

AVR 165/230

5.1 CHANNEL A/V RECEIVER



CONTENTS

ESD WARNING	2	EXPLODED VIEW AND PARTS	15
FRONT AND REAR PANELS	3	PARTS LIST	16
REMOTE CONTROL	7	IC PINOUTS	40
RESET REMOTE AND PROCESSOR	9	PCB DRAWINGS	87
TROUBLESHOOTING GUIDE	10	BLOCK DIAGRAMS	97
BASIC SPECIFICATIONS	11	WIRING DIAGRAM	99
PACKAGE LISTS AND PARTS	13	AMP BIAS ADJUSTMENT	100
DISASSEMBLY	14	SCHEMATIC DIAGRAMS	101-111

ELECTROSTATICALLY SENSITIVE (ES) DEVICES

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically Sensitive (ES) Devices. Examples of typical ES devices are integrated circuits and some field effect transistors and semiconductor "chip" components.

The following techniques should be used to help reduce the incidence of component damage caused by static electricity.

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

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

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

PRODUCT SAFETY NOTICE

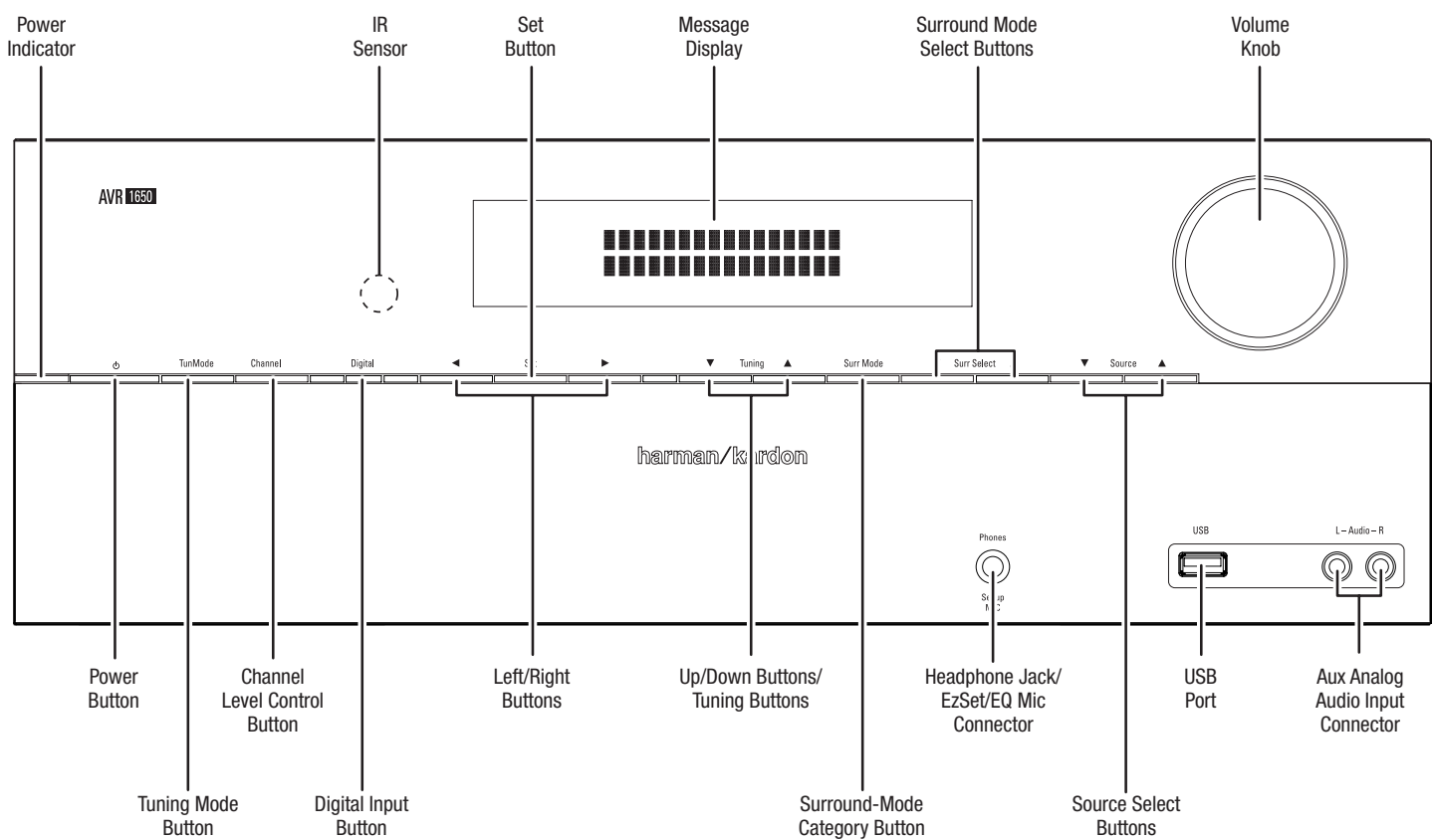
Each precaution in this manual should be followed during servicing.

Components identified with the IEC symbol  in the parts list are of special significance to safety. When replacing a component identified with , use only the replacement parts designated, or parts with the same ratings or resistance, wattage, or voltage that are designated in the parts list in this manual. Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

AVR 1650/AVR 165

Front-Panel Controls

Front-Panel Controls



AVR 1650/AVR 165

Front-Panel Controls, continued

Front-Panel Controls, continued

Power indicator: This LED has three possible modes:

- LED is off: Indicates that the AVR is unplugged or the rear-panel Main Power switch is off.
- LED glows amber: Indicates that the AVR is in the Standby mode.
- LED glows white: Indicates that the AVR is turned on.

IMPORTANT NOTE: If the PROTECT message ever appears on the AVR's front-panel Message display, turn off the AVR and unplug it from the AC outlet. Check all speaker wires for a possible short circuit (the "+" and "-" conductors touching each other or both touching the same piece of metal). If a short circuit is not found, bring the unit to an authorized Harman Kardon service center for inspection and repair before using it again.

IR sensor: This sensor receives infrared (IR) commands from the remote control. It is important to ensure that the sensor is not blocked.

Set button: Press this button to select the currently highlighted menu item.

Message display: Various messages appear in this two-line display in response to commands and changes in the incoming signal. In normal operation, the current source name appears on the upper line, while the surround mode is displayed on the lower line. When the on-screen display menu system (OSD) is in use, the current menu settings appear.

Surround-Mode Select buttons: After you have selected the desired surround-mode category, press these buttons to select a specific mode within the category, such as to change from Dolby® Pro Logic® II Movie mode to Logic 7® Movie mode. Surround-mode availability depends on the nature of the source input signal, i.e., digital versus analog, and the number of channels encoded within the signal.

Volume knob: Turn this knob to raise or lower the volume.

Power button: Press this button to turn the AVR on or to place it in the Standby mode.

Tuning Mode button: This button toggles between manual (one frequency step at a time) and automatic (seeks frequencies with acceptable signal strength) tuning mode. It also toggles between stereo and mono modes when an FM station is tuned in.

Channel Level Control button: Press this button to activate the channel-level adjustment feature. After pressing this button, use the Up/Down buttons to select the channel for adjustment and use the Left/Right buttons to adjust the channel's level.

Digital Input button: Press this button to change the audio input for the current source. Use the Left/Right buttons to cycle through the available inputs. Although you can assign any digital audio input to any source, the analog audio inputs are all permanently dedicated to the source with which they are labeled.

Left/Right buttons: Use these buttons to navigate the AVR's menus.

Up/Down buttons/Tuning buttons: Use these buttons to navigate the AVR's menus. When the radio is the active source, use these buttons to tune stations according to the setting of the Tuning Mode button (see above).

Surround-Mode Category button: Press this button to select a surround-sound category. Each press changes the surround-mode category: Auto Select, Virtual, Stereo, Movie, Music and Video Game. To change the specific surround-sound mode within the category, use the Surround Mode Select buttons. See *Audio Processing and Surround Sound*, on page 20, for more information on surround modes.

Headphone jack/EzSet/EQ Mic connector: Connect a 1/4" stereo headphone plug to this jack for private listening. This jack is also used to connect the supplied microphone for the EzSet/EQ procedure described in *Configure the AVR for Your Speakers*, on page 17.

Source Select buttons: Press these buttons to select the active source.

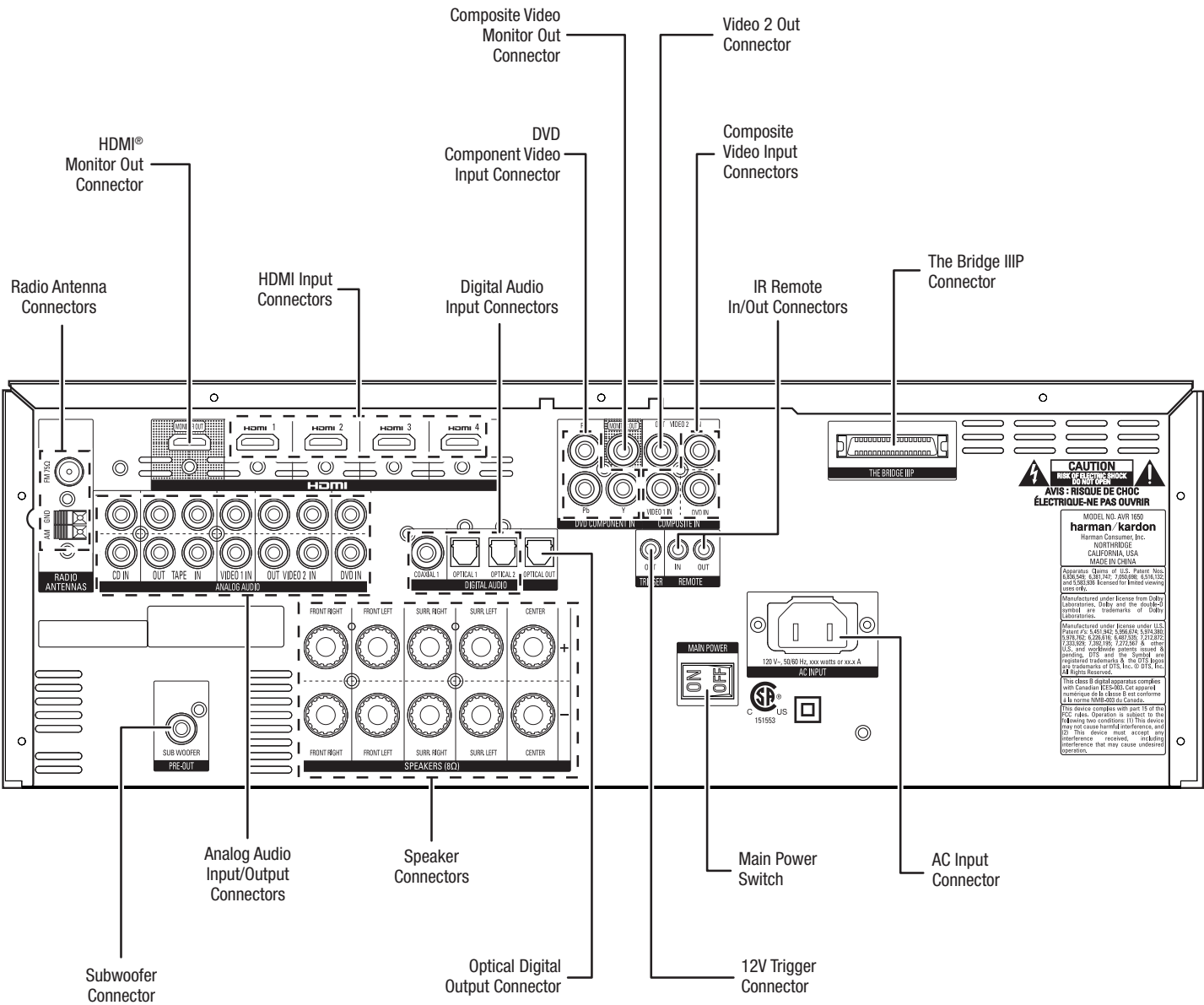
USB port: You can use this port to perform software upgrades that may be offered in the future. Do not connect a storage device, a peripheral product or a PC here, unless instructed to do so as part of an upgrade procedure.

Aux Analog Audio Input connector: Connect an auxiliary source component that will be used only temporarily, such as a camcorder, portable music player or game console, here.

AVR 1650/AVR 165

Rear-Panel Connectors

Rear-Panel Connectors



AVR 1650/AVR 165 Rear-Panel Connections (AVR 1650 shown)

AVR 1650/AVR 165

Rear-Panel Connectors, continued

Rear-Panel Connectors, continued

Radio Antenna connectors: Connect the included AM and FM antennas to their respective terminals for radio reception.

HDMI Monitor Out connector: If your TV has an HDMI connector and you have HDMI or component video source devices, use an HDMI cable (not included) to connect it to the AVR's HDMI Monitor Out connector.

Notes on using the HDMI Monitor Out connector:

- When connecting a DVI-equipped display to the HDMI Monitor Out connector, use an HDMI-to-DVI adapter and make a separate audio connection.
- Make sure the HDMI-equipped display is HDCP-compliant. If it isn't, do not connect it via HDMI; use an analog video connection instead and make a separate audio connection.

HDMI Input connectors: The HDMI (High-Definition Multimedia Interface®) feature is a connection for transmitting digital audio and video signals between devices. If your source devices have HDMI connectors, using them will provide the best possible video and audio performance quality. Since the HDMI cable carries both digital video and digital audio signals, you do not have to make any additional audio connections for devices you connect via HDMI connections. See *Connect Your Source Devices*, on page 13, for more information.

Composite Video Monitor Out connector: If your TV or video display does not have an HDMI connector, or if your TV does have an HDMI connector *but you are connecting some source devices with only composite video connectors*, use a composite video cable (not included) to connect the AVR's Composite Video Monitor Out connector to your TV's composite video input connector.

DVD Component Video Input connector: If your Blu-ray Disc™ or DVD player does not have an HDMI connector but does have a component video connector, using the component video connector will provide superior video performance. You will also need to make an audio connection from the player to the AVR.

Digital Audio Input connectors: If your non-HDMI source devices have digital outputs, connect them to the AVR's digital audio connectors. NOTE: Make only one type of digital connection (HDMI, optical or coaxial) from each device. See *Connect Your Source Devices*, on page 13, for more information.

Video 2 Out connector: Connect an analog video recorder's video input connector to the AVR's Video 2 Out connector. You can record any composite video input signal. NOTE: To record the audio and video from the source device, connect the AVR's Video 2 Out Analog Output connectors to the analog video recorder's audio inputs.

Composite Video Input connectors: Use composite video connectors for video source devices that don't have HDMI or component video connectors. You will also need to make an audio connection from the source device to the AVR. See *Connect Your Source Devices*, on page 13, for more information.

IR Remote In/Out connectors: When the IR Sensor on the front panel is blocked (such as when the AVR is installed inside a cabinet), connect an optional IR receiver to the IR Remote In connector. The IR Remote Out connector may be connected to the IR input of a compatible product to enable remote control through the AVR. See *Connect IR Equipment*, on page 15, for more information.

The Bridge IIP connector: Connect an optional Harman Kardon The Bridge IIP docking station to this connector. Insert the plug until it snaps into place in the connector. IMPORTANT: Connect The Bridge IIP only with the AVR's power turned off. See *Connect The Bridge IIP*, on page 15, for more information.

Subwoofer connector: Connect this jack to a powered subwoofer with a line-level input. See *Connect Your Subwoofer*, on page 13, for more information.

Analog Audio Input/Output connectors: Use the AVR's Analog Audio Input/Output connectors for source devices that don't have HDMI or digital audio connectors. Use the Video 2 Out and Tape Out connectors to connect to the audio inputs of a VCR and tape deck. See *Connect Your Source Devices*, on page 13, for more information.

Speaker connectors: Use two-conductor speaker wire to connect each set of terminals to the correct speaker. See *Connect Your Speakers*, on page 13, for more information.

Optical Digital Output connector: Connect a digital audio recorder's optical digital input to the AVR's Optical Digital Output connector. You can record both coaxial and optical digital PCM audio signals. (Dolby Digital and DTS® bitstreams are not available for recording.)

Main Power switch: This mechanical switch turns the AVR's power supply on or off. It is usually left on and cannot be turned on or off using the remote control.

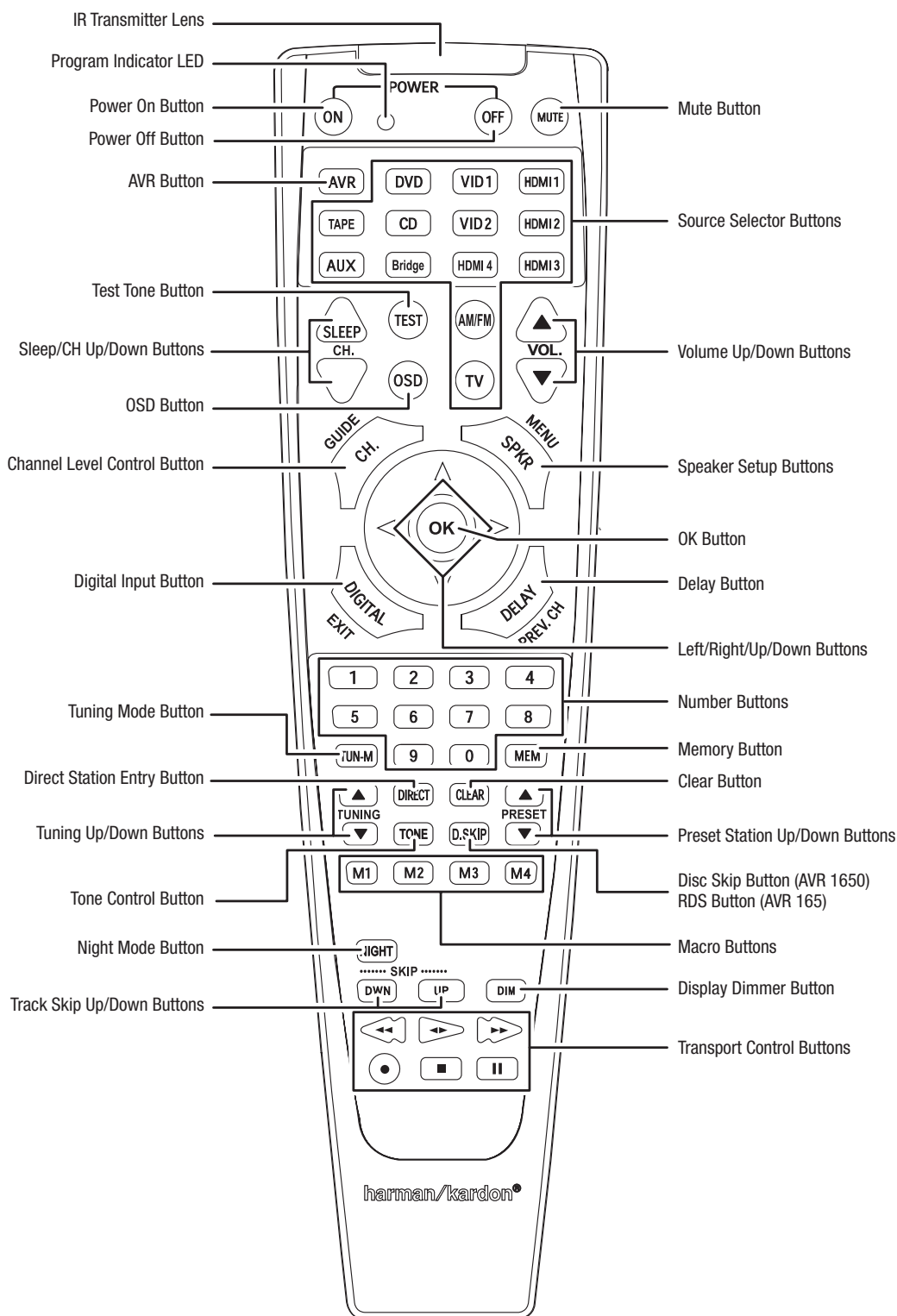
12V Trigger connector: This connector provides 12V DC whenever the AVR is on. It can be used to turn on and off other devices such as a powered subwoofer.

AC Input connector: After you have made all other connections, plug the supplied AC power cord into this receptacle and into an unswitched wall outlet.

AVR 1650/AVR 165

System Remote Control Functions

System Remote Control Functions



AVR 1650/AVR 165

System Remote Control Functions, continued

System Remote Control Functions, continued

In addition to controlling the AVR, the AVR remote is capable of controlling nine other devices, including an iPod/iPhone device docked in a The Bridge IIP docking station connected to the AVR. During the installation process, you may program the codes for each of your source components into the remote. (See *Program the Remote to Control Your Source Devices and TV*, on page 16, for programming information.) To operate a component, press its Source Selector button to change the remote's control mode.

A button's function depends on which component is being controlled. See Table A10 in the Appendix for listings of the functions for each type of component. Most of the buttons on the remote have dedicated functions, although the precise codes transmitted vary depending on the specific device being controlled. Due to the wide variety of functions for various source devices, we have included only a few of the most often-used functions on the remote: alphanumeric keys, transport controls, television-channel control, menu access and power on and off. To return the remote to the AVR control mode at any time, press the AVR button.

IR Transmitter lens: As buttons are pressed on the remote, infrared codes are emitted through this lens.

Program Indicator LED: This LED lights up to indicate various procedures when the remote is in the Programming mode.

Power On/Off buttons: Press these buttons to turn the AVR or the device being controlled on and off. The Main Power switch on the AVR's rear panel must be on for this button to turn the AVR on and off.

Mute button: Press this button to mute the AVR's speaker-output connectors and Headphone jack. To restore the sound, press this button or adjust the volume.

AVR button: Press this button to switch the remote's control mode to operate the AVR.

Source Selector buttons: Press one of these buttons to select a source device, e.g., DVD, AM/FM radio, etc. This action will also turn on the AVR and switch the remote's control mode to operate the selected source device. **NOTE:** The first press of the Radio Source Selector button switches the AVR to the last-used tuner band (AM or FM). Each successive press changes the band.

Test Tone button: Press this button to activate the test tone for calibrating channel volume levels by ear.

Sleep button/Channel Up/Down buttons: Press the Sleep button to activate the sleep timer, which turns off the AVR after a programmed period of time of up to 90 minutes. The Channel Up/Down buttons have no effect on the AVR but are used to change channels on TVs and some video sources.

Volume Up/Down buttons: Press these buttons to raise or lower the volume.

OSD button: Press this button to activate the on-screen display menu system.

Channel Level Control button: Press this button to activate the individual channel-level adjustment. It lets you easily change the channel balance to suit different programs or seating arrangements. See *Manual Speaker Setup*, on page 21, for more information.

Speaker Setup button: Press this button to configure which speakers are included in your system. See *Manual Speaker Setup*, on page 21, for more information.

OK button: This button is used to select items from the menu system.

Digital Input button: Press this button to select the specific digital audio input (or analog audio input) to which the current source is connected.

Delay button: Pressing this button lets you adjust two different types of delay settings (use the Up/Down buttons to cycle through the settings):

- **A/V Sync:** This setting lets you resynchronize the audio and video signals from a source to eliminate a "lip sync" problem. Lip-sync issues can occur when the video portion of a signal undergoes additional processing in either the source device or the video display. Use the Left/Right buttons to delay the audio by up to 180ms.
- **Front L/Center/Front R/Surr R/Surr L/Subwoofer:** These settings let you set the delay for each speaker to compensate for the different distances they may be from the listening position. Use the Up/Down buttons to cycle through each of the system's speakers, and use the Left/Right buttons to set the distance each speaker is from the listening position. See *Manual Speaker Setup*, on page 21, for more information.

Left/Right/Up/Down buttons: These buttons are used to navigate the menu system.

Number buttons: Use these buttons to enter numbers for radio-station frequencies or to select station presets.

Tuning Mode button: Press this button to toggle the radio between manual (one frequency step at a time) and automatic (seeks frequencies with acceptable signal strength) tuning mode. It also toggles between stereo and mono modes when an FM station is tuned in.

Memory button: To save the currently tuned radio station as a preset, press this button, then a Number button.

Direct Station Entry button: Press this button before using the Number buttons to enter a radio station frequency.

Clear button: Press this button to clear a radio station frequency you have started to enter.

Tuning Up/Down buttons: Press these buttons to tune a radio station. Depending on whether the tuning mode has been set to manual or automatic, each press will either change one tuning frequency increment at a time or seek the next higher or lower station with acceptable signal strength.

Preset Station Up/Down buttons: Press these buttons to cycle through your preset radio stations.

Tone Control button: Press this button to access the bass and treble controls. Use the OK button to select an adjustment and use the Up/Down buttons to change the settings.

Disc Skip button (AVR 1650): This button is used with some optical disc changers to skip to the next disc.

RDS button (AVR 165): When listening to an FM radio station that broadcasts RDS information, this button activates the various RDS functions.

Night Mode button: Press this button to activate Night mode with specially encoded Dolby Digital discs or broadcasts. Night mode compresses the audio so that louder passages are reduced in volume to avoid disturbing others, while dialogue remains intelligible. Each press of the button advances through the following settings:

- **Off:** No compression is applied. Loud passages in the program remain as they were recorded.
- **Mid:** Loud passages in the program are reduced moderately in volume.
- **Max:** Loud passages in the program are reduced more in volume.

Macro buttons: These buttons may be programmed to execute a series of up to 19 commands with a single button press. They are useful for programming the command to turn on or off all of your components or for accessing specialized functions for a different component from the one that you are currently operating. See *Programming Macro Commands*, on page 24, for information about programming macros.

Track Skip Up/Down buttons: These buttons have no effect on the AVR but are used with many source components to change tracks or chapters.

Display Dimmer button: Press this button to dim the AVR's front-panel display partially or fully.

Transport Control buttons: These buttons have no effect on the AVR but are used to control many source components. By default, when the remote is operating the AVR, these buttons will control a Harman Kardon Blu-ray Disc player or DVD player.

AVR 1650/AVR 165

Advanced Functions, continued

Advanced Remote Control Programming

Remote Channel-Control Punch-Through

The punch-through feature allows you to operate one component while setting certain groups of controls to operate another component. For example, while using the AVR controls for surround modes and other audio functions, you may also use the remote to operate the transport controls of your Blu-ray Disc player. Or while using the remote to control video functions on your TV, you may also use the remote to change channels on your cable box.

To program punch-through control while operating any device:

1. For three seconds, press and hold the Source Selector button (or the AVR button) for the main device the remote will be operating. The Program Indicator LED will flash, indicating that the remote is in Program mode and that you may release the button.
2. Select the type of punch-through programming.
 - a) To program volume-control punch-through, press the Volume Up button.
 - b) To program channel-control punch-through, press the Volume Down button.
 - c) To program transport-control punch-through, press the Play transport-control button.
3. Press the Source Selector button for the device whose volume, channel or transport-controls you will use while operating the device selected in the first step. The Program Indicator LED will flash to confirm.

To undo punch-through programming, follow the same steps as above, but press the same Source Selector button in Steps 1 and 3.

You may reassign the transport-control punch-through programming for the AVR, VID2 and VID3 devices to another device, such as a CD player. If you wish to remove transport-control punch-through altogether for the AVR, VID2 or VID3 device, follow the same procedure as for programming punch-through, but in Step 3 press either of the other two of these three special selector buttons. For example, to remove transport-control punch-through from the VID3 device so that pressing any of the transport controls will have no effect, press and hold the VID3 Button until the Program Indicator LED flashes, then press the Play Button, followed by either the AVR or VID2 Button.

Programming Macro Commands

Each of the AVR remote's four Macro buttons and the Power On button (see *System Remote Control Functions*, on pages 8 and 9) can be programmed to send out up to 19 commands at one time from a single button push. Any AVR remote control button's function from any mode (except the Mute button, the Dim button and the Channel Up/Down buttons) can be programmed into a macro.

NOTE: Use caution when programming complicated macros. It isn't possible to program a pause or delay before sending additional commands after a "Power On" command, and the component may not be ready to respond to commands immediately after powering on.

To program a macro:

1. Simultaneously press one of the four Macro buttons, or the Power On button, and the Mute button to enter the Programming mode.
2. Press in up to 19 commands that you want stored in that Macro button. Press the Source Selector button for each device (or AVR button for the AVR itself) before you enter individual commands. This step counts as one of the 19 commands allowed for each Macro.
3. For the Power On command, DO NOT press the Power On button. Press the Mute button instead.
4. Press the Power Off button to program the Power Off command.
5. Press the Sleep button to end the programming process.

It isn't possible to "edit" a command within a macro. However, you may erase the macro as follows:

1. Simultaneously press and hold the Mute button and the Macro button containing the macro until the Program Indicator LED flashes.
2. Press the Channel Down button to erase the macro.

To execute a macro, press the Macro button (or the Power On button) into which you programmed the macro.

Recording

Two-channel analog and digital audio signals, as well as composite video signals, are normally available at the appropriate recording output connectors. To make a recording, connect your audio or video recorder to the appropriate AVR output connectors as described in the *Making Connections* section, insert blank media in the recorder and make sure the recorder is turned on and recording while the source is playing. Refer to the recording device's instructions for complete information about making recordings.

NOTES:

1. The AVR does not convert analog signals to digital or vice versa.
2. Only PCM digital audio signals are available for recording. Proprietary formats such as the Dolby Digital and DTS bitstreams may not be recorded using the digital audio connections. Use the analog audio connections to make an analog recording.
3. HDMI and component video sources are not available for recording.
4. Please make certain that you are aware of any copyright restrictions on any material you record. Unauthorized duplication of copyrighted materials is prohibited by law.

Sleep Timer

The sleep timer sets the AVR to play for up to 90 minutes and then turn off automatically.

Press the Sleep button on the remote, and the time until turn-off will be displayed on the front-panel Message display and on a connected TV. Each additional press of the Sleep button decreases the play time by 10 minutes, with a maximum of 90 minutes. The SLEEP OFF setting disables the sleep timer.

When the sleep timer has been set, the front-panel display will automatically dim to half brightness.

If you press the Sleep button after the timer has been set, the remaining play time will be displayed. Press the Sleep button again to change the play time.

Resetting the Remote

To reset the remote to its factory-default condition, simultaneously press and hold any Source Selector button and the "0" Number button. When the Program Indicator LED flashes amber, enter the code "333." When the green LED goes out, the remote control will be reset.

Processor Reset

If the AVR behaves erratically after a power surge, first turn off the rear-panel Main Power switch and unplug the AC power cord for at least 3 minutes. Plug the cord back in and turn the AVR on. If this procedure doesn't help, reset the AVR's processor as described below.

NOTE: A processor reset erases all user configurations, including video resolution, speaker and level settings, and tuner presets. After a reset, reenter all of these settings from your notes in the Appendix worksheets.

To reset the AVR's processor:

1. Press the front-panel Standby/On switch to place the unit in the Standby mode (the Power Indicator LED will turn amber).
2. Press and hold the front-panel Surround Mode button for at least 5 seconds until the RESET message appears on the front-panel Message display.

If the AVR does not function correctly after a processor reset, contact an authorized Harman Kardon service center for assistance. Authorized service centers may be located by visiting our Web site at www.harmankardon.com.

Memory

If the AVR is unplugged or experiences a power outage, it will retain your user settings for up to four weeks.

AVR 1650/AVR 165

Troubleshooting

Troubleshooting

Symptom	Cause	Solution
Unit does not function when Main Power switch is turned on	No AC power	- Ensure that the power cord is plugged into a live AC power outlet - Check if the AC outlet is switch-controlled
Front-panel Message display lights, but there's no sound or picture	- Intermittent input connection - Mute is on - Volume control is turned down	- Secure all input and speaker connections - Press Mute button - Turn up Volume control
No sound from any speaker; PROTECT message appears on Message display	- Amplifier is in protection mode due to possible short circuit - Amplifier is in protection mode due to internal problems	- Check all speaker wires at speaker and AVR connections for crossed wires - Contact your local Harman Kardon service center
No sound from center or surround speakers	- Incorrect surround mode - Program material is monophonic - Incorrect speaker configuration - Program material is stereo	- Select a surround mode other than stereo - Mono programs contain no surround information - Check the speaker configuration in the setup menu - The surround decoder may not create center- or surround-channel information from nonencoded stereo programs
Unit does not respond to remote control commands	- Weak batteries in remote - AVR not selected - Remote sensor is obscured	- Change batteries in remote - Press the Setup/AVR button - Ensure that the AVR's front-panel remote sensor is in the line of sight of the remote
Intermittent buzzing in tuner	Local interference	Move the AVR or antenna away from computers, fluorescent lights, motors or other electrical appliances
Unable to activate remote control Programming mode	Source Selector button is not held for at least 3 seconds	Be sure to hold the Source Selector button for at least 3 seconds

Additional information on troubleshooting possible problems with your AVR and installation-related issues may be found in the list of "Frequently Asked Questions," which is located in the Product Support section of our Web site: www.harmankardon.com

AVR 1650/AVR 165

Specifications

Specifications

Audio Section

Stereo power:	95W per channel, two channels driven @ 8 ohms, 20Hz – 20kHz, <0,07% THD
Multichannel power:	95W per channel, two channels driven @ 8 ohms, 20Hz – 20kHz, <0,07% THD
Input sensitivity/impedance:	200mV/47k ohms
Signal-to-noise ratio (IHF-A):	100dB
Surround system adjacent-channel separation:	Dolby Pro Logic/PLII: 40dB Dolby Digital: 55dB DTS: 55dB
Frequency response:	10Hz – 130kHz (+0dB/–3dB)
High instantaneous-current capability (HCC):	±25 amps
Transient intermodulation distortion (TIM):	Unmeasurable
Slew rate:	40V/μsec

FM Tuner Section

Frequency range:	87.5 – 108.0MHz
Usable sensitivity IHF:	1.3μV/13.2dBf
Signal-to-noise ratio (mono/stereo):	70dB/68dB
Distortion (mono/stereo):	0.2%/0.3%
Stereo separation:	40dB @ 1kHz
Selectivity (±400kHz):	70dB
Image rejection:	80dB
IF rejection:	90dB

AM Tuner Section

Frequency range:	520 – 1720kHz
Signal-to-noise ratio:	45dB
Usable sensitivity (loop):	500μV
Distortion (1kHz, 50% mod):	0.8%
Selectivity (±10kHz):	30dB

Video Section

Television format:	NTSC (AVR 1650); PAL (AVR 165)
Input level/impedance:	1Vp-p/75 ohms
Output level/impedance:	1Vp-p/75 ohms
Video frequency response (composite video):	10Hz – 8MHz (–3dB)
HDMI:	Version 1.4a with 12-bit Deep Color

General Specifications

Power requirement:	120V AC/60Hz (AVR 1650); 220V – 240V AC/50Hz – 60Hz (AVR 165)
Power consumption:	<0.5W (standby); 280W maximum
Dimensions (W x H x D)	17-5/16" x 6-1/2" x 17-1/8" (440mm x 165mm x 435mm)
Weight	20 lb (9.1kg)

AVR 1650/AVR 165

Appendix

Appendix – Default settings, worksheets, remote product codes

Table A1 – Recommended Source Component Connections

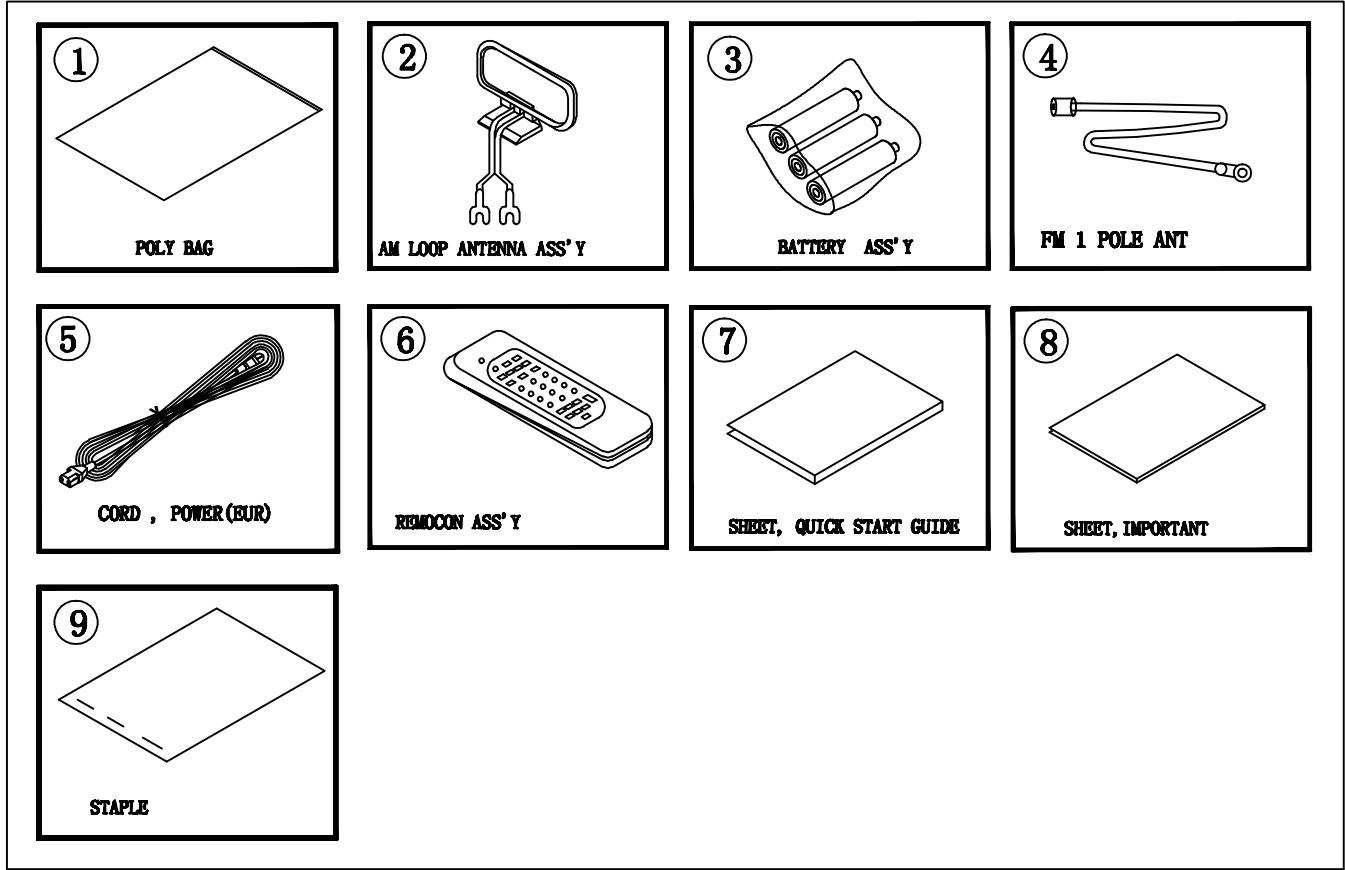
Device Type	AVR Source	Audio Connections	Video Connections
Cable TV, Satellite, HDTV or other device that delivers television programs	Video 1	• Video 1 Analog inputs • Optical 1 Input (if not in use with HDMI 3)	Composite Video 1 Input
VCR, DVR, PVR, or other audio/video recorder	Video 2	• Video 2 Analog (inputs and outputs) • Any one available coaxial or optical digital audio input with corresponding coax digital output	• Composite Video 2 Input • For recording, use Composite Video 2 Output
DVD player, Blu-ray Disc player	DVD or HDMI (for Blu-ray Disc)	• DVD Analog Inputs • Coax 1 Input	• DVD Component Video Input
HDMI-capable disc player, game console or other audio/video device	HDMI 1	• HDMI 1 Input	• HDMI 1 Input
HDMI-capable disc player, game console or other audio/video device	HDMI 2	• HDMI 2 Input	• HDMI 2 Input
HDMI-capable disc player, game console or other audio/video device	HDMI 3	• HDMI 3 Input	• HDMI 3 Input
HDMI-capable disc player, game console or other audio/video device	HDMI 4	• HDMI 4 Input	• HDMI 4 Input
Portable audio device	AUX	• AUX Input on front panel	• Not required
CD player	CD	• CD Analog Inputs • Any one available coaxial or optical digital audio input	• Not required
CD-R, MiniDisc, cassette	Tape	• Tape Analog (inputs and outputs) • Any one available coaxial or optical digital audio input • Use corresponding optical digital output	• Not required
iPod or iPhone	Bridge	• The Bridge IIP	• Not required

Note: The AVR is equipped with a total of three digital audio inputs. Certain digital audio connections are recommended simply because those digital audio inputs are assigned to those sources by default at the factory. But any digital audio input may be reassigned to any source. Since you may not be using all of the AVR's sources, you may reassign a digital audio input that is recommended for a source you aren't using to another device. Table A1 is a guideline; you may need to make adjustments to fit your system.

Table A2 – Source Setting Defaults

Source	DVD	HDMI 1	HDMI 2	HDMI 3	HDMI 4	Video 1	Video 2	Bridge	Aux	CD	Tape	Tuner	TV
Title								BRIDGE				TUNER	
Audio Input	COAX 1	HDMI	HDMI	HDMI	HDMI	ANALOG	OPTICAL 1	THE BRIDGE IIP	ANALOG	ANALOG	ANALOG	INT. TUNER	OPTICAL 1
Auto Poll	ON	OFF	OFF	OFF	OFF	OFF	ON	--	OFF	OFF	ON	--	OFF
Surround Mode	LOGIC 7 MOVIE	LOGIC 7 MOVIE	LOGIC 7 MOVIE	LOGIC 7 MOVIE	LOGIC 7 MOVIE	LOGIC 7 MOVIE	LOGIC 7 MOVIE	LOGIC 7 MOVIE	LOGIC 7 MOVIE	LOGIC 7 MOVIE	LOGIC 7 MOVIE	LOGIC 7 MOVIE	LOGIC 7 MOVIE

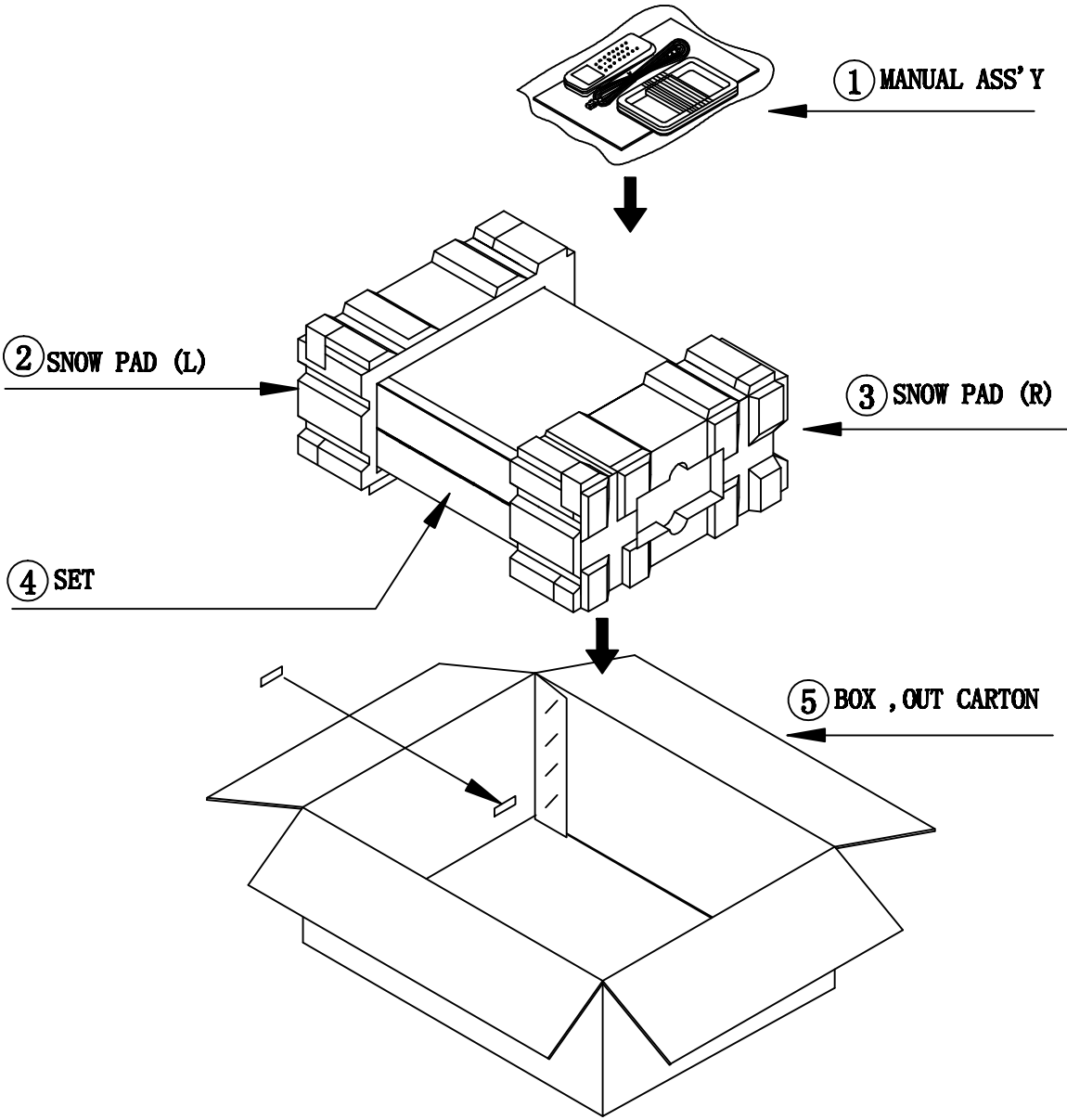
1. Instruction manual ass'y - Accessories



ACCESSORY-1			
NO	DESCRIPTION	PARTS NO.	Q, ty
1	POLY BAG	CPB1A190Z	1
2	ANT , AM LOOP	CSA1A032Z	1
3	BATTERY , AAA	CABR0P3PB	3
4	FM 1 POL ANT	CSA1A018Z	1
5	CORD , POWER	CJA2B054Z	1
6	REMOCON ASS'Y	CARTAVR165-IK	1
7	SHEET, QUICK START GUIDE	CQE1A487Z	1
8	SHEET, IMPORTANT	CQE1A523Z	1
9	STAPLE	CPL0905	3

2. Package Drawing

AVR165/230

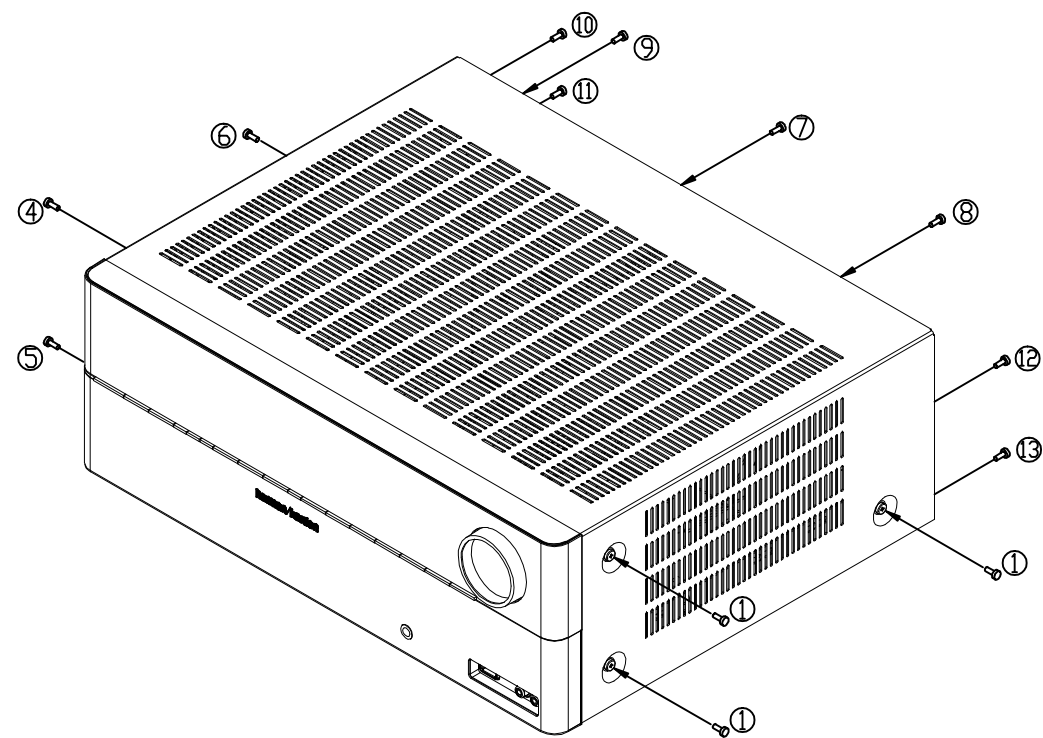


NO	DESCRIPTION	PARTS NO.	Q, ty
1	ACCESSORY-1	CQXAVR165/230	1
2	SNOW, PAD (L)	CPS5A564	1
3	SNOW, PAD (R)	CPS5A565	1
4	SET	AVR165/230SET	1
5	BOX, OUT CARTON	CPG1A937U	1

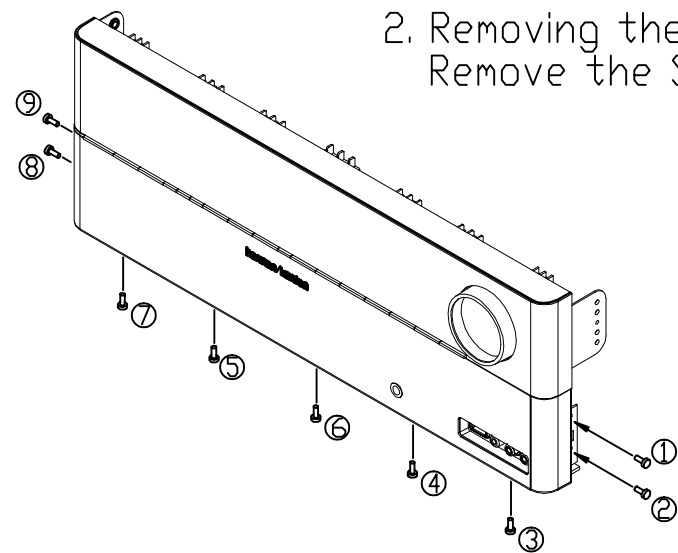
DISASSEMBLY

AVR165/230

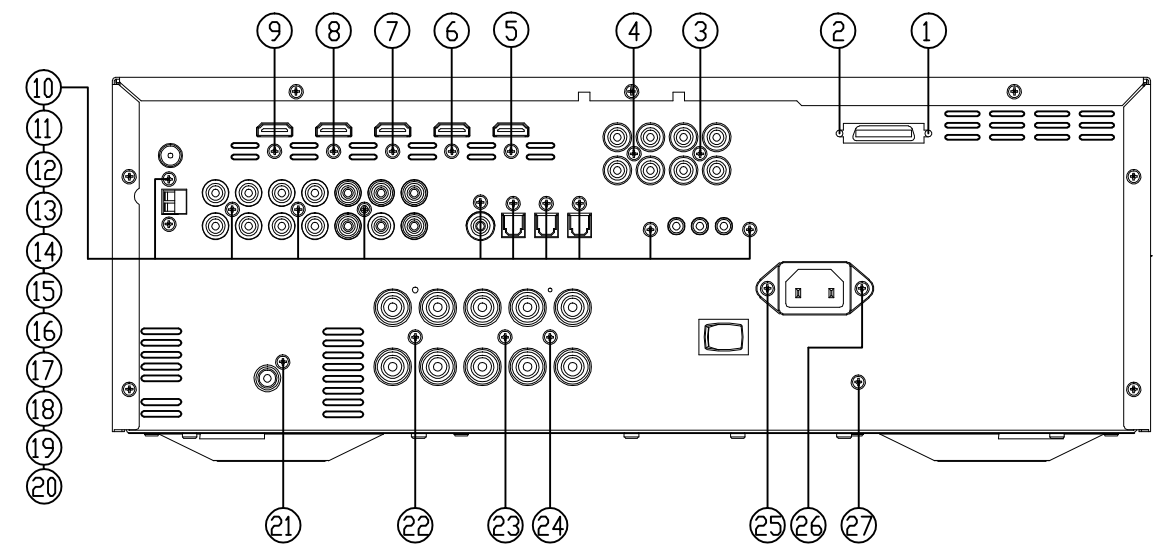
1. Removing the Top Cabinet
Remove the Screws ①~⑬



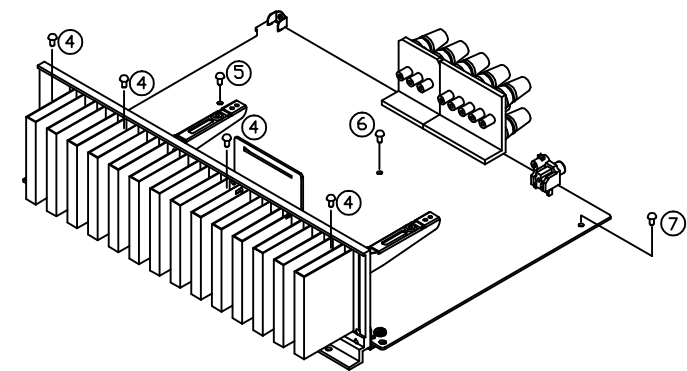
2. Removing the Front Panel
Remove the Screws ①~⑨



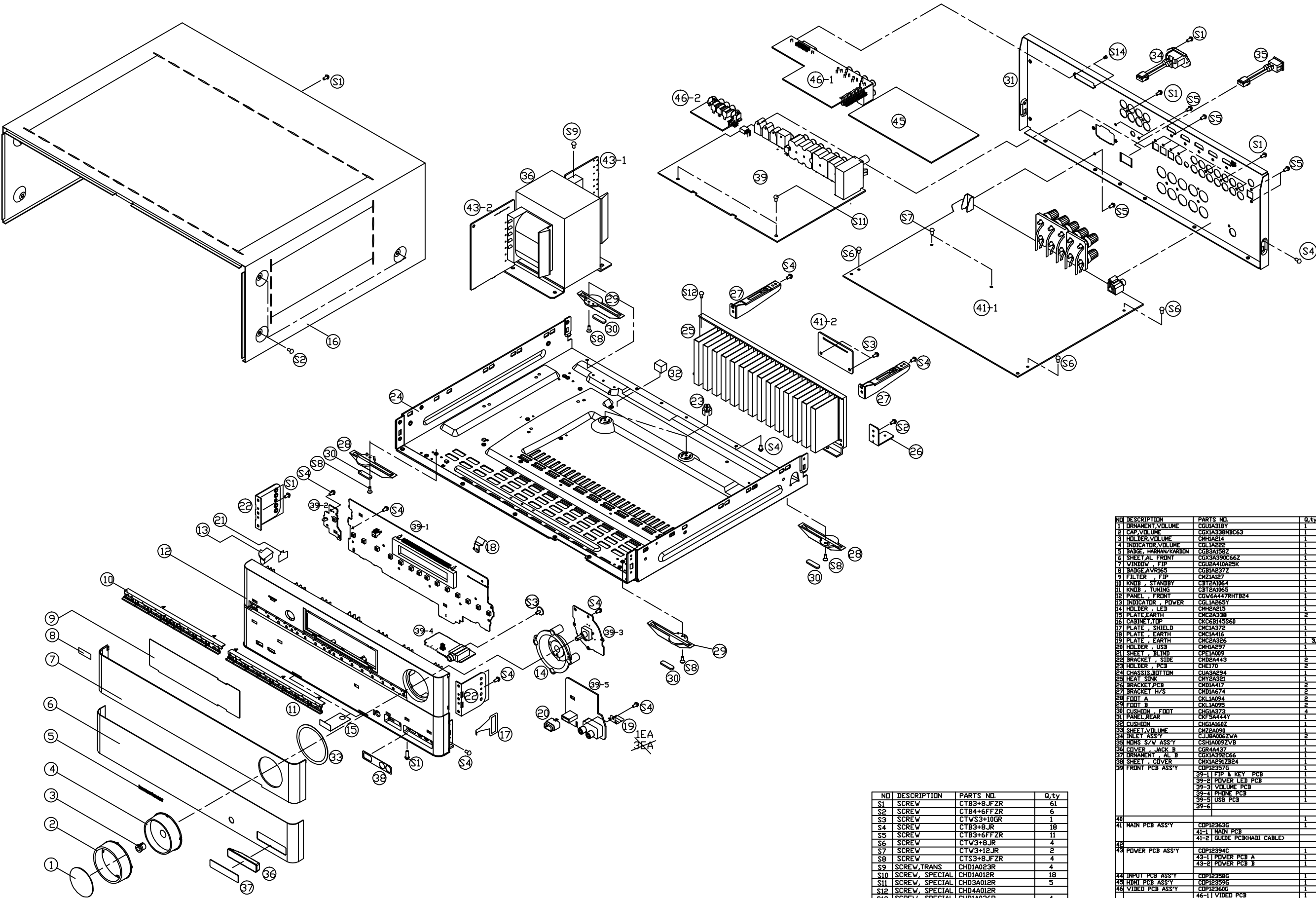
3. Removing the Rear Panel
Remove the Screws ①~⑲



4. Removing the Main PCB
Remove the Screws ①~⑦



AVR165/230 EXPLODE VIEW



NO	DESCRIPTION	PARTS NO.	Q.ty
S1	SCREW	CTB3+8 JFZR	61
S2	SCREW	CTB4+6FFZR	6
S3	SCREW	CTWS3+10GR	1
S4	SCREW	CTB3+8 JR	18
S5	SCREW	CTB3+6FFZR	11
S6	SCREW	CTV3+8 JR	4
S7	SCREW	CTV3+12 JR	2
S8	SCREW	CTS3+8 JFZR	4
S9	SCREW, TRANS	CHD1A023R	4
S10	SCREW, SPECIAL	CHD1A012R	18
S11	SCREW, SPECIAL	CHD3A012R	5
S12	SCREW, SPECIAL	CHD4A012R	1
S13	SCREW, SPECIAL	CHD1A036R	4
S14	SCREW, SPECIAL	CHD1A065R	2

NO	DESCRIPTION	PARTS NO.	Q.ty	REMARK
1	ORNAMENT VOLUME	CGU1A318Y	1	
2	CAP VOLUME	CGU1A388BC63	1	
3	HOLDER VOLUME	CHU1A214	1	
4	INDICATOR VOLUME	CGU1A222	1	
5	BADGE, HARMAN/KARDON	CGU3A158Z	1	
6	SHEETAL FRONT	CGU3A398C66Z	1	
7	VINDIV, FIP	CGU3A410D95K	1	
8	BADGE, AV/IGS	CGU1A237Z	1	
9	FILTER, FIP	CHU1A127	1	
10	KNOB, STANDBY	CB12A1064	1	
11	KNOB, TUNING	CB12A1065	1	
12	PANEL, FRONT	CGU6A447RHTB24	1	
13	INDICATOR, POWER	CGU1A265Y	1	
14	HOLDER, LED	CHU2A215	1	
15	PLATE, EARTH	CHU2A238	2	
16	CABINET, TOP	CKC6B145S60	1	
17	PLATE, SHIELD	CHU1A372	1	
18	PLATE, EARTH	CHU1A416	1	
19	PLATE, EARTH	CHU2A238	1	
20	HOLDER, USB	CHU1A297	1	
21	SHEET, BLIND	CPE1A009	1	
22	BRACKET, SIDE	CHU2A443	2	
23	HOLDER, PCB	CE1170	1	
24	CHASSIS, BOTTOM	CUA3A294	1	
25	HEAT SINK	CHU2A321	1	
26	BRACKET, PCB	CHU1A417	2	
27	BRACKET, H/S	CHU1A274	2	
28	FRONT, A	CKU1A024	2	
29	FRONT, B	CKU1A025	2	
30	CUSHION, FRONT	CHU1A373	4	
31	PANEL, REAR	CGU3A444Y	1	
32	CUSHION	CHU1A162	1	
33	SHEET VOLUME	CHU2A030	1	
34	INLET ASSY	CJBA006ZVA	2	
35	MEMS, S/W ASSY	CHU1A092V8	1	
36	COVER, JACK B	CGU1A037	1	
37	ORNAMENT, AL B	CGU1A398C66	1	
38	SHEET, COVER	CHU1A291ZB24	1	
39	FRONT PCB ASSY	CDP12357G	1	
40		39-1 TIP & KEY PCB	1	
41	MAIN PCB ASSY	CDP12363G	1	
42		41-1 MAIN PCB	1	
43	POWER PCB ASSY	CDP12394C	1	
44		43-1 POWER PCB A	1	
45		43-2 POWER PCB B	1	
46	VIDEO PCB ASSY	CDP12358G	1	
47		CDP12359G	1	
48		CDP12360G	1	
49		46-1 VIDEO PCB	1	
50		46-2 KSE32 PCB	1	

