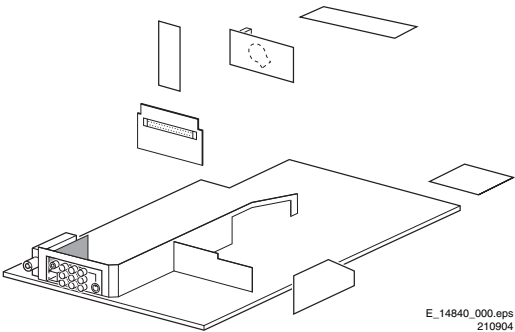


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Service Manual

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1. Technical Specifications, Connections, and Chassis Overview

Notes:

- Described specifications are valid for the *whole* product range.
- Figures below can deviate slightly from the actual situation, due to different set executions.

1.1 Technical Specifications

1.1.1 Reception

Display type	: CRT-DV-SF
Screen size	: 27", 4:3
	: 32", 4:3
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)

1.1.2 Miscellaneous

Audio output:	: 2 x 5 W
	: 2 x 10 W
Power supply:	
- Mains voltage range	: 90 - 140 V _{ac}
- Mains frequency	: 60 Hz
Ambient conditions:	
- Temperature range	: +5 to +45 deg. C
- Maximum humidity	: 90% R.H.
Power consumption:	
- Normal operation	: from 56 W (25")
	: to 70 W (32")
- Standby	: < 1 W

1.2 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.

1.2.1 Top Control and Front / Side Connections

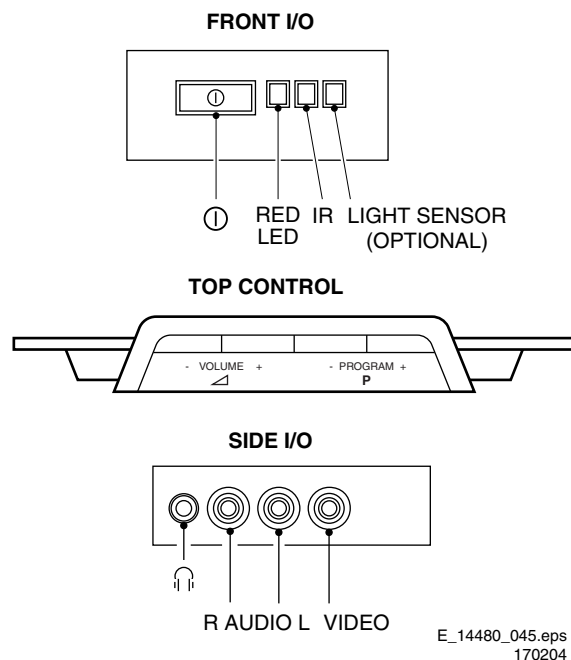
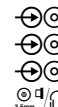


Figure 1-1 Top control and Front / Side connections

Audio / Video In

Ye - Video (CVBS)	1 V _{pp} / 75 ohm
Wh - Audio - L	0.2 V _{rms} / 10 kohm
Rd - Audio - R	0.2 V _{rms} / 10 kohm
Bk - Headphone	8 - 600 Ohm / 4 mW



1.2.2 Rear Connections

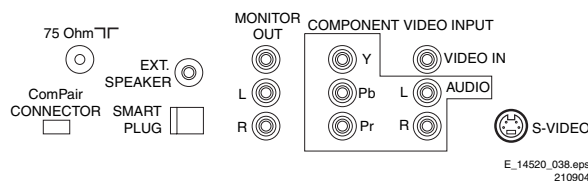


Figure 1-2 Rear connections

Aerial In

- F-type	Coax, 75 ohm
----------	--------------



Monitor Out

Ye - Video (CVBS)	1 V _{pp} / 75 ohm
Wh - Audio - L	0.5 V _{rms} / 1 kohm
Rd - Audio - R	0.5 V _{rms} / 1 kohm



YUV In

Bu - U	0.7 V _{pp} / 75 ohm
Rd - V	0.7 V _{pp} / 75 ohm
Gn - Y	0.7 V _{pp} / 75 ohm



AV1 In

Ye - Video (CVBS) 1 V_{pp} / 75 ohm
 Wh - Audio - L 0.5 V_{rms} / 10 kohm
 Rd - Audio - R 0.5 V_{rms} / 10 kohm



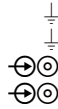
AV2 In

Ye - Video (CVBS) 1 V_{pp} / 75 ohm
 Wh - Audio - L 0.5 V_{rms} / 10 kohm
 Rd - Audio - R 0.5 V_{rms} / 10 kohm

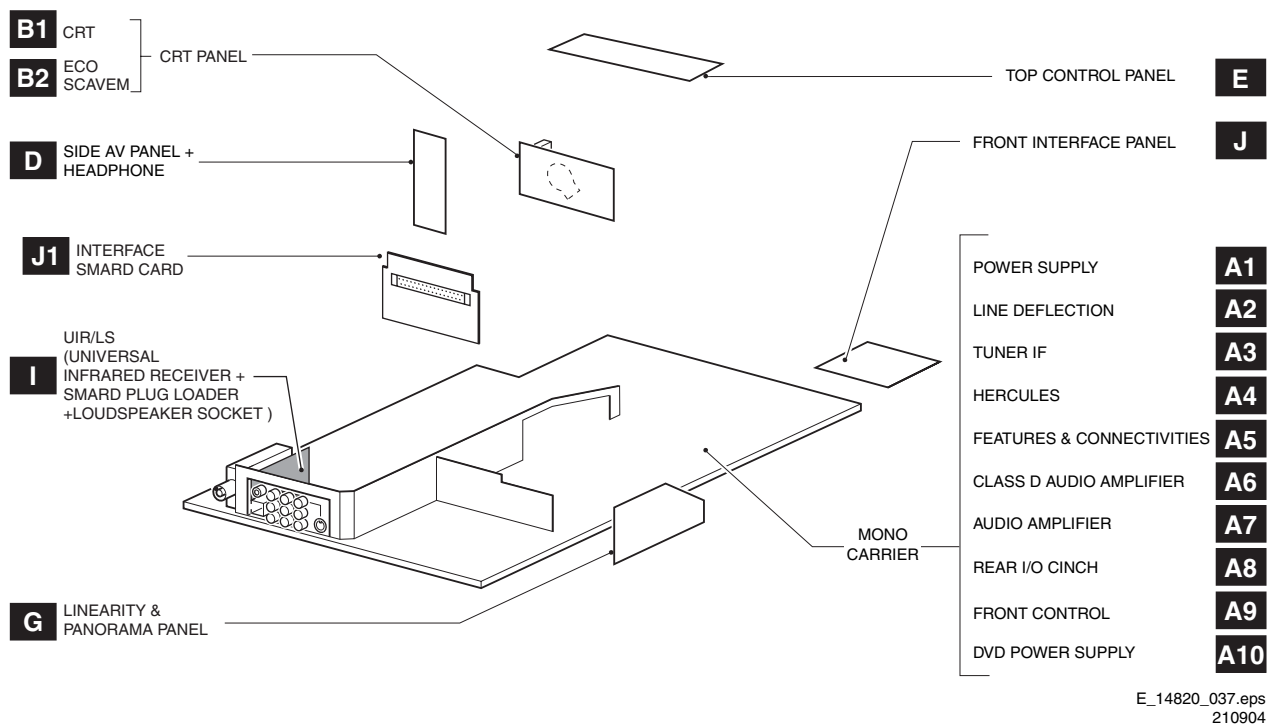


AV2 In (SVHS)

1 - Ground GND
 2 - Ground GND
 3 - Y 1 V_{pp} / 75 ohm
 4 - C 0.3 V_{pp} / 75 ohm



1.3 Chassis Overview




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Figure 1-3 PWB location

2. Safety Instructions, Warnings, and Notes

2.1 Safety Instructions

Safety regulations require that **during** a repair:

- Connect the set to the Mains (AC Power) via an isolation transformer (> 800 VA).
- Replace safety components, indicated by the symbol , only by components identical to the original ones. Any other component substitution (other than original type) may increase risk of fire or electrical shock hazard.

Safety regulations require that **after** a repair, the set must be returned in its original condition. Pay in particular attention to the following points:

- Route the wire trees correctly and fix them with the mounted cable clamps.
- Check the insulation of the Mains (AC Power) lead for external damage.
- Check the strain relief of the Mains (AC Power) cord for proper function.
- Check the electrical DC resistance between the Mains (AC Power) plug and the secondary side (only for sets which have a Mains (AC Power) isolated power supply):
 1. Unplug the Mains (AC Power) cord and connect a wire between the two pins of the Mains (AC Power) plug.
 2. Set the Mains (AC Power) switch to the "on" position (keep the Mains (AC Power) cord unplugged!).
 3. Measure the resistance value between the pins of the Mains (AC Power) plug and the metal shielding of the tuner or the aerial connection on the set. The reading should be between 4.5 Mohm and 12 Mohm.
 4. Switch "off" the set, and remove the wire between the two pins of the Mains (AC Power) plug.
- Check the cabinet for defects, to avoid touching of any inner parts by the customer.

2.2 Warnings

- In order to prevent damage to ICs and transistors, avoid all high voltage flashovers. In order to prevent damage to the picture tube, use the method shown in Fig. 2-1, to discharge the picture tube. Use a high voltage probe and a multi-meter (position V_{dc}). Discharge until the meter reading is 0 V (after approx. 30 s).

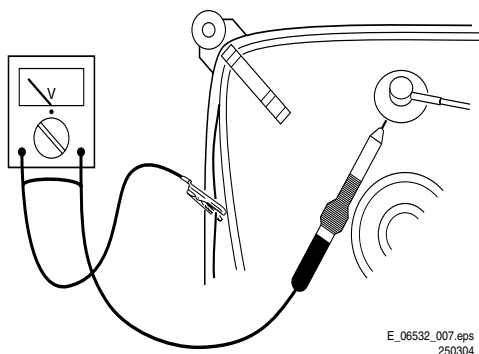



Figure 2-1 Discharge picture tube

- All ICs and many other semiconductors are susceptible to electrostatic discharges (ESD, ). Careless handling during repair can reduce life drastically. Make sure that, during repair, you are connected with the same potential as the mass of the set by a wristband with resistance. Keep components and tools also at this potential. Available ESD protection equipment:

- Complete kit ESD3 (small tablemat, wristband, connection box, extension cable and ground cable) 4822 310 10671.
- Wristband tester 4822 344 13999.
- Together with the deflection unit and any multi-pole unit, flat square picture tubes form an integrated unit. The deflection and the multi-pole units are set optimally at the factory. We do not recommend adjusting this unit during repair.
- Be careful during measurements in the high voltage section and on the picture tube.
- Never replace modules or other components while the unit is 'on'.
- When you align the set, use plastic rather than metal tools. This will prevent any short circuits and the danger of a circuit becoming unstable.

2.3 Notes

2.3.1 General







- Measure the voltages and waveforms with regard to the chassis (= tuner) ground () or hot ground () depending on the tested area of circuitry. The voltages and waveforms shown in the diagrams are indicative. Measure them in the Service Default Mode (see chapter 5) with a colour bar signal and stereo sound (L: 3 kHz, R: 1 kHz unless stated otherwise) and picture carrier at 475.25 MHz for PAL, or 61.25 MHz for NTSC (channel 3).
- Where necessary, measure the waveforms and voltages with () and without () aerial signal. Measure the voltages in the power supply section both in normal operation () and in standby (). These values are indicated by means of the appropriate symbols.
- The semiconductors indicated in the circuit diagram and in the parts lists, are interchangeable per position with the semiconductors in the unit, irrespective of the type indication on these semiconductors.
- Manufactured under license from Dolby Laboratories. "Dolby", "Pro Logic" and the "double-D symbol", are trademarks of Dolby Laboratories.



Figure 2-2 Dolby PL Symbol

2.3.2 Schematic Notes

- All resistor values are in ohms and the value multiplier is often used to indicate the decimal point location (e.g. 2K2 indicates 2.2 kohm).
- Resistor values with no multiplier may be indicated with either an "E" or an "R" (e.g. 220E or 220R indicates 220 ohm).
- All capacitor values are given in micro-farads ($\mu = \times 10^{-6}$), nano-farads ($n = \times 10^{-9}$), or pico-farads ($p = \times 10^{-12}$).
- Capacitor values may also use the value multiplier as the decimal point indication (e.g. 2p2 indicates 2.2 pF).
- An "asterisk" (*) indicates component usage varies. Refer to the diversity tables for the correct values.
- The correct component values are listed in the Electrical Replacement Parts List. Therefore, always check this list when there is any doubt.

2.3.3 Rework on BGA (Ball Grid Array) ICs

General

Although (LF)BGA assembly yields are very high, there may still be a requirement for component rework. By rework, we mean the process of removing the component from the PWB and replacing it with a new component. If an (LF)BGA is removed from a PWB, the solder balls of the component are deformed drastically so the removed (LF)BGA has to be discarded.

Device Removal

As is the case with any component that, it is essential when removing an (LF)BGA, the board, tracks, solder lands, or surrounding components are not damaged. To remove an (LF)BGA, the board must be uniformly heated to a temperature close to the reflow soldering temperature. A uniform temperature reduces the chance of warping the PWB. To do this, we recommend that the board is heated until it is certain that all the joints are molten. Then carefully pull the component off the board with a vacuum nozzle. For the appropriate temperature profiles, see the IC data sheet.

Area Preparation

When the component has been removed, the vacant IC area must be cleaned before replacing the (LF)BGA.

Removing an IC often leaves varying amounts of solder on the mounting lands. This excessive solder can be removed with either a solder sucker or solder wick. The remaining flux can be removed with a brush and cleaning agent.

After the board is properly cleaned and inspected, apply flux on the solder lands and on the connection balls of the (LF)BGA.

Note: Do not apply solder paste, as this has shown to result in problems during re-soldering.

Device Replacement

The last step in the repair process is to solder the new component on the board. Ideally, the (LF)BGA should be aligned under a microscope or magnifying glass. If this is not possible, try to align the (LF)BGA with any board markers. To reflow the solder, apply a temperature profile according to the *IC data sheet*. So as not to damage neighbouring components, it may be necessary to reduce some temperatures and times.

More Information

For more information on how to handle BGA devices, visit this URL: www.atyourservice.ce.philips.com (needs subscription, not available for all regions)). After login, select "Magazine", then go to "Workshop Information". Here you will find Information on how to deal with BGA-ICs.

please contact the manufacturer of your soldering equipment.

- Use only adequate solder tools applicable for lead-free soldering tin.
- Adjust your solder tool so that a temperature around 217 - 220 deg. C is reached at the solder joint.
- Do not mix lead-free soldering tin with leaded soldering tin; this will lead to unreliable solder joints!
- Use only original spare parts listed in this manual. These are lead-free parts!
- On the website www.atyourservice.ce.philips.com (needs subscription, not available for all regions) you can find more information on:
 - Aspects of lead-free technology.
 - BGA (de-)soldering, heating-profiles of BGAs used in Philips sets, and others.

2.3.5 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 a powered TV set, it is best to test the high voltage insulation. It is easy to do, and is a good service precaution.

2.3.4 Lead Free Solder

Some PWBs in this chassis are "lead-free **prepared**". This is indicated on the PWB by the PHILIPS lead-free logo (either by a service-printing or by a sticker). It does not mean that lead-free solder is actually used!

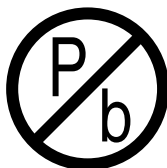


Figure 2-3 Lead-free logo

Due to this fact, some rules have to be respected by the workshop during a repair:

- Use only lead-free soldering tin Philips SAC305 with order code 0622 149 00106. If lead-free solder paste is required,

3. Directions for Use

You can download this information from the following website:

<http://www.philips.com/support>

4. Mechanical Instructions

Index of this chapter:

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

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

4.1 Set Disassembly

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

4.1.1 Rear Cover

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

4.2 Service Position

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

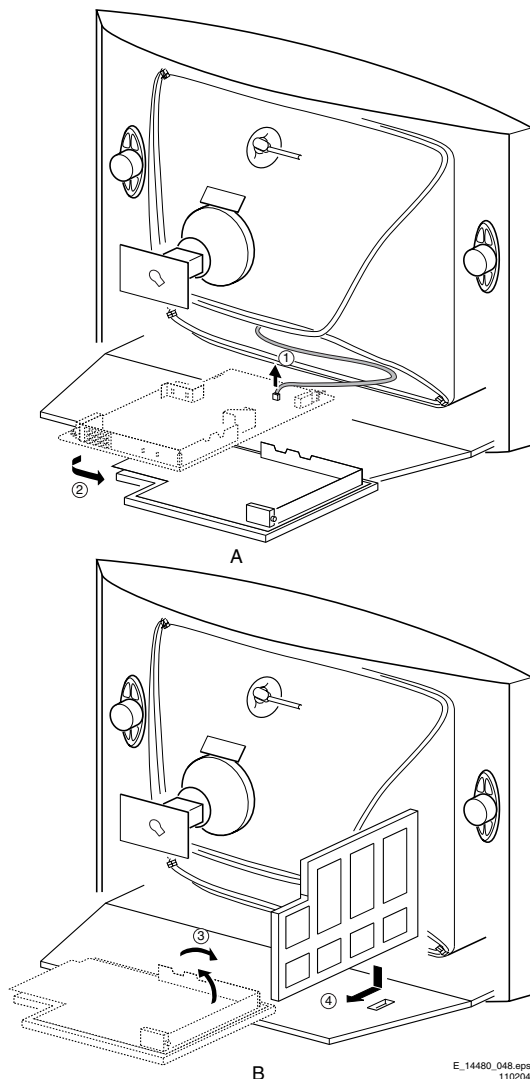


Figure 4-1 Service position Mono Carrier

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.

4.3 Assy/Panel Removal

4.3.1 Front Interface Assy/Panel

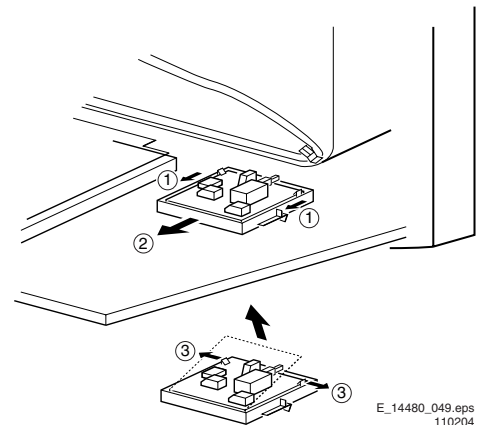


Figure 4-2 Front interface Assy/panel removal

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).

4.3.2 Side AV Assy/Panel

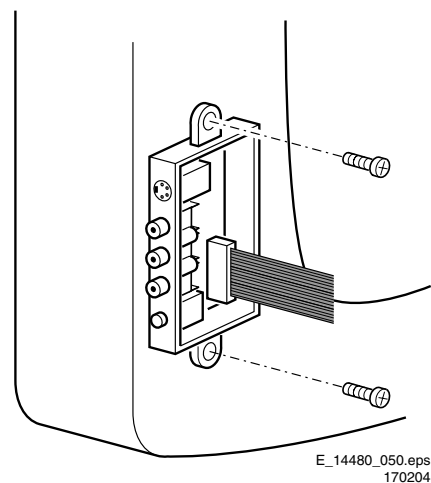


Figure 4-3 Side AV Assy/panel removal

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.

4.3.3 LTI/CTI Interface Panel

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

4.3.4 Top Control Assy/Panel

1. Remove the two fixation screws.
2. Push the assy 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.

4.3.5 Linearity Assy/Panel

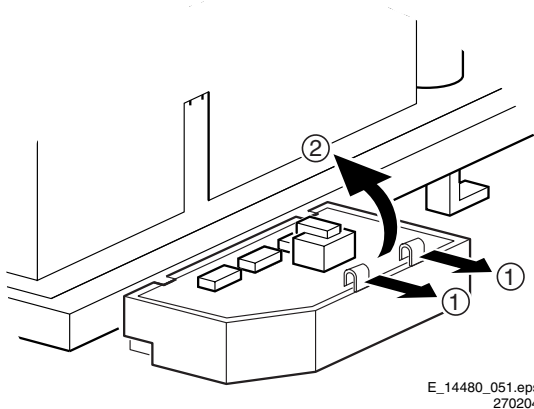


Figure 4-4 Linearity assy/panel removal

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

4.3.6 Interface Module Removal

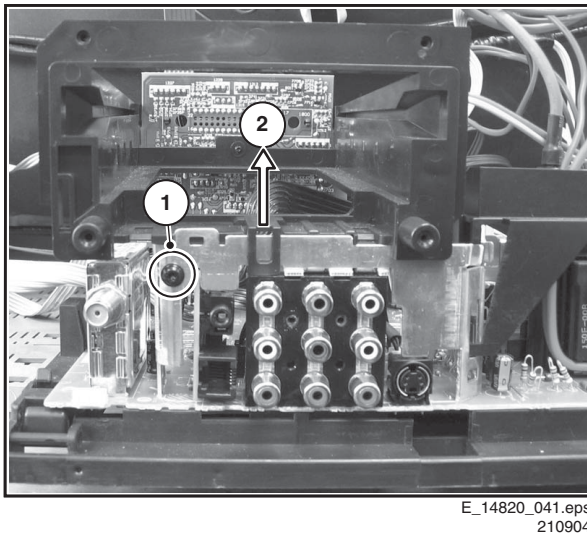


Figure 4-5

1. Unscrew the fixation srew [1].
2. Lift the fixation clamp [2] to release the bracket.

4.3.7 LS/SP Module Removal

Release the connector (1262) on the monocarrier and lift out the module.

4.4 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:

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

5. 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. Fault Finding and Repair Tips

5.1 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 5-1 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.

5.2 Service Modes

Service Default Alignment Mode (SDAM) offers several features for the service technician, while the Customer Service Mode (CSM) is used for communication between dealer and customer.

5.2.1 Service Default Alignment Mode (SDAM)

Purpose

- To change option settings.
- To create a predefined setting to get the same measurement results as given in this manual.
- To display / clear the error code buffer when leaving SDAM with "standby" key on remote control.
- To override SW protections.
- To perform alignments.
- To start the blinking LED procedure.

Specifications

- Tuning frequency:
 - 61.25 MHz (channel 3)
- Colour system:
 - NTSC
- All picture settings at 50 % (brightness, colour contrast, hue).
- Bass, treble and balance at 50 %; volume at 25 %.
- All service-unfriendly modes (if present) are disabled, like:

- (sleep) timer,
- child/parental lock,
- blue mute,
- hotel/hospitality mode
- auto switch-off (when no IDENT video signal is received for 15 minutes),
- skip / blank of non-favourite presets / channels,
- auto store of personal presets,
- auto user menu time-out.
- Operation hours counter.
- Software version.
- Option settings.
- Error buffer reading and erasing.
- Software alignments.

How to enter SDAM

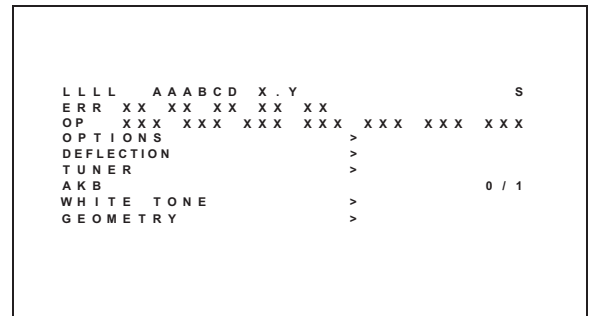
Use one of the following methods:

- Use a System 7 remote control type T374AH (RC-transmitter RG4172BK) and key in the code '062596' directly followed by the 'M' (menu) button or
- Short circuit jumper wires 9252 and 9275 on the mono carrier (see Fig. 8-1) and apply AC power. Then press the power button (remove the short circuit after start-up).

Caution: Entering SDAM by short circuiting 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 lead to damaging the set.

After activating SDAM, the following screen is visible, with S at the upper right side for recognition.

SDAM Menu



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Figure 5-1

1. **LLLL**
This is the operation hours counter. It counts the normal operation hours, not the standby hours.
2. **AAAABC-X.Y**
This is the software identification of the main micro controller:
 - A = the project name (L04H).
 - B = the region: E= Europe, A= Asia Pacific, U= NAFTA, L= LATAM.
 - C = the feature and language
 - X = the main software version number.
 - Y = the sub software version number.
3. **S**
Indication of the actual mode. S= SDAM= Service Default Alignment mode.
4. **Error buffer**
Five errors possible.
5. **Option bytes**
Seven codes 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. ISP Mode

Can be used to switch on the television to ISP mode (for uploading software)

8. Options

To set the Option Bytes. See chapter 8.3.1 for a detailed description.

9. Tuner

To align the Tuner. See chapter 8.3.3 for a detailed description.

10. White Tone

To align the White Tone. See chapter 8.3.4 for a detailed description.

11. Geometry

To align the Geometry. See chapter 8.3.5 for a detailed description.

How to navigate

Use one of the following methods:

- In SDAM, select menu items with the CURSOR UP/DOWN key on the remote control transmitter. The selected item will be highlighted. When not all menu items fit on the screen, move the CURSOR UP/DOWN key to display the next / previous menu items.
- With the CURSOR LEFT/RIGHT keys, it is possible to:
 - Activate the selected menu item.
 - Change the value of the selected menu item.
 - Activate the selected submenu.
- When you press the MENU key in a submenu, you will return to the previous menu.

How to store settings

To store settings first go back to the main menu (fig. 5-1) with “MENU” button on the remote control and leave the SDAM with the “STANDBY” button on the remote control.

How to exit

Switch the set to STANDBY by pressing the power button on the remote control transmitter. The error buffer is cleared. (If you switch the set 'off' by removing the AC power, the set will return in SDAM when AC power is re-applied and the error buffer will not be cleared.)

5.2.2 Customer Service Mode (CSM)

Purpose

When a customer is having problems with his TV-set, he can call his dealer. The service technician can then ask the customer to activate the CSM, in order to identify the status of the set. Now, the service technician can judge the severeness of the complaint. In a lot of cases he can advise the customer how to solve the problem, or he can decide if it is necessary to visit the customer.

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

How to enter

To enter the CSM by pressing **RECALL** on the System 7 remote control RG4172BK.

After switching ON the Customer Service Mode, the following screen will appear:

CSM Menu

```

1  AA ABC   X . Y                               C S M
2  CODE     XX XX XX XX XX XX
3  OP       XXX XXX XXX XXX XXX XXX XXX
4  DETECTED SYSTEM DETECTED SOUND XXX
5  NOT TUNED SKIPPED
6  TIMER
7  CO XX    CL XX    BR XX    HU XX    SH XX
8  VL XX    BL XX
9  TR XX    BS XX
10 MODE     XXXXXXXXXXXX SMARTPORT XXX
11 PROGRAM  NO. XXX

```

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Figure 5-2

1. Software identification of the main micro controller (see paragraph 5.2.1 for an explanation).
2. Error code buffer (see paragraph 5.4 for more details). Displays the last five errors of the error code buffer.
3. In this line, the Option Bytes (OB) are visible. Each Option Byte is displayed as a decimal number between 0 and 255. The set may not work correctly when an incorrect option code is set. See chapter 8.3.1 for more information on the option settings.
4. Indicates which color and sound system is installed for the selected pre-set.
5. Indicates if the set is not receiving an IDENT signal on the selected source. It will display NOT TUNED.
6. Indicates if the sleep timer is enabled.
7. Value indicates parameter levels at CSM entry.
CO= CONTRAST, CL= COLOR, BR= BRIGHTNESS, HU= HUE, SH= SHARPNESS
8. Value indicates parameter levels at CSM entry.
VL= VOLUME LEVEL, BL= BALANCE LEVEL
9. Value indicates parameter levels at CSM entry (only for stereo sets).
TR= TREBLE, BS= BASS
10. Mode Commercial = Hotel / Institutional mode or mode Consumer. Smartport. Indicates whether the Smart Port is selected or not.
11. Program NO. TV. Indicates to what channel the TV is tuned.

How to exit

Use one of the following methods:

- Press any button of the remote control transmitter keys.
- Press **RECALL** on a System 7 remote control (the RC-transmitter RG4172BK).
- Switch-off the TV set with the AC power switch.

5.3 Problems and Solving Tips Related to CSM

5.3.1 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.

5.4 ComPair

5.4.1 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.

5.4.2 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.

For 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 I7 and click on the correct oscillogram 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.

5.4.3 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 mains switch.
6. Connect the ComPair interface cable between the connector on the rear side of the ComPair interface (marked with “I²C”) and the ComPair connector at the rear side of the TV.
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.

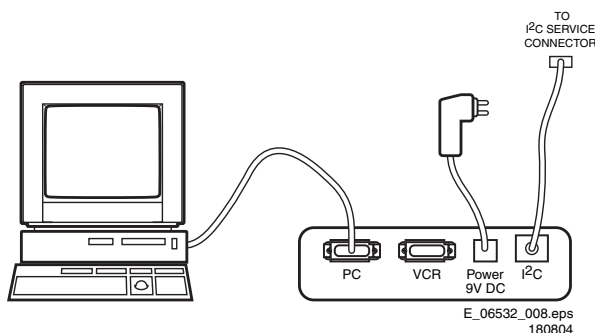


Figure 5-3 ComPair Interface connection

5.4.4 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.

5.5 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.

5.5.1 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.

5.5.2 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.

5.5.3 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 5-2 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
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 the DVD Interface module	DVD Interface module	DVD Loader
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

5.6 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.

5.7 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.

5.8 Fault Finding and Repair Tips

Notes:

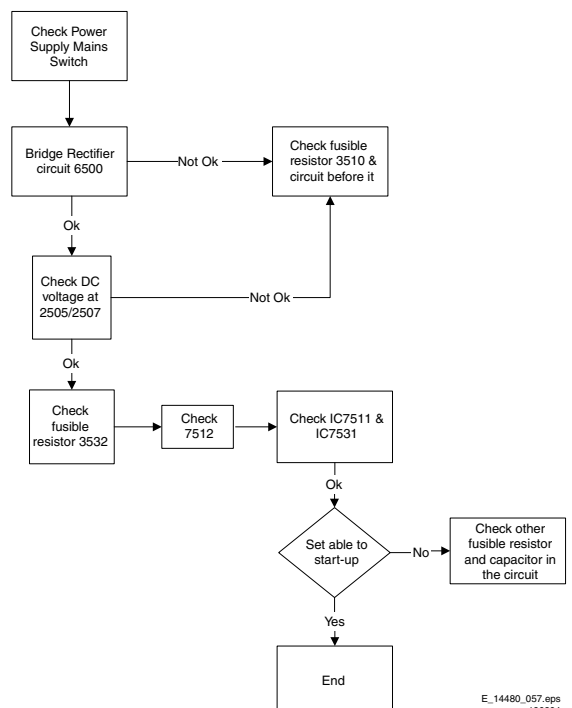
- It is assumed that the components are mounted correctly with correct values and no bad solder joints.
- Before any fault finding actions, check if the correct options are set.

5.8.1 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.

5.8.2 Power Supply

Set Not Working



E_14480_057.eps
190204

Figure 5-4 Fault finding tree “Set not working”

Set Does Not Start Up

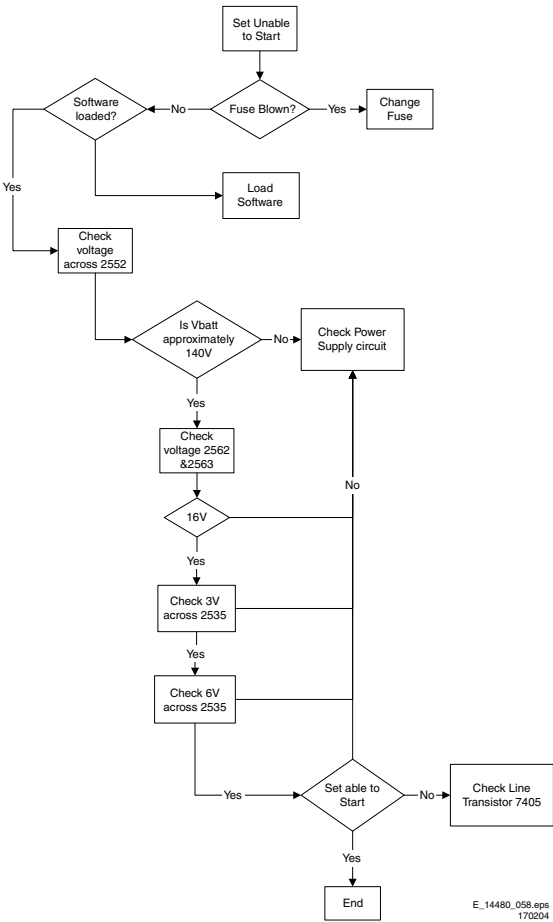


Figure 5-5 Fault finding tree “Set does not start up”

5.8.3 Deflection

One Thin Vertical Line

- Quick check:
- Set in protection mode.
 - LED blinking with error “3”.

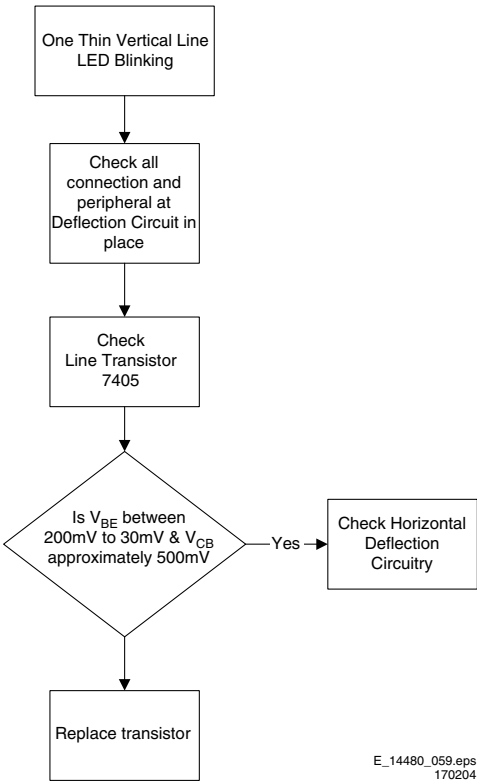


Figure 5-6 Fault finding tree “One thin vertical line”

One Thin Horizontal Line

- Quick check:
- Set in protection mode.
 - LED blinking with error “2”.

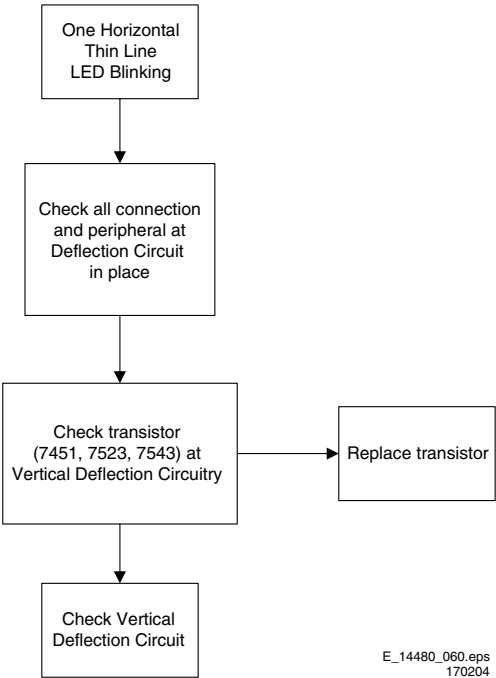


Figure 5-7 Fault finding tree “One thin horizontal line”

Blank Screen

5.8.5 Tuner and IF

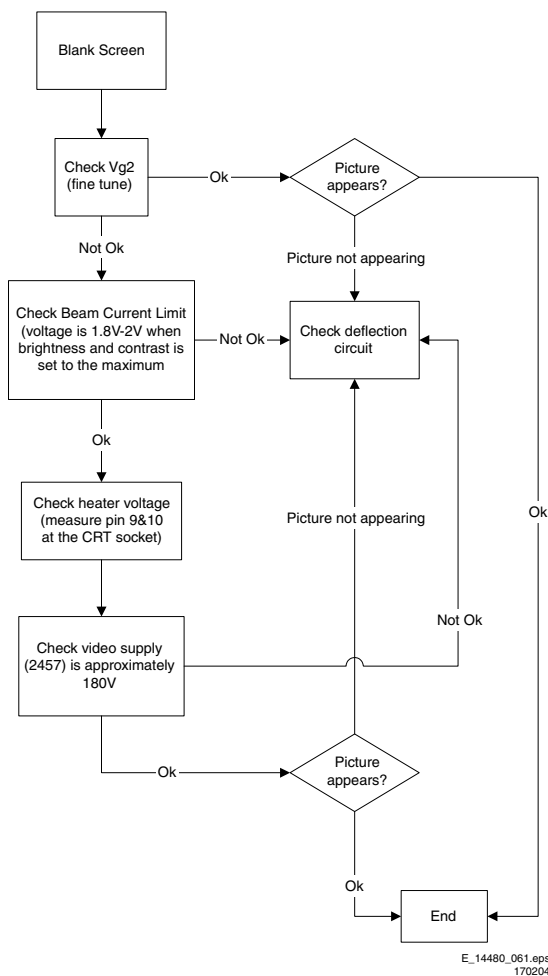


Figure 5-8 Fault finding tree "Blank screen"

5.8.4 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.

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

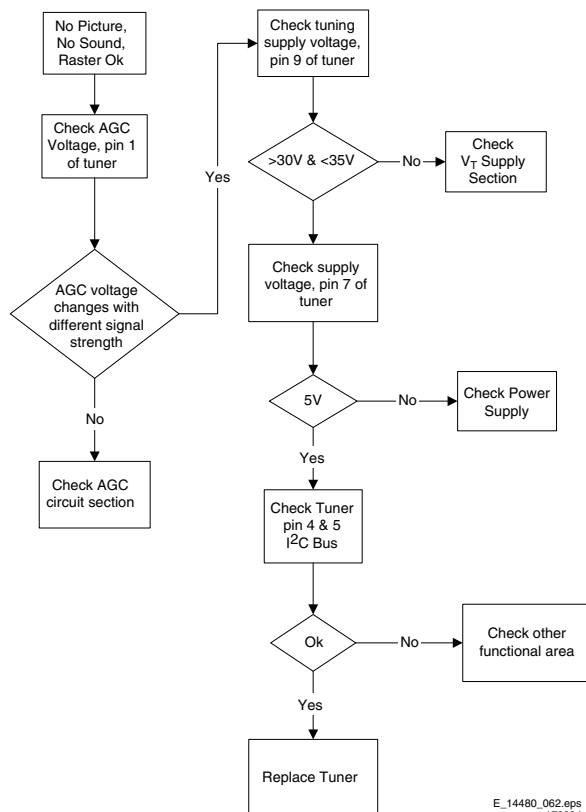
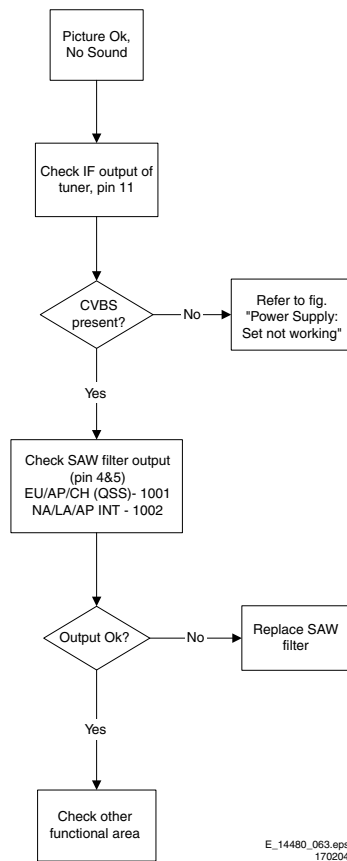
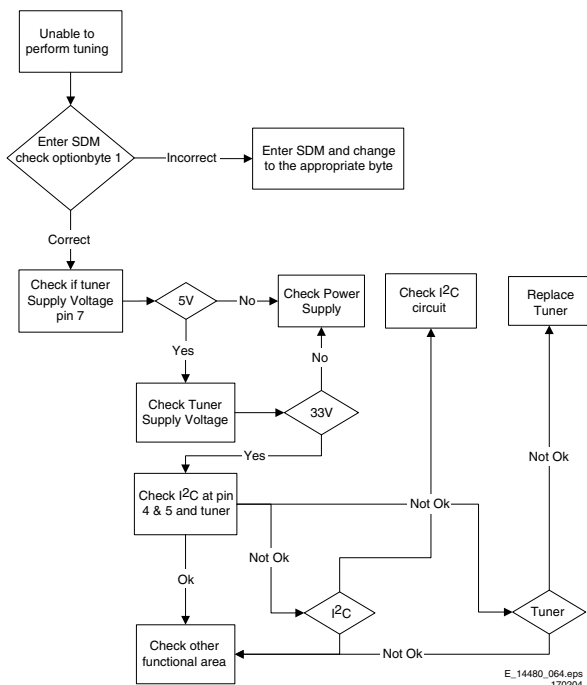
No Picture, No Sound

Figure 5-9 Fault finding tree "No picture, no sound"

Picture Ok, No Sound**Figure 5-10** Fault finding tree “Picture ok, no sound”**Unable To Perform Tuning****Figure 5-11** Fault finding tree “Unable to perform tuning”**5.8.6 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_{dc} and +1.8 V_{dc} 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_{dc}.
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”.

5.8.7 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 5-3 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

5.8.8 Audio Processing

No Sound

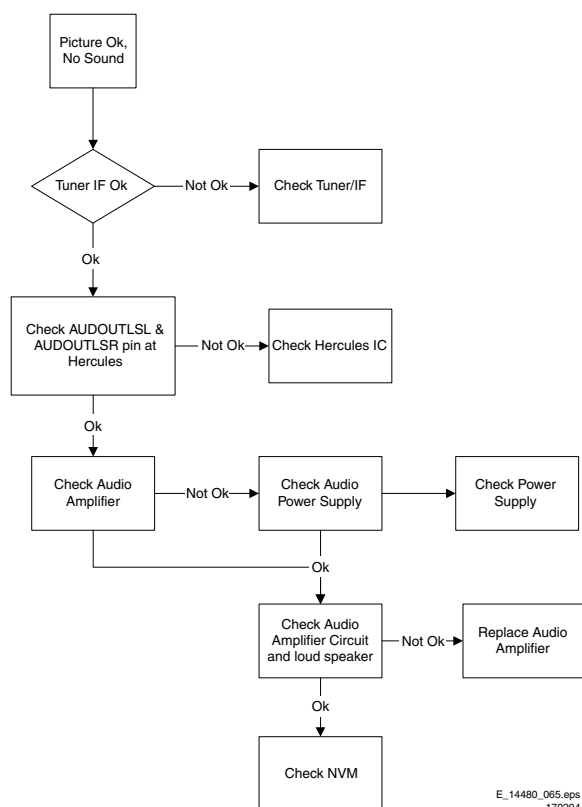


Figure 5-12 Fault finding tree “No sound”

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.

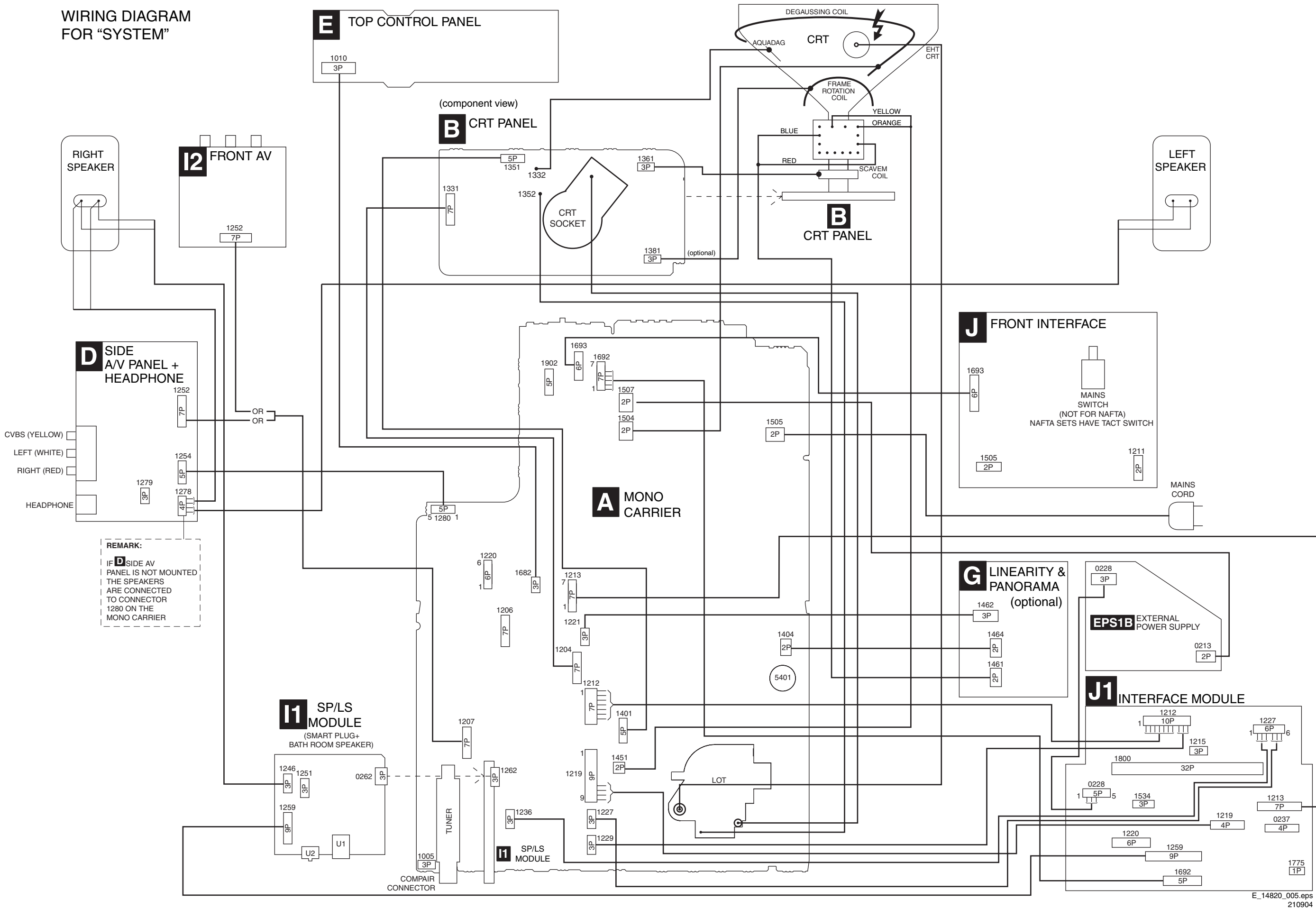
5.8.9 Audio Amplifier

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

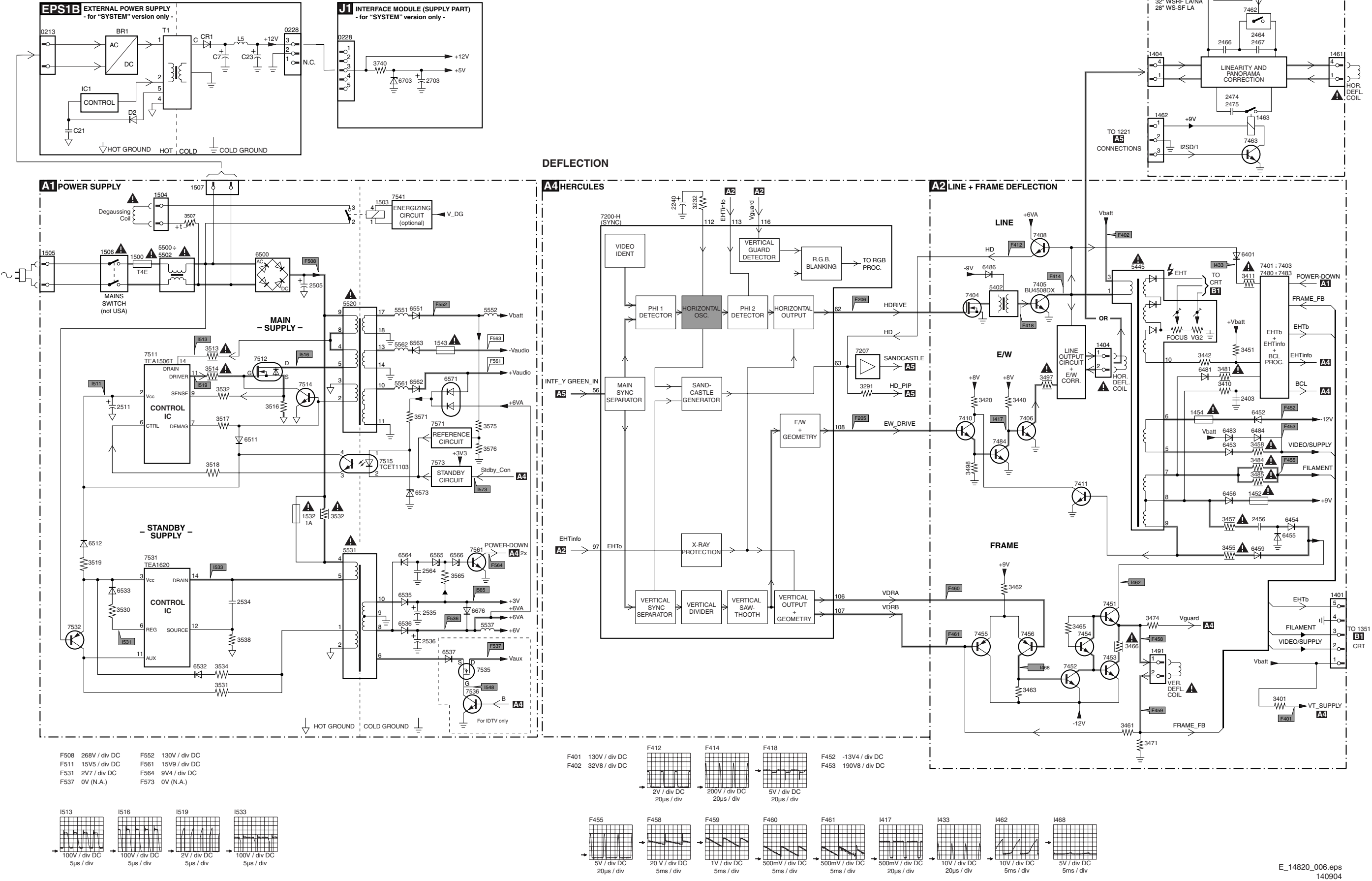
Personal Notes:

Wiring Diagram System

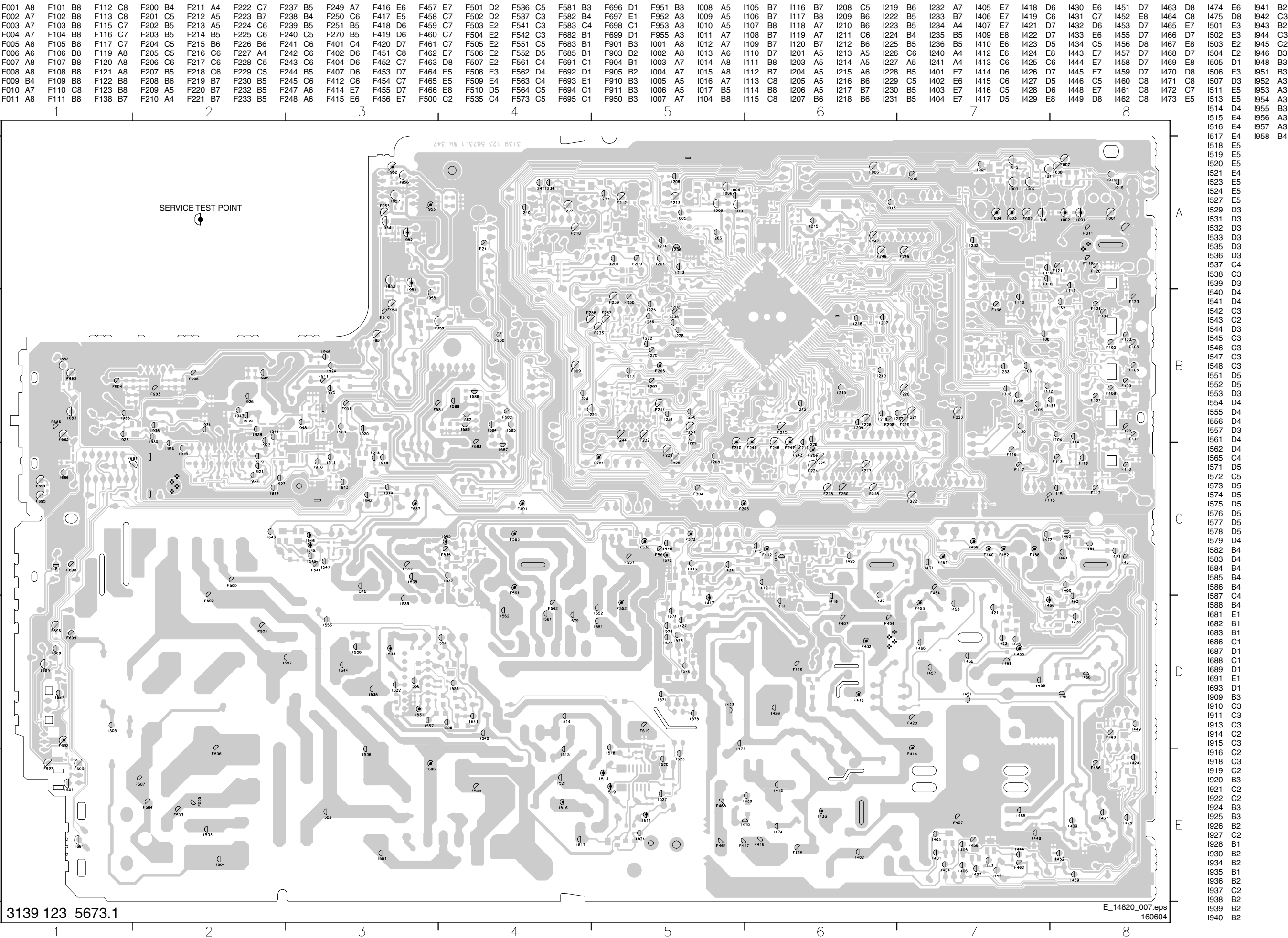


Block Diagram Supply and Deflection

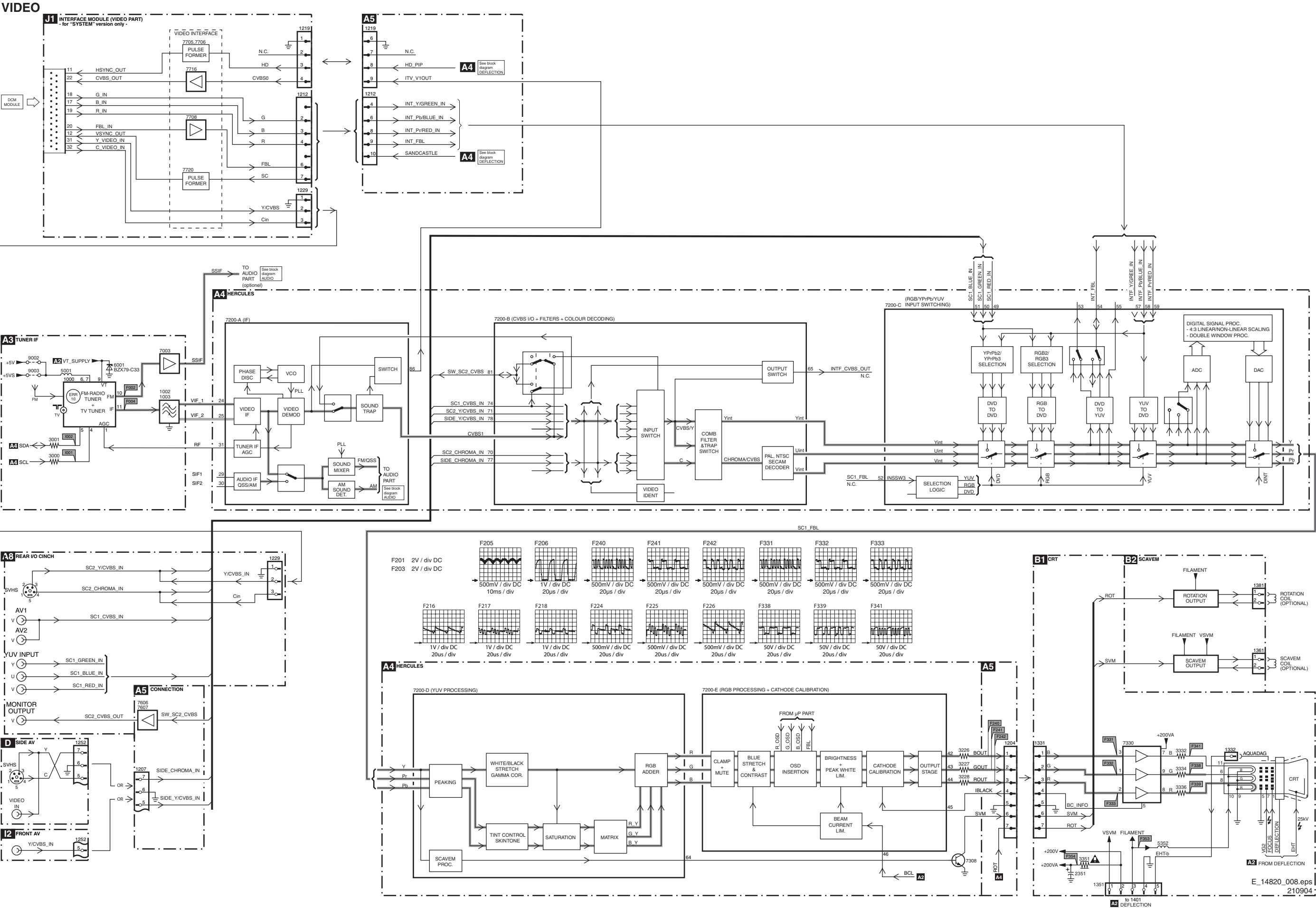
SUPPLY AND DEFLECTION



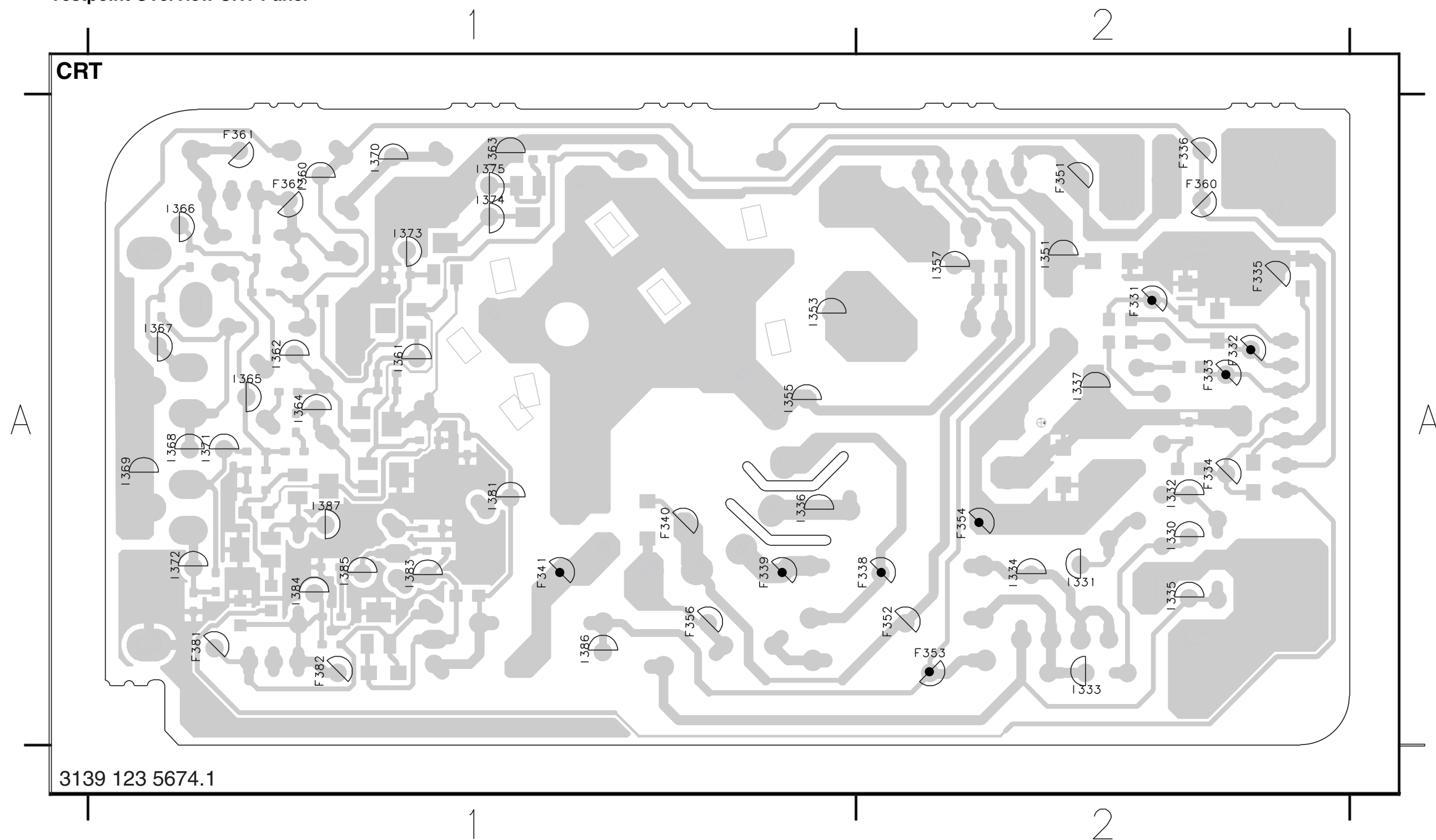
Testpoint Overview Mono Carrier



Block Diagram Video



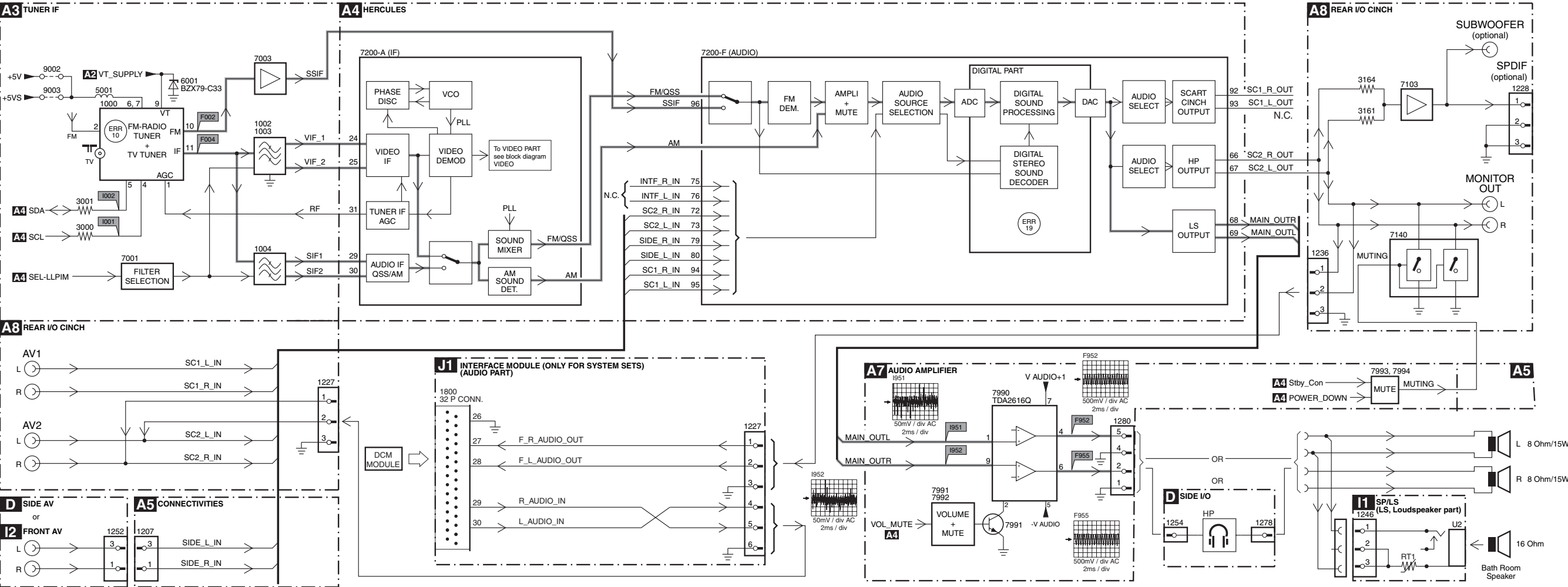
CRT



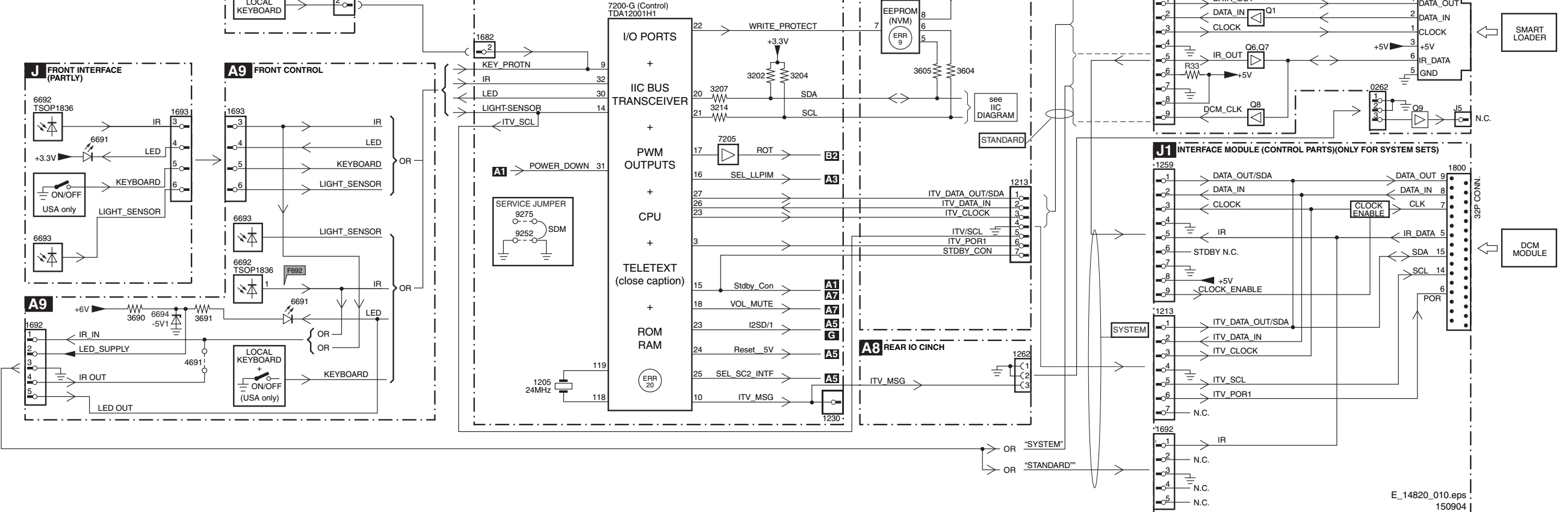
F331	A2
F332	A2
F333	A2
F334	A2
F335	A2
F336	A2
F338	A2
F339	A1
F340	A1
F341	A1
F351	A2
F352	A2
F353	A2
F354	A2
F356	A1
F360	A2
F361	A1
F362	A1
F381	A1
F382	A1
I330	A2
I331	A2
I332	A2
I333	A2
I334	A2
I335	A2
I336	A1
I337	A2
I351	A2
I353	A1
I355	A1
I357	A2
I360	A1
I361	A1
I362	A1
I363	A1
I364	A1
I365	A1
I366	A1
I367	A1
I368	A1
I369	A1
I370	A1
I371	A1
I372	A1
I373	A1
I374	A1
I375	A1
I381	A1
I383	A1
I384	A1
I385	A1
I386	A1
I387	A1

