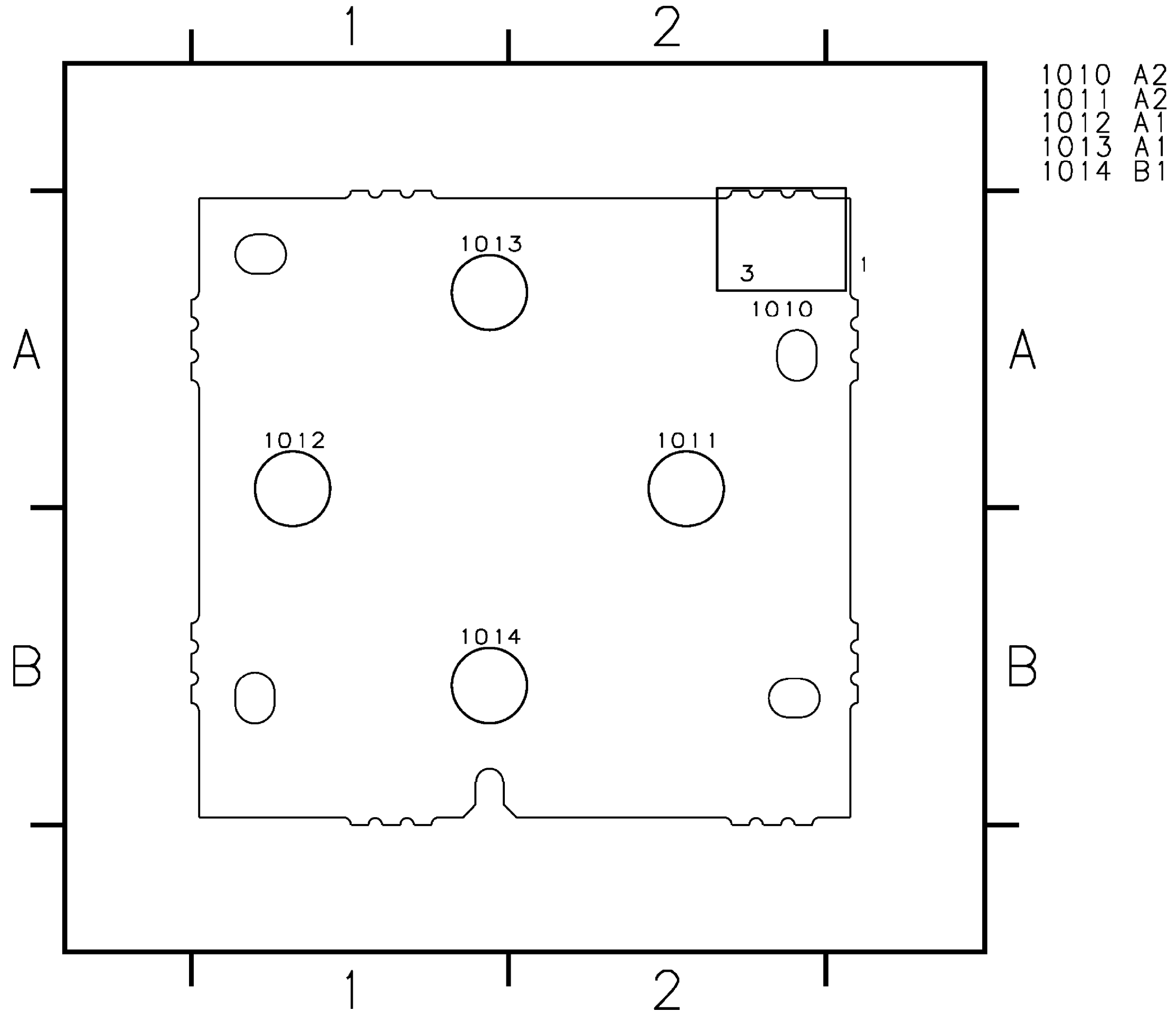
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| 1 | 2 | 5 | 2 | A | 1 |
| 1 | 2 | 5 | 4 | A | 2 |
| 1 | 2 | 7 | 7 | A | 2 |
| 1 | 2 | 7 | 8 | A | 3 |
| 1 | 2 | 7 | 9 | A | 3 |
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| 2 | 1 | 7 | 2 | A | 2 |
| 2 | 1 | 7 | 3 | A | 2 |
| 2 | 1 | 7 | 4 | A | 2 |
| 2 | 1 | 7 | 5 | A | 2 |
| 2 | 1 | 7 | 8 | A | 1 |
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| 3 | 1 | 5 | 1 | A | 2 |
| 3 | 1 | 5 | 2 | A | 2 |
| 3 | 1 | 5 | 3 | A | 2 |
| 3 | 1 | 5 | 4 | A | 1 |
| 3 | 1 | 5 | 5 | A | 1 |
| 3 | 1 | 5 | 6 | A | 3 |
| 3 | 1 | 5 | 7 | A | 3 |
| 3 | 1 | 5 | 8 | A | 1 |
| 3 | 1 | 5 | 9 | A | 1 |
| 3 | 1 | 6 | 0 | A | 1 |
| 3 | 1 | 6 | 1 | A | 2 |
| 3 | 1 | 6 | 2 | A | 2 |
| 3 | 1 | 6 | 3 | A | 1 |
| 3 | 1 | 6 | 4 | A | 1 |
| 3 | 1 | 6 | 5 | A | 1 |
| 3 | 1 | 6 | 6 | A | 1 |
| 3 | 1 | 6 | 7 | A | 1 |
| 3 | 1 | 6 | 8 | A | 1 |
| 3 | 1 | 6 | 9 | A | 1 |
| 3 | 1 | 7 | 0 | A | 1 |
| 3 | 1 | 7 | 1 | A | 1 |
| 3 | 1 | 7 | 2 | A | 1 |
| 3 | 1 | 7 | 3 | A | 1 |
| 3 | 1 | 7 | 4 | A | 1 |
| 3 | 1 | 7 | 5 | A | 1 |
| 3 | 1 | 7 | 6 | A | 1 |
| 3 | 1 | 7 | 7 | A | 1 |
| 3 | 1 | 7 | 8 | A | 1 |
| 3 | 1 | 7 | 9 | A | 1 |
| 3 | 1 | 8 | 0 | A | 1 |
| 3 | 1 | 8 | 1 | A | 1 |
| 3 | 1 | 8 | 2 | A | 1 |
| 3 | 1 | 8 | 3 | A | 1 |
| 3 | 1 | 8 | 4 | A | 1 |
| 3 | 1 | 8 | 5 | A | 1 |
| 3 | 1 | 8 | 6 | A | 1 |
| 3 | 1 | 8 | 7 | A | 1 |
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| 3 | 1 | 9 | 1 | A | 1 |

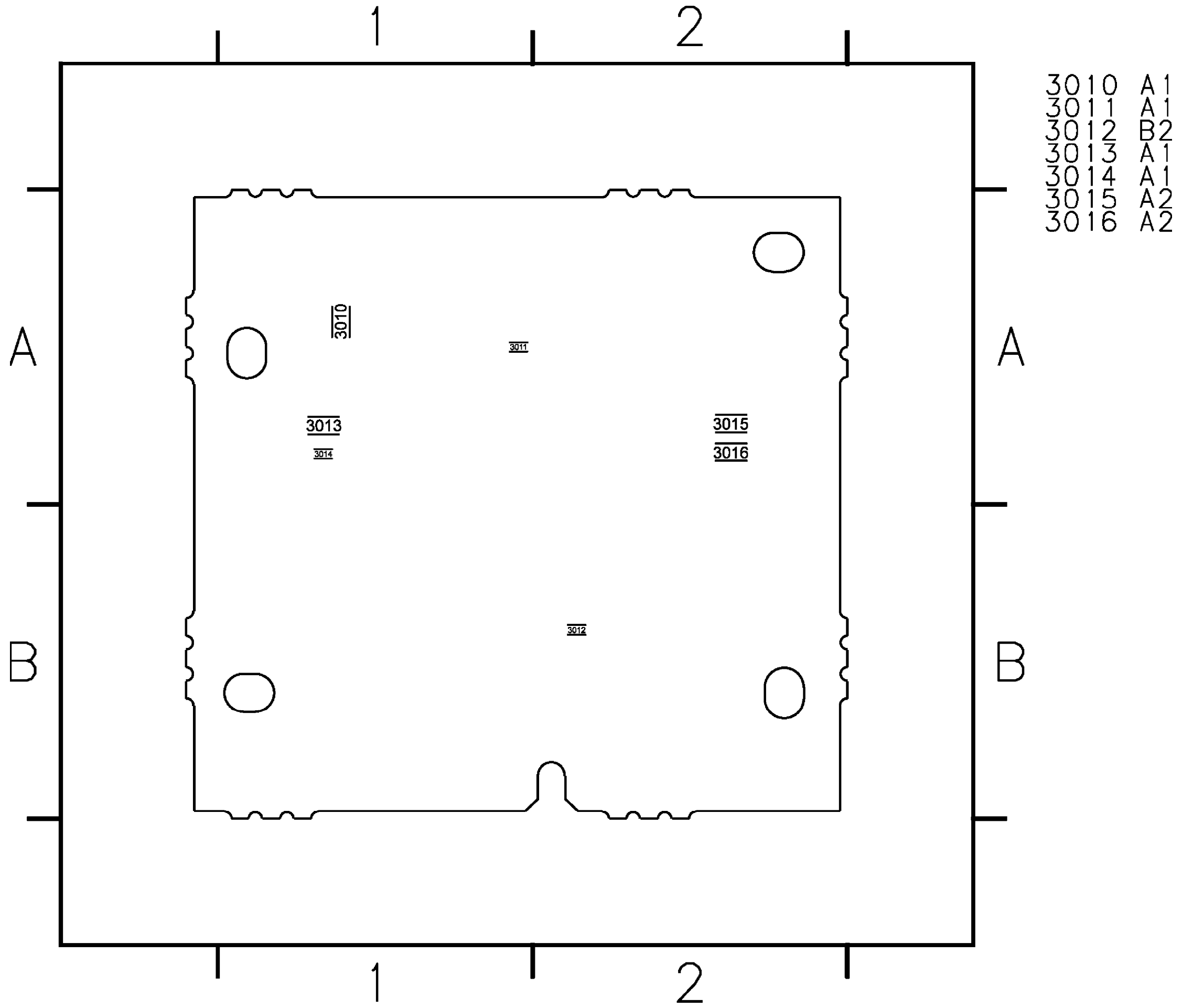


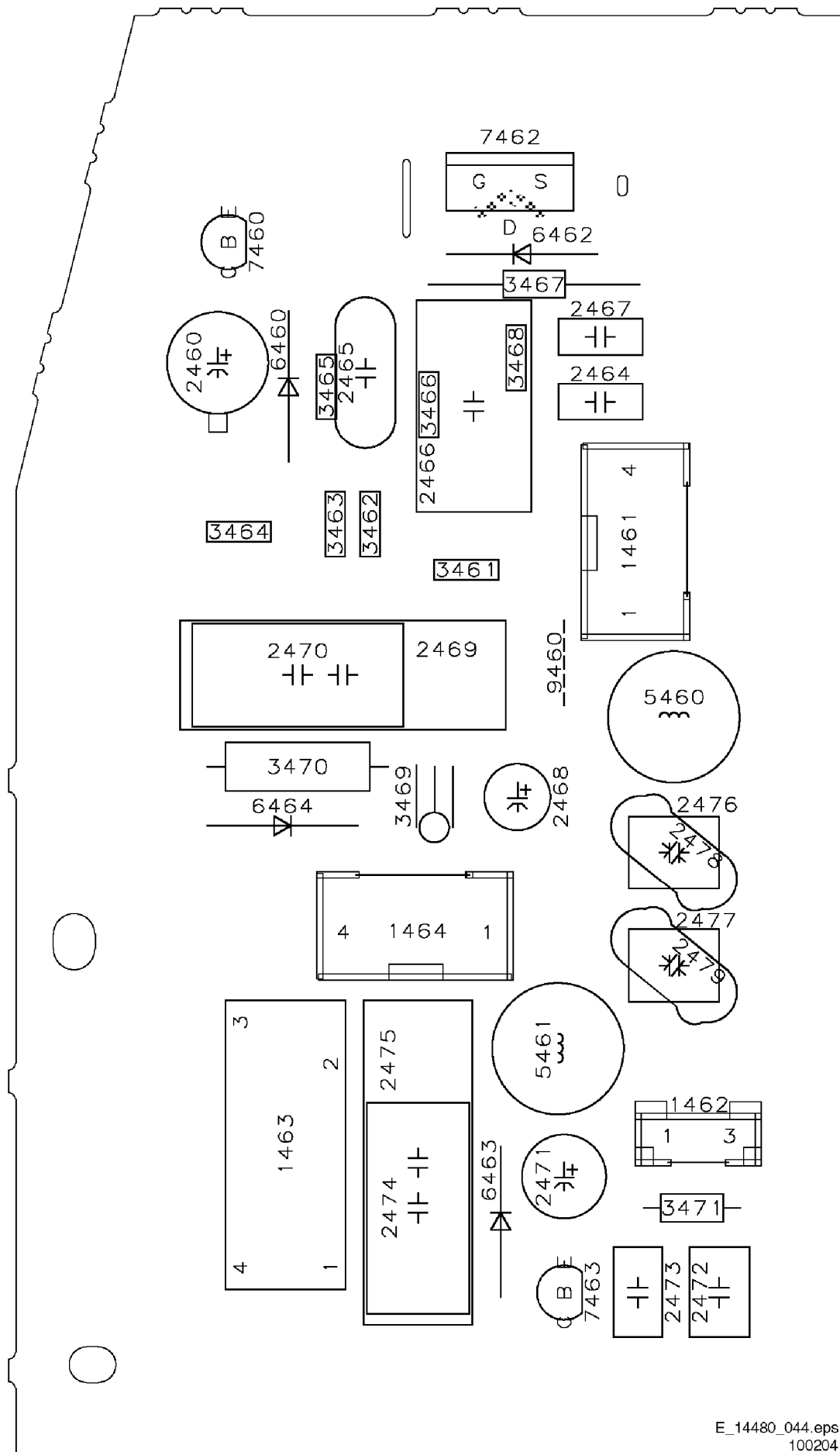
2176	A1
2178	A1
2181	A1
3161	A1
4180	A3

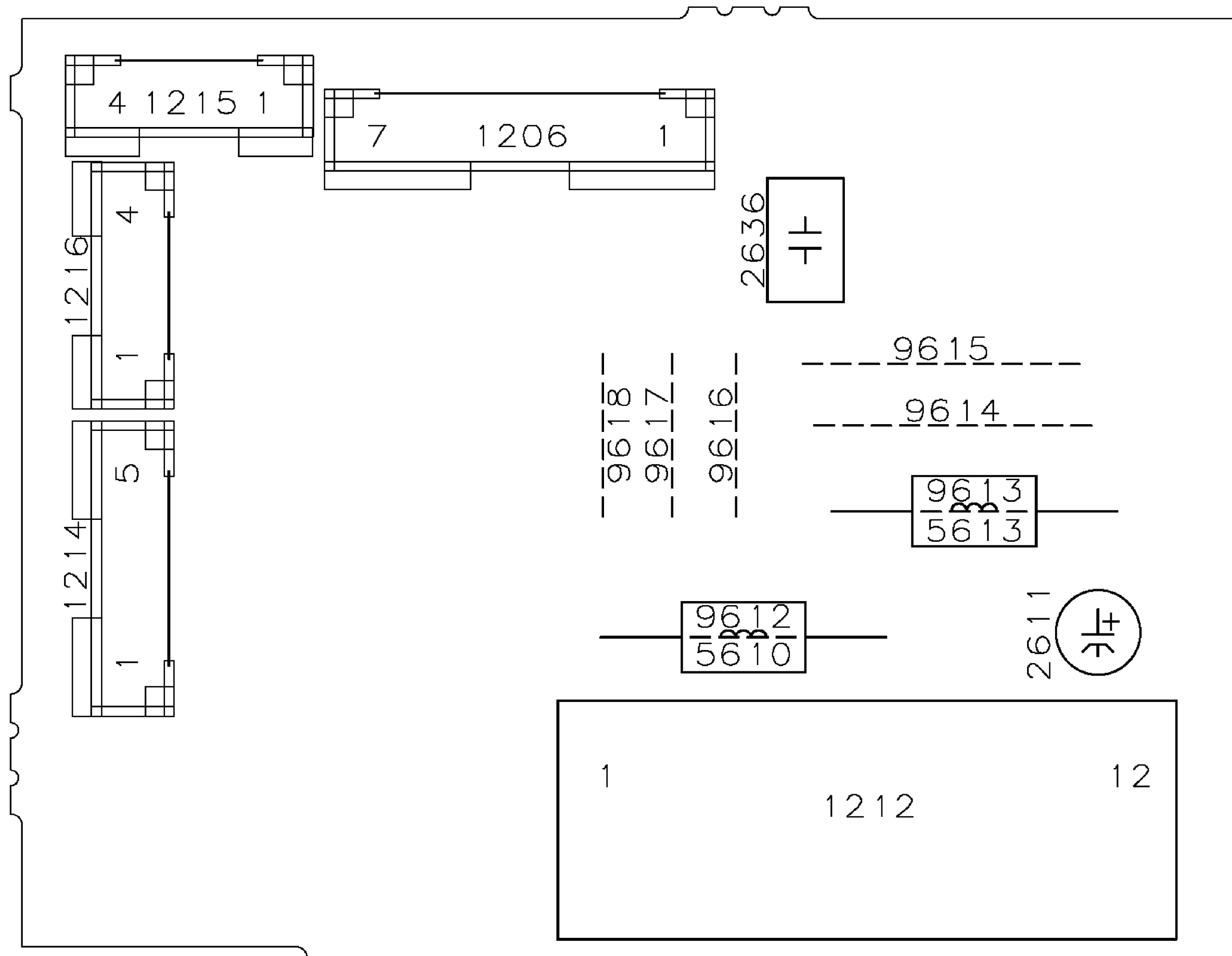




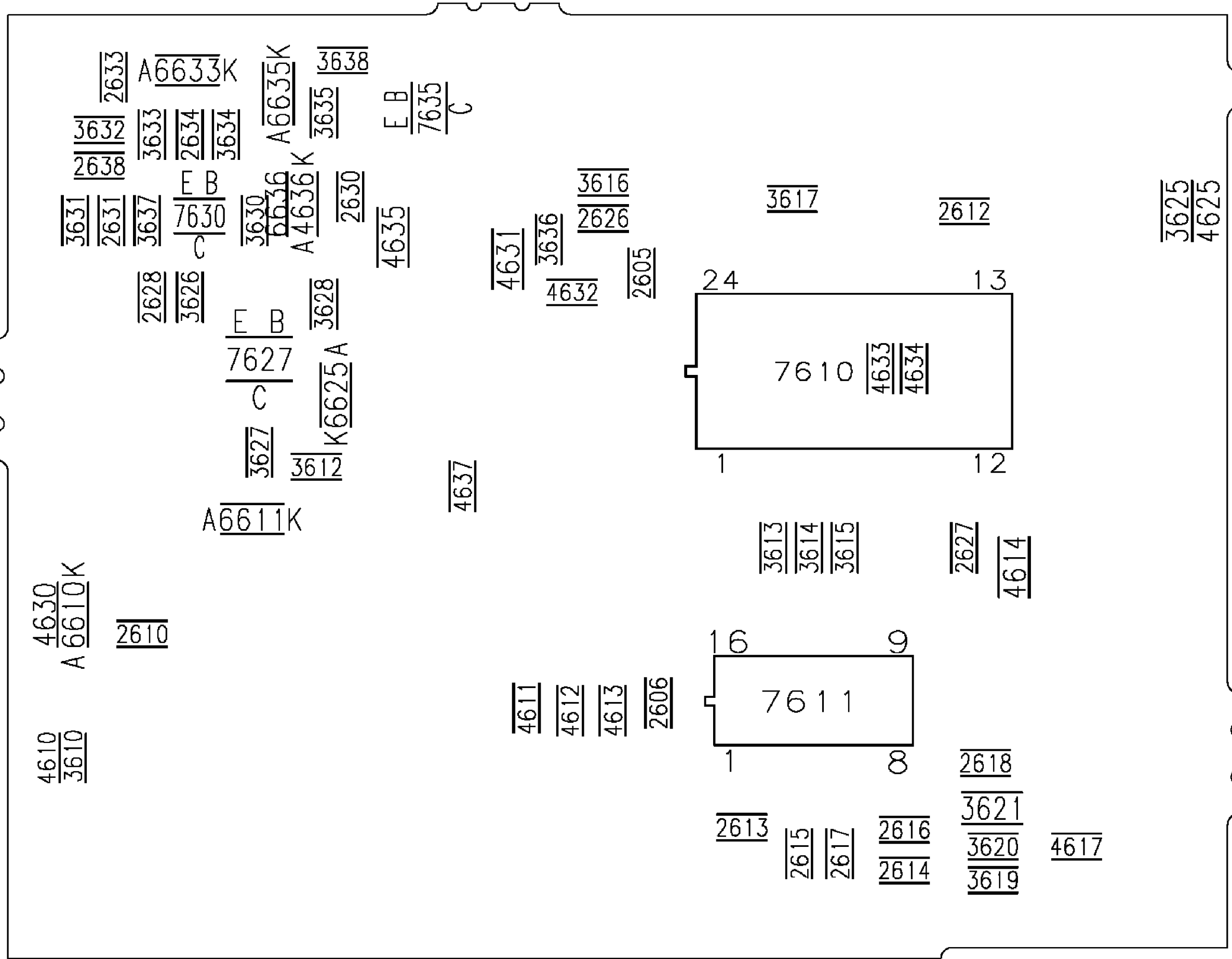


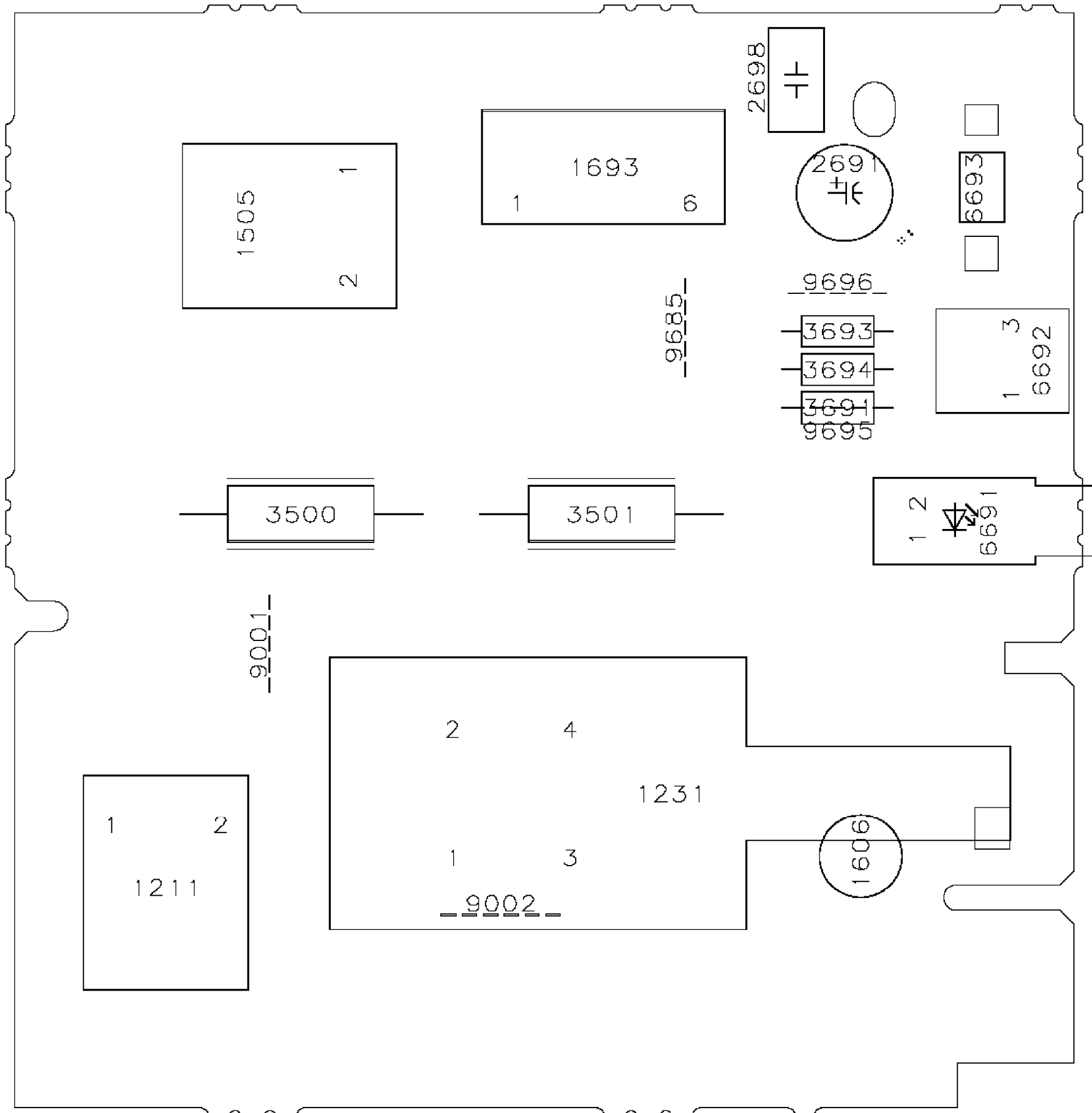


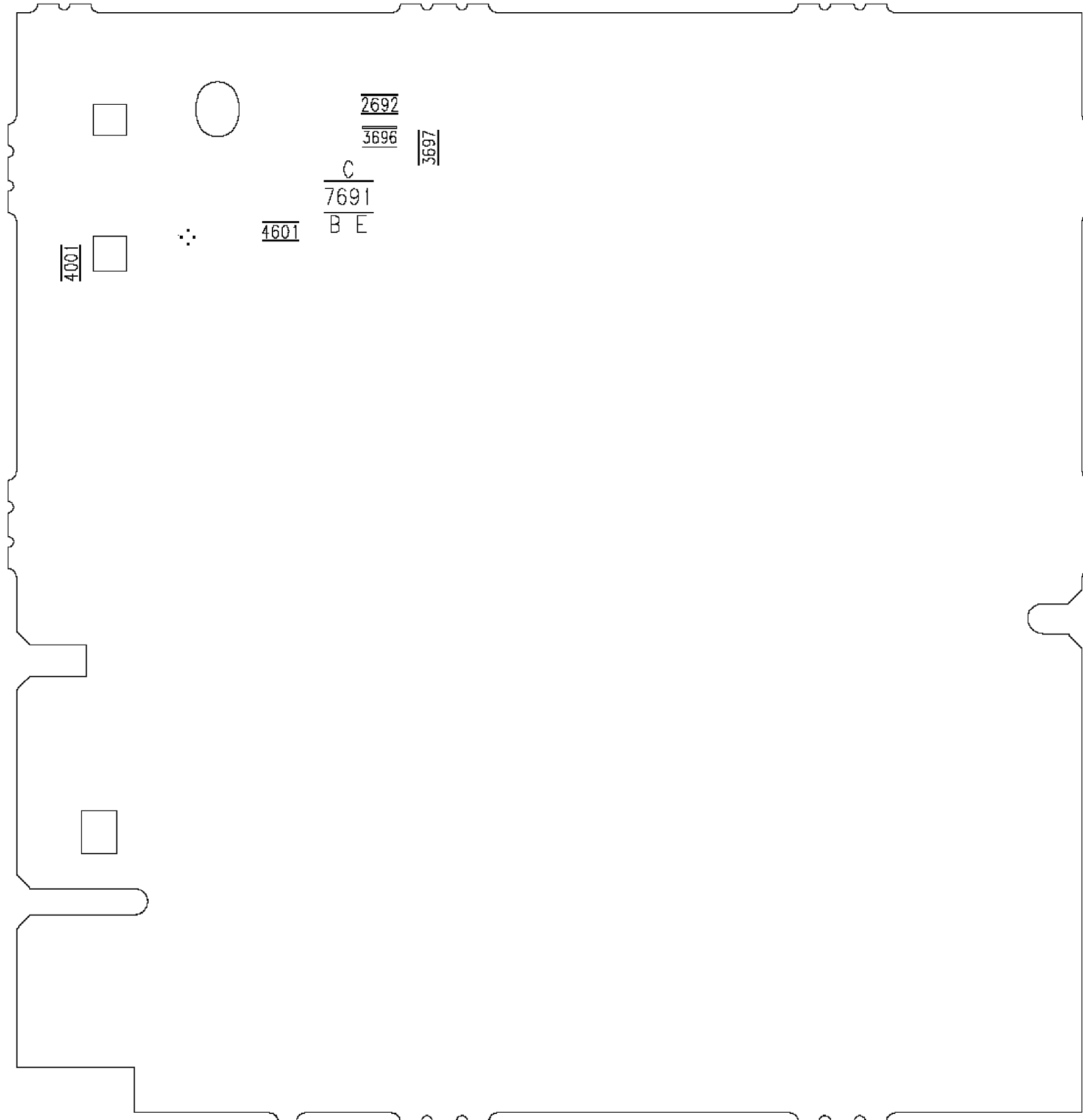




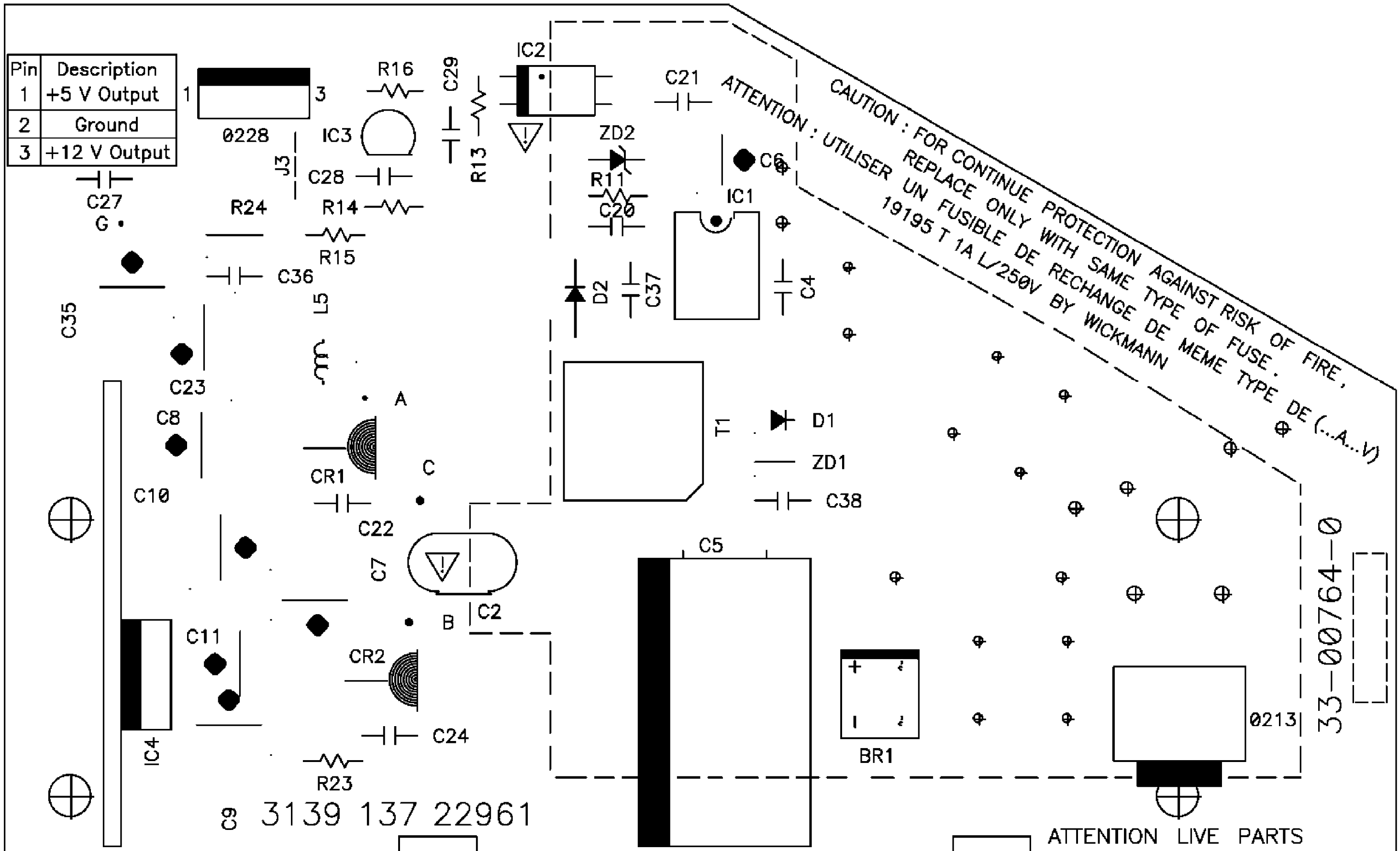








Pin	Description
1	+5 V Output
2	Ground
3	+12 V Output

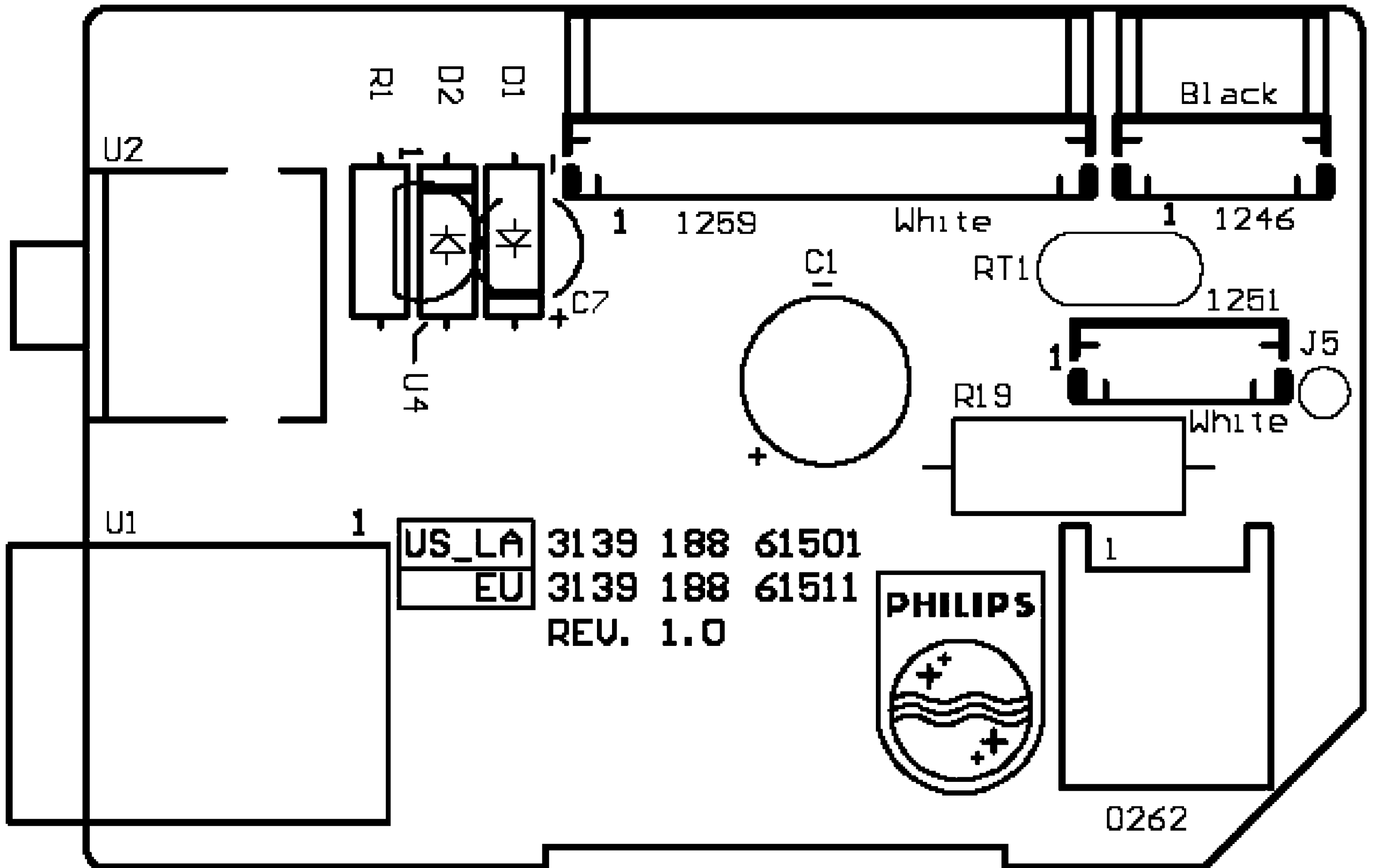


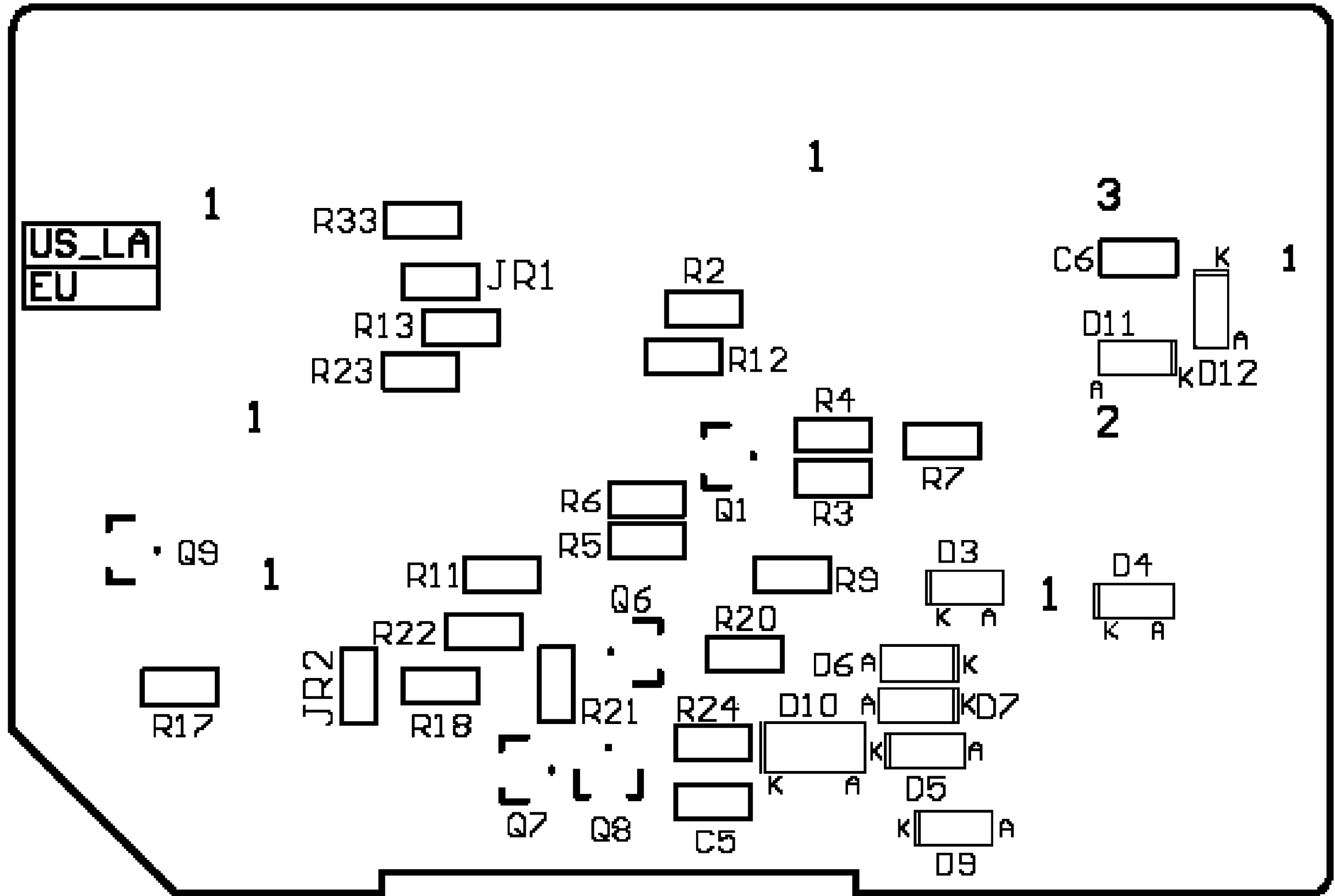
ATTENTION : FOR CONTINUE PROTECTION AGAINST RISK OF FIRE,  
 REPLACE ONLY WITH SAME TYPE OF FUSE.  
 ATTENTION : UTILISER UN FUSIBLE DE RECHANGE DE MEME TYPE DE (...A...V)  
 19195 T 1A L/250V BY WICKMANN

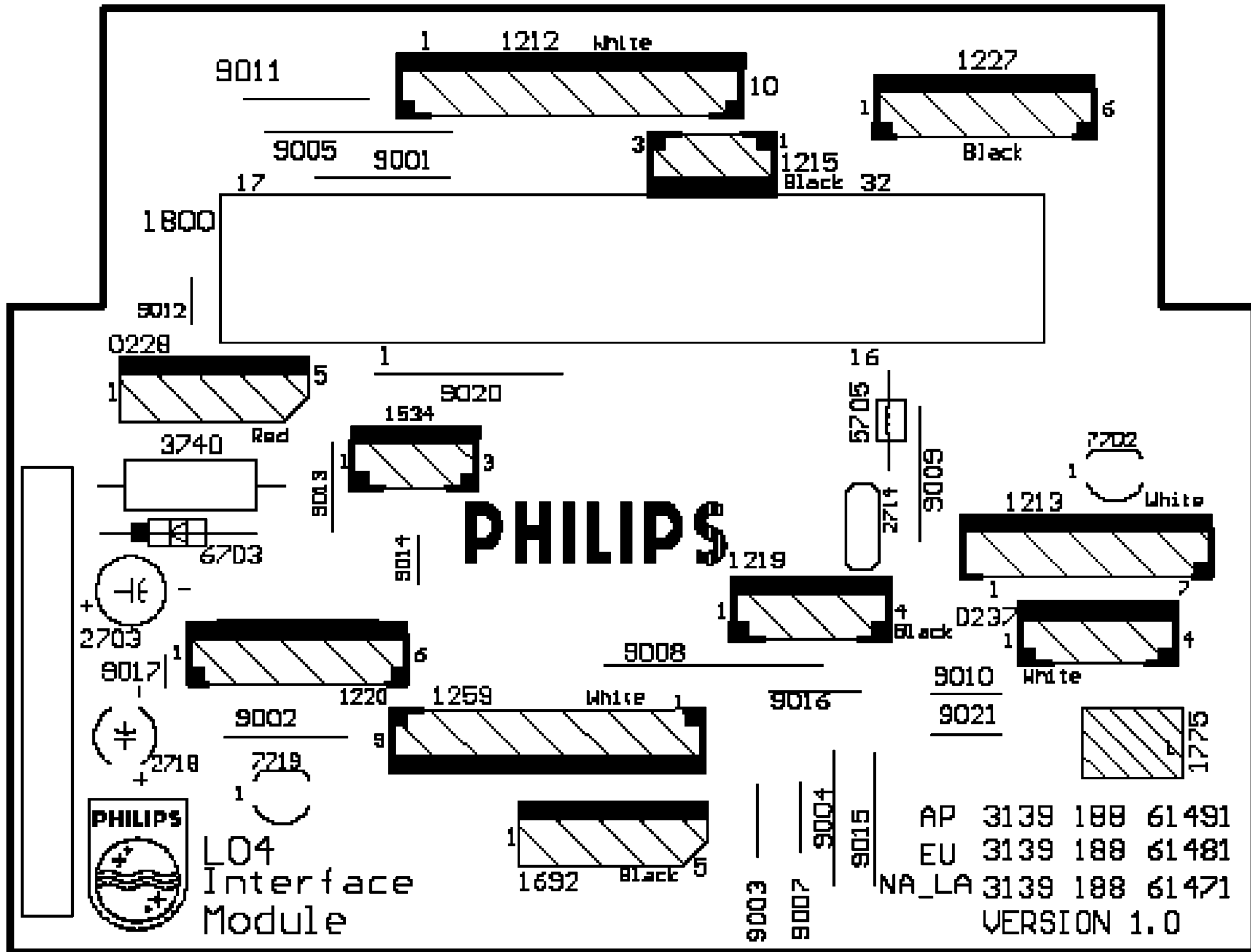
ATTENTION LIVE PARTS

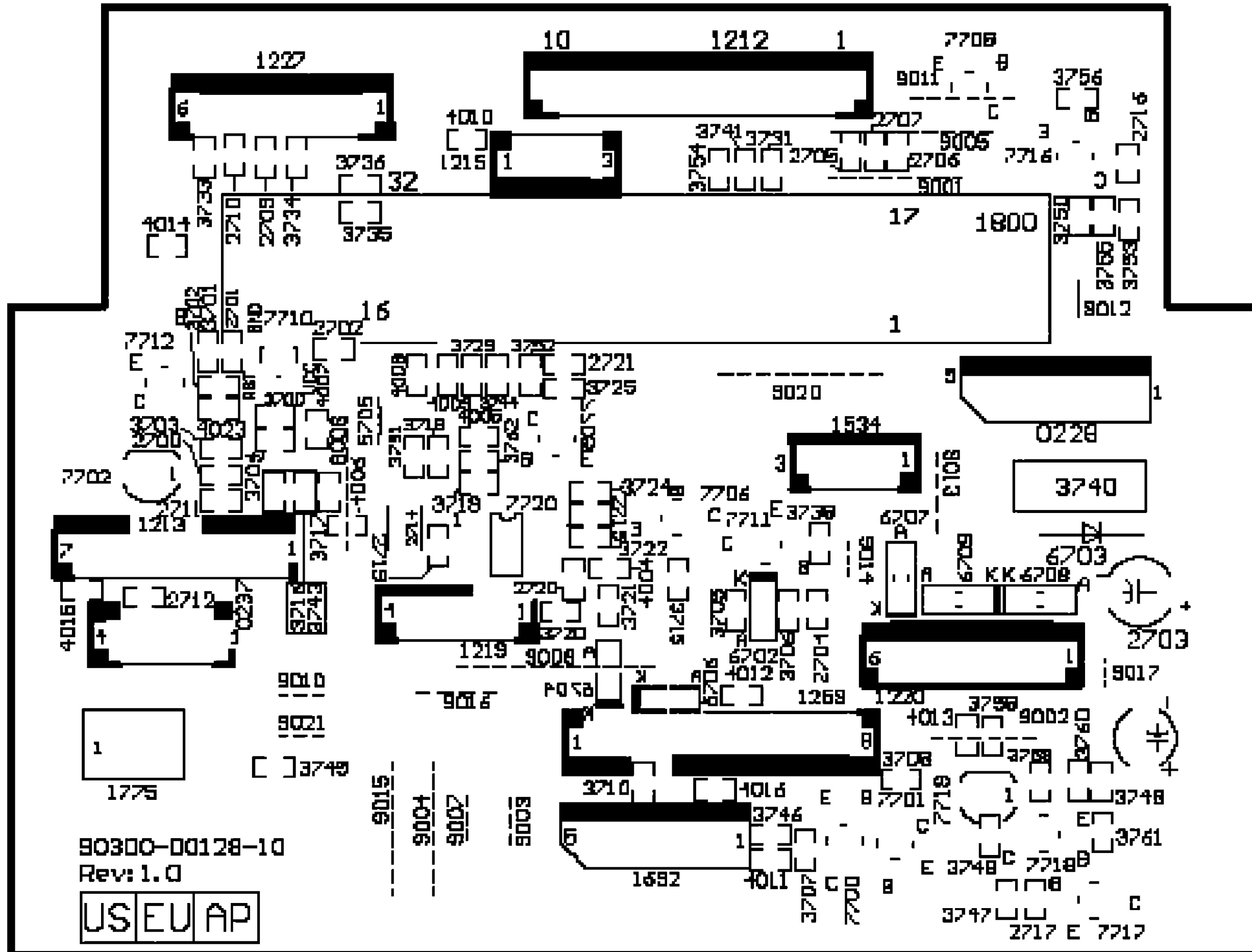
3139 137 22961

33-00764-0





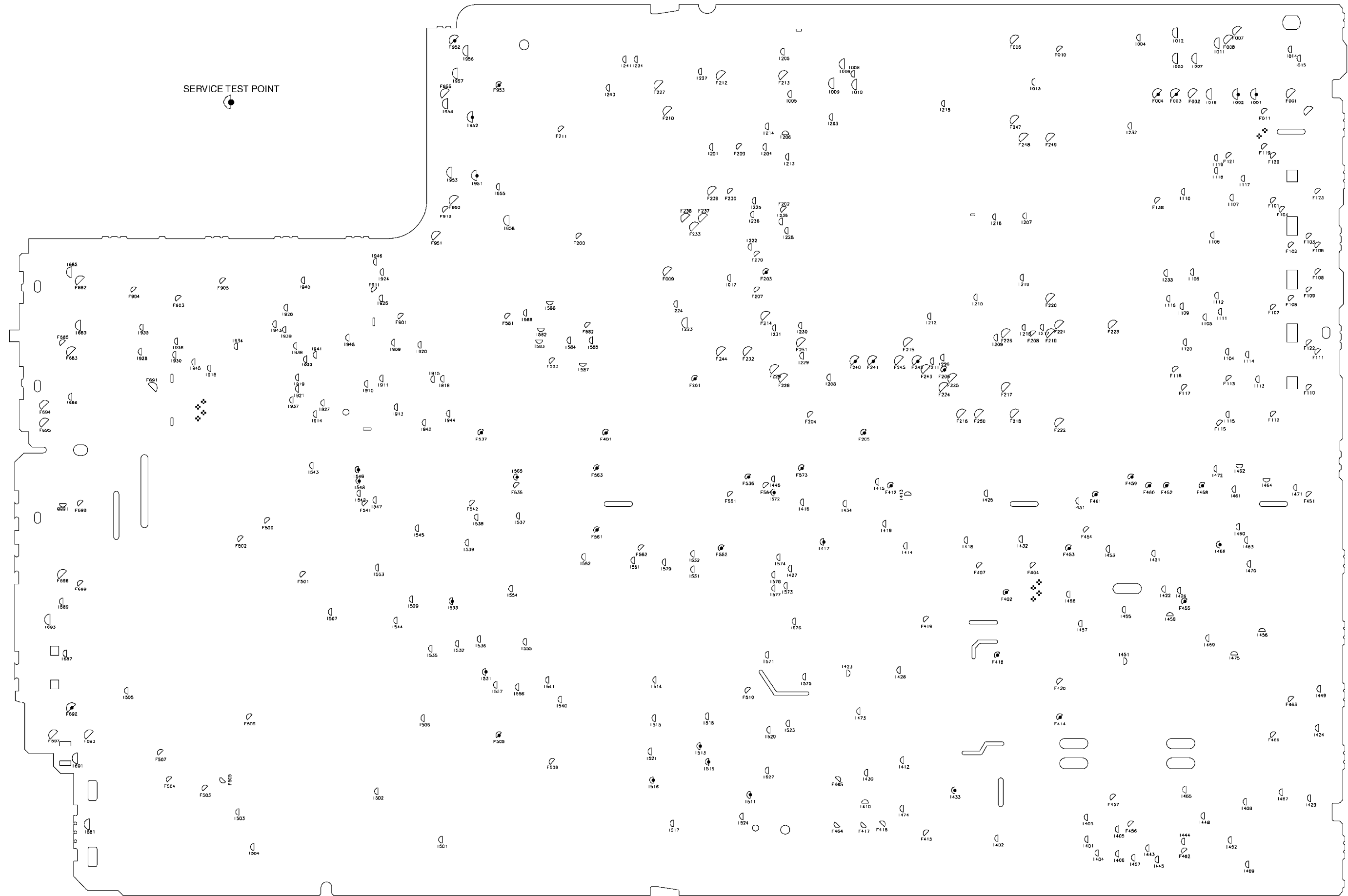




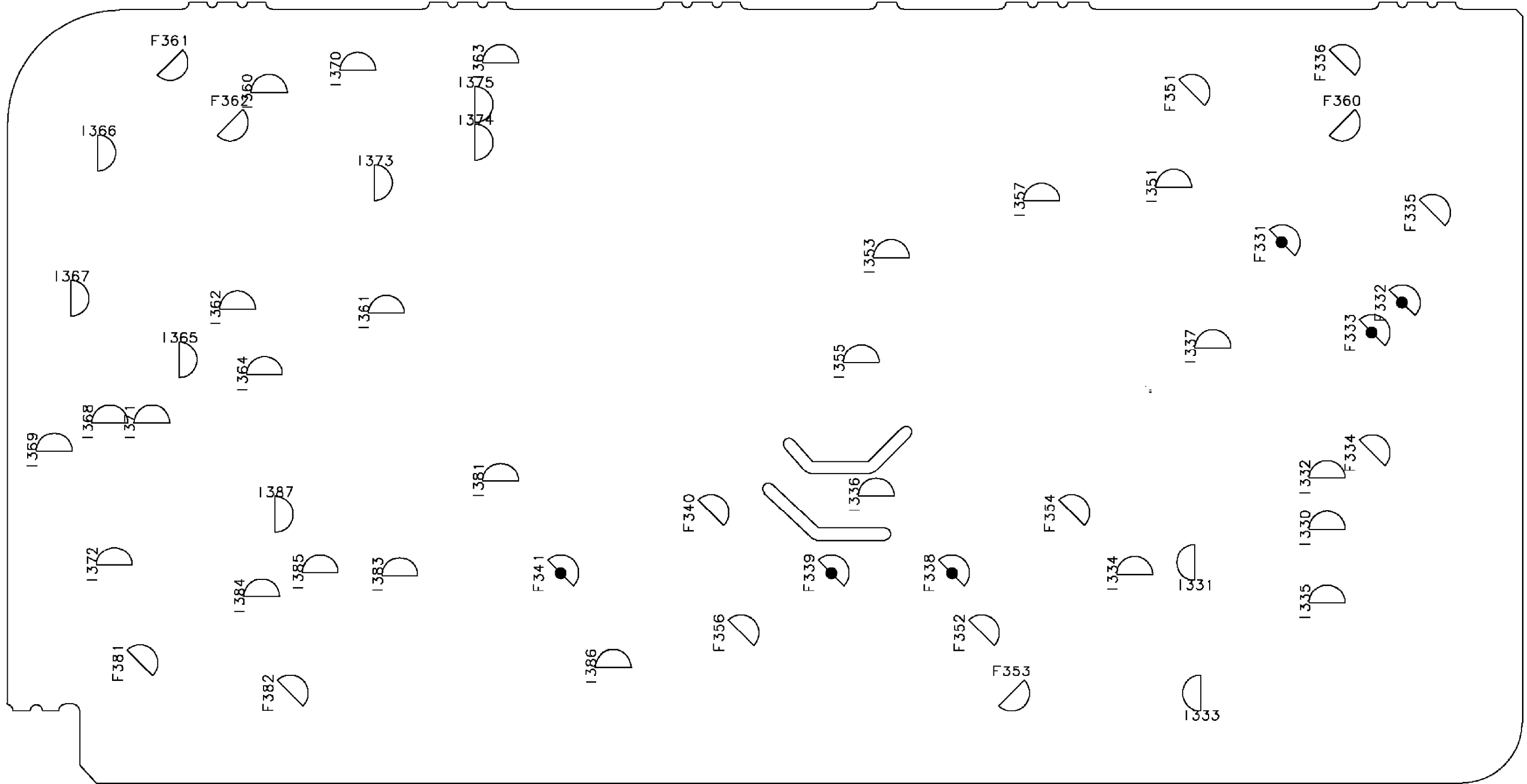
90300-00128-10  
Rev: 1.0

U	S	E	U	A	P
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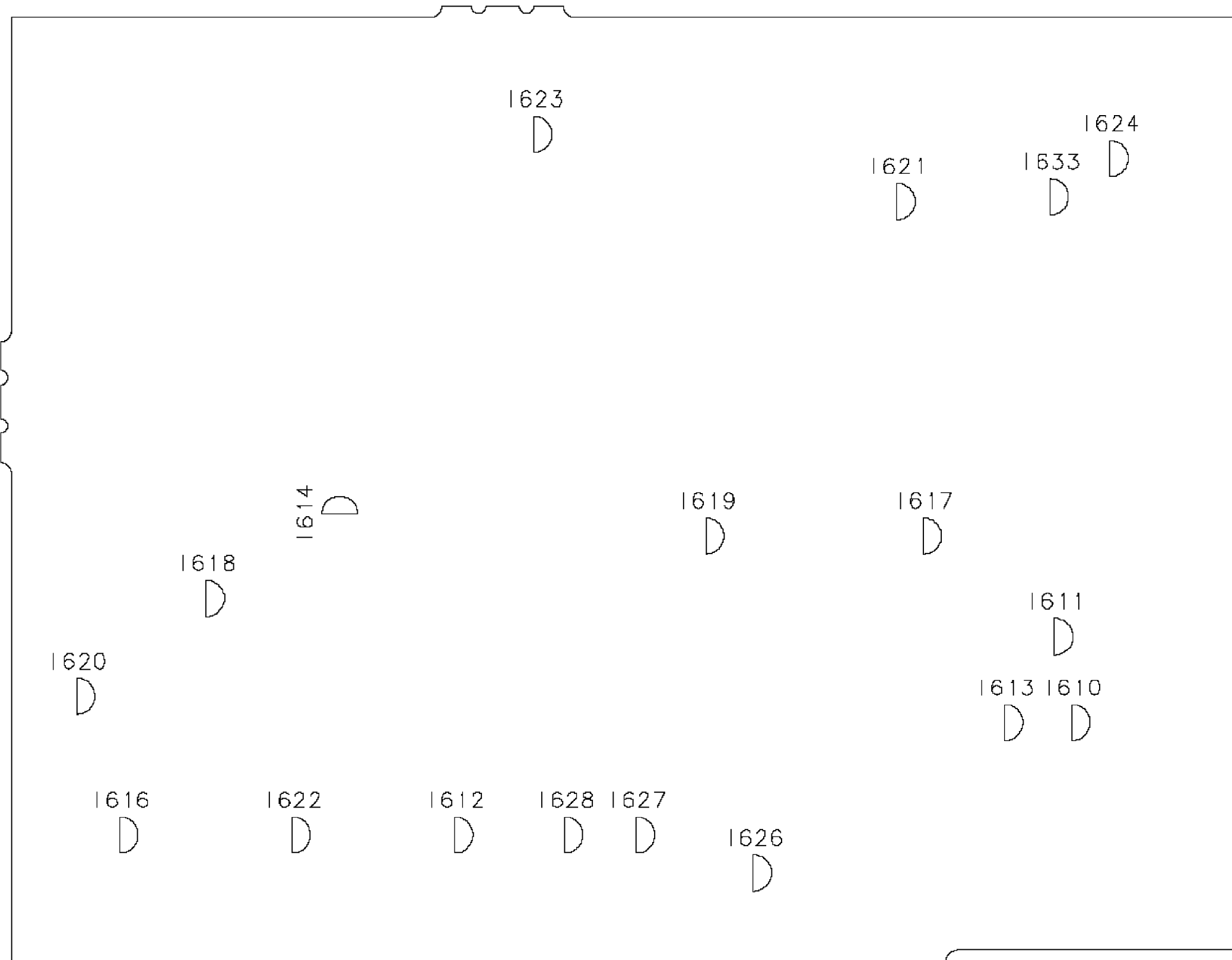