AVR 165 (Basic) PARTS LIST						
Level	Ref#	Component	Description	Drawing No	REQ-Qty	UM
0,2		CGB1A237Z	BADGE , AVR165		1	EA
0,2		CGL1A222	INDICATOR , VOLUME	AVR130/230/330	1	EA
0,2		CGR5A437	COVER , JACK B		1	EA
0,2		CGU1A318Y	ORNAMENT , VOLUME AVR255		1	EA
0,2		CGU2A410A25K	WINDOW , FIP		1	EA
0,2		CGWAVR165/230	FRONT PANEL ASS'Y		1	EA
..3		CBT2A1064	KNOB , STANDBY		1	EA
..3		CBT2A1065	KNOB , BACK		1	EA
..3		CGB3A158Z	BADGE , HARMAN/KARDON (FRONT)		1	EA
..3		CGL1A265Y	INDICATOR , POWER AVR155		1	EA
..3		CGW6A447RHSB24	PANEL , FRONT AVR1650		1	EA
..3		CMC1A372	PLATE , SHIELD		1	EA
..3		CMC1A416	PLATE , EARTH TOP		1	EA
..3		CMC2A326	PLATE , EARTH AVR350		1	EA
..3		CMC3A338	PLATE , EARTH		2	EA
..3		CMD2A443	BRACKET , SIDE		2	EA
..3		CMH1A297	HOLDER , USB		1	EA
..3		CMH2A215	HOLDER , LED AVR350		1	EA
..3		CMX1A291ZB24	SHEET , COVER		1	EA
..3		CMZ1A127	FILTER , FIP AVR255		1	EA
			AVR165/230 FRONT PCB MANUAL ASS'Y			
Level	Ref#	Component	Description	Drawing No	REQ-Qty	UM
..3		COP12357G	AVR165/230 FRONT PCB MANUAL ASS'Y		1	EA
....5	C121	CCBS1H151KBT	CAP , CERAMIC(150PF/50V)	CH UP025 B151K-A-B Z	1	EA
....5	C122	CCEA1AH331T	CAP , ELECT(10V/330uF)	KR3-10V331MB(6.3*11L)	1	EA
....5	C151	CCFT1H473ZF	CAP , CERAMIC	0.047UF 50V Z	1	EA
....5	C152	CCEA1CKS100T	CAP , ELECT(16V/10uF)-S	KC3-16V100MA2(4*5L)	1	EA
....5	C161	CCBS1H104ZFT	CAP , CERAMIC	0.1UF 50V Z	1	EA
....5	C171	CCBS1H104ZFT	CAP , CERAMIC	0.1UF 50V Z	1	EA
....5	C181	CCBS1H104ZFT	CAP , CERAMIC	0.1UF 50V Z	1	EA
....5	C213	CCBS1H223ZFT	CAP , CERAMIC(22000PF/50V)	CH UP025 F223Z-A-B J	1	EA
....5	C214	CCBS1H223ZFT	CAP , CERAMIC(22000PF/50V)	CH UP025 F223Z-A-B J	1	EA
....5	C252	CCEA1HKS2R2T	CAP , ELECT(50V/2.2uF)-S	KC3-50V2R2MA2(4*5L)	1	EA
....5	C311	CCBS1H102KBT	CAP , CERAMIC(1000PF/50V)	CH UP025 B102K-A-B Z	1	EA
....5	C322	CCBS1H102KBT	CAP , CERAMIC(1000PF/50V)	CH UP025 B102K-A-B Z	1	EA
....5	C412	CCBS1H103ZFT	CAP , CERAMIC	0.01UF 50V Z	1	EA
....5	C413	CCEA1JH470TS	CAP , ELECT	63V/47UF/105°C	1	EA
....5	C414	CCEA1JH470TS	CAP , ELECT	63V/47UF/105°C	1	EA
....5	C415	CCBS1H103ZFT	CAP , CERAMIC	0.01UF 50V Z	1	EA
....5	C422	CCEA1HH4R7T	CAP , ELECT(50V/4.7uF)	KR3-50V4R7MA(5*11L)	1	EA
....5	C431	CCBS1H104ZFT	CAP , CERAMIC	0.1UF 50V Z	1	EA
....5	C441	CCBS1H223ZFT	CAP , CERAMIC(22000PF/50V)	CH UP025 F223Z-A-B J	1	EA
....5	C442	CCBS1H223ZFT	CAP , CERAMIC(22000PF/50V)	CH UP025 F223Z-A-B J	1	EA
....5	C504	CCBS1H103ZFT	CAP , CERAMIC	0.01UF 50V Z	1	EA
....5	C511	CCBS1H560JT	CAP , CERAMIC(56PF/50V)	CH UP025SL560J-A-B Z	1	EA
....5	C512	CCBS1H560JT	CAP , CERAMIC(56PF/50V)	CH UP025SL560J-A-B Z	1	EA
....5	C521	CCEA1AH101T	CAP , ELECT(10V/100uF)	KR3-10V101MA(5*11L)	1	EA
....5	C522	CCBS1H103ZFT	CAP , CERAMIC	0.01UF 50V Z	1	EA
....5	C533	CCBS1H104ZFT	CAP , CERAMIC	0.1UF 50V Z	1	EA
....5	C553	CCBS1H101KBT	CAP , CERAMIC(100PF/50V)	CH UP025 B101K-A-B Z	1	EA
....5	C554	CCBS1H101KBT	CAP , CERAMIC(100PF/50V)	CH UP025 B101K-A-B Z	1	EA
....5	C631	CCBS1H104ZFT	CAP , CERAMIC	0.1UF 50V Z	1	EA
....5	C651	CCBS1H104ZFT	CAP , CERAMIC	0.1UF 50V Z	1	EA
....5	C652	CCBS1H471KBT	CAP , CERAMIC(470PF/50V)	CH UP025 B471K-A-B Z	1	EA
....5	C653	CCBS1H471KBT	CAP , CERAMIC(470PF/50V)	CH UP025 B471K-A-B Z	1	EA
....5	C714	CCBS1H223ZFT	CAP , CERAMIC(22000PF/50V)	CH UP025 F223Z-A-B J	1	EA
....5	C715	CCEA1CKS100T	CAP , ELECT(16V/10uF)-S	KC3-16V100MA2(4*5L)	1	EA
....5	C721	CCEA1HKS2R2T	CAP , ELECT(50V/2.2uF)-S	KC3-50V2R2MA2(4*5L)	1	EA
....5	C731	CCEA1AH471T	CAP , ELECT(10V/470uF)	KR3-10V471MB(6.3*11L)	1	EA
....5	C732	CCBS1H104ZFT	CAP , CERAMIC	0.1UF 50V Z	1	EA
....5	C751	CCBS1C222MXT	CAP , CERAMIC(2200PF/16V)	CH EP025 B222M-A-B J	1	EA
....5	C752	CCBS1H102KBT	CAP , CERAMIC(1000PF/50V)	CH UP025 B102K-A-B Z	1	EA
....5	C753	CCBS1H102KBT	CAP , CERAMIC(1000PF/50V)	CH UP025 B102K-A-B Z	1	EA
....5	C754	CCBS1H104ZFT	CAP , CERAMIC	0.1UF 50V Z	1	EA
....5	C801	CCEA1EH470T	CAP , ELECT(25V/47uF)	KR3-25V470MA(5*11L)	1	EA
....5	C802	CCEA1EH470T	CAP , ELECT(25V/47uF)	KR3-25V470MA(5*11L)	1	EA
....5	C811	CCEA1HH100T	CAP , ELECT(50V/10uF)	KR3-50V100MA(5*11L)	1	EA
....5	C813	CCBS1H470JT	CAP , CERAMIC(47PF/50V)	CH UP025SL470J-A-B Z	1	EA
....5	C821	CCBS1H471KBT	CAP , CERAMIC(470PF/50V)	CH UP025 B471K-A-B Z	1	EA
....5	C822	CCBS1H151KBT	CAP , CERAMIC(150PF/50V)	CH UP025 B151K-A-B Z	1	EA
....5	C823	CCEA1HH100T	CAP , ELECT(50V/10uF)	KR3-50V100MA(5*11L)	1	EA
....5	C830	CCBS1H473ZFT	CAP , CERAMIC(47000PF/50V)	CH UP025 F473Z-A-B J	1	EA
....5	C901	CCEA1HH100T	CAP , ELECT(50V/10uF)	KR3-50V100MA(5*11L)	1	EA
....5	C902	CCEA1HH100T	CAP , ELECT(50V/10uF)	KR3-50V100MA(5*11L)	1	EA
....5	C911	CCEA1EH470T	CAP , ELECT(25V/47uF)	KR3-25V470MA(5*11L)	1	EA
....5	C912	CCEA1EH470T	CAP , ELECT(25V/47uF)	KR3-25V470MA(5*11L)	1	EA
....5	C923	CCBS1H681KBT	CAP , CERAMIC(680PF/50V)	CH UP025 B681K-A-B Z	1	EA
....5	C924	CCBS1H681KBT	CAP , CERAMIC(680PF/50V)	CH UP025 B681K-A-B Z	1	EA
....5	C931	CCEA1CH331T	CAP , ELECT(16V/330uF)	KR3-16V331MC(8*11.5L)	1	EA
....5	C932	CCEA1CH331T	CAP , ELECT(16V/330uF)	KR3-16V331MC(8*11.5L)	1	EA

Level	Ref#	Component	AVR165/230 FRONT PCB MANUAL ASS'Y	Description	Drawing No	REQ-Qty	UM
....5	D161	HVD1N5819T	DIODE , SCHOTTKY		1N5819	1	EA
....5	D401	CVD1N4003ST	DIODE , RECT		1N4003	1	EA
....5	D412	CVDZJ8.2BT	DIODE , ZENER 8.2V		ZJ8.2B 1/2W	1	EA
....5	D413	HVDMTZJ27BT	DIODE , ZENER		MTZJ27B 1/2W	1	EA
....5	D421	CVDZJ6.8BT	DIODE , ZENER 6.8V		ZJ6.8B 1/2W	1	EA
....5	D422	CVDZJ6.8BT	DIODE , ZENER 6.8V		ZJ6.8B 1/2W	1	EA
....5	D455	HVD1SS133MT	DIODE		1SS133T-77	1	EA
....5	D531	HVD1SS133MT	DIODE		1SS133T-77	1	EA
....5	D532	HVD1SS133MT	DIODE		1SS133T-77	1	EA
....5	D533	HVD1SS133MT	DIODE		1SS133T-77	1	EA
....5	D534	HVD1SS133MT	DIODE		1SS133T-77	1	EA
....5	D631	HVD1SS133MT	DIODE		1SS133T-77	1	EA
....5	D632	HVD1SS133MT	DIODE		1SS133T-77	1	EA
....5	L151	HLQ02C100KT	COIL , AXAIL (10UH)			1	EA
....5	Q104	CVTKTC1027YT	T.R , KTC1027Y		KTC1027Y/TO-92L/KEC	1	EA
....5	Q111	HVTKRA107MT	T.R , TO-92M		KRA107M	1	EA
....5	Q112	HVTKRC107MT	T.R , TO-92M		KRC107M	1	EA
....5	Q113	HVTKRC107MT	T.R , TO-92M		KRC107M	1	EA
....5	Q251	HVTKTA1271YT	T.R		KTA1271Y	1	EA
....5	Q252	HVTKRC107MT	T.R , TO-92M		KRC107M	1	EA
....5	Q721	HVTKRC107MT	T.R , TO-92M		KRC107M	1	EA
....5	Q906	HVTKRA107MT	T.R , TO-92M		KRA107M	1	EA
....5	Q907	HVTKRA107MT	T.R , TO-92M		KRA107M	1	EA
....5	Q941	HVTKTC2874BT	T.R , MUTE		KTC2874B	1	EA
....5	Q942	HVTKTC2874BT	T.R , MUTE		KTC2874B	1	EA
....5	Q943	HVTKTC2874BT	T.R , MUTE		KTC2874B	1	EA
....5	Q944	HVTKTC2874BT	T.R , MUTE		KTC2874B	1	EA
....5	Q951	HVTKRC107MT	T.R , TO-92M		KRC107M	1	EA
....5	Q952	HVTKRA107MT	T.R , TO-92M		KRA107M	1	EA
....5	Q954	HVTKRC107MT	T.R , TO-92M		KRC107M	1	EA
....5	R101	CRD20TF2200T	RES , CARBON(220 OHM, 1%)			1	EA
....5	R102	CRD20TF6800T	RES , CARBON(680 OHM, 1%)			1	EA
....5	R113	CRD20TJ102T	RES , CARBON(1/5W,1Kohm,J)			1	EA
....5	R122	CRD20TJ100T	RES , CARBON(1/5W,10ohm,J)			1	EA
....5	R201	CRD20TJ101T	RES , CARBON(1/5W,100ohm,J)			1	EA
....5	R202	CRD20TJ101T	RES , CARBON(1/5W,100ohm,J)			1	EA
....5	R203	CRD20TJ101T	RES , CARBON(1/5W,100ohm,J)			1	EA
....5	R211	CRD20TJ101T	RES , CARBON(1/5W,100ohm,J)			1	EA
....5	R213	CRD20TJ272T	RES , CARBON(1/5W,2.7Kohm,J)			1	EA
....5	R214	CRD20TJ272T	RES , CARBON(1/5W,2.7Kohm,J)			1	EA
....5	R251	CRD20TJ222T	RES , CARBON(1/5W,2.2Kohm,J)			1	EA
....5	R252	CRD25TJ393T	RES , CARBON(1/4W,39Kohm,J)			1	EA
....5	R312	CRD20TF1001T	RES , CARBON		1K /1/5W /F	1	EA
....5	R313	CRD20TF1501T	RES , CARBON		1.5K /1/5W /F	1	EA
....5	R314	CRD20TF1801T	RES , CARBON		1.8K /1/5W /F	1	EA
....5	R315	CRD20TF2701T	RES , CARBON		2.7K /1/5W/F	1	EA
....5	R316	CRD20TF3301T	RES , CARBON		3.3K /1/5W/F	1	EA
....5	R322	CRD20TF1001T	RES , CARBON		1K /1/5W /F	1	EA
....5	R323	CRD20TF1501T	RES , CARBON		1.5K /1/5W /F	1	EA
....5	R324	CRD20TF1801T	RES , CARBON		1.8K /1/5W /F	1	EA
....5	R325	CRD20TF2701T	RES , CARBON		2.7K /1/5W/F	1	EA
....5	R326	CRD20TF3301T	RES , CARBON		3.3K /1/5W/F	1	EA
....5	R327	CRD20TF5601T	RES , CARBON(5.6K/F)			1	EA
....5	R328	CRD20TF5601T	RES , CARBON(5.6K/F)			1	EA
....5	R401	CRD25FJ3R3T	RES , CARBON		3.3 OHM 1/4W J	1	EA
....5	R402	CRD25TJ5R6T	RES , CARBON(1/4W,5.6ohm,J)			1	EA
....5	R403	CRD20TJ100T	RES , CARBON(1/5W,10ohm,J)			1	EA
....5	R404	CRD25TJ5R6T	RES , CARBON(1/4W,5.6ohm,J)			1	EA
....5	R411	CRD20TJ104T	RES , CARBON(1/5W,100Kohm,J)			1	EA
....5	R412	CRD20TJ122T	RES , CARBON(1/5W,1.2Kohm,J)			1	EA
....5	R413	CRD20TJ104T	RES , CARBON(1/5W,100Kohm,J)			1	EA
....5	R415	CRD20TJ473T	RES , CARBON(1/5W,47Kohm,J)			1	EA
....5	R431	CRD20TJ100T	RES , CARBON(1/5W,10ohm,J)			1	EA
....5	R432	CRD20TJ100T	RES , CARBON(1/5W,10ohm,J)			1	EA
....5	R511	CRD20TJ100T	RES , CARBON(1/5W,10ohm,J)			1	EA
....5	R512	CRD20TJ100T	RES , CARBON(1/5W,10ohm,J)			1	EA
....5	R513	CRD20TJ153T	RES , CARBON(1/5W,15Kohm,J)			1	EA
....5	R514	CRD20TJ153T	RES , CARBON(1/5W,15Kohm,J)			1	EA
....5	R551	CRD20TJ471T	RES , CARBON(1/5W,470ohm,J)			1	EA
....5	R552	CRD20TJ471T	RES , CARBON(1/5W,470ohm,J)			1	EA
....5	R553	CRD20TJ104T	RES , CARBON(1/5W,100Kohm,J)			1	EA
....5	R554	CRD20TJ104T	RES , CARBON(1/5W,100Kohm,J)			1	EA
....5	R701	CRD20TJ102T	RES , CARBON(1/5W,1Kohm,J)			1	EA
....5	R702	CRD20TJ102T	RES , CARBON(1/5W,1Kohm,J)			1	EA
....5	R703	CRD20TJ102T	RES , CARBON(1/5W,1Kohm,J)			1	EA
....5	R711	CRD20TJ470T	RES , CARBON(1/5W,47ohm,J)			1	EA
....5	R712	CRD20TJ470T	RES , CARBON(1/5W,47ohm,J)			1	EA
....5	R713	CRD20TJ470T	RES , CARBON(1/5W,47ohm,J)			1	EA
....5	R721	CRD20TJ103T	RES , CARBON(1/5W,10Kohm,J)			1	EA
....5	R722	CRD20TJ101T	RES , CARBON(1/5W,100ohm,J)			1	EA
....5	R731	CRD20TJ100T	RES , CARBON(1/5W,10ohm,J)			1	EA
....5	R735	CRD20TJ152T	RES , CARBON(1/5W,1.5Kohm,J)			1	EA

Level	Ref#	Component	AVR165/230 FRONT PCB MANUAL ASS'Y	Description	Drawing No	REQ-Qty	UM
...5	R741	CRD20TJ123T	RES, CARBON(1/5W,12Kohm,J)			1	EA
...5	R742	CRD20TJ102T	RES, CARBON(1/5W,1Kohm,J)			1	EA
...5	R801	CRD20TJ101T	RES, CARBON(1/5W,100ohm,J)			1	EA
...5	R802	CRD20TJ101T	RES, CARBON(1/5W,100ohm,J)			1	EA
...5	R811	CRD20TJ104T	RES, CARBON(1/5W,100Kohm,J)			1	EA
...5	R812	CRD20TJ102T	RES, CARBON(1/5W,1Kohm,J)			1	EA
...5	R813	CRD20TJ103T	RES, CARBON(1/5W,10Kohm,J)			1	EA
...5	R821	CRD20TJ102T	RES, CARBON(1/5W,1Kohm,J)			1	EA
...5	R822	CRD20TJ103T	RES, CARBON(1/5W,10Kohm,J)			1	EA
...5	R823	CRD20TJ104T	RES, CARBON(1/5W,100Kohm,J)			1	EA
...5	R834	CRD20TJ222T	RES, CARBON(1/5W,2.2Kohm,J)			1	EA
...5	R835	CRD20TJ103T	RES, CARBON(1/5W,10Kohm,J)			1	EA
...5	R836	CRD20TJ152T	RES, CARBON(1/5W,1.5Kohm,J)			1	EA
...5	R901	CRD25TJ101T	RES, CARBON(1/4W,100ohm,J)			1	EA
...5	R902	CRD20TJ101T	RES, CARBON(1/5W,100ohm,J)			1	EA
...5	R911	CRD20TJ101T	RES, CARBON(1/5W,100ohm,J)			1	EA
...5	R912	CRD20TJ101T	RES, CARBON(1/5W,100ohm,J)			1	EA
...5	R921	CRD20TJ102T	RES, CARBON(1/5W,1Kohm,J)			1	EA
...5	R922	CRD20TJ102T	RES, CARBON(1/5W,1Kohm,J)			1	EA
...5	R923	CRD20TJ152T	RES, CARBON(1/5W,1.5Kohm,J)			1	EA
...5	R924	CRD20TJ152T	RES, CARBON(1/5W,1.5Kohm,J)			1	EA
...5	R925	CRD20TJ104T	RES, CARBON(1/5W,100Kohm,J)			1	EA
...5	R926	CRD20TJ104T	RES, CARBON(1/5W,100Kohm,J)			1	EA
...5	R931	CRD20TJ104T	RES, CARBON(1/5W,100Kohm,J)			1	EA
...5	R932	CRD20TJ104T	RES, CARBON(1/5W,100Kohm,J)			1	EA
...5	R933	CRD20TJ221T	RES, CARBON(1/5W,220ohm,J)			1	EA
...5	R934	CRD20TJ221T	RES, CARBON(1/5W,220ohm,J)			1	EA
...5	R935	CRD20TJ221T	RES, CARBON(1/5W,220ohm,J)			1	EA
...5	R936	CRD20TJ221T	RES, CARBON(1/5W,220ohm,J)			1	EA
...5	R941	CRD25TJ432T	RES, CARBON(1/4W,4.3Kohm,J)			1	EA
...5	R942	CRD20TJ472T	RES, CARBON(1/5W,4.7Kohm,J)			1	EA
...5	R943	CRD20TJ472T	RES, CARBON(1/5W,4.7Kohm,J)			1	EA
...5	R944	CRD20TJ472T	RES, CARBON(1/5W,4.7Kohm,J)			1	EA
...5	R951	CRD20TJ102T	RES, CARBON(1/5W,1Kohm,J)			1	EA
...5	R953	CRD20TJ362T	RES, CARBON(1/5W,3.6Kohm,J)			1	EA
...5	R954	CRD20TJ103T	RES, CARBON(1/5W,10Kohm,J)			1	EA
...5	S311	CST1A024ZT	SW , TACT			1	EA
...5	S312	CST1A024ZT	SW , TACT			1	EA
...5	S313	CST1A024ZT	SW , TACT			1	EA
...5	S314	CST1A024ZT	SW , TACT			1	EA
...5	S315	CST1A024ZT	SW , TACT			1	EA
...5	S316	CST1A024ZT	SW , TACT			1	EA
...5	S317	CST1A024ZT	SW , TACT			1	EA
...5	S318	CST1A024ZT	SW , TACT			1	EA
...5	S319	CST1A024ZT	SW , TACT			1	EA
...5	S320	CST1A024ZT	SW , TACT			1	EA
...5	S321	CST1A024ZT	SW , TACT			1	EA
...5	S322	CST1A024ZT	SW , TACT			1	EA
...5	S323	CST1A024ZT	SW , TACT			1	EA
...5	S330	CST1A024ZT	SW , TACT			1	EA
...4	BK71	CMD1A572	BRACKET , FIP			1	EA
...4	BK72	CMD1A572	BRACKET , FIP			1	EA
...4	BN51	CWB1C005350BM001	Shield Wire ass'y			1	EA
...4	BN52	CWB1C903400BM001	SHIELD WIRE ASS'Y (2.5mm, 400mm, 3pin)			1	EA
...4	BN61	CJP06GB142ZB	PIN HEADER(6P, 2.54mm)			1	EA
...4	BN73	CJP06GB142ZB	PIN HEADER(6P, 2.54mm)			1	EA
...4	BN74	CWB1C005100BM	WIRE ASS'Y(5P, 100MM)			1	EA
...4	CN61	CJP06GA221ZB	FEMALE HEADER (6P,2.54mm) , STRAIGHT TYPE	FAS2851		1	EA
...4	CN71	CJP05GB03ZY	WAFER,YMAW025(2.5mm,ANGLE)			1	EA
...4	CN72	CJP27GA285ZN	WAFER,FPC 1.25mm, stright	1.25-2-NP		1	EA
...4	CN73	CJP06GB143ZB	FEMALE HEADER(6P, 2.54mm)			1	EA
...4	CN74	CJP05GB03ZY	WAFER,YMAW025(2.5mm,ANGLE)			1	EA
...4	C411	CCEA1JH101E	CAP , ELECT	100UF 63V		1	EA
...4	D101	CVD1L0345W31BOCT201V	L.E.D , WHITE	CVD1L0345W31BOCT201		1	EA
...4	D102	CVD30ASOGCAA-S7	L.E.D , ORANGE	T0L-30ASOGCAA-S7		1	EA
...4	D201	CVD1L0345W31BOCT201V	L.E.D , WHITE	CVD1L0345W31BOCT201		1	EA
...4	D202	CVD1L0345W31BOCT201V	L.E.D , WHITE	CVD1L0345W31BOCT201		1	EA
...4	D203	CVD1L0345W31BOCT201V	L.E.D , WHITE	CVD1L0345W31BOCT201		1	EA
...4	FIP1	CFL162SD19GINK	V.F.D , (FUTABA, 162-SD-19GINK)	162-SD-19GINK		1	EA
...4	IC12	CRVKSM603TE5B	SENSOR , REMOCON			1	EA
...4	IC13	CVISN74ACT04DR	I.C , HEX INVERTERS(SOIC/D-14P)	SN74ACT04DR / TEXAS INSTRUMENT		1	EA
...4	IC14	HVINJM2068MDTE1	I.C , OP AMP (JRC)	NJM2068MD-TE1		1	EA
...4	IC15	HVINJM4556AL	I.C , HEADPHONE (JRC)	NJM4556AL		1	EA
...4	JK51	CJJ9X006Z	JACK , USB STRAIGHT(BLACK)	U250FD004BY/YUQUIU		1	EA
...4	JK52	CJJ4N094Z	JACK , RCA(2P, WH/RD, NO SHIELD)	RCA-251H-00A-01		1	EA
...4	JK63	CJJ2E026Z	JACK, PHONES(6.35mm,SILVER)	PJ-612A-51/YUQUIU		1	EA
...4	RL91	CSL4A016ZU	RELAY,BC3-12H,DC12V,2C2P	BC3-12H/HANDOUK		1	EA
...4	VR74	CSR2A037Z	ENCODER			1	EA
...3		CPE1A009	SHEET , BLIND			1	EA
...3		CTB3+10JR	SCREW			28	EA
...3		CTWS3+10GR	SCREW			1	EA
...3	CN72	CWC4C4A27B250B08	CARD , CABLE (27P/1.25mm/250mm)	27P/1.25MM/250MM		1	EA

AVR165/230 FRONT PCB MANUAL ASS'Y						
Level	Ref#	Component	Description	Drawing No	REQ-Qty	UM
0,2		CGX1A338MBC63	CAP , VOLUME		1	EA
0,2		CGX1A392C66	ORNAMENT , AL B AVR350		1	EA
0,2		CGX3A390C66Z	SHEET , AL FRONT AVR1650		1	EA
0,2		CKC6B145S60	CABINET , TOP AVR350		1	EA
0,2		CMH1A214	HOLDER , VOLUME	AVR130/230/330	1	EA
0,2		CMZ2A090	SHEET , VOLUME		1	EA
0,2		CQB1A549Y	LABEL , ATTENTION DVD48		1	EA
0,2		CQB1A622	LABEL , SERIAL NO		1	EA
0,2		CTB3+8JFZR	SCREW		17	EA
0,2		CTB4+6FFZR	SCREW		6	EA
0,2		CUAAVR165/230	BOTTOM CHASSIS ASS'Y		1	EA
..3		CHD1A012ZR	SCREW , SPECIAL		2	EA
..3		CHD1A023R	SCREW , SPECIAL		4	EA
..3		CHD1A065R	SCREW , FLAT(2.6X4)		2	EA
..3		CHD4A012R	SCREW , SPECIAL		4	EA
..3		CHE170	HOLDER , PCB		2	EA
..3		CHG1A113	RUBBER		3	EA
..3		CHG1A160Z	CUSHION , RUBBER		1	EA
..3		CHG1A373	CUSHION , FOOT AVR350		4	EA
..3		CHR301	CLAMPER		3	EA
..3		CHS1A032	TAPE , HEMELON		4	EA
..3		CKF5A444Y	PANEL , REAR AVR165		1	EA
..3		CKL1A094	FOOT , A AVR350		2	EA
..3		CKL1A095	FOOT , B AVR350		2	EA
AVR165/230 INPUT PCB ASS'Y						
Level	Ref#	Component	Description	Drawing No	REQ-Qty	UM
..3		COP12358G	AVR165/230 INPUT PCB ASS'Y		1	EA
....6	C112	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)		1	EA
....6	C115	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)		1	EA
....6	C200	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)		1	EA
....6	C217	CCUS1H101JA	CAP, CHIP(1608, 50V/100pF)		1	EA
....6	C218	CCUS1H101JA	CAP, CHIP(1608, 50V/100pF)		1	EA
....6	C219	CCUS1H101JA	CAP, CHIP(1608, 50V/100pF)		1	EA
....6	C227	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)		1	EA
....6	C228	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)		1	EA
....6	C229	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)		1	EA
....6	C230	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)		1	EA
....6	C293	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)		1	EA
....6	C300	CCUS1H272KC	CAP, CHIP(1608, 50V/2700pF)		1	EA
....6	C301	CCUS1H272KC	CAP, CHIP(1608, 50V/2700pF)		1	EA
....6	C302	CCUS1H683KC	CAP, CHIP(1608, 50V/0.068uF)		1	EA
....6	C303	CCUS1H272KC	CAP, CHIP(1608, 50V/2700pF)		1	EA
....6	C304	CCUS1H272KC	CAP, CHIP(1608, 50V/2700pF)		1	EA
....6	C305	CCUS1H272KC	CAP, CHIP(1608, 50V/2700pF)		1	EA
....6	C332	CCUS1H103KC	CAP, CHIP(1608, 50V/0.01uF)		1	EA
....6	C333	CCUS1H103KC	CAP, CHIP(1608, 50V/0.01uF)		1	EA
....6	C334	CCUS1H103KC	CAP, CHIP(1608, 50V/0.01uF)		1	EA
....6	C335	CCUS1H103KC	CAP, CHIP(1608, 50V/0.01uF)		1	EA
....6	C336	CCUS1H103KC	CAP, CHIP(1608, 50V/0.01uF)		1	EA
....6	C337	CCUS1H103KC	CAP, CHIP(1608, 50V/0.01uF)		1	EA
....6	C348	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)		1	EA
....6	C349	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)		1	EA
....6	C350	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)		1	EA
....6	C351	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)		1	EA
....6	C352	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)		1	EA
....6	C353	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)		1	EA
....6	C362	CCUS1H223KC	CAP, CHIP(1608, 50V/0.022uF)		1	EA
....6	C369	CCUS1H223KC	CAP, CHIP(1608, 50V/0.022uF)		1	EA
....6	C370	CCUS1H223KC	CAP, CHIP(1608, 50V/0.022uF)		1	EA
....6	C466	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)		1	EA
....6	C601	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)		1	EA
....6	C603	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)		1	EA
....6	C605	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)		1	EA
....6	C607	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)		1	EA
....6	C609	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)		1	EA
....6	C611	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)		1	EA
....6	C613	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)		1	EA
....6	C615	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)		1	EA
....6	C617	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)		1	EA
....6	C619	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)		1	EA
....6	C621	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)		1	EA
....6	C623	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)		1	EA
....6	C625	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)		1	EA
....6	C627	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)		1	EA
....6	C629	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)		1	EA
....6	C631	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)		1	EA
....6	C704	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)		1	EA
....6	C705	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)		1	EA
....6	C718	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)		1	EA
....6	C719	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)		1	EA
....6	C722	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)		1	EA

Level	Ref#	Component	AVR165/230 INPUT PCB ASS'Y	Description	Drawing No	REQ-Qty	UM
....6	C737	CCSNA0J220B	CAP , CHIP TANTAL (22uF/6.3V, NingXia XingRi)		XRCA45 XXX M XXX AT	1	EA
....6	C738	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)			1	EA
....6	C745	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)			1	EA
....6	C746	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)			1	EA
....6	C747	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)			1	EA
....6	C748	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)			1	EA
....6	C754	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)			1	EA
....6	C756	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)			1	EA
....6	C758	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)			1	EA
....6	C759	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)			1	EA
....6	C760	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)			1	EA
....6	C761	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)			1	EA
....6	C762	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)			1	EA
....6	C763	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)			1	EA
....6	C767	CCUS1A105KC	CAP, CHIP(1608, 10V/1uF)			1	EA
....6	C773	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)			1	EA
....6	C780	CCUS1H102KC	CAP, CHIP(1608, 50V/1000pF)			1	EA
....6	C781	CCUS1H223KC	CAP, CHIP(1608, 50V/0.022uF)			1	EA
....6	C820	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)			1	EA
....6	D725	CVD1SS355T	DIODE, SMD, SWITCHING		1SS355/SOD-323	1	EA
....6	L704	CLZ9R005Z	FERRITE CHIP BEAD(1608/60ohm)		HCB1608KF-600T30/COILMASTER	1	EA
....6	R115	CRJ10DJ472T	RES, CHIP(1608/5%/4.7Kohm)			1	EA
....6	R116	CRJ10DJ472T	RES, CHIP(1608/5%/4.7Kohm)			1	EA
....6	R157	CRJ10DJ103T	RES, CHIP(1608/5%/10Kohm)			1	EA
....6	R163	CRJ10DJ104T	RES, CHIP(1608/5%/100Kohm)			1	EA
....6	R165	CRJ10DJ104T	RES, CHIP(1608/5%/100Kohm)			1	EA
....6	R171	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)			1	EA
....6	R217	CRJ10DJ101T	RES, CHIP(1608/5%/100ohm)			1	EA
....6	R218	CRJ10DJ101T	RES, CHIP(1608/5%/100ohm)			1	EA
....6	R219	CRJ10DJ101T	RES, CHIP(1608/5%/100ohm)			1	EA
....6	R245	CRJ10DJ104T	RES, CHIP(1608/5%/100Kohm)			1	EA
....6	R246	CRJ10DJ104T	RES, CHIP(1608/5%/100Kohm)			1	EA
....6	R289	CRJ10DJ104T	RES, CHIP(1608/5%/100Kohm)			1	EA
....6	R290	CRJ10DJ104T	RES, CHIP(1608/5%/100Kohm)			1	EA
....6	R291	CRJ10DJ563T	RES, CHIP(1608/5%/56Kohm)			1	EA
....6	R292	CRJ10DJ563T	RES, CHIP(1608/5%/56Kohm)			1	EA
....6	R293	CRJ10DJ563T	RES, CHIP(1608/5%/56Kohm)			1	EA
....6	R294	CRJ10DJ563T	RES, CHIP(1608/5%/56Kohm)			1	EA
....6	R317	CRJ10DJ561T	RES, CHIP(1608/5%/560ohm)			1	EA
....6	R320	CRJ10DJ682T	RES, CHIP(1608/5%/6.8Kohm)			1	EA
....6	R321	CRJ10DJ682T	RES, CHIP(1608/5%/6.8Kohm)			1	EA
....6	R322	CRJ10DJ103T	RES, CHIP(1608/5%/10Kohm)			1	EA
....6	R323	CRJ10DJ682T	RES, CHIP(1608/5%/6.8Kohm)			1	EA
....6	R324	CRJ10DJ682T	RES, CHIP(1608/5%/6.8Kohm)			1	EA
....6	R325	CRJ10DJ682T	RES, CHIP(1608/5%/6.8Kohm)			1	EA
....6	R339	CRJ10DJ104T	RES, CHIP(1608/5%/100Kohm)			1	EA
....6	R341	CRJ10DJ104T	RES, CHIP(1608/5%/100Kohm)			1	EA
....6	R380	CRJ10DJ104T	RES, CHIP(1608/5%/100Kohm)			1	EA
....6	R381	CRJ10DJ561T	RES, CHIP(1608/5%/560ohm)			1	EA
....6	R382	CRJ10DJ561T	RES, CHIP(1608/5%/560ohm)			1	EA
....6	R383	CRJ10DJ561T	RES, CHIP(1608/5%/560ohm)			1	EA
....6	R384	CRJ10DJ561T	RES, CHIP(1608/5%/560ohm)			1	EA
....6	R389	CRJ10DJ563T	RES, CHIP(1608/5%/56Kohm)			1	EA
....6	R390	CRJ10DJ563T	RES, CHIP(1608/5%/56Kohm)			1	EA
....6	R399	CRJ10DJ104T	RES, CHIP(1608/5%/100Kohm)			1	EA
....6	R400	CRJ10DJ104T	RES, CHIP(1608/5%/100Kohm)			1	EA
....6	R401	CRJ10DJ104T	RES, CHIP(1608/5%/100Kohm)			1	EA
....6	R424	CRJ10DJ472T	RES, CHIP(1608/5%/4.7Kohm)			1	EA
....6	R425	CRJ10DJ392T	RES, CHIP(1608/5%/3.9Kohm)			1	EA
....6	R700	CRJ10DJ103T	RES, CHIP(1608/5%/10Kohm)			1	EA
....6	R717	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)			1	EA
....6	R718	CRJ10DF1371T	RES, CHIP(1608/1%/1.37Kohm)			1	EA
....6	R719	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)			1	EA
....6	R720	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)			1	EA
....6	R725	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)			1	EA
....6	R727	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)			1	EA
....6	R735	CRJ10DJ103T	RES, CHIP(1608/5%/10Kohm)			1	EA
....6	R745	CRJ10DJ103T	RES, CHIP(1608/5%/10Kohm)			1	EA
....6	R753	CRJ10DJ332T	RES, CHIP(1608/5%/3.3Kohm)			1	EA
....6	R754	CRJ10DJ332T	RES, CHIP(1608/5%/3.3Kohm)			1	EA
....6	R761	CRJ10DJ102T	RES, CHIP(1608/5%/1Kohm)			1	EA
....6	R762	CRJ10DJ102T	RES, CHIP(1608/5%/1Kohm)			1	EA
....6	R767	CRJ10DF5101T	RES, CHIP(1608/1%/5.1Kohm)		1608 SIZE	1	EA
....6	R779	CRJ10DJ103T	RES, CHIP(1608/5%/10Kohm)			1	EA
....6	R780	CRJ10DJ103T	RES, CHIP(1608/5%/10Kohm)			1	EA
....6	R781	CRJ10DJ103T	RES, CHIP(1608/5%/10Kohm)			1	EA
....6	R812	CRJ10DJ103T	RES, CHIP(1608/5%/10Kohm)			1	EA
....6	R910	CRJ10DJ105T	RES, CHIP(1608/5%/1Mohm)			1	EA
....6	R963	CRJ10DJ105T	RES, CHIP(1608/5%/1Mohm)			1	EA
....6	C111	CCUI1C104KC	CAP , CHIP (1005, 16V/0.1uF)			1	EA
....6	C113	CCUS1H180JA	CAP, CHIP(1608, 50V/18pF)			1	EA
....6	C114	CCUS1H180JA	CAP, CHIP(1608, 50V/18pF)			1	EA

Level	Ref#	Component	AVR165/230 INPUT PCB ASS'Y	Description	Drawing No	REQ-Qty	UM
....6	C116	CCUI1C104KC		CAP , CHIP (1005, 16V/0.1uF)		1	EA
....6	C117	CCUI1C104KC		CAP , CHIP (1005, 16V/0.1uF)		1	EA
....6	C118	CCUI1C104KC		CAP , CHIP (1005, 16V/0.1uF)		1	EA
....6	C121	CCUS1H104KC		CAP, CHIP(1608, 50V/0.1uF)		1	EA
....6	C123	CRJ10DJ183T		RES, CHIP(1608/5%/18Kohm)		1	EA
....6	C127	CCUS1H104KC		CAP, CHIP(1608, 50V/0.1uF)		1	EA
....6	C201	CCUS1H221JA		CAP, CHIP(1608, 50V/220pF)		1	EA
....6	C202	CCUS1H221JA		CAP, CHIP(1608, 50V/220pF)		1	EA
....6	C203	CCUS1H221JA		CAP, CHIP(1608, 50V/220pF)		1	EA
....6	C204	CCUS1H221JA		CAP, CHIP(1608, 50V/220pF)		1	EA
....6	C205	CCUS1H221JA		CAP, CHIP(1608, 50V/220pF)		1	EA
....6	C206	CCUS1H221JA		CAP, CHIP(1608, 50V/220pF)		1	EA
....6	C207	CCUS1H221JA		CAP, CHIP(1608, 50V/220pF)		1	EA
....6	C208	CCUS1H221JA		CAP, CHIP(1608, 50V/220pF)		1	EA
....6	C209	CCUS1H221JA		CAP, CHIP(1608, 50V/220pF)		1	EA
....6	C210	CCUS1H221JA		CAP, CHIP(1608, 50V/220pF)		1	EA
....6	C211	CCUS1H221JA		CAP, CHIP(1608, 50V/220pF)		1	EA
....6	C212	CCUS1H221JA		CAP, CHIP(1608, 50V/220pF)		1	EA
....6	C213	CCUS1H221JA		CAP, CHIP(1608, 50V/220pF)		1	EA
....6	C214	CCUS1H221JA		CAP, CHIP(1608, 50V/220pF)		1	EA
....6	C236	CCUS1H104KC		CAP, CHIP(1608, 50V/0.1uF)		1	EA
....6	C237	CCUS1H104KC		CAP, CHIP(1608, 50V/0.1uF)		1	EA
....6	C260	CCUS1H104KC		CAP, CHIP(1608, 50V/0.1uF)		1	EA
....6	C277	CCUS1H104KC		CAP, CHIP(1608, 50V/0.1uF)		1	EA
....6	C278	CCUS1H104KC		CAP, CHIP(1608, 50V/0.1uF)		1	EA
....6	C279	CCUS1H104KC		CAP, CHIP(1608, 50V/0.1uF)		1	EA
....6	C291	CCUS1H104KC		CAP, CHIP(1608, 50V/0.1uF)		1	EA
....6	C308	CCUS1H391JA		CAP, CHIP(1608, 50V/390pF)		1	EA
....6	C309	CCUS1H391JA		CAP, CHIP(1608, 50V/390pF)		1	EA
....6	C310	CCUS1H822KC		CAP, CHIP(1608, 50V/8200pF)		1	EA
....6	C311	CCUS1H391JA		CAP, CHIP(1608, 50V/390pF)		1	EA
....6	C312	CCUS1H391JA		CAP, CHIP(1608, 50V/390pF)		1	EA
....6	C313	CCUS1H391JA		CAP, CHIP(1608, 50V/390pF)		1	EA
....6	C316	CCUS1H272KC		CAP, CHIP(1608, 50V/2700pF)		1	EA
....6	C317	CCUS1H272KC		CAP, CHIP(1608, 50V/2700pF)		1	EA
....6	C318	CCUS1H683KC		CAP, CHIP(1608, 50V/0.068uF)		1	EA
....6	C319	CCUS1H272KC		CAP, CHIP(1608, 50V/2700pF)		1	EA
....6	C320	CCUS1H272KC		CAP, CHIP(1608, 50V/2700pF)		1	EA
....6	C321	CCUS1H272KC		CAP, CHIP(1608, 50V/2700pF)		1	EA
....6	C324	CCUS1H391JA		CAP, CHIP(1608, 50V/390pF)		1	EA
....6	C325	CCUS1H391JA		CAP, CHIP(1608, 50V/390pF)		1	EA
....6	C326	CCUS1H822KC		CAP, CHIP(1608, 50V/8200pF)		1	EA
....6	C327	CCUS1H391JA		CAP, CHIP(1608, 50V/390pF)		1	EA
....6	C328	CCUS1H391JA		CAP, CHIP(1608, 50V/390pF)		1	EA
....6	C329	CCUS1H391JA		CAP, CHIP(1608, 50V/390pF)		1	EA
....6	C358	CCUS1H392KC		CAP, CHIP(1608, 50V/3900pF)		1	EA
....6	C359	CCUS1H822KC		CAP, CHIP(1608, 50V/8200pF)		1	EA
....6	C363	CCUI1E103KC		CAP, CHIP(1005, 25V/0.01uF)		1	EA
....6	C364	CCUS1H392KC		CAP, CHIP(1608, 50V/3900pF)		1	EA
....6	C365	CCUS1H822KC		CAP, CHIP(1608, 50V/8200pF)		1	EA
....6	C383	CCUS1H223KC		CAP, CHIP(1608, 50V/0.022uF)		1	EA
....6	C384	CCUS1H223KC		CAP, CHIP(1608, 50V/0.022uF)		1	EA
....6	C394	CCUS1H102KC		CAP, CHIP(1608, 50V/1000pF)		1	EA
....6	C455	CCUI1H101JA		CAP, CHIP(1005, 50V/100pF)		1	EA
....6	C456	CCUI1H151JA		CAP, CHIP(1005, 50V/150pF)		1	EA
....6	C457	CCUI1H101JA		CAP, CHIP(1005, 50V/100pF)		1	EA
....6	C458	CCUI1H151JA		CAP, CHIP(1005, 50V/150pF)		1	EA
....6	C459	CCUI1C104KC		CAP , CHIP (1005, 16V/0.1uF)		1	EA
....6	C460	CCUI1H272KC		CAP, CHIP(1005, 50V/2700pF)		1	EA
....6	C461	CCUI1H272KC		CAP, CHIP(1005, 50V/2700pF)		1	EA
....6	C462	CCUI1C104KC		CAP , CHIP (1005, 16V/0.1uF)		1	EA
....6	C701	CCUS1H150JA		CAP, CHIP(1608, 50V/15pF)		1	EA
....6	C702	CCUS1H150JA		CAP, CHIP(1608, 50V/15pF)		1	EA
....6	C707	CCUI1H102KC		CAP, CHIP(1005, 50V/1000pF)		1	EA
....6	C708	CCUI1C104KC		CAP , CHIP (1005, 16V/0.1uF)		1	EA
....6	C716	CCUS1H151JA		CAP, CHIP(1608, 50V/150pF)		1	EA
....6	C729	CCUS1H104KC		CAP, CHIP(1608, 50V/0.1uF)		1	EA
....6	C731	CCUS1H104KC		CAP, CHIP(1608, 50V/0.1uF)		1	EA
....6	C733	CCUS1H104KC		CAP, CHIP(1608, 50V/0.1uF)		1	EA
....6	C734	CCUS1H104KC		CAP, CHIP(1608, 50V/0.1uF)		1	EA
....6	C741	CCUS1H104KC		CAP, CHIP(1608, 50V/0.1uF)		1	EA
....6	C742	CCUS1H270JA		CAP, CHIP(1608, 50V/27pF)		1	EA
....6	C743	CCUI1C104KC		CAP , CHIP (1005, 16V/0.1uF)		1	EA
....6	C744	CCUS1H220JA		CAP, CHIP(1608, 50V/22pF)		1	EA
....6	C751	CCUS1H104KC		CAP, CHIP(1608, 50V/0.1uF)		1	EA
....6	C768	CCUS1H104KC		CAP, CHIP(1608, 50V/0.1uF)		1	EA
....6	C769	CCUS1H104KC		CAP, CHIP(1608, 50V/0.1uF)		1	EA
....6	C770	CCUS1H104KC		CAP, CHIP(1608, 50V/0.1uF)		1	EA
....6	C772	CCUS1H104KC		CAP, CHIP(1608, 50V/0.1uF)		1	EA
....6	C778	CCUS1H104KC		CAP, CHIP(1608, 50V/0.1uF)		1	EA
....6	C783	CCUS1H103KC		CAP, CHIP(1608, 50V/0.01uF)		1	EA
....6	C784	CCUS1H103KC		CAP, CHIP(1608, 50V/0.01uF)		1	EA

Level	Ref#	Component	AVR165/230 INPUT PCB ASS'Y	Description	Drawing No	REQ-Qty	UM
....6	C789	CCUS1H103KC		CAP, CHIP(1608, 50V/0.01uF)		1	EA
....6	C790	CCUS1H103KC		CAP, CHIP(1608, 50V/0.01uF)		1	EA
....6	C791	CCUS1H104KC		CAP, CHIP(1608, 50V/0.1uF)		1	EA
....6	C794	CCUS1H181JA		CAP, CHIP(1608, 50V/180pF)		1	EA
....6	C797	CCUS1H104KC		CAP, CHIP(1608, 50V/0.1uF)		1	EA
....6	C801	CCUS1H180JA		CAP, CHIP(1608, 50V/18pF)		1	EA
....6	C802	CCUS1H180JA		CAP, CHIP(1608, 50V/18pF)		1	EA
....6	C866	CCUS1H330JA		CAP, CHIP(1608, 50V/33pF)		1	EA
....6	C867	CCUS1H103KC		CAP, CHIP(1608, 50V/0.01uF)		1	EA
....6	D201	CVD1SS355T		DIODE, SMD, SWITCHING	1SS355/SOD-323	1	EA
....6	D202	CVD1SS355T		DIODE, SMD, SWITCHING	1SS355/SOD-323	1	EA
....6	D203	CVD1SS355T		DIODE, SMD, SWITCHING	1SS355/SOD-323	1	EA
....6	D204	CVD1SS355T		DIODE, SMD, SWITCHING	1SS355/SOD-323	1	EA
....6	D205	CVD1SS355T		DIODE, SMD, SWITCHING	1SS355/SOD-323	1	EA
....6	D206	CVD1SS355T		DIODE, SMD, SWITCHING	1SS355/SOD-323	1	EA
....6	D207	CVD1SS355T		DIODE, SMD, SWITCHING	1SS355/SOD-323	1	EA
....6	D208	CVD1SS355T		DIODE, SMD, SWITCHING	1SS355/SOD-323	1	EA
....6	D301	CVD1SS355T		DIODE, SMD, SWITCHING	1SS355/SOD-323	1	EA
....6	D302	CVD1SS355T		DIODE, SMD, SWITCHING	1SS355/SOD-323	1	EA
....6	D726	HVDRB160L60TE25		DIODE , SCHOTTKY BARRIER HK	RB160L-60TE25	1	EA
....6	D727	CVD1SS355T		DIODE, SMD, SWITCHING	1SS355/SOD-323	1	EA
....6	IC101	CVIR2A15218FP		I.C , INPUT WITH 8CH VOLUME(100P QFP)		1	EA
....6	IC104	HVINJM2115MDTE1		IC, OP AMP		1	EA
....6	IC105	HVINJM2115MDTE1		IC, OP AMP		1	EA
....6	IC106	CVIANAM1615AV		I.C , DSP (CVIST25VF080B504CS2F)		1	EA
....7	IC106	CVIST25VF080B504CS2F		I.C , 8 Mbit SPI Serial Flash	SST25VF080B-50-4C-S2AF	1	EA
....6	IC111	CVIAZ4580MTR-E1		I.C , OPAMP(DUAL LOW NOISE)	AZ4580MTR-E1/SOIC8/BCD	1	EA
....6	IC112	CVIAZ4580MTR-E1		I.C , OPAMP(DUAL LOW NOISE)	AZ4580MTR-E1/SOIC8/BCD	1	EA
....6	IC113	CVIAZ4580MTR-E1		I.C , OPAMP(DUAL LOW NOISE)	AZ4580MTR-E1/SOIC8/BCD	1	EA
....6	IC122	CVIAZ4580MTR-E1		I.C , OPAMP(DUAL LOW NOISE)	AZ4580MTR-E1/SOIC8/BCD	1	EA
....6	IC125	CVIAZ4580MTR-E1		I.C , OPAMP(DUAL LOW NOISE)	AZ4580MTR-E1/SOIC8/BCD	1	EA
....6	IC141	CVICS497024CVZ		I.C , DSP (CIRRUS LOGIC)		1	EA
....6	IC143	HVICS42528-CQ		I.C , CODEC + DIR (CIRRUS LOGIC)	CS42528-CQ	1	EA
....6	IC144	CVIM12L16161A5TG		I.C , 16MB SDRAM (ESMT)		1	EA
....6	IC145	HVITC74VHC157FT		I.C , 2-CHANNEL MUX (TOSHIBA)		1	EA
....6	IC146	CVITC74VCX541FT		I.C , OCTAL BUS BUFFER (TOSHIBA)		1	EA
....6	IC150	HVILM1117S-1V8		I.C , REGULATOR (1.8V)	LM1117-1V8	1	EA
....6	IC151	CVIANAM1613AV		I.C , U-COM(CVIT5CN5, AVR165/BASIC)		1	EA
....7	IC151	CVIT5CN5		I.C , U-COM (512KB/32KB, LQFP100P) TOSHIBA		1	EA
....6	IC152	CVIM24C32WMN6TP		I.C , EEPROM (32 Kbit) ST		1	EA
....6	IC155	CVTUPA672T		F.E.T (NEC)		1	EA
....6	IC156	CVIKIC3201S-33		I.C , REGULATOR (3V3)	KIC3201S-33(SOT-89)	1	EA
....6	IC162	CVIANAM1614AV		IC, USB U-COM(CVITMP92FD28FG, AVR165/BASIC)		1	EA
....7	IC162	CVITMP92FD28FG		I.C , USB DECODER FLASH(100PIN, QFP) TOSHIBA	TMP92FD28DFG, FLASH	1	EA
....6	IC164	CVIML61C282PR		I.C , RESET (2.8V , SOT-89)	ML61C282PRG	1	EA
....6	L601	CLZ9R001Z		FERRITE , CHIP BEAD(60ohm, 2012)	HCB2012KF-600T40	1	EA
....6	L602	CLZ9R001Z		FERRITE , CHIP BEAD(60ohm, 2012)	HCB2012KF-600T40	1	EA
....6	L702	CLZ9Z014Z		FERRITE , CHIP BEAD(60ohm, 4516)	HCB4516KF-600T60/COILMASTER	1	EA
....6	L705	CLZ9R005Z		FERRITE CHIP BEAD(1608/60ohm)	HCB1608KF-600T30/COILMASTER	1	EA
....6	Q102	HVTKRA107S		T.R , CHIP , SOT-23		1	EA
....6	Q103	HVTKRA107S		T.R , CHIP , SOT-23		1	EA
....6	Q105	HVTKRA107S		T.R , CHIP , SOT-23		1	EA
....6	Q301	HVTKTC812TB		T.R , CHIP(TS6)	KTC812T-B-RTK	1	EA
....6	Q303	HVTKTC812TB		T.R , CHIP(TS6)	KTC812T-B-RTK	1	EA
....6	Q304	HVTKTC812TB		T.R , CHIP(TS6)	KTC812T-B-RTK	1	EA
....6	Q306	HVTKTC812TB		T.R , CHIP(TS6)	KTC812T-B-RTK	1	EA
....6	Q307	HVTKRA107S		T.R , CHIP , SOT-23		1	EA
....6	Q308	HVTKRC102S		T.R , CHIP , SOT-23	KRC102S	1	EA
....6	Q312	HVTKRA107S		T.R , CHIP , SOT-23		1	EA
....6	Q729	HVTKRC107S		T.R , CHIP , SOT-23		1	EA
....6	Q730	HVTKRC107S		T.R , CHIP , SOT-23		1	EA
....6	Q738	CVTKRC103S		T.R , CHIP , SOT-23		1	EA
....6	Q741	HVTKRC107S		T.R , CHIP , SOT-23		1	EA
....6	Q742	HVTKRA107S		T.R , CHIP , SOT-23		1	EA
....6	Q951	HVTKRC107S		T.R , CHIP , SOT-23		1	EA
....6	Q952	HVTKRA107S		T.R , CHIP , SOT-23		1	EA
....6	Q991	HVTKRC107S		T.R , CHIP , SOT-23		1	EA
....6	Q992	HVTKRA107S		T.R , CHIP , SOT-23		1	EA
....6	RN60	CRJ064IJ102T		RES, CHIP(1005/5%/1Kohm*2)		1	EA
....6	RN61	CRJ104DJ103T		RES , CHIP , 10K OHM, 5% , 1608 X 4	10K(1608)	1	EA
....6	RN63	CRJ104DJ103T		RES , CHIP , 10K OHM, 5% , 1608 X 4	10K(1608)	1	EA
....6	RN64	CRJ064IJ101T		RES, CHIP(1005/5%/100ohm*4)		1	EA
....6	RN65	CRJ064IJ101T		RES, CHIP(1005/5%/100ohm*4)		1	EA
....6	RN66	CRJ064IJ101T		RES, CHIP(1005/5%/100ohm*4)		1	EA
....6	RN67	CRJ064IJ101T		RES, CHIP(1005/5%/100ohm*4)		1	EA
....6	RN68	CRJ104DJ103T		RES , CHIP , 10K OHM, 5% , 1608 X 4	10K(1608)	1	EA
....6	RN71	CRJ064IJ330T		RES, CHIP(1005/5%/33ohm*4)		1	EA
....6	RN76	CRJ064IJ330T		RES, CHIP(1005/5%/33ohm*4)		1	EA
....6	RN77	CRJ064IJ330T		RES, CHIP(1005/5%/33ohm*4)		1	EA
....6	RN78	CRJ064IJ330T		RES, CHIP(1005/5%/33ohm*4)		1	EA
....6	RN79	CRJ064IJ330T		RES, CHIP(1005/5%/33ohm*4)		1	EA
....6	RN81	CRJ064IJ330T		RES, CHIP(1005/5%/33ohm*4)		1	EA

