harman/kardon

AVR 2650

7 X 95W 7.1 CHANNEL A/V RECEIVER

SERVICE MANUAL

CONTENTS

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8500 Balboa Blvd..
Northridge, CA. 91329

Released 2011
Discontinued XXXX

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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 or 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.

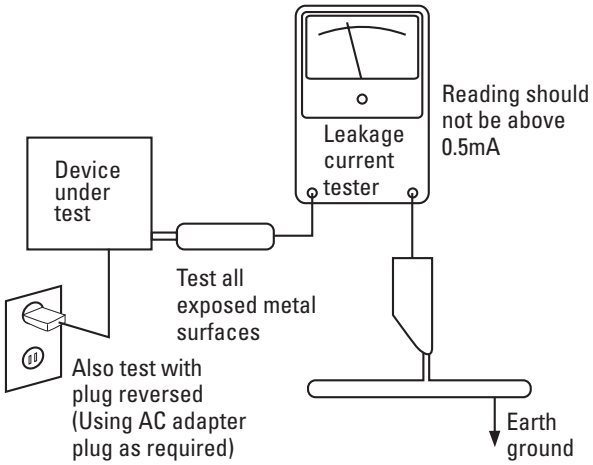
Components identified with the IEC symbol ⚠ in the parts list are special significance to safety. When replacing a component identified with ⚠, use only the replacement parts designated, or parts with the same ratings or resistance, wattage, or voltage that are designated in the parts list in this manual.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

SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60Hz outlet and turn the AC power switch on. Any current measured must not exceed o.5mA.



AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

AVR

Specifications

Specifications

Audio Section

Stereo power:	AVR 3650/AVR 365: 110W per channel, two channels driven @ 8 ohms, 20Hz – 20kHz, <0.09% THD AVR 2650/AVR 265: 95W per channel, two channels driven @ 8 ohms, 20Hz – 20kHz, <0.09% THD
Multichannel power:	AVR 3650/AVR 365: 110W per channel, two channels driven @ 8 ohms, 20Hz – 20kHz, <0.09% THD AVR 2650/AVR 265: 95W per channel, two channels driven @ 8 ohms, 20Hz – 20kHz, <0.09% THD
Input sensitivity/impedance:	200mV/47k ohms
Signal-to-noise ratio (IHF-A):	100dB
Surround system adjacent channel separation:	Dolby Pro Logic/DPLII: 40dB Dolby Digital: 55dB DTS: 55dB
Frequency response (@ 1W):	10Hz – 130kHz (+0dB/–3dB)
High instantaneous current capability (HCC):	±35 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 – 1710kHz (AVR 3650/AVR 2650) 522 – 1620kHz (AVR 365/AVR 265)
Signal-to-noise ratio:	45dB
Usable sensitivity (loop):	500µV
Distortion (1kHz, 50% mod):	0.8%
Selectivity (±10kHz):	30dB

Video Section

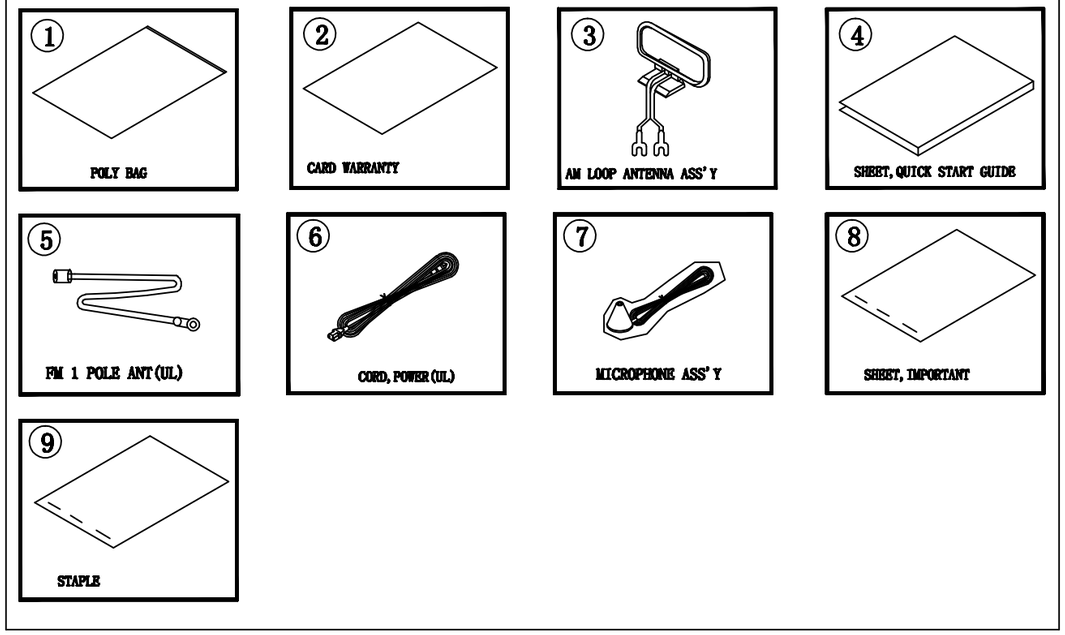
Television format:	NTSC (AVR 3650/AVR 2650); PAL (AVR 365/AVR 265)
Input level/impedance:	1Vp-p/75 ohms
Output level/impedance:	1Vp-p/75 ohms
Video frequency response (composite video):	10Hz – 8MHz (–3dB)
HDMI:	Version 1.4a with 12-bit Deep Color

General Specifications

Power requirement:	120V AC/60Hz (AVR 3650/AVR 2650); 220V – 240V AC/50Hz – 60Hz (AVR 365/AVR 265)
Power consumption:	<0.5W (standby); 480W maximum (AVR 3650/AVR 365); 420W maximum (AVR 2650/AVR 265)
Dimensions (W x H x D):	17-5/16" x 6-1/2" x 17-1/8" (440mm x 165mm x 435mm)
Weight	(AVR 3650/AVR 365): 27.25 lb (12.4kg) (AVR 2650/AVR 265): 24.4 lb (11.1kg)

Depth measurement includes knobs, buttons and terminal connections.
Height measurement includes feet and chassis.

1. Instruction manual ass'y - Accessories

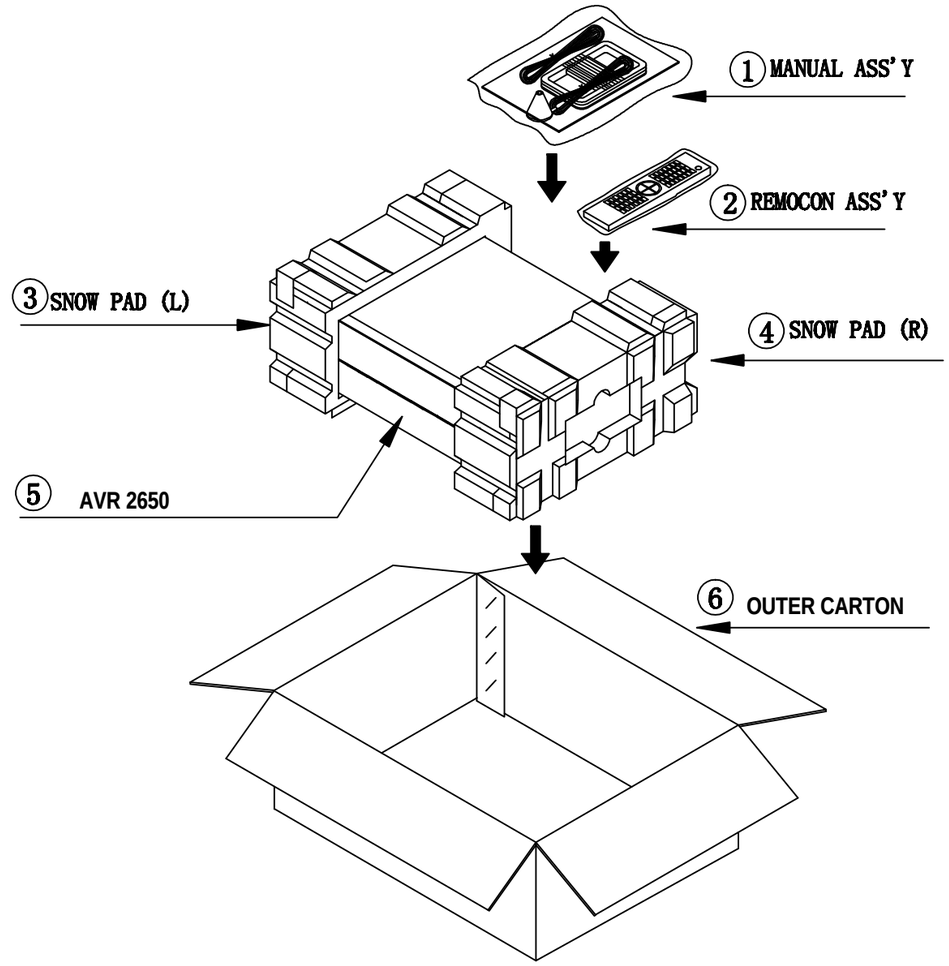


NO	DESCRIPTION	PARTS NO.	Q,ty
1	POLY BAG		1
2	CARD WARRANTY	CQE1A172X	1
3	ANT, AM LOOP	CSA1A032Z	1
4	SHEET, QUICK START GUIDE		1
5	FM 1 POL ANT(UL)	CSA1A019Z	1
6	CORD, POWER(UL)	CJA2A070Z	1
7	MICROPHONE ASS'Y	CJXAVR365MICRO	1
8	SHEET, IMPORTANT		1
9	STAPLE		3

A	REMOCON ASS'Y	CARTAVR2650-HK	1

AVR2650

2. Package Drawing

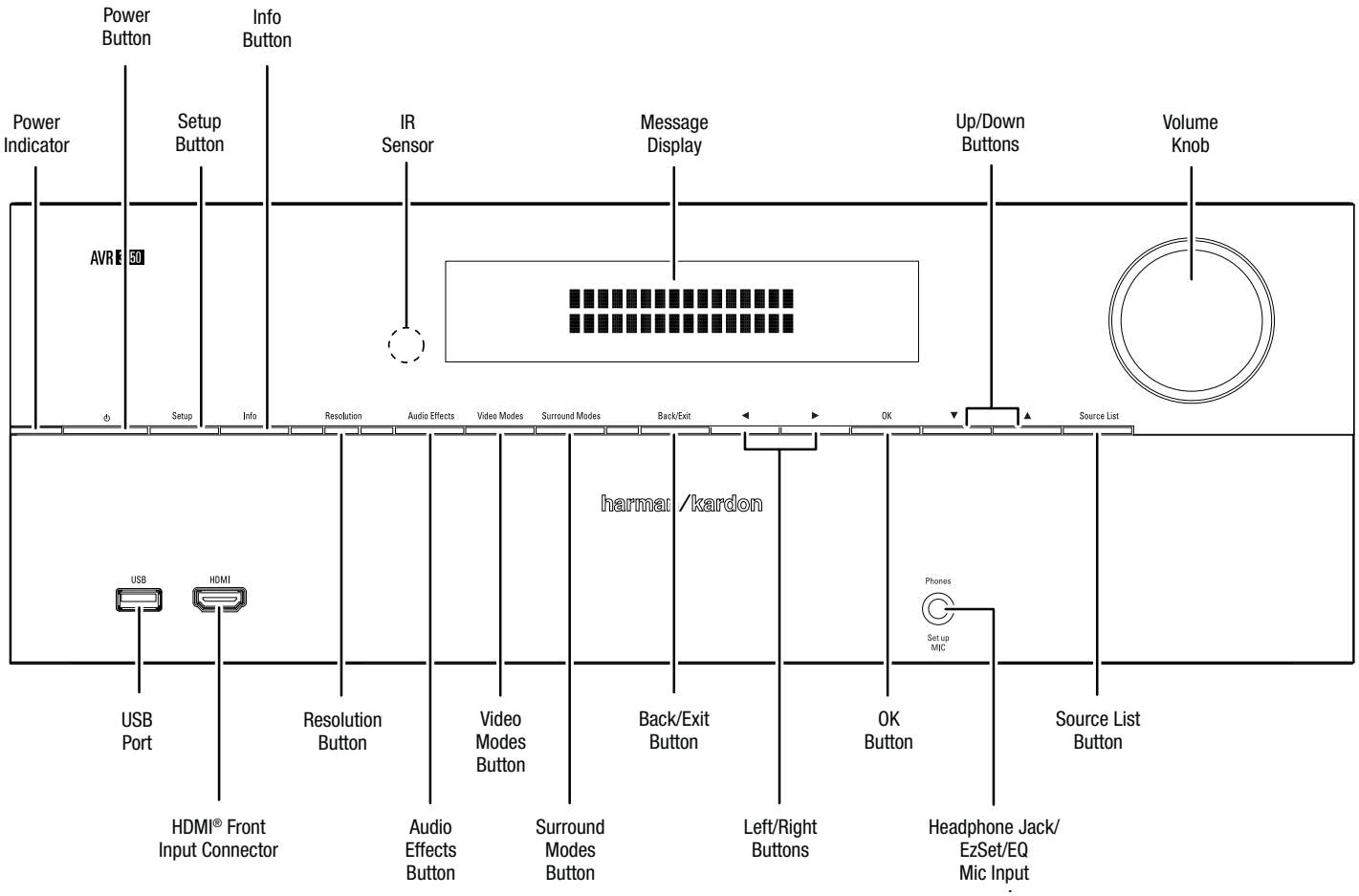


NO	DESCRIPTION	PART NO.	Qty
1	MANUAL ASS'Y		1
2	REMOCON ASS'Y	CARTAVR2650-HK	1
3	FOAM PAD (L)	CPS5A564Z	1
4	FOAM PAD (R)	CPS5A565Z	1
5	AVR 2650		1
6	OUTER CARTON	CPG1A937W	1

AVR

Front-Panel Controls

Front-Panel Controls



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AVR

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.

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

Setup button: Press this button to access the AVR's main menu.

Info button: Press this button to access the AVR's Source submenu, which contains the settings for the source currently playing. Use the Up/Down buttons to scroll through the different settings.

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.

IR sensor: This sensor receives infrared (IR) commands from the remote control. It is important to ensure that the sensor is not blocked. **AVR 3650/AVR 365 only:** If covering the IR sensor is unavoidable (such as when the receiver is installed inside of a cabinet), connect an optional infrared receiver to the Remote IR In connector on the AVR's rear panel.

Up/Down buttons: Use these buttons to navigate the AVR's menus.

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

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

HDMI (High-Definition Multimedia Interface®) Front Input connector: Connect an HDMI-capable source component that will be used only temporarily, such as a camcorder or game console, here.

Resolution button: Press this button to access the AVR's video output resolution setting: 480i, 480p, 720p, 1080i, 1080p or 1080p/24Hz. Use the Up/Down and OK buttons to change the setting.

IMPORTANT NOTE: If you set the AVR's video output resolution higher than the capabilities of the actual connection between the AVR and your TV or video display, you will not see a picture. If you are using the composite video connection from the AVR to your TV (see *Connect Your TV or Video Display*, on page 17), press the Resolution button and use the Up/Down and OK buttons to change the resolution to 480i.

Audio Effects button: Press this button to access the Audio Effects submenu, which allows you to adjust the AVR's tone controls and other audio controls. See *Set Up Your Sources*, on page 26, for more information.

Video Modes button: Press this button for direct access to the Video Modes submenu, which contains settings you can use to improve the video picture. Use the OK button to scroll through the different modes, and use the Up/Down and Left/Right buttons to make adjustments within each mode. See *Set Up Your Sources*, on page 26, for more information.

Surround Modes button: Press this button to select a listening mode. The Surround Modes menu will appear on screen, and the menu line will appear in the front-panel display. Use the Up/Down buttons to change the surround-mode category and the Left/Right buttons to change the surround mode for that category. See *Set Up Your Sources*, on page 26, for more information.

Back/Exit button: Press this button to return to the previous menu or to exit the menu system.

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

OK button: Press this button to select the currently highlighted item.

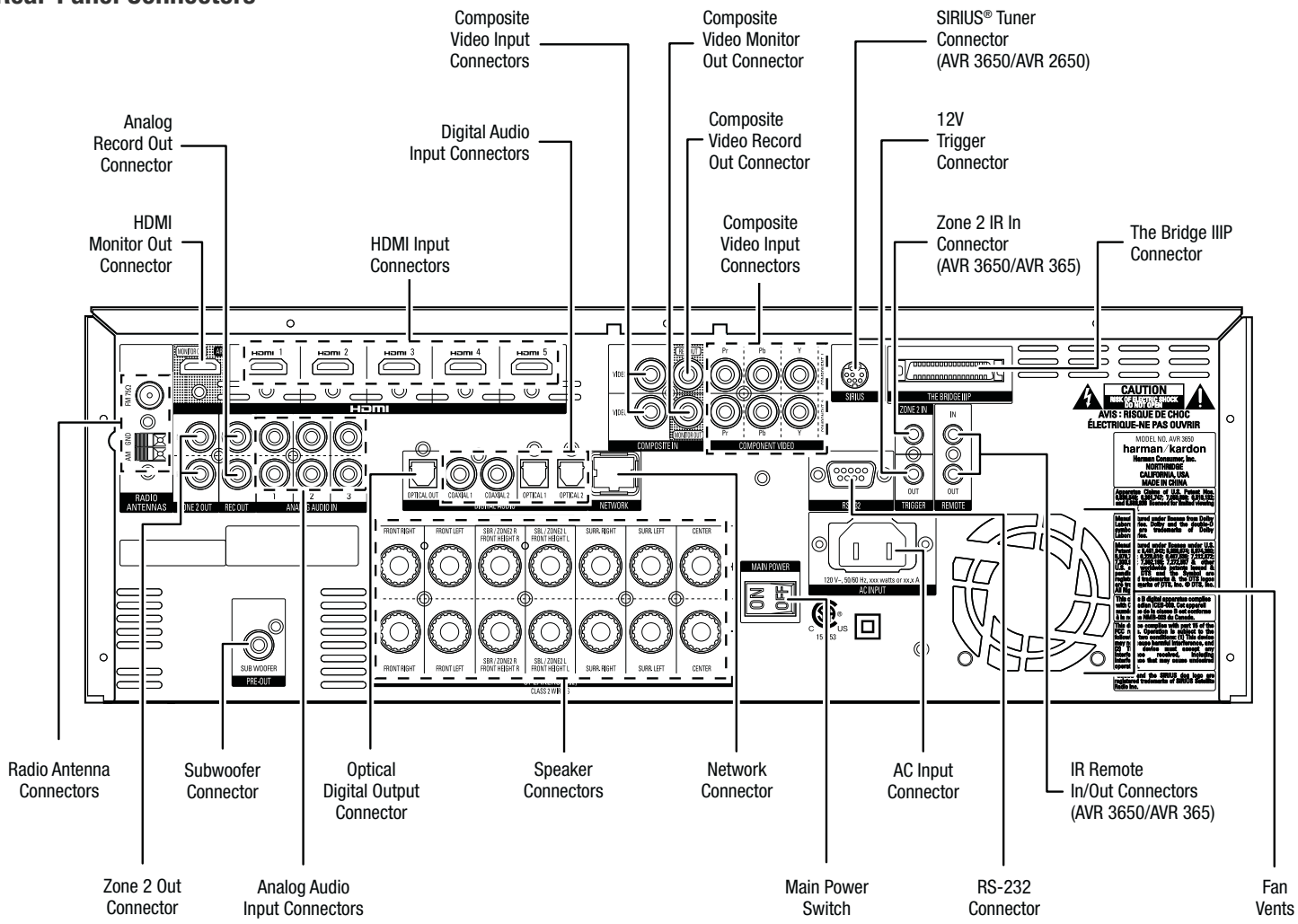
Headphone jack/EzSet/EQ Mic input: Connect a 1/4" stereo headphone plug to this jack for private listening. This jack is also used to connect the supplied microphone for the EzSet/EQ procedure described in *Configure the AVR For Your Speakers*, on page 25.

Source List button: Press this button to select a source device to watch/listen to. Use the Up/Down buttons to scroll through the source-device list, and press the OK button to select the source being displayed.

AVR

Rear-Panel Connectors

Rear-Panel Connectors



Rear-Panel Connectors (AVR 3650 shown)

Analog Record Out connector: Connect this analog audio output to the analog audio input of a recording device. A signal is available at this output whenever an analog audio source is playing.

HDMI Monitor Out connector: If your TV has an HDMI connector, use an HDMI cable (not included) to connect it to the AVR's HDMI Monitor Out connector. The AVR will automatically transcode component and composite video input signals to the HDMI format (upscaling to as high as 1080p), so you do not need to make any other connections to your TV from the AVR or from any of your video source devices.

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 (High-bandwidth Digital Content Protection)-compliant. If it isn't, do not connect it via an HDMI connection; use an analog video connection instead and make a separate audio connection.

HDMI Input connectors: An HDMI connection transmits 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 the HDMI connection. See *Connect Your Audio and Video Source Devices*, on page 18, for more information.

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 Audio and Video Source Devices*, on page 18, for more information.

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 Audio and Video Source Devices*, on page 18, for more information.

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AVR

Rear-Panel Connectors, continued

Composite Video Monitor Out connector: If your TV or video display does not have an HDMI connector, use a composite video cable (not included) to connect the AVR's Composite Video Monitor Out connector to your TV's composite video input. **NOTE:** The HDMI connection to your TV is preferred. If you use the composite video connection to your TV, you will not be able to view the AVR's on-screen menus.

Composite Video Record Out connector: Connect an analog video recorder's video input connector to the AVR's Composite Video Rec 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 Analog Record Output connectors to the analog video recorder's audio inputs.

Component Video Input connectors: If any of your video source devices have component video connectors (and do not have HDMI connectors), using the component video connectors will provide superior video performance. You will also need to make an audio connection from the device to the receiver. See *Connect Your Audio and Video Source Devices*, on page 18, for more information.

SIRIUS® Tuner connector: Connect a SIRIUSConnect™ satellite radio tuner module here. (Not included. Available at www.sirius.com.) See *Connect Your Audio and Video Source Devices*, on page 18, for more information.

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.

Zone 2 IR Input connector (AVR 3650/AVR 365 only): Connect a remote IR receiver located in Zone 2 of a multizone system to this jack to control the AVR (and any source devices connected to the Remote IR Output connector) from the remote zone.