# CRT



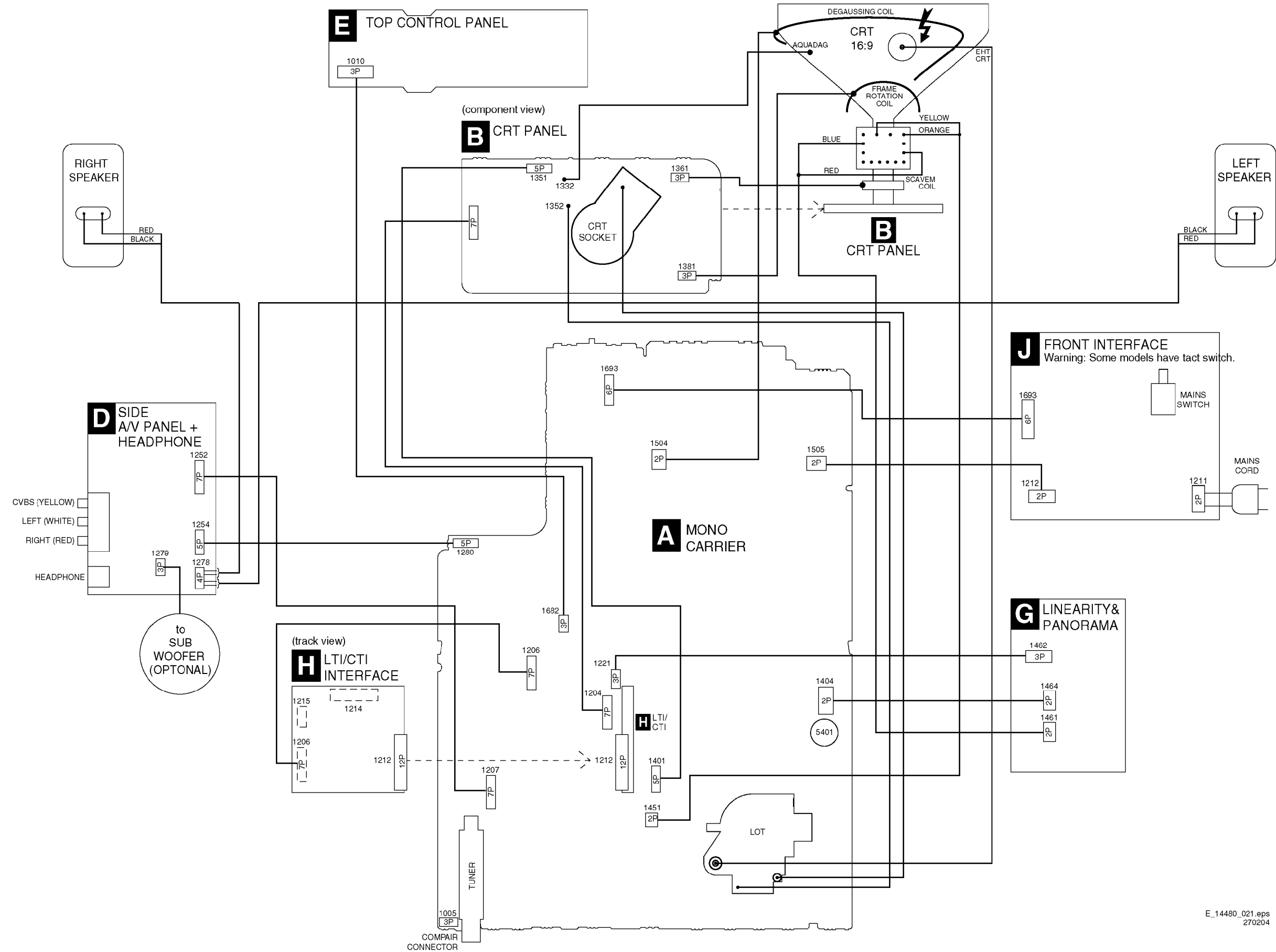
3139 123 5674.1

# LTI/CTI INTERFACE



3139 123 5740.1

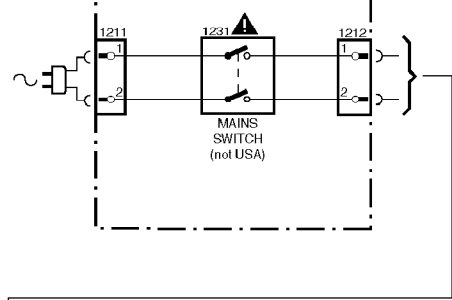
# Wiring Diagram



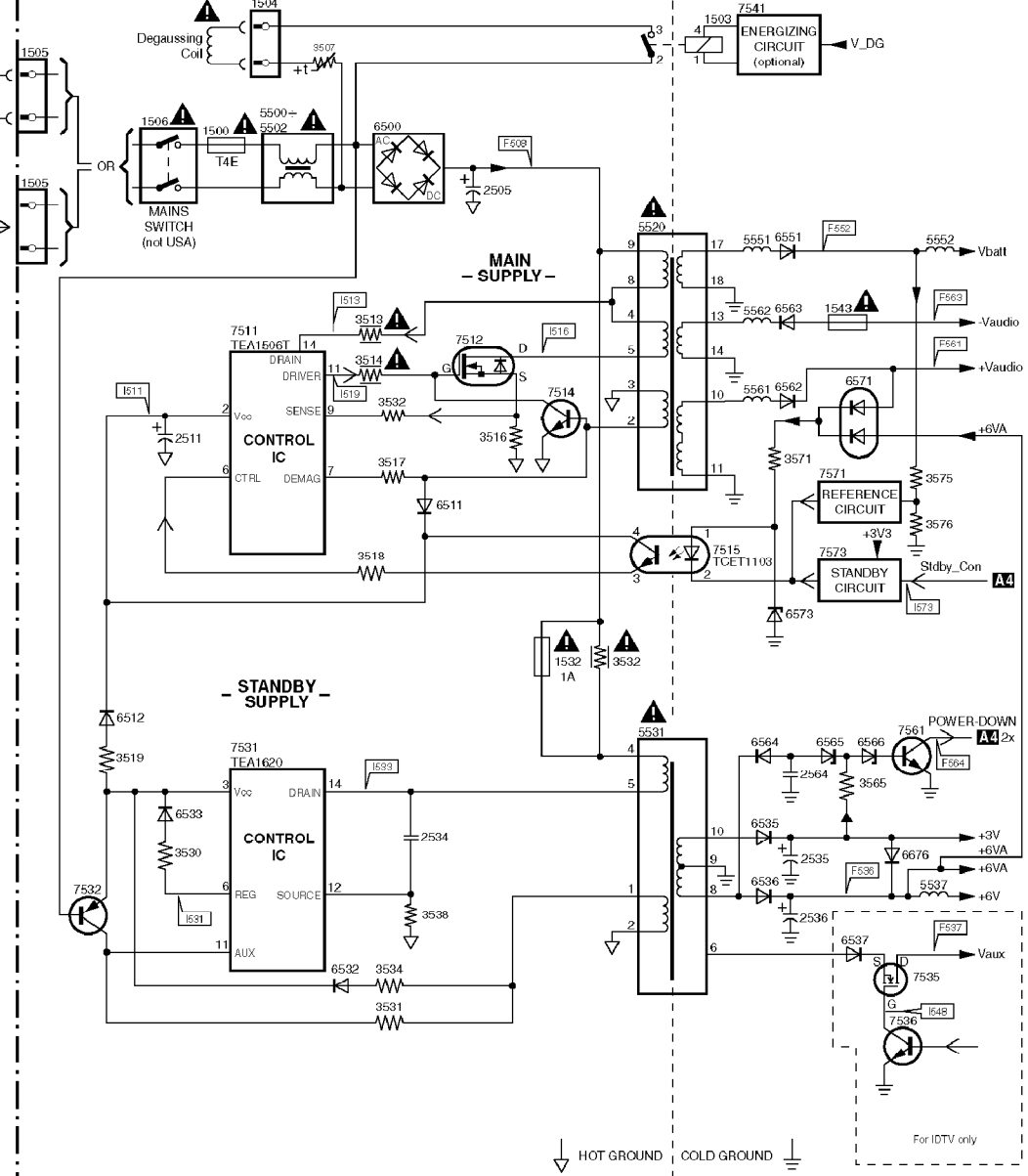
### SUPPLY AND DEFLECTION

#### SUPPLY

##### J FRONT INTERFACE

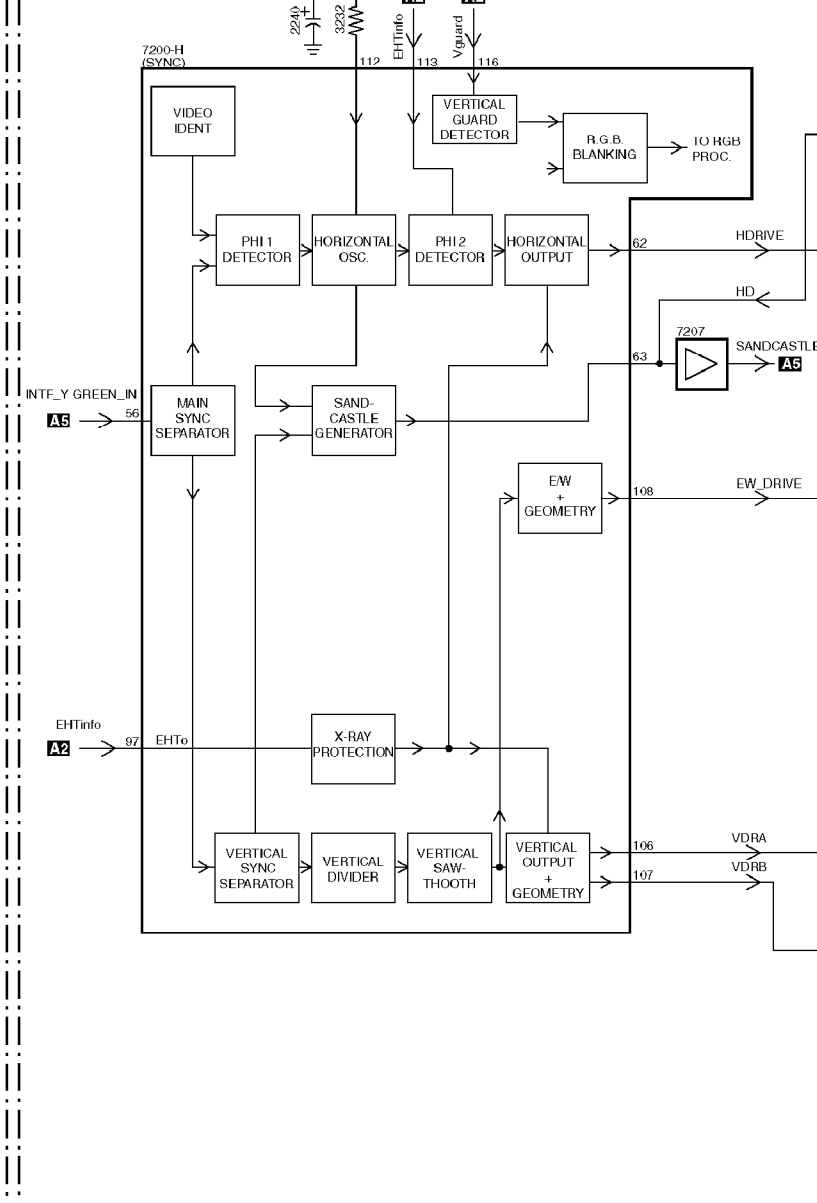


##### A1 POWER SUPPLY

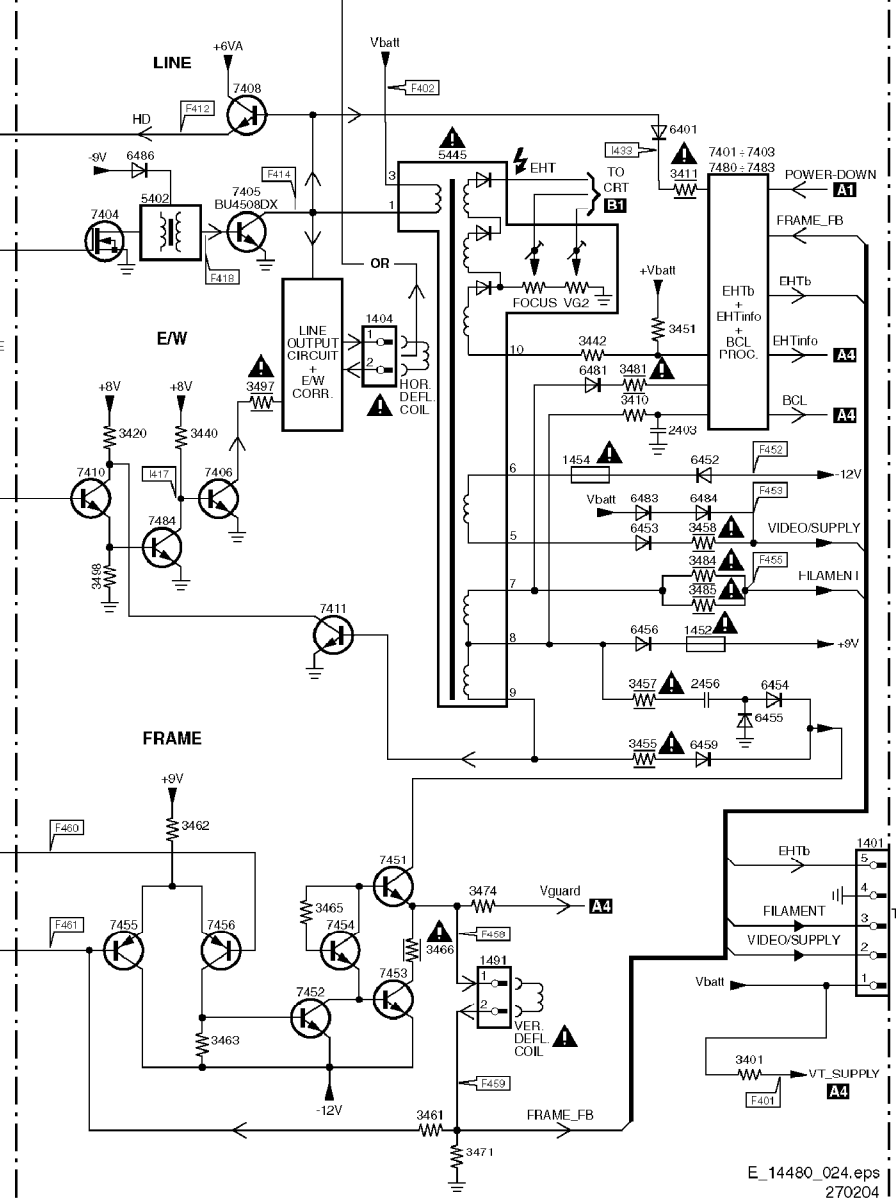


#### DEFLECTION

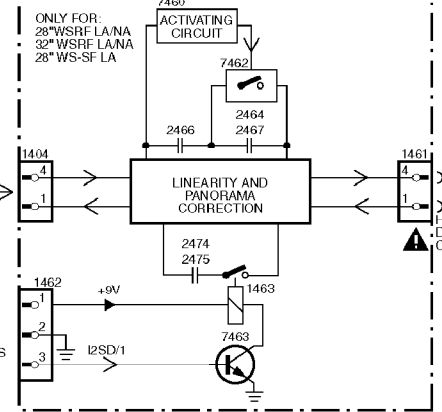
##### A4 HERCULES



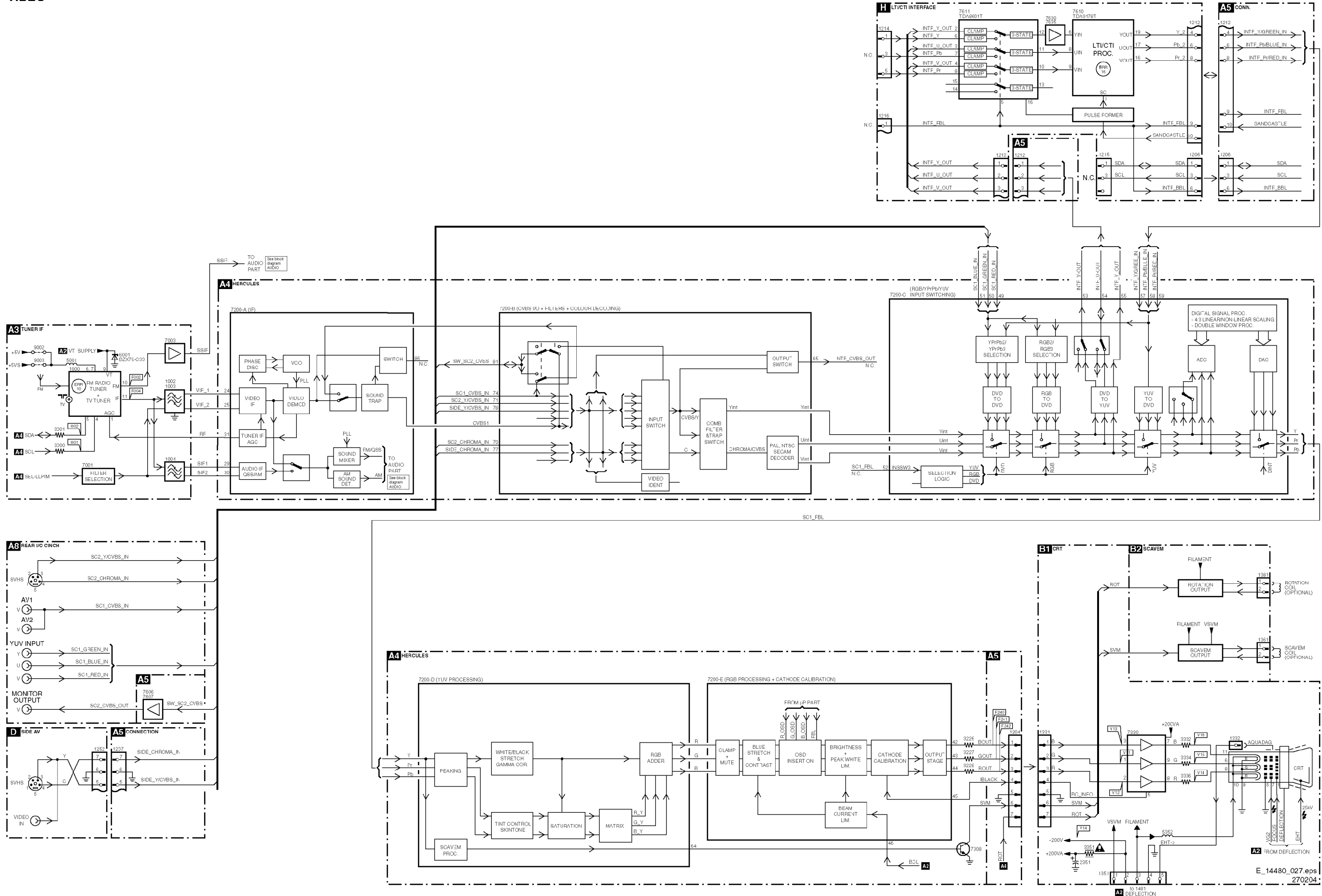
##### A2 LINE + FRAME DEFLECTION



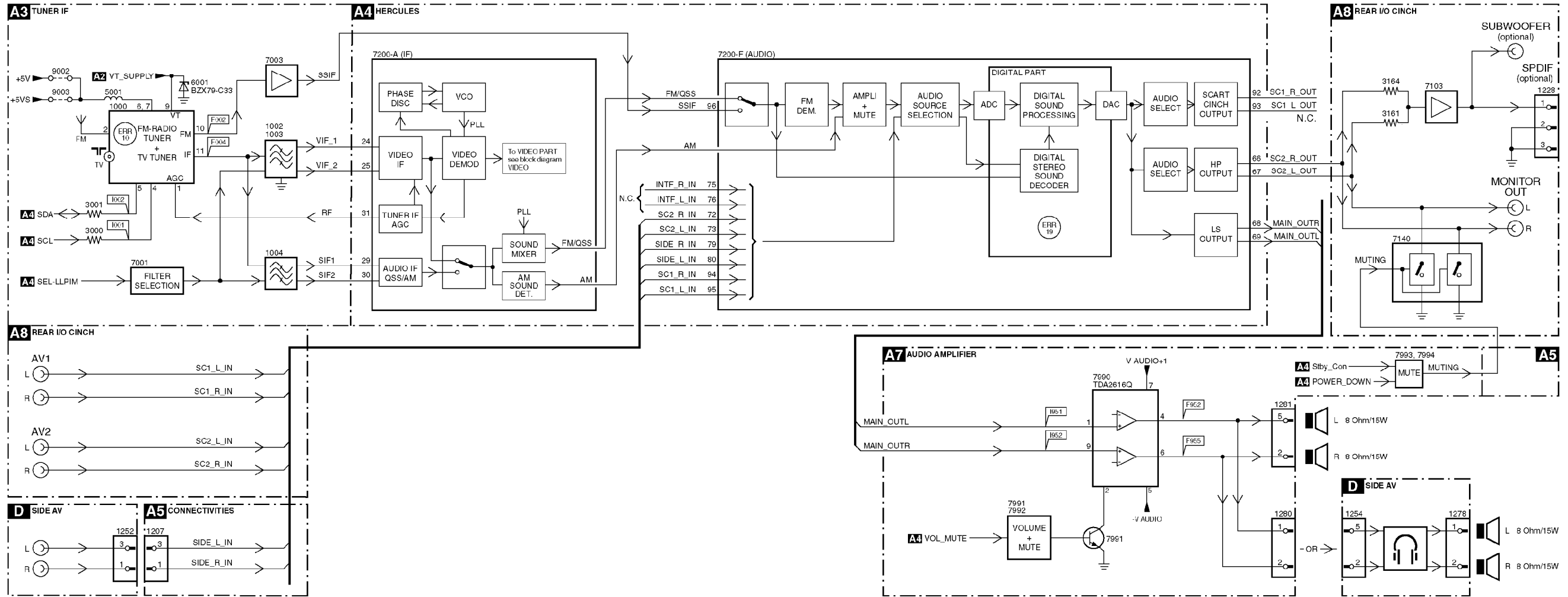
##### G LINEARITY & PANORAMA



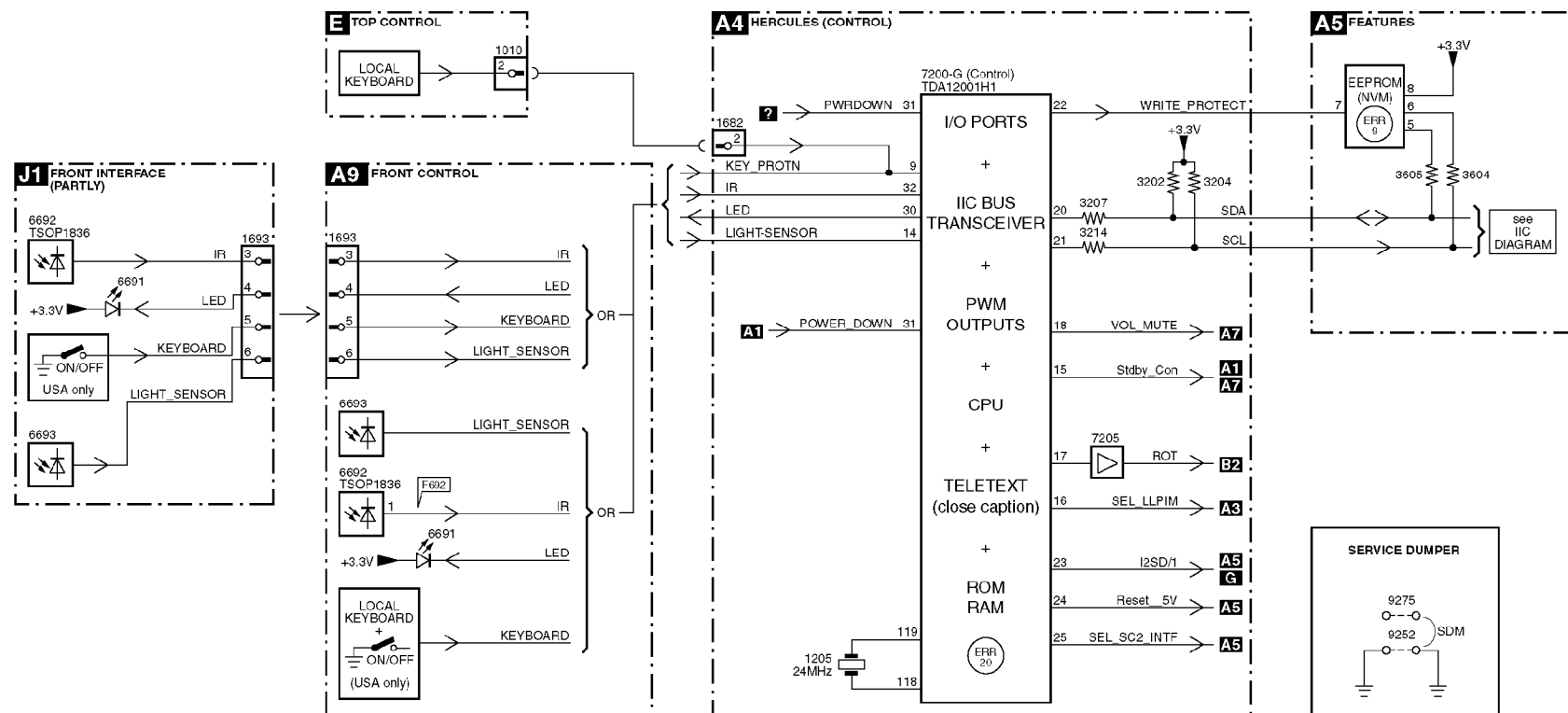
VIDEO



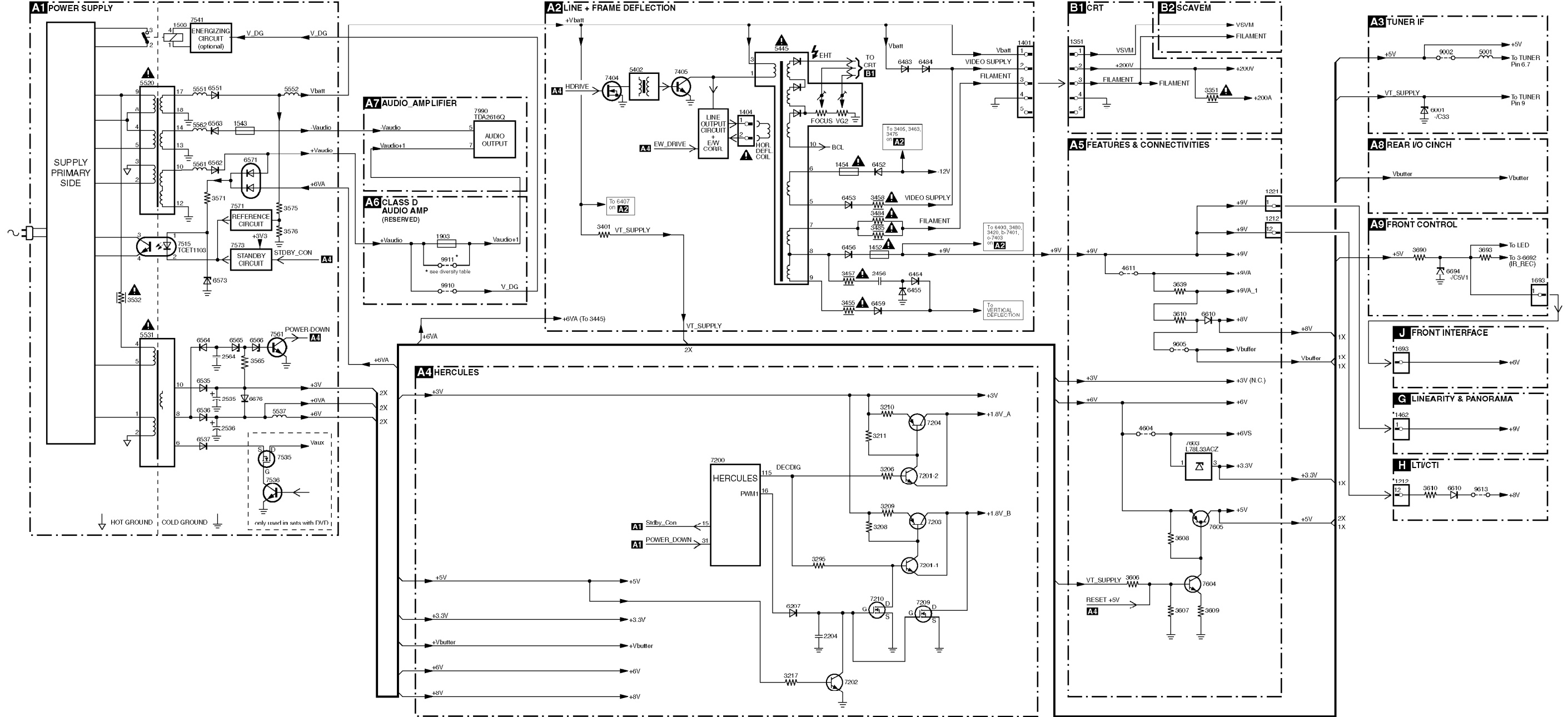
### AUDIO



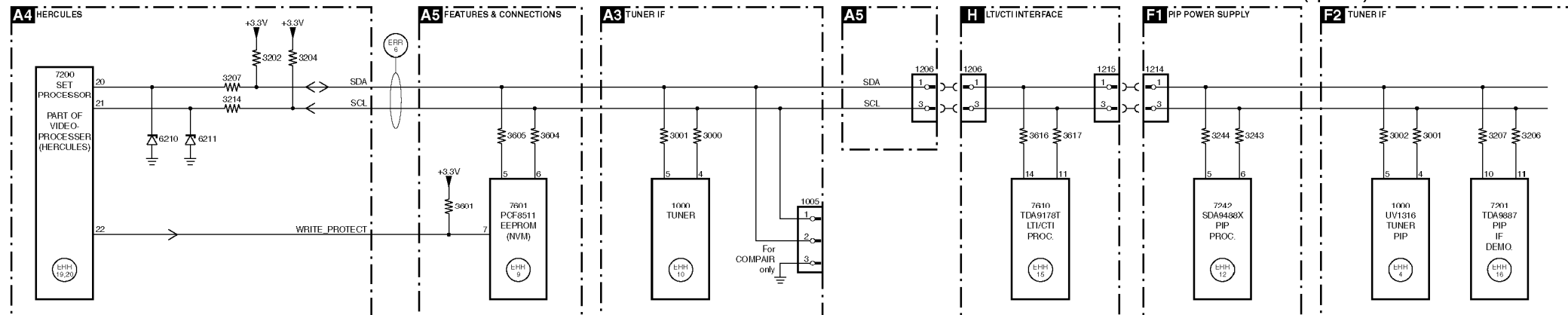
### CONTROL



### SUPPLY LINES DIAGRAM



### I2C BUS INTERCONNECTION DIAGRAM



### PIP MODULE (optional)

Error	Device	Error description	Check item	Diagram
0	Not applicable	No Error		
1	Not applicable	X-Ray/Over-voltage protection (US only)	2411, 2412, 2413, 6404, 6411, 6412	A2
2	Not applicable	High beam (BCI) protection	3404, 7405	A2
3	Not applicable	Vertical guard protection	3466, 7451, 7452, 7453, 7454	A2
5	Not applicable	+5v protection	7604, 7605	A5
6	I2C bus	General I2C error	7200, 3207, 3214	A4
9	24C16	I2C error while communicating with the EEPROM	7601, 3604, 3605	A5
10	Tuner	I2C error while communicating with the PLL tuner	1000, 5001	A3
11	TDA6107/A	Black current loop instability protection	7330, 3351, CRT	B1
15	TDA9178T/N1	I2C error while communicating with LTI module	7610	H
19	TDA1200x	I2C error while communicating with SSD stereo sound decoder	7200	A4
20	TDA1200x	I2C error while communicating with video cosmic in Hercules IC	7200	A4













25PT6341/85 (continued)

9485	Wire Jumper, 0.58MM.	3198	036	90010
9486	Wire Jumper, 0.58MM.	3198	036	90010
9487	Wire Jumper, 0.58MM.	3198	036	90010
9488	Wire Jumper, 0.58MM.	3198	036	90010
9489	Wire Jumper, 0.58MM.	3198	036	90010
9490	Wire Jumper, 0.58MM.	3198	036	90010
9491	Wire Jumper, 0.58MM.	3198	036	90010
9492	Wire Jumper, 0.58MM.	3198	036	90010
9502	Wire Jumper, 0.58MM.	3198	036	90010
9504	Wire Jumper, 0.58MM.	3198	036	90010
9505	Wire Jumper, 0.58MM.	3198	036	90010
9506	Wire Jumper, 0.58MM.	3198	036	90010
9507	Wire Jumper, 0.58MM.	3198	036	90010
9508	Wire Jumper, 0.58MM.	3198	036	90010
9509	Wire Jumper, 0.58MM.	3198	036	90010
9510	Wire Jumper, 0.58MM.	3198	036	90010
9514	Wire Jumper, 0.58MM.	3198	036	90010
9536	Wire Jumper, 0.58MM.	3198	036	90010
9537	Wire Jumper, 0.58MM.	3198	036	90010
9570	Wire Jumper, 0.58MM.	3198	036	90010
9573	Wire Jumper, 0.58MM.	3198	036	90010
9574	Wire Jumper, 0.58MM.	3198	036	90010
9575	Wire Jumper, 0.58MM.	3198	036	90010
9576	Wire Jumper, 0.58MM.	3198	036	90010
9577	Wire Jumper, 0.58MM.	3198	036	90010
9582	Wire Jumper, 0.58MM.	3198	036	90010
9583	Wire Jumper, 0.58MM.	3198	036	90010
9584	Wire Jumper, 0.58MM.	3198	036	90010
9585	Wire Jumper, 0.58MM.	3198	036	90010
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9587	Wire Jumper, 0.58MM.	3198	036	90010
9589	Wire Jumper, 0.58MM.	3198	036	90010
9590	Wire Jumper, 0.58MM.	3198	036	90010
9605	Wire Jumper, 0.58MM.	3198	036	90010
9631	Wire Jumper, 0.58MM.	3198	036	90010
9633	Wire Jumper, 0.58MM.	3198	036	90010
9637	Wire Jumper, 0.58MM.	3198	036	90010
9639	Wire Jumper, 0.58MM.	3198	036	90010
9642	Wire Jumper, 0.58MM.	3198	036	90010
9643	Wire Jumper, 0.58MM.	3198	036	90010
9653	Wire Jumper, 0.58MM.	3198	036	90010
9660	Wire Jumper, 0.58MM.	3198	036	90010
9661	Wire Jumper, 0.58MM.	3198	036	90010
9662	Wire Jumper, 0.58MM.	3198	036	90010
9663	Wire Jumper, 0.58MM.	3198	036	90010
9664	Wire Jumper, 0.58MM.	3198	036	90010
9665	Wire Jumper, 0.58MM.	3198	036	90010
9666	Wire Jumper, 0.58MM.	3198	036	90010
9683	Wire Jumper, 0.58MM.	3198	036	90010
9688	Wire Jumper, 0.58MM.	3198	036	90010
9689	Wire Jumper, 0.58MM.	3198	036	90010
9694	Wire Jumper, 0.58MM.	3198	036	90010
9695	Wire Jumper, 0.58MM.	3198	036	90010
9910	Wire Jumper, 0.58MM.	3198	036	90010
9911	Wire Jumper, 0.58MM.	3198	036	90010
9913	Wire Jumper, 0.58MM.	3198	036	90010
9914	Wire Jumper, 0.58MM.	3198	036	90010
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9927	Wire Jumper, 0.58MM.	3198	036	90010
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9936	Wire Jumper, 0.58MM.	3198	036	90010
9937	Wire Jumper, 0.58MM.	3198	036	90010
9939	Wire Jumper, 0.58MM.	3198	036	90010
9942	Wire Jumper, 0.58MM.	3198	036	90010
9943	Wire Jumper, 0.58MM.	3198	036	90010
9944	Wire Jumper, 0.58MM.	3198	036	90010







































27PT5441/37 (continued)

9509	Wire Jumper, 0.58MM.	3198	036	90010
9510	Wire Jumper, 0.58MM.	3198	036	90010
9514	Wire Jumper, 0.58MM.	3198	036	90010
9536	Wire Jumper, 0.58MM.	3198	036	90010
9537	Wire Jumper, 0.58MM.	3198	036	90010
9570	Wire Jumper, 0.58MM.	3198	036	90010
9573	Wire Jumper, 0.58MM.	3198	036	90010
9574	Wire Jumper, 0.58MM.	3198	036	90010
9575	Wire Jumper, 0.58MM.	3198	036	90010
9576	Wire Jumper, 0.58MM.	3198	036	90010
9577	Wire Jumper, 0.58MM.	3198	036	90010
9582	Wire Jumper, 0.58MM.	3198	036	90010
9583	Wire Jumper, 0.58MM.	3198	036	90010
9584	Wire Jumper, 0.58MM.	3198	036	90010
9585	Wire Jumper, 0.58MM.	3198	036	90010
9586	Wire Jumper, 0.58MM.	3198	036	90010
9587	Wire Jumper, 0.58MM.	3198	036	90010
9589	Wire Jumper, 0.58MM.	3198	036	90010
9590	Wire Jumper, 0.58MM.	3198	036	90010
9605	Wire Jumper, 0.58MM.	3198	036	90010
9631	Wire Jumper, 0.58MM.	3198	036	90010
9633	Wire Jumper, 0.58MM.	3198	036	90010
9637	Wire Jumper, 0.58MM.	3198	036	90010
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9643	Wire Jumper, 0.58MM.	3198	036	90010
9653	Wire Jumper, 0.58MM.	3198	036	90010
9660	Wire Jumper, 0.58MM.	3198	036	90010
9661	Wire Jumper, 0.58MM.	3198	036	90010
9662	Wire Jumper, 0.58MM.	3198	036	90010
9663	Wire Jumper, 0.58MM.	3198	036	90010
9664	Wire Jumper, 0.58MM.	3198	036	90010
9665	Wire Jumper, 0.58MM.	3198	036	90010
9666	Wire Jumper, 0.58MM.	3198	036	90010
9683	Wire Jumper, 0.58MM.	3198	036	90010
9688	Wire Jumper, 0.58MM.	3198	036	90010
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9694	Wire Jumper, 0.58MM.	3198	036	90010
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9910	Wire Jumper, 0.58MM.	3198	036	90010
9911	Wire Jumper, 0.58MM.	3198	036	90010
9913	Wire Jumper, 0.58MM.	3198	036	90010
9914	Wire Jumper, 0.58MM.	3198	036	90010
9915	Wire Jumper, 0.58MM.	3198	036	90010
9920	Wire Jumper, 0.58MM.	3198	036	90010
9921	Wire Jumper, 0.58MM.	3198	036	90010
9924	Wire Jumper, 0.58MM.	3198	036	90010
9926	Wire Jumper, 0.58MM.	3198	036	90010
9927	Wire Jumper, 0.58MM.	3198	036	90010
9935	Wire Jumper, 0.58MM.	3198	036	90010
9936	Wire Jumper, 0.58MM.	3198	036	90010
9937	Wire Jumper, 0.58MM.	3198	036	90010
9939	Wire Jumper, 0.58MM.	3198	036	90010
9942	Wire Jumper, 0.58MM.	3198	036	90010
9943	Wire Jumper, 0.58MM.	3198	036	90010
9944	Wire Jumper, 0.58MM.	3198	036	90010













27PT6441/37 (continued)

9470	Wire Jumper, 0.58MM.	3198	036	90010
9473	Wire Jumper, 0.58MM.	3198	036	90010
9474	100R 1/6 watt Carbon Res 5%.	3198	011	01010
9475	Wire Jumper, 0.58MM.	3198	036	90010
9476	Wire Jumper, 0.58MM.	3198	036	90010
9477	Wire Jumper, 0.58MM.	3198	036	90010
9478	Wire Jumper, 0.58MM.	3198	036	90010
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9480	Wire Jumper, 0.58MM.	3198	036	90010
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9484	Wire Jumper, 0.58MM.	3198	036	90010
9485	Wire Jumper, 0.58MM.	3198	036	90010
9486	Wire Jumper, 0.58MM.	3198	036	90010
9487	Wire Jumper, 0.58MM.	3198	036	90010
9488	Wire Jumper, 0.58MM.	3198	036	90010
9489	Wire Jumper, 0.58MM.	3198	036	90010
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9491	Wire Jumper, 0.58MM.	3198	036	90010
9492	Wire Jumper, 0.58MM.	3198	036	90010
9502	Wire Jumper, 0.58MM.	3198	036	90010
9504	Wire Jumper, 0.58MM.	3198	036	90010
9505	Wire Jumper, 0.58MM.	3198	036	90010
9506	Wire Jumper, 0.58MM.	3198	036	90010
9507	Wire Jumper, 0.58MM.	3198	036	90010
9508	Wire Jumper, 0.58MM.	3198	036	90010
9509	Wire Jumper, 0.58MM.	3198	036	90010
9510	Wire Jumper, 0.58MM.	3198	036	90010
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9536	Wire Jumper, 0.58MM.	3198	036	90010
9537	Wire Jumper, 0.58MM.	3198	036	90010
9570	Wire Jumper, 0.58MM.	3198	036	90010
9573	Wire Jumper, 0.58MM.	3198	036	90010
9574	Wire Jumper, 0.58MM.	3198	036	90010
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9576	Wire Jumper, 0.58MM.	3198	036	90010
9577	Wire Jumper, 0.58MM.	3198	036	90010
9582	Wire Jumper, 0.58MM.	3198	036	90010
9583	Wire Jumper, 0.58MM.	3198	036	90010
9584	Wire Jumper, 0.58MM.	3198	036	90010
9585	Wire Jumper, 0.58MM.	3198	036	90010
9586	Wire Jumper, 0.58MM.	3198	036	90010
9587	Wire Jumper, 0.58MM.	3198	036	90010
9589	Wire Jumper, 0.58MM.	3198	036	90010
9590	Wire Jumper, 0.58MM.	3198	036	90010
9605	Wire Jumper, 0.58MM.	3198	036	90010
9631	Wire Jumper, 0.58MM.	3198	036	90010
9633	Wire Jumper, 0.58MM.	3198	036	90010
9637	Wire Jumper, 0.58MM.	3198	036	90010
9639	Wire Jumper, 0.58MM.	3198	036	90010
9642	Wire Jumper, 0.58MM.	3198	036	90010
9643	Wire Jumper, 0.58MM.	3198	036	90010
9653	Wire Jumper, 0.58MM.	3198	036	90010
9660	Wire Jumper, 0.58MM.	3198	036	90010
9661	Wire Jumper, 0.58MM.	3198	036	90010
9662	Wire Jumper, 0.58MM.	3198	036	90010
9663	Wire Jumper, 0.58MM.	3198	036	90010
9664	Wire Jumper, 0.58MM.	3198	036	90010
9665	Wire Jumper, 0.58MM.	3198	036	90010
9666	Wire Jumper, 0.58MM.	3198	036	90010
9688	Wire Jumper, 0.58MM.	3198	036	90010
9689	Wire Jumper, 0.58MM.	3198	036	90010
9694	Wire Jumper, 0.58MM.	3198	036	90010
9695	Wire Jumper, 0.58MM.	3198	036	90010
9910	Wire Jumper, 0.58MM.	3198	036	90010
9911	Wire Jumper, 0.58MM.	3198	036	90010
9913	Wire Jumper, 0.58MM.	3198	036	90010
9914	Wire Jumper, 0.58MM.	3198	036	90010
9915	Wire Jumper, 0.58MM.	3198	036	90010
9920	Wire Jumper, 0.58MM.	3198	036	90010
9921	Wire Jumper, 0.58MM.	3198	036	90010
9924	Wire Jumper, 0.58MM.	3198	036	90010
9926	Wire Jumper, 0.58MM.	3198	036	90010
9927	Wire Jumper, 0.58MM.	3198	036	90010
9935	Wire Jumper, 0.58MM.	3198	036	90010
9936	Wire Jumper, 0.58MM.	3198	036	90010
9937	Wire Jumper, 0.58MM.	3198	036	90010
9939	Wire Jumper, 0.58MM.	3198	036	90010
9942	Wire Jumper, 0.58MM.	3198	036	90010
9943	Wire Jumper, 0.58MM.	3198	036	90010
9944	Wire Jumper, 0.58MM.	3198	036	90010











27PT6442/37 (continued)

6442	Zener Diode, 68 volt	9322 150 20685	9122	Wire Jumper, 0.58MM.	3198 036 90010
6443	Zener Diode, 10 volt	3198 020 51090	9123	Wire Jumper, 0.58MM.	3198 036 90010
6450	Diode, Signal, BAS316.	3198 010 10630	9124	Wire Jumper, 0.58MM.	3198 036 90010
6451	Zener Diode, 4.7 volt.	3198 020 54780	9125	Wire Jumper, 0.58MM.	3198 036 90010
6452	Diode, Rect, BVV27-200.	9322 126 72673	9126	Wire Jumper, 0.58MM.	3198 036 90010
6453	Diode, Rect, RGP10G.	9334 939 60673	9128	Wire Jumper, 0.58MM.	3198 036 90010
6454	Diode, Rect, RGP10G.	9334 939 60673	9129	Wire Jumper, 0.58MM.	3198 036 90010
6455	Diode, Rect, RGP10G.	9334 939 60673	9138	Wire Jumper, 0.58MM.	3198 036 90010
6456	Diode, Rect, PBVR10100.	9340 205 70127	9202	Wire Jumper, 0.58MM.	3198 036 90010
6457	Diode, Signal, BAS316.	3198 010 10630	9203	Wire Jumper, 0.58MM.	3198 036 90010
6458	Diode, Signal, BAS316.	3198 010 10630	9204	Wire Jumper, 0.58MM.	3198 036 90010
6459	Diode, Rect, RGP10G.	9334 939 60673	9205	Wire Jumper, 0.58MM.	3198 036 90010
6480	Zener Diode, 6.8 volt.	3198 010 56880	9206	Wire Jumper, 0.58MM.	3198 036 90010
6481	Diode, Signal, 1N4148.	3198 010 10010	9207	Wire Jumper, 0.58MM.	3198 036 90010
6482	Zener Diode, 6.8 volt.	3198 020 56880	9208	Wire Jumper, 0.58MM.	3198 036 90010
6483	Diode, BAV21WS	9322 197 45703	9209	Wire Jumper, 0.58MM.	3198 036 90010
6484	Diode, BAV21WS	9322 197 45703	9210	Wire Jumper, 0.58MM.	3198 036 90010
6486	Diode, Signal, BAV21	3198 010 10070	9211	Wire Jumper, 0.58MM.	3198 036 90010
6488	Diode, Signal, BAS316.	3198 010 10630	9212	Wire Jumper, 0.58MM.	3198 036 90010
6489	Zener Diode, 33 volt	3198 020 53390	9213	Wire Jumper, 0.58MM.	3198 036 90010
6500	Diode, Bridge Rect, GBU4TL-7002	9322 132 55667	9214	Wire Jumper, 0.58MM.	3198 036 90010
6511	Diode, Rect, RGP10D	9337 516 60673	9216	Wire Jumper, 0.58MM.	3198 036 90010
6512	Diode, Signal, BAT51, SOD323	3198 010 10660	9217	Wire Jumper, 0.58MM.	3198 036 90010
6514	Diode, Signal, BAS316.	3198 010 10630	9218	Wire Jumper, 0.58MM.	3198 036 90010
6531	Zener Diode, 15 volt	3198 020 51590	9219	Wire Jumper, 0.58MM.	3198 036 90010
6532	Diode, BAV21WS	9322 197 45703	9220	Wire Jumper, 0.58MM.	3198 036 90010
6533	Zener Diode, 6.8 volt.	9322 171 80685	9221	Wire Jumper, 0.58MM.	3198 036 90010
6534	Zener Diode, 3.9 volt.	9322 199 75685	9222	Wire Jumper, 0.58MM.	3198 036 90010
6535	Diode, Rect, SB160	9322 198 24673	9223	Wire Jumper, 0.58MM.	3198 036 90010
6536	Diode, Rect, SB180	9322 198 25673	9224	Wire Jumper, 0.58MM.	3198 036 90010
6541	Zener Diode, 12 volt	3198 020 51290	9225	Wire Jumper, 0.58MM.	3198 036 90010
6551	Diode, Rect, STH8L06D	9322 198 41687	9226	Wire Jumper, 0.58MM.	3198 036 90010
6562	Diode, Rect, SB360	3198 010 10700	9227	Wire Jumper, 0.58MM.	3198 036 90010
6563	Diode, Rect, SB360	3198 010 10700	9228	Wire Jumper, 0.58MM.	3198 036 90010
6564	Diode, Signal, BAS316.	3198 010 10630	9229	Wire Jumper, 0.58MM.	3198 036 90010
6565	Zener Diode, 9.1 volt.	9322 125 46685	9230	Wire Jumper, 0.58MM.	3198 036 90010
6566	Diode, Signal, BAS316.	3198 010 10630	9231	Wire Jumper, 0.58MM.	3198 036 90010
6571	Diode, Signal, BAV70	9331 849 10215	9232	Wire Jumper, 0.58MM.	3198 036 90010
6572	Zener Diode, 6.2 volt.	9340 548 54115	9233	Wire Jumper, 0.58MM.	3198 036 90010
6573	Zener Diode, 9.1 volt.	9331 177 80133	9234	Wire Jumper, 0.58MM.	3198 036 90010
6575	Diode, Rect, 1N5392	9322 005 16683	9235	Wire Jumper, 0.58MM.	3198 036 90010
6602	Diode, Signal, BAV99	3198 010 10620	9236	Wire Jumper, 0.58MM.	3198 036 90010
6694	Zener Diode, 5.1 volt.	3198 020 55180	9237	Wire Jumper, 0.58MM.	3198 036 90010
7200	IC, TDA12000H1/1N1501AB.	9352 753 88557	9238	Wire Jumper, 0.58MM.	3198 036 90010
7201	Transistor, NPN, IMX1.	9322 054 28685	9239	Wire Jumper, 0.58MM.	3198 036 90010
7203	Transistor, PNP, BC327-25.	3198 020 43430	9240	Wire Jumper, 0.58MM.	3198 036 90010
7204	Transistor, PNP, BC327-25.	3198 020 43430	9241	Wire Jumper, 0.58MM.	3198 036 90010
7207	Transistor, NPN, BC847B.	3198 010 42030	9244	Wire Jumper, 0.58MM.	3198 036 90010
7208	Transistor, NPN, BC847B.	3198 010 42030	9245	Wire Jumper, 0.58MM.	3198 036 90010
7209	F.E.T. Signal, BSH103.	9340 547 13215	9246	Wire Jumper, 0.58MM.	3198 036 90010
7210	F.E.T. Signal, BSH103.	9340 547 13215	9247	Wire Jumper, 0.58MM.	3198 036 90010
7404	F.E.T. Signal, BSH103.	9340 547 13215	9248	Wire Jumper, 0.58MM.	3198 036 90010
7405	Transistor, NPN, BU4508DX.	9340 550 92127	9249	Wire Jumper, 0.58MM.	3198 036 90010
7406	Transistor, KTC3228Y	9322 197 37676	9250	Wire Jumper, 0.58MM.	3198 036 90010
7408	Transistor, NPN, BC847B.	3198 010 42030	9251	Wire Jumper, 0.58MM.	3198 036 90010
7410	Transistor, PNP, BC857B.	3198 010 42150	9252	Wire Jumper, 0.58MM.	3198 036 90010
7411	Transistor, PNP, BC857B.	3198 010 42150	9253	Wire Jumper, 0.58MM.	3198 036 90010
7451	Transistor, KTD600KY	9322 195 14687	9254	Wire Jumper, 0.58MM.	3198 036 90010
7452	Transistor, KTC3228Y	9322 197 37676	9255	Wire Jumper, 0.58MM.	3198 036 90010
7453	Transistor, KTB631KY	9322 195 05687	9258	Wire Jumper, 0.58MM.	3198 036 90010
7454	Transistor, NPN, BC847B.	3198 010 42030	9259	Wire Jumper, 0.58MM.	3198 036 90010
7455	Transistor, PNP, BC857B.	3198 010 42150	9263	Wire Jumper, 0.58MM.	3198 036 90010
7456	Transistor, PNP, BC857B.	3198 010 42150	9264	Wire Jumper, 0.58MM.	3198 036 90010
7481	Transistor, PNP, BC857B.	3198 010 42150	9268	Wire Jumper, 0.58MM.	3198 036 90010
7482	Transistor, PNP, PPTA114ET	3198 010 44010	9269	Wire Jumper, 0.58MM.	3198 036 90010
7483	Transistor, PNP, BC857B.	3198 010 42150	9271	Wire Jumper, 0.58MM.	3198 036 90010
7484	Transistor, NPN, BC847B.	3198 010 42030	9272	Wire Jumper, 0.58MM.	3198 036 90010
7511	IC, TEA1506T/N1.	9352 720 43118	9273	Wire Jumper, 0.58MM.	3198 036 90010
7512	Transistor, FET, FQFFN50.	9322 187 16687	9274	Wire Jumper, 0.58MM.	3198 036 90010
7513	Optic Coupler, TCET1103(G)	9322 140 14667	9275	Wire Jumper, 0.58MM.	3198 036 90010
7514	Transistor, NPN, BC847B.	3198 010 42030	9276	Wire Jumper, 0.58MM.	3198 036 90010
7531	IC, TEA1620P/N1.	9352 739 52112	9277	Wire Jumper, 0.58MM.	3198 036 90010
7541	Transistor, PNP, BC857B.	3198 010 42150	9278	Wire Jumper, 0.58MM.	3198 036 90010
7561	Transistor, NPN, PPTC143ZT	9340 547 00215	9279	Wire Jumper, 0.58MM.	3198 036 90010
7571	Transistor, NPN, BC547B.	3198 020 40030	9280	Wire Jumper, 0.58MM.	3198 036 90010
7573	Transistor, NPN, PPTC114ET	3198 010 44110	9290	Wire Jumper, 0.58MM.	3198 036 90010
7601	IC, M24C16-WBN6.	9322 147 25682	9294	Wire Jumper, 0.58MM.	3198 036 90010
7603	IC, L78L33ACZ.	9322 134 92676	9295	Wire Jumper, 0.58MM.	3198 036 90010
7604	Transistor, NPN, BC847B.	3198 010 42030	9296	Wire Jumper, 0.58MM.	3198 036 90010
7605	Transistor, PNP, BC327-25.	3198 020 43430	9297	Wire Jumper, 0.58MM.	3198 036 90010
7606	Transistor, NPN, BC847B.	3198 010 42030	9298	Wire Jumper, 0.58MM.	3198 036 90010
7990	IC, TDA2616Q/N1.	9350 404 40112	9299	Wire Jumper, 0.58MM.	3198 036 90010
7991	Transistor, NPN, BC847B.	3198 010 42030	9401	Wire Jumper, 0.58MM.	3198 036 90010
7992	Transistor, NPN, BC847B.	3198 010 42030	9407	Wire Jumper, 0.58MM.	3198 036 90010
8401	Cable, 5 Pin, 560mm.	3139 121 09041	9410	Wire Jumper, 0.58MM.	3198 036 90010
9002	Wire Jumper, 0.58MM.	3198 036 90010	9460	Wire Jumper, 0.58MM.	3198 036 90010
9112	Wire Jumper, 0.58MM.	3198 036 90010	9466	Wire Jumper, 0.58MM.	3198 036 90010
9113	Wire Jumper, 0.58MM.	3198 036 90010	9467	Wire Jumper, 0.58MM.	3198 036 90010
9114	Wire Jumper, 0.58MM.	3198 036 90010	9469	Wire Jumper, 0.58MM.	3198 036 90010
9116	Wire Jumper, 0.58MM.	3198 036 90010	9470	Wire Jumper, 0.58MM.	3198 036 90010
9120	Wire Jumper, 0.58MM.	3198 036 90010	9473	Wire Jumper, 0.58MM.	3198 036 90010
9121	Wire Jumper, 0.58MM.	3198 036 90010	9474	Wire Jumper, 0.58MM.	3198 036 90010







27ST6210/27 (continued)

Table with 5 columns: Part number, Description, Quantity, Price, and Part number. Lists various electronic components like capacitors, resistors, and surge protectors.

S = Safety Part Be sure to use exact replacement part.







27ST6210/27 (continued)

9508	Wire Jumper, 0.58MM.	3198	036	90010
9509	Wire Jumper, 0.58MM.	3198	036	90010
9510	Wire Jumper, 0.58MM.	3198	036	90010
9514	Wire Jumper, 0.58MM.	3198	036	90010
9536	Wire Jumper, 0.58MM.	3198	036	90010
9537	Wire Jumper, 0.58MM.	3198	036	90010
9570	Wire Jumper, 0.58MM.	3198	036	90010
9573	Wire Jumper, 0.58MM.	3198	036	90010
9574	Wire Jumper, 0.58MM.	3198	036	90010
9575	Wire Jumper, 0.58MM.	3198	036	90010
9576	Wire Jumper, 0.58MM.	3198	036	90010
9577	Wire Jumper, 0.58MM.	3198	036	90010
9582	Wire Jumper, 0.58MM.	3198	036	90010
9583	Wire Jumper, 0.58MM.	3198	036	90010
9584	Wire Jumper, 0.58MM.	3198	036	90010
9585	Wire Jumper, 0.58MM.	3198	036	90010
9586	Wire Jumper, 0.58MM.	3198	036	90010
9587	Wire Jumper, 0.58MM.	3198	036	90010
9589	Wire Jumper, 0.58MM.	3198	036	90010
9590	Wire Jumper, 0.58MM.	3198	036	90010
9605	Wire Jumper, 0.58MM.	3198	036	90010
9607	Wire Jumper, 0.58MM.	3198	036	90010
9631	Wire Jumper, 0.58MM.	3198	036	90010
9633	Wire Jumper, 0.58MM.	3198	036	90010
9637	Wire Jumper, 0.58MM.	3198	036	90010
9639	Wire Jumper, 0.58MM.	3198	036	90010
9642	Wire Jumper, 0.58MM.	3198	036	90010
9643	Wire Jumper, 0.58MM.	3198	036	90010
9653	Wire Jumper, 0.58MM.	3198	036	90010
9660	Wire Jumper, 0.58MM.	3198	036	90010
9661	Wire Jumper, 0.58MM.	3198	036	90010
9662	Wire Jumper, 0.58MM.	3198	036	90010
9663	Wire Jumper, 0.58MM.	3198	036	90010
9664	Wire Jumper, 0.58MM.	3198	036	90010
9665	Wire Jumper, 0.58MM.	3198	036	90010
9666	Wire Jumper, 0.58MM.	3198	036	90010
9688	Wire Jumper, 0.58MM.	3198	036	90010
9689	Wire Jumper, 0.58MM.	3198	036	90010
9694	Wire Jumper, 0.58MM.	3198	036	90010
9695	Wire Jumper, 0.58MM.	3198	036	90010
9910	Wire Jumper, 0.58MM.	3198	036	90010
9911	Wire Jumper, 0.58MM.	3198	036	90010
9913	Wire Jumper, 0.58MM.	3198	036	90010
9914	Wire Jumper, 0.58MM.	3198	036	90010
9915	Wire Jumper, 0.58MM.	3198	036	90010
9920	Wire Jumper, 0.58MM.	3198	036	90010
9921	Wire Jumper, 0.58MM.	3198	036	90010
9924	Wire Jumper, 0.58MM.	3198	036	90010
9926	Wire Jumper, 0.58MM.	3198	036	90010
9927	Wire Jumper, 0.58MM.	3198	036	90010
9935	Wire Jumper, 0.58MM.	3198	036	90010
9936	Wire Jumper, 0.58MM.	3198	036	90010
9937	Wire Jumper, 0.58MM.	3198	036	90010
9939	Wire Jumper, 0.58MM.	3198	036	90010
9942	Wire Jumper, 0.58MM.	3198	036	90010
9943	Wire Jumper, 0.58MM.	3198	036	90010
9944	Wire Jumper, 0.58MM.	3198	036	90010















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Cabinet Parts

Table listing Cabinet Parts including items like Cabinet Front, Cabinet Back, Power Button, Degaussing Coil Holder, Chassis Tray, Light Guide, Cabinet Back Screw Cover, Nameplate, Top Control Assembly, Front Interface Panel Bracket, Owner's Manual, Side Jack Panel Bracket, Cabinet Front Assembly, Batteries for Remote Control, CRT, A68QCU770X73R, Degaussing Coil, Speaker, AC Cord, and REMOTE Control.

CRT Panels

Table listing CRT Panels including items like U-Cooling Plate, IC-Spring, Socket, Connector, Cap, Res, LED, IR Receiver, and Wire Jumper.

S = Safety Part Be sure to use exact replacement part.

Table listing electronic components including Coils, Diodes, Transistors, Wire Jumpers, and other parts with their respective part numbers and descriptions.

Front Interface Panel

Table listing Front Interface Panel components including CBA Front Interface Panel, Switch, Connector, Cap, Res, LED, IR Receiver, and Wire Jumper.

LTI/CTI Interface Panel

Table listing LTI/CTI Interface Panel components including CBA LTI/CTI Interface Panel, Connector, Cap, Res, Diode, Transistor, Wire Jumper, and other parts.

Linearity & Panorama Panel

Linearity & Panorama Panel

Side Jack Panel

Table listing Side Jack Panel components including CBA Side Jack Panel, Headphone Jack, A/V Jack, Connector, Cap, Res, Wire Jumper, and other parts.













29PT6441/85 (continued)

Table with 4 columns: Part Number, Description, Quantity, and Price. Rows include components like capacitors and resistors.

Continuation of the parts list from the previous table, including various capacitor and resistor specifications.

Top Control Panel

Table of parts for the Top Control Panel, including connectors, switches, and resistors.

Main Chassis

Table of parts for the Main Chassis, including tuners, filters, connectors, and various electronic components.

Continuation of the parts list, including capacitors, resistors, and other electronic components.

S = Safety Part Be sure to use exact replacement part.







































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Cabinet Parts

0002	Cabinet Parts			
	Cabinet Front (part of Cabinet Front Assembly) . . . . .	3139	177	73591
0008	Cabinet Back . . . . .	3139	124	46431
0016	Power Button (part of Cabinet Front Assembly) . . . . .	3139	177	71181
0020	Degaussing Coil Holder (4 Used) . . . . .	3135	013	01661
0030	Chassis Tray . . . . .	3139	124	31325
0039	Linearity & Panorama Panel Bracket . . . . .	3139	124	33411
0041	Light Guide (part of Cabinet Front Assembly) . . . . .	3139	124	39701
0048	Cabinet Back Screw Cover (2 Used) . . . . .	3139	124	45431
0050	Nameplate (part of Cabinet Front Assembly) . . . . .	3141	050	00291
0052	Top Control Assembly . . . . .	3139	177	66491
0064	Front Interface Panel Bracket . . . . .	3139	124	32892
0125	Owner's Manual . . . . .	3121	235	21591
0145	Quick Use Guide . . . . .	3121	233	45601
0205	Side Jack Panel Bracket . . . . .	3139	124	37061
0940	Cabinet Front Assembly . . . . .	3121	237	54641
1081	Batteries for Remote Control . . . . .	9299	000	65263
S 1099	CRT, W76ERF022X016 . . . . .	9301	949	50314
S 5203	Degaussing Coil . . . . .	2422	549	45797
S 5205	Canceller Coil . . . . .	3128	138	60662
5213	Speaker, 15W, 8 ohm (part of Cabinet Front Assembly) . . . . .	3139	128	77111
5214	Speaker, 15W, 8 ohm (part of Cabinet Front Assembly) . . . . .	3139	128	77111
S 8190	AC Cord . . . . .	2422	070	98202
REMOTE	Remote Control, RC19036003/01 . . . . .	3139	238	05791

CRT Panels

CBA	CRT Panel . . . . .	3139	188	63111
0035	U-Cooling Plate . . . . .	3139	121	26731
0085	IC-Spring . . . . .	3104	301	22081
0087	U-Cooling Plate . . . . .	3139	121	26731
1254	Socket, CRT, 9 Pin, N-Neck . . . . .	2422	500	80076
1331	Connector, 7 Pin . . . . .	2422	025	04855
S 1351	Connector, 5 Pin . . . . .	2422	025	04853
1361	Connector, 3 Pin . . . . .	2412	020	00725
1381	Connector, 3 Pin . . . . .	2412	020	00725
2330	Cap, 100n, 10%, 250v, Metalized Polyester . . . . .	2022	318	00198
2331	Cap, 10n, 10%, 50v, Ceramic . . . . .	3198	017	31030
2332	Cap, 10n, 10%, 630v, Ceramic . . . . .	2020	558	90621
2333	Cap, 1n, 10%, 50v, Ceramic . . . . .	3198	017	31020
2335	Cap, 47n, 10%, 250v, Ceramic . . . . .	2020	557	90733
2351	Cap, 10u, 20%, 250v, Electrolytic . . . . .	2038	035	13903
2361	Cap, 220n, 10%, 63v, Metalized Polyester . . . . .	2222	365	75224
2362	Cap, 1n, 10%, 50v, Ceramic . . . . .	3198	017	31020
2363	Cap, 22u, 20%, 100v, Electrolytic . . . . .	3198	025	72290
2364	Cap, 4n7, 10%, 400v, Metalized Polyester . . . . .	2222	365	55472
2365	Cap, 4n7, 10%, 50v, Ceramic . . . . .	3198	017	34720
2367	Cap, 10u, 20%, 100v, Electrolytic . . . . .	3198	025	71090
2368	Cap, 22u, 20%, 100v, Electrolytic . . . . .	3198	025	72290
2376	Cap, 22n, 10%, 25v, Ceramic . . . . .	3198	017	32230
2381	Cap, 100u, 20%, 25v, Electrolytic . . . . .	3198	025	31010
2382	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198	017	31040
2383	Cap, 1u, +80/-20%, 25v, Ceramic . . . . .	2020	552	96723
2384	Cap, 220p, 5%, 50v, Ceramic . . . . .	3198	016	32210
2385	Cap, 220p, 5%, 50v, Ceramic . . . . .	3198	016	32210
2386	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198	017	31040
2387	Cap, 22p, 5%, 50v, Ceramic . . . . .	3198	016	32290
3328	Res, 100 ohm, 5%, 1/16W, Metalized Glass . . . . .	3198	021	31010
3329	Res, 100 ohm, 5%, 1/16W, Metalized Glass . . . . .	3198	021	31010
3330	Res, 100 ohm, 5%, 1/16W, Metalized Glass . . . . .	3198	021	31010
3331	Res, 100 ohm, 5%, 1/6W, Carbon Film . . . . .	3198	011	01010
3332	Res, 1K, 20%, 1/2W, Carbon Film . . . . .	3198	013	01020
3333	Res, 100 ohm, 5%, 1/6W, Carbon Film . . . . .	3198	011	01010
3334	Res, 1K, 20%, 1/2W, Carbon Film . . . . .	3198	013	01020
3335	Res, 100 ohm, 5%, 1/6W, Carbon Film . . . . .	3198	011	01010
3336	Res, 1K, 20%, 1/2W, Carbon Film . . . . .	3198	013	01020
3351	Res, 100 ohm, 5%, 1/3W, Metal Film . . . . .	2306	204	03101
3354	Res, 1K5, 20%, 1/2W, Carbon Film . . . . .	3198	013	01520
3356	Res, 10 ohm, 1%, 3/5W, Metal Film . . . . .	2312	915	11009
3357	VDR, 1mA/18V . . . . .	2122	552	00004
3361	Res, 1K5, 5%, 1/16W, Metalized Glass . . . . .	3198	021	31520
3362	Res, 10 ohm, 5%, 1/3W, Metal Film . . . . .	2306	204	03109
3363	Res, 560 ohm, 5%, 1/16W, Metalized Glass . . . . .	3198	021	35610
3364	Res, 1R5, 5%, 1/4W, Carbon Film . . . . .	2122	101	02083
3365	Res, 100 ohm, 5%, 1/16W, Metalized Glass . . . . .	3198	021	31010
3366	Res, 68K, 5%, 1/16W, Metalized Glass . . . . .	3198	021	36830
3367	Res, 68K, 5%, 1/6W, Carbon Film . . . . .	3198	011	06830
3368	Res, 560 ohm, 5%, 1/16W, Metalized Glass . . . . .	3198	021	35610
3369	Res, 100 ohm, 5%, 1/16W, Metalized Glass . . . . .	3198	021	31010
3370	Res, 1R5, 5%, 1/16W, Metalized Glass . . . . .	2322	702	60158
3371	Res, 470 ohm, 5%, 1/6W, Carbon Film . . . . .	3198	011	04710
3373	Res, 1K5, 5%, 5W, Metal Film . . . . .	2322	257	41152
3375	Res, 180K, 5%, 1/8W, Metalized Glass . . . . .	2322	730	61184
3376	Res, 68K, 5%, 1/16W, Metalized Glass . . . . .	3198	021	36830
3381	Res, 10 ohm, 5%, 1/6W, Carbon Film . . . . .	3198	011	01090

S = Safety Part Be sure to use exact replacement part.