Level	Ref#	Component	AVR165/230 INPUT PCB ASS'Y	Description	Drawing No	REQ-Qty	UM
....6	RN82	CRJ064IJ330T	RES, CHIP(1005/5%/33ohm*4)			1	EA
....6	RN83	CRJ064IJ330T	RES, CHIP(1005/5%/33ohm*4)			1	EA
....6	RN84	CRJ064IJ330T	RES, CHIP(1005/5%/33ohm*4)			1	EA
....6	RN85	CRJ064IJ330T	RES, CHIP(1005/5%/33ohm*4)			1	EA
....6	RN87	CRJ064IJ330T	RES, CHIP(1005/5%/33ohm*4)			1	EA
....6	RN90	CRJ064IJ330T	RES, CHIP(1005/5%/33ohm*4)			1	EA
....6	RN91	CRJ064IJ330T	RES, CHIP(1005/5%/33ohm*4)			1	EA
....6	RN93	CRJ064IJ330T	RES, CHIP(1005/5%/33ohm*4)			1	EA
....6	R110	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)			1	EA
....6	R111	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)			1	EA
....6	R113	CRJ06IJ103T	RES, CHIP(1005/5%/10Kohm)			1	EA
....6	R117	CRJ06IJ103T	RES, CHIP(1005/5%/10Kohm)			1	EA
....6	R118	CRJ10DJ104T	RES, CHIP(1608/5%/100Kohm)			1	EA
....6	R120	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)			1	EA
....6	R131	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)			1	EA
....6	R132	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)			1	EA
....6	R141	CRJ10DJ104T	RES, CHIP(1608/5%/100Kohm)			1	EA
....6	R142	CRJ06IJ0R0T	RES, CHIP(1005/5%/0ohm)			1	EA
....6	R149	CRJ10DJ104T	RES, CHIP(1608/5%/100Kohm)			1	EA
....6	R150	CRJ10DJ104T	RES, CHIP(1608/5%/100Kohm)			1	EA
....6	R151	CRJ10DJ104T	RES, CHIP(1608/5%/100Kohm)			1	EA
....6	R152	CRJ10DJ104T	RES, CHIP(1608/5%/100Kohm)			1	EA
....6	R156	CRJ10DJ101T	RES, CHIP(1608/5%/100ohm)			1	EA
....6	R158	CRJ06IJ102T	RES, CHIP(1005/5%/1Kohm)			1	EA
....6	R161	CRJ10DJ104T	RES, CHIP(1608/5%/100Kohm)			1	EA
....6	R162	CRJ10DJ102T	RES, CHIP(1608/5%/1Kohm)			1	EA
....6	R166	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)			1	EA
....6	R167	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)			1	EA
....6	R172	CRJ10DJ103T	RES, CHIP(1608/5%/10Kohm)			1	EA
....6	R173	CRJ10DJ104T	RES, CHIP(1608/5%/100Kohm)			1	EA
....6	R174	CRJ10DJ104T	RES, CHIP(1608/5%/100Kohm)			1	EA
....6	R192	CRJ10DJ222T	RES, CHIP(1608/5%/2.2Kohm)			1	EA
....6	R193	CRJ10DJ474T	RES, CHIP(1608/5%/470Kohm)			1	EA
....6	R201	CRJ10DJ101T	RES, CHIP(1608/5%/100ohm)			1	EA
....6	R202	CRJ10DJ101T	RES, CHIP(1608/5%/100ohm)			1	EA
....6	R203	CRJ10DJ101T	RES, CHIP(1608/5%/100ohm)			1	EA
....6	R204	CRJ10DJ101T	RES, CHIP(1608/5%/100ohm)			1	EA
....6	R205	CRJ10DJ101T	RES, CHIP(1608/5%/100ohm)			1	EA
....6	R206	CRJ10DJ101T	RES, CHIP(1608/5%/100ohm)			1	EA
....6	R207	CRJ10DJ101T	RES, CHIP(1608/5%/100ohm)			1	EA
....6	R208	CRJ10DJ101T	RES, CHIP(1608/5%/100ohm)			1	EA
....6	R209	CRJ10DJ101T	RES, CHIP(1608/5%/100ohm)			1	EA
....6	R210	CRJ10DJ101T	RES, CHIP(1608/5%/100ohm)			1	EA
....6	R211	CRJ10DJ101T	RES, CHIP(1608/5%/100ohm)			1	EA
....6	R212	CRJ10DJ101T	RES, CHIP(1608/5%/100ohm)			1	EA
....6	R213	CRJ10DJ101T	RES, CHIP(1608/5%/100ohm)			1	EA
....6	R214	CRJ10DJ101T	RES, CHIP(1608/5%/100ohm)			1	EA
....6	R227	CRJ10DJ104T	RES, CHIP(1608/5%/100Kohm)			1	EA
....6	R228	CRJ10DJ104T	RES, CHIP(1608/5%/100Kohm)			1	EA
....6	R229	CRJ10DJ104T	RES, CHIP(1608/5%/100Kohm)			1	EA
....6	R230	CRJ10DJ104T	RES, CHIP(1608/5%/100Kohm)			1	EA
....6	R231	CRJ10DJ104T	RES, CHIP(1608/5%/100Kohm)			1	EA
....6	R232	CRJ10DJ104T	RES, CHIP(1608/5%/100Kohm)			1	EA
....6	R233	CRJ10DJ104T	RES, CHIP(1608/5%/100Kohm)			1	EA
....6	R234	CRJ10DJ104T	RES, CHIP(1608/5%/100Kohm)			1	EA
....6	R235	CRJ10DJ104T	RES, CHIP(1608/5%/100Kohm)			1	EA
....6	R236	CRJ10DJ104T	RES, CHIP(1608/5%/100Kohm)			1	EA
....6	R237	CRJ10DJ104T	RES, CHIP(1608/5%/100Kohm)			1	EA
....6	R238	CRJ10DJ104T	RES, CHIP(1608/5%/100Kohm)			1	EA
....6	R239	CRJ10DJ104T	RES, CHIP(1608/5%/100Kohm)			1	EA
....6	R240	CRJ10DJ104T	RES, CHIP(1608/5%/100Kohm)			1	EA
....6	R241	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)			1	EA
....6	R242	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)			1	EA
....6	R247	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)			1	EA
....6	R248	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)			1	EA
....6	R251	CRJ10DJ104T	RES, CHIP(1608/5%/100Kohm)			1	EA
....6	R252	CRJ10DJ104T	RES, CHIP(1608/5%/100Kohm)			1	EA
....6	R257	CRJ10DJ4R7T	RES, CHIP(1608/5%/4.7ohm)	1608 SIZE		1	EA
....6	R258	CRJ10DJ4R7T	RES, CHIP(1608/5%/4.7ohm)	1608 SIZE		1	EA
....6	R259	CRJ10DJ4R7T	RES, CHIP(1608/5%/4.7ohm)	1608 SIZE		1	EA
....6	R260	CRJ10DJ4R7T	RES, CHIP(1608/5%/4.7ohm)	1608 SIZE		1	EA
....6	R263	CRJ10DJ184T	RES, CHIP(1608/5%/180Kohm)			1	EA
....6	R264	CRJ10DJ184T	RES, CHIP(1608/5%/180Kohm)			1	EA
....6	R269	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)			1	EA
....6	R270	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)			1	EA
....6	R274	CRJ10DJ222T	RES, CHIP(1608/5%/2.2Kohm)			1	EA
....6	R281	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)			1	EA
....6	R282	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)			1	EA
....6	R283	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)			1	EA
....6	R284	CRJ10DJ152T	RES, CHIP(1608/5%/1.5Kohm)			1	EA
....6	R285	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)			1	EA
....6	R286	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)			1	EA

Level	Ref#	Component	AVR165/230 INPUT PCB ASS'Y	Description	Drawing No	REQ-Qty	UM
....6	R295	CRJ10DJ563T	RES, CHIP(1608/5%/56Kohm)			1	EA
....6	R296	CRJ10DJ563T	RES, CHIP(1608/5%/56Kohm)			1	EA
....6	R300	CRJ10DJ103T	RES, CHIP(1608/5%/10Kohm)			1	EA
....6	R301	CRJ10DJ332T	RES, CHIP(1608/5%/3.3Kohm)			1	EA
....6	R302	CRJ10DJ332T	RES, CHIP(1608/5%/3.3Kohm)			1	EA
....6	R303	CRJ10DJ332T	RES, CHIP(1608/5%/3.3Kohm)			1	EA
....6	R304	CRJ10DJ332T	RES, CHIP(1608/5%/3.3Kohm)			1	EA
....6	R305	CRJ10DJ332T	RES, CHIP(1608/5%/3.3Kohm)			1	EA
....6	R306	CRJ10DJ332T	RES, CHIP(1608/5%/3.3Kohm)			1	EA
....6	R307	CRJ10DJ332T	RES, CHIP(1608/5%/3.3Kohm)			1	EA
....6	R308	CRJ10DJ332T	RES, CHIP(1608/5%/3.3Kohm)			1	EA
....6	R309	CRJ10DJ332T	RES, CHIP(1608/5%/3.3Kohm)			1	EA
....6	R310	CRJ10DJ332T	RES, CHIP(1608/5%/3.3Kohm)			1	EA
....6	R311	CRJ10DJ332T	RES, CHIP(1608/5%/3.3Kohm)			1	EA
....6	R312	CRJ10DJ332T	RES, CHIP(1608/5%/3.3Kohm)			1	EA
....6	R319	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)			1	EA
....6	R328	CRJ10DJ152T	RES, CHIP(1608/5%/1.5Kohm)			1	EA
....6	R329	CRJ10DJ152T	RES, CHIP(1608/5%/1.5Kohm)			1	EA
....6	R330	CRJ10DJ152T	RES, CHIP(1608/5%/1.5Kohm)			1	EA
....6	R331	CRJ10DJ152T	RES, CHIP(1608/5%/1.5Kohm)			1	EA
....6	R332	CRJ10DJ152T	RES, CHIP(1608/5%/1.5Kohm)			1	EA
....6	R333	CRJ10DJ152T	RES, CHIP(1608/5%/1.5Kohm)			1	EA
....6	R336	CRJ10DJ682T	RES, CHIP(1608/5%/6.8Kohm)			1	EA
....6	R337	CRJ10DJ104T	RES, CHIP(1608/5%/100Kohm)			1	EA
....6	R338	CRJ10DJ102T	RES, CHIP(1608/5%/1Kohm)			1	EA
....6	R340	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)			1	EA
....6	R344	CRJ10DJ682T	RES, CHIP(1608/5%/6.8Kohm)			1	EA
....6	R345	CRJ10DJ682T	RES, CHIP(1608/5%/6.8Kohm)			1	EA
....6	R346	CRJ10DJ682T	RES, CHIP(1608/5%/6.8Kohm)			1	EA
....6	R347	CRJ10DJ682T	RES, CHIP(1608/5%/6.8Kohm)			1	EA
....6	R350	CRJ10DJ472T	RES, CHIP(1608/5%/4.7Kohm)			1	EA
....6	R351	CRJ10DJ472T	RES, CHIP(1608/5%/4.7Kohm)			1	EA
....6	R352	CRJ10DJ152T	RES, CHIP(1608/5%/1.5Kohm)			1	EA
....6	R353	CRJ10DJ152T	RES, CHIP(1608/5%/1.5Kohm)			1	EA
....6	R354	CRJ10DJ301T	RES, CHIP(1608/5%/300ohm)			1	EA
....6	R355	CRJ10DJ273T	RES, CHIP(1608/5%/27Kohm)			1	EA
....6	R356	CRJ10DJ152T	RES, CHIP(1608/5%/1.5Kohm)			1	EA
....6	R357	CRJ10DJ152T	RES, CHIP(1608/5%/1.5Kohm)			1	EA
....6	R358	CRJ10DJ152T	RES, CHIP(1608/5%/1.5Kohm)			1	EA
....6	R359	CRJ10DJ152T	RES, CHIP(1608/5%/1.5Kohm)			1	EA
....6	R362	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)			1	EA
....6	R363	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)			1	EA
....6	R364	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)			1	EA
....6	R365	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)			1	EA
....6	R366	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)			1	EA
....6	R367	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)			1	EA
....6	R369	CRJ10DJ301T	RES, CHIP(1608/5%/300ohm)			1	EA
....6	R370	CRJ10DJ273T	RES, CHIP(1608/5%/27Kohm)			1	EA
....6	R372	CRJ10DJ101T	RES, CHIP(1608/5%/100ohm)			1	EA
....6	R373	CRJ10DJ101T	RES, CHIP(1608/5%/100ohm)			1	EA
....6	R374	CRJ10DJ101T	RES, CHIP(1608/5%/100ohm)			1	EA
....6	R375	CRJ10DJ101T	RES, CHIP(1608/5%/100ohm)			1	EA
....6	R376	CRJ10DJ101T	RES, CHIP(1608/5%/100ohm)			1	EA
....6	R377	CRJ10DJ101T	RES, CHIP(1608/5%/100ohm)			1	EA
....6	R385	CRJ10DJ561T	RES, CHIP(1608/5%/560ohm)			1	EA
....6	R386	CRJ10DJ561T	RES, CHIP(1608/5%/560ohm)			1	EA
....6	R391	CRJ10DJ392T	RES, CHIP(1608/5%/3.9Kohm)			1	EA
....6	R392	CRJ10DJ392T	RES, CHIP(1608/5%/3.9Kohm)			1	EA
....6	R393	CRJ10DJ392T	RES, CHIP(1608/5%/3.9Kohm)			1	EA
....6	R395	CRJ10DJ392T	RES, CHIP(1608/5%/3.9Kohm)			1	EA
....6	R396	CRJ10DJ392T	RES, CHIP(1608/5%/3.9Kohm)			1	EA
....6	R408	CRJ10DJ105T	RES, CHIP(1608/5%/1Mohm)			1	EA
....6	R410	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)			1	EA
....6	R411	CRJ06IJ272T	RES, CHIP(1005/5%/2.7Kohm)			1	EA
....6	R412	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)			1	EA
....6	R413	CRJ10DJ272T	RES, CHIP(1608/5%/2.7Kohm)	1608 SIZE		1	EA
....6	R414	CRJ06IJ472T	RES, CHIP(1005/5%/4.7Kohm)			1	EA
....6	R415	CRJ06IJ472T	RES, CHIP(1005/5%/4.7Kohm)			1	EA
....6	R416	CRJ06IJ272T	RES, CHIP(1005/5%/2.7Kohm)			1	EA
....6	R417	CRJ06IJ472T	RES, CHIP(1005/5%/4.7Kohm)			1	EA
....6	R418	CRJ06IJ472T	RES, CHIP(1005/5%/4.7Kohm)			1	EA
....6	R419	CRJ06IJ272T	RES, CHIP(1005/5%/2.7Kohm)			1	EA
....6	R420	CRJ06IJ101T	RES, CHIP(1005/5%/100ohm)			1	EA
....6	R421	CRJ06IJ101T	RES, CHIP(1005/5%/100ohm)			1	EA
....6	R422	CRJ06IJ101T	RES, CHIP(1005/5%/100ohm)			1	EA
....6	R423	CRJ06IJ101T	RES, CHIP(1005/5%/100ohm)			1	EA
....6	R701	CRJ10DJ103T	RES, CHIP(1608/5%/10Kohm)			1	EA
....6	R702	CRJ10DJ103T	RES, CHIP(1608/5%/10Kohm)			1	EA
....6	R709	CRJ10DJ103T	RES, CHIP(1608/5%/10Kohm)			1	EA
....6	R710	CRJ10DJ103T	RES, CHIP(1608/5%/10Kohm)			1	EA
....6	R711	CRJ06IJ560T	RES, CHIP(1005/5%/56ohm)			1	EA
....6	R712	CRJ06IJ820T	RES, CHIP(1005/5%/82ohm)			1	EA

Level	Ref#	Component	AVR165/230 INPUT PCB ASS'Y	Description	Drawing No	REQ-Qty	UM
...6	R713	CRJ10DJ103T	RES, CHIP(1608/5%/10Kohm)			1	EA
...6	R714	CRJ10DJ103T	RES, CHIP(1608/5%/10Kohm)			1	EA
...6	R715	CRJ10DJ103T	RES, CHIP(1608/5%/10Kohm)			1	EA
...6	R722	CRJ06IJ0R0T	RES, CHIP(1005/5%/0ohm)			1	EA
...6	R723	CRJ06IJ330T	RES, CHIP(1005/5%/33ohm)			1	EA
...6	R724	CRJ06IJ101T	RES, CHIP(1005/5%/100ohm)			1	EA
...6	R726	CRJ10DJ100T	RES, CHIP(1608/5%/10ohm)			1	EA
...6	R728	CRJ06IJ102T	RES, CHIP(1005/5%/1Kohm)			1	EA
...6	R729	CRJ06IJ330T	RES, CHIP(1005/5%/33ohm)			1	EA
...6	R730	CRJ06IJ330T	RES, CHIP(1005/5%/33ohm)			1	EA
...6	R732	CRJ10DJ103T	RES, CHIP(1608/5%/10Kohm)			1	EA
...6	R734	CRJ10DJ332T	RES, CHIP(1608/5%/3.3Kohm)			1	EA
...6	R736	CRJ10DJ103T	RES, CHIP(1608/5%/10Kohm)			1	EA
...6	R737	CRJ06IJ330T	RES, CHIP(1005/5%/33ohm)			1	EA
...6	R738	CRJ10DJ103T	RES, CHIP(1608/5%/10Kohm)			1	EA
...6	R739	CRJ06IJ820T	RES, CHIP(1005/5%/82ohm)			1	EA
...6	R741	CRJ06IJ330T	RES, CHIP(1005/5%/33ohm)			1	EA
...6	R742	CRJ06IJ330T	RES, CHIP(1005/5%/33ohm)			1	EA
...6	R743	CRJ06IJ330T	RES, CHIP(1005/5%/33ohm)			1	EA
...6	R746	CRJ10DJ103T	RES, CHIP(1608/5%/10Kohm)			1	EA
...6	R751	CRJ06IJ820T	RES, CHIP(1005/5%/82ohm)			1	EA
...6	R752	CRJ06IJ330T	RES, CHIP(1005/5%/33ohm)			1	EA
...6	R755	CRJ10DJ103T	RES, CHIP(1608/5%/10Kohm)			1	EA
...6	R756	CRJ10DJ750T	RES, CHIP(1608/5%/75ohm)			1	EA
...6	R760	CRJ10DJ105T	RES, CHIP(1608/5%/1Mohm)			1	EA
...6	R764	CRJ06IJ330T	RES, CHIP(1005/5%/33ohm)			1	EA
...6	R765	CRJ06IJ330T	RES, CHIP(1005/5%/33ohm)			1	EA
...6	R768	CRJ06IJ330T	RES, CHIP(1005/5%/33ohm)			1	EA
...6	R769	CRJ06IJ330T	RES, CHIP(1005/5%/33ohm)			1	EA
...6	R770	CRJ10DJ100T	RES, CHIP(1608/5%/10ohm)			1	EA
...6	R771	CRJ10DJ103T	RES, CHIP(1608/5%/10Kohm)			1	EA
...6	R772	CRJ10DJ183T	RES, CHIP(1608/5%/18Kohm)			1	EA
...6	R773	CRJ10DJ332T	RES, CHIP(1608/5%/3.3Kohm)			1	EA
...6	R774	CRJ10DJ332T	RES, CHIP(1608/5%/3.3Kohm)			1	EA
...6	R775	CRJ10DJ332T	RES, CHIP(1608/5%/3.3Kohm)			1	EA
...6	R776	CRJ10DJ332T	RES, CHIP(1608/5%/3.3Kohm)			1	EA
...6	R777	CRJ06IJ101T	RES, CHIP(1005/5%/100ohm)			1	EA
...6	R778	CRJ06IJ221T	RES, CHIP(1005/5%/220ohm)			1	EA
...6	R782	CRJ10DJ272T	RES, CHIP(1608/5%/2.7Kohm)	1608 SIZE		1	EA
...6	R783	CRJ10DJ272T	RES, CHIP(1608/5%/2.7Kohm)	1608 SIZE		1	EA
...6	R784	CRJ10DJ473T	RES, CHIP(1608/5%/47Kohm)			1	EA
...6	R785	CRJ10DJ104T	RES, CHIP(1608/5%/100Kohm)			1	EA
...6	R786	CRJ10DJ471T	RES, CHIP(1608/5%/470ohm)			1	EA
...6	R787	CRJ06IJ0R0T	RES, CHIP(1005/5%/0ohm)			1	EA
...6	R789	CRJ10DJ103T	RES, CHIP(1608/5%/10Kohm)			1	EA
...6	R790	CRJ10DJ103T	RES, CHIP(1608/5%/10Kohm)			1	EA
...6	R791	CRJ10DJ273T	RES, CHIP(1608/5%/27Kohm)			1	EA
...6	R792	CRJ10DJ103T	RES, CHIP(1608/5%/10Kohm)			1	EA
...6	R795	CRJ10DJ103T	RES, CHIP(1608/5%/10Kohm)			1	EA
...6	R798	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)			1	EA
...6	R799	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)			1	EA
...6	R800	CRJ10DJ332T	RES, CHIP(1608/5%/3.3Kohm)			1	EA
...6	R801	CRJ10DJ332T	RES, CHIP(1608/5%/3.3Kohm)			1	EA
...6	R810	CRJ10DJ103T	RES, CHIP(1608/5%/10Kohm)			1	EA
...6	R811	CRJ06IJ103T	RES, CHIP(1005/5%/10Kohm)			1	EA
...6	R815	CRJ06IJ330T	RES, CHIP(1005/5%/33ohm)			1	EA
...6	R816	CRJ10DJ330T	RES, CHIP(1608/5%/33ohm)			1	EA
...6	R855	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)			1	EA
...6	R861	CRJ10DJ100T	RES, CHIP(1608/5%/10ohm)			1	EA
...6	R932	CRJ10DJ103T	RES, CHIP(1608/5%/10Kohm)			1	EA
...6	R960	CRJ10DJ332T	RES, CHIP(1608/5%/3.3Kohm)			1	EA
...6	R966	CRJ10DJ472T	RES, CHIP(1608/5%/4.7Kohm)			1	EA
...6	R992	CRJ10DJ562T	RES, CHIP(1608/5%/5.6Kohm)			1	EA
...6	WF104	CJP17GA193ZY	WAFER, CARD CABLE (SMD)			1	EA
...6	WF105	CJP17GA193ZY	WAFER, CARD CABLE (SMD)			1	EA
...5	C126	CCEA1CH101T	CAP , ELECT(16V/100uF)	KR3-16V101MA(5*11L)		1	EA
...5	C231	CCEA1CH101T	CAP , ELECT(16V/100uF)	KR3-16V101MA(5*11L)		1	EA
...5	C232	CCEA1CH101T	CAP , ELECT(16V/100uF)	KR3-16V101MA(5*11L)		1	EA
...5	C233	CCEA1CH101T	CAP , ELECT(16V/100uF)	KR3-16V101MA(5*11L)		1	EA
...5	C234	CCEA1CH101T	CAP , ELECT(16V/100uF)	KR3-16V101MA(5*11L)		1	EA
...5	C235	CCEA1CH101T	CAP , ELECT(16V/100uF)	KR3-16V101MA(5*11L)		1	EA
...5	C281	CCEA1HH100T	CAP , ELECT(50V/10uF)	KR3-50V100MA(5*11L)		1	EA
...5	C282	CCEA1HH100T	CAP , ELECT(50V/10uF)	KR3-50V100MA(5*11L)		1	EA
...5	C283	CCEA1HH100T	CAP , ELECT(50V/10uF)	KR3-50V100MA(5*11L)		1	EA
...5	C284	CCEA1HH100T	CAP , ELECT(50V/10uF)	KR3-50V100MA(5*11L)		1	EA
...5	C285	CCEA1HH100T	CAP , ELECT(50V/10uF)	KR3-50V100MA(5*11L)		1	EA
...5	C286	CCEA1HH100T	CAP , ELECT(50V/10uF)	KR3-50V100MA(5*11L)		1	EA
...5	C292	CCEA1CH101T	CAP , ELECT(16V/100uF)	KR3-16V101MA(5*11L)		1	EA
...5	C294	CCEA1CH101T	CAP , ELECT(16V/100uF)	KR3-16V101MA(5*11L)		1	EA
...5	C295	CCEA1CH101T	CAP , ELECT(16V/100uF)	KR3-16V101MA(5*11L)		1	EA
...5	C296	CCEA1CH101T	CAP , ELECT(16V/100uF)	KR3-16V101MA(5*11L)		1	EA
...5	C297	CCEA1CH101T	CAP , ELECT(16V/100uF)	KR3-16V101MA(5*11L)		1	EA

AVR165/230 INPUT PCB ASS'Y						
Level	Ref#	Component	Description	Drawing No	REQ-Qty	UM
...5	C298	CCEA1CH101T	CAP , ELECT(16V/100uF)	KR3-16V101MA(5*11L)	1	EA
...5	C340	CCEA1HH220T	CAP , ELECT(50V/22uF)	KR3-50V220MA(5*11L)	1	EA
...5	C341	CCEA1HH220T	CAP , ELECT(50V/22uF)	KR3-50V220MA(5*11L)	1	EA
...5	C342	CCEA1HH220T	CAP , ELECT(50V/22uF)	KR3-50V220MA(5*11L)	1	EA
...5	C343	CCEA1HH220T	CAP , ELECT(50V/22uF)	KR3-50V220MA(5*11L)	1	EA
...5	C344	CCEA1HH220T	CAP , ELECT(50V/22uF)	KR3-50V220MA(5*11L)	1	EA
...5	C345	CCEA1HH220T	CAP , ELECT(50V/22uF)	KR3-50V220MA(5*11L)	1	EA
...5	C361	CCEA1CH101T	CAP , ELECT(16V/100uF)	KR3-16V101MA(5*11L)	1	EA
...5	C373	CCEA1HH100T	CAP , ELECT(50V/10uF)	KR3-50V100MA(5*11L)	1	EA
...5	C374	CCEA1HH100T	CAP , ELECT(50V/10uF)	KR3-50V100MA(5*11L)	1	EA
...5	C389	CCEA1HH100T	CAP , ELECT(50V/10uF)	KR3-50V100MA(5*11L)	1	EA
...5	C390	CCEA1HH100T	CAP , ELECT(50V/10uF)	KR3-50V100MA(5*11L)	1	EA
...5	C463	CCEA1HH100T	CAP , ELECT(50V/10uF)	KR3-50V100MA(5*11L)	1	EA
...5	C464	CCEA1HH100T	CAP , ELECT(50V/10uF)	KR3-50V100MA(5*11L)	1	EA
...5	C465	CCEA1HH100T	CAP , ELECT(50V/10uF)	KR3-50V100MA(5*11L)	1	EA
...5	C612	CCEA1CH101T	CAP , ELECT(16V/100uF)	KR3-16V101MA(5*11L)	1	EA
...5	C614	CCEA1CH101T	CAP , ELECT(16V/100uF)	KR3-16V101MA(5*11L)	1	EA
...5	C628	CCEA1CH101T	CAP , ELECT(16V/100uF)	KR3-16V101MA(5*11L)	1	EA
...5	C630	CCEA1CH101T	CAP , ELECT(16V/100uF)	KR3-16V101MA(5*11L)	1	EA
...5	C703	CCEA1CH101T	CAP , ELECT(16V/100uF)	KR3-16V101MA(5*11L)	1	EA
...5	C706	CCEA1CH101T	CAP , ELECT(16V/100uF)	KR3-16V101MA(5*11L)	1	EA
...5	C715	CCEA1HH4R7T	CAP , ELECT(50V/4.7uF)	KR3-50V4R7MA(5*11L)	1	EA
...5	C717	CCEA1HH4R7T	CAP , ELECT(50V/4.7uF)	KR3-50V4R7MA(5*11L)	1	EA
...5	C720	CCEA1CH101T	CAP , ELECT(16V/100uF)	KR3-16V101MA(5*11L)	1	EA
...5	C721	CCEA1AH471T	CAP , ELECT(10V/470uF)	KR3-10V471MB(6.3*11L)	1	EA
...5	C728	CCEA1AH471T	CAP , ELECT(10V/470uF)	KR3-10V471MB(6.3*11L)	1	EA
...5	C730	CCEA1CH101T	CAP , ELECT(16V/100uF)	KR3-16V101MA(5*11L)	1	EA
...5	C740	CCEA1CH101T	CAP , ELECT(16V/100uF)	KR3-16V101MA(5*11L)	1	EA
...5	C749	CCEA1CH101T	CAP , ELECT(16V/100uF)	KR3-16V101MA(5*11L)	1	EA
...5	C750	CCEA1CH101T	CAP , ELECT(16V/100uF)	KR3-16V101MA(5*11L)	1	EA
...5	C752	CCEA1CH101T	CAP , ELECT(16V/100uF)	KR3-16V101MA(5*11L)	1	EA
...5	C753	CCEA1CH101T	CAP , ELECT(16V/100uF)	KR3-16V101MA(5*11L)	1	EA
...5	C786	CCEA1CH101T	CAP , ELECT(16V/100uF)	KR3-16V101MA(5*11L)	1	EA
...5	C787	CCEA1CH101T	CAP , ELECT(16V/100uF)	KR3-16V101MA(5*11L)	1	EA
...5	C862	CCEA1CH101T	CAP , ELECT(16V/100uF)	KR3-16V101MA(5*11L)	1	EA
...5	C863	CCEA1CH101T	CAP , ELECT(16V/100uF)	KR3-16V101MA(5*11L)	1	EA
...5	C868	CCEA1EH470T	CAP , ELECT(25V/47uF)	KR3-25V470MA(5*11L)	1	EA
...5	D221	CVD1N4003ST	DIODE , RECT	1N4003	1	EA
...5	D222	CVD1N4003ST	DIODE , RECT	1N4003	1	EA
...5	Q311	HVTKTC2874BT	T.R , MUTE	KTC2874B	1	EA
...5	Q731	HVTKTA1267YT	T.R	KTA1267Y	1	EA
...5	Q733	HVTKTC3199YT	T.R , KTC3199Y	KTC3199Y/TO-92M	1	EA
...4	BN50	CWB1B00325058	WIRE ASS'Y (3PIN,2.5mm,250mm,STRAIGHT)	3PIN,2.5MM,250MM,STRAIGHT	1	EA
...4	CN19	CJP06GA19ZY	WAFER,20017WS(2mm,STRAIGHT)		1	EA
...4	CN20	CJP09GI237ZW	LOCK-WAFER/STRAIGHT/2.5mm		1	EA
...4	CN30	CJP08GA19ZY	WAFER,20017WS(2mm,STRAIGHT)		1	EA
...4	CN51	CJP05GA01ZY	WAFER,YMW025(2.5mm,STRAIGHT)		1	EA
...4	CN53	CJP03GA01ZY	WAFER,YMW025(2.5mm,STRAIGHT)		1	EA
...4	CN71	CJP06GB143ZB	FEMALE HEADER(6P, 2.54mm)		1	EA
...4	CN82	CJP11GI237ZW	LOCK-WAFER/STRAIGHT/2.5mm	JWT A2512WV0-NP	1	EA
...4	C732	CCEA0JKR3222E	CAP , ELECT(2200uF/6.3V)		1	EA
...4	IC102	HVIA7808API	I.C.REGULATOR(+8V,T0220IS)	KIA7808API (KEC)	1	EA
...4	IC103	CVIA7908PI	I.C.REGULATOR(-8V,T0220IS)	KIA7908PI (KEC)	1	EA
...4	IC115	HVIA7812API	I.C.REGULATOR(+12V,T0220IS)	KIA78XXAPI	1	EA
...4	JK11	CJJ4P019W	JACK , RCA		1	EA
...4	JK12	CJJ4P019W	JACK , RCA		1	EA
...4	JK13	CJJ4R020W	JACK , BOARD		1	EA
...4	JK74	CJJ4M044Z	JACK , BOARD	GOLD PLATE	1	EA
...4	JK75	HJSTORX177L	MODULE , OPTICAL(RX)	TORX177L	1	EA
...4	JK76	HJSTORX177L	MODULE , OPTICAL(RX)	TORX177L	1	EA
...4	JK79	HJSTOTX177AL	MODULE , OPTICAL(TX)		1	EA
...4	L301	CLM4B001Z	COIL , MPX(FM 19KHz FILTER)		1	EA
...4	L302	CLM4B001Z	COIL , MPX(FM 19KHz FILTER)		1	EA
...4	TUN1	CNVMW104MV1S63A	TUNER(EUR) FM, AM, RDS(S/LAB)	KST-MW104MV1-S63A	1	EA
...4	WF101	CJP27GA285ZN	WAFER,FPC 1.25mm,straight	1.25-2-NP	1	EA
...4	WF103	CJP27GA285ZN	WAFER,FPC 1.25mm,straight	1.25-2-NP	1	EA
...4	X701	HOX24576E150TF	CRYSTAL, 24.576MHz, HC-49/S, 15pF, 30PPM	24.576MHZ	1	EA
...4	X702	HOX10000E220TF	CRYSTAL, 10.000MHz, HC-49/S, 22pF, 30PPM	CL-22P	1	EA
...4	X703	COX09000E150C	CRYSTAL, 09.000MHz, HC-49/S, 15pF, 30PPM		1	EA
...4	X708	HOX00032K120I	CRYSTAL, 32.768KHz, TUNING FORK, 12pF, 20PPM	TUNING FORK	1	EA
AVR165/230 HDMI PCB ASS'Y						
Level	Ref#	Component	Description	Drawing No	REQ-Qty	UM
...3		COP12359G	AVR165/230 HDMI PCB ASS'Y		1	EA
...6	C801	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)		1	EA
...6	C815	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)		1	EA
...6	C816	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)		1	EA
...6	C817	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)		1	EA
...6	C819	CCUS1H103KC	CAP, CHIP(1608, 50V/0.01uF)		1	EA
...6	C822	CCUC0J106KC	CAP, CHIP(2012, 6.3V/10uF)		1	EA
...6	C826	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)		1	EA
...6	C828	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)		1	EA

Level	Ref#	Component	AVR165/230 HDMI PCB ASS'Y	Description	Drawing No	REQ-Qty	UM
....6	C829	CCUS1H104KC		CAP, CHIP(1608, 50V/0.1uF)		1	EA
....6	C831	CCUS1H104KC		CAP, CHIP(1608, 50V/0.1uF)		1	EA
....6	C832	CCUS1H104KC		CAP, CHIP(1608, 50V/0.1uF)		1	EA
....6	C834	CCUS1H104KC		CAP, CHIP(1608, 50V/0.1uF)		1	EA
....6	C835	CCUI1C104KC		CAP, CHIP (1005, 16V/0.1uF)		1	EA
....6	C837	CCUS1H104KC		CAP, CHIP(1608, 50V/0.1uF)		1	EA
....6	C838	CCUI1C104KC		CAP, CHIP (1005, 16V/0.1uF)		1	EA
....6	C839	CCUI1C104KC		CAP, CHIP (1005, 16V/0.1uF)		1	EA
....6	C840	CCUI1C104KC		CAP, CHIP (1005, 16V/0.1uF)		1	EA
....6	C841	CCUI1C104KC		CAP, CHIP (1005, 16V/0.1uF)		1	EA
....6	C842	CCUI1C104KC		CAP, CHIP (1005, 16V/0.1uF)		1	EA
....6	C843	CCUI1C104KC		CAP, CHIP (1005, 16V/0.1uF)		1	EA
....6	C844	CCUI1C104KC		CAP, CHIP (1005, 16V/0.1uF)		1	EA
....6	C845	CCUI1C104KC		CAP, CHIP (1005, 16V/0.1uF)		1	EA
....6	C846	CCUI1C104KC		CAP, CHIP (1005, 16V/0.1uF)		1	EA
....6	C847	CCUI1C104KC		CAP, CHIP (1005, 16V/0.1uF)		1	EA
....6	C848	CCUI1C104KC		CAP, CHIP (1005, 16V/0.1uF)		1	EA
....6	C849	CCUC0J106KC		CAP, CHIP(2012, 6.3V/10uF)		1	EA
....6	C850	CCUC0J106KC		CAP, CHIP(2012, 6.3V/10uF)		1	EA
....6	C851	CCUS1H104KC		CAP, CHIP(1608, 50V/0.1uF)		1	EA
....6	C852	CCUI1C104KC		CAP, CHIP (1005, 16V/0.1uF)		1	EA
....6	C853	CCUI1C104KC		CAP, CHIP (1005, 16V/0.1uF)		1	EA
....6	C854	CCUS1H104KC		CAP, CHIP(1608, 50V/0.1uF)		1	EA
....6	C855	CCUC0J106KC		CAP, CHIP(2012, 6.3V/10uF)		1	EA
....6	C856	CCUI1C104KC		CAP, CHIP (1005, 16V/0.1uF)		1	EA
....6	C857	CCUI1C104KC		CAP, CHIP (1005, 16V/0.1uF)		1	EA
....6	C858	CCUI1C104KC		CAP, CHIP (1005, 16V/0.1uF)		1	EA
....6	C859	CCUI1C104KC		CAP, CHIP (1005, 16V/0.1uF)		1	EA
....6	C861	CCUI1C104KC		CAP, CHIP (1005, 16V/0.1uF)		1	EA
....6	C862	CCUI1C104KC		CAP, CHIP (1005, 16V/0.1uF)		1	EA
....6	C863	CCUI1C104KC		CAP, CHIP (1005, 16V/0.1uF)		1	EA
....6	C864	CCUI1C104KC		CAP, CHIP (1005, 16V/0.1uF)		1	EA
....6	C865	CCUI1C104KC		CAP, CHIP (1005, 16V/0.1uF)		1	EA
....6	C867	CCUI1C104KC		CAP, CHIP (1005, 16V/0.1uF)		1	EA
....6	C868	CCUI1C104KC		CAP, CHIP (1005, 16V/0.1uF)		1	EA
....6	C869	CCUI1C104KC		CAP, CHIP (1005, 16V/0.1uF)		1	EA
....6	C870	CCUI1C104KC		CAP, CHIP (1005, 16V/0.1uF)		1	EA
....6	C871	CCUI1C104KC		CAP, CHIP (1005, 16V/0.1uF)		1	EA
....6	C872	CCUI1C104KC		CAP, CHIP (1005, 16V/0.1uF)		1	EA
....6	C873	CCUI1C104KC		CAP, CHIP (1005, 16V/0.1uF)		1	EA
....6	C874	CCUS1H104KC		CAP, CHIP(1608, 50V/0.1uF)		1	EA
....6	C875	CCUC0J106KC		CAP, CHIP(2012, 6.3V/10uF)		1	EA
....6	C877	CCUS1H104KC		CAP, CHIP(1608, 50V/0.1uF)		1	EA
....6	C878	CCUC0J106KC		CAP, CHIP(2012, 6.3V/10uF)		1	EA
....6	C879	CCUC0J106KC		CAP, CHIP(2012, 6.3V/10uF)		1	EA
....6	C880	CCUI1C104KC		CAP, CHIP (1005, 16V/0.1uF)		1	EA
....6	C881	CCUI1C104KC		CAP, CHIP (1005, 16V/0.1uF)		1	EA
....6	C882	CCUI1C104KC		CAP, CHIP (1005, 16V/0.1uF)		1	EA
....6	C883	CCUI1C104KC		CAP, CHIP (1005, 16V/0.1uF)		1	EA
....6	C884	CCUS1H104KC		CAP, CHIP(1608, 50V/0.1uF)		1	EA
....6	C885	CCUC0J106KC		CAP, CHIP(2012, 6.3V/10uF)		1	EA
....6	C886	CCUS1H104KC		CAP, CHIP(1608, 50V/0.1uF)		1	EA
....6	C887	CCUI1C104KC		CAP, CHIP (1005, 16V/0.1uF)		1	EA
....6	C888	CCUI1C104KC		CAP, CHIP (1005, 16V/0.1uF)		1	EA
....6	C889	CCUI1C104KC		CAP, CHIP (1005, 16V/0.1uF)		1	EA
....6	C890	CCUI1C104KC		CAP, CHIP (1005, 16V/0.1uF)		1	EA
....6	C891	CCUI1C104KC		CAP, CHIP (1005, 16V/0.1uF)		1	EA
....6	C892	CCUI1C104KC		CAP, CHIP (1005, 16V/0.1uF)		1	EA
....6	C893	CCUI1C104KC		CAP, CHIP (1005, 16V/0.1uF)		1	EA
....6	C894	CCUI1C104KC		CAP, CHIP (1005, 16V/0.1uF)		1	EA
....6	C895	CCUI1C104KC		CAP, CHIP (1005, 16V/0.1uF)		1	EA
....6	C898	CCUI1C104KC		CAP, CHIP (1005, 16V/0.1uF)		1	EA
....6	C899	CCUI1C104KC		CAP, CHIP (1005, 16V/0.1uF)		1	EA
....6	C901	CCUC0J106KC		CAP, CHIP(2012, 6.3V/10uF)		1	EA
....6	C903	CCUS1H104KC		CAP, CHIP(1608, 50V/0.1uF)		1	EA
....6	C909	CCUC0J106KC		CAP, CHIP(2012, 6.3V/10uF)		1	EA
....6	C910	CCUC0J106KC		CAP, CHIP(2012, 6.3V/10uF)		1	EA
....6	C919	CCUC0J106KC		CAP, CHIP(2012, 6.3V/10uF)		1	EA
....6	C920	CCUS1H104KC		CAP, CHIP(1608, 50V/0.1uF)		1	EA
....6	C921	CCUS1H104KC		CAP, CHIP(1608, 50V/0.1uF)		1	EA
....6	C922	CCUC0J106KC		CAP, CHIP(2012, 6.3V/10uF)		1	EA
....6	C938	CCUS1A105KC		CAP, CHIP(1608, 10V/1uF)		1	EA
....6	C939	CCUS1A105KC		CAP, CHIP(1608, 10V/1uF)		1	EA
....6	C943	CCUSSP1E106KC		CAP, CHIP (3216, 25V/10uF)	CL31A106KAHNNNE	1	EA
....6	C957	CCUSSP1E106KC		CAP, CHIP (3216, 25V/10uF)	CL31A106KAHNNNE	1	EA
....6	C958	CCUSSP1E106KC		CAP, CHIP (3216, 25V/10uF)	CL31A106KAHNNNE	1	EA
....6	C966	CCUSSP1E106KC		CAP, CHIP (3216, 25V/10uF)	CL31A106KAHNNNE	1	EA
....6	IC805	CVINJM2845DL118		I.C, REGULATOR(1.8V/TO-252)	NJM2845DL1-18(Te1) JRC	1	EA
....6	IC806	CVITC74VCX541FT		I.C, OCTAL BUS BUFFER (TOSHIBA)		1	EA
....6	IC807	CVIKIA1117BS18		I.C, REGULATOR(SOT-223)		1	EA
....6	IC808	CVINJM2845DL118		I.C, REGULATOR(1.8V/TO-252)	NJM2845DL1-18(Te1) JRC	1	EA
....6	L805	CLZ9Z014Z		FERRITE, CHIP BEAD(60ohm, 4516)	HCB4516KF-600T60/COILMASTER	1	EA

Level	Ref#	Component	AVR165/230 HDMI PCB ASS'Y	Description	Drawing No	REQ-Qty	UM
....6	L806	CLZ9R005Z	FERRITE CHIP BEAD(1608/60ohm)		HCB1608KF-600T30/COILMASTER	1	EA
....6	L807	CLZ9R005Z	FERRITE CHIP BEAD(1608/60ohm)		HCB1608KF-600T30/COILMASTER	1	EA
....6	L808	CLZ9Z014Z	FERRITE , CHIP BEAD(60ohm, 4516)		HCB4516KF-600T60/COILMASTER	1	EA
....6	L809	CLZ9R005Z	FERRITE CHIP BEAD(1608/60ohm)		HCB1608KF-600T30/COILMASTER	1	EA
....6	L810	CLZ9R005Z	FERRITE CHIP BEAD(1608/60ohm)		HCB1608KF-600T30/COILMASTER	1	EA
....6	L811	CLZ9Z014Z	FERRITE , CHIP BEAD(60ohm, 4516)		HCB4516KF-600T60/COILMASTER	1	EA
....6	L812	CLZ9R005Z	FERRITE CHIP BEAD(1608/60ohm)		HCB1608KF-600T30/COILMASTER	1	EA
....6	L813	CLZ9R005Z	FERRITE CHIP BEAD(1608/60ohm)		HCB1608KF-600T30/COILMASTER	1	EA
....6	L814	CLZ9R005Z	FERRITE CHIP BEAD(1608/60ohm)		HCB1608KF-600T30/COILMASTER	1	EA
....6	L815	CLZ9R005Z	FERRITE CHIP BEAD(1608/60ohm)		HCB1608KF-600T30/COILMASTER	1	EA
....6	L816	CLQ12E100MRZ	COIL , SMD POWER (10UH/3A)		CMI-SPC9H45F-SERIES	1	EA
....6	L819	CLZ9Z014Z	FERRITE , CHIP BEAD(60ohm, 4516)		HCB4516KF-600T60/COILMASTER	1	EA
....6	L821	CLZ9Z014Z	FERRITE , CHIP BEAD(60ohm, 4516)		HCB4516KF-600T60/COILMASTER	1	EA
....6	RN812	CRJ064IJ330T	RES, CHIP(1005/5%/33ohm*4)			1	EA
....6	RN813	CRJ064IJ330T	RES, CHIP(1005/5%/33ohm*4)			1	EA
....6	RN814	CRJ104DJ103T	RES, CHIP, 10K OHM, 5%, 1608 X 4		10K(1608)	1	EA
....6	RN815	CRJ104DJ220T	RES, CHIP, 22 OHM, 5%, 1608 X 4		22X4/2012	1	EA
....6	RN816	CRJ104DJ220T	RES, CHIP, 22 OHM, 5%, 1608 X 4		22X4/2012	1	EA
....6	R823	CRJ10DF8201T	RES, CHIP(1608/1%/8.2Kohm)			1	EA
....6	R824	CRJ10DF1001T	RES, CHIP(1608/1%/1Kohm)			1	EA
....6	R832	CRJ10DJ510T	RES, CHIP(1608/5%/51ohm)			1	EA
....6	R834	CRJ10DJ510T	RES, CHIP(1608/5%/51ohm)			1	EA
....6	R836	CRJ10DJ510T	RES, CHIP(1608/5%/51ohm)			1	EA
....6	R846	CRJ10DJ101T	RES, CHIP(1608/5%/100ohm)			1	EA
....6	R848	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)			1	EA
....6	R851	CRJ10DJ101T	RES, CHIP(1608/5%/100ohm)			1	EA
....6	R853	CRJ10DJ103T	RES, CHIP(1608/5%/10Kohm)			1	EA
....6	R858	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)			1	EA
....6	R859	CRJ10DF1001T	RES, CHIP(1608/1%/1Kohm)			1	EA
....6	R860	CRJ10DF1001T	RES, CHIP(1608/1%/1Kohm)			1	EA
....6	R862	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)			1	EA
....6	R863	CRJ10DJ103T	RES, CHIP(1608/5%/10Kohm)			1	EA
....6	R864	CRJ10DJ103T	RES, CHIP(1608/5%/10Kohm)			1	EA
....6	R867	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)			1	EA
....6	R868	CRJ10DJ750T	RES, CHIP(1608/5%/75ohm)			1	EA
....6	R869	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)			1	EA
....6	R870	CRJ10DJ750T	RES, CHIP(1608/5%/75ohm)			1	EA
....6	R871	CRJ10DJ103T	RES, CHIP(1608/5%/10Kohm)			1	EA
....6	R872	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)			1	EA
....6	R873	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)			1	EA
....6	R874	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)			1	EA
....6	R875	CRJ10DJ202T	RES, CHIP(1608/5%/2Kohm)			1	EA
....6	R876	CRJ10DJ202T	RES, CHIP(1608/5%/2Kohm)			1	EA
....6	R877	CRJ10DJ103T	RES, CHIP(1608/5%/10Kohm)			1	EA
....6	R878	CRJ10DJ103T	RES, CHIP(1608/5%/10Kohm)			1	EA
....6	R882	CRJ10DJ105T	RES, CHIP(1608/5%/1Mohm)			1	EA
....6	R895	CRJ10DJ510T	RES, CHIP(1608/5%/51ohm)			1	EA
....6	R898	CRJ10DJ105T	RES, CHIP(1608/5%/1Mohm)			1	EA
....6	R910	CRJ10DF49R9T	RES, CHIP(1608/1%/49.9ohm)			1	EA
....6	R911	CRJ10DF49R9T	RES, CHIP(1608/1%/49.9ohm)			1	EA
....6	R912	CRJ10DF49R9T	RES, CHIP(1608/1%/49.9ohm)			1	EA
....6	R913	CRJ10DF49R9T	RES, CHIP(1608/1%/49.9ohm)			1	EA
....6	R914	CRJ10DF4R99T	RES, CHIP(1608/1%/4.99ohm)			1	EA
....6	R920	CRJ10DJ103T	RES, CHIP(1608/5%/10Kohm)			1	EA
....6	WF104	CJP17GB210ZY	WAFER, (CARD CABLE,ANGLE, SMT, 1MM,10008HR-17L(P)		10008HR-17L	1	EA
....6	WF105	CJP17GB210ZY	WAFER, (CARD CABLE,ANGLE, SMT, 1MM,10008HR-17L(P)		10008HR-17L	1	EA
....6	C802	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)			1	EA
....6	C803	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)			1	EA
....6	C804	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)			1	EA
....6	C806	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)			1	EA
....6	C807	CCUS1H510JA	CAP, CHIP(1608, 50V/51pF)			1	EA
....6	C808	CCUS1H510JA	CAP, CHIP(1608, 50V/51pF)			1	EA
....6	C809	CCUS1H102KC	CAP, CHIP(1608, 50V/1000pF)			1	EA
....6	C810	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)			1	EA
....6	C811	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)			1	EA
....6	C812	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)			1	EA
....6	C813	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)			1	EA
....6	C820	CCUC0J106KC	CAP, CHIP(2012, 6.3V/10uF)			1	EA
....6	C821	CCUC0J106KC	CAP, CHIP(2012, 6.3V/10uF)			1	EA
....6	C823	CCUS1H102KC	CAP, CHIP(1608, 50V/1000pF)			1	EA
....6	C824	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)			1	EA
....6	C827	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)			1	EA
....6	C833	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)			1	EA
....6	C836	CCUC0J106KC	CAP, CHIP(2012, 6.3V/10uF)			1	EA
....6	C860	CCUC0J106KC	CAP, CHIP(2012, 6.3V/10uF)			1	EA
....6	C866	CCUC0J106KC	CAP, CHIP(2012, 6.3V/10uF)			1	EA
....6	C876	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)			1	EA
....6	C896	CCUC0J106KC	CAP, CHIP(2012, 6.3V/10uF)			1	EA
....6	C897	CCUC0J106KC	CAP, CHIP(2012, 6.3V/10uF)			1	EA
....6	C900	CCUC0J106KC	CAP, CHIP(2012, 6.3V/10uF)			1	EA
....6	C902	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)			1	EA
....6	C908	CCUC0J106KC	CAP, CHIP(2012, 6.3V/10uF)			1	EA

Level	Ref#	Component	AVR165/230 HDMI PCB ASS'Y	Description	Drawing No	REQ-Qty	UM
....6	C911	CCUC0J106KC		CAP, CHIP(2012, 6.3V/10uF)		1	EA
....6	C912	CCUS1H104KC		CAP, CHIP(1608, 50V/0.1uF)		1	EA
....6	C913	CCUS1H104KC		CAP, CHIP(1608, 50V/0.1uF)		1	EA
....6	C914	CCUC0J106KC		CAP, CHIP(2012, 6.3V/10uF)		1	EA
....6	C915	CCUS1H104KC		CAP, CHIP(1608, 50V/0.1uF)		1	EA
....6	C916	CCUC0J106KC		CAP, CHIP(2012, 6.3V/10uF)		1	EA
....6	C917	CCUC0J106KC		CAP, CHIP(2012, 6.3V/10uF)		1	EA
....6	C918	CCUC0J106KC		CAP, CHIP(2012, 6.3V/10uF)		1	EA
....6	C932	CCUS1H103KC		CAP, CHIP(1608, 50V/0.01uF)		1	EA
....6	C933	CCUS1H104KC		CAP, CHIP(1608, 50V/0.1uF)		1	EA
....6	C936	CCUS1H104KC		CAP, CHIP(1608, 50V/0.1uF)		1	EA
....6	C937	CCUS1H102KC		CAP, CHIP(1608, 50V/1000pF)		1	EA
....6	C940	CCUYAP0J226KC		CAP, CHIP (3216, 6.3V/22uF)	CC1206KKX5R5BB226	1	EA
....6	C941	CCUS1H472KC		CAP, CHIP(1608, 50V/4700pF)		1	EA
....6	C942	CCUS1H473KC		CAP, CHIP(1608, 50V/0.047uF)		1	EA
....6	C944	CCUS1H472KC		CAP, CHIP(1608, 50V/4700pF)		1	EA
....6	C945	CCUS1H472KC		CAP, CHIP(1608, 50V/4700pF)		1	EA
....6	C947	CCUS1H472KC		CAP, CHIP(1608, 50V/4700pF)		1	EA
....6	C948	CCUS1H472KC		CAP, CHIP(1608, 50V/4700pF)		1	EA
....6	C950	CCUS1H472KC		CAP, CHIP(1608, 50V/4700pF)		1	EA
....6	C951	CCUYAP0J226KC		CAP, CHIP (3216, 6.3V/22uF)	CC1206KKX5R5BB226	1	EA
....6	C952	CCUYAR1C226KC		CAP, CHIP (3225, 16V/22uF)	40000000	1	EA
....6	C953	CCUS1H472KC		CAP, CHIP(1608, 50V/4700pF)		1	EA
....6	C954	CCUS1H472KC		CAP, CHIP(1608, 50V/4700pF)		1	EA
....6	C955	CCUS1H473KC		CAP, CHIP(1608, 50V/0.047uF)		1	EA
....6	C956	CCUS1H473KC		CAP, CHIP(1608, 50V/0.047uF)		1	EA
....6	C959	CCUS1H472KC		CAP, CHIP(1608, 50V/4700pF)		1	EA
....6	C960	CCUS1H472KC		CAP, CHIP(1608, 50V/4700pF)		1	EA
....6	C961	CCUS1H472KC		CAP, CHIP(1608, 50V/4700pF)		1	EA
....6	C963	CCUS1H472KC		CAP, CHIP(1608, 50V/4700pF)		1	EA
....6	C964	CCUS1A105KC		CAP, CHIP(1608, 10V/1uF)		1	EA
....6	C965	CCUS1A105KC		CAP, CHIP(1608, 10V/1uF)		1	EA
....6	IC801	CVIADV7604		I.C, HDMI RX (BALL, BGA-260P) ANALOG DEVICE		1	EA
....6	IC802	CVIADV7511KSTZ		I.C, HDMI TX (LQFP-100P)		1	EA
....6	IC803	HVICD4094BPWR		I.C, SHIFT REGISTER	CD4094BPWR(SMD)	1	EA
....6	IC804	CVINJU7754F05TE1		I.C, REGULATOR(SOT-23-5)	NJU7754F05-TE1	1	EA
....6	IC812	CVITPS65251RHAR		I.C, PMU WITH 3 DC/DC CONVERTER(QFN RHA40)		1	EA
....6	JK801	CJJ9H008Y		JACK, HDMI(TYPE-A, SMT-19P)	H050FS019G643BY	1	EA
....6	JK802	CJJ9H008Y		JACK, HDMI(TYPE-A, SMT-19P)	H050FS019G643BY	1	EA
....6	JK803	CJJ9H008Y		JACK, HDMI(TYPE-A, SMT-19P)	H050FS019G643BY	1	EA
....6	JK804	CJJ9H008Y		JACK, HDMI(TYPE-A, SMT-19P)	H050FS019G643BY	1	EA
....6	JK805	CJJ9H008Y		JACK, HDMI(TYPE-A, SMT-19P)	H050FS019G643BY	1	EA
....6	L801	CLQ14E4R7MRZ		COIL, SMD POWER (4.7UH/4A)		1	EA
....6	L802	CLQ14E4R7MRZ		COIL, SMD POWER (4.7UH/4A)		1	EA
....6	L803	CLQ14E4R7MRZ		COIL, SMD POWER (4.7UH/4A)		1	EA
....6	L820	CLZ9Z014Z		FERRITE, CHIP BEAD(60ohm, 4516)	HCB4516KF-600T60/COILMASTER	1	EA
....6	Q801	HVTKRA102S		T.R, CHIP, SOT-23	KRA102S	1	EA
....6	Q802	HVTKRA102S		T.R, CHIP, SOT-23	KRA102S	1	EA
....6	Q803	CVTKRC103S		T.R, CHIP, SOT-23		1	EA
....6	Q804	CVTKRC103S		T.R, CHIP, SOT-23		1	EA
....6	Q805	HVTKRA102S		T.R, CHIP, SOT-23	KRA102S	1	EA
....6	Q806	CVTKRC103S		T.R, CHIP, SOT-23		1	EA
....6	Q807	HVTKRA102S		T.R, CHIP, SOT-23	KRA102S	1	EA
....6	Q808	CVTKRC103S		T.R, CHIP, SOT-23		1	EA
....6	Q809	CVTKRC103S		T.R, CHIP, SOT-23		1	EA
....6	RN801	CRJ064IJ330T		RES, CHIP(1005/5%/33ohm*4)		1	EA
....6	RN802	CRJ064IJ330T		RES, CHIP(1005/5%/33ohm*4)		1	EA
....6	RN803	CRJ064IJ330T		RES, CHIP(1005/5%/33ohm*4)		1	EA
....6	RN804	CRJ064IJ330T		RES, CHIP(1005/5%/33ohm*4)		1	EA
....6	RN805	CRJ064IJ330T		RES, CHIP(1005/5%/33ohm*4)		1	EA
....6	RN806	CRJ064IJ330T		RES, CHIP(1005/5%/33ohm*4)		1	EA
....6	RN807	CRJ064IJ330T		RES, CHIP(1005/5%/33ohm*4)		1	EA
....6	RN808	CRJ064IJ330T		RES, CHIP(1005/5%/33ohm*4)		1	EA
....6	RN809	CRJ064IJ330T		RES, CHIP(1005/5%/33ohm*4)		1	EA
....6	RN810	CRJ064IJ330T		RES, CHIP(1005/5%/33ohm*4)		1	EA
....6	RN811	CRJ064IJ330T		RES, CHIP(1005/5%/33ohm*4)		1	EA
....6	R801	CRJ10DJ223T		RES, CHIP(1608/5%/22Kohm)		1	EA
....6	R802	CRJ10DJ473T		RES, CHIP(1608/5%/47Kohm)		1	EA
....6	R803	CRJ10DJ223T		RES, CHIP(1608/5%/22Kohm)		1	EA
....6	R804	CRJ10DJ473T		RES, CHIP(1608/5%/47Kohm)		1	EA
....6	R806	CRJ10DJ102T		RES, CHIP(1608/5%/1Kohm)		1	EA
....6	R807	CRJ10DJ102T		RES, CHIP(1608/5%/1Kohm)		1	EA
....6	R808	CRJ10DJ473T		RES, CHIP(1608/5%/47Kohm)		1	EA
....6	R809	CRJ10DJ0R0T		RES, CHIP(1608/5%/0ohm)		1	EA
....6	R810	CRJ10DJ101T		RES, CHIP(1608/5%/100ohm)		1	EA
....6	R812	CRJ10DJ473T		RES, CHIP(1608/5%/47Kohm)		1	EA
....6	R814	CRJ10DJ473T		RES, CHIP(1608/5%/47Kohm)		1	EA
....6	R815	CRJ10DJ101T		RES, CHIP(1608/5%/100ohm)		1	EA
....6	R817	CRJ10DJ223T		RES, CHIP(1608/5%/22Kohm)		1	EA
....6	R818	CRJ10DJ473T		RES, CHIP(1608/5%/47Kohm)		1	EA
....6	R819	CRJ10DJ102T		RES, CHIP(1608/5%/1Kohm)		1	EA
....6	R822	CRJ10DJ101T		RES, CHIP(1608/5%/100ohm)		1	EA

AVR165/230 HDMI PCB ASS'Y						
Level	Ref#	Component	Description	Drawing No	REQ-Qty	UM
...6	R827	CRJ10DJ473T	RES, CHIP(1608/5%/47Kohm)		1	EA
...6	R828	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)		1	EA
...6	R829	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)		1	EA
...6	R830	CRJ10DJ330T	RES, CHIP(1608/5%/33ohm)		1	EA
...6	R831	CRJ10DJ330T	RES, CHIP(1608/5%/33ohm)		1	EA
...6	R833	CRJ10DJ240T	RES, CHIP(1608/5%/24ohm)		1	EA
...6	R835	CRJ10DJ240T	RES, CHIP(1608/5%/24ohm)		1	EA
...6	R837	CRJ10DJ240T	RES, CHIP(1608/5%/24ohm)		1	EA
...6	R838	CRJ10DJ103T	RES, CHIP(1608/5%/10Kohm)		1	EA
...6	R839	CRJ10DJ101T	RES, CHIP(1608/5%/100ohm)		1	EA
...6	R847	CRJ10DJ101T	RES, CHIP(1608/5%/100ohm)		1	EA
...6	R850	CRJ10DJ101T	RES, CHIP(1608/5%/100ohm)		1	EA
...6	R852	CRJ10DJ101T	RES, CHIP(1608/5%/100ohm)		1	EA
...6	R854	CRJ10DJ472T	RES, CHIP(1608/5%/4.7Kohm)		1	EA
...6	R855	CRJ10DJ472T	RES, CHIP(1608/5%/4.7Kohm)		1	EA
...6	R856	CRJ10DJ101T	RES, CHIP(1608/5%/100ohm)		1	EA
...6	R880	CRJ10DJ104T	RES, CHIP(1608/5%/100Kohm)		1	EA
...6	R883	CRJ10DJ105T	RES, CHIP(1608/5%/1Mohm)		1	EA
...6	R884	CRJ10DJ223T	RES, CHIP(1608/5%/22Kohm)		1	EA
...6	R885	CRJ10DJ102T	RES, CHIP(1608/5%/1Kohm)		1	EA
...6	R886	CRJ10DJ473T	RES, CHIP(1608/5%/47Kohm)		1	EA
...6	R887	CRJ10DJ101T	RES, CHIP(1608/5%/100ohm)		1	EA
...6	R889	CRJ10DJ473T	RES, CHIP(1608/5%/47Kohm)		1	EA
...6	R890	CRJ10DJ101T	RES, CHIP(1608/5%/100ohm)		1	EA
...6	R893	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)		1	EA
...6	R894	CRJ10DJ240T	RES, CHIP(1608/5%/24ohm)		1	EA
...6	R896	CRJ10DJ101T	RES, CHIP(1608/5%/100ohm)		1	EA
...6	R897	CRJ10DJ101T	RES, CHIP(1608/5%/100ohm)		1	EA
...6	R899	CRJ10DJ105T	RES, CHIP(1608/5%/1Mohm)		1	EA
...6	R909	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)		1	EA
...6	R915	CRJ10DJ330T	RES, CHIP(1608/5%/33ohm)		1	EA
...6	R916	CRJ10DJ330T	RES, CHIP(1608/5%/33ohm)		1	EA
...6	R921	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)		1	EA
...6	R922	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)		1	EA
...6	R923	CRJ10DF4022T	RES, CHIP(1608/1%/40.2Kohm)	41101021	1	EA
...6	R924	CRJ10DF7501T	RES, CHIP(1608/1%/7.5Kohm)		1	EA
...6	R927	CRJ10DJ154T	RES, CHIP(1608/5%/150Kohm)		1	EA
...6	R928	CRJ10DJ203T	RES, CHIP(1608/5%/20Kohm)	1608	1	EA
...6	R929	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)		1	EA
...6	R930	CRJ10DF3833T	RES, CHIP(1608/1%/383Kohm)	41101021	1	EA
...6	R931	CRJ10DJ203T	RES, CHIP(1608/5%/20Kohm)	1608	1	EA
...6	R932	CRJ10DJ104T	RES, CHIP(1608/5%/100Kohm)		1	EA
...6	R933	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)		1	EA
...6	R934	CRJ10DF4022T	RES, CHIP(1608/1%/40.2Kohm)	41101021	1	EA
...6	R935	CRJ10DF1272T	RES, CHIP(1608/1%/12.7Kohm)	41101021	1	EA
...6	R936	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)		1	EA
...6	R937	CRJ10DF4022T	RES, CHIP(1608/1%/40.2Kohm)	41101021	1	EA
...6	R938	CRJ10DF4301T	RES, CHIP(1608/1%/4.3Kohm)		1	EA
...6	R943	CRJ10DJ154T	RES, CHIP(1608/5%/150Kohm)		1	EA
...6	R944	CRJ10DJ203T	RES, CHIP(1608/5%/20Kohm)	1608	1	EA
...6	R945	CRJ10DJ103T	RES, CHIP(1608/5%/10Kohm)		1	EA
...6	R946	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)		1	EA
...6	X801	COX28636E330S	CRYSTAL, 28.636MHz, HC-49/SMD, 33pF, 30PPM		1	EA
...4		CMD1A628	BRACKET, PCB AVR350		1	EA
...4	BN18	CJP22GB143ZB	DIP, SOCKET(22PIN, 2.54mm,ANGLE)	71100171	1	EA
...4	BN82	CWB1D01110058	WIRE ASS'Y		1	EA
AVR165/230 VIDEO PCB ASS'Y						
Level	Ref#	Component	Description	Drawing No	REQ-Qty	UM
...3		COP12360G	AVR165/230 VIDEO PCB ASS'Y		1	EA
...6	C137	CCUS1H103KC	CAP, CHIP(1608, 50V/0.01uF)		1	EA
...6	C138	CCUS1H103KC	CAP, CHIP(1608, 50V/0.01uF)		1	EA
...6	C144	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)		1	EA
...6	C145	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)		1	EA
...6	C146	CCUS1H330JA	CAP, CHIP(1608, 50V/33pF)		1	EA
...6	C147	CCUS1H330JA	CAP, CHIP(1608, 50V/33pF)		1	EA
...6	C148	CCUS1H223KC	CAP, CHIP(1608, 50V/0.022uF)		1	EA
...6	C149	CCUS1H220JA	CAP, CHIP(1608, 50V/22pF)		1	EA
...6	C150	CCUS1H220JA	CAP, CHIP(1608, 50V/22pF)		1	EA
...6	C151	CCUS1H330JA	CAP, CHIP(1608, 50V/33pF)		1	EA
...6	C152	CCUS1H220JA	CAP, CHIP(1608, 50V/22pF)		1	EA
...6	C153	CCUS1H680JA	CAP, CHIP(1608, 50V/68pF)		1	EA
...6	C154	CCUS1H680JA	CAP, CHIP(1608, 50V/68pF)		1	EA
...6	C155	CCUS1H330JA	CAP, CHIP(1608, 50V/33pF)		1	EA
...6	C156	CCUS1H330JA	CAP, CHIP(1608, 50V/33pF)		1	EA
...6	C157	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)		1	EA
...6	C158	CCUS1H472KC	CAP, CHIP(1608, 50V/4700pF)		1	EA
...6	C159	CCUS1H472KC	CAP, CHIP(1608, 50V/4700pF)		1	EA
...6	C160	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)		1	EA
...6	C161	CCUS1H103KC	CAP, CHIP(1608, 50V/0.01uF)		1	EA
...6	C162	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)		1	EA
...6	C163	CCUS1H223KC	CAP, CHIP(1608, 50V/0.022uF)		1	EA