The Bridge IIIP connector: Connect an optional Harman Kardon The Bridge IIIP docking station to this input. Insert the plug until it snaps into place in the connector. **IMPORTANT:** Connect The Bridge IIIP only with the AVR's power turned off.

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

Zone 2 Out connectors: Connect these jacks to an external amplifier to power the speakers in the remote zone of a multizone system.

Subwoofer connector: Connect this jack to a powered subwoofer with a line-level input. See *Connect Your Subwoofer*, on page 17, for more information.

Analog Audio Input connectors: Use the AVR's Analog Audio Input connectors for source devices that don't have HDMI or digital audio connectors. See *Connect Your Audio and Video Source Devices*, on page 18, 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 audio signals.

Speaker connectors: Use two-conductor speaker wire to connect each set of terminals to the correct speaker. See *Connect Your Speakers*, on page 17, for more information.

NOTE: The speaker connectors, also called Assigned Amp speaker connectors- are used for the surround back channels in a 7.1- channel home theater, or you can reassign them to a remote room for multizone operation or to front height channels for Dolby Pro Logic® IIz operation. See *Place Your Speakers*, on page 13, for more information.

Network connector: Use a Cat. 5 or Cat. 5E cable (not supplied) to connect the AVR's Network connector to your home network to enjoy Internet radio and content from DLNA®-compatible devices that are connected to the network. See *Connect to Your Home Network*, on page 20, for more information.

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

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.

RS-232 connector: This connector is used to connect to external control hardware. Consult a certified professional installer for more information.

I**R Remote In/Out connectors (AVR 3650/AVR 365 only):** 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 jack. The IR Remote Out jack may be connected to the IR input of a compatible product to enable remote control through the AVR.

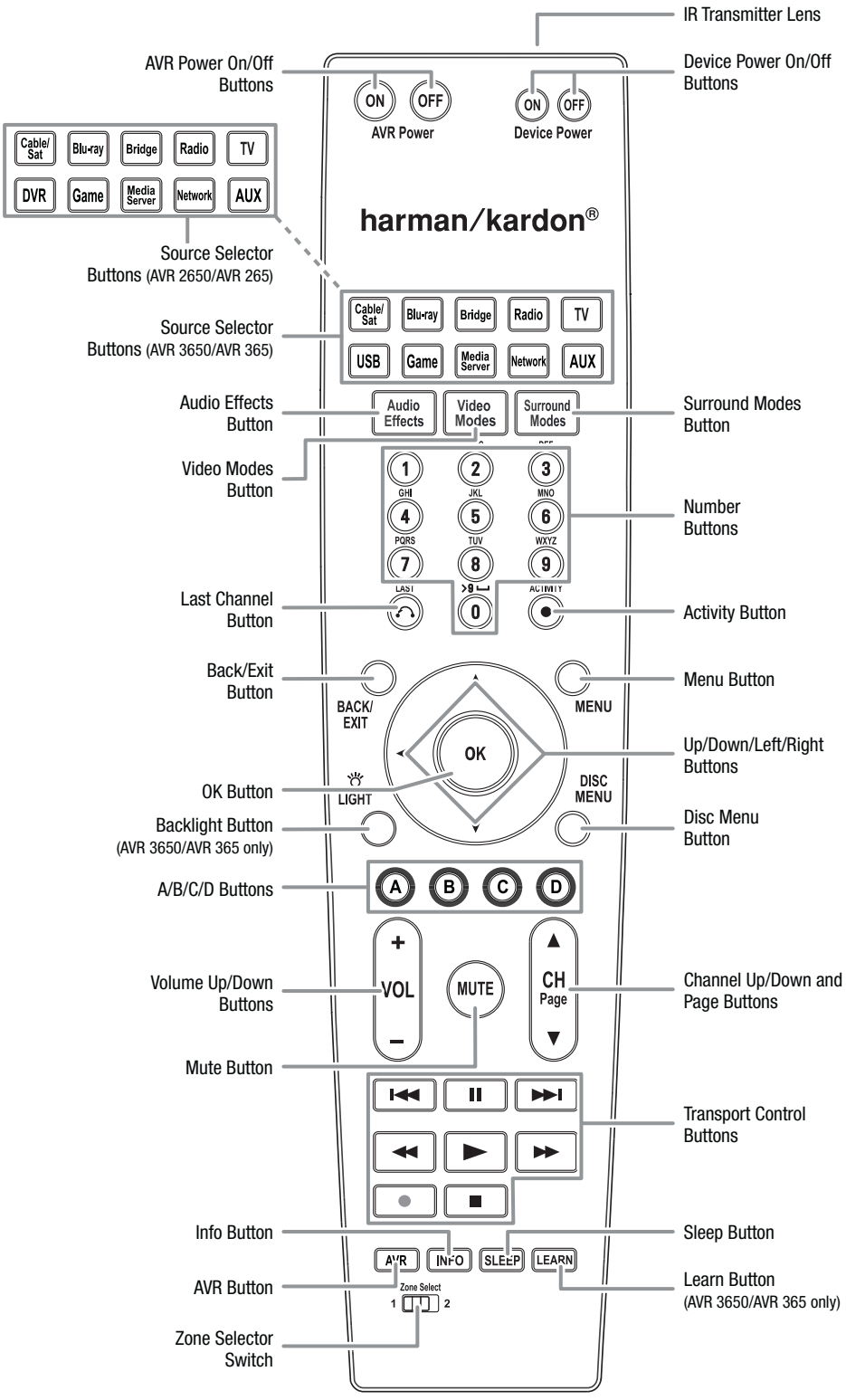
Fan Vents: These vents are used by the AVR's fan to cool the system. Maintain a clearance of at least three inches (75mm) from the nearest surface to avoid overheating the unit. It is normal for the fan to remain off at most normal volume levels. An automatic temperature sensor turns the fan on only when it is needed.

IMPORTANT NOTE: Never block the fan vents. Doing so could allow the AVR to overheat to dangerous levels.

AVR

System Remote Control Functions

System Remote Control Functions



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AVR

System Remote Control Functions, continued

In addition to controlling the AVR, the AVR remote is capable of controlling eight other devices, including an iPod/iPhone device docked in a The Bridge IIIP 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 23, 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 A13 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. Buttons dedicated to the AVR – AVR Power On/Off, Audio Effects, Video Modes, Surround Modes, Volume, Mute and Sleep Settings – are available at any time, even when the remote is controlling another device. To return the remote to the AVR control mode at any time, press the Setup button.

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

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

Device Power On/Off buttons: Press a device's Source Selector button, then press these buttons to turn the device on and off.

Source Selector buttons: Press one of these buttons to select a source device, e.g., Blu-ray, Cable/Sat, 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, FM or SIRIUS). Each successive press changes the band.

Audio Effects button: Press this button to access the Audio Effects submenu, which allows adjustment of the AVR's tone and other audio controls. See the *Set Up Your Sources* section, on page 26, for more information.

Video Modes button: Press this button for direct access to the Video Modes submenu, which contains picture adjustments you can use after you have adjusted the picture settings on your TV or video display. See the *Advanced Functions* section, on page 33, for more information.

Surround Modes button: Press this button to access the Surround Modes submenu. Select a surround-mode category: Auto Select, Virtual Surround, Stereo, Movie, Music or Game. When you select the category, it is highlighted and the surround mode changes.

To change the surround mode for the selected category, press the OK button when the menu line is highlighted and use the Up/Down buttons to select one of the available surround-mode options. Press the OK button; or press the Back/Exit button to exit the Surround Modes menu and display the next higher menu in the hierarchy. See the *Advanced Functions* section, on page 33, for more information.

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

Last Channel button: When controlling a cable, satellite or HDTV set-top box or a TV, press this button to return to the previous television channel.

Activity button: With this button you can program the remote to store up to 11 different Macros (Activities). (A Macro is a series of commands that are transmitted by a single button press.) Execute a Macro by pressing this button, followed by the Number button (or the AVR Power On button) into which you programmed the Macro. See *Programming Macro (Activity) Commands*, on page 41, for more information.

Back/Exit button: Press this button to return to the previous menu or to exit the menu system.

Menu button: This button is used within the tuner menus (including SIRIUS Radio) and The Bridge IIIP control menu, and is also used to display the main menu on some source devices. To display the AVR's menu system, press the Setup button.

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

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

Backlight button (AVR 3650/AVR 365 only): Press this button to illuminate the buttons on the remote. Press it again to turn the backlight off, or wait 5 seconds after the last button press for the light to turn off on its own.

Disc Menu button: To display the disc's menu while a DVD or Blu-ray Disc is playing, press the Blu-ray Source Selector button, then press this button.

A/B/C/D buttons: These buttons can be used as additional source buttons and can also operate certain functions when used with some source devices. See Table A13 in the Appendix for details. These buttons are also used with a Teletext®-capable television if your broadcast, cable or satellite provider offers Teletext service.

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

Channel Up/Down and Page buttons: When the tuner has been selected, press these buttons to select a preset radio station. While operating a cable, satellite or HDTV set-top box or a television, press these buttons to change channels.

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.

Transport Control buttons: These buttons are used to control source devices and The Bridge IIIP.

Info button: Press to display the AVR's Info Menu, which contains the settings for the current source.

Setup button: Press to display the AVR's Main Menu or to switch the remote to the AVR control mode.

Sleep button: Press this button to activate the sleep timer, which turns off the receiver after a programmed period of time. Each press increases the time by 10 minutes, up to 90 minutes – ending with the "Sleep Off" message.

Learn button (AVR 3650/AVR 365 only): The AVR 3650/AVR 365 remote is capable of "learning" individual IR codes from the original remote that came with a source device. See *Program the Remote to Control Your Source Devices and TV*, on page 23, for more information.

Zone Selector switch: Use this switch to select whether the AVR commands will affect the main listening area (Zone 1) or the remote zone of a multizone system (Zone 2). For normal operation, leave the switch in the Zone 1 position.

AVR

Types of Home Theater System Connections

Types of Home Theater System Connections

There are different types of audio and video connections used to connect the AVR to your speakers, your TV or video display, and your source devices. The Consumer Electronics Association has established the CEA® color-coding standard.

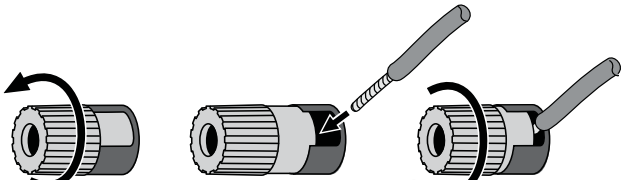
Analog Audio Connection	Color
Front Left/Right	White/Red
Center	Green
Surround Left/Right	Blue/Gray
Surround Back/Front Height Left/Right	Brown/Tan
Subwoofer	Purple
Digital Audio Connection	Color
Coaxial (input or output)	Orange
Optical Input	Black
Optical Record Output	Gray
Analog Video Connection	Color
Component Video	Red/Green/Blue
Composite Video	Yellow

Speaker Connections

Speaker cables carry an amplified signal from the AVR's speaker terminals to each loudspeaker. They contain two wire conductors, or leads, that are differentiated in some way, such as with colors or stripes.

The differentiation helps you maintain proper polarity, without which your system's low-frequency performance can suffer. Each speaker is connected to the AVR's speaker-output terminals using two wires, one positive (+) and one negative (–). Always connect the positive terminal on the speaker, which is usually colored red, to the positive terminal on the receiver, which is colored as indicated in the Connection Color Guide Table, above. The negative terminals on the speakers and the AVR are black.

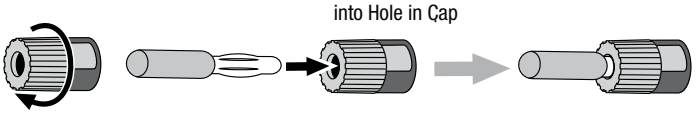
Your AVR uses binding-post speaker terminals that can accept bare-wire cables or banana plugs. Bare-wire cables are installed as shown below:



1. Unscrew Cap 2. Insert Bare Wire 3. Tighten Cap

Banana plugs are inserted into the hole in the middle of the terminal cap, as shown below:

A. Tighten Cap B. Insert Banana Connector into Hole in Cap

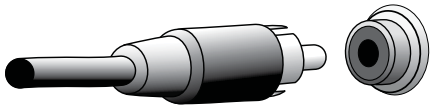


Always connect the colored (+) terminal on the AVR to the (+) terminal on the speaker (usually red), and the black (–) terminal on the AVR to the (–) terminal on the speaker (usually black).

IMPORTANT: Make sure the (+) and (–) bare wires do not touch each other or the other terminal. Touching wires can cause a short circuit that can damage your receiver or amplifier.

Subwoofer Connections

The subwoofer is a speaker dedicated to reproducing only the low (bass) frequencies, which require more power. To obtain the best results, most speaker manufacturers offer powered subwoofers that contain their own amplifiers. Use a single RCA audio cable to make a line-level (non-amplified) connection from the AVR's Subwoofer connector to a corresponding input jack on the subwoofer.



Although the AVR's purple subwoofer output looks similar to a full-range analog audio jack, it is filtered so that only the low frequencies pass through it. Don't connect this output to any device other than a subwoofer.

Source Device Connections

Audio and video signals originate in source devices (components where a playback signal originates) such as your Blu-ray Disc or DVD player, CD player, DVR (digital video recorder) or other recorder, tape deck, game console, cable or satellite television tuner, an iPod or iPhone (docked in an optional The Bridge IIIP docking station) or an MP3 player. The AVR's FM/AM tuner also counts as a source, even though no external connections are needed other than the FM and AM antennas and an optional SIRIUS tuner module. Separate connections are required for the audio and video portions of the source device's signal, except for digital HDMI connections. The types of connections you use will depend upon the capabilities of the source device and of your TV or video display.

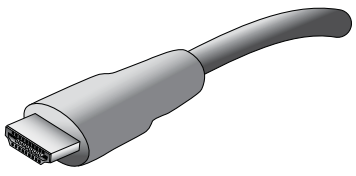
Digital Audio Connections – HDMI

There are two types of audio connections – digital and analog. Digital audio signals are required for listening to sources encoded with digital surround modes, such as Dolby Digital and DTS, or for uncompressed PCM digital audio. Your AVR has three types of digital audio connections: HDMI, coaxial and optical. Do not use more than one type of digital audio connection for each source device. However, it's okay to make both analog and digital audio connections to the same source.

Your AVR is equipped with five rear-panel HDMI input connectors, and one HDMI monitor output connector. (The AVR 3650 and AVR 365 also have a front-panel HDMI input connector.) HDMI technology enables digital audio and video information to be carried using a single cable, delivering the highest quality picture and sound. If your TV or video display device has an HDMI input connector, make a single HDMI connection from each source device to the AVR. Usually, a separate digital audio connection is not required.

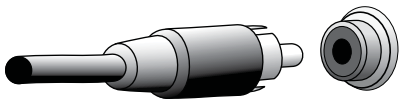
The AVR's HDMI monitor output connection contains an Audio Return Channel (ARC) that carries a digital audio signal from your TV or video display back to the AVR. It allows you to listen to HDMI devices that are connected directly to your TV (such as an Internet connection) without making an additional connection from the device to the AVR. The ARC signal is active when the TV source is selected. See *System Settings*, on page 39, for more information.

The HDMI connector is shaped for easy plug-in (see illustration, below), and HDMI cable runs are limited to about 10 feet (3m). If your video display has a DVI input and is HDCP-compliant, use an HDMI-to-DVI adapter (not included), and make a separate audio connection.



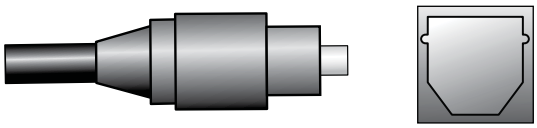
Digital Audio Connections – Coaxial

Coaxial digital audio jacks are usually color-coded in orange. Although they look like standard RCA-type analog jacks, you should not connect coaxial digital audio outputs to analog inputs or vice versa.



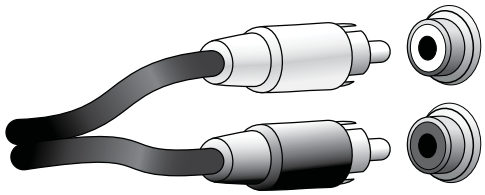
Digital Audio Connections – Optical

Optical digital audio connectors are normally covered by a shutter to protect them from dust. The shutter opens as the cable is inserted. Optical input connectors are color-coded using a black shutter, while optical outputs use a gray shutter.



Analog Audio Connections

Two-channel analog connections require a stereo audio cable, with one connector for the left channel (white) and one for the right channel (red). These two connectors are attached to each other.

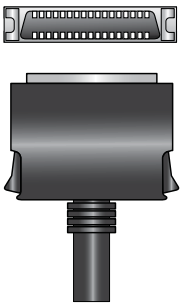


For source devices that have both digital and analog audio outputs, you may make both connections. If you are going to be setting up a multizone system, remember that Zone 2 is an audio-only zone (the AVR does not have a Zone 2 video output). Therefore, make analog connections for any audio source devices (such as a CD changer) that you will want available for listening in Zone 2 at all times.

The analog connections also feed the analog record outputs. You may record materials from Blu-ray Disc recordings, DVDs or other copy-protected sources using only analog connections. Remember to comply with all copyright laws if you choose to make a copy for your own personal use.

The Bridge IIIP Connection

Your AVR includes a proprietary, dedicated connector for an optional The Bridge IIIP docking station for the iPod or iPhone. The Bridge IIIP outputs analog audio to the AVR and is available as a source to Zone 2 in a multizone system.



Video Connections

Many source devices output both audio and video signals (e.g., Blu-ray Disc, DVD player, cable television box, HDTV tuner, satellite box, VCR, DVR). In addition to an audio connection as described above, make a video connection for each of these source devices. Make only one type of video connection for each device.

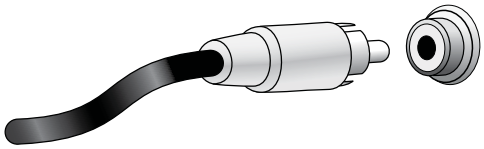
Digital Video Connections

If you have already connected a source device to one of the AVR's HDMI input connectors, you have automatically made a video connection for that device, since the HDMI cable carries both digital audio and digital video signals.

Analog Video Connections – Composite Video

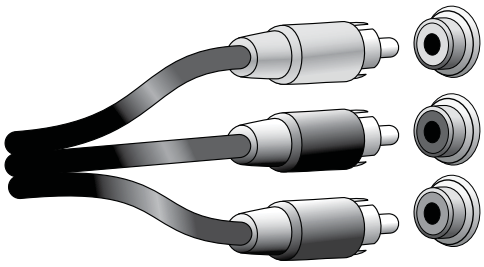
Your AVR uses two types of analog video connections: composite video and component video.

Composite video is the basic connection most commonly available. Both the chrominance (color) and luminance (intensity) components of the video signal are transmitted using a single cable. The jack is usually color-coded yellow and looks like an analog audio jack. Do not connect a composite video jack to an analog audio or coaxial digital audio jack, or vice versa.



Analog Video Connections – Component Video

Component video separates the video signal into three components – one luminance ("Y") and two sub-sampled color signals ("Pb" and "Pr") – that are transmitted using three separate cables that are color-coded green (Y), blue (Pb) and red (Pr). Component video cables that join three separate green, blue and red connectors into a single cable are sold separately.



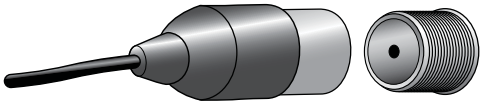
If your TV or video display has an HDMI connection, we recommend it as the best quality connection. Your AVR converts composite and component analog video input signals to the HDMI format, upscaling them to high-definition 1080p resolution.

AVR

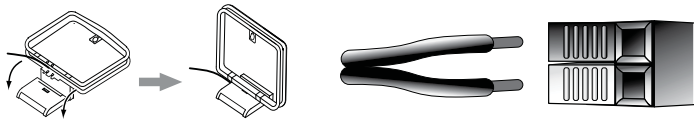
Types of Home Theater System Connections

Radio Connections

Your AVR uses separate terminals for the included FM and AM antennas. The FM antenna uses a 75-ohm F-connector.

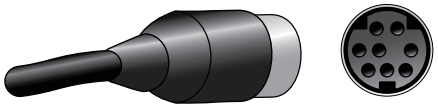


The AM antenna connector uses spring-clip terminals. After assembling the antenna as shown below, press the levers to open the connectors, insert the bare wires into the openings, and release the levers to secure the wires. The antenna wires are not polarized, so you can insert either wire into either connector.



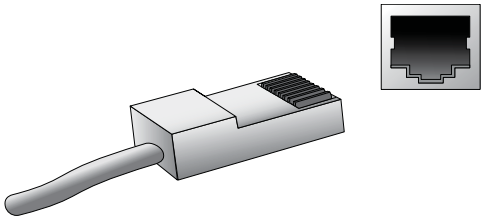
SIRIUS Satellite Radio

To enjoy SIRIUS satellite radio, purchase a SIRIUSConnect tuner module and a subscription to the SIRIUS service. Visit www.sirius.com for information on SIRIUSConnect tuner modules. The SiriusConnect modules include an eight-pin DIN cable for connection to the eight-pin jack on the AVR, allowing you to control the tuner module via the AVR. Although you may also use a "plug-and-play" tuner module equipped with standard audio connections, you will not be able to use the AVR to control the SIRIUS tuner.



Network Connector

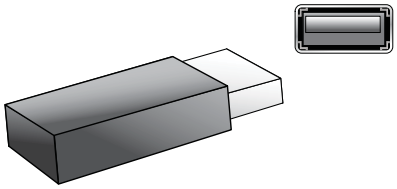
The AVR's Network connector allows you to enjoy Internet radio or content from other DLNA-compatible devices that are connected to the same network. Use a Cat. 5 or Cat. 5E cable to connect the AVR's RJ-45 connector to your home network.



USB Port

The USB port on your AVR is used for firmware upgrades. If an upgrade for the AVR's operating system is released in the future, you will be able to download it to the AVR using this port. Complete instructions will be provided at that time.

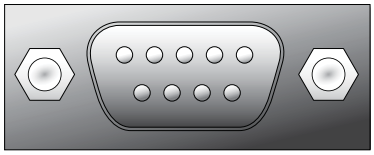
In addition to performing firmware upgrades, the AVR 3650/AVR 365 can play MP3 and WMA audio files from a USB device inserted into the USB port. Insert the device into the USB port with the device's plug oriented so it fits all the way into the port. You may insert or remove the device at any time – there is no installation or ejection procedure.