3383	Res, 3K3, 5%, 1/10W, Metalized Glass . . . . .	3198	021	53320
3384	Res, 10K, 5%, 1/16W, Metalized Glass . . . . .	3198	021	31030
3385	Res, 680 ohm, 5%, 1/16W, Metalized Glass . . . . .	3198	021	36810
3387	Res, 1K8, 5%, 1/16W, Metalized Glass . . . . .	3198	021	31820
3388	Res, 33 ohm, 5%, 1/16W, Metalized Glass . . . . .	3198	021	33390
3389	Res, 33 ohm, 5%, 1/16W, Metalized Glass . . . . .	3198	021	33390
3390	Res, 1K2, 5%, 1/16W, Metalized Glass . . . . .	3198	021	31220
4337	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
4370	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90020
4374	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
5330	Fixed, Inductor, 100MHZ, 50R . . . . .	3198	018	90010
5331	Fixed, Inductor, 100MHZ, 50R . . . . .	3198	018	90010
5351	Coil, 22u. . . . .	2422	535	97333
5361	Fixed, Inductor, 100MHZ, 50R . . . . .	3198	018	90010
6331	Diode, Signal, BAV21 . . . . .	3198	010	10070
6332	Diode, Signal, BAV21 . . . . .	3198	010	10070
6333	Diode, Signal, BAV21 . . . . .	3198	010	10070
6361	Diode, Signal, BAV99 . . . . .	3198	010	10620
6376	Diode, Signal, BAV99 . . . . .	3198	010	10620
6381	Diode, Signal, BAS316 . . . . .	3198	010	10630
6383	Diode, Rect, RGP10D . . . . .	9337	516	60673
7330	IC, TDA6107AJF/N1B . . . . .	9352	636	44112
7331	Transistor, NPN, BC847B . . . . .	3198	010	42030
7332	Transistor, PNP, BC857B . . . . .	3198	010	42150
7361	Transistor, NPN, BC847B . . . . .	3198	010	42030
7362	Transistor, PNP, BC857B . . . . .	3198	010	42150
7363	Transistor, KTB631KY . . . . .	9322	195	05687
7364	Transistor, KTD600KY . . . . .	9322	195	14687
7376	Transistor, PNP, BC857B . . . . .	3198	010	42150
7381	Transistor, NPN, BC337 . . . . .	9331	796	00126
7382	Transistor, NPN, BC337 . . . . .	9331	796	00126
9352	Wire Jumper, 0.58MM . . . . .	3198	036	90010
9373	Wire Jumper, 0.58MM . . . . .	3198	036	90010
9390	Wire Jumper, 0.58MM . . . . .	3198	036	90010

Front Interface Panel

CBA	Front Interface Panel . . . . .	3139	188	06011
1606	Switch, Tactile . . . . .	2422	128	02742
1693	Connector, 6 Pin . . . . .	2422	025	10738
2691	Cap, 220u, 20%, 25v, Electrolytic . . . . .	3198	025	32210
2692	Cap, 1u, +80/-20%, 10v, Ceramic . . . . .	3198	017	41050
2698	Cap, 100n, 10%, 50v, Polyester . . . . .	3198	014	01040
3691	Res, 1K2, 5%, 1/6W, Carbon Film . . . . .	3198	011	01220
3693	Res, 220 ohm, 5%, 1/6W, Carbon Film . . . . .	3198	011	02210
3694	Res, 4K7, 5%, 1/6W, Carbon Film . . . . .	3198	011	04720
3696	Res, 150K, 5%, 1/16W, Metalized Glass . . . . .	3198	021	31540
4601	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
6691	LED . . . . .	9322	185	69682
6692	IR Receiver, TSOP1R36UH3V . . . . .	9322	127	54667
6693	Optical Sensor, LTR-301 . . . . .	9322	197	36682
9685	Wire Jumper, 0.58MM . . . . .	3198	036	90010
9696	Wire Jumper, 0.58MM . . . . .	3198	036	90010

LTI/CTI Interface Panel

CBA	LTI/CTI Interface Panel . . . . .	3139	188	65651
1206	Connector, 7 Pin . . . . .	2422	025	11244
1212	Connector, 12 Pin . . . . .	2422	025	16219
2605	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198	017	31040
2610	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198	017	31040
2611	Cap, 220u, 20%, 25v, Electrolytic . . . . .	3198	025	32210
2612	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198	017	31040
2628	Cap, 4n7, 10%, 50v, Ceramic . . . . .	3198	017	34720
2630	Cap, 1u, +80/-20%, 10v, Ceramic . . . . .	3198	017	41050
2631	Cap, 1u, +80/-20%, 10v, Ceramic . . . . .	3198	017	41050
2634	Cap, 68p, 5%, 50v, Ceramic . . . . .	3198	016	36890
2636	Cap, 470n, 10%, 50v, Polyester . . . . .	3198	014	04740
2638	Cap, 82n, 16V, 10%, Ceramic . . . . .	2238	786	55648
3612	Res, 1K, 5%, 1/16W, Metalized Glass . . . . .	3198	021	31020
3613	Res, 100K, 5%, 1/16W, Metalized Glass . . . . .	3198	021	31040
3614	Res, 100K, 5%, 1/16W, Metalized Glass . . . . .	3198	021	31040
3615	Res, 100K, 5%, 1/16W, Metalized Glass . . . . .	3198	021	31040
3616	Res, 100 ohm, 5%, 1/16W, Metalized Glass . . . . .	3198	021	31010
3617	Res, 100 ohm, 5%, 1/16W, Metalized Glass . . . . .	3198	021	31010
3626	Res, 1K, 5%, 1/16W, Metalized Glass . . . . .	3198	021	31020
3627	Res, 2K2, 5%, 1/16W, Metalized Glass . . . . .	3198	021	32220
3628	Res, 1K, 5%, 1/16W, Metalized Glass . . . . .	3198	021	31020
3630	Res, 10K, 5%, 1/16W, Metalized Glass . . . . .	3198	021	31030
3631	Res, 10K, 5%, 1/16W, Metalized Glass . . . . .	3198	021	31030
3632	Res, 270 ohm, 5%, 1/16W, Metalized Glass . . . . .	3198	021	32710
3633	Res, 1K2, 5%, 1/16W, Metalized Glass . . . . .	3198	021	31220
3634	Res, 1K, 5%, 1/16W, Metalized Glass . . . . .	3198	021	31020
3635	Res, 560 ohm, 5%, 1/16W, Metalized Glass . . . . .	3198	021	35610
3636	Res, 470 ohm, 5%, 1/16W, Metalized Glass . . . . .	3198	021	34710
3637	Res, 2M2, 5%, 1/16W, Metalized Glass . . . . .	3198	021	32250
3638	Res, 470K, 5%, 1/16W, Metalized Glass . . . . .	3198	021	34740
4610	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
4611	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
4612	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
4613	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
4617	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030

**30PW6341/37 (continued)**

4625	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90020	1221	Connector, 3 Pin . . . . .	2412	020	00725
4635	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90020	1223	12 Pin Cinch Socket . . . . .	2422	026	05463
4637	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030	1280	Connector, 5 Pin . . . . .	2422	025	12481
6610	Diode, Signal, BAS316 . . . . .	3198	010	10630	S 1401	Connector, 5 Pin . . . . .	2422	025	04853
6611	Zener Diode, 6.8 volt. . . . .	3198	020	56880	1404	Connector, 4 Pin . . . . .	2422	025	15503
6625	Zener Diode, 2.7 volt. . . . .	3198	020	52780	1451	Connector, 2 Pin . . . . .	2422	025	10646
6633	Diode, Signal, BAS316 . . . . .	3198	010	10630	1452	Fuse, 1.25 Amp, 250V . . . . .	2422	086	10282
6635	Diode, Signal, BAS316 . . . . .	3198	010	10630	1454	Fuse, 1.25 Amp, 250V . . . . .	2422	086	10282
6636	Diode, Signal, BAS316 . . . . .	3198	010	10630	S 1500	Fuse, 4A, 250V, IEC . . . . .	2422	086	10914
7610	IC, TDA9178T/N1 . . . . .	9352	334	10518	S 1503	Relay, 12V, 5A G5PA-1. . . . .	2422	132	07444
7627	Transistor, NPN, PMBT2369 . . . . .	3198	010	43360	1504	Connector, 2 Pin . . . . .	2422	025	16375
7630	Transistor, NPN, BC847B . . . . .	3198	010	42030	1505	Connector, 2 Pin . . . . .	2422	025	16269
7635	Transistor, PNP, BC857B . . . . .	3198	010	42150	1682	Connector, 3 Pin . . . . .	2412	020	00725
9613	Wire Jumper, 0.58MM. . . . .	3198	036	90010	1693	Connector, 6 Pin . . . . .	2422	025	12482
9614	Wire Jumper, 0.58MM. . . . .	3198	036	90010	2001	Cap, 22p, 5%, 50v, Ceramic . . . . .	3198	016	32290
9615	Wire Jumper, 0.58MM. . . . .	3198	036	90010	2004	Cap, 47n, +80/-20%, 50v, Ceramic . . . . .	3198	024	44730
9616	Wire Jumper, 0.58MM. . . . .	3198	036	90010	2006	Cap, 470u, 20%, 16v, Electrolytic . . . . .	3198	025	24710
9617	Wire Jumper, 0.58MM. . . . .	3198	036	90010	2007	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198	017	31040
9618	Wire Jumper, 0.58MM. . . . .	3198	036	90010	2008	Cap, 100u, 20%, 25v, Electrolytic . . . . .	3198	025	31010

**Linearity & Panorama Panel**

Linearity & Panorama Panel					2103	Cap, 330p, 10%, 50v, Ceramic . . . . .	3198	017	33310
Linearity & Panorama Panel					2104	Cap, 330p, 10%, 50v, Ceramic . . . . .	3198	017	33310
CBA	Linearity & Panorama Panel . . . . .	3139	188	60381	2105	Cap, 10u, 20%, 50v, Electrolytic . . . . .	3198	025	51090
1461	Connector, 4 Pin . . . . .	2422	025	15503	2106	Cap, 10u, 20%, 50v, Electrolytic . . . . .	3198	025	51090
1462	Connector, 3 Pin . . . . .	2412	020	00725	2122	Cap, 330p, 10%, 50v, Ceramic . . . . .	3198	017	33310
1463	Relay, 9v. . . . .	2422	132	07706	2123	Cap, 2u2, 20%, 50v, Electrolytic . . . . .	3198	025	52280
1464	Connector, 4 Pin . . . . .	2422	025	15503	2124	Cap, 330p, 10%, 50v, Ceramic . . . . .	3198	017	33310
2468	Cap, 2u2, 20%, 160v, Electrolytic . . . . .	2022	031	00172	2125	Cap, 2u2, 20%, 50v, Electrolytic . . . . .	3198	025	52280
2470	Cap, 470n, 5%, 250v, Polypropylene . . . . .	2222	479	90023	2131	Cap, 330p, 10%, 50v, Ceramic . . . . .	3198	017	33310
2471	Cap, 10u, 20%, 50v, Electrolytic . . . . .	3198	025	51090	2132	Cap, 2u2, 20%, 50v, Electrolytic . . . . .	3198	025	52280
2472	Cap, 1u, 20%, 50v, Electrolytic . . . . .	3198	025	51080	2133	Cap, 330p, 10%, 50v, Ceramic . . . . .	3198	017	33310
2474	Cap, 330n, 5%, 250v, Metalized Poly. . . . .	2222	479	90018	2134	Cap, 2u2, 20%, 50v, Electrolytic . . . . .	3198	025	52280
3469	Res, 4R7, 5%, 1/3W, Metal Film . . . . .	2306	204	03478	2203	Cap, 100u, 20%, 10v, Electrolytic . . . . .	3198	025	11010
3470	Res, 15K, 5%, 1 1/3W, Metal Film . . . . .	3198	012	21530	2204	Cap, 22n, 10%, 25v, Ceramic . . . . .	3198	017	32230
3471	Res, 3K9, 5%, 1/6W, Carbon Film. . . . .	3198	011	03920	2205	Cap, 220n, +80/-20%, 16v, Ceramic. . . . .	3198	017	42240
6463	Diode, Signal, 1N4148. . . . .	3198	010	10010	2206	Cap, 220n, +80/-20%, 25v, Ceramic. . . . .	3198	023	22240
6464	Diode, Rect, RGP10G. . . . .	9334	939	60673	2207	Cap, 220n, +80/-20%, 25v, Ceramic. . . . .	3198	023	22240
7463	Transistor, NPN, BC547B. . . . .	3198	020	40030	2208	Cap, 220n, +80/-20%, 25v, Ceramic. . . . .	3198	023	22240

**Side Jack Panel**

Side Jack Panel					2209	Cap, 220n, +80/-20%, 16v, Ceramic. . . . .	3198	017	42240
Side Jack Panel					2210	Cap, 220n, +80/-20%, 16v, Ceramic. . . . .	3198	017	42240
CBA	Side Jack Panel . . . . .	3139	188	06931	2211	Cap, 220n, +80/-20%, 16v, Ceramic. . . . .	3198	017	42240
1232	Headphone Jack . . . . .	2422	026	04471	2212	Cap, 220n, +80/-20%, 16v, Ceramic. . . . .	3198	017	42240
1250	A/V Jack . . . . .	2422	026	05538	2213	Cap, 220n, +80/-20%, 16v, Ceramic. . . . .	3198	017	42240
1252	Connector, 7 Pin . . . . .	2422	025	11244	2214	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198	017	31040
1254	Connector, 5 Pin . . . . .	2422	025	12481	2215	Cap, 220n, +80/-20%, 16v, Ceramic. . . . .	3198	017	42240
1278	Connector, 4 Pin . . . . .	2422	025	12479	2216	Cap, 220n, +80/-20%, 16v, Ceramic. . . . .	3198	017	42240
2171	Cap, 330p, 10%, 50v, Ceramic . . . . .	3198	019	13310	2217	Cap, 220n, +80/-20%, 16v, Ceramic. . . . .	3198	017	42240
2172	Cap, 330p, 10%, 50v, Ceramic . . . . .	3198	019	13310	2218	Cap, 100u, 20%, 25v, Electrolytic . . . . .	3198	025	31010
2173	Cap, 330p, 10%, 50v, Ceramic . . . . .	3198	019	13310	2218	Cap, 47u, 20%, 25v, Electrolytic . . . . .	3198	025	34790
2174	Cap, 330p, 10%, 50v, Ceramic . . . . .	3198	019	13310	2222	Cap, 5n6, 10%, 50v, Ceramic. . . . .	2238	586	15633
2175	Cap, 2u2, 20%, 50v, Electrolytic . . . . .	3198	029	52280	2223	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198	017	31040
2176	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198	017	31040	2224	Cap, 100u, 20%, 25v, Electrolytic . . . . .	3198	025	31010
2178	Cap, 470p, 10%, 50v, Ceramic . . . . .	3198	017	34710	2225	Cap, 220n, +80/-20%, 16v, Ceramic. . . . .	3198	017	42240
2180	Cap, 2u2, 20%, 50v, Electrolytic . . . . .	3198	029	52280	2226	Cap, 220n, +80/-20%, 16v, Ceramic. . . . .	3198	017	42240
3150	Res, 47K, 5%, 1/6W, Carbon Film. . . . .	3198	011	04730	2229	Cap, 220n, +80/-20%, 16v, Ceramic. . . . .	3198	017	42240
3151	Res, 22K, 5%, 1/6W, Carbon Film. . . . .	3198	011	02230	2230	Cap, 10u, 20%, 50v, Electrolytic . . . . .	3198	025	51090
3152	Res, 47K, 5%, 1/6W, Carbon Film. . . . .	3198	011	04730	2231	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198	017	31040
3153	Res, 22K, 5%, 1/6W, Carbon Film. . . . .	3198	011	02230	2232	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198	017	31040
3154	Res, 75 ohm, 5%, 1/6W, Carbon Film . . . . .	3198	011	07590	2233	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198	017	31040
3156	Res, 820 ohm, 5%, 1/6W, Carbon Film. . . . .	3198	011	08210	2234	Cap, 100u, 20%, 25v, Electrolytic . . . . .	3198	025	31010
3157	Res, 820 ohm, 5%, 1/6W, Carbon Film. . . . .	3198	011	08210	2235	Cap, 6n8, 10%, 50v, Ceramic. . . . .	3198	017	36820
3160	Res, 100 ohm, 5%, 1/6W, Carbon Film. . . . .	3198	011	01010	2236	Cap, 10n, 10%, 50v, Ceramic. . . . .	3198	017	31030
9181	Wire Jumper, 0.58MM. . . . .	3198	036	90010	2237	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198	017	31040

**Top Control Panel**

Top Control Panel					2238	Cap, 220n, +80/-20%, 16v, Ceramic. . . . .	3198	017	42240
Top Control Panel					2239	Cap, 220n, +80/-20%, 16v, Ceramic. . . . .	3198	017	42240
CBA	Top Control Panel. . . . .	3139	188	65121	2240	Cap, 1u5, 20%, 50v, Electrolytic . . . . .	2020	021	90137
1010	Connector, 3 Pin . . . . .	2422	025	09191	2241	Cap, 22n, 10%, 25v, Ceramic. . . . .	3198	017	32230
1011	Switch, Tactile. . . . .	2422	128	02742	2242	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198	017	31040
1012	Switch, Tactile. . . . .	2422	128	02742	2243	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198	017	31040
1013	Switch, Tactile. . . . .	2422	128	02742	2244	Cap, 2u2, +80/-20%, 10v, Ceramic . . . . .	3198	017	22250
1014	Switch, Tactile. . . . .	2422	128	02742	2245	Cap, 1n, 5%, 25v, Ceramic. . . . .	3198	016	31020
3011	Res, 150 ohm, 5%, 1/16W, Metalized Glas	3198	021	31510	2246	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198	017	31040
3012	Res, 390 ohm, 5%, 1/16W, Metalized Glas	3198	021	33910	2247	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198	017	31040
3013	Res, 1K8, 1%, 1/16W, Metalized Glass . . . . .	2322	704	61802	2248	Cap, 1n, 5%, 25v, Ceramic. . . . .	3198	016	31020
3014	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030	2249	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198	017	31040
3015	Res, 820 ohm, 1%, 1/16W, Metalized Glas	2322	704	68201	2250	Cap, 100u, 20%, 25v, Electrolytic . . . . .	3198	025	31010
3016	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030	2251	Cap, 150n, 10%, 50v, Polyester . . . . .	3198	014	01540

**Main Chassis**

Main Chassis					2252	Cap, 10n, 10%, 50v, Ceramic. . . . .	3198	017	31030
Main Chassis					2253	Cap, 1n, 10%, 50v, Ceramic . . . . .	3198	017	31020
CBA	Main Chassis . . . . .	3139	188	06361	2255	Cap, 10n, 10%, 50v, Ceramic. . . . .	3198	017	31030
1000	Tuner, V+U PLL . . . . .	2422	542	90141	2256	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198	017	31040
1002	S.A.W. Filter, 45MHz75, OFWM1971M. . . . .	2422	549	44518	2257	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198	017	31040
1005	Connector, 3 Pin . . . . .	2412	020	00725	2259	Cap, 1u, +80/-20%, 10v, Ceramic. . . . .	3198	017	41050
1137	MDIN Socket. . . . .	2422	026	05428	2260	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198	017	31040
1204	Connector, 7 Pin . . . . .	2422	025	04855	2261	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198	017	31040
1205	Crystal Resonator, 24MHz576. . . . .	2422	543	00943	2262	Cap, 10n, 10%, 50v, Ceramic . . . . .	3198	017	31030
1206	Connector, 7 Pin . . . . .	2422	025	11244	2263	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198	017	31040
1207	Connector, 7 Pin . . . . .	2422	025	11244	2264	Cap, 560p, 5%, 25v, Ceramic. . . . .	3198	016	35610
1212	Connector, 12 Pin. . . . .	2422	025	16052	2265	Cap, 100u, 20%, 25v, Electrolytic . . . . .	3198	025	31010

S = Safety Part     Be sure to use exact replacement part.

30PW6341/37 (continued)

2274 Cap, 100n, 10%, 16v, Ceramic . . . . . 3198 017 31040  
 2275 Cap, 10u, 20%, 50v, Electrolytic . . . . . 3198 025 51090  
 2276 Cap, 100n, +80/-20%, 25v, Ceramic . . . . . 3198 023 21040  
 2279 Cap, 100p, 5%, 50v, Ceramic . . . . . 3198 016 31010  
 2280 Cap, 1u, +80/-20%, 10v, Ceramic . . . . . 3198 017 41050  
 2282 Cap, 1n, 10%, 50v, Ceramic . . . . . 3198 017 31020  
 2288 Cap, 1n, 10%, 50v, Ceramic . . . . . 3198 017 31020  
 2289 Cap, 1n, 10%, 50v, Ceramic . . . . . 3198 017 31020  
 2404 Cap, 47u, 20%, 160v, Electrolytic . . . . . 2022 031 00103  
 2406 Cap, 680p, 10%, 500v, Ceramic . . . . . 3198 019 46810  
 2408 Cap, 100p, 5%, 50v, Ceramic . . . . . 3198 016 31010  
 2409 Cap, 100n, +80/-20%, 25v, Ceramic . . . . . 3198 023 41040  
 2410 Cap, 100n, +80/-20%, 25v, Ceramic . . . . . 3198 023 21040  
 2411 Cap, 330p, 10%, 2000v, Ceramic . . . . . 3198 019 73310  
 2412 Cap, 13n, 5%, 1600v, Polypropylene . . . . . 2222 375 90157  
 2413 Cap, 18n, 5%, 630v, Polypropylene . . . . . 2222 375 90218  
 2414 Cap, 1u, +80/-20%, 10v, Ceramic . . . . . 3198 017 41050  
 2415 Cap, 2u2, 20%, 160v, Electrolytic . . . . . 2022 031 00172  
 2419 Cap, 430n, 5%, 250v, Metalized Polypropylene . . . . . 2222 479 90022  
 2420 Cap, 1u, +80/-20%, 10v, Ceramic . . . . . 3198 017 41050  
 2425 Cap, 33n, 10%, 16v, Ceramic . . . . . 3198 017 33330  
 2428 Cap, 33n, 10%, 16v, Ceramic . . . . . 3198 017 33330  
 2451 Cap, 180n, 10%, 63v, Metalized Polyester . . . . . 2222 365 75184  
 2453 Cap, 1u, +80/-20%, 16v, Ceramic . . . . . 3198 017 21050  
 2454 Cap, 470u, 20%, 16v, Electrolytic . . . . . 3198 025 24710  
 2456 Cap, 47n, 10%, 250v, Ceramic . . . . . 2020 557 90733  
 2457 Cap, 4u7, 20%, 250v, Electrolytic . . . . . 2020 012 93282  
 2459 Cap, 470p, 10%, 500v, Ceramic . . . . . 3198 019 44710  
 2460 Cap, 470u, 20%, 16v, Electrolytic . . . . . 3198 025 24710  
 2461 Cap, 1n, 5%, 25v, Ceramic . . . . . 3198 016 31020  
 2462 Cap, 1n, 5%, 25v, Ceramic . . . . . 3198 016 31020  
 2463 Cap, 100u, 20%, 50v, Electrolytic . . . . . 3198 037 51010  
 2464 Cap, 470p, 5%, 50v, Ceramic . . . . . 3198 016 34710  
 2465 Cap, 10u, 20%, 100v, Electrolytic . . . . . 3198 025 71090  
 2467 Cap, 10n, 10%, 400v, Metalized Polyester . . . . . 2222 365 55103  
 2468 Cap, 220p, 5%, 50v, Ceramic . . . . . 3198 016 32210  
 2469 Cap, 220n, +80/-20%, 16v, Ceramic . . . . . 3198 017 42240  
 2470 Cap, 100n, 10%, 100v, Ceramic . . . . . 2222 601 55649  
 2484 Cap, 10u, 20%, 50v, Electrolytic . . . . . 2020 009 00001  
 2486 Cap, 27p, 5%, 500v, Ceramic . . . . . 2252 508 08255  
 2487 Cap, 3n3, 10%, 50v, Ceramic . . . . . 3198 017 03320  
 2489 Cap, 10n, 10%, 50v, Ceramic . . . . . 3198 017 31030  
 2500 Cap, 470n, 20%, 275V, Metalized Polypropylene . . . . . 2222 338 22474  
 2503 Cap, 2n2, 10%, 1000v, Ceramic . . . . . 3198 019 52220  
 2504 Cap, 2n2, 10%, 1000v, Ceramic . . . . . 3198 019 52220  
 2505 Cap, 470u, 20%, 200v, Electrolytic . . . . . 2022 020 00852  
 2511 Cap, 22u, 20%, 50v, Electrolytic . . . . . 3198 025 52290  
 2512 Cap, 100n, 10%, 16v, Ceramic . . . . . 3198 017 31040  
 2513 Cap, 470p, 10%, 50v, Ceramic . . . . . 3198 017 34710  
 2514 Cap, 1n5, 10%, 2000v, Ceramic . . . . . 3198 019 71520  
 2515 Cap, 470p, 5%, 50v, Ceramic . . . . . 3198 016 34710  
 2516 Cap, 100n, 10%, 16v, Ceramic . . . . . 3198 017 31040  
 2517 Cap, 1n, 10%, 50v, Ceramic . . . . . 3198 017 31020  
 2519 Cap, 100p, 5%, 100v, Ceramic . . . . . 2020 557 90726  
 2530 Cap, 330p, 5%, 100v, Ceramic . . . . . 2020 557 00005  
 2531 Cap, 470p, 5%, 50v, Ceramic . . . . . 3198 016 34710  
 2532 Cap, 10u, 10%, 16v, Ceramic . . . . . 2020 552 96823  
 2533 Cap, 4n7, 10%, 50v, Ceramic . . . . . 3198 017 34720  
 2534 Cap, 68p, 5%, 1kV, Ceramic . . . . . 2020 558 90261  
 2535 Cap, 1000u, 20%, 6.3v, Electrolytic . . . . . 3198 025 01020  
 2536 Cap, 2u2, 20%, 10v, Electrolytic . . . . . 2020 012 93728  
 2538 Cap, 470p, 10%, 50v, Ceramic . . . . . 3198 017 34710  
 2539 Cap, 470p, 10%, 500v, Ceramic . . . . . 3198 019 44710  
 2541 Cap, 47u, 20%, 25v, Electrolytic . . . . . 3198 025 34790  
 S 2542 Cap, 1n5, 20%, 250v, Ceramic . . . . . 2020 554 90199  
 2543 Cap, 2n2, 10%, 500v, Ceramic . . . . . 3198 019 42220  
 2549 Cap, 100p, 5%, 50v, Ceramic . . . . . 3198 016 31010  
 2550 Cap, 33p, 5%, 200v, Ceramic . . . . . 2020 557 00002  
 2551 Cap, 1n, 10%, 1000v, Ceramic . . . . . 3198 019 61020  
 2552 Cap, 100u, 20%, 160v, Electrolytic . . . . . 2020 021 91654  
 2553 Cap, 180p, 5%, 50v, Ceramic . . . . . 3198 016 31810  
 2561 Cap, 1n, 10%, 500v, Ceramic . . . . . 3198 019 41020  
 2562 Cap, 1000u, 20%, 25v, Electrolytic . . . . . 3198 026 31020  
 2563 Cap, 1000u, 20%, 25v, Electrolytic . . . . . 3198 026 31020  
 2564 Cap, 100n, 10%, 50v, Ceramic . . . . . 2238 580 15649  
 2565 Cap, 1n, 10%, 500v, Ceramic . . . . . 3198 019 41020  
 2566 Cap, 100n, 10%, 16v, Ceramic . . . . . 3198 017 31040  
 2571 Cap, 15n, 10%, 50v, Ceramic . . . . . 3198 017 31530  
 2572 Cap, 10n, 10%, 50v, Ceramic . . . . . 3198 017 31030  
 2573 Cap, 220n, 10%, 50v, Ceramic . . . . . 2020 552 96683  
 2601 Cap, 1n, 5%, 25v, Ceramic . . . . . 3198 016 31020  
 2611 Cap, 47u, 20%, 25v, Electrolytic . . . . . 3198 025 34790  
 2615 Cap, 4u7, +80/-20%, 10v, Ceramic . . . . . 2020 552 96305  
 2617 Cap, 100n, 10%, 16v, Ceramic . . . . . 3198 017 31040  
 2620 Cap, 100n, 10%, 16v, Ceramic . . . . . 3198 017 31040  
 2621 Cap, 100u, 20%, 25v, Electrolytic . . . . . 3198 025 31010  
 2623 Cap, 100n, 10%, 16v, Ceramic . . . . . 3198 017 31040  
 2624 Cap, 100u, 20%, 25v, Electrolytic . . . . . 3198 025 31010  
 2625 Cap, 2u2, 10%, 6v3, Ceramic . . . . . 2022 552 05615  
 2626 Cap, 33p, 5%, 50v, Ceramic . . . . . 3198 016 33390

2627 Cap, 33p, 5%, 50v, Ceramic . . . . . 3198 016 33390  
 2628 Cap, 33p, 5%, 50v, Ceramic . . . . . 3198 016 33390  
 2629 Cap, 33p, 5%, 50v, Ceramic . . . . . 3198 016 33390  
 2630 Cap, 1n, 10%, 50v, Ceramic . . . . . 3198 017 31020  
 2986 Cap, 100n, 10%, 16v, Ceramic . . . . . 3198 017 31040  
 2987 Cap, 100n, 10%, 16v, Ceramic . . . . . 3198 017 31040  
 2988 Cap, 100n, 10%, 16v, Ceramic . . . . . 3198 017 31040  
 2989 Cap, 1u, +80/-20%, 10v, Ceramic . . . . . 3198 017 41050  
 2990 Cap, 1n, 5%, 25v, Ceramic . . . . . 3198 016 31020  
 2992 Cap, 1u, +80/-20%, 10v, Ceramic . . . . . 3198 017 41050  
 2993 Cap, 1n, 5%, 25v, Ceramic . . . . . 3198 016 31020  
 2994 Cap, 22n, 10%, 25v, Ceramic . . . . . 3198 017 32230  
 2995 Cap, 22n, 10%, 25v, Ceramic . . . . . 3198 017 32230  
 2996 Cap, 47n, +80/-20%, 50v, Ceramic . . . . . 3198 024 44730  
 2997 Cap, 47n, +80/-20%, 50v, Ceramic . . . . . 3198 024 44730  
 3003 Res, 10K, 5%, 1/16W, Metalized Glass . . . . . 3198 021 31030  
 3004 Res, 68K, 5%, 1/16W, Metalized Glass . . . . . 3198 021 36830  
 3005 Res, 100 ohm, 5%, 1/16W, Metalized Glass . . . . . 3198 021 31010  
 3101 Res, 68 ohm, 5%, 1/6W, Carbon Film . . . . . 3198 011 06890  
 3103 Res, 150 ohm, 5%, 1/6W, Carbon Film . . . . . 3198 011 01510  
 3104 Res, 220K, 5%, 1/16W, Metalized Glass . . . . . 3198 021 32240  
 3105 Res, 150 ohm, 5%, 1/6W, Carbon Film . . . . . 3198 011 01510  
 3106 Res, 220K, 5%, 1/16W, Metalized Glass . . . . . 3198 021 32240  
 3121 Res, 75 ohm, 5%, 1/16W, Metalized Glass . . . . . 3198 021 37590  
 3123 Res, 22K, 5%, 1/6W, Carbon Film . . . . . 3198 011 02230  
 3124 Res, 47K, 5%, 1/16W, Metalized Glass . . . . . 3198 021 34730  
 3125 Res, 22K, 5%, 1/6W, Carbon Film . . . . . 3198 011 02230  
 3126 Res, 47K, 5%, 1/16W, Metalized Glass . . . . . 3198 021 34730  
 3129 Res, 75 ohm, 5%, 1/16W, Metalized Glass . . . . . 3198 021 37590  
 3130 Res, 75 ohm, 5%, 1/16W, Metalized Glass . . . . . 3198 021 37590  
 3131 Res, 22K, 5%, 1/6W, Carbon Film . . . . . 3198 011 02230  
 3132 Res, 47K, 5%, 1/16W, Metalized Glass . . . . . 3198 021 34730  
 3133 Res, 22K, 5%, 1/6W, Carbon Film . . . . . 3198 011 02230  
 3134 Res, 47K, 5%, 1/16W, Metalized Glass . . . . . 3198 021 34730  
 3135 Res, 75 ohm, 5%, 1/16W, Metalized Glass . . . . . 3198 021 37590  
 3167 Res, 75 ohm, 5%, 1/6W, Carbon Film . . . . . 3198 011 07590  
 3168 Res, 75 ohm, 5%, 1/16W, Metalized Glass . . . . . 3198 021 37590  
 3169 Res, 75 ohm, 5%, 1/16W, Metalized Glass . . . . . 3198 021 37590  
 3201 Res, 1K, 5%, 1/6W, Carbon Film . . . . . 3198 011 01020  
 3202 Res, 3K3, 5%, 1/16W, Metalized Glass . . . . . 3198 021 33320  
 3203 Res, 150K, 5%, 1/16W, Metalized Glass . . . . . 3198 021 31540  
 3204 Res, 3K3, 5%, 1/16W, Metalized Glass . . . . . 3198 021 33320  
 3205 Res, 12K, 5%, 1/16W, Metalized Glass . . . . . 3198 021 31230  
 3206 Res, 5K6, 5%, 1/16W, Metalized Glass . . . . . 3198 021 35620  
 3207 Res, 100 ohm, 5%, 1/16W, Metalized Glass . . . . . 3198 021 31010  
 3208 Res, 27K, 5%, 1/16W, Metalized Glass . . . . . 3198 021 32730  
 3209 Res, 1 ohm, 5%, 1/16W, Metalized Glass . . . . . 3198 021 31080  
 3210 Res, 1 ohm, 5%, 1/16W, Metalized Glass . . . . . 3198 021 31080  
 3211 Res, 27K, 5%, 1/16W, Metalized Glass . . . . . 3198 021 32730  
 3212 Res, 100 ohm, 5%, 1/16W, Metalized Glass . . . . . 3198 021 31010  
 3214 Res, 100 ohm, 5%, 1/16W, Metalized Glass . . . . . 3198 021 31010  
 3215 Res, 4K7, 5%, 1/6W, Carbon Film . . . . . 3198 011 04720  
 3216 Res, 10 ohm, 5%, 1/16W, Metalized Glass . . . . . 3198 021 31090  
 3218 Res, 100 ohm, 5%, 1/16W, Metalized Glass . . . . . 3198 021 31010  
 3219 Res, 10K, 5%, 1/16W, Metalized Glass . . . . . 3198 021 31030  
 3220 Res, 150 ohm, 5%, 1/16W, Metalized Glass . . . . . 3198 021 31510  
 3221 Res, 270 ohm, 5%, 1/16W, Metalized Glass . . . . . 3198 021 32710  
 3222 Res, 680 ohm, 5%, 1/16W, Metalized Glass . . . . . 3198 021 36810  
 3224 Res, 680K, 5%, 1/6W, Carbon Film . . . . . 3198 011 06840  
 3225 Res, 100 ohm, 5%, 1/16W, Metalized Glass . . . . . 3198 021 31010  
 3226 Res, 100 ohm, 5%, 1/16W, Metalized Glass . . . . . 3198 021 31010  
 3227 Res, 100 ohm, 5%, 1/16W, Metalized Glass . . . . . 3198 021 31010  
 3228 Res, 100 ohm, 5%, 1/16W, Metalized Glass . . . . . 3198 021 31010  
 3229 Res, 1K5, 5%, 1/16W, Metalized Glass . . . . . 3198 021 31520  
 3230 Res, 100 ohm, 5%, 1/6W, Carbon Film . . . . . 3198 011 01010  
 3231 Res, 100 ohm, 5%, 1/6W, Carbon Film . . . . . 3198 011 01010  
 3232 Res, 12K, 5%, 1/16W, Metalized Glass . . . . . 3198 021 31230  
 3233 Res, 100 ohm, 5%, 1/16W, Metalized Glass . . . . . 3198 021 31010  
 3234 Res, 100 ohm, 5%, 1/6W, Carbon Film . . . . . 3198 011 01010  
 3235 Res, 1K, 5%, 1/16W, Metalized Glass . . . . . 3198 021 31020  
 3236 Res, 100 ohm, 5%, 1/16W, Metalized Glass . . . . . 3198 021 31010  
 3237 Res, 1K, 5%, 1/16W, Metalized Glass . . . . . 3198 021 31020  
 3238 Res, 4K7, 5%, 1/16W, Metalized Glass . . . . . 3198 021 34720  
 3239 Res, 1K2, 5%, 1/6W, CF SEE KNOWN FAULTS . . . . . 3198 011 01220  
 3240 Res, 22K, 5%, 1/16W, Metalized Glass . . . . . 3198 021 32230  
 3241 Res, 39K, 1%, 3/5W, Metal Film . . . . . 2312 915 13903  
 3242 Res, 47K, 5%, 1/16W, Metalized Glass . . . . . 3198 021 34730  
 3243 Res, 33K, 5%, 1/16W, Metalized Glass . . . . . 3198 021 33330  
 3244 Res, 100 ohm, 5%, 1/16W, Metalized Glass . . . . . 3198 021 31010  
 3245 Res, 27 ohm, 5%, 1/16W, Metalized Glass . . . . . 2322 702 60279  
 3246 Res, 4K7, 5%, 1/6W, Carbon Film . . . . . 3198 011 04720  
 3247 Res, 390 ohm, 5%, 1/16W, Metalized Glass . . . . . 3198 021 33910  
 3248 Res, 100 ohm, 5%, 1/16W, Metalized Glass . . . . . 3198 021 31010  
 3249 Res, 100 ohm, 5%, 1/6W, Carbon Film . . . . . 3198 011 01010  
 3250 Res, 2K2, 5%, 1/16W, Metalized Glass . . . . . 3198 021 32220  
 3251 Res, 10K, 5%, 1/16W, Metalized Glass . . . . . 3198 021 31030  
 3252 Res, 1K, 5%, 1/6W, Carbon Film . . . . . 3198 011 01020  
 3253 Res, 100 ohm, 5%, 1/16W, Metalized Glass . . . . . 3198 021 31010  
 3257 Res, 100 ohm, 5%, 1/16W, Metalized Glass . . . . . 3198 021 31010  
 3258 Res, 100 ohm, 5%, 1/6W, Carbon Film . . . . . 3198 011 01010  
 3259 Res, 10K, 5%, 1/16W, Metalized Glass . . . . . 3198 021 31030  
 3260 Res, 100 ohm, 5%, 1/6W, Carbon Film . . . . . 3198 011 01010



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4642	Res, Zero ohm, "Chip" Jumper	3198	021	90030	6534	Zener Diode, 3.9 volt.	9322	199	75685
4644	Res, Zero ohm, "Chip" Jumper	3198	021	90020	6535	Diode, Rect, SB160	9322	198	24673
4645	Res, Zero ohm, "Chip" Jumper	3198	021	90030	6536	Diode, Rect, SB180	9322	198	25673
4646	Res, Zero ohm, "Chip" Jumper	3198	021	90030	6541	Zener Diode, 12 volt	3198	020	51290
4648	Res, Zero ohm, "Chip" Jumper	3198	021	90030	6551	Diode, Rect, BYV29X-500	9340	555	59127
4649	Res, Zero ohm, "Chip" Jumper	3198	021	90030	6562	Diode, Rect, SB360	3198	010	10700
4691	Res, Zero ohm, "Chip" Jumper	3198	021	90030	6563	Diode, Rect, SB360	3198	010	10700
4692	Res, Zero ohm, "Chip" Jumper	3198	021	90030	6564	Diode, Signal, BAS316	3198	010	10630
4694	Res, Zero ohm, "Chip" Jumper	3198	021	90030	6565	Zener Diode, 9.1 volt.	9322	125	46685
4696	Res, Zero ohm, "Chip" Jumper	3198	021	90030	6566	Diode, Signal, BAS316	3198	010	10630
4910	Res, Zero ohm, "Chip" Jumper	3198	021	90030	6571	Diode, Signal, BAV70	9331	849	10215
4914	Res, Zero ohm, "Chip" Jumper	3198	021	90020	6572	Zener Diode, 6.2 volt.	9340	548	54115
4915	Res, Zero ohm, "Chip" Jumper	3198	021	90020	6573	Zener Diode, 9.1 volt.	9331	177	80133
4916	Res, Zero ohm, "Chip" Jumper	3198	021	90020	6575	Diode, Rect, 1N5392	9322	005	16683
4917	Res, Zero ohm, "Chip" Jumper	3198	021	90020	6602	Diode, Signal, BAV99	3198	010	10620
4921	Res, Zero ohm, "Chip" Jumper	3198	021	90020	6694	Zener Diode, 5.1 volt.	3198	020	55180
5001	Fixed Inductor, 100MHz, 120R	3198	018	90030	7200	IC, TDA12001H1/N1B511AC	9352	753	89557
5002	Coil, 390n	3198	018	33970	7201	Transistor, NPN, IMX1	9322	054	28685
5201	Fixed Inductor, 100MHz, 50R	3198	018	90010	7203	Transistor, PNP, BC327-25	3198	020	43430
5202	Fixed Inductor, 100MHz, 120R	3198	018	90030	7204	Transistor, PNP, BC327-25	3198	020	43430
5203	Fixed Inductor, 100MHz, 120R	3198	018	90030	7205	Transistor, NPN, BC847B	3198	010	42030
5205	Fixed Inductor, 100MHz, 120R	3198	018	90030	7207	Transistor, NPN, BC847B	3198	010	42030
5206	Fixed Inductor, 100MHz, 120R	3198	018	90030	7208	Transistor, NPN, BC847B	3198	010	42030
5207	Fixed Inductor, 100MHz, 120R	3198	018	90030	7209	F.E.T. Signal, BSH103	9340	547	13215
5208	Fixed Inductor, 100MHz, 50R	3198	018	90010	7210	F.E.T. Signal, BSH103	9340	547	13215
5209	Fixed Inductor, 100MHz, 120R	3198	018	90030	7404	F.E.T. Signal, BSH103	9340	547	13215
5210	Fixed Inductor, 100MHz, 120R	3198	018	90030	7405	Transistor, BU2725DX	9340	497	50127
5211	Fixed Inductor, 100MHz, 120R	3198	018	90030	7406	Transistor, KTC3228Y	9322	197	37676
5212	Fixed Inductor, 100MHz, 120R	3198	018	90030	7408	Transistor, NPN, BC847B	3198	010	42030
5213	Fixed Inductor, 100MHz, 120R	3198	018	90030	7410	Transistor, PNP, BC857B	3198	010	42150
5214	Fixed Inductor, 100MHz, 120R	3198	018	90030	7411	Transistor, PNP, BC857B	3198	010	42150
5215	Fixed Inductor, 100MHz, 120R	3198	018	90030	7451	Transistor, KTD600KY	9322	195	14687
5216	Fixed Inductor, 100MHz, 50R	3198	018	90010	7452	Transistor, KTC3228Y	9322	197	37676
5401	Coil, 42uH	2422	536	00507	7453	Transistor, KTB631KY	9322	195	05687
5402	Transformer, Signal Driver	2422	531	02617	7454	Transistor, NPN, BC847B	3198	010	42030
5405	Coil, Choke, 35mH	2422	536	00682	7455	Transistor, PNP, BC857B	3198	010	42150
5408	Coil, Bridge	2422	531	02639	7456	Transistor, PNP, BC857B	3198	010	42150
5450	Transformer, LOT, JF0101-85021	2422	531	02612	7481	Transistor, PNP, BC857B	3198	010	42150
5451	Wire Jumper, 0.58MM	3198	036	90010	7482	Transistor, PNP, PDA114ET	3198	010	44010
5501	Filter, Mains, 5mH, 2A	2422	549	43432	7483	Transistor, PNP, BC857B	3198	010	42150
5511	Fixed Inductor, 100MHz, 50R	3198	018	90010	7484	Transistor, NPN, BC847B	3198	010	42030
5512	Transformer, SMT, Layer	2422	531	02627	7511	IC, TEA1506T/N1	9352	720	43118
5531	Transformer, SMT, Layer	2422	531	02631	7512	Transistor, FET, PQFP9N50	9322	187	16687
5551	Fixed Inductor, 100MHz, 50R	3198	018	90010	7513	Optic Coupler, TCET1103(G)	9322	140	14667
5552	Coil, 27u	2422	535	95366	7514	Transistor, NPN, BC847B	3198	010	42030
5561	Fixed Inductor, 100MHz, 50R	3198	018	90010	7531	IC, TEA1620P/N1	9352	739	52112
5562	Fixed Inductor, 100MHz, 50R	3198	018	90010	7541	Transistor, PNP, BC857B	3198	010	42150
5603	Fixed Inductor, 100MHz, 50R	3198	018	90010	7561	Transistor, NPN, PDMC1432T	9340	547	00215
6001	Zener Diode, 33 volt	3198	010	23390	7571	Transistor, NPN, BC547B	3198	020	40030
6005	Zener Diode, 8.2 volt	9322	125	45685	7573	Transistor, NPN, PDMC114ET	3198	010	44110
6203	Diode, Signal, BAS316	3198	010	10630	7601	IC, M24C16-WBN6	9322	147	25682
6204	Diode, Rect, SS14	3198	010	10710	7603	IC, L78L33ACZ	9322	134	92676
6205	Zener Diode, 27 volt	3198	020	52790	7604	Transistor, NPN, BC847B	3198	010	42030
6207	Diode, Signal, BAS316	3198	010	10630	7605	Transistor, PNP, BC327-25	3198	020	43430
6209	Diode, Signal, BAT51, SOD323	3198	010	10660	7606	Transistor, NPN, BC847B	3198	010	42030
6210	Zener Diode, 5.6 volt	3198	020	55680	7990	IC, TDA2616Q/N1	9350	404	40112
6211	Zener Diode, 5.6 volt	3198	020	55680	7991	Transistor, NPN, BC847B	3198	010	42030
6403	Diode, Rect, BYV27-200	9322	126	72673	7992	Transistor, NPN, BC847B	3198	010	42030
6406	Diode, Rect, RGP10G	9334	939	60673	8401	Cable, 5 Pin, 560mm	3139	121	09041
6407	Diode, BAV21WS	9322	197	45703	9002	Wire Jumper, 0.58MM	3198	036	90010
6408	Diode, BAV21WS	9322	197	45703	9112	Wire Jumper, 0.58MM	3198	036	90010
6410	Diode, Rect, BY448	9335	001	20133	9113	Wire Jumper, 0.58MM	3198	036	90010
6411	Diode, Rect, BY229X-800	9340	380	30127	9114	Wire Jumper, 0.58MM	3198	036	90010
6412	Diode, Rect, BY359X-1500	9340	303	30127	9116	Wire Jumper, 0.58MM	3198	036	90010
6441	Zener Diode, 68 volt	9322	150	20685	9120	Wire Jumper, 0.58MM	3198	036	90010
6442	Zener Diode, 68 volt	9322	150	20685	9121	Wire Jumper, 0.58MM	3198	036	90010
6443	Zener Diode, 10 volt	3198	020	51090	9122	Wire Jumper, 0.58MM	3198	036	90010
6450	Diode, Signal, BAS316	3198	010	10630	9123	Wire Jumper, 0.58MM	3198	036	90010
6451	Zener Diode, 4.7 volt	3198	020	54780	9124	Wire Jumper, 0.58MM	3198	036	90010
6452	Diode, Rect, BYV27-200	9322	126	72673	9125	Wire Jumper, 0.58MM	3198	036	90010
6453	Diode, Rect, RGP10G	9334	939	60673	9126	Wire Jumper, 0.58MM	3198	036	90010
6454	Diode, Rect, RGP10G	9334	939	60673	9128	Wire Jumper, 0.58MM	3198	036	90010
6455	Diode, Rect, RGP10G	9334	939	60673	9129	Wire Jumper, 0.58MM	3198	036	90010
6456	Diode, Rect, PB10100	9340	205	70127	9138	Wire Jumper, 0.58MM	3198	036	90010
6457	Diode, Signal, BAS316	3198	010	10630	9202	Wire Jumper, 0.58MM	3198	036	90010
6458	Diode, Signal, BAS316	3198	010	10630	9203	Wire Jumper, 0.58MM	3198	036	90010
6459	Diode, Rect, RGP10G	9334	939	60673	9204	Wire Jumper, 0.58MM	3198	036	90010
6480	Zener Diode, 6.8 volt	3198	010	56880	9205	Wire Jumper, 0.58MM	3198	036	90010
6481	Diode, Signal, 1N4148	3198	010	10010	9206	Wire Jumper, 0.58MM	3198	036	90010
6482	Zener Diode, 6.8 volt	3198	020	56880	9207	Wire Jumper, 0.58MM	3198	036	90010
6483	Diode, BAV21WS	9322	197	45703	9208	Wire Jumper, 0.58MM	3198	036	90010
6484	Diode, BAV21WS	9322	197	45703	9209	Wire Jumper, 0.58MM	3198	036	90010
6486	Diode, Signal, BAV21	3198	010	10070	9210	Wire Jumper, 0.58MM	3198	036	90010
6488	Diode, Signal, BAS316	3198	010	10630	9211	Wire Jumper, 0.58MM	3198	036	90010
6489	Zener Diode, 33 volt	3198	020	53390	9212	Wire Jumper, 0.58MM	3198	036	90010
6500	Diode, Bridge Rect, GBU6JL-7002	9322	138	08667	9213	Wire Jumper, 0.58MM	3198	036	90010
6511	Diode, Rect, RGP10D	9337	516	60673	9214	Wire Jumper, 0.58MM	3198	036	90010
6512	Diode, Signal, BAT51, SOD323	3198	010	10660	9216	Wire Jumper, 0.58MM	3198	036	90010
6514	Diode, Signal, BAS316	3198	010	10630	9217	Wire Jumper, 0.58MM	3198	036	90010
6531	Zener Diode, 15 volt	3198	020	51590	9218	Wire Jumper, 0.58MM	3198	036	90010
6532	Diode, BAV21WS	9322	197	45703	9219	Wire Jumper, 0.58MM	3198	036	90010
6533	Zener Diode, 6.8 volt	9322	171	80685	9220	Wire Jumper, 0.58MM	3198	036	90010

S = Safety Part Be sure to use exact replacement part.



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Cabinet Parts

Table listing cabinet parts including Cabinet Front, Cabinet Back, Degaussing Coil Holder, Chassis Tray, Power Button Cover, Light Guide, Power Button Shaft, Nameplate, Top Control Button Assembly, Top Control Bracket, Front Interface Panel Bracket, Owner's Manual, Quick Use Guide, Side Jack Panel Bracket, Cabinet Front Assembly, Batteries for Remote Control, CRT, Degaussing Coil, Cancellation Coil, Speaker, AC Cord, and Remote Control.

CRT Panels

Table listing CRT panels and various electronic components such as cooling plates, capacitors, resistors, diodes, transistors, and jumper wires.

S = Safety Part Be sure to use exact replacement part.

Table listing electronic components including resistors, capacitors, diodes, transistors, and jumper wires with their respective part numbers and descriptions.

Front Interface Panel

Table listing components for the front interface panel, including a switch, connector, capacitors, resistors, and an LED.

LTI/CTI Interface Panel

Table listing components for the LTI/CTI interface panel, including connectors, capacitors, resistors, diodes, transistors, and jumper wires.

# 32MS6341/37 (continued)

9618 Wire Jumper, 0.58MM. . . . . 3198 036 90010

## Linearity & Panorama Panel Linearity & Panorama Panel

### Side Jack Panel

Side Jack Panel  
CBA Side Jack Panel. . . . . 3139 188 06931  
1232 Headphone Jack . . . . . 2422 026 04471  
1250 A/V Jack . . . . . 2422 026 05538  
1252 Connector, 7 Pin . . . . . 2422 025 11244  
1254 Connector, 5 Pin . . . . . 2422 025 12481  
1278 Connector, 4 Pin . . . . . 2422 025 12479  
2171 Cap, 330p, 10%, 50v, Ceramic . . . . . 3198 019 13310  
2172 Cap, 330p, 10%, 50v, Ceramic . . . . . 3198 019 13310  
2173 Cap, 330p, 10%, 50v, Ceramic . . . . . 3198 019 13310  
2174 Cap, 330p, 10%, 50v, Ceramic . . . . . 3198 019 13310  
2175 Cap, 2u2, 20%, 50v, Electrolytic . . . . . 3198 029 52280  
2176 Cap, 100n, 10%, 16v, Ceramic . . . . . 3198 017 31040  
2178 Cap, 470p, 10%, 50v, Ceramic . . . . . 3198 017 34710  
2180 Cap, 2u2, 20%, 50v, Electrolytic . . . . . 3198 029 52280  
3150 Res, 47K, 5%, 1/6W, Carbon Film. . . . . 3198 011 04730  
3151 Res, 22K, 5%, 1/6W, Carbon Film. . . . . 3198 011 02230  
3152 Res, 47K, 5%, 1/6W, Carbon Film. . . . . 3198 011 04730  
3153 Res, 22K, 5%, 1/6W, Carbon Film. . . . . 3198 011 02230  
3154 Res, 75 ohm, 5%, 1/6W, Carbon Film. . . . . 3198 011 07590  
3156 Res, 820 ohm, 5%, 1/6W, Carbon Film. . . . . 3198 011 08210  
3157 Res, 820 ohm, 5%, 1/6W, Carbon Film. . . . . 3198 011 08210  
3160 Res, 100 ohm, 5%, 1/6W, Carbon Film. . . . . 3198 011 01010  
9181 Wire Jumper, 0.58MM. . . . . 3198 036 90010

### Top Control Panel

Top Control Panel  
CBA Top Control Panel. . . . . 3139 188 06031  
1010 Connector, 3 Pin . . . . . 2422 025 09191  
1011 Switch, Tactile. . . . . 2422 128 02742  
1012 Switch, Tactile. . . . . 2422 128 02742  
1013 Switch, Tactile. . . . . 2422 128 02742  
1014 Switch, Tactile. . . . . 2422 128 02742  
3011 Res, 150 ohm, 5%, 1/16W, Metalized Glas 3198 021 31510  
3012 Res, 390 ohm, 5%, 1/16W, Metalized Glas 3198 021 33910  
3013 Res, 1K8, 1%, 1/16W, Metalized Glass. . . . . 2322 704 61802  
3014 Res, Zero ohm, "Chip" Jumper . . . . . 3198 021 90030  
3015 Res, 820 ohm, 1%, 1/16W, Metalized Glas 2322 704 68201  
3016 Res, Zero ohm, "Chip" Jumper . . . . . 3198 021 90030

### Main Chassis

Main Chassis  
CBA Main Chassis . . . . . 3139 188 58331  
1000 Tuner, V+U PLL . . . . . 2422 542 90141  
1002 S.A.W. Filter, 45MHz75, OFWMM1971M. . . . . 2422 549 44518  
1005 Connector, 3 Pin . . . . . 2412 020 00725  
1137 MDIN Socket. . . . . 2422 026 05428  
1204 Connector, 7 Pin . . . . . 2422 025 04855  
1205 Crystal Resonator, 24MHz576. . . . . 2422 543 00943  
1207 Connector, 7 Pin . . . . . 2422 025 11244  
1212 Connector, 12 Pin. . . . . 2422 025 16052  
1223 12 Pin Cinch Socket. . . . . 2422 026 05463  
1280 Connector, 5 Pin . . . . . 2422 025 12481  
S 1401 Connector, 5 Pin . . . . . 2422 025 04853  
1402 Connector, 1 Pin . . . . . 2422 034 20021  
1404 Connector, 4 Pin . . . . . 2422 025 15503  
1451 Connector, 2 Pin . . . . . 2422 025 10646  
1452 Fuse, 1.25 Amp, 250V . . . . . 2422 086 10282  
1454 Fuse, 1.25 Amp, 250V . . . . . 2422 086 10282  
S 1500 Fuse, 4A, 250V, IEC. . . . . 2422 086 10914  
S 1503 Relay, 12V, 5A G5PA-1. . . . . 2422 132 07444  
1504 Connector, 2 Pin . . . . . 2422 025 16375  
1505 Connector, 2 Pin . . . . . 2422 025 16269  
1682 Connector, 3 Pin . . . . . 2412 020 00725  
1693 Connector, 6 Pin . . . . . 2422 025 12482  
2001 Cap, 22p, 5%, 50v, Ceramic . . . . . 3198 016 32290  
2004 Cap, 47n, +80/-20%, 50v, Ceramic . . . . . 3198 024 44730  
2006 Cap, 470u, 20%, 16v, Electrolytic. . . . . 3198 025 24710  
2007 Cap, 100n, 10%, 16v, Ceramic . . . . . 3198 017 31040  
2008 Cap, 100u, 20%, 25v, Electrolytic. . . . . 3198 025 31010  
2103 Cap, 330p, 10%, 50v, Ceramic . . . . . 3198 017 33310  
2104 Cap, 330p, 10%, 50v, Ceramic . . . . . 3198 017 33310  
2105 Cap, 10u, 20%, 50v, Electrolytic . . . . . 3198 025 51090  
2106 Cap, 10u, 20%, 50v, Electrolytic . . . . . 3198 025 51090  
2122 Cap, 330p, 10%, 50v, Ceramic . . . . . 3198 017 33310  
2123 Cap, 2u2, 20%, 50v, Electrolytic . . . . . 3198 025 52280  
2124 Cap, 330p, 10%, 50v, Ceramic . . . . . 3198 017 33310  
2125 Cap, 2u2, 20%, 50v, Electrolytic . . . . . 3198 025 52280  
2131 Cap, 330p, 10%, 50v, Ceramic . . . . . 3198 017 33310  
2132 Cap, 2u2, 20%, 50v, Electrolytic . . . . . 3198 025 52280  
2133 Cap, 330p, 10%, 50v, Ceramic . . . . . 3198 017 33310  
2134 Cap, 2u2, 20%, 50v, Electrolytic . . . . . 3198 025 52280  
2203 Cap, 100u, 20%, 10v, Electrolytic. . . . . 3198 025 11010  
2204 Cap, 22n, 10%, 25v, Ceramic. . . . . 3198 017 32230  
2205 Cap, 220n, +80/-20%, 16v, Ceramic. . . . . 3198 017 42240  
2206 Cap, 220n, +80/-20%, 25v, Ceramic. . . . . 3198 023 22240

2207 Cap, 220n, +80/-20%, 25v, Ceramic. . . . . 3198 023 22240  
2208 Cap, 220n, +80/-20%, 25v, Ceramic. . . . . 3198 023 22240  
2209 Cap, 220n, +80/-20%, 16v, Ceramic. . . . . 3198 017 42240  
2210 Cap, 220n, +80/-20%, 16v, Ceramic. . . . . 3198 017 42240  
2211 Cap, 220n, +80/-20%, 16v, Ceramic. . . . . 3198 017 42240  
2212 Cap, 220n, +80/-20%, 16v, Ceramic. . . . . 3198 017 42240  
2213 Cap, 220n, +80/-20%, 16v, Ceramic. . . . . 3198 017 42240  
2214 Cap, 100n, 10%, 16v, Ceramic . . . . . 3198 017 31040  
2215 Cap, 220n, +80/-20%, 16v, Ceramic. . . . . 3198 017 42240  
2216 Cap, 220n, +80/-20%, 16v, Ceramic. . . . . 3198 017 42240  
2217 Cap, 100u, 20%, 25v, Electrolytic. . . . . 3198 025 31010  
2218 Cap, 47u, 20%, 25v, Electrolytic. . . . . 3198 025 34790  
2222 Cap, 5n6, 10%, 50v, Ceramic. . . . . 2238 586 15633  
2223 Cap, 100n, 10%, 16v, Ceramic . . . . . 3198 017 31040  
2224 Cap, 100u, 20%, 25v, Electrolytic. . . . . 3198 025 31010  
2225 Cap, 220n, +80/-20%, 16v, Ceramic. . . . . 3198 017 42240  
2226 Cap, 220n, +80/-20%, 16v, Ceramic. . . . . 3198 017 42240  
2229 Cap, 220n, +80/-20%, 16v, Ceramic. . . . . 3198 017 42240  
2230 Cap, 10u, 20%, 50v, Electrolytic . . . . . 3198 025 51090  
2231 Cap, 100n, 10%, 16v, Ceramic . . . . . 3198 017 31040  
2232 Cap, 100n, 10%, 16v, Ceramic . . . . . 3198 017 31040  
2233 Cap, 100n, 10%, 16v, Ceramic . . . . . 3198 017 31040  
2234 Cap, 100u, 20%, 25v, Electrolytic. . . . . 3198 025 31010  
2235 Cap, 6n8, 10%, 50v, Ceramic. . . . . 3198 017 36820  
2236 Cap, 10n, 10%, 50v, Ceramic. . . . . 3198 017 31030  
2237 Cap, 100n, 10%, 16v, Ceramic . . . . . 3198 017 31040  
2238 Cap, 220n, +80/-20%, 16v, Ceramic. . . . . 3198 017 42240  
2239 Cap, 220n, +80/-20%, 16v, Ceramic. . . . . 3198 017 42240  
2240 Cap, 1u5, 20%, 50v, Electrolytic . . . . . 2020 021 90137  
2241 Cap, 22n, 10%, 25v, Ceramic. . . . . 3198 017 32230  
2242 Cap, 100n, 10%, 16v, Ceramic . . . . . 3198 017 31040  
2243 Cap, 100n, 10%, 16v, Ceramic . . . . . 3198 017 31040  
2244 Cap, 2u2, +80/-20%, 10v, Ceramic . . . . . 3198 017 22250  
2245 Cap, 1n, 5%, 25v, Ceramic. . . . . 3198 016 31020  
2246 Cap, 100n, 10%, 16v, Ceramic . . . . . 3198 017 31040  
2247 Cap, 100n, 10%, 16v, Ceramic . . . . . 3198 017 31040  
2248 Cap, 1n, 5%, 25v, Ceramic. . . . . 3198 016 31020  
2249 Cap, 100n, 10%, 16v, Ceramic . . . . . 3198 017 31040  
2250 Cap, 100u, 20%, 25v, Electrolytic. . . . . 3198 025 31010  
2251 Cap, 150n, 10%, 50v, Polyester . . . . . 3198 014 01540  
2252 Cap, 10n, 10%, 50v, Ceramic. . . . . 3198 017 31030  
2253 Cap, 10n, 10%, 50v, Ceramic. . . . . 3198 017 31030  
2254 Cap, 1n, 10%, 50v, Ceramic . . . . . 3198 017 31020  
2255 Cap, 10n, 10%, 50v, Ceramic. . . . . 3198 017 31030  
2256 Cap, 100n, 10%, 16v, Ceramic . . . . . 3198 017 31040  
2257 Cap, 3n3, 10%, 50v, Ceramic. . . . . 3198 017 33320  
2259 Cap, 1u, +80/-20%, 10v, Ceramic. . . . . 3198 017 41050  
2260 Cap, 100n, 10%, 16v, Ceramic . . . . . 3198 017 31040  
2261 Cap, 100n, 10%, 16v, Ceramic . . . . . 3198 017 31040  
2262 Cap, 10n, 10%, 50v, Ceramic. . . . . 3198 017 31030  
2263 Cap, 100n, 10%, 16v, Ceramic . . . . . 3198 017 31040  
2264 Cap, 560p, 5%, 25v, Ceramic. . . . . 3198 016 35610  
2265 Cap, 100u, 20%, 25v, Electrolytic. . . . . 3198 025 31010  
2266 Cap, 2u2, +80/-20%, 10v, Ceramic . . . . . 3198 017 22250  
2267 Cap, 2u2, +80/-20%, 10v, Ceramic . . . . . 3198 017 22250  
2272 Cap, 100n, 10%, 16v, Ceramic . . . . . 3198 017 31040  
2273 Cap, 100u, 20%, 25v, Electrolytic. . . . . 3198 025 31010  
2274 Cap, 100n, 10%, 16v, Ceramic . . . . . 3198 017 31040  
2275 Cap, 10u, 20%, 50v, Electrolytic . . . . . 3198 025 51090  
2276 Cap, 100n, +80/-20%, 25v, Ceramic. . . . . 3198 023 21040  
2279 Cap, 100p, 5%, 50v, Ceramic. . . . . 3198 016 31010  
2280 Cap, 1u, +80/-20%, 10v, Ceramic. . . . . 3198 017 41050  
2282 Cap, 1n, 10%, 50v, Ceramic . . . . . 3198 017 31020  
2288 Cap, 1n, 10%, 50v, Ceramic . . . . . 3198 017 31020  
2289 Cap, 1n, 10%, 50v, Ceramic . . . . . 3198 017 31020  
2401 Cap, 4u7, 20%, 50v, Electrolytic . . . . . 3198 028 54780  
2402 Cap, 15n, 10%, 50v, Ceramic. . . . . 3198 017 31530  
2403 Cap, 33n, 10%, 16v, Ceramic. . . . . 3198 017 33330  
2404 Cap, 47u, 20%, 160v, Electrolytic. . . . . 2022 031 00103  
2405 Cap, 1n, 10%, 2000v, Ceramic . . . . . 3198 019 71020  
2406 Cap, 680p, 10%, 500v, Ceramic. . . . . 3198 019 46810  
2408 Cap, 100p, 5%, 50v, Ceramic. . . . . 3198 016 31010  
2409 Cap, 100n, +80/-20%, 25v, Ceramic. . . . . 3198 023 41040  
2410 Cap, 100n, +80/-20%, 25v, Ceramic. . . . . 3198 023 21040  
2411 Cap, 680p, 10%, 2000v, Ceramic . . . . . 3198 019 76810  
2412 Cap, 12n, 5%, 1600v, Polypropylene . . . . . 2222 375 90156  
2413 Cap, 33n, 10%, 400v, Polyester . . . . . 2222 347 90227  
2414 Cap, 1u, +80/-20%, 10v, Ceramic. . . . . 3198 017 41050  
2415 Cap, 2u2, 20%, 160v, Electrolytic. . . . . 2022 031 00172  
2418 Cap, 270n, 5%, 250v, Metalized Polypropylene. . . . . 2222 479 90016  
2419 Cap, 2u2, 5%, 100v, Metalized Polyester 2222 468 90324  
2420 Cap, 1u, +80/-20%, 10v, Ceramic. . . . . 3198 017 41050  
2425 Cap, 10n, 10%, 50v, Ceramic. . . . . 3198 017 31030  
2428 Cap, 33n, 10%, 16v, Ceramic. . . . . 3198 017 33330  
2451 Cap, 150n, 10%, 100v, Metalized Polyest er. . . . . 2222 365 85154  
2453 Cap, 1u, +80/-20%, 16v, Ceramic. . . . . 3198 017 21050  
2454 Cap, 470u, 20%, 16v, Electrolytic. . . . . 3198 025 24710  
2456 Cap, 47n, 10%, 250v, Ceramic . . . . . 2020 057 90733  
2457 Cap, 4u7, 20%, 250v, Electrolytic. . . . . 2020 012 93282  
2459 Cap, 470p, 10%, 500v, Ceramic. . . . . 3198 019 44710

S = Safety Part Be sure to use exact replacement part.