Level	Ref#	Component	AVR165/230 VIDEO PCB ASS'Y	Description	Drawing No	REQ-Qty	UM
....6	C164	CCUS1H103KC		CAP, CHIP(1608, 50V/0.01uF)		1	EA
....6	C165	CCUS1H104KC		CAP, CHIP(1608, 50V/0.1uF)		1	EA
....6	C166	CCUS1H472KC		CAP, CHIP(1608, 50V/4700pF)		1	EA
....6	C169	CCUS1H104KC		CAP, CHIP(1608, 50V/0.1uF)		1	EA
....6	C170	CCUS1H103KC		CAP, CHIP(1608, 50V/0.01uF)		1	EA
....6	D501	CVD1SS355T		DIODE, SMD, SWITCHING	1SS355/SOD-323	1	EA
....6	D702	CVD1SS355T		DIODE, SMD, SWITCHING	1SS355/SOD-323	1	EA
....6	D703	CVD1SS355T		DIODE, SMD, SWITCHING	1SS355/SOD-323	1	EA
....6	D704	CVD1SS355T		DIODE, SMD, SWITCHING	1SS355/SOD-323	1	EA
....6	D705	CVD1SS355T		DIODE, SMD, SWITCHING	1SS355/SOD-323	1	EA
....6	IC902	HVILC74763M		I.C , OSD		1	EA
....6	IC904	CVISN74ACT04DR		I.C , HEX INVERTERS(SOIC/D-14P)	SN74ACT04DR / TEXAS INSTRUMENT	1	EA
....6	IC905	CVKIA1117BS50		I.C , REGULATOR(SOT-223)		1	EA
....6	IC906	CVIAZ4580MTR-E1		I.C , OPAMP(DUAL LOW NOISE)	AZ4580MTR-E1/SOIC8/BCD	1	EA
....6	IC907	CVITL072CDR		I.C , OP AMP/SOP/8P (TI)		1	EA
....6	IC908	HVINJM2244MTE1		I.C , VIDEO SWITCH	QRW-6500	1	EA
....6	IC909	HVINJM2244MTE1		I.C , VIDEO SWITCH	QRW-6500	1	EA
....6	IC910	HVINJM2244MTE1		I.C , VIDEO SWITCH	QRW-6500	1	EA
....6	L803	CLZ9Z014Z		FERRITE , CHIP BEAD(60ohm, 4516)	HCB4516KF-600T60/COILMASTER	1	EA
....6	Q904	HVTKRA102S		T.R , CHIP , SOT-23	KRA102S	1	EA
....6	Q905	HVTKRC102S		T.R , CHIP , SOT-23	KRC102S	1	EA
....6	Q906	HVTKRA107S		T.R , CHIP , SOT-23		1	EA
....6	R523	CRJ10DJ0R0T		RES, CHIP(1608/5%/0ohm)		1	EA
....6	R524	CRJ10DJ4R7T		RES, CHIP(1608/5%/4.7ohm)	1608 SIZE	1	EA
....6	R525	CRJ10DJ103T		RES, CHIP(1608/5%/10Kohm)		1	EA
....6	R526	CRJ10DJ221T		RES, CHIP(1608/5%/220ohm)		1	EA
....6	R527	CRJ10DJ470T		RES, CHIP(1608/5%/47ohm)		1	EA
....6	R528	CRJ10DJ102T		RES, CHIP(1608/5%/1Kohm)		1	EA
....6	R529	CRJ10DJ4R7T		RES, CHIP(1608/5%/4.7ohm)	1608 SIZE	1	EA
....6	R530	CRJ10DJ103T		RES, CHIP(1608/5%/10Kohm)		1	EA
....6	R531	CRJ10DJ4R7T		RES, CHIP(1608/5%/4.7ohm)	1608 SIZE	1	EA
....6	R533	CRJ10DJ4R7T		RES, CHIP(1608/5%/4.7ohm)	1608 SIZE	1	EA
....6	R534	CRJ10DJ103T		RES, CHIP(1608/5%/10Kohm)		1	EA
....6	R536	CRJ10DJ473T		RES, CHIP(1608/5%/47Kohm)		1	EA
....6	R537	CRJ10DJ680T		RES, CHIP(1608/5%/68ohm)		1	EA
....6	R539	CRJ10DJ474T		RES, CHIP(1608/5%/470Kohm)		1	EA
....6	R540	CRJ10DJ474T		RES, CHIP(1608/5%/470Kohm)		1	EA
....6	R541	CRJ10DF1002T		RES, CHIP(1608/1%/10Kohm)	10K /1/10W/F	1	EA
....6	R543	CRJ10DJ680T		RES, CHIP(1608/5%/68ohm)		1	EA
....6	R544	CRJ10DF1002T		RES, CHIP(1608/1%/10Kohm)	10K /1/10W/F	1	EA
....6	R545	CRJ10DJ220T		RES, CHIP(1608/5%/22ohm)		1	EA
....6	R546	CRJ10DF4992T		RES, CHIP(1608/1%/49.9Kohm)		1	EA
....6	R547	CRJ10DF5101T		RES, CHIP(1608/1%/5.1Kohm)	1608 SIZE	1	EA
....6	R550	CRJ10DJ680T		RES, CHIP(1608/5%/68ohm)		1	EA
....6	R551	CRJ10DJ220T		RES, CHIP(1608/5%/22ohm)		1	EA
....6	R552	CRJ10DF5101T		RES, CHIP(1608/1%/5.1Kohm)	1608 SIZE	1	EA
....6	R553	CRJ10DJ220T		RES, CHIP(1608/5%/22ohm)		1	EA
....6	R554	CRJ10DJ220T		RES, CHIP(1608/5%/22ohm)		1	EA
....6	R555	CRJ10DF1001T		RES, CHIP(1608/1%/1Kohm)		1	EA
....6	R556	CRJ10DF4992T		RES, CHIP(1608/1%/49.9Kohm)		1	EA
....6	R557	CRJ10DF4992T		RES, CHIP(1608/1%/49.9Kohm)		1	EA
....6	R559	CRJ10DJ105T		RES, CHIP(1608/5%/1Mohm)		1	EA
....6	R560	CRJ10DJ105T		RES, CHIP(1608/5%/1Mohm)		1	EA
....6	R561	CRJ10DF4992T		RES, CHIP(1608/1%/49.9Kohm)		1	EA
....6	R562	CRJ10DJ0R0T		RES, CHIP(1608/5%/0ohm)		1	EA
....6	R563	CRJ10DJ0R0T		RES, CHIP(1608/5%/0ohm)		1	EA
....6	R564	CRJ10DF1001T		RES, CHIP(1608/1%/1Kohm)		1	EA
....6	R565	CRJ10DF4992T		RES, CHIP(1608/1%/49.9Kohm)		1	EA
....6	R566	CRJ10DJ271T		RES, CHIP(1608/5%/270ohm)		1	EA
....6	R567	CRJ10DJ271T		RES, CHIP(1608/5%/270ohm)		1	EA
....6	R568	CRJ10DJ0R0T		RES, CHIP(1608/5%/0ohm)		1	EA
....6	R569	CRJ10DJ0R0T		RES, CHIP(1608/5%/0ohm)		1	EA
....6	R570	CRJ10DJ4R7T		RES, CHIP(1608/5%/4.7ohm)	1608 SIZE	1	EA
....6	R571	CRJ10DJ0R0T		RES, CHIP(1608/5%/0ohm)		1	EA
....6	R573	CRJ10DJ105T		RES, CHIP(1608/5%/1Mohm)		1	EA
....6	R574	CRJ10DJ105T		RES, CHIP(1608/5%/1Mohm)		1	EA
....6	R575	CRJ10DJ105T		RES, CHIP(1608/5%/1Mohm)		1	EA
....6	R576	CRJ10DF4992T		RES, CHIP(1608/1%/49.9Kohm)		1	EA
....6	R577	CRJ10DJ105T		RES, CHIP(1608/5%/1Mohm)		1	EA
....6	R578	CRJ10DF1001T		RES, CHIP(1608/1%/1Kohm)		1	EA
....6	R580	CRJ10DJ105T		RES, CHIP(1608/5%/1Mohm)		1	EA
....6	R581	CRJ10DJ105T		RES, CHIP(1608/5%/1Mohm)		1	EA
....6	R582	CRJ10DJ104T		RES, CHIP(1608/5%/100Kohm)		1	EA
....5	C101	CCBS1H270JT		CAP , CERAMIC(27PF/50V)	CH UP025SL270J-A-B Z	1	EA
....5	C102	CCBS1H223ZFT		CAP , CERAMIC(22000PF/50V)	CH UP025 F223Z-A-B J	1	EA
....5	C103	CCBS1H270JT		CAP , CERAMIC(27PF/50V)	CH UP025SL270J-A-B Z	1	EA
....5	C104	CCEA1HH1R0T		CAP , ELECT(50V/1uF)	KR3-50V010MA(5*11L)	1	EA
....5	C105	CCEA1CH101T		CAP , ELECT(16V/100uF)	KR3-16V101MA(5*11L)	1	EA
....5	C106	CCBS1H330JT		CAP , CERAMIC(33PF/50V)	CH UP025SL330J-A-B Z	1	EA
....5	C107	CCBS1H270JT		CAP , CERAMIC(27PF/50V)	CH UP025SL270J-A-B Z	1	EA
....5	C108	CCEA1HH1R0T		CAP , ELECT(50V/1uF)	KR3-50V010MA(5*11L)	1	EA
....5	C109	CCBS1H560JT		CAP , CERAMIC(56PF/50V)	CH UP025SL560J-A-B Z	1	EA

AVR165/230 VIDEO PCB ASS'Y							
Level	Ref#	Component	Description	Drawing No	REQ-Qty	UM	
....5	C110	CCBS1H223ZFT	CAP , CERAMIC(22000PF/50V)	CH UP025 F223Z-A-B J	1	EA	
....5	C111	HCQ1IH682JZT	CAP , MYLAR	6800PF 50V J	1	EA	
....5	C112	CCBS1H270JT	CAP , CERAMIC(27PF/50V)	CH UP025SL270J-A-B Z	1	EA	
....5	C113	CCEA1HH0R1T	CAP , ELECT(50V/0.1uF)	KR3-50VR10MA(5*11L)	1	EA	
....5	C114	CCEA1HHR47T	CAP , ELECT(50V/0.47uF)	KR3-50VR47MA(5*11L)	1	EA	
....5	C115	CCEA1AH471T	CAP , ELECT(10V/470uF)	KR3-10V471MB(6.3*11L)	1	EA	
....5	C116	CCBS1H181KBT	CAP , CERAMIC(180PF/50V)	CH UP025 B181K-A-B Z	1	EA	
....5	C117	CCEA1AH471T	CAP , ELECT(10V/470uF)	KR3-10V471MB(6.3*11L)	1	EA	
....5	C118	CCEA1HH100T	CAP , ELECT(50V/10uF)	KR3-50V100MA(5*11L)	1	EA	
....5	C119	CCEA1HH100T	CAP , ELECT(50V/10uF)	KR3-50V100MA(5*11L)	1	EA	
....5	C120	CCEA1HH100T	CAP , ELECT(50V/10uF)	KR3-50V100MA(5*11L)	1	EA	
....5	C121	CCBS1H223ZFT	CAP , CERAMIC(22000PF/50V)	CH UP025 F223Z-A-B J	1	EA	
....5	C122	CCEA1CH221T	CAP , ELECT(16V/220uF)	KR3-16V221MB(6.3*11L)	1	EA	
....5	C126	CCEA1AH471T	CAP , ELECT(10V/470uF)	KR3-10V471MB(6.3*11L)	1	EA	
....5	C127	CCEA1AH471T	CAP , ELECT(10V/470uF)	KR3-10V471MB(6.3*11L)	1	EA	
....5	C128	CCEA1HH100T	CAP , ELECT(50V/10uF)	KR3-50V100MA(5*11L)	1	EA	
....5	C129	CCEA1CH101T	CAP , ELECT(16V/100uF)	KR3-16V101MA(5*11L)	1	EA	
....5	C130	CCEA1EH221T	CAP , ELECT(25V/220uF)	KR3-25V221MC(8*11.5L)	1	EA	
....5	C131	CCEA1CH471T	CAP , ELECT(16V/470uF)	KR3-16V471MC(8*11.5L)	1	EA	
....5	C132	CCEA1HH100T	CAP , ELECT(50V/10uF)	KR3-50V100MA(5*11L)	1	EA	
....5	C133	CCEA1HH100T	CAP , ELECT(50V/10uF)	KR3-50V100MA(5*11L)	1	EA	
....5	C134	CCEA1HH100T	CAP , ELECT(50V/10uF)	KR3-50V100MA(5*11L)	1	EA	
....5	C135	CCEA1CH101T	CAP , ELECT(16V/100uF)	KR3-16V101MA(5*11L)	1	EA	
....5	C136	CCBS1H220JCT	CAP , CERAMIC(22PF/50V)	CH UP025CH220J-A-B Z	1	EA	
....5	C139	CCBS1H220JCT	CAP , CERAMIC(22PF/50V)	CH UP025CH220J-A-B Z	1	EA	
....5	C141	CCBS1H151KBT	CAP , CERAMIC(150PF/50V)	CH UP025 B151K-A-B Z	1	EA	
....5	C142	CCEA1CH101T	CAP , ELECT(16V/100uF)	KR3-16V101MA(5*11L)	1	EA	
....5	C143	CCEA1CH101T	CAP , ELECT(16V/100uF)	KR3-16V101MA(5*11L)	1	EA	
....5	C167	CCEA1HH100T	CAP , ELECT(50V/10uF)	KR3-50V100MA(5*11L)	1	EA	
....5	C168	CCEA1CH101T	CAP , ELECT(16V/100uF)	KR3-16V101MA(5*11L)	1	EA	
....5	C171	CCEA1CH101T	CAP , ELECT(16V/100uF)	KR3-16V101MA(5*11L)	1	EA	
....5	D701	CVD1SS133MT	DIODE , SWITCHING	1SS133	1	EA	
....5	L801	CLQ03D5R6KT	COIL , PEAKING(RADIAL)	AL35RD5R6K	1	EA	
....5	L802	HLQ02C101JT	COIL , AXIAL	100UH,J	1	EA	
....5	Q901	HVTKTA1266YT	T.R	TKTA1266YT	1	EA	
....5	Q902	HVTKTA1267YT	T.R	KTA1267Y	1	EA	
....5	Q903	HVTKTC3199YT	T.R , KTC3199Y	KTC3199Y/TO-92M	1	EA	
....5	R501	CRD20TJ104T	RES, CARBON(1/5W,100Kohm,J)		1	EA	
....5	R502	CRD20TJ102T	RES, CARBON(1/5W,1Kohm,J)		1	EA	
....5	R503	CRD20TJ102T	RES, CARBON(1/5W,1Kohm,J)		1	EA	
....5	R504	CRD20TJ152T	RES, CARBON(1/5W,1.5Kohm,J)		1	EA	
....5	R505	CRD20TJ102T	RES, CARBON(1/5W,1Kohm,J)		1	EA	
....5	R506	CRD20TJ682T	RES, CARBON(1/5W,6.8Kohm,J)		1	EA	
....5	R507	CRD20TJ271T	RES, CARBON(1/5W,270ohm,J)		1	EA	
....5	R508	CRD20TJ103T	RES, CARBON(1/5W,10Kohm,J)		1	EA	
....5	R509	CRD20TJ393T	RES, CARBON(1/5W,39Kohm,J)		1	EA	
....5	R510	CRD20TJ222T	RES, CARBON(1/5W,2.2Kohm,J)		1	EA	
....5	R511	CRD20TJ102T	RES, CARBON(1/5W,1Kohm,J)		1	EA	
....5	R512	CRD20TJ102T	RES, CARBON(1/5W,1Kohm,J)		1	EA	
....5	R513	CRD20TJ102T	RES, CARBON(1/5W,1Kohm,J)		1	EA	
....5	R515	CRD20TJ223T	RES, CARBON(1/5W,22Kohm,J)		1	EA	
....5	R516	CRD20TJ822T	RES, CARBON(1/5W,8.2Kohm,J)		1	EA	
....5	R517	CRD20TJ104T	RES, CARBON(1/5W,100Kohm,J)		1	EA	
....5	R518	CRD20TJ122T	RES, CARBON(1/5W,1.2Kohm,J)		1	EA	
....5	R519	CRD20TJ102T	RES, CARBON(1/5W,1Kohm,J)		1	EA	
....5	R520	CRD20TJ102T	RES, CARBON(1/5W,1Kohm,J)		1	EA	
....5	R521	CRD20TJ102T	RES, CARBON(1/5W,1Kohm,J)		1	EA	
...4		CMD1A569	BRACKET , PCB		2	EA	
...4	BN51	CJP03GJ243ZW	LOCK-WAFER/ANGLE/2.5mm	A2512WR0-3P	1	EA	
...4	CN41	CJP22GB142ZB	PIN HEADER (22P,2.54mm) , ANGLE TYPE		1	EA	
...4	IC901	BVIKP1010B	IC, PHOTO COUPLER (COSMO)		1	EA	
...4	JK91	CJJ2D008Z	JACK, STEREO (BLK MOLD)	PJ-308-02/YUQIU	1	EA	
...4	JK92	CJJ2D008Z	JACK, STEREO (BLK MOLD)	PJ-308-02/YUQIU	1	EA	
...4	JK93	CJJ2D008Z	JACK, STEREO (BLK MOLD)	PJ-308-02/YUQIU	1	EA	
...4	JK94	CJP06GB142ZB	PIN HEADER(6P, 2.54mm)		1	EA	
...4	JK95	CJJ4P064Z	JACK , 4P GOLD(GN/YL, BD/BD, SHIELD PLATE)	RCA-401DAG-34	1	EA	
...4	JK96	CJJ4P074Z	JACK , RCA(4P, GOLD PLATE (Y/Y/Y/Y)		41100861	1	EA
...4	JK97	CJJ9L016Z	JACK , IPOD CONNECTOR (36PIN)	SCSI36P	1	EA	
...4	X701	HOX17734E220C	CRYSTAL , 17.734MHz, HC-49/S, 22pF, 30PPM		1	EA	
...4	X702	HOX14318E220C	CRYSTAL (14.318MHz)		1	EA	
AVR165/230 MAIN PCB ASS'Y							
Level	Ref#	Component	Description	Drawing No	REQ-Qty	UM	
..3		COP12363G	AVR165/230 MAIN PCB ASS'Y		1	EA	
....5	C127	CCBS1H104ZFT	CAP , CERAMIC	0.1UF 50V Z	1	EA	
....5	C501	CCEA1HH100T	CAP , ELECT(50V/10uF)	KR3-50V100MA(5*11L)	1	EA	
....5	C502	CCEA1HH100T	CAP , ELECT(50V/10uF)	KR3-50V100MA(5*11L)	1	EA	
....5	C503	CCEA1HH100T	CAP , ELECT(50V/10uF)	KR3-50V100MA(5*11L)	1	EA	
....5	C504	CCEA1HH100T	CAP , ELECT(50V/10uF)	KR3-50V100MA(5*11L)	1	EA	
....5	C506	CCKT1H331KB	CAP, CERAMIC(50V/330pF/K)		1	EA	
....5	C507	CCKT1H331KB	CAP, CERAMIC(50V/330pF/K)		1	EA	
....5	C508	CCKT1H331KB	CAP, CERAMIC(50V/330pF/K)		1	EA	

Level	Ref#	Component	AVR165/230 MAIN PCB ASS'Y	Description	Drawing No	REQ-Qty	UM
...5	C509	CCKT1H331KB	CAP , CERAMIC(50V/330pF/K)			1	EA
...5	C561	CCEA1CH101T	CAP , ELECT(16V/100uF)		KR3-16V101MA(5*11L)	1	EA
...5	C562	CCEA1CH101T	CAP , ELECT(16V/100uF)		KR3-16V101MA(5*11L)	1	EA
...5	C563	CCEA1CH101T	CAP , ELECT(16V/100uF)		KR3-16V101MA(5*11L)	1	EA
...5	C564	CCEA1CH101T	CAP , ELECT(16V/100uF)		KR3-16V101MA(5*11L)	1	EA
...5	C566	CCEA1CH101T	CAP , ELECT(16V/100uF)		KR3-16V101MA(5*11L)	1	EA
...5	C567	CCEA1CH101T	CAP , ELECT(16V/100uF)		KR3-16V101MA(5*11L)	1	EA
...5	C568	CCEA1CH101T	CAP , ELECT(16V/100uF)		KR3-16V101MA(5*11L)	1	EA
...5	C569	CCEA1CH101T	CAP , ELECT(16V/100uF)		KR3-16V101MA(5*11L)	1	EA
...5	C571	CCBS1H681KBT	CAP , CERAMIC(680PF/50V)		CH UP025 B681K-A-B Z	1	EA
...5	C572	CCBS1H681KBT	CAP , CERAMIC(680PF/50V)		CH UP025 B681K-A-B Z	1	EA
...5	C573	CCBS1H681KBT	CAP , CERAMIC(680PF/50V)		CH UP025 B681K-A-B Z	1	EA
...5	C574	CCBS1H681KBT	CAP , CERAMIC(680PF/50V)		CH UP025 B681K-A-B Z	1	EA
...5	C601	CCCT1H120JC	CAP , CERAMIC		12PF 50V J	1	EA
...5	C602	CCCT1H120JC	CAP , CERAMIC		12PF 50V J	1	EA
...5	C603	CCCT1H120JC	CAP , CERAMIC		12PF 50V J	1	EA
...5	C604	CCCT1H120JC	CAP , CERAMIC		12PF 50V J	1	EA
...5	C606	CCCT1H330JC	CAP , CERAMIC		33PF 50V J	1	EA
...5	C607	CCCT1H330JC	CAP , CERAMIC		33PF 50V J	1	EA
...5	C608	CCCT1H330JC	CAP , CERAMIC		33PF 50V J	1	EA
...5	C609	CCCT1H330JC	CAP , CERAMIC		33PF 50V J	1	EA
...5	C614	CCEA1HH4R7T	CAP , ELECT(50V/4.7uF)		KR3-50V4R7MA(5*11L)	1	EA
...5	C615	CCEA1EH331T	CAP , ELECT(25V/330uF)		KR3-25V331MC(8*11.5L)	1	EA
...5	C616	CCBS1H104ZFT	CAP , CERAMIC		0.1UF 50V Z	1	EA
...5	C631	CCEA1JH470TS	CAP , ELECT		63V/47UF/105°C	1	EA
...5	C632	CCEA1JH470TS	CAP , ELECT		63V/47UF/105°C	1	EA
...5	C634	CCEA1JH470TS	CAP , ELECT		63V/47UF/105°C	1	EA
...5	C636	CCEA1JH470TS	CAP , ELECT		63V/47UF/105°C	1	EA
...5	C637	CCEA1JH470TS	CAP , ELECT		63V/47UF/105°C	1	EA
...5	C639	CCEA1JH470TS	CAP , ELECT		63V/47UF/105°C	1	EA
...5	C647	CCEA1CH101T	CAP , ELECT(16V/100uF)		KR3-16V101MA(5*11L)	1	EA
...5	C648	CCBS1H104ZFT	CAP , CERAMIC		0.1UF 50V Z	1	EA
...5	C649	CCEA1HHR15T	CAP , ELECT(50V/0.15uF)		0.15UF 50V	1	EA
...5	C650	CCBS1H104ZFT	CAP , CERAMIC		0.1UF 50V Z	1	EA
...5	C681	CCEA1HH100T	CAP , ELECT(50V/10uF)		KR3-50V100MA(5*11L)	1	EA
...5	C682	CCEA1HH100T	CAP , ELECT(50V/10uF)		KR3-50V100MA(5*11L)	1	EA
...5	C683	CCEA1HH100T	CAP , ELECT(50V/10uF)		KR3-50V100MA(5*11L)	1	EA
...5	C684	CCEA1HH100T	CAP , ELECT(50V/10uF)		KR3-50V100MA(5*11L)	1	EA
...5	C726	CCKT1H221KB	CAP , CERAMIC(50V/220pF/K)			1	EA
...5	C801	CCEA1HH100T	CAP , ELECT(50V/10uF)		KR3-50V100MA(5*11L)	1	EA
...5	C803	CCCT1H330JC	CAP , CERAMIC		33PF 50V J	1	EA
...5	C805	CCCT1H120JC	CAP , CERAMIC		12PF 50V J	1	EA
...5	C811	CCEA1CH101T	CAP , ELECT(16V/100uF)		KR3-16V101MA(5*11L)	1	EA
...5	C813	CCEA1CH101T	CAP , ELECT(16V/100uF)		KR3-16V101MA(5*11L)	1	EA
...5	C815	CCKT1H331KB	CAP , CERAMIC(50V/330pF/K)			1	EA
...5	C817	CCEA1HH100T	CAP , ELECT(50V/10uF)		KR3-50V100MA(5*11L)	1	EA
...5	C819	CCBS1H681KBT	CAP , CERAMIC(680PF/50V)		CH UP025 B681K-A-B Z	1	EA
...5	C852	CCEA1HH100T	CAP , ELECT(50V/10uF)		KR3-50V100MA(5*11L)	1	EA
...5	C854	CCEA1HH100T	CAP , ELECT(50V/10uF)		KR3-50V100MA(5*11L)	1	EA
...5	C855	CCEA1HH100T	CAP , ELECT(50V/10uF)		KR3-50V100MA(5*11L)	1	EA
...5	C856	CCEA1HH100T	CAP , ELECT(50V/10uF)		KR3-50V100MA(5*11L)	1	EA
...5	C857	CCEA1HH100T	CAP , ELECT(50V/10uF)		KR3-50V100MA(5*11L)	1	EA
...5	C900	HCQI1H473JZT	CAP , MYLAR		0.047UF 50V J	1	EA
...5	C901	HCQI1H473JZT	CAP , MYLAR		0.047UF 50V J	1	EA
...5	C902	CCEA1EH101T	CAP , ELECT(25V/100uF)		KR3-25V101MB(6.3*11L)	1	EA
...5	C905	CCFT1H223ZF	CAP , CERAMIC		0.022UF 50V Z	1	EA
...5	C909	CCEA1EH101T	CAP , ELECT(25V/100uF)		KR3-25V101MB(6.3*11L)	1	EA
...5	C910	HCQI1H473JZT	CAP , MYLAR		0.047UF 50V J	1	EA
...5	C913	CCFT1H104ZF	CAP , SEMICONDUCTOR		0.1UF 50V Z	1	EA
...5	C917	CCEA1HH470T	CAP , ELECT(50V/47uF)		KR3-50V470MB(6.3*11L)	1	EA
...5	C918	HCQI1H473JZT	CAP , MYLAR		0.047UF 50V J	1	EA
...5	C919	HCQI1H473JZT	CAP , MYLAR		0.047UF 50V J	1	EA
...5	C924	CCFT1H104ZF	CAP , SEMICONDUCTOR		0.1UF 50V Z	1	EA
...5	C925	CCEA1HKS2R2T	CAP , ELECT(50V/2.2uF)-S		KC3-50V2R2MA2(4*5L)	1	EA
...5	C927	CCKT1H102KB	CAP , CERAMIC(50V/1000pF/K)			1	EA
...5	C931	HCQI1H473JZT	CAP , MYLAR		0.047UF 50V J	1	EA
...5	C932	HCQI1H473JZT	CAP , MYLAR		0.047UF 50V J	1	EA
...5	C936	CCBS1H223ZFT	CAP , CERAMIC(22000PF/50V)		CH UP025 F223Z-A-B J	1	EA
...5	C937	CCBS1H223ZFT	CAP , CERAMIC(22000PF/50V)		CH UP025 F223Z-A-B J	1	EA
...5	C939	CCEA1HH4R7T	CAP , ELECT(50V/4.7uF)		KR3-50V4R7MA(5*11L)	1	EA
...5	C940	CCEA1AH471T	CAP , ELECT(10V/470uF)		KR3-10V471MB(6.3*11L)	1	EA
...5	C956	CCEA1HH2R2T	CAP , ELECT(50V/2.2uF)		KR3-50V2R2MA(5*11L)	1	EA
...5	C971	HCQI1H562JZT	CAP , MYLAR		5600PF 50V J	1	EA
...5	C972	HCQI1H562JZT	CAP , MYLAR		5600PF 50V J	1	EA
...5	C973	HCQI1H562JZT	CAP , MYLAR		5600PF 50V J	1	EA
...5	C975	CCEA1CH220T	CAP , ELECT(16V/22uF)		KR3-16V220MA(5*11L)	1	EA
...5	C976	CCBS1H104ZFT	CAP , CERAMIC		0.1UF 50V Z	1	EA
...5	C980	HCQI1H562JZT	CAP , MYLAR		5600PF 50V J	1	EA
...5	C981	HCQI1H562JZT	CAP , MYLAR		5600PF 50V J	1	EA
...5	C990	HCQI1H473JZT	CAP , MYLAR		0.047UF 50V J	1	EA
...5	C991	CCEA1HH1R0T	CAP , ELECT(50V/1uF)		KR3-50V010MA(5*11L)	1	EA
...5	C992	HCQI1H473JZT	CAP , MYLAR		0.047UF 50V J	1	EA

Level	Ref#	Component	AVR165/230 MAIN PCB ASS'Y	Description	Drawing No	REQ-Qty	UM
....5	C993	HCQ1H473JZT		CAP , MYLAR	0.047UF 50V J	1	EA
....5	C995	HCQ1H473JZT		CAP , MYLAR	0.047UF 50V J	1	EA
....5	C997	HCQ1H473JZT		CAP , MYLAR	0.047UF 50V J	1	EA
....5	C999	CCFT1H223ZF		CAP , CERAMIC	0.022UF 50V Z	1	EA
....5	D501	CVD1SS133MT		DIODE , SWITCHING	1SS133	1	EA
....5	D502	CVD1SS133MT		DIODE , SWITCHING	1SS133	1	EA
....5	D503	CVD1SS133MT		DIODE , SWITCHING	1SS133	1	EA
....5	D504	CVD1SS133MT		DIODE , SWITCHING	1SS133	1	EA
....5	D581	CVD1SS133MT		DIODE , SWITCHING	1SS133	1	EA
....5	D582	CVD1SS133MT		DIODE , SWITCHING	1SS133	1	EA
....5	D583	CVD1SS133MT		DIODE , SWITCHING	1SS133	1	EA
....5	D584	CVD1SS133MT		DIODE , SWITCHING	1SS133	1	EA
....5	D610	CVD1N4003ST		DIODE , RECT	1N4003	1	EA
....5	D643	CVD1SS133MT		DIODE , SWITCHING	1SS133	1	EA
....5	D644	CVD1SS133MT		DIODE , SWITCHING	1SS133	1	EA
....5	D645	CVDZJ4.3BT		DIODE , ZENER 4.3V	ZJ4.3B 1/2W	1	EA
....5	D801	CVD1SS133MT		DIODE , SWITCHING	1SS133	1	EA
....5	D802	CVD1SS133MT		DIODE , SWITCHING	1SS133	1	EA
....5	D803	CVD1SS133MT		DIODE , SWITCHING	1SS133	1	EA
....5	D901	HVD1N5819T		DIODE , SCHOTTKY	1N5819	1	EA
....5	D903	CVD1SS133MT		DIODE , SWITCHING	1SS133	1	EA
....5	D912	CVD1SS133MT		DIODE , SWITCHING	1SS133	1	EA
....5	D914	C3A206		WIRE , COPPER	SN95/PB5 , 0.6	0,018	M
....5	D917	CVD1SS133MT		DIODE , SWITCHING	1SS133	1	EA
....5	D953	CVD1SS133MT		DIODE , SWITCHING	1SS133	1	EA
....5	D954	CVD1N4003SRT		DIODE , RECT	1N4003	1	EA
....5	D955	CVD1N4003SRT		DIODE , RECT	1N4003	1	EA
....5	D956	CVD1N4003ST		DIODE , RECT	1N4003	1	EA
....5	D957	CVD1N4003ST		DIODE , RECT	1N4003	1	EA
....5	D961	HVD1N5819T		DIODE , SCHOTTKY	1N5819	1	EA
....5	D962	CVD1N4003ST		DIODE , RECT	1N4003	1	EA
....5	D963	CVD1N4003ST		DIODE , RECT	1N4003	1	EA
....5	D973	CVD1SS133MT		DIODE , SWITCHING	1SS133	1	EA
....5	D974	CVD1SS133MT		DIODE , SWITCHING	1SS133	1	EA
....5	F901	KJCF5S		HOLDER , FUSE		1	EA
....5	G901	HJT1A025		PALTE , EARTH	MET37-0002	1	EA
....5	G902	HJT1A025		PALTE , EARTH	MET37-0002	1	EA
....5	Q501	HVTKTA1268GRT		T.R	KTA1268GR	1	EA
....5	Q502	HVTKTA1268GRT		T.R	KTA1268GR	1	EA
....5	Q503	HVTKTA1268GRT		T.R	KTA1268GR	1	EA
....5	Q504	HVTKTA1268GRT		T.R	KTA1268GR	1	EA
....5	Q511	CVT2SC2240BL		T.R , 2SC2240BL (NPN, TO-92, LOW NOISE, TOSIBA)	2SC2240BL	1	EA
....5	Q512	CVT2SC2240BL		T.R , 2SC2240BL (NPN, TO-92, LOW NOISE, TOSIBA)	2SC2240BL	1	EA
....5	Q513	CVT2SC2240BL		T.R , 2SC2240BL (NPN, TO-92, LOW NOISE, TOSIBA)	2SC2240BL	1	EA
....5	Q514	CVT2SC2240BL		T.R , 2SC2240BL (NPN, TO-92, LOW NOISE, TOSIBA)	2SC2240BL	1	EA
....5	Q516	CVT2SC2240BL		T.R , 2SC2240BL (NPN, TO-92, LOW NOISE, TOSIBA)	2SC2240BL	1	EA
....5	Q517	CVT2SC2240BL		T.R , 2SC2240BL (NPN, TO-92, LOW NOISE, TOSIBA)	2SC2240BL	1	EA
....5	Q518	CVT2SC2240BL		T.R , 2SC2240BL (NPN, TO-92, LOW NOISE, TOSIBA)	2SC2240BL	1	EA
....5	Q519	CVT2SC2240BL		T.R , 2SC2240BL (NPN, TO-92, LOW NOISE, TOSIBA)	2SC2240BL	1	EA
....5	Q541	HVTKTC3198YT		T.R	KTC3198Y	1	EA
....5	Q542	HVTKTC3198YT		T.R	KTC3198Y	1	EA
....5	Q543	HVTKTC3198YT		T.R	KTC3198Y	1	EA
....5	Q544	HVTKTC3198YT		T.R	KTC3198Y	1	EA
....5	Q556	CVT2SC2240BL		T.R , 2SC2240BL (NPN, TO-92, LOW NOISE, TOSIBA)	2SC2240BL	1	EA
....5	Q557	CVT2SC2240BL		T.R , 2SC2240BL (NPN, TO-92, LOW NOISE, TOSIBA)	2SC2240BL	1	EA
....5	Q558	CVT2SC2240BL		T.R , 2SC2240BL (NPN, TO-92, LOW NOISE, TOSIBA)	2SC2240BL	1	EA
....5	Q559	CVT2SC2240BL		T.R , 2SC2240BL (NPN, TO-92, LOW NOISE, TOSIBA)	2SC2240BL	1	EA
....5	Q561	CVT2SC2240BL		T.R , 2SC2240BL (NPN, TO-92, LOW NOISE, TOSIBA)	2SC2240BL	1	EA
....5	Q562	CVT2SC2240BL		T.R , 2SC2240BL (NPN, TO-92, LOW NOISE, TOSIBA)	2SC2240BL	1	EA
....5	Q563	CVT2SC2240BL		T.R , 2SC2240BL (NPN, TO-92, LOW NOISE, TOSIBA)	2SC2240BL	1	EA
....5	Q564	CVT2SC2240BL		T.R , 2SC2240BL (NPN, TO-92, LOW NOISE, TOSIBA)	2SC2240BL	1	EA
....5	Q601	HVTKTA1268GRT		T.R	KTA1268GR	1	EA
....5	Q602	HVTKTA1268GRT		T.R	KTA1268GR	1	EA
....5	Q603	HVTKTA1268GRT		T.R	KTA1268GR	1	EA
....5	Q604	HVTKTA1268GRT		T.R	KTA1268GR	1	EA
....5	Q641	HVTKRC102MT		T.R , TO-92M	KRC102M	1	EA
....5	Q642	HVTKTC3199YT		T.R , KTC3199Y	KTC3199Y/TO-92M	1	EA
....5	Q681	HVTKTC3199YT		T.R , KTC3199Y	KTC3199Y/TO-92M	1	EA
....5	Q682	HVTKTC3199YT		T.R , KTC3199Y	KTC3199Y/TO-92M	1	EA
....5	Q683	HVTKTC3199YT		T.R , KTC3199Y	KTC3199Y/TO-92M	1	EA
....5	Q684	HVTKTC3199YT		T.R , KTC3199Y	KTC3199Y/TO-92M	1	EA
....5	Q801	HVTKTC3199YT		T.R , KTC3199Y	KTC3199Y/TO-92M	1	EA
....5	Q812	HVTKTA1268GRT		T.R	KTA1268GR	1	EA
....5	Q813	CVT2SC2240BL		T.R , 2SC2240BL (NPN, TO-92, LOW NOISE, TOSIBA)	2SC2240BL	1	EA
....5	Q816	HVTKTA1268GRT		T.R	KTA1268GR	1	EA
....5	Q818	CVT2SC2240BL		T.R , 2SC2240BL (NPN, TO-92, LOW NOISE, TOSIBA)	2SC2240BL	1	EA
....5	Q819	CVT2SC2240BL		T.R , 2SC2240BL (NPN, TO-92, LOW NOISE, TOSIBA)	2SC2240BL	1	EA
....5	Q820	CVT2SC2240BL		T.R , 2SC2240BL (NPN, TO-92, LOW NOISE, TOSIBA)	2SC2240BL	1	EA
....5	Q824	HVTKTC3198YT		T.R	KTC3198Y	1	EA
....5	Q863	HVTKTA1268GRT		T.R	KTA1268GR	1	EA
....5	Q868	HVTKTA1268GRT		T.R	KTA1268GR	1	EA
....5	Q901	HVTKTC3199YT		T.R , KTC3199Y	KTC3199Y/TO-92M	1	EA

Level	Ref#	Component	AVR165/230 MAIN PCB ASS'Y	Description	Drawing No	REQ-Qty	UM
....5	Q911	HVTKTA1267YT	T.R		KTA1267Y	1	EA
....5	Q912	HVTKTC3198YT	T.R		KTC3198Y	1	EA
....5	Q913	HVTKTC3198YT	T.R		KTC3198Y	1	EA
....5	Q938	HVTKRA107MT	T.R , TO-92M		KRA107M	1	EA
....5	Q939	HVTKRA107MT	T.R , TO-92M		KRA107M	1	EA
....5	Q941	HVTKTC3199YT	T.R , KTC3199Y		KTC3199Y/TO-92M	1	EA
....5	Q942	HVTKTC3199YT	T.R , KTC3199Y		KTC3199Y/TO-92M	1	EA
....5	Q943	HVTKTC3199YT	T.R , KTC3199Y		KTC3199Y/TO-92M	1	EA
....5	Q960	HVTKRC107MT	T.R , TO-92M		KRC107M	1	EA
....5	Q961	HVTKTA1024YT	T.R , KTA1024Y		KTA1024Y/TO-92L	1	EA
....5	Q976	HVTKTC3199YT	T.R , KTC3199Y		KTC3199Y/TO-92M	1	EA
....5	Q977	HVTKTC3199YT	T.R , KTC3199Y		KTC3199Y/TO-92M	1	EA
....5	Q978	HVTKTA1267YT	T.R		KTA1267Y	1	EA
....5	Q988	HVTKRC107MT	T.R , TO-92M		KRC107M	1	EA
....5	R501	CRD20TJ433T	RES, CARBON(1/5W,43Kohm,J)			1	EA
....5	R502	CRD20TJ433T	RES, CARBON(1/5W,43Kohm,J)			1	EA
....5	R504	CRD20TJ433T	RES, CARBON(1/5W,43Kohm,J)			1	EA
....5	R505	CRD20TJ433T	RES, CARBON(1/5W,43Kohm,J)			1	EA
....5	R506	CRD20TJ273T	RES, CARBON(1/5W,27Kohm,J)			1	EA
....5	R507	CRD20TJ273T	RES, CARBON(1/5W,27Kohm,J)			1	EA
....5	R508	CRD20TJ273T	RES, CARBON(1/5W,27Kohm,J)			1	EA
....5	R509	CRD20TJ273T	RES, CARBON(1/5W,27Kohm,J)			1	EA
....5	R511	CRD20TJ152T	RES, CARBON(1/5W,1.5Kohm,J)			1	EA
....5	R512	CRD20TJ152T	RES, CARBON(1/5W,1.5Kohm,J)			1	EA
....5	R513	CRD20TJ152T	RES, CARBON(1/5W,1.5Kohm,J)			1	EA
....5	R514	CRD20TJ152T	RES, CARBON(1/5W,1.5Kohm,J)			1	EA
....5	R516	CRD20TJ152T	RES, CARBON(1/5W,1.5Kohm,J)			1	EA
....5	R517	CRD20TJ152T	RES, CARBON(1/5W,1.5Kohm,J)			1	EA
....5	R518	CRD20TJ152T	RES, CARBON(1/5W,1.5Kohm,J)			1	EA
....5	R519	CRD20TJ152T	RES, CARBON(1/5W,1.5Kohm,J)			1	EA
....5	R521	CRD20TJ471T	RES, CARBON(1/5W,470ohm,J)			1	EA
....5	R522	CRD20TJ471T	RES, CARBON(1/5W,470ohm,J)			1	EA
....5	R523	CRD20TJ471T	RES, CARBON(1/5W,470ohm,J)			1	EA
....5	R524	CRD20TJ471T	RES, CARBON(1/5W,470ohm,J)			1	EA
....5	R531	CRD20TJ221T	RES, CARBON(1/5W,220ohm,J)			1	EA
....5	R532	CRD20TJ221T	RES, CARBON(1/5W,220ohm,J)			1	EA
....5	R533	CRD20TJ221T	RES, CARBON(1/5W,220ohm,J)			1	EA
....5	R534	CRD20TJ221T	RES, CARBON(1/5W,220ohm,J)			1	EA
....5	R536	CRD20TJ221T	RES, CARBON(1/5W,220ohm,J)			1	EA
....5	R537	CRD20TJ221T	RES, CARBON(1/5W,220ohm,J)			1	EA
....5	R538	CRD20TJ221T	RES, CARBON(1/5W,220ohm,J)			1	EA
....5	R539	CRD20TJ221T	RES, CARBON(1/5W,220ohm,J)			1	EA
....5	R541	CRD20TJ271T	RES, CARBON(1/5W,270ohm,J)			1	EA
....5	R542	CRD20TJ271T	RES, CARBON(1/5W,270ohm,J)			1	EA
....5	R543	CRD20TJ271T	RES, CARBON(1/5W,270ohm,J)			1	EA
....5	R544	CRD20TJ271T	RES, CARBON(1/5W,270ohm,J)			1	EA
....5	R556	CRD20TJ273T	RES, CARBON(1/5W,27Kohm,J)			1	EA
....5	R557	CRD20TJ273T	RES, CARBON(1/5W,27Kohm,J)			1	EA
....5	R558	CRD20TJ273T	RES, CARBON(1/5W,27Kohm,J)			1	EA
....5	R559	CRD20TJ273T	RES, CARBON(1/5W,27Kohm,J)			1	EA
....5	R561	CRD20TJ152T	RES, CARBON(1/5W,1.5Kohm,J)			1	EA
....5	R562	CRD20TJ152T	RES, CARBON(1/5W,1.5Kohm,J)			1	EA
....5	R563	CRD20TJ152T	RES, CARBON(1/5W,1.5Kohm,J)			1	EA
....5	R564	CRD20TJ152T	RES, CARBON(1/5W,1.5Kohm,J)			1	EA
....5	R566	CRD20TJ561T	RES, CARBON(1/5W,560ohm,J)			1	EA
....5	R567	CRD20TJ561T	RES, CARBON(1/5W,560ohm,J)			1	EA
....5	R568	CRD20TJ561T	RES, CARBON(1/5W,560ohm,J)			1	EA
....5	R569	CRD20TJ561T	RES, CARBON(1/5W,560ohm,J)			1	EA
....5	R571	CRD20TJ561T	RES, CARBON(1/5W,560ohm,J)			1	EA
....5	R572	CRD20TJ561T	RES, CARBON(1/5W,560ohm,J)			1	EA
....5	R573	CRD20TJ561T	RES, CARBON(1/5W,560ohm,J)			1	EA
....5	R574	CRD20TJ561T	RES, CARBON(1/5W,560ohm,J)			1	EA
....5	R576	CRD20TJ100T	RES, CARBON(1/5W,10ohm,J)			1	EA
....5	R577	CRD20TJ100T	RES, CARBON(1/5W,10ohm,J)			1	EA
....5	R578	CRD20TJ100T	RES, CARBON(1/5W,10ohm,J)			1	EA
....5	R579	CRD20TJ100T	RES, CARBON(1/5W,10ohm,J)			1	EA
....5	R581	CRD20TJ561T	RES, CARBON(1/5W,560ohm,J)			1	EA
....5	R582	CRD20TJ561T	RES, CARBON(1/5W,560ohm,J)			1	EA
....5	R583	CRD20TJ561T	RES, CARBON(1/5W,560ohm,J)			1	EA
....5	R584	CRD20TJ561T	RES, CARBON(1/5W,560ohm,J)			1	EA
....5	R586	CRD20TJ561T	RES, CARBON(1/5W,560ohm,J)			1	EA
....5	R587	CRD20TJ561T	RES, CARBON(1/5W,560ohm,J)			1	EA
....5	R588	CRD20TJ561T	RES, CARBON(1/5W,560ohm,J)			1	EA
....5	R589	CRD20TJ561T	RES, CARBON(1/5W,560ohm,J)			1	EA
....5	R591	CRD20TJ561T	RES, CARBON(1/5W,560ohm,J)			1	EA
....5	R592	CRD20TJ561T	RES, CARBON(1/5W,560ohm,J)			1	EA
....5	R593	CRD20TJ561T	RES, CARBON(1/5W,560ohm,J)			1	EA
....5	R594	CRD20TJ561T	RES, CARBON(1/5W,560ohm,J)			1	EA
....5	R596	CRD20TJ561T	RES, CARBON(1/5W,560ohm,J)			1	EA
....5	R597	CRD20TJ561T	RES, CARBON(1/5W,560ohm,J)			1	EA
....5	R598	CRD20TJ561T	RES, CARBON(1/5W,560ohm,J)			1	EA
....5	R599	CRD20TJ561T	RES, CARBON(1/5W,560ohm,J)			1	EA

Level	Ref#	Component	AVR165/230 MAIN PCB ASS'Y	Description	Drawing No	REQ-Qty	UM
....5	R601	CRD20TJ223T	RES, CARBON(1/5W,22Kohm,J)			1	EA
....5	R602	CRD20TJ223T	RES, CARBON(1/5W,22Kohm,J)			1	EA
....5	R603	CRD20TJ223T	RES, CARBON(1/5W,22Kohm,J)			1	EA
....5	R604	CRD20TJ223T	RES, CARBON(1/5W,22Kohm,J)			1	EA
....5	R606	CRD20TJ223T	RES, CARBON(1/5W,22Kohm,J)			1	EA
....5	R607	CRD20TJ223T	RES, CARBON(1/5W,22Kohm,J)			1	EA
....5	R608	CRD20TJ223T	RES, CARBON(1/5W,22Kohm,J)			1	EA
....5	R609	CRD20TJ223T	RES, CARBON(1/5W,22Kohm,J)			1	EA
....5	R611	CRD20TJ100T	RES, CARBON(1/5W,10ohm,J)			1	EA
....5	R613	CRD20TJ103T	RES, CARBON(1/5W,10Kohm,J)			1	EA
....5	R615	CRG2SANJ121RT	RES, M-OXIDE FILM(2W/120ohm)			1	EA
....5	R631	CRD25FJ180T	RES, CARBON (18 OHM) NONFLAMMABLE			1	EA
....5	R632	CRD25FJ180T	RES, CARBON (18 OHM) NONFLAMMABLE			1	EA
....5	R633	CRD25FJ180T	RES, CARBON (18 OHM) NONFLAMMABLE			1	EA
....5	R634	CRD25FJ180T	RES, CARBON (18 OHM) NONFLAMMABLE			1	EA
....5	R636	CRD25FJ180T	RES, CARBON (18 OHM) NONFLAMMABLE			1	EA
....5	R637	CRD25FJ180T	RES, CARBON (18 OHM) NONFLAMMABLE			1	EA
....5	R638	CRD25FJ180T	RES, CARBON (18 OHM) NONFLAMMABLE			1	EA
....5	R639	CRD25FJ180T	RES, CARBON (18 OHM) NONFLAMMABLE			1	EA
....5	R643	CRD20TJ472T	RES, CARBON(1/5W,4.7Kohm,J)			1	EA
....5	R644	CRD20TJ472T	RES, CARBON(1/5W,4.7Kohm,J)			1	EA
....5	R645	CRD20TJ102T	RES, CARBON(1/5W,1Kohm,J)			1	EA
....5	R646	CRD25FJ3R3T	RES, CARBON	3.3 OHM 1/4W J		1	EA
....5	R647	CRD25FJ3R3T	RES, CARBON	3.3 OHM 1/4W J		1	EA
....5	R648	CRD25FJ3R3T	RES, CARBON	3.3 OHM 1/4W J		1	EA
....5	R649	CRD25FJ3R3T	RES, CARBON	3.3 OHM 1/4W J		1	EA
....5	R650	CRD20TJ223T	RES, CARBON(1/5W,22Kohm,J)			1	EA
....5	R651	CRD25FJ3R3T	RES, CARBON	3.3 OHM 1/4W J		1	EA
....5	R652	CRD25FJ3R3T	RES, CARBON	3.3 OHM 1/4W J		1	EA
....5	R653	CRD25FJ3R3T	RES, CARBON	3.3 OHM 1/4W J		1	EA
....5	R654	CRD25FJ3R3T	RES, CARBON	3.3 OHM 1/4W J		1	EA
....5	R655	CRD20TJ103T	RES, CARBON(1/5W,10Kohm,J)			1	EA
....5	R660	CRD20TJ223T	RES, CARBON(1/5W,22Kohm,J)			1	EA
....5	R666	CRD25TJ470T	RES, CARBON(1/4W,47ohm,J)			1	EA
....5	R667	CRD25TJ470T	RES, CARBON(1/4W,47ohm,J)			1	EA
....5	R668	CRD25TJ470T	RES, CARBON(1/4W,47ohm,J)			1	EA
....5	R669	CRD25TJ470T	RES, CARBON(1/4W,47ohm,J)			1	EA
....5	R671	CRD20TJ472T	RES, CARBON(1/5W,4.7Kohm,J)			1	EA
....5	R672	CRD20TJ472T	RES, CARBON(1/5W,4.7Kohm,J)			1	EA
....5	R673	CRD20TJ472T	RES, CARBON(1/5W,4.7Kohm,J)			1	EA
....5	R674	CRD20TJ472T	RES, CARBON(1/5W,4.7Kohm,J)			1	EA
....5	R676	CRD25TJ182T	RES, CARBON(1/4W,1.8Kohm,J)			1	EA
....5	R677	CRD25TJ182T	RES, CARBON(1/4W,1.8Kohm,J)			1	EA
....5	R678	CRD25TJ182T	RES, CARBON(1/4W,1.8Kohm,J)			1	EA
....5	R679	CRD25TJ182T	RES, CARBON(1/4W,1.8Kohm,J)			1	EA
....5	R681	CRD20TJ562T	RES, CARBON(1/5W,5.6Kohm,J)			1	EA
....5	R682	CRD20TJ562T	RES, CARBON(1/5W,5.6Kohm,J)			1	EA
....5	R683	CRD20TJ562T	RES, CARBON(1/5W,5.6Kohm,J)			1	EA
....5	R684	CRD20TJ562T	RES, CARBON(1/5W,5.6Kohm,J)			1	EA
....5	R686	CRD20TJ103T	RES, CARBON(1/5W,10Kohm,J)			1	EA
....5	R687	CRD20TJ103T	RES, CARBON(1/5W,10Kohm,J)			1	EA
....5	R688	CRD20TJ103T	RES, CARBON(1/5W,10Kohm,J)			1	EA
....5	R689	CRD20TJ103T	RES, CARBON(1/5W,10Kohm,J)			1	EA
....5	R696	CRD25TJ470T	RES, CARBON(1/4W,47ohm,J)			1	EA
....5	R697	CRD25TJ470T	RES, CARBON(1/4W,47ohm,J)			1	EA
....5	R698	CRD25TJ470T	RES, CARBON(1/4W,47ohm,J)			1	EA
....5	R699	CRD25TJ470T	RES, CARBON(1/4W,47ohm,J)			1	EA
....5	R771	CRD20TJ750T	RES, CARBON(1/5W,75ohm,J)			1	EA
....5	R772	CRD20TJ750T	RES, CARBON(1/5W,75ohm,J)			1	EA
....5	R773	CRD20TJ750T	RES, CARBON(1/5W,75ohm,J)			1	EA
....5	R774	CRD20TJ750T	RES, CARBON(1/5W,75ohm,J)			1	EA
....5	R776	CRD20TJ750T	RES, CARBON(1/5W,75ohm,J)			1	EA
....5	R781	CRD20TJ750T	RES, CARBON(1/5W,75ohm,J)			1	EA
....5	R782	CRD20TJ750T	RES, CARBON(1/5W,75ohm,J)			1	EA
....5	R783	CRD20TJ750T	RES, CARBON(1/5W,75ohm,J)			1	EA
....5	R784	CRD20TJ750T	RES, CARBON(1/5W,75ohm,J)			1	EA
....5	R786	CRD20TJ750T	RES, CARBON(1/5W,75ohm,J)			1	EA
....5	R801	CRD20TJ103T	RES, CARBON(1/5W,10Kohm,J)			1	EA
....5	R803	CRD20TJ562T	RES, CARBON(1/5W,5.6Kohm,J)			1	EA
....5	R805	CRD20TJ472T	RES, CARBON(1/5W,4.7Kohm,J)			1	EA
....5	R808	CRD25TJ182T	RES, CARBON(1/4W,1.8Kohm,J)			1	EA
....5	R812	CRD25TJ470T	RES, CARBON(1/4W,47ohm,J)			1	EA
....5	R813	CRD25TJ470T	RES, CARBON(1/4W,47ohm,J)			1	EA
....5	R817	CRD25FJ3R3T	RES, CARBON	3.3 OHM 1/4W J		1	EA
....5	R818	CRD25FJ3R3T	RES, CARBON	3.3 OHM 1/4W J		1	EA
....5	R821	CRD25FJ180T	RES, CARBON (18 OHM) NONFLAMMABLE			1	EA
....5	R822	CRD25FJ180T	RES, CARBON (18 OHM) NONFLAMMABLE			1	EA
....5	R830	CRD20TJ223T	RES, CARBON(1/5W,22Kohm,J)			1	EA
....5	R831	CRD20TJ223T	RES, CARBON(1/5W,22Kohm,J)			1	EA
....5	R834	CRD20TJ561T	RES, CARBON(1/5W,560ohm,J)			1	EA
....5	R835	CRD20TJ561T	RES, CARBON(1/5W,560ohm,J)			1	EA
....5	R836	CRD20TJ561T	RES, CARBON(1/5W,560ohm,J)			1	EA