IMPORTANT: Do not connect a PC or other USB host/controller to the AVR's USB port, or you may damage both the AVR and the other device.

RS-232 Connector

Your AVR's RS-232 serial port may be connected to an external control system to allow it to transmit control commands to the AVR. The port is bidirectional so that the AVR can transmit status updates to the control device. Connecting and using the RS-232 port requires considerable technical knowledge and is best left to a professional custom installer.

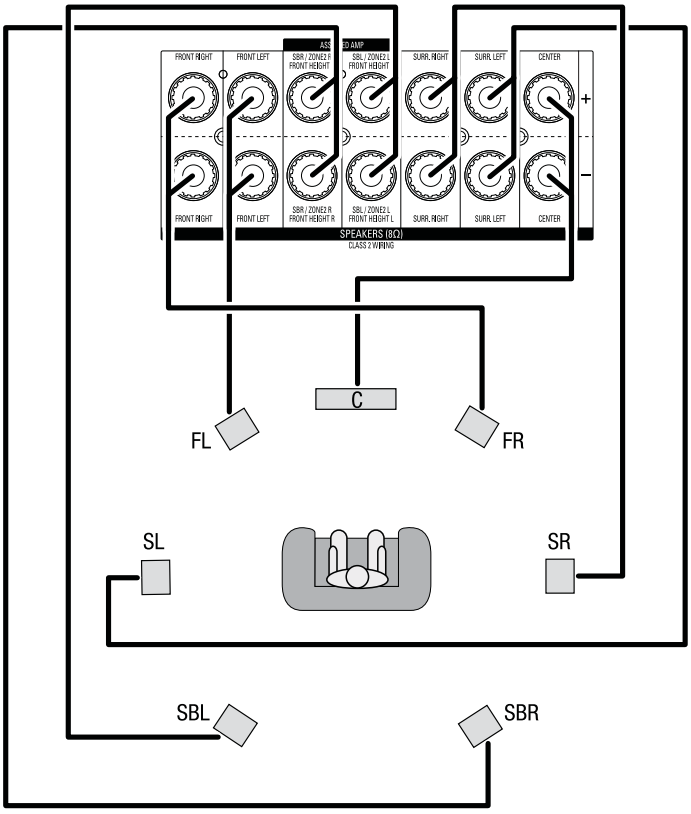


Making Connections

CAUTION: Before making any connections to the audio/video receiver, ensure that the AVR's AC cord is unplugged from the receiver and the AC outlet. Making connections with the receiver plugged in and turned on could damage the speakers.

Connect Your Speakers

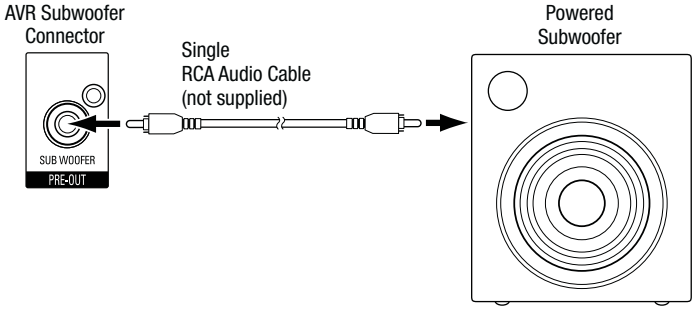
After you have placed your loudspeakers in the room as explained in *Place Your Speakers*, on page 13, connect each speaker to its color-coded terminal on the AVR as explained in *Speaker Connections*, on page 14. Connect the speakers as shown in the illustration.



NOTE: If you installed front height speakers, connect them as shown for the SBL and SBR speakers.

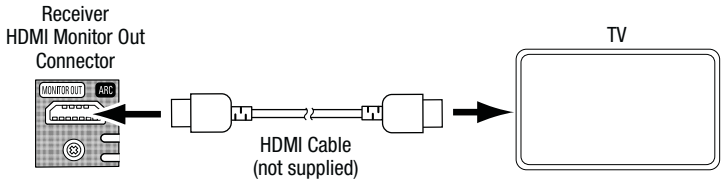
Connect Your Subwoofer

Use a single RCA audio cable to connect the AVR's Subwoofer connector to your subwoofer as explained in *Subwoofer Connections*, on page 14. Consult your subwoofer's user manual for specific information about making connections to it.

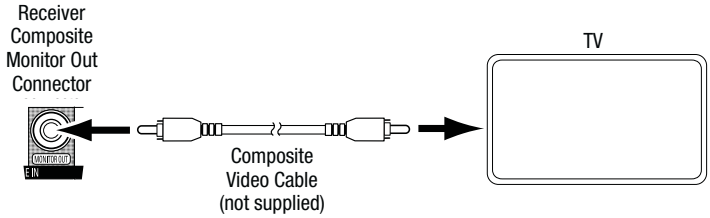


Connect Your TV or Video Display

If your TV has an HDMI connector: Use an HDMI cable (not included) to connect it to the AVR's HDMI Monitor Out connector. You do not need to make any other connections to your TV from the receiver or from any of your video source components.



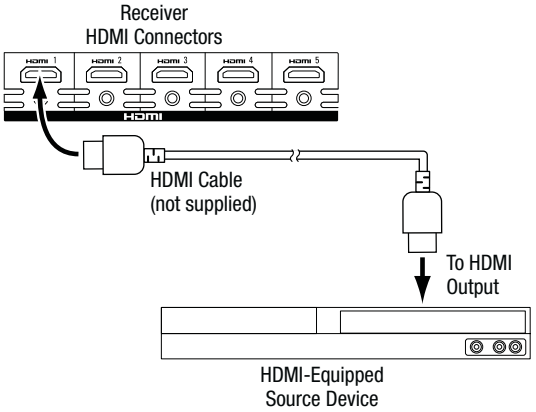
If your TV does not have an HDMI connector: Use a composite video cable (not included) to connect the AVR's Composite Monitor Out connector to your TV's composite video connector.



NOTE: The HDMI connection to your TV is preferred. If you use the composite video connection to your TV, you will not be able to view the AVR's on-screen menus.

Connect Your HDMI Devices

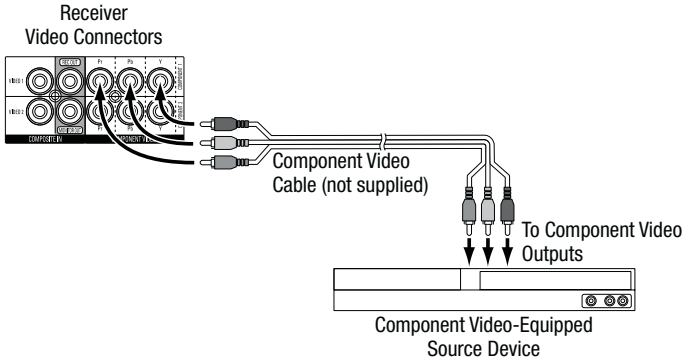
If any of your source devices have HDMI connectors, using them will provide the best possible video and audio performance quality. Since the HDMI cable carries both digital video and digital audio signals, you do not have to make any additional audio connections for devices you connect via an HDMI cable.



NOTE: If you have HDMI devices (such as an Internet connection) already connected directly to your TV, you can feed their sound to the AVR via the HDMI Monitor Out connector's Audio Return Channel, and they will not require additional connections to the AVR.

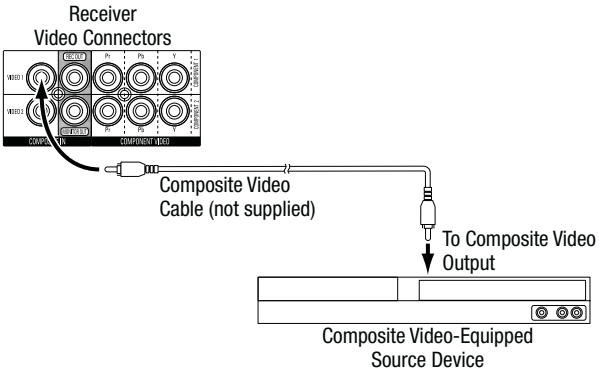
Connect Your Component Video Devices

If any of your video source devices have component video connectors (and do not have HDMI connectors), using the component video connectors will provide superior video performance. You will also need to make an audio connection from the device to the receiver.



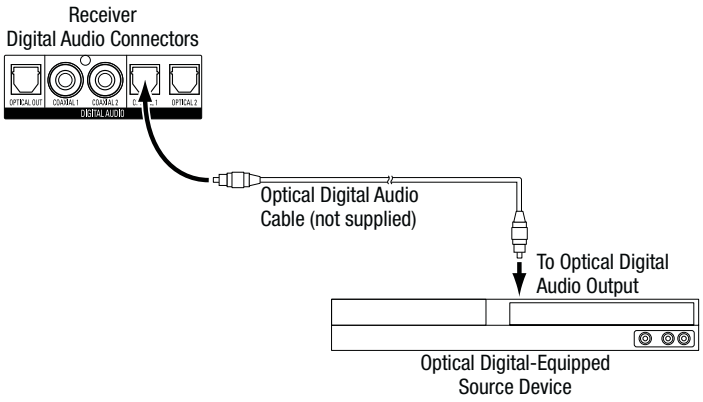
Connect Your Composite Video Devices

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 receiver.



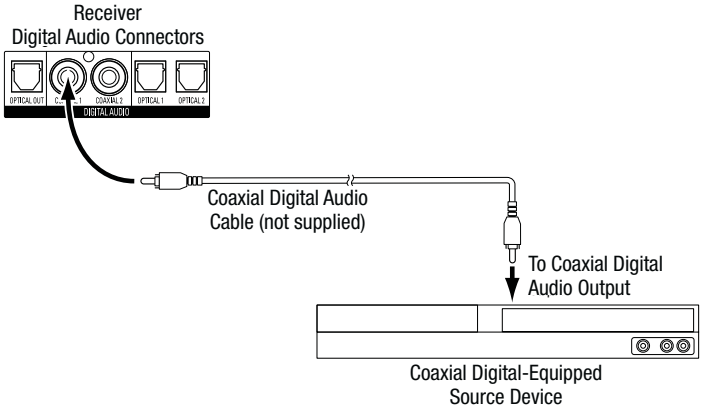
Connect Your Optical Digital Video Devices

If your non-HDMI source devices have optical digital outputs, connect them to the AVR's optical digital audio connectors. **NOTE:** Make only one type of digital connection (HDMI, optical or coaxial) from each device.



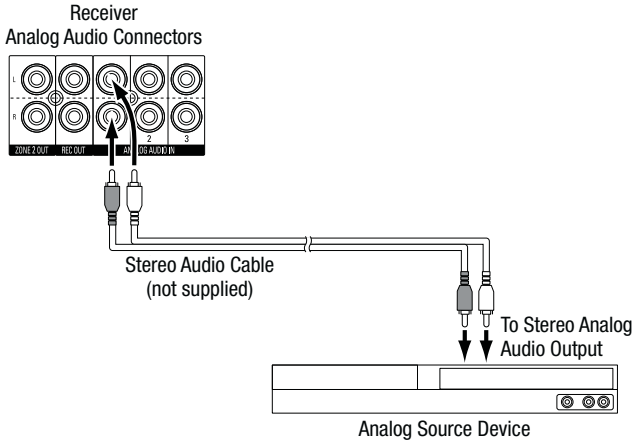
Connect Your Coaxial Digital Audio Devices

If your non-HDMI source devices have coaxial digital outputs, connect them to the AVR's coaxial digital audio connectors. **NOTE:** Make only one type of digital connection (HDMI, optical or coaxial) from each device.



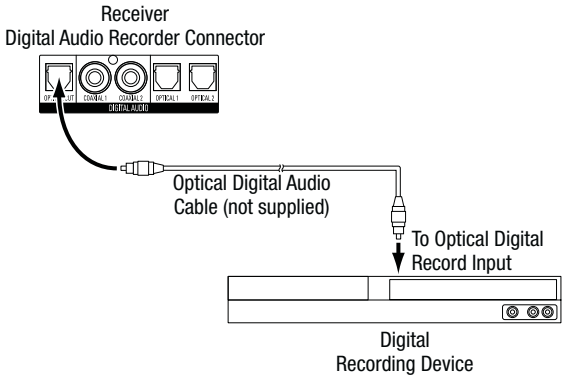
Connect Your Analog Audio Devices

Use the AVR's analog audio connectors for source devices that don't have HDMI or digital audio connectors. **NOTE:** If you're installing a multizone system, make analog audio connections for any source devices you want to be able to listen to in Zone 2. Only analog sources are available in Zone 2.

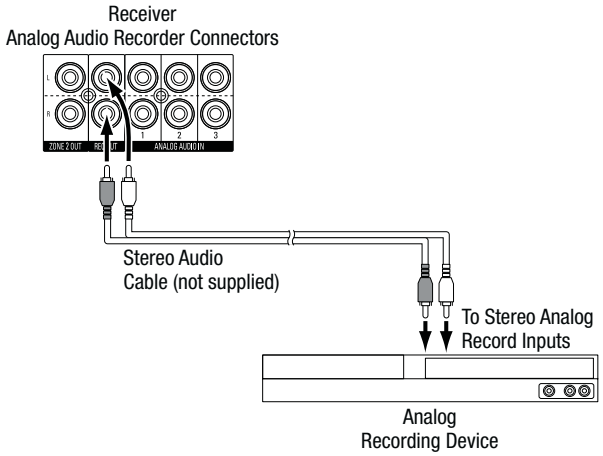


Connect Your Audio Recorders

Connect a digital audio recorder's optical digital input to the AVR's optical digital output. You can record both coaxial and optical digital audio input signals.

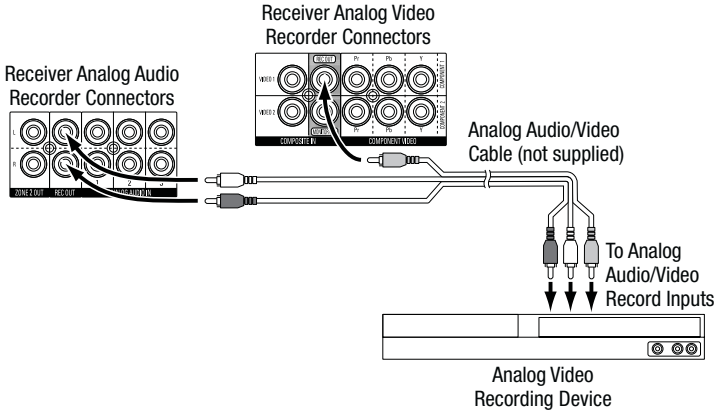


Connect an analog audio recorder's inputs to the AVR's analog audio Rec Out connectors. You can record any analog audio input signal.



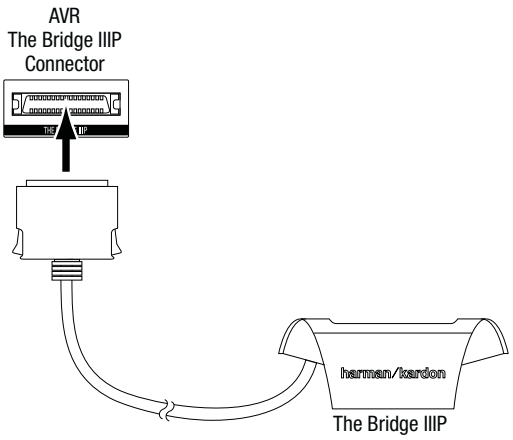
Connect Your Video Recorder

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



Connect The Bridge IIIP

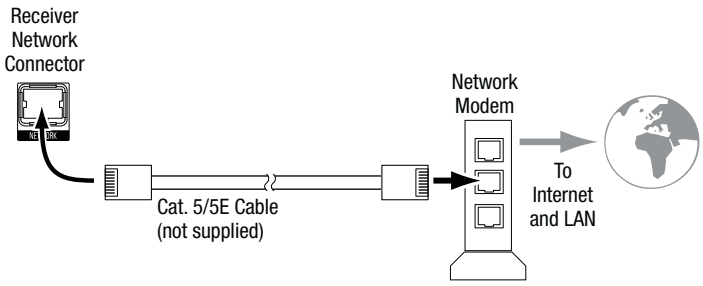
Connect an optional The Bridge IIIP to the AVR's The Bridge IIIP connector. Insert the plug until it snaps into place in the connector. **IMPORTANT: Connect The Bridge IIIP only with the AVR's power turned OFF.**



Dock your iPod or iPhone (not included) in The Bridge IIIP, and you may listen to its audio through your high-performance audio/video system. You may also view still images or video materials stored on a photo- or video-capable iPod or iPhone that supports video browsing. You can use the AVR remote to control the iPod, with navigation messages displayed on the AVR's front panel and on a video display connected to the AVR.

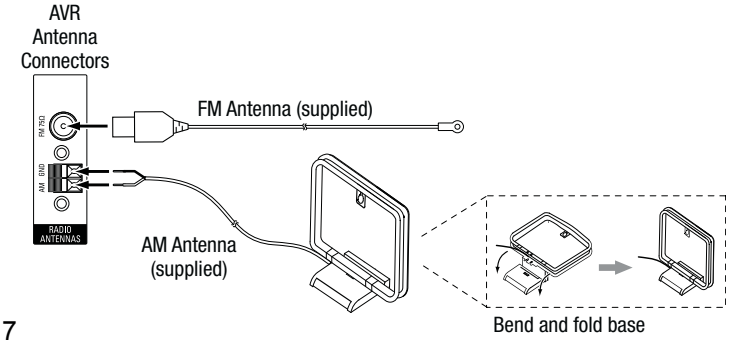
Connect to Your Home Network

Use a Cat. 5 or Cat. 5E cable (not supplied) to connect the AVR's Network connector to your home network to enjoy Internet radio and content from DLNA-compatible devices that are connected to the network.



Connect the Radio Antennas

- Connect the supplied FM antenna to the AVR's FM 75Ω antenna connector. For the best reception, extend the FM antenna as far as possible.
- Bend and fold the base of the supplied AM antenna as shown and connect the antenna wires to the AVR's AM and Gnd connectors. (You can connect either wire to either connector.) Rotate the antenna as necessary to minimize background noise.

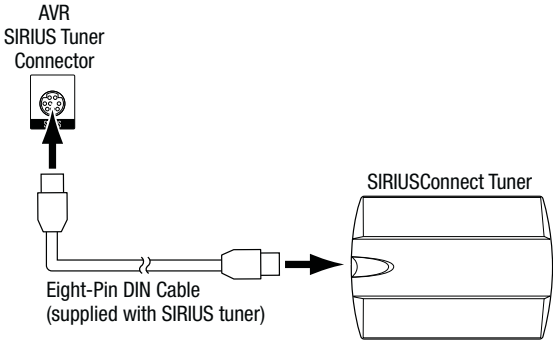


AVR

Making Connections

Connect a SIRIUSConnect Radio Tuner (AVR 3650 and AVR 2650 only)

Connect the multi-pin DIN cable supplied with the SIRIUSConnect tuner to the AVR's SIRIUS Tuner connector and to the corresponding connector on the SIRIUS module. The AVR will supply power to the SIRIUS module so you will not need to connect the power supply included with the module. You will need to purchase a SIRIUS radio subscription and activate the tuner module, following the instructions included with the SIRIUS module and from the SIRIUS Web site at www.sirius.com.



Operating Your AVR

Now that you have installed your components and completed a basic configuration, you are ready to begin enjoying your home theater system.

Controlling the Volume

Adjust the volume either by turning the front-panel Volume knob (clockwise to increase volume or counterclockwise to decrease volume) or by pressing the Volume Up/Down buttons on the remote. The volume is displayed as a negative number of decibels (dB) below the 0dB reference point (-90dB – +10dB).

0dB is the maximum recommended volume for your AVR. Although it's possible to turn the volume to a higher level, doing so may damage your hearing and your speakers. For certain more dynamic audio materials, even 0dB may be too high, allowing for damage to equipment. Use caution with regard to volume levels.

To change the volume level display from the default decibel scale to a 0-to-90 scale, adjust the Volume Units setting in the System Settings menu, as described in *System Settings*, on page 39.

Muting the Sound

To mute all speakers and the headphones, press the Mute button on the remote. Any recording in progress will not be affected. The MUTE message will appear in the display as a reminder. To restore the sound, press the Mute button again, or adjust the volume.

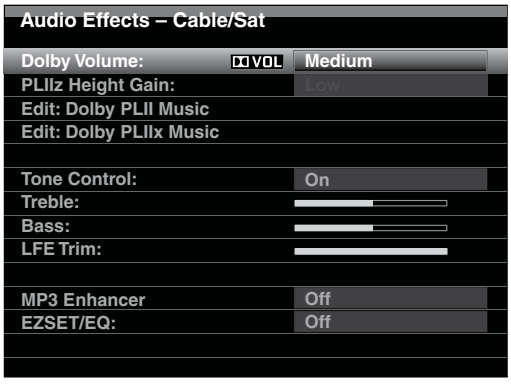
Dolby Volume

Your AVR implements Dolby Volume processing, which can improve the audio performance of the system by revealing subtle details in the sound, even at normal home-listening volumes.

One concern of the typical home theater listener is that volumes can vary widely for different programs played by a source (e.g., television commercial advertisements are often much louder than the main program). Another is that details heard in the recording studio at typically high reference volumes are lost at the lower volumes used by many listeners at home.

The AVR uses two Dolby Volume techniques to address these issues. The Leveler module maintains a consistent listening volume within a source (e.g., commercial television or different tracks on a USB drive or mix CD). The Modeler module endeavors to re-create the reference presentation that was heard in the recording studio without losing portions of the program at the typically lower volume levels often used in the home. When the Modeler module is active, you may notice details of the performance that were hidden when the program was played on other equipment.

To adjust the Dolby Volume setting, press the Audio Effects button. The Audio Effects submenu will appear.



After you highlight the Dolby Volume setting, each press of the OK button will switch to one of the options in the table below. The settings do not refer to the volume level, which is adjusted normally using the AVR's Volume Control, but rather to the amount of Dolby Volume processing desired.