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2460	Cap, 470u, 20%, 16v, Electrolytic . . .	3198 025 24710	3130	Res, 75 ohm, 5%, 1/16W, Metalized Glass	3198 021 37590
2461	Cap, 1n, 5%, 25v, Ceramic . . . . .	3198 016 31020	3131	Res, 22K, 5%, 1/6W, Carbon Film . . . .	3198 011 02230
2462	Cap, 1n, 5%, 25v, Ceramic . . . . .	3198 016 31020	3132	Res, 47K, 5%, 1/16W, Metalized Glass . .	3198 021 34730
2463	Cap, 100u, 20%, 50v, Electrolytic . . .	3198 037 51010	3133	Res, 22K, 5%, 1/6W, Carbon Film . . . .	3198 011 02230
2464	Cap, 470p, 5%, 50v, Ceramic . . . . .	3198 016 34710	3134	Res, 47K, 5%, 1/16W, Metalized Glass . .	3198 021 34730
2465	Cap, 10u, 20%, 100v, Electrolytic . . .	3198 025 71090	3135	Res, 75 ohm, 5%, 1/16W, Metalized Glass	3198 021 37590
2467	Cap, 10n, 10%, 400v, Metalized Polyeste	2222 365 55103	3167	Res, 75 ohm, 5%, 1/6W, Carbon Film . .	3198 011 07590
2468	Cap, 220p, 5%, 50v, Ceramic . . . . .	3198 016 32210	3168	Res, 75 ohm, 5%, 1/16W, Metalized Glass	3198 021 37590
2469	Cap, 220n, +80/-20%, 16v, Ceramic . . .	3198 017 42240	3169	Res, 75 ohm, 5%, 1/16W, Metalized Glass	3198 021 37590
2470	Cap, 100n, 10%, 100v, Ceramic . . . . .	2222 601 55649	3201	Res, 1K, 5%, 1/6W, Carbon Film . . . . .	3198 011 01020
2484	Cap, 10u, 20%, 50v, Electrolytic . . .	2020 009 00001	3202	Res, 3K3, 5%, 1/16W, Metalized Glass . .	3198 021 33320
2486	Cap, 27p, 5%, 500v, Ceramic . . . . .	2252 508 08255	3203	Res, 150K, 5%, 1/16W, Metalized Glass . .	3198 021 31540
2487	Cap, 2n2, 10%, 50v, Ceramic . . . . .	3198 017 02220	3204	Res, 3K3, 5%, 1/16W, Metalized Glass . .	3198 021 33320
2489	Cap, 10n, 10%, 50v, Ceramic . . . . .	3198 017 31030	3205	Res, 12K, 5%, 1/16W, Metalized Glass . .	3198 021 31230
2500	Cap, 470n, 20%, 275V, Metalized Polypro ylene . . . . .	2222 338 22474	3206	Res, 5K6, 5%, 1/16W, Metalized Glass . .	3198 021 35620
2503	Cap, 2n2, 10%, 1000v, Ceramic . . . . .	3198 019 52220	3207	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010
2504	Cap, 2n2, 10%, 1000v, Ceramic . . . . .	3198 019 52220	3208	Res, 27K, 5%, 1/16W, Metalized Glass . .	3198 021 32730
2505	Cap, 470u, 20%, 200v, Electrolytic . . .	2022 020 00852	3209	Res, 1 ohm, 5%, 1/16W, Metalized Glass	3198 021 31080
2511	Cap, 22u, 20%, 50v, Electrolytic . . . .	3198 025 52290	3210	Res, 1 ohm, 5%, 1/16W, Metalized Glass	3198 021 31080
2512	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198 017 31040	3211	Res, 27K, 5%, 1/16W, Metalized Glass . .	3198 021 32730
2513	Cap, 470p, 10%, 50v, Ceramic . . . . .	3198 017 34710	3212	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010
2514	Cap, 1n5, 10%, 2000v, Ceramic . . . . .	3198 019 71520	3214	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010
2515	Cap, 470p, 5%, 50v, Ceramic . . . . .	3198 016 34710	3215	Res, 4K7, 5%, 1/6W, Carbon Film . . . .	3198 011 04720
2516	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198 017 31040	3216	Res, 10 ohm, 5%, 1/16W, Metalized Glass	3198 021 31090
2517	Cap, 1n, 10%, 50v, Ceramic . . . . .	3198 017 31020	3218	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010
2519	Cap, 100p, 5%, 100v, Ceramic . . . . .	2020 557 90726	3219	Res, 10K, 5%, 1/16W, Metalized Glass . .	3198 021 31030
2530	Cap, 330p, 5%, 100v, Ceramic . . . . .	2020 557 00005	3220	Res, 150 ohm, 5%, 1/16W, Metalized Glas	3198 021 31510
2531	Cap, 470p, 5%, 50v, Ceramic . . . . .	3198 016 34710	3221	Res, 270 ohm, 5%, 1/16W, Metalized Glas	3198 021 32710
2532	Cap, 10u, 10%, 16v, Ceramic . . . . .	2020 552 96823	3222	Res, 680 ohm, 5%, 1/16W, Metalized Glas	3198 021 36810
2533	Cap, 4n7, 10%, 50v, Ceramic . . . . .	3198 017 34720	3224	Res, 560K, 5%, 1/4W, Carbon Film . . .	2122 101 02086
2534	Cap, 68p, 5%, 1kV, Ceramic . . . . .	2020 558 90261	3225	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010
2535	Cap, 1000u, 20%, 6.3v, Electrolytic . . .	3198 025 01020	3226	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010
2536	Cap, 2u2, 20%, 10v, Electrolytic . . . .	2020 012 93728	3227	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010
2538	Cap, 470p, 10%, 50v, Ceramic . . . . .	3198 017 34710	3228	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010
2539	Cap, 470p, 10%, 500v, Ceramic . . . . .	3198 019 44710	3229	Res, 1K5, 5%, 1/16W, Metalized Glass . .	3198 021 31520
2541	Cap, 47u, 20%, 25v, Electrolytic . . . .	3198 025 34790	3230	Res, 100 ohm, 5%, 1/6W, Carbon Film . .	3198 011 01010
S 2542	Cap, 1n5, 20%, 250v, Ceramic . . . . .	2020 554 90199	3231	Res, 100 ohm, 5%, 1/6W, Carbon Film . .	3198 011 01010
2543	Cap, 2n2, 10%, 500v, Ceramic . . . . .	3198 019 42220	3232	Res, 12K, 5%, 1/16W, Metalized Glass . .	3198 021 31230
2549	Cap, 100p, 5%, 50v, Ceramic . . . . .	3198 016 31010	3233	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010
2550	Cap, 33p, 5%, 200v, Ceramic . . . . .	2020 557 00002	3234	Res, 100 ohm, 5%, 1/6W, Carbon Film . .	3198 011 01010
2551	Cap, 1n, 10%, 1000v, Ceramic . . . . .	3198 019 61020	3235	Res, 1K, 5%, 1/16W, Metalized Glass . .	3198 021 31020
2552	Cap, 100u, 20%, 160v, Electrolytic . . .	2020 021 91654	3236	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010
2553	Cap, 180p, 5%, 50v, Ceramic . . . . .	3198 016 31810	3237	Res, 1K, 5%, 1/16W, Metalized Glass . . .	3198 021 31020
2561	Cap, 1n, 10%, 500v, Ceramic . . . . .	3198 019 41020	3238	Res, 4K7, 5%, 1/16W, Metalized Glass . .	3198 021 34720
2562	Cap, 1000u, 20%, 25v, Electrolytic . . .	3198 026 31020	3239	Res, 1K2, 5%, 1/6W, CF SEE KNOWN FAULTS	3198 011 01220
2563	Cap, 1000u, 20%, 25v, Electrolytic . . .	3198 026 31020	3240	Res, 22K, 5%, 1/16W, Metalized Glass . .	3198 021 32230
2564	Cap, 100n, 10%, 50v, Ceramic . . . . .	2238 580 15649	3241	Res, 39K, 1%, 3/5W, Metal Film . . . . .	2312 915 13903
2565	Cap, 1n, 10%, 500v, Ceramic . . . . .	3198 019 41020	3242	Res, 47K, 5%, 1/16W, Metalized Glass . .	3198 021 34730
2566	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198 017 31040	3243	Res, 33K, 5%, 1/16W, Metalized Glass . .	3198 021 33330
2571	Cap, 15n, 10%, 50v, Ceramic . . . . .	3198 017 31530	3244	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010
2572	Cap, 10n, 10%, 50v, Ceramic . . . . .	3198 017 31030	3245	Res, 27 ohm, 5%, 1/16W, Metalized Glass	2322 702 60279
2573	Cap, 220n, 10%, 50v, Ceramic . . . . .	2020 552 96683	3246	Res, 4K7, 5%, 1/6W, Carbon Film . . . .	3198 011 04720
2601	Cap, 1n, 5%, 25v, Ceramic . . . . .	3198 016 31020	3247	Res, 390 ohm, 5%, 1/16W, Metalized Glas	3198 021 33910
2611	Cap, 47u, 20%, 25v, Electrolytic . . . .	3198 025 34790	3248	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010
2615	Cap, 4u7, +80/-20%, 10v, Ceramic . . . .	2020 552 96305	3249	Res, 100 ohm, 5%, 1/6W, Carbon Film . .	3198 011 01010
2617	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198 017 31040	3250	Res, 2K2, 5%, 1/16W, Metalized Glass . .	3198 021 32220
2620	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198 017 31040	3251	Res, 10K, 5%, 1/16W, Metalized Glass . .	3198 021 31030
2621	Cap, 100u, 20%, 25v, Electrolytic . . . .	3198 025 31010	3252	Res, 1K, 5%, 1/6W, Carbon Film . . . . .	3198 011 01020
2623	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198 017 31040	3253	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010
2624	Cap, 100u, 20%, 25v, Electrolytic . . . .	3198 025 31010	3257	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010
2625	Cap, 2u2, 10%, 6v3, Ceramic . . . . .	2022 552 05615	3258	Res, 100 ohm, 5%, 1/6W, Carbon Film . .	3198 011 01010
2626	Cap, 33p, 5%, 50v, Ceramic . . . . .	3198 016 33390	3259	Res, 10K, 5%, 1/16W, Metalized Glass . .	3198 021 31030
2627	Cap, 33p, 5%, 50v, Ceramic . . . . .	3198 016 33390	3260	Res, 100 ohm, 5%, 1/6W, Carbon Film . .	3198 011 01010
2628	Cap, 33p, 5%, 50v, Ceramic . . . . .	3198 016 33390	3261	Res, 4K7, 5%, 1/16W, Metalized Glass . .	3198 021 34720
2629	Cap, 33p, 5%, 50v, Ceramic . . . . .	3198 016 33390	3262	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010
2630	Cap, 1n, 10%, 50v, Ceramic . . . . .	3198 017 31020	3269	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010
2986	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198 017 31040	3270	Res, 100 ohm, 5%, 1/6W, Carbon Film . .	3198 011 01010
2987	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198 017 31040	3271	Res, 390 ohm, 5%, 1/16W, Metalized Glas	3198 021 33910
2988	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198 017 31040	3272	Res, 820 ohm, 5%, 1/16W, Metalized Glas	3198 021 38210
2989	Cap, 1u, +80/-20%, 10v, Ceramic . . . . .	3198 017 41050	3273	Res, 1K, 5%, 1/16W, Metalized Glass . . .	3198 021 31020
2990	Cap, 1n, 5%, 25v, Ceramic . . . . .	3198 016 31020	3274	Res, 100 ohm, 5%, 1/6W, Carbon Film . .	3198 011 01010
2992	Cap, 1u, +80/-20%, 10v, Ceramic . . . . .	3198 017 41050	3275	Res, 100 ohm, 5%, 1/6W, Carbon Film . .	3198 011 01010
2993	Cap, 1n, 5%, 25v, Ceramic . . . . .	3198 016 31020	3276	Res, 100 ohm, 5%, 1/6W, Carbon Film . .	3198 011 01010
2994	Cap, 22n, 10%, 25v, Ceramic . . . . .	3198 017 32230	3277	Res, 100 ohm, 5%, 1/6W, Carbon Film . .	3198 011 01010
2995	Cap, 22n, 10%, 25v, Ceramic . . . . .	3198 017 32230	3278	Res, 100 ohm, 5%, 1/6W, Carbon Film . .	3198 011 01010
2996	Cap, 47n, +80/-20%, 50v, Ceramic . . . .	3198 024 44730	3283	Res, 4K7, 5%, 1/16W, Metalized Glass . .	3198 021 34720
2997	Cap, 47n, +80/-20%, 50v, Ceramic . . . .	3198 024 44730	3284	Res, 4K7, 5%, 1/16W, Metalized Glass . .	3198 021 34720
3003	Res, 10K, 5%, 1/16W, Metalized Glass . .	3198 021 31030	3285	Res, 1K, 5%, 1/16W, Metalized Glass . .	3198 021 31020
3004	Res, 68K, 5%, 1/16W, Metalized Glass . .	3198 021 36830	3287	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010
3005	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010	3289	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010
3101	Res, 68 ohm, 5%, 1/6W, Carbon Film . . .	3198 011 06890	3291	Res, 1K, 5%, 1/6W, Carbon Film . . . . .	3198 011 01020
3103	Res, 150 ohm, 5%, 1/6W, Carbon Film . .	3198 011 01510	3292	Res, 47K, 5%, 1/16W, Metalized Glass . .	3198 021 34730
3104	Res, 220K, 5%, 1/16W, Metalized Glass . .	3198 021 32240	3293	Res, 39K, 5%, 1/16W, Metalized Glass . .	3198 021 33930
3105	Res, 150 ohm, 5%, 1/6W, Carbon Film . .	3198 011 01510	3294	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010
3106	Res, 220K, 5%, 1/16W, Metalized Glass . .	3198 021 32240	3295	Res, 8K2, 5%, 1/16W, Metalized Glass . .	3198 021 38220
3121	Res, 75 ohm, 5%, 1/16W, Metalized Glass	3198 021 37590	3296	Res, 5K6, 5%, 1/16W, Metalized Glass . .	3198 021 35620
3123	Res, 22K, 5%, 1/6W, Carbon Film . . . .	3198 011 02230	3401	Res, 47K, 1%, 3/5W, Metal Film . . . . .	2312 915 14703
3124	Res, 47K, 5%, 1/16W, Metalized Glass . .	3198 021 34730	3403	Res, 1K, 5%, 1/6W, Carbon Film . . . . .	3198 011 01020
3125	Res, 22K, 5%, 1/6W, Carbon Film . . . .	3198 011 02230	3404	Res, 1 ohm, 5%, 1/8W, Metalized Glass . .	2322 750 61008
3126	Res, 47K, 5%, 1/16W, Metalized Glass . .	3198 021 34730	3405	Res, 6K8, 5%, 1/16W, Metalized Glass . .	3198 021 36820
3129	Res, 75 ohm, 5%, 1/16W, Metalized Glass	3198 021 37590	3406	Res, 390 ohm, 5%, 1/6W, Carbon Film . .	3198 011 03910
			3407	Res, 68 ohm, 5%, 1/6W, Carbon Film . . .	3198 011 06890

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3409	Res, 1K8, 5%, 1/16W, Metalized Glass . . .	3198	021	31820	3572	Res, 220 ohm, 5%, 1/16W, Metalized Glas	3198	021	32210
3410	Res, 1K5, 1%, 3/5W, Metal Film . . . . .	2312	915	11502	3573	Res, 15K, 5%, 1/16W, Metalized Glass . .	3198	021	31530
3411	Res, 680K, 5%, 1/2W, Metalized Glass . .	2322	242	13684	3574	Res, 150K, 5%, 1/6W, Carbon Film . . . .	3198	011	01540
3412	Res, 1K, 5%, 1/6W, Carbon Film . . . . .	3198	011	01020	3575	Res, 82K, 1%, 3/5W, Metal Film . . . . .	2312	915	18203
3414	Res, 1 ohm, 5%, 1W, MF SEE KNOWN FAULTS	3198	012	11080	3576	Res, 4K7, 1%, 1/16W, Metalized Glass . .	2322	704	64702
3415	Res, 100 ohm, 5%, 1/6W, Carbon Film. . .	3198	011	01010	3577	Res, 1K5, 5%, 1/6W, Carbon Film. . . . .	3198	011	01520
3416	Res, 47 ohm, 5%, 1/16W, Metalized Glass	3198	021	34790	3578	Res, 470 ohm, 5%, 1/16W, Metalized Glas	3198	021	34710
3417	Res, 15K, 5%, 1 1/3W, Metal Film . . . .	3198	012	21530	3579	Res, 2K2, 5%, 1/16W, Metalized Glass . .	3198	021	32220
3418	Res, 100 ohm, 5%, 1/6W, Carbon Film. . .	3198	011	01010	3601	Res, 4K7, 5%, 1/16W, Metalized Glass . .	3198	021	34720
3420	Res, 10K, 5%, 1/10W, Metalized Glass . .	3198	021	51030	3604	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198	021	31010
3425	Res, 100K, 1%, 3/5W, Metal Film. . . . .	2312	915	11004	3605	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198	021	31010
3427	Res, 2K2, 5%, 1/10W, Metalized Glass . .	3198	021	52220	3606	Res, 56K, 5%, 1/6W, Carbon Film. . . . .	3198	011	05630
3428	Res, 3K3, 5%, 1/10W, Metalized Glass . .	3198	021	53320	3607	Res, 10K, 5%, 1/16W, Metalized Glass . .	3198	021	31030
3430	Res, 120k, 5%, Metalized Glass . . . . .	2322	241	51124	3608	Res, 27K, 5%, 1/16W, Metalized Glass . .	3198	021	32730
3431	Res, 10K, 1%, 3/5W, Metal Film . . . . .	2312	915	11302	3609	Res, 330 ohm, 5%, 1/16W, Metalized Glas	3198	021	33310
3440	Res, 560 ohm, 5%, 1/6W, Carbon Film. . .	3198	011	05610	3614	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3441	Res, 120k, 5%, Metalized Glass . . . . .	2322	241	53124	3616	Res, 100 ohm, 5%, 1/6W, Carbon Film. . .	3198	011	01010
3442	Wire Jumper, 0.58MM. . . . .	3198	036	90010	3617	Res, 100 ohm, 5%, 1/6W, Carbon Film. . .	3198	011	01010
3443	Wire Jumper, 0.58MM. . . . .	3198	036	90010	3618	Res, 100 ohm, 5%, 1/6W, Carbon Film. . .	3198	011	01010
3445	Res, 47 ohm, 5%, 1/10W, Metalized Glass	3198	021	54790	3634	Res, 1K, 5%, 1/16W, Metalized Glass . . .	3198	021	31020
3446	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198	021	31010	3635	Res, 47K, 5%, 1/16W, Metalized Glass . .	3198	021	34730
3451	Res, 68K, 1%, 3/5W, Metal Film . . . . .	2312	915	16803	3637	Res, 47 ohm, 5%, 1/16W, Metalized Glass	3198	021	34790
3452	Res, 6K8, 5%, 1/16W, Metalized Glass . .	3198	021	36820	3690	Res, 220 ohm, 5%, 1/16W, Metalized Glas	3198	021	32210
3453	Res, 33K, 5%, 1/16W, Metalized Glass . .	3198	021	33330	3975	Res, 150 ohm, 5%, 1 1/3W, Metal Film . .	3198	012	21510
3454	Res, 47K, 5%, 1/6W, Carbon Film. . . . .	3198	011	04730	3985	Res, 39K, 5%, 1/16W, Metalized Glass . .	3198	021	33930
3455	Res, 1 ohm, 5%, 1/2W, Metal Film . . . .	2306	207	03108	3988	Res, 10K, 5%, 1/16W, Metalized Glass . .	3198	021	31030
3457	Res, 1 ohm, 5%, 1/2W, Metal Film . . . .	2306	207	03108	3989	Res, 10 ohm, 5%, 1/16W, Metalized Glass	3198	021	31090
3458	Res, 4R7, 5%, 1/2W, Metal Film . . . . .	2306	207	03478	3991	Res, 39K, 5%, 1/16W, Metalized Glass . .	3198	021	33930
3460	Res, 2K2, 5%, 1/6W, Carbon Film. . . . .	3198	011	02220	3992	Res, 10K, 5%, 1/16W, Metalized Glass . .	3198	021	31030
3461	Res, 2K2, 5%, 1/6W, Carbon Film. . . . .	3198	011	02220	3993	Res, 10 ohm, 5%, 1/16W, Metalized Glass	3198	021	31090
3462	Res, 2K2, 5%, 1/16W, Metalized Glass . .	3198	021	32220	3994	Res, 68K, 5%, 1/16W, Metalized Glass . .	3198	021	36830
3463	Res, 1K, 5%, 1/16W, Metalized Glass. . . .	3198	021	31020	3995	Res, 4K7, 5%, 1/16W, Metalized Glass . .	3198	021	34720
3464	Res, 220 ohm, 5%, 1/16W, Metalized Glas	3198	021	32210	4000	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3466	Res, 1 ohm, 5%, 1/2W, Metal Film . . . .	2306	207	03108	4001	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3467	Res, 150 ohm, 5%, 1/6W, Carbon Film. . .	3198	011	01510	4002	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3468	Res, 150 ohm, 5%, 1/6W, Carbon Film. . .	3198	011	01510	4003	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3469	Res, 1K, 5%, 1/16W, Metalized Glass. . . .	3198	021	31020	4006	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3470	Res, 22 ohm, 5%, 1/6W, Carbon Film . . . .	3198	011	02290	4013	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3471	Res, 2R2, 1%, 3/5W, Metal Film . . . . .	2312	915	12208	4015	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3472	Res, 2R2, 1%, 3/5W, Metal Film . . . . .	2312	915	12208	4106	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3473	Res, 820K, 5%, 1/16W, Metalized Glass. .	2322	702	60824	4107	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3474	Res, 15K, 5%, 1/16W, Metalized Glass . .	3198	021	31530	4108	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3475	Res, 8K2, 5%, 1/16W, Metalized Glass . .	3198	021	38220	4116	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3478	Res, 6K8, 5%, 1/16W, Metalized Glass. . .	3198	021	36820	4136	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3481	Res, 5R6, 5%, 1/8W, Metalized Glass. . . .	2322	750	65608	4209	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3482	Res, 22K, 1%, 3/5W, Metal Film . . . . .	2312	915	12203	4212	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3483	Res, 56K, 1%, 3/5W, Metal Film . . . . .	2312	915	15603	4221	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
S 3484	Res, 1 ohm, 5%, 1/3W, Metal Film . . . . .	2306	204	03108	4222	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
S 3485	Res, 1 ohm, 5%, 1/3W, Metal Film . . . . .	2306	204	03108	4223	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90020
3486	Res, 6K8, 5%, 1/16W, Metalized Glass . .	3198	021	36820	4226	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3489	Res, 47 ohm, 5%, 1/10W, Metalized Glass	3198	021	54790	4227	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3490	Res, 22K, 5%, 1/16W, Metalized Glass . .	3198	021	32230	4240	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3491	Res, 68K, 5%, 1/16W, Metalized Glass . .	3198	021	36830	4241	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3492	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030	4470	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3493	Res, 2K2, 5%, 1/16W, Metalized Glass . .	3198	021	32220	4533	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90020
3494	Res, 680K, 5%, 1/16W, Metalized Glass. .	3198	021	36840	4534	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3495	Res, 330K, 5%, 1/10W, Glass. . . . .	3198	021	53340	4535	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3497	Res, 1 ohm, 5%, 1/2W, Metal Film . . . .	2306	207	03108	4537	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3498	Res, 4K7, 5%, 1/16W, Metalized Glass . .	3198	021	34720	4604	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3499	Res, 680K, 5%, 1/10W, Metalized Glass. .	3198	021	56840	4610	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3500	Res, 3M3, 5%, 1/2W, Metalized Glass. . . .	2322	242	13335	4612	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90020
3501	Res, 3M3, 5%, 1/2W, Metalized Glass. . . .	2322	242	13335	4620	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3502	Res, 220 ohm, 20%, 1/2W, Carbon Film . .	3198	013	02210	4631	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
S 3503	Surge Protector. . . . .	2422	549	43073	4635	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3504	Res, 1M5, 5%, 1/2W, Metalized Glass. . . .	2322	242	13155	4637	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3505	VDR, 1mA/423V. . . . .	2122	550	00147	4642	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3507	PTC, 3R, 144V, 20% . . . . .	2122	663	00019	4644	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90020
S 3510	NTC, B57237, 3W1, 4R7, 20% . . . . .	2122	612	00055	4645	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3511	Res, 4R7, 5%, 1/6W, Carbon Film. . . . .	3198	011	04780	4646	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3512	Res, 1K2, 5%, 1/16W, Metalized Glass . .	3198	021	31220	4648	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3513	Res, 2K2, 5%, 1/3W, Metal Film . . . . .	2306	204	03222	4649	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3514	Res, 100 ohm, 5%, 1/3W, Metal Film . . . .	2306	204	03101	4691	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3515	Res, 1K, 5%, 1/6W, Carbon Film . . . . .	3198	011	01020	4692	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3516	Res, 0R1, 5%, 3/5W, Metal Film . . . . .	3198	012	11070	4694	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3517	Res, 300k, 1%, Metalized Glass . . . . .	2322	704	63004	4696	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3518	Res, 3K3, 5%, 1/16W, Metalized Glass. . . .	3198	021	33320	4910	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3519	Res, 15K, 5%, 1/6W, Carbon Film. . . . .	3198	011	01530	4914	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90020
3520	Res, 0R18, 5%, 1W, Metal Film. . . . .	2120	106	00636	4915	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90020
3521	Res, 3K3, 5%, 1/6W, Carbon Film. . . . .	3198	011	03320	4916	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90020
3522	Res, 56K, 5%, 1/16W, Metalized Glass . .	3198	021	35630	4917	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90020
3524	Res, 47K, 5%, 1/16W, Metalized Glass . .	3198	021	34730	4921	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90020
3530	Res, 220 ohm, 5%, 1/16W, Metalized Glas	3198	021	32210	5001	Fixed Inductor, 100MHZ, 120R . . . . .	3198	018	90030
3531	Res, 100K, 5%, 1/6W, Carbon Film . . . .	3198	011	01040	5002	Coil, 390n . . . . .	3198	018	33970
3532	Res, 4R7, 5%, 1/3W, Metal Film . . . . .	2306	204	03478	5201	Fixed Inductor, 100MHZ, 50R. . . . .	3198	018	90010
3533	Res, 8K2, 5%, 1/16W, Metalized Glass . .	3198	021	38220	5202	Fixed Inductor, 100MHZ, 120R . . . . .	3198	018	90030
3534	Res, 100 ohm, 5%, 1/6W, Carbon Film. . . .	3198	011	01010	5203	Fixed Inductor, 100MHZ, 120R . . . . .	3198	018	90030
3537	Res, 2K2, 5%, 1/16W, Metalized Glass . .	3198	021	32220	5205	Fixed Inductor, 100MHZ, 120R . . . . .	3198	018	90030
3538	Res, 1R8, 5%, 1/8W, Metalized Glass. . . .	2322	730	61188	5206	Fixed Inductor, 100MHZ, 120R . . . . .	3198	018	90030
3541	Res, 47K, 5%, 1/16W, Metalized Glass . .	3198	021	34730	5207	Fixed Inductor, 100MHZ, 120R . . . . .	3198	018	90030
3563	Res, 220 ohm, 5%, 1/6W, Carbon Film. . .	3198	011	02210	5208	Fixed Inductor, 100MHZ, 50R. . . . .	3198	018	90010
3565	Res, 15K, 5%, 1/16W, Metalized Glass . .	3198	021	31530	5209	Fixed Inductor, 100MHZ, 120R . . . . .	3198	018	90030
3571	Res, 220 ohm, 5%, 1/6W, Carbon Film. . .	3198	011	02210	5210	Fixed Inductor, 100MHZ, 120R . . . . .	3198	018	90030

S = Safety Part Be sure to use exact replacement part.

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5211	Fixed Inductor, 100MHz, 120R . . . . .	3198	018	90030	7403	Transistor, NPN, BC847B. . . . .	3198	010	42030
5212	Fixed Inductor, 100MHz, 120R . . . . .	3198	018	90030	7404	F.E.T. Signal, BSH103. . . . .	9340	547	13215
5213	Fixed Inductor, 100MHz, 120R . . . . .	3198	018	90030	7405	Transistor, NPN, BU4508DX. . . . .	9340	550	92127
5214	Fixed Inductor, 100MHz, 120R . . . . .	3198	018	90030	7406	Transistor, KTC3228Y . . . . .	9322	197	37676
5215	Fixed Inductor, 100MHz, 120R . . . . .	3198	018	90030	7408	Transistor, NPN, BC847B. . . . .	3198	010	42030
5216	Fixed Inductor, 100MHz, 50R . . . . .	3198	018	90010	7410	Transistor, PNP, BC857B. . . . .	3198	010	42150
5401	Coil, 25uH . . . . .	2422	536	00506	7411	Transistor, PNP, BC857B. . . . .	3198	010	42150
5402	Transformer, Signal Driver . . . . .	2422	531	02617	7451	Transistor, KTD600KY . . . . .	9322	195	14687
5405	Coil, Choke, 35mH. . . . .	2422	536	00682	7452	Transistor, KTC3228Y . . . . .	9322	197	37676
5408	Coil, Choke. . . . .	3128	138	37021	7453	Transistor, KTB631KY . . . . .	9322	195	05687
5450	Transformer, LOT, JF0101-85020 . . . . .	2422	531	02602	7454	Transistor, NPN, BC847B. . . . .	3198	010	42030
5451	Wire Jumper, 0.58MM. . . . .	3198	036	90010	7455	Transistor, PNP, BC857B. . . . .	3198	010	42150
5501	Filter, Mains, 5mH, 2A . . . . .	2422	549	43432	7456	Transistor, PNP, BC857B. . . . .	3198	010	42150
5511	Fixed Inductor, 100MHz, 50R. . . . .	3198	018	90010	7481	Transistor, PNP, BC857B. . . . .	3198	010	42150
5512	Transformer, SMT, Layer. . . . .	2422	531	02626	7482	Transistor, PNP, PDTA114ET . . . . .	3198	010	44010
5531	Transformer, SMT, Layer. . . . .	2422	531	02631	7483	Transistor, PNP, BC857B. . . . .	3198	010	42150
5551	Fixed Inductor, 100MHz, 50R. . . . .	3198	018	90010	7484	Transistor, NPN, BC847B. . . . .	3198	010	42030
5552	Coil, 27u. . . . .	2422	535	95366	7511	IC, TEA1506T/N1. . . . .	9352	720	43118
5561	Fixed Inductor, 100MHz, 50R. . . . .	3198	018	90010	7512	Transistor, FET, FQFP9N50. . . . .	9322	187	16687
5562	Fixed Inductor, 100MHz, 50R. . . . .	3198	018	90010	7513	Optic Coupler, TCET1103(G). . . . .	9322	140	14667
5603	Fixed Inductor, 100MHz, 50R. . . . .	3198	018	90010	7514	Transistor, NPN, BC847B. . . . .	3198	010	42030
6001	Zener Diode, 33 volt . . . . .	3198	010	23390	7531	IC, TEA1620P/N1. . . . .	9352	739	52112
6005	Zener Diode, 8.2 volt. . . . .	9322	125	45685	7541	Transistor, PNP, BC857B. . . . .	3198	010	42150
6203	Diode, Signal, BAS316. . . . .	3198	010	10630	7561	Transistor, NPN, PDTCT143ZT . . . . .	9340	547	00215
6204	Diode, Rect, SS14. . . . .	3198	010	10710	7571	Transistor, NPN, BC547B. . . . .	3198	020	40030
6205	Zener Diode, 27 volt . . . . .	3198	020	52790	7573	Transistor, NPN, PDTCT114ET . . . . .	3198	010	44110
6207	Diode, Signal, BAS316. . . . .	3198	010	10630	7601	IC, M24C16-WBN6. . . . .	9322	147	25682
6209	Diode, Signal, BAT51, SOD323 . . . . .	3198	010	10660	7603	IC, L78L33ACZ. . . . .	9322	134	92676
6210	Zener Diode, 5.6 volt. . . . .	3198	020	55680	7604	Transistor, NPN, BC847B. . . . .	3198	010	42030
6211	Zener Diode, 5.6 volt. . . . .	3198	020	55680	7605	Transistor, PNP, BC327-25. . . . .	3198	020	43430
6401	Diode, Rect, BYV97G. . . . .	9335	214	80133	7606	Transistor, NPN, BC847B. . . . .	3198	010	42030
6403	Diode, Rect, BYV27-200. . . . .	9322	126	72673	7990	IC, TDA2616Q/N1. . . . .	9350	404	40112
6404	Diode, Rect, DMV1500M . . . . .	9322	169	61687	7991	Transistor, NPN, BC847B. . . . .	3198	010	42030
6406	Diode, Rect, RGP10G. . . . .	9334	939	60673	7992	Transistor, NPN, BC847B. . . . .	3198	010	42030
6407	Diode, BAV21WS . . . . .	9322	197	45703	8401	Cable, 5 Pin, 560mm. . . . .	3139	121	09041
6408	Diode, BAV21WS . . . . .	9322	197	45703	9002	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6410	Diode, Rect, BY448 . . . . .	9335	001	20133	9112	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6441	Zener Diode, 68 volt . . . . .	9322	150	20685	9113	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6442	Zener Diode, 68 volt . . . . .	9322	150	20685	9114	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6443	Zener Diode, 10 volt . . . . .	3198	020	51090	9116	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6450	Diode, Signal, BAS316. . . . .	3198	010	10630	9120	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6451	Zener Diode, 4.7 volt. . . . .	3198	020	54780	9121	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6452	Diode, Rect, BYV27-200. . . . .	9322	126	72673	9122	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6453	Diode, Rect, RGP10G. . . . .	9334	939	60673	9123	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6454	Diode, Rect, RGP10G. . . . .	9334	939	60673	9124	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6455	Diode, Rect, RGP10G. . . . .	9334	939	60673	9125	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6456	Diode, Rect, PBYS10100. . . . .	9340	205	70127	9126	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6457	Diode, Signal, BAS316. . . . .	3198	010	10630	9128	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6458	Diode, Signal, BAS316. . . . .	3198	010	10630	9129	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6459	Diode, Rect, RGP10G. . . . .	9334	939	60673	9138	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6480	Zener Diode, 6.8 volt. . . . .	3198	010	56880	9202	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6481	Diode, Signal, 1N4148. . . . .	3198	010	10010	9203	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6482	Zener Diode, 6.8 volt. . . . .	3198	020	56880	9204	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6483	Diode, BAV21WS . . . . .	9322	197	45703	9205	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6484	Diode, BAV21WS . . . . .	9322	197	45703	9206	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6486	Diode, Signal, BAV21 . . . . .	3198	010	10070	9207	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6488	Diode, Signal, BAS316. . . . .	3198	010	10630	9208	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6489	Zener Diode, 33 volt . . . . .	3198	020	53390	9209	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6500	Diode, Bridge Rect, GBU6JL-7002 . . . . .	9322	138	08667	9210	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6511	Diode, Rect, RGP10D . . . . .	9337	516	60673	9211	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6512	Diode, Signal, BAT51, SOD323 . . . . .	3198	010	10660	9212	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6514	Diode, Signal, BAS316. . . . .	3198	010	10630	9213	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6531	Zener Diode, 15 volt . . . . .	3198	020	51590	9214	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6532	Diode, BAV21WS . . . . .	9322	197	45703	9216	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6533	Zener Diode, 6.8 volt. . . . .	9322	171	80685	9217	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6534	Zener Diode, 3.9 volt. . . . .	9322	199	75685	9218	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6535	Diode, Rect, SB160 . . . . .	9322	198	24673	9219	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6536	Diode, Rect, SB180 . . . . .	9322	198	25673	9220	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6541	Zener Diode, 12 volt . . . . .	3198	020	51290	9221	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6551	Diode, Rect, BYV29X-500. . . . .	9340	555	59127	9222	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6562	Diode, Rect, SB360 . . . . .	3198	010	10700	9223	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6563	Diode, Rect, SB360 . . . . .	3198	010	10700	9224	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6564	Diode, Signal, BAS316. . . . .	3198	010	10630	9225	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6565	Zener Diode, 9.1 volt. . . . .	9322	125	46685	9226	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6566	Diode, Signal, BAS316. . . . .	3198	010	10630	9227	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6571	Diode, Signal, BAV70 . . . . .	9331	849	10215	9228	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6572	Zener Diode, 6.2 volt. . . . .	9340	548	54115	9229	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6573	Zener Diode, 9.1 volt. . . . .	9331	177	80133	9230	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6575	Diode, Rect, 1N5392 . . . . .	9322	005	16683	9231	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6602	Diode, Signal, BAV99 . . . . .	3198	010	10620	9232	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6694	Zener Diode, 5.1 volt. . . . .	3198	020	55180	9233	Wire Jumper, 0.58MM. . . . .	3198	036	90010
7200	IC, TDA12000H1/N1B501AB. . . . .	9352	753	88557	9234	Wire Jumper, 0.58MM. . . . .	3198	036	90010
7201	Transistor, NPN, IMX1 . . . . .	9322	054	28685	9236	Wire Jumper, 0.58MM. . . . .	3198	036	90010
7203	Transistor, PNP, BC327-25. . . . .	3198	020	43430	9237	Wire Jumper, 0.58MM. . . . .	3198	036	90010
7204	Transistor, PNP, BC327-25. . . . .	3198	020	43430	9238	Wire Jumper, 0.58MM. . . . .	3198	036	90010
7205	Transistor, NPN, BC847B. . . . .	3198	010	42030	9239	Wire Jumper, 0.58MM. . . . .	3198	036	90010
7207	Transistor, NPN, BC847B. . . . .	3198	010	42030	9240	Wire Jumper, 0.58MM. . . . .	3198	036	90010
7208	Transistor, NPN, BC847B. . . . .	3198	010	42030	9241	Wire Jumper, 0.58MM. . . . .	3198	036	90010
7209	F.E.T. Signal, BSH103. . . . .	9340	547	13215	9244	Wire Jumper, 0.58MM. . . . .	3198	036	90010
7210	F.E.T. Signal, BSH103. . . . .	9340	547	13215	9245	Wire Jumper, 0.58MM. . . . .	3198	036	90010
7401	Transistor, NPN, BUH2M20AP . . . . .	9322	101	38687	9246	Wire Jumper, 0.58MM. . . . .	3198	036	90010
7402	Transistor, NPN, BC847B. . . . .	3198	010	42030	9247	Wire Jumper, 0.58MM. . . . .	3198	036	90010

S = Safety Part Be sure to use exact replacement part.



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Cabinet Parts
Cabinet Parts
0002 Cabinet Front (part of Cabinet Front Assembly)
0008 Cabinet Back
0016 Power Button and Control Buttons Assembly
0020 Degaussing Coil Holder (4 Used)
0029 Plastic Facade (part of Cabinet Front Assembly)
0041 Light Guide
0050 Nameplate (part of Cabinet Front Assembly)
0125 Owner's Manual
0145 Quick Use Guide
0194 Chassis Guide (part of Cabinet Front Assembly)
0195 Chassis Guide (part of Cabinet Front Assembly)
0205 Side Jack Panel Bracket
0940 Cabinet Front Assembly
1081 Batteries for Remote Control
S 1099 CRT, A80QCF330X34(N)
S 5203 Degaussing Coil
5213 Speaker, 10W, 16 ohm (part of Cabinet Front Assembly)
5214 Speaker, 10W, 16 ohm (part of Cabinet Front Assembly)
S 8190 AC Cord
REMOTE Remote Control, RC19335004/01

CRT Panels
CBA CRT Panel
0035 U-Cooling Plate
0085 IC-Spring
0087 U-Cooling Plate
1254 Socket, CRT, 9 Pin, N-Neck
1331 Connector, 7 Pin
S 1351 Connector, 5 Pin
1361 Connector, 3 Pin
2330 Cap, 100n, 10%, 250v, Metalized Polyester
2331 Cap, 10n, 10%, 50v, Ceramic
2332 Cap, 10n, 10%, 630v, Ceramic
2333 Cap, 1n, 10%, 50v, Ceramic
2335 Cap, 47n, 10%, 250v, Ceramic
2351 Cap, 10u, 20%, 250v, Electrolytic
2361 Cap, 220n, 10%, 63v, Metalized Polyester
2362 Cap, 1n, 10%, 50v, Ceramic
2363 Cap, 22u, 20%, 100v, Electrolytic
2364 Cap, 4n7, 10%, 400v, Metalized Polyester
2365 Cap, 4n7, 10%, 50v, Ceramic
2367 Cap, 10u, 20%, 100v, Electrolytic
2368 Cap, 22u, 20%, 100v, Electrolytic
2376 Cap, 22n, 10%, 25v, Ceramic
2381 Cap, 100u, 20%, 25v, Electrolytic
2384 Cap, 220p, 5%, 50v, Ceramic
2385 Cap, 220p, 5%, 50v, Ceramic
2387 Cap, 22p, 5%, 50v, Ceramic
3328 Res, 100 ohm, 5%, 1/16W, Metalized Glass
3329 Res, 100 ohm, 5%, 1/16W, Metalized Glass
3330 Res, 100 ohm, 5%, 1/16W, Metalized Glass
3331 Res, 100 ohm, 5%, 1/6W, Carbon Film
3332 Res, 1K, 20%, 1/2W, Carbon Film
3333 Res, 100 ohm, 5%, 1/6W, Carbon Film
3334 Res, 1K, 20%, 1/2W, Carbon Film
3335 Res, 100 ohm, 5%, 1/6W, Carbon Film
3336 Res, 1K, 20%, 1/2W, Carbon Film
3351 Res, 100 ohm, 5%, 1/3W, Metal Film
3354 Res, 1K5, 20%, 1/2W, Carbon Film
3356 Res, 10 ohm, 1%, 3/5W, Metal Film
3357 VDR, 1mA/18V
3361 Res, 1K5, 5%, 1/16W, Metalized Glass
3362 Res, 10 ohm, 5%, 1/3W, Metal Film
3363 Res, 560 ohm, 5%, 1/16W, Metalized Glass
3364 Res, 1R5, 5%, 1/4W, Carbon Film
3365 Res, 100 ohm, 5%, 1/16W, Metalized Glass
3366 Res, 68K, 5%, 1/16W, Metalized Glass
3367 Res, 68K, 5%, 1/6W, Carbon Film
3368 Res, 560 ohm, 5%, 1/16W, Metalized Glass
3369 Res, 100 ohm, 5%, 1/16W, Metalized Glass
3370 Res, 1R5, 5%, 1/16W, Metalized Glass
3371 Res, 470 ohm, 5%, 1/6W, Carbon Film
3373 Res, 1K5, 5%, 5W, Metal Film
3375 Res, 180K, 5%, 1/8W, Metalized Glass
3376 Res, 68K, 5%, 1/16W, Metalized Glass
3387 Res, 1K8, 5%, 1/16W, Metalized Glass
3388 Res, 33 ohm, 5%, 1/16W, Metalized Glass
3389 Res, 33 ohm, 5%, 1/16W, Metalized Glass
4337 Res, Zero ohm, "Chip" Jumper
4374 Res, Zero ohm, "Chip" Jumper
5330 Fixed, Inductor, 100MHZ, 50R

5331 Fixed, Inductor, 100MHZ, 50R
5351 Coil, 22u
5352 Coil, 220n
5361 Fixed, Inductor, 100MHZ, 50R
6331 Diode, Signal, BAV21
6332 Diode, Signal, BAV21
6333 Diode, Signal, BAV21
6361 Diode, Signal, BAV99
6376 Diode, Signal, BAV99
6383 Diode, Rect, RGP10D
7330 IC, TDA6107AJF/N1B
7361 Transistor, NPN, BC847B
7362 Transistor, PNP, BC857B
7363 Transistor, KTB631KY
7364 Transistor, KTD600KY
7376 Transistor, PNP, BC857B
9352 Wire Jumper, 0.58MM
9373 Wire Jumper, 0.58MM
9390 Wire Jumper, 0.58MM

Front Interface Panel
Front Interface Panel

LTI/CTI Interface Panel
LTI/CTI Interface Panel
CBA LTI/CTI Interface Panel
1212 Connector, 12 Pin
2610 Cap, 100n, 10%, 16v, Ceramic
2611 Cap, 220u, 20%, 25v, Electrolytic
2630 Cap, 1u, +80/-20%, 10v, Ceramic
2631 Cap, 1u, +80/-20%, 10v, Ceramic
2634 Cap, 68p, 5%, 50v, Ceramic
2636 Cap, 470n, 10%, 50v, Polyester
2638 Cap, 82n, 16V, 10%, Ceramic
3630 Res, 10K, 5%, 1/16W, Metalized Glass
3631 Res, 10K, 5%, 1/16W, Metalized Glass
3632 Res, 270 ohm, 5%, 1/16W, Metalized Glass
3633 Res, 1K2, 5%, 1/16W, Metalized Glass
3634 Res, 1K, 5%, 1/16W, Metalized Glass
3635 Res, 560 ohm, 5%, 1/16W, Metalized Glass
3636 Res, 470 ohm, 5%, 1/16W, Metalized Glass
3637 Res, 2M2, 5%, 1/16W, Metalized Glass
3638 Res, 470K, 5%, 1/16W, Metalized Glass
4610 Res, Zero ohm, "Chip" Jumper
4611 Res, Zero ohm, "Chip" Jumper
4612 Res, Zero ohm, "Chip" Jumper
4613 Res, Zero ohm, "Chip" Jumper
4617 Res, Zero ohm, "Chip" Jumper
4625 Res, Zero ohm, "Chip" Jumper
4632 Res, Zero ohm, "Chip" Jumper
4633 Res, Zero ohm, "Chip" Jumper
4634 Res, Zero ohm, "Chip" Jumper
4635 Res, Zero ohm, "Chip" Jumper
4637 Res, Zero ohm, "Chip" Jumper
6610 Diode, Signal, BAS316
6633 Diode, Signal, BAS316
6635 Diode, Signal, BAS316
6636 Diode, Signal, BAS316
7630 Transistor, NPN, BC847B
7635 Transistor, PNP, BC857B
9613 Wire Jumper, 0.58MM
9614 Wire Jumper, 0.58MM
9615 Wire Jumper, 0.58MM
9616 Wire Jumper, 0.58MM
9617 Wire Jumper, 0.58MM
9618 Wire Jumper, 0.58MM

Linearity & Panorama Panel
Linearity & Panorama Panel

Side Jack Panel
CBA Side Jack Panel
1232 Headphone Jack
1250 A/V Jack
1252 Connector, 7 Pin
1254 Connector, 5 Pin
1278 Connector, 4 Pin
2171 Cap, 330p, 10%, 50v, Ceramic
2172 Cap, 330p, 10%, 50v, Ceramic
2173 Cap, 330p, 10%, 50v, Ceramic
2174 Cap, 330p, 10%, 50v, Ceramic
2175 Cap, 2u2, 20%, 50v, Electrolytic
2176 Cap, 100n, 10%, 16v, Ceramic
2178 Cap, 470p, 10%, 50v, Ceramic
2180 Cap, 2u2, 20%, 50v, Electrolytic
3150 Res, 47K, 5%, 1/6W, Carbon Film
3151 Res, 22K, 5%, 1/6W, Carbon Film
3152 Res, 47K, 5%, 1/6W, Carbon Film
3153 Res, 22K, 5%, 1/6W, Carbon Film
3154 Res, 75 ohm, 5%, 1/6W, Carbon Film
3156 Res, 820 ohm, 5%, 1/6W, Carbon Film

S = Safety Part Be sure to use exact replacement part.

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3157	Res, 820 ohm, 5%, 1/6W, Carbon Film.	3198	011	08210	2249	Cap, 100n, 10%, 16v, Ceramic	3198	017	31040
3160	Res, 100 ohm, 5%, 1/6W, Carbon Film.	3198	011	01010	2250	Cap, 100u, 20%, 25v, Electrolytic	3198	025	31010
9181	Wire Jumper, 0.58MM.	3198	036	90010	2251	Cap, 150n, 10%, 50v, Polyester	3198	014	01540
<b>Top Control Panel</b>									
Top Control Panel									
<b>Main Chassis</b>									
Main Chassis									
CBA	Main Chassis	3139	188	09041	2260	Cap, 100n, 10%, 16v, Ceramic	3198	017	31040
1000	Tuner, V+U PLL	2422	542	90141	2261	Cap, 100n, 10%, 16v, Ceramic	3198	017	31040
1002	S.A.W. Filter, 45MHz75, OFWM1971M.	2422	549	44518	2262	Cap, 10n, 10%, 50v, Ceramic	3198	017	31030
1005	Connector, 3 Pin	2412	020	00725	2263	Cap, 100n, 10%, 16v, Ceramic	3198	017	31040
1137	MDIN Socket.	2422	026	05428	2264	Cap, 560p, 5%, 25v, Ceramic	3198	016	35610
1204	Connector, 7 Pin	2422	025	04855	2265	Cap, 100u, 20%, 25v, Electrolytic	3198	025	31010
1205	Crystal Resonator, 24MHz576.	2422	543	00943	2266	Cap, 2u2, +80/-20%, 10v, Ceramic	3198	017	22250
1207	Connector, 7 Pin	2422	025	11244	2267	Cap, 2u2, +80/-20%, 10v, Ceramic	3198	017	22250
1212	Connector, 12 Pin.	2422	025	16052	2272	Cap, 100n, 10%, 16v, Ceramic	3198	017	31040
1223	12 Pin Cinch Socket.	2422	026	05463	2273	Cap, 100u, 20%, 25v, Electrolytic	3198	025	31010
1280	Connector, 5 Pin	2422	025	12481	2274	Cap, 100n, 10%, 16v, Ceramic	3198	017	31040
S 1401	Connector, 5 Pin	2422	025	04853	2275	Cap, 10u, 20%, 50v, Electrolytic	3198	025	51090
1404	Connector, 4 Pin	2422	025	15503	2276	Cap, 100n, +80/-20%, 25v, Ceramic	3198	023	21040
1451	Connector, 2 Pin	2422	025	10646	2279	Cap, 100p, 5%, 50v, Ceramic	3198	016	31010
1452	Fuse, 1.25 Amp, 250V	2422	086	10282	2280	Cap, 1u, +80/-20%, 10v, Ceramic	3198	017	41050
1454	Fuse, 1.25 Amp, 250V	2422	086	10282	2282	Cap, 1n, 10%, 50v, Ceramic	3198	017	31020
S 1500	Fuse, 4A, 250V, IEC.	2422	086	10914	2288	Cap, 1n, 10%, 50v, Ceramic	3198	017	31020
S 1503	Relay, 12V, 5A G5PA-1.	2422	132	07444	2289	Cap, 1n, 10%, 50v, Ceramic	3198	017	31020
1504	Connector, 2 Pin	2422	025	16375	2404	Cap, 47u, 20%, 160v, Electrolytic	2022	031	00103
1505	Connector, 2 Pin	2422	025	16269	2406	Cap, 680p, 10%, 500v, Ceramic	3198	019	46810
1600	Switch, Tactile.	2422	128	02742	2408	Cap, 100p, 5%, 50v, Ceramic	3198	016	31010
1601	Switch, Tactile.	2422	128	02742	2409	Cap, 100n, +80/-20%, 25v, Ceramic	3198	023	41040
1602	Switch, Tactile.	2422	128	02742	2410	Cap, 100n, +80/-20%, 25v, Ceramic	3198	023	21040
1603	Switch, Tactile.	2422	128	02742	2411	Cap, 2n2, 10%, 2000v, Ceramic	3198	019	72220
1606	Switch, Tactile.	2422	128	02742	2412	Cap, 15n, 5%, 1600v, Polypropylene	2222	375	90158
2001	Cap, 22p, 5%, 50v, Ceramic	3198	016	32290	2413	Cap, 33n, 10%, 400v, Polyester	2222	347	90227
2004	Cap, 47n, +80/-20%, 50v, Ceramic	3198	024	44730	2414	Cap, 1u, +80/-20%, 10v, Ceramic	3198	017	41050
2006	Cap, 470u, 20%, 16v, Electrolytic	3198	025	24710	2415	Cap, 2u2, 20%, 160v, Electrolytic	2022	031	00172
2007	Cap, 100n, 10%, 16v, Ceramic	3198	017	31040	2418	Cap, 470n, 5%, 250v, Polypropylene	2222	479	90023
2008	Cap, 100u, 20%, 25v, Electrolytic	3198	025	31010	2419	Cap, 2u2, 5%, 100v, Metalized Polyester	2222	468	90324
2103	Cap, 330p, 10%, 50v, Ceramic	3198	017	33310	2420	Cap, 1u, +80/-20%, 10v, Ceramic	3198	017	41050
2104	Cap, 330p, 10%, 50v, Ceramic	3198	017	33310	2425	Cap, 33n, 10%, 16v, Ceramic	3198	017	33330
2105	Cap, 10u, 20%, 50v, Electrolytic	3198	025	51090	2428	Cap, 33n, 10%, 16v, Ceramic	3198	017	33330
2106	Cap, 10u, 20%, 50v, Electrolytic	3198	025	51090	2451	Cap, 180n, 10%, 63v, Metalized Polyester	2222	365	75184
2122	Cap, 330p, 10%, 50v, Ceramic	3198	017	33310	2453	Cap, 1u, +80/-20%, 16v, Ceramic	3198	017	21050
2123	Cap, 2u2, 20%, 50v, Electrolytic	3198	025	52280	2454	Cap, 470u, 20%, 16v, Electrolytic	3198	025	24710
2124	Cap, 330p, 10%, 50v, Ceramic	3198	017	33310	2456	Cap, 47n, 10%, 250v, Ceramic	2020	557	90733
2125	Cap, 2u2, 20%, 50v, Electrolytic	3198	025	52280	2457	Cap, 4u7, 20%, 250v, Electrolytic	2020	012	93282
2131	Cap, 330p, 10%, 50v, Ceramic	3198	017	33310	2459	Cap, 470p, 10%, 500v, Ceramic	3198	019	44710
2132	Cap, 2u2, 20%, 50v, Electrolytic	3198	025	52280	2460	Cap, 470u, 20%, 16v, Electrolytic	3198	025	24710
2133	Cap, 330p, 10%, 50v, Ceramic	3198	017	33310	2461	Cap, 1n, 5%, 25v, Ceramic	3198	016	31020
2134	Cap, 2u2, 20%, 50v, Electrolytic	3198	025	52280	2462	Cap, 1n, 5%, 25v, Ceramic	3198	016	31020
2203	Cap, 100u, 20%, 10v, Electrolytic	3198	025	11010	2463	Cap, 100u, 20%, 50v, Electrolytic	3198	037	51010
2204	Cap, 22n, 10%, 25v, Ceramic	3198	017	32230	2464	Cap, 470p, 5%, 50v, Ceramic	3198	016	34710
2205	Cap, 220n, +80/-20%, 16v, Ceramic	3198	017	42240	2465	Cap, 10u, 20%, 100v, Electrolytic	3198	025	71090
2206	Cap, 220n, +80/-20%, 25v, Ceramic	3198	023	22240	2467	Cap, 10n, 10%, 400v, Metalized Polyester	2222	365	55103
2207	Cap, 220n, +80/-20%, 25v, Ceramic	3198	023	22240	2468	Cap, 220p, 5%, 50v, Ceramic	3198	016	32210
2208	Cap, 220n, +80/-20%, 25v, Ceramic	3198	023	22240	2469	Cap, 220n, +80/-20%, 16v, Ceramic	3198	017	42240
2209	Cap, 220n, +80/-20%, 16v, Ceramic	3198	017	42240	2470	Cap, 100n, 10%, 100v, Ceramic	2222	601	55649
2210	Cap, 220n, +80/-20%, 16v, Ceramic	3198	017	42240	2484	Cap, 10u, 20%, 50v, Electrolytic	2020	009	00001
2211	Cap, 220n, +80/-20%, 16v, Ceramic	3198	017	42240	2486	Cap, 27p, 5%, 500v, Ceramic	2252	508	08255
2212	Cap, 220n, +80/-20%, 16v, Ceramic	3198	017	42240	2487	Cap, 1n5, 10%, 50v, Ceramic	3198	017	01520
2213	Cap, 220n, +80/-20%, 16v, Ceramic	3198	017	42240	2489	Cap, 10n, 10%, 50v, Ceramic	3198	017	31030
2214	Cap, 100n, 10%, 16v, Ceramic	3198	017	31040	2500	Cap, 470n, 20%, 275V, Metalized Polypropylene	2222	338	22474
2215	Cap, 220n, +80/-20%, 16v, Ceramic	3198	017	42240	2503	Cap, 2n2, 10%, 1000v, Ceramic	3198	019	52220
2216	Cap, 220n, +80/-20%, 16v, Ceramic	3198	017	42240	2504	Cap, 2n2, 10%, 1000v, Ceramic	3198	019	52220
2217	Cap, 100u, 20%, 25v, Electrolytic	3198	025	31010	2505	Cap, 470u, 20%, 200v, Electrolytic	2022	020	00852
2218	Cap, 47u, 20%, 25v, Electrolytic	3198	025	34790	2511	Cap, 22u, 20%, 50v, Electrolytic	3198	025	52290
2222	Cap, 5n6, 10%, 50v, Ceramic	2238	586	15633	2512	Cap, 100n, 10%, 16v, Ceramic	3198	017	31040
2223	Cap, 100n, 10%, 16v, Ceramic	3198	017	31040	2513	Cap, 470p, 10%, 50v, Ceramic	3198	017	34710
2224	Cap, 100u, 20%, 25v, Electrolytic	3198	025	31010	2514	Cap, 1n5, 10%, 2000v, Ceramic	3198	019	71520
2225	Cap, 220n, +80/-20%, 16v, Ceramic	3198	017	42240	2515	Cap, 470p, 5%, 50v, Ceramic	3198	016	34710
2226	Cap, 220n, +80/-20%, 16v, Ceramic	3198	017	42240	2516	Cap, 100n, 10%, 16v, Ceramic	3198	017	31040
2229	Cap, 220n, +80/-20%, 16v, Ceramic	3198	017	42240	2517	Cap, 1n, 10%, 50v, Ceramic	3198	017	31020
2230	Cap, 10u, 20%, 50v, Electrolytic	3198	025	51090	2519	Cap, 100p, 5%, 100v, Ceramic	2020	557	90726
2231	Cap, 100n, 10%, 16v, Ceramic	3198	017	31040	2530	Cap, 330p, 5%, 100v, Ceramic	2020	557	00005
2232	Cap, 100n, 10%, 16v, Ceramic	3198	017	31040	2531	Cap, 470p, 5%, 50v, Ceramic	3198	016	34710
2233	Cap, 100n, 10%, 16v, Ceramic	3198	017	31040	2532	Cap, 10u, 10%, 16v, Ceramic	2020	552	96823
2234	Cap, 100u, 20%, 25v, Electrolytic	3198	025	31010	2533	Cap, 4n7, 10%, 50v, Ceramic	3198	017	34720
2235	Cap, 6n8, 10%, 50v, Ceramic	3198	017	36820	2534	Cap, 68p, 5%, 1kV, Ceramic	2020	558	90261
2236	Cap, 10n, 10%, 50v, Ceramic	3198	017	31030	2535	Cap, 1000u, 20%, 6.3v, Electrolytic	3198	025	01020
2237	Cap, 100n, 10%, 16v, Ceramic	3198	017	31040	2536	Cap, 2u2, 20%, 10v, Electrolytic	2020	012	93728
2238	Cap, 220n, +80/-20%, 16v, Ceramic	3198	017	42240	2538	Cap, 470p, 10%, 50v, Ceramic	3198	017	34710
2239	Cap, 220n, +80/-20%, 16v, Ceramic	3198	017	42240	2539	Cap, 470p, 10%, 500v, Ceramic	3198	019	44710
2240	Cap, 1u5, 20%, 50v, Electrolytic	2020	021	90137	2541	Cap, 47u, 20%, 25v, Electrolytic	3198	025	34790
2241	Cap, 22n, 10%, 25v, Ceramic	3198	017	32230	S 2542	Cap, 1n5, 20%, 250v, Ceramic	2020	554	90199
2242	Cap, 100n, 10%, 16v, Ceramic	3198	017	31040	2543	Cap, 2n2, 10%, 500v, Ceramic	3198	019	42220
2243	Cap, 100n, 10%, 16v, Ceramic	3198	017	31040	2549	Cap, 100p, 5%, 50v, Ceramic	3198	016	31010
2244	Cap, 2u2, +80/-20%, 10v, Ceramic	3198	017	22250	2550	Cap, 33p, 5%, 200v, Ceramic	2020	557	00002
2245	Cap, 1n, 5%, 25v, Ceramic	3198	016	31020	2551	Cap, 1n, 10%, 1000v, Ceramic	3198	019	61020
2246	Cap, 100n, 10%, 16v, Ceramic	3198	017	31040	2552	Cap, 100u, 20%, 160v, Electrolytic	2020	021	91654
2247	Cap, 100n, 10%, 16v, Ceramic	3198	017	31040	2553	Cap, 180p, 5%, 50v, Ceramic	3198	016	31810
2248	Cap, 1n, 5%, 25v, Ceramic	3198	016	31020					

### 32PT5441/37 (continued)

2561	Cap, 1n, 10%, 500v, Ceramic . . . . .	3198 019 41020	3238	Res, 4K7, 5%, 1/16W, Metalized Glass .	3198 021 34720
2562	Cap, 1000u, 20%, 25v, Electrolytic . .	3198 026 31020	3239	Res, 1K2, 5%, 1/6W, CF SEE KNOWN FAULTS	3198 011 01220
2563	Cap, 1000u, 20%, 25v, Electrolytic . .	3198 026 31020	3240	Res, 22K, 5%, 1/16W, Metalized Glass .	3198 021 32230
2564	Cap, 100n, 10%, 50v, Ceramic . . . . .	2238 580 15649	3241	Res, 39K, 1%, 3/5W, Metal Film . . . .	2312 915 13903
2565	Cap, 1n, 10%, 500v, Ceramic . . . . .	3198 019 41020	3242	Res, 47K, 5%, 1/16W, Metalized Glass .	3198 021 34730
2566	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198 017 31040	3243	Res, 33K, 5%, 1/16W, Metalized Glass .	3198 021 33330
2571	Cap, 15n, 10%, 50v, Ceramic . . . . .	3198 017 31530	3244	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010
2572	Cap, 10n, 10%, 50v, Ceramic . . . . .	3198 017 31030	3247	Res, 390 ohm, 5%, 1/16W, Metalized Glas	3198 021 33910
2573	Cap, 220n, 10%, 50v, Ceramic . . . . .	2020 552 96683	3248	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010
2601	Cap, 1n, 5%, 25v, Ceramic . . . . .	3198 016 31020	3249	Res, 100 ohm, 5%, 1/6W, Carbon Film . .	3198 011 01010
2611	Cap, 47u, 20%, 25v, Electrolytic . . .	3198 025 34790	3250	Res, 2K2, 5%, 1/16W, Metalized Glass .	3198 021 32220
2615	Cap, 4u7, +80/-20%, 10v, Ceramic . . .	2020 552 96305	3251	Res, 10K, 5%, 1/16W, Metalized Glass .	3198 021 31030
2617	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198 017 31040	3253	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010
2620	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198 017 31040	3257	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010
2621	Cap, 100u, 20%, 25v, Electrolytic . . .	3198 025 31010	3258	Res, 100 ohm, 5%, 1/6W, Carbon Film . .	3198 011 01010
2623	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198 017 31040	3260	Res, 100 ohm, 5%, 1/6W, Carbon Film . .	3198 011 01010
2624	Cap, 100u, 20%, 25v, Electrolytic . . .	3198 025 31010	3261	Res, 4K7, 5%, 1/16W, Metalized Glass .	3198 021 34720
2625	Cap, 2u2, 10%, 6v3, Ceramic . . . . .	2022 552 05615	3262	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010
2626	Cap, 33p, 5%, 50v, Ceramic . . . . .	3198 016 33390	3269	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010
2627	Cap, 33p, 5%, 50v, Ceramic . . . . .	3198 016 33390	3270	Res, 100 ohm, 5%, 1/6W, Carbon Film . .	3198 011 01010
2628	Cap, 33p, 5%, 50v, Ceramic . . . . .	3198 016 33390	3271	Res, 390 ohm, 5%, 1/16W, Metalized Glas	3198 021 33910
2629	Cap, 33p, 5%, 50v, Ceramic . . . . .	3198 016 33390	3272	Res, 820 ohm, 5%, 1/16W, Metalized Glas	3198 021 38210
2630	Cap, 1n, 10%, 50v, Ceramic . . . . .	3198 017 31020	3273	Res, 1K, 5%, 1/16W, Metalized Glass . .	3198 021 31020
2691	Cap, 220u, 20%, 10v, Electrolytic . . .	3198 025 12210	3274	Res, 100 ohm, 5%, 1/6W, Carbon Film . .	3198 011 01010
2986	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198 017 31040	3275	Res, 100 ohm, 5%, 1/6W, Carbon Film . .	3198 011 01010
2987	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198 017 31040	3276	Res, 100 ohm, 5%, 1/6W, Carbon Film . .	3198 011 01010
2988	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198 017 31040	3277	Res, 100 ohm, 5%, 1/6W, Carbon Film . .	3198 011 01010
2989	Cap, 1u, +80/-20%, 10v, Ceramic . . . .	3198 017 41050	3278	Res, 100 ohm, 5%, 1/6W, Carbon Film . .	3198 011 01010
2990	Cap, 1n, 5%, 25v, Ceramic . . . . .	3198 016 31020	3283	Res, 4K7, 5%, 1/16W, Metalized Glass .	3198 021 34720
2992	Cap, 1u, +80/-20%, 10v, Ceramic . . . .	3198 017 41050	3284	Res, 4K7, 5%, 1/16W, Metalized Glass .	3198 021 34720
2993	Cap, 1n, 5%, 25v, Ceramic . . . . .	3198 016 31020	3285	Res, 1K, 5%, 1/16W, Metalized Glass . .	3198 021 31020
2994	Cap, 22n, 10%, 25v, Ceramic . . . . .	3198 017 32230	3287	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010
2995	Cap, 22n, 10%, 25v, Ceramic . . . . .	3198 017 32230	3289	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010
2996	Cap, 47n, +80/-20%, 50v, Ceramic . . .	3198 024 44730	3290	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010
2997	Cap, 47n, +80/-20%, 50v, Ceramic . . .	3198 024 44730	3291	Res, 1K, 5%, 1/6W, Carbon Film . . . .	3198 011 01020
3003	Res, 10K, 5%, 1/16W, Metalized Glass .	3198 021 31030	3292	Res, 47K, 5%, 1/16W, Metalized Glass .	3198 021 34730
3004	Res, 68K, 5%, 1/16W, Metalized Glass .	3198 021 36830	3293	Res, 39K, 5%, 1/16W, Metalized Glass .	3198 021 33930
3005	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010	3295	Res, 8K2, 5%, 1/16W, Metalized Glass .	3198 021 38220
3101	Res, 68 ohm, 5%, 1/6W, Carbon Film . .	3198 011 06890	3296	Res, 5K6, 5%, 1/16W, Metalized Glass .	3198 021 35620
3103	Res, 150 ohm, 5%, 1/6W, Carbon Film . .	3198 011 01510	3401	Res, 47K, 1%, 3/5W, Metal Film . . . .	2312 915 14703
3104	Res, 220K, 5%, 1/16W, Metalized Glass .	3198 021 32240	3404	Res, 1 ohm, 5%, 1/8W, Metalized Glass .	2322 750 61008
3105	Res, 150 ohm, 5%, 1/6W, Carbon Film . .	3198 011 01510	3412	Res, 1K, 5%, 1/6W, Carbon Film . . . .	3198 011 01020
3106	Res, 220K, 5%, 1/16W, Metalized Glass .	3198 021 32240	3414	Res, 4R7, 5%, 2W, MF SEE KNOWN FAULTS	2322 194 63478
3121	Res, 75 ohm, 5%, 1/16W, Metalized Glass	3198 021 37590	3415	Res, 100 ohm, 5%, 1/6W, Carbon Film . .	3198 011 01010
3123	Res, 22K, 5%, 1/6W, Carbon Film . . . .	3198 011 02230	3416	Res, 47 ohm, 5%, 1/16W, Metalized Glass	3198 021 34790
3124	Res, 47K, 5%, 1/16W, Metalized Glass .	3198 021 34730	3417	Res, 15K, 5%, 1 1/3W, Metal Film . . . .	3198 012 21530
3125	Res, 22K, 5%, 1/6W, Carbon Film . . . .	3198 011 02230	3418	Res, 100 ohm, 5%, 1/6W, Carbon Film . .	3198 011 01010
3126	Res, 47K, 5%, 1/16W, Metalized Glass .	3198 021 34730	3420	Res, 10K, 5%, 1/10W, Metalized Glass . .	3198 021 51030
3129	Res, 75 ohm, 5%, 1/16W, Metalized Glass	3198 021 37590	3425	Res, 100K, 1%, 3/5W, Metal Film . . . .	2312 915 11004
3130	Res, 75 ohm, 5%, 1/16W, Metalized Glass	3198 021 37590	3427	Res, 2K2, 5%, 1/10W, Metalized Glass . .	3198 021 52220
3131	Res, 22K, 5%, 1/6W, Carbon Film . . . .	3198 011 02230	3428	Res, 3K3, 5%, 1/10W, Metalized Glass . .	3198 021 53320
3132	Res, 47K, 5%, 1/16W, Metalized Glass .	3198 021 34730	3430	Res, 120k, 5%, Metalized Glass . . . . .	2322 241 53124
3133	Res, 22K, 5%, 1/6W, Carbon Film . . . .	3198 011 02230	3431	Res, 82K, 1%, 3/5W, Metal Film . . . .	2312 915 18203
3134	Res, 47K, 5%, 1/16W, Metalized Glass .	3198 021 34730	3440	Res, 560 ohm, 5%, 1/6W, Carbon Film . .	3198 011 05610
3135	Res, 75 ohm, 5%, 1/16W, Metalized Glass	3198 021 37590	3441	Res, 120k, 5%, Metalized Glass . . . . .	2322 241 53124
3167	Res, 75 ohm, 5%, 1/6W, Carbon Film . . .	3198 011 07590	3442	Wire Jumper, 0.58MM . . . . .	3198 036 90010
3168	Res, 75 ohm, 5%, 1/16W, Metalized Glass	3198 021 37590	3443	Wire Jumper, 0.58MM . . . . .	3198 036 90010
3169	Res, 75 ohm, 5%, 1/16W, Metalized Glass	3198 021 37590	3445	Res, 47 ohm, 5%, 1/10W, Metalized Glass	3198 021 54790
3201	Res, 1K, 5%, 1/6W, Carbon Film . . . . .	3198 011 01020	3446	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010
3202	Res, 3K3, 5%, 1/16W, Metalized Glass . .	3198 021 33320	3451	Res, 75K, 1%, 3/5W, Metal Film . . . . .	2312 915 17503
3203	Res, 150K, 5%, 1/16W, Metalized Glass .	3198 021 31540	3452	Res, 15K, 5%, 1/16W, Metalized Glass . .	3198 021 31530
3204	Res, 3K3, 5%, 1/16W, Metalized Glass . .	3198 021 33320	3453	Res, 22K, 5%, 1/16W, Metalized Glass . .	3198 021 32230
3205	Res, 12K, 5%, 1/16W, Metalized Glass . .	3198 021 31230	3454	Res, 47K, 5%, 1/6W, Carbon Film . . . .	3198 011 04730
3206	Res, 5K6, 5%, 1/16W, Metalized Glass . .	3198 021 35620	3455	Res, 1 ohm, 5%, 1/2W, Metal Film . . . .	2306 207 03108
3207	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010	3457	Res, 1 ohm, 5%, 1/2W, Metal Film . . . .	2306 207 03108
3208	Res, 27K, 5%, 1/16W, Metalized Glass . .	3198 021 32730	3458	Res, 4R7, 5%, 1/2W, Metal Film . . . . .	2306 207 03478
3209	Res, 1 ohm, 5%, 1/16W, Metalized Glass	3198 021 31080	3460	Res, 2K2, 5%, 1/6W, Carbon Film . . . .	3198 011 02220
3210	Res, 1 ohm, 5%, 1/16W, Metalized Glass	3198 021 31080	3461	Res, 2K2, 5%, 1/6W, Carbon Film . . . .	3198 011 02220
3211	Res, 27K, 5%, 1/16W, Metalized Glass . .	3198 021 32730	3462	Res, 2K2, 5%, 1/16W, Metalized Glass . .	3198 021 32220
3212	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010	3463	Res, 1K, 5%, 1/16W, Metalized Glass . . .	3198 021 31020
3214	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010	3464	Res, 220 ohm, 5%, 1/16W, Metalized Glas	3198 021 32210
3215	Res, 4K7, 5%, 1/6W, Carbon Film . . . . .	3198 011 04720	3466	Res, 1 ohm, 5%, 1/2W, Metal Film . . . .	2306 207 03108
3216	Res, 10 ohm, 5%, 1/16W, Metalized Glass	3198 021 31090	3467	Res, 220 ohm, 5%, 1/6W, Carbon Film . .	3198 011 02210
3218	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010	3468	Res, 150 ohm, 5%, 1/6W, Carbon Film . .	3198 011 01510
3219	Res, 10K, 5%, 1/16W, Metalized Glass . .	3198 021 31030	3469	Res, 1K, 5%, 1/16W, Metalized Glass . . .	3198 021 31020
3220	Res, 150 ohm, 5%, 1/16W, Metalized Glas	3198 021 15130	3470	Res, 22 ohm, 5%, 1/6W, Carbon Film . .	3198 011 02290
3221	Res, 270 ohm, 5%, 1/16W, Metalized Glas	3198 021 32710	3471	Res, 2R4, 1%, 3/5W, Metal Film . . . . .	2312 915 12408
3222	Res, 680 ohm, 5%, 1/16W, Metalized Glas	3198 021 36810	3472	Res, 2R7, 1%, 3/5W, Metal Film . . . . .	2312 915 12708
3224	Res, 680K, 5%, 1/6W, Carbon Film . . . .	3198 011 06840	3473	Res, 820K, 5%, 1/16W, Metalized Glass .	2322 702 60824
3225	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010	3474	Res, 15K, 5%, 1/16W, Metalized Glass . .	3198 021 31530
3226	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010	3475	Res, 8K2, 5%, 1/16W, Metalized Glass . .	3198 021 38220
3227	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010	3478	Res, 6K8, 5%, 1/16W, Metalized Glass . .	3198 021 36820
3228	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010	3481	Res, 2R7, 5%, 1/8W, Metalized Glass . . .	2322 750 62708
3229	Res, 1K5, 5%, 1/16W, Metalized Glass . .	3198 021 31520	3482	Res, 22K, 1%, 3/5W, Metal Film . . . . .	2312 915 12203
3230	Res, 100 ohm, 5%, 1/6W, Carbon Film . .	3198 011 01010	3483	Res, 56K, 1%, 3/5W, Metal Film . . . . .	2312 915 15603
3231	Res, 100 ohm, 5%, 1/6W, Carbon Film . .	3198 011 01010	S 3484	Res, 1 ohm, 5%, 1/3W, Metal Film . . . .	2306 204 03108
3232	Res, 12K, 5%, 1/16W, Metalized Glass . .	3198 021 31230	S 3485	Res, 1 ohm, 5%, 1/3W, Metal Film . . . .	2306 204 03108
3233	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010	3486	Res, 6K8, 5%, 1/16W, Metalized Glass . .	3198 021 36820
3234	Res, 100 ohm, 5%, 1/6W, Carbon Film . .	3198 011 01010	3489	Res, 47 ohm, 5%, 1/10W, Metalized Glass	3198 021 54790
3235	Res, 1K, 5%, 1/16W, Metalized Glass . . .	3198 021 31020	3490	Res, 22K, 5%, 1/16W, Metalized Glass . .	3198 021 32230
3236	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010	3491	Res, 82K, 5%, 1/16W, Metalized Glass . .	3198 021 38230
3237	Res, 1K, 5%, 1/16W, Metalized Glass . . .	3198 021 31020	3492	Res, Zero ohm, "Chip" Jumper . . . . .	3198 021 90030

S = Safety Part      Be sure to use exact replacement part.