Level	Ref#	Component	AVR165/230 MAIN PCB ASS'Y	Description	Drawing No	REQ-Qty	UM
....5	R837	CRD20TJ561T	RES, CARBON(1/5W,560ohm,J)			1	EA
....5	R842	CRD20TJ561T	RES, CARBON(1/5W,560ohm,J)			1	EA
....5	R843	CRD20TJ561T	RES, CARBON(1/5W,560ohm,J)			1	EA
....5	R848	CRD20TJ273T	RES, CARBON(1/5W,27Kohm,J)			1	EA
....5	R850	CRD20TJ152T	RES, CARBON(1/5W,1.5Kohm,J)			1	EA
....5	R852	CRD20TJ152T	RES, CARBON(1/5W,1.5Kohm,J)			1	EA
....5	R853	CRD20TJ152T	RES, CARBON(1/5W,1.5Kohm,J)			1	EA
....5	R856	CRD20TJ221T	RES, CARBON(1/5W,220ohm,J)			1	EA
....5	R857	CRD20TJ221T	RES, CARBON(1/5W,220ohm,J)			1	EA
....5	R860	CRD20TJ271T	RES, CARBON(1/5W,270ohm,J)			1	EA
....5	R862	CRD20TJ273T	RES, CARBON(1/5W,27Kohm,J)			1	EA
....5	R867	CRD20TJ1R0T	RES, CARBON(1/5W,1ohm,J)			1	EA
....5	R868	CRD20TJ162T	RES, CARBON(1/5W,1.6Kohm,J)			1	EA
....5	R870	CRD20TJ433T	RES, CARBON(1/5W,43Kohm,J)			1	EA
....5	R872	CRD20TJ471T	RES, CARBON(1/5W,470ohm,J)			1	EA
....5	R875	CRD20TJ331T	RES, CARBON(1/5W,330ohm,J)			1	EA
....5	R877	CRD20TJ331T	RES, CARBON(1/5W,330ohm,J)			1	EA
....5	R878	CRD20TJ331T	RES, CARBON(1/5W,330ohm,J)			1	EA
....5	R879	CRD20TJ331T	RES, CARBON(1/5W,330ohm,J)			1	EA
....5	R880	CRD20TJ331T	RES, CARBON(1/5W,330ohm,J)			1	EA
....5	R882	CRD20TJ564T	RES, CARBON(1/5W,560Kohm,J)			1	EA
....5	R883	CRD20TJ122T	RES, CARBON(1/5W,1.2Kohm,J)			1	EA
....5	R885	CRD20TJ122T	RES, CARBON(1/5W,1.2Kohm,J)			1	EA
....5	R886	CRD20TJ122T	RES, CARBON(1/5W,1.2Kohm,J)			1	EA
....5	R887	CRD20TJ122T	RES, CARBON(1/5W,1.2Kohm,J)			1	EA
....5	R888	CRD20TJ122T	RES, CARBON(1/5W,1.2Kohm,J)			1	EA
....5	R891	CRD20TJ391T	RES, CARBON(1/5W,390ohm,J)			1	EA
....5	R893	CRD20TJ391T	RES, CARBON(1/5W,390ohm,J)			1	EA
....5	R894	CRD20TJ391T	RES, CARBON(1/5W,390ohm,J)			1	EA
....5	R896	CRD20TJ391T	RES, CARBON(1/5W,390ohm,J)			1	EA
....5	R897	CRD20TJ391T	RES, CARBON(1/5W,390ohm,J)			1	EA
....5	R901	CRD20TJ272T	RES, CARBON(1/5W,2.7Kohm,J)			1	EA
....5	R902	CRD20TJ153T	RES, CARBON(1/5W,15Kohm,J)			1	EA
....5	R903	CRD20TJ153T	RES, CARBON(1/5W,15Kohm,J)			1	EA
....5	R905	CRG1SANJ1R0RT	RES, M-OXIDE FILM(1W/1ohm)			1	EA
....5	R908	CRD20TJ153T	RES, CARBON(1/5W,15Kohm,J)			1	EA
....5	R909	CRD20TJ153T	RES, CARBON(1/5W,15Kohm,J)			1	EA
....5	R912	CRD20TJ332T	RES, CARBON(1/5W,3.3Kohm,J)			1	EA
....5	R917	CRD25TJ393T	RES, CARBON(1/4W,39Kohm,J)			1	EA
....5	R918	CRD25TJ393T	RES, CARBON(1/4W,39Kohm,J)			1	EA
....5	R925	CRD20TJ103T	RES, CARBON(1/5W,10Kohm,J)			1	EA
....5	R927	CRD20TJ104T	RES, CARBON(1/5W,100Kohm,J)			1	EA
....5	R928	CRD20TJ333T	RES, CARBON(1/5W,33Kohm,J)			1	EA
....5	R939	CRD20TJ472T	RES, CARBON(1/5W,4.7Kohm,J)			1	EA
....5	R940	CRD20TJ152T	RES, CARBON(1/5W,1.5Kohm,J)			1	EA
....5	R941	CRD20TJ223T	RES, CARBON(1/5W,22Kohm,J)			1	EA
....5	R942	CRD25TJ223T	RES, CARBON(1/4W,22Kohm,J)			1	EA
....5	R944	CRD20TJ223T	RES, CARBON(1/5W,22Kohm,J)			1	EA
....5	R946	CRD20TJ223T	RES, CARBON(1/5W,22Kohm,J)			1	EA
....5	R947	CRD20TJ223T	RES, CARBON(1/5W,22Kohm,J)			1	EA
....5	R955	CRD20TJ223T	RES, CARBON(1/5W,22Kohm,J)			1	EA
....5	R956	CRD20TJ274T	RES, CARBON(1/5W,270Kohm,J)			0,018	EA
....5	R957	CRD20TJ153T	RES, CARBON(1/5W,15Kohm,J)			1	EA
....5	R961	CRD20TJ331T	RES, CARBON(1/5W,330ohm,J)			1	EA
....5	R962	CRD20TJ273T	RES, CARBON(1/5W,27Kohm,J)			1	EA
....5	R972	CRD20TJ153T	RES, CARBON(1/5W,15Kohm,J)			1	EA
....5	R973	CRD20TJ392T	RES, CARBON(1/5W,3.9Kohm,J)			1	EA
....5	R974	CRD20TJ473T	RES, CARBON(1/5W,47Kohm,J)			1	EA
....5	R975	CRD20TJ563T	RES, CARBON(1/5W,56Kohm,J)			1	EA
....5	R976	CRD20TJ103T	RES, CARBON(1/5W,10Kohm,J)			1	EA
....5	R977	CRD20TJ472T	RES, CARBON(1/5W,4.7Kohm,J)			1	EA
....5	R986	CRD20TJ102T	RES, CARBON(1/5W,1Kohm,J)			1	EA
....5	R987	CRD20TJ561T	RES, CARBON(1/5W,560ohm,J)			1	EA
....5	R988	CRD20TJ562T	RES, CARBON(1/5W,5.6Kohm,J)			1	EA
....5	R989	CRD20TJ302T	RES, CARBON(1/5W,3Kohm,J)			1	EA
....5	R990	CRG1SANJ100RT	RES, M-OXIDE FILM(1W/10ohm)			1	EA
....5	R991	CRD20TJ822T	RES, CARBON(1/5W,8.2Kohm,J)			1	EA
....5	R993	CRG1SANJ100RT	RES, M-OXIDE FILM(1W/10ohm)			1	EA
....5	R995	CRG1SANJ100RT	RES, M-OXIDE FILM(1W/10ohm)			1	EA
....5	R997	CRG1SANJ100RT	RES, M-OXIDE FILM(1W/10ohm)			1	EA
....5	R998	CRD20TJ103T	RES, CARBON(1/5W,10Kohm,J)			1	EA
....5	R999	CRG1SANJ100RT	RES, M-OXIDE FILM(1W/10ohm)			1	EA
....5	VR82	CVN12A221B03T	RES, SEMI FIXED (220 OHM)	NVZ6TLTAB221 / HOKURIKU		1	EA
....5	VR84	CVN12A221B03T	RES, SEMI FIXED (220 OHM)	NVZ6TLTAB221 / HOKURIKU		1	EA
....5	VR85	CVN12A221B03T	RES, SEMI FIXED (220 OHM)	NVZ6TLTAB221 / HOKURIKU		1	EA
....5	VR86	CVN12A221B03T	RES, SEMI FIXED (220 OHM)	NVZ6TLTAB221 / HOKURIKU		1	EA
....5	VR87	CVN12A221B03T	RES, SEMI FIXED (220 OHM)	NVZ6TLTAB221 / HOKURIKU		1	EA
....4		CMYAVR1650	HEAT SINK ASS'Y			1	EA
....5		CHD1A012R	SCREW, SPECIAL			17	EA
....5		CHD4A012R	SCREW, SPECIAL			1	EA
....5		CMD1A417	BRACKET, PCB	AG-D8900		2	EA
....5		CMD1A674	BRACKET, H/S			2	EA

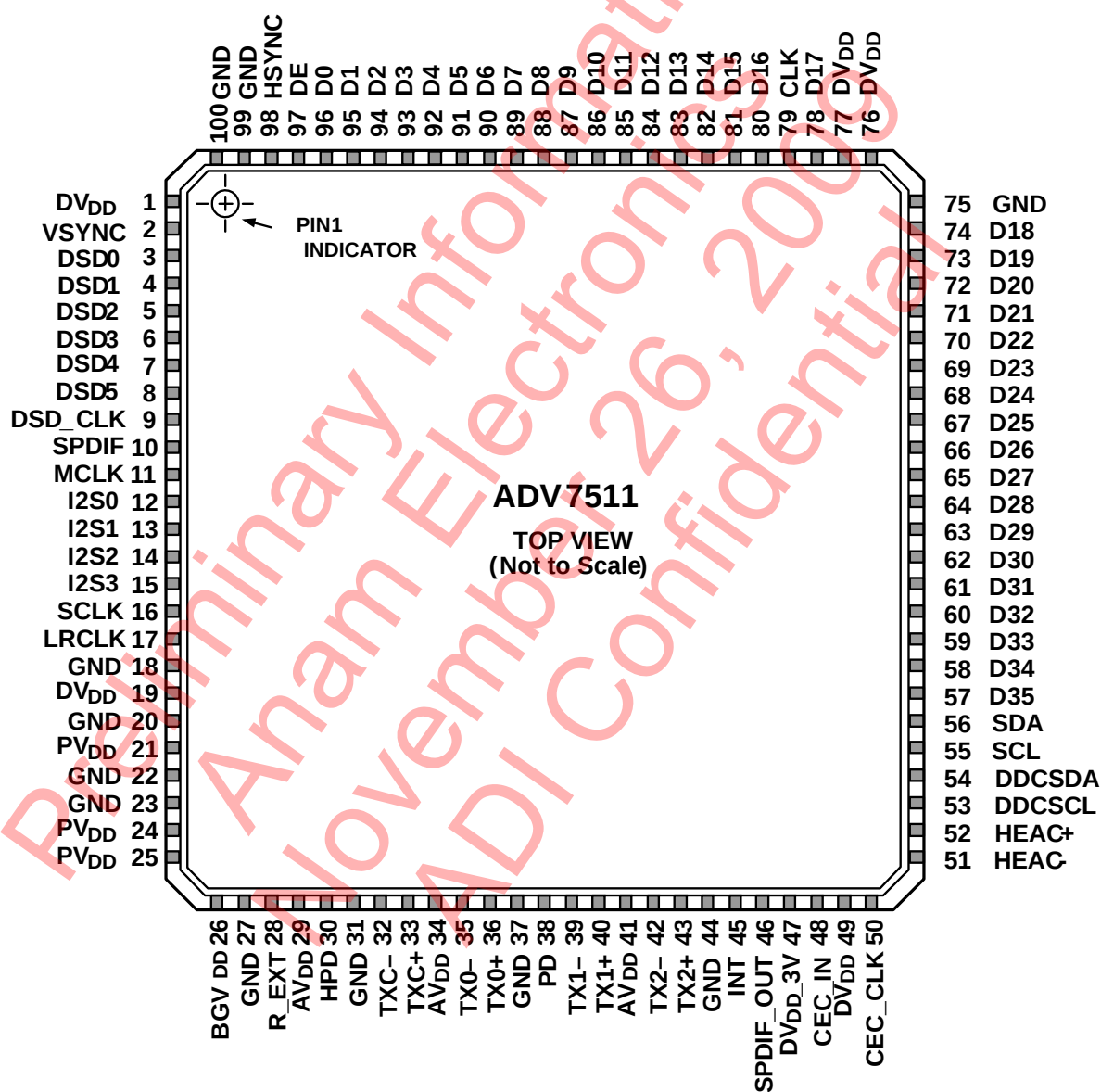
Level	Ref#	Component	Description	Drawing No	REQ-Qty	UM
....5		CMY2A321	HEAT SINK AVR1650		1	EA
....5		CTB3+8JR	SCREW		4	EA
....5		CTW3+8JR	SCREW		2	EA
....5		K8AYG6260	COMPOUND , SILICONE		3	G
....5	IC90	CVIKIA7815APIUPF	I.C , VOL-REGULATOR(15V TO-220IS-4)	KIA7815API-U/PF , KEC	1	EA
....5	IC91	CVIKIA7915PI	I.C , REGULATOR(15V, TO-220AB)	KIA7915PI	1	EA
....5	Q652	CVT2SB1559P43M	T.R Power, 2SB1559, MT-100(TO3P) with MICA M43		1	EA
....5	Q653	CVT2SB1559P43M	T.R Power, 2SB1559, MT-100(TO3P) with MICA M43		1	EA
....5	Q654	CVT2SB1559P43M	T.R Power, 2SB1559, MT-100(TO3P) with MICA M43		1	EA
....5	Q657	CVT2SD2389P43M	T.R Power, 2SD2389, MT-100(TO3P) with MICA M43		1	EA
....5	Q658	CVT2SD2389P43M	T.R Power, 2SD2389, MT-100(TO3P) with MICA M43		1	EA
....5	Q659	CVT2SD2389P43M	T.R Power, 2SD2389, MT-100(TO3P) with MICA M43		1	EA
....5	Q660	CVT2SD2389P43M	T.R Power, 2SD2389, MT-100(TO3P) with MICA M43		1	EA
....5	Q661	CVT2SB1559P43M	T.R Power, 2SB1559, MT-100(TO3P) with MICA M43		1	EA
....5	Q803	CVT2SD2389P43M	T.R Power, 2SD2389, MT-100(TO3P) with MICA M43		1	EA
....5	Q804	CVT2SB1559P43M	T.R Power, 2SB1559, MT-100(TO3P) with MICA M43		1	EA
....5	Q852	HVTKTD600KGR	T.R , BIAS	KTD600KGR	1	EA
....5	Q854	HVTKTD600KGR	T.R , BIAS	KTD600KGR	1	EA
....5	Q855	HVTKTD600KGR	T.R , BIAS	KTD600KGR	1	EA
....5	Q856	HVTKTD600KGR	T.R , BIAS	KTD600KGR	1	EA
....5	Q857	HVTKTD600KGR	T.R , BIAS	KTD600KGR	1	EA
...4	BK91	CMD1A387	BRACKET , PCB		1	EA
...4	BN20	CWB1D00912058	WIRE ASS'Y (LOCKING TYPE, 2.5MM, 9PIN, 120MM)		1	EA
...4	BN65	CWB3F005220U2	WIRE ASS'Y (3.96mm , 5P , 220mm)	3.96MM,5P,220MM	1	EA
...4	BN81	CWB1D00718088	WIRE ASS'Y (2.5MM, 180MM, 7PIN, DUAL-DIPPING TYPE)		1	EA
...4	BN82	CWB1D00518088	WIRE ASS'Y (2.5MM,180MM,5PIN,DUAL-DIPPING TYPE)	2.5MM/180MM/5PIN	1	EA
...4	BN91	CWB1F002120Z2	WIRE ASS'Y(#18,2P,120mm, 3.96mm Dual-dipping type)	#18,2P,120MM, 3.96MM	1	EA
...4	BN96	CWB1D00915058	WIRE ASS'Y (LOCKING TYPE, 2.5MM, 9PIN, 150MM)		1	EA
...4	CN12	CJP27GA285ZN	WAFER,FPC 1.25mm,stright	1.25-2-NP	1	EA
...4	CN61	CJP02GA01ZY	WAFER,YMW025(2.5mm,STRAIGHT)		1	EA
...4	CN62	CJP02GA01ZY	WAFER,YMW025(2.5mm,STRAIGHT)		1	EA
...4	CN63	CJP02GA01ZY	WAFER,YMW025(2.5mm,STRAIGHT)		1	EA
...4	CN64	CJP02GA01ZY	WAFER,YMW025(2.5mm,STRAIGHT)		1	EA
...4	CN66	CJP02GA01ZY	WAFER,YMW025(2.5mm,STRAIGHT)		1	EA
...4	CN90	CJP02GA89ZY	WAFER, YW396-NNAB(7.92mm)		1	EA
...4	CN91	CJP02GA89ZY	WAFER, YW396-NNAB(7.92mm)		1	EA
...4	CN92	CJP02KA060ZY	WAFER		1	EA
...4	C129	CCEA1EH103E	CAP , ELECT(25V/10000uF)22x30	KR3-025V103MM300	1	EA
...4	C633	CCEA1JH221E	CAP , ELECT	220UF 63V	1	EA
...4	C638	CCEA1JH221E	CAP , ELECT	220UF 63V	1	EA
...4	C807	CCEA1JH221E	CAP , ELECT	220UF 63V	1	EA
...4	C808	CCEA1JH221E	CAP , ELECT	220UF 63V	1	EA
...4	C904	KCKDKS472ME	CAP , CERAMIC(X1/Y2/SC)	0.0047UF/2.5KV	1	EA
...4	C906	CCEA1VH102E	CAP , ELECT(35V/1000uF)	KR3-35V102MG(12.5*20L)	1	EA
...4	C915	CCET63VKL5822NK	CAP , ELECT	8200/63V (30*50)	1	EA
...4	C916	CCET63VKL5822NK	CAP , ELECT	8200/63V (30*50)	1	EA
...4	C929	CCEA1VH222EZ	CAP , ELECT (2200UF/35V, 12.5X31)	KR3-35V222MH1-L/C4.0	1	EA
...4	C930	CCEA1VH222EZ	CAP , ELECT (2200UF/35V, 12.5X31)	KR3-35V222MH1-L/C4.0	1	EA
...4	IC66	CVINJU7223F50	I.C , REGULATOR(5V, TO-220F)	NJU7223F50	1	EA
...4	JK90	CJJ4M070Z	JACK , 1P(PURPLE) , GOLD PLATE	RCA-107BAG-01	1	EA
...4	JK91	CJJ5R006Z	TERMINAL , SPEAKER		1	EA
...4	JK92	CJJ5P020Z	TERMINAL , SPEAKER		1	EA
...4	L501	CLEY0R5KAK	COIL , SPEAKER(0.5uH)	SPRING COIL 8TS/KSE	1	EA
...4	L502	CLEY0R5KAK	COIL , SPEAKER(0.5uH)	SPRING COIL 8TS/KSE	1	EA
...4	L503	CLEY0R5KAK	COIL , SPEAKER(0.5uH)	SPRING COIL 8TS/KSE	1	EA
...4	L504	CLEY0R5KAK	COIL , SPEAKER(0.5uH)	SPRING COIL 8TS/KSE	1	EA
...4	L506	CLEY0R5KAK	COIL , SPEAKER(0.5uH)	SPRING COIL 8TS/KSE	1	EA
...4	Q858	HVTKTA1360Y	T.R , PRE DRIVE	KTA1360Y	1	EA
...4	Q871	HVTKTA1360Y	T.R , PRE DRIVE	KTA1360Y	1	EA
...4	Q872	HVTKTA1360Y	T.R , PRE DRIVE	KTA1360Y	1	EA
...4	Q874	HVTKTA1360Y	T.R , PRE DRIVE	KTA1360Y	1	EA
...4	Q876	HVTKTA1360Y	T.R , PRE DRIVE	KTA1360Y	1	EA
...4	Q881	HVTKTC3423Y	T.R , PRE DRIVE	KTC3423Y	1	EA
...4	Q882	HVTKTC3423Y	T.R , PRE DRIVE	KTC3423Y	1	EA
...4	Q883	HVTKTC3423Y	T.R , PRE DRIVE	KTC3423Y	1	EA
...4	Q884	HVTKTC3423Y	T.R , PRE DRIVE	KTC3423Y	1	EA
...4	Q886	HVTKTC3423Y	T.R , PRE DRIVE	KTC3423Y	1	EA
...4	RY91	CSL1C005ZE	RELAY (DC 5V, 1C1P)	HL3-1A-5SH	1	EA
...4	R656	CRF5EKR27HX2K	RES , CEMENT (0.27 OHM)		1	EA
...4	R657	CRF5EKR27HX2K	RES , CEMENT (0.27 OHM)		1	EA
...4	R658	CRF5EKR27HX2K	RES , CEMENT (0.27 OHM)		1	EA
...4	R659	CRF5EKR27HX2K	RES , CEMENT (0.27 OHM)		1	EA
...4	R810	CRF5EKR27HX2K	RES , CEMENT (0.27 OHM)		1	EA
...4	R863	CRF5EKR10HS	RES , CEMENT (SMALL SIZE)		1	EA
...4	R864	CRF5EKR10HS	RES , CEMENT (SMALL SIZE)		1	EA
...4	TH91	KRTP42T7D330B	THERMAL SENSOR , POSISTOR	P42T7D330BW20	1	EA
...4	T91	CLT5I025ZE	TRANS , SUB (AVR156/158/165/265/365)		1	EA
AVR165 POWER PCB ASS'Y						
Level	Ref#	Component	Description	Drawing No	REQ-Qty	UM
...3		COP12394C	AVR165 POWER PCB ASS'Y	AVR165	1	EA
....5	C104	HCQ11H103JZT	CAP , MYLAR	0.01UF 50V J	1	EA

Level	Ref#	Component	AVR165 POWER PCB ASS'Y	Description	Drawing No	REQ-Qty	UM
....5	C105	HCQ1H103JZT	CAP , MYLAR		0.01UF 50V J	1	EA
....5	C106	HCQ1H104JZT	CAP , MYLAR		0.1UF 50V J	1	EA
....5	C107	HCQ1H103JZT	CAP , MYLAR		0.01UF 50V J	1	EA
....5	C108	HCQ1H103JZT	CAP , MYLAR		0.01UF 50V J	1	EA
....5	C109	HCQ1H104JZT	CAP , MYLAR		0.1UF 50V J	1	EA
....5	C132	CCFT1H473ZF	CAP , CERAMIC		0.047UF 50V Z	1	EA
....5	C133	CCFT1H473ZF	CAP , CERAMIC		0.047UF 50V Z	1	EA
....5	C134	CCFT1H473ZF	CAP , CERAMIC		0.047UF 50V Z	1	EA
....5	C921	KCME2E104JP04T	CAP , M-FILM(250V/0.1uF)			1	EA
....5	C922	CCME2A104JXT	CAP,METAL-FILM(100V/0.1uF)		HMFS104J2AP050T	1	EA
....5	C923	CCME2A104JXT	CAP,METAL-FILM(100V/0.1uF)		HMFS104J2AP050T	1	EA
....5	C924	HCQ1H473JZT	CAP , MYLAR		0.047UF 50V J	1	EA
....5	C925	HCQ1H473JZT	CAP , MYLAR		0.047UF 50V J	1	EA
....5	D114	CVD1N4003ST	DIODE , RECT		1N4003	1	EA
....5	D115	CVD1N4003ST	DIODE , RECT		1N4003	1	EA
....5	D116	CVD1N4003ST	DIODE , RECT		1N4003	1	EA
....5	D117	CVD1N4003ST	DIODE , RECT		1N4003	1	EA
....5	D124	CVD1N4003ST	DIODE , RECT		1N4003	1	EA
....5	D125	CVD1N4003ST	DIODE , RECT		1N4003	1	EA
....5	D921	CVD1N4003ST	DIODE , RECT		1N4003	1	EA
....5	F110	KBA2D3150A2EYT	FUSE(382 Series, 250V, 3.15A)		382 250V/3.15	1	EA
....5	F111	KBA2D3150A2EYT	FUSE(382 Series, 250V, 3.15A)		382 250V/3.15	1	EA
....5	PCB	CUP12394Z	PCB , POWER (197 X 163 , FR-1 2 ARRAY)		197 X 163 ,FR-1 2 ARRAY	0,5	EA
....5	R902	CRD25TJ680T	RES, CARBON(1/4W,68ohm,J)			1	EA
...4	CN20	CJP05GA90ZY	WAFER , 5P(DIP, 3.96PITCH)			1	EA
...4	CN96	CJP09GI237ZW	LOCK-WAFER/STRAIGHT/2.5mm			1	EA
...4	C135	CCEA1EH472E	CAP , ELECT(25V/4700uF)		KR3-25V472MR(16*31.5L)	1	EA
...4	D104	HVDUF5404H	DIODE , ULTRA FAST (DELTA)			1	EA
...4	D105	HVDUF5404H	DIODE , ULTRA FAST (DELTA)			1	EA
...4	D991	CVDGBJ1006BIA	DIODE HEAT SINK ASS'Y (CMY2A138)			1	EA
....5		CMY2A138	HEAT SINK			1	EA
....5		CTB3+8JR	SCREW			1	EA
....5	D991	HVDGBJ1006	DIODE , BRIDGE(10A/600V)			1	EA
...4	RY22	CSL4A018ZE	RELAY		HL1-2C-12H , 12V 2C2P	1	EA
...4	R104	CRQ1AJR47H	RES , FUSE			1	EA
...4	R105	CRQ1AJR47H	RES , FUSE			1	EA
...3		CTB3+6FFZR	SCREW			10	EA
...3		CTB3+8JFZR	SCREW			24	EA
...3		CTS3+8JFZR	SCREW			4	EA
...3		CTW3+12JR	SCREW			2	EA
...3		CTW3+8JR	SCREW			1	EA
...3		CUA3A294	CHASSIS , BOTTOM		SECC 1.0T	1	EA
...3	BN90	CSH1A015ZA	SWITCH , MOMS WIRE ASS'Y (2P, 80MM, RED)			1	EA
...4		CSH1A015Z	SWITCH , MOMS(OR-L-11G-BB)		OR-L-11G-BB	1	EA
...4		CWB4F202080UK	WIRE ASS'Y (3.96MM, 80MM, 2P, RED)			1	EA
...3	CN92	CWZPM5003TW91A	2P WIRE ASS'Y(100MM)			1	EA
...4	RT01	CJJ8A006ZW	RECEPTACLE , AC(15A/250V,R-301,B21)		R-301(B21)	1	EA
...4	TW91	CWZPM5003TW91	2P WIRE ASS'Y(100MM)			1	EA
...3	F901	KBA2C4000TLEY	FUSE(218 Series, 250V, 4A)		4A/250V(EUR)	1	EA
...3	T901	CLT5U047ZW	TRANS , POWER(AVR165/230)		SH9020A/Z92862A	1	EA
...3	WF103	CWC4C4A27B100B10	CARD , CABLE (27p,1.25mm Pitch,100mm Length,Protec			* Ref :	at
...3	WF104	CWC4F2A17A080A10	CARD , CABLE (17P/1.00mm/80mm , A TYPE)		(17P/1.00MM/80MM , A TYPE)	1	EA
...3	WF105	CWC4F2A17A080A10	CARD , CABLE (17P/1.00mm/80mm , A TYPE)		(17P/1.00MM/80MM , A TYPE)	1	EA
1		CHE154	CLAMPER , ARM			0,12	M
1		CPG1A937U	BOX , OUT CARTON AVR165			1	EA
1		CPS5A564	PAD , SNOW L			1	EA
1		CPS5A565	PAD , SNOW R			1	EA
1		CQB1A907Z	LABEL , BAR CODE AVR154			1	EA
1		CQB1A978	LABEL , BAR CODE(SET)			1	EA
1		CQS1A001	RIBON , BAR CODE		SONY(TR-4070)	0,12	M
1		CQXAVR165/230	INSTRUCTION MANUAL ASS'Y			1	EA
0,2		CABR03P3PB	BATTERY , AAA 3PCS IN PACK			3	EA
0,2		CARTAVR165-HK	REMOTE CONTROLLER(AVR165/230)			1	EA
0,2		CJA2B054Z	CORD , POWER(DETACHABLE/EUR)		2WIRE 10A/250V	1	EA
0,2		CJXAVR365MICRO	MICRO PHONE ASS'Y		CGR1A367	1	EA
0,2		CQB1A971	LABEL , BAR CODE(MANUAL)			1	EA
0,2		CQE1A487Z	SHEET , QUICK SETUP GUIDE AVR1650			1	EA
0,2		CQE1A523Z	SHEET , IMPORTANT SAFETY EUR			1	EA
0,2		CSA1A018Z	FM 1 POLE ANT			1	EA
0,2		CSA1A032Z	ANT , AM LOOP(9.5uH, 5T)		S0160BL-25/KSE	1	EA

SECTION 5: PIN AND PACKAGE INFORMATION

This section shows the pinout of the ADV7511 100-lead LQFP package. This section also contains a brief description of the different pins as well as the mechanical drawings

Figure 6 100-lead LQFP configuration (top view - not to scale)



ADV7511 ADI Confidential

HARDWARE USER'S GUIDE

Rev. PrB

Table 3 Complete Pinout List ADV7511

Pin No.	Mnemonic	Type ¹	Description
57-74, 78, 80-96	D[35:0]	I	Video Data Input. Digital input in RGB or YCbCr format. Supports typical CMOS logic levels from 1.8V up to 3.3V. See ►Figure 2 for timing details.
79	CLK	I	Video Clock Input. Supports typical CMOS logic levels from 1.8V up to 3.3V.
97	DE	I	Data Enable signal input for Digital Video. Supports typical CMOS logic levels from 1.8V up to 3.3V.
98	HSYNC	I	Horizontal Sync Input. Supports typical CMOS logic levels from 1.8V up to 3.3V.
2	VSYN	I	Vertical Sync Input. Supports typical CMOS logic levels from 1.8V up to 3.3V.
28	R_EXT	I	Sets internal reference currents. Place 887 Ω resistor (1% tolerance) between this pin and ground.
51	HEAC-	I	HEAC- is one of a pair of differential lines for the ARC (Audio Return Channel)
52	HEAC+	I	HEAC+ is one of a pair of differential lines for the ARC (Audio Return Channel)
30	HPD	I	Hot Plug Detect signal input. This indicates to the interface whether the sink is connected. 1.8V to 5.0 V CMOS logic level.
10	S/PDIF	I	S/PDIF (Sony/Philips Digital Interface) Audio Input. This pin is typically used as the audio input from a Sony/Philips digital interface. Supports typical CMOS logic levels from 1.8V up to 3.3V. See ►Figure 4 for timing details.
46	S/PDIF_OUT	O	S/PDIF Audio Output from ARC receiver.
11	MCLK	I	Audio Reference Clock input. $128 \times N \times f_s$ with $N = 1, 2, 3$, or 4 . Set to $128 \times$ sampling frequency (f_s), $256 \times f_s$, $384 \times f_s$, or $512 \times f_s$. Supports typical CMOS logic levels from 1.8V up to 3.3V.
15-12	I ² S[3:0]	I	I ² S Audio Data Inputs. These represent the eight channels of audio (two per input) available through I ² S. Supports typical CMOS logic levels from 1.8V up to 3.3V. See Figure 3 for timing details.
16	SCLK	I	I ² S Audio Clock input. Supports typical CMOS logic levels from 1.8V up to 3.3V.
17	LRCLK	I	Left/Right Channel signal input. Supports typical CMOS logic levels from 1.8V up to 3.3V.
8-3	DSD[5:0]	I	DSD audio data inputs. See Figure 5 for timing details.
9	DSD_CLK	I	DSD Clock input. This is a 2.8224MHz clock for the DSD audio inputs.
38	PD/AD	I	Power-Down Control and I ² C Address Selection. The I ² C address and the PD polarity are set by the PD/AD pin state when the supplies are applied to the ADV7511. Supports typical CMOS logic levels from 1.8V up to 3.3V.
32, 33	TxC-/TxC+	O	Differential TMDS Clock Output. Differential clock output at pixel clock rate; TMDS logic level.
42, 43	Tx2-/Tx2+	O	Differential TMDS Output Channel 2. Differential output of the red data at 10 $\times$ the pixel clock rate; TMDS logic level.
39, 40	Tx1-/Tx1+	O	Differential TMDS Output Channel 1. Differential output of the green data at 10 $\times$ the pixel clock rate; TMDS logic level.
35, 36	Tx0-/Tx0+	O	Differential TMDS Output Channel 0. Differential output of the blue data at 10 $\times$ the pixel clock rate; TMDS logic level.
45	INT	O	Interrupt signal output. CMOS logic level. A 2 k Ω pull-up resistor (10%) to interrupt the microcontroller IO supply is recommended.
29, 34, 41	AVDD	P	1.8V Power Supply for TMDS Outputs.
1, 19, 49, 76, 77	DVDD	P	1.8V Power Supply for Digital and I/O Power Supply. These pins supply power to the digital logic and I/Os. They should be filtered and as quiet as possible.
24, 25	PVDD	P	1.8V PLL Power Supply. These pins provide power to the digital portion of the clock PLL. The designer should provide quiet, noise-free power to these pins.
21	PLVDD	P	1.8V PLL Power Supply. The most sensitive portion of the ADV7511 is the clock generation circuitry. These pins provide power to the analog portion of the clock PLL (VCO). The designer should provide quiet, noise-free power to these pins.
26	BGVDD	P	Band Gap Vdd.

ADV7511 ADI Confidential**HARDWARE USER'S GUIDE****Rev. PrB**

47	MVDD	P	3.3V Power Supply.
18, 20, 22, 23, 27, 31, 37, 44, 46, 51, 75, 99, 100	GND	P	Ground. The ground return for all circuitry on-chip. It is recommended that the ADV7511 be assembled on a single, solid ground plane with careful attention given to ground current paths.
56	SDA	C	Serial Port Data I/O. This pin serves as the serial port data I/O slave for register access. Supports CMOS logic levels from 1.8V to 3.3V.
55	SCL	C	Serial Port Data Clock input. This pin serves as the serial port data clock slave for register access. Supports CMOS logic levels from 1.8V to 3.3V.
54	DDCSDA	C	Serial Port Data I/O to Sink. This pin serves as the master to the DDC bus. Tolerant of 5 V CMOS logic levels.
53	DDCSCL	C	Serial Port Data Clock to Sink. This pin serves as the master clock for the DDC bus. Tolerant of 5 V CMOS logic levels.
50	CEC_CLK	I	CEC clock. From 1MHz to 100Mhz. Supports CMOS logic levels from 1.8V to 5V.
48	CEC_IO	I/O	CEC data signal. Supports CMOS logic levels from 1.8V to 5V.

1. I = input, O = output, P = power supply, C = control

ADV7604

Preliminary Information

BGA BALLOUT

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18			
A	DGND	RXD_2-	RXD_1-	RXD_0-	RXD_C-	DGND	RXC_2-	RXC_1-	RXC_0-	RXC_C-	TVDD	RXB_2-	RXB_1-	RXB_0-	RXB_C-	TVDD	TVDD	DGND	A		
B	RXD_5V	RXD_2+	RXD_1+	RXD_0+	RXD_C+	TVDD	RXC_2+	RXC_1+	RXC_0+	RXC_C+	TVDD	RXB_2+	RXB_1+	RXB_0+	RXB_C+	TVDD	RXA_2+	RXA_2-	B		
C	PWRDNB	TVDD	TVDD	CVDD	DGND	TVDD	TVDD	DGND	DGND	DGND	TVDD	TVDD	DGND	DGND	DGND	DGND	RXA_1+	RXA_1-	C		
D	RXC_5V	RXB_5V	RXA_5V	DDCD_SD A	DDCD_SCL	DDCC_SD A	DDCC_SCL	CVDD	DGND	RTERM	CVDD	DDCB_SD A	DDCB_SCL	DDCA_SCL	DDCA_SD A	TVDD	RXA_0+	RXA_0-	D		
E	DE	CEC															DGND	DGND	RXA_C+	RXA_C-	E
F	HS	VS_FIELD	EP_MISO	EP_MOSI													DGND	CVDD	TVDD	DGND	F
G	P1	P0	EP_CS	EP_SCK															TEST1	TEST2	G
H	P3	P2	RAW_VSY NC	RAW_SYN C													XTALP	AVDD	REFN	REFP	H
J	DGND	DGND	MCLKOUT	SPDIF													XTALN	AVDD	AGND	AGND	J
K	P4	P5	LRCLK	SCLK													AVDD	AVDD	AIN11	AIN12	K
L	P6	P7	I2S3	I2S2													TRISA/IN2	TRIA/IN2	SYNC4	AIN10	L
M	P8	DGND	DGND	DGND													TRIS	TRIS	AGND	AGND	M
N	P9	DVDDIO	DVDDIO	DVDDIO													TRID	TRID	AIN8	AIN9	N
P	P10	P11	I2S0	I2S1													AVDD	AVDD	SYNC3	AIN7	P
R	P12	P13	DGND	DGND	SCL	DVDDIO	INT1	CLAMPIN	DVDDIO	DGND	FB_OUT	SHARED EDID	HS_IN1	AGND	Y_Mux_out	TRI2	AGND	AGND	R		
T	P14	P15	DGND	DGND	P25	DVDDIO	SDA	SYNC_OUT TANT2	DVDDIO	DGND	RESETB	AVLINK	VS_IN1	AGND	TRI1	SYNC2	AIN5	AIN6	T		
U	P16	P17	P19	P21	P23	DGND	P26	DCLKIN	P28	DGND	P31	P33	P35	AGND	SYNC1	AVDD	AVDD	AIN4	U		
V	DGND	P18	P20	P22	P24	DGND	P27	LLC	P29	DGND	P30	P32	P34	AGND	AIN1	AIN2	AIN3	AGND	V		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18			

Preliminary Information

ADV7604

PIN DESCRIPTION

Pin	Mnemonic	Type	Function
1A	DGND	Ground	Ground
1B	RXD_5V	HDMI Input	5V detect pin for Port D in the HDMI interface.
1C	PWRDNB	Input	Active low system power detect. If low, EDID can be powered from +5V signal of HDMI port when connected to active equipment.
1D	RXC_5V	HDMI Input	5V detect pin for Port C in the HDMI interface.
1E	DE	Digital Video Output	DE (data enable) is a signal that indicates active pixel data.
1F	HS	Digital Video Output	HS is a horizontal synchronization output signal in the CP and HDMI processor.
1G	P1	Digital Video Output	Video pixel output port
1H	P3	Digital Video Output	Video pixel output port
1J	DGND	Ground	Ground
1K	P4	Digital Video Output	Video pixel output port
1L	P6	Digital Video Output	Video pixel output port
1M	P8	Digital Video Output	Video pixel output port
1N	P9	Digital Video Output	Video pixel output port
1P	P10	Digital Video Output	Video pixel output port
1R	P12	Digital Video Output	Video pixel output port
1T	P14	Digital Video Output	Video pixel output port
1U	P16	Digital Video Output	Video pixel output port
1V	DGND	Ground	Ground
2A	RXD_2-	HDMI Input	Digital Input Channel 2 complement of Port D in the HDMI interface.
2B	RXD_2+	HDMI Input	Digital Input Channel 2 true of Port D in the HDMI interface.
2C	TVDD	Power	Terminator supply voltage (3.3V)
2D	RXB_5V	HDMI Input	5V detect pin for Port B in the HDMI interface.
2E	CEC	Digital I/O	Consumer electronic control channel
2F	VS_FIELD	Digital Video Output	VS is a vertical synchronization output signal in the CP and HDMI processor. FIELD is a field synchronization output signal in all interlaced video modes. VS or FIELD can be configured for this pin.
2G	P0	Digital Video Output	Video pixel output port
2H	P2	Digital Video Output	Video pixel output port
2J	DGND	Ground	Ground
2K	P5	Digital Video Output	Video pixel output port
2L	P7	Digital Video Output	Video pixel output port
2M	DGND	Ground	Ground
2N	DVDDIO	Power	Digital I/O supply voltage (3.3V)
2P	P11	Digital Video Output	Video pixel output port
2R	P13	Digital Video Output	Video pixel output port
2T	P15	Digital Video Output	Video pixel output port
2U	P17	Digital Video Output	Video pixel output port
2V	P18	Digital Video Output	Video pixel output port
3A	RXD_1-	HDMI Input	Digital Input Channel 1 complement of Port D in the HDMI interface.
3B	RXD_1+	HDMI Input	Digital Input Channel 1 true of Port D in the HDMI interface.
3C	TVDD	Power	Terminator supply voltage (3.3V)
3D	RXA_5V	HDMI Input	5V detect pin for Port A in the HDMI interface.
3F	EP_MISO	Digital Input	SPI Master In/Slave Out for External EDID Interface
3G	EP_CS	Digital Output	SPI Chip Select for External EDID Interface
3H	RAW_VSYNC	Analog Output	This pin outputs the raw-sliced, embedded CSync or raw digital HS/CS.
3J	MCLKOUT	Misc Digital	Audio master clock output.
3K	LRCLK	Misc Digital	Data output clock for left and right audio channels.
3L	I2S3	Misc Digital	I ² S Audio (Channel 7 and Channel 8).
3M	DGND	Ground	Ground
3N	DVDDIO	Power	Digital I/O supply voltage (3.3V)

ADV7604

Preliminary Information

3P	I2S0	Misc Digital	I ² S Audio (Channel 1 and Channel 2).
3R	DGND	Ground	Ground
3T	DGND	Ground	Ground
3U	P19	Digital Video Output	Video pixel output port
3V	P20	Digital Video Output	Video pixel output port
4A	RXD_0-	HDMI Input	Digital Input Channel 0 complement of Port D in the HDMI interface.
4B	RXD_0+	HDMI Input	Digital Input Channel 0 true of Port D in the HDMI interface.
4C	CVDD	Power	Comparator supply voltage (1.8V)
4D	DDCD_SDA	HDMI Input	HDCP slave serial clock Port D. DDCD_SDA is a 3.3 V input that is 5 V tolerant.
4F	EP_MOSI	Digital Input	SPI Master Out/SLAVE OUT for External EDID Interface
4G	EP_SCK	Digital Output	SPI Clock for External EDID Interface
4H	RAW_SYNC	Analog Output	This pin outputs the raw-sliced, embedded CSync or raw digital HS/CS.
4J	SPDIF	Misc Digital	S/PDIF digital audio output.
4K	SCLK	Misc Digital	Audio serial clock output.
4L	I2S2	Misc Digital	I ² S Audio (Channel 5 and Channel 6).
4M	DGND	Ground	Ground
4N	DVDDIO	Power	Digital I/O supply voltage (3.3V)
4P	I2S1	Misc Digital	I ² S Audio (Channel 3 and Channel 4).
4R	DGND	Ground	Ground
4T	DGND	Ground	Ground
4U	P21	Digital Video Output	Video pixel output port
4V	P22	Digital Video Output	Video pixel output port
5A	RXD_C-	HDMI Input	Digital input clock complement of Port D in the HDMI interface.
5B	RXD_C+	HDMI Input	Digital input clock true of Port D in the HDMI interface.
5C	DGND	Ground	Ground
5D	DDCD_SCL	HDMI Input	HDCP slave serial clock Port D. DDCD_SCL is a 3.3 V input that is 5 V tolerant.
5R	SCL	Misc Digital	I ² C port serial clock input (maximum clock rate of 400 kHz). SCL is the clock line for the control port.
5T	P25	Digital Video Output	Video pixel output port
5U	P23	Digital Video Output	Video pixel output port
5V	P24	Digital Video Output	Video pixel output port
6A	DGND	Ground	Ground
6B	TVDD	Power	Terminator supply voltage (3.3V)
6C	TVDD	Power	Terminator supply voltage (3.3V)
6D	DDCC_SDA	HDMI Input	HDCP slave serial clock Port C. DDCC_SDA is a 3.3 V input that is 5 V tolerant.
6R	DVDDIO	Power	Digital I/O supply voltage (3.3V)
6T	DVDDIO	Power	Digital I/O supply voltage (3.3V)
6U	DGND	Ground	Ground
6V	DGND	Ground	Ground
7A	RXC_2-	HDMI Input	Digital Input Channel 2 complement of Port C in the HDMI interface.
7B	RXC_2+	HDMI Input	Digital Input Channel 2 true of Port C in the HDMI interface.
7C	TVDD	Power	Terminator supply voltage (3.3V)
7D	DDCC_SCL	HDMI Input	HDCP slave serial clock Port C. DDCC_SCL is a 3.3 V input that is 5 V tolerant.
7G	DGND	Ground	Ground
7H	DGND	Ground	Ground
7J	DVDD	Power	Digital supply voltage (1.8 V).
7K	DVDD	Power	Digital supply voltage (1.8 V).
7L	DVDD	Power	Digital supply voltage (1.8 V).
7M	DVDD	Power	Digital supply voltage (1.8 V).
7R	INT1	Misc Digital	Interrupt pin 1, can be active low or active high. When status bits change, this pin is triggered. The events that trigger an interrupt are under user control.
7T	SDA	Misc Digital	I ² C port serial data input/output pin. SDA is the data line for the control port.
7U	P26	Digital Video Output	Video pixel output port
7V	P27	Digital Video Output	Video pixel output port

Preliminary Information

ADV7604

8A	RXC_1-	HDMI Input	Digital Input Channel 1 complement of Port C in the HDMI interface.
8B	RXC_1+	HDMI Input	Digital Input Channel 1 true of Port C in the HDMI interface.
8C	DGND	Ground	Ground
8D	CVDD	Power	Comparator supply voltage (1.8V)
8G	DGND	Ground	Ground
8H	DGND	Ground	Ground
8J	DGND	Ground	Ground
8K	DVDD	Power	Digital supply voltage (1.8 V).
8L	DVDD	Power	Digital supply voltage (1.8 V).
8M	DVDD	Power	Digital supply voltage (1.8 V).
8R	CLAMPIN	External Clamp	External clamp signal. This is an optional mode of operation for the ADV7604.
8T	SYNC_OUT/INT2	Misc Digital	Interrupt pin 2, can be active low or active high. When status bits change, this pin is triggered. The events that trigger an interrupt are under user control.
8U	DCLKIN	External Clock and Clamp	External clock for ADC sampling. This is an optional mode of operation for the ADV7604.
8V	LLC	Digital Video Output	Line locked output clock for the pixel data (range is 13.5 MHz to 170 MHz).
9A	RXC_0-	HDMI Input	Digital Input Channel 0 complement of Port C in the HDMI interface.
9B	RXC_0+	HDMI Input	Digital Input Channel 0 true of Port C in the HDMI interface.
9C	DGND	Ground	Ground
9D	DGND	Ground	Ground
9G	DGND	Ground	Ground
9H	DGND	Ground	Ground
9J	DGND	Ground	Ground
9K	DGND	Ground	Ground
9L	DGND	Ground	Ground
9M	DGND	Ground	Ground
9R	DVDDIO	Power	Digital I/O supply voltage (3.3V)
9T	DVDDIO	Power	Digital I/O supply voltage (3.3V)
9U	P28	Digital Video Output	Video pixel output port
9V	P29	Digital Video Output	Video pixel output port
10A	RXC_C-	HDMI Input	Digital input clock complement of Port C in the HDMI interface.
10B	RXC_C+	HDMI Input	Digital input clock true of Port C in the HDMI interface.
10C	DGND	Ground	Ground
10D	RTERM	Misc Analog	Sets internal termination resistance. A 500 Ω resistor between this pin and GND should be used.
10G	DGND	Ground	Ground
10H	DGND	Ground	Ground
10J	DGND	Ground	Ground
10K	DGND	Ground	Ground
10L	DGND	Ground	Ground
10M	DGND	Ground	Ground
10R	DGND	Ground	Ground
10T	DGND	Ground	Ground
10U	DGND	Ground	Ground
10V	DGND	Ground	Ground
11A	TVDD	Power	Terminator supply voltage (3.3V)
11B	TVDD	Power	Terminator supply voltage (3.3V)
11C	TVDD	Power	Terminator supply voltage (3.3V)
11D	CVDD	Power	Comparator supply voltage (1.8V)
11G	PVDD	Power	PLL supply voltage (1.8 V).
11H	AGND	Ground	Ground
11J	AGND	Ground	Ground
11K	AGND	Ground	Ground
11L	AGND	Ground	Ground

ADV7604*Preliminary information*

11M	AGND	Ground	Ground
11R	FB_OUT	Misc Digital	FB output; this is the muxed fast blank output from TRI1 to TRIB (programmable).
11T	RESETB	Misc Digital	Chip Reset. Active low. Minimum low time for a reset to take place is 5 ms.
11U	P31	Digital Video Output	Video pixel output port
11V	P30	Digital Video Output	Video pixel output port
12A	RXB_2-	HDMI Input	Digital Input Channel 2 complement of Port B in the HDMI interface.
12B	RXB_2+	HDMI Input	Digital Input Channel 2 true of Port B in the HDMI interface.
12C	TVDD	Power	Terminator supply voltage (3.3V)
12D	DDCB_SDA	HDMI Input	HDCP slave serial clock Port B. DDCB_SDA is a 3.3 V input that is 5 V tolerant.
12G	PVDD	Power	PLL supply voltage (1.8 V).
12H	AGND	Ground	Ground
12J	AGND	Ground	Ground
12K	AVDD	Power	Analog supply voltage (1.8V)
12L	AVDD	Power	Analog supply voltage (1.8V)
12M	AVDD	Power	Analog supply voltage (1.8V)
12R	SHARED_EDID	Input	EDID flag. When high, all four HDMI ports share common EDID. When low, Port D does not share common EDID – Port D operates with a separate EDID.
12T	AVLINK	Digital I/O	Digital SCART control channel
12U	P33	Digital Video Output	Video pixel output port
12V	P32	Digital Video Output	Video pixel output port
13A	RXB_1-	HDMI Input	Digital Input Channel 1 complement of Port D in the HDMI interface.
13B	RXD_1+	HDMI Input	Digital Input Channel 1 true of Port D in the HDMI interface.
13C	DGND	Ground	Ground
13D	DDCB_SCL	HDMI Input	HDCP slave serial clock Port B. DDCB_SCL is a 3.3 V input that is 5 V tolerant.
13R	HS_IN1	Misc Analog	HS on Graphics Port 1. HS input signal is used in CP mode for 5-wire timing mode. HS_IN1 is a 3.3 V input that is 5 V tolerant.
13T	VS_IN1	Misc Analog	VS on Graphics Port 1. The VS input signal is used in CP mode for 5-wire timing mode. VS_IN1 is a 3.3 V input that is 5 V tolerant.
13U	P35	Digital Video Output	Video pixel output port
13V	P34	Digital Video Output	Video pixel output port
14A	RXB_0-	HDMI Input	Digital Input Channel 0 complement of Port B in the HDMI interface.
14B	RXB_0+	HDMI Input	Digital Input Channel 0 true of Port B in the HDMI interface.
14C	DGND	Ground	Ground
14D	DDCA_SCL	HDMI Input	HDCP slave serial clock Port A. DDCA_SCL is a 3.3 V input that is 5 V tolerant.
14R	AGND	Ground	Ground
14T	AGND	Ground	Ground
14U	AGND	Ground	Ground
14V	AGND	Ground	Ground
15A	RXB_C-	HDMI Input	Digital input clock complement of Port B in the HDMI interface.
15B	RXB_C+	HDMI Input	Digital input clock true of Port B in the HDMI interface.
15C	DGND	Ground	Ground
15D	DDCA_SDA	HDMI Input	HDCP slave serial clock Port A. DDCA_SDA is a 3.3 V input that is 5 V tolerant.
15E	DGND	Ground	Ground
15F	DGND	Ground	Ground
15H	XTALP	Misc Analog	Input pin for 28.63636 MHz crystal or can be overdriven by an external 1.8 V 28.63636 MHz clock oscillator source to clock the ADV7604. The following crystal frequencies are also supported: 24.576 MHz and 27.00 MHz.
15J	XTALN	Misc Analog	This pin should be connected to the 28.63636 MHz crystal or left as a no connect if an external 1.8 V 28.63636 MHz clock oscillator source is used to clock the ADV7604. In crystal mode, the crystal must be a fundamental crystal. The following crystal frequencies are also supported: 24.576 MHz and 27.00 MHz.
15K	AVDD	Power	Analog supply voltage (1.8V)
15L	VS_IN2	Misc Analog	Dual purpose pin. Trilevel/bilevel input on the SCART or D-terminal

Pr. 0 | Page 10 of 12

Preliminary Information

ADV7604

15M	TRI5	Misc Analog	connector. Result available via I ² C. This signal can be buffered and output to the FBOUT pin. VS on Graphics Port 2. The VS input signal is used in CP mode for 5-wire timing mode. VS_IN2 is a 3.3 V input that is 5V tolerant.
15N	TRI3	Misc Analog	Trilevel/bilevel input on the SCART or D-terminal connector. Result available via I ² C. This signal can be buffered and output to the FBOUT pin.
15P	AVDD	Power	Trilevel/bilevel input on the SCART or D-terminal connector. Result available via I ² C. This signal can be buffered and output to the FBOUT pin.
15R	Y_MUX_OUT	Misc Analog	Analog supply voltage (1.8V)
15T	TRI1	Misc Analog	Buffered output of the Y channel.
15U	SYNC1	Misc Analog	Trilevel/bilevel input on the SCART or D-terminal connector. Result available via I ² C. This signal can be buffered and output to the FBOUT pin.
15V	AIN1	Analog Video Input	This is a synchronization on green or luma input (SOG/SOY) used in embedded synchronization mode. User configurable.
16A	TVDD	Power	Analog video input channel
16B	TVDD	Power	Terminator supply voltage (3.3V)
16C	DGND	Ground	Terminator supply voltage (3.3V)
16D	TVDD	Power	Ground
16E	DGND	Ground	Terminator supply voltage (3.3V)
16F	CVDD	Power	Ground
16H	AVDD	Power	Comparator supply voltage (1.8V)
16J	AVDD	Power	Analog supply voltage (1.8V)
16K	AVDD	Power	Analog supply voltage (1.8V)
16L	TRI7/HS_IN2	Misc Analog	Analog supply voltage (1.8V)
16M	TRI6	Misc Analog	Dual purpose pin. Trilevel/bilevel input on the SCART or D-terminal connector. Result available via I ² C. This signal can be buffered and output to the FBOUT pin. HS on Graphics Port 2. The HS input signal is used in CP mode for 5-wire timing mode. HS_IN2 is a 3.3 V input that is 5V tolerant.
16N	TRI4	Misc Analog	Trilevel/bilevel input on the SCART or D-terminal connector. Result available via I ² C. This signal can be buffered and output to the FBOUT pin.
16P	AVDD	Power	Trilevel/bilevel input on the SCART or D-terminal connector. Result available via I ² C. This signal can be buffered and output to the FBOUT pin.
16R	TRI2	Misc Analog	Analog supply voltage (1.8V)
16T	SYNC2	Misc Analog	Trilevel/bilevel input on the SCART or D-terminal connector. Result available via I ² C. This signal can be buffered and output to the FBOUT pin.
16U	AVDD	Power	This is a synchronization on green or luma input (SOG/SOY) used in embedded synchronization mode. User configurable.
16V	AIN2	Analog Video Input	Analog supply voltage (1.8V)
17A	TVDD	Power	Analog video input channel
17B	RXA_2+	HDMI Input	Terminator supply voltage (3.3V)
17C	RXA_1+	HDMI Input	Digital Input Channel 2 complement of Port A in the HDMI interface.
17D	RXA_0+	HDMI Input	Digital Input Channel 1 complement of Port A in the HDMI interface.
17E	RXA_C+	HDMI Input	Digital Input Channel 0 complement of Port A in the HDMI interface.
17F	TVDD	Power	Digital input clock complement of Port A in the HDMI interface.
17G	TEST1	Test	Terminator supply voltage (3.3V)
17H	REFN	Misc Analog	Do not connect
17J	AGND	Ground	Internal voltage reference output.
17K	AIN11	Analog Video Input	Ground
17L	SYNC4	Misc Analog	Analog video input channel
17M	AGND	Ground	This is a synchronization on green or luma input (SOG/SOY) used in embedded synchronization mode. User configurable.
17N	AIN8	Analog Video Input	Ground
17P	SYNC3	Misc Analog	Analog video input channel
17R	AGND	Ground	This is a synchronization on green or luma input (SOG/SOY) used in embedded synchronization mode. User configurable.
17T	AIN5	Analog Video Input	Ground
17U	AVDD	Power	Analog video input channel
			Analog supply voltage (1.8V)



DUAL LOW NOISE OPERATIONAL AMPLIFIERS

AZ4580

Pin Configuration

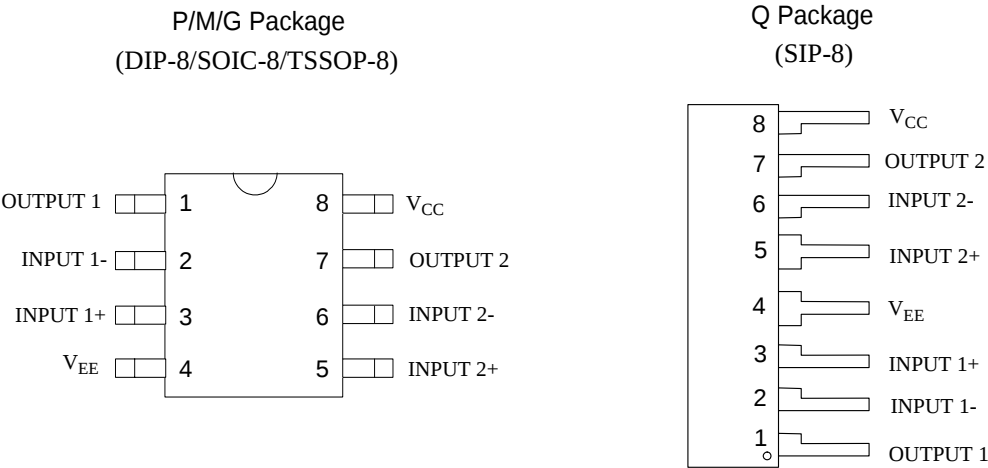


Figure 2. Pin Configuration of AZ4580 (Top View)

Pin Description

Pin No.	Function	Pin No.	Function	Pin No.	Function	Pin No.	Function
1	OUTPUT 1	2	INPUT 1-	3	INPUT 1+	4	V _{EE}
5	INPUT 2+	6	INPUT 2-	7	OUTPUT 2	8	V _{CC}



Data sheet acquired from Harris Semiconductor
SCHS063

CMOS 8-Stage Shift-and-Store Bus Register

High-Voltage Types (20-Volt Rating)

■ CD4094B is an 8-stage serial shift register having a storage latch associated with each stage for strobing data from the serial input to parallel buffered 3-state outputs. The parallel outputs may be connected directly to common bus lines. Data is shifted on positive clock transitions. The data in each shift register stage is transferred to the storage register when the STROBE input is high. Data in the storage register appears at the outputs whenever the OUTPUT-ENABLE signal is high.

Two serial outputs are available for cascading a number of CD4094B devices. Data is available at the Q_S serial output terminal on positive clock edges to allow for high-speed operation in cascaded systems in which the clock rise time is fast. The same serial information, available at the Q'_S terminal on the next negative clock edge, provides a means for cascading CD4094B devices when the clock rise time is slow.

The CD4094B types are supplied in 16-lead hermetic dual-in-line ceramic packages (D and F suffixes), 16-lead dual-in-line plastic package (E suffix), and in chip form (H suffix).

Features:

- 3-state parallel outputs for connection to common bus
- Separate serial outputs synchronous to both positive and negative clock edges for cascading
- Medium speed operation — 5 MHz at 10 V (typ.)
- Standardized, symmetrical output characteristics
- 100% tested for quiescent current at 20 V
- Maximum input current of 1 μ A at 18 V over full package-temperature range; 100 nA at 18 V and 25°C
- Noise margin (full package temperature range):
1 V at $V_{DD} = 5$ V 2 V at $V_{DD} = 10$ V
2.5 V at $V_{DD} = 15$ V
- 5-V, 10-V, and 15-V parametric ratings
- Meets all requirements of JEDEC Tentative Standard No. 13B, "Standard Specifications for Description of 'B' Series CMOS Devices"

Applications:

- Serial-to-parallel data conversion
- Remote control holding register
- Dual-rank shift, hold, and bus applications

MAXIMUM RATINGS, Absolute-Maximum Values:

DC SUPPLY-VOLTAGE RANGE, (V_{DD})

Voltages referenced to V_{SS} Terminal) -0.5V to +20V

INPUT VOLTAGE RANGE, ALL INPUTS -0.5V to $V_{DD} + 0.5$ V

DC INPUT CURRENT, ANY ONE INPUT ± 10 mA

POWER DISSIPATION PER PACKAGE (P_D):

For $T_A = -55^\circ\text{C}$ to $+100^\circ\text{C}$ 500mW

For $T_A = +100^\circ\text{C}$ to $+125^\circ\text{C}$ Derate Linearly at 12mW/ $^\circ\text{C}$ to 200mW

DEVICE DISSIPATION PER OUTPUT TRANSISTOR

FOR $T_A = \text{FULL PACKAGE-TEMPERATURE RANGE (All Package Types)}$ 100mW

OPERATING-TEMPERATURE RANGE (T_A) -55°C to $+125^\circ\text{C}$

STORAGE TEMPERATURE RANGE (T_{stg}) -65°C to $+150^\circ\text{C}$

LEAD TEMPERATURE (DURING SOLDERING):

At distance 1/16 $\pm$ 1/32 inch (1.59 $\pm$ 0.79mm) from case for 10s max $+265^\circ\text{C}$

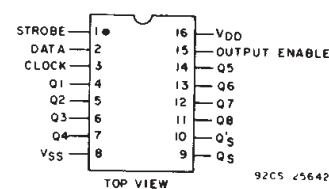
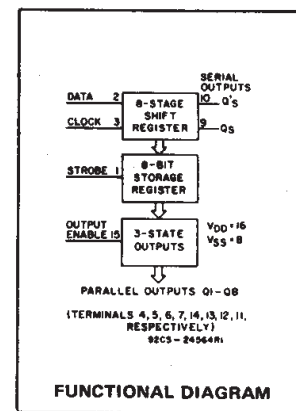


Fig. 1 — Terminal assignment.