Setting	Effect
Off	No Dolby Volume processing
Low	Only Dolby Volume Modeler module is active
Medium	Both Modeler and Leveler modules are active; Leveler module has a value of 3
Max	Both Modeler and Leveler modules are active; Leveler module has a value of 9

NOTE: Dolby Volume processing is compatible with sources recorded at a sampling rate of 48kHz. High-resolution sources, such as DTS 96/24 programs, will be decoded at 48kHz. DTS 96/24 programs will be played in DTS 5.1 mode. To hear DTS 96/24 materials in high resolution, turn off Dolby Volume processing.

Dolby Volume Calibration

Dolby Volume calibration allows you to adjust the operation of the Dolby Volume circuitry to match your particular speakers and listening environment. The Dolby Volume circuitry in your AVR is factory-calibrated with average speaker sensitivity in mind; however, different speakers may have different sensitivities, which will affect the overall performance of the Dolby Volume circuitry. Use Dolby Volume calibration to adjust the calibration of the circuitry according to the specific speakers you have.

The average home audio speaker sensitivity is 88dB SPL (1 watt/1 meter). Check the sensitivity specification for your loudspeakers, found in the owner's manual or on the manufacturer's Web site. If your speakers have a sensitivity rating greater than 88dB SPL, increase Dolby Volume calibration by the difference between your speakers' sensitivity and 88dB. If they have a sensitivity rating of less than 88dB SPL, decrease Dolby Volume calibration by the difference between your speakers' sensitivity and 88dB.

To adjust the Dolby Volume calibration, press the AVR button and select the "System" menu. Scroll to the Dolby Volume calibration line, which defaults to 0dB. Use the Left/Right buttons to adjust the setting within the range of –10dB to +10dB.

Listening Through Headphones

Plug the 1/4-inch stereo plug on a pair of headphones into the front-panel Phones jack for private listening. The default Headphone Bypass mode delivers a conventional two-channel signal to the headphones. Press the Surround Modes button on the front panel or the remote to switch to HARMAN headphone virtual surround processing, which emulates a 5.1-channel speaker system. No other surround modes are available for the headphones.

Selecting a Source

There are three different ways to select a source:

• Press the front-panel Source List button. Use the Up/Down buttons to scroll through the sources, and press the OK button to select the source being displayed.

• Using the on-screen menus, press the AVR button, highlight "Source Select" and press the OK button. Scroll to the desired source in the slide-in menu and press the OK button.

• You can directly select any source by pressing its Source Selector button on the remote.

The AVR selects the audio and video inputs assigned to the source, and any other settings you made during setup.

The source name, the audio and video inputs assigned to the source, and the surround mode will appear on the front panel. The source name and active surround mode will also briefly appear on the TV screen.

Video Troubleshooting Tips

If there is no picture:

• Check the source selection and video input assignment.

• Check all connections for a loose or incorrect connection.

• Check the video input selection on the TV/display device.

• Press the front-panel Resolution button and use the Up/Down buttons until the correct video output resolution is selected and a picture appears. The CANCEL message will also appear. Press the Down button to view the ACCEPT option, then press the OK button.

Additional Tips for Troubleshooting HDMI Connections

• Turn off all devices (including the TV, the AVR and any source components).

• Unplug the HDMI cables, starting with the cable between the AVR and the TV, and continuing with the cables between the AVR and each source device.

• Carefully reconnect the cables from the source devices to the AVR. Connect the cable from the AVR to the TV last.

• Turn on the devices in this order: TV, AVR, source devices.

NOTE: Depending upon the particular components involved, the complexity of the required communication between HDMI components may cause delays of up to a minute in the completion of some actions, such as input switching or switching between SD and HD channels.

Listening to FM and AM Radio

Select the Radio source. A screen similar to the one in the illustration below will appear. (Note: The SIRIUS band uses a different screen.)

Use the Up/Down buttons or the Remote's Channel buttons to tune a station (or channel for SIRIUS Radio), as displayed on the front panel and on-screen display.

The AVR defaults to automatic tuning, meaning each press of the Up/Down buttons scans up or down the frequency band until a station with acceptable signal strength is found. To switch to manual tuning, in which each press of the Up/Down buttons steps through a single tuning frequency increment, press the remote's Menu button. A slide-in menu will appear. Select "Mode," and press the OK button to toggle between automatic and manual tuning modes.

Once you have tuned an FM station, toggling the Mode setting also switches the radio between stereo and monaural reception. (Mono reception may improve reception of weaker stations.)

Preset Stations

You can store a total of 30 stations (AM and FM combined) as presets. When you want to save the currently tuned station as a preset, press the OK button, and two dashes will flash. Use the Number buttons to enter the desired preset number.

To tune to a preset station:

• Press the Left/Right buttons.

• Press the skip forward/skip backward Transport Control buttons.

• Press the Menu button and scroll to the desired preset, then press the OK button.

• Enter the preset number using the Number buttons. For presets 10 through 30, press 0 before the preset number. For example, to enter preset 21, press 0-2-1.

Listening to SIRIUS Satellite Radio

SIRIUS Satellite Radio delivers a variety of commercial-free music from categories including pop, rock, country, R&B, dance, jazz, classical and many more, plus coverage of all the top professional and college sports, including play-by-play games from select leagues and teams. Additional programming includes expert sports talk, uncensored entertainment, comedy, family programming, local traffic and weather, and news from your most trusted sources. SIRIUS Satellite Radio is available to residents of the U.S. (except Alaska and Hawaii) and Canada.

To listen to SIRIUS Satellite Radio, you'll need to connect a SIRIUS tuner module (sold separately) to the AVR's SIRIUS Tuner connector. SIRIUS tuner modules that will work with your AVR are available at www.sirius.com. Select a tuner module designated for SIRIUS-Ready® audio components (also called SIRIUSConnect). A SIRIUSConnect module is controlled by the AVR's internal tuner, including 40 preset SIRIUS station locations and remote control. Although you may also use a SIRIUS "plug-and-play" unit with standard analog audio connections, you will not be able to enjoy the AVR's ease of control.

Installing the SIRIUS tuner module

Once you've purchased a SIRIUS tuner, you'll need to install it, activate it and subscribe to begin enjoying the service:

1. Using the cable included with the SIRIUS tuner module, plug the module into the SIRIUS Tuner connector on the rear of the AVR.

2. Follow the instructions included with the SIRIUS tuner module to complete its installation. NOTE: Pay particular attention to the instructions for installing and orienting the SIRIUS antenna that is included with the SIRIUS tuner module.

3. Call 1-888-539-SIRI (7474) or visit sirius.com (U.S.) or siriuscanada.ca (Canada) to activate your SIRIUS tuner module and subscribe to the SIRIUS service.

To listen to SIRIUS radio

Select SIRIUS Radio as the source in one of these ways:

• Press the Source List button on the front panel. Use the Up/Down buttons to scroll to "SIRIUS Radio" and press the OK Button.

• Press the Radio Source Selector button on the remote repeatedly until SIRIUS Radio is selected.

There are four ways to tune a SIRIUS radio channel:

• Use the Up/Down buttons or the Channel Up/Down buttons to scan through the channel numbers.

• Use the Left/Right buttons to scan through any previously programmed preset stations.

• After you have programmed presets, directly enter the preset number (1 through 40) using the Number buttons. For two-digit positions, enter a "0" before the number.

• To search for a channel, press the Menu button, then use the Up/Down buttons to cycle through the following choices: Preset, Category, All Channels or Direct Entry. Press the OK button to select one, then use the Up/Down buttons to search for the channel (for Direct Entry, use the Number buttons to enter the channel number), then press the OK button.

The current channel number and preset location will appear in the lower line of the AVR's front-panel Message Display. The song title, artist, channel name, channel category, channel number, preset position (if programmed) and signal-strength bars will all appear on the screen when a video display is in use. For traffic and weather channels, the current city's name will appear instead of the channel name.

Preset SIRIUS channels

You can store a total of 40 channels as presets. When the desired channel has been tuned, press the OK button, and two dashes will flash on the AVR's front-panel Message Display. Use the Number buttons to enter the desired preset number.

To tune to a preset SIRIUS channel:

• Press the Left/Right buttons.

• Press the skip forward/skip backward Transport Control buttons.

• Press the Menu Button and scroll to the desired preset, then press the OK Button.

• Enter the preset number using the Number buttons. For presets 10 through 40, press 0 before the preset number. For example, to enter preset 21, press 0-2-1.

Listening to Media on a USB Device (AVR 3650/AVR 365)

Your AVR is compatible with MP3 and WMA media.

MP3 compatibility: Mono or stereo, contstant bit rates (CBR) from 8kbps to 320kbps, variable bit rates (VBR) from lowest to highest quality, with sample rates from 8kHz – 48kHz.

WMA compatibility: Ver. 9.2, stereo CBR with 32kHz – 48kHz sampling rate and 40kbps – 192kbps bit rate, mono CBR with 8kHz – 16kHz sampling rate and 5kbps – 16kbps bit rate, VBR Pass Encoding and Quality Encoding 10 – 98, 44kHz and 48kHz sampling rate.

No other types of media can be played.

Playing files on a USB device

1. Insert the USB drive into the AVR's front-panel USB port.

IMPORTANT: Do not connect a personal computer or peripheral to the USB port. USB hubs and multi-card readers are not supported.

2. Select the USB Source Selector button on the remote. "USB" will appear on the front-panel display, and the USB screen and the slide-in menu will appear.

3. Select "Browse USB." The AVR will list the folders located on the drive.

4. Select a folder and press the OK button. The AVR will list all compatible audio files.

5. Select a file to begin playback. The USB play screen will appear. Any ID3 information and album art will be displayed, along with the track's elapsed/current time and icons indicating the current playback status.

NOTES:

• To skip to the next track, press the Right button; to return to the previous track, press the Left button once.

• You can use the Transport Control buttons to control playback (skipping to the previous or next track, searching at high speed forward or backward within a track, playing a file, pausing playback or stopping playback).

• To repeat a file or folder, press the Menu Button and select the Repeat option. Each press of the OK Button will change the setting from Off (no repeat) to Repeat One (file) to Repeat All (files at the current directory level of the drive). Repeat All will always be activated when Random Music playback is turned on.

• To play the audio tracks in random order, press the Menu button and select the Random Music setting. Each press of the OK button turns the setting on or off. The AVR will automatically repeat the tracks until playback is stopped manually.

• To collapse a folder or return to the previous menu level, press the Back/Exit button or the Left button.

Listening to an iPod/iPhone Device

When The Bridge IIIP is connected to its proprietary input on the AVR and an iPod or iPhone is docked, you may play the audio, video and still-image materials on your iPod or iPhone through your high-quality audio/video system, operate the iPod or iPhone using the AVR remote or the AVR's front-panel controls, view navigation messages on the AVR's front panel or a connected video display and charge the iPod or iPhone.

As of this writing, your AVR supports audio, video and photo playback from the following Apple products: iPod classic, iPod nano 3G, iPod nano 4G, iPod nano 5G, iPod nano 6G, iPod touch, iPod touch 2G, iPod touch 3G, iPod touch 4G, iPhone, iPhone 3G, iPhone 3GS, iPhone 4G. For the latest compatibility information, please see our Web site: www.harmankardon.com.

When you select The Bridge Source Selector button on the remote, "Bridge" will appear on the front-panel display, a The Bridge screen will appear and the slide-in menu will automatically appear.

NOTE: If the AVR doesn't detect the iPod or iPhone, turn off the AVR, remove the iPod or iPhone from The Bridge IIIP and reset the iPod or iPhone. When the iPod or iPhone returns to its main menu, re-dock it and turn on the AVR.

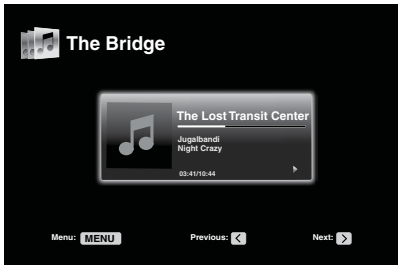
The table below summarizes the controls available during normal playback with The Bridge IIIP:

iPod or iPhone Function	Remote Control Key
Play	Play
Pause	Pause
Menu	Menu
Back/Exit	Back/Exit or Left Arrow
Select	OK or Right Arrow
Scroll Reverse	Up Arrow
Scroll Forward	Down Arrow
Forward Search	Forward Search
Reverse Search	Reverse Search
Next Track	Skip Forward or Right Arrow
Previous Track	Skip Backward or Left Arrow
Page Up/Down	Page Up/Down

While scrolling, hold the button to scroll faster. Use the Page Up/Down control on the remote to scroll a page at a time.

While a selection is playing, the album, artist, song title, track elapsed time, total track time and play mode icon will appear on the front-panel Message display.

If a video monitor is connected to the AVR and the system is not in iPod manual mode, a The Bridge screen will appear and display the play mode icon, song title, artist and album. A graphic bar indicates the current play position within the track. If random or repeat play has been programmed, an icon will appear in the upper right corner.



The screen may disappear from view, depending on the Setup and Slide-In Menus setting in the System Settings menu (described in *System Settings*, on page 39). You can restore the Now Playing screen to view by pressing either of the Left or Right buttons.

CAUTION: We strongly recommend that you use the screen saver built into your video display to avoid possible damage from "burn-in" that may occur with plasma and many CRT displays when a still image, such as a menu screen, remains on the display for an extended period of time.

Press the Menu button to view the slide-out menu:

Music: Select this to navigate the audio materials stored on the iPod or iPhone. Use the Page up/down buttons on the remote to scroll through the content a page at a time.

Photo/Manual: Select this to view still images stored on a photo-capable iPod or iPhone. The system will switch to iPod manual mode, and control will shift to the iPod. Use the screen and controls on the iPod. The AVR remote may also be used. To view photos on a video monitor connected to the AVR, select the photo and press the Play button on the iPod, or press the OK button on the remote three times.

Videos: Select this to view videos stored on an iPhone or an iPod that supports video browsing.

Notes on iPod/iPhone video playback:

• Before attempting to view photos or videos stored on your device, check the Video Settings menu on the device and make sure that the TV Out setting is set to On. The TV Signal setting should be set to match the capabilities of your video display (NTSC for the US; PAL for the EU). If your selection was playing and is paused, the iPod or iPhone requires you to reselect the video for the new TV Out setting to take effect.

• If you do not see the Videos line in the menu, and the iPod supports video browsing and has video content stored on it, you may need to turn off the AVR, remove the iPod from The Bridge IIIP, reset the iPod, turn the AVR back on and dock the iPod again. An iPhone may not need to be reset, as simply undocking and re-docking it may resolve the problem. This procedure may also help when a video program is selected but the Bridge screen appears instead of the video images.

To exit iPod manual mode, with the AVR remote in The Bridge mode, press the Menu button. To return to a previous menu level, press the Back/Exit Button or the Left button.

Repeat: Select this setting to repeat a track or all tracks in the current album or playlist. Each press of the OK button switches the setting: repeat Off, repeat One or repeat All.

Random: Select this setting for random playback, also known as "Shuffle Mode." Each press of the OK button switches the setting: shuffle by Song, shuffle by Album, or Off to end random playback.

NOTE: The iTunes application allows you to exempt some tracks from Shuffle mode. The AVR cannot override this setting.

The AVR supports audio playback from some applications available for the iPhone and the iPod touch. Place the system in iPod manual mode by pressing the Menu button and selecting "Photo/Manual." Then use the controls on the iPhone or iPod touch to run the application.

Due to the wide variety of applications and many factors affecting them, playback is not guaranteed.

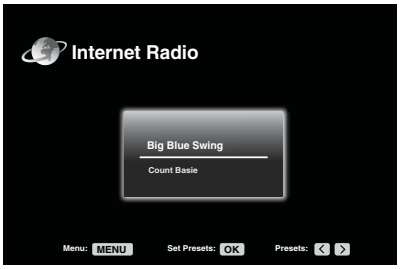
NOTES:

• The Play and Pause functions are not available unless content has been selected for playback.

• To search within a track, press and hold the forward or reverse Transport Control button. Press the previous track Transport Control button once to skip to the beginning of the current track; press the previous track Transport Control button twice to skip to the beginning of the previous track.

Listening to Internet Radio

Your AVR's Network connection brings you a world of MP3- and WMA-format streams via the Internet. After you have successfully connected to your home network as described in *Connect to Your Home Network*, on page 20, and set up the network as described in *Set Up the Network*, on page 27, press the Network Source Selector button on the remote. Each press toggles between the Network and Internet Radio screens.



With the Internet Radio screen (above) displayed, the AVR will automatically connect to the Internet via the www.radioharmankardon.com portal. To select a stream, press the Menu button, and use the Up/Down buttons to search by category: Presets, My Favourites, Local Stations, HDi, Stations, Podcasts or My Added Stations. **NOTE:** The categories displayed may vary by region.

To create a Favourites list, log onto www.radioharmankardon.com from your computer. Enter your AVR's ID # (to see the ID # with the Internet Radio screen displayed, press the Menu button, then select Help) and create an account. Favourites that you select on the Web site will be available on the AVR.

NOTE: While the Help screen is displayed, we recommend spending a few moments listening to the audio FAQs to get answers to common questions about Internet radio operation. The FAQs play in a continuous loop. To return to an Internet radio station while an FAQ is playing, press the Menu button, then the Back/Exit button, then the Back/Exit button again, and select an Internet radio station.

Navigation is similar to other slide-in menus. Scroll to the desired item and press the OK button or the Right button to select it. To return to the previous menu level (or to clear the top-level menu from view), press the Back/Exit button or the Left button.

If you know the URL (Web address) of a specific audio stream, select the Direct Station option from the menu. A live stream is required. The AVR is not able to connect to streams that require site registration or other interaction prior to playing the stream. If the AVR cannot connect to the stream, a "Station Not Live" message will appear briefly, and the Internet Radio screen will remain essentially blank. Not all URLs will be accessible.

Internet Radio Presets

You can program up to 30 Internet radio stations as presets. To set a preset, first tune the station. Press the OK button, and two dashes will flash. Enter the preset number (any number from 1 through 30) using the Number buttons. The connection to the station will momentarily stop, interrupting the program, and the AVR will reconnect to the station.

To connect to a station programmed as a preset, enter its preset number using the Number buttons, or use the Left/Right buttons to select it from the preset list.

Listening to Media via Your Home Network

Your AVR can play MP3 and WMA audio media that is stored on a PC when both the PC and the AVR are connected to your home network router.

MP3 compatibility: Mono or stereo, contstant bit rates (CBR) from 8kbps to 320kbps, variable bit rates (VBR) from lowest to highest quality, with sample rates from 8kHz – 48kHz.

WMA compatibility: Ver. 9.2, stereo CBR with 32kHz – 48kHz sampling rate and 40kbps – 192kbps bit rate, mono CBR with 8kHz – 16kHz sampling rate and 5kbps – 16kbps bit rate, VBR Pass Encoding and Quality Encoding 10 – 98, 44kHz and 48kHz sampling rate.

NOTES:

• A PC must be running Windows Media® Player version 11 or higher, Windows Media Center version 2.0 or 3.0, or Intel® Media Server. We recommend that any firewalls be turned off, although Windows Media Player may automatically make any necessary adjustments to the firewall settings to allow media sharing.

• An Apple Macintosh computer must be running DLNA (Digital Living Network Alliance)-compliant software. Examples of compatible software include the TwonkyServer™ program by PacketVideo, and EyeConnect software by Elgato Systems.

Before you can access files located on other devices via the network, each device must first give permission to share files with the AVR:

To share media on PCs:

1. Open Windows Media Player.

2. Open the Library menu and select Media Sharing. The Media Sharing window will appear.

3. Check the "Share My Media" box. An icon for the AVR will appear in the window.

4. Select the AVR icon, select "Allow," then select "OK."

The computer's WMA and MP3 media should now be available to the AVR.

To share media on other types of computers, operating systems or media software: Check the instructions for the computer, operating system or media player.

To listen to shared media, press the Network Source Selector button. (If Internet Radio appears as the source, press the button a second time to switch from the Internet Radio source to the Network source.) The Network screen will appear.

Press the Menu button, and the slide-in menu should list all devices that allow sharing by name. Use the slide-in menu to browse the content stored in the device's media player library. Scroll to the desired item and press the OK button or the Right button to select it. To return to the previous menu level (or to clear the menu from view from the top level), press the Back/Exit button or the Left button.

NOTES:

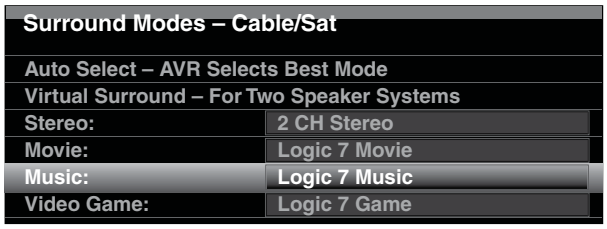
• The Repeat settings are global for Network playback and USB playback. Changing these settings for one of these sources will change the other source's settings as well.

• Although video content may appear in the menu, the AVR does not support video playback from the network connection.

Selecting a Surround Mode

Selecting a surround mode can be as simple or sophisticated as your individual system and tastes. Feel free to experiment, and you may find a few favorites for certain sources or program types. You can find more detailed information on surround modes in *Audio Processing and Surround Sound*, on page 33.

To select a surround mode, press the Surround Modes button (front panel or remote). The Surround Modes menu will appear.



Press the Up/Down buttons repeatedly until the desired surround-mode category appears: Auto Select, Virtual Surround, Stereo, Movie, Music or Video Game. Press the OK button to change the surround-mode category.

Auto Select: For digital programs, such as a movie recorded with a Dolby Digital or DTS soundtrack, the AVR will automatically use the soundtrack's native surround format. For two-channel analog and PCM programs, the AVR uses the Logic 7 Movie, Logic 7 Music or Logic 7 Game mode, depending on the source.

Virtual Surround: When only two main speakers are present in the system, you can use HARMAN Virtual Surround to create an enhanced soundfield that virtualizes the missing speakers. Select between Wide and Reference modes.

Stereo: When you want two-channel playback, select the number of speakers you want to use for playback:

• "2 CH Stereo" uses two speakers.

• "5 CH Stereo" plays the left-channel signal through the front left and surround left speakers, the right-channel signal through the front right and surround right speakers, and a summed mono signal through the center speaker.

• "7 CH Stereo" follows the same scheme as 5 CH Stereo but adds the surround back left and surround back right speakers. This mode is available only when the surround back speakers are present and have not been reassigned to multizone or front height operation. See *Audio Processing and Surround Sound*, on page 33, for more information.