Block Diagram Audio/Control

AUDIO

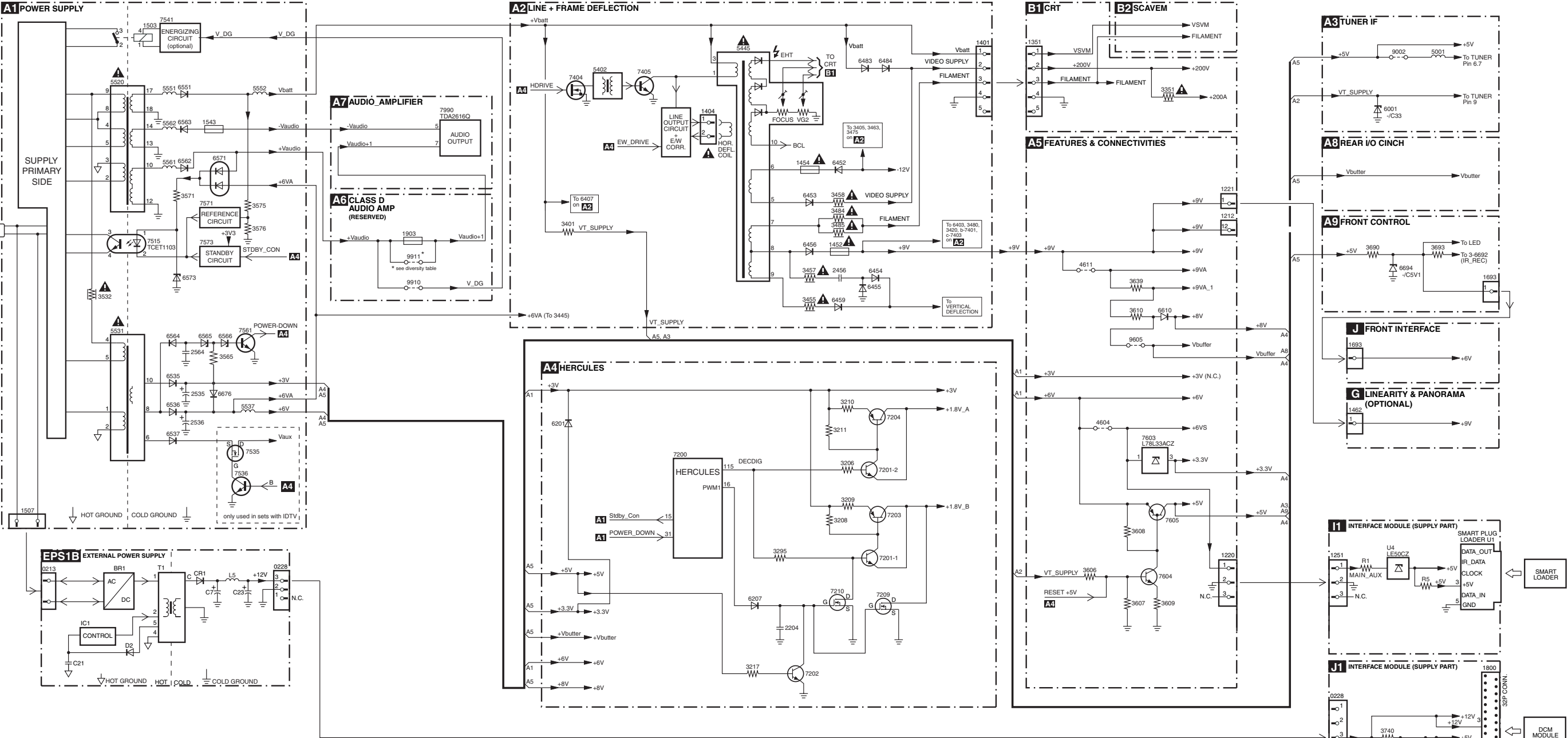


CONTROL

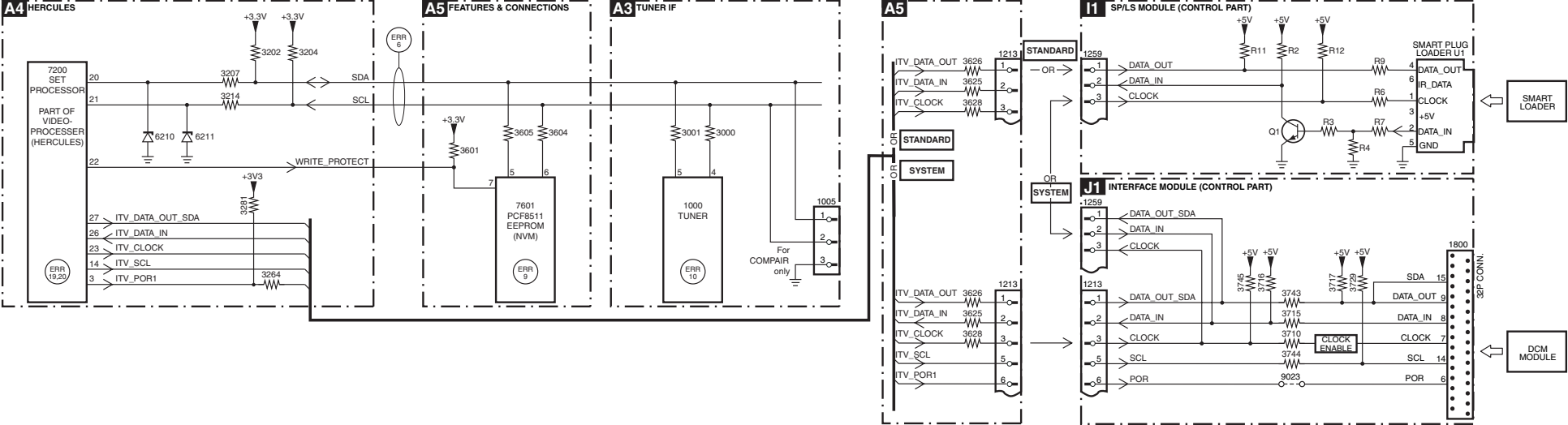


I2C and Supply Voltage Overview

SUPPLY LINES DIAGRAM

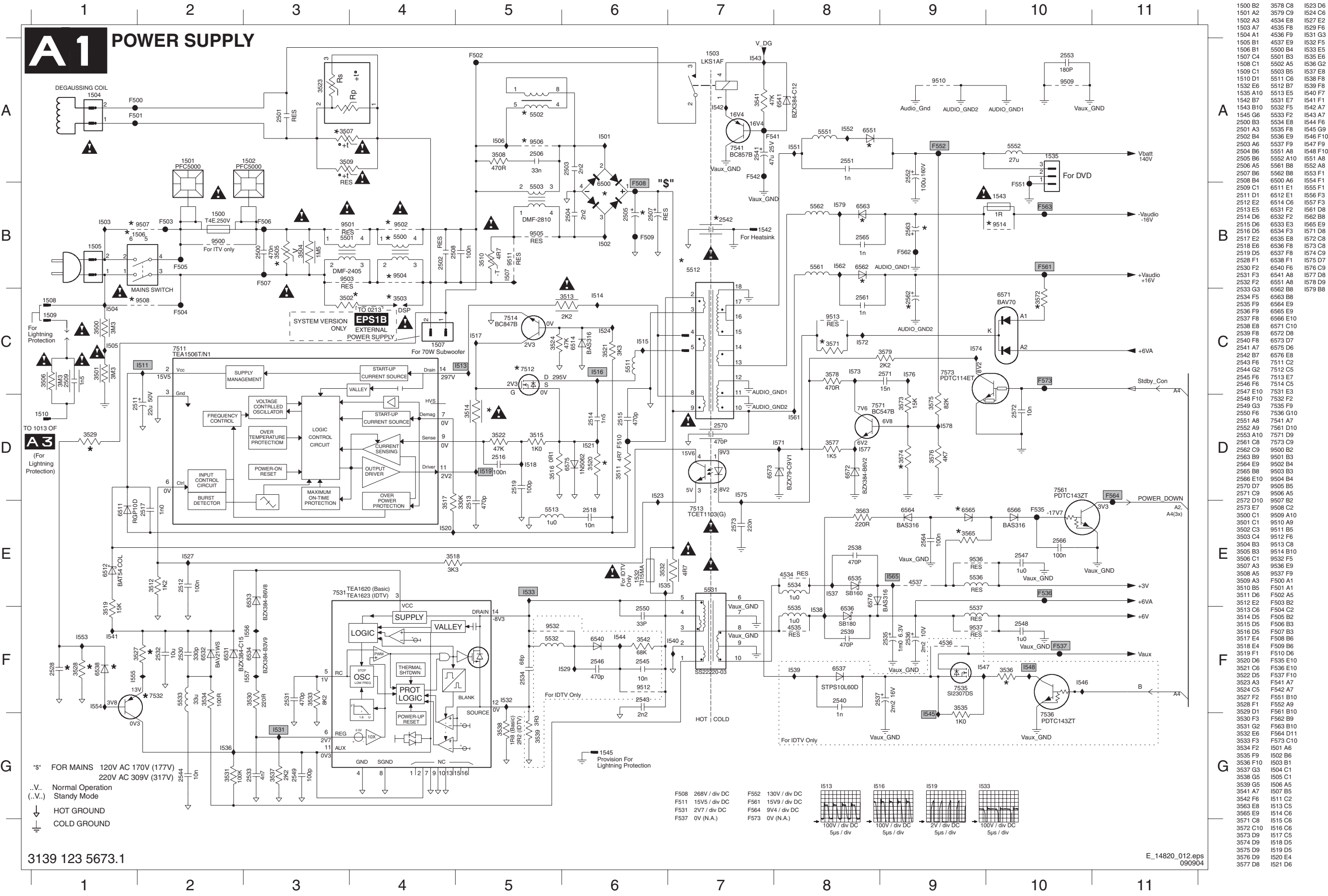


I2C BUS INTERCONNECTION DIAGRAM



7. Circuit Diagrams and PWB Layouts

Mono Carrier: Power Supply



Mono Carrier: Diversity Table for A1 (Power Supply)

1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	----

DIVERSITY TABLE FOR A1 POWER SUPPLY

REGION	NAFTA			LATAM / AP						CHINA			INDIA		EUROPE					
MAIN RANGE	LR			FR						HR			HR		HR					
SET	27RF 27FSQ	32RF	26WSRF 30WSRF 32FSQ	21RF	25RF 29FSQ	29RF	29RF	28WSSF	28WSRF 32WSRF	21/25RF	29RF	34RF	21/29RF	21/29RF 29FSQ	21RF	29RF 28WSSF	29RF	24WR 25/28BLD	28WSRF	32WSRF
VBATT	130V	130V	143V	130V	130V	130V	130V	143V	143V	130V	130V	130V	130V	130V	130V	130V	130V	143V	143V	143V
AUDIO OUTPUT	2X5W 2X10W	2X5W 2X10W	2X5W 2X10W	2X10W	2X5W 2X10W	2X5W	2X10W	2X5W	2X10W	2X10W	2X5W 2X10W	2X10W	2X5W 2X10+20W	2X15W	2X5W 2X10W	2X5W	2X10W	2X5W 2X10W	2X5W 2X10W	2X5W 2X10W
1508	---	---	---	WIRE SIN 180 SIN 18ST BK	WIRE SIN 180 SIN 18ST BK	WIRE SIN 180 SIN 18ST BK	WIRE SIN 180 SIN 18ST BK	WIRE SIN 180 SIN 18ST BK	WIRE SIN 180 SIN 18ST BK	WIRE SIN 180 SIN 18ST BK	WIRE SIN 180 SIN 18ST BK	WIRE SIN 180 SIN 18ST BK	WIRE SIN 180 SIN 18ST BK	WIRE SIN 180 SIN 18ST BK	WIRE SIN 180 SIN 18ST BK	WIRE SIN 180 SIN 18ST BK	WIRE SIN 180 SIN 18ST BK	WIRE SIN 180 SIN 18ST BK	WIRE SIN 180 SIN 18ST BK	WIRE SIN 180 SIN 18ST BK
1510	---	---	---	WIRE SIN 400 SIN 18ST BK	WIRE SIN 400 SIN 18ST BK	WIRE SIN 400 SIN 18ST BK	WIRE SIN 400 SIN 18ST BK	WIRE SIN 400 SIN 18ST BK	WIRE SIN 400 SIN 18ST BK	WIRE SIN 400 SIN 18ST BK	WIRE SIN 400 SIN 18ST BK	WIRE SIN 400 SIN 18ST BK	WIRE SIN 400 SIN 18ST BK	WIRE SIN 400 SIN 18ST BK	WIRE SIN 400 SIN 18ST BK	WIRE SIN 400 SIN 18ST BK	WIRE SIN 400 SIN 18ST BK	WIRE SIN 400 SIN 18ST BK	WIRE SIN 400 SIN 18ST BK	WIRE SIN 400 SIN 18ST BK
2505	200V 470U	200V 470U	200V 470U	400V 330U	400V 330U	400V 330U	400V 330U	400V 330U	400V 330U	450V 220U	450V 220U	450V 220U	450V 220U	450V 220U	400V 220U	400V 220U	400V 220U	400V 220U	400V 220U	400V 220U
2506	---	---	---	---	---	---	---	---	---	---	400V 33N	400V 33N	---	---	---	---	400V 33N	---	400V 33N	400V 33N
2508	---	---	---	275V 100N	275V 100N	275V 100N	275V 100N	275V 100N	275V 100N	275V 100N	275V 100N	275V 100N	275V 100N	275V 100N	275V 100N	275V 100N	275V 100N	275V 100N	275V 100N	275V 100N
2509	---	---	---	250V 1N5	250V 1N5	250V 1N5	250V 1N5	250V 1N5	250V 1N5	250V 1N5	250V 1N5	250V 1N5	250V 1N5	250V 1N5	250V 1N5	250V 1N5	250V 1N5	250V 1N5	250V 1N5	250V 1N5
2528	---	---	---	470N	470N	470N	470N	470N	470N	470N	470N	470N	470N	470N	470N	470N	470N	470N	470N	470N
2542	250V 1N5	250V 1N5	250V 1N5	250V 1N	250V 1N	250V 1N	250V 1N	250V 1N	250V 1N	250V 1N	250V 1N	250V 1N	250V 1N	250V 1N	250V 1N	250V 1N	250V 1N	250V 1N	250V 1N	250V 1N
2570	---	---	---	250V 470P	250V 470P	250V 470P	250V 470P	250V 470P	250V 470P	250V 470P	250V 470P	250V 470P	250V 470P	250V 470P	250V 470P	250V 470P	250V 470P	250V 470P	250V 470P	250V 470P
3505	1MA/423V	1MA/423V	1MA/423V	1MA/612V	1MA/612V	1MA/612V	1MA/612V	1MA/612V	1MA/612V	1MA/612V	1MA/612V	1MA/612V	1MA/612V	1MA/612V	1MA/612V	1MA/612V	1MA/612V	1MA/612V	1MA/612V	1MA/612V
3506	---	---	---	3M3	3M3	3M3	3M3	3M3	3M3	3M3	3M3	3M3	3M3	3M3	3M3	3M3	3M3	3M3	3M3	3M3
3507	---	144V 3R	144V 3R	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
3508	---	---	---	---	---	---	---	---	---	---	470R	470R	---	---	---	---	470R	---	470R	470R
3514	100R	100R	100R	47R	47R	47R	47R	47R	47R	47R	47R	47R	47R	47R	47R	47R	47R	47R	47R	47R
3520	0R18	0R18	0R18	0R33	0R33	0R33	0R22	0R33	0R22	0R33	0R33	0R33	0R33	0R33	0R33	0R33	0R33	0R33	0R33	0R33
3527	---	---	---	47K	47K	47K	47K	47K	47K	47K	47K	47K	47K	47K	47K	47K	47K	47K	47K	47K
3528	---	---	---	1M	1M	1M	1M	1M	1M	1M	1M	1M	1M	1M	1M	1M	1M	1M	1M	1M
3529	---	---	---	2M2	2M2	2M2	2M2	2M2	2M2	2M2	2M2	2M2	2M2	2M2	2M2	2M2	2M2	2M2	2M2	2M2
3523	145V 1R5	---	---	276V 4R5	276V 4R5	276V 4R5	276V 4R5	276V 4R5	276V 4R5	276V 4R5	276V 4R5	276V 4R5	276V 4R5	276V 4R5	276V 4R5	276V 4R5	276V 4R5	276V 4R5	276V 4R5	276V 4R5
3565	15K	15K	15K	18K	18K	18K	18K	18K	18K	15K	15K	15K	15K	15K	15K	15K	15K	15K	15K	15K
3574	150K	150K	33K	150K	150K	150K	150K	33K	33K	150K	150K	150K	150K	150K	150K	150K	33K	33K	33K	33K
5500	---	---	---	10MH 2A	10MH 2A	10MH 2A	10MH 2A	10MH 2A	10MH 2A	20MH 1A5	20MH 1A5	20MH 1A5	---	---	20MH 1A5	20MH 1A5	20MH 1A5	20MH 1A5	20MH 1A5	20MH 1A5
5502	---	---	---	---	---	---	---	---	---	---	65MH	65MH	---	---	---	---	65MH	---	65MH	38MH
5512	SS40310-01	SS40310-01	SS40312-01	SS42315-01	SS42315-01	SS42315-01	SS49309-01	SS42316-01	SS49308-01	SS42315-01	SS42315-01	SS42315-01	SS42315-01	SS42317-01	SS42315-01	SS42315-01	SS42315-01	SS42316-01	SS42316-01	SS42316-01
6500	GBU4JL	GBU6JL	GBU6JL	GBU4JL	GBU4JL	GBU6JL	GBU6JL	GBU6JL	GBU6JL	GBU4JL	GBU4JL	GBU4JL	BYV29X-500	GBU4JL	GBU4JL	GBU4JL	GBU4JL	GBU4JL	GBU4JL	GBU4JL
6538	---	---	---	BAS316	BAS316	BAS316	BAS316	BAS316	BAS316	BAS316	BAS316	BAS316	BAS316	BAS316	BAS316	BAS316	BAS316	BAS316	BAS316	BAS316
6551	STTH8L06D	BYV29X-500	BYV29X-500	STTH8L06D	STTH8L06D	STTH8L06D	STTH8L06D	STTH8L06D	STTH8L06D	STTH8L06D	STTH8L06D	STTH8L06D	STTH8L06D	STTH8L06D	STTH8L06D	STTH8L06D	STTH8L06D	STTH8L06D	STTH8L06D	BYV29X-500
6565	UDZS9.1B	UDZS9.1B	UDZS9.1B	UDZS7.5B	UDZS7.5B	UDZS7.5B	UDZS7.5B	UDZS7.5B	UDZS7.5B	UDZS10B	UDZS10B	UDZS10B	UDZS10B	UDZS10B	UDZS10B	UDZS10B	UDZS10B	UDZS10B	UDZS10B	UDZS10B
7512	FQPF9N50	FQPF9N50	FQPF9N50	FQPF7N80	FQPF7N80	FQPF7N80	FQPF7N80	FQPF7N80	FQPF7N80	FQPF7N80	FQPF7N80	FQPF7N80	FQPF7N80	FQPF7N80	FQPF7N80	FQPF7N80	FQPF7N80	FQPF7N80	FQPF7N80	FQPF7N80
7532	---	---	---	BC857B	BC857B	BC857B	BC857B	BC857B	BC857B	BC857B	BC857B	BC857B	BC857B	BC857B	BC857B	BC857B	BC857B	BC857B	BC857B	BC857B
9502	JMP	JMP	JMP	---	---	---	---	---	---	---	---	---	JMP	JMP	---	---	---	---	---	---
9504	JMP	JMP	JMP	---	---	---	---	---	---	---	---	---	JMP	JMP	---	---	---	---	---	---
9506	JMP	JMP	JMP	JMP	JMP	JMP	JMP	JMP	JMP	JMP	---	---	JMP	JMP	JMP	JMP	---	JMP	---	---

AUDIO OUTPUT	2X5W	2X10W	2X10+20W	2X15W
1543	---	---	2A 250V	2A250V
2562	25V 1000uF	25V 2200uF	25V 2200uF	25V 2200uF
2563	25V 1000uF	25V 2200uF	25V 2200uF	25V 2200uF
3571	220R	220R	220R	680R
3572	220R	220R	220R	470R
6562	SB360	SB360	SB360	SB380
6563	SB360	SB360	SB360	SB380
9514	JMP	JMP	---	---

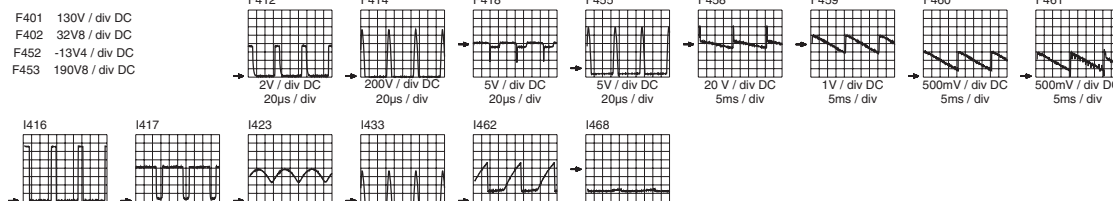
REGION	NAFTA	ROW
1506	---	Main Switch
9507	JMP	---
9508	JMP	---

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1	2	3	4	5	6	7	8	9	10
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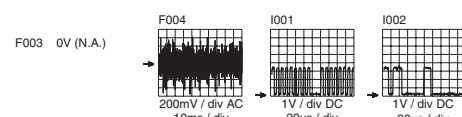
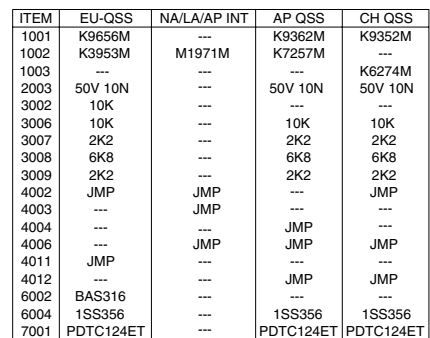
A2 LINE + FRAME DEFLECTION



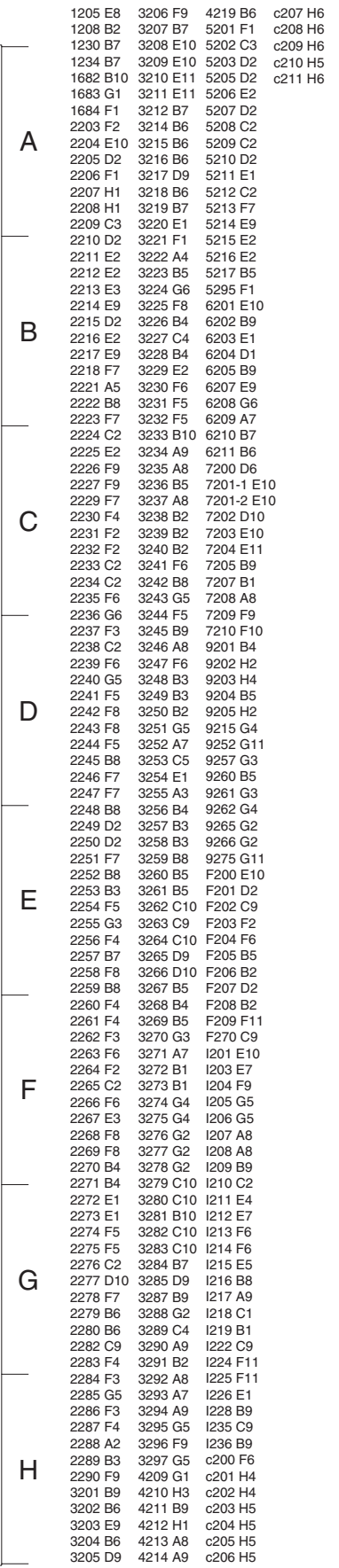
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1401 B3	6401 A4
1404 B5	6403 C1
1451 F9	6404 D4
1404 B8	6405 C2
1453 G2	6407 E2
1454 C8	6408 E3
1470 B8	6410 D5
1401 B3	6409 C2
2402 C4	6412 D4
2403 C4	6441 C3
2404 A4	6442 C3
2404 B8	6443 C4
2406 A5	6450 B9
2408 B2	6451 B8
2409 C2	6452 C8
2409 C2	6453 C2
2411 D4	6454 D9
2412 D4	6455 D9
2413 D4	6456 D5
2415 C5	6457 E7
2415 C5	6458 E8
2416 D5	6459 D8
2417 C5	6480 D8
2419 D5	6482 A10
2420 D1	6483 C9
2421 D1	6484 C9
2427 A5	6486 C1
2428 G4	6488 G5
2451 B8	6489 G5
2451 B8	6490 G5
2454 C9	7401 A3
2455 C9	7402 B3
2456 D9	7403 B4
2456 D9	7404 B4
2458 C9	7405 C4
2459 D7	7406 F3
2460 D7	7406 C2
2462 E7	7410 C2
2462 E7	7411 F3
2463 E8	7451 E9
2464 B8	7452 F8
2465 B8	7453 F8
2468 F8	7455 E6
2468 F8	7456 E7
2481 C9	7480 E9
2481 C9	7481 B9
2481 C9	7482 A9
2483 F3	7483 A8
2484 C9	7484 B8
2484 C9	9401 D5
2485 C8	9402 D6
2487 A4	9407 E6
2488 C3	9410 A4
2489 C3	9417 C6
2490 D9	9451 D10
2491 A9	F401 A1
2491 A9	F402 A2
2492 A9	F404 B2
2493 B2	F407 D3
2493 C3	F412 C1
2493 C3	F414 A2
3406 B3	F415 A5
3407 B3	F416 B6
3408 B4	F417 B6
3409 B4	F418 B6
3411 A4	F419 C4
3412 B5	F420 A5
3414 C1	F451 A1
3416 C4	F452 C10
3416 C4	F453 C10
3418 F2	F455 D9
3419 F2	F456 D9
3425 E4	F457 E8
3425 F5	F458 F9
3428 F5	F459 F9
3429 F5	F460 F9
3431 F4	F461 F6
3432 A5	F462 A9
3433 A6	F463 C9
3434 A6	F464 C9
3436 A4	F465 C6
3437 F9	F466 B2
3440 D3	401 B2
3441 C2	402 B2
3442 B8	403 B3
3443 B8	404 B3
3445 C1	405 B3
3446 C1	406 B3
3451 A6	407 B4
3452 A7	409 B5
3453 B7	410 C4
3454 B7	411 C4
3455 D7	413 D2
3457 D8	414 C3
3458 D8	415 F3
3460 F6	416 E3
3461 F7	417 G2
3462 E7	416 C3
3463 E7	417 C3
3464 E8	421 G4
3465 E7	422 F5
3466 F9	423 E4
3467 F9	424 A2
3468 F9	425 E2
3469 F7	426 G5
3470 F8	427 E2
3471 F8	428 A9
3472 F9	429 D9
3473 A8	430 C5
3474 E10	431 G3
3475 E10	432 A2
3476 A9	433 A4
3477 A9	434 G2
3478 B9	443 A7
3479 B9	444 A7
3481 B9	445 A8
3482 B10	446 B7
3483 B10	447 B7
3485 B8	451 A7
3486 B9	452 B8
3487 A8	453 C8
3488 A8	454 C8
3489 C1	456 D9
3490 A8	457 C7
3491 A8	458 D7
3492 B8	460 E7
3493 B8	461 E8
3494 C2	462 D9
3495 C2	463 F5
3496 C2	464 F8
3497 A9	465 B7
4437 E9	466 C8
4438 E9	467 C8
5401 B6	468 F7
5402 C3	469 A8
5403 E4	470 E7
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5408 E6	473 A5
5410 A5	474 D5
5410 A5	475 D5

A3 TUNER IF



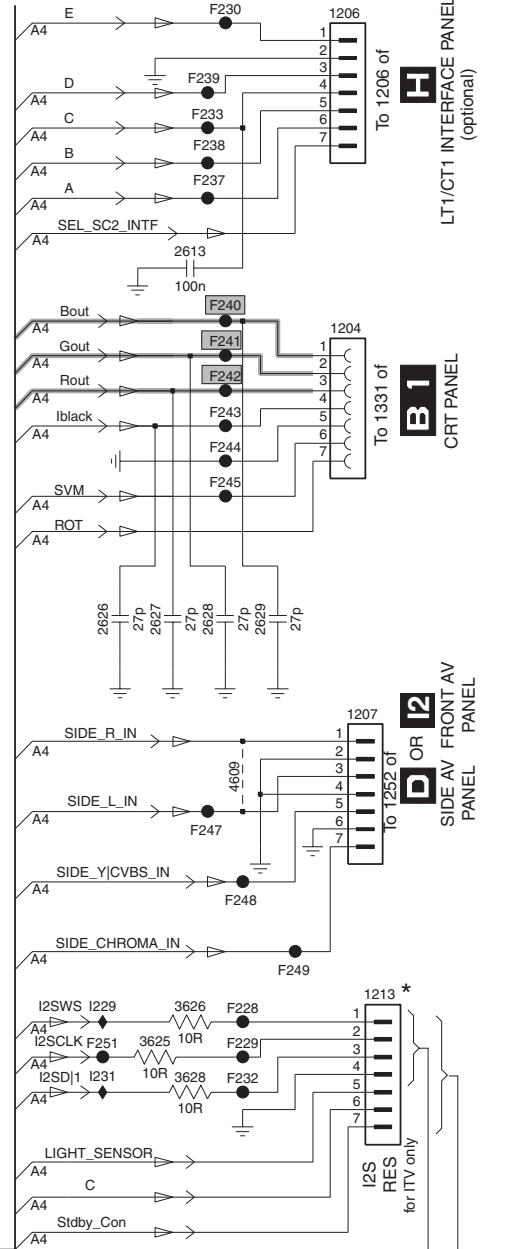
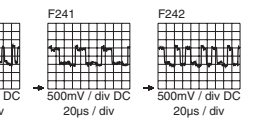
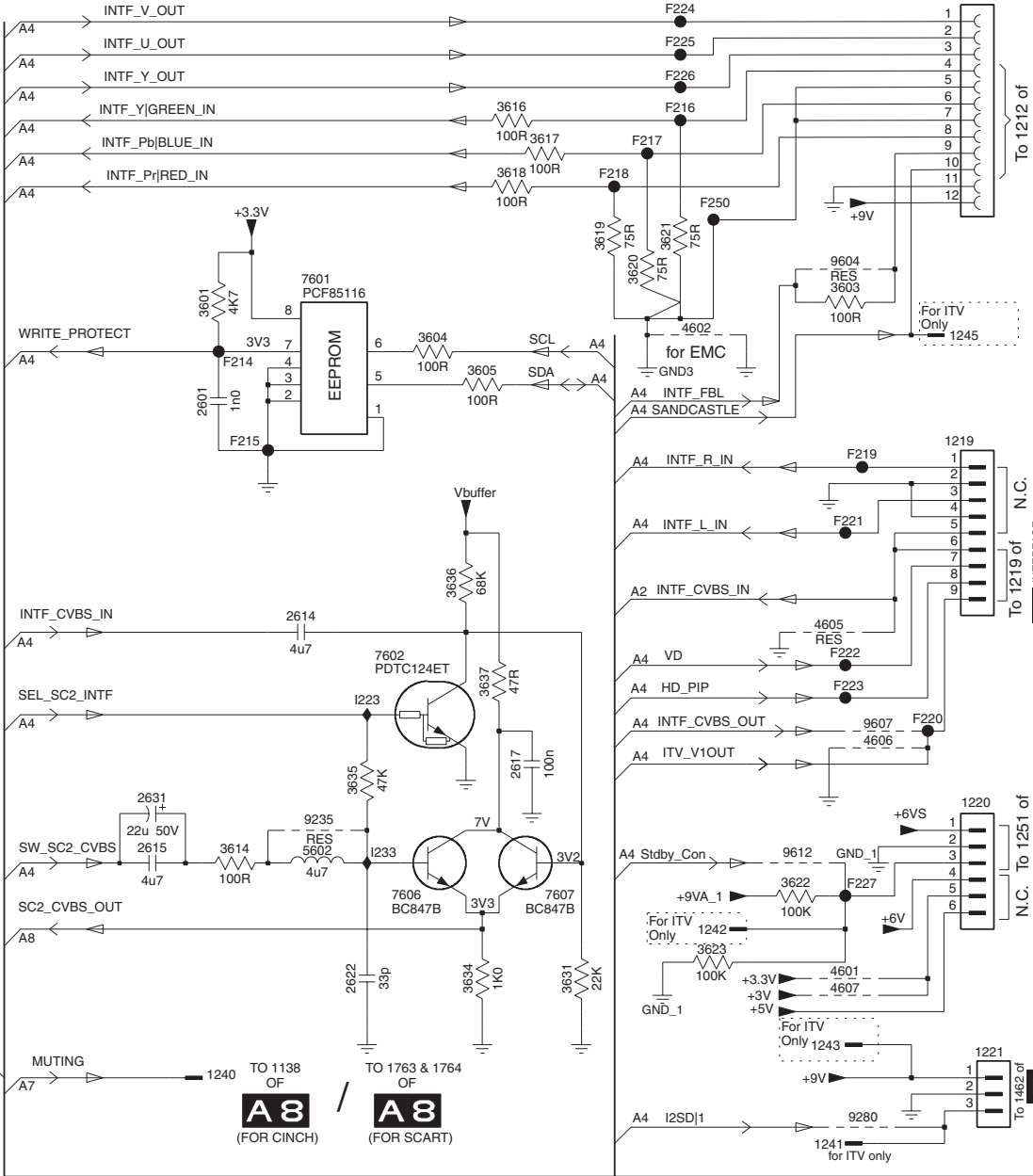
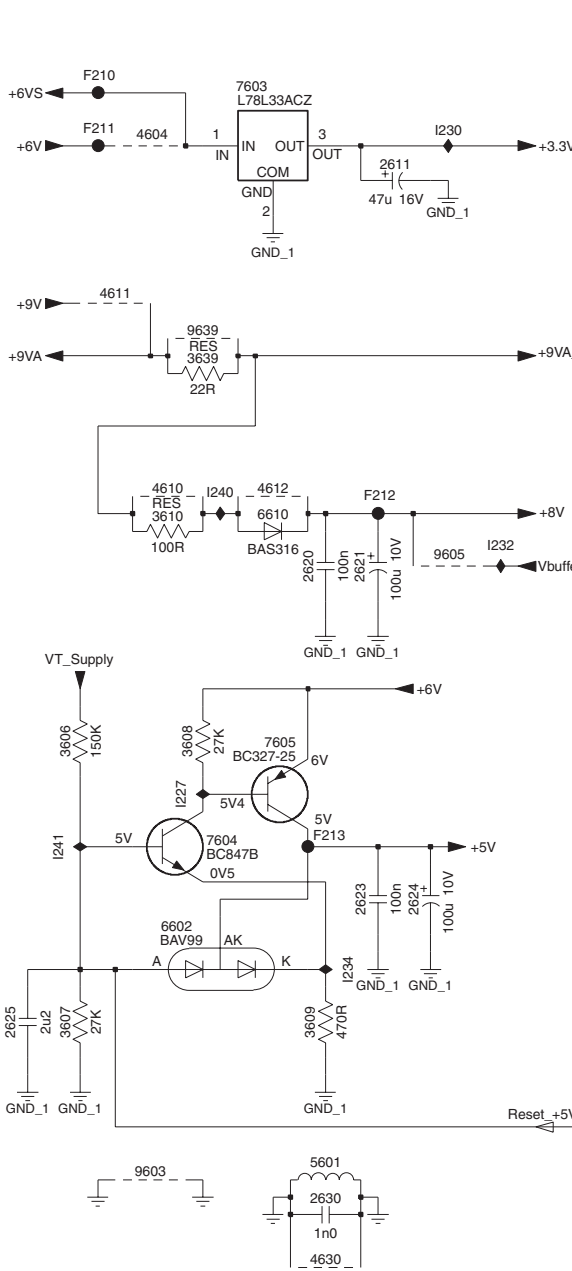
A4 HERCULES



Nafta	Hercules TDA12000H1/N1B501AB	9352 753 88557
	Hercules TDA12001H1/N1B501AD	9352 754 35557
	Hercules TDA12001H1/N1B511AC	9352 753 89555
Latam	Hercules TDA12040H1/N1B501AO	9352 754 81557
	Hercules TDA12040H1/N1B511AP	9352 754 82557
AP	Hercules TDA12010H1/N1B501AM	9352 754 44557
	Hercules TDA12010H1/N1B101AF	9352 754 36557
	Hercules TDA12011H1/N1B511AN	9352 754 45557
Europe & AP	Hercules TDA12020H1/N1B101AK	9352 754 42557
	Hercules TDA12020H1/N1B101AJ	9352 754 39557
	Hercules TDA12021H1/N1B101AL	9352 754 43557
	Hercules TDA12021H1/N1B101AJ	9352 754 41557
AP	Hercules TDA12060H1/N1B111AH	9352 754 38557
	Hercules TDA12060H1/N1B001AE	9352 754 34557
	Hercules TDA12011H1/N1B101AG	9352 754 37557

Mono Carrier: Features & Connectivities

A5 FEATURES & CONNECTIVITIES



	DVD	iDTV	USB	PCMCIA
A	-	-	-	-
B	Power On	Power On	Power On	Power On
C	Bus Request	Bus Request	Bus Request	Bus Request
D	Rx	-	Rx	Rx
E	Tx	-	Tx	Tx

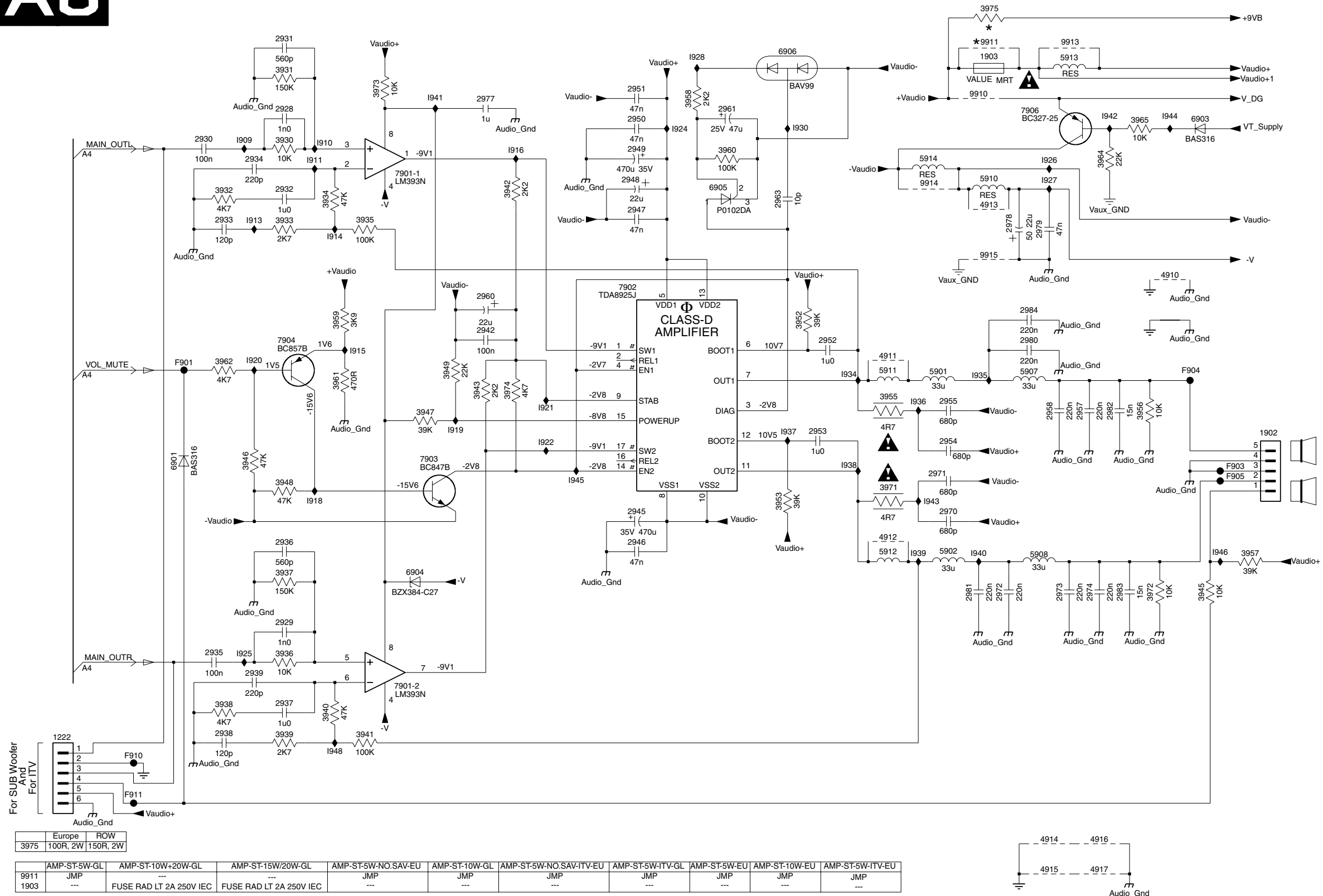
	MTV	ITV
1	I2SWS	ITV DATA OUT/SDA
2	I2SCLK	ITV DATAIN
3	I2SDI1	ITV CLOCK
4	GND	GND
5	Light sensor	ITV SCL
6	C	ITV POR 1
7	Stdby-con	Stdby-con

- 1204 B9
- 1206 A9
- 1207 D9
- 1212 A7
- 1213 E9
- 1219 C8
- 1220 E8
- 1221 F8
- 1240 F4
- 1241 F7
- 1242 E6
- 1243 F7
- 1245 C7
- 2601 C4
- 2611 B2
- 2613 B9
- 2614 D5
- 2615 E4
- 2617 D6
- 2620 C2
- 2621 C2
- 2622 E5
- 2623 E2
- 2624 E2
- 2625 E1
- 2626 D8
- 2627 D9
- 2628 D9
- 2629 D9
- 2630 F2
- 2631 E4
- 3601 B4
- 3603 B7
- 3604 C5
- 3605 C5
- 3606 D1
- 3607 E1
- 3608 D2
- 3609 E2
- 3610 C1
- 3614 E4
- 3616 B6
- 3617 B6
- 3618 B6
- 3619 B6
- 3620 B6
- 3621 B6
- 3622 E7
- 3623 E7
- 3625 E9
- 3626 E9
- 3628 E9
- 3631 E6
- 3634 E5
- 3635 D5
- 3636 D5
- 3637 D5
- 3639 C2
- 4601 E7
- 4602 B6
- 4604 B1
- 4605 D7
- 4606 D7
- 4607 E7
- 4609 D9
- 4610 C1
- 4611 B1
- 4612 C2
- 4630 F2
- 5601 F2
- 5602 E5
- 6602 E1
- 6610 C2
- 7601 B5
- 7602 D5
- 7603 A2
- 7604 D2
- 7605 D2
- 7606 E5
- 7607 E6
- 9235 E5
- 9280 F7
- 9603 F1
- 9604 B7
- 9605 C3
- 9607 D7
- 9612 E7
- 9639 B2
- F210 A1
- F211 B1
- F212 C2
- F213 D2
- F214 C4
- F215 C4
- F216 B6
- F217 B6
- F218 B6
- F219 C7
- F220 D7
- F221 C7
- F222 D7
- F223 D7
- F224 A6
- F225 A6
- F226 A6
- F227 E7
- F228 E9
- F229 E9
- F230 A9
- F232 E9
- F233 B9
- F237 B9
- F238 B9
- F239 A9
- F240 A9
- F241 A9
- F242 A9
- F243 C9
- F244 C9
- F245 C9
- F247 D9
- F248 E9
- F249 E9
- F250 B7
- F251 E8
- I223 D5
- I227 D1
- I229 E8
- I230 B3
- I231 E8
- I232 C3
- I233 E5
- I234 E2
- I240 C2
- I241 D1

Mono Carrier: Class D - Audio Amplifier

A6

CLASS D - AUDIO AMP (RESERVED)



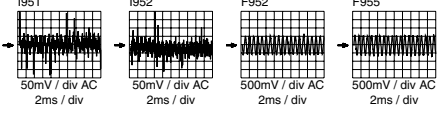
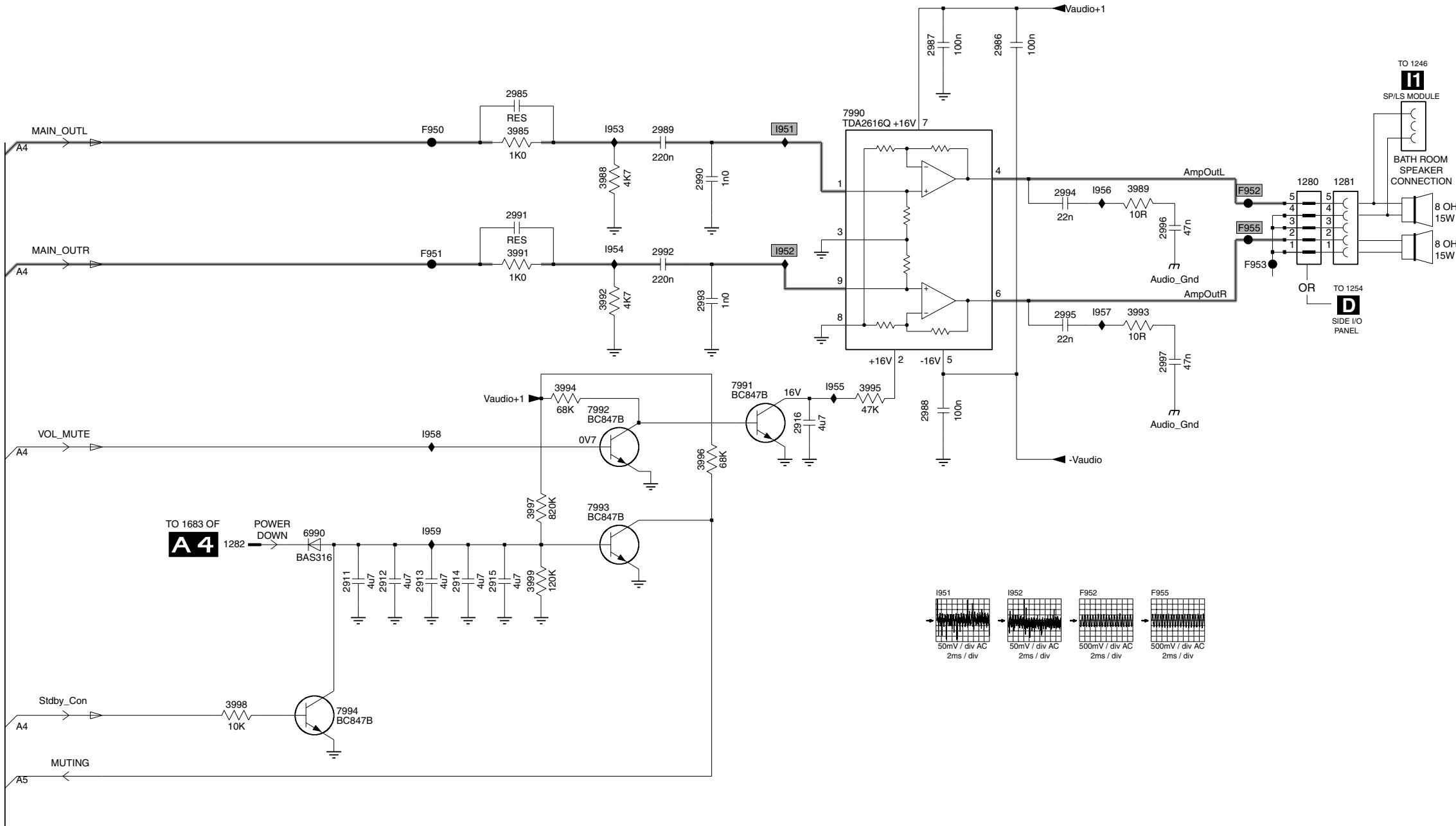
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- 1222 F1
- 1902 C9
- 1903 A7
- 2928 A2
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- 2936 D2
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- 2938 F2
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- 2949 A5
- 2950 A5
- 2951 A5
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- 2953 C6
- 2954 D7
- 2955 C7
- 2957 C8
- 2958 C8
- 2960 B4
- 2961 A5
- 2963 B6
- 2970 D7
- 2971 D7
- 2972 E7
- 2973 E8
- 2974 E8
- 2977 A4
- 2978 B7
- 2979 B8
- 2980 C8
- 2981 E7
- 2982 C8
- 2983 E8
- 2984 C8
- 2930 A2
- 2931 A2
- 2932 B2
- 2933 B2
- 2934 B3
- 2935 B3
- 2936 E2
- 2937 D2
- 2938 E2
- 2939 F2
- 2940 E3
- 2941 F3
- 2942 B4
- 2943 C4
- 2945 E9
- 2946 D2
- 2949 C3
- 2947 C3
- 2948 D2
- 2949 C3
- 2952 C6
- 2953 D6
- 2955 D6
- 2956 C8
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Mono Carrier: Audio Amplifier

A7 AUDIO_AMPLIFIER



3139 123 5673.1

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- I955 C6
- I956 B8
- I957 C8
- I958 D4
- I959 D4

Mono Carrier: Rear I/O Cinch

A8 REAR I/O CINCH

A

B

C

D

E

F

A

B

C

D

E

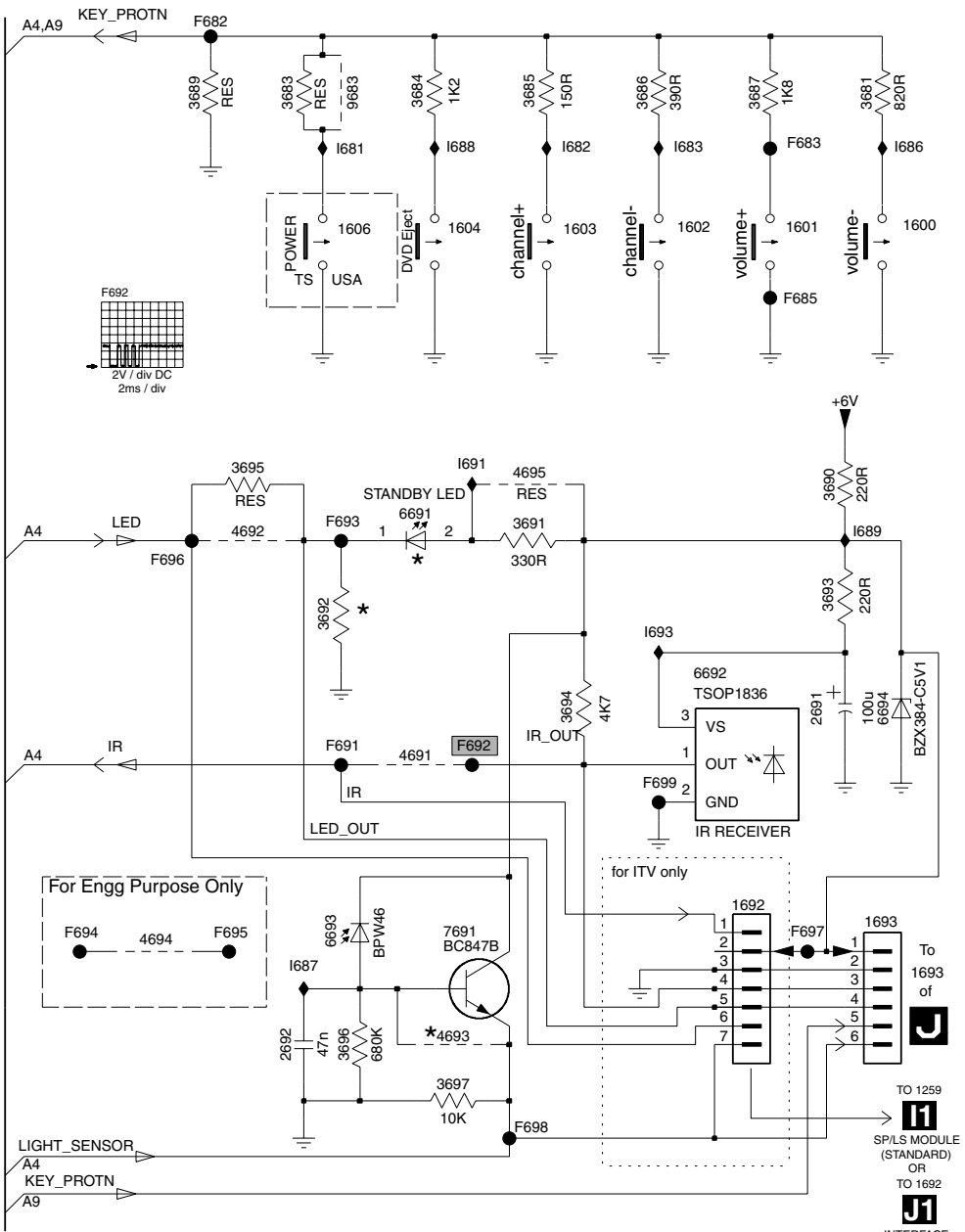
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1111 D8
1112 E8
1113 C8
1137 B9
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1153 F9
1223-1 B2
1223-2 C2
1223-3 E2
1227 B6
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1229 B8
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1264 C5
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3135 C7
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4112 B5
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4115 E6
4116 C9
4117 F9
4130 C9
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4144 E6
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F119 E9
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I113 D7
I114 D7
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I116 D6
I117 E7
I118 E8
I119 E8
I120 D6

Mono Carrier: Front Control

A9

FRONT CONTROL



ITEM NO.	NAFTA	LATAM	EU	AP
6691	LTL-10234WHCR (GREEN)	LTL-10234WHCR (GREEN)	LTL-10224WHCR (RED)	LTL-10224WHCR (RED)

SETS WITH LIGHT_SENSOR JMP
4693

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- 1602 A4
- 1603 B3
- 1604 B3
- 1606 B2
- 1692 D4
- 1693 D4
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- 2692 E2
- 3681 A4
- 3683 A2
- 3684 A2
- 3685 A3
- 3686 A3
- 3687 A4
- 3689 A2
- 3690 C4
- 3691 C3
- 3692 C2
- 3693 C4
- 3694 C3
- 3695 B2
- 3696 E2
- 3697 E3
- 4691 D2
- 4692 C2
- 4693 E3
- 4694 D1
- 4695 B3
- 6691 C3
- 6692 C4
- 6693 D2
- 6694 C4
- 7691 D3
- 9683 A2
- F682 A2
- F683 A4
- F685 B4
- F691 D2
- F692 D3
- F693 C2
- F694 D1
- F695 D2
- F696 C1
- F697 D4
- F698 E3
- F699 D3
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- I693 C3

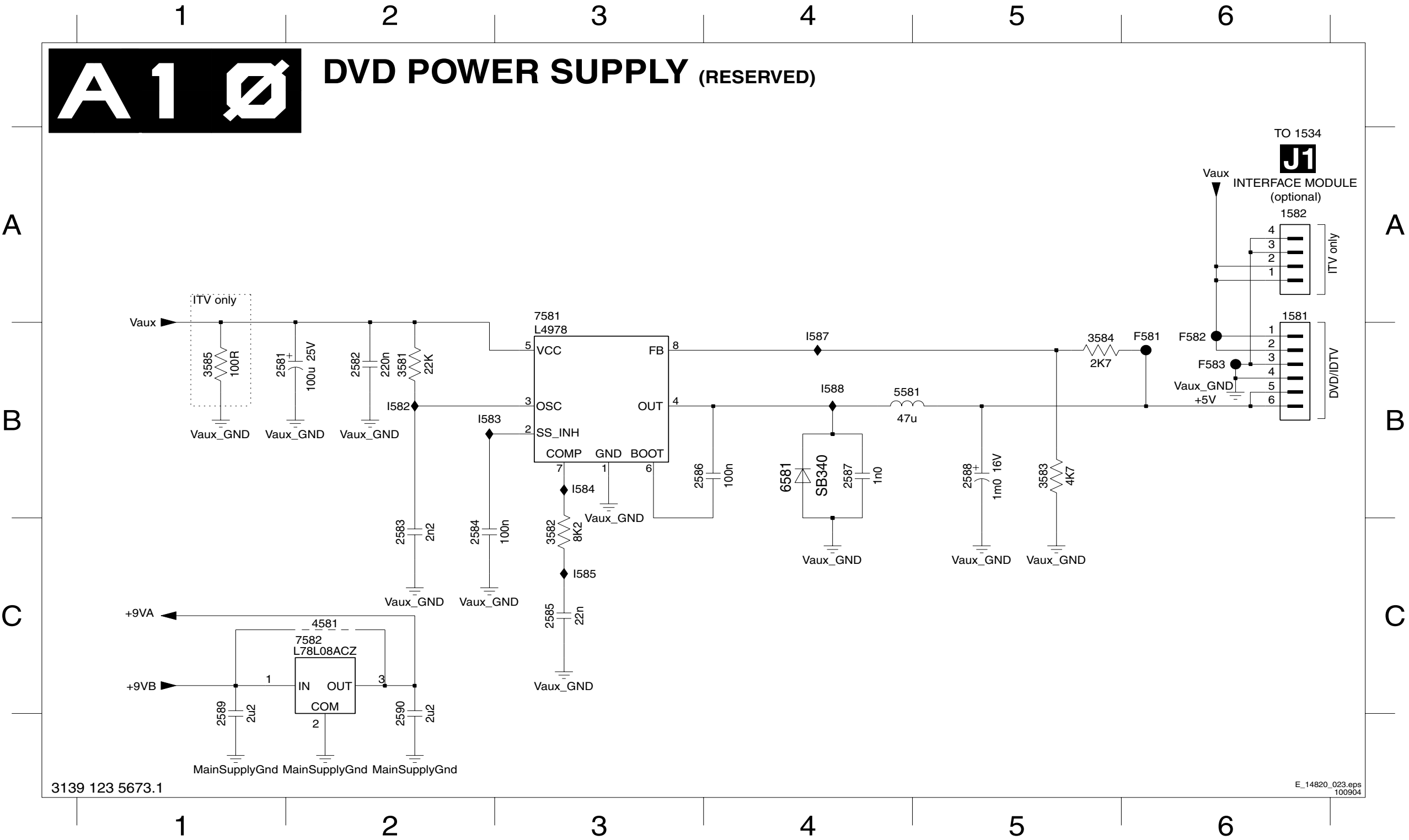
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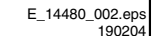
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Mono Carrier: DVD Power Supply

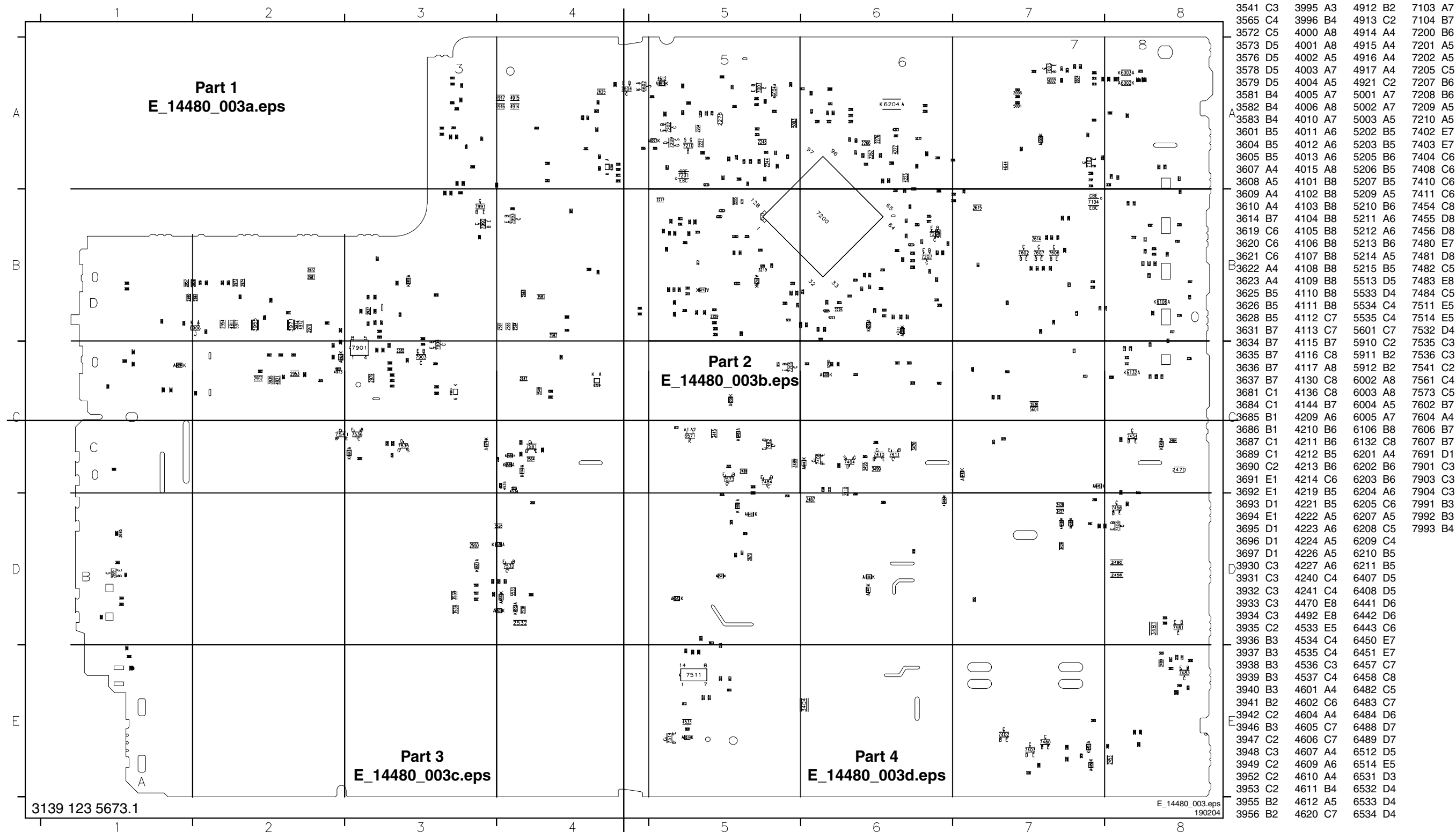


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- 3585 B1
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- 7582 C2
- F581 B6
- F582 B6
- F583 B6
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- I583 B2
- I584 B3
- I585 C3
- I587 B4
- I588 B4

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1002	E6	1213	C5	1401	C7	1510	B1	1902	D2	2250	D6	2427	B6	2503	A4	2542	B4	2945	D2	3133	D8	3270	D7	3418	C5	3461	C7	3505	A2	3532	B3	3945	D3	5500	B2	5602	D7	6453	B7	6575	B5	7531	B3	9122	D7
1002	E5	1219	C7	1402	A6	1532	B3	1903	D3	2251	E5	2451	A8	2504	A4	2543	B3	2948	D2	3138	D8	3274	D7	3425	C5	3466	C7	3506	B1	3534	B4	3961	C3	5501	B2	5603	C7	6454	B8	6575	A4	7571	B5	9123	D7
1003	E5	1220	E4	1404	A5	1535	C5	2006	E7	2265	E6	2454	A8	2505	A4	2545	B3	2949	D2	3157	E8	3275	E7	3430	B6	3467	C7	3507	B3	3542	B3	3962	D3	5502	A3	5901	D2	6455	B8	6581	D4	7581	D4	9124	D8
1004	E7	1221	C5	1451	C7	1542	C4	2008	E8	2273	E6	2455	A8	2506	A3	2546	B3	2960	D2	3167	D7	3276	C7	3431	C6	3468	C7	3508	A3	3563	C4	3975	D3	5503	A3	5902	D2	6456	A8	6691	A1	7601	D5	9125	D7
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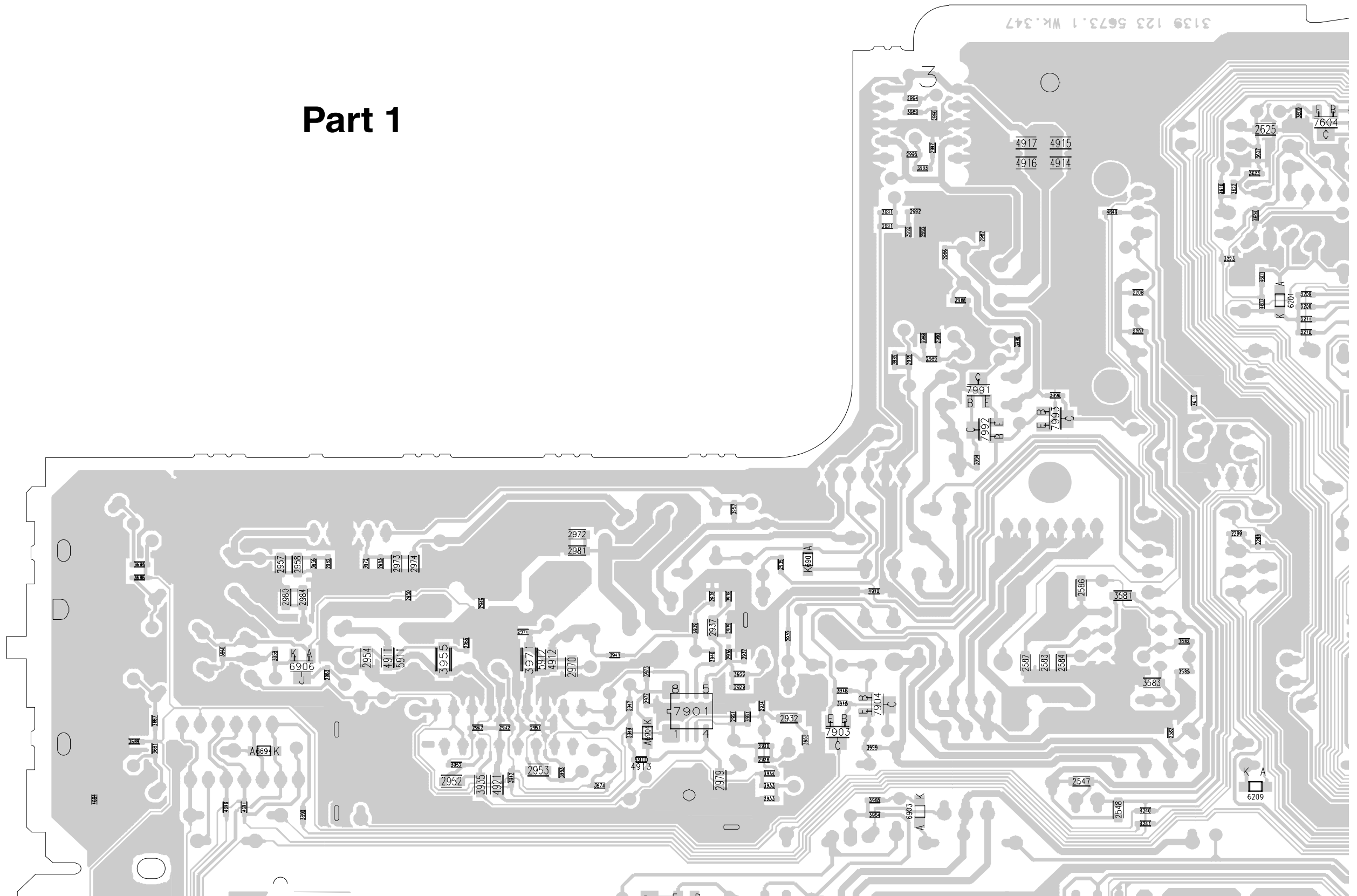


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2003	A7	2136	C8	2215	B6	2241	A5	2260	A6	2280	B5	2428	D7	2512	E5	2553	D4	2620	A5	2935	B3	2970	B2	2990	A3	3009	A5	3134	C8	3209	A4	3229	B6	3254	A6	3279	B5	3405	E7	3475	C7	3499	C6	3959	C3	4637	B6	6564	C4
2004	A7	2137	B8	2216	B6	2242	B6	2261	A6	2282	B5	2453	E8	2513	E5	2564	C4	2622	B7	2936	B3	2971	B2	2991	A3	3010	A7	3135	C8	3210	A4	3232	A5	3255	A6	3280	B5	3409	E8	3476	E7	3512	E5	3960	B1	4642	A7	6565	C4
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2104	A7	2206	B5	2229	B6	2249	B6	2269	A5	2289	B4	2470	C8	2531	D4	2584	B4	2630	C7	2950	B2	2981	B2	3000	A8	3111	B8	3168	B7	3219	B5	3242	B6	3264	B5	3288	B5	3446	C5										

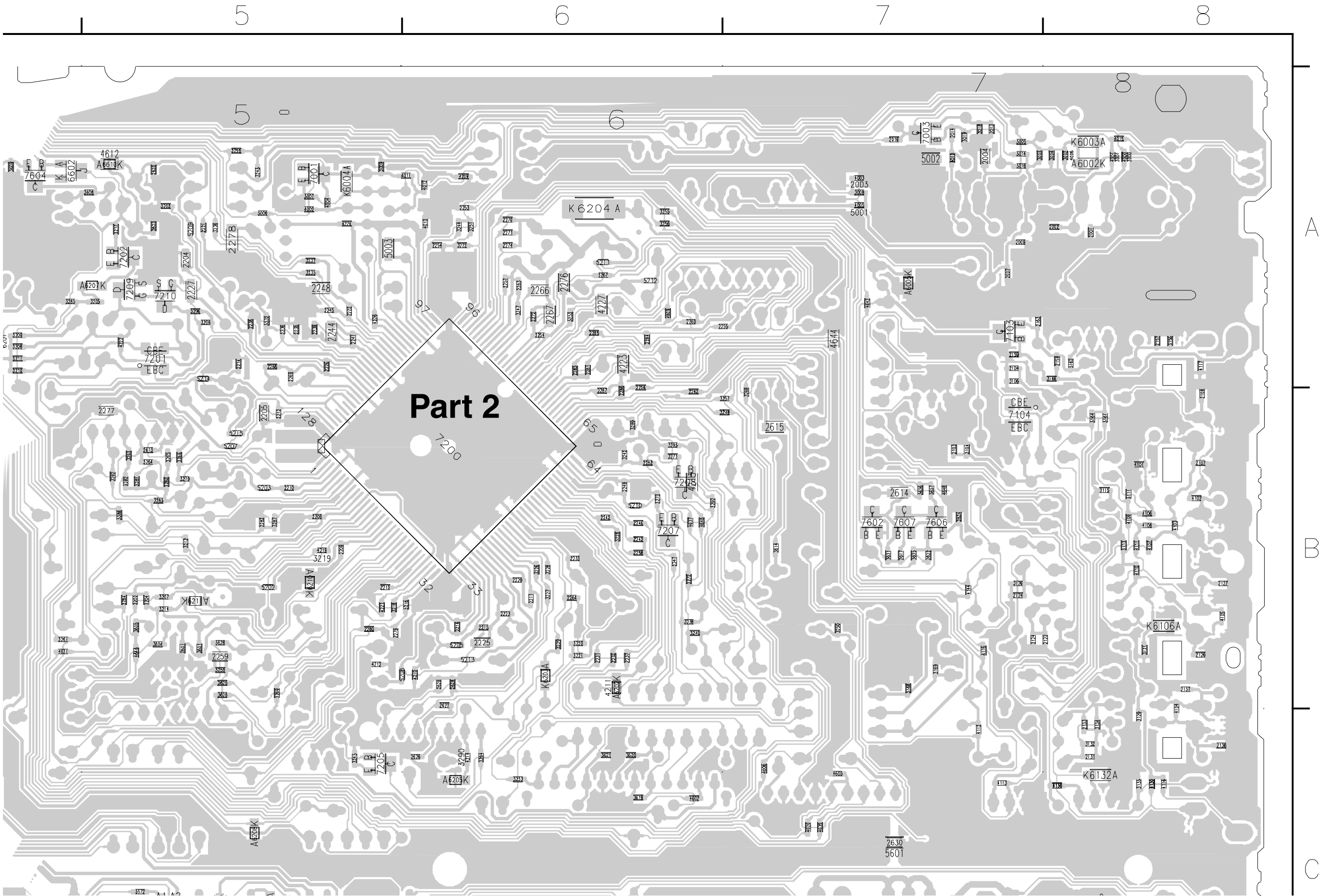


4

C

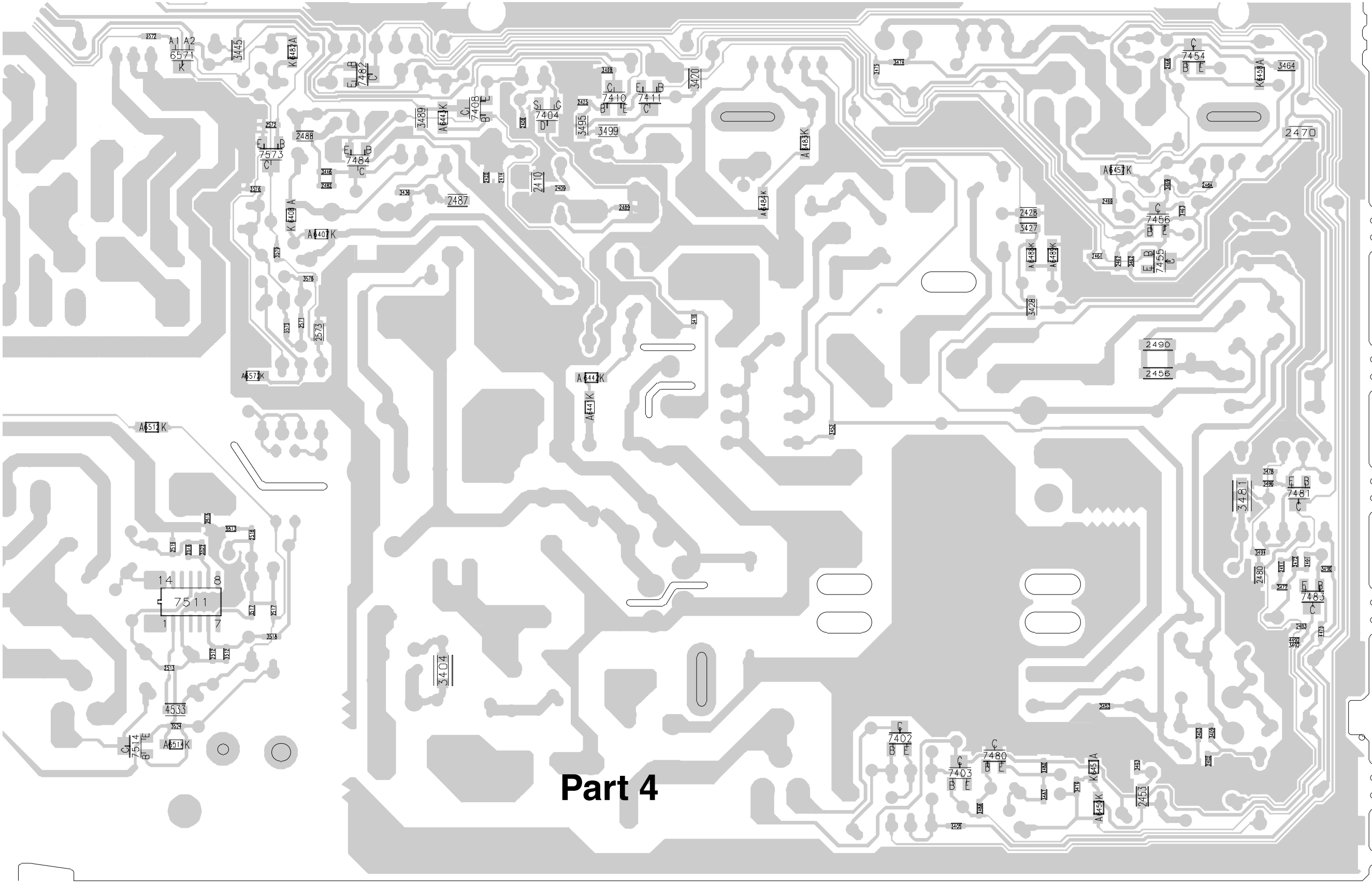


Layout Mono Carrier (Part 2 Bottom Side)