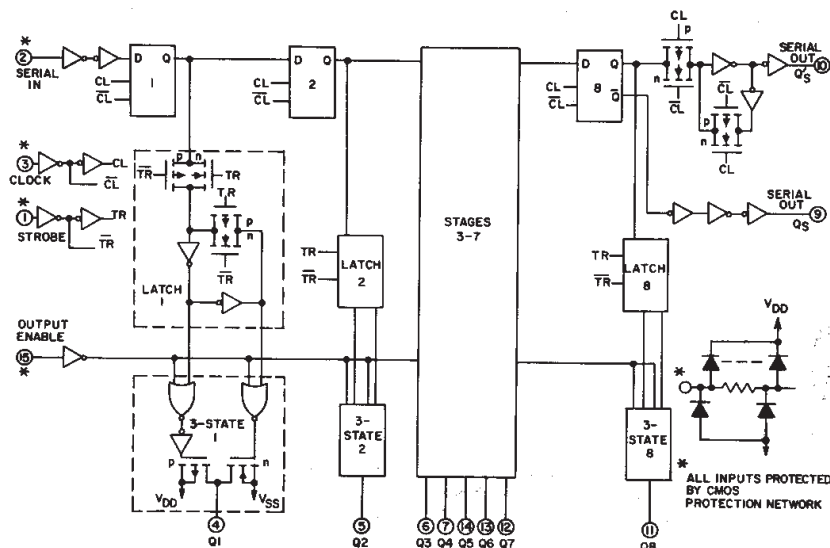


Fig. 2 — CD4094B Logic diagram.

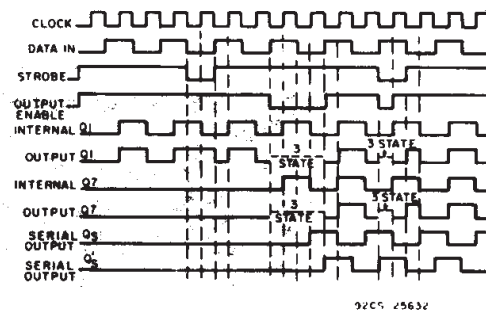
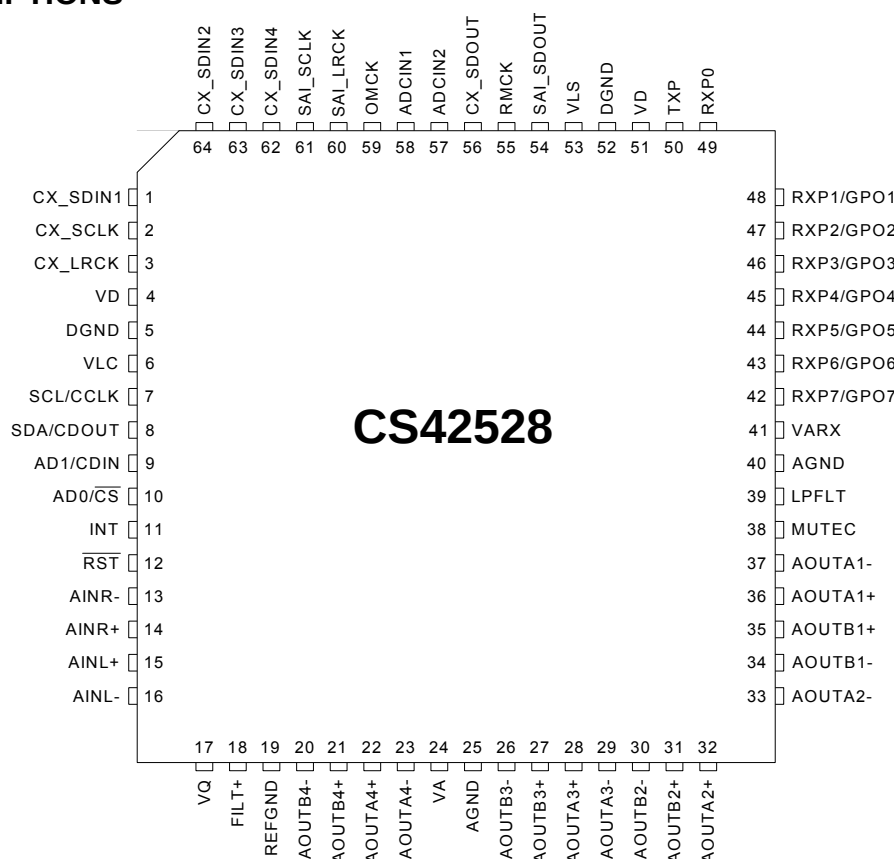


Fig. 3 — Timing diagram.



CS42528

2. PIN DESCRIPTIONS



Pin Name	#	Pin Description
CX_SDIN1	1	Codec Serial Audio Data Input (Input) - Input for two's complement serial audio data.
CX_SDIN2	64	
CX_SDIN3	63	
CX_SDIN4	62	
CX_SCLK	2	CODEC Serial Clock (Input/Output) - Serial clock for the CODEC serial audio interface.
CX_LRCK	3	CODEC Left Right Clock (Input/Output) - Determines which channel, Left or Right, is currently active on the CODEC serial audio data line.
VD	4 51	Digital Power (Input) - Positive power supply for the digital section.
DGND	5 52	Digital Ground (Input) - Ground reference. Should be connected to digital ground.
VLC	6	Control Port Power (Input) - Determines the required signal level for the control port.
SCL/CCLK	7	Serial Control Port Clock (Input) - Serial clock for the serial control port. Requires an external pull-up resistor to the logic interface voltage in I ² C mode as shown in the Typical Connection Diagram.
SDA/CDOUT	8	Serial Control Data (Input/Output) - SDA is a data I/O line in I ² C mode and requires an external pull-up resistor to the logic interface voltage, as shown in the Typical Connection Diagram. CDOUT is the output data line for the control port interface in SPI mode.
AD1/CDIN	9	Address Bit 1 (I²C)/Serial Control Data (SPI) (Input) - AD1 is a chip address pin in I ² C mode; CDIN is the input data line for the control port interface in SPI mode.



CS42528

AD0/CS	10	Address Bit 0 (I²C)/Control Port Chip Select (SPI) (Input) - AD0 is a chip address pin in I ² C mode; CS is the chip select signal in SPI mode.
INT	11	Interrupt (Output) - The CS42528 will generate an interrupt condition as per the Interrupt Mask register. See "Interrupts" on page 40 for more details.
RST	12	Reset (Input) - The device enters a low power mode and all internal registers are reset to their default settings when low.
AINR- AINR+	13 14	Differential Right Channel Analog Input (Input) - Signals are presented differentially to the delta-sigma modulators via the AINR+/- pins.
AINL+ AINL-	15 16	Differential Left Channel Analog Input (Input) - Signals are presented differentially to the delta-sigma modulators via the AINL+/- pins.
VQ	17	Quiescent Voltage (Output) - Filter connection for internal quiescent reference voltage.
FILT+	18	Positive Voltage Reference (Output) - Positive reference voltage for the internal sampling circuits.
REFGND	19	Reference Ground (Input) - Ground reference for the internal sampling circuits.
AOUTA1 +,- AOUTB1 +,- AOUTA2 +,- AOUTB2 +,- AOUTA3 +,- AOUTB3 +,- AOUTA4 +,- AOUTB4 +,-	36,37 35,34 32,33 31,30 28,29 27,26 22,23 21,20	Differential Analog Output (Output) - The full-scale differential analog output level is specified in the Analog Characteristics specification table.
VA VARX	24 41	Analog Power (Input) - Positive power supply for the analog section.
AGND	25 40	Analog Ground (Input) - Ground reference. Should be connected to analog ground.
MUTEC	38	Mute Control (Output) - The Mute Control pin outputs high impedance following an initial power-on condition or whenever the PDN bit is set to a '1', forcing the codec into power-down mode. The signal will remain in a high impedance state as long as the part is in power-down mode. The Mute Control pin goes to the selected "active" state during reset, muting, or if the master clock to left/right clock frequency ratio is incorrect. This pin is intended to be used as a control for external mute circuits to prevent the clicks and pops that can occur in any single supply system. The use of external mute circuits are not mandatory but may be desired for designs requiring the absolute minimum in extraneous clicks and pops.
LPFLT	39	PLL Loop Filter (Output) - An RC network should be connected between this pin and ground.
RXP7/GPO7 RXP6/GPO6 RXP5/GPO5 RXP4/GPO4 RXP3/GPO3 RXP2/GPO2 RXP1/GPO1	42 43 44 45 46 47 48	S/PDIF Receiver Input/ General Purpose Output (Input/Output) - Receiver inputs for S/PDIF encoded data. The CS42528 has an internal 8:2 multiplexer to select the active receiver port, according to the Receiver Mode Control 2 register. These pins can also be configured as general purpose output pins, ADC Overflow indicators or Mute Control outputs according to the RXP/General Purpose Pin Control registers.
RXP0	49	S/PDIF Receiver Input (Input) - Dedicated receiver input for S/PDIF encoded data.
TXP	50	S/PDIF Transmitter Output (Output) - S/PDIF encoded data output, mapped directly from one of the receiver inputs as indicated by the Receiver Mode Control 2 register.
VLS	53	Serial Port Interface Power (Input) - Determines the required signal level for the serial port interfaces.
SAI_SDOUT	54	Serial Audio Interface Serial Data Output (Output) - Output for two's complement serial audio PCM data from the S/PDIF incoming stream. This pin can also be configured to transmit the output of the internal and external ADCs.
RMCK	55	Recovered Master Clock (Output) - Recovered master clock output from the External Clock Reference (OMCK, pin 59) or the PLL which is locked to the incoming S/PDIF stream or CX_LRCK.



CS42528

CX_SDOUT	56	CODEC Serial Data Output (<i>Output</i>) - Output for two's complement serial audio data from the internal and external ADCs.
ADCIN1	58	External ADC Serial Input (<i>Input</i>) - The CS42528 provides for up to two external stereo analog to digital converter inputs to provide a maximum of six channels on one serial data output line when the CS42528 is placed in One Line mode.
ADCIN2	57	
OMCK	59	External Reference Clock (<i>Input</i>) - External clock reference that must be within the ranges specified in the register "OMCK Frequency (OMCK Freqx)" on page 54.
SAI_LRCK	60	Serial Audio Interface Left/Right Clock (<i>Input/Output</i>) - Determines which channel, Left or Right, is currently active on the serial audio data line.
SAI_SCLK	61	Serial Audio Interface Serial Clock (<i>Input/Output</i>) - Serial clock for the Serial Audio Interface.



8. Device Pin-Out Diagram

8.1 128-Pin LQFP Pin-Out Diagram

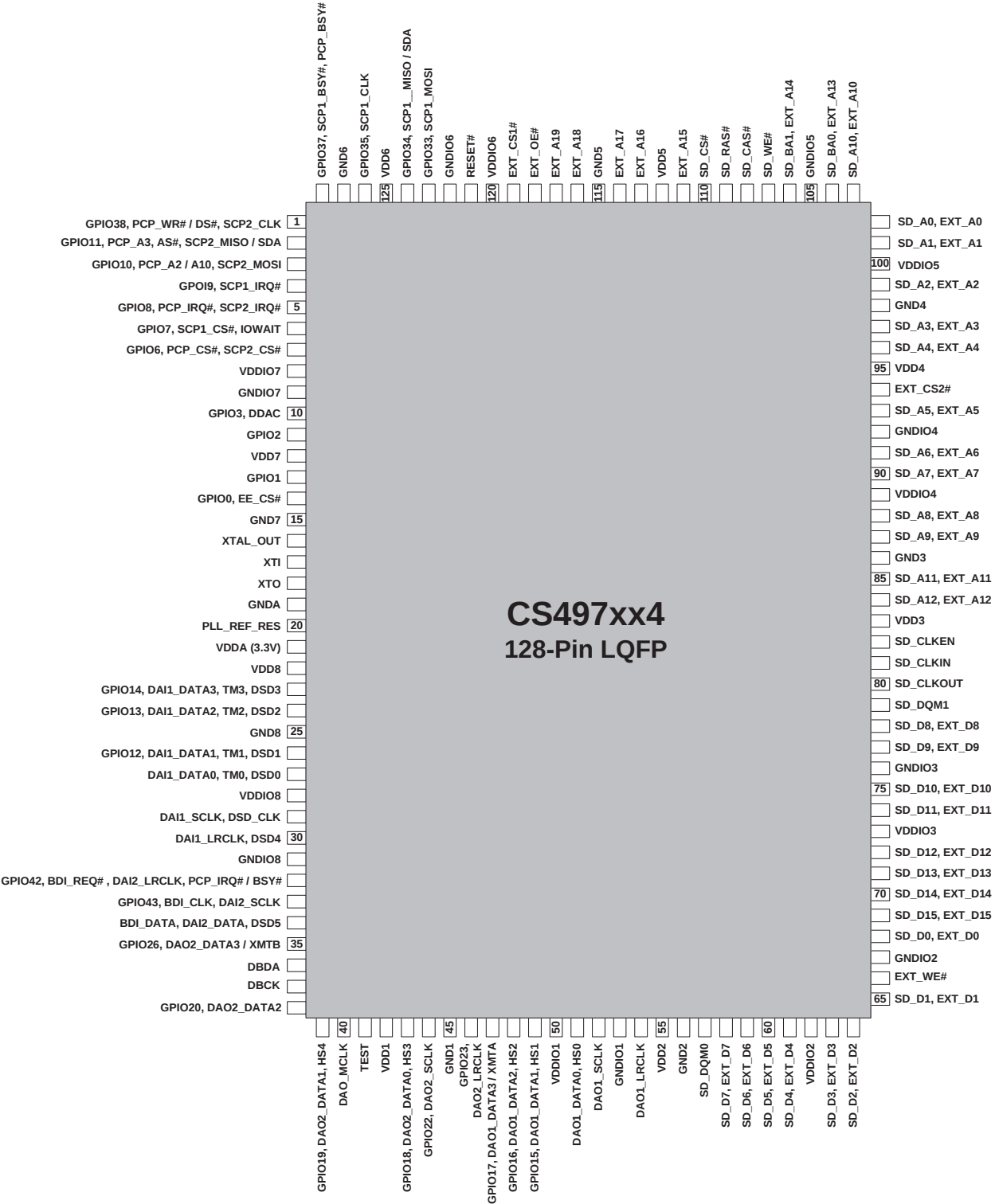


Figure 19. 128-Pin LQFP Pin-Out Diagram

KEC

SEMICONDUCTOR
TECHNICAL DATA

KIA278R05PI~KIA278R15PI
BIPOLAR LINEAR INTEGRATED CIRCUIT

4 TERMINAL 2A OUTPUT LOW DROP
VOLTAGE REGULATOR

The KIA278R × × Series are Low Drop Voltage Regulator suitable for various electronic equipments. It provides constant voltage power source with TO-220 4 terminal lead full molded PKG. The Regulator has multi function such as over current protection, overheat protection and ON/OFF control.

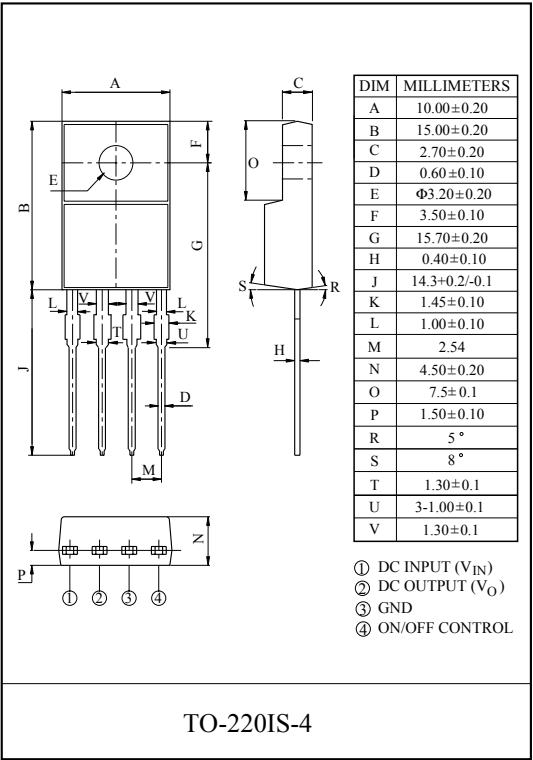
FEATURES

- 2.0A Output Low Drop Voltage Regulator.
- Built in ON/OFF Control Terminal.
- Built in Over Current Protection, Over Heat Protection Function.

LINE UP

ITEM	OUTPUT VOLTAGE (Typ.)	UNIT
KIA278R05PI	5	V
KIA278R06PI	6	
KIA278R08PI	8	
KIA278R09PI	9	
KIA278R10PI	10	
KIA278R12PI	12	
* KIA278R15PI	15	

* Note) * : Under Development.



MAXIMUM RATING (Ta=25℃)

CHARACTERISTIC	SYMBOL	RATING	UNIT	Remark
Input Voltage	V _{IN}	35	V	-
ON/OFF Control Voltage	V _C	35	V	-
Output Current	I _O	2	A	-
Power Dissipation 1	P _{d1}	1.5	W	No heatsink
Power Dissipation 2	P _{d2}	15	W	with heatsink
Junction Temperature	T _j	125	℃	-
Operating Temperature	T _{opr}	-20 ~ 80	℃	-
Storage Temperature	T _{stg}	-30 ~ 125	℃	-
Soldering Temperature (10sec)	T _{sol}	260	℃	-

KEC

SEMICONDUCTOR
TECHNICAL DATA

KIA1117BS/BF00~
KIA1117BS/BF50
BIPOLAR LINEAR INTEGRATED CIRCUIT

LOW DROP FIXED AND ADJUSTABLE
POSITIVE VOLTAGE REGULATOR

The KIA1117BS/BF × × Series are a Low Drop Voltage Regulator able to provide up to 1A of output current, available even in adjustable version (Vref=1.25V)

FEATURES

- Low Dropout Voltage : 1.1V/Typ. (Iout=1.0A)
- Very Low Quiescent Current : 2.5 mA/Typ.
- Output Current up to 1A
- Fixed Output Voltage of 1.2V, 1.5V, 1.8V, 2.5V, 2.85V, 3.3V, 5.0V
- Adjustable Version Availability : Vref=1.25V
- Internal Current and Thermal Limit
- A Minimum of 10μF for stability
- Suitable for MLCC, Tantalum and Low ESR Electrolytic Capacitors
- ESR Range for stability : 1m Ω~200 Ω
- Available in ±2%(at 25 °C)
- High Ripple Rejection : 80dB/Typ
- Temperature Range : -40 °C ~150 °C

LINE UP

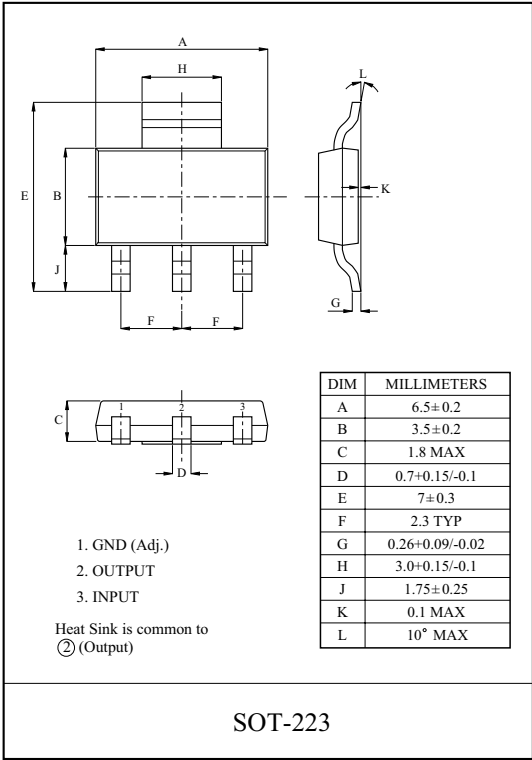
ITEM	OUTPUT VOLTAGE (V)	PACKAGE
KIA1117BS/BF00	Adjustable (1.25~8V)	S : SOT-223 F : DPAK
KIA1117BS/BF12	1.2	
KIA1117BS/BF15	1.5	
KIA1117BS/BF18	1.8	
KIA1117BS/BF25	2.5	
KIA1117BS/BF28	2.85	
KIA1117BS/BF33	3.3	
KIA1117BS/BF50	5.0	

MAXIMUM RATINGS (Ta=25 °C)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Input Voltage		V _{IN}	10	V
Output Current		I _{OUT}	1.0	A
Power Dissipation 1 (No Heatsink)	S (Note)	P _{D1}	1.0	W
	F		1.3	
Power Dissipation 2 (Infinite Heatsink)	S	P _{D2}	8.3	W
	F		13	
Maximum Junction Temperature		T _{j(max)}	150	°C
Operating Junction Temperature		T _{opr}	-40 ~ 150	°C
Storage Temperature		T _{stg}	-55 ~ 150	°C

Note) Package Mounted on FR-4 PCB 36 ×18 ×1.5 mm.

: mounting pad for the GND Lead min. 6cm²



KEC

SEMICONDUCTOR
TECHNICAL DATA

KIA7805AP~KIA7824AP
BIPOLAR LINEAR INTEGRATED CIRCUIT

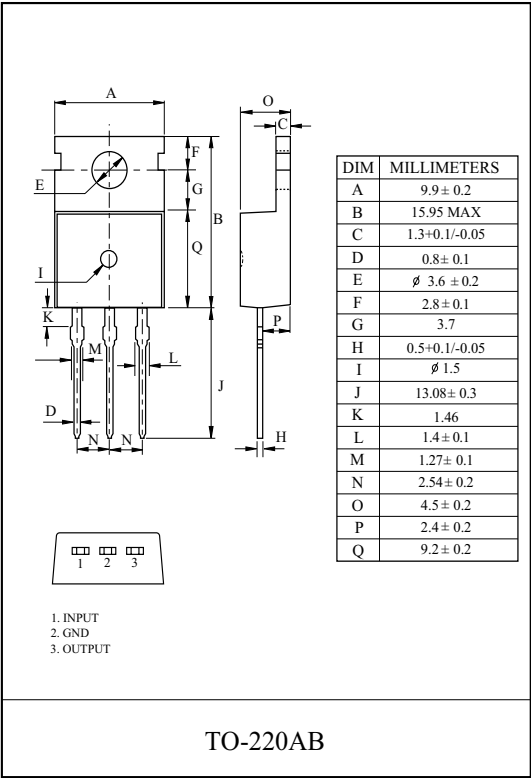
THREE TERMINAL POSITIVE VOLTAGE REGULATORS
5V, 6V, 7V, 8V, 9V, 10V, 12V, 15V, 18V, 20V, 24V.

FEATURES

- Internal Thermal Overload Protection.
- Internal Short Circuit Current Limiting.
- Output Current up to 1.5A.
- Satisfies IEC-65 Specification. (International Electronical Commission).
- Package is TO-220AB

LINE-UP

ITEM	OUTPUT VOLTAGE (Typ.)	UNIT
KIA7805AP	5	V
KIA7806AP	6	
KIA7807AP	7	
KIA7808AP	8	
KIA7809AP	9	
KIA7810AP	10	
KIA7812AP	12	
KIA7815AP	15	
KIA7818AP	18	
KIA7820AP	20	
KIA7824AP	24	



MAXIMUM RATINGS (Ta=25℃)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Input Voltage	KIA7805 ~ KIA7815	VIN	35	V
	KIA7818 ~ KIA7824		40	
Power Dissipation-1 (No Heatsink)	AP	PD2	1.9	W
Power Dissipation-2 (Infinite Heatsink)	AP	PD2	30	
Operating Junction Temperature		Tj	-40 ~150	℃
Storage Temperature		Tstg	-55 ~150	℃
Maximum Junction Tamperature		Tj(max)	150	℃

KEC

KOREA ELECTRONICS CO.,LTD.

SEMICONDUCTOR
TECHNICAL DATA

KIA7905P/PI~
KIA7924P/PI

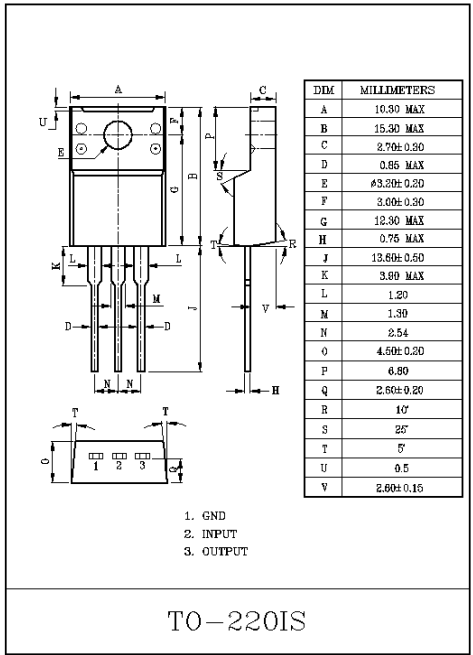
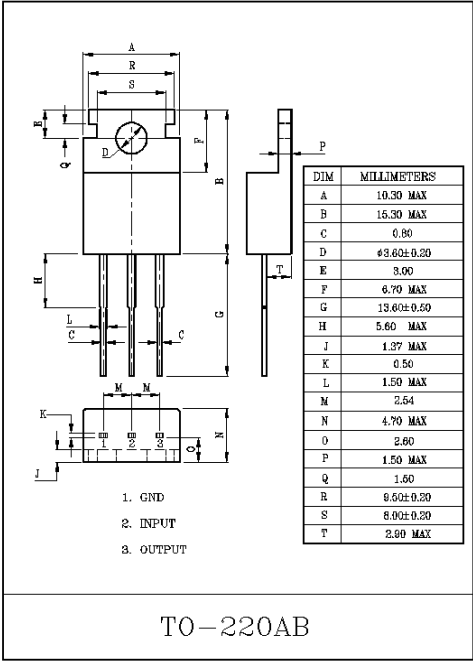
BIPOLAR LINEAR INTEGRATED CIRCUIT

1A THREE TERMINAL NEGATIVE VOLTAGE REGULATORS
-5V, -6V, -8V, -9V, -10V, -12V, -15V, -18V, -20V, -24V

- FEATURES:
- Suitable for C-MOS, TTL, and the other digital IC power supply.
 - Internal thermal overload protecting.
 - Internal short circuit current limiting.
 - Output current in excess of 1.0A.

MAXIMUM RATINGS (Ta=25℃)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Input Voltage	KIA7905P/PI~ KIA7915P/PI	VIN	-35	V
	KIA7918P/PI~ KIA7924P/PI		-40	
Power Dissipation (Tc=25℃)		PD	20.8	W
Operating Junction Temperature		Tj	-30~150	℃
Operating Temperature		Topr	-30~75	℃
Storage Temperature		Tstg	-55~150	℃



KEC

SEMICONDUCTOR
TECHNICAL DATA

KIC3201S/T-12 ~
KIC3201S/T-60
CMOS Linear Integrated Circuit

Large Current Positive Voltage Regulator

The KIC3201S/T series are highly precise, low power consumption, positive voltage regulators manufactured using CMOS and laser trimming technologies. The series provides large currents with a significantly small dropout voltage. The KIC3201S/T consists of a driver transistor, a precision reference voltage and an error amplifier. Output voltage is selectable in 0.05V steps between a voltage of 1.2V and 6.0V.

Features

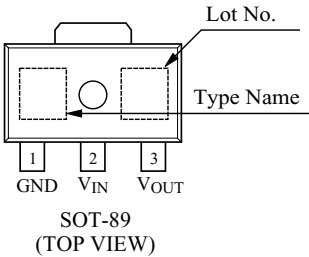
- Maximum Output Current : 400mA
- Dropout Voltage : 150mV @100mA, 300mV @200mA for $V_{OUT}=3.0V$
- Maximum Operating Voltage : 10V
- Output Voltage Range :
1.2V ~ 6.0V (selectable in 0.05V steps)
- Highly Accurate : $\pm 2\%$
- Low Power Consumption : Typ. 8.0uA
- Operational Temperature Range : -40 °C ~ 85 °C
- Low ESR Capacitor : Ceramic compatible or Tantalum

Applications

- Battery Powered Equipment
- Reference Voltage Sources
- Digital Cameras, Camcoders
- Palmtop Computers
- Portable Audio Video Equipment

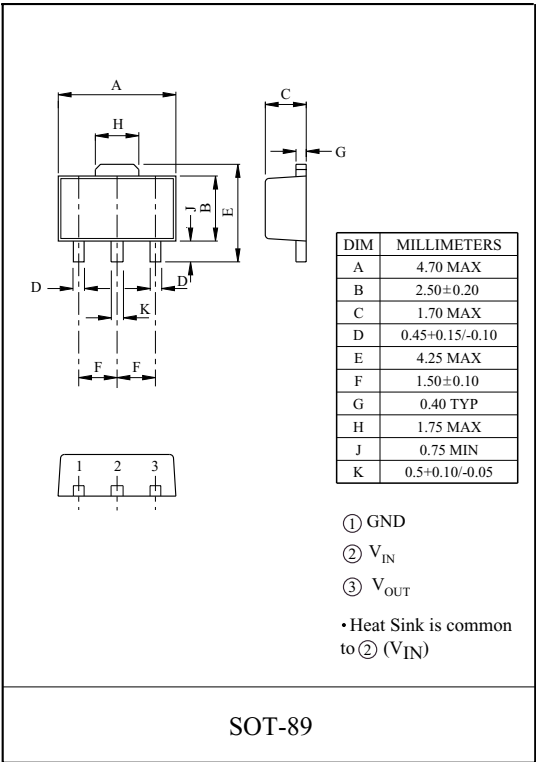
Pin Configuration

KIC3201S-XX



No.	Symbol	Description
1	GND	Ground
2	V_{IN}	Power input
3	V_{OUT}	Output

• Heat Sink is common to ② (V_{IN})



cosmo**High Reliability Photo Coupler****K1010**

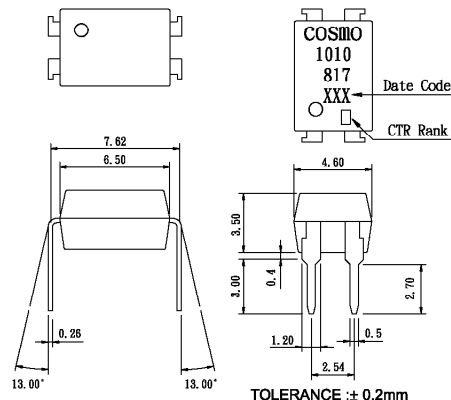
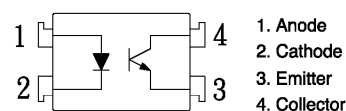
UL 1577 (File No.E169586) VDE 0884 / 0860 / 0805 (File No.101347)

Features

1. Current transfer ratio
(CTR:MIN.50% at $I_F=5\text{mA}$ $V_{CE}=5\text{V}$)
2. High isolation voltage between input and output
(Viso:5000Vrms).
3. Compact dual-in-line package.
4. Available package : DIP/ SMD/ H.

Applications

1. Registers, copiers, automatic vending machines.
2. System appliances, measuring instruments.
3. Computer terminals, programmable controllers.
4. Communications, telephone, etc.
5. Electric home appliances, such as oil fan heaters, Microwave oven, Washer, Refrigerator, Air conditioner, etc.
6. Medical instruments, physical and chemical equipment.
7. Signal transmission between circuits of different potentials and impedances.
8. Facsimile equipment, Audio, Video.
9. Switching power supply, Laser beam printer.

Outside Dimension : Unit (mm)**Schematic : Top View****Absolute Maximum Ratings**

(Ta=25°C)

	Parameter	Symbol	Rating	Unit
Input	Forward current	I_F	50	mA
	Peak forward current	I_{FM}	1	A
	Reverse voltage	V_R	6	V
	Power dissipation	P_D	70	mW
Output	Collector-emitter voltage	V_{CEO}	60	V
	Emitter-collector voltage	V_{ECO}	6	V
	Collector current	I_C	50	mA
	Collector power dissipation	P_C	150	mW
Total power dissipation		P_{tot}	200	mW
Isolation voltage 1 minute		V_{iso}	5000	Vrms
Operating temperature		T_{opr}	-30 to +100	°C
Storage temperature		T_{stg}	-55 to +125	°C
Soldering temperature 10 second		T_{sol}	260	°C

Electro-optical Characteristics

(Ta=25°C)

	Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Input	Forward voltage	V_F	$I_F=20\text{mA}$	—	1.2	1.4	V
	Peak forward voltage	V_{FM}	$I_{FM}=0.5\text{A}$	—	—	3.0	V
	Reverse current	I_R	$V_R=4\text{V}$	—	—	10	uA
	Terminal capacitance	C_t	$V=0$, $f=1\text{kHz}$	—	30	—	pF
Output	Collector dark current	I_{CEO}	$V_{CE}=20\text{V}$	—	—	0.1	uA
Transfer characteristics	Current transfer ratio	CTR	$I_F=5\text{mA}$, $V_{CE}=5\text{V}$	50	—	600	%
	Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_F=20\text{mA}$, $I_C=1\text{mA}$	—	0.1	0.2	V
	Isolation resistance	Riso	DC500V	5×10^{10}	10^{11}	—	ohm
	Floating capacitance	C_f	$V=0$, $f=1\text{MHz}$	—	0.6	1.0	pF
	Cut-off frequency	f_c	$V_{CC}=5\text{V}$, $I_C=2\text{mA}$, $R_L=100\text{ohm}$	—	80	—	kHz
	Response time(Rise)	t_r	$V_{CE}=2\text{V}$, $I_C=2\text{mA}$, $R_L=100\text{ohm}$	—	4	18	us
	Response time(Fall)	t_f		—	3	18	us

Ordering number : ※ EN5039

	No. ※ 5039	CMOS IC
		LC74763, 74763M
On-Screen Display LSI		

Preliminary

Overview

The LC74763 and LC74763M are on-screen display CMOS LSIs that superimpose text and low-level graphics onto a TV screen (video signal) under the control of a microcontroller. The display characters have a 12 by 18 dots structure, and 128 characters are provided.

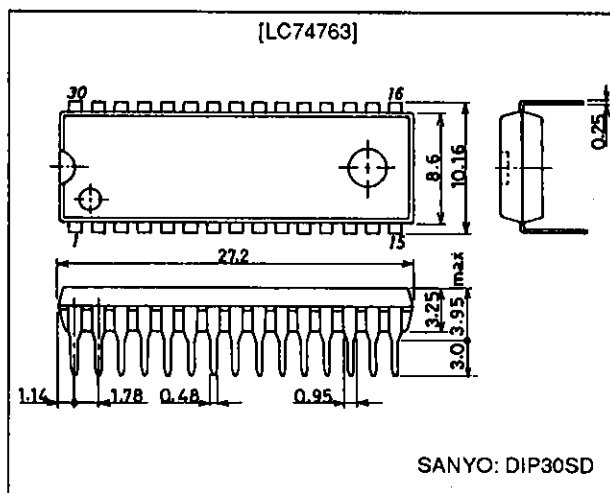
Features

- Display structure: 12 lines by 24 characters (up to 288 characters)
- Maximum character display: Up to 288 characters
- Character configuration: 12 (W) by 18 (H) dots structure
- Number of characters: 128 characters (128 plus space 2 fonts)
- Character sizes: Three sizes (normal, double, and triple sizes)
- Display starting positions: 64 horizontal and 64 vertical locations
- Reverse video function: Characters can be inverted on a per character basis.
- Flashing types: Two types with periods of 0.5 and 1.0 second on a per character basis (duty fixed at 50%)
- Background color: One of eight colors (when internal synchronization used)
- External control input: Serial data input in 8-bit units
- Built-in horizontal/vertical sync separation circuit, AFC circuit, and synchronization detector
- Video output: Composite video signal output in NTSC, PAL, PAL-M, PAL-N, PAL60, NTSC4.43, or SECAM format

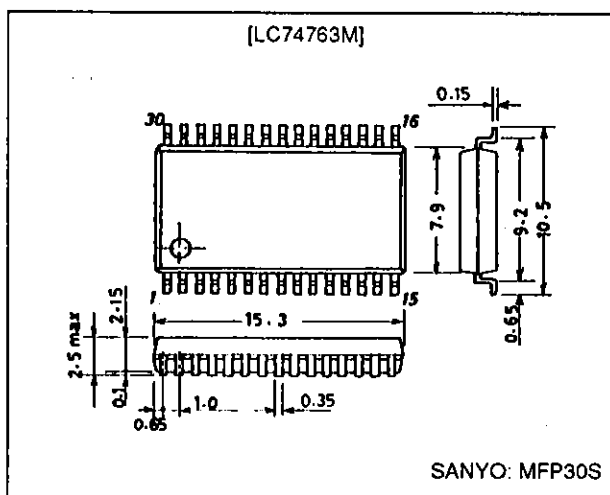
Package Dimensions

unit: mm

3196-DIP30SD



3216A-MFP30S



SANYO Electric Co., Ltd. Semiconductor Business Headquarters
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110 JAPAN

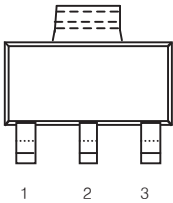
1A LOWDROP OUT VOLTAGE REGULATOR (ADJUSTABLE & FIXED)

LM1117

FEATURES

- Output Current up to 1 A
- **Low Dropout Voltage (700mV at 1A Output Current)**
- Three Terminal Adjustable or Fixed 1.5V, 1.8V, 2.5V, 2.85V, 3.0V, 3.3V, 5.0V
- 2.85V Device for SCSI-II Active Terminator
- **0.04% Line Regulaion, 0.1% Load Regulation**
- Very Low Quiescent Current
- Internal Current and Terminal Limit
- Logic-Controlled Electronics Shutdown
- Surface Mount Package SOT-223 & TO-263 (D2-Pack)
- 100% Thermal Limit Burn-In

SOT-223 PKG (FRONT VIEW)



- PIN FUNCTION
- 1. Adj/Gnd
 - 2. Vout
 - 3. Vin

APPLICATION

- Active SCSI Terminators
- Portable/Plan Top/Notebook Computers
- High Efficiency Linear Regulators
- SMPS Post Regulators
- Mother B/D Clock Supplies
- Disk Drives
- Battery Chargers

ORDERING INFORMATION

Device (Marking)	Package
LM1117S	SOT-223
LM1117S-XX	
LM1117T	TO-263 (D2)
LM1117T-XX	

(X=Output Voltage=1.5V, 1.8V, 2.5V, 2.85V, '3.0V, 3.3V, 5.0V, Adjustable=AD)

DESCRIPTION

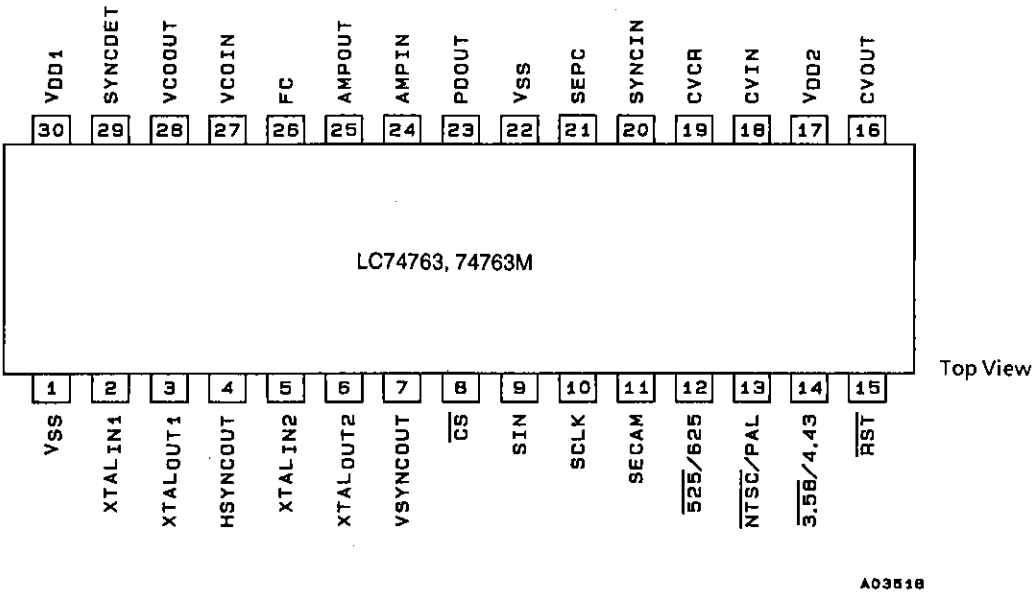
The LM1117 is a low power positive-voltage regulator designed to meet 1A output current and comply with SCSI-II specifications with a fixed output voltage of 2.85V. This device is an excellent choice for use in battery-powered applications, as active terminators for the SCSI bus, and portable computers. The LM1117 features very low quiescent current and very **low dropout voltage of 700mV at a full load** and lower as output current decreases. LM1117 is available as an adjustable or fixed 1.5V, 1.8V, 2.5V, 2.85V, 3.0V, 3.3V, and 5.0V output voltages. The LM1117 is offered in a 3-pin surface mount package SOT-223 & TO-263. The output capacitor of 10μF or larger is needed for output stability of LM1117 as required by most of the other regulator circuits.

ABSOLUTE MAXIMUM RATINGS

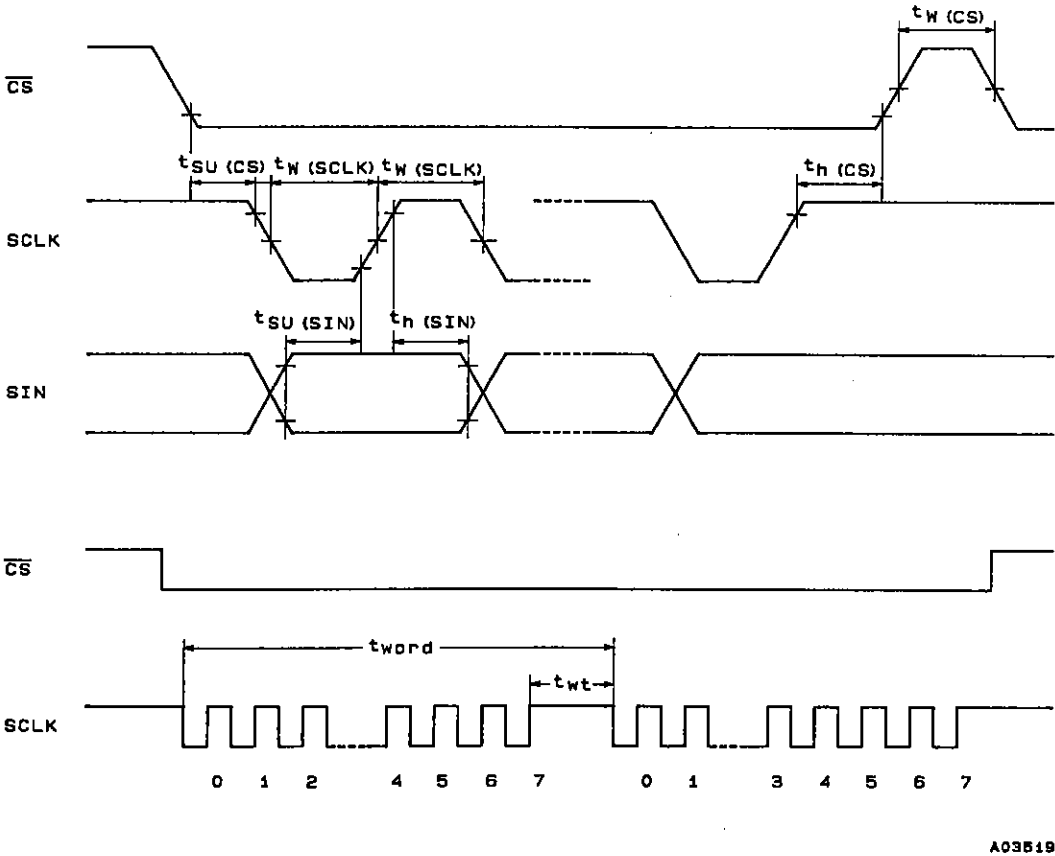
CHARACTERISTIC	SYMBOL	MIN.	MAX.	UNIT
DC Input Voltage	V _{IN}		7	V
Lead Temperature (Soldering, 5 Seconds)	T _{SOL}		260	°C
Storage Temperature Range	T _{STG}	-65	150	°C
Operating Junction Temperature Range	T _{OPR}	0	125	°C

LC74763, 74763M

Pin Assignment



Serial Data Input Timing



ESMT

M12L16161A

SDRAM

512K x 16Bit x 2Banks

Synchronous DRAM

FEATURES

- JEDEC standard 3.3V power supply
- LVTTTL compatible with multiplexed address
- Dual banks operation
- MRS cycle with address key programs
 - CAS Latency (2 & 3)
 - Burst Length (1, 2, 4, 8 & full page)
 - Burst Type (Sequential & Interleave)
- All inputs are sampled at the positive going edge of the system clock
- Burst Read Single-bit Write operation
- DQM for masking
- Auto & self refresh
- 32ms refresh period (2K cycle)

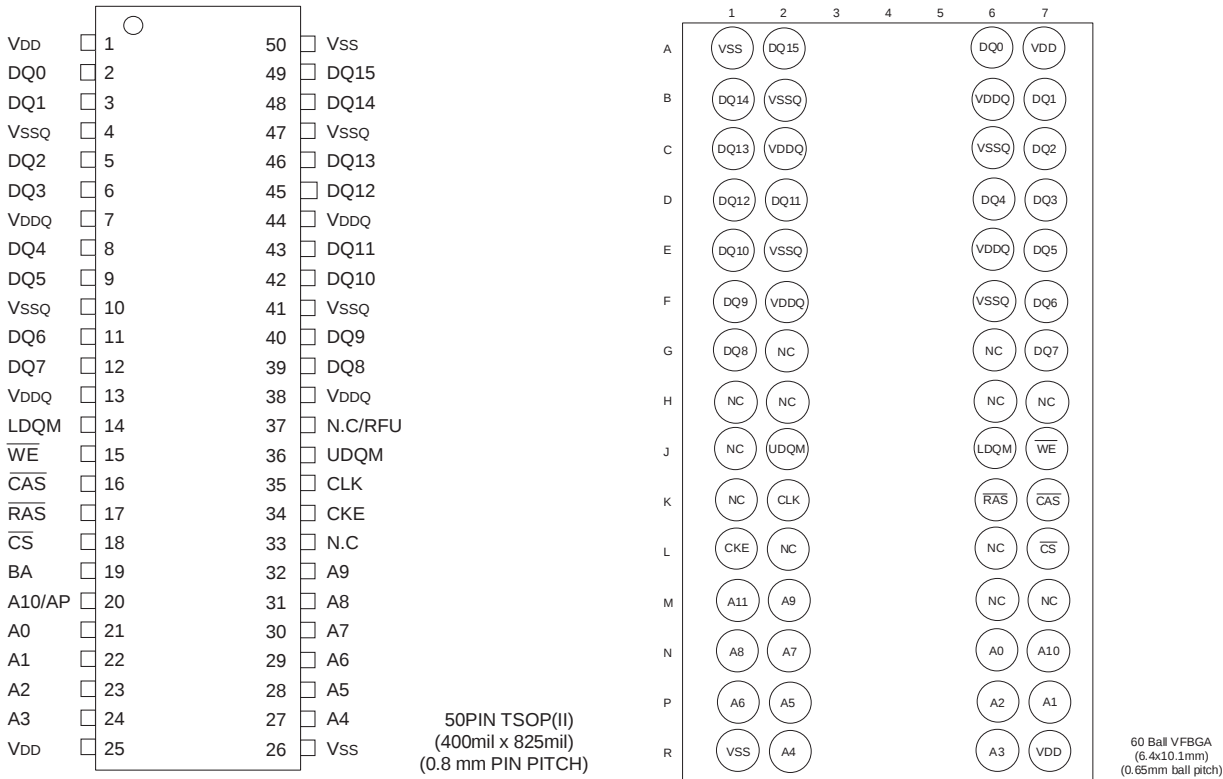
GENERAL DESCRIPTION

The M12L16161A is 16,777,216 bits synchronous high data rate Dynamic RAM organized as 2 x 524,288 words by 16 bits, fabricated with high performance CMOS technology. Synchronous design allows precise cycle control with the use of system clock I/O transactions are possible on every clock cycle. Range of operating frequencies, programmable burst length and programmable latencies allow the same device to be useful for a variety of high bandwidth, high performance memory system applications.

ORDERING INFORMATION

Part NO.	MAX Freq.	PACKAGE	COMMENTS
M12L16161A-5TG	200MHz	TSOP(II)	Pb-free
M12L16161A-7TG	143MHz	TSOP(II)	Pb-free
M12L16161A-7BG	143MHz	VFBGA	Pb-free

PIN CONFIGURATION (TOP VIEW)



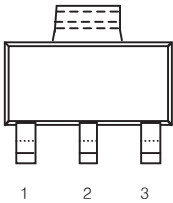
1A LOWDROP OUT VOLTAGE REGULATOR (ADJUSTABLE & FIXED)

LM1117

FEATURES

- Output Current up to 1 A
- **Low Dropout Voltage (700mV at 1A Output Current)**
- Three Terminal Adjustable or Fixed 1.5V, 1.8V, 2.5V, 2.85V, 3.0V, 3.3V, 5.0V
- 2.85V Device for SCSI-II Active Terminator
- **0.04% Line Regulaion, 0.1% Load Regulation**
- Very Low Quiescent Current
- Internal Current andTerminal Limit
- Logic-Controlled Electronics Shutdown
- Surface Mount Package SOT-223 & TO-263 (D2-Pack)
- 100% Thermal Limit Burn-In

SOT-223 PKG (FRONT VIEW)



- PIN FUNCTION
- 1. Adj/Gnd
 - 2. Vout
 - 3. Vin

APPLICATION

- Active SCSI Terminators
- Portable/Plan Top/Notebook Computers
- High Efficiency Linear Regulators
- SMPS Post Regulators
- Mother B/D Clock Supplies
- Disk Drives
- Battery Chargers

ORDERING INFORMATION

Device (Marking)	Package
LM1117S	SOT-223
LM1117S-XX	
LM1117T	TO-263 (D2)
LM1117T-XX	

(X=Output Voltage=1.5V, 1.8V, 2.5V, 2.85V, '3.0V, 3.3V, 5.0V, Adjustable=AD)

DESCRIPTION

The LM1117 is a low power positive-voltage regulator designed to meet 1A output current and comply with SCSI-II specifications with a fixed output voltage of 2.85V. This device is an excellent choice for use in battery-powered applications, as active terminators for the SCSI bus, and portable computers. The LM1117 features very low quiescent current and very **low dropout voltage of 700mV at a full load** and lower as output current decreases. LM1117 is available as an adjustable or fixed 1.5V, 1.8V, 2.5V, 2.85V, 3.0V, 3.3V, and 5.0V output voltages. The LM1117 is offered in a 3-pin surface mount package SOT-223 & TO-263. The output capacitor of 10μF or larger is needed for output stability of LM1117 as required by most of the other regulator circuits.

ABSOLUTE MAXIMUM RATINGS

CHARACTERISTIC	SYMBOL	MIN.	MAX.	UNIT
DC Input Voltage	V _{IN}		7	V
Lead Temperature (Soldering, 5 Seconds)	T _{SOL}		260	°C
Storage Temperature Range	T _{STG}	-65	150	°C
Operating Junction Temperature Range	T _{OPR}	0	125	°C

M24128

M24C64 M24C32

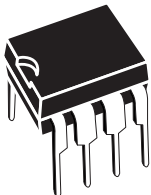
128 Kbit, 64 Kbit and 32 Kbit serial I²C bus EEPROM

Features

- Two-wire I²C serial interface supports 400 kHz protocol
- Single supply voltages (see [Table 1](#) for root part numbers):
 - 2.5 V to 5.5 V
 - 1.8 V to 5.5 V
 - 1.7 V to 5.5 V
- Write Control input
- Byte and Page Write
- Random and Sequential Read modes
- Self-timed programming cycle
- Automatic address incrementing
- Enhanced ESD/latch-up protection
- More than 1 Million write cycles
- More than 40-year data retention
- Packages
 - ECOPACK® (RoHS compliant)

Table 1. Device summary

Reference	Part number	Supply voltage
M24128	M24128-BW	2.5 V to 5.5V
	M24128-BR	1.8 V to 5.5V
	M24128-BF	1.7 V to 5.5V
M24C64	M24C64-W	2.5 V to 5.5V
	M24C64-R	1.8 V to 5.5V
	M24C64-F	1.7 V to 5.5V
M24C32	M24C32-W	2.5 V to 5.5V
	M24C32-R	1.8 V to 5.5V
	M24C32-F	1.7 V to 5.5V



PDIP8 (BN)



SO8 (MN)
150 mil width



TSSOP8 (DW)
169 mil width



UFDFPN8 (MB)
2 × 3 mm (MLP)



WLCSP (CS)

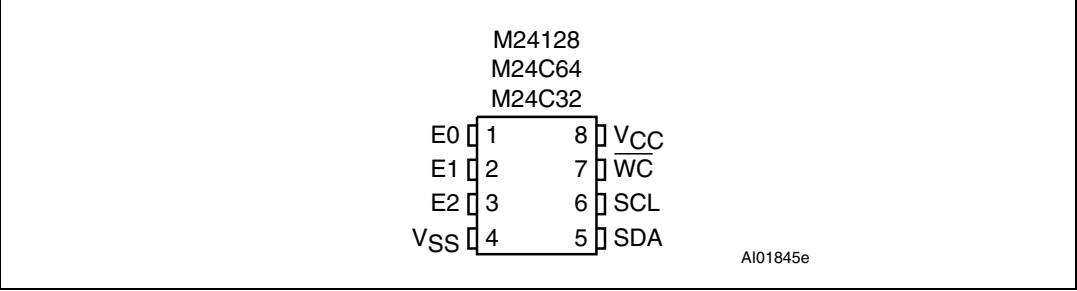
M24128, M24C64, M24C32

Description

Table 2. Signal names

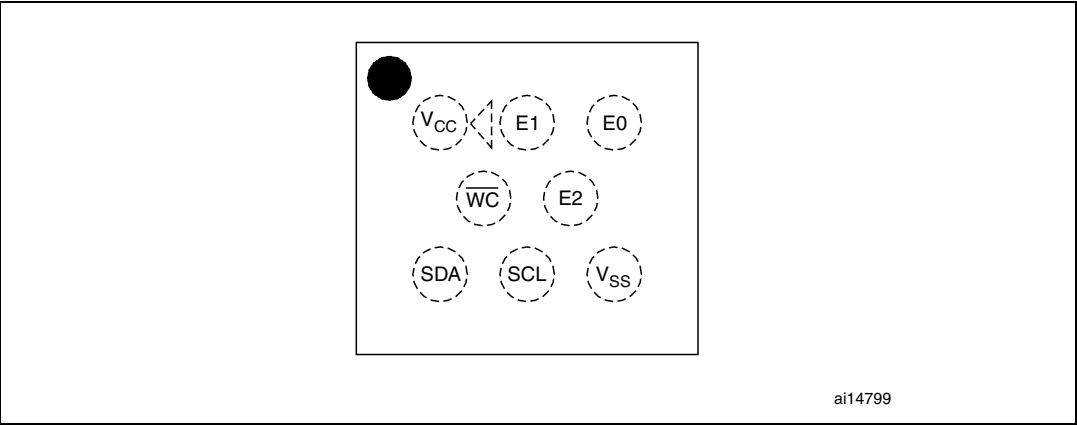
Signal name	Function	Direction
E0, E1, E2	Chip Enable	Input
SDA	Serial Data	I/O
SCL	Serial Clock	Input
WC	Write Control	Input
V _{CC}	Supply voltage	
V _{SS}	Ground	

Figure 2. DIP, SO, TSSOP and UFDFPN connections



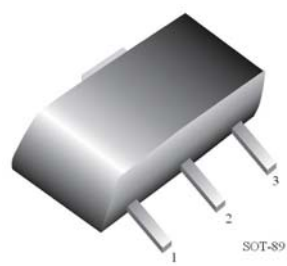
1. See [Package mechanical data](#) section for package dimensions, and how to identify pin-1.

Figure 3. M24128 WLCSP connections (top view, marking side, with balls on the underside)



❖ *Pin Configuration*

SOT-89



<i>Pin Number</i>	<i>Pin Name</i>	<i>Description</i>
<i>1</i>	<i>VOUT</i>	<i>Supply Voltage Output</i>
<i>2</i>	<i>VIN</i>	<i>Supply Voltage Input</i>
<i>3</i>	<i>VSS</i>	<i>Ground</i>



NJM2068

LOW-NOISE DUAL OPERATIONAL AMPLIFIER

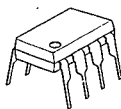
■ GENERAL DESCRIPTION

The NJM2068 is a high performance, low noise dual operational amplifier. This amplifier features popular pin-out, superior noise performance, and superior total harmonic distortion. This amplifier also features guaranteed noise performance with substantially higher gain-bandwidth product and slew rate which far exceeds that of the 4558 type amplifier. The specially designed low noise input transistors allow the NJM2068 to be used in very low noise signal processing applications such as audio preamplifiers and servo error amplifier.

■ FEATURES

- Operating Voltage (±4V ~ ±18V)
- Low Total Harmonic Distortion (0.001% typ.)
- Low Noise Voltage (FLAT+JISA, 0.56 μV typ.)
- High Slew Rate (6V/ μs typ.)
- Unity Gain Bandwidth (27MHz @f=10kHz)
- Package Outline DIP8, DMP8, SIP8, SSOP8
- Bipolar Technology

■ PACKAGE OUTLINE



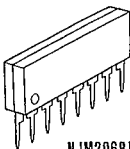
NJM2068D



NJM2068M

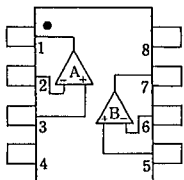


NJM2068V

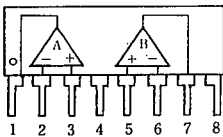


NJM2068L

■ PIN CONFIGURATION



NJM2068D
NJM2068M
NJM2068V

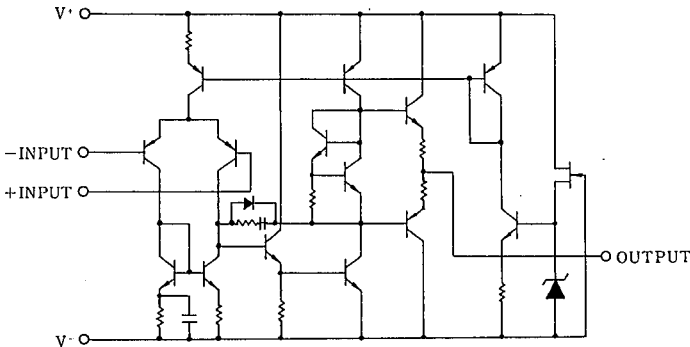


NJM2068L

PIN FUNCTION

1. A OUTPUT
2. A-INPUT
3. A+INPUT
4. V-
5. B+INPUT
6. B-INPUT
7. B OUTPUT
8. V+

■ EQUIVALENT CIRCUIT (1/2 Shown)





NJM2115

DUAL OPERATIONAL AMPLIFIER

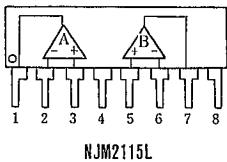
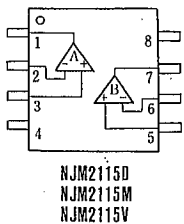
■ GENERAL DESCRIPTION

NJM 2115 is a low operating Voltage ($\pm 1.0\text{ V min.}$) and low saturation output voltage ($\pm 2.0\text{ V p-p}$ at supply voltage $\pm 2.5\text{V}$) operational amplifier. It is applicable to HANDY TYPE CD, RADIO CASSETE CD, and PORTABLE DAT, that are digital audio apparatus which require the 5V single supply operation and high output voltage. The NJM2115 is improved version of the NJM2100 about BIAS-CIRCUIT. So, NJM2115 is low saturation compared to the NJM2100 under the condition of low supply voltage ($< \pm 2.5\text{V}$). The NJM2115 is stable about the oscillation compared to the NJM2100 under the condition of $V^+/V^- > 2.5\text{V}$.