Movie: Select from the following when you want a surround mode for movie playback: Logic 7 Movie, DTS Neo:6 Cinema or Dolby Pro Logic II (IIx or IIz when seven main speakers are present).

Music: Select from the following when you want a surround mode for music playback: Logic 7 Music, DTS Neo:6 Music or Dolby Pro Logic II (IIx or IIz when seven main speakers are present). The Dolby Pro Logic II/IIx/IIz Music mode allows access to a submenu with some additional settings. See A*udio Processing and Surround Sound*, on page 33, for more information.

Video Game: Select from the following when you want a surround mode for game playback: Logic 7 Game or Dolby Pro Logic II (IIx/IIz when seven main speakers are present) Game.

After you have made your selection, press the Back/Exit button.

See *Audio Processing and Surround Sound*, on page 33, for more information on surround modes.

Audio Effects

The Audio Effects buttons on the front panel and remote provide settings that let you adjust the Dolby Volume setting, tone controls, LFE trim, Equalization On/Off setting or MP3 Enhancement to improve performance. We recommended that you leave these settings at their default values until you are more familiar with your system. See *Audio Effects Button*, on page 34, for complete information.

Video Modes

The Video Modes buttons on the front panel and remote provide settings that let you use the AVR's video processor to fine-tune the picture, if necessary, after making all adjustments on the video display. We recommend that you leave the settings at their defaults until you are completely familiar with the video performance of your system. See *Video Processing*, on page 34, for complete information.

AVR

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	• Dolby Digital EX • Dolby Digital 2/2/.0 or .1, 3/2/.0 or .1
No sound from any speaker; PROTECT message appears on Message display	• Amplifier is in protection mode due to possible short circuit	• Dolby Digital Plus via HDMI connection (source device decodes to Dolby Digital when a coaxial or optical connection is used)
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 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
(AVR 3650/AVR 365 only): Surround-back speaker settings cannot be accessed, and the test tone does not play through the surround back speakers	• Multi-zone operation has been selected/Assigned AMP channels have been assigned to Zone 2	• Use the Speaker Setup menu to reassign the Assigned AMP to the surround back left and right channels
(AVR 3650/AVR 2650 only): The SIRIUS Preview Channel (001) is silent	• SIRIUS tuner is not connected • SIRIUS antenna is in an improper location • SIRIUS signal requires a refresh	• Ensure that SIRIUS tuner is properly connected • Re-locate the SIRIUS antenna according to the recommendations in the SIRIUS tuner's instruction manual. For further help, visit www.siriusradio.com • Visit www.siriusradio.com
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
Remote buttons light, but AVR does not respond	• Remote is in Zone 2 mode	• Slide Zone Selector switch to the Zone 1 position.
Unable to establish network connection	• AVR network programming requires rebooting	• Cycle the AVR into the Standby mode, and then turn it on again

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

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 OK button for at least 5 seconds until the RESET message appears on the front-panel Message display.

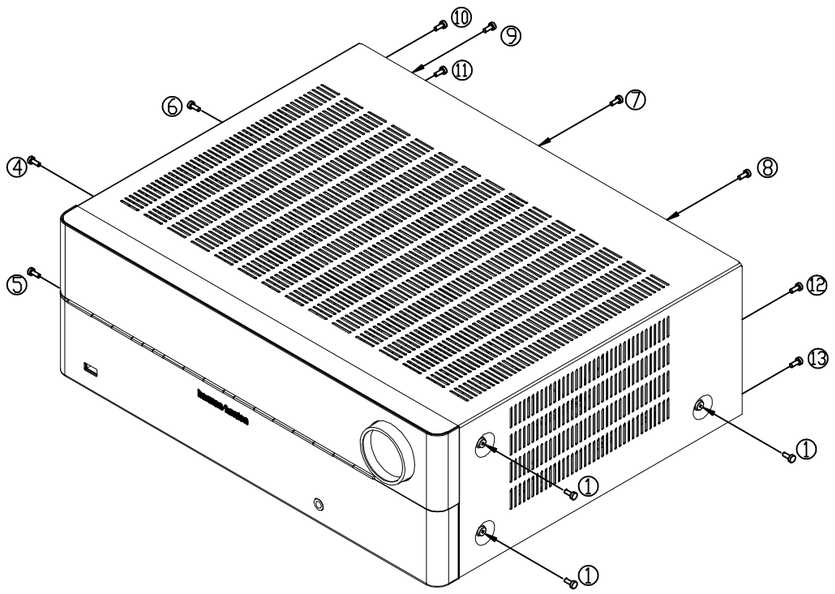
NOTE: After performing a processor reset, wait at least 1 minute before pressing any Source Selector buttons.

If the AVR does not function correctly after a processor reset, contact Harman/kardon at 1-800-422-8027

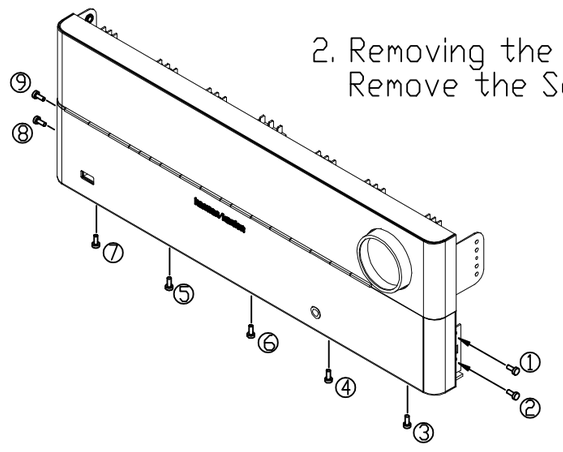
DISASSEMBLY

AVR2650

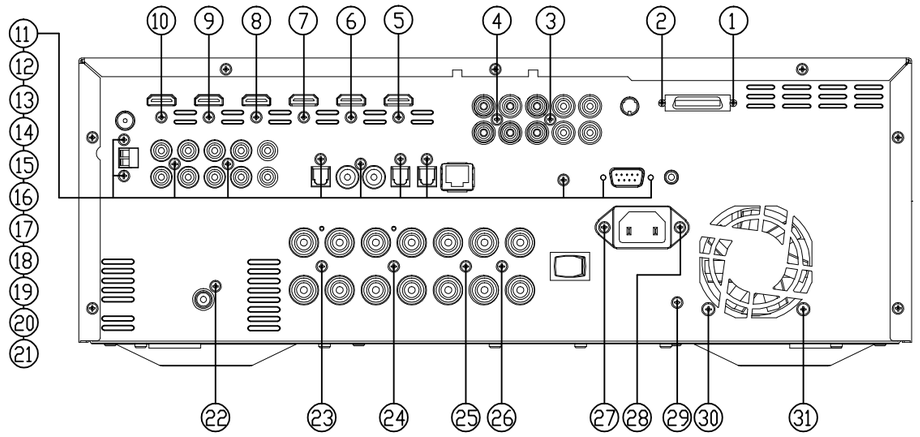
1. Removing the Top Cabinet
Remove the Screws ①~⑬



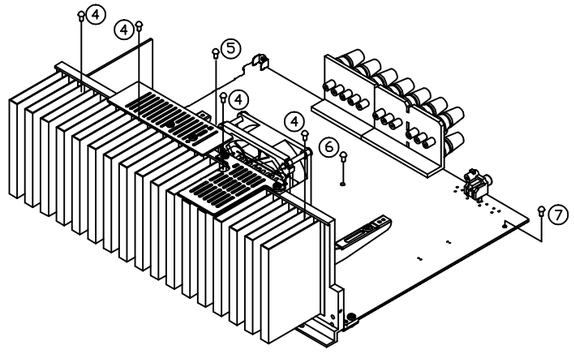
2. Removing the Front Panel
Remove the Screws ①~⑨



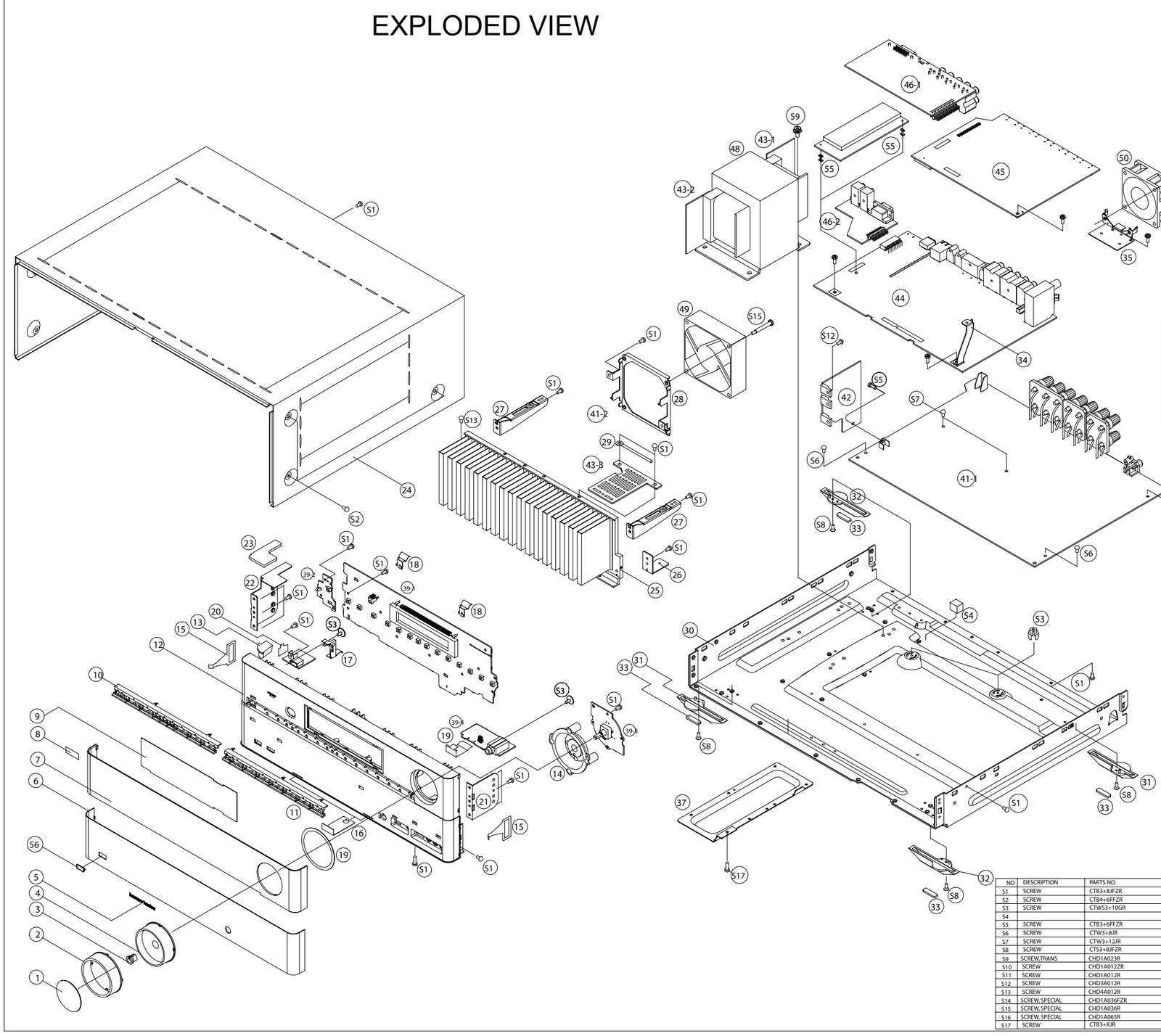
3. Removing the Rear Panel
Remove the Screws ①~㉛



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



EXPLODED VIEW



LARGER PARTS CHART

NEXT PAGE

NO	DESCRIPTION	PARTS NO.	Q.ty
S1	SCREW	CTB3+8JFZR	77
S2	SCREW	CTB4+6FFZR	6
S3	SCREW	CTWS3+10GR	1
S4			
S5	SCREW	CTB3+6FFZR	11
S6	SCREW	CTW3+8JR	4
S7	SCREW	CTW3+12JR	2
S8	SCREW	CTS3+8JFZR	4
S9	SCREW,TRANS	CHD1A023R	4
S10	SCREW	CHD1A012ZR	2
S11	SCREW	CHD1A012R	21
S12	SCREW	CHD3A012R	5
S13	SCREW	CHD4A012R	5
S14	SCREW,SPECIAL	CHD1A036FZR	2
S15	SCREW,SPECIAL	CHD1A036R	4
S16	SCREW,SPECIAL	CHD1A065R	2
S17	SCREW	CTB3+8JR	7

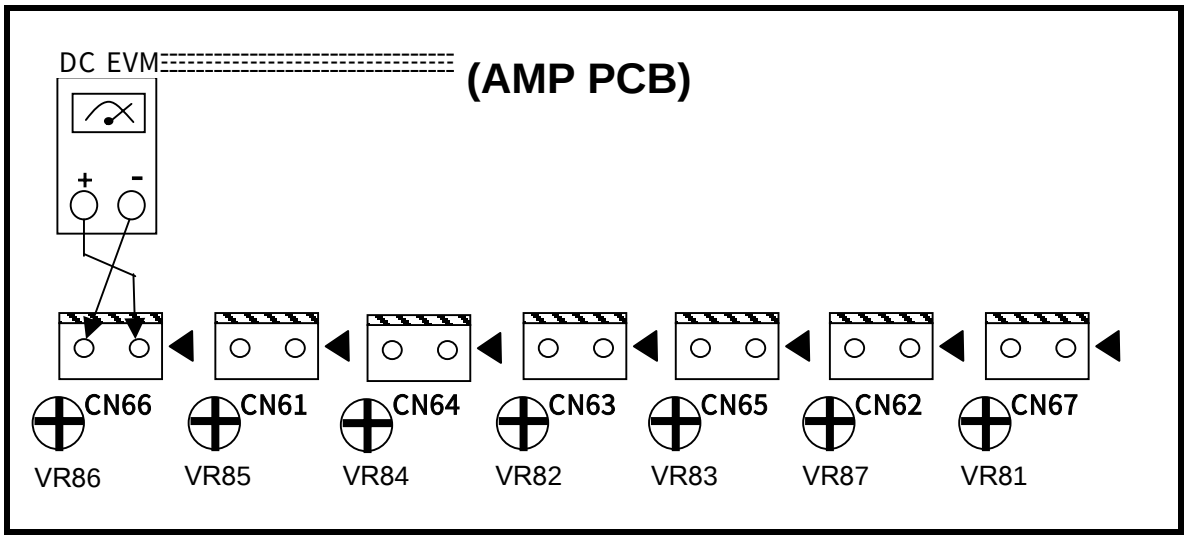
NO	DESCRIPTION	PARTS NO.	Q.ty	REMARK
1	ORNAMENT,VOLUME	CGU1A318Y	1	
2	CAP,VOLUME	CGX1A338MBC63	1	
3	HOLDER,VOLUME	CMH1A214	1	
4	INDICATOR,VOLUME	CGL1A222	1	
5	BADGE_HARMAN/KARDON	CGB3A158Z	1	
6	SHEET,AL FRONT	CGX4A390C66Z	**1**	
7	WINDOW , FIP	CGU2A410A25O	**1**	
8	BADGE,AVR3650	CGB1A233Z	1	
9	FILTER , FIP	CMZ1A127	1	
10	KNOB , STANDBY	CBT2A1064	1	
11	KNOB , TUNING	CBT2A1065	1	
12	PANEL , FRONT	CGW6A447RHUB24	**1**	
13	INDICATOR , POWER	CGL1A265Y	**1**	
14	HOLDER , LED	CMH2A215	**1**	
15	PLATE , SHIELD	CMC1A372	**2**	
16	PLATE , EARTH	CMC2A338	2	
17	PLATE , EARTH(SIGH)	CMC1A414	1	
18	PLATE , EARTH(TOP)	CMC1A416	2	
19	SHEET,VOLUME	CMZ3A090	**1**	
20	SHEET , BLIND	CPE1A009	1	
21	BRACKET , SIDE	CMD2A443	1	
22	BRACKET , SIDE L	CMD1A555	1	
23	RUBBER	CHG1A309	1	
24	CABINET,TOP	CXC6B145S60	1	
25	HEAT SINK	CMY4A314	1	
26	BRACKET,PCB	CMD1A417	2	
27	BRACKET H/S	CMD1A674	2	
28	BRACKET,FAN	CMD1A694	1	
29	CLAMPER , WIRE	CHE36-3	1	
30	CHASSIS,BOTTOM	CUA4A294	1	
31	FOOT A	CKL1A094	2	
32	FOOT B	CKL1A095	2	
33	CUSHION , FOOT	CHG1A373	4	
34	BRACKET,HDMI	CMD1A786	1	
35	BRACKET,FAN	CMD1A506	1	
36	PANEL,REAR	CKF3A444Z	1	
37	FRAME,BOTTOM	CMD1A702	1	
39	FRONT PCB ASS'Y	COP12357D	1	
		39-1 FIP & KEY PCB	1	
		39-2 POWER LED PCB	1	
		39-3 VOLUME PCB	1	
		39-4 PHONE PCB	1	
		39-5		
		39-6 VIDEO PCB	1	
41	MAIN PCB ASS'Y	COP12364D	**1**	
			1	
42	DC-DC PCB ASS'Y	COP12365D	**1**	
43	POWER PCB ASS'Y	COP12394D	1	
		43-1 POWER PCB A	1	
		43-2 POWER PCB B	1	
		43-3 GUIDE PCB(CARD CABLE)	1	
44	INPUT PCB ASS'Y	COP12327D	1	
45	HDMI PCB ASS'Y	COP12328D	1	
46	VIDEO PCB ASS'Y	COP12361D	1	
		46-1 VIDEO PCB	1	
		46-2 RS232 PCB	1	
48	TRANS . POWER	CLT3V058ZU	1	
49	FAN , MOTOR	CFNCF1282SHSN	1	
50	FAN , MOTOR	CFNCF126255A	1	
51	INLET ASS'Y	CJBA006ZWA	2	
52	MOMS S/W ASS'Y	CSH1A0092VB	1	
53	HOLDER,PCB	CHE170	2	
54	CUSHION	CHG1A160Z	1	
55	SUPPORT,PCB	CRE1A076	2	
56	COVER , USB	CGR1AS30H63	1	

NO	DESCRIPTION	PART NO		Qty
1	ORNAMENT,VOLUME	CGU1A318Y		1
2	CAP,VOLUME	CGX1A338MBC63		1
3	HOLDER,VOLUME	CMH1A214		1
4	INDICATOR,VOLUME	CGL1A222		1
5	BADGE, HARMAN/KARDON	CGB3A158Z		1
6	SHEET,AL FRONT	CGX4A390C66Z		1
7	WINDOW , FIP	CGU2A410A25O		1
8	BADGE,AVR2650	CGB1A233Z		1
9	FILTER , FIP	CMZ1A127		1
10	KNOB , STANDBY	CBT2A1064		1
11	KNOB , TUNING	CBT2A1065		1
12	PANEL , FRONT	CGW6A447RHUB24		1
13	INDICATOR , POWER	CGL1A265Y		1
14	HOLDER , LED	CMH2A215		1
15	PLATE , SHIELD	CMC1A372		2
16	PLATE , EARTH	CMC2A338		2
17	PLATE , EARTH(U&H)	CMC1A414		1
18	PLATE , EARTH(TOP)	CMC1A416		2
19	SHEET, VOLUME	CMZ2A090		1
20	SHEET , BLIND	CPE1A009		1
21	BRACKET , SIDE	CMD2A443		1
22	BRACKET , SIDE L	CMD1A555		1
23	RUBBER	CHG1A309		1
24	CABINET,TOP	CKC6B145S60		1
25	HEAT SINK	CMY4A314		1
26	BRACKET,PCB	CMD1A417		2
27	BRACKET H/S	CMD1A674		2
28	BRACKET,FAN	CMD1A694		1
29	CLAMPER , WIRE	CHE36-3		1
30	CHASSIS,BOTTOM	CUA4A294		1
31	FOOT A	CKL1A094		2
32	FOOT B	CKL1A095		2
33	CUSHION , FOOT	CHG1A373		4
34	BRACKET,HDMI	CMD1A786		1
35	BRACKET,FAN	CMD1A506		1
36	PANEL,REAR	CKF3A444Z		1
37	FRAME,BOTTOM	CMD1A702		1
39	FRONT PCB ASS'Y	COP12357D		1
		39-1	FIP & KEY PCB	1
		39-2	POWER LED PCB	1
		39-3	VOLUME PCB	1
		39-4	PHONE PCB	1
		39-5		
		39-6	VIDEO PCB	1
41	MAIN PCB ASS'Y	COP12364D		1
				1
42	DC-DC PCB ASS'Y	COP12365D		1
43	POWER PCB ASS'Y	COP12394D		1
		43-1	POWER PCB A	1
		43-2	POWER PCB B	1
		43-3	GUIDE PCB(CARD CABLE)	1
44	INPUT PCB ASS'Y	COP12327D		1
45	HDMI PCB ASS'Y	COP12328D		1
46	VIDEO PCB ASS'Y	COP12361D		1
		46-1	VIDEO PCB	1
		46-2	RS232 PCB	1
48	TRANS . POWER	CLT5V058ZU		1
49	FAN , MOTOR	CFNCF12825HSN		1
50	FAN , MOTOR	CFNCF12625SA		1
51	INLET ASS'Y	CJJ8A006ZWA		2
52	MOMS S/W ASS'Y	CSH1A009ZVB		1
53	HOLDER,PCB	CHE170		2
54	CUSHION	CHG1A160Z		1
55	SUPPORT,PCB	CRE1A076		2
56	COVER , USB	CGR1A530H63		1

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(SL),CN61(CEN),CN64(SR),CN63(FL),CN65(SBLmp¨³zvl«·mp¨³z{l¸§·m

NO.	Channel	Adjust for	Adjustment
1	Front Left	25.92mV (± 5%)	CN63
2	Front Right	25.92mV (± 5%)	CN62
3	Center	25.92mV (± 5%)	CN61
4	Surround Left	25.92mV (± 5%)	CN66
5	Surround Right	25.92mV (± 5%)	CN64
6	Surround Back Left	25.92mV (± 5%)	CN65
7	Surround Back Right	25.92mV (± 5%)	CN67

<Audio Block> AVR CORE AUDIO BLOCK DIAGRAM

3 ANALOG AUDIO INPUT

TUNER AUDIO INPUT

AUTO SETUP MIC INPUT

"R2A15218FP"

8-CH VOLUME
WITH INPUT SELECTOR

HEADPHONE OUTPUT

POWER AMP

FRONT L +26dB FL

FRONT R +26dB FR

SBL/ZONE2 L +26dB SBL/ZONE2 L

SBR/ZONE2 R +26dB SBR/ZONE2 R

SURR L +26dB SL

SURR R +26dB SR

CENTER +26dB CEN

SPEAKER OUTPUT

FL

FR

SBL/ZONE2 LEFT

SBR/ZONE2 RIGHT

SL

SR

CEN

S/W_PREOUT

"BD3812F"
ZONE2 VOLUME

ZONE2_PREOUT

A/D CONVERTER INPUT

7.1 CHANNEL
D/A CONVERTER OUTPUT

USB D+/D-

"TMP92FD28FG"

32bit u-COM(USB HOST)

For F/W UPGRADE THROUGH USB

DIGITAL AUDIO INPUT
2 TOSLINK, 2 COAXIAL

DAB/USB/NETWORK
S/PDIF INPUT

"CS42528"

DIN

8-CH CODEC WITH S/PDIF RECEIVER

SAI

SDIN

SERIAL AUDIO INTERFACE

SERIAL AUDIO DATA OUTPUT

DAI1

DAO1

HDMI PART

HDMI RX & ARC
S/PDIF INPUT

HDMI RX AUDIO INPUT

I2S

HDMI TX AUDIO OUTPUT

"CS49834"

Audio Decoder DSP

DAI2

DAO2

Supporting HD AUDIO
featuring Multichannel
Dolby Volume

ADDRESS&DATA

16Mbit SDRAM

32 Mbit SPI Serial Flash

VOLUME IC CONTROL

CODEC CONTROL

DSP CONTROL

HDMI CONTROL

BLACKFIN CONTROL

TUNER CONTROL

"T5CN5"

32bit u-COM

F/W UPGRADE & UART CONTROL

I2C EEPROM(32 Kbit)
FOR BACK-UP MEMORY.