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3493	Res, 2K2, 5%, 1/16W, Metalized Glass .	3198	021	32220	4221	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3494	Res, 150K, 5%, 1/16W, Metalized Glass.	3198	021	31540	4222	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3495	Res, 330K, 5%, 1/10W, Glass. . . . .	3198	021	53340	4223	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90020
3497	Res, 1 ohm, 5%, 1/2W, Metal Film . . . . .	2306	207	03108	4226	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3498	Res, 4K7, 5%, 1/16W, Metalized Glass .	3198	021	34720	4227	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3499	Res, 330K, 5%, 1/10W, Glass. . . . .	3198	021	53340	4240	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3500	Res, 3M3, 5%, 1/2W, Metalized Glass. .	2322	242	13335	4241	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3501	Res, 3M3, 5%, 1/2W, Metalized Glass. .	2322	242	13335	4470	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3502	Res, 220 ohm, 20%, 1/2W, Carbon Film .	3198	013	02210	4533	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90020
S 3503	Surge Protector. . . . .	2422	549	43073	4534	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3504	Res, 1M5, 5%, 1/2W, Metalized Glass. .	2322	242	13155	4535	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3505	VDR, 1mA/423V. . . . .	2122	550	00147	4537	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3507	PTC, 3R, 144v, 20% . . . . .	2122	663	00019	4604	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
S 3510	NTC, B57237, 3W1, 4R7, 20% . . . . .	2122	612	00055	4610	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3511	Res, 4R7, 5%, 1/6W, Carbon Film. . . . .	3198	011	04780	4612	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90020
3512	Res, 1K2, 5%, 1/16W, Metalized Glass .	3198	021	31220	4620	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3513	Res, 2K2, 5%, 1/3W, Metal Film . . . . .	2306	204	03222	4631	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3514	Res, 100 ohm, 5%, 1/3W, Metal Film . . .	2306	204	03101	4635	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3515	Res, 1K, 5%, 1/6W, Carbon Film . . . . .	3198	011	01020	4637	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3516	Res, OR1, 5%, 3/5W, Metal Film . . . . .	3198	012	11070	4642	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3517	Res, 300k, 1%, Metalized Glass . . . . .	2322	704	63004	4644	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90020
3518	Res, 3K3, 5%, 1/16W, Metalized Glass .	3198	021	33320	4645	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3519	Res, 15K, 5%, 1/6W, Carbon Film. . . . .	3198	011	01530	4646	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3520	Res, OR18, 5%, 1W, Metal Film. . . . .	2120	106	90636	4648	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3521	Res, 3K3, 5%, 1/6W, Carbon Film. . . . .	3198	011	03320	4649	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3522	Res, 56K, 5%, 1/16W, Metalized Glass .	3198	021	35630	4691	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3524	Res, 47K, 5%, 1/16W, Metalized Glass .	3198	021	34730	4692	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3530	Res, 220 ohm, 5%, 1/16W, Metalized Glas	3198	021	32210	4694	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3531	Res, 100K, 5%, 1/6W, Carbon Film . . . .	3198	011	01040	4696	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3532	Res, 4R7, 5%, 1/3W, Metal Film . . . . .	2306	204	03478	4910	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3533	Res, 8K2, 5%, 1/16W, Metalized Glass .	3198	021	38220	4914	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90020
3534	Res, 100 ohm, 5%, 1/6W, Carbon Film. . .	3198	011	01010	4915	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90020
3537	Res, 2K2, 5%, 1/16W, Metalized Glass .	3198	021	32220	4916	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90020
3538	Res, 1R8, 5%, 1/8W, Metalized Glass. .	2322	730	61188	4917	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90020
3541	Res, 47K, 5%, 1/16W, Metalized Glass .	3198	021	34730	4921	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90020
3543	Res, 220 ohm, 5%, 1/6W, Carbon Film. . .	3198	011	02210	5001	Fixed Inductor, 100MHZ, 120R . . . . .	3198	018	90030
3565	Res, 15K, 5%, 1/16W, Metalized Glass .	3198	021	31530	5002	Coil, 390u . . . . .	3198	018	33970
3571	Res, 220 ohm, 5%, 1/6W, Carbon Film. . .	3198	011	02210	5201	Fixed, Inductor, 100MHZ, 50R. . . . .	3198	018	90010
3572	Res, 220 ohm, 5%, 1/16W, Metalized Glas	3198	021	32210	5202	Fixed Inductor, 100MHZ, 120R . . . . .	3198	018	90030
3573	Res, 15K, 5%, 1/16W, Metalized Glass .	3198	021	31530	5203	Fixed Inductor, 100MHZ, 120R . . . . .	3198	018	90030
3574	Res, 33K, 5%, 1/6W, Carbon Film. . . . .	3198	011	03330	5205	Fixed Inductor, 100MHZ, 120R . . . . .	3198	018	90030
3575	Res, 82K, 1%, 3/5W, Metal Film . . . . .	2312	915	18203	5206	Fixed Inductor, 100MHZ, 120R . . . . .	3198	018	90030
3576	Res, 4K7, 1%, 1/16W, Metalized Glass .	2322	704	64702	5207	Fixed Inductor, 100MHZ, 120R . . . . .	3198	018	90030
3577	Res, 1K5, 5%, 1/6W, Carbon Film. . . . .	3198	011	01520	5208	Fixed, Inductor, 100MHZ, 50R. . . . .	3198	018	90010
3578	Res, 470 ohm, 5%, 1/16W, Metalized Glas	3198	021	34710	5209	Fixed Inductor, 100MHZ, 120R . . . . .	3198	018	90030
3579	Res, 2K2, 5%, 1/16W, Metalized Glass .	3198	021	32220	5210	Fixed Inductor, 100MHZ, 120R . . . . .	3198	018	90030
3601	Res, 4K7, 5%, 1/16W, Metalized Glass .	3198	021	34720	5211	Fixed Inductor, 100MHZ, 120R . . . . .	3198	018	90030
3604	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198	021	31010	5212	Fixed Inductor, 100MHZ, 120R . . . . .	3198	018	90030
3605	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198	021	31010	5213	Fixed Inductor, 100MHZ, 120R . . . . .	3198	018	90030
3606	Res, 56K, 5%, 1/6W, Carbon Film. . . . .	3198	011	05630	5214	Fixed Inductor, 100MHZ, 120R . . . . .	3198	018	90030
3607	Res, 10K, 5%, 1/16W, Metalized Glass .	3198	021	31030	5215	Fixed Inductor, 100MHZ, 120R . . . . .	3198	018	90030
3608	Res, 27K, 5%, 1/16W, Metalized Glass .	3198	021	32730	5216	Fixed, Inductor, 100MHZ, 50R. . . . .	3198	018	90010
3609	Res, 330 ohm, 5%, 1/16W, Metalized Glas	3198	021	33310	5401	Coil, 33uH . . . . .	2422	536	00511
3614	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030	5402	Transformer, Signal Driver . . . . .	2422	531	02617
3616	Res, 100 ohm, 5%, 1/6W, Carbon Film. . .	3198	011	01010	5405	Coil, Choke, 35mH. . . . .	2422	536	00682
3617	Res, 100 ohm, 5%, 1/6W, Carbon Film. . .	3198	011	01010	5408	Coil, Choke. . . . .	3128	138	37021
3618	Res, 100 ohm, 5%, 1/6W, Carbon Film. . .	3198	011	01010	5450	Transformer, LOT, JF0501-21140 . . . . .	2422	531	02628
3634	Res, 1K, 5%, 1/16W, Metalized Glass. . . .	3198	021	31020	5451	Coil, 27u. . . . .	2422	535	97334
3635	Res, 47K, 5%, 1/16W, Metalized Glass .	3198	021	34730	5501	Filter, Mains, 5mH, 2A . . . . .	2422	549	43432
3637	Res, 47 ohm, 5%, 1/16W, Metalized Glass	3198	021	34790	5511	Fixed, Inductor, 100MHZ, 50R. . . . .	3198	018	90010
3681	Res, 820 ohm, 1%, 1/16W, Metalized Glas	2322	704	68201	5512	Transformer, SMT, Layer. . . . .	2422	531	02627
3684	Res, 1K2, 1%, 1/16W, Metalized Glass .	2322	704	61202	5531	Transformer, SMT, Layer. . . . .	2422	531	02631
3685	Res, 150 ohm, 5%, 1/16W, Metalized Glas	3198	021	31510	5551	Fixed, Inductor, 100MHZ, 50R. . . . .	3198	018	90010
3686	Res, 390 ohm, 5%, 1/16W, Metalized Glas	3198	021	33910	5552	Coil, 27u. . . . .	2422	535	95366
3687	Res, 1K8, 1%, 1/16W, Metalized Glass .	2322	704	61802	5561	Fixed, Inductor, 100MHZ, 50R. . . . .	3198	018	90010
3690	Res, 220 ohm, 5%, 1/16W, Metalized Glas	3198	021	32210	5562	Fixed, Inductor, 100MHZ, 50R. . . . .	3198	018	90010
3691	Res, 1K2, 5%, 1/16W, Metalized Glass .	3198	021	31220	5603	Fixed, Inductor, 100MHZ, 50R. . . . .	3198	018	90010
3693	Res, 220 ohm, 5%, 1/16W, Metalized Glas	3198	021	32210	6001	Zener Diode, 33 volt . . . . .	3198	010	23390
3694	Res, 4K7, 5%, 1/16W, Metalized Glass .	3198	021	34720	6005	Zener Diode, 8.2 volt. . . . .	9322	125	45685
3975	Res, 150 ohm, 5%, 1 1/3W, Metal Film . . .	3198	012	21510	6203	Diode, Signal, BAS316. . . . .	3198	010	10630
3985	Res, 39K, 5%, 1/16W, Metalized Glass .	3198	021	33930	6204	Diode, Rect, SS14. . . . .	3198	010	10710
3988	Res, 10K, 5%, 1/16W, Metalized Glass .	3198	021	31030	6205	Zener Diode, 27 volt . . . . .	3198	020	52790
3989	Res, 10 ohm, 5%, 1/16W, Metalized Glass	3198	021	31090	6207	Diode, Signal, BAS316. . . . .	3198	010	10630
3991	Res, 39K, 5%, 1/16W, Metalized Glass .	3198	021	33930	6209	Diode, Signal, BAT51, SOD323 . . . . .	3198	010	10660
3992	Res, 10K, 5%, 1/16W, Metalized Glass .	3198	021	31030	6210	Zener Diode, 5.6 volt. . . . .	3198	020	55680
3993	Res, 10 ohm, 5%, 1/16W, Metalized Glass	3198	021	31090	6211	Zener Diode, 5.6 volt. . . . .	3198	020	55680
3994	Res, 68K, 5%, 1/16W, Metalized Glass .	3198	021	36830	6403	Diode, Rect, BYV27-200. . . . .	9322	126	72673
3995	Res, 4K7, 5%, 1/16W, Metalized Glass .	3198	021	34720	6404	Diode, Rect, DMV1500M . . . . .	9322	169	61687
4000	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030	6406	Diode, Rect, RGP10G. . . . .	9334	939	60673
4001	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030	6407	Diode, BAV21WS . . . . .	9322	197	45703
4002	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030	6408	Diode, BAV21WS . . . . .	9322	197	45703
4003	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030	6410	Diode, Rect, BY448 . . . . .	9335	001	20133
4006	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030	6441	Zener Diode, 68 volt . . . . .	9322	150	20685
4013	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030	6442	Zener Diode, 68 volt . . . . .	9322	150	20685
4015	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030	6443	Zener Diode, 10 volt . . . . .	3198	020	51090
4106	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030	6450	Diode, Signal, BAS316. . . . .	3198	010	10630
4107	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030	6451	Zener Diode, 4.7 volt. . . . .	3198	020	54780
4108	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030	6452	Diode, Rect, BYV27-200. . . . .	9322	126	72673
4116	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030	6453	Diode, Rect, RGP10G. . . . .	9334	939	60673
4136	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030	6454	Diode, Rect, RGP10G. . . . .	9334	939	60673
4209	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030	6455	Diode, Rect, RGP10G. . . . .	9334	939	60673
4212	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030	6456	Diode, Rect, PBVR10100. . . . .	9340	205	70127



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6457	Diode, Signal, BAS316.	3198 010 10630	9138	Wire Jumper, 0.58MM.	3198 036 90010
6458	Diode, Signal, BAS316.	3198 010 10630	9202	Wire Jumper, 0.58MM.	3198 036 90010
6459	Diode, Rect, RGP10G.	9334 939 60673	9203	Wire Jumper, 0.58MM.	3198 036 90010
6480	Zener Diode, 6.8 volt.	3198 010 56880	9204	Wire Jumper, 0.58MM.	3198 036 90010
6481	Diode, Signal, 1N4148.	3198 010 10010	9205	Wire Jumper, 0.58MM.	3198 036 90010
6482	Zener Diode, 6.8 volt.	3198 020 56880	9206	Wire Jumper, 0.58MM.	3198 036 90010
6483	Diode, BAV21WS	9322 197 45703	9207	Wire Jumper, 0.58MM.	3198 036 90010
6484	Diode, BAV21WS	9322 197 45703	9208	Wire Jumper, 0.58MM.	3198 036 90010
6486	Diode, Signal, BAV21	3198 010 10070	9209	Wire Jumper, 0.58MM.	3198 036 90010
6488	Diode, Signal, BAS316.	3198 010 10630	9210	Wire Jumper, 0.58MM.	3198 036 90010
6489	Zener Diode, 33 volt	3198 020 53390	9211	Wire Jumper, 0.58MM.	3198 036 90010
6500	Diode, Bridge Rect, GBU6JL-7002	9322 138 08667	9212	Wire Jumper, 0.58MM.	3198 036 90010
6511	Diode, Rect, RGP10D	9337 516 60673	9213	Wire Jumper, 0.58MM.	3198 036 90010
6512	Diode, Signal, BAT51, SOD323	3198 010 10660	9214	Wire Jumper, 0.58MM.	3198 036 90010
6514	Diode, Signal, BAS316.	3198 010 10630	9216	Wire Jumper, 0.58MM.	3198 036 90010
6531	Zener Diode, 15 volt	3198 020 51590	9217	Wire Jumper, 0.58MM.	3198 036 90010
6532	Diode, BAV21WS	9322 197 45703	9218	Wire Jumper, 0.58MM.	3198 036 90010
6533	Zener Diode, 6.8 volt.	9322 171 80685	9219	Wire Jumper, 0.58MM.	3198 036 90010
6534	Zener Diode, 3.9 volt.	9322 199 75685	9220	Wire Jumper, 0.58MM.	3198 036 90010
6535	Diode, Rect, SB160	9322 198 24673	9221	Wire Jumper, 0.58MM.	3198 036 90010
6536	Diode, Rect, SB180	9322 198 25673	9222	Wire Jumper, 0.58MM.	3198 036 90010
6541	Zener Diode, 12 volt	3198 020 51290	9223	Wire Jumper, 0.58MM.	3198 036 90010
6551	Diode, Rect, BYV29X-500.	9340 555 59127	9224	Wire Jumper, 0.58MM.	3198 036 90010
6562	Diode, Rect, SB360	3198 010 10700	9225	Wire Jumper, 0.58MM.	3198 036 90010
6563	Diode, Rect, SB360	3198 010 10700	9226	Wire Jumper, 0.58MM.	3198 036 90010
6564	Diode, Signal, BAS316.	3198 010 10630	9227	Wire Jumper, 0.58MM.	3198 036 90010
6565	Zener Diode, 9.1 volt.	9322 125 46685	9228	Wire Jumper, 0.58MM.	3198 036 90010
6566	Diode, Signal, BAS316.	3198 010 10630	9229	Wire Jumper, 0.58MM.	3198 036 90010
6571	Diode, Signal, BAV70	9331 849 10215	9230	Wire Jumper, 0.58MM.	3198 036 90010
6572	Zener Diode, 6.2 volt.	9340 548 54115	9231	Wire Jumper, 0.58MM.	3198 036 90010
6573	Zener Diode, 9.1 volt.	9331 177 80133	9232	Wire Jumper, 0.58MM.	3198 036 90010
6575	Diode, Rect, 1N5392	9322 005 16683	9233	Wire Jumper, 0.58MM.	3198 036 90010
6602	Diode, Signal, BAV99	3198 010 10620	9234	Wire Jumper, 0.58MM.	3198 036 90010
6691	LED.	9322 185 69682	9235	Wire Jumper, 0.58MM.	3198 036 90010
6692	IR Receiver, TSOP1836UH3V.	9322 127 54667	9236	Wire Jumper, 0.58MM.	3198 036 90010
6694	Zener Diode, 5.1 volt.	3198 020 55180	9237	Wire Jumper, 0.58MM.	3198 036 90010
7200	IC, TDA12000H1/N1B501AB.	9352 753 88557	9238	Wire Jumper, 0.58MM.	3198 036 90010
7201	Transistor, NPN, IMX1	9322 054 28685	9239	Wire Jumper, 0.58MM.	3198 036 90010
7203	Transistor, PNP, BC327-25.	3198 020 43430	9240	Wire Jumper, 0.58MM.	3198 036 90010
7204	Transistor, PNP, BC327-25.	3198 020 43430	9241	Wire Jumper, 0.58MM.	3198 036 90010
7207	Transistor, NPN, BC847B.	3198 010 42030	9244	Wire Jumper, 0.58MM.	3198 036 90010
7208	Transistor, NPN, BC847B.	3198 010 42030	9245	Wire Jumper, 0.58MM.	3198 036 90010
7209	F.E.T. Signal, BSH103.	9340 547 13215	9246	Wire Jumper, 0.58MM.	3198 036 90010
7210	F.E.T. Signal, BSH103.	9340 547 13215	9247	Wire Jumper, 0.58MM.	3198 036 90010
7404	F.E.T. Signal, BSH103.	9340 547 13215	9248	Wire Jumper, 0.58MM.	3198 036 90010
7405	Transistor, BU2725DX	9340 497 50127	9249	Wire Jumper, 0.58MM.	3198 036 90010
7406	Transistor, KTC3228Y	9322 197 37676	9250	Wire Jumper, 0.58MM.	3198 036 90010
7408	Transistor, NPN, BC847B.	3198 010 42030	9251	Wire Jumper, 0.58MM.	3198 036 90010
7410	Transistor, PNP, BC857B.	3198 010 42150	9252	Wire Jumper, 0.58MM.	3198 036 90010
7411	Transistor, PNP, BC857B.	3198 010 42150	9253	Wire Jumper, 0.58MM.	3198 036 90010
7451	Transistor, KTD600KY	9322 195 14687	9254	Wire Jumper, 0.58MM.	3198 036 90010
7452	Transistor, KTC3228Y	9322 197 37676	9255	Wire Jumper, 0.58MM.	3198 036 90010
7453	Transistor, KTB631KY	9322 195 50687	9258	Wire Jumper, 0.58MM.	3198 036 90010
7454	Transistor, NPN, BC847B.	3198 010 42030	9259	Wire Jumper, 0.58MM.	3198 036 90010
7455	Transistor, PNP, BC857B.	3198 010 42150	9263	Wire Jumper, 0.58MM.	3198 036 90010
7456	Transistor, PNP, BC857B.	3198 010 42150	9264	Wire Jumper, 0.58MM.	3198 036 90010
7481	Transistor, PNP, BC857B.	3198 010 42150	9268	Wire Jumper, 0.58MM.	3198 036 90010
7482	Transistor, PNP, PDTA114ET	3198 010 44010	9269	Wire Jumper, 0.58MM.	3198 036 90010
7483	Transistor, PNP, BC857B.	3198 010 42150	9271	Wire Jumper, 0.58MM.	3198 036 90010
7484	Transistor, NPN, BC847B.	3198 010 42030	9272	Wire Jumper, 0.58MM.	3198 036 90010
7511	IC, TEA1506T/N1.	9352 720 43118	9273	Wire Jumper, 0.58MM.	3198 036 90010
7512	Transistor, FET, FQPF9N50.	9322 187 16687	9274	Wire Jumper, 0.58MM.	3198 036 90010
7513	Optic Coupler, TCET1103(G)	9322 140 14667	9275	Wire Jumper, 0.58MM.	3198 036 90010
7514	Transistor, NPN, BC847B.	3198 010 42030	9276	Wire Jumper, 0.58MM.	3198 036 90010
7531	IC, TEA1620P/N1.	9352 739 52112	9277	Wire Jumper, 0.58MM.	3198 036 90010
7541	Transistor, PNP, BC857B.	3198 010 42150	9278	Wire Jumper, 0.58MM.	3198 036 90010
7561	Transistor, NPN, PDMC143ZT	9340 547 00215	9279	Wire Jumper, 0.58MM.	3198 036 90010
7571	Transistor, NPN, BC847B.	3198 020 40030	9280	Wire Jumper, 0.58MM.	3198 036 90010
7573	Transistor, NPN, PDMC114ET	3198 010 44110	9290	Wire Jumper, 0.58MM.	3198 036 90010
7601	IC, M24C16-WB06.	9322 147 25682	9294	Wire Jumper, 0.58MM.	3198 036 90010
7603	IC, L78L33ACZ.	9322 134 92676	9295	Wire Jumper, 0.58MM.	3198 036 90010
7604	Transistor, NPN, BC847B.	3198 010 42030	9296	Wire Jumper, 0.58MM.	3198 036 90010
7605	Transistor, PNP, BC327-25.	3198 020 43430	9297	Wire Jumper, 0.58MM.	3198 036 90010
7606	Transistor, NPN, BC847B.	3198 010 42030	9298	Wire Jumper, 0.58MM.	3198 036 90010
7990	IC, TDA2616Q/N1.	9350 404 40112	9299	Wire Jumper, 0.58MM.	3198 036 90010
7991	Transistor, NPN, BC847B.	3198 010 42030	9401	Wire Jumper, 0.58MM.	3198 036 90010
7992	Transistor, NPN, BC847B.	3198 010 42030	9407	Wire Jumper, 0.58MM.	3198 036 90010
8401	Cable, 5 Pin, 560mm.	3139 121 09041	9410	Wire Jumper, 0.58MM.	3198 036 90010
9002	Wire Jumper, 0.58MM.	3198 036 90010	9460	Wire Jumper, 0.58MM.	3198 036 90010
9112	Wire Jumper, 0.58MM.	3198 036 90010	9466	Wire Jumper, 0.58MM.	3198 036 90010
9113	Wire Jumper, 0.58MM.	3198 036 90010	9467	Wire Jumper, 0.58MM.	3198 036 90010
9114	Wire Jumper, 0.58MM.	3198 036 90010	9469	Wire Jumper, 0.58MM.	3198 036 90010
9116	Wire Jumper, 0.58MM.	3198 036 90010	9470	Wire Jumper, 0.58MM.	3198 036 90010
9120	Wire Jumper, 0.58MM.	3198 036 90010	9473	Wire Jumper, 0.58MM.	3198 036 90010
9121	Wire Jumper, 0.58MM.	3198 036 90010	9474	100R 1/6 watt Carbon Res 5%	3198 011 01010
9122	Wire Jumper, 0.58MM.	3198 036 90010	9475	Wire Jumper, 0.58MM.	3198 036 90010
9123	Wire Jumper, 0.58MM.	3198 036 90010	9476	Wire Jumper, 0.58MM.	3198 036 90010
9124	Wire Jumper, 0.58MM.	3198 036 90010	9477	Wire Jumper, 0.58MM.	3198 036 90010
9125	Wire Jumper, 0.58MM.	3198 036 90010	9478	Wire Jumper, 0.58MM.	3198 036 90010
9126	Wire Jumper, 0.58MM.	3198 036 90010	9479	Wire Jumper, 0.58MM.	3198 036 90010
9128	Wire Jumper, 0.58MM.	3198 036 90010	9480	Wire Jumper, 0.58MM.	3198 036 90010
9129	Wire Jumper, 0.58MM.	3198 036 90010	9481	Wire Jumper, 0.58MM.	3198 036 90010

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9482	Wire Jumper, 0.58MM.	3198 036 90010
9483	Wire Jumper, 0.58MM.	3198 036 90010
9484	Wire Jumper, 0.58MM.	3198 036 90010
9485	Wire Jumper, 0.58MM.	3198 036 90010
9486	Wire Jumper, 0.58MM.	3198 036 90010
9487	Wire Jumper, 0.58MM.	3198 036 90010
9488	Wire Jumper, 0.58MM.	3198 036 90010
9489	Wire Jumper, 0.58MM.	3198 036 90010
9490	Wire Jumper, 0.58MM.	3198 036 90010
9491	Wire Jumper, 0.58MM.	3198 036 90010
9492	Wire Jumper, 0.58MM.	3198 036 90010
9502	Wire Jumper, 0.58MM.	3198 036 90010
9504	Wire Jumper, 0.58MM.	3198 036 90010
9505	Wire Jumper, 0.58MM.	3198 036 90010
9506	Wire Jumper, 0.58MM.	3198 036 90010
9507	Wire Jumper, 0.58MM.	3198 036 90010
9508	Wire Jumper, 0.58MM.	3198 036 90010
9509	Wire Jumper, 0.58MM.	3198 036 90010
9510	Wire Jumper, 0.58MM.	3198 036 90010
9514	Wire Jumper, 0.58MM.	3198 036 90010
9536	Wire Jumper, 0.58MM.	3198 036 90010
9537	Wire Jumper, 0.58MM.	3198 036 90010
9570	Wire Jumper, 0.58MM.	3198 036 90010
9573	Wire Jumper, 0.58MM.	3198 036 90010
9574	Wire Jumper, 0.58MM.	3198 036 90010
9575	Wire Jumper, 0.58MM.	3198 036 90010
9576	Wire Jumper, 0.58MM.	3198 036 90010
9577	Wire Jumper, 0.58MM.	3198 036 90010
9582	Wire Jumper, 0.58MM.	3198 036 90010
9583	Wire Jumper, 0.58MM.	3198 036 90010
9584	Wire Jumper, 0.58MM.	3198 036 90010
9585	Wire Jumper, 0.58MM.	3198 036 90010
9586	Wire Jumper, 0.58MM.	3198 036 90010
9587	Wire Jumper, 0.58MM.	3198 036 90010
9589	Wire Jumper, 0.58MM.	3198 036 90010
9590	Wire Jumper, 0.58MM.	3198 036 90010
9605	Wire Jumper, 0.58MM.	3198 036 90010
9631	Wire Jumper, 0.58MM.	3198 036 90010
9633	Wire Jumper, 0.58MM.	3198 036 90010
9637	Wire Jumper, 0.58MM.	3198 036 90010
9639	Wire Jumper, 0.58MM.	3198 036 90010
9642	Wire Jumper, 0.58MM.	3198 036 90010
9643	Wire Jumper, 0.58MM.	3198 036 90010
9653	Wire Jumper, 0.58MM.	3198 036 90010
9660	Wire Jumper, 0.58MM.	3198 036 90010
9661	Wire Jumper, 0.58MM.	3198 036 90010
9662	Wire Jumper, 0.58MM.	3198 036 90010
9663	Wire Jumper, 0.58MM.	3198 036 90010
9664	Wire Jumper, 0.58MM.	3198 036 90010
9665	Wire Jumper, 0.58MM.	3198 036 90010
9666	Wire Jumper, 0.58MM.	3198 036 90010
9683	Wire Jumper, 0.58MM.	3198 036 90010
9688	Wire Jumper, 0.58MM.	3198 036 90010
9689	Wire Jumper, 0.58MM.	3198 036 90010
9694	Wire Jumper, 0.58MM.	3198 036 90010
9695	Wire Jumper, 0.58MM.	3198 036 90010
9910	Wire Jumper, 0.58MM.	3198 036 90010
9911	Wire Jumper, 0.58MM.	3198 036 90010
9913	Wire Jumper, 0.58MM.	3198 036 90010
9914	Wire Jumper, 0.58MM.	3198 036 90010
9915	Wire Jumper, 0.58MM.	3198 036 90010
9920	Wire Jumper, 0.58MM.	3198 036 90010
9921	Wire Jumper, 0.58MM.	3198 036 90010
9924	Wire Jumper, 0.58MM.	3198 036 90010
9926	Wire Jumper, 0.58MM.	3198 036 90010
9927	Wire Jumper, 0.58MM.	3198 036 90010
9935	Wire Jumper, 0.58MM.	3198 036 90010
9936	Wire Jumper, 0.58MM.	3198 036 90010
9937	Wire Jumper, 0.58MM.	3198 036 90010
9939	Wire Jumper, 0.58MM.	3198 036 90010
9942	Wire Jumper, 0.58MM.	3198 036 90010
9943	Wire Jumper, 0.58MM.	3198 036 90010
9944	Wire Jumper, 0.58MM.	3198 036 90010

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Cabinet Parts

Table of Cabinet Parts including items like Cabinet Front (part of Cabinet Front Assembly), Cabinet Back, Power Button, Degaussing Coil Holder, Chassis Tray, Light Guide, Cabinet Back Screw Cover, Nameplate, Top Control Assembly, Front Interface Panel Bracket, Owner's Manual, Quick Use Guide, Side Jack Panel Bracket, Cabinet Front Assembly, Batteries for Remote Control, CRT, A80ERF042X14, Degaussing Coil, Cancellor Coil, Speaker, 10W, 16 ohm, AC Cord, and Remote Control, RC19036001/01A.

CRT Panels

Table of CRT Panels including various cooling plates, connectors, capacitors, and resistors with part numbers and quantities.

Table of components including resistors, diodes, transistors, ICs, and wire jumpers with part numbers and quantities.

Front Interface Panel

Table of Front Interface Panel components including switches, connectors, capacitors, resistors, LEDs, and wire jumpers.

LTI/CTI Interface Panel

Table of LTI/CTI Interface Panel components including connectors, capacitors, resistors, diodes, transistors, and wire jumpers.

Linearity & Panorama Panel

Linearity & Panorama Panel

S = Safety Part Be sure to use exact replacement part.

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Side Jack Panel

	Side Jack Panel			
CBA	Side Jack Panel	3139	188	06931
1232	Headphone Jack	2422	026	04471
1250	A/V Jack	2422	026	05538
1252	Connector, 7 Pin	2422	025	11244
1254	Connector, 5 Pin	2422	025	12481
1278	Connector, 4 Pin	2422	025	12479
2171	Cap, 330p, 10%, 50v, Ceramic	3198	019	13310
2172	Cap, 330p, 10%, 50v, Ceramic	3198	019	13310
2173	Cap, 330p, 10%, 50v, Ceramic	3198	019	13310
2174	Cap, 330p, 10%, 50v, Ceramic	3198	019	13310
2175	Cap, 2u2, 20%, 50v, Electrolytic	3198	029	52280
2176	Cap, 100n, 10%, 16v, Ceramic	3198	017	31040
2178	Cap, 470p, 10%, 50v, Ceramic	3198	017	34710
2180	Cap, 2u2, 20%, 50v, Electrolytic	3198	029	52280
3150	Res, 47K, 5%, 1/6W, Carbon Film	3198	011	04730
3151	Res, 22K, 5%, 1/6W, Carbon Film	3198	011	02230
3152	Res, 47K, 5%, 1/6W, Carbon Film	3198	011	04730
3153	Res, 22K, 5%, 1/6W, Carbon Film	3198	011	02230
3154	Res, 75 ohm, 5%, 1/6W, Carbon Film	3198	011	07590
3156	Res, 820 ohm, 5%, 1/6W, Carbon Film	3198	011	08210
3157	Res, 820 ohm, 5%, 1/6W, Carbon Film	3198	011	08210
3160	Res, 100 ohm, 5%, 1/6W, Carbon Film	3198	011	01010
9181	Wire Jumper, 0.58MM	3198	036	90010

Top Control Panel

	Top Control Panel			
CBA	Top Control Panel	3139	188	65121
1010	Connector, 3 Pin	2422	025	09191
1011	Switch, Tactile	2422	128	02742
1012	Switch, Tactile	2422	128	02742
1013	Switch, Tactile	2422	128	02742
1014	Switch, Tactile	2422	128	02742
3011	Res, 150 ohm, 5%, 1/16W, Metalized Glas	3198	021	31510
3012	Res, 390 ohm, 5%, 1/16W, Metalized Glas	3198	021	33910
3013	Res, 1K8, 1%, 1/16W, Metalized Glas	2322	704	61802
3014	Res, Zero ohm, "Chip" Jumper	3198	021	90030
3015	Res, 820 ohm, 1%, 1/16W, Metalized Glas	2322	704	68201
3016	Res, Zero ohm, "Chip" Jumper	3198	021	90030

Main Chassis

	Main Chassis			
CBA	Main Chassis	3139	188	58351
1000	Tuner, V+U PLL	2422	542	90141
1002	S.A.W. Filter, 45MHz75, OFW1971M	2422	549	44518
1005	Connector, 3 Pin	2412	020	00725
1137	MDIN Socket	2422	026	05428
1204	Connector, 7 Pin	2422	025	04855
1205	Crystal Resonator, 24MHz576	2422	543	00943
1207	Connector, 7 Pin	2422	025	11244
1212	Connector, 12 Pin	2422	025	16052
1223	12 Pin Cinch Socket	2422	026	05463
1280	Connector, 5 Pin	2422	025	12481
S 1401	Connector, 5 Pin	2422	025	04853
1402	Connector, 1 Pin	2422	034	20021
1404	Connector, 4 Pin	2422	025	15503
1451	Connector, 2 Pin	2422	025	10646
1452	Fuse, 1.25 Amp, 250V	2422	086	10517
1454	Fuse, 1.25 Amp, 250V	2422	086	10517
S 1500	Fuse, 4A, 250V, IEC	2422	086	10914
S 1503	Relay, 12V, 5A G5PA-1	2422	132	07444
1504	Connector, 2 Pin	2422	025	16375
1505	Connector, 2 Pin	2422	025	16269
1682	Connector, 3 Pin	2412	020	00725
1693	Connector, 6 Pin	2422	025	12482
2001	Cap, 22p, 5%, 50v, Ceramic	3198	016	32290
2004	Cap, 47n, +80/-20%, 50v, Ceramic	3198	024	44730
2006	Cap, 470u, 20%, 16v, Electrolytic	3198	025	24710
2007	Cap, 100n, 10%, 16v, Ceramic	3198	017	31040
2008	Cap, 100u, 20%, 25v, Electrolytic	3198	025	31010
2103	Cap, 330p, 10%, 50v, Ceramic	3198	017	33310
2104	Cap, 330p, 10%, 50v, Ceramic	3198	017	33310
2105	Cap, 10u, 20%, 50v, Electrolytic	3198	025	51090
2106	Cap, 10u, 20%, 50v, Electrolytic	3198	025	51090
2122	Cap, 330p, 10%, 50v, Ceramic	3198	017	33310
2123	Cap, 2u2, 20%, 50v, Electrolytic	3198	025	52280
2124	Cap, 330p, 10%, 50v, Ceramic	3198	017	33310
2125	Cap, 2u2, 20%, 50v, Electrolytic	3198	025	52280
2131	Cap, 330p, 10%, 50v, Ceramic	3198	017	33310
2132	Cap, 2u2, 20%, 50v, Electrolytic	3198	025	52280
2133	Cap, 330p, 10%, 50v, Ceramic	3198	017	33310
2134	Cap, 2u2, 20%, 50v, Electrolytic	3198	025	52280
2203	Cap, 100u, 20%, 10v, Electrolytic	3198	025	11010
2204	Cap, 22n, 10%, 25v, Ceramic	3198	017	32230
2205	Cap, 220n, +80/-20%, 16v, Ceramic	3198	017	42240
2206	Cap, 220n, +80/-20%, 25v, Ceramic	3198	023	22240
2207	Cap, 220n, +80/-20%, 25v, Ceramic	3198	023	22240
2208	Cap, 220n, +80/-20%, 25v, Ceramic	3198	023	22240
2209	Cap, 220n, +80/-20%, 16v, Ceramic	3198	017	42240
2210	Cap, 220n, +80/-20%, 16v, Ceramic	3198	017	42240

2211	Cap, 220n, +80/-20%, 16v, Ceramic	3198	017	42240
2212	Cap, 220n, +80/-20%, 16v, Ceramic	3198	017	42240
2213	Cap, 220n, +80/-20%, 16v, Ceramic	3198	017	42240
2214	Cap, 100n, 10%, 16v, Ceramic	3198	017	31040
2215	Cap, 220n, +80/-20%, 16v, Ceramic	3198	017	42240
2216	Cap, 220n, +80/-20%, 16v, Ceramic	3198	017	42240
2217	Cap, 100u, 20%, 25v, Electrolytic	3198	025	31010
2218	Cap, 47u, 20%, 25v, Electrolytic	3198	025	34790
2222	Cap, 5n6, 10%, 50v, Ceramic	2238	586	15633
2223	Cap, 100n, 10%, 16v, Ceramic	3198	017	31040
2224	Cap, 100u, 20%, 25v, Electrolytic	3198	025	31010
2225	Cap, 220n, +80/-20%, 16v, Ceramic	3198	017	42240
2226	Cap, 220n, +80/-20%, 16v, Ceramic	3198	017	42240
2229	Cap, 220n, +80/-20%, 16v, Ceramic	3198	017	42240
2230	Cap, 10u, 20%, 50v, Electrolytic	3198	025	51090
2231	Cap, 100n, 10%, 16v, Ceramic	3198	017	31040
2232	Cap, 100n, 10%, 16v, Ceramic	3198	017	31040
2233	Cap, 100n, 10%, 16v, Ceramic	3198	017	31040
2234	Cap, 100u, 20%, 25v, Electrolytic	3198	025	31010
2235	Cap, 6n8, 10%, 50v, Ceramic	3198	017	36820
2236	Cap, 10n, 10%, 50v, Ceramic	3198	017	31030
2237	Cap, 100n, 10%, 16v, Ceramic	3198	017	31040
2238	Cap, 220n, +80/-20%, 16v, Ceramic	3198	017	42240
2239	Cap, 220n, +80/-20%, 16v, Ceramic	3198	017	42240
2240	Cap, 1u5, 20%, 50v, Electrolytic	2020	021	90137
2241	Cap, 22n, 10%, 25v, Ceramic	3198	017	32230
2242	Cap, 100n, 10%, 16v, Ceramic	3198	017	31040
2243	Cap, 100n, 10%, 16v, Ceramic	3198	017	31040
2244	Cap, 2u2, +80/-20%, 10v, Ceramic	3198	017	22250
2245	Cap, 1n, 5%, 25v, Ceramic	3198	016	31020
2246	Cap, 100n, 10%, 16v, Ceramic	3198	017	31040
2247	Cap, 100n, 10%, 16v, Ceramic	3198	017	31040
2248	Cap, 1n, 5%, 25v, Ceramic	3198	016	31020
2249	Cap, 100n, 10%, 16v, Ceramic	3198	017	31040
2250	Cap, 100u, 20%, 25v, Electrolytic	3198	025	31010
2251	Cap, 150n, 5%, 50v, Metalized Polyester	2022	318	00212
2252	Cap, 10n, 10%, 50v, Ceramic	3198	017	31030
2253	Cap, 10n, 10%, 50v, Ceramic	3198	017	31030
2254	Cap, 1n, 10%, 50v, Ceramic	3198	017	31020
2255	Cap, 10n, 10%, 50v, Ceramic	3198	017	31030
2256	Cap, 100n, 10%, 16v, Ceramic	3198	017	31040
2257	Cap, 3n3, 10%, 50v, Ceramic	3198	017	33320
2259	Cap, 1u, +80/-20%, 10v, Ceramic	3198	017	41050
2260	Cap, 100n, 10%, 16v, Ceramic	3198	017	31040
2261	Cap, 100n, 10%, 16v, Ceramic	3198	017	31040
2262	Cap, 10n, 10%, 50v, Ceramic	3198	017	31030
2263	Cap, 100n, 10%, 16v, Ceramic	3198	017	31040
2264	Cap, 560p, 5%, 25v, Ceramic	3198	016	35610
2265	Cap, 100u, 20%, 25v, Electrolytic	3198	025	31010
2266	Cap, 2u2, +80/-20%, 10v, Ceramic	3198	017	22250
2267	Cap, 2u2, +80/-20%, 10v, Ceramic	3198	017	22250
2272	Cap, 100n, 10%, 16v, Ceramic	3198	017	31040
2273	Cap, 100u, 20%, 25v, Electrolytic	3198	025	31010
2274	Cap, 100n, 10%, 16v, Ceramic	3198	017	31040
2275	Cap, 10u, 20%, 50v, Electrolytic	3198	025	51090
2276	Cap, 100n, +80/-20%, 25v, Ceramic	3198	023	21040
2279	Cap, 100p, 5%, 50v, Ceramic	3198	016	31010
2280	Cap, 1u, +80/-20%, 10v, Ceramic	3198	017	41050
2282	Cap, 1n, 10%, 50v, Ceramic	3198	017	31020
2288	Cap, 1n, 10%, 50v, Ceramic	3198	017	31020
2289	Cap, 1n, 10%, 50v, Ceramic	3198	017	31020
2401	Cap, 4u7, 20%, 50v, Electrolytic	3198	028	54780
2402	Cap, 15n, 10%, 50v, Ceramic	3198	017	31530
2403	Cap, 33n, 10%, 16v, Ceramic	3198	017	33330
2404	Cap, 47u, 20%, 160v, Electrolytic	2022	031	00103
2405	Cap, 1n, 10%, 2000v, Ceramic	3198	019	71020
2406	Cap, 680p, 10%, 500v, Ceramic	3198	019	46810
2408	Cap, 100p, 5%, 50v, Ceramic	3198	016	31010
2409	Cap, 100n, +80/-20%, 25v, Ceramic	3198	023	41040
2410	Cap, 100n, +80/-20%, 25v, Ceramic	3198	023	21040
2411	Cap, 680p, 10%, 2000v, Ceramic	3198	019	76810
2412	Cap, 12n, 5%, 1600v, Polypropylene	2222	375	90156
2413	Cap, 33n, 10%, 400v, Polyester	2222	347	90227
2414	Cap, 1u, +80/-20%, 10v, Ceramic	3198	017	41050
2415	Cap, 2u2, 20%, 160v, Electrolytic	2022	031	00172
2418	Cap, 270n, 5%, 250v, Metalized Polypropylene	2222	479	90016
2419	Cap, 2u2, 5%, 100v, Metalized Polyester	2222	468	90324
2420	Cap, 1u, +80/-20%, 10v, Ceramic	3198	017	41050
2425	Cap, 10n, 10%, 50v, Ceramic	3198	017	31030
2428	Cap, 33n, 10%, 16v, Ceramic	3198	017	33330
2451	Cap, 220n, 10%, 100v, Metalized Polyest	2222	365	85224
2453	Cap, 1u, +80/-20%, 16v, Ceramic	3198	017	21050
2454	Cap, 470u, 20%, 16v, Electrolytic	3198	025	24710
2456	Cap, 47n, 10%, 250v, Ceramic	2020	557	90733
2457	Cap, 4u7, 20%, 250v, Electrolytic	2020	012	93282
2459	Cap, 470p, 10%, 500v, Ceramic	3198	019	44710
2460	Cap, 470u, 20%, 16v, Electrolytic	3198	025	24710
2461	Cap, 1n, 5%, 25v, Ceramic	3198	016	31020
2462	Cap, 1n, 5%, 25v, Ceramic	3198	016	31020
2463	Cap, 100u, 20%, 50v, Electrolytic	3198	037	51010

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2464	Cap, 470p, 5%, 50v, Ceramic . . . . .	3198 016 34710	3135	Res, 75 ohm, 5%, 1/16W, Metalized Glass	3198 021 37590
2465	Cap, 10u, 20%, 100v, Electrolytic . . . . .	3198 025 71090	3167	Res, 75 ohm, 5%, 1/6W, Carbon Film . . . . .	3198 011 07590
2467	Cap, 10n, 10%, 400v, Metalized Polyester	2222 365 55103	3168	Res, 75 ohm, 5%, 1/16W, Metalized Glass	3198 021 37590
2468	Cap, 220p, 5%, 50v, Ceramic . . . . .	3198 016 32210	3169	Res, 75 ohm, 5%, 1/16W, Metalized Glass	3198 021 37590
2469	Cap, 220n, +80/-20%, 16v, Ceramic . . . . .	3198 017 42240	3201	Res, 1K, 5%, 1/6W, Carbon Film . . . . .	3198 011 01020
2470	Cap, 100n, 10%, 100v, Ceramic . . . . .	2222 601 55649	3202	Res, 3K3, 5%, 1/16W, Metalized Glass . . . . .	3198 021 33320
2484	Cap, 10u, 20%, 50v, Electrolytic . . . . .	2020 009 00001	3203	Res, 150K, 5%, 1/16W, Metalized Glass . . . . .	3198 021 31540
2486	Cap, 27p, 5%, 500v, Ceramic . . . . .	2252 508 08255	3204	Res, 3K3, 5%, 1/16W, Metalized Glass . . . . .	3198 021 33320
2487	Cap, 2n2, 10%, 50v, Ceramic . . . . .	3198 017 02220	3205	Res, 12K, 5%, 1/16W, Metalized Glass . . . . .	3198 021 31230
2489	Cap, 10n, 10%, 50v, Ceramic . . . . .	3198 017 31030	3206	Res, 5K6, 5%, 1/16W, Metalized Glass . . . . .	3198 021 35620
2500	Cap, 470n, 20%, 275V, Metalized Polypropylene . . . . .	2222 338 22474	3207	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198 021 31010
2503	Cap, 2n2, 10%, 1000v, Ceramic . . . . .	3198 019 52220	3208	Res, 27K, 5%, 1/16W, Metalized Glass . . . . .	3198 021 32730
2504	Cap, 2n2, 10%, 1000v, Ceramic . . . . .	3198 019 52220	3209	Res, 1 ohm, 5%, 1/16W, Metalized Glass . . . . .	3198 021 31080
2505	Cap, 470u, 20%, 200v, Electrolytic . . . . .	2022 020 00852	3210	Res, 1 ohm, 5%, 1/16W, Metalized Glass . . . . .	3198 021 31080
2511	Cap, 22u, 20%, 50v, Electrolytic . . . . .	3198 025 52290	3211	Res, 27K, 5%, 1/16W, Metalized Glass . . . . .	3198 021 32730
2512	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198 017 31040	3212	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198 021 31010
2513	Cap, 470p, 10%, 50v, Ceramic . . . . .	3198 017 34710	3214	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198 021 31010
2514	Cap, 1n5, 10%, 2000v, Ceramic . . . . .	3198 019 71520	3215	Res, 4K7, 5%, 1/6W, Carbon Film . . . . .	3198 011 04720
2515	Cap, 470p, 5%, 50v, Ceramic . . . . .	3198 016 34710	3216	Res, 10 ohm, 5%, 1/16W, Metalized Glass	3198 021 31090
2516	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198 017 31040	3218	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198 021 31010
2517	Cap, 1n, 10%, 50v, Ceramic . . . . .	3198 017 31020	3219	Res, 10K, 5%, 1/16W, Metalized Glass . . . . .	3198 021 31030
2519	Cap, 100p, 5%, 100v, Ceramic . . . . .	2020 557 90726	3220	Res, 150 ohm, 5%, 1/16W, Metalized Glass	3198 021 31510
2530	Cap, 330p, 5%, 100v, Ceramic . . . . .	2020 557 00005	3221	Res, 270 ohm, 5%, 1/16W, Metalized Glass	3198 021 32710
2531	Cap, 470p, 5%, 50v, Ceramic . . . . .	3198 016 34710	3222	Res, 680 ohm, 5%, 1/16W, Metalized Glass	3198 021 36810
2532	Cap, 10u, 10%, 16v, Ceramic . . . . .	2020 552 96823	3224	Res, 560K, 5%, 1/4W, Carbon Film . . . . .	2122 101 02086
2533	Cap, 4n7, 10%, 50v, Ceramic . . . . .	3198 017 34720	3225	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198 021 31010
2534	Cap, 68p, 5%, 1kV, Ceramic . . . . .	2020 558 90261	3226	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198 021 31010
2535	Cap, 1000u, 20%, 6.3v, Electrolytic . . . . .	3198 025 01020	3227	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198 021 31010
2536	Cap, 2u2, 20%, 10v, Electrolytic . . . . .	2020 012 93728	3228	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198 021 31010
2538	Cap, 470p, 10%, 50v, Ceramic . . . . .	3198 017 34710	3229	Res, 1K5, 5%, 1/16W, Metalized Glass . . . . .	3198 021 31520
2539	Cap, 470p, 10%, 500v, Ceramic . . . . .	3198 019 44710	3230	Res, 100 ohm, 5%, 1/6W, Carbon Film . . . . .	3198 011 01010
2541	Cap, 47u, 20%, 25v, Electrolytic . . . . .	3198 025 34790	3231	Res, 100 ohm, 5%, 1/6W, Carbon Film . . . . .	3198 011 01010
S 2542	Cap, 1n5, 20%, 250v, Ceramic . . . . .	2020 554 90199	3232	Res, 12K, 5%, 1/16W, Metalized Glass . . . . .	3198 021 31230
2543	Cap, 2n2, 10%, 500v, Ceramic . . . . .	3198 019 42220	3233	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198 021 31010
2549	Cap, 100p, 5%, 50v, Ceramic . . . . .	3198 016 31010	3234	Res, 100 ohm, 5%, 1/6W, Carbon Film . . . . .	3198 011 01010
2550	Cap, 33p, 5%, 200v, Ceramic . . . . .	2020 557 00002	3235	Res, 1K, 5%, 1/16W, Metalized Glass . . . . .	3198 021 31020
2551	Cap, 1n, 10%, 1000v, Ceramic . . . . .	3198 019 61020	3236	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198 021 31010
2552	Cap, 100u, 20%, 160v, Electrolytic . . . . .	2020 021 91654	3237	Res, 1K, 5%, 1/16W, Metalized Glass . . . . .	3198 021 31020
2553	Cap, 180p, 5%, 50v, Ceramic . . . . .	3198 016 31810	3238	Res, 4K7, 5%, 1/16W, Metalized Glass . . . . .	3198 021 34720
2561	Cap, 1n, 10%, 500v, Ceramic . . . . .	3198 019 41020	3239	Res, 1K2, 5%, 1/6W, CF SEE KNOWN FAULTS	3198 011 01220
2562	Cap, 1000u, 20%, 25v, Electrolytic . . . . .	3198 026 31020	3240	Res, 22K, 5%, 1/16W, Metalized Glass . . . . .	3198 021 32230
2563	Cap, 1000u, 20%, 25v, Electrolytic . . . . .	3198 026 31020	3241	Res, 39K, 1%, 3/5W, Metal Film . . . . .	2312 915 13903
2564	Cap, 100n, 10%, 50v, Ceramic . . . . .	2238 580 15649	3242	Res, 47K, 5%, 1/16W, Metalized Glass . . . . .	3198 021 34730
2565	Cap, 1n, 10%, 500v, Ceramic . . . . .	3198 019 41020	3243	Res, 33K, 5%, 1/16W, Metalized Glass . . . . .	3198 021 33330
2571	Cap, 15n, 10%, 50v, Ceramic . . . . .	3198 017 31530	3244	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198 021 31010
2572	Cap, 10n, 10%, 50v, Ceramic . . . . .	3198 017 31030	3245	Res, 27 ohm, 5%, 1/16W, Metalized Glass	2322 702 60279
2573	Cap, 220n, 10%, 50v, Ceramic . . . . .	2020 552 96683	3246	Res, 4K7, 5%, 1/6W, Carbon Film . . . . .	3198 011 04720
2601	Cap, 1n, 5%, 25v, Ceramic . . . . .	3198 016 31020	3247	Res, 390 ohm, 5%, 1/16W, Metalized Glass	3198 021 33910
2611	Cap, 47u, 20%, 25v, Electrolytic . . . . .	3198 025 34790	3248	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198 021 31010
2615	Cap, 4u7, +80/-20%, 10v, Ceramic . . . . .	2020 552 96305	3249	Res, 100 ohm, 5%, 1/6W, Carbon Film . . . . .	3198 011 01010
2617	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198 017 31040	3250	Res, 2K2, 5%, 1/16W, Metalized Glass . . . . .	3198 021 32220
2620	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198 017 31040	3251	Res, 10K, 5%, 1/16W, Metalized Glass . . . . .	3198 021 31030
2621	Cap, 100u, 20%, 25v, Electrolytic . . . . .	3198 025 31010	3252	Res, 1K, 5%, 1/6W, Carbon Film . . . . .	3198 011 01020
2623	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198 017 31040	3253	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198 021 31010
2624	Cap, 100u, 20%, 25v, Electrolytic . . . . .	3198 025 31010	3254	Res, 560 ohm, 5%, 1/16W, Metalized Glass	3198 021 35610
2625	Cap, 2u2, 10%, 6v3, Ceramic . . . . .	2022 552 05615	3257	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198 021 31010
2626	Cap, 33p, 5%, 50v, Ceramic . . . . .	3198 016 33390	3258	Res, 100 ohm, 5%, 1/6W, Carbon Film . . . . .	3198 011 01010
2627	Cap, 33p, 5%, 50v, Ceramic . . . . .	3198 016 33390	3259	Res, 10K, 5%, 1/16W, Metalized Glass . . . . .	3198 021 31030
2628	Cap, 33p, 5%, 50v, Ceramic . . . . .	3198 016 33390	3260	Res, 100 ohm, 5%, 1/6W, Carbon Film . . . . .	3198 011 01010
2629	Cap, 33p, 5%, 50v, Ceramic . . . . .	3198 016 33390	3261	Res, 4K7, 5%, 1/16W, Metalized Glass . . . . .	3198 021 34720
2630	Cap, 1n, 10%, 50v, Ceramic . . . . .	3198 017 31020	3262	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198 021 31010
2630	Cap, 1n, 10%, 50v, Ceramic . . . . .	3198 017 31020	3263	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198 021 31010
2986	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198 017 31040	3269	Res, 100 ohm, 5%, 1/6W, Carbon Film . . . . .	3198 011 01010
2987	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198 017 31040	3270	Res, 390 ohm, 5%, 1/16W, Metalized Glass	3198 021 33910
2988	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198 017 31040	3271	Res, 320 ohm, 5%, 1/16W, Metalized Glass	3198 021 33910
2989	Cap, 1u, +80/-20%, 10v, Ceramic . . . . .	3198 017 41050	3272	Res, 820 ohm, 5%, 1/16W, Metalized Glass	3198 021 38210
2990	Cap, 1n, 5%, 25v, Ceramic . . . . .	3198 016 31020	3273	Res, 1K, 5%, 1/16W, Metalized Glass . . . . .	3198 021 31020
2992	Cap, 1u, +80/-20%, 10v, Ceramic . . . . .	3198 017 41050	3274	Res, 100 ohm, 5%, 1/6W, Carbon Film . . . . .	3198 011 01010
2993	Cap, 1n, 5%, 25v, Ceramic . . . . .	3198 016 31020	3275	Res, 100 ohm, 5%, 1/6W, Carbon Film . . . . .	3198 011 01010
2994	Cap, 22n, 10%, 25v, Ceramic . . . . .	3198 017 32230	3276	Res, 100 ohm, 5%, 1/6W, Carbon Film . . . . .	3198 011 01010
2995	Cap, 22n, 10%, 25v, Ceramic . . . . .	3198 017 32230	3277	Res, 100 ohm, 5%, 1/6W, Carbon Film . . . . .	3198 011 01010
2996	Cap, 47n, +80/-20%, 50v, Ceramic . . . . .	3198 024 44730	3278	Res, 100 ohm, 5%, 1/6W, Carbon Film . . . . .	3198 011 01010
2997	Cap, 47n, +80/-20%, 50v, Ceramic . . . . .	3198 024 44730	3283	Res, 4K7, 5%, 1/16W, Metalized Glass . . . . .	3198 021 34720
3003	Res, 10K, 5%, 1/16W, Metalized Glass . . . . .	3198 021 31030	3284	Res, 4K7, 5%, 1/16W, Metalized Glass . . . . .	3198 021 34720
3004	Res, 68K, 5%, 1/16W, Metalized Glass . . . . .	3198 021 36830	3285	Res, 1K, 5%, 1/16W, Metalized Glass . . . . .	3198 021 31020
3005	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198 021 31010	3287	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198 021 31010
3101	Res, 68 ohm, 5%, 1/6W, Carbon Film . . . . .	3198 011 06890	3289	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198 021 31010
3103	Res, 150 ohm, 5%, 1/6W, Carbon Film . . . . .	3198 011 01510	3290	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198 021 31010
3104	Res, 220K, 5%, 1/16W, Metalized Glass . . . . .	3198 021 32240	3291	Res, 1K, 5%, 1/6W, Carbon Film . . . . .	3198 011 01020
3105	Res, 150 ohm, 5%, 1/6W, Carbon Film . . . . .	3198 011 01510	3292	Res, 47K, 5%, 1/16W, Metalized Glass . . . . .	3198 021 34730
3106	Res, 220K, 5%, 1/16W, Metalized Glass . . . . .	3198 021 32240	3293	Res, 39K, 5%, 1/16W, Metalized Glass . . . . .	3198 021 33930
3121	Res, 75 ohm, 5%, 1/16W, Metalized Glass	3198 021 37590	3294	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198 021 31010
3123	Res, 22K, 5%, 1/6W, Carbon Film . . . . .	3198 011 02230	3295	Res, 8K2, 5%, 1/16W, Metalized Glass . . . . .	3198 021 38220
3124	Res, 47K, 5%, 1/16W, Metalized Glass . . . . .	3198 021 34730	3296	Res, 5K6, 5%, 1/16W, Metalized Glass . . . . .	3198 021 35620
3125	Res, 22K, 5%, 1/6W, Carbon Film . . . . .	3198 011 02230	3401	Res, 47K, 1%, 3/5W, Metal Film . . . . .	2312 915 14703
3126	Res, 47K, 5%, 1/16W, Metalized Glass . . . . .	3198 021 34730	3403	Res, 1K, 5%, 1/6W, Carbon Film . . . . .	3198 011 01020
3129	Res, 75 ohm, 5%, 1/16W, Metalized Glass	3198 021 37590	3404	Res, 1 ohm, 5%, 1/8W, Metalized Glass . . . . .	2322 750 61008
3130	Res, 75 ohm, 5%, 1/16W, Metalized Glass	3198 021 37590	3405	Res, 6K8, 5%, 1/16W, Metalized Glass . . . . .	3198 021 36820
3131	Res, 22K, 5%, 1/6W, Carbon Film . . . . .	3198 011 02230	3406	Res, 390 ohm, 5%, 1/6W, Carbon Film . . . . .	3198 011 03910
3132	Res, 47K, 5%, 1/16W, Metalized Glass . . . . .	3198 021 34730	3407	Res, 68 ohm, 5%, 1/6W, Carbon Film . . . . .	3198 011 06890
3133	Res, 22K, 5%, 1/6W, Carbon Film . . . . .	3198 011 02230	3409	Res, 1K8, 5%, 1/16W, Metalized Glass . . . . .	3198 021 31820
3134	Res, 47K, 5%, 1/16W, Metalized Glass . . . . .	3198 021 34730	3410	Res, 1K5, 1%, 3/5W, Metal Film . . . . .	2312 915 11502
			3411	Res, 680K, 5%, 1/2W, Metalized Glass . . . . .	2322 242 13684