■ FEATURES

- Operating Voltage ($\pm 1\text{V} \sim \pm 7\text{V}$)
- Low Saturation Output Voltage ($\pm 2.0\text{V}_{\text{P-P}}$ @ $V^+ = \pm 2.5\text{V}$)
- Slew Rate ($4\text{V}/\mu\text{s typ.}$)
- Unity Gain Bandwidth (12MHz typ.)
- Package Outline DIP8, DMP8, SIP8, SSOP8
- Bipolar Technology

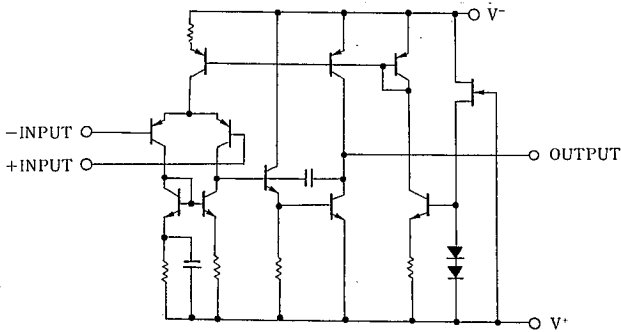
■ PIN CONFIGURATION



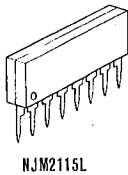
PIN FUNCTION

1. A OUTPUT
2. A -INPUT
3. A +INPUT
4. V^-
5. B -INPUT
6. B +INPUT
7. B OUTPUT
8. V^+

■ EQUIVALENT CIRCUIT (1/2 Shown)



■ PACKAGE OUTLINE



4



NJM2244

3-INPUT VIDEO SWITCH WITH 75Ω DRIVER

■ GENERAL DESCRIPTION

The NJM2244 is a three input integrated video switch witch selects one video or audio signal from three input signals.

It contains driver circuit for 75Ω load and is able to connect to TV monitor.

Its operating supply voltage range is 5 to 12V and bandwidth is 10MHz. Crosstalk is 70dB (at 4.43MHz).

NJM2244 contains clamp function and it can be operated while setting DC level fixed in position of the video signal.

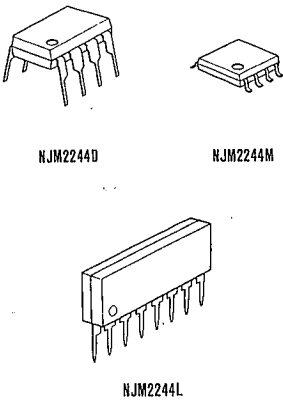
■ FEATURES

- Operating Voltage 4.75~13V
- 3 Input-1 Output
- Internal Driver Circuit for 75Ω Impedance
- Muting Function available
- Internal Clamp Function
- Low power Dissipation 16.5mA
- Cross-talk 70dB(at 4.43MHz)
- Wide Frequency Range 10MHz(2V_{P-P} Input)
- Package Outline DIP8, DMP8, SIP8
- Bipolar Technology

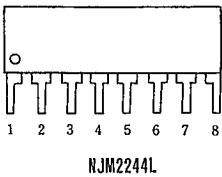
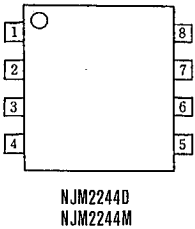
■ APPLICATION

- VCR Video Camera AV-TV Video Disc Player

■ PACKAGE OUTLINE



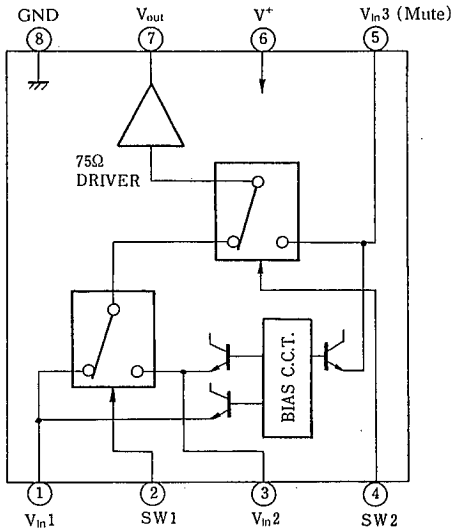
■ PIN CONFIGURATION



- PIN FUNCTION
- 1. V_{in1}
 - 2. SW1
 - 3. V_{in2}
 - 4. SW2
 - 5. V_{in3}
 - 6. V⁺
 - 7. V_{out}
 - 8. GND

■ BLOCK DIAGRAM

Pin Connection



■ INPUT CONTROL SIGNAL-OUTPUT SIGNAL

SW 1	SW 2	OUTPUT SIGNAL
L	L	V _{IN 1}
H	L	V _{IN 2}
L/H	H	V _{IN 3}

note): Input clamp voltage is about 2/5 of supply voltage.



NJM2845/46

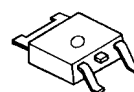
LOW DROPOUT VOLTAGE REGULATOR

■ GENERAL DESCRIPTION

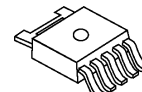
The NJM2845 is low dropout voltage regulator. Advanced Bipolar technology achieves low noise, high ripple rejection and low quiescent current.

NJM2845 is 3 terminal type and NJM2846 is ON/OFF control built in type. These product can be selected according to the applications.

■ PACKAGE OUTLINE



NJM2845DL1

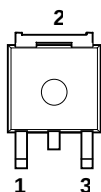


NJM2846DL3

■ FEATURES

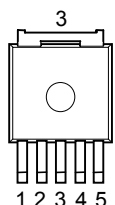
- High Ripple Rejection 75dB typ. (f=1kHz, 3V Version)
- Output Noise Voltage $V_{no}=45\mu V_{rms}$ typ. ($V_o=3V$ Version)
- Output capacitor with 2.2 μF ceramic capacitor ($V_o\geq 2.6V$)
- Output Current $I_o(max.)=800mA$
- High Precision Output $V_o \pm 1.0\%$
- Low Dropout Voltage 0.18V typ. ($I_o=500mA$)
- ON/OFF Control (NJM2846)
- Internal Short Circuit Current Limit
- Internal Thermal Overload Protection
- Bipolar Technology
- Package Outline TO-252-3 (NJM2845DL1), TO-252-5 (NJM2846DL3)

■ PIN CONFIGURATION



NJM2845DL1

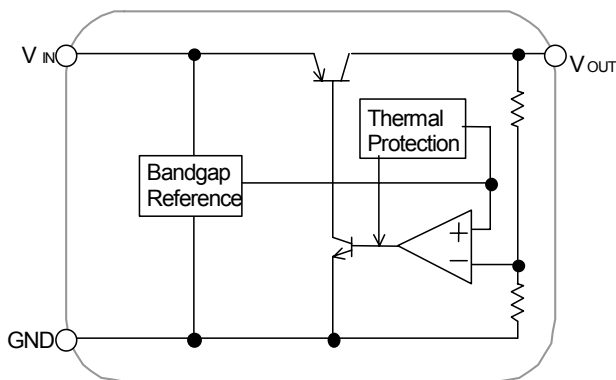
1. V_{IN}
2. GND
3. V_{OUT}



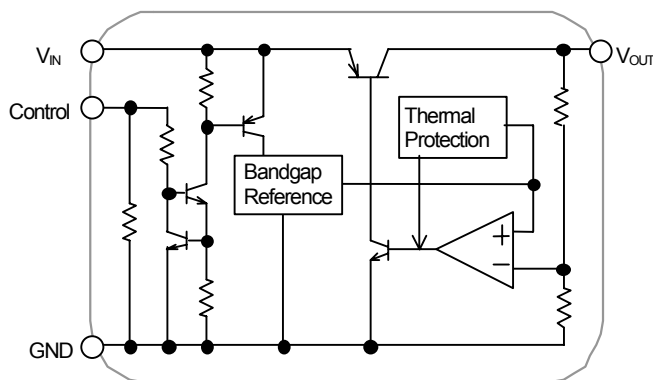
NJM2846DL3

1. CONTROL
2. V_{IN}
3. GND
4. V_o
5. NC

■ EQUIVALENT CIRCUIT



NJM2845DL1



NJM2846DL3



NJM4556A

DUAL HIGH CURRENT OPERATIONAL AMPLIFIER

■ GENERAL DESCRIPTION

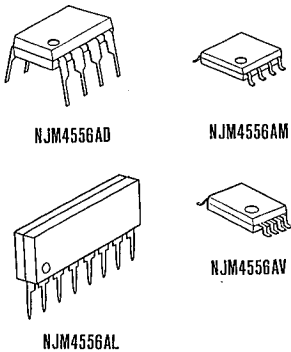
The NJM4556A integrated circuit is a high-gain, high output current dual operational amplifier capable of driving $\pm 70\text{mA}$ into $150\ \Omega$ loads ($\pm 10.5\text{V}$ output voltage), and operating low supply voltage ($V^+/V^- = \pm 2\text{V} \sim$).

The NJM4556A combines many of the fetures of the popular NJM4558 as well as having the capability of driving $150\ \Omega$ loads. In addition, the wide band-width, low noise, high slew rate and low distortion of the NJM4556A make it ideal for many audio, telecommu-nications and instrumentation applications.

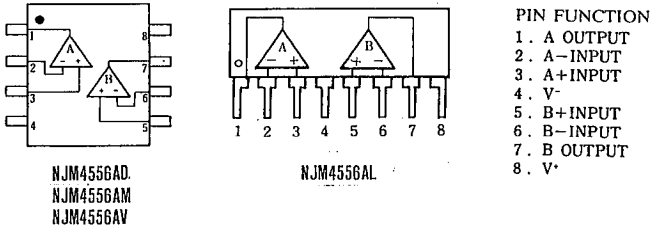
■ FEATURES

- Operating Voltage ($\pm 2\text{V} \sim \pm 18\text{V}$)
- High Output Current ($I_o = 70\text{mA}$)
- Slew Rate ($3\text{V}/\mu\text{s typ.}$)
- Gain Band Width Product (8MHz typ.)
- Package Outline DIP8, DMP8, SIP8, SSOP8
- Bipolar Technology

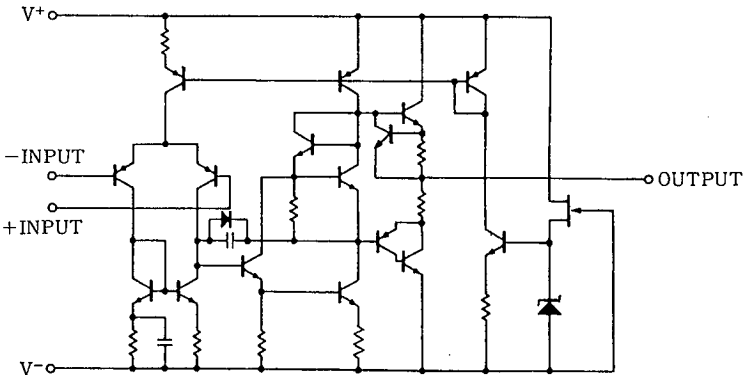
■ PACKAGE OUTLINE



■ PIN CONFIGURATION



■ EQUIVALENT CIRCUIT (1/2 Shown)





NJU7223

500mA Low Dropout Voltage Regulator

GENERAL DESCRIPTION

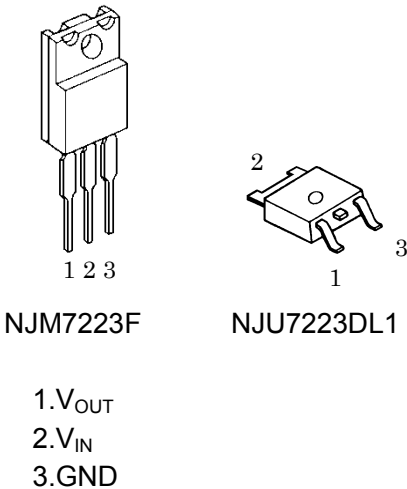
The NJU7223 series is a high precision output voltage, low drop output, low current consumption and high output current 3-terminal positive voltage regulator with a over current protection and a thermal shutdown.

Low dropout voltage is realized at high current output.

FEATURES

- High Precision Output Voltage $\pm 2\%$
- High Output Current $I_o(\text{max.})=500\text{mA}$
- Low Current Consumption $30\mu\text{A}$
- Low Dropout Voltage $\Delta V_{IO}=0.4\text{V typ. } (I_o=0.5\text{A}, V_o=5\text{V})$
- Internal Over Current Protection
- Internal Thermal Shutdown Protection
- Package Outline TO-220F, TO-252
- C-MOS Technology

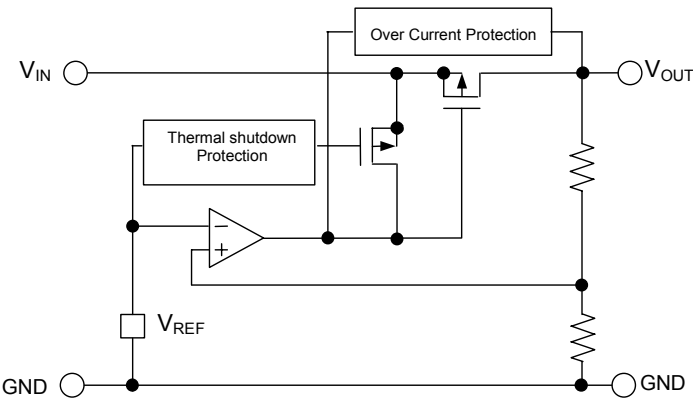
PACKAGE OUTLINE



OUTPUT VOLTAGE LINE-UP

V_{OUT}	TO-220F	TO-252
+1.8V	NJU7223F18	NJU7223DL1-18
+2.5V	NJU7223F25	NJU7223DL1-25
+3.0V	NJU7223F30	NJU7223DL1-30
+3.3V	NJU7223F33	NJU7223DL1-33
+5.0V	NJU7223F50	NJU7223DL1-50

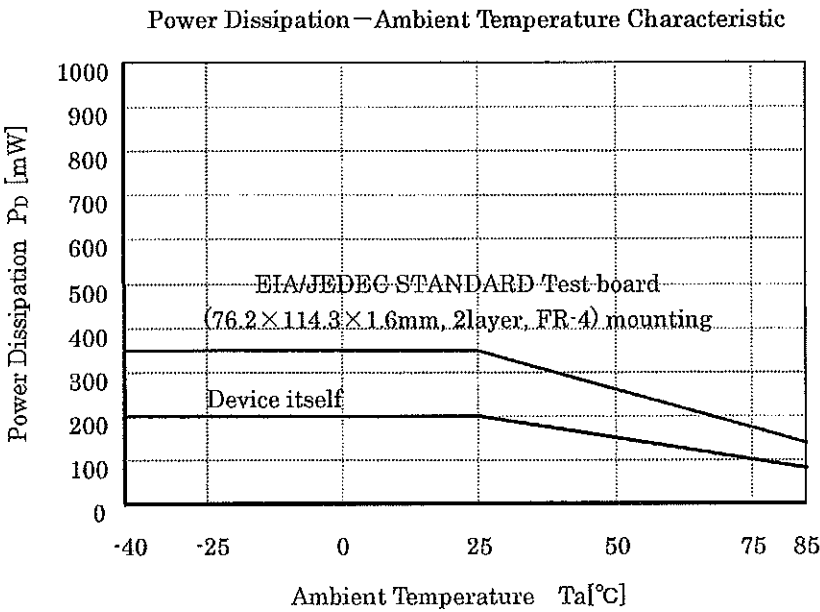
EQUIVALENT CIRCUIT



■POWER DISSIPATION VS.AMBIENT TEMPERATURE

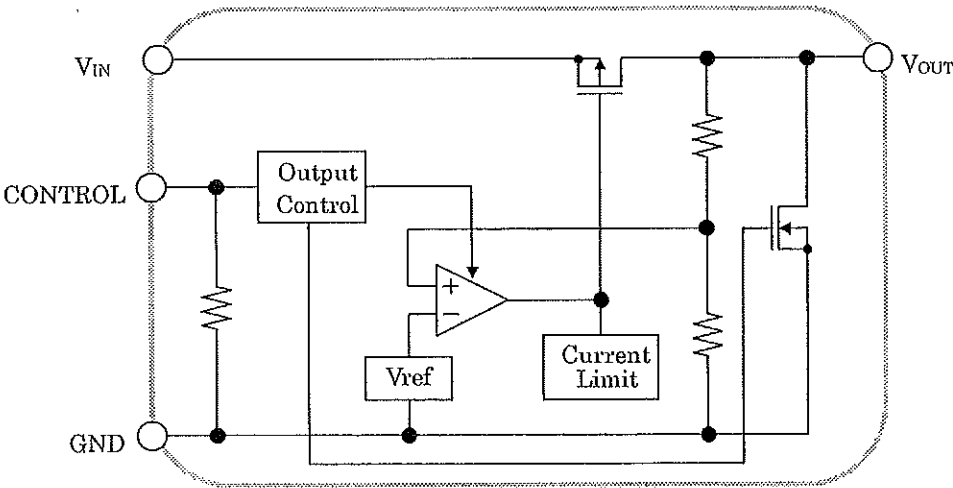
BCE-C0194-001-00

Please, refer to the following Power Dissipation and Ambient Temperature.
(Please note the surface mount package has a small maximum rating of Power Dissipation [Pd],
a special attention should be paid in designing of thermal radiation.)



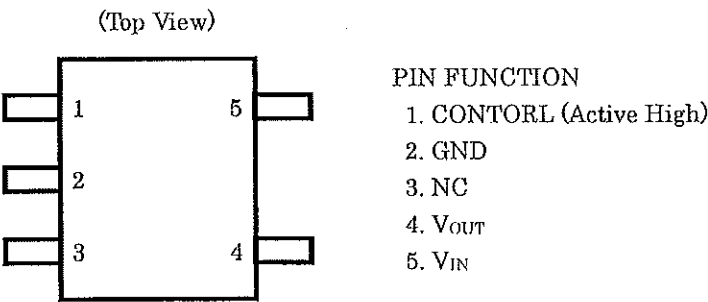
■BLOCK DIAGRAM

BDE-44772-000-00



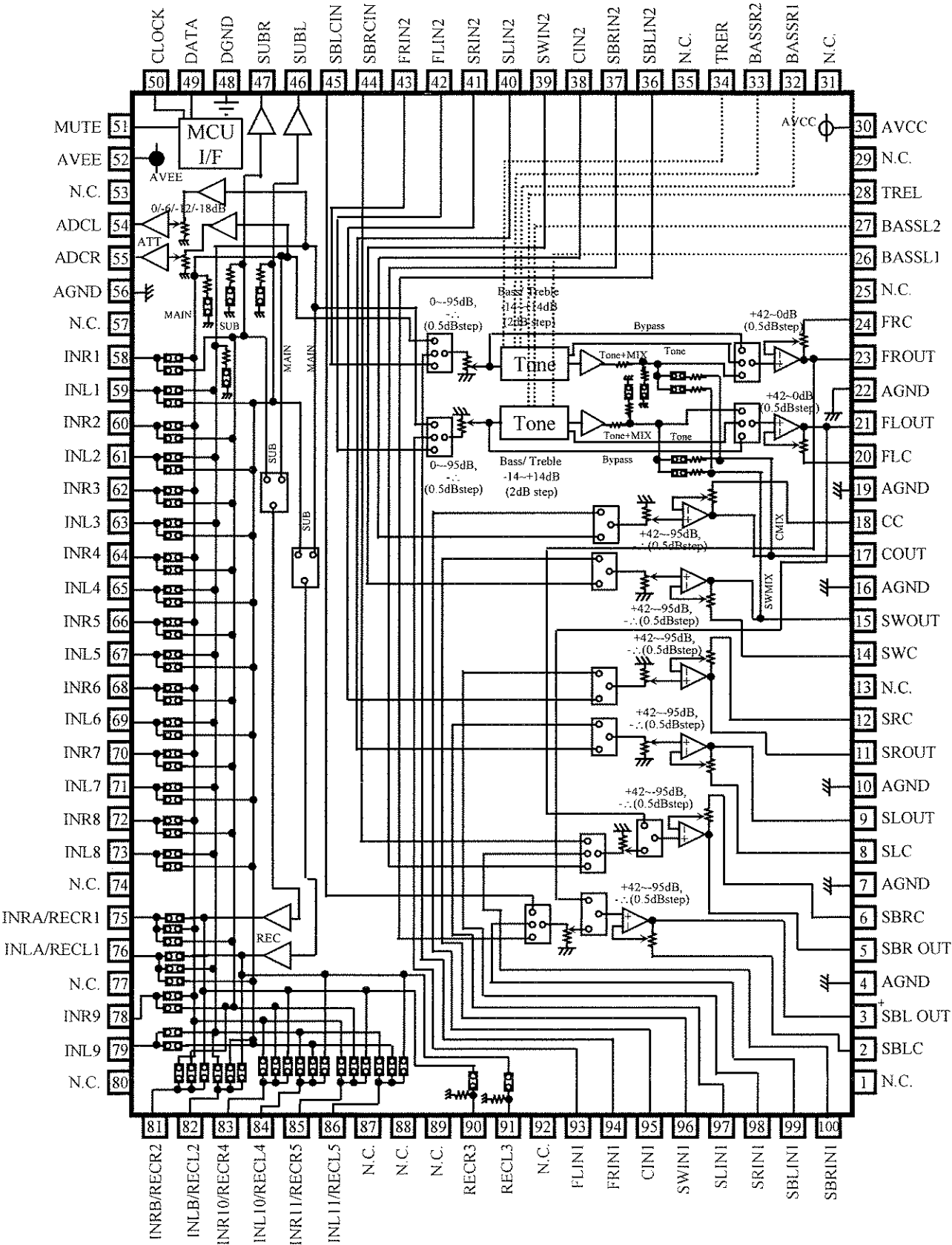
■PIN CONFIGURATION

BEE-P0028-000-00



C.S	Integrated Circuit (R2A15218FP)
-----	---------------------------------

Fig 1. BLOCKDIAGRAM AND PIN CONFIGURATION(TOP VIEW)



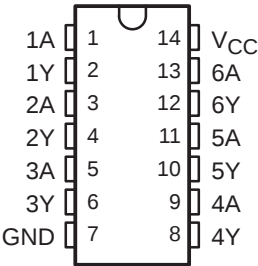
C.S	Integrated Circuit (R2A15218FP)
-----	---------------------------------

Fig 2. PIN DESCRIPTION

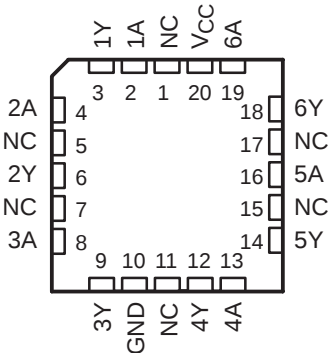
PIN No.	Name	Function
23,21, 17,15, 11,9, 5,3	FRONT,FLOUT, COUT,SWOUT, SROUT,SLOUT, SBROUT,SBLOUT	Output pin of FL/FR/C/SW/SL/SR/SBL/SBR channel
24,20, 18,14, 12,8, 6,2	FRC,FLC, CC,SWC, SRC,SLC, SBRC,SBLC	Connects capacitor for reducing click noise of L/R/C/SW/SL/SR/SBL/SBR channel volume
4,7,10,16, 19,22,56	AGND	Analog ground of internal circuit
28,34	TREL, TRER	Frequency characteristic setting pin of L/R channel tone control (Treble)
26,27, 32,33	BASSL1,BASSL2 BASSR1,BASSR2	Frequency characteristic setting pin of L/R channel tone control (Bass)
30	AVCC	Positive power supply to internal circuit
43,42, 41,40, 39,38, 37,36	FRIN2, FLIN2, SRN2,SLIN2, SWIN2,CIN2, SBRIN2,SBLIN2	Input pin of L/R/C/SW/SL/SR/SBL/SBR channel (Multi IN 1/2)
93,94, 95,96, 97,98, 99,100	FLIN1, FRIN1, CIN1,SWIN1, SLIN1,SRIN1, SBLIN1,SBRIN1	
48	DGND	Digital ground of internal circuit
49	DATA	Input pin of control data
50	CLOCK	Input pin of control clock
52	AVEE	Negative power supply to internal circuit
59,61,63, 65,67,69, 71,73,79	INL1,INL2, INL3, INL4,INL5,INL6, INL7,INL8,INL9	Input pin of L/R channel (Input Selector)
58,60,62, 64,66,68, 70,72,78	INR1,INR2, INR3, INR4,INR5,INR6, INR7,INR8,INR9	
51	MUTE	Outside Mute Control PIN
44,45	SBRCIN,SBLCIN	Input pin for SBL/SBR channel Volume
46,47	SUBL,SUBR	Output pin for L/R channel SUB Output
54,55	ADCL, ADCR	Output pin for L/R channel ADC
90,91	RECR3,RECL3	Output pin for L/R channel REC Output
75,76, 81,82, 83,84, 85,86	INRA/RECR1,INLA/RECL1, INRB/RECR2,INLB/RECL2, INR10/RECR4,INL10/RECL4, INR11/RECR5,INL11/RECL5	Input pin of L/R channel (Input Selector)/ Output pin for L/R channel REC Output
1,13,25,29,31, 35,53, 57,74,77,80, 87,88,89,92	N.C.	No Connected PIN

- 4.5-V to 5.5-V V_{CC} Operation
 - Inputs Accept Voltages to 5.5 V
- Max t_{pd} of 8.5 ns at 5 V
 - Inputs Are TTL-Voltage Compatible

SN54ACT04 . . . J OR W PACKAGE
SN74ACT04 . . . D, DB, N, NS, OR PW PACKAGE
(TOP VIEW)



SN54ACT04 . . . FK PACKAGE
(TOP VIEW)



NC – No internal connection

description/ordering information

The ‘ACT04 devices contain six independent inverters. The devices perform the Boolean function $Y = \overline{A}$.

ORDERING INFORMATION

T _A	PACKAGE†		ORDERABLE PART NUMBER	TOP-SIDE MARKING
–40°C to 85°C	PDIP – N	Tube	SN74ACT04N	SN74ACT0N
	SOIC – D	Tube	SN74ACT04D	ACT04
		Tape and reel	SN74ACT04DR	
	SOP – NS	Tape and reel	SN74ACT04NSR	ACT04
	SSOP – DB	Tape and reel	SN74ACT04DBR	AD04
	TSSOP – PW	Tube	SN74ACT04PW	AD04
Tape and reel		SN74ACT04PWR		
–55°C to 125°C	CDIP – J	Tube	SNJ54ACT04J	SNJ54ACT04J
	CFP – W	Tube	SNJ54ACT04W	SNJ54ACT04W
	LCCC – FK	Tube	SNJ54ACT04FK	SNJ54ACT04FK

† Package drawings, standard packing quantities, thermal data, symbolization, and PCB design guidelines are available at www.ti.com/sc/package.

FUNCTION TABLE
(each inverter)

INPUT A	OUTPUT Y
H	L
L	H



Please be aware that an important notice concerning availability, standard warranty, and use in critical applications of Texas Instruments semiconductor products and disclaimers thereto appears at the end of this data sheet.

PRODUCTION DATA information is current as of publication date. Products conform to specifications per the terms of Texas Instruments standard warranty. Production processing does not necessarily include testing of all parameters.



POST OFFICE BOX 655303 • DALLAS, TEXAS 75265

Copyright © 2003, Texas Instruments Incorporated
On products compliant to MIL-PRF-38535, all parameters are tested unless otherwise noted. On all other products, production processing does not necessarily include testing of all parameters.



8 Mbit SPI Serial Flash

SST25VF080B

Data Sheet

PIN DESCRIPTION

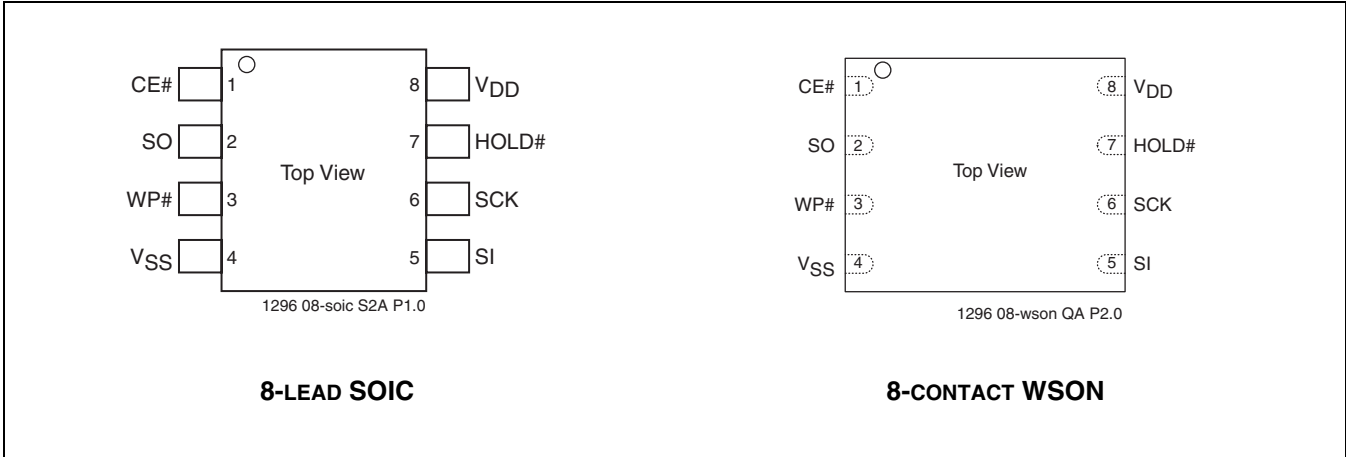


FIGURE 1: PIN ASSIGNMENTS

TABLE 1: PIN DESCRIPTION

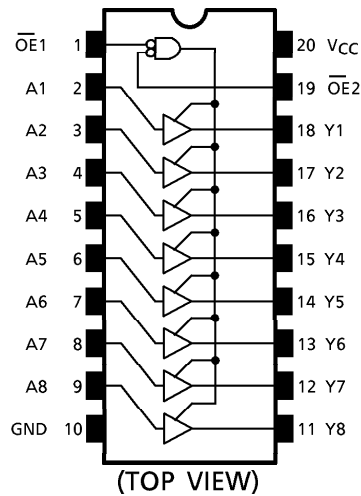
Symbol	Pin Name	Functions
SCK	Serial Clock	To provide the timing of the serial interface. Commands, addresses, or input data are latched on the rising edge of the clock input, while output data is shifted out on the falling edge of the clock input.
SI	Serial Data Input	To transfer commands, addresses, or data serially into the device. Inputs are latched on the rising edge of the serial clock.
SO	Serial Data Output	To transfer data serially out of the device. Data is shifted out on the falling edge of the serial clock. Outputs Flash busy status during AAI Programming when reconfigured as RY/BY# pin. See “Hardware End-of-Write Detection” on page 12 for details.
CE#	Chip Enable	The device is enabled by a high to low transition on CE#. CE# must remain low for the duration of any command sequence.
WP#	Write Protect	The Write Protect (WP#) pin is used to enable/disable BPL bit in the status register.
HOLD#	Hold	To temporarily stop serial communication with SPI flash memory without resetting the device.
V _{DD}	Power Supply	To provide power supply voltage: 2.7-3.6V for SST25VF080B
V _{SS}	Ground	

T1.0 1296

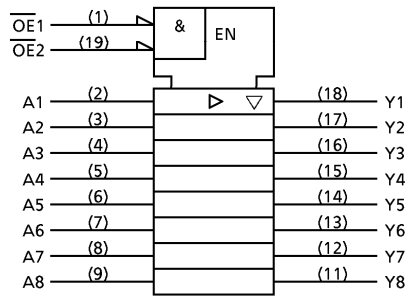
TOSHIBA

TC74LCX541F/FW/FT

PIN ASSIGNMENT



IEC LOGIC SYMBOL

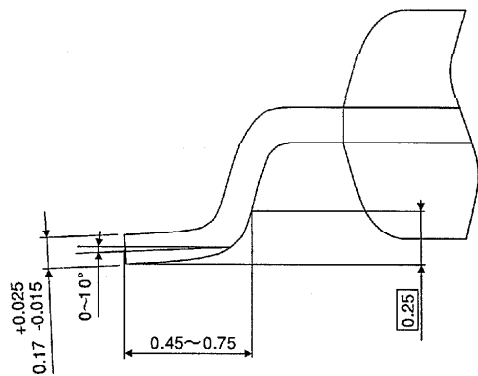
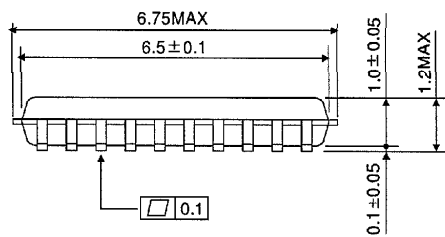
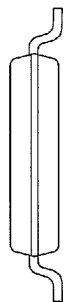
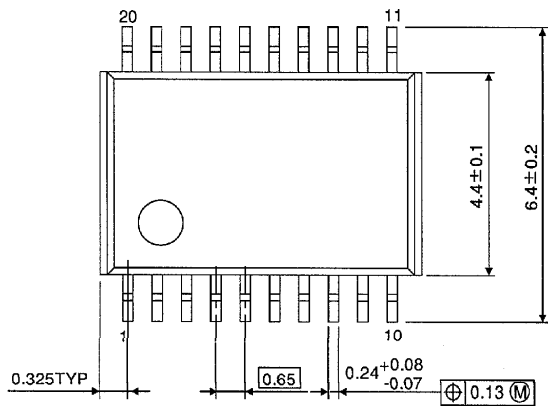


TRUTH TABLE

INPUTS			OUTPUTS
OE1	OE2	An	
H	X	X	Z
X	H	X	Z
L	L	H	H
L	L	L	L

X : Don't Care
Z : High Impedance

OUTLINE DRAWING
TSSOP20-P-0044-0.65



Weight : 0.08g (Typ.)

TOSHIBA

TC74VHC157F/FN/FT

TOSHIBA CMOS DIGITAL INTEGRATED CIRCUIT SILICON MONOLITHIC

TC74VHC157F, TC74VHC157FN, TC74VHC157FT

QUAD 2 - CHANNEL MULTIPLEXER

The TC74VHC157 is an advanced high speed CMOS QUAD 2 - CHANNEL MULTIPLEXER fabricated with silicon gate C²MOS technology.

It achieves the high speed operation similar to equivalent Bipolar Schottky TTL while maintaining the CMOS low power dissipation.

It consists of four 2 - input digital multiplexers with common select and strobe inputs.

When the **STROBE** input is held “H” level, selection of data is inhibited and all the outputs become “L” level.

The **SELECT** decoding determines whether the A or B inputs get routed to their corresponding Y outputs.

An Input protection circuit ensures that 0 to 5.5V can be applied to the input pins without regard to the supply voltage. This device can be used to interface 5V to 3V systems and on two supply systems such as battery back up. This circuit prevents device destruction due to mismatched supply and input voltages.

FEATURES :

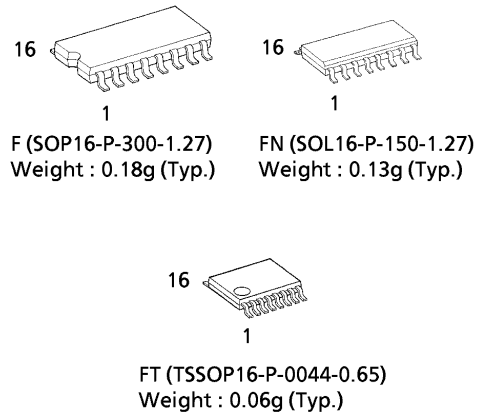
- High Speed..... $t_{pd} = 4.1ns(typ.)$ at $V_{CC} = 5V$
- Low Power Dissipation..... $I_{CC} = 4\mu A(Max.)$ at $T_a = 25^{\circ}C$
- High Noise Immunity..... $V_{NIH} = V_{NIL} = 28\% V_{CC} (Min.)$
- Power Down Protection is provided on all inputs.
- Balanced Propagation Delays..... $t_{pLH} \approx t_{pHL}$
- Wide Operating Voltage Range..... $V_{CC} (opr) = 2V \sim 5.5V$
- Low Noise $V_{OLP} = 0.8V (Max.)$
- Pin and Function Compatible with 74ALS157

TRUTH TABLE

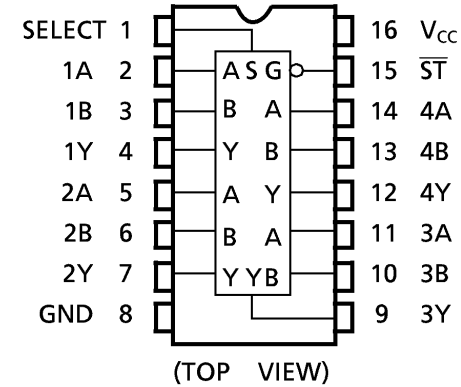
INPUTS				OUTPUT
ST	SELECT	A	B	
H	X	X	X	L
L	L	L	X	L
L	L	H	X	H
L	H	X	L	L
L	H	X	H	H

X : Don't Care

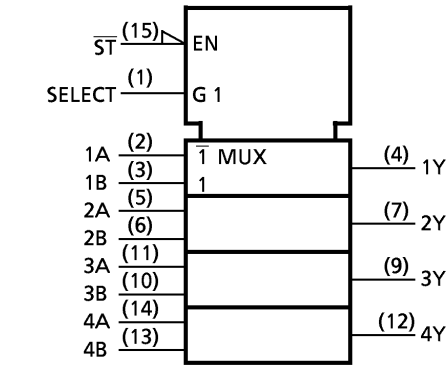
(Note) The JEDEC SOP (FN) is not available in Japan.



PIN ASSIGNMENT



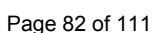
IEC LOGIC SYMBOL



980910EBA2

● TOSHIBA is continually working to improve the quality and the reliability of its products. Nevertheless, semiconductor devices in general can malfunction or fail due to their inherent electrical sensitivity and vulnerability to physical stress. It is the responsibility of the buyer, when utilizing TOSHIBA products, to observe standards of safety, and to avoid situations in which a malfunction or failure of a TOSHIBA product could cause loss of human life, bodily injury or damage to property. In developing your designs, please ensure that TOSHIBA products are used within specified operating ranges as set forth in the most recent products specifications. Also, please keep in mind the precautions and conditions set forth in the TOSHIBA Semiconductor Reliability Handbook.

SLOS080J – SEPTEMBER 1978 – REVISED MARCH 2005





TPS65251

www.ti.com

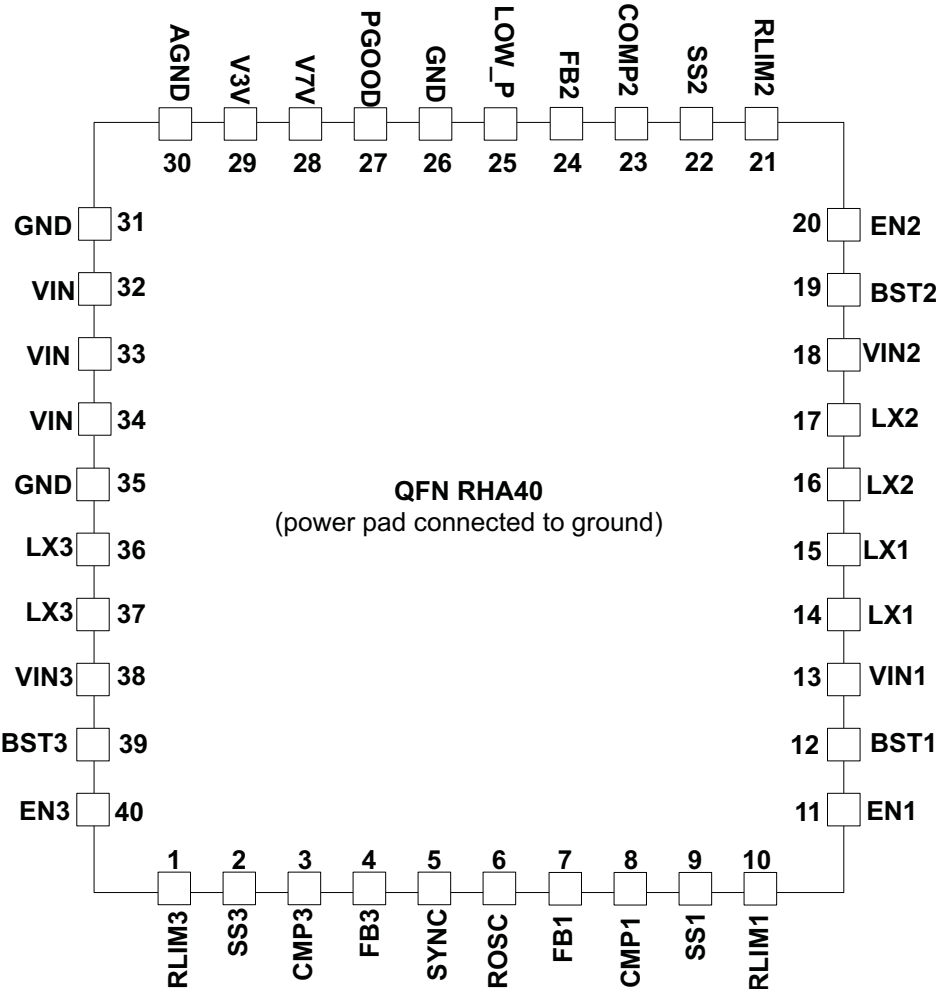
SLVSAA4B –JUNE 2010–REVISED JANUARY 2011

ORDERING INFORMATION⁽¹⁾

T _A	PACKAGE ⁽²⁾		ORDERABLE PART NUMBER	TOP-SIDE MARKING
–40°C to 125°C	40-pin (QFN) - RHA	Reel of 2500	TPS65251RHAR	TPS65251
		Reel of 250	TPS65251RHAT	

- (1) For the most current package and ordering information, see the Package Option Addendum at the end of this document, or see the TI web site at www.ti.com.
- (2) Package drawings, thermal data, and symbolization are available at www.ti.com/packaging.

PIN OUT



TPS65251



SLVSAA4B – JUNE 2010 – REVISED JANUARY 2011

www.ti.com

TERMINAL FUNCTIONS (DCA)

NAME	NO.	I/O	DESCRIPTION
RLIM3	1	I	Current limit setting for Buck 3. Fit a resistor from this pin to ground to set the peak current limit on the output inductor.
SS3	2	I	Soft start pin for Buck 3. Fit a small ceramic capacitor to this pin to set the converter soft start time.
COMP3	3	O	Compensation for Buck 3. Fit a series RC circuit to this pin to complete the compensation circuit of this converter.
FB3	4	I	Feedback input for Buck 3. Connect a divider set to 0.8V from the output of the converter to ground.
SYNC	5	I	Synchronous clock input. If there is a sync clock in the system, connect to the pin. When not used connect to GND.
ROSC	6	I	Oscillator set. This resistor sets the frequency of internal autonomous clock. If external synchronization is used resistor should be fitted and set to ~70% of external clock frequency.
FB1	7	I	Feedback pin for Buck 1. Connect a divider set to 0.8 V from the output of the converter to ground.
COMP1	8	O	Compensation pin for Buck 1. Fit a series RC circuit to this pin to complete the compensation circuit of this converter.
SS1	9	I	Soft start pin for Buck 1. Fit a small ceramic capacitor to this pin to set the converter soft start time.
RLIM1	10	I	Current limit setting pin for Buck 1. Fit a resistor from this pin to ground to set the peak current limit on the output inductor.
EN1	11	I	Enable pin for Buck 1. A low level signal on this pin disables it. If pin is left open a weak internal pull-up to V3V will allow for automatic enable. For a delayed start-up add a small ceramic capacitor from this pin to ground.
BST1	12	I	Bootstrap capacitor for Buck 1. Fit a 47-nF ceramic capacitor from this pin to the switching node.
VIN1	13	I	Input supply for Buck 1. Fit a 10-μF ceramic capacitor close to this pin.
LX1	14, 15	O	Switching node for Buck 1
LX2	16, 17	O	Switching node for Buck 2
VIN2	18	I	Input supply for Buck 2. Fit a 10-μF ceramic capacitor close to this pin.
BST2	19	I	Bootstrap capacitor for Buck 2. Fit a 47-nF ceramic capacitor from this pin to the switching node.
EN2	20	I	Enable pin for Buck 2. A low level signal on this pin disables it. If pin is left open a weak internal pull-up to V3V will allow for automatic enable. For a delayed start-up add a small ceramic capacitor from this pin to ground.
RLIM2	21	I	Current limit setting for Buck 2. Fit a resistor from this pin to ground to set the peak current limit on the output inductor.
SS2	22	I	Soft start pin for Buck 2. Fit a small ceramic capacitor to this pin to set the converter soft start time.
COMP2	23	O	Compensation pin for Buck 2. Fit a series RC circuit to this pin to complete the compensation circuit of this converter
FB2	24	I	Feedback input for Buck 2. Connect a divider set to 0.8 V from the output of the converter to ground.
LOW_P	25	I	Low power operation mode(active high) input for TPS65251
GND	26		Ground pin
PGOOD	27	O	Power good. Open drain output asserted after all converters are sequenced and within regulation. Polarity is factory selectable (active high default).
V7V	28	O	Internal supply. Connect a 10-μF ceramic capacitor from this pin to ground.
V3V	29	O	Internal supply. Connect a 10-μF ceramic capacitor from this pin to ground.
AGND	30		Analog ground. Connect all GND pins and the power pad together.
GND	31		Ground pin

**TERMINAL FUNCTIONS (DCA) (continued)**

NAME	NO.	I/O	DESCRIPTION
VIN	32	I	Input supply
VIN	33	I	Input supply
VIN	34	I	Input supply
GND	35		Ground pin
LX3	36, 37	O	Switching node for Buck 3
VIN3	38		Input supply for Buck 3. Fit a 10-μF ceramic capacitor close to this pin.
BST3	39	I	Bootstrap capacitor for Buck 3. Fit a 47-nF ceramic capacitor from this pin to the switching node.
EN3	40	I	Enable pin for Buck 3. A low level signal on this pin disables it. If pin is left open a weak internal pull-up to V3V will allow for automatic enable. For a delayed start-up add a small ceramic capacitor from this pin to ground.
PAD			Power pad. Connect to ground.

ABSOLUTE MAXIMUM RATINGS ⁽¹⁾

over operating free-air temperature range (unless otherwise noted)

	Voltage range at VIN1,VIN2, VIN3, LX1, LX2, LX3	–0.3 to 18	V
	Voltage range at LX1, LX2, LX3 (maximum withstand voltage transient < 10 ns)	–1 to 18	V
	Voltage at BST1, BST2, BST3, referenced to Lx pin	–0.3 to 7	V
	Voltage at V7V, COMP1, COMP2, COMP3	–0.3 to 7	V
	Voltage at V3V, RLIM1, RLIM2, RLIM3, EN1,EN2,EN3, SS1, SS2,SS3, FB1, FB2, FB3, PGOOD, SYNC, ROSC, LOW_P	–0.3 to 3.6	V
	Voltage at AGND, GND	–0.3 to 0.3	V
T _J	Operating virtual junction temperature range	–40 to 125	°C
T _{STG}	Storage temperature range	–55 to 150	°C

- (1) Stresses beyond those listed under "absolute maximum ratings" may cause permanent damage to the device. These are stress ratings only, and functional operation of the device at these or any other conditions beyond those indicated under "recommended operating conditions" is not implied. Exposure to absolute–maximum–rated conditions for extended periods may affect device reliability.

RECOMMENDED OPERATING CONDITIONS

over operating free-air temperature range (unless otherwise noted)

	MIN	NOM	MAX	UNIT
VIN Input operating voltage	4.5		18	V
T _J Junction temperature	–40		125	°C

ELECTROSTATIC DISCHARGE (ESD) PROTECTION

	MIN	MAX	UNIT
Human body model (HBM)	2000		V
Charge device model (CDM)	500		V

NEC

MOS FIELD EFFECT TRANSISTOR

μ PA672T

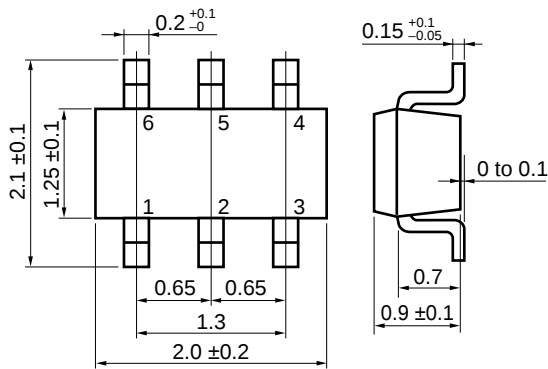
N-CHANNEL MOS FET ARRAY
FOR SWITCHING

The μ PA672T is a super-mini-mold device provided with two MOS FET elements. It achieves high-density mounting and saves mounting costs.

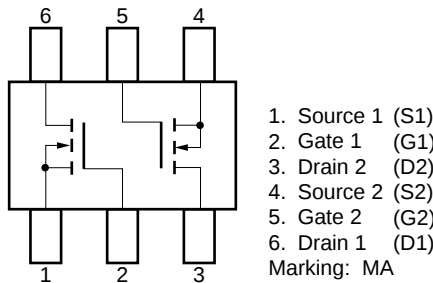
FEATURES

- Two MOS FET circuits in package the same size as SC-70
- Automatic mounting supported

PACKAGE DIMENSIONS (in millimeters)

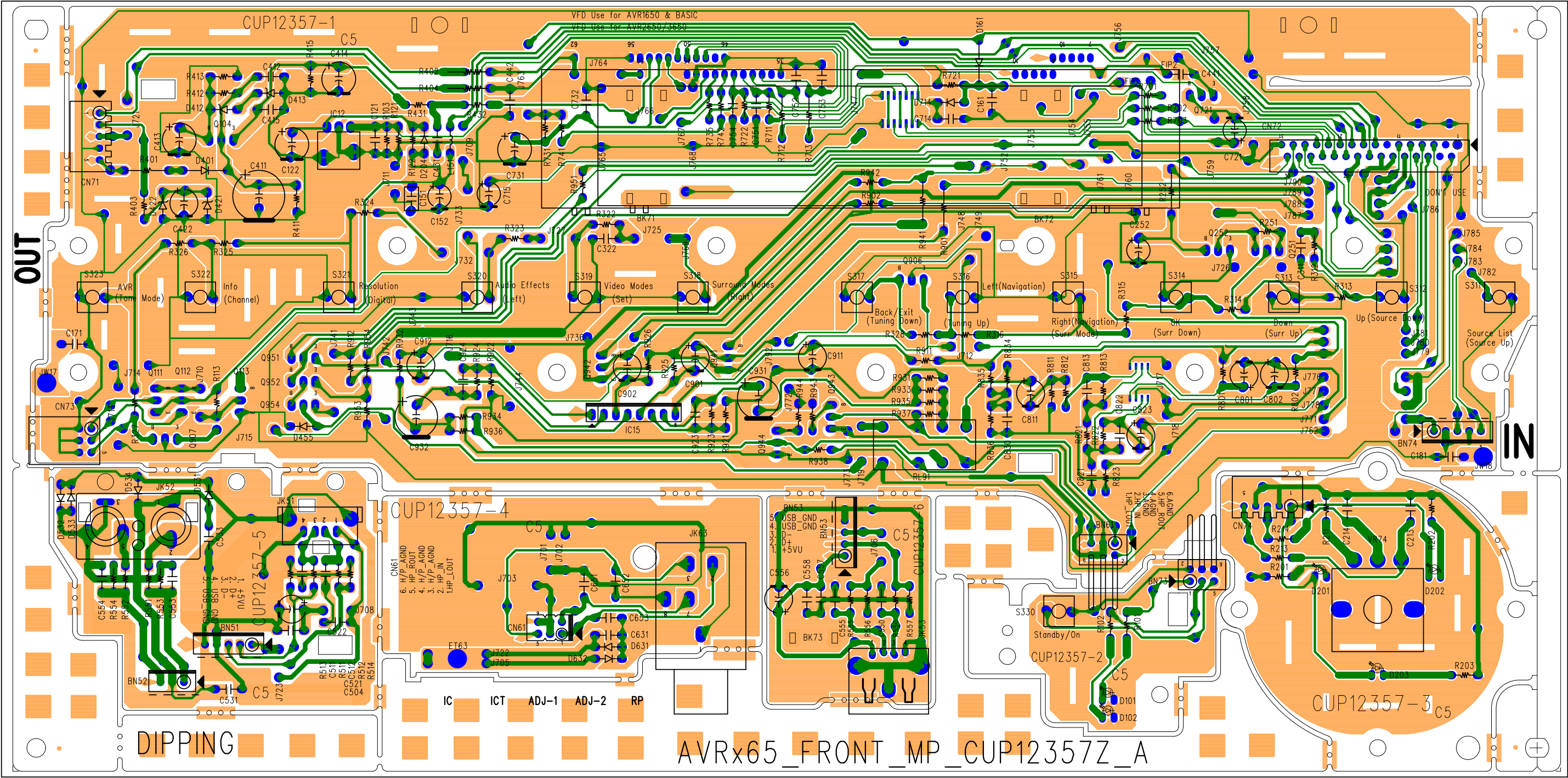


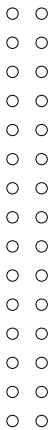
PIN CONNECTION

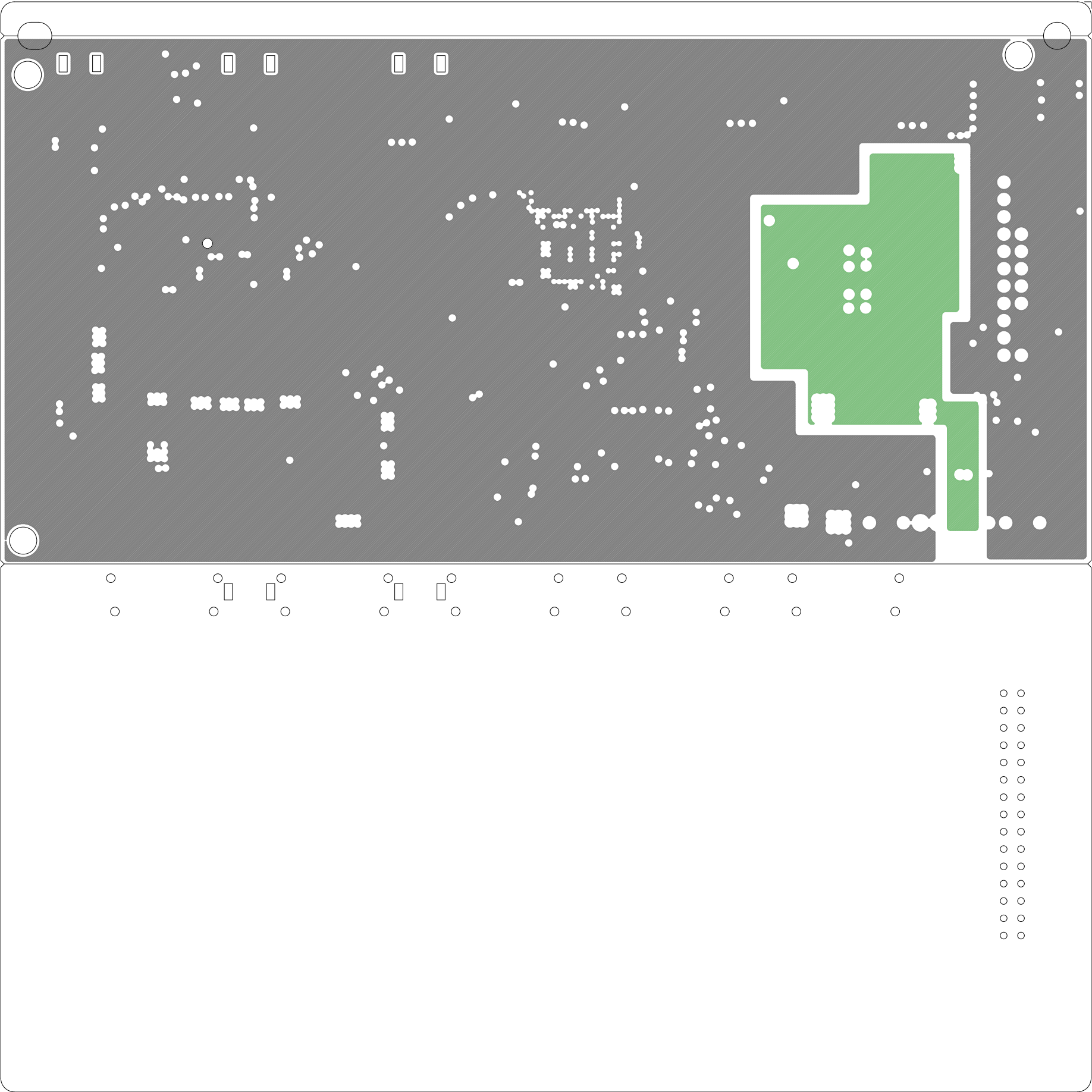


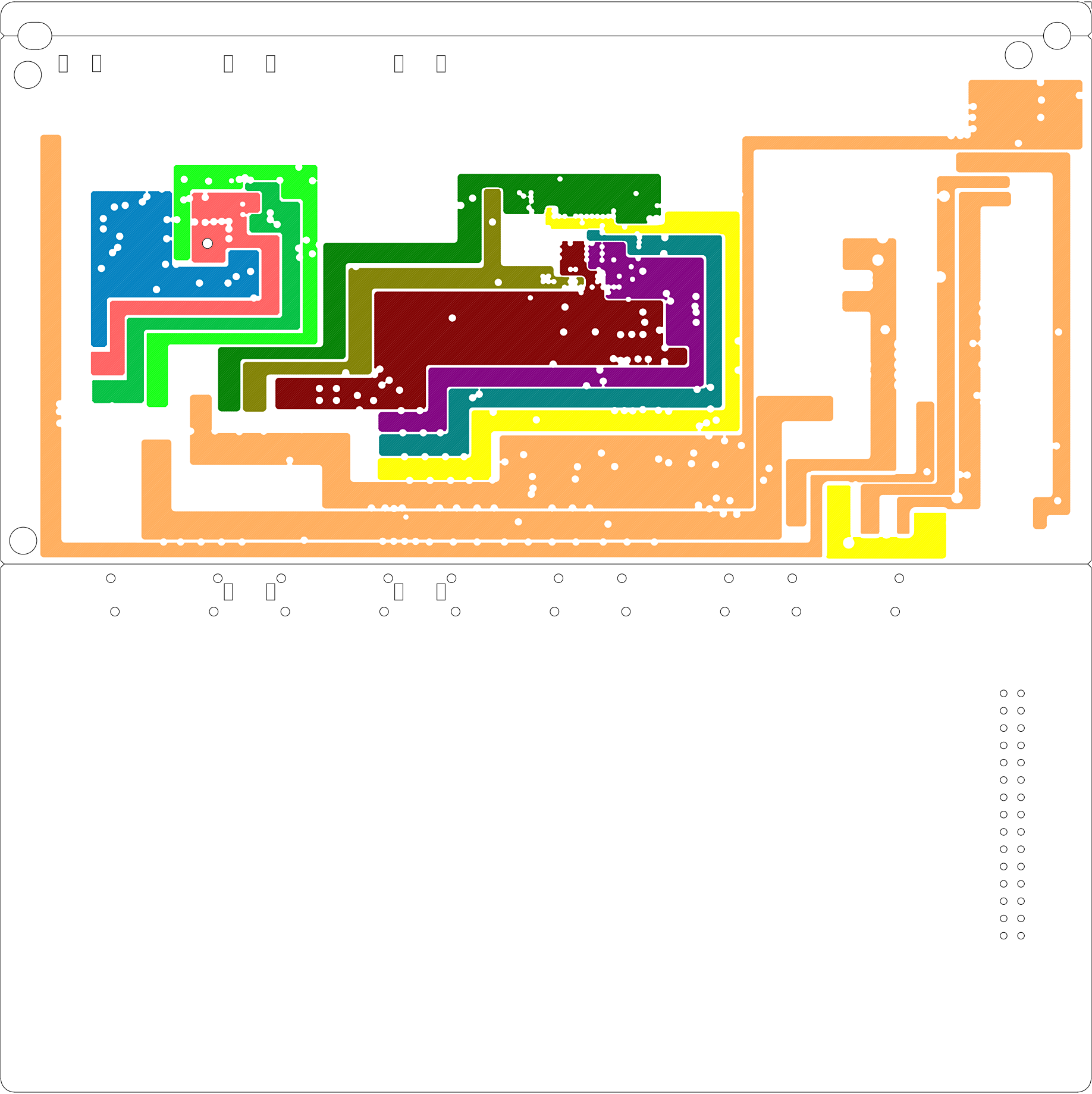
ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$)