VFD CONTROL

IR CONTROL INPUT
ZONE1, ZONE2

RS232C
CONTROL PORT

TUNER
MODULE

TUNER L/R

TUNER CONT.

AVR CORE VIDEO BLOCK DIAGRAM

DIR SPDIF

TO DSP Block

DIR_SPDIF

HDMI I2S AUDIO DATA

Venice 6.2 Digital AUDIO

DSP I2S AUDIO DATA

DOWNMIX AUDIO

HDMI_OUT
(Up to 1080p)

HDMI TX

TMDS 225MHz [MAX]

ARC_SPDIF

ADV7511

HDMI IN
(Up to 1080p)

TMDS Data

HDMI_IN1

HDMI_IN2

HDMI_IN3

HDMI_IN4

HDMI_IN5

HDMI_FRONT

HDMI BUFFER

AVR365/3650 ONLY

HDMI S/W

ADV3014

28.6363MHz *2EA

TMDS 225MHz [MAX]

DECODER&ADC
HDMI RX
ADV7844

DDR SDRAM
256M * 1EA

20Bit LINE DRIVER *2
HDMI BYPASS MODE

HDMI DIGITAL VIDEO

36bit Video Data

DIGITAL VIDEO DATA

30/36bit Video Data

SCALING BYPASS MODE
20Bit LINE DRIVER *2

Analog Video Boad

CVBS IN

VIDEO1

VIDEO2

REC OUT

MONITOR OUT

CVBS

VID1

VID2

NJM2595

CONT

+6dB DRV

CVBS REC OUT

CVBS MON OUT

SW1 SW2 SW3 SW4

COMPONENT IN
(Up to 1080p)

COMPO INPUT2

COMPO INPUT1

Y

Cb

Cr

+6dB

NJM1321

HDMI DIGITAL VIDEO

Under 30bit Video Data

19.668MHz

SCALER

1080p Up
Scaler

FIL30336

SCALING DIGITAL VIDEO

30bit Video Data

SCALING DIGITAL VIDEO

DDR SDRAM
256M * 2EA

FLASH MEMORY
32M

Venice Board

RJ-45
Ethernet

PULES
LAN8700

Ethernet
MAC&PHY
KSZ8851SNL
Micrel

USB

JTAG

DEBUG

USB2.0 ETH MAC

DAB

Venice6.2 (DAB/DAB+)

GPIO 00:43

GPIO I/F

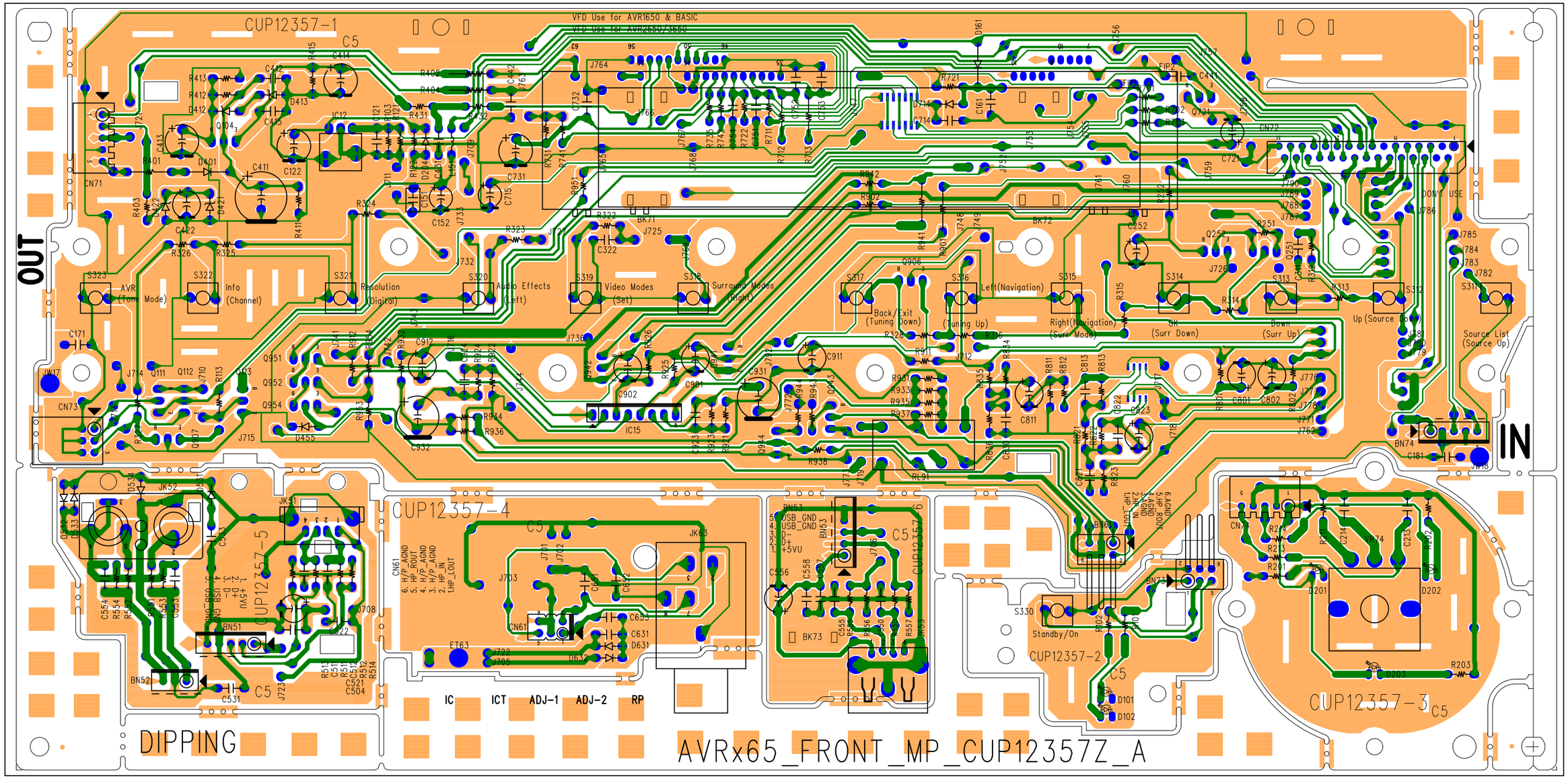
SCB UART

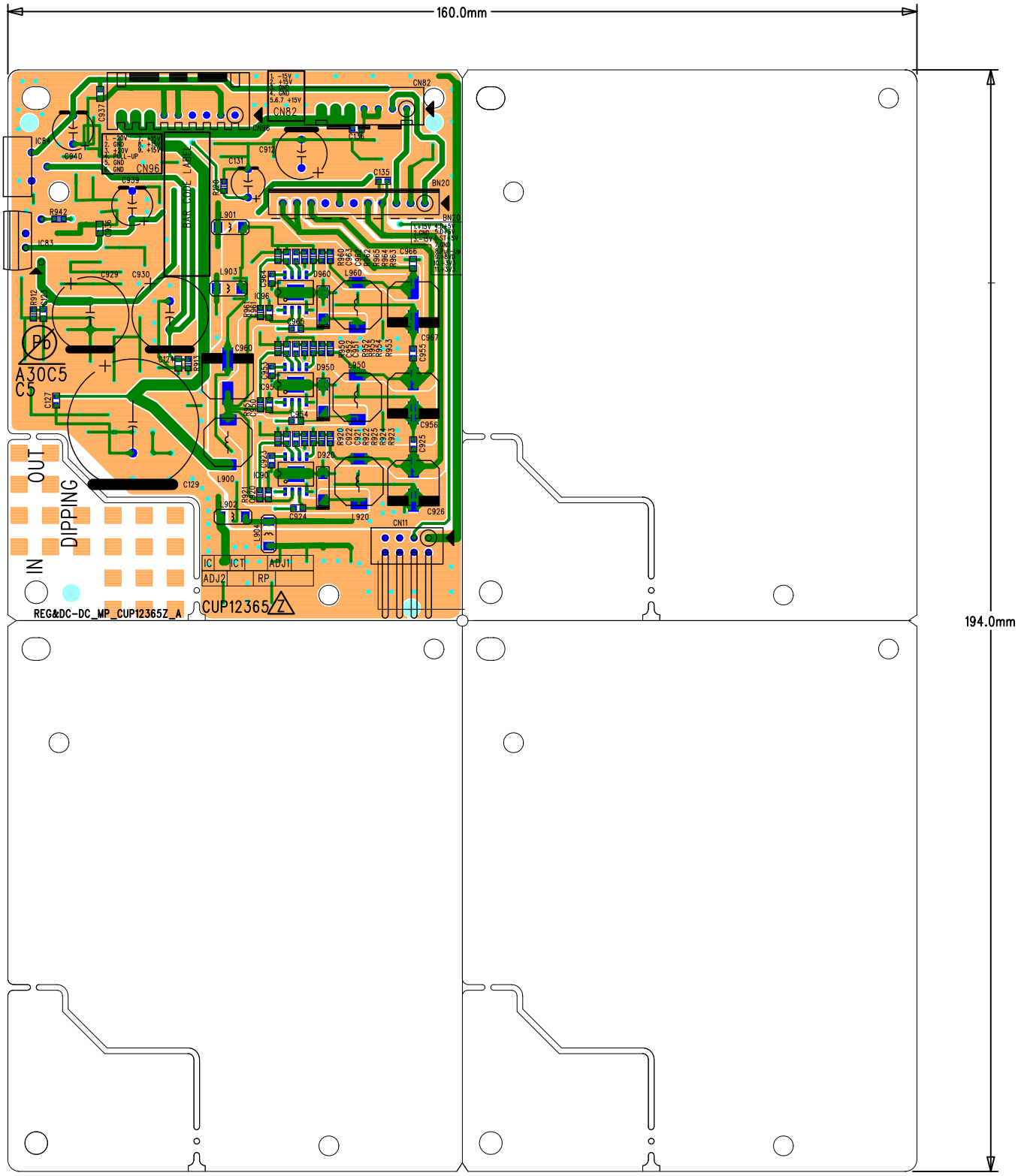
To Main MCU

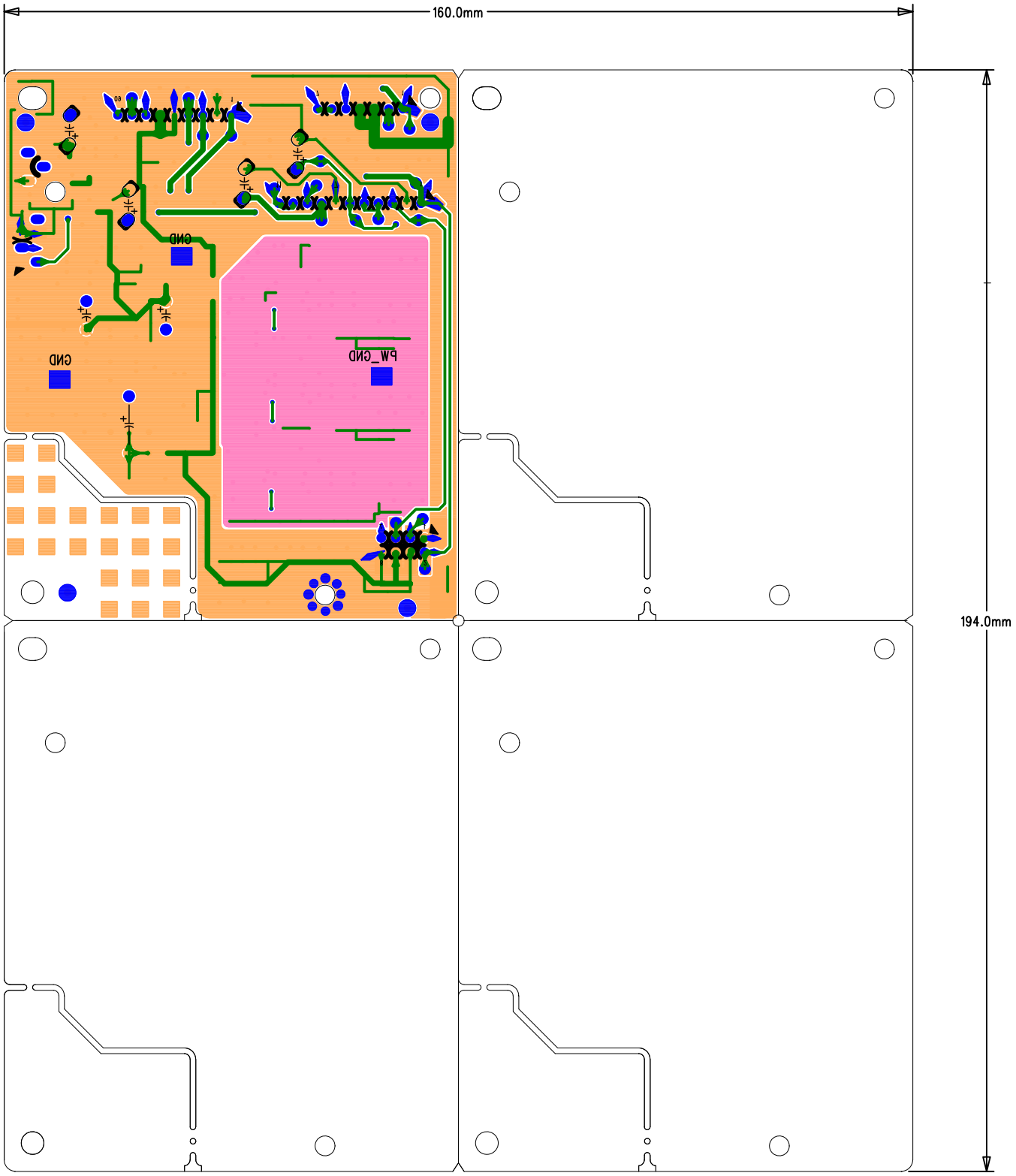
SPI I2S/SPDIF

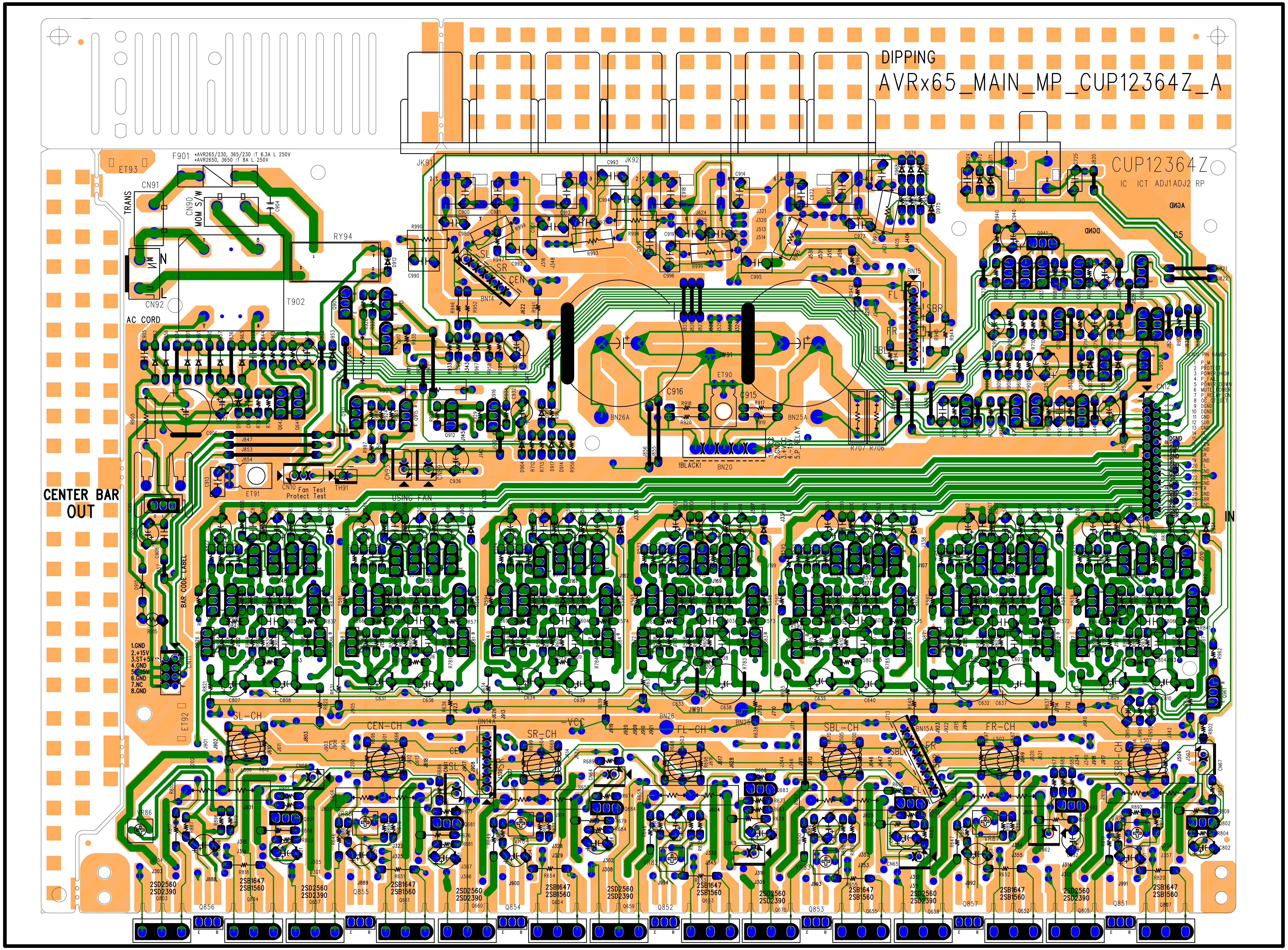
To DSP
Venice 6.2 AUDIO Output

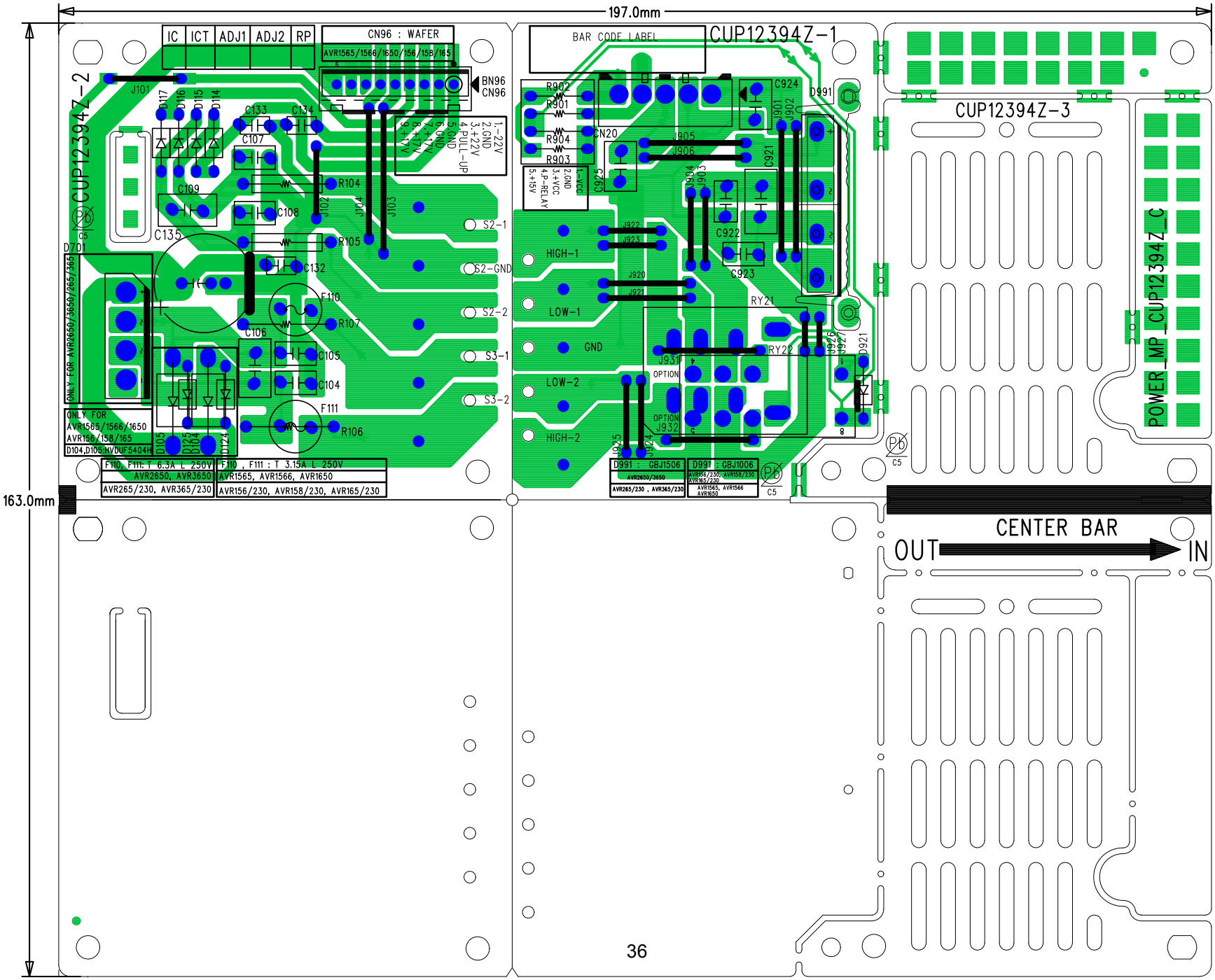
To Main MCU


CUP12357-1
C5
VFD Use for AVR1650 & BASIC
VFD Use for AVR2650/3650
OUT
IN
AVR (Tone Mode)
Info (Channel)
Resolution (Digital)
Audio Effects (Left)
Video Modes (Set)
Surround Modes (Right)
Back/Exit (Tuning Down)
(Tuning Up)
Left(Navigation)
Right(Navigation) (Surr Mode)
OK (Surr Down)
Down (Surr Up)
Up (Source Down)
Source List (Source Up)
DOWN USE
Standby/On
CUP12357-4
CUP12357-5
CUP12357-6
CUP12357-2
CUP12357-3
IC
ICT
ADJ-1
ADJ-2
RP
DIPPING
AVRx65_FRONT_MP_CUP12357Z_A