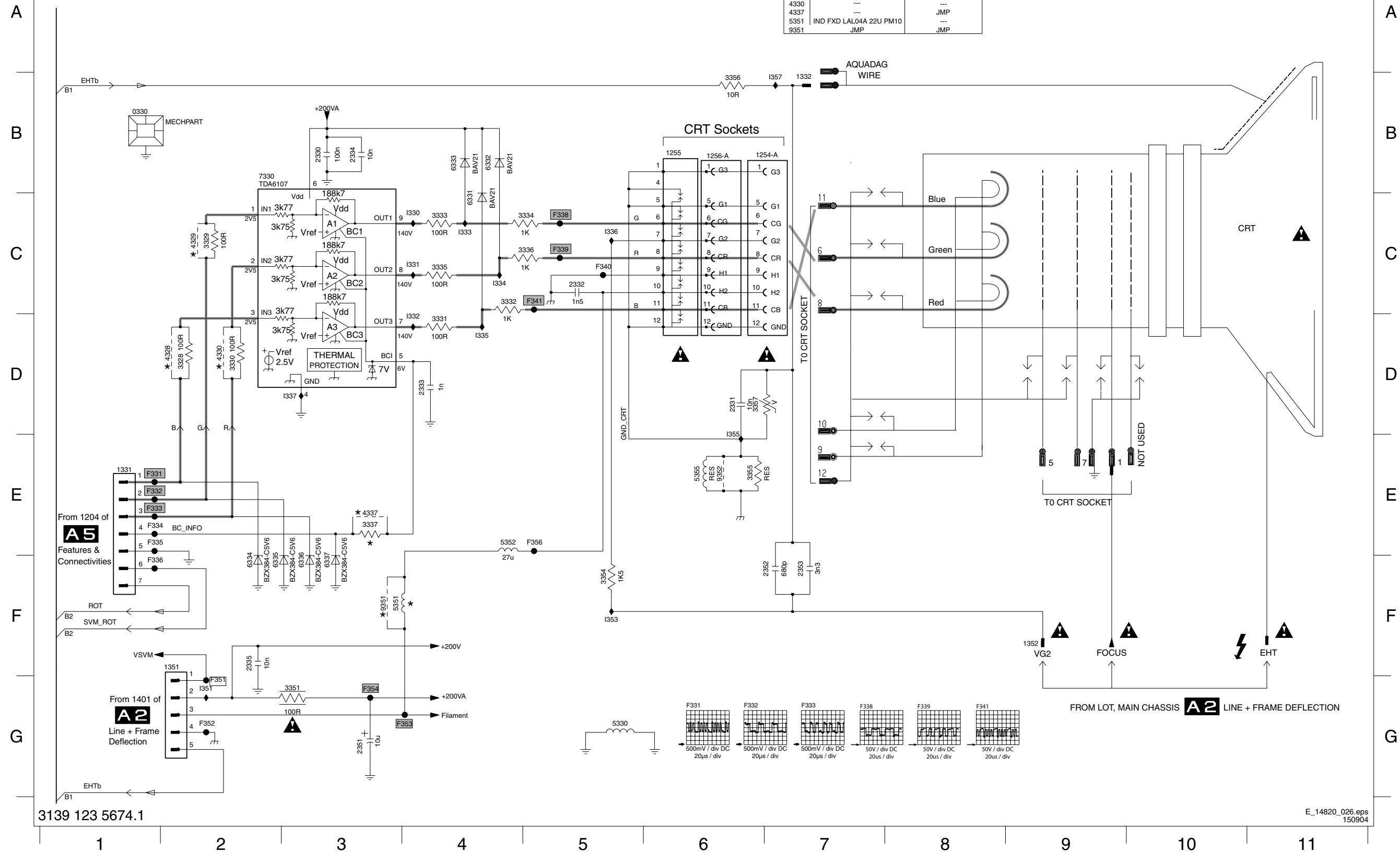
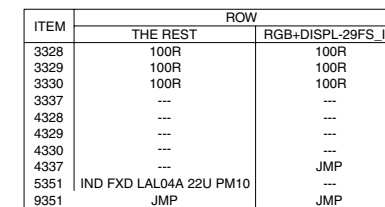
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Layout Mono Carrier (Part 4 Bottom Side)



Part 4

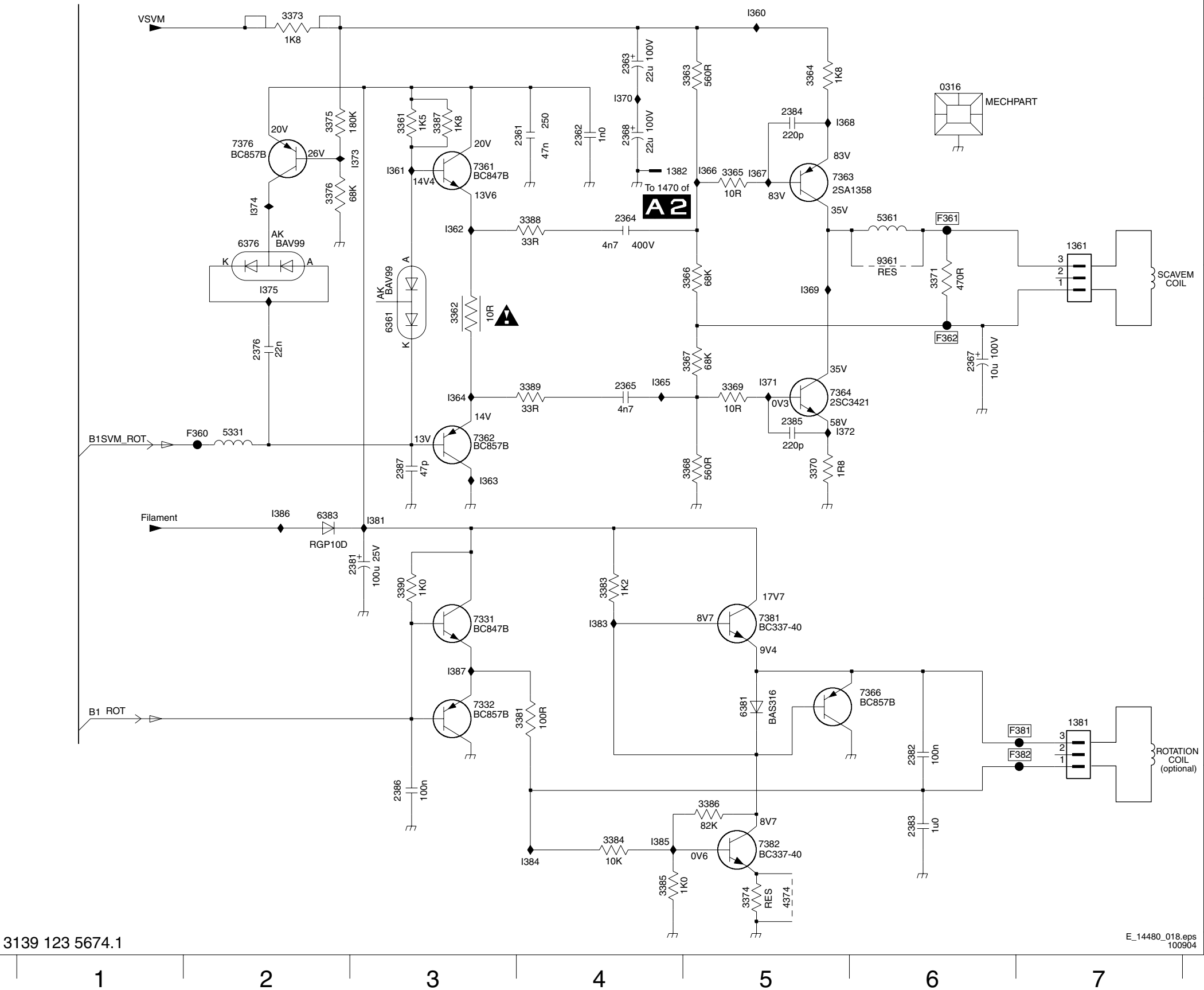
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CRT Panel: Eco Scavem

B2 ECO SCAVEM



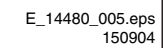
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- 3386 F5
- 3387 B3
- 3388 B4
- 3389 C4
- 3390 D3
- 4374 F5
- 5331 D2
- 5361 B6
- 6361 C3
- 6376 B2
- 6381 E5
- 6383 D2
- 7331 E3
- 7332 E3
- 7361 B3
- 7362 D3
- 7363 B5
- 7364 C5
- 7366 E6
- 7376 B2
- 7381 E5
- 7382 F5
- 9361 B6
- F360 D2
- F361 B6
- F362 C6
- F381 E7
- F382 E7
- I360 A5
- I361 B3
- I362 B3
- I363 D3
- I364 C3
- I365 C4
- I366 B5
- I367 B5
- I368 B5
- I369 C5
- I370 A4
- I371 C5
- I372 C5
- I373 B3
- I374 B2
- I375 C2
- I381 D3
- I383 E4
- I384 F4
- I385 F4
- I386 D2
- I387 E3

2



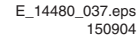
0316	A2	5352	A2
0330	A1	5361	A2
1254	A2	6331	A1
1255	A2	6332	A1
1256	A2	6333	A1
1331	A1	6383	A2
1332	A1	7330	A1
1351	A1	7363	A2
1352	A1	7364	A2
1361	A2	7381	A2
1381	A2	7382	A2
2330	A1	9351	A1
2351	A1	9352	A1
2352	A1	9361	A2
2353	A2	9373	A1
2361	A2	9390	A2
2363	A2		
2364	A2		
2367	A2		
2368	A2		
2381	A2		
3331	A1		
3332	A2		
3333	A1		
3334	A1		
3335	A1		
3336	A1		
3351	A1		
3354	A2		
3355	A1		
3356	A1		
3362	A2		
3364	A2		
3367	A2		
3371	A2		
3373	A1		
3381	A2		
5330	A1		
5331	A2		
5351	A1		

1

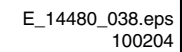


2331	A1	4370	A2
2332	A2	4374	A2
2333	A1	6334	A1
2334	A1	6335	A1
2335	A1	6336	A1
2362	A2	6337	A1
2365	A2	6361	A2
2376	A2	6376	A2
2382	A2	6381	A2
2383	A2	7331	A2
2384	A2	7332	A2
2385	A2	7361	A2
2386	A2	7362	A2
2387	A2	7366	A2
3328	A1	7376	A2
3329	A1		
3330	A1		
3337	A1		
3357	A1		
3361	A2		
3363	A2		
3365	A2		
3366	A2		
3368	A2		
3369	A2		
3370	A2		
3374	A2		
3375	A2		
3376	A2		
3383	A2		
3384	A2		
3385	A2		
3386	A2		
3387	A2		
3388	A2		
3389	A2		
3390	A2		
4328	A1		
4329	A1		
4330	A1		
4337	A1		

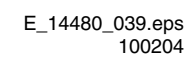
D SIDE AV PANEL + HP PANEL



1232 A4	1254 A3	2171 A1	2175 A2	3152 A3	3156 A4	3160 A1	9180 A1
1250 A3	1277 A2	2172 A2	2180 A1	3153 A3	3157 A4	6161 A1	9181 A1
1251 A2	1278 A4	2173 A3	3150 A2	3154 A1	3158 A1	9152 A3	
1252 A1	1279 A4	2174 A2	3151 A2	3155 A1	3159 A1	9175 A2	

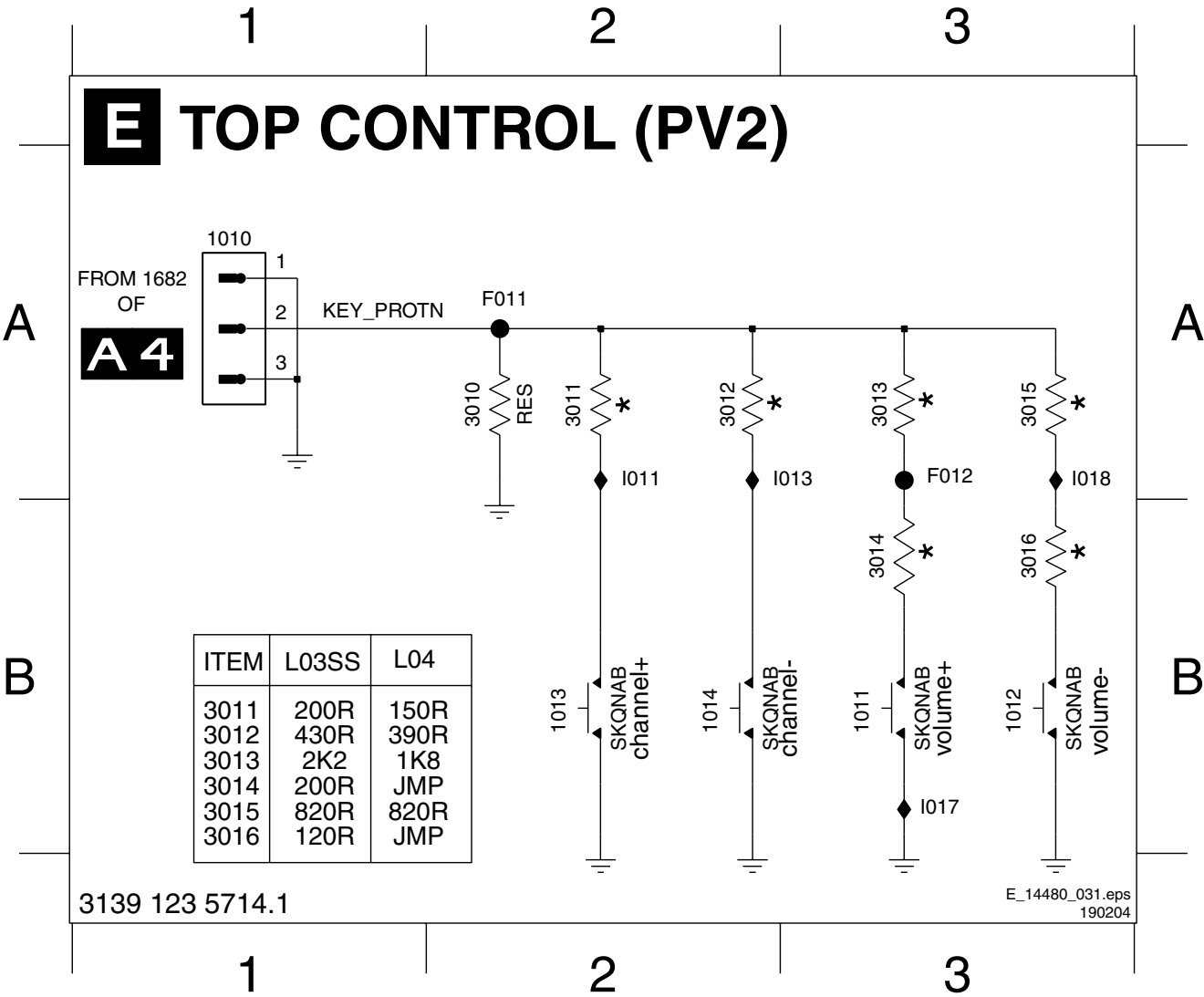


2176 A1 2178 A1 2181 A2 3161 A2 4180 A3

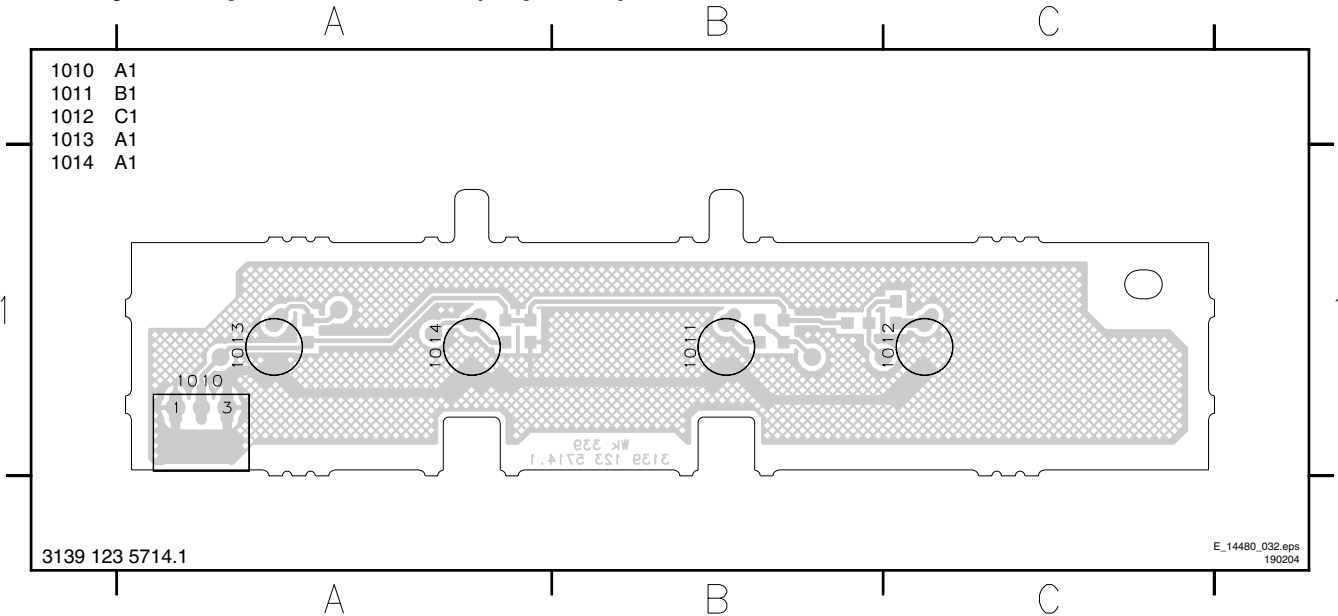


Top Control Panel

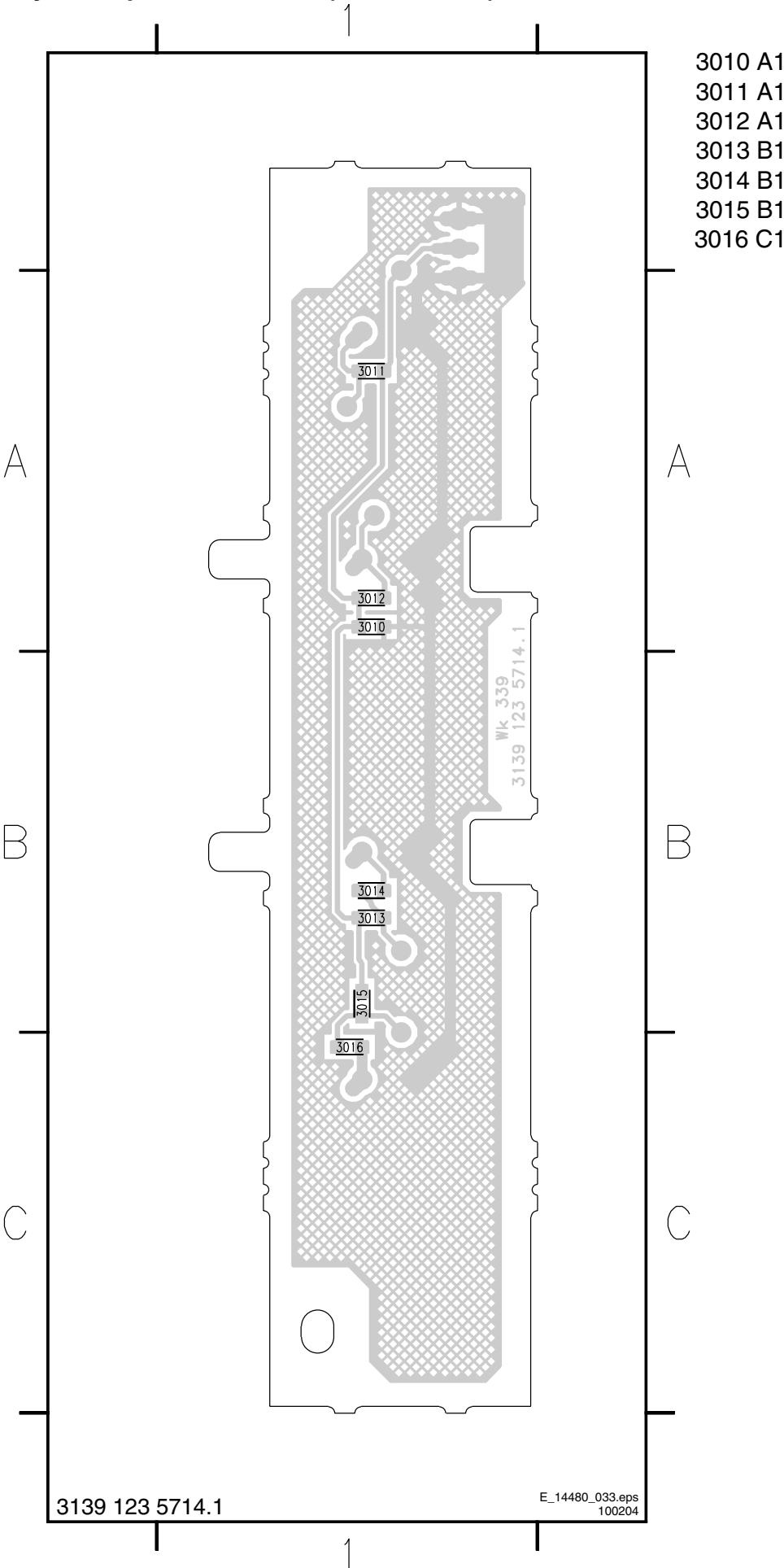
1010 A1 1012 B3 1014 B2 3011 A2 3013 A3 3015 A3 F011 A2 I011 A2 I017 B3
1011 B3 1013 B2 3010 A2 3012 A2 3014 B3 3016 B3 F012 A3 I013 A3 I018 A3



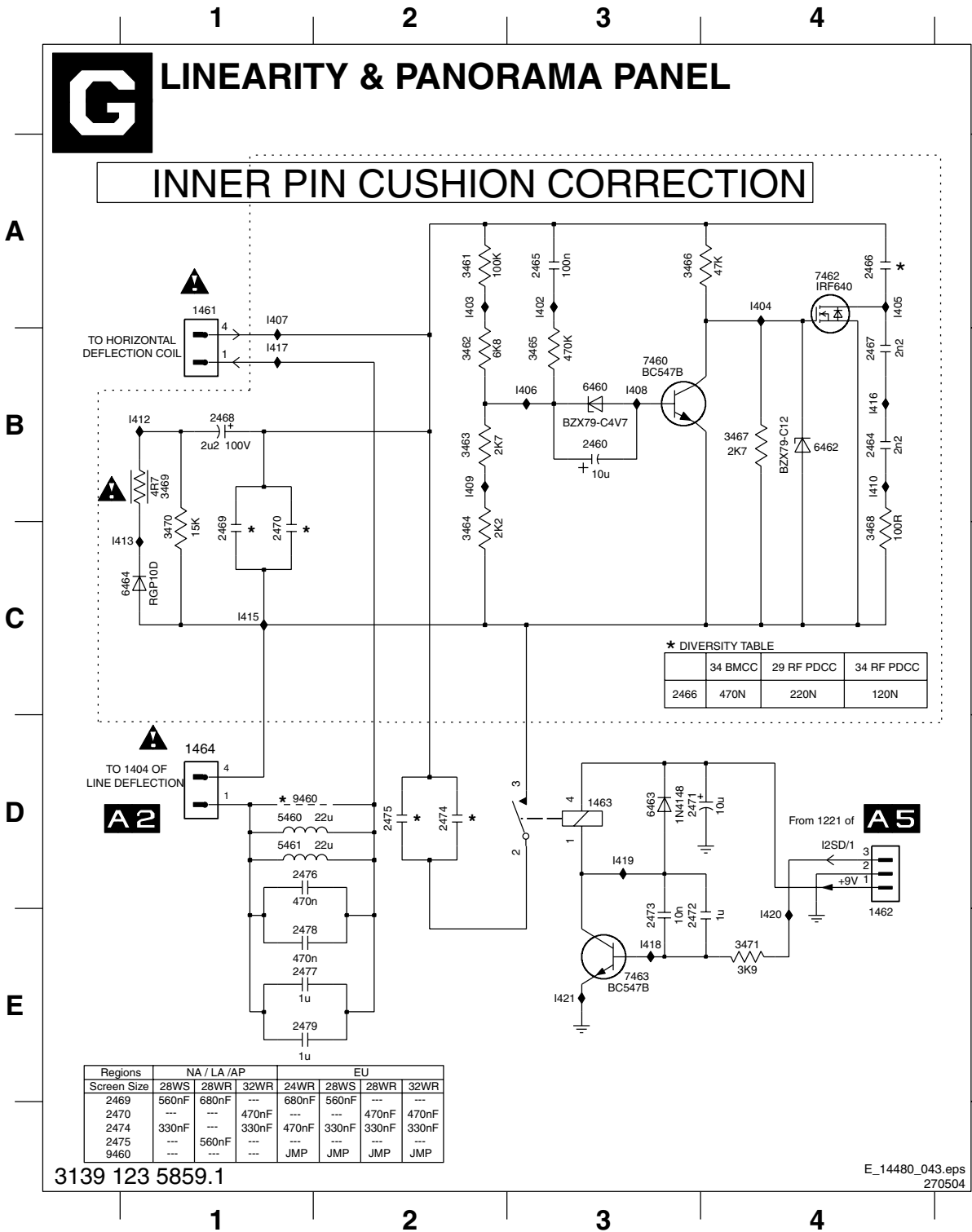
Layout Top Control Panel (Top Side)



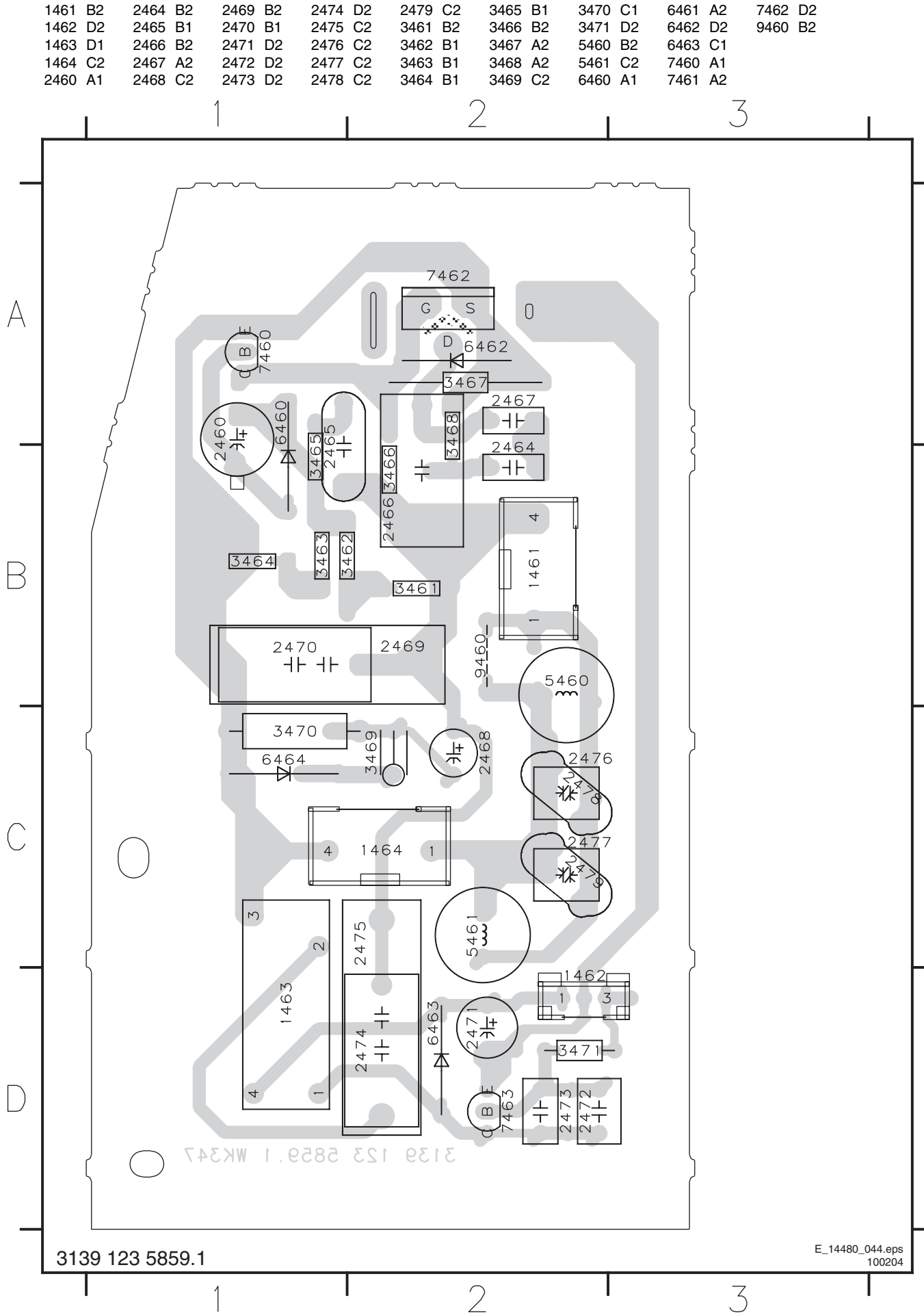
Layout Top Control Panel (Bottom Side)



Linearity & Panorama Panel



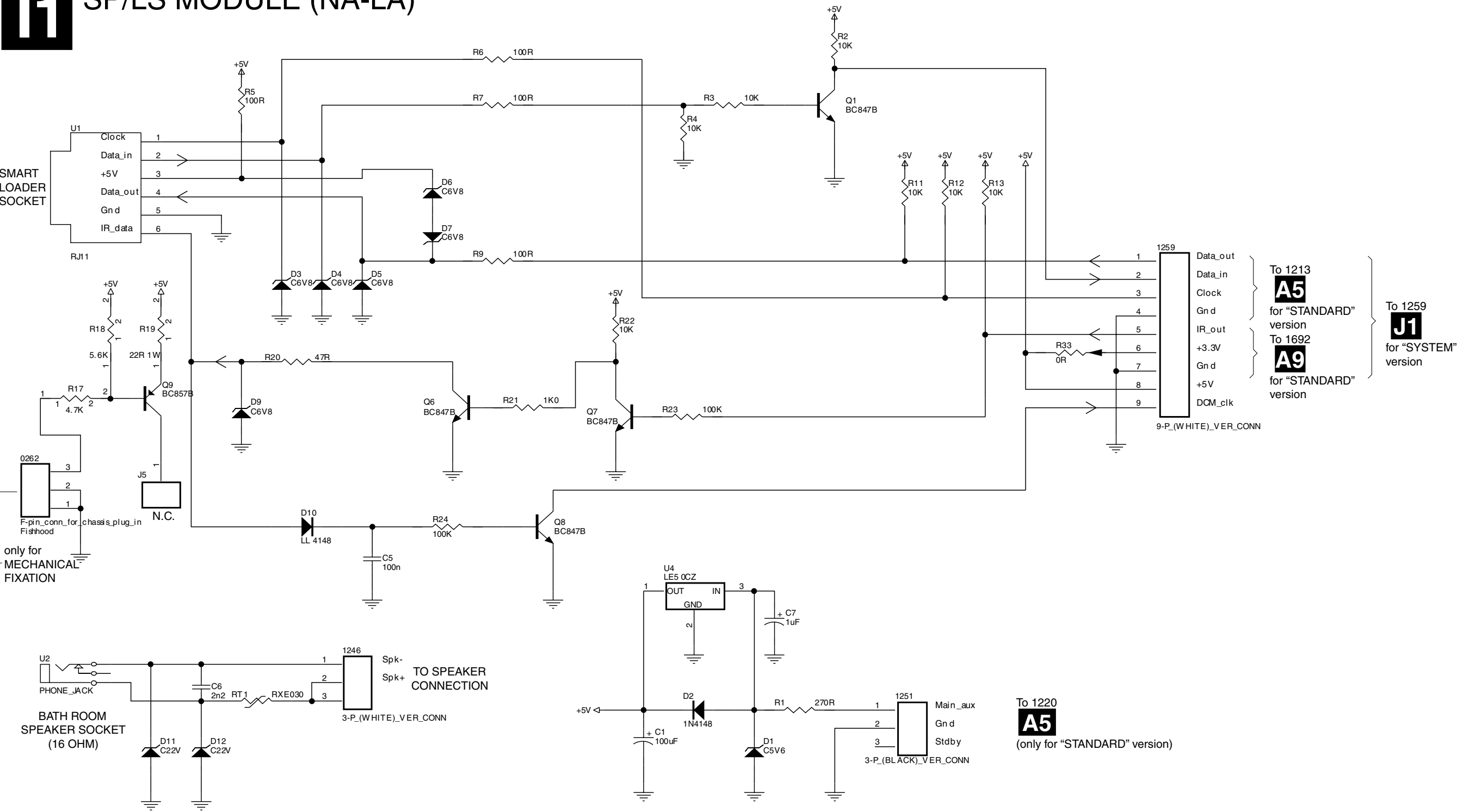
Layout Linearity & Panorama Panel (Top Side)



SP/LS Module (NA-LA)

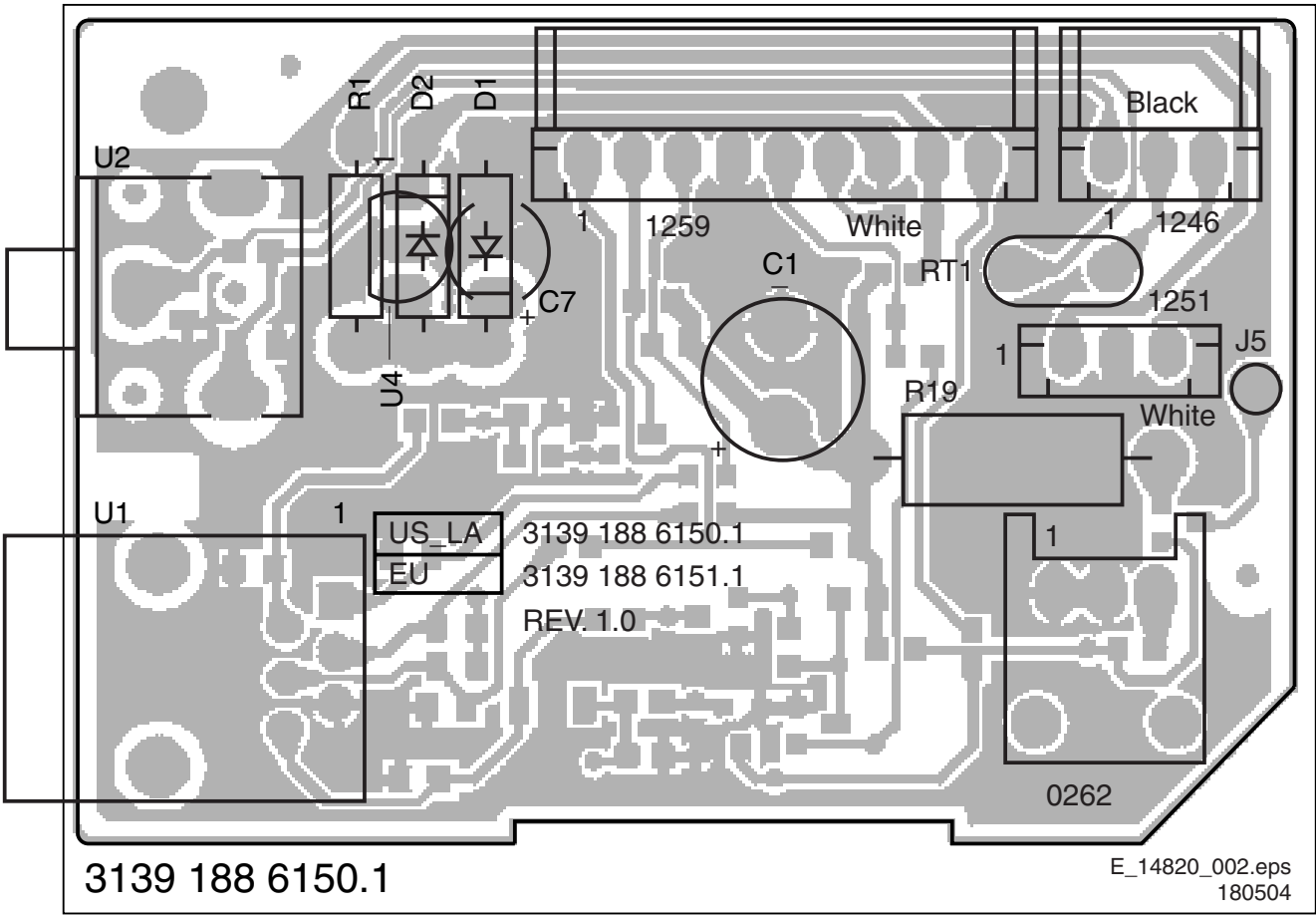
11

SP/LS MODULE (NA-LA)

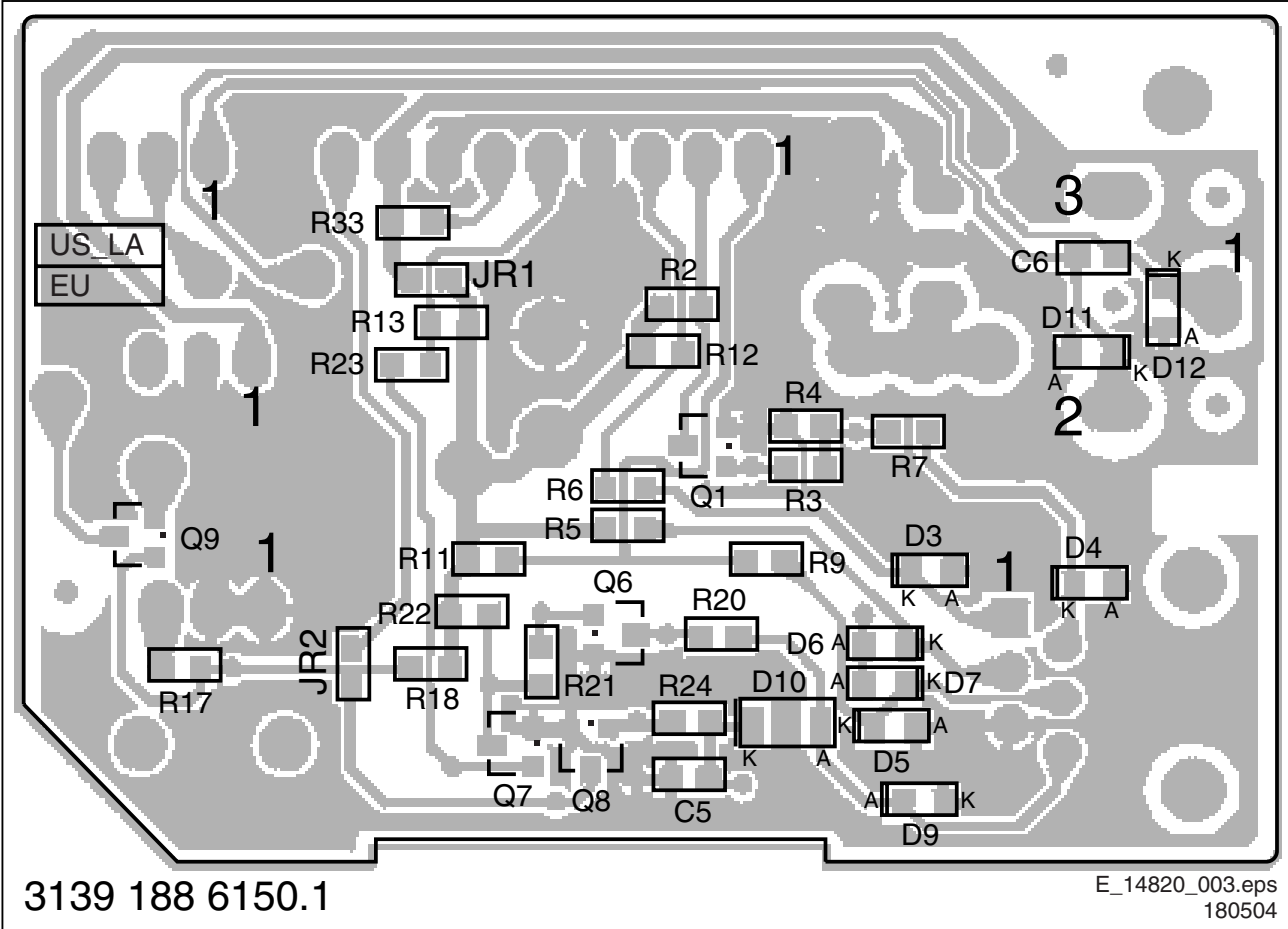


3139 188 6150.1

Layout SP/LS Module (NA-LA) (Top Side)



Layout SP/LS Module (NA-LA) (Bottom Side)

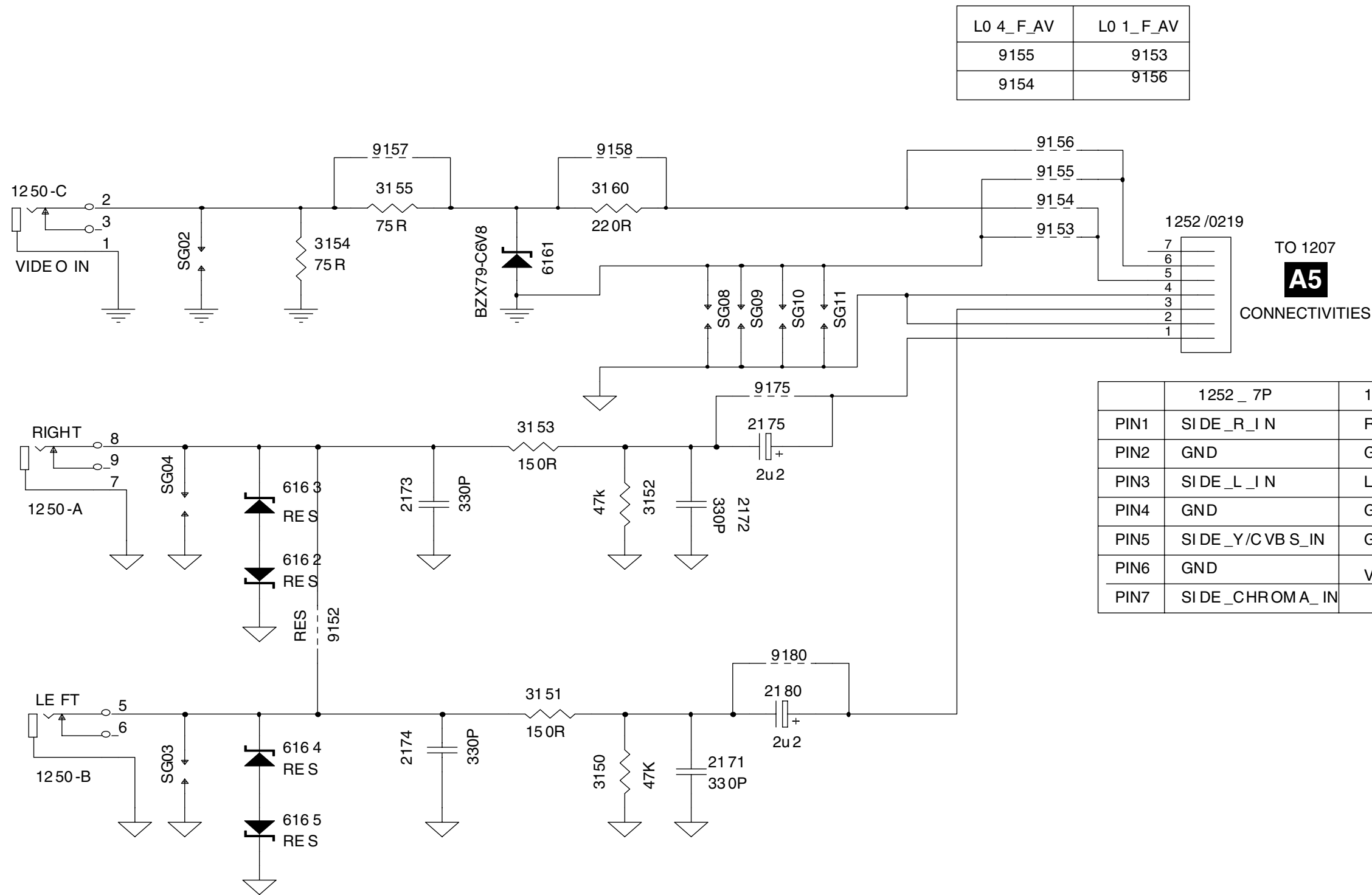


Personal Notes:

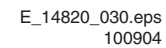
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Front AV Module

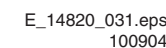
I2 FRONT AV MODULE



Layout Front AV Module (Top Side)

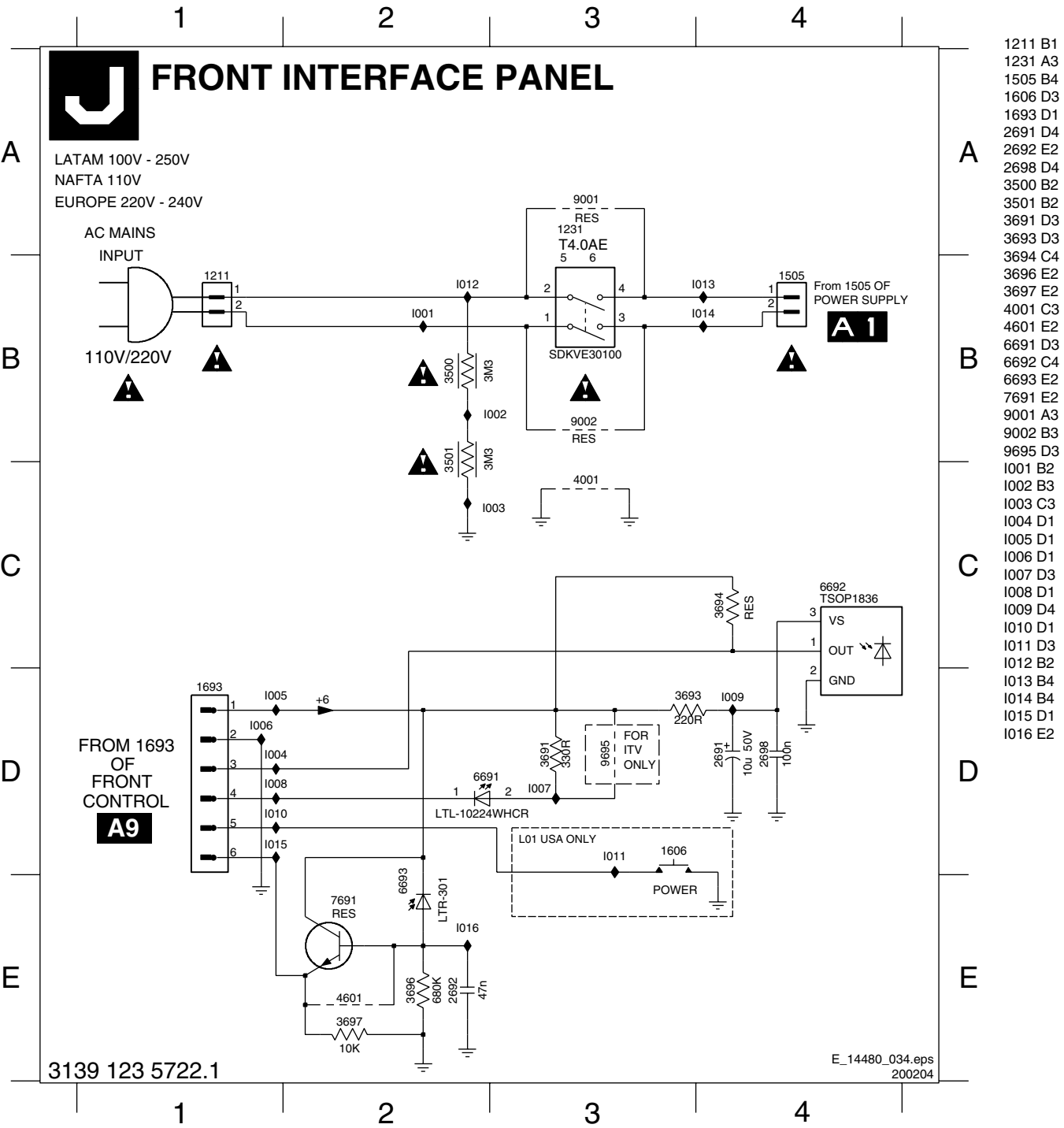


Layout Front AV Module (Bottom Side)

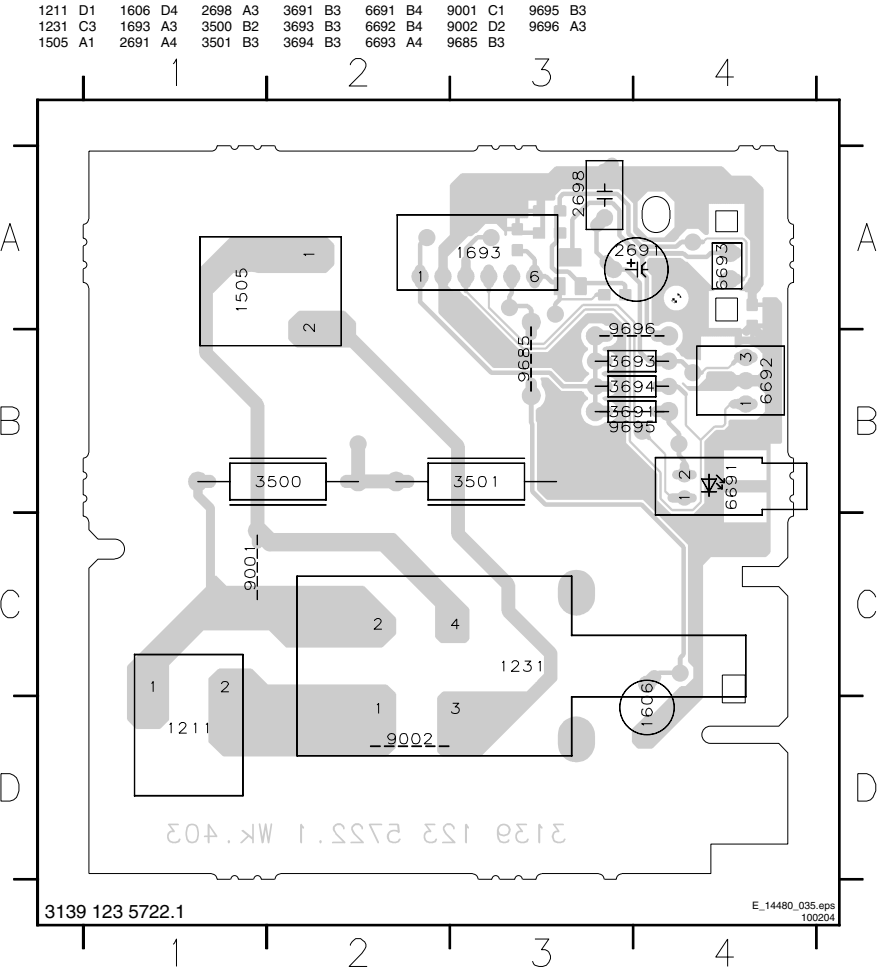


Personal Notes:

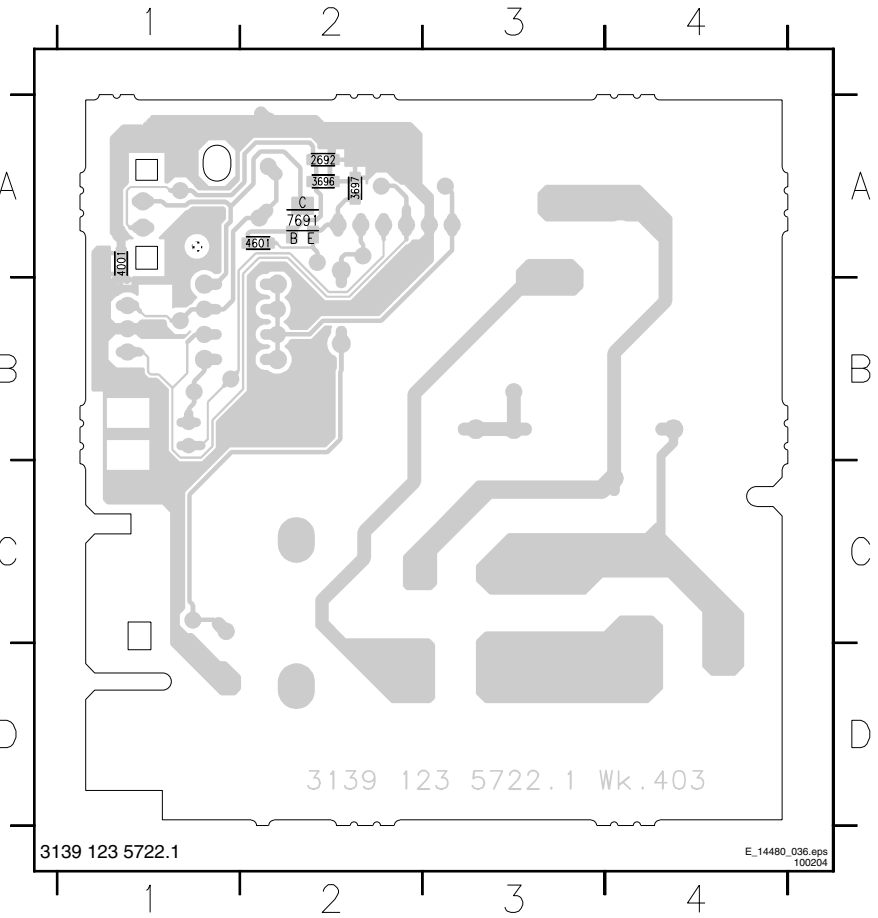
Front Interface Panel



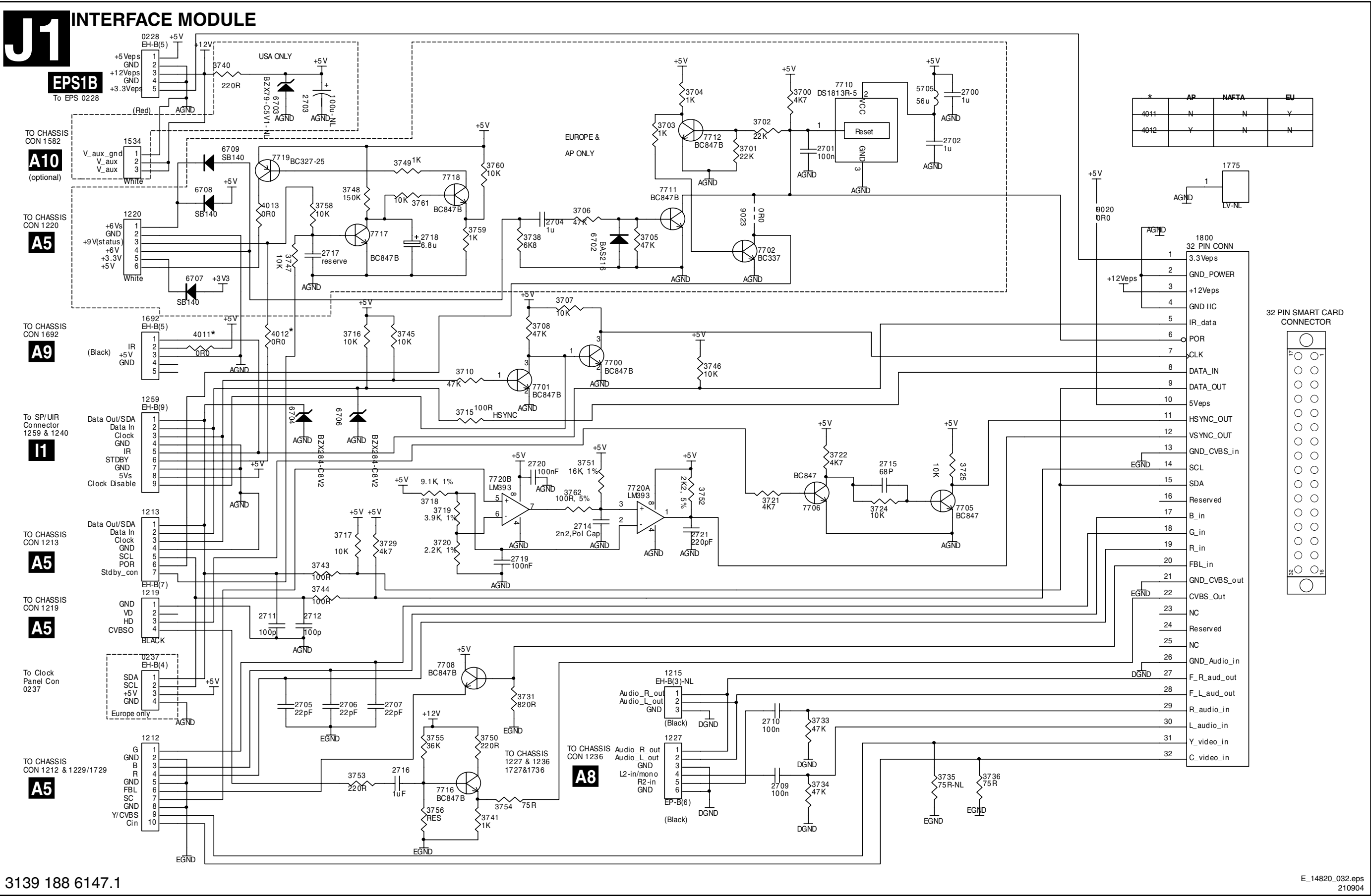
Layout Front Interface Panel (Top Side)



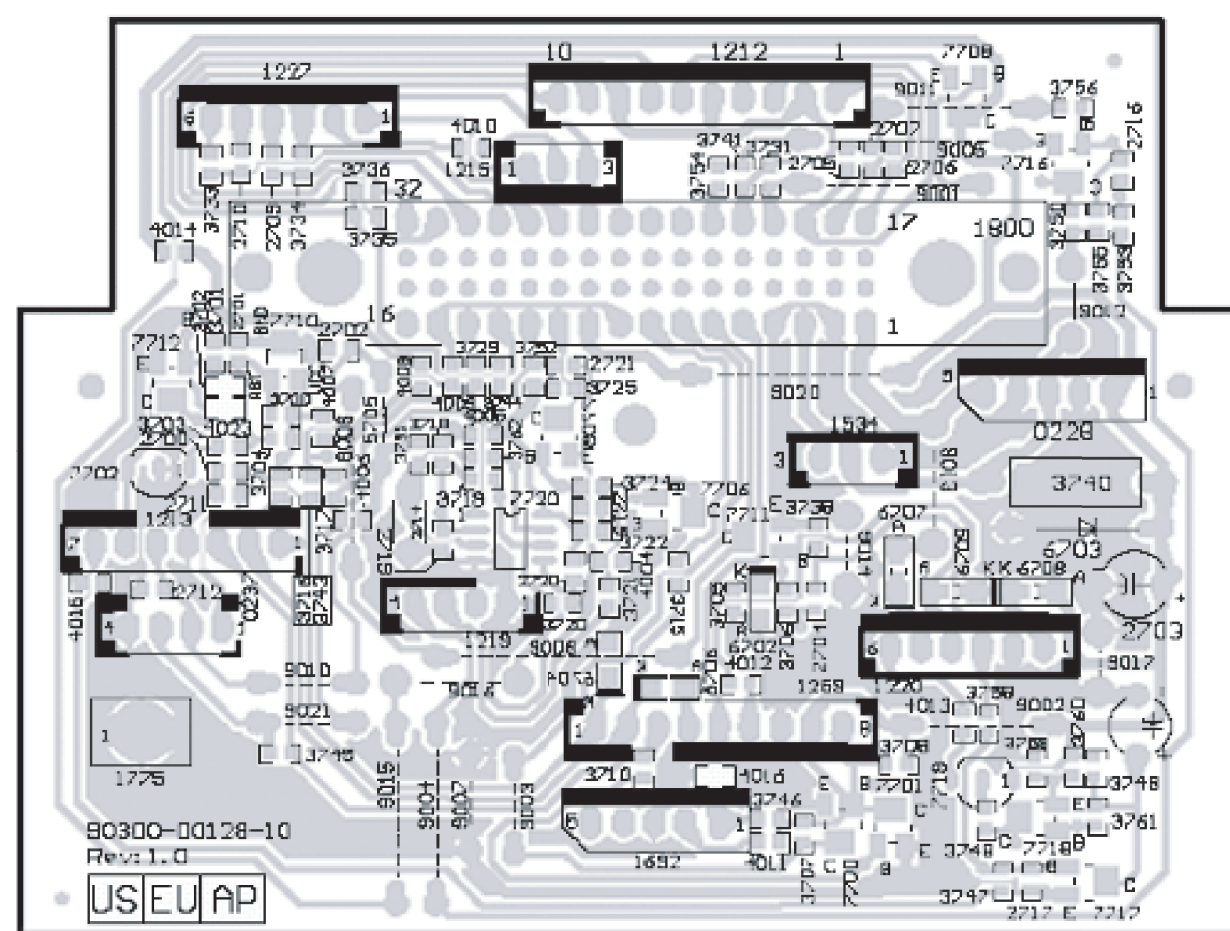
Layout Front Interface Panel (Bottom Side)



Interface Module



Layout Interface Module (Bottom Side)



E_14820_034.eps
150904

8. Alignments

Index of this chapter:

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

Note:

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

8.1 General Alignment Conditions

Perform all electrical adjustments under the following conditions:

- AC voltage and frequency: 120 V_{ac} / 60 Hz or 240 V_{ac} / 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.

8.2 Hardware Alignments

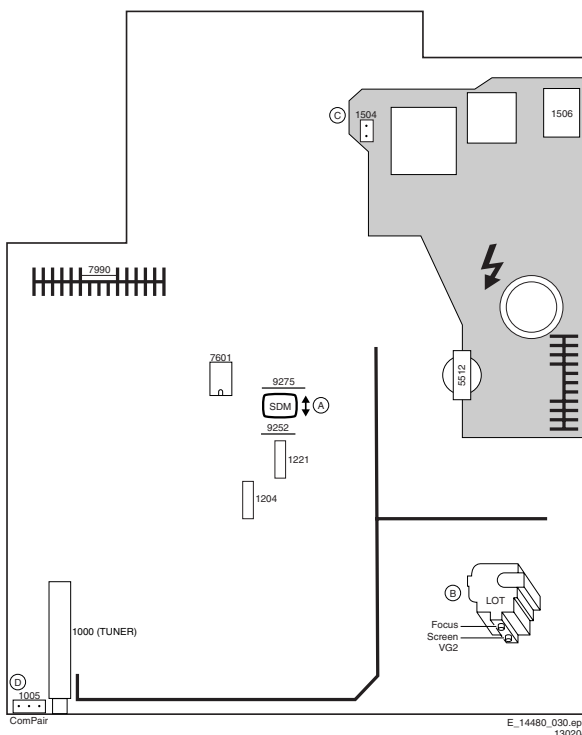


Figure 8-1 Top view family board

8.2.1 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_{pp}.
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_{cutoff} 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_{dc} value for the alignment. Adjust the V_{cutoff} of this gun with the SCREEN potentiometer (see figure “Top view family board”) on the LOT to 160 V_{dc}, except for the 25/28BLD picture tube (Black Line Display, for EU only); this tube must be aligned to 140 V_{dc}.
13. Restore BRIGHTNESS and CONTRAST to normal (= 31).

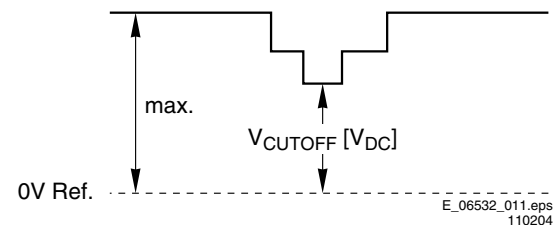


Figure 8-2 V_{cutoff} waveform

8.2.2 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.

8.3 Software Alignments and Settings

Enter the Service Default Alignment Mode (see chapter 5). The SDAM menu will now appear on the screen.

Select one of the following alignments:

1. OPTIONS
2. DEFLECTION
3. TUNER
4. WHITE TONE
5. GEOMETRY

8.3.1 Options

Table 8-1 Option Menu

LLLL	AAAABC	X.Y	S
ERR	XX	XX XX XX XX	
OP	XXX	XXX XXX XXX XXX XXX	
OB0			XXX
OB1			XXX
OB2			XXX
OB3			XXX
OB4			XXX
OB5			XXX
OB6			XXX
LOAD DEFAULT			>
WATCHDOG			ON / OFF
PROTECTION			ON / OFF
CHANNEL RING			ON/OFF
SOUND		NONE / 3415 / 3465	
QSS			ON / OFF
SPI I2C			ON/OFF
EW			ON/OFF
COMB FILTER			ON/OFF
SCAVEM			ON/OFF
SOFT CLIPPER			ON/OFF
ROTATION			ON / OFF
TUNER		NONE / APLS / PHILIPS	
OSD FRONT			ON / OFF
INTERFACE			ON / OFF
WSL		NONE / 4136 / 1836	
AV1			ON / OFF
AUX			ON / OFF
FRONT			ON / OFF
S-VIDEO			ON / OFF
CVI			ON / OFF
AV3YC			ON / OFF
NO IDENT STANDBY			ON / OFF

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 fast. All options are controlled via seven option bytes. Select the option byte (OB1.. OB7) with the MENU UP/ DOWN keys, and enter the new value.

Leaving the OPTION submenu and switching the set off with the standby button on the remote 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 (OB1 .. OB7) in the following way:

1. Check the status of the single option bits (OP): are they enabled (1) or disabled (0).
2. When an option bit is enabled (1) it represents a certain value (see first column 'value between brackets' in first table below). When an option bit is disabled, its value is 0.
3. The total value of an Option Byte is formed by the sum of its eight option bits. See second table below for the correct Option Bytes per typenumber.

Table 8-2 Option Bytes

Bit(value)	OB1	OB2	OB3	OB4	OB5	OB6	OB7
0 (1)	OP10	OP20	OP30	OP40	OP50	OP60	OP70
1 (2)	OP11	OP21	OP31	OP41	OP51	OP61	OP71
2 (4)	OP12	OP22	OP32	OP42	OP52	OP62	OP72
3 (8)	OP13	OP23	OP33	OP43	OP53	OP63	OP73
4 (16)	OP14	OP24	OP34	OP44	OP54	OP64	OP74
5 (32)	OP15	OP25	OP35	OP45	OP55	OP65	OP75
6 (64)	OP16	OP26	OP36	OP46	OP56	OP66	OP76
7 (128)	OP17	OP27	OP37	OP47	OP57	OP67	OP77
Total:	Sum	Sum	Sum	Sum	Sum	Sum	Sum

Option Bit Assignment

Following are the option bit assignments for all L01 ITV software clusters.

Table 8-3

Options	Bit	Description	Value
Byte 0	7	Not Used	
(TV System)	6		
	5		
	4	Default sound	1 = BG (or West EU), 2 = I (or UK), 3 = DK (or East EU), 4 = M, 5 = LL (or France)
	3		
	2		
	1	Sound Board	0 = Mono (no sound board), 1 = Mult Stereo, 2 = BTSC Stereo, 3 = AV stereo
	0		
Byte 1	7	Not Used	
(Pin Usage)	6	WideScreen	1 = 16:9 set
	5	Rotation	1 = Rotation On
	4	QSS	1 = UOC and chasis support QSS
	3	Uir Msg	1 = Uir Msg supported
	2	SPI I2C	1 = I2C at 32-pin card interface
	1	Not Used	
	0	Not Used	
Byte 2	7	SCAVEM	1 = SCAVEM is supported
(Devices)	6	Comb Filter	1 = Comb filter is available
	5	EW	1 = Chasis supports East-West alignment
	4	OSD Front	1 = Show "FRONT" for AV3, 0 = Show "Side" for AV3
	3	Radio	1 = Tuner has FM radio feature and TV chasis support FM radio
	2	LNA	1 = Tuner has LNA feature
	1	Tuner	0 = None (no tuner), 1 = Philips (model), 2 = Alps (model)
	0		
Byte 3	7	Not Used	
(Devices)	6	Soft Clipper	1 = Soft Clipper on
	5	Not Used	
	4	Not Used	
	3	SmartPort	1 = Chasis supports SmartPort (SPI or I2C)
	2	Active-Off LED	1 = LED ON
	1	WSL	0 = None (no used), 1 = 4136 (IR receiver model), 2 = 1836 (IR receiver model)
	0		
Byte 4	7	Not Used	
(AV, Tuning)	6	AV3YC	1 = AV3YC available
	5	CVI	1 = CVI available
	4	AV2YC	1 = AV available
	3	AV3	1 = AV available
	2	AV2	1 = AV available
	1	AV1	1 = AV available
	0	RGB	0 = RGB input always allowed, 1 = RGB insertion allowed only when current input source is AV1
Byte 5	7	ITV Ring	1 = ITV Ring available
(Feature)	6	Protection	1 = Protection (TV go to standby). 0 = No protection but errors are still logged.
	5	WatchDog	1 = Watchdog feature is enabled
	4	No Ident Standby	1 = TV goes standby after 10mins of no RF signal.
	3	Buzzer Type	0 = None (no buzzer), 1 = Internal (generated by TV microp), 2 = External (generated by I2C device)
	2		
	1	Clock Type	0 = None (no clock), 1 = OSD, 2 = LED Module
	0		
Byte 6	7	Not Used	
(Power)	6	Not Used	
	5	Not Used	
	4	Not Used	
	3	Not Used	
	2	Not Used	
	1	Card Power	0 = No card reset, 1 = Card reset at once, 2 = Card reset upon HW reset always,
	0		3 = Card reset upon HW, but only when POR monitored

8.3.2 Deflection

The Deflection Sub menu contains the following items:

- **AKB ON** to enable, OFF to disable the 'black current loop' (AKB = Auto Kine Bias).
 - **Brightness** (set Brightness)
 - **Contrast** (set Contrast)
- "See VG2 alignment"

8.3.3 Tuner

The Tuner Sub menu contains the following items:

Note: Described alignments are only necessary when the NVM (item 7602) is replaced.