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3412	Res, 1K, 5%, 1/6W, Carbon Film . . . . .	3198	011	01020	3576	Res, 4K7, 1%, 1/16W, Metalized Glass . .	2322	704	64702
3414	Res, 8R2, 5%, 2W, MF SEE KNOWN FAULTS	2322	193	53828	3577	Res, 1K5, 5%, 1/6W, Carbon Film. . . . .	3198	011	01520
3415	Res, 100 ohm, 5%, 1/6W, Carbon Film. . .	3198	011	01010	3578	Res, 470 ohm, 5%, 1/16W, Metalized Glas	3198	021	34710
3416	Res, 47 ohm, 5%, 1/16W, Metalized Glass	3198	021	34790	3579	Res, 2K2, 5%, 1/16W, Metalized Glass . .	3198	021	32220
3417	Res, 15K, 5%, 1 1/3W, Metal Film . . . . .	3198	012	21530	3601	Res, 4K7, 5%, 1/16W, Metalized Glass . .	3198	021	34720
3418	Res, 100 ohm, 5%, 1/6W, Carbon Film. . .	3198	011	01010	3604	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198	021	31010
3420	Res, 10K, 5%, 1/10W, Metalized Glass . .	3198	021	51030	3605	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198	021	31010
3425	Res, 100K, 1%, 3/5W, Metal Film. . . . .	2312	915	11004	3606	Res, 56K, 5%, 1/6W, Carbon Film. . . . .	3198	011	05630
3427	Res, 2K2, 5%, 1/10W, Metalized Glass . .	3198	021	52220	3607	Res, 10K, 5%, 1/16W, Metalized Glass . .	3198	021	31030
3428	Res, 3K3, 5%, 1/10W, Metalized Glass . .	3198	021	53320	3608	Res, 27K, 5%, 1/16W, Metalized Glass . .	3198	021	32730
3430	Res, 120k, 5%, Metalized Glass . . . . .	2322	241	53124	3609	Res, 330 ohm, 5%, 1/16W, Metalized Glas	3198	021	33310
3431	Res, 10K, 1%, 3/5W, Metal Film . . . . .	2312	915	11003	3614	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3440	Res, 560 ohm, 5%, 1/6W, Carbon Film. . .	3198	011	05610	3616	Res, 100 ohm, 5%, 1/6W, Carbon Film. . .	3198	011	01010
3441	Res, 120k, 5%, Metalized Glass . . . . .	2322	241	53124	3617	Res, 100 ohm, 5%, 1/6W, Carbon Film. . .	3198	011	01010
3442	Wire Jumper, 0.58MM. . . . .	3198	036	90010	3618	Res, 100 ohm, 5%, 1/6W, Carbon Film. . .	3198	011	01010
3443	Wire Jumper, 0.58MM. . . . .	3198	036	90010	3634	Res, 1K, 5%, 1/16W, Metalized Glass. . .	3198	021	31020
3445	Res, 47 ohm, 5%, 1/10W, Metalized Glass	3198	021	54790	3635	Res, 47K, 5%, 1/16W, Metalized Glass . .	3198	021	34730
3446	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198	021	31010	3637	Res, 47 ohm, 5%, 1/16W, Metalized Glass	3198	021	34790
3451	Res, 68K, 1%, 3/5W, Metal Film . . . . .	2312	915	16803	3690	Res, 220 ohm, 5%, 1/16W, Metalized Glas	3198	021	32210
3452	Res, 6K8, 5%, 1/16W, Metalized Glass . .	3198	021	36820	3975	Res, 150 ohm, 5%, 1 1/3W, Metal Film . .	3198	012	21510
3453	Res, 33K, 5%, 1/16W, Metalized Glass . .	3198	021	33330	3985	Res, 39K, 5%, 1/16W, Metalized Glass . .	3198	021	33930
3454	Res, 47K, 5%, 1/6W, Carbon Film. . . . .	3198	011	04730	3988	Res, 10K, 5%, 1/16W, Metalized Glass . .	3198	021	31030
3455	Res, 1 ohm, 5%, 1/2W, Metal Film . . . . .	2306	207	03108	3989	Res, 10 ohm, 5%, 1/16W, Metalized Glass	3198	021	31090
3457	Res, 1 ohm, 5%, 1/2W, Metal Film . . . . .	2306	207	03108	3991	Res, 39K, 5%, 1/16W, Metalized Glass . .	3198	021	33930
3458	Res, 4R7, 5%, 1/2W, Metal Film . . . . .	2306	207	03478	3992	Res, 10K, 5%, 1/16W, Metalized Glass . .	3198	021	31030
3460	Res, 2K2, 5%, 1/6W, Carbon Film. . . . .	3198	011	02220	3993	Res, 10 ohm, 5%, 1/16W, Metalized Glass	3198	021	31090
3461	Res, 2K2, 5%, 1/6W, Carbon Film. . . . .	3198	011	02220	3994	Res, 68K, 5%, 1/16W, Metalized Glass . .	3198	021	36830
3462	Res, 2K2, 5%, 1/16W, Metalized Glass . .	3198	021	32220	3995	Res, 4K7, 5%, 1/16W, Metalized Glass . .	3198	021	34720
3463	Res, 1K, 5%, 1/16W, Metalized Glass. . . .	3198	021	31020	4000	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3464	Res, 220 ohm, 5%, 1/16W, Metalized Glas	3198	021	32210	4001	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3466	Res, 1 ohm, 5%, 1/2W, Metal Film . . . . .	2306	207	03108	4002	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3467	Res, 150 ohm, 5%, 1/6W, Carbon Film. . .	3198	011	01510	4003	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3468	Res, 150 ohm, 5%, 1/6W, Carbon Film. . .	3198	011	01510	4006	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3469	Res, 1K, 5%, 1/16W, Metalized Glass. . .	3198	021	31020	4013	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3470	Res, 22 ohm, 5%, 1/6W, Carbon Film. . . .	3198	011	02290	4015	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3471	Res, 2R2, 1%, 3/5W, Metal Film . . . . .	2312	915	12208	4106	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3472	Res, 2R2, 1%, 3/5W, Metal Film . . . . .	2312	915	12208	4107	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3473	Res, 680K, 5%, 1/16W, Metalized Glass. .	3198	021	36840	4108	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3474	Res, 15K, 5%, 1/16W, Metalized Glass . .	3198	021	31530	4116	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3475	Res, 8K2, 5%, 1/16W, Metalized Glass . .	3198	021	38220	4136	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3478	Res, 6K8, 5%, 1/16W, Metalized Glass . .	3198	021	36820	4209	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3481	Res, 5R6, 5%, 1/8W, Metalized Glass. . .	2322	750	65608	4212	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3482	Res, 22K, 1%, 3/5W, Metal Film . . . . .	2312	915	12203	4221	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3483	Res, 56K, 1%, 3/5W, Metal Film . . . . .	2312	915	15603	4222	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
S 3484	Res, 1 ohm, 5%, 1/3W, Metal Film . . . . .	2306	204	03108	4223	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90020
S 3485	Res, 1 ohm, 5%, 1/3W, Metal Film . . . . .	2306	204	03108	4226	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3486	Res, 6K8, 5%, 1/16W, Metalized Glass . .	3198	021	36820	4227	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3489	Res, 47 ohm, 5%, 1/10W, Metalized Glass	3198	021	54790	4240	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3490	Res, 22K, 5%, 1/16W, Metalized Glass . .	3198	021	32230	4241	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3491	Res, 68K, 5%, 1/16W, Metalized Glass . .	3198	021	36830	4470	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3493	Res, 2K2, 5%, 1/16W, Metalized Glass . .	3198	021	32220	4492	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3494	Res, 680K, 5%, 1/16W, Metalized Glass. .	3198	021	36840	4533	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90020
3495	Res, 330K, 5%, 1/10W, Glass. . . . .	3198	021	53340	4534	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3497	Res, 1 ohm, 5%, 1/2W, Metal Film . . . . .	2306	207	03108	4535	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3498	Res, 4K7, 5%, 1/16W, Metalized Glass . .	3198	021	34720	4537	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3499	Res, 680K, 5%, 1/10W, Metalized Glass. .	3198	021	56840	4604	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3500	Res, 3M3, 5%, 1/2W, Metalized Glass. . .	2322	242	13335	4610	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3501	Res, 3M3, 5%, 1/2W, Metalized Glass. . .	2322	242	13335	4612	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90020
3502	Res, 220 ohm, 20%, 1/2W, Carbon Film . .	3198	013	02210	4620	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
S 3503	Surge Protector. . . . .	2422	549	43073	4631	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3504	Res, 1M5, 5%, 1/2W, Metalized Glass. . .	2322	242	13155	4635	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3505	VDR, 1mA/423V. . . . .	2122	550	00147	4637	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3507	PTC, 3R, 144v, 20% . . . . .	2122	663	00019	4642	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
S 3510	NTC, B57237, 3W1, 4R7, 20% . . . . .	2122	612	00055	4644	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90020
3511	Res, 4R7, 5%, 1/6W, Carbon Film. . . . .	3198	011	04780	4645	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3512	Res, 1K2, 5%, 1/16W, Metalized Glass . .	3198	021	31220	4646	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3513	Res, 2K2, 5%, 1/3W, Metal Film . . . . .	2306	204	03222	4648	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3514	Res, 100 ohm, 5%, 1/3W, Metal Film . . . .	2306	204	03101	4649	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3515	Res, 1K, 5%, 1/6W, Carbon Film . . . . .	3198	011	01020	4691	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3516	Res, 0R1, 5%, 3/5W, Metal Film . . . . .	3198	012	11070	4692	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3517	Res, 300k, 1%, Metalized Glass . . . . .	2322	704	63004	4694	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3518	Res, 3K3, 5%, 1/16W, Metalized Glass . .	3198	021	33320	4696	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3519	Res, 15K, 5%, 1/6W, Carbon Film. . . . .	3198	011	01530	4910	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3520	Res, 0R18, 5%, 1W, Metal Film. . . . .	2120	106	90636	4914	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90020
3521	Res, 3K3, 5%, 1/6W, Carbon Film. . . . .	3198	011	03320	4915	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90020
3522	Res, 56K, 5%, 1/16W, Metalized Glass . .	3198	021	35630	4916	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90020
3524	Res, 47K, 5%, 1/16W, Metalized Glass . .	3198	021	34730	4917	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90020
3530	Res, 220 ohm, 5%, 1/16W, Metalized Glas	3198	021	32210	4921	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90020
3531	Res, 100K, 5%, 1/6W, Carbon Film . . . . .	3198	011	01040	5001	Fixed Inductor, 100MHZ, 120R . . . . .	3198	018	90030
3532	Res, 4R7, 5%, 1/3W, Metal Film . . . . .	2306	204	03478	5002	Coil, 390n . . . . .	3198	018	33970
3533	Res, 8K2, 5%, 1/16W, Metalized Glass . .	3198	021	38220	5201	Fixed, Inductor, 100MHZ, 50R. . . . .	3198	018	90010
3534	Res, 100 ohm, 5%, 1/6W, Carbon Film. . .	3198	011	01010	5202	Fixed Inductor, 100MHZ, 120R . . . . .	3198	018	90030
3537	Res, 2K2, 5%, 1/16W, Metalized Glass . .	3198	021	32220	5203	Fixed Inductor, 100MHZ, 120R . . . . .	3198	018	90030
3538	Res, 1R8, 5%, 1/8W, Metalized Glass. . . .	2322	730	61188	5205	Fixed Inductor, 100MHZ, 120R . . . . .	3198	018	90030
3541	Res, 47K, 5%, 1/16W, Metalized Glass . .	3198	021	34730	5206	Fixed Inductor, 100MHZ, 120R . . . . .	3198	018	90030
3563	Res, 220 ohm, 5%, 1/6W, Carbon Film. . .	3198	011	02210	5207	Fixed Inductor, 100MHZ, 120R . . . . .	3198	018	90030
3565	Res, 15K, 5%, 1/16W, Metalized Glass . .	3198	021	31530	5208	Fixed, Inductor, 100MHZ, 50R. . . . .	3198	018	90010
3571	Res, 220 ohm, 5%, 1/6W, Carbon Film. . .	3198	011	02210	5209	Fixed Inductor, 100MHZ, 120R . . . . .	3198	018	90030
3572	Res, 220 ohm, 5%, 1/16W, Metalized Glas	3198	021	32210	5210	Fixed Inductor, 100MHZ, 120R . . . . .	3198	018	90030
3573	Res, 15K, 5%, 1/16W, Metalized Glass . .	3198	021	31530	5211	Fixed Inductor, 100MHZ, 120R . . . . .	3198	018	90030
3574	Res, 150K, 5%, 1/6W, Carbon Film . . . .	3198	011	01540	5212	Fixed Inductor, 100MHZ, 120R . . . . .	3198	018	90030
3575	Res, 82K, 1%, 3/5W, Metal Film . . . . .	2312	915	18203	5213	Fixed Inductor, 100MHZ, 120R . . . . .	3198	018	90030

S = Safety Part Be sure to use exact replacement part.

## 32PT6441/37 (continued)

5214	Fixed Inductor, 100MHz, 120R . . . . .	3198	018	90030	7406	Transistor, KTC3228Y . . . . .	9322	197	37676
5215	Fixed Inductor, 100MHz, 120R . . . . .	3198	018	90030	7408	Transistor, NPN, BC847B. . . . .	3198	010	42030
5216	Fixed, Inductor, 100MHz, 50R. . . . .	3198	018	90010	7410	Transistor, PNP, BC857B. . . . .	3198	010	42150
5401	Coil, 42uH . . . . .	2422	535	94865	7411	Transistor, PNP, BC857B. . . . .	3198	010	42150
5402	Transformer, Signal Driver . . . . .	2422	531	02617	7451	Transistor, KTD600KY . . . . .	9322	195	14687
5405	Coil, Choqe, 35mH. . . . .	2422	536	00682	7452	Transistor, KTC3228Y . . . . .	9322	197	37676
5408	Coil, Choqe. . . . .	3128	138	37021	7453	Transistor, KTB631KY . . . . .	9322	195	05687
5450	Transformer, LOT, JF0101-85020 . . . . .	2422	531	02602	7454	Transistor, NPN, BC847B. . . . .	3198	010	42030
5451	Wire Jumper, 0.58MM. . . . .	3198	036	90010	7455	Transistor, PNP, BC857B. . . . .	3198	010	42150
5501	Filter, Mains, 5mH, 2A . . . . .	2422	549	43432	7456	Transistor, PNP, BC857B. . . . .	3198	010	42150
5511	Fixed, Inductor, 100MHz, 50R. . . . .	3198	018	90010	7481	Transistor, PNP, BC857B. . . . .	3198	010	42150
5512	Transformer, SMT, Layer. . . . .	2422	531	02626	7482	Transistor, PNP, PPTA114ET . . . . .	3198	010	44010
5531	Transformer, SMT, Layer. . . . .	2422	531	02631	7483	Transistor, PNP, BC857B. . . . .	3198	010	42150
5551	Fixed, Inductor, 100MHz, 50R. . . . .	3198	018	90010	7484	Transistor, NPN, BC847B. . . . .	3198	010	42030
5552	Coil, 27u. . . . .	2422	535	95366	7511	IC, TEA1506T/N1. . . . .	9352	720	43118
5561	Fixed, Inductor, 100MHz, 50R. . . . .	3198	018	90010	7512	Transistor, FET, FQPF9N50. . . . .	9322	187	16687
5562	Fixed, Inductor, 100MHz, 50R. . . . .	3198	018	90010	7513	Optic Coupler, TCET1103(G) . . . . .	9322	140	14667
5603	Fixed, Inductor, 100MHz, 50R. . . . .	3198	018	90010	7514	Transistor, NPN, BC847B. . . . .	3198	010	42030
6001	Zener Diode, 33 volt . . . . .	3198	010	23390	7531	IC, TEA1620P/N1. . . . .	9352	739	52112
6005	Zener Diode, 8.2 volt. . . . .	9322	125	45685	7541	Transistor, PNP, BC857B. . . . .	3198	010	42150
6203	Diode, Signal, BAS316. . . . .	3198	010	10630	7561	Transistor, NPN, PDTC143ZT . . . . .	9340	547	00215
6204	Diode, Rect, SS14. . . . .	3198	010	10710	7571	Transistor, NPN, BC547B. . . . .	3198	020	40030
6205	Zener Diode, 27 volt . . . . .	3198	020	52790	7573	Transistor, NPN, PDTC114ET . . . . .	3198	010	44110
6207	Diode, Signal, BAS316. . . . .	3198	010	10630	7601	IC, M24C16-WBN6. . . . .	9322	147	25682
6209	Diode, Signal, BAT51, SOD323 . . . . .	3198	010	10660	7603	IC, L78L33ACZ. . . . .	9322	134	92676
6210	Zener Diode, 5.6 volt. . . . .	3198	020	55680	7604	Transistor, NPN, BC847B. . . . .	3198	010	42030
6211	Zener Diode, 5.6 volt. . . . .	3198	020	55680	7605	Transistor, PNP, BC327-25. . . . .	3198	020	43430
6401	Diode, Rect, BYV97G. . . . .	9335	214	80133	7606	Transistor, NPN, BC847B. . . . .	3198	010	42030
6403	Diode, Rect, BYV27-200. . . . .	9322	126	72673	7990	IC, TDA2616Q/N1. . . . .	9350	404	10112
6404	Diode, Rect, DMV1500M . . . . .	9322	169	61687	7991	Transistor, NPN, BC847B. . . . .	3198	010	42030
6406	Diode, Rect, RGP10G. . . . .	9334	939	60673	7992	Transistor, NPN, BC847B. . . . .	3198	010	42030
6407	Diode, BAV21WS . . . . .	9322	197	45703	8401	Cable, 5 Pin, 560mm. . . . .	3139	121	09041
6408	Diode, BAV21WS . . . . .	9322	197	45703	9002	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6410	Diode, Rect, BY448 . . . . .	9335	001	20133	9112	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6441	Zener Diode, 68 volt . . . . .	9322	150	20685	9113	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6442	Zener Diode, 68 volt . . . . .	9322	150	20685	9114	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6443	Zener Diode, 10 volt . . . . .	3198	020	51090	9116	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6450	Diode, Signal, BAS316. . . . .	3198	010	10630	9120	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6451	Zener Diode, 4.7 volt. . . . .	3198	020	54780	9121	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6452	Diode, Rect, BYV27-200. . . . .	9322	126	72673	9122	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6453	Diode, Rect, RGP10G. . . . .	9334	939	60673	9123	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6454	Diode, Rect, RGP10G. . . . .	9334	939	60673	9124	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6455	Diode, Rect, RGP10G. . . . .	9334	939	60673	9125	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6456	Diode, Rect, PBYS10100. . . . .	9340	205	70127	9126	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6457	Diode, Signal, BAS316. . . . .	3198	010	10630	9128	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6458	Diode, Signal, BAS316. . . . .	3198	010	10630	9129	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6459	Diode, Rect, RGP10G. . . . .	9334	939	60673	9138	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6480	Zener Diode, 6.8 volt. . . . .	3198	010	56880	9202	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6481	Diode, Signal, 1N4148. . . . .	3198	010	10010	9203	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6482	Zener Diode, 6.8 volt. . . . .	3198	020	56880	9204	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6483	Diode, BAV21WS . . . . .	9322	197	45703	9205	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6484	Diode, BAV21WS . . . . .	9322	197	45703	9206	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6486	Diode, Signal, BAV21 . . . . .	3198	010	10070	9207	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6488	Diode, Signal, BAS316. . . . .	3198	010	10630	9208	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6489	Zener Diode, 33 volt . . . . .	3198	020	53390	9209	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6500	Diode, Bridge Rect, GBU6JL-7002 . . . . .	9322	138	08667	9210	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6511	Diode, Rect, RGP10D . . . . .	9337	516	60673	9211	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6512	Diode, Signal, BAT51, SOD323 . . . . .	3198	010	10660	9212	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6514	Diode, Signal, BAS316. . . . .	3198	010	10630	9213	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6531	Zener Diode, 15 volt . . . . .	3198	020	51590	9214	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6532	Diode, BAV21WS . . . . .	9322	197	45703	9216	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6533	Zener Diode, 6.8 volt. . . . .	9322	171	80685	9217	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6534	Zener Diode, 3.9 volt. . . . .	9322	199	75685	9218	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6535	Diode, Rect, SB160 . . . . .	9322	198	24673	9219	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6536	Diode, Rect, SB180 . . . . .	9322	198	25673	9220	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6541	Zener Diode, 12 volt . . . . .	3198	020	51290	9221	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6551	Diode, Rect, BYV29X-500. . . . .	9340	555	59127	9222	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6562	Diode, Rect, SB360 . . . . .	3198	010	10700	9223	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6563	Diode, Rect, SB360 . . . . .	3198	010	10700	9224	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6564	Diode, Signal, BAS316. . . . .	3198	010	10630	9225	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6565	Zener Diode, 9.1 volt. . . . .	9322	125	46685	9226	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6566	Diode, Signal, BAS316. . . . .	3198	010	10630	9227	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6571	Diode, Signal, BAV70 . . . . .	9331	849	10215	9228	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6572	Zener Diode, 6.2 volt. . . . .	9340	548	54115	9229	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6573	Zener Diode, 9.1 volt. . . . .	9331	177	80133	9230	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6575	Diode, Rect, 1N5392 . . . . .	9322	005	16683	9231	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6602	Diode, Signal, BAV99 . . . . .	3198	010	10620	9232	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6694	Zener Diode, 5.1 volt. . . . .	3198	020	55180	9233	Wire Jumper, 0.58MM. . . . .	3198	036	90010
7200	IC, TDA12001H1/N1B501AD. . . . .	9352	754	35557	9234	Wire Jumper, 0.58MM. . . . .	3198	036	90010
7201	Transistor, NPN, IMX1 . . . . .	9322	054	28685	9235	Wire Jumper, 0.58MM. . . . .	3198	036	90010
7203	Transistor, PNP, BC327-25. . . . .	3198	020	43430	9236	Wire Jumper, 0.58MM. . . . .	3198	036	90010
7204	Transistor, PNP, BC327-25. . . . .	3198	020	43430	9237	Wire Jumper, 0.58MM. . . . .	3198	036	90010
7205	Transistor, NPN, BC847B. . . . .	3198	010	42030	9238	Wire Jumper, 0.58MM. . . . .	3198	036	90010
7207	Transistor, NPN, BC847B. . . . .	3198	010	42030	9239	Wire Jumper, 0.58MM. . . . .	3198	036	90010
7208	Transistor, NPN, BC847B. . . . .	3198	010	42030	9240	Wire Jumper, 0.58MM. . . . .	3198	036	90010
7209	F.E.T. Signal, BSH103. . . . .	9340	547	13215	9241	Wire Jumper, 0.58MM. . . . .	3198	036	90010
7210	F.E.T. Signal, BSH103. . . . .	9340	547	13215	9244	Wire Jumper, 0.58MM. . . . .	3198	036	90010
7401	Transistor, NPN, BSH103 . . . . .	9322	101	38687	9245	Wire Jumper, 0.58MM. . . . .	3198	036	90010
7402	Transistor, NPN, BC847B. . . . .	3198	010	42030	9246	Wire Jumper, 0.58MM. . . . .	3198	036	90010
7403	Transistor, NPN, BC847B. . . . .	3198	010	42030	9247	Wire Jumper, 0.58MM. . . . .	3198	036	90010
7404	F.E.T. Signal, BSH103. . . . .	9340	547	13215	9248	Wire Jumper, 0.58MM. . . . .	3198	036	90010
7405	Transistor, NPN, BU4508DX. . . . .	9340	550	92127	9249	Wire Jumper, 0.58MM. . . . .	3198	036	90010





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**Cabinet Parts**

Cabinet Parts			
0002	Cabinet Front (part of Cabinet Front Assembly).	3139	177 82111
0008	Cabinet Back	3139	124 60901
0016	Power Button (part of Cabinet Front Assembly).	3139	177 82071
0020	Degaussing Coil Holder (4 Used).	3135	013 01661
0030	Chassis Tray	3139	124 31325
0041	Light Guide (part of Cabinet Front Assembly).	3139	124 39701
0048	Cabinet Back Screw Cover (2 Used).	3139	124 60911
0050	Nameplate (part of Cabinet Front Assembly).	3139	120 01741
0052	Top Control Assembly	3139	177 82081
0064	Front Interface Panel Bracket.	3139	124 32892
0125	Owner's Manual	3121	235 21521
0205	Side Jack Panel Bracket.	3139	124 60871
0940	Cabinet Front Assembly	3121	237 55501
1081	Batteries for Remote Control	9299	000 65263
S 1099	CRT, A80ERF042X14.	9301	927 10539
S 5203	Degaussing Coil	3139	128 24021
S 5205	Canceller Coil	2422	549 45605
5213	Speaker, 10W, 16 ohm (part of Cabinet Front Assembly)	2422	264 00482
5214	Speaker, 10W, 16 ohm (part of Cabinet Front Assembly)	2422	264 00482
S 8190	AC Cord.	2422	070 98202
REMOTE	Remote Control, RC19036001/01A	3139	238 04303

**CRT Panels**

CRT Panels			
0035	U-Cooling Plate.	3139	121 26731
0085	IC-Spring.	3104	301 22081
0087	U-Cooling Plate.	3139	121 26731
1256	Socket, CRT, 9 Pin	2422	500 80058
S 1331	Connector, 7 Pin	2422	025 04855
S 1351	Connector, 5 Pin	2422	025 04853
1361	Connector, 3 Pin	2412	020 00725
1381	Connector, 3 Pin	2412	020 00725
2330	Cap, 100n, 10%, 250v, Metalized Polyester	2022	318 00198
2331	Cap, 10n, 10%, 50v, Ceramic	3198	017 31030
2332	Cap, 10n, 10%, 630v, Ceramic	2020	558 90621
2333	Cap, 1n, 10%, 50v, Ceramic	3198	017 31020
2335	Cap, 47n, 10%, 250v, Ceramic	2020	557 90733
2351	Cap, 10u, 20%, 250v, Electrolytic	2038	035 13903
2361	Cap, 220n, 10%, 63v, Metalized Polyester	2222	365 75224
2362	Cap, 1n, 10%, 50v, Ceramic	3198	017 31020
2363	Cap, 22u, 20%, 100v, Electrolytic	3198	025 72290
2364	Cap, 4n7, 10%, 400v, Metalized Polyester	2222	365 55472
2365	Cap, 4n7, 10%, 50v, Ceramic	3198	017 34720
2367	Cap, 10u, 20%, 100v, Electrolytic	3198	025 71090
2368	Cap, 22u, 20%, 100v, Electrolytic	3198	025 72290
2376	Cap, 22n, 10%, 25v, Ceramic	3198	017 32230
2381	Cap, 100u, 20%, 25v, Electrolytic	3198	025 31010
2382	Cap, 100n, 10%, 16v, Ceramic	3198	017 31040
2383	Cap, 1u, +80%/-20%, 25v, Ceramic	2020	552 96723
2384	Cap, 220p, 5%, 50v, Ceramic	3198	016 32210
2385	Cap, 220p, 5%, 50v, Ceramic	3198	016 32210
2386	Cap, 100n, 10%, 16v, Ceramic	3198	017 31040
2387	Cap, 10p, 5%, 50v, Ceramic	3198	016 31090
3328	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198	021 31010
3329	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198	021 31010
3330	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198	021 31010
3331	Res, 100 ohm, 5%, 1/6W, Carbon Film	3198	011 01010
3332	Res, 1K, 20%, 1/2W, Carbon Film	3198	013 01020
3333	Res, 100 ohm, 5%, 1/6W, Carbon Film	3198	011 01010
3334	Res, 1K, 20%, 1/2W, Carbon Film	3198	013 01020
3335	Res, 100 ohm, 5%, 1/6W, Carbon Film	3198	011 01010
3336	Res, 1K, 20%, 1/2W, Carbon Film	3198	013 01020
3351	Res, 100 ohm, 5%, 1/3W, Metal Film	2306	204 03101
3354	Res, 1K5, 20%, 1/2W, Carbon Film	3198	013 01520
3356	Res, 10 ohm, 1%, 3/5W, Metal Film	2312	915 11009
3357	VDR, 1mA/18V	2122	552 00004
3361	Res, 1K5, 5%, 1/16W, Metalized Glass	3198	021 31520
3362	Res, 10 ohm, 5%, 1/3W, Metal Film	2306	204 03109
3363	Res, 560 ohm, 5%, 1/16W, Metalized Glass	3198	021 35610
3364	Res, 1R5, 5%, 1/4W, Carbon Film	2122	101 02083
3365	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198	021 31010
3366	Res, 68K, 5%, 1/16W, Metalized Glass	3198	021 36830
3367	Res, 68K, 5%, 1/6W, Carbon Film	3198	011 06830
3368	Res, 560 ohm, 5%, 1/16W, Metalized Glass	3198	021 35610
3369	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198	021 31010
3370	Res, 1R5, 5%, 1/16W, Metalized Glass	2322	702 60158
3371	Res, 470 ohm, 5%, 1/6W, Carbon Film	3198	011 04710
3373	Res, 1K5, 5%, 5W, Metal Film	2322	257 41152
3375	Res, 180K, 5%, 1/8W, Metalized Glass	2322	730 61184
3376	Res, 68K, 5%, 1/16W, Metalized Glass	3198	021 36830
3381	Res, 10 ohm, 5%, 1/6W, Carbon Film	3198	011 01090
3383	Res, 3K3, 5%, 1/10W, Metalized Glass	3198	021 53320
3384	Res, 10K, 5%, 1/16W, Metalized Glass	3198	021 31030
3385	Res, 680 ohm, 5%, 1/16W, Metalized Glass	3198	021 36810

S = Safety Part Be sure to use exact replacement part.

3387	Res, 1K8, 5%, 1/16W, Metalized Glass	3198	021 31820
3388	Res, 33 ohm, 5%, 1/16W, Metalized Glass	3198	021 33390
3389	Res, 33 ohm, 5%, 1/16W, Metalized Glass	3198	021 33390
3390	Res, 1K2, 5%, 1/16W, Metalized Glass	3198	021 31220
4337	Res, Zero ohm, "Chip" Jumper	3198	021 90030
4370	Res, Zero ohm, "Chip" Jumper	3198	021 90020
4374	Res, Zero ohm, "Chip" Jumper	3198	021 90030
5330	Fixed, Inductor, 100MHZ, 50R.	3198	018 90010
5331	Fixed, Inductor, 100MHZ, 50R.	3198	018 90010
5351	Coil, 22u.	2422	535 97333
5361	Fixed, Inductor, 100MHZ, 50R.	3198	018 90010
6331	Diode, Signal, BAV21	3198	010 10070
6332	Diode, Signal, BAV21	3198	010 10070
6333	Diode, Signal, BAV21	3198	010 10070
6361	Diode, Signal, BAV99	3198	010 10620
6376	Diode, Signal, BAV99	3198	010 10620
6381	Diode, Signal, BAS316.	3198	010 10630
6383	Diode, Rect, RGP10D	9337	516 60673
7330	IC, TDA6107AJF/N1B	9352	636 44112
7331	Transistor, NPN, BC847B.	3198	010 42030
7332	Transistor, PNP, BC857B.	3198	010 42150
7361	Transistor, NPN, BC847B.	3198	010 42030
7362	Transistor, PNP, BC857B.	3198	010 42150
7363	Transistor, KTB631KY	9322	195 05687
7364	Transistor, KTD600KY	9322	195 14687
7376	Transistor, PNP, BC857B.	3198	010 42150
7381	Transistor, NPN, BC337	9331	796 00126
7382	Transistor, NPN, BC337	9331	796 00126
9352	Wire Jumper, 0.58MM.	3198	036 90010
9373	Wire Jumper, 0.58MM.	3198	036 90010
9390	Wire Jumper, 0.58MM.	3198	036 90010

**Front Interface Panel**

Front Interface Panel			
CBA	Front Interface Panel.	3139	188 52711
1606	Switch, Tactile.	2422	128 02742
1693	Connector, 6 Pin	2422	025 10738
2691	Cap, 220u, 20%, 25v, Electrolytic	3198	025 32210
2698	Cap, 100n, 10%, 50v, Polyester	3198	014 01040
3691	Res, 1K2, 5%, 1/6W, Carbon Film	3198	011 01220
3693	Res, 220 ohm, 5%, 1/6W, Carbon Film	3198	011 02210
3694	Res, 4K7, 5%, 1/6W, Carbon Film	3198	011 04720
6691	LED.	9322	185 69682
6692	IR Receiver, TSOP1836UH3V.	9322	127 54667
9685	Wire Jumper, 0.58MM.	3198	036 90010

**LTI/CTI Interface Panel**

LTI/CTI Interface Panel			
CBA	LTI/CTI Interface Panel.	3139	188 65941
1212	Connector, 12 Pin.	2422	025 16219
2610	Cap, 100n, 10%, 16v, Ceramic	3198	017 31040
2611	Cap, 220u, 20%, 25v, Electrolytic	3198	025 32210
2630	Cap, 1u, +80/-20%, 10v, Ceramic	3198	017 41050
2631	Cap, 1u, +80/-20%, 10v, Ceramic	3198	017 41050
2634	Cap, 68p, 5%, 50v, Ceramic	3198	016 36890
2636	Cap, 470n, 10%, 50v, Polyester	3198	014 04740
2638	Cap, 82n, 16V, 10%, Ceramic	2238	786 55648
3630	Res, 10K, 5%, 1/16W, Metalized Glass	3198	021 31030
3631	Res, 10K, 5%, 1/16W, Metalized Glass	3198	021 31030
3632	Res, 270 ohm, 5%, 1/16W, Metalized Glass	3198	021 32710
3633	Res, 1K2, 5%, 1/16W, Metalized Glass	3198	021 31220
3634	Res, 1K, 5%, 1/16W, Metalized Glass	3198	021 31020
3635	Res, 560 ohm, 5%, 1/16W, Metalized Glass	3198	021 35610
3636	Res, 470 ohm, 5%, 1/16W, Metalized Glass	3198	021 34710
3637	Res, 2M2, 5%, 1/16W, Metalized Glass	3198	021 32250
3638	Res, 470K, 5%, 1/16W, Metalized Glass	3198	021 34740
4610	Res, Zero ohm, "Chip" Jumper	3198	021 90030
4611	Res, Zero ohm, "Chip" Jumper	3198	021 90030
4612	Res, Zero ohm, "Chip" Jumper	3198	021 90030
4613	Res, Zero ohm, "Chip" Jumper	3198	021 90030
4617	Res, Zero ohm, "Chip" Jumper	3198	021 90030
4625	Res, Zero ohm, "Chip" Jumper	3198	021 90020
4632	Res, Zero ohm, "Chip" Jumper	3198	021 90030
4633	Res, Zero ohm, "Chip" Jumper	3198	021 90030
4634	Res, Zero ohm, "Chip" Jumper	3198	021 90030
4635	Res, Zero ohm, "Chip" Jumper	3198	021 90020
4637	Res, Zero ohm, "Chip" Jumper	3198	021 90030
6610	Diode, Signal, BAS316.	3198	010 10630
6633	Diode, Signal, BAS316.	3198	010 10630
6635	Diode, Signal, BAS316.	3198	010 10630
6636	Diode, Signal, BAS316.	3198	010 10630
7630	Transistor, NPN, BC847B.	3198	010 42030
7635	Transistor, PNP, BC857B.	3198	010 42150
9613	Wire Jumper, 0.58MM.	3198	036 90010
9614	Wire Jumper, 0.58MM.	3198	036 90010
9615	Wire Jumper, 0.58MM.	3198	036 90010
9616	Wire Jumper, 0.58MM.	3198	036 90010
9617	Wire Jumper, 0.58MM.	3198	036 90010
9618	Wire Jumper, 0.58MM.	3198	036 90010

**Linearity & Panorama Panel**

Linearity & Panorama Panel

# 32PT6442/37 (continued)

### Side Jack Panel

	CBA	Side Jack Panel	3139	188	67091
1232		Headphone Jack	2422	026	04471
1250		A/V Jack	2422	026	05538
1252		Connector, 7 Pin	2422	025	11244
1254		Connector, 5 Pin	2422	025	12481
1278		Connector, 4 Pin	2422	025	12479
2171		Cap, 330p, 10%, 50v, Ceramic	3198	019	13310
2172		Cap, 330p, 10%, 50v, Ceramic	3198	019	13310
2173		Cap, 330p, 10%, 50v, Ceramic	3198	019	13310
2174		Cap, 330p, 10%, 50v, Ceramic	3198	019	13310
2175		Cap, 2u2, 20%, 50v, Electrolytic	3198	029	52280
2176		Cap, 100n, 10%, 16v, Ceramic	3198	017	31040
2178		Cap, 470p, 10%, 50v, Ceramic	3198	017	34710
2180		Cap, 2u2, 20%, 50v, Electrolytic	3198	029	52280
3150		Res, 47K, 5%, 1/6W, Carbon Film	3198	011	04730
3151		Res, 22K, 5%, 1/6W, Carbon Film	3198	011	02230
3152		Res, 47K, 5%, 1/6W, Carbon Film	3198	011	04730
3153		Res, 22K, 5%, 1/6W, Carbon Film	3198	011	02230
3154		Res, 75 ohm, 5%, 1/6W, Carbon Film	3198	011	07590
3156		Res, 820 ohm, 5%, 1/6W, Carbon Film	3198	011	08210
3157		Res, 820 ohm, 5%, 1/6W, Carbon Film	3198	011	08210
3160		Res, 100 ohm, 5%, 1/6W, Carbon Film	3198	011	01010
9181		Wire Jumper, 0.58MM	3198	036	90010

### Top Control Panel

	CBA	Top Control Panel	3139	188	67081
1010		Connector, 3 Pin	2422	025	09191
1011		Switch, Tactile	2422	128	02742
1012		Switch, Tactile	2422	128	02742
1013		Switch, Tactile	2422	128	02742
1014		Switch, Tactile	2422	128	02742
3011		Res, 150 ohm, 5%, 1/16W, Metalized Glas	3198	021	31510
3012		Res, 390 ohm, 5%, 1/16W, Metalized Glas	3198	021	33910
3013		Res, 1K8, 1%, 1/16W, Metalized Glass	2322	704	61802
3014		Res, Zero ohm, "Chip" Jumper	3198	021	90030
3015		Res, 820 ohm, 1%, 1/16W, Metalized Glas	2322	704	68201
3016		Res, Zero ohm, "Chip" Jumper	3198	021	90030

### Main Chassis

	CBA	Main Chassis	3139	188	58351
1000		Tuner, V+U PLL	2422	542	90141
1002		S.A.W. Filter, 45MHz75, OFWM1971M	2422	549	44518
1005		Connector, 3 Pin	2412	020	00725
1137		MDIN Socket	2422	026	05428
1204		Connector, 7 Pin	2422	025	04855
1205		Crystal Resonator, 24MHz576	2422	543	00943
1207		Connector, 7 Pin	2422	025	11244
1212		Connector, 12 Pin	2422	025	16052
1223		12 Pin Cinch Socket	2422	026	05463
1280		Connector, 5 Pin	2422	025	12481
S 1401		Connector, 5 Pin	2422	025	04853
1402		Connector, 1 Pin	2422	034	20021
1404		Connector, 4 Pin	2422	025	15503
1451		Connector, 2 Pin	2422	025	10646
1452		Fuse, 1.25 Amp, 250V	2422	086	10517
1454		Fuse, 1.25 Amp, 250V	2422	086	10517
S 1500		Fuse, 4A, 250V, IEC	2422	086	10914
S 1503		Relay, 12V, 5A GSPA-1	2422	132	07444
1504		Connector, 2 Pin	2422	025	16375
1505		Connector, 2 Pin	2422	025	16269
1682		Connector, 3 Pin	2412	020	00725
1693		Connector, 6 Pin	2422	025	12482
2001		Cap, 22p, 5%, 50v, Ceramic	3198	016	32290
2004		Cap, 47n, +80/-20%, 50v, Ceramic	3198	024	44730
2006		Cap, 470u, 20%, 16v, Electrolytic	3198	025	24710
2007		Cap, 100n, 10%, 16v, Ceramic	3198	017	31040
2008		Cap, 100u, 20%, 25v, Electrolytic	3198	025	31010
2103		Cap, 330p, 10%, 50v, Ceramic	3198	017	33310
2104		Cap, 330p, 10%, 50v, Ceramic	3198	017	33310
2105		Cap, 10u, 20%, 50v, Electrolytic	3198	025	51090
2106		Cap, 10u, 20%, 50v, Electrolytic	3198	025	51090
2122		Cap, 330p, 10%, 50v, Ceramic	3198	017	33310
2123		Cap, 2u2, 20%, 50v, Electrolytic	3198	025	52280
2124		Cap, 330p, 10%, 50v, Ceramic	3198	017	33310
2125		Cap, 2u2, 20%, 50v, Electrolytic	3198	025	52280
2131		Cap, 330p, 10%, 50v, Ceramic	3198	017	33310
2132		Cap, 2u2, 20%, 50v, Electrolytic	3198	025	52280
2133		Cap, 330p, 10%, 50v, Ceramic	3198	017	33310
2134		Cap, 2u2, 20%, 50v, Electrolytic	3198	025	52280
2203		Cap, 100u, 20%, 10v, Electrolytic	3198	025	11010
2204		Cap, 22n, 10%, 25v, Ceramic	3198	017	32230
2205		Cap, 220n, +80/-20%, 16v, Ceramic	3198	017	42240
2206		Cap, 220n, +80/-20%, 25v, Ceramic	3198	023	22240
2207		Cap, 220n, +80/-20%, 25v, Ceramic	3198	023	22240
2208		Cap, 220n, +80/-20%, 25v, Ceramic	3198	023	22240
2209		Cap, 220n, +80/-20%, 16v, Ceramic	3198	017	42240
2210		Cap, 220n, +80/-20%, 16v, Ceramic	3198	017	42240

2211		Cap, 220n, +80/-20%, 16v, Ceramic	3198	017	42240
2212		Cap, 220n, +80/-20%, 16v, Ceramic	3198	017	42240
2213		Cap, 220n, +80/-20%, 16v, Ceramic	3198	017	42240
2214		Cap, 100n, 10%, 16v, Ceramic	3198	017	31040
2215		Cap, 220n, +80/-20%, 16v, Ceramic	3198	017	42240
2216		Cap, 220n, +80/-20%, 16v, Ceramic	3198	017	42240
2217		Cap, 100u, 20%, 25v, Electrolytic	3198	025	31010
2218		Cap, 47u, 20%, 25v, Electrolytic	3198	025	34790
2222		Cap, 5n6, 10%, 50v, Ceramic	2238	586	15633
2223		Cap, 100n, 10%, 16v, Ceramic	3198	017	31040
2224		Cap, 100u, 20%, 25v, Electrolytic	3198	025	31010
2225		Cap, 220n, +80/-20%, 16v, Ceramic	3198	017	42240
2226		Cap, 220n, +80/-20%, 16v, Ceramic	3198	017	42240
2229		Cap, 220n, +80/-20%, 16v, Ceramic	3198	017	42240
2230		Cap, 10u, 20%, 50v, Electrolytic	3198	025	51090
2231		Cap, 100n, 10%, 16v, Ceramic	3198	017	31040
2232		Cap, 100n, 10%, 16v, Ceramic	3198	017	31040
2233		Cap, 100n, 10%, 16v, Ceramic	3198	017	31040
2234		Cap, 100u, 20%, 25v, Electrolytic	3198	025	31010
2235		Cap, 6n8, 10%, 50v, Ceramic	3198	017	36820
2236		Cap, 10n, 10%, 50v, Ceramic	3198	017	31030
2237		Cap, 100n, 10%, 16v, Ceramic	3198	017	31040
2238		Cap, 220n, +80/-20%, 16v, Ceramic	3198	017	42240
2239		Cap, 220n, +80/-20%, 16v, Ceramic	3198	017	42240
2240		Cap, 1u5, 20%, 50v, Electrolytic	2020	021	90137
2241		Cap, 22n, 10%, 25v, Ceramic	3198	017	32230
2242		Cap, 100n, 10%, 16v, Ceramic	3198	017	31040
2243		Cap, 100n, 10%, 16v, Ceramic	3198	017	31040
2244		Cap, 2u2, +80/-20%, 10v, Ceramic	3198	017	22250
2245		Cap, 1n, 5%, 25v, Ceramic	3198	016	31020
2246		Cap, 100n, 10%, 16v, Ceramic	3198	017	31040
2247		Cap, 100n, 10%, 16v, Ceramic	3198	017	31040
2248		Cap, 1n, 5%, 25v, Ceramic	3198	016	31020
2249		Cap, 100n, 10%, 16v, Ceramic	3198	017	31040
2250		Cap, 100u, 20%, 25v, Electrolytic	3198	025	31010
2251		Cap, 150n, 5%, 50v, Metalized Polyester	2022	318	00212
2252		Cap, 10n, 10%, 50v, Ceramic	3198	017	31030
2253		Cap, 10n, 10%, 50v, Ceramic	3198	017	31030
2254		Cap, 1n, 10%, 50v, Ceramic	3198	017	31020
2255		Cap, 10n, 10%, 50v, Ceramic	3198	017	31030
2256		Cap, 100n, 10%, 16v, Ceramic	3198	017	31040
2257		Cap, 3n3, 10%, 50v, Ceramic	3198	017	33320
2259		Cap, 1u, +80/-20%, 10v, Ceramic	3198	017	41050
2260		Cap, 100n, 10%, 16v, Ceramic	3198	017	31040
2261		Cap, 100n, 10%, 16v, Ceramic	3198	017	31040
2262		Cap, 10n, 10%, 50v, Ceramic	3198	017	31030
2263		Cap, 100n, 10%, 16v, Ceramic	3198	017	31040
2264		Cap, 560p, 5%, 25v, Ceramic	3198	016	35610
2265		Cap, 100u, 20%, 25v, Electrolytic	3198	025	31010
2266		Cap, 2u2, +80/-20%, 10v, Ceramic	3198	017	22250
2267		Cap, 2u2, +80/-20%, 10v, Ceramic	3198	017	22250
2272		Cap, 100n, 10%, 16v, Ceramic	3198	017	31040
2273		Cap, 100u, 20%, 25v, Electrolytic	3198	025	31010
2274		Cap, 100n, 10%, 16v, Ceramic	3198	017	31040
2275		Cap, 10u, 20%, 50v, Electrolytic	3198	025	51090
2276		Cap, 100n, +80/-20%, 25v, Ceramic	3198	023	21040
2279		Cap, 100p, 5%, 50v, Ceramic	3198	016	31010
2280		Cap, 1u, +80/-20%, 10v, Ceramic	3198	017	41050
2282		Cap, 1n, 10%, 50v, Ceramic	3198	017	31020
2288		Cap, 1n, 10%, 50v, Ceramic	3198	017	31020
2289		Cap, 1n, 10%, 50v, Ceramic	3198	017	31020
2401		Cap, 4u7, 20%, 50v, Electrolytic	3198	028	54780
2402		Cap, 15n, 10%, 50v, Ceramic	3198	017	31530
2403		Cap, 33n, 10%, 16v, Ceramic	3198	017	33330
2404		Cap, 47u, 20%, 160v, Electrolytic	2022	031	00103
2405		Cap, 1n, 10%, 2000v, Ceramic	3198	019	71020
2406		Cap, 680p, 10%, 500v, Ceramic	3198	019	46810
2408		Cap, 100p, 5%, 50v, Ceramic	3198	016	31010
2409		Cap, 100n, +80/-20%, 25v, Ceramic	3198	023	41040
2410		Cap, 100n, +80/-20%, 25v, Ceramic	3198	023	21040
2411		Cap, 680p, 10%, 2000v, Ceramic	3198	019	76810
2412		Cap, 12n, 5%, 1600v, Polypropylene	2222	375	90156
2413		Cap, 33n, 10%, 400v, Polyester	2222	347	90227
2414		Cap, 1u, +80/-20%, 10v, Ceramic	3198	017	41050
2415		Cap, 2u2, 20%, 160v, Electrolytic	2022	031	00172
2418		Cap, 270n, 5%, 250v, Metalized Polypropylene	2222	479	90016
2419		Cap, 2u2, 5%, 100v, Metalized Polyester	2222	468	90324
2420		Cap, 1u, +80/-20%, 10v, Ceramic	3198	017	41050
2425		Cap, 10n, 10%, 50v, Ceramic	3198	017	31030
2428		Cap, 33n, 10%, 16v, Ceramic	3198	017	33330

### 32PT6442/37 (continued)

2464	Cap, 470p, 5%, 50v, Ceramic. . . . .	3198 016 34710	3135	Res, 75 ohm, 5%, 1/16W, Metalized Glass	3198 021 37590
2465	Cap, 10u, 20%, 100v, Electrolytic. . . . .	3198 025 71090	3167	Res, 75 ohm, 5%, 1/6W, Carbon Film . .	3198 011 07590
2467	Cap, 10n, 10%, 400v, Metalized Polyester	2222 365 55103	3168	Res, 75 ohm, 5%, 1/16W, Metalized Glass	3198 021 37590
2468	Cap, 220p, 5%, 50v, Ceramic. . . . .	3198 016 32210	3169	Res, 75 ohm, 5%, 1/16W, Metalized Glass	3198 021 37590
2469	Cap, 220n, +80/-20%, 16v, Ceramic. . . .	3198 017 42240	3201	Res, 1K, 5%, 1/6W, Carbon Film . . . . .	3198 011 01020
2470	Cap, 100n, 10%, 100v, Ceramic. . . . .	2222 601 55649	3202	Res, 3K3, 5%, 1/16W, Metalized Glass .	3198 021 33320
2484	Cap, 10u, 20%, 50v, Electrolytic. . . . .	2020 009 00001	3203	Res, 150K, 5%, 1/16W, Metalized Glass.	3198 021 31540
2486	Cap, 27p, 5%, 500v, Ceramic. . . . .	2252 508 08255	3204	Res, 3K3, 5%, 1/16W, Metalized Glass .	3198 021 33320
2487	Cap, 2n2, 10%, 50v, Ceramic. . . . .	3198 017 02220	3205	Res, 12K, 5%, 1/16W, Metalized Glass .	3198 021 31230
2489	Cap, 10n, 10%, 50v, Ceramic. . . . .	3198 017 31030	3206	Res, 5K6, 5%, 1/16W, Metalized Glass .	3198 021 35620
2500	Cap, 470n, 20%, 275V, Metalized Polypropylene	2222 338 22474	3207	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010
2503	Cap, 2n2, 10%, 1000v, Ceramic. . . . .	3198 019 52220	3208	Res, 27K, 5%, 1/16W, Metalized Glass .	3198 021 32730
2504	Cap, 2n2, 10%, 1000v, Ceramic. . . . .	3198 019 52220	3209	Res, 1 ohm, 5%, 1/16W, Metalized Glass	3198 021 31080
2505	Cap, 470u, 20%, 200v, Electrolytic. . . .	2022 020 00852	3210	Res, 1 ohm, 5%, 1/16W, Metalized Glass	3198 021 31080
2511	Cap, 22u, 20%, 50v, Electrolytic. . . . .	3198 025 52290	3211	Res, 27K, 5%, 1/16W, Metalized Glass .	3198 021 32730
2512	Cap, 100n, 10%, 16v, Ceramic. . . . .	3198 017 31040	3212	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010
2513	Cap, 470p, 10%, 50v, Ceramic. . . . .	3198 017 34710	3214	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010
2514	Cap, 1n5, 10%, 2000v, Ceramic. . . . .	3198 019 71520	3215	Res, 4K7, 5%, 1/6W, Carbon Film. . . .	3198 011 04720
2515	Cap, 470p, 5%, 50v, Ceramic. . . . .	3198 016 34710	3216	Res, 10 ohm, 5%, 1/16W, Metalized Glass	3198 021 31090
2516	Cap, 100n, 10%, 16v, Ceramic. . . . .	3198 017 31040	3218	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010
2517	Cap, 1n, 10%, 50v, Ceramic. . . . .	3198 017 31020	3219	Res, 10K, 5%, 1/16W, Metalized Glass .	3198 021 31030
2519	Cap, 100p, 5%, 100v, Ceramic. . . . .	2020 557 90726	3220	Res, 150 ohm, 5%, 1/16W, Metalized Glas	3198 021 31510
2530	Cap, 330p, 5%, 100v, Ceramic. . . . .	2020 557 00005	3221	Res, 270 ohm, 5%, 1/16W, Metalized Glas	3198 021 32710
2531	Cap, 470p, 5%, 50v, Ceramic. . . . .	3198 016 34710	3222	Res, 680 ohm, 5%, 1/16W, Metalized Glas	3198 021 36810
2532	Cap, 10u, 10%, 16v, Ceramic. . . . .	2020 552 96823	3224	Res, 560K, 5%, 1/4W, Carbon Film . . .	2122 101 02086
2533	Cap, 4n7, 10%, 50v, Ceramic. . . . .	3198 017 34720	3225	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010
2534	Cap, 68p, 5%, 1kV, Ceramic. . . . .	2020 558 90261	3226	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010
2535	Cap, 1000u, 20%, 6.3v, Electrolytic. . . .	3198 025 01020	3227	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010
2536	Cap, 2u2, 20%, 10v, Electrolytic. . . . .	2020 012 93728	3228	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010
2538	Cap, 470p, 10%, 50v, Ceramic. . . . .	3198 017 34710	3229	Res, 1K5, 5%, 1/16W, Metalized Glass .	3198 021 31520
2539	Cap, 470p, 10%, 500v, Ceramic. . . . .	3198 019 44710	3230	Res, 100 ohm, 5%, 1/6W, Carbon Film. .	3198 011 01010
2541	Cap, 47u, 20%, 25v, Electrolytic. . . . .	3198 025 34790	3231	Res, 100 ohm, 5%, 1/6W, Carbon Film. .	3198 011 01010
S 2542	Cap, 1n5, 20%, 250v, Ceramic. . . . .	2020 554 90199	3232	Res, 12K, 5%, 1/16W, Metalized Glass .	3198 021 31230
2543	Cap, 2n2, 10%, 500v, Ceramic. . . . .	3198 019 42220	3233	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010
2549	Cap, 100p, 5%, 50v, Ceramic. . . . .	3198 016 31010	3234	Res, 100 ohm, 5%, 1/6W, Carbon Film. .	3198 011 01010
2550	Cap, 33p, 5%, 200v, Ceramic. . . . .	2020 557 00002	3235	Res, 1K, 5%, 1/16W, Metalized Glass. .	3198 021 31020
2551	Cap, 1n, 10%, 1000v, Ceramic. . . . .	3198 019 61020	3236	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010
2552	Cap, 100u, 20%, 160v, Electrolytic. . . .	2020 021 91654	3237	Res, 1K, 5%, 1/16W, Metalized Glass. .	3198 021 31020
2553	Cap, 180p, 5%, 50v, Ceramic. . . . .	3198 016 31810	3238	Res, 4K7, 5%, 1/16W, Metalized Glass. .	3198 021 34720
2561	Cap, 1n, 10%, 500v, Ceramic. . . . .	3198 019 41020	3239	Res, 1K2, 5%, 1/6W, CF SBE KNOWN FAULTS	3198 011 01220
2562	Cap, 1000u, 20%, 25v, Electrolytic. . . .	3198 026 31020	3240	Res, 22K, 5%, 1/16W, Metalized Glass .	3198 021 32230
2563	Cap, 1000u, 20%, 25v, Electrolytic. . . .	3198 026 31020	3241	Res, 39K, 1%, 3/5W, Metal Film . . . .	2312 915 13903
2564	Cap, 100n, 10%, 50v, Ceramic. . . . .	2238 580 15649	3242	Res, 47K, 5%, 1/16W, Metalized Glass .	3198 021 34730
2565	Cap, 1n, 10%, 500v, Ceramic. . . . .	3198 019 41020	3243	Res, 33K, 5%, 1/16W, Metalized Glass .	3198 021 33330
2571	Cap, 15n, 10%, 50v, Ceramic. . . . .	3198 017 31530	3244	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010
2572	Cap, 10n, 10%, 50v, Ceramic. . . . .	3198 017 31030	3245	Res, 27 ohm, 5%, 1/16W, Metalized Glass	2322 702 60279
2573	Cap, 220n, 10%, 50v, Ceramic. . . . .	2020 552 96683	3246	Res, 4K7, 5%, 1/6W, Carbon Film. . . .	3198 011 04720
2601	Cap, 1n, 5%, 25v, Ceramic. . . . .	3198 016 31020	3247	Res, 390 ohm, 5%, 1/16W, Metalized Glas	3198 021 33910
2611	Cap, 47u, 20%, 25v, Electrolytic. . . . .	3198 025 34790	3248	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010
2615	Cap, 4u7, +80/-20%, 10v, Ceramic. . . . .	2020 552 96305	3249	Res, 100 ohm, 5%, 1/6W, Carbon Film. .	3198 011 01010
2617	Cap, 100n, 10%, 16v, Ceramic. . . . .	3198 017 31040	3250	Res, 2K2, 5%, 1/16W, Metalized Glass .	3198 021 32220
2620	Cap, 100n, 10%, 16v, Ceramic. . . . .	3198 017 31040	3251	Res, 10K, 5%, 1/16W, Metalized Glass .	3198 021 31030
2621	Cap, 100u, 20%, 25v, Electrolytic. . . . .	3198 025 31010	3252	Res, 1K, 5%, 1/6W, Carbon Film . . . . .	3198 011 01020
2623	Cap, 100n, 10%, 16v, Ceramic. . . . .	3198 017 31040	3253	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010
2624	Cap, 100u, 20%, 25v, Electrolytic. . . . .	3198 025 31010	3254	Res, 560 ohm, 5%, 1/16W, Metalized Glas	3198 021 35610
2625	Cap, 2u2, 10%, 6v3, Ceramic. . . . .	2022 552 05615	3257	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010
2626	Cap, 33p, 5%, 50v, Ceramic. . . . .	3198 016 33390	3258	Res, 100 ohm, 5%, 1/6W, Carbon Film. .	3198 011 01010
2627	Cap, 33p, 5%, 50v, Ceramic. . . . .	3198 016 33390	3259	Res, 10K, 5%, 1/16W, Metalized Glass .	3198 021 31030
2628	Cap, 33p, 5%, 50v, Ceramic. . . . .	3198 016 33390	3260	Res, 100 ohm, 5%, 1/6W, Carbon Film. .	3198 011 01010
2629	Cap, 33p, 5%, 50v, Ceramic. . . . .	3198 016 33390	3261	Res, 4K7, 5%, 1/16W, Metalized Glass .	3198 021 34720
2630	Cap, 1n, 10%, 50v, Ceramic. . . . .	3198 017 31020	3262	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010
2986	Cap, 100n, 10%, 16v, Ceramic. . . . .	3198 017 31040	3263	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010
2987	Cap, 100n, 10%, 16v, Ceramic. . . . .	3198 017 31040	3269	Res, 100 ohm, 5%, 1/6W, Carbon Film. .	3198 011 01010
2988	Cap, 100n, 10%, 16v, Ceramic. . . . .	3198 017 31040	3270	Res, 390 ohm, 5%, 1/16W, Metalized Glas	3198 021 33910
2989	Cap, 1u, +80/-20%, 10v, Ceramic. . . . .	3198 017 41050	3271	Res, 390 ohm, 5%, 1/16W, Metalized Glas	3198 021 33910
2990	Cap, 1n, 5%, 25v, Ceramic. . . . .	3198 016 31020	3272	Res, 820 ohm, 5%, 1/16W, Metalized Glas	3198 021 38210
2992	Cap, 1u, +80/-20%, 10v, Ceramic. . . . .	3198 017 41050	3273	Res, 1K, 5%, 1/16W, Metalized Glass. .	3198 021 31020
2993	Cap, 1n, 5%, 25v, Ceramic. . . . .	3198 016 31020	3274	Res, 100 ohm, 5%, 1/6W, Carbon Film. .	3198 011 01010
2994	Cap, 22n, 10%, 25v, Ceramic. . . . .	3198 017 32230	3275	Res, 100 ohm, 5%, 1/6W, Carbon Film. .	3198 011 01010
2995	Cap, 22n, 10%, 25v, Ceramic. . . . .	3198 017 32230	3276	Res, 100 ohm, 5%, 1/6W, Carbon Film. .	3198 011 01010
2996	Cap, 47n, +80/-20%, 50v, Ceramic. . . .	3198 024 44730	3277	Res, 100 ohm, 5%, 1/6W, Carbon Film. .	3198 011 01010
2997	Cap, 47n, +80/-20%, 50v, Ceramic. . . .	3198 024 44730	3278	Res, 100 ohm, 5%, 1/6W, Carbon Film. .	3198 011 01010
3003	Res, 10K, 5%, 1/16W, Metalized Glass .	3198 021 31030	3283	Res, 4K7, 5%, 1/16W, Metalized Glass .	3198 021 34720
3004	Res, 68K, 5%, 1/16W, Metalized Glass .	3198 021 36830	3284	Res, 1K, 5%, 1/16W, Metalized Glass. .	3198 021 31020
3005	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010	3285	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010
3101	Res, 68 ohm, 5%, 1/6W, Carbon Film . .	3198 011 06890	3287	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010
3103	Res, 150 ohm, 5%, 1/6W, Carbon Film. .	3198 011 01510	3288	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010
3104	Res, 220K, 5%, 1/16W, Metalized Glass.	3198 021 32240	3289	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010
3105	Res, 150 ohm, 5%, 1/6W, Carbon Film. .	3198 011 01510	3290	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010
3106	Res, 220K, 5%, 1/16W, Metalized Glass.	3198 021 32240	3291	Res, 1K, 5%, 1/6W, Carbon Film . . . .	3198 011 01020
3121	Res, 75 ohm, 5%, 1/16W, Metalized Glass	3198 021 37590	3292	Res, 47K, 5%, 1/16W, Metalized Glass .	3198 021 34730
3123	Res, 22K, 5%, 1/6W, Carbon Film. . . .	3198 011 02230	3293	Res, 39K, 5%, 1/16W, Metalized Glass .	3198 021 33930
3124	Res, 47K, 5%, 1/16W, Metalized Glass .	3198 021 34730	3294	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010
3125	Res, 22K, 5%, 1/6W, Carbon Film. . . .	3198 011 02230	3295	Res, 8K2, 5%, 1/16W, Metalized Glass .	3198 021 38220
3126	Res, 47K, 5%, 1/16W, Metalized Glass .	3198 021 34730	3296	Res, 5K6, 5%, 1/16W, Metalized Glass .	3198 021 35620
3129	Res, 75 ohm, 5%, 1/16W, Metalized Glass	3198 021 37590	3401	Res, 47K, 1%, 3/5W, Metal Film . . . .	2312 915 14703
3130	Res, 75 ohm, 5%, 1/16W, Metalized Glass	3198 021 37590	3403	Res, 1K, 5%, 1/6W, Carbon Film . . . .	3198 011 01020
3131	Res, 22K, 5%, 1/6W, Carbon Film. . . .	3198 011 02230	3404	Res, 1 ohm, 5%, 1/8W, Metalized Glass.	2322 750 61008
3132	Res, 47K, 5%, 1/16W, Metalized Glass .	3198 021 34730	3405	Res, 6K8, 5%, 1/16W, Metalized Glass .	3198 021 36820
3133	Res, 22K, 5%, 1/6W, Carbon Film. . . .	3198 011 02230	3406	Res, 390 ohm, 5%, 1/6W, Carbon Film. .	3198 011 03910
3134	Res, 47K, 5%, 1/16W, Metalized Glass .	3198 021 34730	3407	Res, 68 ohm, 5%, 1/6W, Carbon Film. .	3198 011 06890
			3409	Res, 1K8, 5%, 1/16W, Metalized Glass .	3198 021 31820
			3410	Res, 1K5, 1%, 3/5W, Metal Film . . . .	2312 915 11502
			3411	Res, 680K, 5%, 1/2W, Metalized Glass .	2322 242 13684

S = Safety Part Be sure to use exact replacement part.

32PT6442/37 (continued)

Table with 3 columns: Part Number, Description, and Price. Includes various electronic components such as resistors, capacitors, inductors, and jumpers. The table is organized into two main sections, one starting at column 3198 and another starting at column 3576.

S = Safety Part Be sure to use exact replacement part.