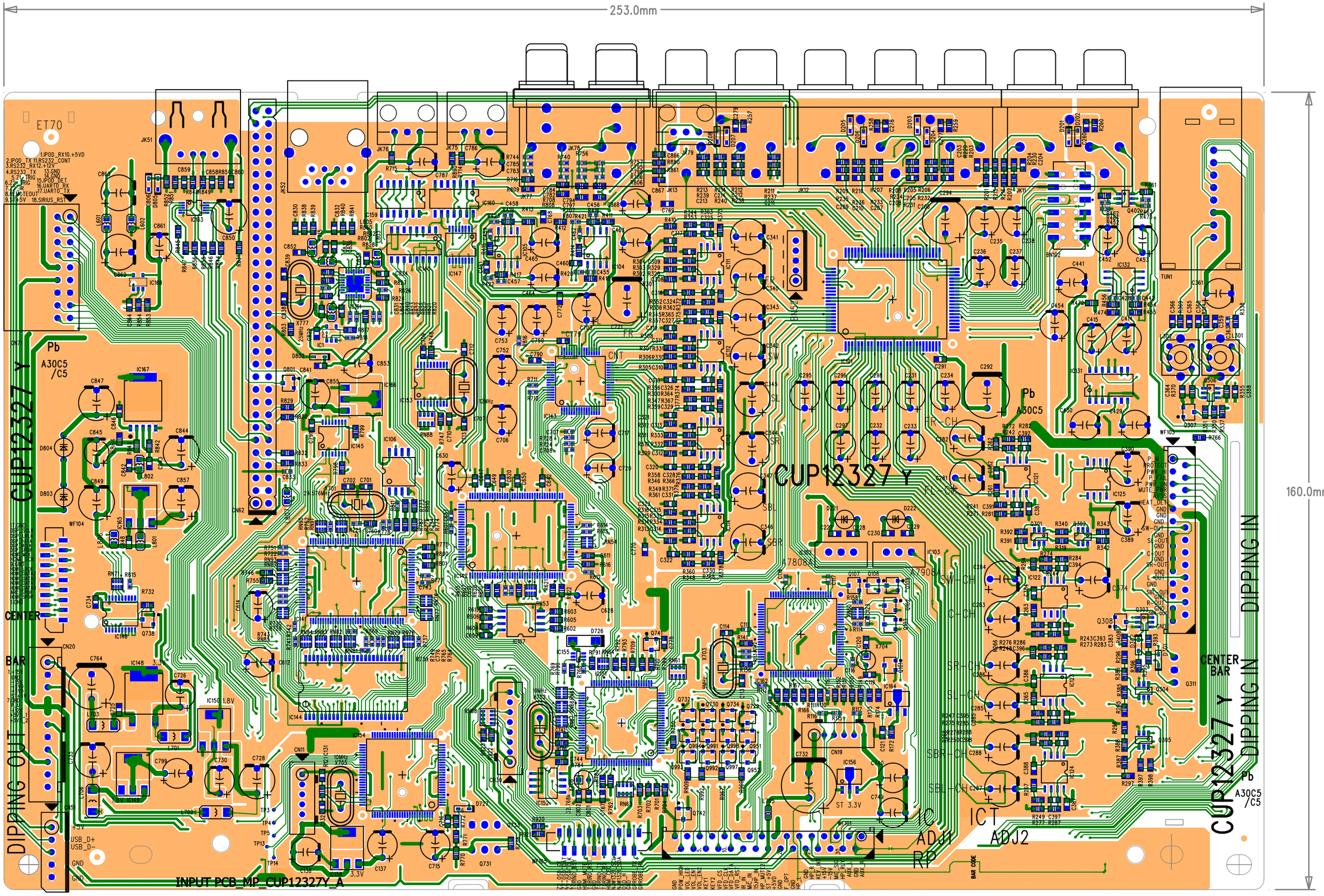

160.0mm
194.0mm
CN82
CN96
BN20
CN11
A30C5
C5
OUT
DIPPING
IN
REG&DC-DC_MP_CUP12365Z_A
CUP12365Z
IC
ICT
ADJ1
ADJ2
RP


160.0mm
194.0mm
GND
GND
PM_GND

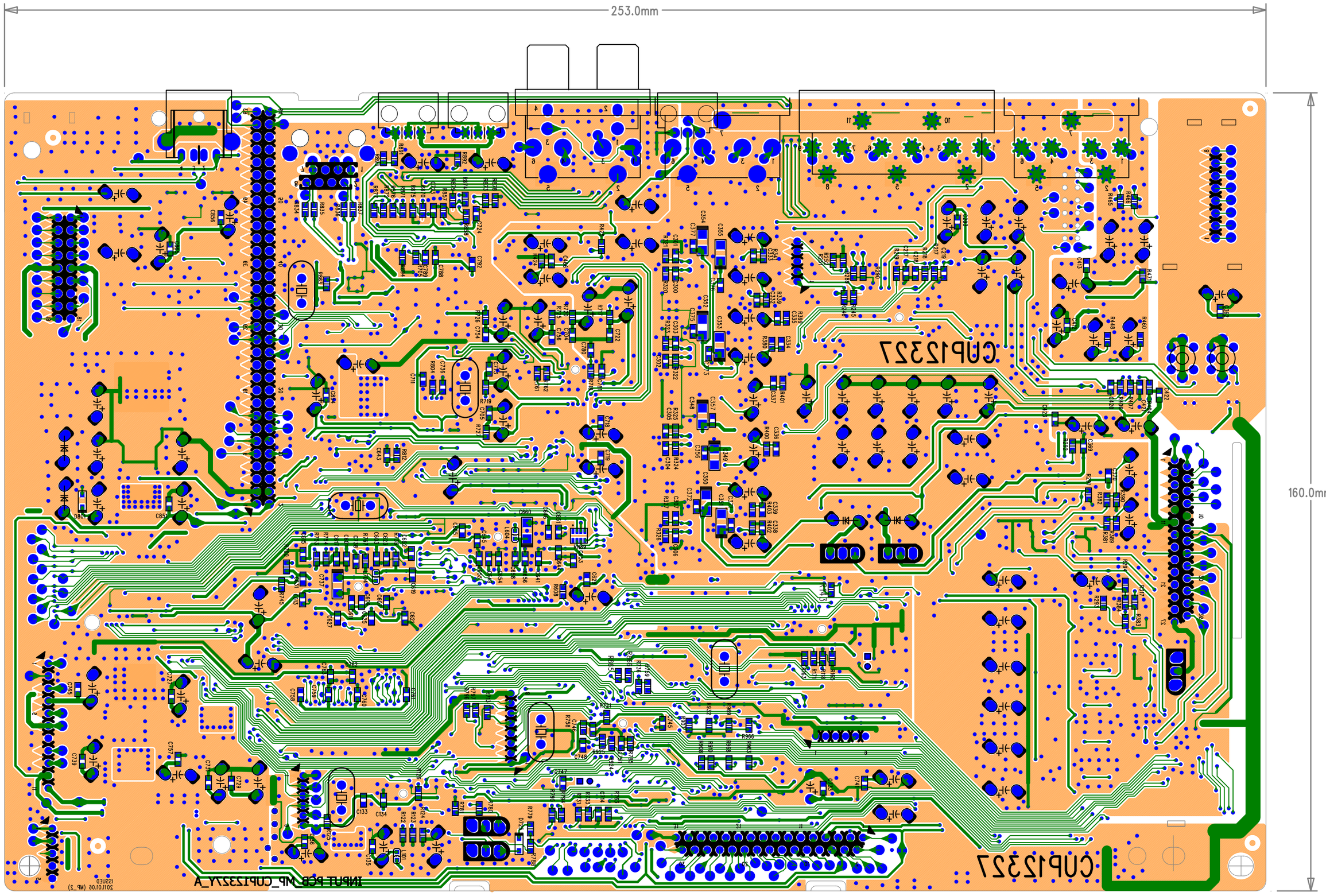

DIPPING
AVRx65_MAIN_MP_CUP12364Z_A
CUP12364Z
IC ICT ADJ1 ADJ2 RP
F901 *AVR265/230, 365/230 :T 6.3A L 250V
*AVR2650, 3650 :T 8A L 250V
ET93
CN91
TRANS
CN90 MOM S/W
RY94
T902
CN92
AC CORD
JK91
JK92
JK90
CENTER BAR OUT
BAR CODE LABEL
1.GND
2.+15V
3.ST+5V
4.GND
5.-15V
6.GND
7.NC
8.GND
CN11
ET91
CN10 Fan Test
Protect Test
TH91
USING FAN
BN14
SL
SR
CEN
BN15
FL
SBR
FR
SBL
C916
C915
JW91
ET90
BN26A
BN25A
1.-VCC
2.GND
3.+VCC
4.-15V
5.P_RELAY
!BLACK!
BN20
R707 R706
DGND
AGND
C5
<CN12 PIN NAME>
1 P_M
2 PROTECT
3 POWER_HIGH
4 P_FAIL
5 POWER_DOWN
6 MUTE_POWER
7 P_RELAY_ON
8 OC_OT_DET
9 DGND
10 DGND
11 GND
12 SUB
13 GND
14 SL
15 GND
16 CEN
17 GND
18 SR
19 GND
20 FL
21 GND
22 SBL
23 GND
24 FR
25 GND
26 SBR
27 GND
CN12
IN
ET92
SL-CH
CEN-CH
SR-CH
-VCC
BN26
FL-CH
BN25
SBL-CH
FR-CH
SBR-CH
BN14A
BN15A
VR86
VR85
VR84
VR82
VR83
VR87
VR81
2SD2560
2SD2390
2SB1647
2SB1560
Q803
Q856
Q804
Q657
Q855
Q661
Q660
Q854
Q654
Q659
Q852
Q653
Q670
Q853
Q655
Q658
Q857
Q652
Q805
Q851
Q807