IF PLL

Phase Locked Loop Used for FST tuning systems.

Adjust the IFPLL value (**default value is 30**) with the LEFT/RIGHT cursor keys.

AGC (AGC take over point)

Set the external pattern generator to a colour bar video signal and connect the RF output to aerial input. Set amplitude to 10 mV and set frequency to 475.25 MHz (PAL). Connect a DC multimeter to pin 1 of the tuner (item 1000 on the main panel).

1. Activate the SDAM.
2. Go to the TUNER sub menu.
3. Select AGC with the UP/DOWN cursor keys.
4. Adjust the AGC-value (**default value is 28**) with the LEFT/RIGHT cursor keys until the voltage at pin 1 of the tuner lies between 3.8 and 2.3 V.
5. Switch the set to STANDBY.

SL (Slicing level)

Slicing level for vertical sync

This adjustment is always set to 0 (for NTSC system only).

CFA0

Comb Filter forced mode.

This adjustment is always set to OFF.

CL (cathode drive level)

Adjust the CL value (**default value is 4**) with the LEFT/RIGHT cursor keys.

YD

Y-delay adjustment.

This is a fixed value, always set to 7.

8.3.4 White Tone

In the WHITE TONE sub menu, the values of the black cut off level can be adjusted. Normally, no alignment is needed for the WHITE TONE. You can use the given default values.

The colour temperature mode (NORMAL, COOL and WARM) and the colour (RED, GREEN, and BLUE) 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 colour temperature. Then select the values for the DELTA COOL and DELTA WARM mode. After alignment, switch the set to standby, in order to store the alignments.

8.3.5 Geometry

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

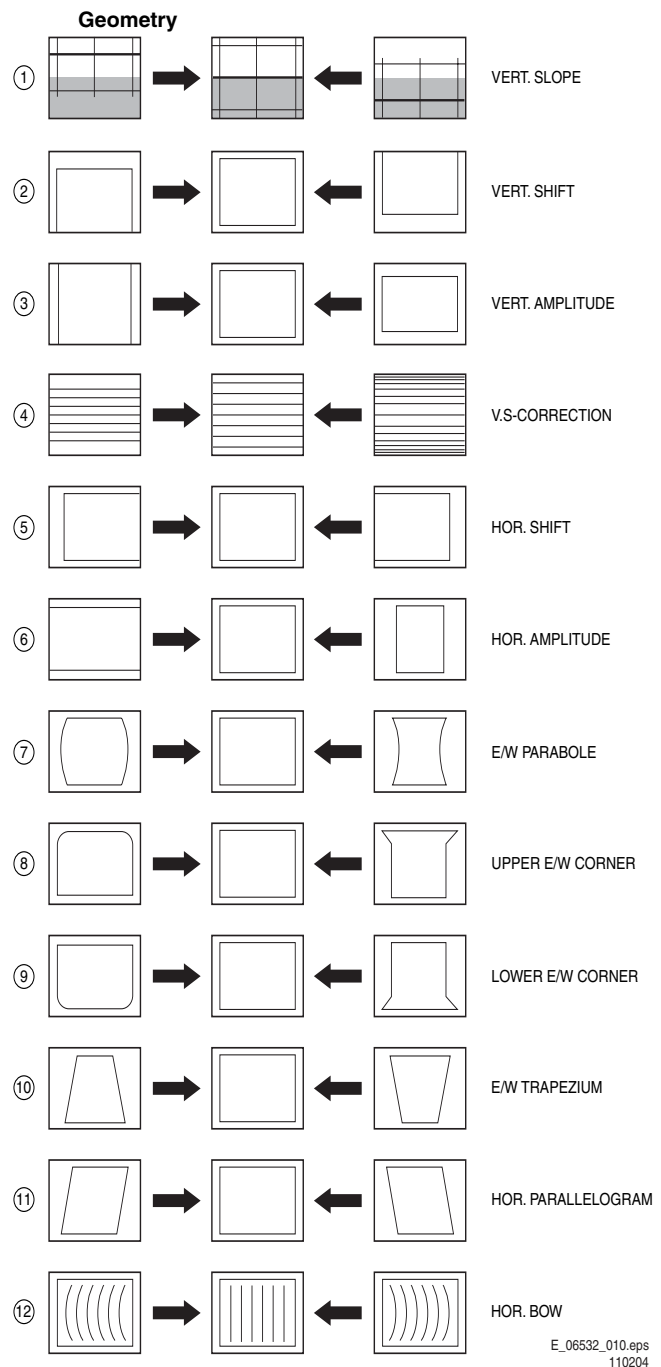


Figure 8-3

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 (NTSC).

1. Activate the SDAM menu (see chapter 5).
2. Go to the GEOMETRY sub menu.

Now you can perform the following alignments:

- **Horizontal Parallelogram (HP)** Align straight vertical lines in the top and the bottom; vertical rotation around the centre.
- **Horizontal Bow (HB)** Align straight horizontal lines in the top and the bottom; horizontal rotation around the centre.
- **Horizontal Shift (HS)** Align the horizontal centre of the picture to the horizontal centre of the CRT.
- **Vertical slope (VS)** Align the vertical centre of the picture to the vertical centre of the CRT. This is the first of the vertical alignments to perform. For an easy alignment, set SBL to ON.

- **Vertical Amplitude (VA)** Align the vertical amplitude so that the complete test pattern is visible.
- **Vertical S-Correction (SC)** Align the vertical linearity, meaning that vertical interval of a grid pattern must be equal over the entire screen height.
- **Vertical Shift (VSH)** Align the vertical centring so that the test pattern is located vertically in the middle. Repeat the 'vertical amplitude' alignment if necessary.
- **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).

For EW versions :

- Set Horizontal Parallelogram **HP** to prevent the picture from slanting to one side.
- Set Horizontal Bow **HB** to prevent the top and bottom of picture from bending to the sides.
- Select Vertical Zoom **VX** to align the vertical linearity over the entire screen height (for 16 : 9 applications only).
- Set Trapezium Correction **TC** to align the lines at the vertical sides.
- Select East-West Width **EW** and align the picture width until the side castellations disappear.
- Select East-West Parabola / width **PW** and align the vertical sides until the sides are straightened.
- Select Upper Corner Parabola **UCP** to straighten the top of the vertical lines at the sides.
- Select Lower Corner Parabola **LCP** to straighten the bottom of the vertical lines at the sides.
- Repeat the last 5 steps if necessary.

9. 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.

9.1 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.

9.2 Power Supply

9.2.1 Block Diagram

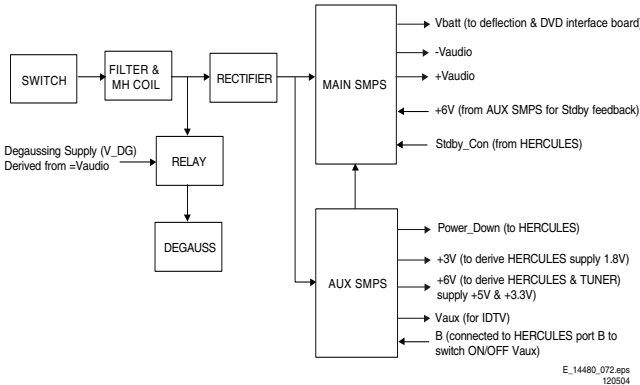


Figure 9-1 Block diagram power supply

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_{ac}.

B (Hercules port)

This port is used to switch the AUX SMPS output V_{aux} "On/Off". This is required for DVD and iDTV (for future extensions).

9.2.2 Timing Diagrams

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

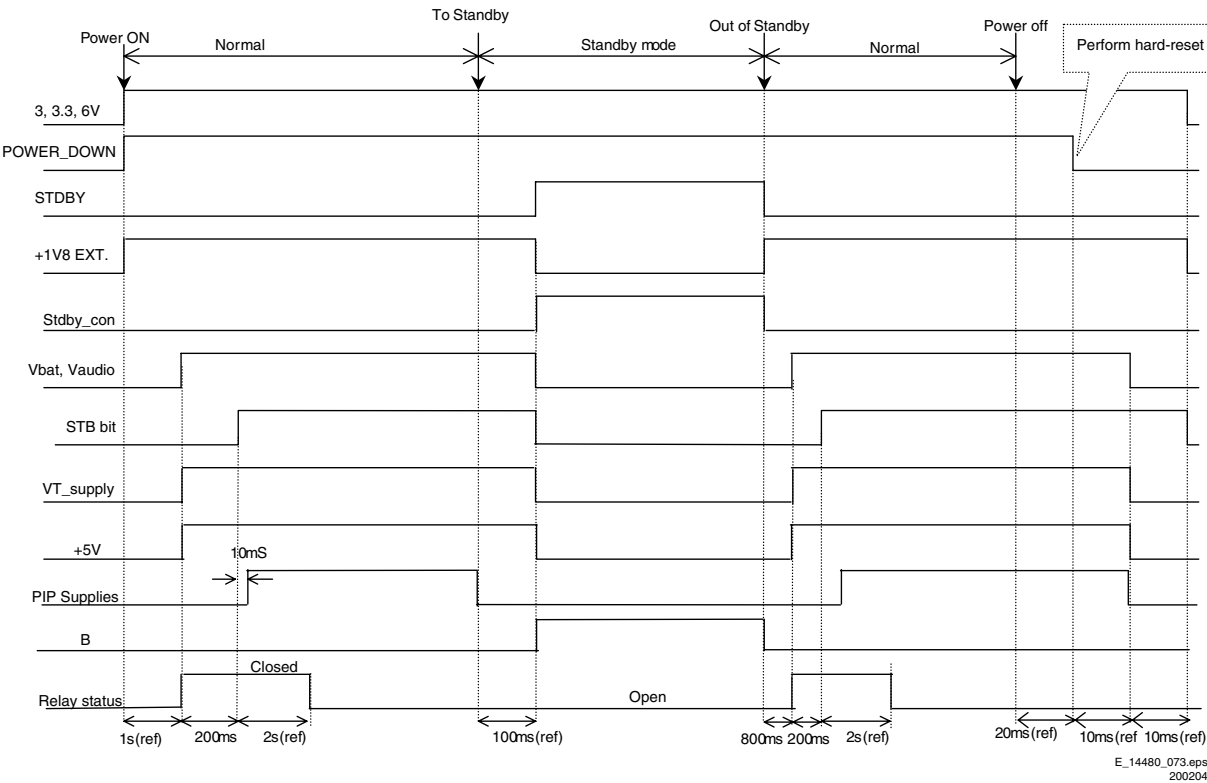


Figure 9-2 Timing diagram Standby

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

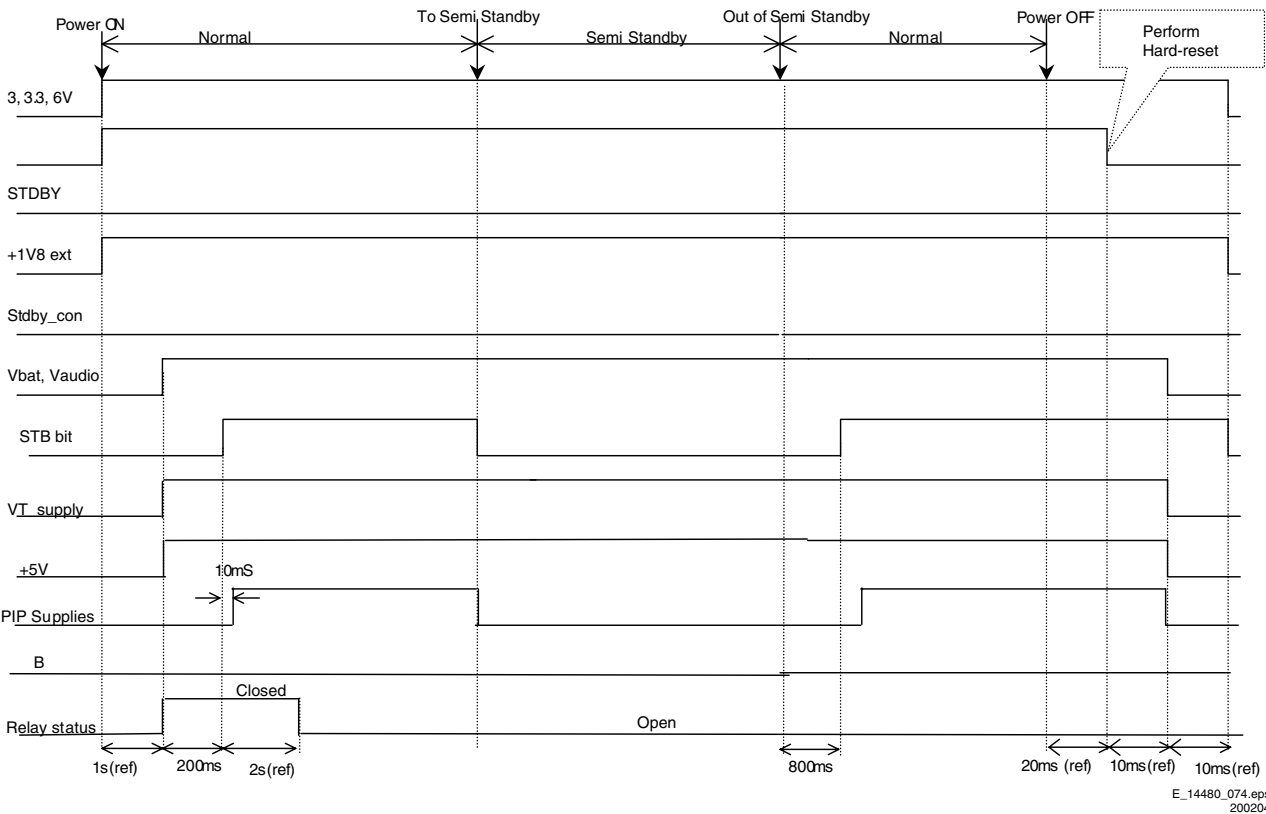


Figure 9-3 Timing diagram Semi Standby

9.2.3 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 9-1 Pinning overview TEA1523

Pin	Symbol	Description
2	Gnd	This pin is Ground of the IC.
3	V _{cc}	This pin is connected to the supply voltage. An internal current charges the V _{cc} 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 _{cc} 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_{cc} capacitor (C2511) of IC7511. Via resistor R3519 and C2511, the TEA1506 starts to switch as soon as the V_{cc} voltage reaches the V_{cc} start level of is about 11 V. The V_{cc} voltage is automatically taken over by the main transformer L5512 (winding 2-3) when the V_{cc} 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 9-2 Pinning overview TEA1506

Pin	Symbol	Description
2	Vcc	This pin is connected to the supply voltage. When this voltage is high (V _{cc} start level, about 11 V), the IC will start switching. When the voltage is lower than V _{cc} uvlo (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 Vcc 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.

9.2.4 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 9-3 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

9.3 Deflection

9.3.1 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.

9.3.2 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.

9.3.3 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.

9.3.4 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.

9.3.5 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.

9.3.6 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.

9.3.7 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.

9.3.8 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.

9.3.9 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.

9.4 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.

9.4.1 Block Diagram

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

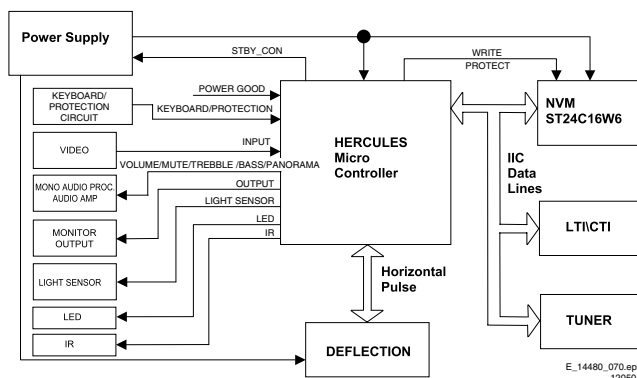


Figure 9-4 Micro Controller block diagram

9.4.2 Basic Specification

The Micro Controller operates at the following supply voltages:

- +3.3 V_{dc} at pins 33, 125, and 19.
- +1.8 V_{dc} at pins 126, 36, and 33.
- I2C pull up supply: +3.3V_{dc}.

9.4.3 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 9-4 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_INTERF ACE/ 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
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 9-5 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_{ac}.
 - Keyboard.** Following are the Keyboard functions and the step values (8 bit) for it.

Table 9-6 Local keyboard values

Function	Voltage (V _{dc})	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.

9.5 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.

9.5.1 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 Intercarrier):
- OFWM3953M for QSS Video.
 - OFWK9656M for QSS Audio.
 - OFWM1971M for Intercarrier.

9.5.2 Pin Assignments and Functionality

Pin assignment of the Tuner:

Table 9-7 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 _{dc}
5	SDA	0 to 3.3 V _{dc}
6/7	Supply Voltage	5 V _{dc} +/- 0.25 V
8	N.C	-
9	Tuning Supply Voltage	30 to 35 V _{dc}
10	FM Radio IF Output/Ground	-
11	TV IF Output	-

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

Table 9-8 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 9-9 Switching behavior SAW filter

	Condition	
	High	Low
System	M	BG/DK/I/L

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

9.5.3 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”.

9.6 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.

9.6.1 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”.

9.6.2 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 9-10 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	AV2 (SVHS)
94	AUDIO IN5 R	
73	AUDIO IN3 L	
72	AUDIO IN3 R	
71	CVBS3/Y3	
70	C2/C3	Side (SHVS)
80	AUDIO IN4 L	
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	N.C.
86	DVBO/IFVO/FMRO	
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 9-11 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	SCART 2
95	AUDIO IN5 L	
94	AUDIO IN5 R	
93	AUD OUT S L	
92	AUD OUT S R	
71	CVBS3/Y3	Side I/O
70	C2/C3	
81	IFVO/SVO/CVBSI	
73	AUDIO IN3 L	
72	AUDIO IN3 R	
67	AUD OUT HP L	LS/ HP/ MON OUT
66	AUD OUT HP R	
69	AUD OUT LS L (AUD OUT/AM OUT)	Interface
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	for PIP
65	CVBSO/PIP	
56	Y SYNC	100 nF
55	YOUT	100 nF
53	VOU(SWO)	N.C.

9.6.3 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**.

9.6.4 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.

9.7 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).

9.7.1 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).

9.7.2 Block Diagram

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

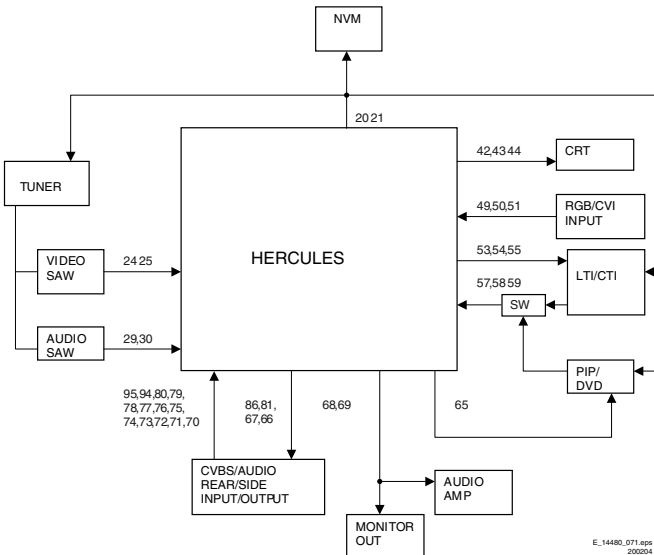


Figure 9-5 Video processing block diagram

9.7.3 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 9-12 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
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

9.7.4 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: OP_GREEN_UI
 - Bit 6: OP_CHANNEL_NAMING,
 - Bit 5: OP_LTI,
 - Bit 4: OP_TILT,
 - Bit 3: OP_FINE_TUNING
 - Bit 2: OP_PIP_PHILIPS_TUNER,
 - Bit 1: 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".

9.8 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.

9.8.1 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.

9.8.2 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

9.9 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_{rms}.

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 9-13 Pinning overview TDA2616

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

9.10 Abbreviation list

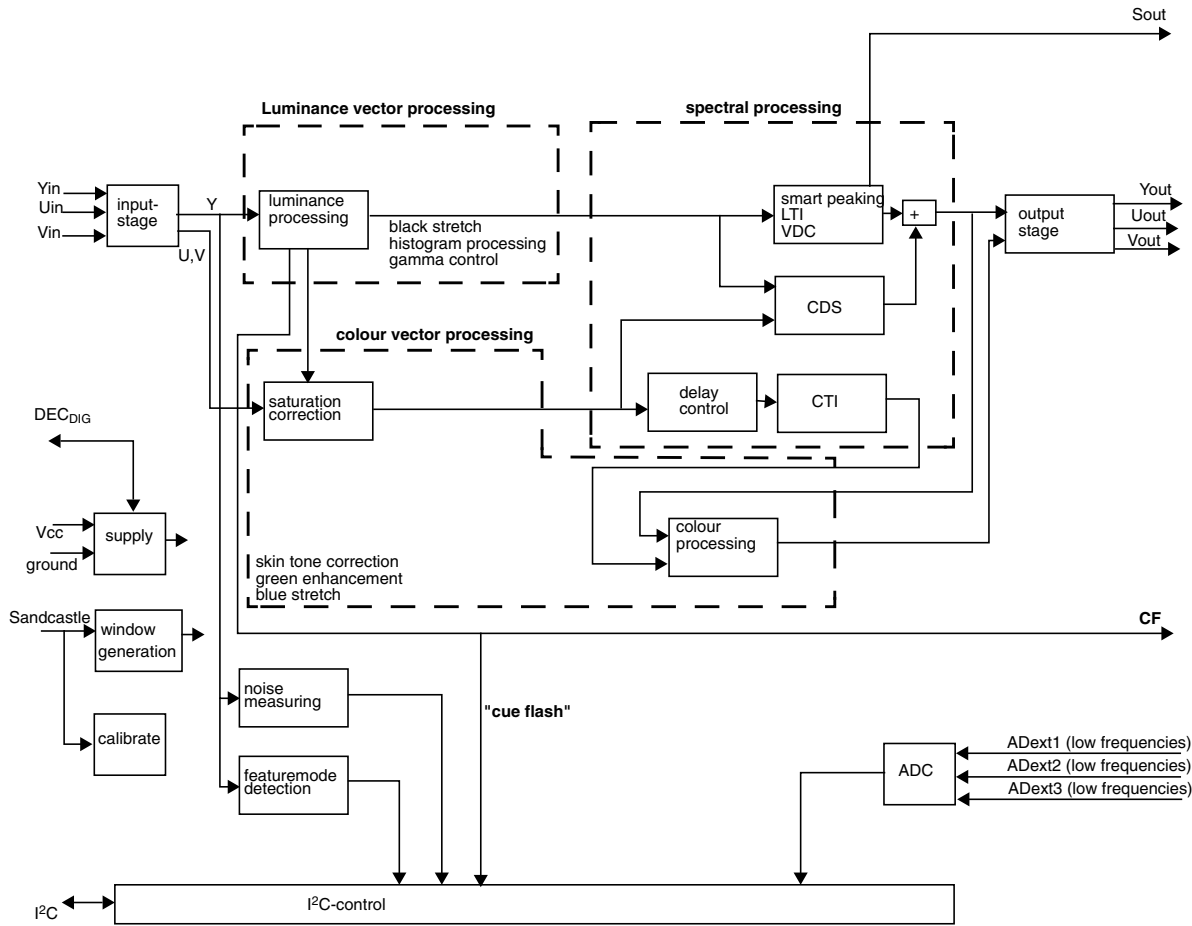
2CS	2 Carrier (or Channel) Stereo	IIC	Integrated IC bus
ACI	Automatic Channel Installation: algorithm that installs TV sets directly from cable network by means of a predefined TXT page	ITV	Institutional TV
ADC	Analogue to Digital Converter	LATAM	Latin American countries like Brazil, Argentina, etc.
AFC	Automatic Frequency Control: control signal used to tune to the correct frequency	LED	Light Emitting Diode
AFT	Automatic Fine Tuning	L/L'	Monochrome TV system. Sound carrier distance is 6.5 MHz. L' is Band I, L is all bands except for Band I
AGC	Automatic Gain Control: algorithm that controls the video input of the feature box	LS	Large Screen or Loudspeaker
AM	Amplitude Modulation	M/N	Monochrome TV system. Sound carrier distance is 4.5 MHz
AP	Asia Pacific region	NC	Not Connected
AR	Aspect Ratio: 4 by 3 or 16 by 9	NICAM	Near Instantaneous Compounded Audio Multiplexing. This is a digital sound system, mainly used in Europe.
ATS	Automatic Tuning System	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)
AV	External Audio Video	NVM	Non Volatile Memory: IC containing TV related data e.g. alignments
AVL	Automatic Volume Leveler	OB	Option Bit
BCL	Beam Current Limitation	OC	Open Circuit
B/G	Monochrome TV system. Sound carrier distance is 5.5 MHz	OP	Option Byte
BTSC	Broadcast Television Standard Committee. Multiplex FM stereo sound system, originating from the USA and used e.g. in LATAM and AP-NTSC countries	OSD	On Screen Display
CC	Closed Caption	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)
CCC	Continuous Cathode Calibration	PCB	Printed Circuit board
ComPair	Computer aided rePair	PLL	Phase Locked Loop. Used for e.g. FST tuning systems. The customer can give directly the desired frequency
CRT	Cathode Ray Tube or picture tube	POR	Power-On Reset
CSM	Customer Service Mode	PTP	Picture Tube Panel (or CRT-panel)
CTI	Color Transient Improvement: manipulates steepness of chroma transients	RAM	Random Access Memory
CVBS	Composite Video Blanking and Synchronization	RC	Remote Control handset
CVI	Component Video Input	RGB	Red, Green, and Blue video signals
DAC	Digital to Analogue Converter	ROM	Read Only Memory
DBX	Dynamic Bass Expander or noise reduction system in BTSC	SDAM	Service Default / Alignment Mode
D/K	Monochrome TV system. Sound carrier distance is 6.5 MHz	SAP	Second Audio Program
DFU	Direction For Use: description for the end user	SC	Sandcastle: pulse derived from sync signals
DNR	Dynamic Noise Reduction	S/C	Short Circuit
DSP	Digital Signal Processing	SCL	Serial Clock
DST	Dealer Service Tool: special remote control designed for dealers to enter e.g. service mode	SDA	Serial Data
DVD	Digital Versatile Disc	SECAM	SEquence Couleur Avec Memoire. Color system mainly used in France and East Europe. Color carriers = 4.406250 MHz and 4.250000 MHz
EEPROM	Electrically Erasable and Programmable Read Only Memory	SIF	Sound Intermediate Frequency
EHT	Extra High Tension	SS	Small Screen
EHT-INFO	Extra High Tension information	STBY	Standby
EPG	Electronic Programming Guide	SVHS	Super Video Home System
EU	Europe	SW	Software
EW	East West, related to horizontal deflection of the set	THD	Total Harmonic Distortion
EXT	External (source), entering the set via SCART or Cinch	TXT	Teletext
FBL	Fast Blanking: DC signal accompanying RGB signals	uP	Microprocessor
FILAMENT	Filament of CRT	UOC	Ultimate One Chip
FM	Field Memory or Frequency Modulation	V	Vertical sync signal
H	Horizontal sync signal	V_BAT	Main supply voltage for the deflection stage (mostly 141 V)
HP	Headphone	V-chip	Violence Chip
I	Monochrome TV system. Sound carrier distance is 6.0 MHz	VCR	Video Cassette Recorder
I2C	Integrated IC bus	WYSIWYR	What You See Is What You Record: record selection that follows main picture and sound
IF	Intermediate Frequency	XTAL	Quartz crystal
		YC	Luminance (Y) and Chrominance (C) signal

9.11 IC Data Sheets

9.11.1 Diagram H, TDA9178 (IC7610)

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).

BLOCK DIAGRAM



PIN CONFIGURATION

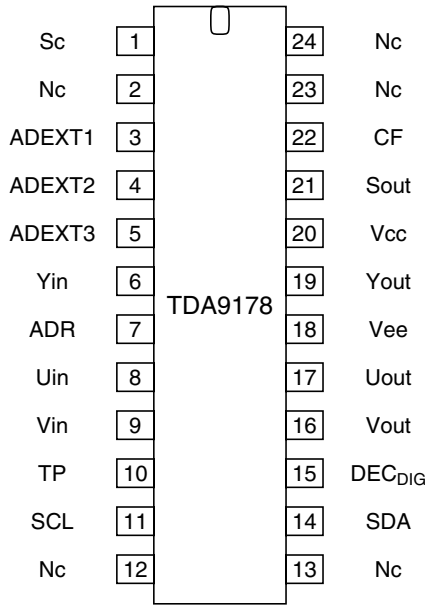


Figure 9-6 Internal Block Diagram and Pin Configuration

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CABINET PARTS

CABINET PARTS			
CTL	TOP CONTROL ASSEMBLY	3139	188 65121
0002	AS FC PAINTED 29SDWA32 NAFTA	3139	177 55961
0008	BC 29SDWA32 NAFTA	3139	124 43282
0016	MAINS STRIP ASSY 29SDWA32.	3139	177 55951
0021	Holder, Degaussing (4 Used).	3135	013 01641
0029	BLANK STRIP (SDWA32) ASSY NAFTA.	3139	177 60071
0041	Light Guide.	3139	124 43141
0050	29" WORDMARK PHILIPS	3141	050 00161
0062	Spring	3139	121 26231
0125	DFU.	3135	125 21432
0251	Clip, Anode Lead	3135	014 04471
0300	CRT Mounting Screw	3104	308 77012
0602	NVM BOOK - ITV NAFTA	3139	127 01741
1081	Battery, Remote Control (2 Pack).	9299	000 13827
1085	Remote Control, RC0705/00.	3139	228 80573
1099	CRT A68AJB82X11.	9301	891 90631
1116	Side Jack Panel.	3139	188 06931
1150	Main Chassis	3139	188 88221
5203	Coil, Degaussing	3139	128 24031
5213	LSP 16R 10W SCR FULR O45X154 B	2422	264 00476
5214	LSP 16R 10W SCR FULR O45X154 B	2422	264 00476
8190	Mains Cord	3135	010 07161
8278	HR BK 4P/1000+340/2X2FAST.	3139	131 01262

MAIN CHASSIS

MAIN CHASSIS			
0001	PCB FB CINCH	3139	123 56721
0031	LINE AND FRAME HEATSINK-CINCH.	3139	121 27492
0032	IC-Spring.	3104	301 22081
0033	Heatsink	3139	121 27471
0034	Spring	3139	121 24583
0035	U-Cooling Plate.	3139	121 26731
0037	LOT Bracket.	3139	124 46811
0082	AUDIO B HEATSINK H-23L	3139	121 62751
0085	IC-Spring.	3104	301 22081
0100	PROCESS BOX PCB PNL LFS.	3139	129 90041
0266	DOUBLE COMP CLIP	3139	121 27391
0276	TORX HEAD TAPPING SCREW M4X12.	3139	120 41421
0313	PAN TAP TORX SCR 2.9X6.5 (T10)	3139	120 41261
0317	PAN TAP TORX SCR 2.9X9.5(T10).	3139	120 41511
1000	Tuner.	2422	542 90141
1002	S.A.W. Filter, 45MHz75.	2422	549 44518
1005	Connector, 3 Pin	2412	020 00725
1137	SOC MDIN H 4P F MDC-041V-A Y	2422	026 05659
1204	Connector, 7 Pin	2422	025 04855
1205	RES XTL 24M576 20P HC49/U A	2422	543 00943
1207	Connector, 7 Pin	2422	025 11244
1212	Connector, 12 Pin.	2422	025 16052
1223	Connector, 12 Pin.	2422	026 05463
1254	CRT Socket	2422	500 80087
1280	Connector, 5 Pin	2422	025 12481
1331	Connector, 7 Pin	2422	025 04855
S 1351	Connector, 5 Pin	2422	025 04853
S 1401	Connector, 5 Pin	2422	025 04853
1404	Connector, 4 Pin	2422	025 15503
1451	Connector, 2 Pin	2422	025 10646
S 1452	FUSE RAD LT 1A25 250V IEC A	2422	086 10517
S 1454	FUSE RAD LT 1A25 250V IEC A	2422	086 10517
S 1500	Fuse, 4A, 250V, IEC.	2422	086 10914
S 1501	SOC FUSE V 1P F PFC5000-0252 A	2422	090 01101
S 1502	SOC FUSE V 1P F PFC5000-0252 A	2422	090 01101
S 1503	Relay, 12V, 5A G5PA-1.	2422	132 07444
1504	Connector, 2 Pin	2422	025 16375
1505	Connector, 2 Pin	2422	025 16269
1600	Switch, Tactile.	2422	128 02742
1601	Switch, Tactile.	2422	128 02742
1602	Switch, Tactile.	2422	128 02742
1603	Switch, Tactile.	2422	128 02742
1606	Switch, Tactile.	2422	128 02742
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 51010
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, 10%, 50V, Ceramic	3198	017 01020
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
2253	Cap, 10n, 10%, 50V, Ceramic.	3198	017 31030
2254	Cap, 220n, 10%, 10V, Ceramic	3198	017 32240
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
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
2330	Cap, 100n, 10%, 250v, Metalized Polyester	2022	318 00198
2331	Cap, 47n, +80/-20%, 50V, Ceramic	3198	024 44730
2332	Cap, 10n, 10%, 630v, Ceramic	2020	558 90621
2333	Cap, 1n, 10%, 50V, Ceramic	3198	017 31020
2334	Cap, 47n, 10%, 250V, Ceramic	2020	557 90733
2351	Cap, 10u, 20%, 250V, Electrolytic.	2038	035 13903
2353	Cap, 3n3, 10%, 2KV, Ceramic.	3198	019 73320
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, 470p, 10%, 2KV, Ceramic	3198	019 74710
2412	Cap, 12n, 5%, 1600v, Polypropylene	2222	375 90156
2413	Cap, 120n, 5%, 250V, Metalized Polypropyl ene.	2222	479 90051
2414	Cap, 1u, +80/-20%, 10V, Ceramic.	3198	017 41050
2415	Cap, 2u2, 20%, 160v, Electrolytic.	2022	031 00172
2418	Cap, 390n, 5%, 250V, Metalized Polypropyl ene.	2222	479 90021
2420	Cap, 1u, +80/-20%, 10V, Ceramic.	3198	017 41050
2451	Cap, 150n, 10%, 100v, Metalized Polyester	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	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

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

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2462	Cap, 1n, 5%, 25V, Ceramic.	3198 016 31020	3133	Res, 22K, 5%, 1/6W, Carbon Film.	3198 011 02230
2463	Cap, 100u, 20%, 50v, Electrolytic.	3198 037 51010	3134	Res, 47K, 5%, 1/16W, Metalized Glass.	3198 021 34730
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	ELCAP BP NA 50V S 10U PM20 A	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
2489	Cap, 10n, 10%, 50V, Ceramic.	3198 017 31030	3205	Res, 12K, 5%, 1/16W, Metalized Glass.	3198 021 31230
2490	Cap, 47n, 10%, 250V, Ceramic.	2020 557 90733	3206	Res, 5K6, 5%, 1/16W, Metalized Glass.	3198 021 35620
2500	CAP MKP, 275V S 470N PM20 B.	2222 338 22474	3207	Res, 100 ohm, 5%, 1/16W, Metalized Glass.	3198 021 31010
2503	Cap, 2n2, 10%, 1KV, Ceramic.	3198 019 52220	3208	Res, 27K, 5%, 1/16W, Metalized Glass.	3198 021 32730
2504	Cap, 2n2, 10%, 1KV, 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%, 2KV, 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, 330 ohm, 5%, 1/16W, Metalized Glass.	3198 021 33310
2532	Cap, 10u, 10%, 16V, Ceramic.	2020 552 96823	3224	Res, 680K, 5%, 1/6W, Carbon Film.	3198 011 06840
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%, 1000V, 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
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%, 1KV, 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, Carbon Film.	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%, Metal Film.	3198 039 39030
2564	Cap, 100n, 10%, 50v, Ceramic.	2238 580 15649	3243	Res, 33K, 5%, 1/16W, Metalized Glass.	3198 021 33330
2565	Cap, 1n, 10%, 500V, Ceramic.	3198 019 41020	3244	Res, 100 ohm, 5%, 1/16W, Metalized Glass.	3198 021 31010
2571	Cap, 15n, 10%, 50V, Ceramic.	3198 017 31530	3247	Res, 390 ohm, 5%, 1/16W, Metalized Glass.	3198 021 33910
2572	Cap, 10n, 10%, 50V, Ceramic.	3198 017 31030	3248	Res, 100 ohm, 5%, 1/16W, Metalized Glass.	3198 021 31010
2573	Cap, 220n, 10%, 50V, Ceramic.	2020 552 96683	3249	Res, 100 ohm, 5%, 1/6W, Carbon Film.	3198 011 01010
2601	Cap, 1n, 5%, 25V, Ceramic.	3198 016 31020	3250	Res, 2K2, 5%, 1/16W, Metalized Glass.	3198 021 32220
2611	Cap, 47u, 20%, 25V, Electrolytic.	3198 025 34790	3251	Res, 10K, 5%, 1/16W, Metalized Glass.	3198 021 31030
2615	Cap, 4u7, +80/-20%, 10V, Ceramic.	2020 552 96305	3254	Res, 560 ohm, 5%, 1/16W, Metalized Glass.	3198 021 35610
2617	Cap, 100n, 10%, 16V, Ceramic.	3198 017 31040	3257	Res, 100 ohm, 5%, 1/16W, Metalized Glass.	3198 021 31010
2620	Cap, 100n, 10%, 16V, Ceramic.	3198 017 31040	3258	Res, 100 ohm, 5%, 1/6W, Carbon Film.	3198 011 01010
2621	Cap, 100u, 20%, 25V, Electrolytic.	3198 025 31010	3260	Res, 100 ohm, 5%, 1/6W, Carbon Film.	3198 011 01010
2623	Cap, 100n, 10%, 16V, Ceramic.	3198 017 31040	3261	Res, 4K7, 5%, 1/16W, Metalized Glass.	3198 021 34720
2624	Cap, 100u, 20%, 25V, Electrolytic.	3198 025 31010	3262	Res, 100 ohm, 5%, 1/16W, Metalized Glass.	3198 021 31010
2625	Cap, 2u2, 10%, 6v, Ceramic.	2022 552 05615	3269	Res, 100 ohm, 5%, 1/16W, Metalized Glass.	3198 021 31010
2626	Cap, 33p, 5%, 50V, Ceramic.	3198 016 33390	3270	Res, 100 ohm, 5%, 1/6W, Carbon Film.	3198 011 01010
2627	Cap, 33p, 5%, 50V, Ceramic.	3198 016 33390	3272	Res, 820 ohm, 5%, 1/16W, Metalized Glass.	3198 021 38210
2628	Cap, 33p, 5%, 50V, Ceramic.	3198 016 33390	3273	Res, 1K, 5%, 1/16W, Metalized Glass.	3198 021 31020
2629	Cap, 33p, 5%, 50V, Ceramic.	3198 016 33390	3274	Res, 100 ohm, 5%, 1/6W, Carbon Film.	3198 011 01010
2630	Cap, 1n, 10%, 50V, Ceramic.	3198 017 31020	3275	Res, 100 ohm, 5%, 1/6W, Carbon Film.	3198 011 01010
2691	Cap, 220u, 20%, 10V, Electrolytic.	3198 025 12210	3276	Res, 100 ohm, 5%, 1/6W, Carbon Film.	3198 011 01010
2986	Cap, 100n, 10%, 16V, Ceramic.	3198 017 31040	3277	Res, 100 ohm, 5%, 1/6W, Carbon Film.	3198 011 01010
2987	Cap, 100n, 10%, 16V, Ceramic.	3198 017 31040	3278	Res, 100 ohm, 5%, 1/6W, Carbon Film.	3198 011 01010
2988	Cap, 100n, 10%, 16V, Ceramic.	3198 017 31040	3283	Res, 4K7, 5%, 1/16W, Metalized Glass.	3198 021 34720
2989	Cap, 1u, +80/-20%, 10V, Ceramic.	3198 017 41050	3284	Res, 4K7, 5%, 1/16W, Metalized Glass.	3198 021 34720
2990	Cap, 1n, 5%, 25V, Ceramic.	3198 016 31020	3285	Res, 1K, 5%, 1/16W, Metalized Glass.	3198 021 31020
2992	Cap, 1u, +80/-20%, 10V, Ceramic.	3198 017 41050	3287	Res, 100 ohm, 5%, 1/16W, Metalized Glass.	3198 021 31010
2993	Cap, 1n, 5%, 25V, Ceramic.	3198 016 31020	3289	Res, 100 ohm, 5%, 1/16W, Metalized Glass.	3198 021 31010
2994	Cap, 22n, 10%, 25V, Ceramic.	3198 017 32230	3291	Res, 1K, 5%, 1/6W, Carbon Film.	3198 011 01020
2995	Cap, 22n, 10%, 25V, Ceramic.	3198 017 32230	3295	Res, 8K2, 5%, 1/16W, Metalized Glass.	3198 021 38220
2996	Cap, 47n, +80/-20%, 50V, Ceramic.	3198 024 44730	3296	Res, 5K6, 5%, 1/16W, Metalized Glass.	3198 021 35620
2997	Cap, 47n, +80/-20%, 50V, Ceramic.	3198 024 44730	3328	Res, 100 ohm, 5%, 1/16W, Metalized Glass.	3198 021 31010
3003	Res, 10K, 5%, 1/16W, Metalized Glass.	3198 021 31030	3329	Res, 100 ohm, 5%, 1/16W, Metalized Glass.	3198 021 31010
3004	Res, 68K, 5%, 1/16W, Metalized Glass.	3198 021 36830	3330	Res, 100 ohm, 5%, 1/16W, Metalized Glass.	3198 021 31010
3005	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198 021 31010	3331	Res, 100 ohm, 5%, 1/6W, Carbon Film.	3198 011 01010
3101	Res, 68 ohm, 5%, 1/6W, Carbon Film.	3198 011 06890	3332	Res, 1K5, 20%, 1/2W, Carbon Film.	3198 013 01520
3103	Res, 150 ohm, 5%, 1/6W, Carbon Film.	3198 011 01510	3333	Res, 100 ohm, 5%, 1/6W, Carbon Film.	3198 011 01010
3104	Res, 220K, 5%, 1/16W, Metalized Glass.	3198 021 32240	3334	Res, 1K5, 20%, 1/2W, Carbon Film.	3198 013 01520
3105	Res, 150 ohm, 5%, 1/6W, Carbon Film.	3198 011 01510	3335	Res, 100 ohm, 5%, 1/6W, Carbon Film.	3198 011 01010
3106	Res, 220K, 5%, 1/16W, Metalized Glass.	3198 021 32240	3336	Res, 1K5, 20%, 1/2W, Carbon Film.	3198 013 01520
3121	Res, 75 ohm, 5%, 1/16W, Metalized Glass.	3198 021 37590	3351	Res, 100 ohm, 5%, 1/3W, Metal Film.	2306 204 03101
3123	Res, 22K, 5%, 1/6W, Carbon Film.	3198 011 02230	3354	Res, 1K5, 20%, 1/2W, Carbon Film.	3198 013 01520
3124	Res, 47K, 5%, 1/16W, Metalized Glass.	3198 021 34730	3356	Res, 10R, 1%, Metal Film.	3198 039 10090
3125	Res, 22K, 5%, 1/6W, Carbon Film.	3198 011 02230	3357	VDR 0603 1MA/18V MAX 35V R.	2122 552 00004
3126	Res, 47K, 5%, 1/16W, Metalized Glass.	3198 021 34730	3401	Res, 47K, 1%, Metal Film.	3198 039 47030
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	3412	Res, 1K, 5%, 1/6W, Carbon Film.	3198 011 01020
3131	Res, 22K, 5%, 1/6W, Carbon Film.	3198 011 02230	3414	Res, 4R7, 5%, 1 1/3W, Metal Film.	2322 194 63478
3132	Res, 47K, 5%, 1/16W, Metalized Glass.	3198 021 34730	3415	Res, 100 ohm, 5%, 1/6W, Carbon Film.	3198 011 01010

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

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3416	Res, 47 ohm, 5%, 1/16W, Metalized Glass.	3198 021 34790	3607	Res, 10K, 5%, 1/16W, Metalized Glass . .	3198 021 31030
3417	Res, 15K, 5%, 1 1/3W, Metal Film	3198 012 21530	3608	Res, 27K, 5%, 1/16W, Metalized Glass . .	3198 021 32730
3430	RST MGL VR25 A 120K PM5 A	2322 241 53124	3609	Res, 330 ohm, 5%, 1/16W, Metalized Glass	3198 021 33310
3431	Res, 82K, 1%, Metal Film	3198 039 82030	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 Glass	3198 021 31010	3637	Res, 47 ohm, 5%, 1/16W, Metalized Glass.	3198 021 34790
3451	Res, 68K, 1%, Metal Film	3198 039 68030	3681	Res, 820 ohm, 1%, 1/16W, Metalized Glass	2322 704 68201
3452	Res, 18K, 5%, 1/16W, Metalized Glass . .	3198 021 31830	3684	Res, 1K2, 1%, 1/16W, Metalized Glass . .	2322 704 61202
3453	Res, 33K, 5%, 1/16W, Metalized Glass . .	3198 021 33330	3685	Res, 150 ohm, 5%, 1/16W, Metalized Glass	3198 021 31510
3454	Res, 47K, 5%, 1/6W, Carbon Film.	3198 011 04730	3686	Res, 390 ohm, 5%, 1/16W, Metalized Glass	3198 021 33910
3455	Res, 1 ohm, 5%, 1/2W, Metal Film	2306 207 03108	3687	Res, 1K8, 1%, 1/16W, Metalized Glass . .	2322 704 61802
3457	Res, 1 ohm, 5%, 1/2W, Metal Film	2306 207 03108	3690	Res, 220 ohm, 5%, 1/16W, Metalized Glass	3198 021 32210
3458	Res, 4R7, 5%, 1/2W, Metal Film	2306 207 03478	3691	Res, 820 ohm, 5%, 1/16W, Metalized Glass	3198 021 38210
3460	Res, 2K2, 5%, 1/6W, Carbon Film.	3198 011 02220	3693	Res, 220 ohm, 5%, 1/16W, Metalized Glass	3198 021 32210
3461	Res, 2K2, 5%, 1/6W, Carbon Film.	3198 011 02220	3694	Res, 4K7, 5%, 1/16W, Metalized Glass . .	3198 021 34720
3462	Res, 2K2, 5%, 1/16W, Metalized Glass . .	3198 021 32220	3975	Res, 150 ohm, 5%, 1 1/3W, Metal Film . .	3198 012 21510
3463	Res, 1K, 5%, 1/16W, Metalized Glass. . .	3198 021 31020	3985	Res, 39K, 5%, 1/16W, Metalized Glass . .	3198 021 33930
3464	Res, 220 ohm, 5%, 1/10W, Metalized Glass	3198 021 52210	3988	Res, 10K, 5%, 1/16W, Metalized Glass . .	3198 021 31030
3466	Res, 1 ohm, 5%, 1/2W, Metal Film	2306 207 03108	3989	Res, 10 ohm, 5%, 1/16W, Metalized Glass.	3198 021 31090
3467	Res, 120 ohm, 5%, 1/6W, Carbon Film. . .	3198 011 01210	3991	Res, 39K, 5%, 1/16W, Metalized Glass . .	3198 021 33930
3468	Res, 220 ohm, 5%, 1/6W, Carbon Film. . .	3198 011 02210	3992	Res, 10K, 5%, 1/16W, Metalized Glass . .	3198 021 31030
3469	Res, 1K, 5%, 1/16W, Metalized Glass. . .	3198 021 31020	3993	Res, 10 ohm, 5%, 1/16W, Metalized Glass.	3198 021 31090
3470	Res, 22 ohm, 5%, 1/6W, Carbon Film . . .	3198 011 02290	3994	Res, 68K, 5%, 1/16W, Metalized Glass . .	3198 021 36830
3471	Res, 1R5, 1%, Metal Film	3198 039 15080	3995	Res, 4K7, 5%, 1/16W, Metalized Glass . .	3198 021 34720
3472	Res, 3R3, 1%, Metal Film	3198 039 33080	4000	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3473	Res, 390K, 5%, 1/16W, Metalized Glass. . .	2322 702 60394	4001	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3474	Res, 15K, 5%, 1/16W, Metalized Glass . .	3198 021 31530	4002	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3475	Res, 8K2, 5%, 1/16W, Metalized Glass . .	3198 021 38220	4003	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3478	Res, 6K8, 5%, 1/16W, Metalized Glass . .	3198 021 36820	4006	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3481	Res, 5R6, 5%, 1/8W, Metalized Glass. . .	2322 750 65608	4013	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3482	Res, 22K, 1%, Metal Film	3198 039 22030	4015	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3483	Res, 56K, 1%, Metal Film	3198 039 56030	4106	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
S 3484	Res, 1 ohm, 5%, 1/3W, Metal Film	2306 204 03108	4107	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
S 3485	Res, 1 ohm, 5%, 1/3W, Metal Film	2306 204 03108	4108	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3486	Res, 6K8, 5%, 1/16W, Metalized Glass . .	3198 021 36820	4116	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3489	Res, 47 ohm, 5%, 1/10W, Metalized Glass.	3198 021 54790	4136	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3490	Res, 22K, 5%, 1/16W, Metalized Glass . .	3198 021 32230	4209	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3491	Res, 100K, 5%, 1/16W, Metalized Glass. . .	3198 021 31040	4212	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3493	Res, 2K2, 5%, 1/16W, Metalized Glass . .	3198 021 32220	4221	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3494	Res, 180K, 5%, 1/16W, Metalized Glass. .	2322 702 60184	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, 680K, 5%, 1/10W, Metalized Glass. .	3198 021 56840	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	4337	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3502	Res, 220 ohm, 20%, 1/2W, Carbon Film . .	3198 013 02210	4470	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
S 3503	Surge Protector.	2422 549 43073	4492	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3504	Res, 1M5, 5%, 1/2W, Metalized Glass. . .	2322 242 13155	4533	Res, Zero ohm, 'Chip' Jumper	3198 021 90020
3505	VDR DC 1MA/423V S MAX 775V B	2122 550 00147	4534	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
S 3510	NTC, B57237, 3W1, 4R7, 20%	2122 612 00055	4535	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3511	Res, 4R7, 5%, 1/6W, Carbon Film.	3198 011 04780	4537	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3512	Res, 1K2, 5%, 1/16W, Metalized Glass . .	3198 021 31220	4604	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3513	Res, 2K2, 5%, 1/3W, Metal Film	2306 204 03222	4610	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3514	Res, 100 ohm, 5%, 1/3W, Metal Film	2306 204 03101	4612	Res, Zero ohm, 'Chip' Jumper	3198 021 90020
3515	Res, 1K, 5%, 1/6W, Carbon Film	3198 011 01020	4620	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3516	Res, 0R1, 5%, 3/5W, Metal Film	3198 012 11070	4631	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3517	Res, 300K, 1%, Metalized Glass	2322 704 63004	4635	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3518	Res, 3K3, 5%, 1/16W, Metalized Glass . .	3198 021 33320	4637	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3519	Res, 15K, 5%, 1/6W, Carbon Film.	3198 011 01530	4642	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3520	Res, 0R18, 5%, 1W, Metal Film.	2120 106 90636	4644	Res, Zero ohm, 'Chip' Jumper	3198 021 90020
3521	Res, 3K3, 5%, 1/6W, Carbon Film.	3198 011 03320	4645	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3522	Res, 56K, 5%, 1/16W, Metalized Glass . .	3198 021 35630	4646	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3523	PTC DBL-MONO 145V S 1R5 PM20 Y	2322 662 96753	4648	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3524	Res, 47K, 5%, 1/16W, Metalized Glass . .	3198 021 34730	4649	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3530	Res, 220 ohm, 5%, 1/16W, Metalized Glass	3198 021 32210	4691	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3531	Res, 100K, 5%, 1/6W, Carbon Film	3198 011 01040	4692	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3532	Res, 4R7, 5%, 1/3W, Metal Film	2306 204 03478	4694	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3533	Res, 8K2, 5%, 1/16W, Metalized Glass . .	3198 021 38220	4696	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3534	Res, 100 ohm, 5%, 1/6W, Carbon Film. . . .	3198 011 01010	4910	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3537	Res, 2K2, 5%, 1/16W, Metalized Glass . .	3198 021 32220	4914	Res, Zero ohm, 'Chip' Jumper	3198 021 90020
3538	Res, 1R8, 5%, 1/8W, Metalized Glass. . .	2322 730 61188	4915	Res, Zero ohm, 'Chip' Jumper	3198 021 90020
3541	Res, 47K, 5%, 1/16W, Metalized Glass . .	3198 021 34730	4916	Res, Zero ohm, 'Chip' Jumper	3198 021 90020
3563	Res, 220 ohm, 5%, 1/6W, Carbon Film. . .	3198 011 02210	4917	Res, Zero ohm, 'Chip' Jumper	3198 021 90020
3565	Res, 15K, 5%, 1/16W, Metalized Glass . .	3198 021 31530	4921	Res, Zero ohm, 'Chip' Jumper	3198 021 90020
3571	Res, 220 ohm, 5%, 1/6W, Carbon Film. . .	3198 011 02210	5001	Fixed, Inductor, 100MHZ, 120R	3198 018 90030
3572	Res, 220 ohm, 5%, 1/16W, Metalized Glass	3198 021 32210	5002	Coil, 390n	3198 018 33970
3573	Res, 15K, 5%, 1/16W, Metalized Glass . .	3198 021 31530	5201	Fixed, Inductor, 100MHZ, 50R	3198 018 90010
3574	Res, 150K, 5%, 1/6W, Carbon Film	3198 011 01540	5202	Fixed, Inductor, 100MHZ, 120R	3198 018 90030
3575	Res, 82K, 1%, Metal Film	3198 039 82030	5203	Fixed, Inductor, 100MHZ, 120R	3198 018 90030
3576	Res, 4K7, 1%, 1/16W, Metalized Glass . .	2322 704 64702	5205	Fixed, Inductor, 100MHZ, 120R	3198 018 90030
3577	Res, 1K5, 5%, 1/6W, Carbon Film.	3198 011 01520	5206	Fixed, Inductor, 100MHZ, 120R	3198 018 90030
3578	Res, 470 ohm, 5%, 1/16W, Metalized Glass	3198 021 34710	5207	Fixed, Inductor, 100MHZ, 120R	3198 018 90030
3579	Res, 2K2, 5%, 1/16W, Metalized Glass . .	3198 021 32220	5208	Fixed, Inductor, 100MHZ, 50R.	3198 018 90010
3601	Res, 4K7, 5%, 1/16W, Metalized Glass . .	3198 021 34720	5209	Fixed, Inductor, 100MHZ, 120R	3198 018 90030
3604	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198 021 31010	5210	Fixed, Inductor, 100MHZ, 120R	3198 018 90030
3605	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198 021 31010	5211	Fixed, Inductor, 100MHZ, 120R	3198 018 90030
3606	Res, 56K, 5%, 1/6W, Carbon Film.	3198 011 05630	5212	Fixed, Inductor, 100MHZ, 120R	3198 018 90030

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

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5213	Fixed, Inductor, 100MHz, 120R	3198	018	90030	7451	Transistor, KTD600KY	9322	195	14687
5214	Fixed, Inductor, 100MHz, 120R	3198	018	90030	7452	Transistor, KTC322BY	9322	197	37676
5215	Fixed, Inductor, 100MHz, 120R	3198	018	90030	7453	Transistor, KTB631KY	9322	195	05687
5216	Fixed, Inductor, 100MHz, 50R	3198	018	90010	7454	Transistor, NPN, BC847B.	3198	010	42030
5330	Fixed, Inductor, 100MHz, 50R	3198	018	90010	7455	Transistor, PNP, BC857B.	3198	010	42150
5351	Coil, 22u.	2422	535	97333	7456	Transistor, PNP, BC857B.	3198	010	42150
5352	Coil, 220n	2422	535	94257	7481	Transistor, PNP, BC857B.	3198	010	42150
5355	Coil, 22u.	2422	535	97333	7482	Transistor, PNP, PDTA114ET	3198	010	44010
5401	Coil, 50u.	2422	535	91032	7483	Transistor, PNP, BC857B.	3198	010	42150
5402	Transformer, DRIVER.	2422	531	02617	7484	Transistor, NPN, BC847BG	9322	160	61668
5450	Transformer, LOT	2422	531	02611	7511	IC, TEA1506T/N1	9352	720	43118
5451	Coil, 27u.	2422	535	97334	7512	FET, FQPF9N50.	9322	187	16687
5501	Filter, Mains, 5mH, 2A	2422	549	43432	7513	Optic Coupler, TCET1103(G)	9322	140	14667
5511	Fixed, Inductor, 100MHz, 50R	3198	018	90010	7514	Transistor, NPN, BC847B.	3198	010	42030
5512	Transformer, SMT LAYER	2422	531	02626	7531	IC, TEA1620P/N1.	9352	739	52112
5531	Transformer, SMT LAYER	2422	531	02631	7541	Transistor, PNP, BC857B.	3198	010	42150
5551	Fixed, Inductor, 100MHz, 50R	3198	018	90010	7561	Transistor, NPN, PDMC143ZT	9340	547	00215
5552	Coil, 27u.	2422	535	95366	7571	Transistor, NPN, BC547B.	3198	020	40030
5561	Fixed, Inductor, 100MHz, 50R	3198	018	90010	7573	Transistor, NPN, PDMC114ET	3198	010	44110
5562	Fixed, Inductor, 100MHz, 50R	3198	018	90010	7601	IC, M24C16-WBN6.	9322	147	25682
5603	Fixed, Inductor, 100MHz, 50R	3198	018	90010	7603	IC, L78L33ACZ.	9322	134	92676
6001	Zener Diode, 33 volt	3198	010	23390	7604	Transistor, NPN, BC847B.	3198	010	42030
6005	Zener Diode, 8.2 volt.	9322	125	45685	7605	Transistor, PNP, BC327-25.	3198	020	43430
6203	Diode, Signal, BAS316.	3198	010	10630	7606	Transistor, NPN, BC847B.	3198	010	42030
6204	Diode, Rectifier, S814	3198	010	10710	7990	IC, TDA2616Q/N1.	9350	404	40112
6205	Zener Diode, 27 volt	3198	020	52790	7991	Transistor, NPN, BC847B.	3198	010	42030
6207	Diode, Signal, BAS316.	3198	010	10630	7992	Transistor, NPN, BC847B.	3198	010	42030
6209	Diode, Signal, BAT54	3198	010	10660	8204	Cable, 7 Pin	3104	311	09011
6210	Zener Diode, 5.6 volt.	3198	020	55680	8207	CBLE HR 07P/680/07P HR 260S BK	3139	110	39091
6211	Zener Diode, 5.6 volt.	3198	020	55680	8280	Cable, 5 Pin, 680mm.	3139	110	38861
6331	Diode, Signal, BAV21	3198	010	10070	8401	Cable, 5 Pin	3104	311	09021
6332	Diode, Signal, BAV21	3198	010	10070	9002	Wire Jumper, 0.58MM.	3198	036	90010
6333	Diode, Signal, BAV21	3198	010	10070	9112	Wire Jumper, 0.58MM.	3198	036	90010
6403	Diode, Rect, BYV27-200.	9322	126	72673	9113	Wire Jumper, 0.58MM.	3198	036	90010
6404	Diode, Rect, DMV1500M	9322	169	61687	9114	Wire Jumper, 0.58MM.	3198	036	90010
6406	Diode, Rect, RGP10G.	9334	939	60673	9116	Wire Jumper, 0.58MM.	3198	036	90010
6410	Diode, Rect, BY448.	9335	001	20133	9120	Wire Jumper, 0.58MM.	3198	036	90010
6441	Zener Diode, 68 volt	9322	150	20685	9121	Wire Jumper, 0.58MM.	3198	036	90010
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, BYV27-200.	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, PBYR10100.	9340	205	70127	9201	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, IN4148.	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, Signal, BAV21WS	9322	197	45703	9208	Wire Jumper, 0.58MM.	3198	036	90010
6484	Diode, Signal, 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
6500	Diode, Bridge Rect, GBU4JL-7002	9322	132	55667	9211	Wire Jumper, 0.58MM.	3198	036	90010
6511	Diode, Rect, RGP10D	9337	516	60673	9212	Wire Jumper, 0.58MM.	3198	036	90010
6512	Diode, Signal, BAT54	3198	010	10660	9213	Wire Jumper, 0.58MM.	3198	036	90010
6514	Diode, Signal, BAS316.	3198	010	10630	9214	Wire Jumper, 0.58MM.	3198	036	90010
6531	Zener Diode, 15 volt	3198	020	51590	9216	Wire Jumper, 0.58MM.	3198	036	90010
6532	Diode, Signal, BAV21WS	9322	197	45703	9217	Wire Jumper, 0.58MM.	3198	036	90010
6533	Zener Diode, 6.8 volt.	9322	171	80685	9218	Wire Jumper, 0.58MM.	3198	036	90010
6534	DIO REG, BZX384-B3V9	9322	199	75685	9219	Wire Jumper, 0.58MM.	3198	036	90010
6535	Diode, Rect, SB160	9322	198	24673	9220	Wire Jumper, 0.58MM.	3198	036	90010
6536	Diode, Rect, SB180	9322	198	25673	9221	Wire Jumper, 0.58MM.	3198	036	90010
6541	Zener Diode, 12 volt	3198	020	51290	9222	Wire Jumper, 0.58MM.	3198	036	90010
6551	Diode, Rect, STTH8L06D	9322	198	41687	9223	Wire Jumper, 0.58MM.	3198	036	90010
6562	Diode, Rectifier, SB360.	3198	010	10700	9224	Wire Jumper, 0.58MM.	3198	036	90010
6563	Diode, Rectifier, SB360.	3198	010	10700	9225	Wire Jumper, 0.58MM.	3198	036	90010
6564	Diode, Signal, BAS316.	3198	010	10630	9226	Wire Jumper, 0.58MM.	3198	036	90010
6565	Zener Diode, 9.1 volt.	9322	125	46685	9227	Wire Jumper, 0.58MM.	3198	036	90010
6566	Diode, Signal, BAS316.	3198	010	10630	9228	Wire Jumper, 0.58MM.	3198	036	90010
6571	Diode, Signal, BAV70	9331	849	10215	9229	Wire Jumper, 0.58MM.	3198	036	90010
6572	Zener Diode, 6.2 volt.	9340	548	54115	9230	Wire Jumper, 0.58MM.	3198	036	90010
6573	Zener Diode, 9.1 volt.	9331	177	80133	9231	Wire Jumper, 0.58MM.	3198	036	90010
6575	Diode, Rect, 1N5392	9322	005	16683	9232	Wire Jumper, 0.58MM.	3198	036	90010
6602	Diode, Signal, BAV99	3198	010	10620	9233	Wire Jumper, 0.58MM.	3198	036	90010
6691	LED IR/VS LTL-102SRHAP	9322	172	20682	9234	Wire Jumper, 0.58MM.	3198	036	90010
6692	IR Receiver.	9322	174	42667	9235	Wire Jumper, 0.58MM.	3198	036	90010
6694	Zener Diode, 5.1 volt.	3198	020	55180	9236	Wire Jumper, 0.58MM.	3198	036	90010
7200	IC, TDA12000H1/N1B50	9352	749	94557	9237	Wire Jumper, 0.58MM.	3198	036	90010
7201	Transistor, NPN, IMX1.	9322	054	28685	9238	Wire Jumper, 0.58MM.	3198	036	90010
7203	Transistor, PNP, BC327-25.	3198	020	43430	9239	Wire Jumper, 0.58MM.	3198	036	90010
7204	Transistor, PNP, BC327-25.	3198	020	43430	9240	Wire Jumper, 0.58MM.	3198	036	90010
7207	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
7330	IC TDA6107AJF/N1B.	9352	636	44112	9246	Wire Jumper, 0.58MM.	3198	036	90010
7404	F.E.T. Signal, BSH103.	9340	547	13215	9247	Wire Jumper, 0.58MM.	3198	036	90010
7405	Transistor, NPN, BU4508DX.	9340	550	92127	9248	Wire Jumper, 0.58MM.	3198	036	90010
7408	Transistor, NPN, BC847B.	3198	010	42030	9249	Wire Jumper, 0.58MM.	3198	036	90010

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

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9250 Wire Jumper, 0.58MM.	3198 036 90010
9251 Wire Jumper, 0.58MM.	3198 036 90010
9252 Wire Jumper, 0.58MM.	3198 036 90010
9253 Wire Jumper, 0.58MM.	3198 036 90010
9254 Wire Jumper, 0.58MM.	3198 036 90010
9255 Wire Jumper, 0.58MM.	3198 036 90010
9258 Wire Jumper, 0.58MM.	3198 036 90010
9259 Wire Jumper, 0.58MM.	3198 036 90010
9263 Wire Jumper, 0.58MM.	3198 036 90010
9264 Wire Jumper, 0.58MM.	3198 036 90010
9268 Wire Jumper, 0.58MM.	3198 036 90010
9269 Wire Jumper, 0.58MM.	3198 036 90010
9271 Wire Jumper, 0.58MM.	3198 036 90010
9272 Wire Jumper, 0.58MM.	3198 036 90010
9273 Wire Jumper, 0.58MM.	3198 036 90010
9274 Res, 100 ohm, 5%, 1/6W, Carbon Film.	3198 011 01010
9275 Wire Jumper, 0.58MM.	3198 036 90010
9276 Wire Jumper, 0.58MM.	3198 036 90010
9277 Wire Jumper, 0.58MM.	3198 036 90010
9278 Wire Jumper, 0.58MM.	3198 036 90010
9279 Wire Jumper, 0.58MM.	3198 036 90010
9280 Wire Jumper, 0.58MM.	3198 036 90010
9290 Wire Jumper, 0.58MM.	3198 036 90010
9294 Wire Jumper, 0.58MM.	3198 036 90010
9295 Wire Jumper, 0.58MM.	3198 036 90010
9296 Wire Jumper, 0.58MM.	3198 036 90010
9297 Wire Jumper, 0.58MM.	3198 036 90010
9298 Wire Jumper, 0.58MM.	3198 036 90010
9299 Wire Jumper, 0.58MM.	3198 036 90010
9390 Wire Jumper, 0.58MM.	3198 036 90010
9401 Wire Jumper, 0.58MM.	3198 036 90010
9410 Wire Jumper, 0.58MM.	3198 036 90010
9460 Wire Jumper, 0.58MM.	3198 036 90010
9466 Wire Jumper, 0.58MM.	3198 036 90010
9467 Wire Jumper, 0.58MM.	3198 036 90010
9469 Wire Jumper, 0.58MM.	3198 036 90010
9470 Wire Jumper, 0.58MM.	3198 036 90010
9473 Wire Jumper, 0.58MM.	3198 036 90010
9474 Wire Jumper, 0.58MM.	3198 036 90010
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
9479 Wire Jumper, 0.58MM.	3198 036 90010
9480 Wire Jumper, 0.58MM.	3198 036 90010
9481 Wire Jumper, 0.58MM.	3198 036 90010
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
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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

SIDE A/V JACK PANEL

SIDE A/V JACK PANEL	
0001 SIDE A/V SINGLE.	3139 123 57181
0100 PROCESS BOX PCB PNL LFS.	3139 129 90041
0205 Side A/V Bracket	3139 124 37061
1016 SB.PNL-HP-S.1I-ST-GL	3139 188 06951
1232 SOC PHONE H 1P F 3.5 ST B	2422 026 04471
1250 SOC CINCH H 3P F 1L3 YEWHRD Y	2422 026 05538
1252 Connector, 7 Pin	2422 025 11244
1254 Connector, 5 Pin	2422 025 12481
1278 Connector, 4 Pin	2422 025 15847
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
8252 Cable, 7 Pin	3139 110 39091
8254 Cable, 5 Pin, 680mm.	3139 110 38861
9181 Wire Jumper, 0.58MM.	3198 036 90010

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CABINET PARTS

CABINET PARTS			
CTL	TOP CONTROL ASSEMBLY	3139	188 65121
0002	AS FC 29SYWD ITV NA	3139	177 87141
0008	BC 29SYWD(SPLS+9AV+SVHS+SYS)NA	3139	124 60021
0021	Holder, Degaussing (4 Used)	3135	013 01641
0041	Light Guide	3139	124 26461
0125	DFU	3135	125 21432
0194	Chassis Guide	3139	124 31382
0195	Chassis Guide	3139	124 41711
0350	PROCESS BOX ENC-NA	3139	129 70391
1081	Battery, Remote Control (2 Pack)	9299	000 13827
1085	Remote Control, RC0705/00	3139	228 80573
1099	CRT A68AJB82X11	9301	891 90631
1150	Main Chassis	3139	188 84551
1179	PNL-ITV-FRNT_AV_Fli_ST-NA	3139	188 61461
1181	EPS(1B). Module, (ITV)	3139	137 22961
1182	SP/LS MODULE ITV NA-LA	3139	188 61501
1183	Interface Module	3139	188 61471
5203	Coil, Degaussing	3139	128 24031
5213	LSP 16R 5W COM FULR 058X126 B	2422	264 00333
5214	LSP 16R 5W COM FULR 058X126 B	2422	264 00333
8190	Mains Cord	3135	128 70012