### 32PT6442/37 (continued)

5214	Fixed Inductor, 100MHz, 120R . . . . .	3198	018	90030	7406	Transistor, KTC3228Y . . . . .	9322	197	37676
5215	Fixed Inductor, 100MHz, 120R . . . . .	3198	018	90030	7408	Transistor, NPN, BC847B. . . . .	3198	010	42030
5216	Fixed, Inductor, 100MHz, 50R. . . . .	3198	018	90010	7410	Transistor, PNP, BC857B. . . . .	3198	010	42150
5401	Coil, 42uH . . . . .	2422	535	94865	7411	Transistor, PNP, BC857B. . . . .	3198	010	42150
5402	Transformer, Signal Driver . . . . .	2422	531	02617	7451	Transistor, KTD600KY . . . . .	9322	195	14687
5405	Coil, Choke, 35mH. . . . .	2422	536	00682	7452	Transistor, KTC3228Y . . . . .	9322	197	37676
5408	Coil, Choke. . . . .	3128	138	37021	7453	Transistor, KTB631KY . . . . .	9322	195	05687
5450	Transformer, LOT, JF0101-85020 . . . . .	2422	531	02602	7454	Transistor, NPN, BC847B. . . . .	3198	010	42030
5451	Wire Jumper, 0.58MM. . . . .	3198	036	90010	7455	Transistor, PNP, BC857B. . . . .	3198	010	42150
5501	Filter, Mains, 5mH, 2A . . . . .	2422	549	43432	7456	Transistor, PNP, BC857B. . . . .	3198	010	42150
5511	Fixed, Inductor, 100MHz, 50R. . . . .	3198	018	90010	7481	Transistor, PNP, BC857B. . . . .	3198	010	42150
5512	Transformer, SMT, Layer. . . . .	2422	531	02626	7482	Transistor, PNP, PDTA114ET . . . . .	3198	010	44010
5531	Transformer, SMT, Layer. . . . .	2422	531	02631	7483	Transistor, PNP, BC857B. . . . .	3198	010	42150
5551	Fixed, Inductor, 100MHz, 50R. . . . .	3198	018	90010	7484	Transistor, NPN, BC847B. . . . .	3198	010	42030
5552	Coil, 27u. . . . .	2422	535	95366	7511	IC, TEA1506T/N1. . . . .	9352	720	43118
5561	Fixed, Inductor, 100MHz, 50R. . . . .	3198	018	90010	7512	Transistor, FET, FQPF9N50. . . . .	9322	187	16687
5562	Fixed, Inductor, 100MHz, 50R. . . . .	3198	018	90010	7513	Optic Coupler, TCET1103(G). . . . .	9322	140	14667
5603	Fixed, Inductor, 100MHz, 50R. . . . .	3198	018	90010	7514	Transistor, NPN, BC847B. . . . .	3198	010	42030
6001	Zener Diode, 33 volt . . . . .	3198	010	23390	7531	IC, TEA1620P/N1. . . . .	9352	739	52112
6005	Zener Diode, 8.2 volt. . . . .	9322	125	45685	7541	Transistor, PNP, BC857B. . . . .	3198	010	42150
6203	Diode, Signal, BAS316. . . . .	3198	010	10630	7561	Transistor, NPN, PDTIC143ZT . . . . .	9340	547	00215
6204	Diode, Rect, SS14. . . . .	3198	010	10710	7571	Transistor, NPN, BC547B. . . . .	3198	020	40030
6205	Zener Diode, 27 volt . . . . .	3198	020	52790	7573	Transistor, NPN, PDTIC114ET . . . . .	3198	010	44110
6207	Diode, Signal, BAS316. . . . .	3198	010	10630	7601	IC, M24C16-WBN6. . . . .	9322	147	25682
6209	Diode, Signal, BAT51, SOD323 . . . . .	3198	010	10660	7603	IC, L78L33ACZ. . . . .	9322	134	92676
6210	Zener Diode, 5.6 volt. . . . .	3198	020	55680	7604	Transistor, NPN, BC847B. . . . .	3198	010	42030
6211	Zener Diode, 5.6 volt. . . . .	3198	020	55680	7605	Transistor, PNP, BC327-25. . . . .	3198	020	43430
6401	Diode, Rect, BYV97G. . . . .	9335	214	80133	7606	Transistor, NPN, BC847B. . . . .	3198	010	42030
6403	Diode, Rect, BYV27-200. . . . .	9322	126	72673	7990	IC, TDA2616Q/N1. . . . .	9350	404	00112
6404	Diode, Rect, DMV1500M . . . . .	9322	169	61687	7991	Transistor, NPN, BC847B. . . . .	3198	010	42030
6406	Diode, Rect, RGP10G. . . . .	9334	939	60673	7992	Transistor, NPN, BC847B. . . . .	3198	010	42030
6407	Diode, BAV21WS . . . . .	9322	197	45703	8401	Cable, 5 Pin, 560mm. . . . .	3139	121	09041
6408	Diode, BAV21WS . . . . .	9322	197	45703	9002	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6410	Diode, Rect, BY448 . . . . .	9335	001	20133	9112	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6441	Zener Diode, 68 volt . . . . .	9322	150	20685	9113	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6442	Zener Diode, 68 volt . . . . .	9322	150	20685	9114	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6443	Zener Diode, 10 volt . . . . .	3198	020	51090	9116	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6450	Diode, Signal, BAS316. . . . .	3198	010	10630	9120	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6451	Zener Diode, 4.7 volt. . . . .	3198	020	54780	9121	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6452	Diode, Rect, BYV27-200. . . . .	9322	126	72673	9122	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6453	Diode, Rect, RGP10G. . . . .	9334	939	60673	9123	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6454	Diode, Rect, RGP10G. . . . .	9334	939	60673	9124	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6455	Diode, Rect, RGP10G. . . . .	9334	939	60673	9125	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6456	Diode, Rect, PBYR10100. . . . .	9340	205	70127	9126	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6457	Diode, Signal, BAS316. . . . .	3198	010	10630	9128	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6458	Diode, Signal, BAS316. . . . .	3198	010	10630	9129	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6459	Diode, Rect, RGP10G. . . . .	9334	939	60673	9138	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6480	Zener Diode, 6.8 volt. . . . .	3198	010	56880	9202	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6481	Diode, Signal, 1N4148. . . . .	3198	010	10010	9203	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6482	Zener Diode, 6.8 volt. . . . .	3198	020	56880	9204	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6483	Diode, BAV21WS . . . . .	9322	197	45703	9205	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6484	Diode, BAV21WS . . . . .	9322	197	45703	9206	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6486	Diode, Signal, BAV21 . . . . .	3198	010	10070	9207	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6488	Diode, Signal, BAS316. . . . .	3198	010	10630	9208	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6489	Zener Diode, 33 volt . . . . .	3198	020	53390	9209	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6500	Diode, Bridge Rect, GBU6JL-7002 . . . . .	9322	138	08667	9210	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6511	Diode, Rect, RGP10D . . . . .	9337	516	60673	9211	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6512	Diode, Signal, BAT51, SOD323 . . . . .	3198	010	10660	9212	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6514	Diode, Signal, BAS316. . . . .	3198	010	10630	9213	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6531	Zener Diode, 15 volt . . . . .	3198	020	51590	9214	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6532	Diode, BAV21WS . . . . .	9322	197	45703	9216	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6533	Zener Diode, 6.8 volt. . . . .	9322	171	80685	9217	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6534	Zener Diode, 3.9 volt. . . . .	9322	199	75685	9218	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6535	Diode, Rect, SB160 . . . . .	9322	198	24673	9219	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6536	Diode, Rect, SB180 . . . . .	9322	198	25673	9220	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6541	Zener Diode, 12 volt . . . . .	3198	020	51290	9221	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6551	Diode, Rect, BYV29X-500. . . . .	9340	555	59127	9222	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6562	Diode, Rect, SB360 . . . . .	3198	010	10700	9223	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6563	Diode, Rect, SB360 . . . . .	3198	010	10700	9224	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6564	Diode, Signal, BAS316. . . . .	3198	010	10630	9225	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6565	Zener Diode, 9.1 volt. . . . .	9322	125	46685	9226	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6566	Diode, Signal, BAS316. . . . .	3198	010	10630	9227	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6571	Diode, Signal, BAV70 . . . . .	9331	849	10215	9228	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6572	Zener Diode, 6.2 volt. . . . .	9340	548	54115	9229	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6573	Zener Diode, 9.1 volt. . . . .	9331	177	80133	9230	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6575	Diode, Rect, 1N5392 . . . . .	9322	005	16683	9231	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6602	Diode, Signal, BAV99 . . . . .	3198	010	10620	9232	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6694	Zener Diode, 5.1 volt. . . . .	3198	020	55180	9233	Wire Jumper, 0.58MM. . . . .	3198	036	90010
7200	IC, TDA12001H1/N1B501AD. . . . .	9352	754	35557	9234	Wire Jumper, 0.58MM. . . . .	3198	036	90010
7201	Transistor, NPN, IMX1. . . . .	9322	054	28685	9235	Wire Jumper, 0.58MM. . . . .	3198	036	90010
7203	Transistor, PNP, BC327-25. . . . .	3198	020	43430	9236	Wire Jumper, 0.58MM. . . . .	3198	036	90010
7204	Transistor, PNP, BC327-25. . . . .	3198	020	43430	9237	Wire Jumper, 0.58MM. . . . .	3198	036	90010
7205	Transistor, NPN, BC847B. . . . .	3198	010	42030	9238	Wire Jumper, 0.58MM. . . . .	3198	036	90010
7207	Transistor, NPN, BC847B. . . . .	3198	010	42030	9239	Wire Jumper, 0.58MM. . . . .	3198	036	90010
7208	Transistor, NPN, BC847B. . . . .	3198	010	42030	9240	Wire Jumper, 0.58MM. . . . .	3198	036	90010
7209	F.E.T. Signal, BSH103. . . . .	9340	547	13215	9241	Wire Jumper, 0.58MM. . . . .	3198	036	90010
7210	F.E.T. Signal, BSH103. . . . .	9340	547	13215	9244	Wire Jumper, 0.58MM. . . . .	3198	036	90010
7401	Transistor, NPN, BUIH20AP . . . . .	9322	101	38687	9245	Wire Jumper, 0.58MM. . . . .	3198	036	90010
7402	Transistor, NPN, BC847B. . . . .	3198	010	42030	9246	Wire Jumper, 0.58MM. . . . .	3198	036	90010
7403	Transistor, NPN, BC847B. . . . .	3198	010	42030	9247	Wire Jumper, 0.58MM. . . . .	3198	036	90010
7404	F.E.T. Signal, BSH103. . . . .	9340	547	13215	9248	Wire Jumper, 0.58MM. . . . .	3198	036	90010
7405	Transistor, NPN, BU4508DX. . . . .	9340	550	92127	9249	Wire Jumper, 0.58MM. . . . .	3198	036	90010



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**Cabinet Parts**

	Cabinet Parts		
0002	Cabinet Front (part of Cabinet Front Assembly)	3139 177	73591
0008	Cabinet Back	3139 124	46431
0016	Power Button (part of Cabinet Front Assembly)	3139 177	71181
0020	Degaussing Coil Holder (4 Used)	3135 013	01661
0030	Chassis Tray	3139 124	31325
0039	Linearity & Panorama Panel Bracket	3139 124	33411
0041	Light Guide (part of Cabinet Front Assembly)	3139 124	39701
0048	Cabinet Back Screw Cover (2 Used)	3139 124	45431
0050	Nameplate (part of Cabinet Front Assembly)	3141 050	00291
0052	Top Control Assembly	3139 177	66491
0064	Front Interface Panel Bracket	3139 124	32892
0125	Owner's Manual	3121 235	21681
0205	Side Jack Panel Bracket	3139 124	37061
0940	Cabinet Front Assembly	3121 237	54641
1081	Batteries for Remote Control	9299 000	65263
S 1099	CRT, W76ERF022X013	9301 888	30314
S 5203	Degaussing Coil	2422 549	45797
S 5205	Canceller Coil	3128 138	60662
5213	Speaker, 15W, 8 ohm (part of Cabinet Front Assembly)	3139 128	77111
5214	Speaker, 15W, 8 ohm (part of Cabinet Front Assembly)	3139 128	77111
S 8190	AC Cord	2422 070	98202
REMOTE	Remote Control, RC19036003/01	3139 238	05791

**CRT Panels**

	CRT Panels		
CBA	CRT Panel	3139 188	63111
0035	U-Cooling Plate	3139 121	26731
0085	IC-Spring	3104 301	22081
0087	U-Cooling Plate	3139 121	26731
1254	Socket, CRT, 9 Pin, N-Neck	2422 500	80076
1331	Connector, 7 Pin	2422 025	04855
S 1351	Connector, 5 Pin	2422 025	04853
1361	Connector, 3 Pin	2412 020	00725
1381	Connector, 3 Pin	2412 020	00725
2330	Cap, 100n, 10%, 250v, Metalized Polyest	2022 318	00198
2331	Cap, 10n, 10%, 50v, Ceramic	3198 017	31030
2332	Cap, 10n, 10%, 630v, Ceramic	2020 558	90621
2333	Cap, 1n, 10%, 50v, Ceramic	3198 017	31020
2335	Cap, 47n, 10%, 250v, Ceramic	2020 557	90733
2351	Cap, 10u, 20%, 250v, Electrolytic	2038 035	13903
2361	Cap, 220n, 10%, 63v, Metalized Polyester	2222 365	75224
2362	Cap, 1n, 10%, 50v, Ceramic	3198 017	31020
2363	Cap, 22u, 20%, 100v, Electrolytic	3198 025	72290
2364	Cap, 4n7, 10%, 400v, Metalized Polyester	2222 365	55472
2365	Cap, 4n7, 10%, 50v, Ceramic	3198 017	34720
2367	Cap, 10u, 20%, 100v, Electrolytic	3198 025	71090
2368	Cap, 22u, 20%, 100v, Electrolytic	3198 025	72290
2376	Cap, 22n, 10%, 25v, Ceramic	3198 017	32230
2381	Cap, 100u, 20%, 25v, Electrolytic	3198 025	31010
2382	Cap, 100n, 10%, 16v, Ceramic	3198 017	31040
2383	Cap, 1u, +80%/-20%, 25v, Ceramic	2020 552	96723
2384	Cap, 220p, 5%, 50v, Ceramic	3198 016	32210
2385	Cap, 220p, 5%, 50v, Ceramic	3198 016	32210
2386	Cap, 100n, 10%, 16v, Ceramic	3198 017	31040
2387	Cap, 10p, 5%, 50v, Ceramic	3198 016	31090
3328	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021	31010
3329	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021	31010
3330	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021	31010
3331	Res, 100 ohm, 5%, 1/6W, Carbon Film	3198 011	01010
3332	Res, 1K, 20%, 1/2W, Carbon Film	3198 013	01020
3333	Res, 100 ohm, 5%, 1/6W, Carbon Film	3198 011	01010
3334	Res, 1K, 20%, 1/2W, Carbon Film	3198 013	01020
3335	Res, 100 ohm, 5%, 1/6W, Carbon Film	3198 011	01010
3336	Res, 1K, 20%, 1/2W, Carbon Film	3198 013	01020
3351	Res, 100 ohm, 5%, 1/3W, Metal Film	2306 204	03101
3354	Res, 1K5, 20%, 1/2W, Carbon Film	3198 013	01520
3356	Res, 10 ohm, 1%, 3/5W, Metal Film	2312 915	11009
3357	VDR, 1mA/18V	2122 552	00004
3361	Res, 1K5, 5%, 1/16W, Metalized Glass	3198 021	31520
3362	Res, 10 ohm, 5%, 1/3W, Metal Film	2306 204	03109
3363	Res, 560 ohm, 5%, 1/16W, Metalized Glas	3198 021	35610
3364	Res, 1R5, 5%, 1/4W, Carbon Film	2122 101	02083
3365	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021	31010
3366	Res, 68K, 5%, 1/16W, Metalized Glass	3198 021	36830
3367	Res, 68K, 5%, 1/6W, Carbon Film	3198 011	06830
3368	Res, 560 ohm, 5%, 1/16W, Metalized Glas	3198 021	35610
3369	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021	31010
3370	Res, 1R5, 5%, 1/16W, Metalized Glass	2322 702	60158
3371	Res, 470 ohm, 5%, 1/6W, Carbon Film	3198 011	04710
3373	Res, 1K5, 5%, 5W, Metal Film	2322 257	41152
3375	Res, 180K, 5%, 1/8W, Metalized Glass	2322 730	61184
3376	Res, 68K, 5%, 1/16W, Metalized Glas	3198 021	36830
3381	Res, 10 ohm, 5%, 1/6W, Carbon Film	3198 011	01090
3383	Res, 3K3, 5%, 1/10W, Metalized Glass	3198 021	53320

S = Safety Part Be sure to use exact replacement part.

3384	Res, 10K, 5%, 1/16W, Metalized Glass	3198 021	31030
3385	Res, 680 ohm, 5%, 1/16W, Metalized Glas	3198 021	36810
3387	Res, 1K8, 5%, 1/16W, Metalized Glass	3198 021	31820
3388	Res, 33 ohm, 5%, 1/16W, Metalized Glass	3198 021	33390
3389	Res, 33 ohm, 5%, 1/16W, Metalized Glass	3198 021	33390
3390	Res, 1K2, 5%, 1/16W, Metalized Glass	3198 021	31220
4337	Res, Zero ohm, "Chip" Jumper	3198 021	90030
4370	Res, Zero ohm, "Chip" Jumper	3198 021	90020
4374	Res, Zero ohm, "Chip" Jumper	3198 021	90030
5330	Fixed, Inductor, 100MHZ, 50R	3198 018	90010
5331	Fixed, Inductor, 100MHZ, 50R	3198 018	90010
5351	Coil, 22u	2422 535	97333
5361	Fixed, Inductor, 100MHZ, 50R	3198 018	90010
6331	Diode, Signal, BAV21	3198 010	10070
6332	Diode, Signal, BAV21	3198 010	10070
6333	Diode, Signal, BAV21	3198 010	10070
6361	Diode, Signal, BAV99	3198 010	10620
6376	Diode, Signal, BAV99	3198 010	10620
6381	Diode, Signal, BAS316	3198 010	10630
6383	Diode, Rect, RGP10D	9337 516	60673
7330	IC, TDA6107AJF/N1B	9352 636	44112
7331	Transistor, NPN, BC847B	3198 010	42030
7332	Transistor, PNP, BC857B	3198 010	42150
7361	Transistor, NPN, BC847B	3198 010	42030
7362	Transistor, PNP, BC857B	3198 010	42150
7363	Transistor, KTB631KY	9322 195	05687
7364	Transistor, KTD600KY	9322 195	14687
7376	Transistor, PNP, BC857B	3198 010	42150
7381	Transistor, NPN, BC337	9331 796	00126
7382	Transistor, NPN, BC337	9331 796	00126
9352	Wire Jumper, 0.58MM	3198 036	90010
9373	Wire Jumper, 0.58MM	3198 036	90010
9390	Wire Jumper, 0.58MM	3198 036	90010

**Front Interface Panel**

	Front Interface Panel		
CBA	Front Interface Panel	3139 188	06011
1606	Switch, Tactile	2422 128	02742
1693	Connector, 6 Pin	2422 025	10738
2691	Cap, 220u, 20%, 25v, Electrolytic	3198 025	32210
2692	Cap, 1u, +80/-20%, 10v, Ceramic	3198 017	41050
2698	Cap, 100n, 10%, 50v, Polyester	3198 014	01040
3691	Res, 1K2, 5%, 1/6W, Carbon Film	3198 011	01220
3693	Res, 220 ohm, 5%, 1/6W, Carbon Film	3198 011	02210
3694	Res, 4K7, 5%, 1/6W, Carbon Film	3198 011	04720
3696	Res, 150K, 5%, 1/16W, Metalized Glass	3198 021	31540
4601	Res, Zero ohm, "Chip" Jumper	3198 021	90030
6691	LED	9322 185	69682
6692	IR Receiver, TSOP1836UH3V	9322 127	54667
6693	Optical Sensor, LTR-301	9322 197	36682
9685	Wire Jumper, 0.58MM	3198 036	90010
9696	Wire Jumper, 0.58MM	3198 036	90010

**LTI/CTI Interface Panel**

	LTI/CTI Interface Panel		
CBA	LTI/CTI Interface Panel	3139 188	65651
1206	Connector, 7 Pin	2422 025	11244
1212	Connector, 12 Pin	2422 025	16219
2605	Cap, 100n, 10%, 16v, Ceramic	3198 017	31040
2610	Cap, 100n, 10%, 16v, Ceramic	3198 017	31040
2611	Cap, 220u, 20%, 25v, Electrolytic	3198 025	32210
2612	Cap, 100n, 10%, 16v, Ceramic	3198 017	31040
2628	Cap, 4n7, 10%, 50v, Ceramic	3198 017	34720
2630	Cap, 1u, +80/-20%, 10v, Ceramic	3198 017	41050
2631	Cap, 1u, +80/-20%, 10v, Ceramic	3198 017	41050
2634	Cap, 68p, 5%, 50v, Ceramic	3198 016	36890
2636	Cap, 470n, 10%, 50v, Polyester	3198 014	04740
2638	Cap, 82n, 16V, 10%, Ceramic	2238 786	55648
3612	Res, 1K, 5%, 1/16W, Metalized Glass	3198 021	31020
3613	Res, 100K, 5%, 1/16W, Metalized Glass	3198 021	31040
3614	Res, 100K, 5%, 1/16W, Metalized Glass	3198 021	31040
3615	Res, 100K, 5%, 1/16W, Metalized Glass	3198 021	31040
3616	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021	31010
3617	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021	31010
3626	Res, 1K, 5%, 1/16W, Metalized Glass	3198 021	31020
3627	Res, 2K2, 5%, 1/16W, Metalized Glass	3198 021	32220
3628	Res, 1K, 5%, 1/16W, Metalized Glass	3198 021	31020
3630	Res, 10K, 5%, 1/16W, Metalized Glass	3198 021	31030
3631	Res, 10K, 5%, 1/16W, Metalized Glass	3198 021	31030
3632	Res, 270 ohm, 5%, 1/16W, Metalized Glas	3198 021	32710
3633	Res, 1K2, 5%, 1/16W, Metalized Glass	3198 021	31220
3634	Res, 1K, 5%, 1/16W, Metalized Glass	3198 021	31020
3635	Res, 560 ohm, 5%, 1/16W, Metalized Glas	3198 021	35610
3636	Res, 470 ohm, 5%, 1/16W, Metalized Glas	3198 021	34710
3637	Res, 2M2, 5%, 1/16W, Metalized Glass	3198 021	32250
3638	Res, 470K, 5%, 1/16W, Metalized Glass	3198 021	34740
4610	Res, Zero ohm, "Chip" Jumper	3198 021	90030
4611	Res, Zero ohm, "Chip" Jumper	3198 021	90030
4612	Res, Zero ohm, "Chip" Jumper	3198 021	90030
4613	Res, Zero ohm, "Chip" Jumper	3198 021	90030
4617	Res, Zero ohm, "Chip" Jumper	3198 021	90030
4625	Res, Zero ohm, "Chip" Jumper	3198 021	90020

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4635	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90020	1223	12 Pin Cinch Socket. . . . .	2422	026	05463
4637	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030	1280	Connector, 5 Pin . . . . .	2422	025	12481
6610	Diode, Signal, BAS316. . . . .	3198	010	10630	S 1401	Connector, 5 Pin . . . . .	2422	025	04853
6611	Zener Diode, 6.8 volt. . . . .	3198	020	56880	1404	Connector, 4 Pin . . . . .	2422	025	15503
6625	Zener Diode, 2.7 volt. . . . .	3198	020	52780	1451	Connector, 2 Pin . . . . .	2422	025	10646
6633	Diode, Signal, BAS316. . . . .	3198	010	10630	1452	Fuse, 1.25 Amp, 250V . . . . .	2422	086	10282
6635	Diode, Signal, BAS316. . . . .	3198	010	10630	1454	Fuse, 1.25 Amp, 250V . . . . .	2422	086	10282
6636	Diode, Signal, BAS316. . . . .	3198	010	10630	S 1500	Fuse, 4A, 250V, IEC. . . . .	2422	086	10914
7610	IC, TDA9178T/N1. . . . .	9352	334	10518	S 1503	Relay, 12V, 5A G5PA-1. . . . .	2422	132	07444
7627	Transistor, NPN, PMBT2369. . . . .	3198	010	43360	1504	Connector, 2 Pin . . . . .	2422	025	16375
7630	Transistor, NPN, BC847B. . . . .	3198	010	42030	1505	Connector, 2 Pin . . . . .	2422	025	16269
7635	Transistor, PNP, BC857B. . . . .	3198	010	42150	1682	Connector, 3 Pin . . . . .	2412	020	00725
9613	Wire Jumper, 0.58MM. . . . .	3198	036	90010	1693	Connector, 6 Pin . . . . .	2422	025	12482
9614	Wire Jumper, 0.58MM. . . . .	3198	036	90010	2001	Cap, 22p, 5%, 50v, Ceramic . . . . .	3198	016	32290
9615	Wire Jumper, 0.58MM. . . . .	3198	036	90010	2004	Cap, 47n, +80/-20%, 50v, Ceramic . . . . .	3198	024	44730
9616	Wire Jumper, 0.58MM. . . . .	3198	036	90010	2006	Cap, 470u, 20%, 16v, Electrolytic. . . . .	3198	025	24710
9617	Wire Jumper, 0.58MM. . . . .	3198	036	90010	2007	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198	017	31040
9618	Wire Jumper, 0.58MM. . . . .	3198	036	90010	2008	Cap, 100u, 20%, 25v, Electrolytic. . . . .	3198	025	31010
					2103	Cap, 330p, 10%, 50v, Ceramic . . . . .	3198	017	33310
					2104	Cap, 330p, 10%, 50v, Ceramic . . . . .	3198	017	33310
					2105	Cap, 10u, 20%, 50v, Electrolytic . . . . .	3198	025	51090
					2106	Cap, 10u, 20%, 50v, Electrolytic . . . . .	3198	025	51090
					2122	Cap, 330p, 10%, 50v, Ceramic . . . . .	3198	017	33310
					2123	Cap, 2u2, 20%, 50v, Electrolytic . . . . .	3198	025	52280
					2124	Cap, 330p, 10%, 50v, Ceramic . . . . .	3198	017	33310
					2125	Cap, 2u2, 20%, 50v, Electrolytic . . . . .	3198	025	52280
					2131	Cap, 330p, 10%, 50v, Ceramic . . . . .	3198	017	33310
					2132	Cap, 2u2, 20%, 50v, Electrolytic . . . . .	3198	025	52280
					2133	Cap, 330p, 10%, 50v, Ceramic . . . . .	3198	017	33310
					2134	Cap, 2u2, 20%, 50v, Electrolytic . . . . .	3198	025	52280
					2203	Cap, 100u, 20%, 10v, Electrolytic. . . . .	3198	025	11010
					2204	Cap, 22n, 10%, 25v, Ceramic . . . . .	3198	017	32230
					2205	Cap, 220n, +80/-20%, 16v, Ceramic. . . . .	3198	017	42240
					2206	Cap, 220n, +80/-20%, 25v, Ceramic. . . . .	3198	023	22240
					2207	Cap, 220n, +80/-20%, 25v, Ceramic. . . . .	3198	023	22240
					2208	Cap, 220n, +80/-20%, 25v, Ceramic. . . . .	3198	023	22240
					2209	Cap, 220n, +80/-20%, 16v, Ceramic. . . . .	3198	017	42240
					2210	Cap, 220n, +80/-20%, 16v, Ceramic. . . . .	3198	017	42240
					2211	Cap, 220n, +80/-20%, 16v, Ceramic. . . . .	3198	017	42240
					2212	Cap, 220n, +80/-20%, 16v, Ceramic. . . . .	3198	017	42240
					2213	Cap, 220n, +80/-20%, 16v, Ceramic. . . . .	3198	017	42240
					2214	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198	017	31040
					2215	Cap, 220n, +80/-20%, 16v, Ceramic. . . . .	3198	017	42240
					2216	Cap, 220n, +80/-20%, 16v, Ceramic. . . . .	3198	017	42240
					2217	Cap, 100u, 20%, 25v, Electrolytic. . . . .	3198	025	31010
					2218	Cap, 47u, 20%, 25v, Electrolytic . . . . .	3198	025	34790
					2222	Cap, 5n6, 10%, 50v, Ceramic . . . . .	2238	586	15633
					2223	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198	017	31040
					2224	Cap, 100u, 20%, 25v, Electrolytic. . . . .	3198	025	31010
					2225	Cap, 220n, +80/-20%, 16v, Ceramic. . . . .	3198	017	42240
					2226	Cap, 220n, +80/-20%, 16v, Ceramic. . . . .	3198	017	42240
					2229	Cap, 220n, +80/-20%, 16v, Ceramic. . . . .	3198	017	42240
					2230	Cap, 10u, 20%, 50v, Electrolytic . . . . .	3198	025	51090
					2231	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198	017	31040
					2232	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198	017	31040
					2233	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198	017	31040
					2234	Cap, 100u, 20%, 25v, Electrolytic. . . . .	3198	025	31010
					2235	Cap, 6n8, 10%, 50v, Ceramic . . . . .	3198	017	36820
					2236	Cap, 10n, 10%, 50v, Ceramic . . . . .	3198	017	31030
					2237	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198	017	31040
					2238	Cap, 220n, +80/-20%, 16v, Ceramic. . . . .	3198	017	42240
					2239	Cap, 220n, +80/-20%, 16v, Ceramic. . . . .	3198	017	42240
					2240	Cap, 1u5, 20%, 50v, Electrolytic . . . . .	2020	021	90137
					2241	Cap, 22n, 10%, 25v, Ceramic . . . . .	3198	017	32230
					2242	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198	017	31040
					2243	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198	017	31040
					2244	Cap, 2u2, +80/-20%, 10v, Ceramic . . . . .	3198	017	22250
					2245	Cap, 1n, 5%, 25v, Ceramic . . . . .	3198	016	31020
					2246	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198	017	31040
					2247	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198	017	31040
					2248	Cap, 1n, 5%, 25v, Ceramic . . . . .	3198	016	31020
					2249	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198	017	31040
					2250	Cap, 100u, 20%, 25v, Electrolytic. . . . .	3198	025	31010
					2251	Cap, 150n, 10%, 50v, Polyester . . . . .	3198	014	01540
					2252	Cap, 10n, 10%, 50v, Ceramic . . . . .	3198	017	31030
					2253	Cap, 10n, 10%, 50v, Ceramic . . . . .	3198	017	31030
					2254	Cap, 1n, 10%, 50v, Ceramic . . . . .	3198	017	31020
					2255	Cap, 10n, 10%, 50v, Ceramic . . . . .	3198	017	31030
					2256	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198	017	31040
					2257	Cap, 3n3, 10%, 50v, Ceramic . . . . .	3198	017	33320
					2259	Cap, 1u, +80/-20%, 10v, Ceramic. . . . .	3198	017	41050
					2260	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198	017	31040
					2261	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198	017	31040
					2262	Cap, 10n, 10%, 50v, Ceramic . . . . .	3198	017	31030
					2263	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198	017	31040
					2264	Cap, 560p, 5%, 25v, Ceramic . . . . .	3198	016	35610
					2265	Cap, 100u, 20%, 25v, Electrolytic. . . . .	3198	025	31010
					2266	Cap, 2u2, +80/-20%, 10v, Ceramic . . . . .	3198	017	22250
					2267	Cap, 2u2, +80/-20%, 10v, Ceramic . . . . .	3198	017	22250
					2272	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198	017	31040
					2273	Cap, 100u, 20%, 25v, Electrolytic. . . . .	3198	025	31010
					2274	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198	017	31040

**Linearity & Panorama Panel**

	Linearity & Panorama Panel								
CBA	Linearity & Panorama Panel . . . . .	3139	188	60381					
1461	Connector, 4 Pin . . . . .	2422	025	15503					
1462	Connector, 3 Pin . . . . .	2412	020	00725					
1463	Relay, 9v. . . . .	2422	132	07706					
1464	Connector, 4 Pin . . . . .	2422	025	15503					
2468	Cap, 2u2, 20%, 160v, Electrolytic. . . . .	2022	031	00172					
2470	Cap, 470n, 5%, 250v, Polypropylene . . . . .	2222	479	90023					
2471	Cap, 10u, 20%, 50v, Electrolytic . . . . .	3198	025	51090					
2472	Cap, 1u, 20%, 50v, Electrolytic. . . . .	3198	025	51080					
2474	Cap, 330n, 5%, 250v, Metalized Poly. . . . .	2222	479	90018					
3469	Res, 4R7, 5%, 1/3W, Metal Film . . . . .	2306	204	03478					
3470	Res, 15K, 5%, 1 1/3W, Metal Film . . . . .	3198	012	21530					
3471	Res, 3K9, 5%, 1/6W, Carbon Film. . . . .	3198	011	03920					
6463	Diode, Signal, 1N4148. . . . .	3198	010	10010					
6464	Diode, Rect, RG10G. . . . .	9334	939	60673					
7463	Transistor, NPN, BC547B. . . . .	3198	020	40030					

**Side Jack Panel**

	Side Jack Panel								
CBA	Side Jack Panel. . . . .	3139	188	06931					
1232	Headphone Jack . . . . .	2422	026	04471					
1250	A/V Jack . . . . .	2422	026	05538					
1252	Connector, 7 Pin . . . . .	2422	025	11244					
1254	Connector, 5 Pin . . . . .	2422	025	12481					
1278	Connector, 4 Pin . . . . .	2422	025	12479					
2171	Cap, 330p, 10%, 50v, Ceramic . . . . .	3198	019	13310					
2172	Cap, 330p, 10%, 50v, Ceramic . . . . .	3198	019	13310					
2173	Cap, 330p, 10%, 50v, Ceramic . . . . .	3198	019	13310					
2174	Cap, 330p, 10%, 50v, Ceramic . . . . .	3198	019	13310					
2175	Cap, 2u2, 20%, 50v, Electrolytic . . . . .	3198	029	52280					
2176	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198	017	31040					
2178	Cap, 470p, 10%, 50v, Ceramic . . . . .	3198	017	34710					
2180	Cap, 2u2, 20%, 50v, Electrolytic . . . . .	3198	029	52280					
3150	Res, 47K, 5%, 1/6W, Carbon Film. . . . .	3198	011	04730					
3151	Res, 22K, 5%, 1/6W, Carbon Film. . . . .	3198	011	02230					
3152	Res, 47K, 5%, 1/6W, Carbon Film. . . . .	3198	011	04730					
3153	Res, 22K, 5%, 1/6W, Carbon Film. . . . .	3198	011	02230					
3154	Res, 75 ohm, 5%, 1/6W, Carbon Film . . . . .	3198	011	07590					
3156	Res, 820 ohm, 5%, 1/6W, Carbon Film. . . . .	3198	011	08210					
3157	Res, 820 ohm, 5%, 1/6W, Carbon Film. . . . .	3198	011	08210					
3160	Res, 100 ohm, 5%, 1/6W, Carbon Film. . . . .	3198	011	01010					
9181									



## 32PW6341/85 (continued)

2275	Cap, 10u, 20%, 50v, Electrolytic . . .	3198	025	51090	2628	Cap, 33p, 5%, 50v, Ceramic . . . . .	3198	016	33390
2276	Cap, 100n, +80/-20%, 25v, Ceramic . . .	3198	023	21040	2629	Cap, 33p, 5%, 50v, Ceramic . . . . .	3198	016	33390
2279	Cap, 100p, 5%, 50v, Ceramic . . . . .	3198	016	31010	2630	Cap, 1n, 10%, 50v, Ceramic . . . . .	3198	017	31020
2280	Cap, lu, +80/-20%, 10v, Ceramic . . . . .	3198	017	41050	2986	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198	017	31040
2282	Cap, 1n, 10%, 50v, Ceramic . . . . .	3198	017	31020	2987	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198	017	31040
2288	Cap, 1n, 10%, 50v, Ceramic . . . . .	3198	017	31020	2988	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198	017	31040
2289	Cap, 1n, 10%, 50v, Ceramic . . . . .	3198	017	31020	2989	Cap, lu, +80/-20%, 10v, Ceramic . . . . .	3198	017	41050
2404	Cap, 47u, 20%, 160v, Electrolytic . . . .	2022	031	00103	2990	Cap, 1n, 5%, 25v, Ceramic . . . . .	3198	016	31020
2406	Cap, 680p, 10%, 500v, Ceramic . . . . .	3198	019	46810	2992	Cap, lu, +80/-20%, 10v, Ceramic . . . . .	3198	017	41050
2408	Cap, 100p, 5%, 50v, Ceramic . . . . .	3198	016	31010	2993	Cap, 1n, 5%, 25v, Ceramic . . . . .	3198	016	31020
2409	Cap, 100n, +80/-20%, 25v, Ceramic . . . .	3198	023	41040	2994	Cap, 22n, 10%, 25v, Ceramic . . . . .	3198	017	32230
2410	Cap, 100n, +80/-20%, 25v, Ceramic . . . .	3198	023	21040	2995	Cap, 22n, 10%, 25v, Ceramic . . . . .	3198	017	32230
2411	Cap, 330p, 10%, 2000v, Ceramic . . . . .	3198	019	73310	2996	Cap, 47n, +80/-20%, 50v, Ceramic . . . . .	3198	024	44730
2412	Cap, 13n, 5%, 1600v, Polypropylene . . .	2222	375	90157	2997	Cap, 47n, +80/-20%, 50v, Ceramic . . . . .	3198	024	44730
2413	Cap, 18n, 5%, 630v, Polypropylene . . . .	2222	375	90218	3003	Res, 10K, 5%, 1/16W, Metalized Glass . . .	3198	021	31030
2414	Cap, lu, +80/-20%, 10v, Ceramic . . . . .	3198	017	41050	3004	Res, 68K, 5%, 1/16W, Metalized Glass . . .	3198	021	36830
2415	Cap, 2u2, 20%, 160v, Electrolytic . . . .	2022	031	00172	3005	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198	021	31010
2419	Cap, 430n, 5%, 250v, Metalized Polyprop ylene . . . . .	2222	479	90022	3101	Res, 68 ohm, 5%, 1/6W, Carbon Film . . .	3198	011	06890
2420	Cap, lu, +80/-20%, 10v, Ceramic . . . . .	3198	017	41050	3103	Res, 150 ohm, 5%, 1/6W, Carbon Film . . .	3198	011	01510
2425	Cap, 33n, 10%, 16v, Ceramic . . . . .	3198	017	33330	3104	Res, 220K, 5%, 1/16W, Metalized Glass . . .	3198	021	32240
2428	Cap, 33n, 10%, 16v, Ceramic . . . . .	3198	017	33330	3105	Res, 150 ohm, 5%, 1/6W, Carbon Film . . .	3198	011	01510
2451	Cap, 180n, 10%, 63v, Metalized Polyeste Cap, lu, +80/-20%, 16v, Ceramic . . . . .	2222	365	75184	3106	Res, 220K, 5%, 1/16W, Metalized Glass . . .	3198	021	32240
2453	Cap, lu, +80/-20%, 16v, Ceramic . . . . .	3198	017	21050	3121	Res, 75 ohm, 5%, 1/16W, Metalized Glass	3198	021	37590
2454	Cap, 470u, 20%, 16v, Electrolytic . . . . .	3198	025	24710	3123	Res, 22K, 5%, 1/6W, Carbon Film . . . . .	3198	011	02230
2456	Cap, 47n, 10%, 250v, Ceramic . . . . .	2020	557	90733	3124	Res, 47K, 5%, 1/16W, Metalized Glass . . .	3198	021	34730
2457	Cap, 4u7, 20%, 250v, Electrolytic . . . . .	2020	012	93282	3125	Res, 22K, 5%, 1/6W, Carbon Film . . . . .	3198	011	02230
2459	Cap, 470p, 10%, 500v, Ceramic . . . . .	3198	019	44710	3126	Res, 47K, 5%, 1/16W, Metalized Glass . . .	3198	021	34730
2460	Cap, 470u, 20%, 16v, Electrolytic . . . . .	3198	025	24710	3129	Res, 75 ohm, 5%, 1/16W, Metalized Glass	3198	021	37590
2461	Cap, 1n, 5%, 25v, Ceramic . . . . .	3198	016	31020	3130	Res, 75 ohm, 5%, 1/16W, Metalized Glass	3198	021	37590
2462	Cap, 1n, 5%, 25v, Ceramic . . . . .	3198	016	31020	3131	Res, 22K, 5%, 1/6W, Carbon Film . . . . .	3198	011	02230
2463	Cap, 100u, 20%, 50v, Electrolytic . . . . .	3198	037	51010	3132	Res, 47K, 5%, 1/16W, Metalized Glass . . .	3198	021	34730
2464	Cap, 470p, 5%, 50v, Ceramic . . . . .	3198	016	34710	3133	Res, 22K, 5%, 1/6W, Carbon Film . . . . .	3198	011	02230
2465	Cap, 10u, 20%, 100v, Electrolytic . . . . .	3198	025	71090	3134	Res, 47K, 5%, 1/16W, Metalized Glass . . .	3198	021	34730
2467	Cap, 10n, 10%, 400v, Metalized Polyeste Cap, 220p, 5%, 50v, Ceramic . . . . .	2222	365	55103	3135	Res, 75 ohm, 5%, 1/16W, Metalized Glass	3198	021	37590
2468	Cap, 220p, 5%, 50v, Ceramic . . . . .	3198	016	32210	3167	Res, 75 ohm, 5%, 1/6W, Carbon Film . . . .	3198	011	07590
2469	Cap, 220n, +80/-20%, 16v, Ceramic . . . . .	3198	017	42240	3168	Res, 75 ohm, 5%, 1/16W, Metalized Glass	3198	021	37590
2470	Cap, 100n, 10%, 100v, Ceramic . . . . .	2222	601	55649	3169	Res, 75 ohm, 5%, 1/16W, Metalized Glass	3198	021	37590
2484	Cap, 10u, 20%, 50v, Electrolytic . . . . .	2020	009	00001	3201	Res, 1K, 5%, 1/6W, Carbon Film . . . . .	3198	011	01020
2486	Cap, 27p, 5%, 500v, Ceramic . . . . .	2252	508	88255	3202	Res, 3K3, 5%, 1/16W, Metalized Glass . . . .	3198	021	33320
2487	Cap, 3n3, 10%, 50v, Ceramic . . . . .	3198	017	03320	3203	Res, 150K, 5%, 1/16W, Metalized Glass . . .	3198	021	31540
2489	Cap, 10n, 10%, 50v, Ceramic . . . . .	3198	017	31030	3204	Res, 3K3, 5%, 1/16W, Metalized Glass . . . .	3198	021	33320
2500	Cap, 470n, 20%, 275V, Metalized Polyprop ylene . . . . .	2222	338	22474	3205	Res, 12K, 5%, 1/16W, Metalized Glass . . . .	3198	021	31230
2503	Cap, 2n2, 10%, 1000v, Ceramic . . . . .	3198	019	52220	3206	Res, 5K6, 5%, 1/16W, Metalized Glass . . . .	3198	021	35620
2504	Cap, 2n2, 10%, 1000v, Ceramic . . . . .	3198	019	52220	3207	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198	021	31010
2505	Cap, 470u, 20%, 200v, Electrolytic . . . . .	2022	020	00852	3208	Res, 27K, 5%, 1/16W, Metalized Glass . . . .	3198	021	32730
2511	Cap, 22u, 20%, 50v, Electrolytic . . . . .	3198	025	52290	3209	Res, 1 ohm, 5%, 1/16W, Metalized Glass	3198	021	31080
2512	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198	017	31040	3210	Res, 1 ohm, 5%, 1/16W, Metalized Glass	3198	021	31080
2513	Cap, 470p, 10%, 50v, Ceramic . . . . .	3198	017	34710	3211	Res, 27K, 5%, 1/16W, Metalized Glass . . . .	3198	021	32730
2514	Cap, 1n5, 10%, 2000v, Ceramic . . . . .	3198	019	71520	3212	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198	021	31010
2515	Cap, 470p, 5%, 50v, Ceramic . . . . .	3198	016	34710	3214	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198	021	31010
2516	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198	017	31040	3215	Res, 4K7, 5%, 1/6W, Carbon Film . . . . .	3198	011	04720
2517	Cap, 1n, 10%, 50v, Ceramic . . . . .	3198	017	31020	3216	Res, 10 ohm, 5%, 1/16W, Metalized Glass	3198	021	31090
2519	Cap, 100p, 5%, 100v, Ceramic . . . . .	2020	557	90726	3218	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198	021	31010
2530	Cap, 330p, 5%, 100v, Ceramic . . . . .	2020	557	00005	3219	Res, 10K, 5%, 1/16W, Metalized Glass . . . .	3198	021	31030
2531	Cap, 470p, 5%, 50v, Ceramic . . . . .	3198	016	34710	3220	Res, 150 ohm, 5%, 1/16W, Metalized Glas	3198	021	31510
2532	Cap, 10u, 10%, 16v, Ceramic . . . . .	2020	552	96823	3221	Res, 270 ohm, 5%, 1/16W, Metalized Glas	3198	021	32710
2533	Cap, 4n7, 10%, 50v, Ceramic . . . . .	3198	017	34720	3222	Res, 680 ohm, 5%, 1/16W, Metalized Glas	3198	021	36810
2534	Cap, 68p, 5%, 1kV, Ceramic . . . . .	2020	558	90261	3224	Res, 680K, 5%, 1/6W, Carbon Film . . . . .	3198	011	06840
2535	Cap, 1000u, 20%, 6.3v, Electrolytic . . . .	3198	025	01020	3225	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198	021	31010
2536	Cap, 2u2, 20%, 10v, Electrolytic . . . . .	2020	012	93728	3226	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198	021	31010
2538	Cap, 470p, 10%, 50v, Ceramic . . . . .	3198	017	34710	3227	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198	021	31010
2539	Cap, 470p, 10%, 500v, Ceramic . . . . .	3198	019	44710	3228	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198	021	31010
2541	Cap, 47u, 20%, 25v, Electrolytic . . . . .	3198	025	34790	3229	Res, 1K5, 5%, 1/16W, Metalized Glass . . . .	3198	021	31520
2542	Cap, 1n5, 20%, 250v, Ceramic . . . . .	2020	554	90199	3230	Res, 100 ohm, 5%, 1/6W, Carbon Film . . . .	3198	011	01010
2543	Cap, 2n2, 10%, 500v, Ceramic . . . . .	3198	019	42220	3231	Res, 100 ohm, 5%, 1/6W, Carbon Film . . . .	3198	011	01010
2549	Cap, 100p, 5%, 50v, Ceramic . . . . .	3198	016	31010	3232	Res, 12K, 5%, 1/16W, Metalized Glass . . . .	3198	021	31230
2550	Cap, 33p, 5%, 200v, Ceramic . . . . .	2020	557	00002	3233	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198	021	31010
2551	Cap, 1n, 10%, 1000v, Ceramic . . . . .	3198	019	61020	3234	Res, 100 ohm, 5%, 1/6W, Carbon Film . . . .	3198	011	01010
2552	Cap, 100u, 20%, 160v, Electrolytic . . . . .	2020	021	91654	3235	Res, 1K, 5%, 1/16W, Metalized Glass . . . . .	3198	021	31020
2553	Cap, 180p, 5%, 50v, Ceramic . . . . .	3198	016	31810	3236	Res, 4K7, 5%, 1/16W, Metalized Glass . . . .	3198	021	34720
2561	Cap, 1n, 10%, 500v, Ceramic . . . . .	3198	019	41020	3239	Res, 1K2, 5%, 1/6W, CF SEE KNOWN FAULTS	3198	011	01220
2562	Cap, 1000u, 20%, 25v, Electrolytic . . . . .	3198	026	31020	3240	Res, 22K, 5%, 1/16W, Metalized Glass . . . .	3198	021	32230
2563	Cap, 1000u, 20%, 25v, Electrolytic . . . . .	3198	026	31020	3241	Res, 39K, 1%, 3/5W, Metal Film . . . . .	2312	915	13903
2564	Cap, 100n, 10%, 50v, Ceramic . . . . .	2238	580	15649	3242	Res, 47K, 5%, 1/16W, Metalized Glass . . . .	3198	021	34730
2565	Cap, 1n, 10%, 500v, Ceramic . . . . .	3198	019	41020	3243	Res, 33K, 5%, 1/16W, Metalized Glass . . . .	3198	021	33330
2566	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198	017	31040	3244	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198	021	31010
2571	Cap, 15n, 10%, 50v, Ceramic . . . . .	3198	017	31530	3245	Res, 27 ohm, 5%, 1/16W, Metalized Glass	2322	702	60279
2572	Cap, 10n, 10%, 50v, Ceramic . . . . .	3198	017	31030	3246	Res, 4K7, 5%, 1/6W, Carbon Film . . . . .	3198	011	04720
2573	Cap, 220n, 10%, 50v, Ceramic . . . . .	2020	552	96683	3247	Res, 390 ohm, 5%, 1/16W, Metalized Glas	3198	021	33910
2601	Cap, 1n, 5%, 25v, Ceramic . . . . .	3198	016	31020	3248	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198	021	31010
2611	Cap, 47u, 20%, 25v, Electrolytic . . . . .	3198	025	34790	3249	Res, 100 ohm, 5%, 1/6W, Carbon Film . . . .	3198	011	01010
2615	Cap, 4u7, +80/-20%, 10v, Ceramic . . . . .	2020	552	96305	3250	Res, 2K2, 5%, 1/16W, Metalized Glass . . . .	3198	021	32220
2617	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198	017	31040	3251	Res, 10K, 5%, 1/16W, Metalized Glass . . . .	3198	021	31030
2620	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198	017	31040	3252	Res, 1K, 5%, 1/6W, Carbon Film . . . . .	3198	011	01020
2621	Cap, 100u, 20%, 25v, Electrolytic . . . . .	3198	025	31010	3253	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198	021	31010
2623	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198	017	31040	3257	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198	021	31010
2624	Cap, 100u, 20%, 25v, Electrolytic . . . . .	3198	025	31010	3258	Res, 100 ohm, 5%, 1/6W, Carbon Film . . . .	3198	011	01010
2625	Cap, 2u2, 10%, 6v3, Ceramic . . . . .	2022	552	05615	3259	Res, 10K, 5%, 1/16W, Metalized Glass . . . .	3198	021	31030
2626	Cap, 33p, 5%, 50v, Ceramic . . . . .	3198	016	33390	3260	Res, 100 ohm, 5%, 1/6W, Carbon Film . . . .	3198	011	01010
2627	Cap, 33p, 5%, 50v, Ceramic . . . . .	3198	016	33390	3261	Res, 4K7, 5%, 1/16W, Metalized Glass . . . .	3198	021	34720

S = Safety Part Be sure to use exact replacement part.

32PW6341/85 (continued)

3262	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198	021	31010	3507	PTC, 3R, 144v, 20%	2122	663	00019
3265	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198	021	31010	S 3510	NTC, B57237, 3W1, 4R7, 20%	2122	612	00055
3266	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198	021	31010	3511	Res, 4R7, 5%, 1/6W, Carbon Film.	3198	011	04780
3269	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198	021	31010	3512	Res, 1K2, 5%, 1/16W, Metalized Glass.	3198	021	31220
3270	Res, 100 ohm, 5%, 1/6W, Carbon Film.	3198	011	01010	3513	Res, 2K2, 5%, 1/3W, Metal Film.	2306	204	03222
3271	Res, 390 ohm, 5%, 1/16W, Metalized Glas	3198	021	33910	3514	Res, 100 ohm, 5%, 1/3W, Metal Film.	2306	204	03101
3272	Res, 820 ohm, 5%, 1/16W, Metalized Glas	3198	021	38210	3515	Res, 1K, 5%, 1/6W, Carbon Film.	3198	011	01020
3273	Res, 1K, 5%, 1/16W, Metalized Glass.	3198	021	31020	3516	Res, OR1, 5%, 3/5W, Metal Film.	3198	012	11070
3274	Res, 100 ohm, 5%, 1/6W, Carbon Film.	3198	011	01010	3517	Res, 300k, 1%, Metalized Glass.	2322	704	63004
3275	Res, 100 ohm, 5%, 1/6W, Carbon Film.	3198	011	01010	3518	Res, 3K3, 5%, 1/16W, Metalized Glass.	3198	021	33320
3276	Res, 100 ohm, 5%, 1/6W, Carbon Film.	3198	011	01010	3519	Res, 15K, 5%, 1/6W, Carbon Film.	3198	011	01530
3277	Res, 100 ohm, 5%, 1/6W, Carbon Film.	3198	011	01010	3520	Res, OR18, 5%, 1W, Metal Film.	2120	106	90636
3278	Res, 100 ohm, 5%, 1/6W, Carbon Film.	3198	011	01010	3521	Res, 3K3, 5%, 1/6W, Carbon Film.	3198	011	03320
3279	Res, 4K7, 5%, 1/16W, Metalized Glass.	3198	021	34720	3522	Res, 56K, 5%, 1/16W, Metalized Glass.	3198	021	35630
3280	Res, 4K7, 5%, 1/16W, Metalized Glass.	3198	021	34720	3524	Res, 47K, 5%, 1/16W, Metalized Glass.	3198	021	34730
3283	Res, 4K7, 5%, 1/16W, Metalized Glass.	3198	021	34720	3530	Res, 220 ohm, 5%, 1/16W, Metalized Glas	3198	021	32210
3284	Res, 4K7, 5%, 1/16W, Metalized Glass.	3198	021	34720	3531	Res, 100K, 5%, 1/6W, Carbon Film.	3198	011	01040
3285	Res, 1K, 5%, 1/16W, Metalized Glass.	3198	021	31020	3532	Res, 4R7, 5%, 1/3W, Metal Film.	2306	204	03478
3287	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198	021	31010	3533	Res, 8K2, 5%, 1/16W, Metalized Glass.	3198	021	38220
3289	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198	021	31010	3534	Res, 100 ohm, 5%, 1/6W, Carbon Film.	3198	011	01010
3290	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198	021	31010	3537	Res, 2K2, 5%, 1/16W, Metalized Glass.	3198	021	32220
3291	Res, 1K, 5%, 1/6W, Carbon Film.	3198	011	01020	3538	Res, 1R8, 5%, 1/8W, Metalized Glass.	2322	730	61188
3292	Res, 47K, 5%, 1/16W, Metalized Glass.	3198	021	34730	3541	Res, 47K, 5%, 1/16W, Metalized Glass.	3198	021	34730
3293	Res, 39K, 5%, 1/16W, Metalized Glass.	3198	021	33930	3563	Res, 220 ohm, 5%, 1/6W, Carbon Film.	3198	011	02210
3294	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198	021	31010	3565	Res, 15K, 5%, 1/16W, Metalized Glass.	3198	021	31530
3295	Res, 8K2, 5%, 1/16W, Metalized Glass.	3198	021	38220	3571	Res, 220 ohm, 5%, 1/6W, Carbon Film.	3198	011	02210
3296	Res, 5K6, 5%, 1/16W, Metalized Glass.	3198	021	35620	3572	Res, 220 ohm, 5%, 1/16W, Metalized Glas	3198	021	32210
3401	Res, 47K, 1%, 3/5W, Metal Film.	2312	915	14703	3573	Res, 15K, 5%, 1/16W, Metalized Glass.	3198	021	31530
3404	Res, 1 ohm, 5%, 1/8W, Metalized Glass.	2322	750	61008	3574	Res, 33K, 5%, 1/6W, Carbon Film.	3198	011	03330
3412	Res, 1K, 5%, 1/6W, Carbon Film.	3198	011	01020	3575	Res, 82K, 1%, 3/5W, Metal Film.	2312	915	18203
3414	Res, 12R, 5%, 2W, MF SEE KNOWN FAULTS.	2322	194	63129	3576	Res, 4K7, 1%, 1/16W, Metalized Glass.	2322	704	64702
3415	Res, 100 ohm, 5%, 1/6W, Carbon Film.	3198	011	01010	3577	Res, 1K5, 5%, 1/6W, Carbon Film.	3198	011	01520
3416	Res, 47 ohm, 5%, 1/16W, Metalized Glass	3198	021	34790	3578	Res, 470 ohm, 5%, 1/16W, Metalized Glas	3198	021	34710
3417	Res, 15K, 5%, 1/3W, Metal Film.	3198	012	21530	3579	Res, 2K2, 5%, 1/16W, Metalized Glass.	3198	021	32220
3418	Res, 100 ohm, 5%, 1/6W, Carbon Film.	3198	011	01010	3601	Res, 4K7, 5%, 1/16W, Metalized Glass.	3198	021	34720
3420	Res, 10K, 5%, 1/10W, Metalized Glass.	3198	021	51030	3604	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198	021	31010
3425	Res, 100K, 1%, 3/5W, Metal Film.	2312	915	11004	3605	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198	021	31010
3427	Res, 2K2, 5%, 1/10W, Metalized Glass.	3198	021	52220	3606	Res, 56K, 5%, 1/6W, Carbon Film.	3198	011	05630
3428	Res, 3K3, 5%, 1/10W, Metalized Glass.	3198	021	53320	3607	Res, 10K, 5%, 1/16W, Metalized Glass.	3198	021	31030
3430	Res, 120k, 5%, Metalized Glass.	2322	241	53124	3608	Res, 27K, 5%, 1/16W, Metalized Glass.	3198	021	32730
3431	Res, 22K, 1%, 3/5W, Metal Film.	2312	915	12203	3609	Res, 330 ohm, 5%, 1/16W, Metalized Glas	3198	021	33310
3440	Res, 560 ohm, 5%, 1/6W, Carbon Film.	3198	011	05610	3614	Res, Zero ohm, "Chip" Jumper.	3198	021	90030
3441	Res, 120k, 5%, Metalized Glass.	2322	241	53124	3616	Res, 100 ohm, 5%, 1/6W, Carbon Film.	3198	011	01010
3442	Wire Jumper, 0.58MM.	3198	036	90010	3617	Res, 100 ohm, 5%, 1/6W, Carbon Film.	3198	011	01010
3443	Wire Jumper, 0.58MM.	3198	036	90010	3618	Res, 100 ohm, 5%, 1/6W, Carbon Film.	3198	011	01010
3445	Res, 47 ohm, 5%, 1/10W, Metalized Glass	3198	021	54790	3634	Res, 1K, 5%, 1/16W, Metalized Glass.	3198	021	31020
3446	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198	021	31010	3635	Res, 47K, 5%, 1/16W, Metalized Glass.	3198	021	34730
3451	Res, 82K, 1%, 3/5W, Metal Film.	2312	915	18203	3637	Res, 47 ohm, 5%, 1/16W, Metalized Glass	3198	021	34790
3452	Res, 6K8, 5%, 1/16W, Metalized Glass.	3198	021	36820	3690	Res, 220 ohm, 5%, 1/16W, Metalized Glas	3198	021	32210
3453	Res, 22K, 5%, 1/16W, Metalized Glass.	3198	021	32230	3975	Res, 150 ohm, 5%, 1/3W, Metal Film.	3198	012	21510
3454	Res, 47K, 5%, 1/6W, Carbon Film.	3198	011	04730	3985	Res, 39K, 5%, 1/16W, Metalized Glass.	3198	021	33930
3455	Res, 1 ohm, 5%, 1/2W, Metal Film.	2306	207	03108	3988	Res, 10K, 5%, 1/16W, Metalized Glass.	3198	021	31030
3457	Res, 1 ohm, 5%, 1/2W, Metal Film.	2306	207	03108	3989	Res, 10 ohm, 5%, 1/16W, Metalized Glass	3198	021	31090
3458	Res, 4R7, 5%, 1/2W, Metal Film.	2306	207	03478	3991	Res, 39K, 5%, 1/16W, Metalized Glass.	3198	021	33930
3460	Res, 2K2, 5%, 1/6W, Carbon Film.	3198	011	02220	3992	Res, 10K, 5%, 1/16W, Metalized Glass.	3198	021	31030
3461	Res, 2K2, 5%, 1/6W, Carbon Film.	3198	011	02220	3993	Res, 10 ohm, 5%, 1/16W, Metalized Glass	3198	021	31090
3462	Res, 2K2, 5%, 1/16W, Metalized Glass.	3198	021	32220	3994	Res, 68K, 5%, 1/16W, Metalized Glass.	3198	021	36830
3463	Res, 1K, 5%, 1/16W, Metalized Glass.	3198	021	31020	3995	Res, 4K7, 5%, 1/16W, Metalized Glass.	3198	021	34720
3464	Res, 220 ohm, 5%, 1/16W, Metalized Glas	3198	021	32210	4000	Res, Zero ohm, "Chip" Jumper.	3198	021	90030
3466	Res, 1 ohm, 5%, 1/2W, Metal Film.	2306	207	03108	4001	Res, Zero ohm, "Chip" Jumper.	3198	021	90030
3467	Res, 220 ohm, 5%, 1/6W, Carbon Film.	3198	011	02210	4002	Res, Zero ohm, "Chip" Jumper.	3198	021	90030
3468	Res, 220 ohm, 5%, 1/6W, Carbon Film.	3198	011	02210	4003	Res, Zero ohm, "Chip" Jumper.	3198	021	90030
3469	Res, 1K, 5%, 1/16W, Metalized Glass.	3198	021	31020	4006	Res, Zero ohm, "Chip" Jumper.	3198	021	90030
3470	Res, 22 ohm, 5%, 1/6W, Carbon Film.	3198	011	02290	4013	Res, Zero ohm, "Chip" Jumper.	3198	021	90030
3471	Res, 1R8, 1%, 3/5W, Metal Film.	2312	915	11280	4015	Res, Zero ohm, "Chip" Jumper.	3198	021	90030
3472	Res, 3R3, 1%, 3/5W, Metal Film.	2312	915	13308	4106	Res, Zero ohm, "Chip" Jumper.	3198	021	90030
3473	Res, 560K, 5%, 1/16W, Metalized Glass.	2322	702	60564	4107	Res, Zero ohm, "Chip" Jumper.	3198	021	90030
3474	Res, 15K, 5%, 1/16W, Metalized Glass.	3198	021	31530	4108	Res, Zero ohm, "Chip" Jumper.	3198	021	90030
3475	Res, 8K2, 5%, 1/16W, Metalized Glass.	3198	021	38220	4116	Res, Zero ohm, "Chip" Jumper.	3198	021	90030
3478	Res, 6K8, 5%, 1/16W, Metalized Glass.	3198	021	36820	4136	Res, Zero ohm, "Chip" Jumper.	3198	021	90030
3481	Res, 4R7, 5%, 1/8W, Metalized Glass.	2322	750	64708	4209	Res, Zero ohm, "Chip" Jumper.	3198	021	90030
3482	Res, 22K, 1%, 3/5W, Metal Film.	2312	915	12203	4212	Res, Zero ohm, "Chip" Jumper.	3198	021	90030
3483	Res, 56K, 1%, 3/5W, Metal Film.	2312	915	15603	4221	Res, Zero ohm, "Chip" Jumper.	3198	021	90030
S 3484	Res, 1 ohm, 5%, 1/3W, Metal Film.	2306	204	03108	4222	Res, Zero ohm, "Chip" Jumper.	3198	021	90030
S 3485	Res, 1 ohm, 5%, 1/3W, Metal Film.	2306	204	03108	4223	Res, Zero ohm, "Chip" Jumper.	3198	021	90020
3486	Res, 6K8, 5%, 1/16W, Metalized Glass.	3198	021	36820	4226	Res, Zero ohm, "Chip" Jumper.	3198	021	90030
3489	Res, 47 ohm, 5%, 1/10W, Metalized Glass	3198	021	54790	4227	Res, Zero ohm, "Chip" Jumper.	3198	021	90030
3490	Res, 22K, 5%, 1/16W, Metalized Glass.	3198	021	32230	4240	Res, Zero ohm, "Chip" Jumper.	3198	021	90030
3491	Res, 82K, 5%, 1/16W, Metalized Glass.	3198	021	38230	4241	Res, Zero ohm, "Chip" Jumper.	3198	021	90030
3492	Res, Zero ohm, "Chip" Jumper.	3198	021	90030	4470	Res, Zero ohm, "Chip" Jumper.	3198	021	90030
3493	Res, 2K2, 5%, 1/16W, Metalized Glass.	3198	021	32220	4533	Res, Zero ohm, "Chip" Jumper.	3198	021	90020
3494	Res, 680K, 5%, 1/16W, Metalized Glass.	3198	021	36840	4534	Res, Zero ohm, "Chip" Jumper.	3198	021	90030
3495	Res, 330K, 5%, 1/10W, Glass.	3198	021	53340	4535	Res, Zero ohm, "Chip" Jumper.	3198	021	90030
3497	Res, 1 ohm, 5%, 1/2W, Metal Film.	2306	207	03108	4537	Res, Zero ohm, "Chip" Jumper.	3198	021	90030
3498	Res, 4K7, 5%, 1/16W, Metalized Glass.	3198	021	34720	4604	Res, Zero ohm, "Chip" Jumper.	3198	021	90030
3499	Res, 680K, 5%, 1/10W, Metalized Glass.	3198	021	56840	4610	Res, Zero ohm, "Chip" Jumper.	3198	021	90030
3500	Res, 3M3, 5%, 1/2W, Metalized Glass.	2322	242	13335	4612	Res, Zero ohm, "Chip" Jumper.	3198	021	90020
3501	Res, 3M3, 5%, 1/2W, Metalized Glass.	2322	242	13335	4620	Res, Zero ohm, "Chip" Jumper.	3198	021	90030
3502	Res, 220 ohm, 20%, 1/2W, Carbon Film.	3198	013	02210	4631	Res, Zero ohm, "Chip" Jumper.	3198	021	90030
S 3503	Surge Protector.	2422	549	43073	4635	Res, Zero ohm, "Chip" Jumper.	3198	021	90030
3504	Res, 1M5, 5%, 1/2W, Metalized Glass.	2322	242	13155	4637	Res, Zero ohm, "Chip" Jumper.	3198	021	90030
3505	VDR, 1mA/423V.	2122	550	00147	4642	Res, Zero ohm, "Chip" Jumper.	3198	021	90030

S = Safety Part Be sure to use exact replacement part.