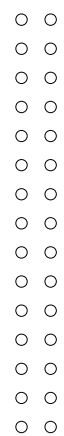
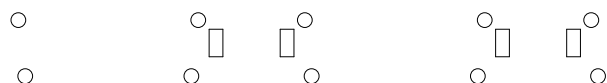
PARAMETER	SYMBOL	TEST CONDITIONS	RATINGS	UNIT
Drain to Source Voltage	V_{DS}		50	V
Gate to Source Voltage	V_{GS}		± 7.0	V
Drain Current (DC)	$I_{D(PC)}$		100	mA
Drain Current (pulse)	$I_{D(pulse)}$	$PW \leq 10 \text{ ms}$, Duty Cycle $\leq 50 \%$	200	mA
Total Power Dissipation	P_T		200 (Total)	mW
Channel Temperature	T_{ch}		150	$^\circ\text{C}$
Storage Temperature	T_{stg}		-55 to $+150$	$^\circ\text{C}$

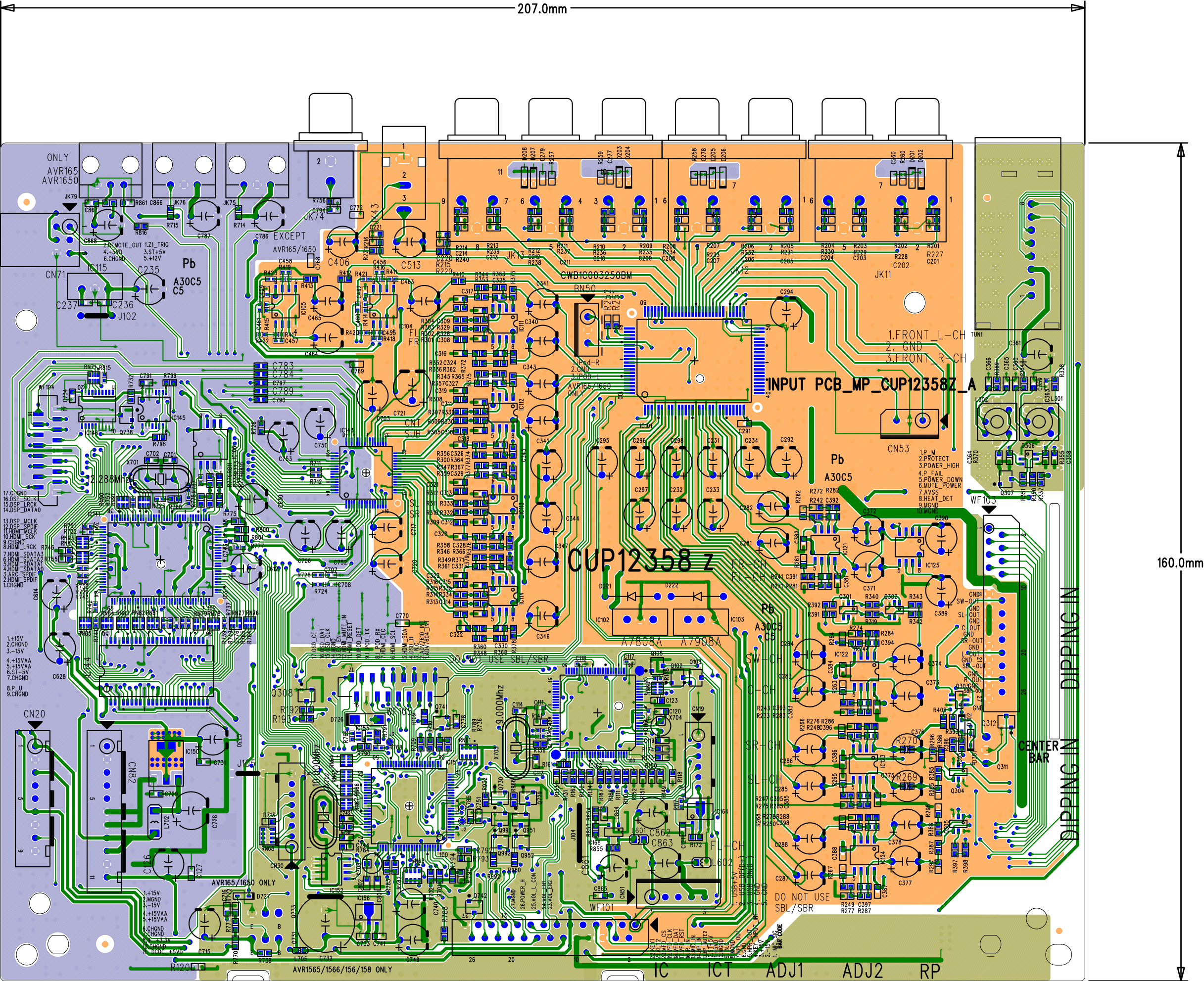


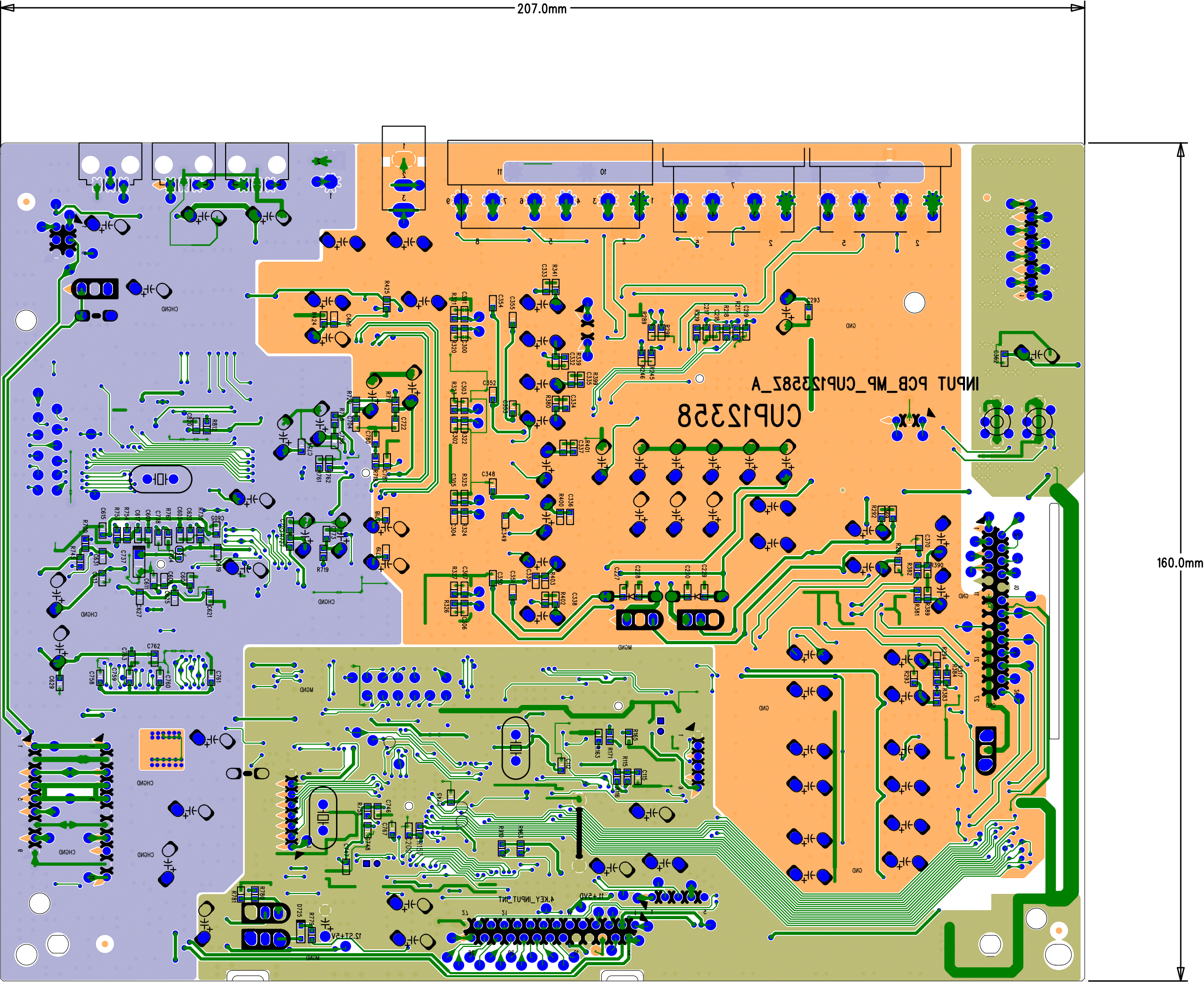


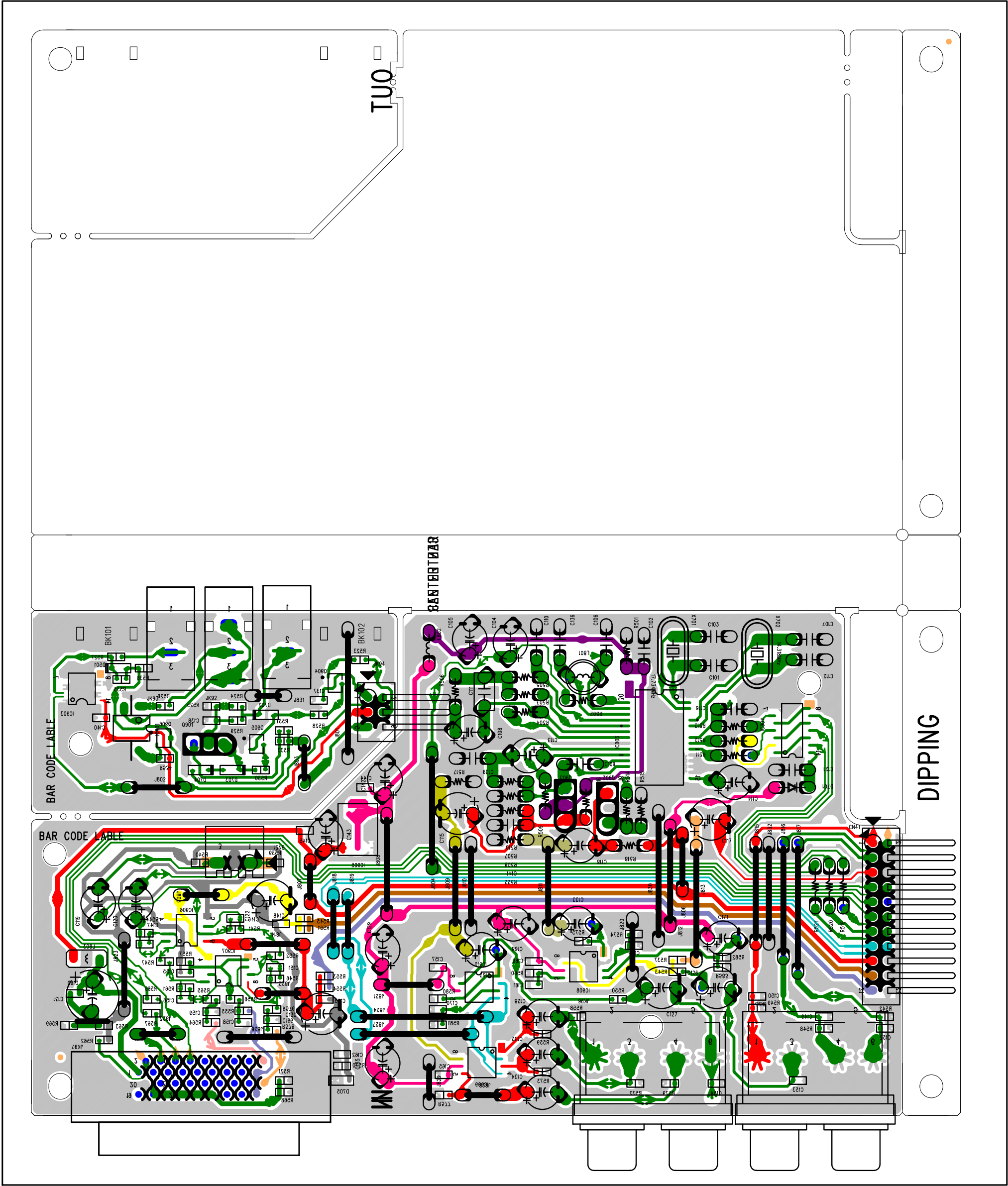












D

C

B

A

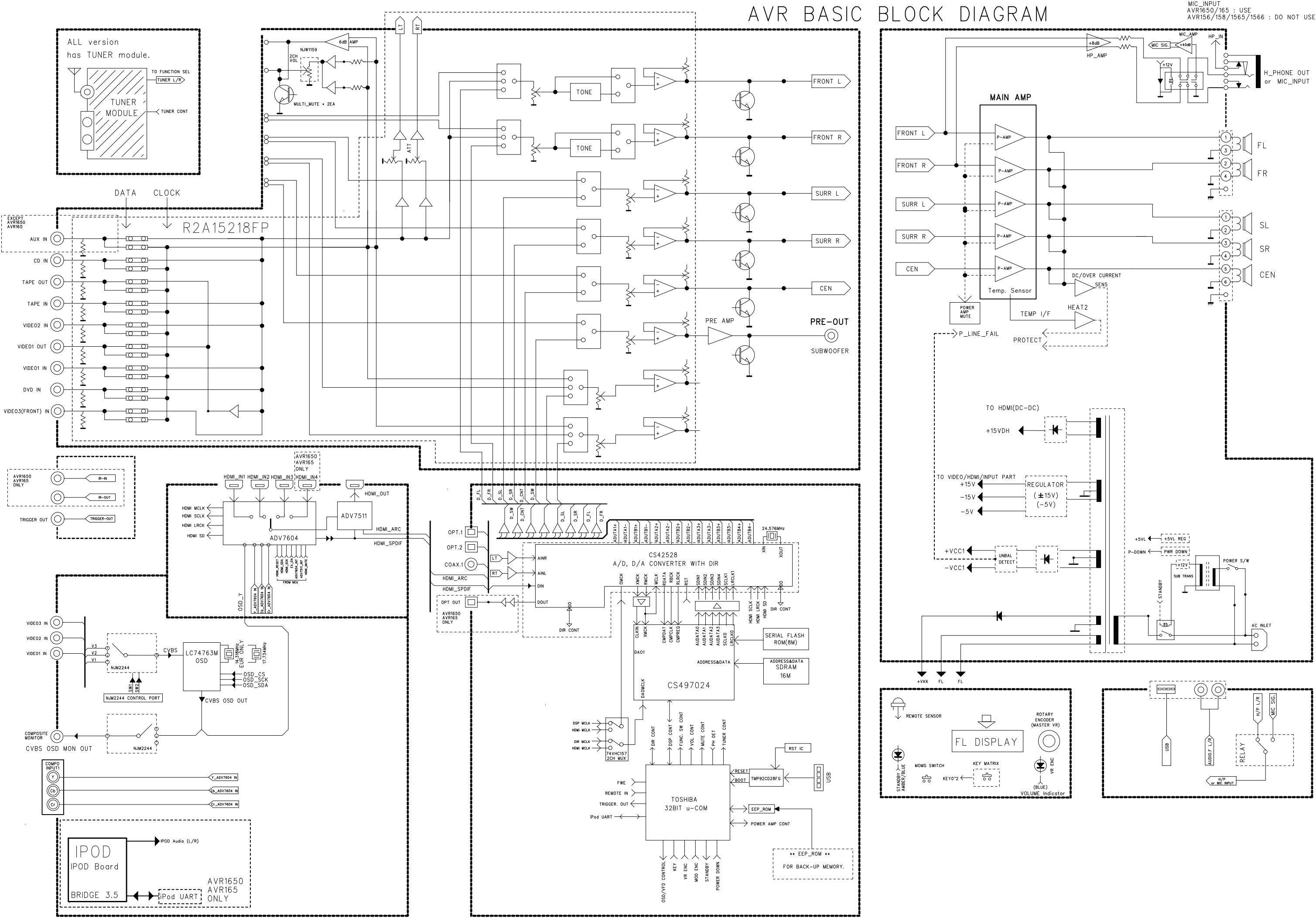
D

C

B

A

AVR BASIC BLOCK DIAGRAM

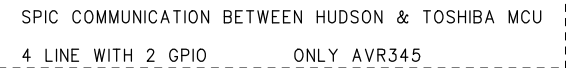


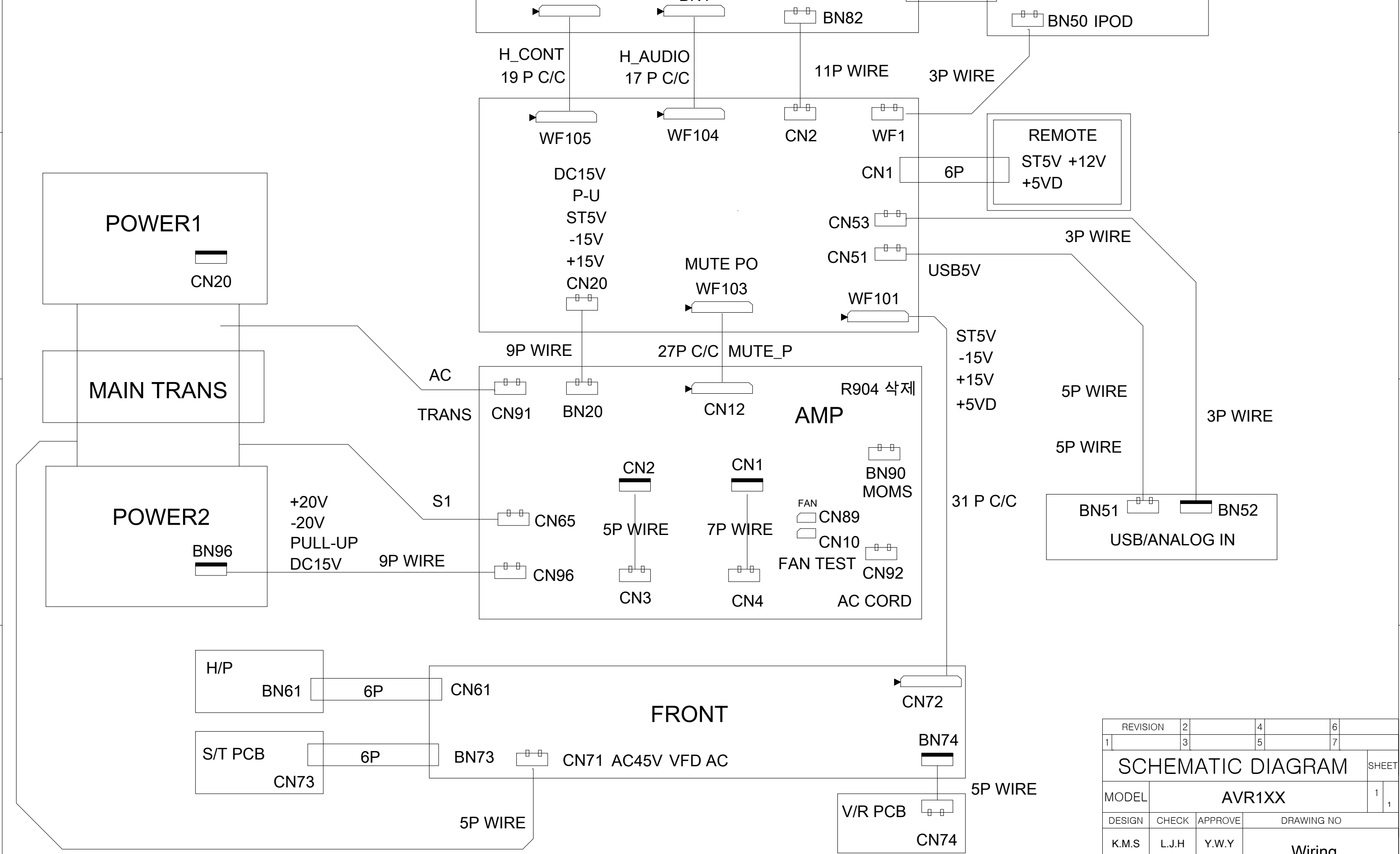
D

C

B

A



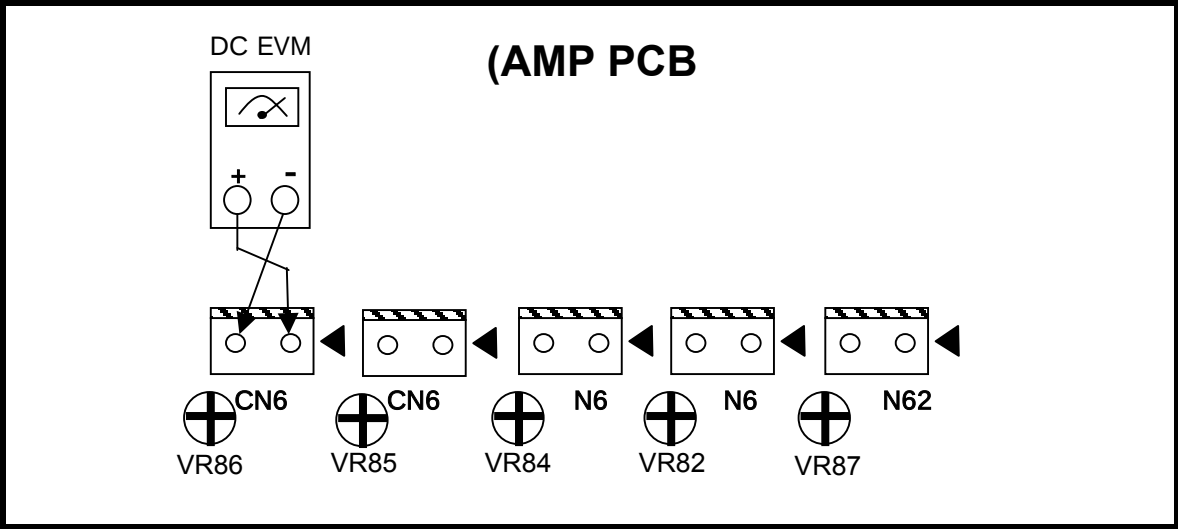


REVISION		2		4		6	
1		3		5		7	
SCHEMATIC DIAGRAM							SHEET
MODEL	AVR1XX						1 1
DESIGN	CHECK	APPROVE	DRAWING NO				
K.M.S	L.J.H	Y.W.Y	Wiring				
11.05.17	11.05.17	11.05.17					

AMPLIFIER SECTION BIAS ADJUSTMENT

Measurement condition
.No input signal or volume position is minimum.

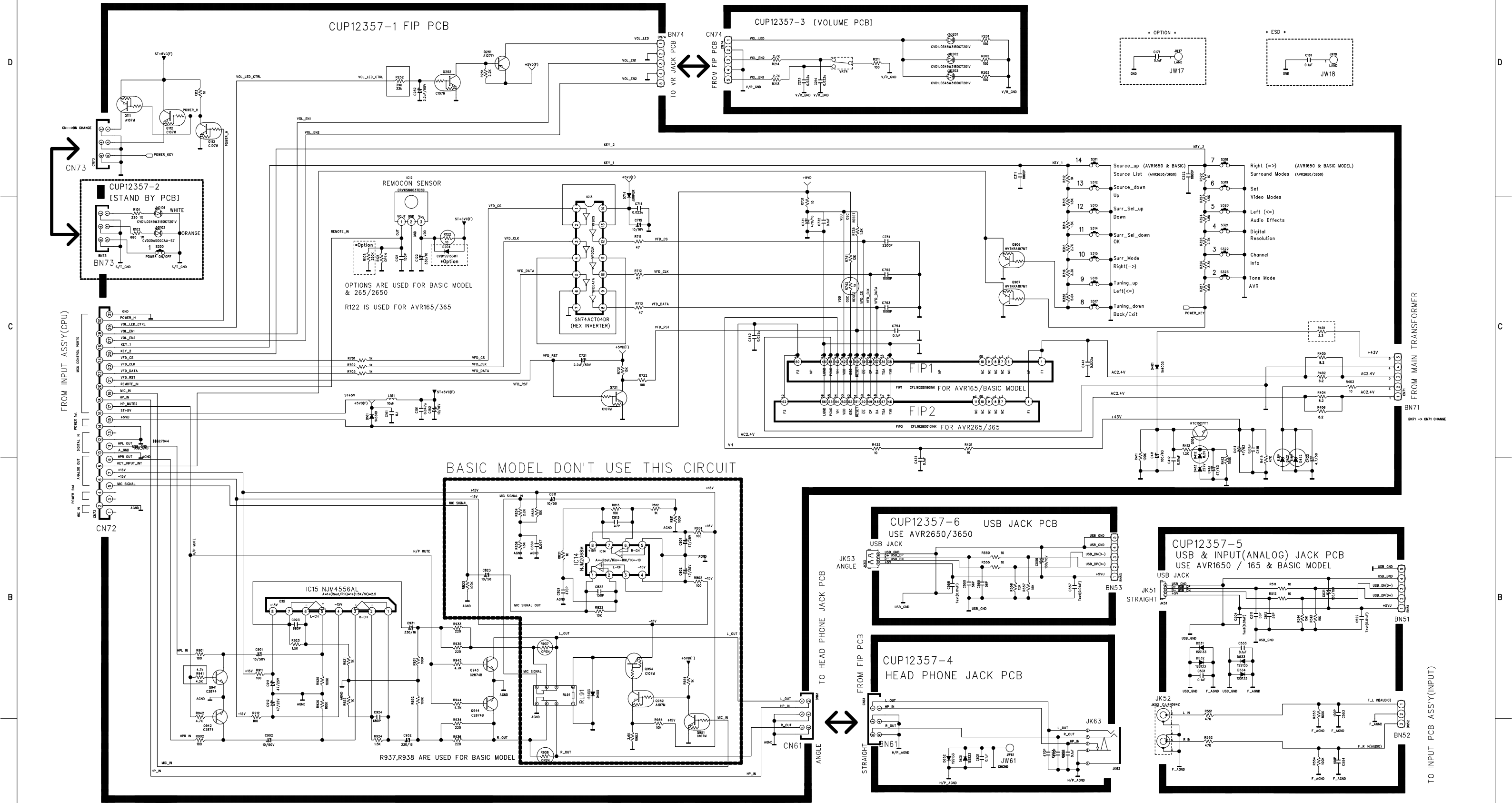
Standard value
.Ideal current = 48mA (± 5%)
.Ideal DC Voltage = 25.92mV (± 5%)



DC VOLTMETER ; Connect to
CN66(FR),CN61(CNT),CN64(SR),CN63(FL),CN62(SL)

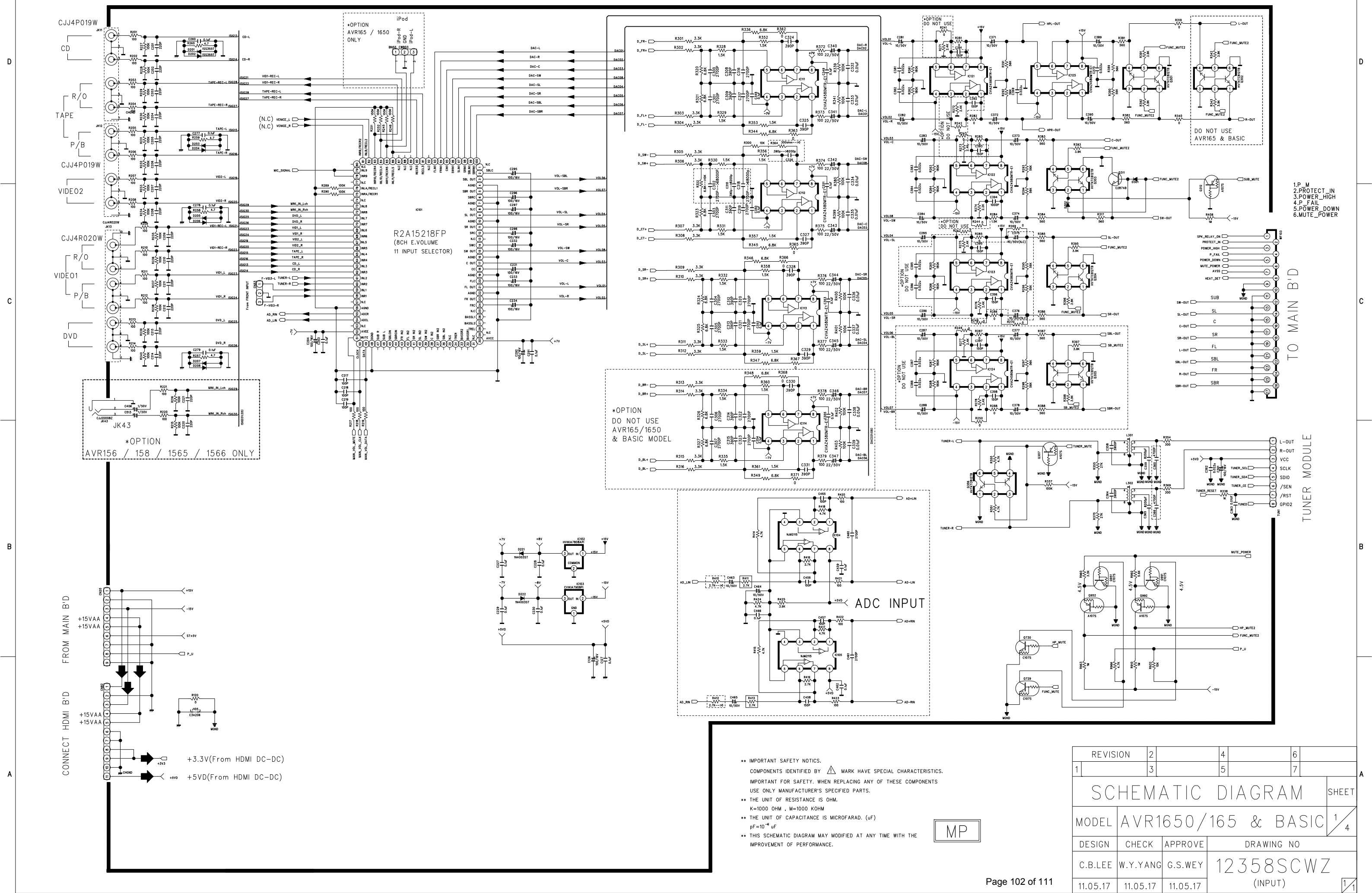
NO.	Channel	Adjust for	Adjustment
1	Front Left	25.92mV (± 5%)	CN63
2	Front Right	25.92mV (± 5%)	CN66
3	Center	25.92mV (± 5%)	CN61
4	Surround Left	25.92mV (± 5%)	CN62
5	Surround Right	25.92mV (± 5%)	CN64

CUP12357Z



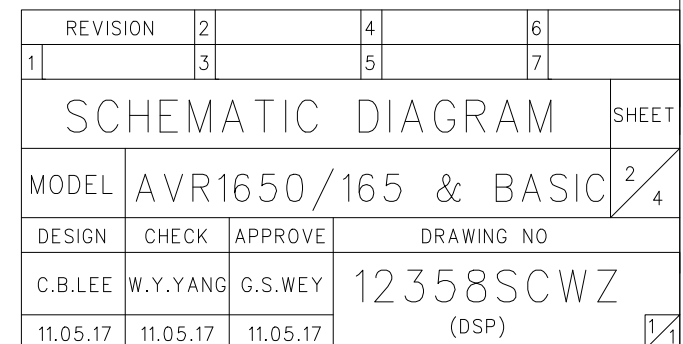
REVISION	2	4	6
1	3	5	7
SCHEMATIC DIAGRAM			
MODEL	AVRX65 SERIES		
DESIGN	CHECK	APPROVED	DRAWING NO
J.I.H	K.M.S	Y.Y.W	2357SCMZ
11.05.17	11.05.17	11.05.17	(FRONT)

CUP12358



REVISION		2	4	6
1	3	5	7	
SCHEMATIC DIAGRAM				
MODEL	AVR1650/165 & BASIC			
DESIGN	C.B.LEE	CHECK	W.Y.YANG	APPROVE
11.05.17	11.05.17	11.05.17	DRAWING NO	
12358SCWZ				(INPUT)

A



The schematic diagram illustrates the internal components and connections of the USB to RS485 module. Key components include:

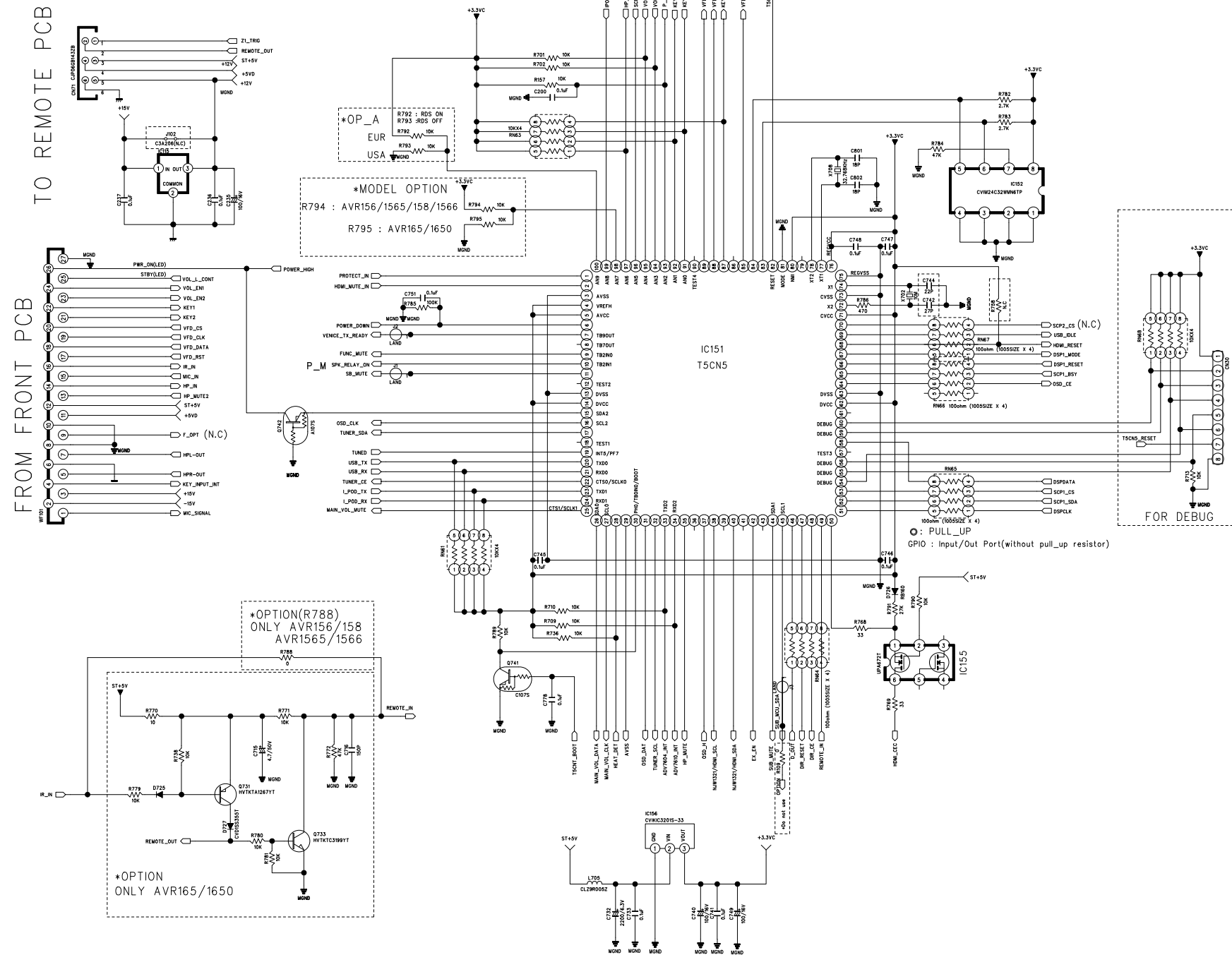
- IC108 (MAX485):** A differential line driver/receiver.
- IC109 (MAX3232):** A RS485 to TTL level shifter.
- Resistors:** R855 (pull-up), R856 (pull-down), R857 (pull-up), R858 (pull-down), R859 (pull-up), R860 (pull-down), R861 (pull-up), R862 (pull-down), R863 (pull-up), R864 (pull-down), R865 (pull-up), R866 (pull-down), R867 (pull-up), R868 (pull-down), R869 (pull-up), R870 (pull-down), R871 (pull-up), R872 (pull-down), R873 (pull-up), R874 (pull-down), R875 (pull-up), R876 (pull-down), R877 (pull-up), R878 (pull-down), R879 (pull-up), R880 (pull-down), R881 (pull-up), R882 (pull-down), R883 (pull-up), R884 (pull-down), R885 (pull-up), R886 (pull-down), R887 (pull-up), R888 (pull-down), R889 (pull-up), R890 (pull-down), R891 (pull-up), R892 (pull-down), R893 (pull-up), R894 (pull-down), R895 (pull-up), R896 (pull-down), R897 (pull-up), R898 (pull-down), R899 (pull-up), R900 (pull-down), R901 (pull-up), R902 (pull-down), R903 (pull-up), R904 (pull-down), R905 (pull-up), R906 (pull-down), R907 (pull-up), R908 (pull-down), R909 (pull-up), R910 (pull-down), R911 (pull-up), R912 (pull-down), R913 (pull-up), R914 (pull-down), R915 (pull-up), R916 (pull-down), R917 (pull-up), R918 (pull-down), R919 (pull-up), R920 (pull-down), R921 (pull-up), R922 (pull-down), R923 (pull-up), R924 (pull-down), R925 (pull-up), R926 (pull-down), R927 (pull-up), R928 (pull-down), R929 (pull-up), R930 (pull-down), R931 (pull-up), R932 (pull-down), R933 (pull-up), R934 (pull-down), R935 (pull-up), R936 (pull-down), R937 (pull-up), R938 (pull-down), R939 (pull-up), R940 (pull-down), R941 (pull-up), R942 (pull-down), R943 (pull-up), R944 (pull-down), R945 (pull-up), R946 (pull-down), R947 (pull-up), R948 (pull-down), R949 (pull-up), R950 (pull-down), R951 (pull-up), R952 (pull-down), R953 (pull-up), R954 (pull-down), R955 (pull-up), R956 (pull-down), R957 (pull-up), R958 (pull-down), R959 (pull-up), R960 (pull-down), R961 (pull-up), R962 (pull-down), R963 (pull-up), R964 (pull-down), R965 (pull-up), R966 (pull-down), R967 (pull-up), R968 (pull-down), R969 (pull-up), R970 (pull-down), R971 (pull-up), R972 (pull-down), R973 (pull-up), R974 (pull-down), R975 (pull-up), R976 (pull-down), R977 (pull-up), R978 (pull-down), R979 (pull-up), R980 (pull-down), R981 (pull-up), R982 (pull-down), R983 (pull-up), R984 (pull-down), R985 (pull-up), R986 (pull-down), R987 (pull-up), R988 (pull-down), R989 (pull-up), R990 (pull-down), R991 (pull-up), R992 (pull-down), R993 (pull-up), R994 (pull-down), R995 (pull-up), R996 (pull-down), R997 (pull-up), R998 (pull-down), R999 (pull-up), R1000 (pull-down).
- Capacitors:** C865 (0.1uF), C866 (0.1uF), C867 (0.1uF), C868 (0.1uF), C869 (0.1uF), C870 (0.1uF), C871 (0.1uF), C872 (0.1uF), C873 (0.1uF), C874 (0.1uF), C875 (0.1uF), C876 (0.1uF), C877 (0.1uF), C878 (0.1uF), C879 (0.1uF), C880 (0.1uF), C881 (0.1uF), C882 (0.1uF), C883 (0.1uF), C884 (0.1uF), C885 (0.1uF), C886 (0.1uF), C887 (0.1uF), C888 (0.1uF), C889 (0.1uF), C890 (0.1uF), C891 (0.1uF), C892 (0.1uF), C893 (0.1uF), C894 (0.1uF), C895 (0.1uF), C896 (0.1uF), C897 (0.1uF), C898 (0.1uF), C899 (0.1uF), C900 (0.1uF), C901 (0.1uF), C902 (0.1uF), C903 (0.1uF), C904 (0.1uF), C905 (0.1uF), C906 (0.1uF), C907 (0.1uF), C908 (0.1uF), C909 (0.1uF), C910 (0.1uF), C911 (0.1uF), C912 (0.1uF), C913 (0.1uF), C914 (0.1uF), C915 (0.1uF), C916 (0.1uF), C917 (0.1uF), C918 (0.1uF), C919 (0.1uF), C920 (0.1uF), C921 (0.1uF), C922 (0.1uF), C923 (0.1uF), C924 (0.1uF), C925 (0.1uF), C926 (0.1uF), C927 (0.1uF), C928 (0.1uF), C929 (0.1uF), C930 (0.1uF), C931 (0.1uF), C932 (0.1uF), C933 (0.1uF), C934 (0.1uF), C935 (0.1uF), C936 (0.1uF), C937 (0.1uF), C938 (0.1uF), C939 (0.1uF), C940 (0.1uF), C941 (0.1uF), C942 (0.1uF), C943 (0.1uF), C944 (0.1uF), C945 (0.1uF), C946 (0.1uF), C947 (0.1uF), C948 (0.1uF), C949 (0.1uF), C950 (0.1uF), C951 (0.1uF), C952 (0.1uF), C953 (0.1uF), C954 (0.1uF), C955 (0.1uF), C956 (0.1uF), C957 (0.1uF), C958 (0.1uF), C959 (0.1uF), C960 (0.1uF), C961 (0.1uF), C962 (0.1uF), C963 (0.1uF), C964 (0.1uF), C965 (0.1uF), C966 (0.1uF), C967 (0.1uF), C968 (0.1uF), C969 (0.1uF), C970 (0.1uF), C971 (0.1uF), C972 (0.1uF), C973 (0.1uF), C974 (0.1uF), C975 (0.1uF), C976 (0.1uF), C977 (0.1uF), C978 (0.1uF), C979 (0.1uF), C980 (0.1uF), C981 (0.1uF), C982 (0.1uF), C983 (0.1uF), C984 (0.1uF), C985 (0.1uF), C986 (0.1uF), C987 (0.1uF), C988 (0.1uF), C989 (0.1uF), C990 (0.1uF), C991 (0.1uF), C992 (0.1uF), C993 (0.1uF), C994 (0.1uF), C995 (0.1uF), C996 (0.1uF), C997 (0.1uF), C998 (0.1uF), C999 (0.1uF), C1000 (0.1uF).

The module is connected to a 5-pin D-sub connector (D9) with the following pin assignments:

- Pin 1: +5V
- Pin 2: USB_DP+
- Pin 3: USB_DMP-
- Pin 4: GND
- Pin 5: GND

MODEL	OP_A(PIN94)
AVR1650(USA)	LOW(R793):RDS OFF
AVR165(EUR)	HIGH(R792):RDS ON

FROM FRONT PCB



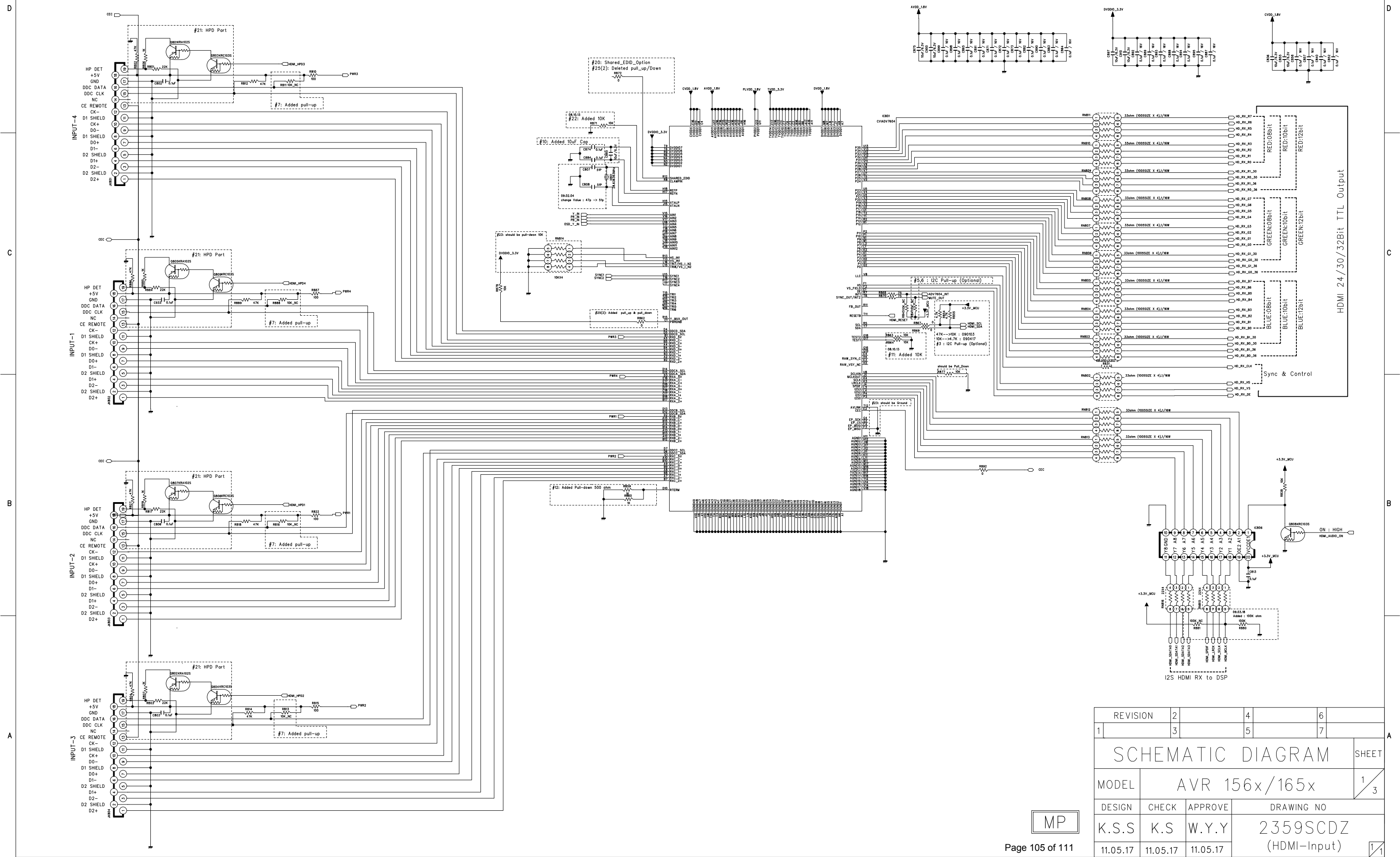
REVISION		2		4		6	
1		3		5		7	

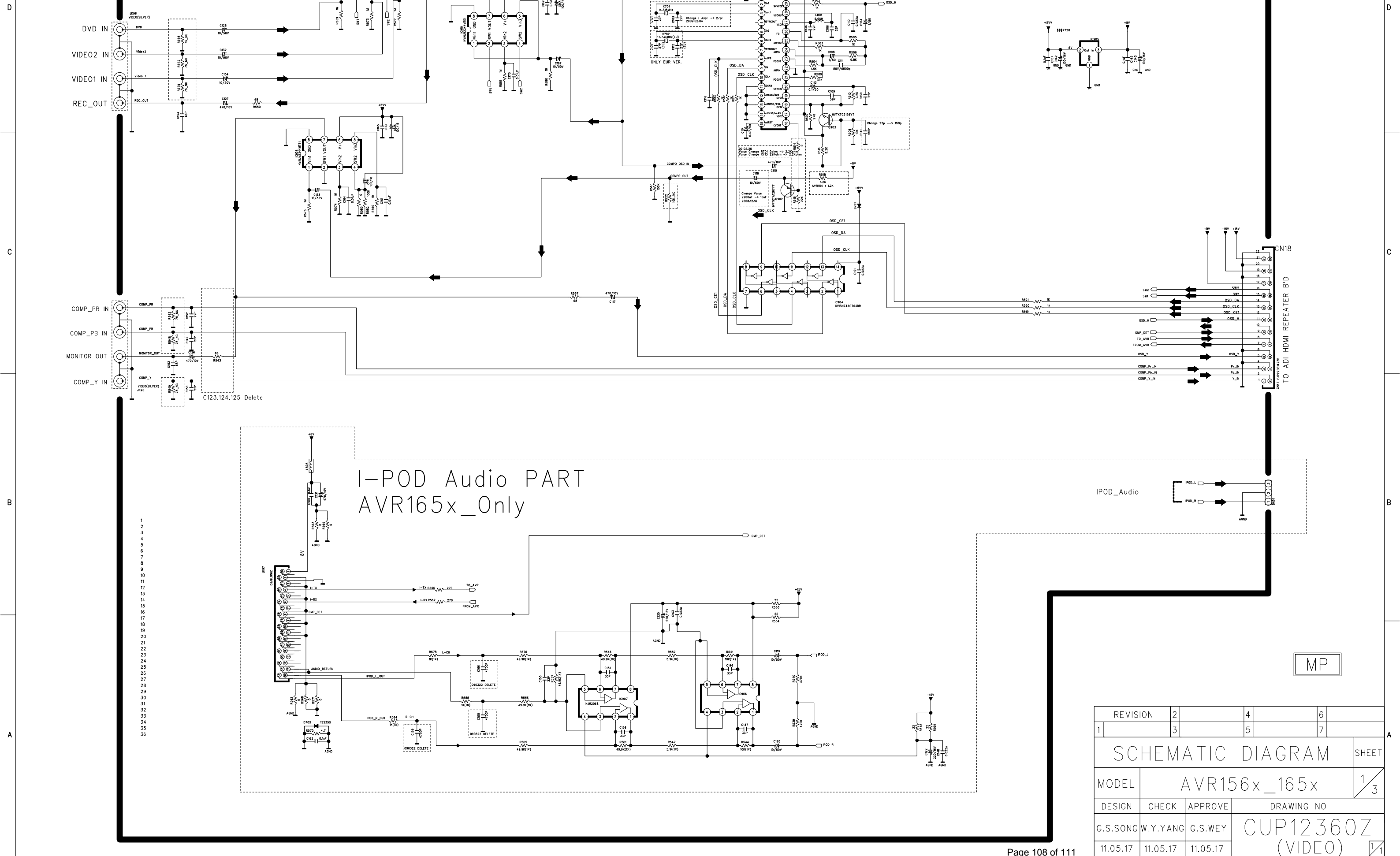
SCHEMATIC DIAGRAM

MODEL	AVR1650/165 & BASIC	$\frac{3}{4}$
-------	---------------------	---------------

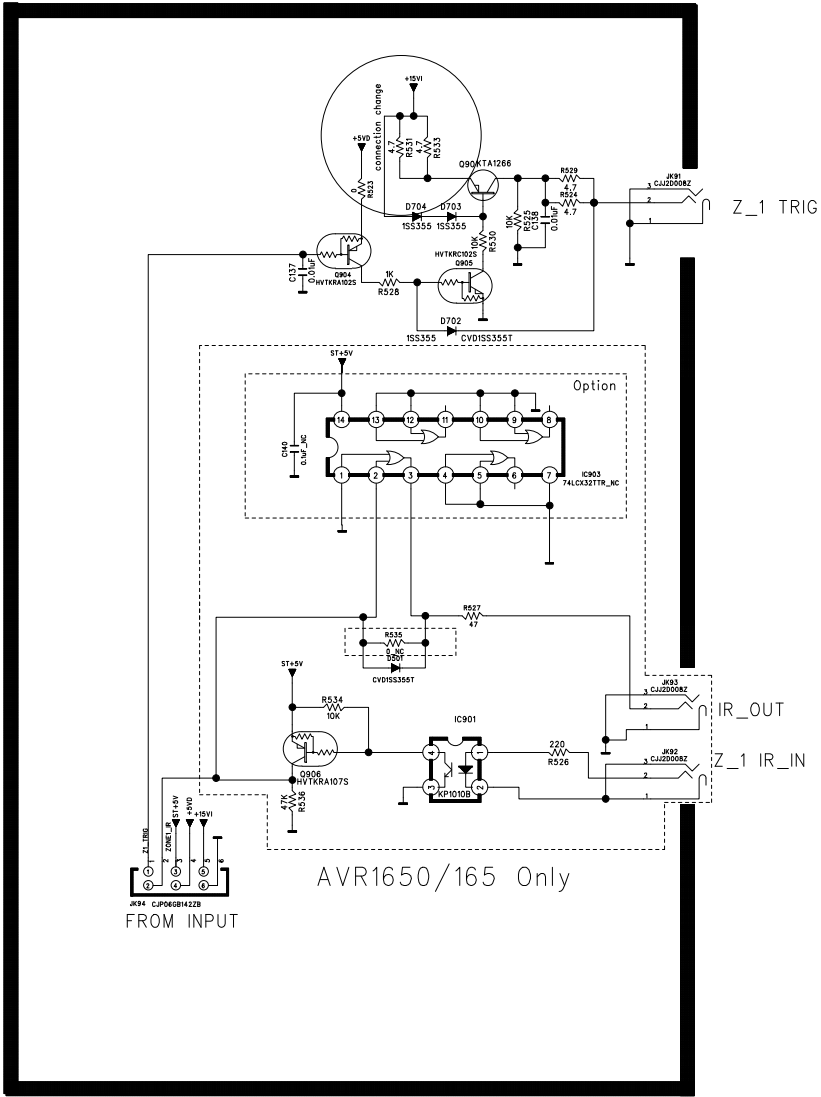
DESIGN	CHECK	APPROVE	DRAWING NO

C.B.LEE	W.Y.YANG	G.S.WEY	12358SCWZ	1
11.05.17			(CPU)	





CUP12360-2



MP

REVISION		2		4		6	
1		3		5		7	
SCHEMATIC DIAGRAM							SHEET
MODEL	AVR156x_165x					2	3
DESIGN	CHECK	APPROVE	DRAWING NO				
G.S.SONG	W.Y.YANG	G.S.WEY	CUP12360Z (REMOTE)				
11.05.17	11.05.17	11.05.17					

D

D

C

C

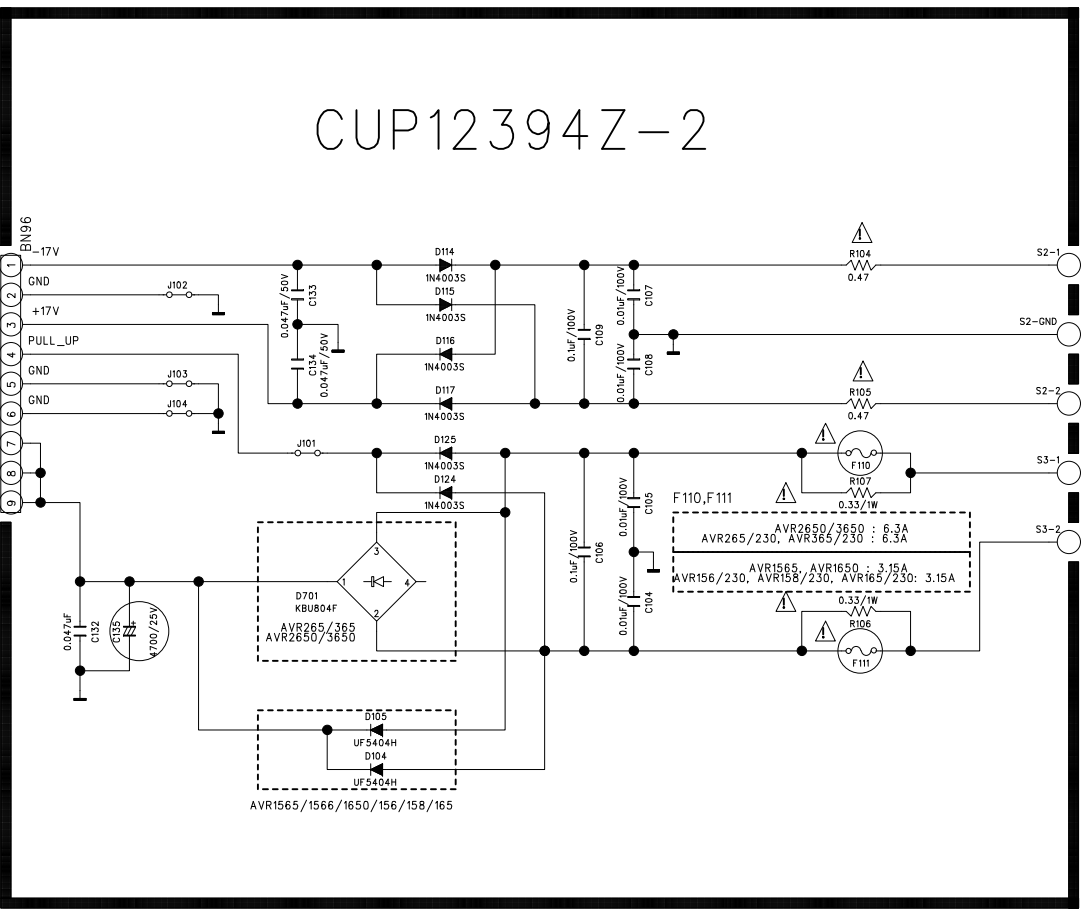
B

B

A

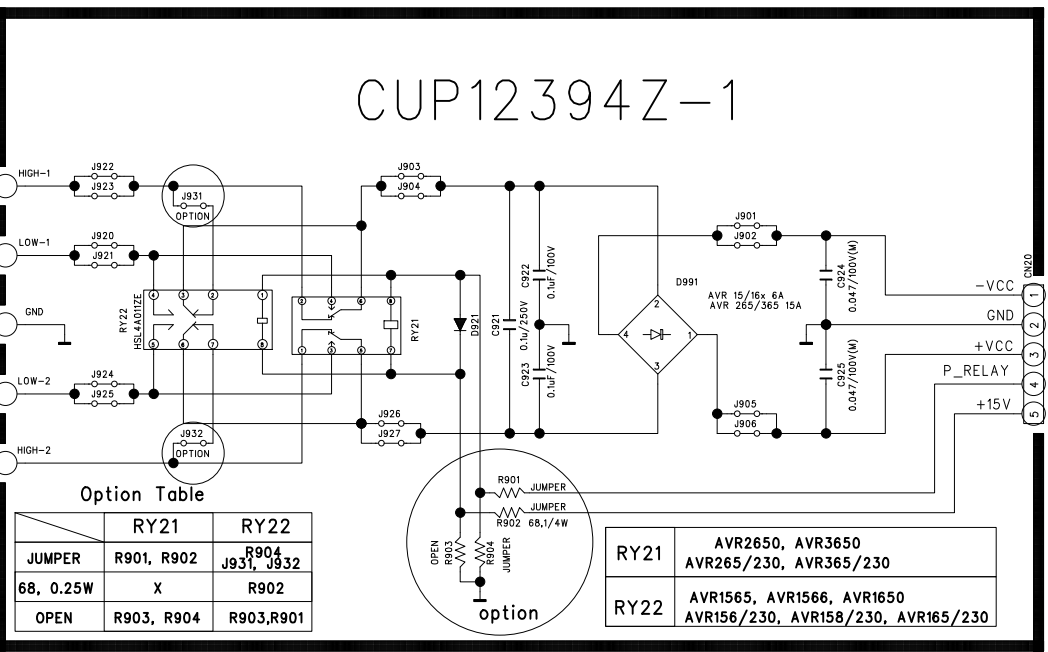
A

< TRANS PCB _ S2,S3 >



< Transformer >

< TRANS PCB _ S1 >



Option Table

	RY21	RY22
JUMPER	R901, R902	R904 J931, J932
68, 0.25W	X	R902
OPEN	R903, R904	R903,R901

RY21	AVR2650, AVR3650 AVR265/230, AVR365/230
RY22	AVR1565, AVR1566, AVR1650 AVR156/230, AVR158/230, AVR165/230

MP

REVISION	2	4	6
1	3	5	7
SCHEMATIC DIAGRAM			
MODEL	AVR 165/265/365		
DESIGN	CHECK	APPROVE	DRAWING NO
K.B.C	K.M.S	Y.K.Y	CUP12394Z
11.05.17	11.05.17	11.05.17	(POWER)