MAIN CHASSIS

MAIN CHASSIS			
0001	PCB FB CINCH	3139	123 56721
0031	LINE AND FRAME HEATSINK-ITV	3139	121 27951
0032	IC-Spring	3104	301 22081
0033	Heatsink	3139	121 27471
0034	Spring	3139	121 24583
0035	U-Cooling Plate	3139	121 26731
0037	LOT Bracket	3139	124 46811
0082	AUDIO B HEATSINK H37 ITV	3139	121 62881
0085	IC-Spring	3104	301 22081
0100	PROCESS BOX PCB PNL LFS	3139	129 90041
0266	DOUBLE COMP CLIP	3139	121 27391
0276	TORX HEAD TAPPING SCREW M4X12	3139	120 41421
0313	PAN TAP TORX SCR 2.9X6.5 (T10)	3139	120 41261
0317	PAN TAP TORX SCR 2.9X9.5(T10)	3139	120 41511
1000	Tuner	2422	542 90141
1002	S.A.W. Filter, 45MHz75	2422	549 44518
1005	Connector, 3 Pin	2422	025 09191
1137	SOC MDIN H 4P F MDC-041V-A Y	2422	026 05659
1204	Connector, 7 Pin	2422	025 04855
1205	RES XTL 24M576 20P HC49/U A	2422	543 00943
1207	Connector, 7 Pin	2422	025 11244
1212	Connector, 7 Pin	2422	025 17042
1213	Connector, 7 Pin	2422	025 11244
1219	Connector, 9 Pin	2422	025 17408
1220	Connector, 3 Pin	2412	020 00725
1223	Connector, 9 Pin	2422	026 05477
1227	Connector, 3 Pin	2422	025 16383
1229	Connector, 3 Pin	2412	020 00725
1236	Connector, 3 Pin	2422	025 16382
1254	CRT Socket	2422	500 80087
1262	Connector, 3 Pin	2422	025 16937
1280	Connector, 5 Pin	2422	025 12481
1331	Connector, 7 Pin	2422	025 04855
S 1351	Connector, 5 Pin	2422	025 04853
S 1401	Connector, 5 Pin	2422	025 04853
1404	Connector, 4 Pin	2422	025 15503
1451	Connector, 2 Pin	2422	025 10646
S 1452	FUSE RAD LT 1A25 250V IEC A	2422	086 10517
S 1454	FUSE RAD LT 1A25 250V IEC A	2422	086 10517
S 1500	Fuse, 4A, 250V, IEC	2422	086 10914
S 1501	SOC FUSE V 1P F PFC5000-0252 A	2422	090 01101
S 1502	SOC FUSE V 1P F PFC5000-0252 A	2422	090 01101
S 1503	Relay, 12V, 5A G5PA-1	2422	132 07444
1504	Connector, 2 Pin	2422	025 16375
1505	Connector, 2 Pin	2422	025 16269
1507	Connector, 2 Pin	2422	025 16374
1600	Switch, Tactile	2422	128 02742
1601	Switch, Tactile	2422	128 02742
1602	Switch, Tactile	2422	128 02742
1603	Switch, Tactile	2422	128 02742
1606	Switch, Tactile	2422	128 02742
1692	Connector, 5 Pin	2422	025 15848
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%, 35V, Electrolytic	3198	028 41090
2106	Cap, 10u, 20%, 35V, Electrolytic	3198	028 41090
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, 10%, 50V, Ceramic	3198	017 01020
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
2253	Cap, 10n, 10%, 50V, Ceramic	3198	017 31030
2254	Cap, 220n, 10%, 10V, Ceramic	3198	017 32240
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
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
2330	Cap, 100n, 10%, 250V, Metalized Polyester	2022	318 00198
2331	Cap, 47n, +80/-20%, 50V, Ceramic	3198	024 44730
2332	Cap, 10n, 10%, 630V, Ceramic	2020	558 90621
2333	Cap, 1n, 10%, 50V, Ceramic	3198	017 31020
2334	Cap, 47n, 10%, 250V, Ceramic	2020	557 90733
2351	Cap, 10u, 20%, 250V, Electrolytic	2038	035 13903
2353	Cap, 3n3, 10%, 2KV, Ceramic	3198	019 73320
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, 470p, 10%, 2KV, Ceramic	3198	019 74710
2412	Cap, 12n, 5%, 1600V, Polypropylene	2222	375 90156
2413	Cap, 120n, 5%, 250V, Metalized Polypropylene	2222	479 90051
2414	Cap, 1u, +80/-20%, 10V, Ceramic	3198	017 41050
2415	Cap, 2u2, 20%, 160V, Electrolytic	2022	031 00172
2418	Cap, 390n, 5%, 250V, Metalized Polypropylene	2222	479 90021
2420	Cap, 1u, +80/-20%, 10V, Ceramic	3198	017 41050
2451	Cap, 150n, 10%, 100V, Metalized Polyester	2222	365 85154
2453	Cap, 1u, +80/-20%, 16V, Ceramic	3198	017 21050
2454	Cap, 470u, 20%, 16V, Electrolytic	3198	025 24710
2456	Cap, 47u, 10%, 250V, Ceramic	2020	557 90733
2457	Cap, 4u7, 20%, 250V, Electrolytic	2020	012 93282

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

27ST2200/27 (continued)

2459	Cap, 470p, 10%, 500V, Ceramic	3198 019 44710	3135	Res, 75 ohm, 5%, 1/16W, Metalized Glass.	3198 021 37590
2460	Cap, 470u, 20%, 16V, Electrolytic	3198 025 24710	3167	Res, 75 ohm, 5%, 1/6W, Carbon Film . . .	3198 011 07590
2461	Cap, 1n, 5%, 25V, Ceramic	3198 016 31020	3168	Res, 75 ohm, 5%, 1/16W, Metalized Glass.	3198 021 37590
2462	Cap, 1n, 5%, 25V, Ceramic	3198 016 31020	3169	Res, 75 ohm, 5%, 1/16W, Metalized Glass.	3198 021 37590
2463	Cap, 100u, 20%, 50v, Electrolytic	3198 037 51010	3201	Res, 1K, 5%, 1/6W, Carbon Film	3198 011 01020
2464	Cap, 470p, 5%, 50V, Ceramic	3198 016 34710	3202	Res, 3K3, 5%, 1/16W, Metalized Glass . .	3198 021 33320
2465	Cap, 10u, 20%, 100V, Electrolytic	3198 025 71090	3203	Res, 150K, 5%, 1/16W, Metalized Glass . .	3198 021 31540
2467	Cap, 10n, 10%, 400V, Metalized Polyester	2222 365 55103	3204	Res, 3K3, 5%, 1/16W, Metalized Glass . .	3198 021 33320
2468	Cap, 220p, 5%, 50V, Ceramic	3198 016 32210	3205	Res, 12K, 5%, 1/16W, Metalized Glass . .	3198 021 31230
2469	Cap, 220n, +80/-20%, 16V, Ceramic	3198 017 42240	3206	Res, 5K6, 5%, 1/16W, Metalized Glass . .	3198 021 35620
2470	Cap, 100n, 10%, 100v, Ceramic	2222 601 55649	3207	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198 021 31010
2484	ELCAP BP NA 50V S 10U PM20 A	2020 009 00001	3208	Res, 27K, 5%, 1/16W, Metalized Glass . .	3198 021 32730
2486	Cap, 27p, 5%, 500V, Ceramic	2252 508 08255	3209	Res, 1 ohm, 5%, 1/16W, Metalized Glass . .	3198 021 31080
2489	Cap, 10n, 10%, 50V, Ceramic	3198 017 31030	3210	Res, 1 ohm, 5%, 1/16W, Metalized Glass . .	3198 021 31080
2490	Cap, 47n, 10%, 250V, Ceramic	2020 557 90733	3211	Res, 27K, 5%, 1/16W, Metalized Glass . .	3198 021 32730
2500	CAP MKP, 275V S 470N PM20 B	2222 338 22474	3212	Res, 10 ohm, 5%, 1/16W, Metalized Glass.	3198 021 31090
2503	Cap, 2n2, 10%, 1KV, Ceramic	3198 019 52220	3214	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198 021 31010
2504	Cap, 2n2, 10%, 1KV, Ceramic	3198 019 52220	3215	Res, 4K7, 5%, 1/6W, Carbon Film	3198 011 04720
2505	Cap, 470u, 20%, 200v, Electrolytic	2022 020 00852	3216	Res, 10 ohm, 5%, 1/16W, Metalized Glass.	3198 021 31090
2511	Cap, 22u, 20%, 50V, Electrolytic	3198 025 52290	3218	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198 021 31010
2512	Cap, 100n, 10%, 16V, Ceramic	3198 017 31040	3219	Res, 10K, 5%, 1/16W, Metalized Glass . .	3198 021 31030
2513	Cap, 470p, 10%, 50V, Ceramic	3198 017 34710	3220	Res, 150 ohm, 5%, 1/16W, Metalized Glass	3198 021 31510
2514	Cap, 1n5, 10%, 2KV, Ceramic	3198 019 71520	3221	Res, 270 ohm, 5%, 1/16W, Metalized Glass	3198 021 32710
2515	Cap, 470p, 5%, 50V, Ceramic	3198 016 34710	3222	Res, 330 ohm, 5%, 1/16W, Metalized Glass	3198 021 33310
2516	Cap, 100n, 10%, 16V, Ceramic	3198 017 31040	3224	Res, 680K, 5%, 1/6W, Carbon Film	3198 011 06840
2517	Cap, 1n, 10%, 50V, Ceramic	3198 017 31020	3226	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198 021 31010
2519	Cap, 100p, 5%, 100V, Ceramic	2020 557 90726	3227	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198 021 31010
2530	Cap, 330p, 5%, 100v, Ceramic	2020 557 00005	3228	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198 021 31010
2531	Cap, 470p, 5%, 50V, Ceramic	3198 016 34710	3229	Res, 1K5, 5%, 1/16W, Metalized Glass . .	3198 021 31520
2532	Cap, 10u, 10%, 16V, Ceramic	2020 552 96823	3230	Res, 100 ohm, 5%, 1/6W, Carbon Film . . .	3198 011 01010
2533	Cap, 4n7, 10%, 50V, Ceramic	3198 017 34720	3231	Res, 100 ohm, 5%, 1/6W, Carbon Film . . .	3198 011 01010
2534	Cap, 68p, 5%, 1000V, Ceramic	2020 558 90261	3232	Res, 12K, 5%, 1/16W, Metalized Glass . .	3198 021 31230
2535	Cap, 1000u, 20%, 6.3V, Electrolytic	3198 025 01020	3235	Res, 1K, 5%, 1/16W, Metalized Glass . . .	3198 021 31020
2536	Cap, 2u2, 20%, 10V, Electrolytic	2020 012 93728	3236	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198 021 31010
2538	Cap, 470p, 10%, 50V, Ceramic	3198 017 34710	3237	Res, 1K, 5%, 1/16W, Metalized Glass . . .	3198 021 31020
2539	Cap, 470p, 10%, 500V, Ceramic	3198 019 44710	3238	Res, 4K7, 5%, 1/16W, Metalized Glass . .	3198 021 34720
2541	Cap, 47u, 20%, 25V, Electrolytic	3198 025 34790	3239	Res, 1K2, 5%, 1/6W, Carbon Film	3198 011 01220
2542	Cap, 1n5, 20%, 250V, Ceramic	2020 554 90199	3240	Res, 22K, 5%, 1/16W, Metalized Glass . .	3198 021 32230
2543	Cap, 2n2, 10%, 500V, Ceramic	3198 019 42220	3241	Res, 39K, 1%, Metal Film	3198 039 39030
2549	Cap, 100p, 5%, 50V, Ceramic	3198 016 31010	3243	Res, 33K, 5%, 1/16W, Metalized Glass . .	3198 021 33330
2550	Cap, 33p, 5%, 200v, Ceramic	2020 557 00002	3244	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198 021 31010
2551	Cap, 1n, 10%, 1KV, Ceramic	3198 019 61020	3247	Res, 390 ohm, 5%, 1/16W, Metalized Glass	3198 021 33910
2552	Cap, 100u, 20%, 160v, Electrolytic	2020 021 91654	3248	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198 021 31010
2553	Cap, 180p, 5%, 50V, Ceramic	3198 016 31810	3249	Res, 100 ohm, 5%, 1/6W, Carbon Film . . .	3198 011 01010
2561	Cap, 1n, 10%, 500V, Ceramic	3198 019 41020	3250	Res, 2K2, 5%, 1/16W, Metalized Glass . .	3198 021 32220
2562	Cap, 1000u, 20%, 25V, Electrolytic	3198 026 31020	3251	Res, 10K, 5%, 1/16W, Metalized Glass . .	3198 021 31030
2563	Cap, 1000u, 20%, 25V, Electrolytic	3198 026 31020	3254	Res, 560 ohm, 5%, 1/16W, Metalized Glass	3198 021 35610
2564	Cap, 100n, 10%, 50v, Ceramic	2238 580 15649	3257	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198 021 31010
2565	Cap, 1n, 10%, 500V, Ceramic	3198 019 41020	3258	Res, 100 ohm, 5%, 1/6W, Carbon Film . . .	3198 011 01010
2571	Cap, 15n, 10%, 50V, Ceramic	3198 017 31530	3260	Res, 100 ohm, 5%, 1/6W, Carbon Film . . .	3198 011 01010
2572	Cap, 10n, 10%, 50V, Ceramic	3198 017 31030	3261	Res, 4K7, 5%, 1/16W, Metalized Glass . .	3198 021 34720
2573	Cap, 220n, 10%, 50V, Ceramic	2020 552 96683	3262	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198 021 31010
2601	Cap, 1n, 5%, 25V, Ceramic	3198 016 31020	3264	Res, 10 ohm, 5%, 1/16W, Metalized Glass.	3198 021 31090
2611	Cap, 47u, 20%, 16V, Electrolytic	3198 028 24790	3269	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198 021 31010
2613	Cap, 100n, 10%, 16V, Ceramic	3198 017 31040	3270	Res, 100 ohm, 5%, 1/6W, Carbon Film . . .	3198 011 01010
2615	Cap, 4u7, +80/-20%, 10V, Ceramic	2020 552 96305	3272	Res, 820 ohm, 5%, 1/16W, Metalized Glass	3198 021 38210
2617	Cap, 100n, 10%, 16V, Ceramic	3198 017 31040	3273	Res, 1K, 5%, 1/16W, Metalized Glass . . .	3198 021 31020
2620	Cap, 100n, 10%, 16V, Ceramic	3198 017 31040	3274	Res, 100 ohm, 5%, 1/6W, Carbon Film . . .	3198 011 01010
2621	Cap, 100u, 20%, 25V, Electrolytic	3198 025 31010	3275	Res, 100 ohm, 5%, 1/6W, Carbon Film . . .	3198 011 01010
2623	Cap, 100n, 10%, 16V, Ceramic	3198 017 31040	3276	Res, 100 ohm, 5%, 1/6W, Carbon Film . . .	3198 011 01010
2624	Cap, 100u, 20%, 25V, Electrolytic	3198 025 31010	3277	Res, 100 ohm, 5%, 1/6W, Carbon Film . . .	3198 011 01010
2625	Cap, 2u2, 10%, 6v, Ceramic	2022 552 05615	3278	Res, 100 ohm, 5%, 1/6W, Carbon Film . . .	3198 011 01010
2626	Cap, 33p, 5%, 50V, Ceramic	3198 016 33390	3281	Res, 4K7, 5%, 1/16W, Metalized Glass . .	3198 021 34720
2627	Cap, 33p, 5%, 50V, Ceramic	3198 016 33390	3283	Res, 4K7, 5%, 1/16W, Metalized Glass . .	3198 021 34720
2628	Cap, 33p, 5%, 50V, Ceramic	3198 016 33390	3284	Res, 4K7, 5%, 1/16W, Metalized Glass . .	3198 021 34720
2629	Cap, 33p, 5%, 50V, Ceramic	3198 016 33390	3285	Res, 1K, 5%, 1/16W, Metalized Glass . . .	3198 021 31020
2630	Cap, 1n, 10%, 50V, Ceramic	3198 017 31020	3287	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198 021 31010
2691	Cap, 220u, 20%, 10V, Electrolytic	3198 025 12210	3289	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198 021 31010
2986	Cap, 100n, 10%, 16V, Ceramic	3198 017 31040	3291	Res, 10 ohm, 5%, 1/6W, Carbon Film . . .	3198 011 01090
2987	Cap, 100n, 10%, 16V, Ceramic	3198 017 31040	3295	Res, 8K2, 5%, 1/16W, Metalized Glass . .	3198 021 38220
2988	Cap, 100n, 10%, 16V, Ceramic	3198 017 31040	3296	Res, 5K6, 5%, 1/16W, Metalized Glass . .	3198 021 35620
2989	Cap, 1u, +80/-20%, 10V, Ceramic	3198 017 41050	3328	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198 021 31010
2990	Cap, 1n, 5%, 25V, Ceramic	3198 016 31020	3329	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198 021 31010
2992	Cap, 1u, +80/-20%, 10V, Ceramic	3198 017 41050	3330	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198 021 31010
2993	Cap, 1n, 5%, 25V, Ceramic	3198 016 31020	3331	Res, 100 ohm, 5%, 1/6W, Carbon Film . . .	3198 011 01010
2994	Cap, 22n, 10%, 25V, Ceramic	3198 017 32230	3332	Res, 1K5, 20%, 1/2W, Carbon Film	3198 013 01520
2995	Cap, 22n, 10%, 25V, Ceramic	3198 017 32230	3333	Res, 100 ohm, 5%, 1/6W, Carbon Film . . .	3198 011 01010
2996	Cap, 47n, +80/-20%, 50V, Ceramic	3198 024 44730	3334	Res, 1K5, 20%, 1/2W, Carbon Film	3198 013 01520
2997	Cap, 47n, +80/-20%, 50V, Ceramic	3198 024 44730	3335	Res, 100 ohm, 5%, 1/6W, Carbon Film . . .	3198 011 01010
3003	Res, 10K, 5%, 1/16W, Metalized Glass . . .	3198 021 31030	3336	Res, 1K5, 20%, 1/2W, Carbon Film	3198 013 01520
3004	Res, 68K, 5%, 1/16W, Metalized Glass . . .	3198 021 36830	3351	Res, 100 ohm, 5%, 1/3W, Metal Film	2306 204 03101
3005	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198 021 31010	3354	Res, 1K5, 20%, 1/2W, Carbon Film	3198 013 01520
3101	Res, 68 ohm, 5%, 1/6W, Carbon Film	3198 011 06890	3356	Res, 10R, 1%, Metal Film	3198 039 10090
3103	Res, 150 ohm, 5%, 1/6W, Carbon Film . . .	3198 011 01510	3357	VDR 0603 1MA/18V MAX 35V R	2122 552 00004
3104	Res, 220K, 5%, 1/16W, Metalized Glass . .	3198 021 32240	3401	Res, 47K, 1%, Metal Film	3198 039 47030
3105	Res, 150 ohm, 5%, 1/6W, Carbon Film . . .	3198 011 01510	3404	Res, 1 ohm, 5%, 1/8W, Metalized Glass . .	2322 750 61008
3106	Res, 220K, 5%, 1/16W, Metalized Glass . .	3198 021 32240	3412	Res, 1K, 5%, 1/6W, Carbon Film	3198 011 01020
3129	Res, 75 ohm, 5%, 1/16W, Metalized Glass.	3198 021 37590	3414	Res, 4R7, 5%, 1 1/3W, Metal Film	2322 194 63478
3131	Res, 22K, 5%, 1/6W, Carbon Film	3198 011 02230	3415	Res, 100 ohm, 5%, 1/6W, Carbon Film . . .	3198 011 01010
3132	Res, 47K, 5%, 1/16W, Metalized Glass . . .	3198 021 34730	3416	Res, 47 ohm, 5%, 1/16W, Metalized Glass.	3198 021 34790
3133	Res, 22K, 5%, 1/6W, Carbon Film	3198 011 02230	3417	Res, 15K, 5%, 1 1/3W, Metal Film	3198 012 21530
3134	Res, 47K, 5%, 1/16W, Metalized Glass . . .	3198 021 34730	3430	RST MGL VR25 A 120K PM5 A	2322 241 53124

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

27ST2200/27 (continued)

3431	Res, 82K, 1%, Metal Film	3198 039 82030	3609	Res, 330 ohm, 5%, 1/16W, Metalized Glass	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	3619	Res, 680 ohm, 5%, 1/16W, Metalized Glass	3198 021 36810
3446	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198 021 31010	3620	Res, 680 ohm, 5%, 1/16W, Metalized Glass	3198 021 36810
3451	Res, 68K, 1%, Metal Film	3198 039 68030	3621	Res, 680 ohm, 5%, 1/16W, Metalized Glass	3198 021 36810
3452	Res, 18K, 5%, 1/16W, Metalized Glass. . .	3198 021 31830	3625	Res, 10 ohm, 5%, 1/16W, Metalized Glass.	3198 021 31090
3453	Res, 33K, 5%, 1/16W, Metalized Glass. . .	3198 021 33330	3626	Res, 10 ohm, 5%, 1/16W, Metalized Glass.	3198 021 31090
3454	Res, 47K, 5%, 1/6W, Carbon Film.	3198 011 04730	3628	Res, 10 ohm, 5%, 1/16W, Metalized Glass.	3198 021 31090
3455	Res, 1 ohm, 5%, 1/2W, Metal Film	2306 207 03108	3634	Res, 1K, 5%, 1/16W, Metalized Glass. . .	3198 021 31020
3457	Res, 1 ohm, 5%, 1/2W, Metal Film	2306 207 03108	3635	Res, 47K, 5%, 1/16W, Metalized Glass. . .	3198 021 34730
3458	Res, 4R7, 5%, 1/2W, Metal Film	2306 207 03478	3637	Res, 47 ohm, 5%, 1/16W, Metalized Glass.	3198 021 34790
3460	Res, 2K2, 5%, 1/6W, Carbon Film.	3198 011 02220	3681	Res, 820 ohm, 1%, 1/16W, Metalized Glass	2322 704 68201
3461	Res, 2K2, 5%, 1/6W, Carbon Film.	3198 011 02220	3684	Res, 1K2, 1%, 1/16W, Metalized Glass. . .	2322 704 61202
3462	Res, 2K2, 5%, 1/16W, Metalized Glass. . .	3198 021 32220	3685	Res, 150 ohm, 5%, 1/16W, Metalized Glass	3198 021 31510
3463	Res, 1K, 5%, 1/16W, Metalized Glass. . . .	3198 021 31020	3686	Res, 390 ohm, 5%, 1/16W, Metalized Glass	3198 021 33910
3464	Res, 220 ohm, 5%, 1/10W, Metalized Glass	3198 021 52210	3687	Res, 1K8, 1%, 1/16W, Metalized Glass. . .	2322 704 61802
3466	Res, 1 ohm, 5%, 1/2W, Metal Film	2306 207 03108	3690	Res, 220 ohm, 5%, 1/16W, Metalized Glass	3198 021 32210
3467	Res, 120 ohm, 5%, 1/6W, Carbon Film. . .	3198 011 01210	3691	Res, 820 ohm, 5%, 1/16W, Metalized Glass	3198 021 38210
3468	Res, 220 ohm, 5%, 1/6W, Carbon Film. . .	3198 011 02210	3693	Res, 220 ohm, 5%, 1/16W, Metalized Glass	3198 021 32210
3469	Res, 1K, 5%, 1/16W, Metalized Glass. . . .	3198 021 31020	3694	Res, 4K7, 5%, 1/16W, Metalized Glass. . .	3198 021 34720
3470	Res, 22 ohm, 5%, 1/6W, Carbon Film. . . .	3198 011 02290	3975	Res, 150 ohm, 5%, 1/3W, Metal Film. . . .	3198 012 21510
3471	Res, 1R5, 1%, Metal Film	3198 039 15080	3985	Res, 39K, 5%, 1/16W, Metalized Glass. . .	3198 021 33930
3472	Res, 3R3, 1%, Metal Film	3198 039 33080	3988	Res, 10K, 5%, 1/16W, Metalized Glass. . .	3198 021 31030
3473	Res, 390K, 5%, 1/16W, Metalized Glass. . .	2322 702 60394	3989	Res, 10 ohm, 5%, 1/16W, Metalized Glass.	3198 021 31090
3474	Res, 15K, 5%, 1/16W, Metalized Glass. . .	3198 021 31530	3991	Res, 39K, 5%, 1/16W, Metalized Glass. . .	3198 021 33930
3475	Res, 8K2, 5%, 1/16W, Metalized Glass. . .	3198 021 38220	3992	Res, 10K, 5%, 1/16W, Metalized Glass. . .	3198 021 31030
3478	Res, 6R8, 5%, 1/16W, Metalized Glass. . .	3198 021 36820	3993	Res, 10 ohm, 5%, 1/16W, Metalized Glass.	3198 021 31090
3481	Res, 5R6, 5%, 1/8W, Metalized Glass. . . .	2322 750 65608	3994	Res, 68K, 5%, 1/16W, Metalized Glass. . .	3198 021 36830
3482	Res, 22K, 1%, Metal Film	3198 039 22030	3995	Res, 4K7, 5%, 1/16W, Metalized Glass. . .	3198 021 34720
3483	Res, 56K, 1%, Metal Film	3198 039 56030	4000	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
S 3484	Res, 1 ohm, 5%, 1/3W, Metal Film	2306 204 03108	4001	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
S 3485	Res, 1 ohm, 5%, 1/3W, Metal Film	2306 204 03108	4002	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3486	Res, 6K8, 5%, 1/16W, Metalized Glass. . .	3198 021 36820	4003	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3489	Res, 47 ohm, 5%, 1/10W, Metalized Glass.	3198 021 54790	4006	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3490	Res, 22K, 5%, 1/16W, Metalized Glass. . .	3198 021 32230	4013	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3491	Res, 100K, 5%, 1/16W, Metalized Glass. . .	3198 021 31040	4015	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3493	Res, 2K2, 5%, 1/16W, Metalized Glass. . .	3198 021 32220	4101	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3494	Res, 180K, 5%, 1/16W, Metalized Glass. . .	2322 702 60184	4102	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3495	Res, 330K, 5%, 1/10W, Glass.	3198 021 53340	4103	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3497	Res, 1 ohm, 5%, 1/2W, Metal Film	2306 207 03108	4109	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3498	Res, 4K7, 5%, 1/16W, Metalized Glass. . .	3198 021 34720	4110	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3499	Res, 680K, 5%, 1/10W, Metalized Glass. . .	3198 021 56840	4111	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3500	Res, 3M3, 5%, 1/2W, Metalized Glass. . . .	2322 242 13335	4130	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3501	Res, 3M3, 5%, 1/2W, Metalized Glass. . . .	2322 242 13335	4136	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3502	Res, 220 ohm, 20%, 1/2W, Carbon Film. . .	3198 013 02210	4209	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
S 3503	Surge Protector.	2422 549 43073	4211	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3504	Res, 1M5, 5%, 1/2W, Metalized Glass. . . .	2322 242 13155	4212	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3505	VDR DC 1MA/423V S MAX 775V B	2122 550 00147	4221	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
S 3510	NTC, B57237, 3W1, 4R7, 20%	2122 612 00055	4222	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3511	Res, 4R7, 5%, 1/6W, Carbon Film.	3198 011 04780	4223	Res, Zero ohm, 'Chip' Jumper	3198 021 90020
3512	Res, 1K2, 5%, 1/16W, Metalized Glass. . . .	3198 021 31220	4226	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3513	Res, 2K2, 5%, 1/3W, Metal Film	2306 204 03222	4227	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3514	Res, 100 ohm, 5%, 1/3W, Metal Film.	2306 204 03101	4240	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3515	Res, 1K, 5%, 1/6W, Carbon Film.	3198 011 01020	4241	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3516	Res, 0R1, 5%, 3/5W, Metal Film	3198 012 11070	4337	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3517	Res, 300K, 1%, Metalized Glass.	2322 704 63004	4470	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3518	Res, 3K3, 5%, 1/16W, Metalized Glass. . . .	3198 021 33320	4492	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3519	Res, 15K, 5%, 1/6W, Carbon Film.	3198 011 01530	4533	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3520	Res, 0R18, 5%, 1W, Metal Film.	2120 106 90636	4534	Res, Zero ohm, 'Chip' Jumper	3198 021 90020
3521	Res, 3K3, 5%, 1/6W, Carbon Film.	3198 011 03320	4535	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3522	Res, 56K, 5%, 1/16W, Metalized Glass. . . .	3198 021 35630	4537	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3523	PTC DBL-MONO 145V S 1R5 PM20 Y	2322 662 96753	4604	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3524	Res, 47K, 5%, 1/16W, Metalized Glass. . . .	3198 021 34730	4605	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3530	Res, 220 ohm, 5%, 1/16W, Metalized Glass	3198 021 32210	4610	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3531	Res, 100K, 5%, 1/6W, Carbon Film.	3198 011 01040	4612	Res, Zero ohm, 'Chip' Jumper	3198 021 90020
3532	Res, 4R7, 5%, 1/3W, Metal Film	2306 204 03478	4620	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3533	Res, 8K2, 5%, 1/16W, Metalized Glass. . . .	3198 021 38220	4631	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3534	Res, 100 ohm, 5%, 1/6W, Carbon Film. . . .	3198 011 01010	4635	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3537	Res, 2K2, 5%, 1/16W, Metalized Glass. . . .	3198 021 32220	4637	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3538	Res, 1R8, 5%, 1/8W, Metalized Glass. . . .	2322 730 61188	4642	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3541	Res, 47K, 5%, 1/16W, Metalized Glass. . . .	3198 021 34730	4644	Res, Zero ohm, 'Chip' Jumper	3198 021 90020
3563	Res, 220 ohm, 5%, 1/6W, Carbon Film. . . .	3198 011 02210	4645	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3565	Res, 15K, 5%, 1/16W, Metalized Glass. . . .	3198 021 31530	4646	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3571	Res, 220 ohm, 5%, 1/6W, Carbon Film. . . .	3198 011 02210	4648	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3572	Res, 220 ohm, 5%, 1/16W, Metalized Glass	3198 021 32210	4649	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3573	Res, 15K, 5%, 1/16W, Metalized Glass. . . .	3198 021 31530	4691	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3574	Res, 150K, 5%, 1/6W, Carbon Film.	3198 011 01540	4692	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3575	Res, 82K, 1%, Metal Film	3198 039 82030	4694	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3576	Res, 4K7, 1%, 1/16W, Metalized Glass. . . .	2322 704 64702	4696	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3577	Res, 1K5, 5%, 1/6W, Carbon Film.	3198 011 01520	4910	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3578	Res, 470 ohm, 5%, 1/16W, Metalized Glass	3198 021 34710	4914	Res, Zero ohm, 'Chip' Jumper	3198 021 90020
3579	Res, 2K2, 5%, 1/16W, Metalized Glass. . . .	3198 021 32220	4915	Res, Zero ohm, 'Chip' Jumper	3198 021 90020
3601	Res, 4K7, 5%, 1/16W, Metalized Glass. . . .	3198 021 34720	4916	Res, Zero ohm, 'Chip' Jumper	3198 021 90020
3603	Res, 100 ohm, 5%, 1/6W, Carbon Film. . . .	3198 011 01010	4917	Res, Zero ohm, 'Chip' Jumper	3198 021 90020
3604	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198 021 31010	4921	Res, Zero ohm, 'Chip' Jumper	3198 021 90020
3605	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198 021 31010	5001	Fixed, Inductor, 100MHz, 120R	3198 018 90030
3606	Res, 56K, 5%, 1/6W, Carbon Film.	3198 011 05630	5002	Coil, 390n	3198 018 33970
3607	Res, 10K, 5%, 1/16W, Metalized Glass. . . .	3198 021 31030	5201	Fixed, Inductor, 100MHz, 50R.	3198 018 90010
3608	Res, 27K, 5%, 1/16W, Metalized Glass. . . .	3198 021 32730	5202	Fixed, Inductor, 100MHz, 120R	3198 018 90030

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27ST2200/27 (continued)

5203	Fixed, Inductor, 100MHz, 120R	3198 018 90030	7203	Transistor, PNP, BC327-25	3198 020 43430
5205	Fixed, Inductor, 100MHz, 120R	3198 018 90030	7204	Transistor, PNP, BC327-25	3198 020 43430
5206	Fixed, Inductor, 100MHz, 120R	3198 018 90030	7207	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	7330	IC TDA6107AJF/N1B	9352 636 44112
5210	Fixed, Inductor, 100MHz, 120R	3198 018 90030	7404	F.E.T. Signal, BSH103	9340 547 13215
5211	Fixed, Inductor, 100MHz, 120R	3198 018 90030	7405	Transistor, NPN, BU4508DX	9340 550 92127
5212	Fixed, Inductor, 100MHz, 120R	3198 018 90030	7408	Transistor, NPN, BC847B	3198 010 42030
5213	Fixed, Inductor, 100MHz, 120R	3198 018 90030	7451	Transistor, KTD600KY	9322 195 14687
5214	Fixed, Inductor, 100MHz, 120R	3198 018 90030	7452	Transistor, KTC3228Y	9322 197 37676
5215	Fixed, Inductor, 100MHz, 120R	3198 018 90030	7453	Transistor, KTB631KY	9322 195 05687
5216	Fixed, Inductor, 100MHz, 50R	3198 018 90010	7454	Transistor, NPN, BC847B	3198 010 42030
5330	Fixed, Inductor, 100MHz, 50R	3198 018 90010	7455	Transistor, PNP, BC857B	3198 010 42150
5351	Coil, 22u	2422 535 97333	7456	Transistor, PNP, BC857B	3198 010 42150
5352	Coil, 220n	2422 535 94257	7481	Transistor, PNP, BC857B	3198 010 42150
5355	Coil, 22u	2422 535 97333	7482	Transistor, PNP, PDA114ET	3198 010 44010
5401	Coil, 50u	2422 535 91032	7483	Transistor, PNP, BC857B	3198 010 42150
5402	Transformer, DRIVER	2422 531 02617	7484	Transistor, NPN, BC847BG	9322 160 61668
5450	Transformer, LOT	2422 531 02611	7511	IC, TEA1506T/N1	9352 720 43118
5451	Coil, 27u	2422 535 97334	7512	FET, FQPF9N50	9322 187 16687
5501	Filter, Mains, 5mH, 2A	2422 549 43432	7513	Optic Coupler, TCE11103(G)	9322 140 14667
5511	Fixed, Inductor, 100MHz, 50R	3198 018 90010	7514	Transistor, NPN, BC847B	3198 010 42030
5512	Transformer, SMT LAYER	2422 531 02626	7531	IC, TEA1620P/N1	9352 739 52112
5531	Transformer, SMT LAYER	2422 531 02631	7541	Transistor, PNP, BC857B	3198 010 42150
5551	Fixed, Inductor, 100MHz, 50R	3198 018 90010	7561	Transistor, NPN, PDC143ZT	9340 547 00215
5552	Coil, 27u	2422 535 95366	7571	Transistor, NPN, BC547B	3198 020 40030
5561	Fixed, Inductor, 100MHz, 50R	3198 018 90010	7573	Transistor, NPN, PDC114ET	3198 010 44110
5562	Fixed, Inductor, 100MHz, 50R	3198 018 90010	7601	IC, M24C16-WBN6	9322 147 25682
5603	Fixed, Inductor, 100MHz, 50R	3198 018 90010	7603	IC, L78L33ACZ	9322 134 92676
6001	Zener Diode, 33 volt	3198 010 23390	7604	Transistor, NPN, BC847B	3198 010 42030
6005	Zener Diode, 8.2 volt	9322 125 45685	7605	Transistor, PNP, BC327-25	3198 020 43430
6203	Diode, Signal, BAS316	3198 010 10630	7606	Transistor, NPN, BC847B	3198 010 42030
6204	Diode, Rectifier, SS14	3198 010 10710	7990	IC, TDA2616Q/N1	9350 404 40112
6205	Zener Diode, 27 volt	3198 020 52790	7991	Transistor, NPN, BC847B	3198 010 42030
6207	Diode, Signal, BAS316	3198 010 10630	7992	Transistor, NPN, BC847B	3198 010 42030
6209	Diode, Signal, BAT54	3198 010 10660	8204	Cable, 7 Pin	3104 311 09011
6210	Zener Diode, 5.6 volt	3198 020 55680	8207	CBLE HR 07P/680/07P HR 260S BK	3139 110 39091
6211	Zener Diode, 5.6 volt	3198 020 55680	8280	Cable, 5 Pin, 680mm	3139 110 38861
6331	Diode, Signal, BAV21	3198 010 10070	8401	Cable, 5 Pin	3104 311 09021
6332	Diode, Signal, BAV21	3198 010 10070	9002	Wire Jumper, 0.58MM	3198 036 90010
6333	Diode, Signal, BAV21	3198 010 10070	9112	Wire Jumper, 0.58MM	3198 036 90010
6403	Diode, Rect, BYV27-200	9322 126 72673	9114	Wire Jumper, 0.58MM	3198 036 90010
6404	Diode, Rect, DMV1500M	9322 169 61687	9116	Wire Jumper, 0.58MM	3198 036 90010
6406	Diode, Rect, RGP10G	9334 939 60673	9120	Wire Jumper, 0.58MM	3198 036 90010
6410	Diode, Rect, BY448	9335 001 20133	9121	Wire Jumper, 0.58MM	3198 036 90010
6441	Zener Diode, 68 volt	9322 150 20685	9122	Wire Jumper, 0.58MM	3198 036 90010
6442	Zener Diode, 68 volt	9322 150 20685	9123	Wire Jumper, 0.58MM	3198 036 90010
6443	Zener Diode, 10 volt	3198 020 51090	9124	Wire Jumper, 0.58MM	3198 036 90010
6450	Diode, Signal, BAS316	3198 010 10630	9125	Wire Jumper, 0.58MM	3198 036 90010
6451	Zener Diode, 4.7 volt	3198 020 54780	9126	Wire Jumper, 0.58MM	3198 036 90010
6452	Diode, Rect, BYV27-200	9322 126 72673	9128	Wire Jumper, 0.58MM	3198 036 90010
6453	Diode, Rect, RGP10G	9334 939 60673	9129	Wire Jumper, 0.58MM	3198 036 90010
6454	Diode, Rect, RGP10G	9334 939 60673	9138	Wire Jumper, 0.58MM	3198 036 90010
6455	Diode, Rect, RGP10G	9334 939 60673	9201	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, Signal, BAV21WS	9322 197 45703	9209	Wire Jumper, 0.58MM	3198 036 90010
6484	Diode, Signal, 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
6500	Diode, Bridge Rect, GBU4JL-7002	9322 132 55667	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, BAT54	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, Signal, 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	DIO REG, BZX384-B3V9	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, STTH8L06D	9322 198 41687	9224	Wire Jumper, 0.58MM	3198 036 90010
6562	Diode, Rectifier, SB360	3198 010 10700	9225	Wire Jumper, 0.58MM	3198 036 90010
6563	Diode, Rectifier, 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 IR/VS LTL-102SRHAP	9322 172 20682	9235	Wire Jumper, 0.58MM	3198 036 90010
6692	IR Receiver	9322 174 42667	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/N1B50	9352 749 94557	9238	Wire Jumper, 0.58MM	3198 036 90010
7201	Transistor, NPN, IMX1	9322 054 28685	9239	Wire Jumper, 0.58MM	3198 036 90010

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9240	Wire Jumper, 0.58MM.									3198	036	90010								9631 Wire Jumper, 0.58MM.											3198	036	90010
9241	Wire Jumper, 0.58MM.									3198	036	90010								9633 Wire Jumper, 0.58MM.											3198	036	90010
9243	Wire Jumper, 0.58MM.									3198	036	90010								9637 Wire Jumper, 0.58MM.											3198	036	90010
9244	Wire Jumper, 0.58MM.									3198	036	90010								9639 Wire Jumper, 0.58MM.											3198	036	90010
9245	Wire Jumper, 0.58MM.									3198	036	90010								9642 Wire Jumper, 0.58MM.											3198	036	90010
9246	Wire Jumper, 0.58MM.									3198	036	90010								9643 Wire Jumper, 0.58MM.											3198	036	90010
9247	Wire Jumper, 0.58MM.									3198	036	90010								9653 Wire Jumper, 0.58MM.											3198	036	90010
9248	Wire Jumper, 0.58MM.									3198	036	90010								9660 Wire Jumper, 0.58MM.											3198	036	90010
9249	Wire Jumper, 0.58MM.									3198	036	90010								9661 Wire Jumper, 0.58MM.											3198	036	90010
9250	Wire Jumper, 0.58MM.									3198	036	90010								9662 Wire Jumper, 0.58MM.											3198	036	90010
9251	Wire Jumper, 0.58MM.									3198	036	90010								9663 Wire Jumper, 0.58MM.											3198	036	90010
9252	Wire Jumper, 0.58MM.									3198	036	90010								9664 Wire Jumper, 0.58MM.											3198	036	90010
9253	Wire Jumper, 0.58MM.									3198	036	90010								9665 Wire Jumper, 0.58MM.											3198	036	90010
9254	Wire Jumper, 0.58MM.									3198	036	90010								9666 Wire Jumper, 0.58MM.											3198	036	90010
9255	Wire Jumper, 0.58MM.									3198	036	90010								9683 Wire Jumper, 0.58MM.											3198	036	90010
9258	Wire Jumper, 0.58MM.									3198	036	90010								9688 Wire Jumper, 0.58MM.											3198	036	90010
9259	Wire Jumper, 0.58MM.									3198	036	90010								9689 Wire Jumper, 0.58MM.											3198	036	90010
9263	Wire Jumper, 0.58MM.									3198	036	90010								9694 Wire Jumper, 0.58MM.											3198	036	90010
9264	Wire Jumper, 0.58MM.									3198	036	90010								9695 Wire Jumper, 0.58MM.											3198	036	90010
9268	Wire Jumper, 0.58MM.									3198	036	90010								9910 Wire Jumper, 0.58MM.											3198	036	90010
9269	Wire Jumper, 0.58MM.									3198	036																						

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

CABINET PARTS

CABINET PARTS			
CTL TOP CONTROL ASSEMBLY	3139	188	65121
0002 AS FC 29WDPV ITV NA	3139	177	81511
0008 BC 29WDPV(SPLS+9AV+SVHS+SYS)NA	3139	124	49963
0016 MAINSKNOB ASSY EMG NAFTA EMG	3139	138	10881
0021 Holder, Degaussing (4 Used)	3135	013	01641
0030 Chassis Tray -32V.	3139	124	31325
0041 Light Guide	3139	124	39701
0050 29" WORDMARK PHILIPS	3141	050	00161
0125 DFU	3135	125	21432
0940 FRONT SUB-ASSY 27ST6210/27	3121	237	55131
1081 Battery, Remote Control (2 Pack)	9299	000	13827
1085 Remote Control, RC0705/00.	3139	228	80573
1099 CRT A68QCU770X73(N).	9301	946	60527
1114 TB-PV2-REC-4B-10811-21-32-NA	3139	188	65121
1116 Side Jack Panel	3139	188	67091
1150 Main Chassis	3139	188	62691
1160 Front Interface Assy	3139	188	62121
1181 EPS(1B). Module, (ITV)	3139	137	22961
1182 SP/LS MODULE ITV NA-LA.	3139	188	61501
1183 Interface Module	3139	188	61471
1H52 Bracket, EPS Module, (ITV)	3119	107	17241
1H53 SYS CARD HSG LS AP/EU ITV	3139	124	37853
5203 Coil, Degaussing	2422	549	45709
5213 LSP 16R 10W SCR FULR 045X154 B	2422	264	00476
5214 LSP 16R 10W SCR FULR 045X154 B	2422	264	00476
8190 Mains Cord	3135	128	70012

MAIN CHASSIS

MAIN CHASSIS			
0001 PCB FB CINCH	3139	123	56721
0028 DOUBLE COMP CLIP	3139	121	27391
0031 LINE AND FRAME HEATSINK-ITV.	3139	121	27951
0032 IC-Spring	3104	301	22081
0033 Heatsink	3139	121	27471
0034 Spring	3139	121	24583
0035 U-Cooling Plate.	3139	121	26731
0037 LOT Bracket.	3139	124	46811
0082 AUDIO B HEATSINK H37 ITV	3139	121	62881
0085 IC-Spring.	3104	301	22081
0087 U-Cooling Plate.	3139	121	26731
0100 PROCESS BOX PCB PNL LFS.	3139	129	90041
0266 DOUBLE COMP CLIP	3139	121	27391
0276 TORX HEAD TAPPING SCREW M4X12.	3139	120	41421
0313 SCREW #4-40 x 0.50".	3121	230	30071
0317 SCREW #4-40 x 0.50".	3121	230	30071
1000 Tuner.	2422	542	90141
1002 S.A.W. Filter, 45MHZ75,.	2422	549	44518
1005 Connector, 3 Pin	2422	025	09191
1137 SOC MDIN H 4P F LAP5100 Y	2422	026	05428
1204 Connector, 7 Pin	2422	025	04855
1205 RES XTL 24M576 20P HC49/U A	2422	543	00943
1207 Connector, 7 Pin	2422	025	11244
1212 Connector, 7 Pin	2422	025	17042
1213 Connector, 7 Pin	2422	025	11244
1219 Connector, 9 Pin	2422	025	17408
1220 Connector, 6 Pin	2422	025	12482
1223 Connector, 9 Pin	2422	026	05477
1227 Connector, 3 Pin	2422	025	16383
1229 Connector, 3 Pin	2412	020	00725
1236 Connector, 3 Pin	2422	025	16382
1254 CRT Socket	2422	500	80087
1262 Connector, 3 Pin	2422	025	16937
1280 Connector, 5 Pin	2422	025	12481
1331 Connector, 7 Pin	2422	025	04855
S 1351 Connector, 5 Pin	2422	025	04853
S 1361 Connector, 3 Pin	2412	020	00725
S 1401 Connector, 5 Pin	2422	025	04853
1404 Connector, 4 Pin	2422	025	15503
1451 Connector, 2 Pin	2422	025	10646
S 1452 FUSE RAD LT 1A25 250V IEC A	2422	086	10517
S 1454 FUSE RAD LT 1A25 250V IEC A	2422	086	10517
S 1500 Fuse, 4A, 250V, IEC	2422	086	10914
S 1501 SOC FUSE V 1P F PFC5000-0252 A	2422	090	01101
S 1502 SOC FUSE V 1P F PFC5000-0252 A	2422	090	01101
S 1503 Relay, 12V, 5A G5PA-1.	2422	132	07444
1504 Connector, 2 Pin	2422	025	16375
1505 Connector, 2 Pin	2422	025	16269
1507 Connector, 2 Pin	2422	025	16374
1682 Connector, 3 Pin	2412	020	00725
1692 Connector, 5 Pin	2422	025	15848
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%, 35V, Electrolytic	3198	028	41090
2106 Cap, 10u, 20%, 35V, Electrolytic	3198	028	41090

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, 220n, 10%, 10V, Ceramic	3198	017	32240
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
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
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
2352 Cap, 1n2, 10%, 2KV, Ceramic.	2020	558	90488
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
2384 Cap, 220p, 5%, 50V, Ceramic.	3198	016	32210
2385 Cap, 220p, 5%, 50V, Ceramic.	3198	016	32210
2387 Cap, 10p, 5%, 50V, Ceramic	3198	016	31090
2404 Cap, 47u, 20%, 160v, Electrolytic.	2022	031	00103

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2406	Cap, 680p, 10%, 500V, Ceramic	3198	019	46810	2990	Cap, 1n, 5%, 25V, Ceramic	3198	016	31020
2408	Cap, 100p, 5%, 50V, Ceramic	3198	016	31010	2992	Cap, 1u, +80/-20%, 10V, Ceramic	3198	017	41050
2409	Cap, 100n, +80/-20%, 25V, Ceramic	3198	023	41040	2993	Cap, 1n, 5%, 25V, Ceramic	3198	016	31020
2410	Cap, 100n, +80/-20%, 25V, Ceramic	3198	023	21040	2994	Cap, 22n, 10%, 25V, Ceramic	3198	017	32230
2411	Cap, 1n5, 10%, 2KV, Ceramic	3198	019	71520	2995	Cap, 22n, 10%, 25V, Ceramic	3198	017	32230
2412	Cap, 15n, 5%, 1600v, Polypropylene	2222	375	90158	2996	Cap, 47n, +80/-20%, 50V, Ceramic	3198	024	44730
2413	Cap, 39n, 10%, 400V, Polyester	2222	347	90228	2997	Cap, 47n, +80/-20%, 50V, Ceramic	3198	024	44730
2414	Cap, 1u, +80/-20%, 10V, Ceramic	3198	017	41050	3003	Res, 10K, 5%, 1/16W, Metalized Glass	3198	021	31030
2415	Cap, 2u2, 20%, 160v, Electrolytic	2022	031	00172	3004	Res, 68K, 5%, 1/16W, Metalized Glass	3198	021	36830
2418	Cap, 330n, 5%, 250V, Metalized Polypropyl ene	2222	479	90018	3005	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198	021	31010
2419	Cap, 2u2, 5%, 100v, Metalized Polyester	2222	468	90324	3101	Res, 68 ohm, 5%, 1/6W, Carbon Film	3198	011	06890
2420	Cap, 1u, +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 Polyester	2222	365	75184	3106	Res, 220K, 5%, 1/16W, Metalized Glass	3198	021	32240
2453	Cap, 1u, +80/-20%, 16V, Ceramic	3198	017	21050	3129	Res, 75 ohm, 5%, 1/16W, Metalized Glass	3198	021	37590
2454	Cap, 470u, 20%, 16V, Electrolytic	3198	025	24710	3131	Res, 22K, 5%, 1/6W, Carbon Film	3198	011	02230
2456	Cap, 47n, 10%, 250V, Ceramic	2020	557	90733	3132	Res, 47K, 5%, 1/16W, Metalized Glass	3198	021	34730
2457	Cap, 4u7, 20%, 250V, Electrolytic	2020	012	93282	3133	Res, 22K, 5%, 1/6W, Carbon Film	3198	011	02230
2459	Cap, 470p, 10%, 500V, Ceramic	3198	019	44710	3134	Res, 47K, 5%, 1/16W, Metalized Glass	3198	021	34730
2460	Cap, 470u, 20%, 16V, Electrolytic	3198	025	24710	3135	Res, 75 ohm, 5%, 1/16W, Metalized Glass	3198	021	37590
2461	Cap, 1n, 5%, 25V, Ceramic	3198	016	31020	3167	Res, 75 ohm, 5%, 1/6W, Carbon Film	3198	011	07590
2462	Cap, 1n, 5%, 25V, Ceramic	3198	016	31020	3168	Res, 75 ohm, 5%, 1/16W, Metalized Glass	3198	021	37590
2463	Cap, 100u, 20%, 50v, Electrolytic	3198	037	51010	3169	Res, 75 ohm, 5%, 1/16W, Metalized Glass	3198	021	37590
2464	Cap, 470p, 5%, 50V, Ceramic	3198	016	34710	3201	Res, 1K, 5%, 1/6W, Carbon Film	3198	011	01020
2465	Cap, 10u, 20%, 100V, Electrolytic	3198	025	71090	3202	Res, 3K3, 5%, 1/16W, Metalized Glass	3198	021	33320
2467	Cap, 10n, 10%, 400V, Metalized Polyester	2222	365	55103	3203	Res, 150K, 5%, 1/16W, Metalized Glass	3198	021	31540
2468	Cap, 220p, 5%, 50V, Ceramic	3198	016	32210	3204	Res, 3K3, 5%, 1/16W, Metalized Glass	3198	021	33320
2469	Cap, 220n, +80/-20%, 16V, Ceramic	3198	017	42240	3205	Res, 1K, 5%, 1/16W, Metalized Glass	3198	021	31020
2470	Cap, 100n, 10%, 100v, Ceramic	2222	601	55649	3206	Res, 5K6, 5%, 1/16W, Metalized Glass	3198	021	35620
2484	ELCAP BP NA 50V S 10U PM20 A	2020	009	00001	3207	Res, 10 ohm, 5%, 1/16W, Metalized Glass	3198	021	31090
2486	Cap, 27p, 5%, 500V, Ceramic	2252	508	08255	3208	Res, 27K, 5%, 1/16W, Metalized Glass	3198	021	32730
2487	Cap, 1n5, 10%, 50V, Ceramic	3198	017	01520	3209	Res, 1 ohm, 5%, 1/16W, Metalized Glass	3198	021	31080
2489	Cap, 10n, 10%, 50V, Ceramic	3198	017	31030	3210	Res, 1 ohm, 5%, 1/16W, Metalized Glass	3198	021	31080
2490	Cap, 47n, 10%, 250V, Ceramic	2020	557	90733	3211	Res, 27K, 5%, 1/16W, Metalized Glass	3198	021	32730
2500	CAP MKP, 275V S 470N PM20 B	2222	338	22474	3212	Res, 10 ohm, 5%, 1/16W, Metalized Glass	3198	021	31090
2503	Cap, 2n2, 10%, 1KV, Ceramic	3198	019	52220	3214	Res, 10 ohm, 5%, 1/16W, Metalized Glass	3198	021	31090
2504	Cap, 2n2, 10%, 1KV, Ceramic	3198	019	52220	3215	Res, 4K7, 5%, 1/6W, Carbon Film	3198	011	04720
2505	Cap, 470u, 20%, 200v, Electrolytic	2022	020	00852	3216	Res, 10 ohm, 5%, 1/16W, Metalized Glass	3198	021	31090
2511	Cap, 22u, 20%, 50V, Electrolytic	3198	025	52290	3218	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198	021	31010
2512	Cap, 100n, 10%, 16V, Ceramic	3198	017	31040	3219	Res, 10K, 5%, 1/16W, Metalized Glass	3198	021	31030
2513	Cap, 470p, 10%, 50V, Ceramic	3198	017	34710	3220	Res, 150 ohm, 5%, 1/16W, Metalized Glass	3198	021	31510
2514	Cap, 1n5, 10%, 2KV, Ceramic	3198	019	71520	3221	Res, 270 ohm, 5%, 1/16W, Metalized Glass	3198	021	32710
2515	Cap, 470p, 5%, 50V, Ceramic	3198	016	34710	3222	Res, 680 ohm, 5%, 1/16W, Metalized Glass	3198	021	36810
2516	Cap, 100n, 10%, 16V, Ceramic	3198	017	31040	3224	Res, 680K, 5%, 1/6W, Carbon Film	3198	011	06840
2517	Cap, 1n, 10%, 50V, Ceramic	3198	017	31020	3226	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198	021	31010
2519	Cap, 100p, 5%, 100V, Ceramic	2020	557	90726	3227	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198	021	31010
2530	Cap, 330p, 5%, 100v, Ceramic	2020	557	00005	3228	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198	021	31010
2531	Cap, 470p, 5%, 50V, Ceramic	3198	016	34710	3229	Res, 1K5, 5%, 1/16W, Metalized Glass	3198	021	31520
2532	Cap, 10u, 10%, 16V, Ceramic	2020	552	96823	3230	Res, 100 ohm, 5%, 1/6W, Carbon Film	3198	011	01010
2533	Cap, 4n7, 10%, 50V, Ceramic	3198	017	34720	3231	Res, 100 ohm, 5%, 1/6W, Carbon Film	3198	011	01010
2534	Cap, 68p, 5%, 1000V, Ceramic	2020	558	90261	3232	Res, 12K, 5%, 1/16W, Metalized Glass	3198	021	31230
2535	Cap, 1000u, 20%, 6.3V, Electrolytic	3198	025	01020	3235	Res, 1K, 5%, 1/16W, Metalized Glass	3198	021	31020
2536	Cap, 2u2, 20%, 10V, Electrolytic	2020	012	93728	3236	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198	021	31010
2538	Cap, 470p, 10%, 50V, Ceramic	3198	017	34710	3237	Res, 1K, 5%, 1/16W, Metalized Glass	3198	021	31020
2539	Cap, 470p, 10%, 500V, Ceramic	3198	019	44710	3238	Res, 4K7, 5%, 1/16W, Metalized Glass	3198	021	34720
2541	Cap, 47u, 20%, 25V, Electrolytic	3198	025	34790	3239	Res, 1K2, 5%, 1/6W, Carbon Film	3198	011	01220
2542	Cap, 1n5, 20%, 250V, Ceramic	2020	554	90199	3240	Res, 22K, 5%, 1/16W, Metalized Glass	3198	021	32230
2543	Cap, 2n2, 10%, 500V, Ceramic	3198	019	42220	3241	Res, 39K, 1%, Metal Film	3198	039	39030
2549	Cap, 100p, 5%, 50V, Ceramic	3198	016	31010	3242	Res, 47K, 5%, 1/16W, Metalized Glass	3198	021	34730
2550	Cap, 33p, 5%, 200v, Ceramic	2020	557	00002	3243	Res, 33K, 5%, 1/16W, Metalized Glass	3198	021	33330
2551	Cap, 1n, 10%, 1KV, Ceramic	3198	019	61020	3244	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198	021	31010
2552	Cap, 100u, 20%, 160v, Electrolytic	2020	021	91654	3247	Res, 390 ohm, 5%, 1/16W, Metalized Glass	3198	021	33910
2553	Cap, 180p, 5%, 50V, Ceramic	3198	016	31810	3248	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198	021	31010
2561	Cap, 1n, 10%, 500V, Ceramic	3198	019	41020	3249	Res, 100 ohm, 5%, 1/6W, Carbon Film	3198	011	01010
2562	Cap, 1000u, 20%, 25V, Electrolytic	3198	026	31020	3250	Res, 2K2, 5%, 1/16W, Metalized Glass	3198	021	32220
2563	Cap, 1000u, 20%, 25V, Electrolytic	3198	026	31020	3251	Res, 10K, 5%, 1/16W, Metalized Glass	3198	021	31030
2564	Cap, 100n, 10%, 50v, Ceramic	2238	580	15649	3254	Res, 560 ohm, 5%, 1/16W, Metalized Glass	3198	021	35610
2565	Cap, 1n, 10%, 500V, Ceramic	3198	019	41020	3257	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198	021	31010
2571	Cap, 15n, 10%, 50V, Ceramic	3198	017	31530	3258	Res, 100 ohm, 5%, 1/6W, Carbon Film	3198	011	01010
2572	Cap, 10n, 10%, 50V, Ceramic	3198	017	31030	3260	Res, 100 ohm, 5%, 1/6W, Carbon Film	3198	011	01010
2573	Cap, 220n, 10%, 50V, Ceramic	2020	552	96683	3261	Res, 4K7, 5%, 1/16W, Metalized Glass	3198	021	34720
2601	Cap, 1n, 5%, 25V, Ceramic	3198	016	31020	3262	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198	021	31010
2611	Cap, 47u, 20%, 16V, Electrolytic	3198	028	24790	3264	Res, 10 ohm, 5%, 1/16W, Metalized Glass	3198	021	31090
2613	Cap, 100n, 10%, 16V, Ceramic	3198	017	31040	3269	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198	021	31010
2615	Cap, 4u7, +80/-20%, 10V, Ceramic	2020	552	96305	3270	Res, 100 ohm, 5%, 1/6W, Carbon Film	3198	011	01010
2617	Cap, 100n, 10%, 16V, Ceramic	3198	017	31040	3271	Res, 390 ohm, 5%, 1/16W, Metalized Glass	3198	021	33910
2620	Cap, 100n, 10%, 16V, Ceramic	3198	017	31040	3272	Res, 820 ohm, 5%, 1/16W, Metalized Glass	3198	021	38210
2621	Cap, 100u, 20%, 25V, Electrolytic	3198	025	31010	3273	Res, 1K, 5%, 1/16W, Metalized Glass	3198	021	31020
2623	Cap, 100n, 10%, 16V, Ceramic	3198	017	31040	3274	Res, 100 ohm, 5%, 1/6W, Carbon Film	3198	011	01010
2624	Cap, 100u, 20%, 25V, Electrolytic	3198	025	31010	3275	Res, 100 ohm, 5%, 1/6W, Carbon Film	3198	011	01010
2625	Cap, 2u2, 10%, 6v, Ceramic	2022	552	05615	3276	Res, 100 ohm, 5%, 1/6W, Carbon Film	3198	011	01010
2626	Cap, 33p, 5%, 50V, Ceramic	3198	016	33390	3277	Res, 100 ohm, 5%, 1/6W, Carbon Film	3198	011	01010
2627	Cap, 33p, 5%, 50V, Ceramic	3198	016	33390	3278	Res, 100 ohm, 5%, 1/6W, Carbon Film	3198	011	01010
2628	Cap, 33p, 5%, 50V, Ceramic	3198	016	33390	3281	Res, 4K7, 5%, 1/16W, Metalized Glass	3198	021	34720
2629	Cap, 33p, 5%, 50V, Ceramic	3198	016	33390	3283	Res, 4K7, 5%, 1/16W, Metalized Glass	3198	021	34720
2630	Cap, 1n, 10%, 50V, Ceramic	3198	017	31020	3284	Res, 4K7, 5%, 1/16W, Metalized Glass	3198	021	34720
2986	Cap, 100n, 10%, 16V, Ceramic	3198	017	31040	3285	Res, 1K, 5%, 1/16W, Metalized Glass	3198	021	31020
2987	Cap, 100n, 10%, 16V, Ceramic	3198	017	31040	3287	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198	021	31010
2988	Cap, 100n, 10%, 16V, Ceramic	3198	017	31040	3289	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198	021	31010
2989	Cap, 1u, +80/-20%, 10V, Ceramic	3198	017	41050	3290	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198	021	31010</

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3292	Res, 47K, 5%, 1/16W, Metalized Glass . .	3198	021	34730	3500	Res, 3M3, 5%, 1/2W, Metalized Glass. . .	2322	242	13335
3293	Res, 39K, 5%, 1/16W, Metalized Glass . .	3198	021	33930	3501	Res, 3M3, 5%, 1/2W, Metalized Glass. . .	2322	242	13335
3295	Res, 8K2, 5%, 1/16W, Metalized Glass . .	3198	021	38220	3502	Res, 220 ohm, 20%, 1/2W, Carbon Film . .	3198	013	02210
3296	Res, 5K6, 5%, 1/16W, Metalized Glass . .	3198	021	35620	S 3503	Surge Protector.	2422	549	43073
3328	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198	021	31010	3504	Res, 1M5, 5%, 1/2W, Metalized Glass. . .	2322	242	13155
3329	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198	021	31010	3505	VDR DC 1MA/423V S MAX 775V B	2122	550	00147
3330	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198	021	31010	S 3510	NTC, B57237, 3W1, 4R7, 20%	2122	612	00055
3331	Res, 100 ohm, 5%, 1/6W, Carbon Film. . .	3198	011	01010	3511	Res, 4R7, 5%, 1/6W, Carbon Film.	3198	011	04780
3332	Res, 1K, 20%, 1/2W, Carbon Film.	3198	013	01020	3512	Res, 1K2, 5%, 1/16W, Metalized Glass . .	3198	021	31220
3333	Res, 100 ohm, 5%, 1/6W, Carbon Film. . .	3198	011	01010	3513	Res, 2K2, 5%, 1/3W, Metal Film	2306	204	03222
3334	Res, 1K, 20%, 1/2W, Carbon Film.	3198	013	01020	3514	Res, 100 ohm, 5%, 1/3W, Metal Film . . .	2306	204	03101
3335	Res, 100 ohm, 5%, 1/6W, Carbon Film. . .	3198	011	01010	3515	Res, 1K, 5%, 1/6W, Carbon Film	3198	011	01020
3336	Res, 1K, 20%, 1/2W, Carbon Film.	3198	013	01020	3516	Res, 0R1, 5%, 3/5W, Metal Film	3198	012	11070
3351	Res, 100 ohm, 5%, 1/3W, Metal Film . . .	2306	204	03101	3517	Res, 300K, 1%, Metalized Glass	2322	704	63004
3354	Res, 1K5, 20%, 1/2W, Carbon Film	3198	013	01520	3518	Res, 3K3, 5%, 1/16W, Metalized Glass . .	3198	021	33320
3356	Res, 10R, 1%, Metal Film	3198	039	10090	3519	Res, 15K, 5%, 1/6W, Carbon Film.	3198	011	01530
3357	VDR 0603 1MA/18V MAX 35V R	2122	552	00004	3520	Res, 0R18, 5%, 1W, Metal Film.	2120	106	90636
3361	Res, 1K5, 5%, 1/16W, Metalized Glass . .	3198	021	31520	3521	Res, 3K3, 5%, 1/6W, Carbon Film.	3198	011	03320
3362	Res, 10 ohm, 5%, 1/3W, Metal Film. . . .	2306	204	03109	3522	Res, 56K, 5%, 1/16W, Metalized Glass . .	3198	021	35630
3363	Res, 560 ohm, 5%, 1/16W, Metalized Glass	3198	021	35610	3523	PTC DBL-MONO 145V S 1R5 PM20 Y	2322	662	96753
3364	Res, 1R5, 5%, 1/4W, Carbon Film.	2122	101	02083	3524	Res, 47K, 5%, 1/16W, Metalized Glass . .	3198	021	34730
3365	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198	021	31010	3530	Res, 220 ohm, 5%, 1/16W, Metalized Glass	3198	021	32210
3366	Res, 68K, 5%, 1/16W, Metalized Glass . .	3198	021	36830	3531	Res, 100K, 5%, 1/6W, Carbon Film	3198	011	01040
3367	Res, 68K, 5%, 1/6W, Carbon Film.	3198	011	06830	3532	Res, 4R7, 5%, 1/3W, Metal Film	2306	204	03478
3368	Res, 560 ohm, 5%, 1/16W, Metalized Glass	3198	021	35610	3533	Res, 8K2, 5%, 1/16W, Metalized Glass . .	3198	021	38220
3369	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198	021	31010	3534	Res, 100 ohm, 5%, 1/6W, Carbon Film. . .	3198	011	01010
3370	Res, 1R5, 5%, 1/16W, Metalized Glass . .	2322	702	60158	3537	Res, 2K2, 5%, 1/16W, Metalized Glass . .	3198	021	32220
3371	Res, 470 ohm, 5%, 1/6W, Carbon Film. . .	3198	011	04710	3538	Res, 1R8, 5%, 1/8W, Metalized Glass. . .	2322	730	61188
3373	Res, 1K5, 5%, 5W, Metal Film	2322	257	41152	3541	Res, 47K, 5%, 1/16W, Metalized Glass . .	3198	021	34730
3375	Res, 180K, 5%, 1/8W, Metalized Glass . .	2322	730	61184	3563	Res, 220 ohm, 5%, 1/6W, Carbon Film. . .	3198	011	02210
3376	Res, 68K, 5%, 1/16W, Metalized Glass . .	3198	021	36830	3565	Res, 15K, 5%, 1/16W, Metalized Glass . .	3198	021	31530
3387	Res, 1K8, 5%, 1/16W, Metalized Glass . .	3198	021	31820	3571	Res, 220 ohm, 5%, 1/6W, Carbon Film. . .	3198	011	02210
3388	Res, 33 ohm, 5%, 1/16W, Metalized Glass.	3198	021	33390	3572	Res, 220 ohm, 5%, 1/16W, Metalized Glass	3198	021	32210
3389	Res, 33 ohm, 5%, 1/16W, Metalized Glass.	3198	021	33390	3573	Res, 15K, 5%, 1/16W, Metalized Glass . .	3198	021	31530
3401	Res, 47K, 1%, Metal Film	3198	039	47030	3574	Res, 150K, 5%, 1/6W, Carbon Film	3198	011	01540
3404	Res, 1 ohm, 5%, 1/8W, Metalized Glass. .	2322	750	61008	3575	Res, 82K, 1%, Metal Film	3198	039	82030
3412	Res, 1K, 5%, 1/6W, Carbon Film	3198	011	01020	3576	Res, 4K7, 1%, 1/16W, Metalized Glass . .	2322	704	64702
3414	Res, 4R7, 5%, 1 1/3W, Metal Film	2322	194	63478	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 Glass	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	3603	Res, 100 ohm, 5%, 1/6W, Carbon Film. . .	3198	011	01010
3420	Res, 10K, 5%, 1/10W, Metalized Glass . .	3198	021	51030	3604	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198	021	31010
3425	Res, 100K, 1%, Metal Film	3198	039	10040	3605	Res, 100 ohm, 5%, 1/16W, Metalized Glass	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	RST MGL VR25 A 120K PM5 A	2322	241	53124	3608	Res, 27K, 5%, 1/16W, Metalized Glass . .	3198	021	32730
3431	Res, 82K, 1%, Metal Film	3198	039	82030	3609	Res, 330 ohm, 5%, 1/16W, Metalized Glass	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	3619	Res, 680 ohm, 5%, 1/16W, Metalized Glass	3198	021	36810
3446	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198	021	31010	3620	Res, 680 ohm, 5%, 1/16W, Metalized Glass	3198	021	36810
3451	Res, 68K, 1%, Metal Film	3198	039	68030	3621	Res, 680 ohm, 5%, 1/16W, Metalized Glass	3198	021	36810
3452	Res, 15K, 5%, 1/16W, Metalized Glass . .	3198	021	31530	3625	Res, 10 ohm, 5%, 1/16W, Metalized Glass.	3198	021	31090
3453	Res, 33K, 5%, 1/16W, Metalized Glass . .	3198	021	33330	3626	Res, 10 ohm, 5%, 1/16W, Metalized Glass.	3198	021	31090
3454	Res, 47K, 5%, 1/6W, Carbon Film.	3198	011	04730	3628	Res, 10 ohm, 5%, 1/16W, Metalized Glass.	3198	021	31090
3455	Res, 1 ohm, 5%, 1/2W, Metal Film	2306	207	03108	3634	Res, 1K, 5%, 1/16W, Metalized Glass. . .	3198	021	31020
3457	Res, 1 ohm, 5%, 1/2W, Metal Film	2306	207	03108	3635	Res, 47K, 5%, 1/16W, Metalized Glass . .	3198	021	34730
3458	Res, 4R7, 5%, 1/2W, Metal Film	2306	207	03478	3637	Res, 47 ohm, 5%, 1/16W, Metalized Glass.	3198	021	34790
3460	Res, 2K2, 5%, 1/6W, Carbon Film.	3198	011	02220	3690	Res, 220 ohm, 5%, 1/16W, Metalized Glass	3198	021	32210
3461	Res, 2K2, 5%, 1/6W, Carbon Film.	3198	011	02220	3975	Res, 150 ohm, 5%, 1 1/3W, Metal Film . .	3198	012	21510
3462	Res, 2K2, 5%, 1/16W, Metalized Glass . .	3198	021	32220	3985	Res, 39K, 5%, 1/16W, Metalized Glass . .	3198	021	33930
3463	Res, 1K, 5%, 1/16W, Metalized Glass . . .	3198	021	31020	3988	Res, 10K, 5%, 1/16W, Metalized Glass . .	3198	021	31030
3464	Res, 220 ohm, 5%, 1/16W, Metalized Glass	3198	021	32210	3989	Res, 10 ohm, 5%, 1/16W, Metalized Glass.	3198	021	31090
3466	Res, 1 ohm, 5%, 1/2W, Metal Film	2306	207	03108	3991	Res, 39K, 5%, 1/16W, Metalized Glass . .	3198	021	33930
3467	Res, 120 ohm, 5%, 1/6W, Carbon Film. . .	3198	011	01210	3992	Res, 10K, 5%, 1/16W, Metalized Glass . .	3198	021	31030
3468	Res, 150 ohm, 5%, 1/6W, Carbon Film. . .	3198	011	01510	3993	Res, 10 ohm, 5%, 1/16W, Metalized Glass.	3198	021	31090
3469	Res, 1K, 5%, 1/16W, Metalized Glass. . .	3198	021	31020	3994	Res, 68K, 5%, 1/16W, Metalized Glass . .	3198	021	36830
3470	Res, 22 ohm, 5%, 1/6W, Carbon Film . . .	3198	011	02290	3995	Res, 4K7, 5%, 1/16W, Metalized Glass . .	3198	021	34720
3471	Res, 2R4, 1%, Metal Film	3198	039	24080	4000	Res, Zero ohm, 'Chip' Jumper	3198	021	90030
3472	Res, 2R4, 1%, Metal Film	3198	039	24080	4001	Res, Zero ohm, 'Chip' Jumper	3198	021	90030
3473	Res, 820K, 5%, 1/16W, Metalized Glass. .	2322	702	60824	4002	Res, Zero ohm, 'Chip' Jumper	3198	021	90030
3474	Res, 15K, 5%, 1/16W, Metalized Glass . .	3198	021	31530	4003	Res, Zero ohm, 'Chip' Jumper	3198	021	90030
3475	Res, 8K2, 5%, 1/16W, Metalized Glass . .	3198	021	38220	4006	Res, Zero ohm, 'Chip' Jumper	3198	021	90030
3478	Res, 6K8, 5%, 1/16W, Metalized Glass . .	3198	021	36820	4013	Res, Zero ohm, 'Chip' Jumper	3198	021	90030
3481	Res, 10 ohm, 5%, 1/8W, Metalized Glass . .	2322	750	61009	4015	Res, Zero ohm, 'Chip' Jumper	3198	021	90030
3482	Res, 2K4, 1%, Metal Film	3198	039	24020	4101	Res, Zero ohm, 'Chip' Jumper	3198	021	90030
3483	Res, 5K6, 1%, Metal Film	3198	039	56020	4102	Res, Zero ohm, 'Chip' Jumper	3198	021	90030
S 3484	Res, 1 ohm, 5%, 1/3W, Metal Film	2306	204	03108	4103	Res, Zero ohm, 'Chip' Jumper	3198	021	90030
S 3485	Res, 1 ohm, 5%, 1/3W, Metal Film	2306	204	03108	4109	Res, Zero ohm, 'Chip' Jumper	3198	021	90030
3486	Res, 6K8, 5%, 1/16W, Metalized Glass . .	3198	021	36820	4110	Res, Zero ohm, 'Chip' Jumper	3198	021	90030
3489	Res, 47 ohm, 5%, 1/10W, Metalized Glass.	3198	021	54790	4111	Res, Zero ohm, 'Chip' Jumper	3198	021	90030
3490	Res, 22K, 5%, 1/16W, Metalized Glass . .	3198	021	32230	4130	Res, Zero ohm, 'Chip' Jumper	3198	021	90030
3491	Res, 100K, 5%, 1/16W, Metalized Glass. .	3198	021	31040	4136	Res, Zero ohm, 'Chip' Jumper	3198	021	90030
3493	Res, 2K2, 5%, 1/16W, Metalized Glass . .	3198	021	32220	4209	Res, Zero ohm, 'Chip' Jumper	3198	021	90030
3494	Res, 100K, 5%, 1/16W, Metalized Glass. .	3198	021	31040	4211	Res, Zero ohm, 'Chip' Jumper	3198	021	90030
3495	Res, 330K, 5%, 1/10W, Glass.	3198	021	53340	4212	Res, Zero ohm, 'Chip' Jumper	3198	021	90030
3497	Res, 1 ohm, 5%, 1/2W, Metal Film	2306	207	03108	4221	Res, Zero ohm, 'Chip' Jumper	3198	021	90030
3498	Res, 4K7, 5%, 1/16W, Metalized Glass . .	3198	021	34720	4222	Res, Zero ohm, 'Chip' Jumper	3198	021	90030
3499	Res, 680K, 5%, 1/10W, Metalized Glass. .	3198	021	56840	4223	Res, Zero ohm, 'Chip' Jumper	3198	021	90020