32PW6341/85 (continued)

4644	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90020	5635	Diode, Rect, SB160 . . . . .	9322	198	24673
4645	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030	5636	Diode, Rect, SB180 . . . . .	9322	198	25673
4646	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030	5641	Zener Diode, 12 volt . . . . .	3198	020	51290
4648	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030	5651	Diode, Rect, BYV29X-500. . . . .	9340	555	59127
4649	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030	5652	Diode, Rect, SB360 . . . . .	3198	010	10700
4691	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030	5653	Diode, Rect, SB360 . . . . .	3198	010	10700
4692	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030	5654	Diode, Signal, BAS316. . . . .	3198	010	10630
4694	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030	5655	Zener Diode, 9.1 volt. . . . .	9322	125	46685
4696	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030	5656	Diode, Signal, BAS316. . . . .	3198	010	10630
4910	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030	5671	Diode, Signal, BAV70 . . . . .	9331	849	10215
4914	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90020	5672	Zener Diode, 6.2 volt. . . . .	9340	548	54115
4915	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90020	5673	Zener Diode, 9.1 volt. . . . .	9331	177	80133
4916	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90020	5675	Diode, Rect, 1N5392 . . . . .	9322	005	16683
4917	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90020	6602	Diode, Signal, BAV99 . . . . .	3198	010	10620
4921	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90020	6694	Zener Diode, 5.1 volt. . . . .	3198	020	55180
5001	Fixed Inductor, 100MHz, 120R . . . . .	3198	018	90030	7200	IC, TDA12001H1/1N1B511AC. . . . .	9352	753	89557
5002	Coil, 390n . . . . .	3198	018	33970	7201	Transistor, NPN, IMX1 . . . . .	9322	054	28685
5201	Fixed Inductor, 100MHz, 50R. . . . .	3198	018	90010	7203	Transistor, PNP, BC327-25. . . . .	3198	020	43430
5202	Fixed Inductor, 100MHz, 120R . . . . .	3198	018	90030	7204	Transistor, PNP, BC327-25. . . . .	3198	020	43430
5203	Fixed Inductor, 100MHz, 120R . . . . .	3198	018	90030	7205	Transistor, NPN, BC847B. . . . .	3198	010	42030
5205	Fixed Inductor, 100MHz, 120R . . . . .	3198	018	90030	7207	Transistor, NPN, BC847B. . . . .	3198	010	42030
5206	Fixed Inductor, 100MHz, 120R . . . . .	3198	018	90030	7208	Transistor, NPN, BC847B. . . . .	3198	010	42030
5207	Fixed Inductor, 100MHz, 120R . . . . .	3198	018	90030	7209	F.E.T. Signal, BSH103. . . . .	9340	547	13215
5208	Fixed Inductor, 100MHz, 50R. . . . .	3198	018	90010	7210	F.E.T. Signal, BSH103. . . . .	9340	547	13215
5209	Fixed Inductor, 100MHz, 120R . . . . .	3198	018	90030	7404	F.E.T. Signal, BSH103. . . . .	9340	547	13215
5210	Fixed Inductor, 100MHz, 120R . . . . .	3198	018	90030	7405	Transistor, BU2725DX . . . . .	9340	497	50127
5211	Fixed Inductor, 100MHz, 120R . . . . .	3198	018	90030	7406	Transistor, KTC3228Y . . . . .	9322	197	37676
5212	Fixed Inductor, 100MHz, 120R . . . . .	3198	018	90030	7408	Transistor, NPN, BC847B. . . . .	3198	010	42030
5213	Fixed Inductor, 100MHz, 120R . . . . .	3198	018	90030	7410	Transistor, PNP, BC857B. . . . .	3198	010	42150
5214	Fixed Inductor, 100MHz, 120R . . . . .	3198	018	90030	7411	Transistor, PNP, BC857B. . . . .	3198	010	42150
5215	Fixed Inductor, 100MHz, 120R . . . . .	3198	018	90030	7451	Transistor, KTD600KY . . . . .	9322	195	14687
5216	Fixed Inductor, 100MHz, 50R. . . . .	3198	018	90010	7452	Transistor, KTC3228Y . . . . .	9322	197	37676
5401	Coil, 42uH . . . . .	2422	536	00507	7453	Transistor, KTB631KY . . . . .	9322	195	05687
5402	Transformer, Signal Driver . . . . .	2422	531	02617	7454	Transistor, NPN, BC847B. . . . .	3198	010	42030
5405	Coil, Choke, 35mH. . . . .	2422	536	00682	7455	Transistor, PNP, BC857B. . . . .	3198	010	42150
5408	Coil, Bridge . . . . .	2422	531	02639	7456	Transistor, PNP, BC857B. . . . .	3198	010	42150
5409	Transformer, LOT, JF0101-85021 . . . . .	2422	531	02612	7481	Transistor, PNP, BC857B. . . . .	3198	010	42150
5451	Wire Jumper, 0.58MM. . . . .	3198	036	90010	7482	Transistor, PNP, PDTA114ET . . . . .	3198	010	44010
5501	Filter, Mains, 5mH, 2A . . . . .	2422	549	43432	7483	Transistor, PNP, BC857B. . . . .	3198	010	42150
5511	Fixed Inductor, 100MHz, 50R. . . . .	3198	018	90010	7484	Transistor, NPN, BC847B. . . . .	3198	010	42030
5512	Transformer, SMT, Layer. . . . .	2422	531	02627	7511	IC, TEA1506T/N1. . . . .	9352	720	43118
5531	Transformer, SMT, Layer. . . . .	2422	531	02631	7512	Transistor, FET, FQFF9N50. . . . .	9322	187	16687
5551	Fixed Inductor, 100MHz, 50R. . . . .	3198	018	90010	7513	Optic Coupler, TCET1103(G) . . . . .	9322	140	14667
5552	Coil, 27u. . . . .	2422	535	95366	7514	Transistor, NPN, BC847B. . . . .	3198	010	42030
5561	Fixed Inductor, 100MHz, 50R. . . . .	3198	018	90010	7531	IC, TEA1620P/N1. . . . .	9352	739	52112
5562	Fixed Inductor, 100MHz, 50R. . . . .	3198	018	90010	7541	Transistor, PNP, BC857B. . . . .	3198	010	42150
5603	Fixed Inductor, 100MHz, 50R. . . . .	3198	018	90010	7561	Transistor, NPN, PDTCL143ZT . . . . .	9340	547	00215
6001	Zener Diode, 33 volt . . . . .	3198	010	23390	7571	Transistor, NPN, BC547B. . . . .	3198	020	40030
6005	Zener Diode, 8.2 volt. . . . .	9322	125	45685	7573	Transistor, NPN, PDTCL144ET . . . . .	3198	010	44110
6203	Diode, Signal, BAS316. . . . .	3198	010	10630	7601	IC, M24C16-WBN6. . . . .	9322	147	25682
6204	Diode, Rect, SS14. . . . .	3198	010	10710	7603	IC, L78L33ACZ. . . . .	9322	134	92676
6205	Zener Diode, 27 volt . . . . .	3198	020	52790	7604	Transistor, NPN, BC847B. . . . .	3198	010	42030
6207	Diode, Signal, BAS316. . . . .	3198	010	10630	7605	Transistor, PNP, BC327-25. . . . .	3198	020	43430
6209	Diode, Signal, BAT51, SOD323 . . . . .	3198	010	10660	7606	Transistor, NPN, BC847B. . . . .	3198	010	42030
6210	Zener Diode, 5.6 volt. . . . .	3198	020	55680	7990	IC, TDA2616Q/N1. . . . .	9350	404	40112
6211	Zener Diode, 5.6 volt. . . . .	3198	020	55680	7991	Transistor, NPN, BC847B. . . . .	3198	010	42030
6403	Diode, Rect, BYV27-200. . . . .	9322	126	72673	7992	Transistor, NPN, BC847B. . . . .	3198	010	42030
6406	Diode, Rect, RGP10G. . . . .	9334	939	60673	8401	Cable, 5 Pin, 560mm. . . . .	3139	121	09041
6407	Diode, BAV21WS . . . . .	9322	197	45703	9002	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6408	Diode, BAV21WS . . . . .	9322	197	45703	9112	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6410	Diode, Rect, BY448 . . . . .	9335	001	20133	9113	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6411	Diode, Rect, BY229X-800 . . . . .	9340	380	30127	9114	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6412	Diode, Rect, BY359X-1500. . . . .	9340	303	30127	9116	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6441	Zener Diode, 68 volt . . . . .	9322	150	20685	9120	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6442	Zener Diode, 68 volt . . . . .	9322	150	20685	9121	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6443	Zener Diode, 10 volt . . . . .	3198	020	51090	9122	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6450	Diode, Signal, BAS316. . . . .	3198	010	10630	9123	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6451	Zener Diode, 4.7 volt. . . . .	3198	020	54780	9124	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6452	Diode, Rect, BYV27-200. . . . .	9322	126	72673	9125	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6453	Diode, Rect, RGP10G. . . . .	9334	939	60673	9126	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6454	Diode, Rect, RGP10G. . . . .	9334	939	60673	9128	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6455	Diode, Rect, RGP10G. . . . .	9334	939	60673	9129	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6456	Diode, Rect, PBXR10100. . . . .	9340	205	70127	9138	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6457	Diode, Signal, BAS316. . . . .	3198	010	10630	9202	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6458	Diode, Signal, BAS316. . . . .	3198	010	10630	9203	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6459	Diode, Rect, RGP10G. . . . .	9334	939	60673	9204	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6480	Zener Diode, 6.8 volt. . . . .	3198	010	56880	9205	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6481	Diode, Signal, 1N4148. . . . .	3198	010	10010	9206	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6482	Zener Diode, 6.8 volt. . . . .	3198	020	56880	9207	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6483	Diode, BAV21WS . . . . .	9322	197	45703	9208	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6484	Diode, BAV21WS . . . . .	9322	197	45703	9209	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6486	Diode, Signal, BAV21 . . . . .	3198	010	10070	9210	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6488	Diode, Signal, BAS316. . . . .	3198	010	10630	9211	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6489	Zener Diode, 33 volt . . . . .	3198	020	53390	9212	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6500	Diode, Bridge Rect, GBU5JL-7002 . . . . .	9322	138	08667	9213	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6511	Diode, Rect, RGP10D . . . . .	9337	516	60673	9214	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6512	Diode, Signal, BAT51, SOD323 . . . . .	3198	010	10660	9216	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6514	Diode, Signal, BAS316. . . . .	3198	010	10630	9217	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6531	Zener Diode, 15 volt . . . . .	3198	020	51590	9218	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6532	Diode, BAV21WS . . . . .	9322	197	45703	9219	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6533	Zener Diode, 6.8 volt. . . . .	9322	171	80685	9220	Wire Jumper, 0.58MM. . . . .	3198	036	90010
6534	Zener Diode, 3.9 volt. . . . .	9322	199	75685	9221	Wire Jumper, 0.58MM. . . . .	3198	036	90010



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Cabinet Parts

Table listing cabinet parts with columns for quantity, description, and part numbers (e.g., 0002 Cabinet Front (part of Cabinet Front Assembly), 0008 Cabinet Back).

CRT Panels

Table listing CRT panels and related components with columns for quantity, description, and part numbers (e.g., CBA CRT Panel, 0035 U-Cooling Plate, 1331 Connector, 7 Pin).

Table listing electronic components with columns for quantity, description, and part numbers (e.g., 5351 Coil, 22u, 5352 Coil, 220n, 5361 Fixed, Inductor, 100MHz, 50R).

Front Interface Panel

Front Interface Panel

LTI/CTI Interface Panel

Table listing LTI/CTI interface panels and components with columns for quantity, description, and part numbers (e.g., CBA LTI/CTI Interface Panel, 1212 Connector, 12 Pin).

Linearity & Panorama Panel

Linearity & Panorama Panel

Side Jack Panel

Table listing side jack panels and components with columns for quantity, description, and part numbers (e.g., CBA Side Jack Panel, 1232 Headphone Jack).

S = Safety Part Be sure to use exact replacement part.

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Table with 4 columns: Part Number, Description, Part Number, Description. Row 1: 3160 Res, 100 ohm, 5%, 1/6W, Carbon Film. . . 3198 011 01010. Row 2: 9181 Wire Jumper, 0.58MM. . . . . 3198 036 90010

Top Control Panel

Top Control Panel

Main Chassis

Main Chassis

Main Chassis parts list starting with CBA Main Chassis . . . . . 3139 188 09041, Tuner, V+U PLL . . . . . 2422 542 90141, S.A.W. Filter, 45MHz75, OFWML971M. . . . . 2422 549 44518, Connector, 3 Pin . . . . . 2412 020 00725, MDIN Socket. . . . . 2422 026 05428, Connector, 7 Pin . . . . . 2422 025 04855, Crystal Resonator, 24MHz576. . . . . 2422 543 00943, Connector, 7 Pin . . . . . 2422 025 11244, Connector, 12 Pin. . . . . 2422 025 16052, 12 Pin Cinch Socket. . . . . 2422 026 05463, Connector, 5 Pin . . . . . 2422 025 12481, Connector, 5 Pin . . . . . 2422 025 04853, Connector, 4 Pin . . . . . 2422 025 15503, Connector, 2 Pin . . . . . 2422 025 10646, Fuse, 1.25 Amp, 250V . . . . . 2422 086 10282, Fuse, 1.25 Amp, 250V . . . . . 2422 086 10282, Fuse, 4A, 250V, IEC. . . . . 2422 086 10914, Relay, 12V, 5A G5PA-1. . . . . 2422 132 07444, Connector, 2 Pin . . . . . 2422 025 16375, Connector, 2 Pin . . . . . 2422 025 16269, Switch, Tactile. . . . . 2422 128 02742, Switch, Tactile. . . . . 2422 128 02742, Switch, Tactile. . . . . 2422 128 02742, Switch, Tactile. . . . . 2422 128 02742, Switch, Tactile. . . . . 2422 128 02742, Cap, 22p, 5%, 50v, Ceramic . . . . . 3198 016 32290, Cap, 47n, +80/-20%, 50v, Ceramic . . . . 3198 024 44730, Cap, 470u, 20%, 16v, Electrolytic. . . . . 3198 025 24710, Cap, 100n, 10%, 16v, Ceramic . . . . . 3198 017 31040, Cap, 100u, 20%, 25v, Electrolytic. . . . . 3198 025 31010, Cap, 330p, 10%, 50v, Ceramic . . . . . 3198 017 33310, Cap, 330p, 10%, 50v, Ceramic . . . . . 3198 017 33310, Cap, 10u, 20%, 50v, Electrolytic . . . . . 3198 025 51090, Cap, 10u, 20%, 50v, Electrolytic . . . . . 3198 025 51090, Cap, 330p, 10%, 50v, Ceramic . . . . . 3198 017 33310, Cap, 330p, 10%, 50v, Ceramic . . . . . 3198 017 33310, Cap, 2u2, 20%, 50v, Electrolytic . . . . . 3198 025 52280, Cap, 330p, 10%, 50v, Ceramic . . . . . 3198 017 33310, Cap, 330p, 10%, 50v, Ceramic . . . . . 3198 017 33310, Cap, 2u2, 20%, 50v, Electrolytic . . . . . 3198 025 52280, Cap, 100u, 20%, 10v, Electrolytic. . . . . 3198 025 11010, Cap, 22n, 10%, 25v, Ceramic . . . . . 3198 017 32230, Cap, 220n, +80/-20%, 16v, Ceramic. . . . . 3198 017 42240, Cap, 220n, +80/-20%, 25v, Ceramic. . . . . 3198 023 22240, Cap, 220n, +80/-20%, 25v, Ceramic. . . . . 3198 023 22240, Cap, 220n, +80/-20%, 25v, Ceramic. . . . . 3198 023 22240, Cap, 220n, +80/-20%, 16v, Ceramic. . . . . 3198 017 42240, Cap, 220n, +80/-20%, 16v, Ceramic. . . . . 3198 017 42240, Cap, 220n, +80/-20%, 16v, Ceramic. . . . . 3198 017 42240, Cap, 220n, +80/-20%, 16v, Ceramic. . . . . 3198 017 42240, Cap, 100n, 10%, 16v, Ceramic . . . . . 3198 017 31040, Cap, 220n, +80/-20%, 16v, Ceramic. . . . . 3198 017 42240, Cap, 220n, +80/-20%, 16v, Ceramic. . . . . 3198 017 42240, Cap, 220n, +80/-20%, 16v, Ceramic. . . . . 3198 017 42240, Cap, 100u, 20%, 25v, Electrolytic. . . . . 3198 025 31010, Cap, 47u, 20%, 25v, Electrolytic . . . . . 3198 025 34790, Cap, 5n6, 10%, 50v, Ceramic . . . . . 2238 586 15633, Cap, 100n, 10%, 16v, Ceramic . . . . . 3198 017 31040, Cap, 100u, 20%, 25v, Electrolytic. . . . . 3198 025 31010, Cap, 220n, +80/-20%, 16v, Ceramic. . . . . 3198 017 42240, Cap, 220n, +80/-20%, 16v, Ceramic. . . . . 3198 017 42240, Cap, 220n, +80/-20%, 16v, Ceramic. . . . . 3198 017 42240, Cap, 10u, 20%, 50v, Electrolytic . . . . . 3198 025 51090, Cap, 100n, 10%, 16v, Ceramic . . . . . 3198 017 31040, Cap, 100n, 10%, 16v, Ceramic . . . . . 3198 017 31040, Cap, 100n, 10%, 16v, Ceramic . . . . . 3198 017 31040, Cap, 100u, 20%, 25v, Electrolytic. . . . . 3198 025 31010, Cap, 6n8, 10%, 50v, Ceramic. . . . . 3198 017 36820, Cap, 10n, 10%, 50v, Ceramic. . . . . 3198 017 31030, Cap, 100n, 10%, 16v, Ceramic . . . . . 3198 017 31040, Cap, 220n, +80/-20%, 16v, Ceramic. . . . . 3198 017 42240, Cap, 220n, +80/-20%, 16v, Ceramic. . . . . 3198 017 42240, Cap, lu5, 20%, 50v, Electrolytic . . . . . 2020 021 90137, Cap, 22n, 10%, 25v, Ceramic . . . . . 3198 017 32230, Cap, 100n, 10%, 16v, Ceramic . . . . . 3198 017 31040, Cap, 100n, 10%, 16v, Ceramic . . . . . 3198 017 31040, Cap, 2u2, +80/-20%, 10v, Ceramic . . . . . 3198 017 22250, Cap, ln, 5%, 25v, Ceramic. . . . . 3198 016 31020, Cap, 100n, 10%, 16v, Ceramic . . . . . 3198 017 31040, Cap, 100n, 10%, 16v, Ceramic . . . . . 3198 017 31040, Cap, ln, 5%, 25v, Ceramic. . . . . 3198 016 31020, Cap, 100n, 10%, 16v, Ceramic . . . . . 3198 017 31040, Cap, 100n, 10%, 16v, Ceramic . . . . . 3198 017 31040

Continuation of parts list starting with Cap, 100u, 20%, 25v, Electrolytic. . . . . 3198 025 31010, Cap, 150n, 10%, 50v, Polyester . . . . . 3198 014 01540, Cap, 10n, 10%, 50v, Ceramic . . . . . 3198 017 31030, Cap, 10n, 10%, 50v, Ceramic. . . . . 3198 017 31030, Cap, 10n, 10%, 50v, Ceramic. . . . . 3198 017 31030, Cap, 10n, 10%, 50v, Ceramic. . . . . 3198 017 31030, Cap, 10n, 10%, 50v, Ceramic. . . . . 3198 017 31030, Cap, 100n, 10%, 16v, Ceramic . . . . . 3198 017 31040, Cap, 3n3, 10%, 50v, Ceramic. . . . . 3198 017 33320, Cap, 100n, 10%, 16v, Ceramic . . . . . 3198 017 31040, Cap, 100n, 10%, 16v, Ceramic . . . . . 3198 017 31040, Cap, 10n, 10%, 50v, Ceramic. . . . . 3198 017 31030, Cap, 100n, 10%, 16v, Ceramic . . . . . 3198 017 31040, Cap, 560p, 5%, 25v, Ceramic . . . . . 3198 016 35610, Cap, 100u, 20%, 25v, Electrolytic. . . . . 3198 025 31010, Cap, 2u2, +80/-20%, 10v, Ceramic . . . . . 3198 017 22250, Cap, 2u2, +80/-20%, 10v, Ceramic . . . . . 3198 017 22250, Cap, 100n, 10%, 16v, Ceramic . . . . . 3198 017 31040, Cap, 100u, 20%, 25v, Electrolytic. . . . . 3198 025 31010, Cap, 100n, 10%, 16v, Ceramic . . . . . 3198 017 31040, Cap, 10u, 20%, 50v, Electrolytic . . . . . 3198 025 51090, Cap, 100n, +80/-20%, 25v, Ceramic. . . . . 3198 023 21040, Cap, 100p, 5%, 50v, Ceramic. . . . . 3198 016 31010, Cap, lu, +80/-20%, 10v, Ceramic. . . . . 3198 017 41050, Cap, ln, 10%, 50v, Ceramic . . . . . 3198 017 31020, Cap, ln, 10%, 50v, Ceramic . . . . . 3198 017 31020, Cap, ln, 10%, 50v, Ceramic . . . . . 3198 017 31020, Cap, 47u, 20%, 160v, Electrolytic. . . . . 2022 031 00103, Cap, 680p, 10%, 500v, Ceramic. . . . . 3198 019 46810, Cap, 100p, 5%, 50v, Ceramic. . . . . 3198 016 31010, Cap, 100n, +80/-20%, 25v, Ceramic. . . . . 3198 023 41040, Cap, 100n, +80/-20%, 25v, Ceramic. . . . . 3198 023 21040, Cap, 2n2, 10%, 2000v, Ceramic. . . . . 3198 019 72220, Cap, 15n, 5%, 1600v, Polypropylene . . . . 2222 375 90158, Cap, 33n, 10%, 400v, Polyester . . . . . 2222 347 90227, Cap, lu, +80/-20%, 10v, Ceramic. . . . . 3198 017 41050, Cap, 2u2, 20%, 160v, Electrolytic. . . . . 2022 031 00172, Cap, 470n, 5%, 250v, Polypropylene . . . . 2222 479 90023, Cap, 2u2, 5%, 100v, Metalized Polyester . 2222 468 90324, Cap, lu, +80/-20%, 10v, Ceramic. . . . . 3198 017 41050, Cap, 33n, 10%, 16v, Ceramic. . . . . 3198 017 33330, Cap, 33n, 10%, 16v, Ceramic. . . . . 3198 017 33330, Cap, 180n, 10%, 63v, Metalized Polyeste . 2222 365 75184, Cap, lu, +80/-20%, 16v, Ceramic. . . . . 3198 017 21050, Cap, 470u, 20%, 16v, Electrolytic. . . . . 3198 025 24710, Cap, 47n, 10%, 250v, Ceramic . . . . . 2020 557 90733, Cap, 4u7, 20%, 250v, Electrolytic. . . . . 2020 012 93282, Cap, 470p, 10%, 500v, Ceramic. . . . . 3198 019 44710, Cap, 470u, 20%, 16v, Electrolytic. . . . . 3198 025 24710, Cap, ln, 5%, 25v, Ceramic. . . . . 3198 016 31020, Cap, ln, 5%, 25v, Ceramic. . . . . 3198 016 31020, Cap, 100u, 20%, 50v, Electrolytic. . . . . 3198 037 51010, Cap, 470p, 5%, 50v, Ceramic. . . . . 3198 016 34710, Cap, 10u, 20%, 100v, Electrolytic. . . . . 3198 025 71090, Cap, 10n, 10%, 400v, Metalized Polyeste . 2222 365 55103, Cap, 220p, 5%, 50v, Ceramic. . . . . 3198 016 32210, Cap, 220n, +80/-20%, 16v, Ceramic. . . . . 3198 017 42240, Cap, 100n, 10%, 100v, Ceramic. . . . . 2222 601 55649, Cap, 10u, 20%, 50v, Electrolytic . . . . . 2020 009 00001, Cap, 27p, 5%, 500v, Ceramic. . . . . 2252 508 08255, Cap, ln5, 10%, 50v, Ceramic. . . . . 3198 017 01520, Cap, 10n, 10%, 50v, Ceramic. . . . . 3198 017 31030, Cap, 470n, 20%, 275V, Metalized Polypro . 2222 338 22474, Cap, 2n2, 10%, 1000v, Ceramic. . . . . 3198 019 52220, Cap, 2n2, 10%, 1000v, Ceramic. . . . . 3198 019 52220, Cap, 470u, 20%, 200v, Electrolytic . . . . . 2022 020 00852, Cap, 22u, 20%, 50v, Electrolytic . . . . . 3198 025 52290, Cap, 100n, 10%, 16v, Ceramic . . . . . 3198 017 31040, Cap, 470p, 10%, 50v, Ceramic . . . . . 3198 017 34710, Cap, ln5, 10%, 2000v, Ceramic. . . . . 3198 019 71520, Cap, 470p, 5%, 50v, Ceramic. . . . . 3198 016 34710, Cap, 100n, 10%, 16v, Ceramic . . . . . 3198 017 31040, Cap, ln, 10%, 50v, Ceramic . . . . . 3198 017 31020, Cap, 100p, 5%, 100v, Ceramic . . . . . 2020 557 90726, Cap, 330p, 5%, 100v, Ceramic . . . . . 2020 557 00005, Cap, 470p, 5%, 50v, Ceramic. . . . . 3198 016 34710, Cap, 10u, 10%, 16v, Ceramic. . . . . 2020 552 96823, Cap, 4n7, 10%, 50v, Ceramic. . . . . 3198 017 34720, Cap, 68p, 5%, 1kV, Ceramic . . . . . 2020 558 90261, Cap, 1000u, 20%, 6.3v, Electrolytic. . . . . 3198 025 01020, Cap, 2u2, 20%, 10v, Electrolytic . . . . . 2020 012 93728, Cap, 470p, 10%, 50v, Ceramic . . . . . 3198 017 34710, Cap, 470p, 10%, 500v, Ceramic. . . . . 3198 019 44710, Cap, 47u, 20%, 25v, Electrolytic . . . . . 3198 025 34790, Cap, ln5, 20%, 250v, Ceramic . . . . . 2020 554 90199, Cap, 2n2, 10%, 500v, Ceramic . . . . . 3198 019 42220, Cap, 100p, 5%, 50v, Ceramic. . . . . 3198 016 31010, Cap, 33p, 5%, 200v, Ceramic. . . . . 2020 557 00002, Cap, ln, 10%, 1000v, Ceramic . . . . . 3198 019 61020, Cap, 100u, 20%, 160v, Electrolytic . . . . . 2020 021 91654, Cap, 180p, 5%, 50v, Ceramic. . . . . 3198 016 31810, Cap, ln, 10%, 500v, Ceramic. . . . . 3198 019 41020

S = Safety Part Be sure to use exact replacement part.

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2562	Cap, 1000u, 20%, 25v, Electrolytic . . .	3198 026 31020	3239	Res, 1K2, 5%, 1/6W, CF SEE KNOWN FAULTS	3198 011 01220
2563	Cap, 1000u, 20%, 25v, Electrolytic . . .	3198 026 31020	3240	Res, 22K, 5%, 1/16W, Metalized Glass . . .	3198 021 32230
2564	Cap, 100n, 10%, 50v, Ceramic . . . . .	2238 580 15649	3241	Res, 39K, 1%, 3/5W, Metal Film . . . . .	2312 915 13903
2565	Cap, 1n, 10%, 500v, Ceramic . . . . .	3198 019 41020	3242	Res, 47K, 5%, 1/16W, Metalized Glass . . .	3198 021 34730
2566	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198 017 31040	3243	Res, 33K, 5%, 1/16W, Metalized Glass . . .	3198 021 33330
2571	Cap, 15n, 10%, 50v, Ceramic . . . . .	3198 017 31530	3244	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010
2572	Cap, 10n, 10%, 50v, Ceramic . . . . .	3198 017 31030	3247	Res, 390 ohm, 5%, 1/16W, Metalized Glass	3198 021 33910
2573	Cap, 220n, 10%, 50v, Ceramic . . . . .	2020 552 96683	3248	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010
2601	Cap, 1n, 5%, 25v, Ceramic . . . . .	3198 016 31020	3249	Res, 100 ohm, 5%, 1/6W, Carbon Film . . .	3198 011 01010
2611	Cap, 47u, 20%, 25v, Electrolytic . . . . .	3198 025 34790	3250	Res, 2K2, 5%, 1/16W, Metalized Glass . . .	3198 021 32220
2615	Cap, 4u7, +80/-20%, 10v, Ceramic . . . . .	2020 552 96305	3251	Res, 10K, 5%, 1/16W, Metalized Glass . . .	3198 021 31030
2617	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198 017 31040	3253	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010
2620	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198 017 31040	3257	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010
2621	Cap, 100u, 20%, 25v, Electrolytic . . . . .	3198 025 31010	3258	Res, 100 ohm, 5%, 1/6W, Carbon Film . . .	3198 011 01010
2623	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198 017 31040	3260	Res, 100 ohm, 5%, 1/6W, Carbon Film . . .	3198 011 01010
2624	Cap, 100u, 20%, 25v, Electrolytic . . . . .	3198 025 31010	3261	Res, 4K7, 5%, 1/16W, Metalized Glass . . .	3198 021 34720
2625	Cap, 2u2, 10%, 6v3, Ceramic . . . . .	2022 552 05615	3262	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010
2626	Cap, 33p, 5%, 50v, Ceramic . . . . .	3198 016 33390	3269	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010
2627	Cap, 33p, 5%, 50v, Ceramic . . . . .	3198 016 33390	3270	Res, 100 ohm, 5%, 1/6W, Carbon Film . . .	3198 011 01010
2628	Cap, 33p, 5%, 50v, Ceramic . . . . .	3198 016 33390	3271	Res, 390 ohm, 5%, 1/16W, Metalized Glas	3198 021 33910
2629	Cap, 33p, 5%, 50v, Ceramic . . . . .	3198 016 33390	3272	Res, 820 ohm, 5%, 1/16W, Metalized Glas	3198 021 38210
2630	Cap, 1n, 10%, 50v, Ceramic . . . . .	3198 017 31020	3273	Res, 1K, 5%, 1/16W, Metalized Glass . . .	3198 021 31020
2691	Cap, 220u, 20%, 10v, Electrolytic . . . . .	3198 025 12210	3274	Res, 100 ohm, 5%, 1/6W, Carbon Film . . .	3198 011 01010
2986	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198 017 31040	3275	Res, 100 ohm, 5%, 1/6W, Carbon Film . . .	3198 011 01010
2987	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198 017 31040	3276	Res, 100 ohm, 5%, 1/6W, Carbon Film . . .	3198 011 01010
2988	Cap, 100n, 10%, 16v, Ceramic . . . . .	3198 017 31040	3277	Res, 100 ohm, 5%, 1/6W, Carbon Film . . .	3198 011 01010
2989	Cap, 1u, +80/-20%, 10v, Ceramic . . . . .	3198 017 41050	3278	Res, 100 ohm, 5%, 1/6W, Carbon Film . . .	3198 011 01010
2990	Cap, 1n, 5%, 25v, Ceramic . . . . .	3198 016 31020	3283	Res, 4K7, 5%, 1/16W, Metalized Glass . . .	3198 021 34720
2992	Cap, 1u, +80/-20%, 10v, Ceramic . . . . .	3198 017 41050	3284	Res, 4K7, 5%, 1/16W, Metalized Glass . . .	3198 021 34720
2993	Cap, 1n, 5%, 25v, Ceramic . . . . .	3198 016 31020	3285	Res, 1K, 5%, 1/16W, Metalized Glass . . .	3198 021 31020
2994	Cap, 22n, 10%, 25v, Ceramic . . . . .	3198 017 32230	3287	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010
2995	Cap, 22n, 10%, 25v, Ceramic . . . . .	3198 017 32230	3289	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010
2996	Cap, 47n, +80/-20%, 50v, Ceramic . . . . .	3198 024 44730	3290	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010
2997	Cap, 47n, +80/-20%, 50v, Ceramic . . . . .	3198 024 44730	3291	Res, 1K, 5%, 1/6W, Carbon Film . . . . .	3198 011 01020
3003	Res, 10K, 5%, 1/16W, Metalized Glass . . .	3198 021 31030	3292	Res, 47K, 5%, 1/16W, Metalized Glass . . .	3198 021 34730
3004	Res, 68K, 5%, 1/16W, Metalized Glass . . .	3198 021 36830	3293	Res, 39K, 5%, 1/16W, Metalized Glass . . .	3198 021 33930
3005	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010	3295	Res, 8K2, 5%, 1/16W, Metalized Glass . . .	3198 021 38220
3101	Res, 68 ohm, 5%, 1/6W, Carbon Film . . . . .	3198 011 06890	3296	Res, 5K6, 5%, 1/16W, Metalized Glass . . .	3198 021 35620
3103	Res, 150 ohm, 5%, 1/6W, Carbon Film . . . . .	3198 011 01510	3401	Res, 47K, 1%, 3/5W, Metal Film . . . . .	2312 915 14703
3104	Res, 220K, 5%, 1/16W, Metalized Glass . . .	3198 021 32240	3404	Res, 1 ohm, 5%, 1/8W, Metalized Glass . . .	2322 750 61008
3105	Res, 150 ohm, 5%, 1/6W, Carbon Film . . . . .	3198 011 01510	3412	Res, 1K, 5%, 1/6W, Carbon Film . . . . .	3198 011 01020
3106	Res, 220K, 5%, 1/16W, Metalized Glass . . .	3198 021 32240	3414	Res, 4R7, 5%, 2W, MF SEE KNOWN FAULTS	2322 194 63478
3121	Res, 75 ohm, 5%, 1/16W, Metalized Glass . . .	3198 021 37590	3415	Res, 100 ohm, 5%, 1/6W, Carbon Film . . . . .	3198 011 01010
3123	Res, 22K, 5%, 1/6W, Carbon Film . . . . .	3198 011 02230	3416	Res, 47 ohm, 5%, 1/16W, Metalized Glass	3198 021 34790
3124	Res, 47K, 5%, 1/16W, Metalized Glass . . .	3198 021 34730	3417	Res, 15K, 5%, 1 1/3W, Metal Film . . . . .	3198 012 21530
3125	Res, 22K, 5%, 1/6W, Carbon Film . . . . .	3198 011 02230	3418	Res, 100 ohm, 5%, 1/6W, Carbon Film . . . . .	3198 011 01010
3126	Res, 47K, 5%, 1/16W, Metalized Glass . . .	3198 021 34730	3420	Res, 10K, 5%, 1/10W, Metalized Glass . . .	3198 021 51030
3129	Res, 75 ohm, 5%, 1/16W, Metalized Glass . . .	3198 021 37590	3425	Res, 100K, 1%, 3/5W, Metal Film . . . . .	2312 915 11004
3130	Res, 75 ohm, 5%, 1/16W, Metalized Glass . . .	3198 021 37590	3427	Res, 2K2, 5%, 1/10W, Metalized Glass . . .	3198 021 52220
3131	Res, 22K, 5%, 1/6W, Carbon Film . . . . .	3198 011 02230	3428	Res, 3K3, 5%, 1/10W, Metalized Glass . . .	3198 021 53320
3132	Res, 47K, 5%, 1/16W, Metalized Glass . . .	3198 021 34730	3430	Res, 120k, 5%, Metalized Glass . . . . .	2322 241 53124
3133	Res, 22K, 5%, 1/6W, Carbon Film . . . . .	3198 011 02230	3431	Res, 82K, 1%, 3/5W, Metal Film . . . . .	2312 915 18203
3134	Res, 47K, 5%, 1/16W, Metalized Glass . . .	3198 021 34730	3440	Res, 560 ohm, 5%, 1/6W, Carbon Film . . .	3198 011 05610
3135	Res, 75 ohm, 5%, 1/16W, Metalized Glass . . .	3198 021 37590	3441	Res, 120k, 5%, Metalized Glass . . . . .	2322 241 53124
3167	Res, 75 ohm, 5%, 1/6W, Carbon Film . . . . .	3198 011 07590	3442	Wire Jumper, 0.58MM . . . . .	3198 036 90010
3168	Res, 75 ohm, 5%, 1/16W, Metalized Glass . . .	3198 021 37590	3443	Wire Jumper, 0.58MM . . . . .	3198 036 90010
3169	Res, 75 ohm, 5%, 1/16W, Metalized Glass . . .	3198 021 37590	3445	Res, 47 ohm, 5%, 1/10W, Metalized Glass . . .	3198 021 54790
3201	Res, 1K, 5%, 1/6W, Carbon Film . . . . .	3198 011 01020	3446	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010
3202	Res, 3K3, 5%, 1/16W, Metalized Glass . . .	3198 021 33320	3451	Res, 75K, 1%, 3/5W, Metal Film . . . . .	2312 915 17503
3203	Res, 150K, 5%, 1/16W, Metalized Glass . . .	3198 021 31540	3452	Res, 15K, 5%, 1/16W, Metalized Glass . . .	3198 021 31530
3204	Res, 3K3, 5%, 1/16W, Metalized Glass . . .	3198 021 33320	3453	Res, 22K, 5%, 1/16W, Metalized Glass . . .	3198 021 32230
3205	Res, 12K, 5%, 1/16W, Metalized Glass . . .	3198 021 31230	3454	Res, 47K, 5%, 1/6W, Carbon Film . . . . .	3198 011 04730
3206	Res, 5K6, 5%, 1/16W, Metalized Glass . . .	3198 021 35620	3455	Res, 1 ohm, 5%, 1/2W, Metal Film . . . . .	2306 207 03108
3207	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010	3457	Res, 1 ohm, 5%, 1/2W, Metal Film . . . . .	2306 207 03108
3208	Res, 27K, 5%, 1/16W, Metalized Glass . . .	3198 021 32730	3458	Res, 4R7, 5%, 1/2W, Metal Film . . . . .	2306 207 03478
3209	Res, 1 ohm, 5%, 1/16W, Metalized Glass . . .	3198 021 31080	3460	Res, 2K2, 5%, 1/6W, Carbon Film . . . . .	3198 011 02220
3210	Res, 1 ohm, 5%, 1/16W, Metalized Glass . . .	3198 021 31080	3461	Res, 2K2, 5%, 1/6W, Carbon Film . . . . .	3198 011 02220
3211	Res, 27K, 5%, 1/16W, Metalized Glass . . .	3198 021 32730	3462	Res, 2K2, 5%, 1/16W, Metalized Glass . . .	3198 021 32220
3212	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010	3463	Res, 1K, 5%, 1/16W, Metalized Glass . . . . .	3198 021 31020
3214	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010	3464	Res, 220 ohm, 5%, 1/16W, Metalized Glas	3198 021 32210
3215	Res, 4K7, 5%, 1/6W, Carbon Film . . . . .	3198 011 04720	3466	Res, 1 ohm, 5%, 1/2W, Metal Film . . . . .	2306 207 03108
3216	Res, 10 ohm, 5%, 1/16W, Metalized Glass . . .	3198 021 31090	3467	Res, 220 ohm, 5%, 1/6W, Carbon Film . . .	3198 011 02210
3218	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010	3468	Res, 150 ohm, 5%, 1/6W, Carbon Film . . . . .	3198 011 01510
3219	Res, 10K, 5%, 1/16W, Metalized Glass . . .	3198 021 31030	3469	Res, 1K, 5%, 1/16W, Metalized Glass . . . . .	3198 021 31020
3220	Res, 150 ohm, 5%, 1/16W, Metalized Glas	3198 021 31510	3470	Res, 22 ohm, 5%, 1/6W, Carbon Film . . . . .	3198 011 02290
3221	Res, 270 ohm, 5%, 1/16W, Metalized Glas	3198 021 32710	3471	Res, 2R4, 1%, 3/5W, Metal Film . . . . .	2312 915 12408
3222	Res, 680 ohm, 5%, 1/16W, Metalized Glas	3198 021 36810	3472	Res, 2R7, 1%, 3/5W, Metal Film . . . . .	2312 915 12708
3224	Res, 680K, 5%, 1/6W, Carbon Film . . . . .	3198 011 06840	3473	Res, 820K, 5%, 1/16W, Metalized Glass . . .	2322 702 60824
3225	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010	3474	Res, 15K, 5%, 1/16W, Metalized Glass . . .	3198 021 31530
3226	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010	3475	Res, 8K2, 5%, 1/16W, Metalized Glass . . .	3198 021 38220
3227	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010	3478	Res, 6K8, 5%, 1/16W, Metalized Glass . . .	3198 021 36820
3228	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010	3481	Res, 2R7, 5%, 1/8W, Metalized Glass . . .	2322 750 62708
3229	Res, 1K5, 5%, 1/16W, Metalized Glass . . .	3198 021 31520	3482	Res, 22K, 1%, 3/5W, Metal Film . . . . .	2312 915 12203
3230	Res, 100 ohm, 5%, 1/6W, Carbon Film . . . . .	3198 011 01010	3483	Res, 56K, 1%, 3/5W, Metal Film . . . . .	2312 915 15603
3231	Res, 100 ohm, 5%, 1/6W, Carbon Film . . . . .	3198 011 01010	S 3484	Res, 1 ohm, 5%, 1/3W, Metal Film . . . . .	2306 204 03108
3232	Res, 12K, 5%, 1/16W, Metalized Glass . . .	3198 021 31230	S 3485	Res, 1 ohm, 5%, 1/3W, Metal Film . . . . .	2306 204 03108
3233	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010	3486	Res, 6K8, 5%, 1/16W, Metalized Glass . . .	3198 021 36820
3234	Res, 100 ohm, 5%, 1/6W, Carbon Film . . . . .	3198 011 01010	3489	Res, 47 ohm, 5%, 1/10W, Metalized Glass	3198 021 54790
3235	Res, 1K, 5%, 1/16W, Metalized Glass . . . . .	3198 021 31020	3490	Res, 22K, 5%, 1/16W, Metalized Glass . . .	3198 021 32230
3236	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198 021 31010	3491	Res, 82K, 5%, 1/16W, Metalized Glass . . .	3198 021 38230
3237	Res, 1K, 5%, 1/16W, Metalized Glass . . . . .	3198 021 31020	3492	Res, Zero ohm, "Chip" Jumper . . . . .	3198 021 90030
3238	Res, 4K7, 5%, 1/16W, Metalized Glass . . .	3198 021 34720	3493	Res, 2K2, 5%, 1/16W, Metalized Glass . . .	3198 021 32220

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3494	Res, 150K, 5%, 1/16W, Metalized Glass.	3198	021	31540	4222	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3495	Res, 330K, 5%, 1/10W, Glass. . . . .	3198	021	53340	4223	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90020
3497	Res, 1 ohm, 5%, 1/2W, Metal Film . . . . .	2306	207	03108	4226	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3498	Res, 4K7, 5%, 1/16W, Metalized Glass . . . . .	3198	021	34720	4227	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3499	Res, 330K, 5%, 1/10W, Glass. . . . .	3198	021	53340	4240	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3500	Res, 3M3, 5%, 1/2W, Metalized Glass. . . . .	2322	242	13335	4241	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3501	Res, 3M3, 5%, 1/2W, Metalized Glass. . . . .	2322	242	13335	4470	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3502	Res, 220 ohm, 20%, 1/2W, Carbon Film . . . . .	3198	013	02210	4533	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90020
S 3503	Surge Protector. . . . .	2422	549	43073	4534	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3504	Res, 1M5, 5%, 1/2W, Metalized Glass. . . . .	2322	242	13155	4535	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3505	VDR, 1mA/423V. . . . .	2122	550	00147	4537	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3507	PTC, 3R, 144v, 20% . . . . .	2122	663	00019	4604	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
S 3510	NTC, B57237, 3W1, 4R7, 20% . . . . .	2122	612	00055	4610	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3511	Res, 4R7, 5%, 1/6W, Carbon Film. . . . .	3198	011	04780	4612	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90020
3512	Res, 1K2, 5%, 1/16W, Metalized Glass . . . . .	3198	021	31220	4620	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3513	Res, 2K2, 5%, 1/3W, Metal Film . . . . .	2306	204	03222	4631	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3514	Res, 100 ohm, 5%, 1/3W, Metal Film . . . . .	2306	204	03101	4635	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3515	Res, 1K, 5%, 1/6W, Carbon Film . . . . .	3198	011	01020	4637	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3516	Res, 0R1, 5%, 3/5W, Metal Film . . . . .	3198	012	11070	4642	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3517	Res, 300k, 1%, Metalized Glass . . . . .	2322	704	63004	4644	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90020
3518	Res, 3K3, 5%, 1/16W, Metalized Glass . . . . .	3198	021	33320	4645	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3519	Res, 15K, 5%, 1/6W, Carbon Film. . . . .	3198	011	01530	4646	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3520	Res, 0R18, 5%, 1W, Metal Film. . . . .	2120	106	90636	4648	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3521	Res, 3K3, 5%, 1/6W, Carbon Film. . . . .	3198	011	03320	4649	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3522	Res, 56K, 5%, 1/16W, Metalized Glass . . . . .	3198	021	35630	4691	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3524	Res, 47K, 5%, 1/16W, Metalized Glass . . . . .	3198	021	34730	4692	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3530	Res, 220 ohm, 5%, 1/16W, Metalized Glas	3198	021	32210	4694	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3531	Res, 100K, 5%, 1/6W, Carbon Film . . . . .	3198	011	01040	4696	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3532	Res, 4R7, 5%, 1/3W, Metal Film . . . . .	2306	204	03478	4910	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030
3533	Res, 8K2, 5%, 1/16W, Metalized Glass . . . . .	3198	021	38220	4914	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90020
3534	Res, 100 ohm, 5%, 1/6W, Carbon Film. . . . .	3198	011	01010	4915	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90020
3537	Res, 2K2, 5%, 1/16W, Metalized Glass . . . . .	3198	021	32220	4916	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90020
3538	Res, 1R8, 5%, 1/8W, Metalized Glass. . . . .	2322	730	61188	4917	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90020
3541	Res, 47K, 5%, 1/16W, Metalized Glass . . . . .	3198	021	34730	4921	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90020
3563	Res, 220 ohm, 5%, 1/6W, Carbon Film. . . . .	3198	011	02210	5001	Fixed Inductor, 100MHZ, 120R . . . . .	3198	018	90030
3565	Res, 15K, 5%, 1/16W, Metalized Glass . . . . .	3198	021	31530	5002	Coil, 390n . . . . .	3198	018	33970
3571	Res, 220 ohm, 5%, 1/6W, Carbon Film. . . . .	3198	011	02210	5201	Fixed Inductor, 100MHZ, 50R. . . . .	3198	018	90010
3572	Res, 220 ohm, 5%, 1/16W, Metalized Glas	3198	021	32210	5202	Fixed Inductor, 100MHZ, 120R . . . . .	3198	018	90030
3573	Res, 15K, 5%, 1/16W, Metalized Glass . . . . .	3198	021	31530	5203	Fixed Inductor, 100MHZ, 120R . . . . .	3198	018	90030
3574	Res, 33K, 5%, 1/6W, Carbon Film. . . . .	3198	011	03330	5205	Fixed Inductor, 100MHZ, 120R . . . . .	3198	018	90030
3575	Res, 82K, 1%, 3/5W, Metal Film . . . . .	2312	915	18203	5206	Fixed Inductor, 100MHZ, 120R . . . . .	3198	018	90030
3576	Res, 4K7, 1%, 1/16W, Metalized Glass . . . . .	2322	704	64702	5207	Fixed Inductor, 100MHZ, 120R . . . . .	3198	018	90030
3577	Res, 1K5, 5%, 1/6W, Carbon Film. . . . .	3198	011	01520	5208	Fixed Inductor, 100MHZ, 50R. . . . .	3198	018	90010
3578	Res, 470 ohm, 5%, 1/16W, Metalized Glas	3198	021	34710	5209	Fixed Inductor, 100MHZ, 120R . . . . .	3198	018	90030
3579	Res, 2K2, 5%, 1/16W, Metalized Glass . . . . .	3198	021	32220	5210	Fixed Inductor, 100MHZ, 120R . . . . .	3198	018	90030
3601	Res, 4K7, 5%, 1/16W, Metalized Glass . . . . .	3198	021	34720	5211	Fixed Inductor, 100MHZ, 120R . . . . .	3198	018	90030
3604	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198	021	31010	5212	Fixed Inductor, 100MHZ, 120R . . . . .	3198	018	90030
3605	Res, 100 ohm, 5%, 1/16W, Metalized Glas	3198	021	31010	5213	Fixed Inductor, 100MHZ, 120R . . . . .	3198	018	90030
3606	Res, 56K, 5%, 1/6W, Carbon Film. . . . .	3198	011	05630	5214	Fixed Inductor, 100MHZ, 120R . . . . .	3198	018	90030
3607	Res, 10K, 5%, 1/16W, Metalized Glass . . . . .	3198	021	31030	5215	Fixed Inductor, 100MHZ, 120R . . . . .	3198	018	90030
3608	Res, 27K, 5%, 1/16W, Metalized Glass . . . . .	3198	021	32730	5216	Fixed Inductor, 100MHZ, 50R. . . . .	3198	018	90010
3609	Res, 330 ohm, 5%, 1/16W, Metalized Glas	3198	021	33310	5401	Coil, 33uH . . . . .	2422	536	00511
3614	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030	5402	Transformer, Signal Driver . . . . .	2422	531	02617
3616	Res, 100 ohm, 5%, 1/6W, Carbon Film. . . . .	3198	011	01010	5405	Coil, Choke, 35mH. . . . .	2422	536	00682
3617	Res, 100 ohm, 5%, 1/6W, Carbon Film. . . . .	3198	011	01010	5408	Coil, Choke. . . . .	3128	138	37021
3618	Res, 100 ohm, 5%, 1/6W, Carbon Film. . . . .	3198	011	01010	5450	Transformer, LOT, JF0501-21140 . . . . .	2422	531	02628
3634	Res, 1K, 5%, 1/16W, Metalized Glass. . . . .	3198	021	31020	5451	Coil, 27u. . . . .	2422	535	97334
3635	Res, 47K, 5%, 1/16W, Metalized Glass . . . . .	3198	021	34730	5501	Filter, Mains, 5mH, 2A . . . . .	2422	549	43432
3637	Res, 47 ohm, 5%, 1/16W, Metalized Glass	3198	021	34790	5511	Fixed Inductor, 100MHZ, 50R. . . . .	3198	018	90010
3681	Res, 820 ohm, 1%, 1/16W, Metalized Glas	2322	704	68201	5512	Transformer, SMT, Layer. . . . .	2422	531	02627
3684	Res, 1K2, 1%, 1/16W, Metalized Glass . . . . .	2322	704	61202	5531	Transformer, SMT, Layer. . . . .	2422	531	02631
3685	Res, 150 ohm, 5%, 1/16W, Metalized Glas	3198	021	31510	5551	Fixed Inductor, 100MHZ, 50R. . . . .	3198	018	90010
3686	Res, 390 ohm, 5%, 1/16W, Metalized Glas	3198	021	33910	5552	Coil, 27u. . . . .	2422	535	95366
3687	Res, 1K8, 1%, 1/16W, Metalized Glass . . . . .	2322	704	61802	5561	Fixed Inductor, 100MHZ, 50R. . . . .	3198	018	90010
3690	Res, 220 ohm, 5%, 1/16W, Metalized Glas	3198	021	32210	5562	Fixed Inductor, 100MHZ, 50R. . . . .	3198	018	90010
3691	Res, 1K2, 5%, 1/16W, Metalized Glass . . . . .	3198	021	31220	5603	Fixed Inductor, 100MHZ, 50R. . . . .	3198	018	90010
3693	Res, 220 ohm, 5%, 1/16W, Metalized Glas	3198	021	32210	6001	Zener Diode, 33 volt . . . . .	3198	010	23390
3694	Res, 4K7, 5%, 1/16W, Metalized Glass . . . . .	3198	021	34720	6005	Zener Diode, 8.2 volt. . . . .	9322	125	45685
3975	Res, 150 ohm, 5%, 1 1/3W, Metal Film . . . . .	3198	012	21510	6203	Diode, Signal, BAS316. . . . .	3198	010	10630
3985	Res, 39K, 5%, 1/16W, Metalized Glass . . . . .	3198	021	33930	6204	Diode, Rect, SS14. . . . .	3198	010	10710
3988	Res, 10K, 5%, 1/16W, Metalized Glass . . . . .	3198	021	31030	6205	Zener Diode, 27 volt . . . . .	3198	020	52790
3989	Res, 10 ohm, 5%, 1/16W, Metalized Glass	3198	021	31090	6207	Diode, Signal, BAS316. . . . .	3198	010	10630
3991	Res, 39K, 5%, 1/16W, Metalized Glass . . . . .	3198	021	33930	6209	Diode, Signal, BAT51, SOD323 . . . . .	3198	010	10660
3992	Res, 10K, 5%, 1/16W, Metalized Glass . . . . .	3198	021	31030	6210	Zener Diode, 5.6 volt. . . . .	3198	020	55680
3993	Res, 10 ohm, 5%, 1/16W, Metalized Glass	3198	021	31090	6211	Zener Diode, 5.6 volt. . . . .	3198	020	55680
3994	Res, 68K, 5%, 1/16W, Metalized Glass . . . . .	3198	021	36830	6403	Diode, Rect, BYV27-200. . . . .	9322	126	72673
3995	Res, 4K7, 5%, 1/16W, Metalized Glass . . . . .	3198	021	34720	6404	Diode, Rect, DMV1500M . . . . .	9322	169	61687
4000	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030	6406	Diode, Rect, RGP10G. . . . .	9334	939	60673
4001	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030	6407	Diode, BAV21WS . . . . .	9322	197	45703
4002	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030	6408	Diode, BAV21WS . . . . .	9322	197	45703
4003	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030	6410	Diode, Rect, BY448 . . . . .	9335	001	20133
4006	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030	6441	Zener Diode, 68 volt . . . . .	9322	150	20685
4013	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030	6442	Zener Diode, 68 volt . . . . .	9322	150	20685
4015	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030	6443	Zener Diode, 10 volt . . . . .	3198	020	51090
4106	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030	6450	Diode, Signal, BAS316. . . . .	3198	010	10630
4107	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030	6451	Zener Diode, 4.7 volt. . . . .	3198	020	54780
4108	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030	6452	Diode, Rect, BYV27-200. . . . .	9322	126	72673
4116	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030	6453	Diode, Rect, RGP10G. . . . .	9334	939	60673
4136	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030	6454	Diode, Rect, RGP10G. . . . .	9334	939	60673
4209	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030	6455	Diode, Rect, RGP10G. . . . .	9334	939	60673
4212	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030	6456	Diode, Rect, PBYR10100. . . . .	9340	205	70127
4221	Res, Zero ohm, "Chip" Jumper . . . . .	3198	021	90030	6457	Diode, Signal, BAS316. . . . .	3198	010	10630

S = Safety Part Be sure to use exact replacement part.



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6458	Diode, Signal, BAS316.	3198 010 10630	9202	Wire Jumper, 0.58MM.	3198 036 90010
6459	Diode, Rect, RGP10G.	9334 939 60673	9203	Wire Jumper, 0.58MM.	3198 036 90010
6480	Zener Diode, 6.8 volt.	3198 010 56880	9204	Wire Jumper, 0.58MM.	3198 036 90010
6481	Diode, Signal, 1N4148.	3198 010 10010	9205	Wire Jumper, 0.58MM.	3198 036 90010
6482	Zener Diode, 6.8 volt.	3198 020 56880	9206	Wire Jumper, 0.58MM.	3198 036 90010
6483	Diode, BAV21WS.	9322 197 45703	9207	Wire Jumper, 0.58MM.	3198 036 90010
6484	Diode, BAV21WS.	9322 197 45703	9208	Wire Jumper, 0.58MM.	3198 036 90010
6486	Diode, Signal, BAV21.	3198 010 10070	9209	Wire Jumper, 0.58MM.	3198 036 90010
6488	Diode, Signal, BAS316.	3198 010 10630	9210	Wire Jumper, 0.58MM.	3198 036 90010
6489	Zener Diode, 33 volt.	3198 020 53390	9211	Wire Jumper, 0.58MM.	3198 036 90010
6500	Diode, Bridge Rect, GBU6JL-7002	9322 138 08667	9212	Wire Jumper, 0.58MM.	3198 036 90010
6511	Diode, Rect, RGP10D.	9337 516 60673	9213	Wire Jumper, 0.58MM.	3198 036 90010
6512	Diode, Signal, BAT51, SOD323	3198 010 10660	9214	Wire Jumper, 0.58MM.	3198 036 90010
6514	Diode, Signal, BAS316.	3198 010 10630	9216	Wire Jumper, 0.58MM.	3198 036 90010
6531	Zener Diode, 15 volt.	3198 020 51590	9217	Wire Jumper, 0.58MM.	3198 036 90010
6532	Diode, BAV21WS.	9322 197 45703	9218	Wire Jumper, 0.58MM.	3198 036 90010
6533	Zener Diode, 6.8 volt.	9322 171 80685	9219	Wire Jumper, 0.58MM.	3198 036 90010
6534	Zener Diode, 3.9 volt.	9322 199 75685	9220	Wire Jumper, 0.58MM.	3198 036 90010
6535	Diode, Rect, SB160.	9322 198 24673	9221	Wire Jumper, 0.58MM.	3198 036 90010
6536	Diode, Rect, SB180.	9322 198 25673	9222	Wire Jumper, 0.58MM.	3198 036 90010
6541	Zener Diode, 12 volt.	3198 020 51290	9223	Wire Jumper, 0.58MM.	3198 036 90010
6551	Diode, Rect, BYV29X-500.	9340 555 59127	9224	Wire Jumper, 0.58MM.	3198 036 90010
6562	Diode, Rect, SB360.	3198 010 10700	9225	Wire Jumper, 0.58MM.	3198 036 90010
6563	Diode, Rect, SB360.	3198 010 10700	9226	Wire Jumper, 0.58MM.	3198 036 90010
6564	Diode, Signal, BAS316.	3198 010 10630	9227	Wire Jumper, 0.58MM.	3198 036 90010
6565	Zener Diode, 9.1 volt.	9322 125 46685	9228	Wire Jumper, 0.58MM.	3198 036 90010
6566	Diode, Signal, BAS316.	3198 010 10630	9229	Wire Jumper, 0.58MM.	3198 036 90010
6571	Diode, Signal, BAV70.	9331 849 10215	9230	Wire Jumper, 0.58MM.	3198 036 90010
6572	Zener Diode, 6.2 volt.	9340 548 54115	9231	Wire Jumper, 0.58MM.	3198 036 90010
6573	Zener Diode, 9.1 volt.	9331 177 80133	9232	Wire Jumper, 0.58MM.	3198 036 90010
6575	Diode, Rect, 1N5392.	9322 005 16683	9233	Wire Jumper, 0.58MM.	3198 036 90010
6602	Diode, Signal, BAV99.	3198 010 10620	9234	Wire Jumper, 0.58MM.	3198 036 90010
6691	LED.	9322 185 69682	9235	Wire Jumper, 0.58MM.	3198 036 90010
6692	IR Receiver, TSOP1836UH3V.	9322 127 54667	9236	Wire Jumper, 0.58MM.	3198 036 90010
6694	Zener Diode, 5.1 volt.	3198 020 55180	9237	Wire Jumper, 0.58MM.	3198 036 90010
7200	IC, TDA12000H1/1NB501AB.	9352 753 88557	9238	Wire Jumper, 0.58MM.	3198 036 90010
7201	Transistor, NPN, 1MX1.	9322 054 28685	9239	Wire Jumper, 0.58MM.	3198 036 90010
7203	Transistor, PNP, BC327-25.	3198 020 43430	9240	Wire Jumper, 0.58MM.	3198 036 90010
7204	Transistor, PNP, BC327-25.	3198 020 43430	9241	Wire Jumper, 0.58MM.	3198 036 90010
7207	Transistor, NPN, BC847B.	3198 010 42030	9244	Wire Jumper, 0.58MM.	3198 036 90010
7208	Transistor, NPN, BC847B.	3198 010 42030	9245	Wire Jumper, 0.58MM.	3198 036 90010
7209	F.E.T. Signal, BSH103.	9340 547 13215	9246	Wire Jumper, 0.58MM.	3198 036 90010
7210	F.E.T. Signal, BSH103.	9340 547 13215	9247	Wire Jumper, 0.58MM.	3198 036 90010
7404	F.E.T. Signal, BSH103.	9340 547 13215	9248	Wire Jumper, 0.58MM.	3198 036 90010
7405	Transistor, BU2725DX.	9340 497 50127	9249	Wire Jumper, 0.58MM.	3198 036 90010
7406	Transistor, KTC3228Y.	9322 197 37676	9250	Wire Jumper, 0.58MM.	3198 036 90010
7408	Transistor, NPN, BC847B.	3198 010 42030	9251	Wire Jumper, 0.58MM.	3198 036 90010
7410	Transistor, PNP, BC857B.	3198 010 42150	9252	Wire Jumper, 0.58MM.	3198 036 90010
7411	Transistor, PNP, BC857B.	3198 010 42150	9253	Wire Jumper, 0.58MM.	3198 036 90010
7451	Transistor, KTD600KY.	9322 195 14687	9254	Wire Jumper, 0.58MM.	3198 036 90010
7452	Transistor, KTC3228Y.	9322 197 37676	9255	Wire Jumper, 0.58MM.	3198 036 90010
7453	Transistor, KTB631KY.	9322 195 05687	9258	Wire Jumper, 0.58MM.	3198 036 90010
7454	Transistor, NPN, BC847B.	3198 010 42030	9259	Wire Jumper, 0.58MM.	3198 036 90010
7455	Transistor, PNP, BC857B.	3198 010 42150	9263	Wire Jumper, 0.58MM.	3198 036 90010
7456	Transistor, PNP, BC857B.	3198 010 42150	9264	Wire Jumper, 0.58MM.	3198 036 90010
7481	Transistor, PNP, BC857B.	3198 010 42150	9268	Wire Jumper, 0.58MM.	3198 036 90010
7482	Transistor, PNP, PDTA114ET.	3198 010 44010	9269	Wire Jumper, 0.58MM.	3198 036 90010
7483	Transistor, PNP, BC857B.	3198 010 42150	9271	Wire Jumper, 0.58MM.	3198 036 90010
7484	Transistor, NPN, BC847B.	3198 010 42030	9272	Wire Jumper, 0.58MM.	3198 036 90010
7511	IC, TEA1506T/N1.	9352 720 43118	9273	Wire Jumper, 0.58MM.	3198 036 90010
7512	Transistor, FET, PQFP9N50.	9322 187 16687	9274	Wire Jumper, 0.58MM.	3198 036 90010
7513	Optic Coupler, TCE1103(G).	9322 140 14667	9275	Wire Jumper, 0.58MM.	3198 036 90010
7514	Transistor, NPN, BC847B.	3198 010 42030	9276	Wire Jumper, 0.58MM.	3198 036 90010
7531	IC, TEA1620P/N1.	9352 739 52112	9277	Wire Jumper, 0.58MM.	3198 036 90010
7541	Transistor, PNP, BC857B.	3198 010 42150	9278	Wire Jumper, 0.58MM.	3198 036 90010
7561	Transistor, NPN, PDT143ZT.	9340 547 00215	9279	Wire Jumper, 0.58MM.	3198 036 90010
7571	Transistor, NPN, BC547B.	3198 020 40030	9280	Wire Jumper, 0.58MM.	3198 036 90010
7573	Transistor, NPN, PDT114ET.	3198 010 44110	9290	Wire Jumper, 0.58MM.	3198 036 90010
7601	IC, M24C16-WBN6.	9322 147 25682	9294	Wire Jumper, 0.58MM.	3198 036 90010
7603	IC, L78L33ACZ.	9322 134 92676	9295	Wire Jumper, 0.58MM.	3198 036 90010
7604	Transistor, NPN, BC847B.	3198 010 42030	9296	Wire Jumper, 0.58MM.	3198 036 90010
7605	Transistor, PNP, BC327-25.	3198 020 43430	9297	Wire Jumper, 0.58MM.	3198 036 90010
7606	Transistor, NPN, BC847B.	3198 010 42030	9298	Wire Jumper, 0.58MM.	3198 036 90010
7990	IC, TDA2616Q/N1.	9350 404 40112	9299	Wire Jumper, 0.58MM.	3198 036 90010
7991	Transistor, NPN, BC847B.	3198 010 42030	9401	Wire Jumper, 0.58MM.	3198 036 90010
7992	Transistor, NPN, BC847B.	3198 010 42030	9407	Wire Jumper, 0.58MM.	3198 036 90010
8401	Cable, 5 Pin, 560mm.	3139 121 09041	9410	Wire Jumper, 0.58MM.	3198 036 90010
9002	Wire Jumper, 0.58MM.	3198 036 90010	9460	Wire Jumper, 0.58MM.	3198 036 90010
9112	Wire Jumper, 0.58MM.	3198 036 90010	9466	Wire Jumper, 0.58MM.	3198 036 90010
9113	Wire Jumper, 0.58MM.	3198 036 90010	9467	Wire Jumper, 0.58MM.	3198 036 90010
9114	Wire Jumper, 0.58MM.	3198 036 90010	9469	Wire Jumper, 0.58MM.	3198 036 90010
9116	Wire Jumper, 0.58MM.	3198 036 90010	9470	Wire Jumper, 0.58MM.	3198 036 90010
9120	Wire Jumper, 0.58MM.	3198 036 90010	9473	Wire Jumper, 0.58MM.	3198 036 90010
9121	Wire Jumper, 0.58MM.	3198 036 90010	9474	Wire Jumper, 0.58MM.	3198 036 90010
9122	Wire Jumper, 0.58MM.	3198 036 90010	9475	Wire Jumper, 0.58MM.	3198 036 90010
9123	Wire Jumper, 0.58MM.	3198 036 90010	9476	Wire Jumper, 0.58MM.	3198 036 90010
9124	Wire Jumper, 0.58MM.	3198 036 90010	9477	Wire Jumper, 0.58MM.	3198 036 90010
9125	Wire Jumper, 0.58MM.	3198 036 90010	9478	Wire Jumper, 0.58MM.	3198 036 90010
9126	Wire Jumper, 0.58MM.	3198 036 90010	9479	Wire Jumper, 0.58MM.	3198 036 90010
9128	Wire Jumper, 0.58MM.	3198 036 90010	9480	Wire Jumper, 0.58MM.	3198 036 90010
9129	Wire Jumper, 0.58MM.	3198 036 90010	9481	Wire Jumper, 0.58MM.	3198 036 90010
9138	Wire Jumper, 0.58MM.	3198 036 90010	9482	Wire Jumper, 0.58MM.	3198 036 90010

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9483	Wire Jumper, 0.58MM.	3198	036	90010
9484	Wire Jumper, 0.58MM.	3198	036	90010
9485	Wire Jumper, 0.58MM.	3198	036	90010
9486	Wire Jumper, 0.58MM.	3198	036	90010
9487	Wire Jumper, 0.58MM.	3198	036	90010
9488	Wire Jumper, 0.58MM.	3198	036	90010
9489	Wire Jumper, 0.58MM.	3198	036	90010
9490	Wire Jumper, 0.58MM.	3198	036	90010
9491	Wire Jumper, 0.58MM.	3198	036	90010
9492	Wire Jumper, 0.58MM.	3198	036	90010
9502	Wire Jumper, 0.58MM.	3198	036	90010
9504	Wire Jumper, 0.58MM.	3198	036	90010
9505	Wire Jumper, 0.58MM.	3198	036	90010
9506	Wire Jumper, 0.58MM.	3198	036	90010
9507	Wire Jumper, 0.58MM.	3198	036	90010
9508	Wire Jumper, 0.58MM.	3198	036	90010
9509	Wire Jumper, 0.58MM.	3198	036	90010
9510	Wire Jumper, 0.58MM.	3198	036	90010
9514	Wire Jumper, 0.58MM.	3198	036	90010
9536	Wire Jumper, 0.58MM.	3198	036	90010
9537	Wire Jumper, 0.58MM.	3198	036	90010
9570	Wire Jumper, 0.58MM.	3198	036	90010
9573	Wire Jumper, 0.58MM.	3198	036	90010
9574	Wire Jumper, 0.58MM.	3198	036	90010
9575	Wire Jumper, 0.58MM.	3198	036	90010
9576	Wire Jumper, 0.58MM.	3198	036	90010
9577	Wire Jumper, 0.58MM.	3198	036	90010
9582	Wire Jumper, 0.58MM.	3198	036	90010
9583	Wire Jumper, 0.58MM.	3198	036	90010
9584	Wire Jumper, 0.58MM.	3198	036	90010
9585	Wire Jumper, 0.58MM.	3198	036	90010
9586	Wire Jumper, 0.58MM.	3198	036	90010
9587	Wire Jumper, 0.58MM.	3198	036	90010
9589	Wire Jumper, 0.58MM.	3198	036	90010
9590	Wire Jumper, 0.58MM.	3198	036	90010
9605	Wire Jumper, 0.58MM.	3198	036	90010
9631	Wire Jumper, 0.58MM.	3198	036	90010
9633	Wire Jumper, 0.58MM.	3198	036	90010
9637	Wire Jumper, 0.58MM.	3198	036	90010
9639	Wire Jumper, 0.58MM.	3198	036	90010
9642	Wire Jumper, 0.58MM.	3198	036	90010
9643	Wire Jumper, 0.58MM.	3198	036	90010
9653	Wire Jumper, 0.58MM.	3198	036	90010
9660	Wire Jumper, 0.58MM.	3198	036	90010
9661	Wire Jumper, 0.58MM.	3198	036	90010
9662	Wire Jumper, 0.58MM.	3198	036	90010
9663	Wire Jumper, 0.58MM.	3198	036	90010
9664	Wire Jumper, 0.58MM.	3198	036	90010
9665	Wire Jumper, 0.58MM.	3198	036	90010
9666	Wire Jumper, 0.58MM.	3198	036	90010
9683	Wire Jumper, 0.58MM.	3198	036	90010
9688	Wire Jumper, 0.58MM.	3198	036	90010
9689	Wire Jumper, 0.58MM.	3198	036	90010
9694	Wire Jumper, 0.58MM.	3198	036	90010
9695	Wire Jumper, 0.58MM.	3198	036	90010
9910	Wire Jumper, 0.58MM.	3198	036	90010
9911	Wire Jumper, 0.58MM.	3198	036	90010
9913	Wire Jumper, 0.58MM.	3198	036	90010
9914	Wire Jumper, 0.58MM.	3198	036	90010
9915	Wire Jumper, 0.58MM.	3198	036	90010
9920	Wire Jumper, 0.58MM.	3198	036	90010
9921	Wire Jumper, 0.58MM.	3198	036	90010
9924	Wire Jumper, 0.58MM.	3198	036	90010
9926	Wire Jumper, 0.58MM.	3198	036	90010
9927	Wire Jumper, 0.58MM.	3198	036	90010
9935	Wire Jumper, 0.58MM.	3198	036	90010
9936	Wire Jumper, 0.58MM.	3198	036	90010
9937	Wire Jumper, 0.58MM.	3198	036	90010
9939	Wire Jumper, 0.58MM.	3198	036	90010
9942	Wire Jumper, 0.58MM.	3198	036	90010
9943	Wire Jumper, 0.58MM.	3198	036	90010
9944	Wire Jumper, 0.58MM.	3198	036	90010