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

27ST6210/27 (continued)

4226	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6442	Zener Diode, 68 volt	9322	150	20685
4227	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6443	Zener Diode, 10 volt	3198	020	51090
4240	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6450	Diode, Signal, BAS316	3198	010	10630
4241	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6451	Zener Diode, 4.7 volt	3198	020	54780
4337	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6452	Diode, Rect, BYV27-200	9322	126	72673
4470	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6453	Diode, Rect, RGP10G	9334	939	60673
4492	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6454	Diode, Rect, RGP10G	9334	939	60673
4533	Res, Zero ohm, 'Chip' Jumper	3198	021	90020	6455	Diode, Rect, RGP10G	9334	939	60673
4534	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6456	Diode, Rect, PBVR10100	9340	205	70127
4535	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6457	Diode, Signal, BAS316	3198	010	10630
4537	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6458	Diode, Signal, BAS316	3198	010	10630
4604	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6459	Diode, Rect, RGP10G	9334	939	60673
4605	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6480	Zener Diode, 6.8 volt	3198	010	56880
4610	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6481	Diode, Signal, 1N4148	3198	010	10010
4612	Res, Zero ohm, 'Chip' Jumper	3198	021	90020	6482	Zener Diode, 6.8 volt	3198	020	56880
4620	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6483	Diode, Signal, BAV21WS	9322	197	45703
4631	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6484	Diode, Signal, BAV21WS	9322	197	45703
4635	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6486	Diode, Signal, BAV21	3198	010	10070
4637	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6488	Diode, Signal, BAS316	3198	010	10630
4642	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6489	Zener Diode, 33 volt	3198	020	53390
4644	Res, Zero ohm, 'Chip' Jumper	3198	021	90020	6500	Diode, Bridge Rect, GBU4JL-7002	9322	132	55667
4645	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6511	Diode, Rect, RGP10D	9337	516	60673
4646	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6512	Diode, Signal, BAT54	3198	010	10660
4648	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6514	Diode, Signal, BAS316	3198	010	10630
4649	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6531	Zener Diode, 15 volt	3198	020	51590
4691	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6532	Diode, Signal, BAV21WS	9322	197	45703
4692	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6533	Zener Diode, 6.8 volt	9322	171	80685
4694	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6534	DIO REG, BZX384-B3V9	9322	199	75685
4696	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6535	Diode, Rect, SB160	9322	198	24673
4910	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6536	Diode, Rect, SB180	9322	198	25673
4914	Res, Zero ohm, 'Chip' Jumper	3198	021	90020	6541	Zener Diode, 12 volt	3198	020	51290
4915	Res, Zero ohm, 'Chip' Jumper	3198	021	90020	6551	Diode, Rect, STTH8L06D	9322	198	41687
4916	Res, Zero ohm, 'Chip' Jumper	3198	021	90020	6562	Diode, Rectifier, SB360	3198	010	10700
4917	Res, Zero ohm, 'Chip' Jumper	3198	021	90020	6563	Diode, Rectifier, SB360	3198	010	10700
4921	Res, Zero ohm, 'Chip' Jumper	3198	021	90020	6564	Diode, Signal, BAS316	3198	010	10630
5001	Fixed, Inductor, 100MHz, 120R	3198	018	90030	6565	Zener Diode, 9.1 volt	9322	125	46685
5002	Coil, 390n	3198	018	33970	6566	Diode, Signal, BAS316	3198	010	10630
5201	Fixed, Inductor, 100MHz, 50R	3198	018	90010	6571	Diode, Signal, BAV70	9331	849	10215
5202	Fixed, Inductor, 100MHz, 120R	3198	018	90030	6572	Zener Diode, 6.2 volt	9340	548	54115
5203	Fixed, Inductor, 100MHz, 120R	3198	018	90030	6573	Zener Diode, 9.1 volt	9331	177	80133
5205	Fixed, Inductor, 100MHz, 120R	3198	018	90030	6575	Diode, Rect, 1N5392	9322	005	16683
5206	Fixed, Inductor, 100MHz, 120R	3198	018	90030	6602	Diode, Signal, BAV99	3198	010	10620
5207	Fixed, Inductor, 100MHz, 120R	3198	018	90030	6694	Zener Diode, 5.1 volt	3198	020	55180
5208	Fixed, Inductor, 100MHz, 50R	3198	018	90010	7200	IC, TDA12000H1/N1B50	9352	749	94557
5209	Fixed, Inductor, 100MHz, 120R	3198	018	90030	7201	Transistor, NPN, IMX1	9322	054	28685
5210	Fixed, Inductor, 100MHz, 120R	3198	018	90030	7203	Transistor, PNP, BC327-25	3198	020	43430
5211	Fixed, Inductor, 100MHz, 120R	3198	018	90030	7204	Transistor, PNP, BC327-25	3198	020	43430
5212	Fixed, Inductor, 100MHz, 120R	3198	018	90030	7207	Transistor, NPN, BC847B	3198	010	42030
5213	Fixed, Inductor, 100MHz, 120R	3198	018	90030	7208	Transistor, NPN, BC847B	3198	010	42030
5214	Fixed, Inductor, 100MHz, 120R	3198	018	90030	7209	F.E.T. Signal, BSH103	9340	547	13215
5215	Fixed, Inductor, 100MHz, 120R	3198	018	90030	7210	F.E.T. Signal, BSH103	9340	547	13215
5216	Fixed, Inductor, 100MHz, 50R	3198	018	90010	7330	IC TDA6107AJF/N1B	9352	636	44112
5330	Fixed, Inductor, 100MHz, 50R	3198	018	90010	7361	Transistor, NPN, BC847B	3198	010	42030
5331	Fixed, Inductor, 100MHz, 50R	3198	018	90010	7362	Transistor, PNP, BC857B	3198	010	42150
5351	Coil, 22u	2422	535	97333	7363	Transistor, KTB631KY	9322	195	05687
5352	Coil, 220n	2422	535	94257	7364	Transistor, KTD600KY	9322	195	14687
5361	Fixed, Inductor, 100MHz, 50R	3198	018	90010	7376	Transistor, PNP, BC857B	3198	010	42150
5401	Coil, 33u	2422	535	94864	7404	F.E.T. Signal, BSH103	9340	547	13215
5402	Transformer, DRIVER	2422	531	02617	7405	Transistor, NPN, BU4508DX	9340	550	92127
5405	Coil, CHOKE 35MH	2422	536	00846	7406	Transistor, KTC3228Y	9322	197	37676
5408	Coil, Choke	3128	138	37021	7408	Transistor, NPN, BC847B	3198	010	42030
5450	Transformer, LOT	2422	531	02574	7410	Transistor, PNP, BC857B	3198	010	42150
5451	Coil, 33u	2422	535	97335	7411	Transistor, PNP, BC857B	3198	010	42150
5501	Filter, Mains, 5mH, 2A	2422	549	43432	7451	Transistor, KTD600KY	9322	195	14687
5511	Fixed, Inductor, 100MHz, 50R	3198	018	90010	7452	Transistor, KTC3228Y	9322	197	37676
5512	Transformer, SMT LAYER	2422	531	02626	7453	Transistor, KTB631KY	9322	195	05687
5531	Transformer, SMT LAYER	2422	531	02631	7454	Transistor, NPN, BC847B	3198	010	42030
5551	Fixed, Inductor, 100MHz, 50R	3198	018	90010	7455	Transistor, PNP, BC857B	3198	010	42150
5552	Coil, 27u	2422	535	95366	7456	Transistor, PNP, BC857B	3198	010	42150
5561	Fixed, Inductor, 100MHz, 50R	3198	018	90010	7481	Transistor, PNP, BC857B	3198	010	42150
5562	Fixed, Inductor, 100MHz, 50R	3198	018	90010	7482	Transistor, PNP, PDTA114ET	3198	010	44010
5603	Fixed, Inductor, 100MHz, 50R	3198	018	90010	7483	Transistor, PNP, BC857B	3198	010	42150
6001	Zener Diode, 33 volt	3198	010	23390	7484	Transistor, NPN, BC847BG	9322	160	61668
6005	Zener Diode, 8.2 volt	9322	125	45685	7511	IC, TEA1506T/N1	9352	720	43118
6203	Diode, Signal, BAS316	3198	010	10630	7512	FET, PQPF9N50	9322	187	16687
6204	Diode, Rectifier, SS14	3198	010	10710	7513	Optic Coupler, TCET1103(G)	9322	140	14667
6205	Zener Diode, 27 volt	3198	020	52790	7514	Transistor, NPN, BC847B	3198	010	42030
6207	Diode, Signal, BAS316	3198	010	10630	7531	IC, TEA1620P/N1	9352	739	52112
6209	Diode, Signal, BAT54	3198	010	10660	7541	Transistor, PNP, BC857B	3198	010	42150
6331	Diode, Signal, BAV21	3198	010	10070	7561	Transistor, NPN, PDTCL143ZT	9340	547	00215
6332	Diode, Signal, BAV21	3198	010	10070	7571	Transistor, NPN, BC547B	3198	020	40030
6333	Diode, Signal, BAV21	3198	010	10070	7573	Transistor, NPN, PDTCL14ET	3198	010	44110
6361	Diode, Signal, BAV99	3198	010	10620	7601	IC, M24C16-WBN6	9322	147	25682
6376	Diode, Signal, BAV99	3198	010	10620	7603	IC, L78L33ACZ	9322	134	92676
6383	Diode, Rect, RGP10D	9337	516	60673	7604	Transistor, NPN, BC847B	3198	010	42030
6403	Diode, Rect, BYV27-200	9322	126	72673	7605	Transistor, PNP, BC327-25	3198	020	43430
6404	Diode, Rect, DMV1500M	9322	169	61687	7606	Transistor, NPN, BC847B	3198	010	42030
6406	Diode, Rect, RGP10G	9334	939	60673	7990	IC, TDA2616Q/N1	9350	404	00112
6407	Diode, Signal, BAV21WS	9322	197	45703	7991	Transistor, NPN, BC847B	3198	010	42030
6408	Diode, Signal, BAV21WS	9322	197	45703	7992	Transistor, NPN, BC847B	3198	010	42030
6410	Diode, Rect, BY448	9335	001	20133	8204	CBLE OE 07P/560/07P OE 240S BK	3139	131	03591
6441	Zener Diode, 68 volt	9322	150	20685	8401	Cable, 5 Pin, 560mm	3139	121	09041

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

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[illegible]

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

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0001	SIDE A/V SINGLE.	3139	123	57181
0100	PROCESS BOX PCB PNL LFS.	3139	129	90041
0150	Factory Plate.	3122	120	01701
0205	Side A/V Bracket	3139	124	60871
1016	SB.PNL-HP-S.1I-ST-GL	3139	188	06951
1232	SOC PHONE H 1P F 3.5 ST B	2422	026	04471
1250	SOC CINCH H 3P F 1L3 YEWHRD Y	2422	026	05538
1252	Connector, 7 Pin	2422	025	11244
1254	Connector, 5 Pin	2422	025	12481
1278	Connector, 4 Pin	2422	025	15847
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
8252	Cable, 7 Pin	3139	110	39091
8254	Cable, 5 Pin, 680mm.	3139	110	38861
9181	Wire Jumper, 0.58MM.	3198	036	90010

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CABINET PARTS

CABINET PARTS			
CTL TOP CONTROL ASSEMBLY	3139	188	65121
0002 AS FC 29WDPV ITV NA	3139	177	81511
0008 BC 29WDPV(SPLS+9AV+SVHS+SYS)NA	3139	124	49963
0016 MAINSKNOB ASSY EMG NAFTA EMG	3139	138	10881
0021 Holder, Degaussing (4 Used)	3135	013	01641
0030 Chassis Tray -32V	3139	124	31325
0041 Light Guide	3139	124	39701
0050 29" WORDMARK PHILIPS	3141	050	00161
0125 DFU	3135	125	21432
0940 FRONT SUB-ASSY 27ST6210/27	3121	237	55131
1081 Battery, Remote Control (2 Pack)	9299	000	13827
1085 Remote Control, RC0705/00	3139	228	80573
1099 CRT A68QCU770X73(N)	9301	946	60527
1114 TB-PV2-REC-4B-10811-21-32-NA	3139	188	65121
1116 Side Jack Panel	3139	188	67091
1150 Main Chassis	3139	188	62691
1160 Front Interface Assy	3139	188	62121
1181 EPS(1B). Module, (ITV)	3139	137	22961
1182 SP/LS MODULE ITV NA-LA	3139	188	61501
1183 Interface Module	3139	188	61471
1H52 Bracket, EPS Module, (ITV)	3119	107	17241
1H53 SYS CARD HSG LS AP/EU ITV	3139	124	37853
5203 Coil, Degaussing	2422	549	45709
5213 LSP 16R 10W SCR FULR 045X154 B	2422	264	00476
5214 LSP 16R 10W SCR FULR 045X154 B	2422	264	00476
8190 Mains Cord	3135	128	70012

MAIN CHASSIS

MAIN CHASSIS			
0001 PCB FB CINCH	3139	123	56721
0028 DOUBLE COMP CLIP	3139	121	27391
0031 LINE AND FRAME HEATSINK-ITV	3139	121	27951
0032 IC-Spring	3104	301	22081
0033 Heatsink	3139	121	27471
0034 Spring	3139	121	24583
0035 U-Cooling Plate	3139	121	26731
0037 LOT Bracket	3139	124	46811
0082 AUDIO B HEATSINK H37 ITV	3139	121	62881
0085 IC-Spring	3104	301	22081
0087 U-Cooling Plate	3139	121	26731
0100 PROCESS BOX PCB PNL LFS	3139	129	90041
0266 DOUBLE COMP CLIP	3139	121	27391
0276 TORX HEAD TAPPING SCREW M4X12	3139	120	41421
0313 SCREW #4-40 x 0.50"	3121	230	30071
0317 SCREW #4-40 x 0.50"	3121	230	30071
1000 Tuner	2422	542	90141
1002 S.A.W. Filter, 45MHZ75,	2422	549	44518
1005 Connector, 3 Pin	2422	025	09191
1137 SOC MDIN H 4P F LAP5100 Y	2422	026	05428
1204 Connector, 7 Pin	2422	025	04855
1205 RES XTL 24M576 20P HC49/U A	2422	543	00943
1207 Connector, 7 Pin	2422	025	11244
1212 Connector, 7 Pin	2422	025	17042
1213 Connector, 7 Pin	2422	025	11244
1219 Connector, 9 Pin	2422	025	17408
1220 Connector, 6 Pin	2422	025	12482
1223 Connector, 9 Pin	2422	026	05477
1227 Connector, 3 Pin	2422	025	16383
1229 Connector, 3 Pin	2412	020	00725
1236 Connector, 3 Pin	2422	025	16382
1254 CRT Socket	2422	500	80087
1262 Connector, 3 Pin	2422	025	16937
1280 Connector, 5 Pin	2422	025	12481
1331 Connector, 7 Pin	2422	025	04855
S 1351 Connector, 5 Pin	2422	025	04853
S 1361 Connector, 3 Pin	2412	020	00725
S 1401 Connector, 5 Pin	2422	025	04853
1404 Connector, 4 Pin	2422	025	15503
1451 Connector, 2 Pin	2422	025	10646
S 1452 FUSE RAD LT 1A25 250V IEC A	2422	086	10517
S 1454 FUSE RAD LT 1A25 250V IEC A	2422	086	10517
S 1500 Fuse, 4A, 250V, IEC	2422	086	10914
S 1501 SOC FUSE V 1P F PFC5000-0252 A	2422	090	01101
S 1502 SOC FUSE V 1P F PFC5000-0252 A	2422	090	01101
S 1503 Relay, 12V, 5A G5PA-1.	2422	132	07444
1504 Connector, 2 Pin	2422	025	16375
1505 Connector, 2 Pin	2422	025	16269
1507 Connector, 2 Pin	2422	025	16374
1682 Connector, 3 Pin	2412	020	00725
1692 Connector, 5 Pin	2422	025	15848
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%, 35V, Electrolytic	3198	028	41090
2106 Cap, 10u, 20%, 35V, Electrolytic	3198	028	41090

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, 220n, 10%, 10V, Ceramic	3198	017	32240
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
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
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
2352 Cap, 1n2, 10%, 2KV, Ceramic	2020	558	90488
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
2384 Cap, 220p, 5%, 50V, Ceramic	3198	016	32210
2385 Cap, 220p, 5%, 50V, Ceramic	3198	016	32210
2387 Cap, 10p, 5%, 50V, Ceramic	3198	016	31090
2404 Cap, 47u, 20%, 160v, Electrolytic	2022	031	00103

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

27ST621L/27 (continued)

2406	Cap, 680p, 10%, 500V, Ceramic	3198	019	46810	2990	Cap, 1n, 5%, 25V, Ceramic	3198	016	31020
2408	Cap, 100p, 5%, 50V, Ceramic	3198	016	31010	2992	Cap, 1u, +80/-20%, 10V, Ceramic	3198	017	41050
2409	Cap, 100n, +80/-20%, 25V, Ceramic	3198	023	41040	2993	Cap, 1n, 5%, 25V, Ceramic	3198	016	31020
2410	Cap, 100n, +80/-20%, 25V, Ceramic	3198	023	21040	2994	Cap, 22n, 10%, 25V, Ceramic	3198	017	32230
2411	Cap, 1n5, 10%, 2KV, Ceramic	3198	019	71520	2995	Cap, 22n, 10%, 25V, Ceramic	3198	017	32230
2412	Cap, 15n, 5%, 1600v, Polypropylene	2222	375	90158	2996	Cap, 47n, +80/-20%, 50V, Ceramic	3198	024	44730
2413	Cap, 39n, 10%, 400V, Polyester	2222	347	90228	2997	Cap, 47n, +80/-20%, 50V, Ceramic	3198	024	44730
2414	Cap, 1u, +80/-20%, 10V, Ceramic	3198	017	41050	3003	Res, 10K, 5%, 1/16W, Metalized Glass	3198	021	31030
2415	Cap, 2u2, 20%, 160v, Electrolytic	2022	031	00172	3004	Res, 68K, 5%, 1/16W, Metalized Glass	3198	021	36830
2418	Cap, 330n, 5%, 250V, Metalized Polypropyl ene	2222	479	90018	3005	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198	021	31010
2419	Cap, 2u2, 5%, 100v, Metalized Polyester	2222	468	90324	3101	Res, 68 ohm, 5%, 1/6W, Carbon Film	3198	011	06890
2420	Cap, 1u, +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 Polyester	2222	365	75184	3106	Res, 220K, 5%, 1/16W, Metalized Glass	3198	021	32240
2453	Cap, 1u, +80/-20%, 16V, Ceramic	3198	017	21050	3129	Res, 75 ohm, 5%, 1/16W, Metalized Glass	3198	021	37590
2454	Cap, 470u, 20%, 16V, Electrolytic	3198	025	24710	3131	Res, 22K, 5%, 1/6W, Carbon Film	3198	011	02230
2456	Cap, 47n, 10%, 250V, Ceramic	2020	557	90733	3132	Res, 47K, 5%, 1/16W, Metalized Glass	3198	021	34730
2457	Cap, 4u7, 20%, 250V, Electrolytic	2020	012	93282	3133	Res, 22K, 5%, 1/6W, Carbon Film	3198	011	02230
2459	Cap, 470p, 10%, 500V, Ceramic	3198	019	44710	3134	Res, 47K, 5%, 1/16W, Metalized Glass	3198	021	34730
2460	Cap, 470u, 20%, 16V, Electrolytic	3198	025	24710	3135	Res, 75 ohm, 5%, 1/16W, Metalized Glass	3198	021	37590
2461	Cap, 1n, 5%, 25V, Ceramic	3198	016	31020	3167	Res, 75 ohm, 5%, 1/6W, Carbon Film	3198	011	07590
2462	Cap, 1n, 5%, 25V, Ceramic	3198	016	31020	3168	Res, 75 ohm, 5%, 1/16W, Metalized Glass	3198	021	37590
2463	Cap, 100u, 20%, 50v, Electrolytic	3198	037	51010	3169	Res, 75 ohm, 5%, 1/16W, Metalized Glass	3198	021	37590
2464	Cap, 470p, 5%, 50V, Ceramic	3198	016	34710	3201	Res, 1K, 5%, 1/6W, Carbon Film	3198	011	01020
2465	Cap, 10u, 20%, 100V, Electrolytic	3198	025	71090	3202	Res, 3K3, 5%, 1/16W, Metalized Glass	3198	021	33320
2467	Cap, 10n, 10%, 400V, Metalized Polyester	2222	365	55103	3203	Res, 150K, 5%, 1/16W, Metalized Glass	3198	021	31540
2468	Cap, 220p, 5%, 50V, Ceramic	3198	016	32210	3204	Res, 3K3, 5%, 1/16W, Metalized Glass	3198	021	33320
2469	Cap, 220n, +80/-20%, 16V, Ceramic	3198	017	42240	3205	Res, 1K, 5%, 1/16W, Metalized Glass	3198	021	31020
2470	Cap, 100n, 10%, 100v, Ceramic	2222	601	55649	3206	Res, 5K6, 5%, 1/16W, Metalized Glass	3198	021	35620
2484	ELCAP BP NA 50V S 10U PM20 A	2020	009	00001	3207	Res, 10 ohm, 5%, 1/16W, Metalized Glass	3198	021	31090
2486	Cap, 27p, 5%, 500V, Ceramic	2252	508	08255	3208	Res, 27K, 5%, 1/16W, Metalized Glass	3198	021	32730
2487	Cap, 1n5, 10%, 50V, Ceramic	3198	017	01520	3209	Res, 1 ohm, 5%, 1/16W, Metalized Glass	3198	021	31080
2489	Cap, 10n, 10%, 50V, Ceramic	3198	017	31030	3210	Res, 1 ohm, 5%, 1/16W, Metalized Glass	3198	021	31080
2490	Cap, 47n, 10%, 250V, Ceramic	2020	557	90733	3211	Res, 27K, 5%, 1/16W, Metalized Glass	3198	021	32730
2500	CAP MKP, 275V S 470N PM20 B	2222	338	22474	3212	Res, 10 ohm, 5%, 1/16W, Metalized Glass	3198	021	31090
2503	Cap, 2n2, 10%, 1KV, Ceramic	3198	019	52220	3214	Res, 10 ohm, 5%, 1/16W, Metalized Glass	3198	021	31090
2504	Cap, 2n2, 10%, 1KV, Ceramic	3198	019	52220	3215	Res, 4K7, 5%, 1/6W, Carbon Film	3198	011	04720
2505	Cap, 470u, 20%, 200v, Electrolytic	2022	020	00852	3216	Res, 10 ohm, 5%, 1/16W, Metalized Glass	3198	021	31090
2511	Cap, 22u, 20%, 50V, Electrolytic	3198	025	52290	3218	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198	021	31010
2512	Cap, 100n, 10%, 16V, Ceramic	3198	017	31040	3219	Res, 10K, 5%, 1/16W, Metalized Glass	3198	021	31030
2513	Cap, 470p, 10%, 50V, Ceramic	3198	017	34710	3220	Res, 150 ohm, 5%, 1/16W, Metalized Glass	3198	021	31510
2514	Cap, 1n5, 10%, 2KV, Ceramic	3198	019	71520	3221	Res, 270 ohm, 5%, 1/16W, Metalized Glass	3198	021	32710
2515	Cap, 470p, 5%, 50V, Ceramic	3198	016	34710	3222	Res, 680 ohm, 5%, 1/16W, Metalized Glass	3198	021	36810
2516	Cap, 100n, 10%, 16V, Ceramic	3198	017	31040	3224	Res, 680K, 5%, 1/6W, Carbon Film	3198	011	06840
2517	Cap, 1n, 10%, 50V, Ceramic	3198	017	31020	3226	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198	021	31010
2519	Cap, 100p, 5%, 100V, Ceramic	2020	557	90726	3227	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198	021	31010
2530	Cap, 330p, 5%, 100v, Ceramic	2020	557	00005	3228	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198	021	31010
2531	Cap, 470p, 5%, 50V, Ceramic	3198	016	34710	3229	Res, 1K5, 5%, 1/16W, Metalized Glass	3198	021	31520
2532	Cap, 10u, 10%, 16V, Ceramic	2020	552	96823	3230	Res, 100 ohm, 5%, 1/6W, Carbon Film	3198	011	01010
2533	Cap, 4n7, 10%, 50V, Ceramic	3198	017	34720	3231	Res, 100 ohm, 5%, 1/6W, Carbon Film	3198	011	01010
2534	Cap, 68p, 5%, 1000V, Ceramic	2020	558	90261	3232	Res, 12K, 5%, 1/16W, Metalized Glass	3198	021	31230
2535	Cap, 1000u, 20%, 6.3V, Electrolytic	3198	025	01020	3235	Res, 1K, 5%, 1/16W, Metalized Glass	3198	021	31020
2536	Cap, 2u2, 20%, 10V, Electrolytic	2020	012	93728	3236	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198	021	31010
2538	Cap, 470p, 10%, 50V, Ceramic	3198	017	34710	3237	Res, 1K, 5%, 1/16W, Metalized Glass	3198	021	31020
2539	Cap, 470p, 10%, 500V, Ceramic	3198	019	44710	3238	Res, 4K7, 5%, 1/16W, Metalized Glass	3198	021	34720
2541	Cap, 47u, 20%, 25V, Electrolytic	3198	025	34790	3239	Res, 1K2, 5%, 1/6W, Carbon Film	3198	011	01220
2542	Cap, 1n5, 20%, 250V, Ceramic	2020	554	90199	3240	Res, 22K, 5%, 1/16W, Metalized Glass	3198	021	32230
2543	Cap, 2n2, 10%, 500V, Ceramic	3198	019	42220	3241	Res, 39K, 1%, Metal Film	3198	039	39030
2549	Cap, 100p, 5%, 50V, Ceramic	3198	016	31010	3242	Res, 47K, 5%, 1/16W, Metalized Glass	3198	021	34730
2550	Cap, 33p, 5%, 200v, Ceramic	2020	557	00002	3243	Res, 33K, 5%, 1/16W, Metalized Glass	3198	021	33330
2551	Cap, 1n, 10%, 1KV, Ceramic	3198	019	61020	3244	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198	021	31010
2552	Cap, 100u, 20%, 160v, Electrolytic	2020	021	91654	3247	Res, 390 ohm, 5%, 1/16W, Metalized Glass	3198	021	33910
2553	Cap, 180p, 5%, 50V, Ceramic	3198	016	31810	3248	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198	021	31010
2561	Cap, 1n, 10%, 500V, Ceramic	3198	019	41020	3249	Res, 100 ohm, 5%, 1/6W, Carbon Film	3198	011	01010
2562	Cap, 1000u, 20%, 25V, Electrolytic	3198	026	31020	3250	Res, 2K2, 5%, 1/16W, Metalized Glass	3198	021	32220
2563	Cap, 1000u, 20%, 25V, Electrolytic	3198	026	31020	3251	Res, 10K, 5%, 1/16W, Metalized Glass	3198	021	31030
2564	Cap, 100n, 10%, 50v, Ceramic	2238	580	15649	3254	Res, 560 ohm, 5%, 1/16W, Metalized Glass	3198	021	35610
2565	Cap, 1n, 10%, 500V, Ceramic	3198	019	41020	3257	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198	021	31010
2571	Cap, 15n, 10%, 50V, Ceramic	3198	017	31530	3258	Res, 100 ohm, 5%, 1/6W, Carbon Film	3198	011	01010
2572	Cap, 10n, 10%, 50V, Ceramic	3198	017	31030	3260	Res, 100 ohm, 5%, 1/6W, Carbon Film	3198	011	01010
2573	Cap, 220n, 10%, 50V, Ceramic	2020	552	96683	3261	Res, 4K7, 5%, 1/16W, Metalized Glass	3198	021	34720
2601	Cap, 1n, 5%, 25V, Ceramic	3198	016	31020	3262	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198	021	31010
2611	Cap, 47u, 20%, 16V, Electrolytic	3198	028	24790	3264	Res, 10 ohm, 5%, 1/16W, Metalized Glass	3198	021	31090
2613	Cap, 100n, 10%, 16V, Ceramic	3198	017	31040	3269	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198	021	31010
2615	Cap, 4u7, +80/-20%, 10V, Ceramic	2020	552	96305	3270	Res, 100 ohm, 5%, 1/6W, Carbon Film	3198	011	01010
2617	Cap, 100n, 10%, 16V, Ceramic	3198	017	31040	3271	Res, 390 ohm, 5%, 1/16W, Metalized Glass	3198	021	33910
2620	Cap, 100n, 10%, 16V, Ceramic	3198	017	31040	3272	Res, 820 ohm, 5%, 1/16W, Metalized Glass	3198	021	38210
2621	Cap, 100u, 20%, 25V, Electrolytic	3198	025	31010	3273	Res, 1K, 5%, 1/16W, Metalized Glass	3198	021	31020
2623	Cap, 100n, 10%, 16V, Ceramic	3198	017	31040	3274	Res, 100 ohm, 5%, 1/6W, Carbon Film	3198	011	01010
2624	Cap, 100u, 20%, 25V, Electrolytic	3198	025	31010	3275	Res, 100 ohm, 5%, 1/6W, Carbon Film	3198	011	01010
2625	Cap, 2u2, 10%, 6v, Ceramic	2022	552	05615	3276	Res, 100 ohm, 5%, 1/6W, Carbon Film	3198	011	01010
2626	Cap, 33p, 5%, 50V, Ceramic	3198	016	33390	3277	Res, 100 ohm, 5%, 1/6W, Carbon Film	3198	011	01010
2627	Cap, 33p, 5%, 50V, Ceramic	3198	016	33390	3278	Res, 100 ohm, 5%, 1/6W, Carbon Film	3198	011	01010
2628	Cap, 33p, 5%, 50V, Ceramic	3198	016	33390	3281	Res, 4K7, 5%, 1/16W, Metalized Glass	3198	021	34720
2629	Cap, 33p, 5%, 50V, Ceramic	3198	016	33390	3283	Res, 4K7, 5%, 1/16W, Metalized Glass	3198	021	34720
2630	Cap, 1n, 10%, 50V, Ceramic	3198	017	31020	3284	Res, 4K7, 5%, 1/16W, Metalized Glass	3198	021	34720
2986	Cap, 100n, 10%, 16V, Ceramic	3198	017	31040	3285	Res, 1K, 5%, 1/16W, Metalized Glass	3198	021	31020
2987	Cap, 100n, 10%, 16V, Ceramic	3198	017	31040	3287	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198	021	31010
2988	Cap, 100n, 10%, 16V, Ceramic	3198	017	31040	3289	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198	021	31010
2989	Cap, 1u, +80/-20%, 10V, Ceramic	3198	017	41050	3290	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198	021	31010</

27ST621L/27 (continued)

3292	Res, 47K, 5%, 1/16W, Metalized Glass . .	3198	021	34730	3500	Res, 3M3, 5%, 1/2W, Metalized Glass. . .	2322	242	13335
3293	Res, 39K, 5%, 1/16W, Metalized Glass . .	3198	021	33930	3501	Res, 3M3, 5%, 1/2W, Metalized Glass. . .	2322	242	13335
3295	Res, 8K2, 5%, 1/16W, Metalized Glass . .	3198	021	38220	3502	Res, 220 ohm, 20%, 1/2W, Carbon Film . .	3198	013	02210
3296	Res, 5K6, 5%, 1/16W, Metalized Glass . .	3198	021	35620	S 3503	Surge Protector.	2422	549	43073
3328	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198	021	31010	3504	Res, 1M5, 5%, 1/2W, Metalized Glass. . .	2322	242	13155
3329	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198	021	31010	3505	VDR DC 1MA/423V S MAX 775V B	2122	550	00147
3330	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198	021	31010	S 3510	NTC, B57237, 3W1, 4R7, 20%	2122	612	00055
3331	Res, 100 ohm, 5%, 1/6W, Carbon Film. . .	3198	011	01010	3511	Res, 4R7, 5%, 1/6W, Carbon Film.	3198	011	04780
3332	Res, 1K, 20%, 1/2W, Carbon Film.	3198	013	01020	3512	Res, 1K2, 5%, 1/16W, Metalized Glass . .	3198	021	31220
3333	Res, 100 ohm, 5%, 1/6W, Carbon Film. . .	3198	011	01010	3513	Res, 2K2, 5%, 1/3W, Metal Film	2306	204	03222
3334	Res, 1K, 20%, 1/2W, Carbon Film.	3198	013	01020	3514	Res, 100 ohm, 5%, 1/3W, Metal Film . . .	2306	204	03101
3335	Res, 100 ohm, 5%, 1/6W, Carbon Film. . .	3198	011	01010	3515	Res, 1K, 5%, 1/6W, Carbon Film	3198	011	01020
3336	Res, 1K, 20%, 1/2W, Carbon Film.	3198	013	01020	3516	Res, 0R1, 5%, 3/5W, Metal Film	3198	012	11070
3351	Res, 100 ohm, 5%, 1/3W, Metal Film . . .	2306	204	03101	3517	Res, 300K, 1%, Metalized Glass	2322	704	63004
3354	Res, 1K5, 20%, 1/2W, Carbon Film	3198	013	01520	3518	Res, 3K3, 5%, 1/16W, Metalized Glass . .	3198	021	33320
3356	Res, 10R, 1%, Metal Film	3198	039	10090	3519	Res, 15K, 5%, 1/6W, Carbon Film.	3198	011	01530
3357	VDR 0603 1MA/18V MAX 35V R	2122	552	00004	3520	Res, 0R18, 5%, 1W, Metal Film.	2120	106	90636
3361	Res, 1K5, 5%, 1/16W, Metalized Glass . .	3198	021	31520	3521	Res, 3K3, 5%, 1/6W, Carbon Film.	3198	011	03320
3362	Res, 10 ohm, 5%, 1/3W, Metal Film. . . .	2306	204	03109	3522	Res, 56K, 5%, 1/16W, Metalized Glass . .	3198	021	35630
3363	Res, 560 ohm, 5%, 1/16W, Metalized Glass	3198	021	35610	3523	PTC DBL-MONO 145V S 1R5 PM20 Y	2322	662	96753
3364	Res, 1R5, 5%, 1/4W, Carbon Film.	2122	101	02083	3524	Res, 47K, 5%, 1/16W, Metalized Glass . .	3198	021	34730
3365	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198	021	31010	3530	Res, 220 ohm, 5%, 1/16W, Metalized Glass	3198	021	32210
3366	Res, 68K, 5%, 1/16W, Metalized Glass . .	3198	021	36830	3531	Res, 100K, 5%, 1/6W, Carbon Film	3198	011	01040
3367	Res, 68K, 5%, 1/6W, Carbon Film.	3198	011	06830	3532	Res, 4R7, 5%, 1/3W, Metal Film	2306	204	03478
3368	Res, 560 ohm, 5%, 1/16W, Metalized Glass	3198	021	35610	3533	Res, 8K2, 5%, 1/16W, Metalized Glass . .	3198	021	38220
3369	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198	021	31010	3534	Res, 100 ohm, 5%, 1/6W, Carbon Film. . .	3198	011	01010
3370	Res, 1R5, 5%, 1/16W, Metalized Glass . .	2322	702	60158	3537	Res, 2K2, 5%, 1/16W, Metalized Glass . .	3198	021	32220
3371	Res, 470 ohm, 5%, 1/6W, Carbon Film. . .	3198	011	04710	3538	Res, 1R8, 5%, 1/8W, Metalized Glass. . .	2322	730	61188
3373	Res, 1K5, 5%, 5W, Metal Film	2322	257	41152	3541	Res, 47K, 5%, 1/16W, Metalized Glass . .	3198	021	34730
3375	Res, 180K, 5%, 1/8W, Metalized Glass . .	2322	730	61184	3563	Res, 220 ohm, 5%, 1/6W, Carbon Film. . .	3198	011	02210
3376	Res, 68K, 5%, 1/16W, Metalized Glass . .	3198	021	36830	3565	Res, 15K, 5%, 1/16W, Metalized Glass . .	3198	021	31530
3387	Res, 1K8, 5%, 1/16W, Metalized Glass . .	3198	021	31820	3571	Res, 220 ohm, 5%, 1/6W, Carbon Film. . .	3198	011	02210
3388	Res, 33 ohm, 5%, 1/16W, Metalized Glass.	3198	021	33390	3572	Res, 220 ohm, 5%, 1/16W, Metalized Glass	3198	021	32210
3389	Res, 33 ohm, 5%, 1/16W, Metalized Glass.	3198	021	33390	3573	Res, 15K, 5%, 1/16W, Metalized Glass . .	3198	021	31530
3401	Res, 47K, 1%, Metal Film	3198	039	47030	3574	Res, 150K, 5%, 1/6W, Carbon Film	3198	011	01540
3404	Res, 1 ohm, 5%, 1/8W, Metalized Glass. .	2322	750	61008	3575	Res, 82K, 1%, Metal Film	3198	039	82030
3412	Res, 1K, 5%, 1/6W, Carbon Film	3198	011	01020	3576	Res, 4K7, 1%, 1/16W, Metalized Glass . .	2322	704	64702
3414	Res, 4R7, 5%, 1 1/3W, Metal Film	2322	194	63478	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 Glass	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	3603	Res, 100 ohm, 5%, 1/6W, Carbon Film. . .	3198	011	01010
3420	Res, 10K, 5%, 1/10W, Metalized Glass . .	3198	021	51030	3604	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198	021	31010
3425	Res, 100K, 1%, Metal Film	3198	039	10040	3605	Res, 100 ohm, 5%, 1/16W, Metalized Glass	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	RST MGL VR25 A 120K PM5 A	2322	241	53124	3608	Res, 27K, 5%, 1/16W, Metalized Glass . .	3198	021	32730
3431	Res, 82K, 1%, Metal Film	3198	039	82030	3609	Res, 330 ohm, 5%, 1/16W, Metalized Glass	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	3619	Res, 680 ohm, 5%, 1/16W, Metalized Glass	3198	021	36810
3446	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198	021	31010	3620	Res, 680 ohm, 5%, 1/16W, Metalized Glass	3198	021	36810
3451	Res, 68K, 1%, Metal Film	3198	039	68030	3621	Res, 680 ohm, 5%, 1/16W, Metalized Glass	3198	021	36810
3452	Res, 15K, 5%, 1/16W, Metalized Glass . .	3198	021	31530	3625	Res, 10 ohm, 5%, 1/16W, Metalized Glass.	3198	021	31090
3453	Res, 33K, 5%, 1/16W, Metalized Glass . .	3198	021	33330	3626	Res, 10 ohm, 5%, 1/16W, Metalized Glass.	3198	021	31090
3454	Res, 47K, 5%, 1/6W, Carbon Film.	3198	011	04730	3628	Res, 10 ohm, 5%, 1/16W, Metalized Glass.	3198	021	31090
3455	Res, 1 ohm, 5%, 1/2W, Metal Film	2306	207	03108	3634	Res, 1K, 5%, 1/16W, Metalized Glass. . .	3198	021	31020
3457	Res, 1 ohm, 5%, 1/2W, Metal Film	2306	207	03108	3635	Res, 47K, 5%, 1/16W, Metalized Glass . .	3198	021	34730
3458	Res, 4R7, 5%, 1/2W, Metal Film	2306	207	03478	3637	Res, 47 ohm, 5%, 1/16W, Metalized Glass.	3198	021	34790
3460	Res, 2K2, 5%, 1/6W, Carbon Film.	3198	011	02220	3690	Res, 220 ohm, 5%, 1/16W, Metalized Glass	3198	021	32210
3461	Res, 2K2, 5%, 1/6W, Carbon Film.	3198	011	02220	3975	Res, 150 ohm, 5%, 1 1/3W, Metal Film . .	3198	012	21510
3462	Res, 2K2, 5%, 1/16W, Metalized Glass . .	3198	021	32220	3985	Res, 39K, 5%, 1/16W, Metalized Glass . .	3198	021	33930
3463	Res, 1K, 5%, 1/16W, Metalized Glass . . .	3198	021	31020	3988	Res, 10K, 5%, 1/16W, Metalized Glass . .	3198	021	31030
3464	Res, 220 ohm, 5%, 1/16W, Metalized Glass	3198	021	32210	3989	Res, 10 ohm, 5%, 1/16W, Metalized Glass.	3198	021	31090
3466	Res, 1 ohm, 5%, 1/2W, Metal Film	2306	207	03108	3991	Res, 39K, 5%, 1/16W, Metalized Glass . .	3198	021	33930
3467	Res, 120 ohm, 5%, 1/6W, Carbon Film. . .	3198	011	01210	3992	Res, 10K, 5%, 1/16W, Metalized Glass . .	3198	021	31030
3468	Res, 150 ohm, 5%, 1/6W, Carbon Film. . .	3198	011	01510	3993	Res, 10 ohm, 5%, 1/16W, Metalized Glass.	3198	021	31090
3469	Res, 1K, 5%, 1/16W, Metalized Glass. . .	3198	021	31020	3994	Res, 68K, 5%, 1/16W, Metalized Glass . .	3198	021	36830
3470	Res, 22 ohm, 5%, 1/6W, Carbon Film . . .	3198	011	02290	3995	Res, 4K7, 5%, 1/16W, Metalized Glass . .	3198	021	34720
3471	Res, 2R4, 1%, Metal Film	3198	039	24080	4000	Res, Zero ohm, 'Chip' Jumper	3198	021	90030
3472	Res, 2R4, 1%, Metal Film	3198	039	24080	4001	Res, Zero ohm, 'Chip' Jumper	3198	021	90030
3473	Res, 820K, 5%, 1/16W, Metalized Glass. .	2322	702	60824	4002	Res, Zero ohm, 'Chip' Jumper	3198	021	90030
3474	Res, 15K, 5%, 1/16W, Metalized Glass . .	3198	021	31530	4003	Res, Zero ohm, 'Chip' Jumper	3198	021	90030
3475	Res, 8K2, 5%, 1/16W, Metalized Glass . .	3198	021	38220	4006	Res, Zero ohm, 'Chip' Jumper	3198	021	90030
3478	Res, 6K8, 5%, 1/16W, Metalized Glass . .	3198	021	36820	4013	Res, Zero ohm, 'Chip' Jumper	3198	021	90030
3481	Res, 10 ohm, 5%, 1/8W, Metalized Glass . .	2322	750	61009	4015	Res, Zero ohm, 'Chip' Jumper	3198	021	90030
3482	Res, 2K4, 1%, Metal Film	3198	039	24020	4101	Res, Zero ohm, 'Chip' Jumper	3198	021	90030
3483	Res, 5K6, 1%, Metal Film	3198	039	56020	4102	Res, Zero ohm, 'Chip' Jumper	3198	021	90030
S 3484	Res, 1 ohm, 5%, 1/3W, Metal Film	2306	204	03108	4103	Res, Zero ohm, 'Chip' Jumper	3198	021	90030
S 3485	Res, 1 ohm, 5%, 1/3W, Metal Film	2306	204	03108	4109	Res, Zero ohm, 'Chip' Jumper	3198	021	90030
3486	Res, 6K8, 5%, 1/16W, Metalized Glass . .	3198	021	36820	4110	Res, Zero ohm, 'Chip' Jumper	3198	021	90030
3489	Res, 47 ohm, 5%, 1/10W, Metalized Glass.	3198	021	54790	4111	Res, Zero ohm, 'Chip' Jumper	3198	021	90030
3490	Res, 22K, 5%, 1/16W, Metalized Glass . .	3198	021	32230	4130	Res, Zero ohm, 'Chip' Jumper	3198	021	90030
3491	Res, 100K, 5%, 1/16W, Metalized Glass. .	3198	021	31040	4136	Res, Zero ohm, 'Chip' Jumper	3198	021	90030
3493	Res, 2K2, 5%, 1/16W, Metalized Glass . .	3198	021	32220	4209	Res, Zero ohm, 'Chip' Jumper	3198	021	90030
3494	Res, 100K, 5%, 1/16W, Metalized Glass. .	3198	021	31040	4211	Res, Zero ohm, 'Chip' Jumper	3198	021	90030
3495	Res, 330K, 5%, 1/10W, Glass.	3198	021	53340	4212	Res, Zero ohm, 'Chip' Jumper	3198	021	90030
3497	Res, 1 ohm, 5%, 1/2W, Metal Film	2306	207	03108	4221	Res, Zero ohm, 'Chip' Jumper	3198	021	90030
3498	Res, 4K7, 5%, 1/16W, Metalized Glass . .	3198	021	34720	4222	Res, Zero ohm, 'Chip' Jumper	3198	021	90030
3499	Res, 680K, 5%, 1/10W, Metalized Glass. .	3198	021	56840	4223	Res, Zero ohm, 'Chip' Jumper	3198	021	90020

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

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4226	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6442	Zener Diode, 68 volt	9322	150	20685
4227	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6443	Zener Diode, 10 volt	3198	020	51090
4240	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6450	Diode, Signal, BAS316	3198	010	10630
4241	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6451	Zener Diode, 4.7 volt	3198	020	54780
4337	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6452	Diode, Rect, BYV27-200	9322	126	72673
4470	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6453	Diode, Rect, RGP10G	9334	939	60673
4492	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6454	Diode, Rect, RGP10G	9334	939	60673
4533	Res, Zero ohm, 'Chip' Jumper	3198	021	90020	6455	Diode, Rect, RGP10G	9334	939	60673
4534	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6456	Diode, Rect, PBVR10100	9340	205	70127
4535	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6457	Diode, Signal, BAS316	3198	010	10630
4537	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6458	Diode, Signal, BAS316	3198	010	10630
4604	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6459	Diode, Rect, RGP10G	9334	939	60673
4605	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6480	Zener Diode, 6.8 volt	3198	010	56880
4610	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6481	Diode, Signal, 1N4148	3198	010	10010
4612	Res, Zero ohm, 'Chip' Jumper	3198	021	90020	6482	Zener Diode, 6.8 volt	3198	020	56880
4620	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6483	Diode, Signal, BAV21WS	9322	197	45703
4631	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6484	Diode, Signal, BAV21WS	9322	197	45703
4635	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6486	Diode, Signal, BAV21	3198	010	10070
4637	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6488	Diode, Signal, BAS316	3198	010	10630
4642	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6489	Zener Diode, 33 volt	3198	020	53390
4644	Res, Zero ohm, 'Chip' Jumper	3198	021	90020	6500	Diode, Bridge Rect, GBU4JL-7002	9322	132	55667
4645	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6511	Diode, Rect, RGP10D	9337	516	60673
4646	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6512	Diode, Signal, BAT54	3198	010	10660
4648	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6514	Diode, Signal, BAS316	3198	010	10630
4649	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6531	Zener Diode, 15 volt	3198	020	51590
4691	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6532	Diode, Signal, BAV21WS	9322	197	45703
4692	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6533	Zener Diode, 6.8 volt	9322	171	80685
4694	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6534	DIO REG, BZX384-B3V9	9322	199	75685
4696	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6535	Diode, Rect, SB160	9322	198	24673
4910	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6536	Diode, Rect, SB180	9322	198	25673
4914	Res, Zero ohm, 'Chip' Jumper	3198	021	90020	6541	Zener Diode, 12 volt	3198	020	51290
4915	Res, Zero ohm, 'Chip' Jumper	3198	021	90020	6551	Diode, Rect, STTH8L06D	9322	198	41687
4916	Res, Zero ohm, 'Chip' Jumper	3198	021	90020	6562	Diode, Rectifier, SB360	3198	010	10700
4917	Res, Zero ohm, 'Chip' Jumper	3198	021	90020	6563	Diode, Rectifier, SB360	3198	010	10700
4921	Res, Zero ohm, 'Chip' Jumper	3198	021	90020	6564	Diode, Signal, BAS316	3198	010	10630
5001	Fixed, Inductor, 100MHz, 120R	3198	018	90030	6565	Zener Diode, 9.1 volt	9322	125	46685
5002	Coil, 390n	3198	018	33970	6566	Diode, Signal, BAS316	3198	010	10630
5201	Fixed, Inductor, 100MHz, 50R	3198	018	90010	6571	Diode, Signal, BAV70	9331	849	10215
5202	Fixed, Inductor, 100MHz, 120R	3198	018	90030	6572	Zener Diode, 6.2 volt	9340	548	54115
5203	Fixed, Inductor, 100MHz, 120R	3198	018	90030	6573	Zener Diode, 9.1 volt	9331	177	80133
5205	Fixed, Inductor, 100MHz, 120R	3198	018	90030	6575	Diode, Rect, 1N5392	9322	005	16683
5206	Fixed, Inductor, 100MHz, 120R	3198	018	90030	6602	Diode, Signal, BAV99	3198	010	10620
5207	Fixed, Inductor, 100MHz, 120R	3198	018	90030	6694	Zener Diode, 5.1 volt	3198	020	55180
5208	Fixed, Inductor, 100MHz, 50R	3198	018	90010	7200	IC, TDA12000H1/N1B50	9352	749	94557
5209	Fixed, Inductor, 100MHz, 120R	3198	018	90030	7201	Transistor, NPN, IMX1	9322	054	28685
5210	Fixed, Inductor, 100MHz, 120R	3198	018	90030	7203	Transistor, PNP, BC327-25	3198	020	43430
5211	Fixed, Inductor, 100MHz, 120R	3198	018	90030	7204	Transistor, PNP, BC327-25	3198	020	43430
5212	Fixed, Inductor, 100MHz, 120R	3198	018	90030	7207	Transistor, NPN, BC847B	3198	010	42030
5213	Fixed, Inductor, 100MHz, 120R	3198	018	90030	7208	Transistor, NPN, BC847B	3198	010	42030
5214	Fixed, Inductor, 100MHz, 120R	3198	018	90030	7209	F.E.T. Signal, BSH103	9340	547	13215
5215	Fixed, Inductor, 100MHz, 120R	3198	018	90030	7210	F.E.T. Signal, BSH103	9340	547	13215
5216	Fixed, Inductor, 100MHz, 50R	3198	018	90010	7330	IC TDA6107AJF/N1B	9352	636	44112
5330	Fixed, Inductor, 100MHz, 50R	3198	018	90010	7361	Transistor, NPN, BC847B	3198	010	42030
5331	Fixed, Inductor, 100MHz, 50R	3198	018	90010	7362	Transistor, PNP, BC857B	3198	010	42150
5351	Coil, 22u	2422	535	97333	7363	Transistor, KTB631KY	9322	195	05687
5352	Coil, 220n	2422	535	94257	7364	Transistor, KTD600KY	9322	195	14687
5361	Fixed, Inductor, 100MHz, 50R	3198	018	90010	7376	Transistor, PNP, BC857B	3198	010	42150
5401	Coil, 33u	2422	535	94864	7404	F.E.T. Signal, BSH103	9340	547	13215
5402	Transformer, DRIVER	2422	531	02617	7405	Transistor, NPN, BU4508DX	9340	550	92127
5405	Coil, CHOKE 35MH	2422	536	00846	7406	Transistor, KTC3228Y	9322	197	37676
5408	Coil, Choke	3128	138	37021	7408	Transistor, NPN, BC847B	3198	010	42030
5450	Transformer, LOT	2422	531	02574	7410	Transistor, PNP, BC857B	3198	010	42150
5451	Coil, 33u	2422	535	97335	7411	Transistor, PNP, BC857B	3198	010	42150
5501	Filter, Mains, 5mH, 2A	2422	549	43432	7451	Transistor, KTD600KY	9322	195	14687
5511	Fixed, Inductor, 100MHz, 50R	3198	018	90010	7452	Transistor, KTC3228Y	9322	197	37676
5512	Transformer, SMT LAYER	2422	531	02626	7453	Transistor, KTB631KY	9322	195	05687
5531	Transformer, SMT LAYER	2422	531	02631	7454	Transistor, NPN, BC847B	3198	010	42030
5551	Fixed, Inductor, 100MHz, 50R	3198	018	90010	7455	Transistor, PNP, BC857B	3198	010	42150
5552	Coil, 27u	2422	535	95366	7456	Transistor, PNP, BC857B	3198	010	42150
5561	Fixed, Inductor, 100MHz, 50R	3198	018	90010	7481	Transistor, PNP, BC857B	3198	010	42150
5562	Fixed, Inductor, 100MHz, 50R	3198	018	90010	7482	Transistor, PNP, PDTA114ET	3198	010	44010
5603	Fixed, Inductor, 100MHz, 50R	3198	018	90010	7483	Transistor, PNP, BC857B	3198	010	42150
6001	Zener Diode, 33 volt	3198	010	23390	7484	Transistor, NPN, BC847BG	9322	160	61668
6005	Zener Diode, 8.2 volt	9322	125	45685	7511	IC, TEA1506T/N1	9352	720	43118
6203	Diode, Signal, BAS316	3198	010	10630	7512	FET, PQPF9N50	9322	187	16687
6204	Diode, Rectifier, SS14	3198	010	10710	7513	Optic Coupler, TCET1103(G)	9322	140	14667
6205	Zener Diode, 27 volt	3198	020	52790	7514	Transistor, NPN, BC847B	3198	010	42030
6207	Diode, Signal, BAS316	3198	010	10630	7531	IC, TEA1620P/N1	9352	739	52112
6209	Diode, Signal, BAT54	3198	010	10660	7541	Transistor, PNP, BC857B	3198	010	42150
6331	Diode, Signal, BAV21	3198	010	10070	7561	Transistor, NPN, PDTCL143ZT	9340	547	00215
6332	Diode, Signal, BAV21	3198	010	10070	7571	Transistor, NPN, BC547B	3198	020	40030
6333	Diode, Signal, BAV21	3198	010	10070	7573	Transistor, NPN, PDTCL14ET	3198	010	44110
6361	Diode, Signal, BAV99	3198	010	10620	7601	IC, M24C16-WBN6	9322	147	25682
6376	Diode, Signal, BAV99	3198	010	10620	7603	IC, L78L33ACZ	9322	134	92676
6383	Diode, Rect, RGP10D	9337	516	60673	7604	Transistor, NPN, BC847B	3198	010	42030
6403	Diode, Rect, BYV27-200	9322	126	72673	7605	Transistor, PNP, BC327-25	3198	020	43430
6404	Diode, Rect, DMV1500M	9322	169	61687	7606	Transistor, NPN, BC847B	3198	010	42030
6406	Diode, Rect, RGP10G	9334	939	60673	7990	IC, TDA2616Q/N1	9350	404	40112
6407	Diode, Signal, BAV21WS	9322	197	45703	7991	Transistor, NPN, BC847B	3198	010	42030
6408	Diode, Signal, BAV21WS	9322	197	45703	7992	Transistor, NPN, BC847B	3198	010	42030
6410	Diode, Rect, BY448	9335	001	20133	8204	CBLE OE 07P/560/07P OE 240S BK	3139	131	03591
6441	Zener Diode, 68 volt	9322	150	20685	8401	Cable, 5 Pin, 560mm	3139	121	09041

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

27ST621L/27 (continued)

[illegible]

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

27ST621L/27 (continued)

0001	SIDE A/V SINGLE.	3139	123	57181
0100	PROCESS BOX PCB PNL LFS.	3139	129	90041
0150	Factory Plate.	3122	120	01701
0205	Side A/V Bracket	3139	124	60871
1016	SB.PNL-HP-S.1I-ST-GL	3139	188	06951
1232	SOC PHONE H 1P F 3.5 ST B	2422	026	04471
1250	SOC CINCH H 3P F 1L3 YEWHRD Y	2422	026	05538
1252	Connector, 7 Pin	2422	025	11244
1254	Connector, 5 Pin	2422	025	12481
1278	Connector, 4 Pin	2422	025	15847
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
8252	Cable, 7 Pin	3139	110	39091
8254	Cable, 5 Pin, 680mm.	3139	110	38861
9181	Wire Jumper, 0.58MM.	3198	036	90010

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CABINET PARTS

CABINET PARTS			
CTL	TOP CONTROL ASSEMBLY	3139	188 65121
0002	AS FC 33SWD ITV NA	3139	177 87131
0008	BC 33SWD(SPLS+9AV+SVHS+SYS)NA	3139	124 62381
0020	Holder, Degaussing (4 Used)	3135	013 01661
0041	Light Guide	3139	124 26461
0125	DFU	3135	125 21432
0251	Clip, Anode Lead	3135	014 04471
0350	PROCESS BOX ENC-NA	3139	129 70391
0453	Bracket, EPS Module	3135	016 05211
1081	Battery, Remote Control (2 Pack)	9299	000 13827
1085	Remote Control, RC0705/00	3139	228 80573
1099	CRT A80QCF330X34(N)	9301	955 90463
1150	Main Chassis	3139	188 84541
1179	PNL-ITV-FRNT_AV_Fli_ST-NA	3139	188 61461
1181	EPS(1B) Module, (ITV)	3139	137 22961
1182	SP/LS MODULE ITV NA-LA	3139	188 61501
1183	Interface Module	3139	188 61471
1H54	Jack Panel Bracket	3139	124 60011
1H61	Bracket, Power Button	3135	121 20061
5203	Coil, Degaussing	2422	549 45334
5213	LSP 16R 5W COM FULR 058X126 B	2422	264 00333
5214	LSP 16R 5W COM FULR 058X126 B	2422	264 00333
8190	Mains Cord	3135	128 70012

MAIN CHASSIS

MAIN CHASSIS			
0001	PCB FB CINCH	3139	123 56721
0031	LINE AND FRAME HEATSINK-ITV	3139	121 27951
0032	IC-Spring	3104	301 22081
0033	Heatsink	3139	121 27471
0034	Spring	3139	121 24583
0035	U-Cooling Plate	3139	121 26731
0037	LOT Bracket	3139	124 66811
0082	AUDIO B HEATSINK H37 ITV	3139	121 62881
0085	IC-Spring	3104	301 22081
0100	PROCESS BOX PCB PNL LFS	3139	129 90041
0266	DOUBLE COMP CLIP	3139	121 27391
0276	TORX HEAD TAPPING SCREW M4X12	3139	120 41421
0313	PAN TAP TORX SCR 2.9X6.5 (T10)	3139	120 41261
0317	PAN TAP TORX SCR 2.9X9.5 (T10)	3139	120 41511
1000	Tuner	2422	542 90141
1002	S.A.W. Filter, 45MHz75	2422	549 44518
1005	Connector, 3 Pin	2422	025 09191
1137	SOC MDIN H 4P F MDC-041V-A Y	2422	026 05659
1204	Connector, 7 Pin	2422	025 04855
1205	RES XTL 24M576 20P HC49/U A	2422	543 00943
1207	Connector, 7 Pin	2422	025 11244
1212	Connector, 7 Pin	2422	025 17042
1213	Connector, 7 Pin	2422	025 11244
1219	Connector, 9 Pin	2422	025 17408
1220	Connector, 3 Pin	2412	020 00725
1223	Connector, 9 Pin	2422	026 05477
1227	Connector, 3 Pin	2422	025 16383
1229	Connector, 3 Pin	2412	020 00725
1236	Connector, 3 Pin	2422	025 16382
1254	CRT Socket	2422	500 80087
1262	Connector, 3 Pin	2422	025 16937
1280	Connector, 5 Pin	2422	025 12481
1331	Connector, 7 Pin	2422	025 04855
S 1351	Connector, 5 Pin	2422	025 04853
S 1401	Connector, 5 Pin	2422	025 04853
1404	Connector, 4 Pin	2422	025 15503
1451	Connector, 2 Pin	2422	025 10646
S 1452	FUSE RAD LT 1A25 250V IEC A	2422	086 10517
S 1454	FUSE RAD LT 1A25 250V IEC A	2422	086 10517
S 1500	Fuse, 4A, 250V, IEC	2422	086 10914
S 1501	SOC FUSE V 1P F PFC5000-0252 A	2422	090 01101
S 1502	SOC FUSE V 1P F PFC5000-0252 A	2422	090 01101
S 1503	Relay, 12V, 5A G5PA-1	2422	132 07444
1504	Connector, 2 Pin	2422	025 16375
1505	Connector, 2 Pin	2422	025 16269
1507	Connector, 2 Pin	2422	025 16374
1600	Switch, Tactile	2422	128 02742
1601	Switch, Tactile	2422	128 02742
1602	Switch, Tactile	2422	128 02742
1603	Switch, Tactile	2422	128 02742
1606	Switch, Tactile	2422	128 02742
1692	Connector, 5 Pin	2422	025 15848
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%, 35V, Electrolytic	3198	028 41090
2106	Cap, 10u, 20%, 35V, Electrolytic	3198	028 41090
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, 10%, 50V, Ceramic	3198	017 01020
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
2253	Cap, 10n, 10%, 50V, Ceramic	3198	017 31030
2254	Cap, 10n, 10%, 50V, Ceramic	3198	017 31030
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
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
2330	Cap, 100n, 10%, 250v, Metalized Polyester	2022	318 00198
2331	Cap, 47n, +80/-20%, 50V, Ceramic	3198	024 44730
2332	Cap, 10n, 10%, 630v, Ceramic	2020	558 90621
2333	Cap, 1n, 10%, 50V, Ceramic	3198	017 31020
2334	Cap, 47n, 10%, 250V, Ceramic	2020	557 90733
2351	Cap, 10u, 20%, 250V, Electrolytic	2038	035 13903
2352	Cap, 2n2, 10%, 2KV, Ceramic	3198	019 72220
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, 2n2, 10%, 2KV, Ceramic	3198	017 72220
2412	Cap, 15n, 5%, 1600v, Polypropylene	2222	375 90158
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, 470n, 5%, 250V, Polypropylene	2222	479 90023
2419	Cap, 2u2, 5%, 100v, Metalized Polyester	2222	468 90324
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

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

32ST2200/27 (continued)

2454	Cap, 470u, 20%, 16V, Electrolytic. . . .	3198 025 24710	3131	Res, 22K, 5%, 1/6W, Carbon Film. . . .	3198 011 02230
2456	Cap, 47n, 10%, 250V, Ceramic.	2020 557 90733	3132	Res, 47K, 5%, 1/16W, Metalized Glass. .	3198 021 34730
2457	Cap, 4u7, 20%, 250V, Electrolytic. . . .	2020 012 93282	3133	Res, 22K, 5%, 1/6W, Carbon Film. . . .	3198 011 02230
2459	Cap, 470p, 10%, 500V, Ceramic.	3198 019 44710	3134	Res, 47K, 5%, 1/16W, Metalized Glass. .	3198 021 34730
2460	Cap, 470u, 20%, 16V, Electrolytic. . . .	3198 025 24710	3135	Res, 75 ohm, 5%, 1/16W, Metalized Glass.	3198 021 37590
2461	Cap, 1n, 5%, 25V, Ceramic.	3198 016 31020	3167	Res, 75 ohm, 5%, 1/6W, Carbon Film. . .	3198 011 07590
2462	Cap, 1n, 5%, 25V, Ceramic.	3198 016 31020	3168	Res, 75 ohm, 5%, 1/16W, Metalized Glass.	3198 021 37590
2463	Cap, 100u, 20%, 50v, Electrolytic. . . .	3198 037 51010	3169	Res, 75 ohm, 5%, 1/16W, Metalized Glass.	3198 021 37590
2464	Cap, 470p, 5%, 50V, Ceramic.	3198 016 34710	3201	Res, 1K, 5%, 1/6W, Carbon Film.	3198 011 01020
2465	Cap, 10u, 20%, 100V, Electrolytic. . . .	3198 025 71090	3202	Res, 3K3, 5%, 1/16W, Metalized Glass. .	3198 021 33320
2467	Cap, 10n, 10%, 400V, Metalized Polyester	2222 365 55103	3203	Res, 150K, 5%, 1/16W, Metalized Glass. .	3198 021 31540
2468	Cap, 220p, 5%, 50V, Ceramic.	3198 016 32210	3204	Res, 3K3, 5%, 1/16W, Metalized Glass. .	3198 021 33320
2469	Cap, 220n, +80/-20%, 16V, Ceramic. . . .	3198 017 42240	3205	Res, 12K, 5%, 1/16W, Metalized Glass. .	3198 021 31230
2470	Cap, 100n, 10%, 100v, Ceramic.	2222 601 55649	3206	Res, 5K6, 5%, 1/16W, Metalized Glass. .	3198 021 35620
2484	ELCAP BP NA 50V S 10U PM20 A.	2020 009 00001	3207	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198 021 31010
2486	Cap, 27p, 5%, 500V, Ceramic.	2252 508 08255	3208	Res, 27K, 5%, 1/16W, Metalized Glass. .	3198 021 32730
2487	Cap, 1n5, 10%, 50V, Ceramic.	3198 017 01520	3209	Res, 1 ohm, 5%, 1/16W, Metalized Glass. .	3198 021 31080
2489	Cap, 10n, 10%, 50V, Ceramic.	3198 017 31030	3210	Res, 1 ohm, 5%, 1/16W, Metalized Glass. .	3198 021 31080
2490	Cap, 47n, 10%, 250V, Ceramic.	2020 557 90733	3211	Res, 27K, 5%, 1/16W, Metalized Glass. .	3198 021 32730
2500	CAP MKP, 275V S 470N PM20 B.	2222 338 22474	3212	Res, 10 ohm, 5%, 1/16W, Metalized Glass.	3198 021 31090
2503	Cap, 2n2, 10%, 1KV, Ceramic.	3198 019 52220	3214	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198 021 31010
2504	Cap, 2n2, 10%, 1KV, Ceramic.	3198 019 52220	3215	Res, 4K7, 5%, 1/6W, Carbon Film.	3198 011 04720
2505	Cap, 470u, 20%, 200v, Electrolytic. . . .	2022 020 00852	3216	Res, 10 ohm, 5%, 1/16W, Metalized Glass.	3198 021 31090
2511	Cap, 22u, 20%, 50V, Electrolytic.	3198 025 52290	3218	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198 021 31010
2512	Cap, 100n, 10%, 16V, Ceramic.	3198 017 31040	3219	Res, 10K, 5%, 1/16W, Metalized Glass. .	3198 021 31030
2513	Cap, 470p, 10%, 50V, Ceramic.	3198 017 34710	3220	Res, 150 ohm, 5%, 1/16W, Metalized Glass	3198 021 31510
2514	Cap, 1n5, 10%, 2KV, Ceramic.	3198 019 71520	3221	Res, 270 ohm, 5%, 1/16W, Metalized Glass	3198 021 32710
2515	Cap, 470p, 5%, 50V, Ceramic.	3198 016 34710	3222	Res, 330 ohm, 5%, 1/16W, Metalized Glass	3198 021 33310
2516	Cap, 100n, 10%, 16V, Ceramic.	3198 017 31040	3224	Res, 680K, 5%, 1/6W, Carbon Film. . . .	3198 011 06840
2517	Cap, 1n, 10%, 50V, Ceramic.	3198 017 31020	3226	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198 021 31010
2519	Cap, 100p, 5%, 100V, Ceramic.	2020 557 90726	3227	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198 021 31010
2530	Cap, 330p, 5%, 100v, Ceramic.	2020 557 00005	3228	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198 021 31010
2531	Cap, 470p, 5%, 50V, Ceramic.	3198 016 34710	3229	Res, 1K5, 5%, 1/16W, Metalized Glass. .	3198 021 31520
2532	Cap, 10u, 10%, 16V, Ceramic.	2020 552 96823	3230	Res, 100 ohm, 5%, 1/6W, Carbon Film. . .	3198 011 01010
2533	Cap, 4n7, 10%, 50V, Ceramic.	3198 017 34720	3231	Res, 100 ohm, 5%, 1/6W, Carbon Film. . .	3198 011 01010
2534	Cap, 68p, 5%, 1000V, Ceramic.	2020 558 90261	3232	Res, 12K, 5%, 1/16W, Metalized Glass. .	3198 021 31230
2535	Cap, 1000u, 20%, 6.3V, Electrolytic. . . .	3198 025 01020	3235	Res, 1K, 5%, 1/16W, Metalized Glass. . .	3198 021 31020
2536	Cap, 2u2, 20%, 10V, Electrolytic.	2020 012 93728	3236	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198 021 31010
2538	Cap, 470p, 10%, 50V, Ceramic.	3198 017 34710	3237	Res, 1K, 5%, 1/16W, Metalized Glass. . .	3198 021 31020
2539	Cap, 470p, 10%, 500V, Ceramic.	3198 019 44710	3238	Res, 4K7, 5%, 1/16W, Metalized Glass. .	3198 021 34720
2541	Cap, 47u, 20%, 25V, Electrolytic.	3198 025 34790	3239	Res, 1K2, 5%, 1/6W, Carbon Film.	3198 011 01220
2542	Cap, 1n5, 20%, 250V, Ceramic.	2020 554 90199	3240	Res, 22K, 5%, 1/16W, Metalized Glass. .	3198 021 32230
2543	Cap, 2n2, 10%, 500V, Ceramic.	3198 019 42220	3241	Res, 39K, 1%, Metal Film.	3198 039 39030
2549	Cap, 100p, 5%, 50V, Ceramic.	3198 016 31010	3243	Res, 33K, 5%, 1/16W, Metalized Glass. .	3198 021 33330
2550	Cap, 33p, 5%, 200v, Ceramic.	2020 557 00002	3244	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198 021 31010
2551	Cap, 1n, 10%, 1KV, Ceramic.	3198 019 61020	3247	Res, 390 ohm, 5%, 1/16W, Metalized Glass	3198 021 33910
2552	Cap, 100u, 20%, 160v, Electrolytic. . . .	2020 021 91654	3248	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198 021 31010
2553	Cap, 180p, 5%, 50V, Ceramic.	3198 016 31810	3249	Res, 100 ohm, 5%, 1/6W, Carbon Film. . .	3198 011 01010
2561	Cap, 1n, 10%, 500V, Ceramic.	3198 019 41020	3250	Res, 2K2, 5%, 1/16W, Metalized Glass. .	3198 021 32220
2562	Cap, 1000u, 20%, 25V, Electrolytic. . . .	3198 026 31020	3251	Res, 10K, 5%, 1/16W, Metalized Glass. .	3198 021 31030
2563	Cap, 1000u, 20%, 25V, Electrolytic. . . .	3198 026 31020	3254	Res, 560 ohm, 5%, 1/16W, Metalized Glass	3198 021 35610
2564	Cap, 100n, 10%, 50v, Ceramic.	2238 580 15649	3257	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198 021 31010
2565	Cap, 1n, 10%, 500V, Ceramic.	3198 019 41020	3258	Res, 100 ohm, 5%, 1/6W, Carbon Film. . .	3198 011 01010
2571	Cap, 15n, 10%, 50V, Ceramic.	3198 017 31530	3260	Res, 100 ohm, 5%, 1/6W, Carbon Film. . .	3198 011 01010
2572	Cap, 10n, 10%, 50V, Ceramic.	3198 017 31030	3261	Res, 4K7, 5%, 1/16W, Metalized Glass. .	3198 021 34720
2573	Cap, 220n, 10%, 50V, Ceramic.	2020 552 96683	3262	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198 021 31010
2601	Cap, 1n, 5%, 25V, Ceramic.	3198 016 31020	3264	Res, 10 ohm, 5%, 1/16W, Metalized Glass.	3198 021 31090
2611	Cap, 47u, 20%, 16V, Electrolytic.	3198 028 24790	3269	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198 021 31010
2613	Cap, 100n, 10%, 16V, Ceramic.	3198 017 31040	3270	Res, 100 ohm, 5%, 1/6W, Carbon Film. . .	3198 011 01010
2615	Cap, 4u7, +80/-20%, 10V, Ceramic.	2020 552 96305	3272	Res, 820 ohm, 5%, 1/16W, Metalized Glass	3198 021 38210
2617	Cap, 100n, 10%, 16V, Ceramic.	3198 017 31040	3273	Res, 1K, 5%, 1/16W, Metalized Glass. . .	3198 021 31020
2620	Cap, 100n, 10%, 16V, Ceramic.	3198 017 31040	3274	Res, 100 ohm, 5%, 1/6W, Carbon Film. . .	3198 011 01010
2621	Cap, 100u, 20%, 25V, Electrolytic. . . .	3198 025 31010	3275	Res, 100 ohm, 5%, 1/6W, Carbon Film. . .	3198 011 01010
2623	Cap, 100n, 10%, 16V, Ceramic.	3198 017 31040	3276	Res, 100 ohm, 5%, 1/6W, Carbon Film. . .	3198 011 01010
2624	Cap, 100u, 20%, 25V, Electrolytic. . . .	3198 025 31010	3277	Res, 100 ohm, 5%, 1/6W, Carbon Film. . .	3198 011 01010
2625	Cap, 2u2, 10%, 6v, Ceramic.	2022 552 05615	3278	Res, 100 ohm, 5%, 1/6W, Carbon Film. . .	3198 011 01010
2626	Cap, 33p, 5%, 50V, Ceramic.	3198 016 33390	3281	Res, 4K7, 5%, 1/16W, Metalized Glass. .	3198 021 34720
2627	Cap, 33p, 5%, 50V, Ceramic.	3198 016 33390	3283	Res, 4K7, 5%, 1/16W, Metalized Glass. .	3198 021 34720
2628	Cap, 33p, 5%, 50V, Ceramic.	3198 016 33390	3284	Res, 4K7, 5%, 1/16W, Metalized Glass. .	3198 021 34720
2629	Cap, 33p, 5%, 50V, Ceramic.	3198 016 33390	3285	Res, 1K, 5%, 1/16W, Metalized Glass. . .	3198 021 31020
2630	Cap, 1n, 10%, 50V, Ceramic.	3198 017 31020	3287	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198 021 31010
2691	Cap, 220u, 20%, 10V, Electrolytic. . . .	3198 025 12210	3289	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198 021 31010
2986	Cap, 100n, 10%, 16V, Ceramic.	3198 017 31040	3291	Res, 10 ohm, 5%, 1/6W, Carbon Film. . .	3198 011 01090
2987	Cap, 100n, 10%, 16V, Ceramic.	3198 017 31040	3295	Res, 8K2, 5%, 1/16W, Metalized Glass. .	3198 021 38220
2988	Cap, 100n, 10%, 16V, Ceramic.	3198 017 31040	3296	Res, 5K6, 5%, 1/16W, Metalized Glass. .	3198 021 35620
2989	Cap, 1u, +80/-20%, 10V, Ceramic.	3198 017 41050	3328	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198 021 31010
2990	Cap, 1n, 5%, 25V, Ceramic.	3198 016 31020	3329	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198 021 31010
2992	Cap, 1u, +80/-20%, 10V, Ceramic.	3198 017 41050	3330	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198 021 31010
2993	Cap, 1n, 5%, 25V, Ceramic.	3198 016 31020	3331	Res, 100 ohm, 5%, 1/6W, Carbon Film. . .	3198 011 01010
2994	Cap, 22n, 10%, 25V, Ceramic.	3198 017 32230	3332	Res, 1K5, 20%, 1/2W, Carbon Film. . . .	3198 013 01520
2995	Cap, 22n, 10%, 25V, Ceramic.	3198 017 32230	3333	Res, 100 ohm, 5%, 1/6W, Carbon Film. . .	3198 011 01010
2996	Cap, 47n, +80/-20%, 50V, Ceramic. . . .	3198 024 44730	3334	Res, 1K5, 20%, 1/2W, Carbon Film. . . .	3198 013 01520
2997	Cap, 47n, +80/-20%, 50V, Ceramic. . . .	3198 024 44730	3335	Res, 100 ohm, 5%, 1/6W, Carbon Film. . .	3198 011 01010
3003	Res, 10K, 5%, 1/16W, Metalized Glass. .	3198 021 31030	3336	Res, 1K5, 20%, 1/2W, Carbon Film. . . .	3198 013 01520
3004	Res, 68K, 5%, 1/16W, Metalized Glass. .	3198 021 36830	3351	Res, 100 ohm, 5%, 1/3W, Metal Film. . . .	2306 204 03101
3005	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198 021 31010	3354	Res, 1K5, 20%, 1/2W, Carbon Film. . . .	3198 013 01520
3101	Res, 68 ohm, 5%, 1/6W, Carbon Film. . . .	3198 011 06890	3356	Res, 10R, 1%, Metal Film.	3198 039 10090
3103	Res, 150 ohm, 5%, 1/6W, Carbon Film. . .	3198 011 01510	3357	VDR 0603 1MA/18V MAX 35V R.	2122 552 00004
3104	Res, 220K, 5%, 1/16W, Metalized Glass. .	3198 021 32240	3401	Res, 47K, 1%, Metal Film.	3198 039 47030
3105	Res, 150 ohm, 5%, 1/6W, Carbon Film. . .	3198 011 01510	3404	Res, 1 ohm, 5%, 1/8W, Metalized Glass. .	2322 750 61008
3106	Res, 220K, 5%, 1/16W, Metalized Glass. .	3198 021 32240	3412	Res, 1K, 5%, 1/6W, Carbon Film.	3198 011 01020
3129	Res, 75 ohm, 5%, 1/16W, Metalized Glass.	3198 021 37590	3414	Res, 4R7, 5%, 1 1/3W, Metal Film. . . .	2322 194 63478

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

32ST2200/27 (continued)

3415	Res, 100 ohm, 5%, 1/6W, Carbon Film. . .	3198 011 01010	3578	Res, 470 ohm, 5%, 1/16W, Metalized Glass	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	3603	Res, 100 ohm, 5%, 1/6W, Carbon Film. . .	3198 011 01010
3420	Res, 10K, 5%, 1/10W, Metalized Glass. . .	3198 021 51030	3604	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198 021 31010
3425	Res, 100K, 1%, Metal Film.	3198 039 10040	3605	Res, 100 ohm, 5%, 1/16W, Metalized Glass	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	RST MGL VR25 A 120K PM5 A	2322 241 53124	3608	Res, 27K, 5%, 1/16W, Metalized Glass. . .	3198 021 32730
3431	Res, 82K, 1%, Metal Film.	3198 039 82030	3609	Res, 330 ohm, 5%, 1/16W, Metalized Glass	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	3619	Res, 680 ohm, 5%, 1/16W, Metalized Glass	3198 021 36810
3446	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198 021 31010	3620	Res, 680 ohm, 5%, 1/16W, Metalized Glass	3198 021 36810
3451	Res, 75K, 1%, Metal Film.	3198 039 75030	3621	Res, 680 ohm, 5%, 1/16W, Metalized Glass	3198 021 36810
3452	Res, 15K, 5%, 1/16W, Metalized Glass. . .	3198 021 31530	3625	Res, 10 ohm, 5%, 1/16W, Metalized Glass.	3198 021 31090
3453	Res, 22K, 5%, 1/16W, Metalized Glass. . .	3198 021 32230	3626	Res, 10 ohm, 5%, 1/16W, Metalized Glass.	3198 021 31090
3454	Res, 47K, 5%, 1/6W, Carbon Film.	3198 011 04730	3628	Res, 10 ohm, 5%, 1/16W, Metalized Glass.	3198 021 31090
3455	Res, 1 ohm, 5%, 1/2W, Metal Film.	2306 207 03108	3634	Res, 1K, 5%, 1/16W, Metalized Glass. . .	3198 021 31020
3457	Res, 1 ohm, 5%, 1/2W, Metal Film.	2306 207 03108	3635	Res, 47K, 5%, 1/16W, Metalized Glass. . .	3198 021 34730
3458	Res, 4R7, 5%, 1/2W, Metal Film.	2306 207 03478	3637	Res, 47 ohm, 5%, 1/16W, Metalized Glass.	3198 021 34790
3460	Res, 2K2, 5%, 1/6W, Carbon Film.	3198 011 02220	3681	Res, 820 ohm, 1%, 1/16W, Metalized Glass	2322 704 68201
3461	Res, 2K2, 5%, 1/6W, Carbon Film.	3198 011 02220	3684	Res, 1K2, 1%, 1/16W, Metalized Glass. . .	2322 704 61202
3462	Res, 2K2, 5%, 1/16W, Metalized Glass. . .	3198 021 32220	3685	Res, 150 ohm, 5%, 1/16W, Metalized Glass	3198 021 31510
3463	Res, 1K, 5%, 1/16W, Metalized Glass. . . .	3198 021 31020	3686	Res, 390 ohm, 5%, 1/16W, Metalized Glass	3198 021 33910
3464	Res, 220 ohm, 5%, 1/10W, Metalized Glass	3198 021 52210	3687	Res, 1K8, 1%, 1/16W, Metalized Glass. . .	2322 704 61802
3466	Res, 1 ohm, 5%, 1/2W, Metal Film.	2306 207 03108	3690	Res, 220 ohm, 5%, 1/16W, Metalized Glass	3198 021 32210
3467	Res, 220 ohm, 5%, 1/6W, Carbon Film. . .	3198 011 02210	3691	Res, 820 ohm, 5%, 1/16W, Metalized Glass	3198 021 38210
3468	Res, 150 ohm, 5%, 1/6W, Carbon Film. . .	3198 011 01510	3693	Res, 220 ohm, 5%, 1/16W, Metalized Glass	3198 021 32210
3469	Res, 1K, 5%, 1/16W, Metalized Glass. . . .	3198 021 31020	3694	Res, 4K7, 5%, 1/16W, Metalized Glass. . .	3198 021 34720
3470	Res, 22 ohm, 5%, 1/6W, Carbon Film. . . .	3198 011 02290	3975	Res, 150 ohm, 5%, 1 1/3W, Metal Film. . .	3198 012 21510
3471	Res, 2R4, 1%, Metal Film.	3198 039 24080	3985	Res, 39K, 5%, 1/16W, Metalized Glass. . .	3198 021 33930
3472	Res, 2R7, 1%, Metal Film.	3198 039 27080	3988	Res, 10K, 5%, 1/16W, Metalized Glass. . .	3198 021 31030
3473	Res, 820K, 5%, 1/16W, Metalized Glass. .	2322 702 60824	3989	Res, 10 ohm, 5%, 1/16W, Metalized Glass.	3198 021 31090
3474	Res, 15K, 5%, 1/16W, Metalized Glass. . .	3198 021 31530	3991	Res, 39K, 5%, 1/16W, Metalized Glass. . .	3198 021 33930
3475	Res, 8K2, 5%, 1/16W, Metalized Glass. . .	3198 021 38220	3992	Res, 10K, 5%, 1/16W, Metalized Glass. . .	3198 021 31030
3478	Res, 6K8, 5%, 1/16W, Metalized Glass. . .	3198 021 36820	3993	Res, 10 ohm, 5%, 1/16W, Metalized Glass.	3198 021 31090
3481	Res, 2R7, 5%, 1/8W, Metalized Glass. . .	2322 750 62708	3994	Res, 68K, 5%, 1/16W, Metalized Glass. . .	3198 021 36830
3482	Res, 22K, 1%, Metal Film.	3198 039 22030	3995	Res, 4K7, 5%, 1/16W, Metalized Glass. . .	3198 021 34720
3483	Res, 56K, 1%, Metal Film.	3198 039 56030	4000	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
S 3484	Res, 1 ohm, 5%, 1/3W, Metal Film.	2306 204 03108	4001	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
S 3485	Res, 1 ohm, 5%, 1/3W, Metal Film.	2306 204 03108	4002	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3486	Res, 6K8, 5%, 1/16W, Metalized Glass. . .	3198 021 36820	4003	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3489	Res, 47 ohm, 5%, 1/10W, Metalized Glass.	3198 021 54790	4006	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3490	Res, 22K, 5%, 1/16W, Metalized Glass. . .	3198 021 32230	4013	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3491	Res, 82K, 5%, 1/16W, Metalized Glass. . .	3198 021 38230	4015	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3493	Res, 2K2, 5%, 1/16W, Metalized Glass. . .	3198 021 32220	4101	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3494	Res, 150K, 5%, 1/16W, Metalized Glass. . .	3198 021 31540	4102	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3495	Res, 330K, 5%, 1/10W, Glass.	3198 021 53340	4103	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3497	Res, 1 ohm, 5%, 1/2W, Metal Film.	2306 207 03108	4109	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3498	Res, 4K7, 5%, 1/16W, Metalized Glass. . .	3198 021 34720	4110	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3499	Res, 330K, 5%, 1/10W, Glass.	3198 021 53340	4111	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3500	Res, 3M3, 5%, 1/2W, Metalized Glass. . . .	2322 242 13335	4130	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3501	Res, 3M3, 5%, 1/2W, Metalized Glass. . . .	2322 242 13335	4136	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3502	Res, 220 ohm, 20%, 1/2W, Carbon Film. .	3198 013 02210	4209	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
S 3503	Surge Protector.	2422 549 43073	4211	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3504	Res, 1M5, 5%, 1/2W, Metalized Glass. . . .	2322 242 13155	4212	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3505	VDR DC 1MA/423V S MAX 775V B	2122 550 00147	4221	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3507	PTC, 144V S 3R P30M20 B	2122 663 00019	4222	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
S 3510	NTC, B57237, 3W1, 4R7, 20%	2122 612 00055	4223	Res, Zero ohm, 'Chip' Jumper	3198 021 90020
3511	Res, 4R7, 5%, 1/6W, Carbon Film.	3198 011 04780	4226	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3512	Res, 1K2, 5%, 1/16W, Metalized Glass. . . .	3198 021 31220	4227	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3513	Res, 2K2, 5%, 1/3W, Metal Film.	2306 204 03222	4240	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3514	Res, 100 ohm, 5%, 1/3W, Metal Film.	2306 204 03101	4241	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3515	Res, 1K, 5%, 1/6W, Carbon Film.	3198 011 01020	4337	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3516	Res, 0R1, 5%, 3/5W, Metal Film.	3198 012 11070	4470	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3517	Res, 300K, 1%, Metalized Glass.	2322 704 63004	4492	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3518	Res, 3K3, 5%, 1/16W, Metalized Glass. . . .	3198 021 33320	4533	Res, Zero ohm, 'Chip' Jumper	3198 021 90020
3519	Res, 15K, 5%, 1/6W, Carbon Film.	3198 011 01530	4534	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3520	Res, 0R18, 5%, 1W, Metal Film.	2120 106 90636	4535	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3521	Res, 3K3, 5%, 1/6W, Carbon Film.	3198 011 03320	4537	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3522	Res, 56K, 5%, 1/16W, Metalized Glass. . . .	3198 021 35630	4604	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3524	Res, 47K, 5%, 1/16W, Metalized Glass. . . .	3198 021 34730	4605	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3530	Res, 220 ohm, 5%, 1/16W, Metalized Glass	3198 021 32210	4610	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3531	Res, 100K, 5%, 1/6W, Carbon Film.	3198 011 01040	4612	Res, Zero ohm, 'Chip' Jumper	3198 021 90020
3532	Res, 4R7, 5%, 1/3W, Metal Film.	2306 204 03478	4620	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3533	Res, 8K2, 5%, 1/16W, Metalized Glass. . . .	3198 021 38220	4631	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3534	Res, 100 ohm, 5%, 1/6W, Carbon Film. . . .	3198 011 01010	4635	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3537	Res, 2K2, 5%, 1/16W, Metalized Glass. . . .	3198 021 32220	4637	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3538	Res, 1R8, 5%, 1/8W, Metalized Glass. . . .	2322 730 61188	4642	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3541	Res, 47K, 5%, 1/16W, Metalized Glass. . . .	3198 021 34730	4644	Res, Zero ohm, 'Chip' Jumper	3198 021 90020
3563	Res, 220 ohm, 5%, 1/6W, Carbon Film. . . .	3198 011 02210	4645	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3565	Res, 15K, 5%, 1/16W, Metalized Glass. . . .	3198 021 31530	4646	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3571	Res, 220 ohm, 5%, 1/6W, Carbon Film. . . .	3198 011 02210	4648	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3572	Res, 220 ohm, 5%, 1/16W, Metalized Glass	3198 021 32210	4649	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3573	Res, 15K, 5%, 1/16W, Metalized Glass. . . .	3198 021 31530	4691	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3574	Res, 33K, 5%, 1/6W, Carbon Film.	3198 011 03330	4692	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3575	Res, 82K, 1%, Metal Film.	3198 039 82030	4694	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3576	Res, 4K7, 1%, 1/16W, Metalized Glass. . . .	2322 704 64702	4696	Res, Zero ohm, 'Chip' Jumper	3198 021 90030
3577	Res, 1K5, 5%, 1/6W, Carbon Film.	3198 011 01520	4910	Res, Zero ohm, 'Chip' Jumper	3198 021 90030

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

32ST2200/27 (continued)

4914	Res, Zero ohm, 'Chip' Jumper	3198	021	90020	6562	Diode, Rectifier, SB360.	3198	010	10700
4915	Res, Zero ohm, 'Chip' Jumper	3198	021	90020	6563	Diode, Rectifier, SB360.	3198	010	10700
4916	Res, Zero ohm, 'Chip' Jumper	3198	021	90020	6564	Diode, Signal, BAS316.	3198	010	10630
4917	Res, Zero ohm, 'Chip' Jumper	3198	021	90020	6565	Zener Diode, 9.1 volt.	9322	125	46685
4921	Res, Zero ohm, 'Chip' Jumper	3198	021	90020	6566	Diode, Signal, BAS316.	3198	010	10630
5001	Fixed, Inductor, 100MHZ, 120R	3198	018	90030	6571	Diode, Signal, BAV70	9331	849	10215
5002	Coil, 390n	3198	018	33970	6572	Zener Diode, 6.2 volt.	9340	548	54115
5201	Fixed, Inductor, 100MHZ, 50R	3198	018	90010	6573	Zener Diode, 9.1 volt.	9331	177	80133
5202	Fixed, Inductor, 100MHZ, 120R	3198	018	90030	6575	Diode, Rect, 1N5392	9322	005	16683
5203	Fixed, Inductor, 100MHZ, 120R	3198	018	90030	6602	Diode, Signal, BAV99	3198	010	10620
5205	Fixed, Inductor, 100MHZ, 120R	3198	018	90030	6691	LED IR/VS LTL-102SRHAP	9322	172	20682
5206	Fixed, Inductor, 100MHZ, 120R	3198	018	90030	6692	IR Receiver.	9322	174	42667
5207	Fixed, Inductor, 100MHZ, 120R	3198	018	90030	6694	Zener Diode, 5.1 volt.	3198	020	55180
5208	Fixed, Inductor, 100MHZ, 50R	3198	018	90010	7200	IC, TDA12001H1/N1B50	9352	744	16557
5209	Fixed, Inductor, 100MHZ, 120R	3198	018	90030	7201	Transistor, NPN, IMX1.	9322	054	28685
5210	Fixed, Inductor, 100MHZ, 120R	3198	018	90030	7203	Transistor, PNP, BC327-25.	3198	020	43430
5211	Fixed, Inductor, 100MHZ, 120R	3198	018	90030	7204	Transistor, PNP, BC327-25.	3198	020	43430
5212	Fixed, Inductor, 100MHZ, 120R	3198	018	90030	7207	Transistor, NPN, BC847B.	3198	010	42030
5213	Fixed, Inductor, 100MHZ, 120R	3198	018	90030	7209	F.E.T. Signal, BSH103.	9340	547	13215
5214	Fixed, Inductor, 100MHZ, 120R	3198	018	90030	7210	F.E.T. Signal, BSH103.	9340	547	13215
5215	Fixed, Inductor, 100MHZ, 120R	3198	018	90030	7330	IC TDA6107AJF/N1B.	9352	636	44112
5216	Fixed, Inductor, 100MHZ, 50R	3198	018	90010	7404	F.E.T. Signal, BSH103.	9340	547	13215
5330	Fixed, Inductor, 100MHZ, 50R	3198	018	90010	7405	Transistor, BU2725DX	9340	497	50127
5351	Coil, 22u.	2422	535	97333	7406	Transistor, KTC3228Y	9322	197	37676
5352	Coil, 220n	2422	535	94257	7408	Transistor, NPN, BC847B.	3198	010	42030
5355	Coil, 22u.	2422	535	97333	7410	Transistor, PNP, BC857B.	3198	010	42150
5401	Coil, LINCOR 33UH.	2422	536	00511	7411	Transistor, PNP, BC857B.	3198	010	42150
5402	Transformer, DRIVER.	2422	531	02617	7451	Transistor, KTD600KY	9322	195	14687
5405	Coil, CHOKE 35MH.	2422	536	00846	7452	Transistor, KTC3228Y	9322	197	37676
5408	Coil, Choke.	3128	138	37021	7453	Transistor, KTB631KY	9322	195	05687
5450	Transformer, LOT	2422	531	02628	7454	Transistor, NPN, BC847B.	3198	010	42030
5451	Coil, 27u.	2422	535	97334	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,Transformer, SMT LAYER	2422	531	02627	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, BC847BG	9322	160	61668
5552	Coil, 27u.	2422	535	95366	7511	IC, TEA1506T/N1	9352	720	43118
5561	Fixed, Inductor, 100MHZ, 50R	3198	018	90010	7512	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, PDTCL143ZT	9340	547	00215
6204	Diode, Rectifier, SS14	3198	010	10710	7571	Transistor, NPN, BC547B.	3198	020	40030
6205	Zener Diode, 27 volt	3198	020	52790	7573	Transistor, NPN, PDTCL14ET	3198	010	44110
6207	Diode, Signal, BAS316.	3198	010	10630	7601	IC, M24C16-WBN6.	9322	147	25682
6209	Diode, Signal, BAT54	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
6331	Diode, Signal, BAV21	3198	010	10070	7606	Transistor, NPN, BC847B.	3198	010	42030
6332	Diode, Signal, BAV21	3198	010	10070	7990	IC, TDA2616Q/N1.	9350	404	40112
6333	Diode, Signal, BAV21	3198	010	10070	7991	Transistor, NPN, BC847B.	3198	010	42030
6403	Diode, Rect, BYV27-200.	9322	126	72673	7992	Transistor, NPN, BC847B.	3198	010	42030
6404	Diode, Rect, DMV1500M	9322	169	61687	8204	Cable, 7 Pin	3104	311	09011
6406	Diode, Rect, RGP10G.	9334	939	60673	8207	CABLE HR 07P/680/07P HR 260S BK	3139	110	39091
6407	Diode, Signal, BAV21WS	9322	197	45703	8280	Cable, 5 Pin, 680mm.	3139	110	38861
6408	Diode, Signal, BAV21WS	9322	197	45703	8401	Cable, 5 Pin	3104	311	09021
6410	Diode, Rect, BY448.	9335	001	20133	9002	Wire Jumper, 0.58MM.	3198	036	90010
6441	Zener Diode, 68 volt	9322	150	20685	9112	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, PBYSR10100.	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	9201	Wire Jumper, 0.58MM.	3198	036	90010
6481	Diode, Signal, 1N4148.	3198	010	10010	9202	Wire Jumper, 0.58MM.	3198	036	90010
6482	Zener Diode, 6.8 volt.	3198	020	56880	9203	Wire Jumper, 0.58MM.	3198	036	90010
6483	Diode, Signal, BAV21WS	9322	197	45703	9204	Wire Jumper, 0.58MM.	3198	036	90010
6484	Diode, Signal, BAV21WS	9322	197	45703	9205	Wire Jumper, 0.58MM.	3198	036	90010
6486	Diode, Signal, BAV21	3198	010	10070	9206	Wire Jumper, 0.58MM.	3198	036	90010
6488	Diode, Signal, BAS316.	3198	010	10630	9207	Wire Jumper, 0.58MM.	3198	036	90010
6489	Zener Diode, 33 volt	3198	020	53390	9208	Wire Jumper, 0.58MM.	3198	036	90010
6500	Diode, Bridge Rect, GBU6JL-7002	9322	138	08667	9209	Wire Jumper, 0.58MM.	3198	036	90010
6511	Diode, Rect, RGP10D	9337	516	60673	9210	Wire Jumper, 0.58MM.	3198	036	90010
6512	Diode, Signal, BAT54	3198	010	10660	9211	Wire Jumper, 0.58MM.	3198	036	90010
6514	Diode, Signal, BAS316.	3198	010	10630	9212	Wire Jumper, 0.58MM.	3198	036	90010
6531	Zener Diode, 15 volt	3198	020	51590	9213	Wire Jumper, 0.58MM.	3198	036	90010
6532	Diode, Signal, BAV21WS	9322	197	45703	9214	Wire Jumper, 0.58MM.	3198	036	90010
6533	Zener Diode, 6.8 volt.	9322	171	80685	9216	Wire Jumper, 0.58MM.	3198	036	90010
6534	DIO REG, BZX384-B3V9	9322	199	75685	9217	Wire Jumper, 0.58MM.	3198	036	90010
6535	Diode, Rect, SB160	9322	198	24673	9218	Wire Jumper, 0.58MM.	3198	036	90010
6536	Diode, Rect, SB180	9322	198	25673	9219	Wire Jumper, 0.58MM.	3198	036	90010
6541	Zener Diode, 12 volt	3198	020	51290	9220	Wire Jumper, 0.58MM.	3198	036	90010
6551	Diode, Rect, BYV29X-500	9340	555	59127	9221	Wire Jumper, 0.58MM.	3198	036	90010

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

32ST2200/27 (continued)

[illegible]

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32ST6210/27 - Manual no. 7677

CABINET PARTS

CABINET PARTS			
CTL	TOP CONTROL ASSEMBLY	3139 188	65121
0002	AS FC 33WDPV ITV NA	3139 177	81521
0008	BC 33WDPV(SPLS+9AV+SVHS+SYS)NA	3139 124	49953
0016	MAINSKNOB ASSY EMG NAFTA EMG	3139 138	10881
0020	Holder, Degaussing (4 Used)	3135 013	01661
0030	Chassis Tray -32V	3139 124	31325
0041	Light Guide	3139 124	39701
0050	34" WORDMARK PHILIPS	3141 050	00141
0125	DFU	3135 125	21432
0350	PROCESS BOX ENC-NA	3139 129	70391
0940	FRONT SUB-ASSY 32ST6210/27	3121 237	55141
1081	Battery, Remote Control (2 Pack)	9299 000	13827
1085	Remote Control, RC0705/00	3139 228	80573
1099	CRT A80ERF042X14	9301 927	10539
1114	TB-PV2-REC-4B-10811-21-32-NA	3139 188	65121
1116	Side Jack Panel	3139 188	67091
1150	Main Chassis	3139 188	62701
1160	Front Interface Assy	3139 188	62121
1181	EPS(1B). Module, (ITV)	3139 137	22961
1182	SP/LS MODULE ITV NA-LA	3139 188	61501
1183	Interface Module	3139 188	61471
1H53	SYS CARD HSG LS AP/EU ITV	3139 124	37853
5203	Coil, Degaussing	2422 549	44676
5213	LSP 16R 10W SCR FULR 058X126 B	2422 264	00482
5214	LSP 16R 10W SCR FULR 058X126 B	2422 264	00482
8190	Mains Cord	3135 128	70012

MAIN CHASSIS

MAIN CHASSIS			
0001	PCB FB CINCH	3139 123	56721
0028	DOUBLE COMP CLIP	3139 121	27391
0031	LINE AND FRAME HEATSINK-ITV	3139 121	27951
0032	IC-Spring	3104 301	22081
0033	Heatsink	3139 121	27471
0034	Spring	3139 121	24583
0035	U-Cooling Plate	3139 121	26731
0037	LOT Bracket	3139 124	46811
0082	AUDIO B HEATSINK H37 ITV	3139 121	62881
0085	IC-Spring	3104 301	22081
0087	U-Cooling Plate	3139 121	26731
0100	PROCESS BOX PCB PNL LFS	3139 129	90041
0266	DOUBLE COMP CLIP	3139 121	27391
0276	TORX HEAD TAPPING SCREW M4X12	3139 120	41421
0313	SCREW #4-40 x 0.50"	3121 230	30071
0317	SCREW #4-40 x 0.50"	3121 230	30071
1000	Tuner	2422 542	90141
1002	S.A.W. Filter, 45MHz75	2422 549	44518
1005	Connector, 3 Pin	2422 025	09191
1137	SOC MDIN H 4P F LAP5100 Y	2422 026	05428
1204	Connector, 7 Pin	2422 025	04855
1205	RES XTL 24M576 20P HC49/U A	2422 543	00943
1207	Connector, 7 Pin	2422 025	11244
1212	Connector, 7 Pin	2422 025	17042
1213	Connector, 7 Pin	2422 025	11244
1219	Connector, 9 Pin	2422 025	17408
1220	Connector, 6 Pin	2422 025	12482
1223	Connector, 9 Pin	2422 026	05477
1227	Connector, 3 Pin	2422 025	16383
1229	Connector, 3 Pin	2412 020	00725
1236	Connector, 3 Pin	2422 025	16382
1256	CRT Socket	2422 500	80063
1262	Connector, 3 Pin	2422 025	16937
1280	Connector, 5 Pin	2422 025	12481
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
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
S 1452	FUSE RAD LT 1A25 250V IEC A	2422 086	10517
S 1454	FUSE RAD LT 1A25 250V IEC A	2422 086	10517
S 1500	Fuse, 4A, 250V, IEC	2422 086	10914
S 1501	SOC FUSE V 1P F PFC5000-0252 A	2422 090	01101
S 1502	SOC FUSE V 1P F PFC5000-0252 A	2422 090	01101
S 1503	Relay, 12V, 5A G5PA-1	2422 132	07444
1504	Connector, 2 Pin	2422 025	16375
1505	Connector, 2 Pin	2422 025	16269
1507	Connector, 2 Pin	2422 025	16374
1682	Connector, 3 Pin	2412 020	00725
1692	Connector, 5 Pin	2422 025	15848
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%, 35V, Electrolytic	3198 028	41090
2106	Cap, 10u, 20%, 35V, Electrolytic	3198 028	41090
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
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
2351	Cap, 10u, 20%, 250V, Electrolytic	2038 035	13903
2352	Cap, 2n2, 10%, 2KV, Ceramic	3198 019	72220
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

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

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2384	Cap, 220p, 5%, 50V, Ceramic.	3198	016	32210	2627	Cap, 33p, 5%, 50V, Ceramic.	3198	016	33390
2385	Cap, 220p, 5%, 50V, Ceramic.	3198	016	32210	2628	Cap, 33p, 5%, 50V, Ceramic.	3198	016	33390
2386	Cap, 100n, 10%, 16V, Ceramic.	3198	017	31040	2629	Cap, 33p, 5%, 50V, Ceramic.	3198	016	33390
2387	Cap, 10p, 5%, 50V, Ceramic.	3198	016	31090	2630	Cap, 1n, 10%, 50V, Ceramic.	3198	017	31020
2401	Cap, 4u7, 20%, 50V, Electrolytic.	3198	028	54780	2986	Cap, 100n, 10%, 16V, Ceramic.	3198	017	31040
2402	Cap, 15n, 10%, 50V, Ceramic.	3198	017	31530	2987	Cap, 100n, 10%, 16V, Ceramic.	3198	017	31040
2403	Cap, 33n, 10%, 16V, Ceramic.	3198	017	33330	2988	Cap, 100n, 10%, 16V, Ceramic.	3198	017	31040
2404	Cap, 47u, 20%, 160v, Electrolytic.	2022	031	00103	2989	Cap, 1u, +80/-20%, 10V, Ceramic.	3198	017	41050
2405	Cap, 1n, 10%, 2KV, Ceramic.	3198	019	71020	2990	Cap, 1n, 5%, 25V, Ceramic.	3198	016	31020
2406	Cap, 680p, 10%, 500V, Ceramic.	3198	019	46810	2992	Cap, 1u, +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, 680p, 10%, 2KV, Ceramic.	3198	019	76810	2996	Cap, 47n, +80/-20%, 50V, Ceramic.	3198	024	44730
2412	Cap, 12n, 5%, 1600v, Polypropylene.	2222	375	90156	2997	Cap, 47n, +80/-20%, 50V, Ceramic.	3198	024	44730
2413	Cap, 33n, 10%, 400V, Polyester.	2222	347	90227	3003	Res, 10K, 5%, 1/16W, Metalized Glass.	3198	021	31030
2414	Cap, 1u, +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 Glass.	3198	021	31010
2418	Cap, 270n, 5%, 250V, Metalized Polypropyl ene.	2222	479	90016	3101	Res, 68 ohm, 5%, 1/6W, Carbon Film.	3198	011	06890
2419	Cap, 2u2, 5%, 100v, Metalized Polyester.	2222	468	90324	3103	Res, 150 ohm, 5%, 1/6W, Carbon Film.	3198	011	01510
2420	Cap, 1u, +80/-20%, 10V, Ceramic.	3198	017	41050	3104	Res, 220K, 5%, 1/16W, Metalized Glass.	3198	021	32240
2425	Cap, 10n, 10%, 50V, Ceramic.	3198	017	31030	3105	Res, 150 ohm, 5%, 1/6W, Carbon Film.	3198	011	01510
2428	Cap, 33n, 10%, 16V, Ceramic.	3198	017	33330	3106	Res, 220K, 5%, 1/16W, Metalized Glass.	3198	021	32240
2451	Cap, 220n, 10%, 100V, Metalized Polyester.	2222	365	85224	3129	Res, 75 ohm, 5%, 1/16W, Metalized Glass.	3198	021	37590
2453	Cap, 1u, +80/-20%, 16V, Ceramic.	3198	017	21050	3131	Res, 22K, 5%, 1/6W, Carbon Film.	3198	011	02230
2454	Cap, 470u, 20%, 16V, Electrolytic.	3198	025	24710	3132	Res, 47K, 5%, 1/16W, Metalized Glass.	3198	021	34730
2456	Cap, 47n, 10%, 250V, Ceramic.	2020	557	90733	3133	Res, 22K, 5%, 1/6W, Carbon Film.	3198	011	02230
2457	Cap, 4u7, 20%, 250V, Electrolytic.	2020	012	93282	3134	Res, 47K, 5%, 1/16W, Metalized Glass.	3198	021	34730
2459	Cap, 470p, 10%, 500V, Ceramic.	3198	019	44710	3135	Res, 75 ohm, 5%, 1/16W, Metalized Glass.	3198	021	37590
2460	Cap, 470u, 20%, 16V, Electrolytic.	3198	025	24710	3167	Res, 75 ohm, 5%, 1/6W, Carbon Film.	3198	011	07590
2461	Cap, 1n, 5%, 25V, Ceramic.	3198	016	31020	3168	Res, 75 ohm, 5%, 1/16W, Metalized Glass.	3198	021	37590
2462	Cap, 1n, 5%, 25V, Ceramic.	3198	016	31020	3169	Res, 75 ohm, 5%, 1/16W, Metalized Glass.	3198	021	37590
2463	Cap, 100u, 20%, 50v, Electrolytic.	3198	037	51010	3201	Res, 1K, 5%, 1/6W, Carbon Film.	3198	011	01020
2464	Cap, 470p, 5%, 50V, Ceramic.	3198	016	34710	3202	Res, 3K3, 5%, 1/16W, Metalized Glass.	3198	021	33320
2465	Cap, 10u, 20%, 100V, Electrolytic.	3198	025	71090	3203	Res, 150K, 5%, 1/16W, Metalized Glass.	3198	021	31540
2467	Cap, 10n, 10%, 400V, Metalized Polyester.	2222	365	55103	3204	Res, 3K3, 5%, 1/16W, Metalized Glass.	3198	021	33320
2468	Cap, 220p, 5%, 50V, Ceramic.	3198	016	32210	3205	Res, 1K, 5%, 1/16W, Metalized Glass.	3198	021	31020
2469	Cap, 220n, +80/-20%, 16V, Ceramic.	3198	017	42240	3206	Res, 5K6, 5%, 1/16W, Metalized Glass.	3198	021	35620
2470	Cap, 100n, 10%, 100v, Ceramic.	2222	601	55649	3207	Res, 10 ohm, 5%, 1/16W, Metalized Glass.	3198	021	31090
2484	ELCAP BP NA 50V S 10U PM20 A.	2020	009	00001	3208	Res, 27K, 5%, 1/16W, Metalized Glass.	3198	021	32730
2486	Cap, 27p, 5%, 500V, Ceramic.	2252	508	08255	3209	Res, 1 ohm, 5%, 1/16W, Metalized Glass.	3198	021	31080
2487	Cap, 2n2, 10%, 50V, Ceramic.	3198	017	02220	3210	Res, 1 ohm, 5%, 1/16W, Metalized Glass.	3198	021	31080
2489	Cap, 10n, 10%, 50V, Ceramic.	3198	017	31030	3211	Res, 27K, 5%, 1/16W, Metalized Glass.	3198	021	32730
2500	CAP MKP, 275V S 470N PM20 B.	2222	338	22474	3212	Res, 10 ohm, 5%, 1/16W, Metalized Glass.	3198	021	31090
2503	Cap, 2n2, 10%, 1KV, Ceramic.	3198	019	52220	3214	Res, 10 ohm, 5%, 1/16W, Metalized Glass.	3198	021	31090
2504	Cap, 2n2, 10%, 1KV, Ceramic.	3198	019	52220	3215	Res, 4K7, 5%, 1/6W, Carbon Film.	3198	011	04720
2505	Cap, 470u, 20%, 200v, Electrolytic.	2022	020	00852	3216	Res, 10 ohm, 5%, 1/16W, Metalized Glass.	3198	021	31090
2511	Cap, 22u, 20%, 50V, Electrolytic.	3198	025	52290	3218	Res, 100 ohm, 5%, 1/16W, Metalized Glass.	3198	021	31010
2512	Cap, 100n, 10%, 16V, Ceramic.	3198	017	31040	3219	Res, 10K, 5%, 1/16W, Metalized Glass.	3198	021	31030
2513	Cap, 470p, 10%, 50V, Ceramic.	3198	017	34710	3220	Res, 150 ohm, 5%, 1/16W, Metalized Glass.	3198	021	31510
2514	Cap, 1n5, 10%, 2KV, Ceramic.	3198	019	71520	3221	Res, 270 ohm, 5%, 1/16W, Metalized Glass.	3198	021	32710
2515	Cap, 470p, 5%, 50V, Ceramic.	3198	016	34710	3222	Res, 680 ohm, 5%, 1/16W, Metalized Glass.	3198	021	36810
2516	Cap, 100n, 10%, 16V, Ceramic.	3198	017	31040	3224	Res, 560K, 5%, 1/4W, Carbon Film.	2122	101	02086
2517	Cap, 1n, 10%, 50V, Ceramic.	3198	017	31020	3226	Res, 100 ohm, 5%, 1/16W, Metalized Glass.	3198	021	31010
2519	Cap, 100p, 5%, 100V, Ceramic.	2020	557	90726	3227	Res, 100 ohm, 5%, 1/16W, Metalized Glass.	3198	021	31010
2530	Cap, 330p, 5%, 100v, Ceramic.	2020	557	00005	3228	Res, 100 ohm, 5%, 1/16W, Metalized Glass.	3198	021	31010
2531	Cap, 470p, 5%, 50V, Ceramic.	3198	016	34710	3229	Res, 1K5, 5%, 1/16W, Metalized Glass.	3198	021	31520
2532	Cap, 10u, 10%, 16V, Ceramic.	2020	552	96823	3230	Res, 100 ohm, 5%, 1/6W, Carbon Film.	3198	011	01010
2533	Cap, 4n7, 10%, 50V, Ceramic.	3198	017	34720	3231	Res, 100 ohm, 5%, 1/6W, Carbon Film.	3198	011	01010
2534	Cap, 68p, 5%, 1000V, Ceramic.	2020	558	90261	3232	Res, 12K, 5%, 1/16W, Metalized Glass.	3198	021	31230
2535	Cap, 1000u, 20%, 6.3V, Electrolytic.	3198	025	01021	3235	Res, 1K, 5%, 1/16W, Metalized Glass.	3198	021	31020
2536	Cap, 2u2, 20%, 10V, Electrolytic.	2020	012	93728	3236	Res, 100 ohm, 5%, 1/16W, Metalized Glass.	3198	021	31010
2538	Cap, 470p, 10%, 50V, Ceramic.	3198	017	34710	3237	Res, 1K, 5%, 1/16W, Metalized Glass.	3198	021	31020
2539	Cap, 470p, 10%, 500V, Ceramic.	3198	019	44710	3238	Res, 4K7, 5%, 1/16W, Metalized Glass.	3198	021	34720
2541	Cap, 47u, 20%, 25V, Electrolytic.	3198	025	34790	3239	Res, 1K2, 5%, 1/6W, Carbon Film.	3198	011	01220
2542	Cap, 1n5, 20%, 250V, Ceramic.	2020	554	90199	3240	Res, 22K, 5%, 1/16W, Metalized Glass.	3198	021	32230
2543	Cap, 2n2, 10%, 500V, Ceramic.	3198	019	42220	3241	Res, 39K, 1%, Metal Film.	3198	039	39030
2549	Cap, 100p, 5%, 50V, Ceramic.	3198	016	31010	3242	Res, 47K, 5%, 1/16W, Metalized Glass.	3198	021	34730
2550	Cap, 33p, 5%, 200v, Ceramic.	2020	557	00002	3243	Res, 33K, 5%, 1/16W, Metalized Glass.	3198	021	33330
2551	Cap, 1n, 10%, 1KV, Ceramic.	3198	019	61020	3244	Res, 100 ohm, 5%, 1/16W, Metalized Glass.	3198	021	31010
2552	Cap, 100u, 20%, 160v, Electrolytic.	2020	021	91654	3245	Res, 27 ohm, 5%, 1/16W, Metalized Glass.	2322	702	60279
2553	Cap, 180p, 5%, 50V, Ceramic.	3198	016	31810	3246	Res, 4K7, 5%, 1/6W, Carbon Film.	3198	011	04720
2561	Cap, 1n, 10%, 500V, Ceramic.	3198	019	41020	3247	Res, 390 ohm, 5%, 1/16W, Metalized Glass.	3198	021	33910
2562	Cap, 1000u, 20%, 25V, Electrolytic.	3198	026	31020	3248	Res, 100 ohm, 5%, 1/16W, Metalized Glass.	3198	021	31010
2563	Cap, 1000u, 20%, 25V, Electrolytic.	3198	026	31020	3249	Res, 100 ohm, 5%, 1/6W, Carbon Film.	3198	011	01010
2564	Cap, 100n, 10%, 50v, Ceramic.	2238	580	15649	3250	Res, 2K2, 5%, 1/16W, Metalized Glass.	3198	021	32220
2565	Cap, 1n, 10%, 500V, Ceramic.	3198	019	41020	3251	Res, 10K, 5%, 1/16W, Metalized Glass.	3198	021	31030
2571	Cap, 15n, 10%, 50V, Ceramic.	3198	017	31530	3252	Res, 1K, 5%, 1/6W, Carbon Film.	3198	011	01020
2572	Cap, 10n, 10%, 50V, Ceramic.	3198	017	31030	3254	Res, 560 ohm, 5%, 1/16W, Metalized Glass.	3198	021	35610
2573	Cap, 220n, 10%, 50V, Ceramic.	2020	552	96683	3257	Res, 100 ohm, 5%, 1/16W, Metalized Glass.	3198	021	31010
2601	Cap, 1n, 5%, 25V, Ceramic.	3198	016	31020	3258	Res, 100 ohm, 5%, 1/6W, Carbon Film.	3198	011	01010
2611	Cap, 47u, 20%, 16V, Electrolytic.	3198	028	24790	3259	Res, 10K, 5%, 1/16W, Metalized Glass.	3198	021	31030
2613	Cap, 100n, 10%, 16V, Ceramic.	3198	017	31040	3260	Res, 100 ohm, 5%, 1/6W, Carbon Film.	3198	011	01010
2615	Cap, 4u7, +80/-20%, 10V, Ceramic.	2020	552	96305	3261	Res, 4K7, 5%, 1/16W, Metalized Glass.	3198	021	34720
2617	Cap, 100n, 10%, 16V, Ceramic.	3198	017	31040	3262	Res, 100 ohm, 5%, 1/16W, Metalized Glass.	3198	021	31010
2620	Cap, 100n, 10%, 16V, Ceramic.	3198	017	31040	3264	Res, 10 ohm, 5%, 1/16W, Metalized Glass.	3198	021	31090
2621	Cap, 100u, 20%, 25V, Electrolytic.	3198	025	31010	3269	Res, 100 ohm, 5%, 1/16W, Metalized Glass.	3198	021	31010
2623	Cap, 100n, 10%, 16V, Ceramic.	3198	017	31040	3270	Res, 100 ohm, 5%, 1/6W, Carbon Film.	3198	011	01010
2624	Cap, 100u, 20%, 25V, Electrolytic.	3198	025	31010	3271	Res, 390 ohm, 5%, 1/16W, Metalized Glass.	3198	021	33910
2625	Cap, 2u2, 10%, 6v, Ceramic.	2022	552	05615	3272	Res, 820 ohm, 5%, 1/16W, Metalized Glass.	3198	021	38210
2626	Cap, 33p, 5%, 50V, Ceramic.	3198	016	33390	3273	Res, 1K, 5%, 1/16W, Metalized Glass.	3198	021	31020

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3275	Res, 100 ohm, 5%, 1/6W, Carbon Film. . .	3198	011	01010	3466	Res, 1 ohm, 5%, 1/2W, Metal Film. . . .	2306	207	03108
3276	Res, 100 ohm, 5%, 1/6W, Carbon Film. . .	3198	011	01010	3467	Res, 150 ohm, 5%, 1/6W, Carbon Film. . .	3198	011	01510
3277	Res, 100 ohm, 5%, 1/6W, Carbon Film. . .	3198	011	01010	3468	Res, 150 ohm, 5%, 1/6W, Carbon Film. . .	3198	011	01510
3278	Res, 100 ohm, 5%, 1/6W, Carbon Film. . .	3198	011	01010	3469	Res, 1K, 5%, 1/16W, Metalized Glass. . .	3198	021	31020
3281	Res, 4K7, 5%, 1/16W, Metalized Glass. . .	3198	021	34720	3470	Res, 22 ohm, 5%, 1/6W, Carbon Film. . .	3198	011	02290
3283	Res, 4K7, 5%, 1/16W, Metalized Glass. . .	3198	021	34720	3471	Res, 2R2, 1%, Metal Film.	3198	039	22080
3284	Res, 4K7, 5%, 1/16W, Metalized Glass. . .	3198	021	34720	3472	Res, 2R2, 1%, Metal Film.	3198	039	22080
3285	Res, 1K, 5%, 1/16W, Metalized Glass. . .	3198	021	31020	3473	Res, 680K, 5%, 1/16W, Metalized Glass. .	3198	021	36840
3287	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198	021	31010	3474	Res, 15K, 5%, 1/16W, Metalized Glass. .	3198	021	31530
3289	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198	021	31010	3475	Res, 8K2, 5%, 1/16W, Metalized Glass. .	3198	021	38220
3290	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198	021	31010	3478	Res, 6K8, 5%, 1/16W, Metalized Glass. .	3198	021	36820
3291	Res, 10 ohm, 5%, 1/6W, Carbon Film. . .	3198	011	01090	3481	Res, 5R6, 5%, 1/8W, Metalized Glass. . .	2322	750	65608
3292	Res, 47K, 5%, 1/16W, Metalized Glass. . .	3198	021	34730	3482	Res, 22K, 1%, Metal Film.	3198	039	22030
3293	Res, 39K, 5%, 1/16W, Metalized Glass. . .	3198	021	33930	3483	Res, 56K, 1%, Metal Film.	3198	039	56030
3294	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198	021	31010	S 3484	Res, 1 ohm, 5%, 1/3W, Metal Film. . . .	2306	204	03108
3295	Res, 8K2, 5%, 1/16W, Metalized Glass. . .	3198	021	38220	S 3485	Res, 1 ohm, 5%, 1/3W, Metal Film. . . .	2306	204	03108
3296	Res, 5K6, 5%, 1/16W, Metalized Glass. . .	3198	021	35620	3486	Res, 6K8, 5%, 1/16W, Metalized Glass. .	3198	021	36820
3328	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198	021	31010	3489	Res, 47 ohm, 5%, 1/10W, Metalized Glass.	3198	021	54790
3329	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198	021	31010	3490	Res, 22K, 5%, 1/16W, Metalized Glass. .	3198	021	32230
3330	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198	021	31010	3491	Res, 68K, 5%, 1/16W, Metalized Glass. .	3198	021	36830
3331	Res, 100 ohm, 5%, 1/6W, Carbon Film. . .	3198	011	01010	3493	Res, 2K2, 5%, 1/16W, Metalized Glass. .	3198	021	32220
3332	Res, 1K, 20%, 1/2W, Carbon Film.	3198	013	01020	3494	Res, 680K, 5%, 1/16W, Metalized Glass. .	3198	021	36840
3333	Res, 100 ohm, 5%, 1/6W, Carbon Film. . .	3198	011	01010	3495	Res, 330K, 5%, 1/10W, Glass.	3198	021	53340
3334	Res, 1K, 20%, 1/2W, Carbon Film.	3198	013	01020	3497	Res, 1 ohm, 5%, 1/2W, Metal Film. . . .	2306	207	03108
3335	Res, 100 ohm, 5%, 1/6W, Carbon Film. . .	3198	011	01010	3498	Res, 4K7, 5%, 1/16W, Metalized Glass. .	3198	021	34720
3336	Res, 1K, 20%, 1/2W, Carbon Film.	3198	013	01020	3499	Res, 680K, 5%, 1/10W, Metalized Glass. .	3198	021	56840
3351	Res, 100 ohm, 5%, 1/3W, Metal Film. . . .	2306	204	03101	3500	Res, 3M3, 5%, 1/2W, Metalized Glass. . .	2322	242	13335
3354	Res, 1K5, 20%, 1/2W, Carbon Film. . . .	3198	013	01520	3501	Res, 3M3, 5%, 1/2W, Metalized Glass. . .	2322	242	13335
3356	Res, 10R, 1%, Metal Film.	3198	039	10090	3502	Res, 220 ohm, 20%, 1/2W, Carbon Film. .	3198	013	02210
3357	VDR 0603 1MA/18V MAX 35V R.	2122	552	00004	S 3503	Surge Protector.	2422	549	43073
3361	Res, 1K5, 5%, 1/16W, Metalized Glass. . .	3198	021	31520	3504	Res, 1M5, 5%, 1/2W, Metalized Glass. . .	2322	242	13155
3362	Res, 10 ohm, 5%, 1/3W, Metal Film. . . .	2306	204	03109	3505	VDR DC 1MA/423V S MAX 775V B.	2122	550	00147
3363	Res, 560 ohm, 5%, 1/16W, Metalized Glass	3198	021	35610	3507	PTC, 144V S 3R P30M20 B.	2122	663	00019
3364	Res, 1R5, 5%, 1/4W, Carbon Film.	2122	101	02083	S 3510	NTC, B57237, 3W1, 4R7, 20%.	2122	612	00055
3365	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198	021	31010	3511	Res, 4R7, 5%, 1/6W, Carbon Film.	3198	011	04780
3366	Res, 68K, 5%, 1/16W, Metalized Glass. . .	3198	021	36830	3512	Res, 1K2, 5%, 1/16W, Metalized Glass. .	3198	021	31220
3367	Res, 68K, 5%, 1/6W, Carbon Film.	3198	011	06830	3513	Res, 2K2, 5%, 1/3W, Metal Film.	2306	204	03222
3368	Res, 560 ohm, 5%, 1/16W, Metalized Glass	3198	021	35610	3514	Res, 100 ohm, 5%, 1/3W, Metal Film. . . .	2306	204	03101
3369	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198	021	31010	3515	Res, 1K, 5%, 1/6W, Carbon Film.	3198	011	01020
3370	Res, 1R5, 5%, 1/16W, Metalized Glass. . .	2322	702	60158	3516	Res, 0R1, 5%, 3/5W, Metal Film.	3198	012	11070
3371	Res, 470 ohm, 5%, 1/6W, Carbon Film. . .	3198	011	04710	3517	Res, 300K, 1%, Metalized Glass.	2322	704	63004
3373	Res, 1K5, 5%, 5W, Metal Film.	2322	257	41152	3518	Res, 3K3, 5%, 1/16W, Metalized Glass. . .	3198	021	33320
3374	Res, 180 ohm, 5%, 1/16W, Metalized Glass	3198	021	31810	3519	Res, 15K, 5%, 1/6W, Carbon Film.	3198	011	01530
3375	Res, 180K, 5%, 1/8W, Metalized Glass. . .	2322	730	61184	3520	Res, 0R18, 5%, 1W, Metal Film.	2120	106	90636
3376	Res, 68K, 5%, 1/16W, Metalized Glass. . .	3198	021	36830	3521	Res, 3K3, 5%, 1/6W, Carbon Film.	3198	011	03320
3381	Res, 10 ohm, 5%, 1/6W, Carbon Film. . . .	3198	011	01090	3522	Res, 56K, 5%, 1/16W, Metalized Glass. .	3198	021	35630
3383	Res, 2K2, 5%, 1/10W, Metalized Glass. . .	3198	021	52220	3524	Res, 47K, 5%, 1/16W, Metalized Glass. . .	3198	021	34730
3384	Res, 10K, 5%, 1/16W, Metalized Glass. . .	3198	021	31030	3530	Res, 220 ohm, 5%, 1/16W, Metalized Glass	3198	021	32210
3385	Res, 1K5, 5%, 1/16W, Metalized Glass. . .	3198	021	31520	3531	Res, 100K, 5%, 1/6W, Carbon Film. . . .	3198	011	01040
3387	Res, 1K8, 5%, 1/16W, Metalized Glass. . .	3198	021	31820	3532	Res, 4R7, 5%, 1/3W, Metal Film.	2306	204	03478
3388	Res, 33 ohm, 5%, 1/16W, Metalized Glass.	3198	021	33390	3533	Res, 8K2, 5%, 1/16W, Metalized Glass. . .	3198	021	38220
3389	Res, 33 ohm, 5%, 1/16W, Metalized Glass.	3198	021	33390	3534	Res, 100 ohm, 5%, 1/6W, Carbon Film. . .	3198	011	01010
3390	Res, 1K2, 5%, 1/16W, Metalized Glass. . .	3198	021	31220	3537	Res, 2K2, 5%, 1/16W, Metalized Glass. . .	3198	021	32220
3401	Res, 47K, 1%, Metal Film.	3198	039	47030	3538	Res, 1R8, 5%, 1/8W, Metalized Glass. . .	2322	730	61188
3403	Res, 1K, 5%, 1/6W, Carbon Film.	3198	011	01020	3541	Res, 47K, 5%, 1/16W, Metalized Glass. . .	3198	021	34730
3404	Res, 1 ohm, 5%, 1/8W, Metalized Glass. . .	2322	750	61008	3563	Res, 220 ohm, 5%, 1/6W, Carbon Film. . .	3198	011	02210
3405	Res, 6K8, 5%, 1/16W, Metalized Glass. . .	3198	021	36820	3565	Res, 15K, 5%, 1/16W, Metalized Glass. . .	3198	021	31530
3406	Res, 390 ohm, 5%, 1/6W, Carbon Film. . .	3198	011	03910	3571	Res, 220 ohm, 5%, 1/6W, Carbon Film. . .	3198	011	02210
3407	Res, 68 ohm, 5%, 1/6W, Carbon Film. . . .	3198	011	06890	3572	Res, 220 ohm, 5%, 1/16W, Metalized Glass	3198	021	32210
3409	Res, 1K8, 5%, 1/16W, Metalized Glass. . .	3198	021	31820	3573	Res, 15K, 5%, 1/16W, Metalized Glass. . .	3198	021	31530
3410	Res, 1K5, 1%, Metal Film.	3198	039	15020	3574	Res, 150K, 5%, 1/6W, Carbon Film. . . .	3198	011	01540
3411	Res, 680K, 5%, 1/2W, Metalized Glass. . .	2322	242	13684	3575	Res, 82K, 1%, Metal Film.	3198	039	82030
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%, Metal Film.	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 Glass	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	3603	Res, 100 ohm, 5%, 1/6W, Carbon Film. . .	3198	011	01010
3420	Res, 10K, 5%, 1/10W, Metalized Glass. . .	3198	021	51030	3604	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198	021	31010
3425	Res, 100K, 1%, Metal Film.	3198	039	10040	3605	Res, 100 ohm, 5%, 1/16W, Metalized Glass	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	RST MGL VR25 A 120K PM5 A.	2322	241	53124	3608	Res, 27K, 5%, 1/16W, Metalized Glass. . .	3198	021	32730
3431	Res, 10K, 1%, Metal Film.	3198	039	10030	3609	Res, 330 ohm, 5%, 1/16W, Metalized Glass	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	3619	Res, 680 ohm, 5%, 1/16W, Metalized Glass	3198	021	36810
3446	Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198	021	31010	3620	Res, 680 ohm, 5%, 1/16W, Metalized Glass	3198	021	36810
3451	Res, 68K, 1%, Metal Film.	3198	039	68030	3621	Res, 680 ohm, 5%, 1/16W, Metalized Glass	3198	021	36810
3452	Res, 6K8, 5%, 1/16W, Metalized Glass. . .	3198	021	36820	3625	Res, 10 ohm, 5%, 1/16W, Metalized Glass.	3198	021	31090
3453	Res, 33K, 5%, 1/16W, Metalized Glass. . .	3198	021	33330	3626	Res, 10 ohm, 5%, 1/16W, Metalized Glass.	3198	021	31090
3454	Res, 47K, 5%, 1/6W, Carbon Film.	3198	011	04730	3628	Res, 10 ohm, 5%, 1/16W, Metalized Glass.	3198	021	31090
3455	Res, 1 ohm, 5%, 1/2W, Metal Film.	2306	207	03108	3634	Res, 1K, 5%, 1/16W, Metalized Glass. . . .	3198	021	31020
3457	Res, 1 ohm, 5%, 1/2W, Metal Film.	2306	207	03108	3635	Res, 47K, 5%, 1/16W, Metalized Glass. . .	3198	021	34730
3458	Res, 4R7, 5%, 1/2W, Metal Film.	2306	207	03478	3637	Res, 47 ohm, 5%, 1/16W, Metalized Glass.	3198	021	34790
3460	Res, 2K2, 5%, 1/6W, Carbon Film.	3198	011	02220	3690	Res, 220 ohm, 5%, 1/16W, Metalized Glass	3198	021	32210
3461	Res, 2K2, 5%, 1/6W, Carbon Film.	3198	011	02220	3975	Res, 150 ohm, 5%, 1 1/3W, Metal Film. . .	3198	012	21510
3462	Res, 2K2, 5%, 1/16W, Metalized Glass. . .	3198	021	32220	3985	Res, 39K, 5%, 1/16W, Metalized Glass. . .	3198	021	33930
3463	Res, 1K, 5%, 1/16W, Metalized Glass. . . .	3198	021	31020	3988	Res, 10K, 5%, 1/16W, Metalized Glass. . .	3198	021	31030
3464	Res, 220 ohm, 5%, 1/16W, Metalized Glass	3198	021	32210	3989	Res, 10 ohm, 5%, 1/16W, Metalized Glass.	3198	021	31090

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

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3991	Res, 39K, 5%, 1/16W, Metalized Glass . . .	3198	021	33930	5512	Transformer, SMT LAYER	2422	531	02626
3992	Res, 10K, 5%, 1/16W, Metalized Glass . . .	3198	021	31030	5531	Transformer, SMT LAYER	2422	531	02631
3993	Res, 10 ohm, 5%, 1/16W, Metalized Glass . .	3198	021	31090	5551	Fixed, Inductor, 100MHz, 50R.	3198	018	90010
3994	Res, 68K, 5%, 1/16W, Metalized Glass . . .	3198	021	36830	5552	Coil, 27u.	2422	535	95366
3995	Res, 4K7, 5%, 1/16W, Metalized Glass . . .	3198	021	34720	5561	Fixed, Inductor, 100MHz, 50R.	3198	018	90010
4000	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	5562	Fixed, Inductor, 100MHz, 50R.	3198	018	90010
4001	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	5603	Fixed, Inductor, 100MHz, 50R.	3198	018	90010
4002	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6001	Zener Diode, 33 volt	3198	010	23390
4003	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6005	Zener Diode, 8.2 volt.	9322	125	45685
4006	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6203	Diode, Signal, BAS316.	3198	010	10630
4013	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6204	Diode, Rectifier, SS14	3198	010	10710
4015	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6205	Zener Diode, 27 volt	3198	020	52790
4101	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6207	Diode, Signal, BAS316.	3198	010	10630
4102	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6209	Diode, Signal, BAT54	3198	010	10660
4103	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6331	Diode, Signal, BAV21	3198	010	10070
4109	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6332	Diode, Signal, BAV21	3198	010	10070
4110	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6333	Diode, Signal, BAV21	3198	010	10070
4111	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6361	Diode, Signal, BAV99	3198	010	10620
4130	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6376	Diode, Signal, BAV99	3198	010	10620
4136	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6383	Diode, Rect, RGP10D	9337	516	60673
4209	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6401	Diode, Rect, BYV97G	9335	214	80133
4211	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6403	Diode, Rect, BYV27-200	9322	126	72673
4212	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6404	Diode, Rect, DMV1500M	9322	169	61687
4221	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6406	Diode, Rect, RGP10G	9334	939	60673
4222	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6407	Diode, Signal, BAV21WS	9322	197	45703
4223	Res, Zero ohm, 'Chip' Jumper	3198	021	90020	6408	Diode, Signal, BAV21WS	9322	197	45703
4226	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6410	Diode, Rect, BY448.	9335	001	20133
4227	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6441	Zener Diode, 68 volt	9322	150	20685
4240	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6442	Zener Diode, 68 volt	9322	150	20685
4241	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6443	Zener Diode, 10 volt	3198	020	51090
4337	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6450	Diode, Signal, BAS316.	3198	010	10630
4370	Res, Zero ohm, 'Chip' Jumper	3198	021	90020	6451	Zener Diode, 4.7 volt.	3198	020	54780
4470	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6452	Diode, Rect, BYV27-200	9322	126	72673
4492	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6453	Diode, Rect, RGP10G	9334	939	60673
4533	Res, Zero ohm, 'Chip' Jumper	3198	021	90020	6454	Diode, Rect, RGP10G	9334	939	60673
4534	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6455	Diode, Rect, RGP10G	9334	939	60673
4535	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6456	Diode, Rect, PBYS10100	9340	205	70127
4537	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6457	Diode, Signal, BAS316.	3198	010	10630
4604	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6458	Diode, Signal, BAS316.	3198	010	10630
4605	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6459	Diode, Rect, RGP10G	9334	939	60673
4610	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6480	Zener Diode, 6.8 volt.	3198	010	56880
4612	Res, Zero ohm, 'Chip' Jumper	3198	021	90020	6481	Diode, Signal, 1N4148.	3198	010	10010
4620	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6482	Zener Diode, 6.8 volt.	3198	020	56880
4631	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6483	Diode, Signal, BAV21WS	9322	197	45703
4635	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6484	Diode, Signal, BAV21WS	9322	197	45703
4637	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6486	Diode, Signal, BAV21	3198	010	10070
4642	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6488	Diode, Signal, BAS316.	3198	010	10630
4644	Res, Zero ohm, 'Chip' Jumper	3198	021	90020	6489	Zener Diode, 33 volt	3198	020	53390
4645	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6500	Diode, Bridge Rect, GBU6JL-7002	9322	138	08667
4646	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6511	Diode, Rect, RGP10D	9337	516	60673
4648	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6512	Diode, Signal, BAT54	3198	010	10660
4649	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6514	Diode, Signal, BAS316.	3198	010	10630
4691	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6531	Zener Diode, 15 volt	3198	020	51590
4692	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6532	Diode, Signal, BAV21WS	9322	197	45703
4694	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6533	Zener Diode, 6.8 volt.	9322	171	80685
4696	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6534	DIO REG, BZX384-B3V9	9322	199	75685
4910	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6535	Diode, Rect, SB160	9322	198	24673
4914	Res, Zero ohm, 'Chip' Jumper	3198	021	90020	6536	Diode, Rect, SB180	9322	198	25673
4915	Res, Zero ohm, 'Chip' Jumper	3198	021	90020	6541	Zener Diode, 12 volt	3198	020	51290
4916	Res, Zero ohm, 'Chip' Jumper	3198	021	90020	6551	Diode, Rect, BYV29X-500	9340	555	59127
4917	Res, Zero ohm, 'Chip' Jumper	3198	021	90020	6562	Diode, Rectifier, SB360.	3198	010	10700
4921	Res, Zero ohm, 'Chip' Jumper	3198	021	90020	6563	Diode, Rectifier, SB360.	3198	010	10700
5001	Fixed, Inductor, 100MHz, 120R	3198	018	90030	6564	Diode, Signal, BAS316.	3198	010	10630
5002	Coil, 390n	3198	018	33970	6565	Zener Diode, 9.1 volt.	9322	125	46685
5201	Fixed, Inductor, 100MHz, 50R.	3198	018	90010	6566	Diode, Signal, BAS316.	3198	010	10630
5202	Fixed, Inductor, 100MHz, 120R	3198	018	90030	6571	Diode, Signal, BAV70	9331	849	10215
5203	Fixed, Inductor, 100MHz, 120R	3198	018	90030	6572	Zener Diode, 6.2 volt.	9340	548	54115
5205	Fixed, Inductor, 100MHz, 120R	3198	018	90030	6573	Zener Diode, 9.1 volt.	9331	177	80133
5206	Fixed, Inductor, 100MHz, 120R	3198	018	90030	6575	Diode, Rect, 1N5392	9322	005	16683
5207	Fixed, Inductor, 100MHz, 120R	3198	018	90030	6602	Diode, Signal, BAV99	3198	010	10620
5208	Fixed, Inductor, 100MHz, 50R.	3198	018	90010	6694	Zener Diode, 5.1 volt.	3198	020	55180
5209	Fixed, Inductor, 100MHz, 120R	3198	018	90030	7200	IC, TDA12001H1/N1B50	9352	744	16557
5210	Fixed, Inductor, 100MHz, 120R	3198	018	90030	7201	Transistor, NPN, IMX1.	9322	054	28685
5211	Fixed, Inductor, 100MHz, 120R	3198	018	90030	7203	Transistor, PNP, BC327-25.	3198	020	43430
5212	Fixed, Inductor, 100MHz, 120R	3198	018	90030	7204	Transistor, PNP, BC327-25.	3198	020	43430
5213	Fixed, Inductor, 100MHz, 120R	3198	018	90030	7205	Transistor, NPN, BC847B.	3198	010	42030
5214	Fixed, Inductor, 100MHz, 120R	3198	018	90030	7207	Transistor, NPN, BC847B.	3198	010	42030
5215	Fixed, Inductor, 100MHz, 120R	3198	018	90030	7208	Transistor, NPN, BC847B.	3198	010	42030
5216	Fixed, Inductor, 100MHz, 50R.	3198	018	90010	7209	F.E.T. Signal, BSH103.	9340	547	13215
5330	Fixed, Inductor, 100MHz, 50R.	3198	018	90010	7210	F.E.T. Signal, BSH103.	9340	547	13215
5331	Fixed, Inductor, 100MHz, 50R.	3198	018	90010	7330	IC TDA6107AJF/N1B.	9352	636	44112
5351	Coil, 12u.	2422	535	97329	7331	Transistor, NPN, BC847B.	3198	010	42030
5352	Coil, 15u.	2422	535	94641	7332	Transistor, PNP, BC857B.	3198	010	42150
5361	Fixed, Inductor, 100MHz, 50R.	3198	018	90010	7361	Transistor, NPN, BC847B.	3198	010	42030
5401	Coil, 42u.	2422	535	94865	7362	Transistor, NPN, BC857B.	3198	010	42150
5402	Transformer, DRIVER.	2422	531	02617	7363	Transistor, KTB631KY	9322	195	05687
5405	Coil, CHOKE 35MH.	2422	536	00846	7364	Transistor, KTD600KY	9322	195	14687
5408	Coil, Choke.	3128	138	37021	7366	Transistor, PNP, BC857B.	3198	010	42150
5450	Transformer, LOT	2422	531	02602	7376	Transistor, NPN, BC857B.	3198	010	42150
5451	Wire Jumper, 0.58MM.	3198	036	90010	7381	Transistor, NPN, BC337	9331	796	00126
5501	Filter, Mains, 5mH, 2A	2422	549	43432	7382	Transistor, NPN, BC337	9331	796	00126
5511	Fixed, Inductor, 100MHz, 50R.	3198	018	90010	7401	Transistor, NPN, BUH2M20AP	9322	101	38687

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

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7402	Transistor, NPN, BC847B.	3198	010	42030	9244	Wire Jumper, 0.58MM.	3198	036	90010
7403	Transistor, NPN, BC847B.	3198	010	42030	9245	Wire Jumper, 0.58MM.	3198	036	90010
7404	F.E.T. Signal, BSH103.	9340	547	13215	9246	Wire Jumper, 0.58MM.	3198	036	90010
7405	Transistor, NPN, BU4508DX.	9340	550	92127	9247	Wire Jumper, 0.58MM.	3198	036	90010
7406	Transistor, KTC3228Y	9322	197	37676	9248	Wire Jumper, 0.58MM.	3198	036	90010
7408	Transistor, NPN, BC847B.	3198	010	42030	9249	Wire Jumper, 0.58MM.	3198	036	90010
7410	Transistor, PNP, BC857B.	3198	010	42150	9250	Wire Jumper, 0.58MM.	3198	036	90010
7411	Transistor, PNP, BC857B.	3198	010	42150	9251	Wire Jumper, 0.58MM.	3198	036	90010
7451	Transistor, KTD600KY	9322	195	14687	9252	Wire Jumper, 0.58MM.	3198	036	90010
7452	Transistor, KTC3228Y	9322	197	37676	9253	Wire Jumper, 0.58MM.	3198	036	90010
7453	Transistor, KTB631KY	9322	195	05687	9254	Wire Jumper, 0.58MM.	3198	036	90010
7454	Transistor, NPN, BC847B.	3198	010	42030	9255	Wire Jumper, 0.58MM.	3198	036	90010
7455	Transistor, PNP, BC857B.	3198	010	42150	9258	Wire Jumper, 0.58MM.	3198	036	90010
7456	Transistor, PNP, BC857B.	3198	010	42150	9259	Wire Jumper, 0.58MM.	3198	036	90010
7481	Transistor, PNP, BC857B.	3198	010	42150	9263	Wire Jumper, 0.58MM.	3198	036	90010
7482	Transistor, PNP, PDTA114ET	3198	010	44010	9264	Wire Jumper, 0.58MM.	3198	036	90010
7483	Transistor, PNP, BC857B.	3198	010	42150	9268	Wire Jumper, 0.58MM.	3198	036	90010
7484	Transistor, NPN, BC847BG	9322	160	61668	9269	Wire Jumper, 0.58MM.	3198	036	90010
7511	IC, TEA1506T/N1	9352	720	43118	9271	Wire Jumper, 0.58MM.	3198	036	90010
7512	FET, FQPF9N50.	9322	187	16687	9272	Wire Jumper, 0.58MM.	3198	036	90010
7513	Optic Coupler, TCET1103(G)	9322	140	14667	9273	Wire Jumper, 0.58MM.	3198	036	90010
7514	Transistor, NPN, BC847B.	3198	010	42030	9274	Res, 100 ohm, 5%, 1/6W, Carbon Film.	3198	011	01010
7531	IC, TEA1620P/N1.	9352	739	52112	9275	Wire Jumper, 0.58MM.	3198	036	90010
7541	Transistor, PNP, BC857B.	3198	010	42150	9276	Wire Jumper, 0.58MM.	3198	036	90010
7561	Transistor, NPN, PDTCT143ZT	9340	547	00215	9277	Wire Jumper, 0.58MM.	3198	036	90010
7571	Transistor, NPN, BC547B.	3198	020	40030	9278	Wire Jumper, 0.58MM.	3198	036	90010
7573	Transistor, NPN, PDTCT114ET	3198	010	44110	9279	Wire Jumper, 0.58MM.	3198	036	90010
7601	IC, M24C16-WBN6.	9322	147	25682	9290	Wire Jumper, 0.58MM.	3198	036	90010
7603	IC, L78L33ACZ.	9322	134	92676	9294	Wire Jumper, 0.58MM.	3198	036	90010
7604	Transistor, NPN, BC847B.	3198	010	42030	9295	Wire Jumper, 0.58MM.	3198	036	90010
7605	Transistor, PNP, BC327-25.	3198	020	43430	9296	Wire Jumper, 0.58MM.	3198	036	90010
7606	Transistor, NPN, BC847B.	3198	010	42030	9297	Wire Jumper, 0.58MM.	3198	036	90010
7990	IC, TDA2616Q/N1.	9350	404	40112	9298	Wire Jumper, 0.58MM.	3198	036	90010
7991	Transistor, NPN, BC847B.	3198	010	42030	9299	Wire Jumper, 0.58MM.	3198	036	90010
7992	Transistor, NPN, BC847B.	3198	010	42030	9352	Wire Jumper, 0.58MM.	3198	036	90010
8204	CBLE OE 07P/560/07P OE 240S BK	3139	131	03591	9373	Wire Jumper, 0.58MM.	3198	036	90010
8401	Cable, 5 Pin, 560mm.	3139	121	09041	9390	Wire Jumper, 0.58MM.	3198	036	90010
9002	Wire Jumper, 0.58MM.	3198	036	90010	9401	Wire Jumper, 0.58MM.	3198	036	90010
9112	Wire Jumper, 0.58MM.	3198	036	90010	9407	Wire Jumper, 0.58MM.	3198	036	90010
9114	Wire Jumper, 0.58MM.	3198	036	90010	9410	Wire Jumper, 0.58MM.	3198	036	90010
9116	Wire Jumper, 0.58MM.	3198	036	90010	9460	Wire Jumper, 0.58MM.	3198	036	90010
9120	Wire Jumper, 0.58MM.	3198	036	90010	9466	Wire Jumper, 0.58MM.	3198	036	90010
9121	Wire Jumper, 0.58MM.	3198	036	90010	9467	Wire Jumper, 0.58MM.	3198	036	90010
9122	Wire Jumper, 0.58MM.	3198	036	90010	9469	Wire Jumper, 0.58MM.	3198	036	90010
9123	Wire Jumper, 0.58MM.	3198	036	90010	9470	Wire Jumper, 0.58MM.	3198	036	90010
9124	Wire Jumper, 0.58MM.	3198	036	90010	9473	Wire Jumper, 0.58MM.	3198	036	90010
9125	Wire Jumper, 0.58MM.	3198	036	90010	9474	Wire Jumper, 0.58MM.	3198	036	90010
9126	Wire Jumper, 0.58MM.	3198	036	90010	9475	Wire Jumper, 0.58MM.	3198	036	90010
9128	Wire Jumper, 0.58MM.	3198	036	90010	9476	Wire Jumper, 0.58MM.	3198	036	90010
9129	Wire Jumper, 0.58MM.	3198	036	90010	9477	Wire Jumper, 0.58MM.	3198	036	90010
9138	Wire Jumper, 0.58MM.	3198	036	90010	9478	Wire Jumper, 0.58MM.	3198	036	90010
9201	Wire Jumper, 0.58MM.	3198	036	90010	9479	Wire Jumper, 0.58MM.	3198	036	90010
9202	Wire Jumper, 0.58MM.	3198	036	90010	9480	Wire Jumper, 0.58MM.	3198	036	90010
9203	Wire Jumper, 0.58MM.	3198	036	90010	9481	Wire Jumper, 0.58MM.	3198	036	90010
9204	Wire Jumper, 0.58MM.	3198	036	90010	9482	Wire Jumper, 0.58MM.	3198	036	90010
9205	Wire Jumper, 0.58MM.	3198	036	90010	9483	Wire Jumper, 0.58MM.	3198	036	90010
9206	Wire Jumper, 0.58MM.	3198	036	90010	9484	Wire Jumper, 0.58MM.	3198	036	90010
9207	Wire Jumper, 0.58MM.	3198	036	90010	9485	Wire Jumper, 0.58MM.	3198	036	90010
9208	Wire Jumper, 0.58MM.	3198	036	90010	9486	Wire Jumper, 0.58MM.	3198	036	90010
9209	Wire Jumper, 0.58MM.	3198	036	90010	9487	Wire Jumper, 0.58MM.	3198	036	90010
9210	Wire Jumper, 0.58MM.	3198	036	90010	9488	Wire Jumper, 0.58MM.	3198	036	90010
9211	Wire Jumper, 0.58MM.	3198	036	90010	9489	Wire Jumper, 0.58MM.	3198	036	90010
9212	Wire Jumper, 0.58MM.	3198	036	90010	9490	Wire Jumper, 0.58MM.	3198	036	90010
9213	Wire Jumper, 0.58MM.	3198	036	90010	9491	Wire Jumper, 0.58MM.	3198	036	90010
9214	Wire Jumper, 0.58MM.	3198	036	90010	9492	Wire Jumper, 0.58MM.	3198	036	90010
9216	Wire Jumper, 0.58MM.	3198	036	90010	9502	Wire Jumper, 0.58MM.	3198	036	90010
9217	Wire Jumper, 0.58MM.	3198	036	90010	9504	Wire Jumper, 0.58MM.	3198	036	90010
9218	Wire Jumper, 0.58MM.	3198	036	90010	9505	Wire Jumper, 0.58MM.	3198	036	90010
9219	Wire Jumper, 0.58MM.	3198	036	90010	9506	Wire Jumper, 0.58MM.	3198	036	90010
9220	Wire Jumper, 0.58MM.	3198	036	90010	9507	Wire Jumper, 0.58MM.	3198	036	90010
9221	Wire Jumper, 0.58MM.	3198	036	90010	9508	Wire Jumper, 0.58MM.	3198	036	90010
9222	Wire Jumper, 0.58MM.	3198	036	90010	9509	Wire Jumper, 0.58MM.	3198	036	90010
9223	Wire Jumper, 0.58MM.	3198	036	90010	9510	Wire Jumper, 0.58MM.	3198	036	90010
9224	Wire Jumper, 0.58MM.	3198	036	90010	9514	Wire Jumper, 0.58MM.	3198	036	90010
9225	Wire Jumper, 0.58MM.	3198	036	90010	9536	Wire Jumper, 0.58MM.	3198	036	90010
9226	Wire Jumper, 0.58MM.	3198	036	90010	9537	Wire Jumper, 0.58MM.	3198	036	90010
9227	Wire Jumper, 0.58MM.	3198	036	90010	9570	Wire Jumper, 0.58MM.	3198	036	90010
9228	Wire Jumper, 0.58MM.	3198	036	90010	9573	Wire Jumper, 0.58MM.	3198	036	90010
9229	Wire Jumper, 0.58MM.	3198	036	90010	9574	Wire Jumper, 0.58MM.	3198	036	90010
9230	Wire Jumper, 0.58MM.	3198	036	90010	9575	Wire Jumper, 0.58MM.	3198	036	90010
9231	Wire Jumper, 0.58MM.	3198	036	90010	9576	Wire Jumper, 0.58MM.	3198	036	90010
9232	Wire Jumper, 0.58MM.	3198	036	90010	9577	Wire Jumper, 0.58MM.	3198	036	90010
9233	Wire Jumper, 0.58MM.	3198	036	90010	9582	Wire Jumper, 0.58MM.	3198	036	90010
9234	Wire Jumper, 0.58MM.	3198	036	90010	9583	Wire Jumper, 0.58MM.	3198	036	90010
9235	Wire Jumper, 0.58MM.	3198	036	90010	9584	Wire Jumper, 0.58MM.	3198	036	90010
9236	Wire Jumper, 0.58MM.	3198	036	90010	9585	Wire Jumper, 0.58MM.	3198	036	90010
9237	Wire Jumper, 0.58MM.	3198	036	90010	9586	Wire Jumper, 0.58MM.	3198	036	90010
9238	Wire Jumper, 0.58MM.	3198	036	90010	9587	Wire Jumper, 0.58MM.	3198	036	90010
9239	Wire Jumper, 0.58MM.	3198	036	90010	9589	Wire Jumper, 0.58MM.	3198	036	90010
9240	Wire Jumper, 0.58MM.	3198	036	90010	9590	Wire Jumper, 0.58MM.	3198	036	90010
9241	Wire Jumper, 0.58MM.	3198	036	90010	9605	Wire Jumper, 0.58MM.	3198	036	90010
9243	Wire Jumper, 0.58MM.	3198	036	90010	9607	Wire Jumper, 0.58MM.	3198	036	90010

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

32ST6210/27 (continued)

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

SIDE A/V JACK PANEL

SIDE A/V JACK PANEL				
0001	SIDE A/V SINGLE.	3139	123	57181
0100	PROCESS BOX PCB PNL LFS.	3139	129	90041
0150	Factory Plate.	3122	120	01701
0205	Side A/V Bracket	3139	124	60871
1016	SB.PNL-HP-S.II-ST-GL	3139	188	06951
1232	SOC PHONE H 1P F 3.5 ST B	2422	026	04471
1250	SOC CINCH H 3P F 1L3 YEWHRD Y	2422	026	05538
1252	Connector, 7 Pin	2422	025	11244
1254	Connector, 5 Pin	2422	025	12481
1278	Connector, 4 Pin	2422	025	15847
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
8252	Cable, 7 Pin	3139	110	39091
8254	Cable, 5 Pin, 680mm.	3139	110	38861
9181	Wire Jumper, 0.58MM.	3198	036	90010

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CABINET PARTS

CABINET PARTS			
CTL TOP CONTROL ASSEMBLY	3139	188	65121
0002 AS FC 33WDPV ITV NA	3139	177	81521
0008 BC 33WDPV(SPLS+9AV+SVHS+SYS)NA	3139	124	49953
0016 MAINSKNOB ASSY EMG NAFTA EMG	3139	138	10881
0020 Holder, Degaussing (4 Used)	3135	013	01661
0030 Chassis Tray -32V	3139	124	31325
0041 Light Guide	3139	124	39701
0050 34" WORDMARK PHILIPS	3141	050	00141
0125 DFU	3135	125	21432
0350 PROCESS BOX ENC-NA	3139	129	70391
0940 FRONT SUB-ASSY 32ST6210/27	3121	237	55141
1081 Battery, Remote Control (2 Pack)	9299	000	13827
1085 Remote Control, RC0705/00	3139	228	80573
1099 CRT A80ERF042X14	9301	927	10539
1114 TB-PV2-REC-4B-10811-21-32-NA	3139	188	65121
1116 Side Jack Panel	3139	188	67091
1150 Main Chassis	3139	188	62701
1160 Front Interface Assy	3139	188	62121
1181 EPS(1B). Module, (ITV)	3139	137	22961
1182 SP/LS MODULE ITV NA-LA	3139	188	61501
1183 Interface Module	3139	188	61471
1H53 SYS CARD HSG LS AP/EU ITV	3139	124	37853
5203 Coil, Degaussing	2422	549	44676
5213 LSP 16R 10W SCR FULR 058X126 B	2422	264	00482
5214 LSP 16R 10W SCR FULR 058X126 B	2422	264	00482
8190 Mains Cord	3135	128	70012

MAIN CHASSIS

MAIN CHASSIS			
0001 PCB FB CINCH	3139	123	56721
0028 DOUBLE COMP CLIP	3139	121	27391
0031 LINE AND FRAME HEATSINK-ITV	3139	121	27951
0032 IC-Spring	3104	301	22081
0033 Heatsink	3139	121	27471
0034 Spring	3139	121	24583
0035 U-Cooling Plate	3139	121	26731
0037 LOT Bracket	3139	124	46811
0082 AUDIO B HEATSINK H37 ITV	3139	121	62881
0085 IC-Spring	3104	301	22081
0087 U-Cooling Plate	3139	121	26731
0100 PROCESS BOX PCB PNL LFS	3139	129	90041
0266 DOUBLE COMP CLIP	3139	121	27391
0276 TORX HEAD TAPPING SCREW M4X12	3139	120	41421
0313 SCREW #4-40 x 0.50"	3121	230	30071
0317 SCREW #4-40 x 0.50"	3121	230	30071
1000 Tuner	2422	542	90141
1002 S.A.W. Filter, 45MHz75,	2422	549	44518
1005 Connector, 3 Pin	2422	025	09191
1137 SOC MDIN H 4P F LAP5100 Y	2422	026	05428
1204 Connector, 7 Pin	2422	025	04855
1205 RES XTL 24M576 20P HC49/U A	2422	543	00943
1207 Connector, 7 Pin	2422	025	11244
1212 Connector, 7 Pin	2422	025	17042
1213 Connector, 7 Pin	2422	025	11244
1219 Connector, 9 Pin	2422	025	17408
1220 Connector, 6 Pin	2422	025	12482
1223 Connector, 9 Pin	2422	026	05477
1227 Connector, 3 Pin	2422	025	16383
1229 Connector, 3 Pin	2412	020	00725
1236 Connector, 3 Pin	2422	025	16382
1256 CRT Socket	2422	500	80063
1262 Connector, 3 Pin	2422	025	16937
1280 Connector, 5 Pin	2422	025	12481
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
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
S 1452 FUSE RAD LT 1A25 250V IEC A	2422	086	10517
S 1454 FUSE RAD LT 1A25 250V IEC A	2422	086	10517
S 1500 Fuse, 4A, 250V, IEC	2422	086	10914
S 1501 SOC FUSE V 1P F PFC5000-0252 A	2422	090	01101
S 1502 SOC FUSE V 1P F PFC5000-0252 A	2422	090	01101
S 1503 Relay, 12V, 5A G5PA-1	2422	132	07444
1504 Connector, 2 Pin	2422	025	16375
1505 Connector, 2 Pin	2422	025	16269
1507 Connector, 2 Pin	2422	025	16374
1682 Connector, 3 Pin	2412	020	00725
1692 Connector, 5 Pin	2422	025	15848
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%, 35V, Electrolytic	3198	028	41090
2106 Cap, 10u, 20%, 35V, Electrolytic	3198	028	41090
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
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
2351 Cap, 10u, 20%, 250V, Electrolytic	2038	035	13903
2352 Cap, 2n2, 10%, 2KV, Ceramic	3198	019	72220
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

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

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2384	Cap, 220p, 5%, 50V, Ceramic.	3198	016	32210	2627	Cap, 33p, 5%, 50V, Ceramic.	3198	016	33390
2385	Cap, 220p, 5%, 50V, Ceramic.	3198	016	32210	2628	Cap, 33p, 5%, 50V, Ceramic.	3198	016	33390
2386	Cap, 100n, 10%, 16V, Ceramic.	3198	017	31040	2629	Cap, 33p, 5%, 50V, Ceramic.	3198	016	33390
2387	Cap, 10p, 5%, 50V, Ceramic.	3198	016	31090	2630	Cap, 1n, 10%, 50V, Ceramic.	3198	017	31020
2401	Cap, 4u7, 20%, 50V, Electrolytic.	3198	028	54780	2986	Cap, 100n, 10%, 16V, Ceramic.	3198	017	31040
2402	Cap, 15n, 10%, 50V, Ceramic.	3198	017	31530	2987	Cap, 100n, 10%, 16V, Ceramic.	3198	017	31040
2403	Cap, 33n, 10%, 16V, Ceramic.	3198	017	33330	2988	Cap, 100n, 10%, 16V, Ceramic.	3198	017	31040
2404	Cap, 47u, 20%, 160v, Electrolytic.	2022	031	00103	2989	Cap, 1u, +80/-20%, 10V, Ceramic.	3198	017	41050
2405	Cap, 1n, 10%, 2KV, Ceramic.	3198	019	71020	2990	Cap, 1n, 5%, 25V, Ceramic.	3198	016	31020
2406	Cap, 680p, 10%, 500V, Ceramic.	3198	019	46810	2992	Cap, 1u, +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, 680p, 10%, 2KV, Ceramic.	3198	019	76810	2996	Cap, 47n, +80/-20%, 50V, Ceramic.	3198	024	44730
2412	Cap, 12n, 5%, 1600v, Polypropylene.	2222	375	90156	2997	Cap, 47n, +80/-20%, 50V, Ceramic.	3198	024	44730
2413	Cap, 33n, 10%, 400V, Polyester.	2222	347	90227	3003	Res, 10K, 5%, 1/16W, Metalized Glass.	3198	021	31030
2414	Cap, 1u, +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 Glass.	3198	021	31010
2418	Cap, 270n, 5%, 250V, Metalized Polypropyl ene.	2222	479	90016	3101	Res, 68 ohm, 5%, 1/6W, Carbon Film.	3198	011	06890
2419	Cap, 2u2, 5%, 100v, Metalized Polyester.	2222	468	90324	3103	Res, 150 ohm, 5%, 1/6W, Carbon Film.	3198	011	01510
2420	Cap, 1u, +80/-20%, 10V, Ceramic.	3198	017	41050	3104	Res, 220K, 5%, 1/16W, Metalized Glass.	3198	021	32240
2425	Cap, 10n, 10%, 50V, Ceramic.	3198	017	31030	3105	Res, 150 ohm, 5%, 1/6W, Carbon Film.	3198	011	01510
2428	Cap, 33n, 10%, 16V, Ceramic.	3198	017	33330	3106	Res, 220K, 5%, 1/16W, Metalized Glass.	3198	021	32240
2451	Cap, 220n, 10%, 100V, Metalized Polyester.	2222	365	85224	3129	Res, 75 ohm, 5%, 1/16W, Metalized Glass.	3198	021	37590
2453	Cap, 1u, +80/-20%, 16V, Ceramic.	3198	017	21050	3131	Res, 22K, 5%, 1/6W, Carbon Film.	3198	011	02230
2454	Cap, 470u, 20%, 16V, Electrolytic.	3198	025	24710	3132	Res, 47K, 5%, 1/16W, Metalized Glass.	3198	021	34730
2456	Cap, 47n, 10%, 250V, Ceramic.	2020	557	90733	3133	Res, 22K, 5%, 1/6W, Carbon Film.	3198	011	02230
2457	Cap, 4u7, 20%, 250V, Electrolytic.	2020	012	93282	3134	Res, 47K, 5%, 1/16W, Metalized Glass.	3198	021	34730
2459	Cap, 470p, 10%, 500V, Ceramic.	3198	019	44710	3135	Res, 75 ohm, 5%, 1/16W, Metalized Glass.	3198	021	37590
2460	Cap, 470u, 20%, 16V, Electrolytic.	3198	025	24710	3167	Res, 75 ohm, 5%, 1/6W, Carbon Film.	3198	011	07590
2461	Cap, 1n, 5%, 25V, Ceramic.	3198	016	31020	3168	Res, 75 ohm, 5%, 1/16W, Metalized Glass.	3198	021	37590
2462	Cap, 1n, 5%, 25V, Ceramic.	3198	016	31020	3169	Res, 75 ohm, 5%, 1/16W, Metalized Glass.	3198	021	37590
2463	Cap, 100u, 20%, 50v, Electrolytic.	3198	037	51010	3201	Res, 1K, 5%, 1/6W, Carbon Film.	3198	011	01020
2464	Cap, 470p, 5%, 50V, Ceramic.	3198	016	34710	3202	Res, 3K3, 5%, 1/16W, Metalized Glass.	3198	021	33320
2465	Cap, 10u, 20%, 100V, Electrolytic.	3198	025	71090	3203	Res, 150K, 5%, 1/16W, Metalized Glass.	3198	021	31540
2467	Cap, 10n, 10%, 400V, Metalized Polyester.	2222	365	55103	3204	Res, 3K3, 5%, 1/16W, Metalized Glass.	3198	021	33320
2468	Cap, 220p, 5%, 50V, Ceramic.	3198	016	32210	3205	Res, 1K, 5%, 1/16W, Metalized Glass.	3198	021	31020
2469	Cap, 220n, +80/-20%, 16V, Ceramic.	3198	017	42240	3206	Res, 5K6, 5%, 1/16W, Metalized Glass.	3198	021	35620
2470	Cap, 100n, 10%, 100v, Ceramic.	2222	601	55649	3207	Res, 10 ohm, 5%, 1/16W, Metalized Glass.	3198	021	31090
2484	ELCAP BP NA 50V S 10U PM20 A.	2020	009	00001	3208	Res, 27K, 5%, 1/16W, Metalized Glass.	3198	021	32730
2486	Cap, 27p, 5%, 500V, Ceramic.	2252	508	08255	3209	Res, 1 ohm, 5%, 1/16W, Metalized Glass.	3198	021	31080
2487	Cap, 2n2, 10%, 50V, Ceramic.	3198	017	02220	3210	Res, 1 ohm, 5%, 1/16W, Metalized Glass.	3198	021	31080
2489	Cap, 10n, 10%, 50V, Ceramic.	3198	017	31030	3211	Res, 27K, 5%, 1/16W, Metalized Glass.	3198	021	32730
2500	CAP MKP, 275V S 470N PM20 B.	2222	338	22474	3212	Res, 10 ohm, 5%, 1/16W, Metalized Glass.	3198	021	31090
2503	Cap, 2n2, 10%, 1KV, Ceramic.	3198	019	52220	3214	Res, 10 ohm, 5%, 1/16W, Metalized Glass.	3198	021	31090
2504	Cap, 2n2, 10%, 1KV, Ceramic.	3198	019	52220	3215	Res, 4K7, 5%, 1/6W, Carbon Film.	3198	011	04720
2505	Cap, 470u, 20%, 200v, Electrolytic.	2022	020	00852	3216	Res, 10 ohm, 5%, 1/16W, Metalized Glass.	3198	021	31090
2511	Cap, 22u, 20%, 50V, Electrolytic.	3198	025	52290	3218	Res, 100 ohm, 5%, 1/16W, Metalized Glass.	3198	021	31010
2512	Cap, 100n, 10%, 16V, Ceramic.	3198	017	31040	3219	Res, 10K, 5%, 1/16W, Metalized Glass.	3198	021	31030
2513	Cap, 470p, 10%, 50V, Ceramic.	3198	017	34710	3220	Res, 150 ohm, 5%, 1/16W, Metalized Glass.	3198	021	31510
2514	Cap, 1n5, 10%, 2KV, Ceramic.	3198	019	71520	3221	Res, 270 ohm, 5%, 1/16W, Metalized Glass.	3198	021	32710
2515	Cap, 470p, 5%, 50V, Ceramic.	3198	016	34710	3222	Res, 680 ohm, 5%, 1/16W, Metalized Glass.	3198	021	36810
2516	Cap, 100n, 10%, 16V, Ceramic.	3198	017	31040	3224	Res, 560K, 5%, 1/4W, Carbon Film.	2122	101	02086
2517	Cap, 1n, 10%, 50V, Ceramic.	3198	017	31020	3226	Res, 100 ohm, 5%, 1/16W, Metalized Glass.	3198	021	31010
2519	Cap, 100p, 5%, 100V, Ceramic.	2020	557	90726	3227	Res, 100 ohm, 5%, 1/16W, Metalized Glass.	3198	021	31010
2530	Cap, 330p, 5%, 100v, Ceramic.	2020	557	00005	3228	Res, 100 ohm, 5%, 1/16W, Metalized Glass.	3198	021	31010
2531	Cap, 470p, 5%, 50V, Ceramic.	3198	016	34710	3229	Res, 1K5, 5%, 1/16W, Metalized Glass.	3198	021	31520
2532	Cap, 10u, 10%, 16V, Ceramic.	2020	552	96823	3230	Res, 100 ohm, 5%, 1/6W, Carbon Film.	3198	011	01010
2533	Cap, 4n7, 10%, 50V, Ceramic.	3198	017	34720	3231	Res, 100 ohm, 5%, 1/6W, Carbon Film.	3198	011	01010
2534	Cap, 68p, 5%, 1000V, Ceramic.	2020	558	90261	3232	Res, 12K, 5%, 1/16W, Metalized Glass.	3198	021	31230
2535	Cap, 1000u, 20%, 6.3V, Electrolytic.	3198	025	01021	3235	Res, 1K, 5%, 1/16W, Metalized Glass.	3198	021	31020
2536	Cap, 2u2, 20%, 10V, Electrolytic.	2020	012	93728	3236	Res, 100 ohm, 5%, 1/16W, Metalized Glass.	3198	021	31010
2538	Cap, 470p, 10%, 50V, Ceramic.	3198	017	34710	3237	Res, 1K, 5%, 1/16W, Metalized Glass.	3198	021	31020
2539	Cap, 470p, 10%, 500V, Ceramic.	3198	019	44710	3238	Res, 4K7, 5%, 1/16W, Metalized Glass.	3198	021	34720
2541	Cap, 47u, 20%, 25V, Electrolytic.	3198	025	34790	3239	Res, 1K2, 5%, 1/6W, Carbon Film.	3198	011	01220
2542	Cap, 1n5, 20%, 250V, Ceramic.	2020	554	90199	3240	Res, 22K, 5%, 1/16W, Metalized Glass.	3198	021	32230
2543	Cap, 2n2, 10%, 500V, Ceramic.	3198	019	42220	3241	Res, 39K, 1%, Metal Film.	3198	039	39030
2549	Cap, 100p, 5%, 50V, Ceramic.	3198	016	31010	3242	Res, 47K, 5%, 1/16W, Metalized Glass.	3198	021	34730
2550	Cap, 33p, 5%, 200v, Ceramic.	2020	557	00002	3243	Res, 33K, 5%, 1/16W, Metalized Glass.	3198	021	33330
2551	Cap, 1n, 10%, 1KV, Ceramic.	3198	019	61020	3244	Res, 100 ohm, 5%, 1/16W, Metalized Glass.	3198	021	31010
2552	Cap, 100u, 20%, 160v, Electrolytic.	2020	021	91654	3245	Res, 27 ohm, 5%, 1/16W, Metalized Glass.	2322	702	60279
2553	Cap, 180p, 5%, 50V, Ceramic.	3198	016	31810	3246	Res, 4K7, 5%, 1/6W, Carbon Film.	3198	011	04720
2561	Cap, 1n, 10%, 500V, Ceramic.	3198	019	41020	3247	Res, 390 ohm, 5%, 1/16W, Metalized Glass.	3198	021	33910
2562	Cap, 1000u, 20%, 25V, Electrolytic.	3198	026	31020	3248	Res, 100 ohm, 5%, 1/16W, Metalized Glass.	3198	021	31010
2563	Cap, 1000u, 20%, 25V, Electrolytic.	3198	026	31020	3249	Res, 100 ohm, 5%, 1/6W, Carbon Film.	3198	011	01010
2564	Cap, 100n, 10%, 50v, Ceramic.	2238	580	15649	3250	Res, 2K2, 5%, 1/16W, Metalized Glass.	3198	021	32220
2565	Cap, 1n, 10%, 500V, Ceramic.	3198	019	41020	3251	Res, 10K, 5%, 1/16W, Metalized Glass.	3198	021	31030
2571	Cap, 15n, 10%, 50V, Ceramic.	3198	017	31530	3252	Res, 1K, 5%, 1/6W, Carbon Film.	3198	011	01020
2572	Cap, 10n, 10%, 50V, Ceramic.	3198	017	31030	3254	Res, 560 ohm, 5%, 1/16W, Metalized Glass.	3198	021	35610
2573	Cap, 220n, 10%, 50V, Ceramic.	2020	552	96683	3257	Res, 100 ohm, 5%, 1/16W, Metalized Glass.	3198	021	31010
2601	Cap, 1n, 5%, 25V, Ceramic.	3198	016	31020	3258	Res, 100 ohm, 5%, 1/6W, Carbon Film.	3198	011	01010
2611	Cap, 47u, 20%, 16V, Electrolytic.	3198	028	24790	3259	Res, 10K, 5%, 1/16W, Metalized Glass.	3198	021	31030
2613	Cap, 100n, 10%, 16V, Ceramic.	3198	017	31040	3260	Res, 100 ohm, 5%, 1/6W, Carbon Film.	3198	011	01010
2615	Cap, 4u7, +80/-20%, 10V, Ceramic.	2020	552	96305	3261	Res, 4K7, 5%, 1/16W, Metalized Glass.	3198	021	34720
2617	Cap, 100n, 10%, 16V, Ceramic.	3198	017	31040	3262	Res, 100 ohm, 5%, 1/16W, Metalized Glass.	3198	021	31010
2620	Cap, 100n, 10%, 16V, Ceramic.	3198	017	31040	3264	Res, 10 ohm, 5%, 1/16W, Metalized Glass.	3198	021	31090
2621	Cap, 100u, 20%, 25V, Electrolytic.	3198	025	31010	3269	Res, 100 ohm, 5%, 1/16W, Metalized Glass.	3198	021	31010
2623	Cap, 100n, 10%, 16V, Ceramic.	3198	017	31040	3270	Res, 100 ohm, 5%, 1/6W, Carbon Film.	3198	011	01010
2624	Cap, 100u, 20%, 25V, Electrolytic.	3198	025	31010	3271	Res, 390 ohm, 5%, 1/16W, Metalized Glass.	3198	021	33910
2625	Cap, 2u2, 10%, 6v, Ceramic.	2022	552	05615	3272	Res, 820 ohm, 5%, 1/16W, Metalized Glass.	3198	021	38210
2626	Cap, 33p, 5%, 50V, Ceramic.	3198	016	33390	3273	Res, 1K, 5%, 1/16W, Metalized Glass.	3198	021	31020

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3275 Res, 100 ohm, 5%, 1/6W, Carbon Film. . .	3198 011 01010	3466 Res, 1 ohm, 5%, 1/2W, Metal Film. . . .	2306 207 03108
3276 Res, 100 ohm, 5%, 1/6W, Carbon Film. . .	3198 011 01010	3467 Res, 150 ohm, 5%, 1/6W, Carbon Film. . .	3198 011 01510
3277 Res, 100 ohm, 5%, 1/6W, Carbon Film. . .	3198 011 01010	3468 Res, 150 ohm, 5%, 1/6W, Carbon Film. . .	3198 011 01510
3278 Res, 100 ohm, 5%, 1/6W, Carbon Film. . .	3198 011 01010	3469 Res, 1K, 5%, 1/16W, Metalized Glass. . .	3198 021 31020
3281 Res, 4K7, 5%, 1/16W, Metalized Glass. . .	3198 021 34720	3470 Res, 22 ohm, 5%, 1/6W, Carbon Film. . .	3198 011 02290
3283 Res, 4K7, 5%, 1/16W, Metalized Glass. . .	3198 021 34720	3471 Res, 2R2, 1%, Metal Film.	3198 039 22080
3284 Res, 4K7, 5%, 1/16W, Metalized Glass. . .	3198 021 34720	3472 Res, 2R2, 1%, Metal Film.	3198 039 22080
3285 Res, 1K, 5%, 1/16W, Metalized Glass. . .	3198 021 31020	3473 Res, 680K, 5%, 1/16W, Metalized Glass. . .	3198 021 36840
3287 Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198 021 31010	3474 Res, 15K, 5%, 1/16W, Metalized Glass. . .	3198 021 31530
3289 Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198 021 31010	3475 Res, 8K2, 5%, 1/16W, Metalized Glass. . .	3198 021 38220
3290 Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198 021 31010	3478 Res, 6K8, 5%, 1/16W, Metalized Glass. . .	3198 021 36820
3291 Res, 10 ohm, 5%, 1/6W, Carbon Film. . .	3198 011 01090	3481 Res, 5R6, 5%, 1/8W, Metalized Glass. . .	2322 750 65608
3292 Res, 47K, 5%, 1/16W, Metalized Glass. . .	3198 021 34730	3482 Res, 22K, 1%, Metal Film.	3198 039 22030
3293 Res, 39K, 5%, 1/16W, Metalized Glass. . .	3198 021 33930	3483 Res, 56K, 1%, Metal Film.	3198 039 56030
3294 Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198 021 31010	S 3484 Res, 1 ohm, 5%, 1/3W, Metal Film. . . .	2306 204 03108
3295 Res, 8K2, 5%, 1/16W, Metalized Glass. . .	3198 021 38220	S 3485 Res, 1 ohm, 5%, 1/3W, Metal Film. . . .	2306 204 03108
3296 Res, 5K6, 5%, 1/16W, Metalized Glass. . .	3198 021 35620	3486 Res, 6K8, 5%, 1/16W, Metalized Glass. . .	3198 021 36820
3328 Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198 021 31010	3489 Res, 47 ohm, 5%, 1/10W, Metalized Glass.	3198 021 54790
3329 Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198 021 31010	3490 Res, 22K, 5%, 1/16W, Metalized Glass. . .	3198 021 32230
3330 Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198 021 31010	3491 Res, 68K, 5%, 1/16W, Metalized Glass. . .	3198 021 36830
3331 Res, 100 ohm, 5%, 1/6W, Carbon Film. . .	3198 011 01010	3493 Res, 2K2, 5%, 1/16W, Metalized Glass. . .	3198 021 32220
3332 Res, 1K, 20%, 1/2W, Carbon Film.	3198 013 01020	3494 Res, 680K, 5%, 1/16W, Metalized Glass. . .	3198 021 36840
3333 Res, 100 ohm, 5%, 1/6W, Carbon Film. . .	3198 011 01010	3495 Res, 330K, 5%, 1/10W, Glass.	3198 021 53340
3334 Res, 1K, 20%, 1/2W, Carbon Film.	3198 013 01020	3497 Res, 1 ohm, 5%, 1/2W, Metal Film. . . .	2306 207 03108
3335 Res, 100 ohm, 5%, 1/6W, Carbon Film. . .	3198 011 01010	3498 Res, 4K7, 5%, 1/16W, Metalized Glass. . .	3198 021 34720
3336 Res, 1K, 20%, 1/2W, Carbon Film.	3198 013 01020	3499 Res, 680K, 5%, 1/10W, Metalized Glass. . .	3198 021 56840
3351 Res, 100 ohm, 5%, 1/3W, Metal Film. . . .	2306 204 03101	3500 Res, 3M3, 5%, 1/2W, Metalized Glass. . .	2322 242 13335
3354 Res, 1K5, 20%, 1/2W, Carbon Film.	3198 013 01520	3501 Res, 3M3, 5%, 1/2W, Metalized Glass. . .	2322 242 13335
3356 Res, 10R, 1%, Metal Film.	3198 039 10090	3502 Res, 220 ohm, 20%, 1/2W, Carbon Film. . .	3198 013 02210
3357 VDR 0603 1MA/18V MAX 35V R.	2122 552 00004	S 3503 Surge Protector.	2422 549 43073
3361 Res, 1K5, 5%, 1/16W, Metalized Glass. . .	3198 021 31520	3504 Res, 1M5, 5%, 1/2W, Metalized Glass. . .	2322 242 13155
3362 Res, 10 ohm, 5%, 1/3W, Metal Film. . . .	2306 204 03109	3505 VDR DC 1MA/423V S MAX 775V B.	2122 550 00147
3363 Res, 560 ohm, 5%, 1/16W, Metalized Glass	3198 021 35610	3507 PTC, 144V S 3R P30M20 B.	2122 663 00019
3364 Res, 1R5, 5%, 1/4W, Carbon Film.	2122 101 02083	S 3510 NTC, B57237, 3W1, 4R7, 20%.	2122 612 00055
3365 Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198 021 31010	3511 Res, 4R7, 5%, 1/6W, Carbon Film.	3198 011 04780
3366 Res, 68K, 5%, 1/16W, Metalized Glass. . .	3198 021 36830	3512 Res, 1K2, 5%, 1/16W, Metalized Glass. . .	3198 021 31220
3367 Res, 68K, 5%, 1/6W, Carbon Film.	3198 011 06830	3513 Res, 2K2, 5%, 1/3W, Metal Film.	2306 204 03222
3368 Res, 560 ohm, 5%, 1/16W, Metalized Glass	3198 021 35610	3514 Res, 100 ohm, 5%, 1/3W, Metal Film. . . .	2306 204 03101
3369 Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198 021 31010	3515 Res, 1K, 5%, 1/6W, Carbon Film.	3198 011 01020
3370 Res, 1R5, 5%, 1/16W, Metalized Glass. . .	2322 702 60158	3516 Res, 0R1, 5%, 3/5W, Metal Film.	3198 012 11070
3371 Res, 470 ohm, 5%, 1/6W, Carbon Film. . .	3198 011 04710	3517 Res, 300K, 1%, Metalized Glass.	2322 704 33004
3373 Res, 1K5, 5%, 5W, Metal Film.	2322 257 41152	3518 Res, 3K3, 5%, 1/16W, Metalized Glass. . .	3198 021 33320
3374 Res, 180 ohm, 5%, 1/16W, Metalized Glass	3198 021 31810	3519 Res, 15K, 5%, 1/6W, Carbon Film.	3198 011 01530
3375 Res, 180K, 5%, 1/8W, Metalized Glass. . .	2322 730 61184	3520 Res, 0R18, 5%, 1W, Metal Film.	2120 106 90636
3376 Res, 68K, 5%, 1/16W, Metalized Glass. . .	3198 021 36830	3521 Res, 3K3, 5%, 1/6W, Carbon Film.	3198 011 03320
3381 Res, 10 ohm, 5%, 1/6W, Carbon Film. . . .	3198 011 01090	3522 Res, 56K, 5%, 1/16W, Metalized Glass. . .	3198 021 35630
3383 Res, 2K2, 5%, 1/10W, Metalized Glass. . .	3198 021 52220	3524 Res, 47K, 5%, 1/16W, Metalized Glass. . .	3198 021 34730
3384 Res, 10K, 5%, 1/16W, Metalized Glass. . .	3198 021 31030	3530 Res, 220 ohm, 5%, 1/16W, Metalized Glass	3198 021 32210
3385 Res, 1K5, 5%, 1/16W, Metalized Glass. . .	3198 021 31520	3531 Res, 100K, 5%, 1/6W, Carbon Film. . . .	3198 011 01040
3387 Res, 1K8, 5%, 1/16W, Metalized Glass. . .	3198 021 31820	3532 Res, 4R7, 5%, 1/3W, Metal Film.	2306 204 03478
3388 Res, 33 ohm, 5%, 1/16W, Metalized Glass.	3198 021 33390	3533 Res, 8K2, 5%, 1/16W, Metalized Glass. . .	3198 021 38220
3389 Res, 33 ohm, 5%, 1/16W, Metalized Glass.	3198 021 33390	3534 Res, 100 ohm, 5%, 1/6W, Carbon Film. . .	3198 011 01010
3390 Res, 1K2, 5%, 1/16W, Metalized Glass. . .	3198 021 31220	3537 Res, 2K2, 5%, 1/16W, Metalized Glass. . .	3198 021 32220
3401 Res, 47K, 1%, Metal Film.	3198 039 47030	3538 Res, 1R8, 5%, 1/8W, Metalized Glass. . .	2322 730 61188
3403 Res, 1K, 5%, 1/6W, Carbon Film.	3198 011 01020	3541 Res, 47K, 5%, 1/16W, Metalized Glass. . .	3198 021 34730
3404 Res, 1 ohm, 5%, 1/8W, Metalized Glass. . .	2322 750 61008	3563 Res, 220 ohm, 5%, 1/6W, Carbon Film. . .	3198 011 02210
3405 Res, 6K8, 5%, 1/16W, Metalized Glass. . .	3198 021 36820	3565 Res, 15K, 5%, 1/16W, Metalized Glass. . .	3198 021 31530
3406 Res, 390 ohm, 5%, 1/6W, Carbon Film. . .	3198 011 03910	3571 Res, 220 ohm, 5%, 1/6W, Carbon Film. . .	3198 011 02210
3407 Res, 68 ohm, 5%, 1/6W, Carbon Film. . .	3198 011 06890	3572 Res, 220 ohm, 5%, 1/16W, Metalized Glass	3198 021 32210
3409 Res, 1K8, 5%, 1/16W, Metalized Glass. . .	3198 021 31820	3573 Res, 15K, 5%, 1/16W, Metalized Glass. . .	3198 021 31530
3410 Res, 1K5, 1%, Metal Film.	3198 039 15020	3574 Res, 150K, 5%, 1/6W, Carbon Film. . . .	3198 011 01540
3411 Res, 680K, 5%, 1/2W, Metalized Glass. . .	2322 242 13684	3575 Res, 82K, 1%, Metal Film.	3198 039 82030
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%, Metal Film.	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 Glass	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	3603 Res, 100 ohm, 5%, 1/6W, Carbon Film. . .	3198 011 01010
3420 Res, 10K, 5%, 1/10W, Metalized Glass. . .	3198 021 51030	3604 Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198 021 31010
3425 Res, 100K, 1%, Metal Film.	3198 039 10040	3605 Res, 100 ohm, 5%, 1/16W, Metalized Glass	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 RST MGL VR25 A 120K PM5 A.	2322 241 53124	3608 Res, 27K, 5%, 1/16W, Metalized Glass. . .	3198 021 32730
3431 Res, 10K, 1%, Metal Film.	3198 039 10030	3609 Res, 330 ohm, 5%, 1/16W, Metalized Glass	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	3619 Res, 680 ohm, 5%, 1/16W, Metalized Glass	3198 021 36810
3446 Res, 100 ohm, 5%, 1/16W, Metalized Glass	3198 021 31010	3620 Res, 680 ohm, 5%, 1/16W, Metalized Glass	3198 021 36810
3451 Res, 68K, 1%, Metal Film.	3198 039 68030	3621 Res, 680 ohm, 5%, 1/16W, Metalized Glass	3198 021 36810
3452 Res, 6K8, 5%, 1/16W, Metalized Glass. . .	3198 021 36820	3625 Res, 10 ohm, 5%, 1/16W, Metalized Glass.	3198 021 31090
3453 Res, 33K, 5%, 1/16W, Metalized Glass. . .	3198 021 33330	3626 Res, 10 ohm, 5%, 1/16W, Metalized Glass.	3198 021 31090
3454 Res, 47K, 5%, 1/6W, Carbon Film.	3198 011 04730	3628 Res, 10 ohm, 5%, 1/16W, Metalized Glass.	3198 021 31090
3455 Res, 1 ohm, 5%, 1/2W, Metal Film.	2306 207 03108	3634 Res, 1K, 5%, 1/16W, Metalized Glass. . .	3198 021 31020
3457 Res, 1 ohm, 5%, 1/2W, Metal Film.	2306 207 03108	3635 Res, 47K, 5%, 1/16W, Metalized Glass. . .	3198 021 34730
3458 Res, 4R7, 5%, 1/2W, Metal Film.	2306 207 03478	3637 Res, 47 ohm, 5%, 1/16W, Metalized Glass.	3198 021 34790
3460 Res, 2K2, 5%, 1/6W, Carbon Film.	3198 011 02220	3690 Res, 220 ohm, 5%, 1/16W, Metalized Glass	3198 021 32210
3461 Res, 2K2, 5%, 1/6W, Carbon Film.	3198 011 02220	3975 Res, 150 ohm, 5%, 1 1/3W, Metal Film. . .	3198 012 21510
3462 Res, 2K2, 5%, 1/16W, Metalized Glass. . .	3198 021 32220	3985 Res, 39K, 5%, 1/16W, Metalized Glass. . .	3198 021 33930
3463 Res, 1K, 5%, 1/16W, Metalized Glass. . .	3198 021 31020	3988 Res, 10K, 5%, 1/16W, Metalized Glass. . .	3198 021 31030
3464 Res, 220 ohm, 5%, 1/16W, Metalized Glass	3198 021 32210	3989 Res, 10 ohm, 5%, 1/16W, Metalized Glass.	3198 021 31090

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

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3991	Res, 39K, 5%, 1/16W, Metalized Glass	3198	021	33930	5512	Transformer, SMT LAYER	2422	531	02626
3992	Res, 10K, 5%, 1/16W, Metalized Glass	3198	021	31030	5531	Transformer, SMT LAYER	2422	531	02631
3993	Res, 10 ohm, 5%, 1/16W, Metalized Glass.	3198	021	31090	5551	Fixed, Inductor, 100MHz, 50R.	3198	018	90010
3994	Res, 68K, 5%, 1/16W, Metalized Glass	3198	021	36830	5552	Coil, 27u.	2422	535	95366
3995	Res, 4K7, 5%, 1/16W, Metalized Glass	3198	021	34720	5561	Fixed, Inductor, 100MHz, 50R.	3198	018	90010
4000	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	5562	Fixed, Inductor, 100MHz, 50R.	3198	018	90010
4001	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	5603	Fixed, Inductor, 100MHz, 50R.	3198	018	90010
4002	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6001	Zener Diode, 33 volt	3198	010	23390
4003	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6005	Zener Diode, 8.2 volt.	9322	125	45685
4006	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6203	Diode, Signal, BAS316.	3198	010	10630
4013	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6204	Diode, Rectifier, SS14	3198	010	10710
4015	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6205	Zener Diode, 27 volt	3198	020	52790
4101	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6207	Diode, Signal, BAS316.	3198	010	10630
4102	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6209	Diode, Signal, BAT54	3198	010	10660
4103	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6331	Diode, Signal, BAV21	3198	010	10070
4109	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6332	Diode, Signal, BAV21	3198	010	10070
4110	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6333	Diode, Signal, BAV21	3198	010	10070
4111	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6361	Diode, Signal, BAV99	3198	010	10620
4130	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6376	Diode, Signal, BAV99	3198	010	10620
4136	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6383	Diode, Rect, RGP10D	9337	516	60673
4209	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6401	Diode, Rect, BYV97G	9335	214	80133
4211	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6403	Diode, Rect, BYV27-200	9322	126	72673
4212	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6404	Diode, Rect, DMV1500M	9322	169	61687
4221	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6406	Diode, Rect, RGP10G.	9334	939	60673
4222	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6407	Diode, Signal, BAV21WS	9322	197	45703
4223	Res, Zero ohm, 'Chip' Jumper	3198	021	90020	6408	Diode, Signal, BAV21WS	9322	197	45703
4226	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6410	Diode, Rect, BY448.	9335	001	20133
4227	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6441	Zener Diode, 68 volt	9322	150	20685
4240	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6442	Zener Diode, 68 volt	9322	150	20685
4241	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6443	Zener Diode, 10 volt	3198	020	51090
4337	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6450	Diode, Signal, BAS316.	3198	010	10630
4370	Res, Zero ohm, 'Chip' Jumper	3198	021	90020	6451	Zener Diode, 4.7 volt.	3198	020	54780
4470	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6452	Diode, Rect, BYV27-200	9322	126	72673
4492	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6453	Diode, Rect, RGP10G.	9334	939	60673
4533	Res, Zero ohm, 'Chip' Jumper	3198	021	90020	6454	Diode, Rect, RGP10G.	9334	939	60673
4534	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6455	Diode, Rect, RGP10G.	9334	939	60673
4535	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6456	Diode, Rect, PBRY10100.	9340	205	70127
4537	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6457	Diode, Signal, BAS316.	3198	010	10630
4604	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6458	Diode, Signal, BAS316.	3198	010	10630
4605	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6459	Diode, Rect, RGP10G.	9334	939	60673
4610	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6480	Zener Diode, 6.8 volt.	3198	010	56880
4612	Res, Zero ohm, 'Chip' Jumper	3198	021	90020	6481	Diode, Signal, 1N4148.	3198	010	10010
4620	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6482	Zener Diode, 6.8 volt.	3198	020	56880
4631	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6483	Diode, Signal, BAV21WS	9322	197	45703
4635	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6484	Diode, Signal, BAV21WS	9322	197	45703
4637	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6486	Diode, Signal, BAV21	3198	010	10070
4642	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6488	Diode, Signal, BAS316.	3198	010	10630
4644	Res, Zero ohm, 'Chip' Jumper	3198	021	90020	6489	Zener Diode, 33 volt	3198	020	53390
4645	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6500	Diode, Bridge Rect, GBU6JL-7002	9322	138	08667
4646	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6511	Diode, Rect, RGP10D	9337	516	60673
4648	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6512	Diode, Signal, BAT54	3198	010	10660
4649	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6514	Diode, Signal, BAS316.	3198	010	10630
4691	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6531	Zener Diode, 15 volt	3198	020	51590
4692	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6532	Diode, Signal, BAV21WS	9322	197	45703
4694	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6533	Zener Diode, 6.8 volt.	9322	171	80685
4696	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6534	DIO REG, BZX384-B3V9	9322	199	75685
4910	Res, Zero ohm, 'Chip' Jumper	3198	021	90030	6535	Diode, Rect, SB160	9322	198	24673
4914	Res, Zero ohm, 'Chip' Jumper	3198	021	90020	6536	Diode, Rect, SB180	9322	198	25673
4915	Res, Zero ohm, 'Chip' Jumper	3198	021	90020	6541	Zener Diode, 12 volt	3198	020	51290
4916	Res, Zero ohm, 'Chip' Jumper	3198	021	90020	6551	Diode, Rect, BYV29X-500	9340	555	59127
4917	Res, Zero ohm, 'Chip' Jumper	3198	021	90020	6562	Diode, Rectifier, SB360.	3198	010	10700
4921	Res, Zero ohm, 'Chip' Jumper	3198	021	90020	6563	Diode, Rectifier, SB360.	3198	010	10700
5001	Fixed, Inductor, 100MHz, 120R	3198	018	90030	6564	Diode, Signal, BAS316.	3198	010	10630
5002	Coil, 390n	3198	018	33970	6565	Zener Diode, 9.1 volt.	9322	125	46685
5201	Fixed, Inductor, 100MHz, 50R.	3198	018	90010	6566	Diode, Signal, BAS316.	3198	010	10630
5202	Fixed, Inductor, 100MHz, 120R	3198	018	90030	6571	Diode, Signal, BAV70	9331	849	10215
5203	Fixed, Inductor, 100MHz, 120R	3198	018	90030	6572	Zener Diode, 6.2 volt.	9340	548	54115
5205	Fixed, Inductor, 100MHz, 120R	3198	018	90030	6573	Zener Diode, 9.1 volt.	9331	177	80133
5206	Fixed, Inductor, 100MHz, 120R	3198	018	90030	6575	Diode, Rect, 1N5392	9322	005	16683
5207	Fixed, Inductor, 100MHz, 120R	3198	018	90030	6602	Diode, Signal, BAV99	3198	010	10620
5208	Fixed, Inductor, 100MHz, 50R.	3198	018	90010	6694	Zener Diode, 5.1 volt.	3198	020	55180
5209	Fixed, Inductor, 100MHz, 120R	3198	018	90030	7200	IC, TDA12001H1/N1B50	9352	744	16557
5210	Fixed, Inductor, 100MHz, 120R	3198	018	90030	7201	Transistor, NPN, IMX1.	9322	054	28685
5211	Fixed, Inductor, 100MHz, 120R	3198	018	90030	7203	Transistor, PNP, BC327-25.	3198	020	43430
5212	Fixed, Inductor, 100MHz, 120R	3198	018	90030	7204	Transistor, PNP, BC327-25.	3198	020	43430
5213	Fixed, Inductor, 100MHz, 120R	3198	018	90030	7205	Transistor, NPN, BC847B.	3198	010	42030
5214	Fixed, Inductor, 100MHz, 120R	3198	018	90030	7207	Transistor, NPN, BC847B.	3198	010	42030
5215	Fixed, Inductor, 100MHz, 120R	3198	018	90030	7208	Transistor, NPN, BC847B.	3198	010	42030
5216	Fixed, Inductor, 100MHz, 50R.	3198	018	90010	7209	F.E.T. Signal, BSH103.	9340	547	13215
5330	Fixed, Inductor, 100MHz, 50R.	3198	018	90010	7210	F.E.T. Signal, BSH103.	9340	547	13215
5331	Fixed, Inductor, 100MHz, 50R.	3198	018	90010	7330	IC TDA6107AJF/N1B.	9352	636	44112
5351	Coil, 12u.	2422	535	97329	7331	Transistor, NPN, BC847B.	3198	010	42030
5352	Coil, 15u.	2422	535	94641	7332	Transistor, PNP, BC857B.	3198	010	42150
5361	Fixed, Inductor, 100MHz, 50R.	3198	018	90010	7361	Transistor, NPN, BC847B.	3198	010	42030
5401	Coil, 42u.	2422	535	94865	7362	Transistor, PNP, BC857B.	3198	010	42150
5402	Transformer, DRIVER.	2422	531	02617	7363	Transistor, KTB631KY	9322	195	05687
5405	Coil, CHOKE 35MH.	2422	536	00846	7364	Transistor, KTD600KY	9322	195	14687
5408	Coil, Choke.	3128	138	37021	7366	Transistor, PNP, BC857B.	3198	010	42150
5450	Transformer, LOT	2422	531	02602	7376	Transistor, PNP, BC857B.	3198	010	42150
5451	Wire Jumper, 0.58MM.	3198	036	90010	7381	Transistor, NPN, BC337	9331	796	00126
5501	Filter, Mains, 5mH, 2A	2422	549	43432	7382	Transistor, NPN, BC337	9331	796	00126
5511	Fixed, Inductor, 100MHz, 50R.	3198	018	90010	7401	Transistor, NPN, BUH2M20AP	9322	101	38687

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

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7402	Transistor, NPN, BC847B.	3198	010	42030	9244	Wire Jumper, 0.58MM.	3198	036	90010
7403	Transistor, NPN, BC847B.	3198	010	42030	9245	Wire Jumper, 0.58MM.	3198	036	90010
7404	F.E.T. Signal, BSH103.	9340	547	13215	9246	Wire Jumper, 0.58MM.	3198	036	90010
7405	Transistor, NPN, BU4508DX.	9340	550	92127	9247	Wire Jumper, 0.58MM.	3198	036	90010
7406	Transistor, KTC3228Y	9322	197	37676	9248	Wire Jumper, 0.58MM.	3198	036	90010
7408	Transistor, NPN, BC847B.	3198	010	42030	9249	Wire Jumper, 0.58MM.	3198	036	90010
7410	Transistor, PNP, BC857B.	3198	010	42150	9250	Wire Jumper, 0.58MM.	3198	036	90010
7411	Transistor, PNP, BC857B.	3198	010	42150	9251	Wire Jumper, 0.58MM.	3198	036	90010
7451	Transistor, KTD600KY	9322	195	14687	9252	Wire Jumper, 0.58MM.	3198	036	90010
7452	Transistor, KTC3228Y	9322	197	37676	9253	Wire Jumper, 0.58MM.	3198	036	90010
7453	Transistor, KTB631KY	9322	195	05687	9254	Wire Jumper, 0.58MM.	3198	036	90010
7454	Transistor, NPN, BC847B.	3198	010	42030	9255	Wire Jumper, 0.58MM.	3198	036	90010
7455	Transistor, PNP, BC857B.	3198	010	42150	9258	Wire Jumper, 0.58MM.	3198	036	90010
7456	Transistor, PNP, BC857B.	3198	010	42150	9259	Wire Jumper, 0.58MM.	3198	036	90010
7481	Transistor, PNP, BC857B.	3198	010	42150	9263	Wire Jumper, 0.58MM.	3198	036	90010
7482	Transistor, PNP, PDTA114ET	3198	010	44010	9264	Wire Jumper, 0.58MM.	3198	036	90010
7483	Transistor, PNP, BC857B.	3198	010	42150	9268	Wire Jumper, 0.58MM.	3198	036	90010
7484	Transistor, NPN, BC847BG	9322	160	61668	9269	Wire Jumper, 0.58MM.	3198	036	90010
7511	IC, TEA1506T/N1	9352	720	43118	9271	Wire Jumper, 0.58MM.	3198	036	90010
7512	FET, FQPF9N50.	9322	187	16687	9272	Wire Jumper, 0.58MM.	3198	036	90010
7513	Optic Coupler, TCET1103(G)	9322	140	14667	9273	Wire Jumper, 0.58MM.	3198	036	90010
7514	Transistor, NPN, BC847B.	3198	010	42030	9274	Res, 100 ohm, 5%, 1/6W, Carbon Film.	3198	011	01010
7531	IC, TEA1620P/N1.	9352	739	52112	9275	Wire Jumper, 0.58MM.	3198	036	90010
7541	Transistor, PNP, BC857B.	3198	010	42150	9276	Wire Jumper, 0.58MM.	3198	036	90010
7561	Transistor, NPN, PDTCT143ZT	9340	547	00215	9277	Wire Jumper, 0.58MM.	3198	036	90010
7571	Transistor, NPN, BC547B.	3198	020	40030	9278	Wire Jumper, 0.58MM.	3198	036	90010
7573	Transistor, NPN, PDTCT114ET	3198	010	44110	9279	Wire Jumper, 0.58MM.	3198	036	90010
7601	IC, M24C16-WBN6.	9322	147	25682	9290	Wire Jumper, 0.58MM.	3198	036	90010
7603	IC, L78L33ACZ.	9322	134	92676	9294	Wire Jumper, 0.58MM.	3198	036	90010
7604	Transistor, NPN, BC847B.	3198	010	42030	9295	Wire Jumper, 0.58MM.	3198	036	90010
7605	Transistor, PNP, BC327-25.	3198	020	43430	9296	Wire Jumper, 0.58MM.	3198	036	90010
7606	Transistor, NPN, BC847B.	3198	010	42030	9297	Wire Jumper, 0.58MM.	3198	036	90010
7990	IC, TDA2616Q/N1.	9350	404	40112	9298	Wire Jumper, 0.58MM.	3198	036	90010
7991	Transistor, NPN, BC847B.	3198	010	42030	9299	Wire Jumper, 0.58MM.	3198	036	90010
7992	Transistor, NPN, BC847B.	3198	010	42030	9352	Wire Jumper, 0.58MM.	3198	036	90010
8204	CBLE OE 07P/560/07P OE 240S BK	3139	131	03591	9373	Wire Jumper, 0.58MM.	3198	036	90010
8401	Cable, 5 Pin, 560mm.	3139	121	09041	9390	Wire Jumper, 0.58MM.	3198	036	90010
9002	Wire Jumper, 0.58MM.	3198	036	90010	9401	Wire Jumper, 0.58MM.	3198	036	90010
9112	Wire Jumper, 0.58MM.	3198	036	90010	9407	Wire Jumper, 0.58MM.	3198	036	90010
9114	Wire Jumper, 0.58MM.	3198	036	90010	9410	Wire Jumper, 0.58MM.	3198	036	90010
9116	Wire Jumper, 0.58MM.	3198	036	90010	9460	Wire Jumper, 0.58MM.	3198	036	90010
9120	Wire Jumper, 0.58MM.	3198	036	90010	9466	Wire Jumper, 0.58MM.	3198	036	90010
9121	Wire Jumper, 0.58MM.	3198	036	90010	9467	Wire Jumper, 0.58MM.	3198	036	90010
9122	Wire Jumper, 0.58MM.	3198	036	90010	9469	Wire Jumper, 0.58MM.	3198	036	90010
9123	Wire Jumper, 0.58MM.	3198	036	90010	9470	Wire Jumper, 0.58MM.	3198	036	90010
9124	Wire Jumper, 0.58MM.	3198	036	90010	9473	Wire Jumper, 0.58MM.	3198	036	90010
9125	Wire Jumper, 0.58MM.	3198	036	90010	9474	Wire Jumper, 0.58MM.	3198	036	90010
9126	Wire Jumper, 0.58MM.	3198	036	90010	9475	Wire Jumper, 0.58MM.	3198	036	90010
9128	Wire Jumper, 0.58MM.	3198	036	90010	9476	Wire Jumper, 0.58MM.	3198	036	90010
9129	Wire Jumper, 0.58MM.	3198	036	90010	9477	Wire Jumper, 0.58MM.	3198	036	90010
9138	Wire Jumper, 0.58MM.	3198	036	90010	9478	Wire Jumper, 0.58MM.	3198	036	90010
9201	Wire Jumper, 0.58MM.	3198	036	90010	9479	Wire Jumper, 0.58MM.	3198	036	90010
9202	Wire Jumper, 0.58MM.	3198	036	90010	9480	Wire Jumper, 0.58MM.	3198	036	90010
9203	Wire Jumper, 0.58MM.	3198	036	90010	9481	Wire Jumper, 0.58MM.	3198	036	90010
9204	Wire Jumper, 0.58MM.	3198	036	90010	9482	Wire Jumper, 0.58MM.	3198	036	90010
9205	Wire Jumper, 0.58MM.	3198	036	90010	9483	Wire Jumper, 0.58MM.	3198	036	90010
9206	Wire Jumper, 0.58MM.	3198	036	90010	9484	Wire Jumper, 0.58MM.	3198	036	90010
9207	Wire Jumper, 0.58MM.	3198	036	90010	9485	Wire Jumper, 0.58MM.	3198	036	90010
9208	Wire Jumper, 0.58MM.	3198	036	90010	9486	Wire Jumper, 0.58MM.	3198	036	90010
9209	Wire Jumper, 0.58MM.	3198	036	90010	9487	Wire Jumper, 0.58MM.	3198	036	90010
9210	Wire Jumper, 0.58MM.	3198	036	90010	9488	Wire Jumper, 0.58MM.	3198	036	90010
9211	Wire Jumper, 0.58MM.	3198	036	90010	9489	Wire Jumper, 0.58MM.	3198	036	90010
9212	Wire Jumper, 0.58MM.	3198	036	90010	9490	Wire Jumper, 0.58MM.	3198	036	90010
9213	Wire Jumper, 0.58MM.	3198	036	90010	9491	Wire Jumper, 0.58MM.	3198	036	90010
9214	Wire Jumper, 0.58MM.	3198	036	90010	9492	Wire Jumper, 0.58MM.	3198	036	90010
9216	Wire Jumper, 0.58MM.	3198	036	90010	9502	Wire Jumper, 0.58MM.	3198	036	90010
9217	Wire Jumper, 0.58MM.	3198	036	90010	9504	Wire Jumper, 0.58MM.	3198	036	90010
9218	Wire Jumper, 0.58MM.	3198	036	90010	9505	Wire Jumper, 0.58MM.	3198	036	90010
9219	Wire Jumper, 0.58MM.	3198	036	90010	9506	Wire Jumper, 0.58MM.	3198	036	90010
9220	Wire Jumper, 0.58MM.	3198	036	90010	9507	Wire Jumper, 0.58MM.	3198	036	90010
9221	Wire Jumper, 0.58MM.	3198	036	90010	9508	Wire Jumper, 0.58MM.	3198	036	90010
9222	Wire Jumper, 0.58MM.	3198	036	90010	9509	Wire Jumper, 0.58MM.	3198	036	90010
9223	Wire Jumper, 0.58MM.	3198	036	90010	9510	Wire Jumper, 0.58MM.	3198	036	90010
9224	Wire Jumper, 0.58MM.	3198	036	90010	9514	Wire Jumper, 0.58MM.	3198	036	90010
9225	Wire Jumper, 0.58MM.	3198	036	90010	9536	Wire Jumper, 0.58MM.	3198	036	90010
9226	Wire Jumper, 0.58MM.	3198	036	90010	9537	Wire Jumper, 0.58MM.	3198	036	90010
9227	Wire Jumper, 0.58MM.	3198	036	90010	9570	Wire Jumper, 0.58MM.	3198	036	90010
9228	Wire Jumper, 0.58MM.	3198	036	90010	9573	Wire Jumper, 0.58MM.	3198	036	90010
9229	Wire Jumper, 0.58MM.	3198	036	90010	9574	Wire Jumper, 0.58MM.	3198	036	90010
9230	Wire Jumper, 0.58MM.	3198	036	90010	9575	Wire Jumper, 0.58MM.	3198	036	90010
9231	Wire Jumper, 0.58MM.	3198	036	90010	9576	Wire Jumper, 0.58MM.	3198	036	90010
9232	Wire Jumper, 0.58MM.	3198	036	90010	9577	Wire Jumper, 0.58MM.	3198	036	90010
9233	Wire Jumper, 0.58MM.	3198	036	90010	9582	Wire Jumper, 0.58MM.	3198	036	90010
9234	Wire Jumper, 0.58MM.	3198	036	90010	9583	Wire Jumper, 0.58MM.	3198	036	90010
9235	Wire Jumper, 0.58MM.	3198	036	90010	9584	Wire Jumper, 0.58MM.	3198	036	90010
9236	Wire Jumper, 0.58MM.	3198	036	90010	9585	Wire Jumper, 0.58MM.	3198	036	90010
9237	Wire Jumper, 0.58MM.	3198	036	90010	9586	Wire Jumper, 0.58MM.	3198	036	90010
9238	Wire Jumper, 0.58MM.	3198	036	90010	9587	Wire Jumper, 0.58MM.	3198	036	90010
9239	Wire Jumper, 0.58MM.	3198	036	90010	9589	Wire Jumper, 0.58MM.	3198	036	90010
9240	Wire Jumper, 0.58MM.	3198	036	90010	9590	Wire Jumper, 0.58MM.	3198	036	90010
9241	Wire Jumper, 0.58MM.	3198	036	90010	9605	Wire Jumper, 0.58MM.	3198	036	90010
9243	Wire Jumper, 0.58MM.	3198	036	90010	9607	Wire Jumper, 0.58MM.	3198	036	90010

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

32ST621L/27 (continued)

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

SIDE A/V JACK PANEL

SIDE A/V JACK PANEL				
0001	SIDE A/V SINGLE.	3139	123	57181
0100	PROCESS BOX PCB PNL LFS.	3139	129	90041
0150	Factory Plate.	3122	120	01701
0205	Side A/V Bracket	3139	124	60871
1016	SB.PNL-HP-S.II-ST-GL	3139	188	06951
1232	SOC PHONE H 1P F 3.5 ST B	2422	026	04471
1250	SOC CINCH H 3P F 1L3 YEWHRD Y	2422	026	05538
1252	Connector, 7 Pin	2422	025	11244
1254	Connector, 5 Pin	2422	025	12481
1278	Connector, 4 Pin	2422	025	15847
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
8252	Cable, 7 Pin	3139	110	39091
8254	Cable, 5 Pin, 680mm.	3139	110	38861
9181	Wire Jumper, 0.58MM.	3198	036	90010

11. Revision List

First release.