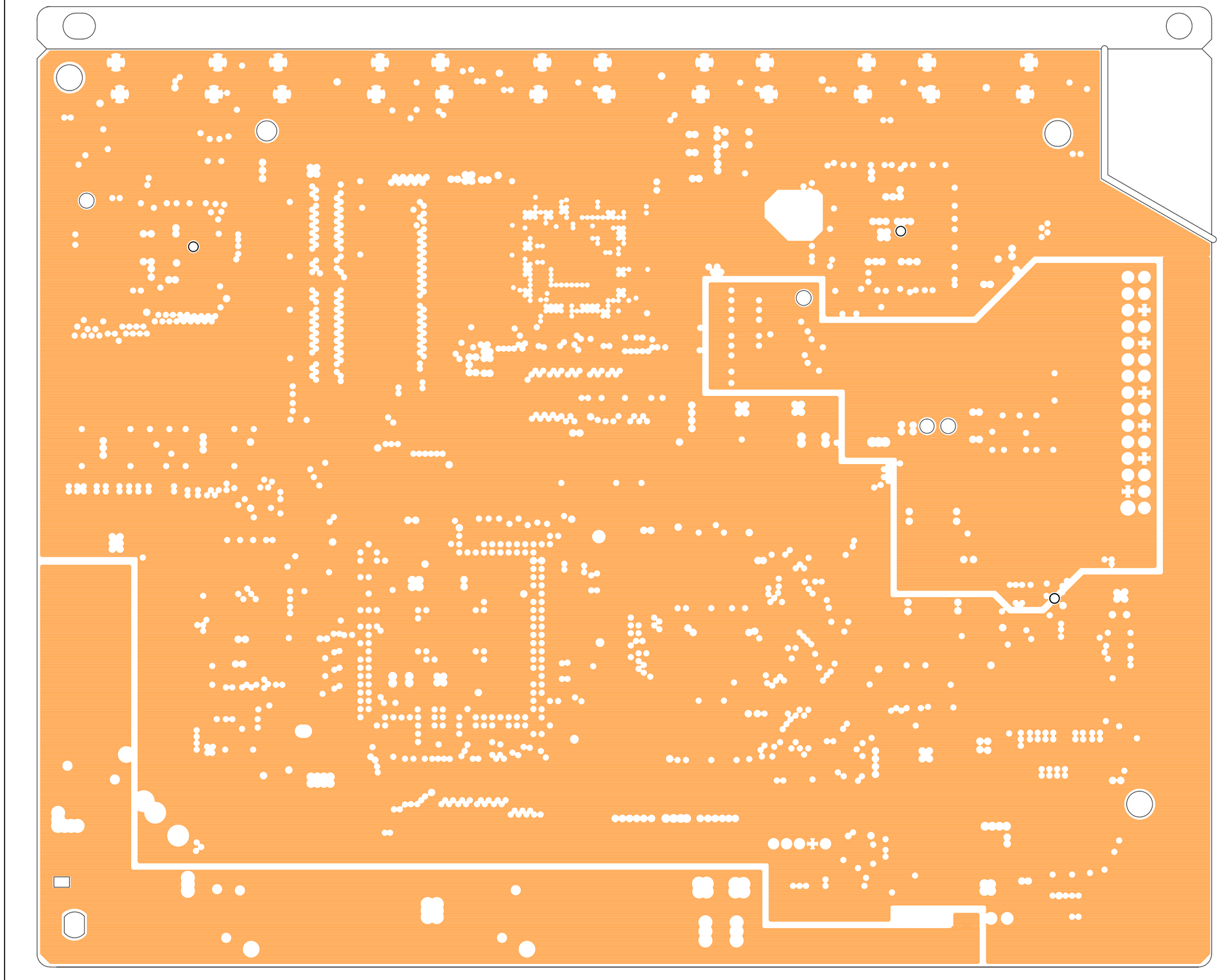


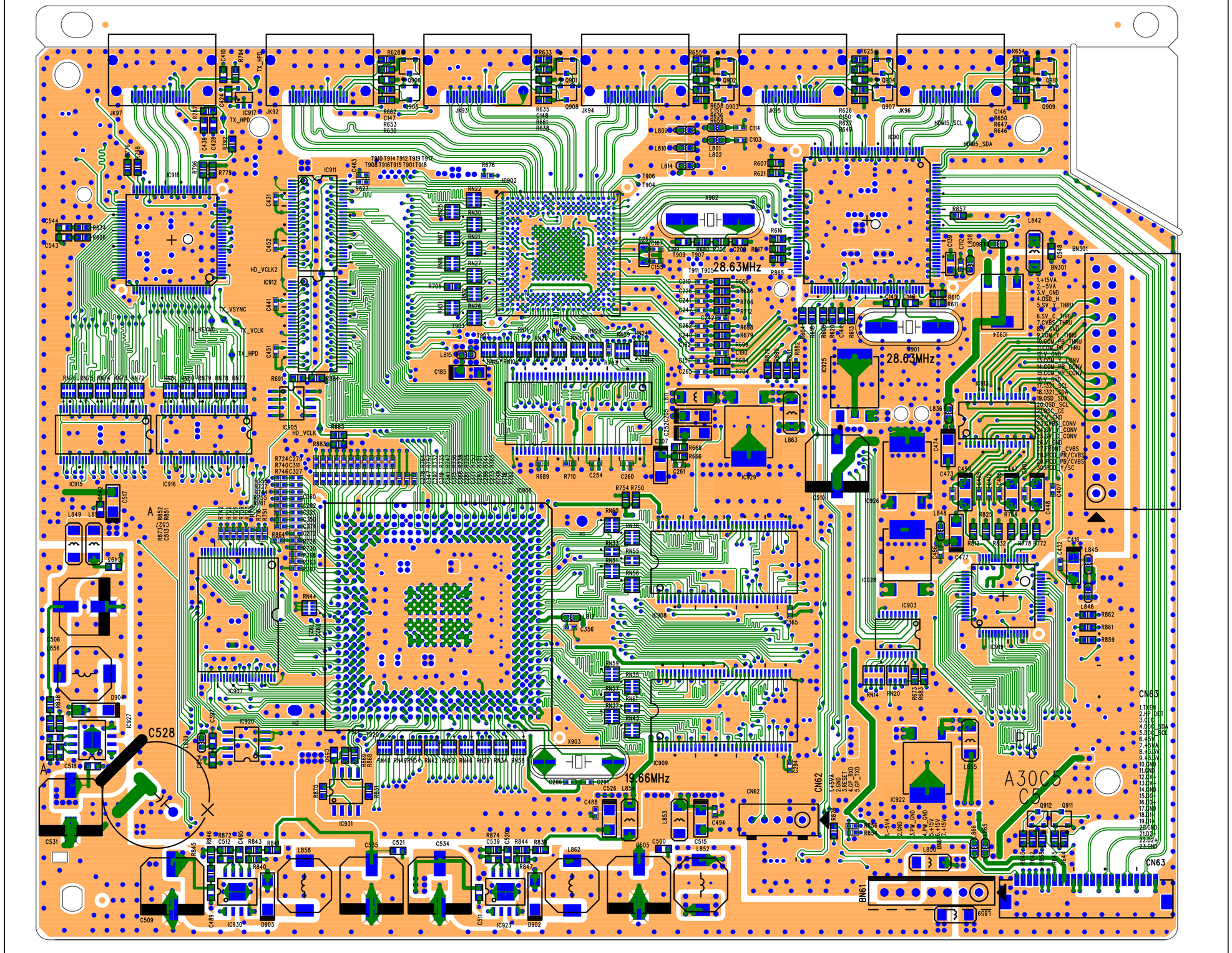
AVR365.pcb – Tue May 17 15:42:51 2011

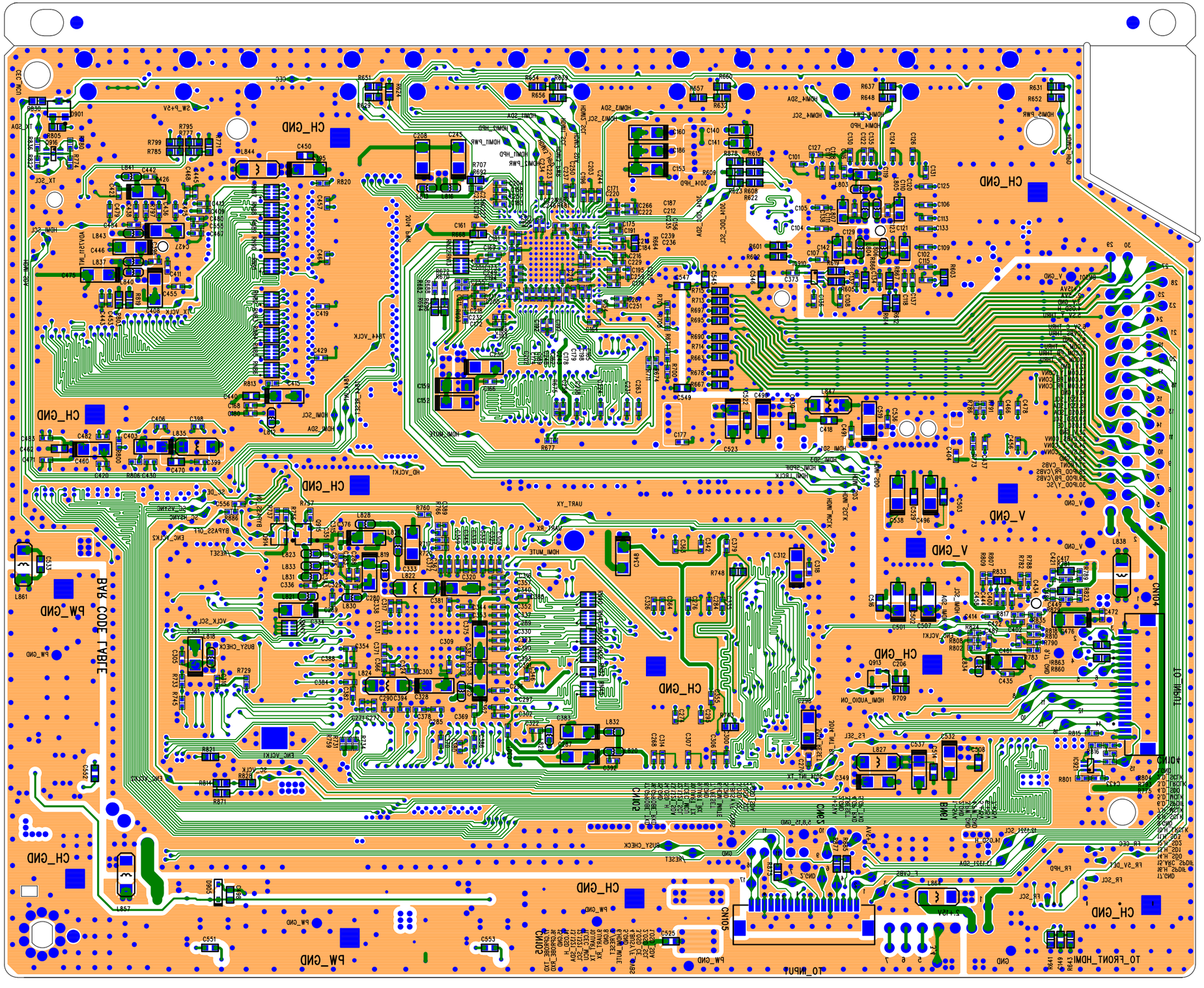


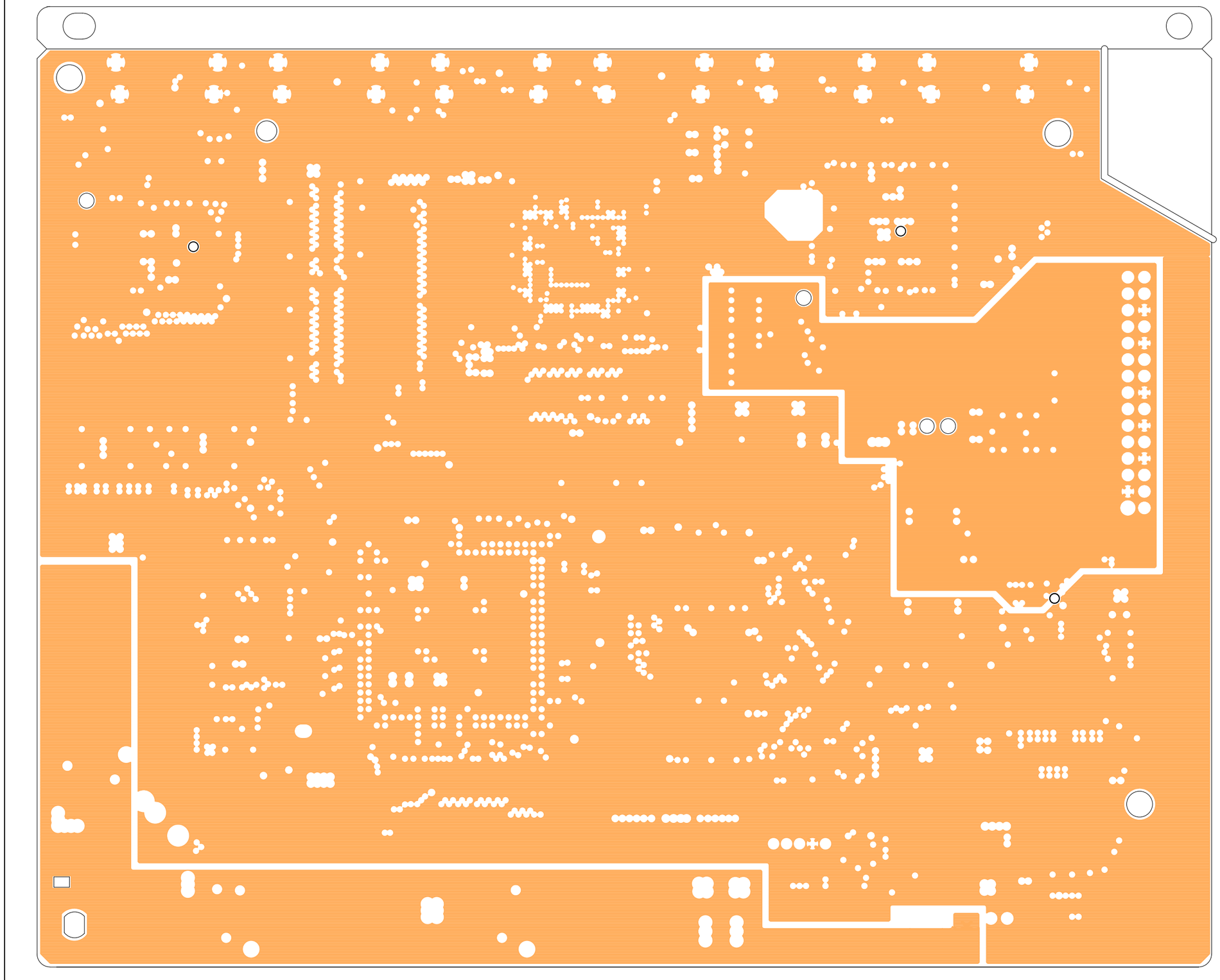
AVR400_INPUT_MP_CUP1232 - Tue May 17 11:28:56 2011

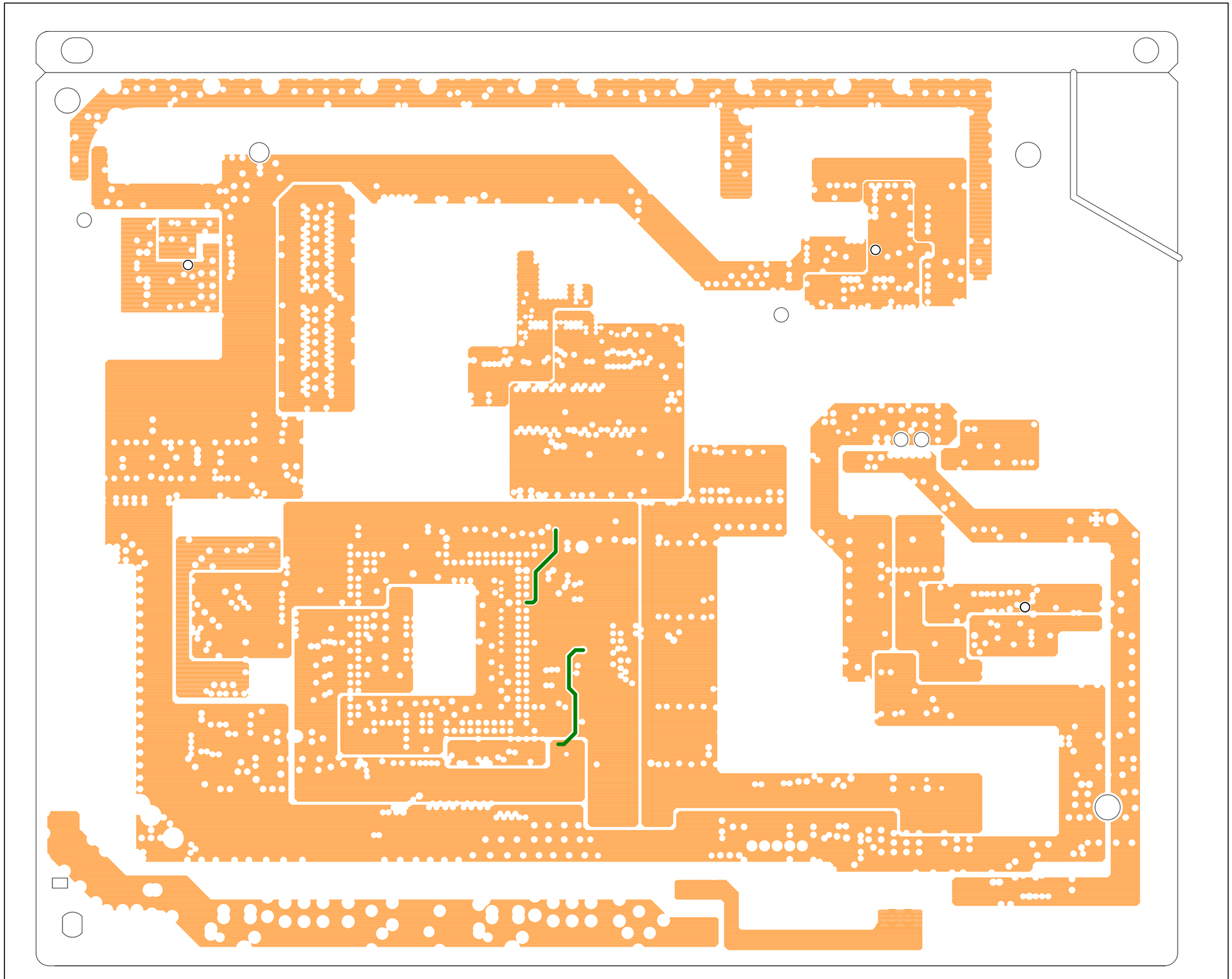

253.0mm
160.0mm
CUP1232 7
CUP1232 7
INPUT PCB_MP_CUP1232 7_A

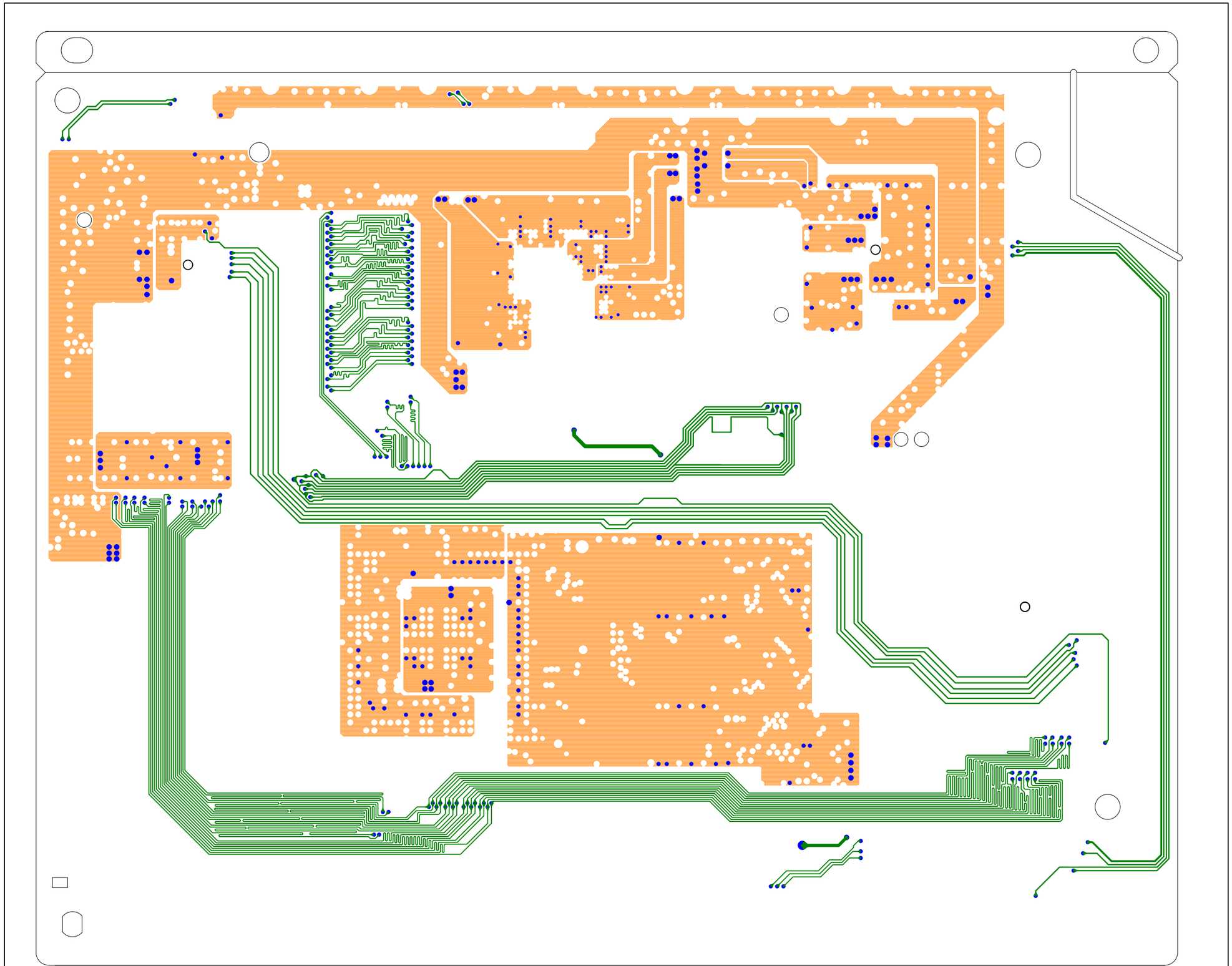


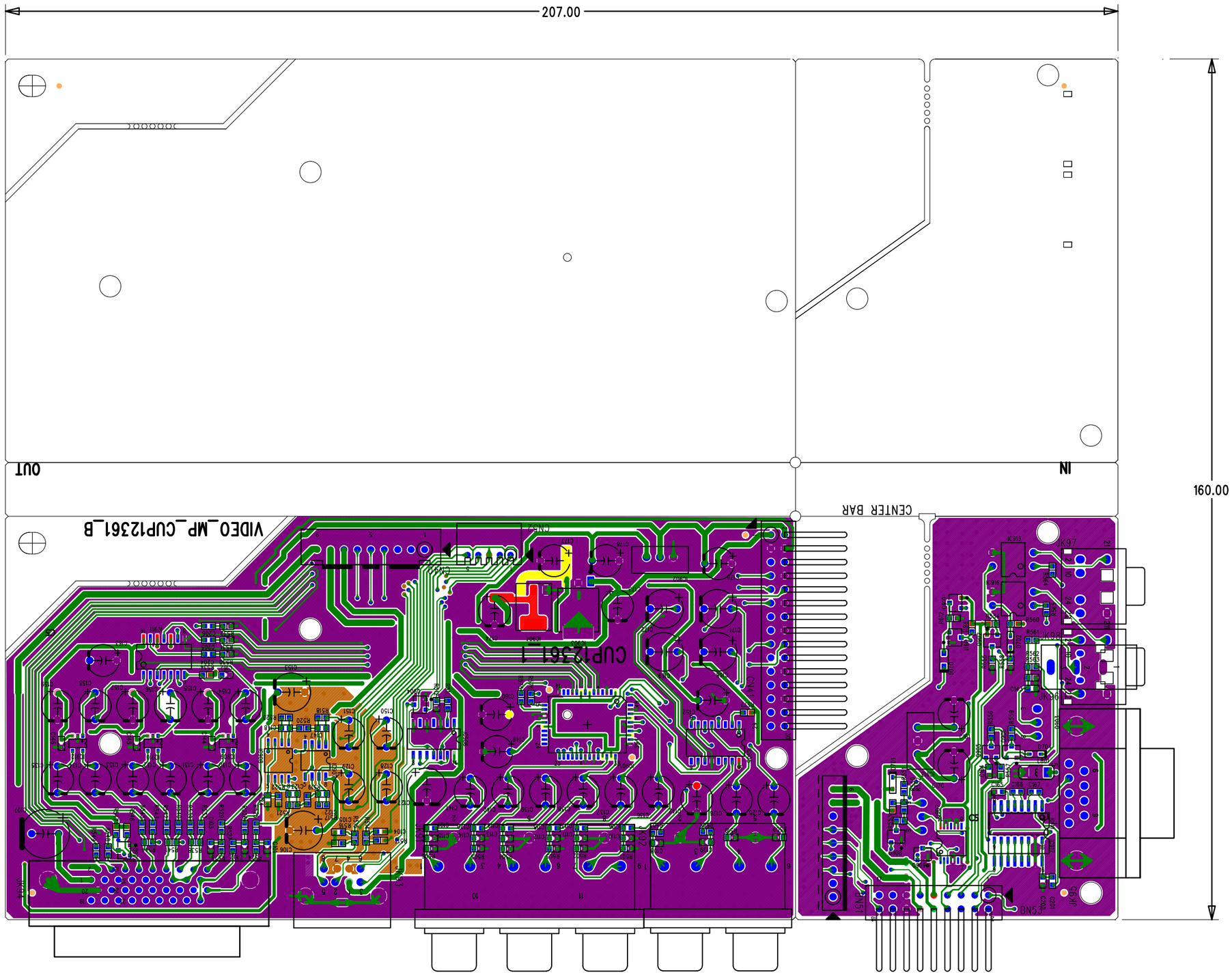

28.63MHz
28.63MHz
19.66MHz
A30C5
C528
HD_VCLK2
HD_VCLK
TX_VSYNC
TX_VCLK
TX_HPD
TX_HSYNC
HDMI5_SCL
HDMI5_SDA
CN62
CN63
BN61
BN301


CH_GND
PM_GND
V_GND
BAR CODE TABLE
TO_INPUT
TO_FRONT_HDMI





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160.00
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IN
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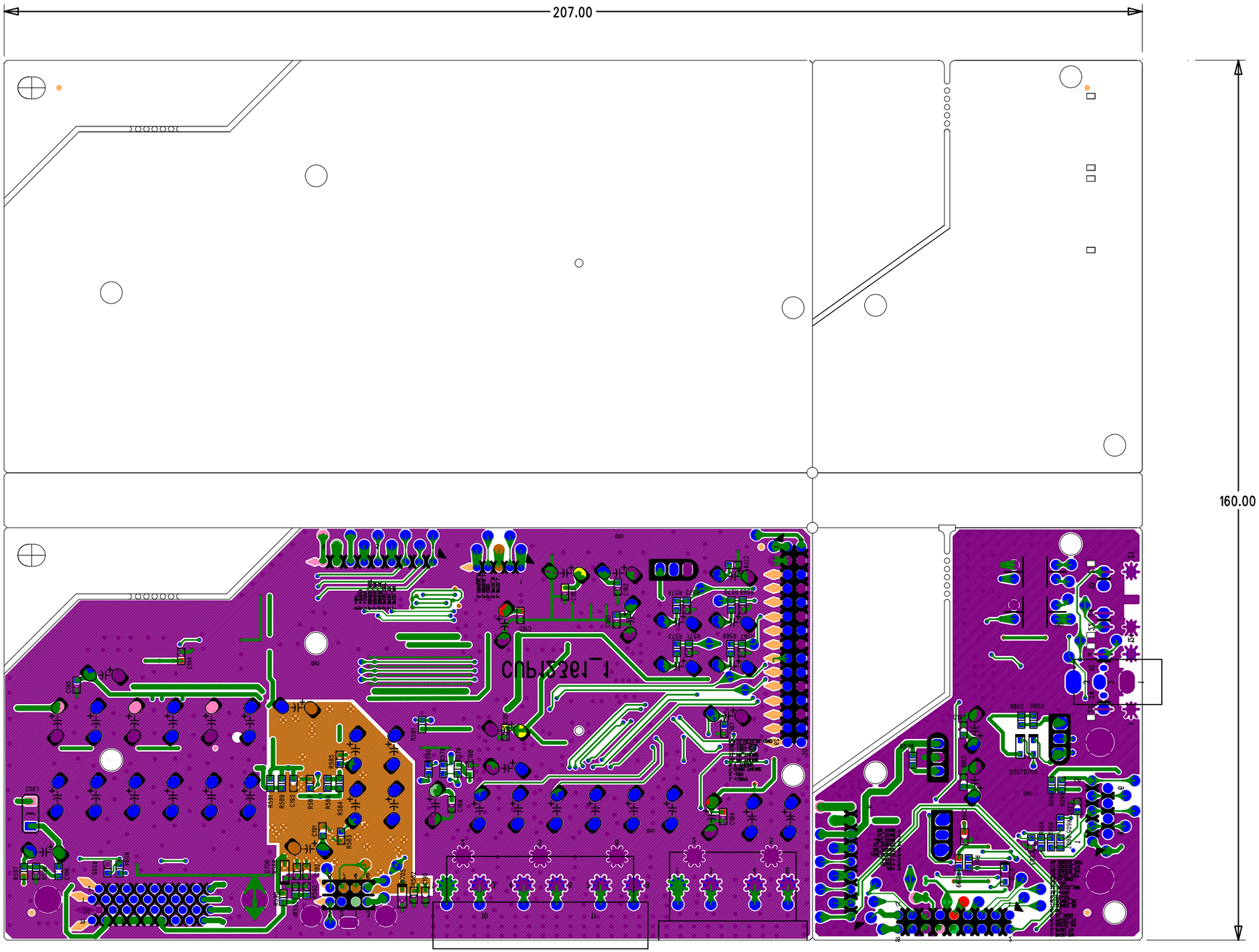
207.00
160.00

AVR 2650 ELECTRICAL PARTS LIST

Quantity of all components with a designator = 1 unless otherwise noted

Reference Designator	Part Number	Description

FRONT PCB ASS'Y CIP12357D

C121	CCBS1H151KBT	CAP , CERAMIC(150PF/50V)	CH UP025 B151K-A-B Z
C122	CCEA1AH331T	CAP , ELECT(10V/330uF)	KR3-10V331MB(6.3*11L)
C151	CCFT1H473ZF	CAP , CERAMIC	0.047UF 50V Z
C152	CCEA1CKS100T	CAP , ELECT(16V/10uF)-S	KC3-16V100MA2(4*5L)
C161	CCBS1H104ZFT	CAP , CERAMIC	0.1UF 50V Z
C171	CCBS1H104ZFT	CAP , CERAMIC	0.1UF 50V Z
C181	CCBS1H104ZFT	CAP , CERAMIC	0.1UF 50V Z
C213	CCBS1H223ZFT	CAP , CERAMIC(22000PF/50V)	CH UP025 F223Z-A-B J
C214	CCBS1H223ZFT	CAP , CERAMIC(22000PF/50V)	CH UP025 F223Z-A-B J
C252	CCEA1HKS2R2T	CAP , ELECT(50V/2.2uF)-S	KC3-50V2R2MA2(4*5L)
C311	CCBS1H102KBT	CAP , CERAMIC(1000PF/50V)	CH UP025 B102K-A-B Z
C322	CCBS1H102KBT	CAP , CERAMIC(1000PF/50V)	CH UP025 B102K-A-B Z
C412	CCBS1H103ZFT	CAP , CERAMIC	0.01UF 50V Z
C413	CCEA1JH470TS	CAP , ELECT	63V/47UF/105'C
C414	CCEA1JH470TS	CAP , ELECT	63V/47UF/105'C
C415	CCBS1H103ZFT	CAP , CERAMIC	0.01UF 50V Z
C422	CCEA1HH4R7T	CAP , ELECT(50V/4.7uF)	KR3-50V4R7MA(5*11L)
C431	CCBS1H104ZFT	CAP , CERAMIC	0.1UF 50V Z
C441	CCBS1H223ZFT	CAP , CERAMIC(22000PF/50V)	CH UP025 F223Z-A-B J
C442	CCBS1H223ZFT	CAP , CERAMIC(22000PF/50V)	CH UP025 F223Z-A-B J
C550	CCBS1H560JT	CAP , CERAMIC(56PF/50V)	CH UP025SL560J-A-B Z
C555	CCBS1H560JT	CAP , CERAMIC(56PF/50V)	CH UP025SL560J-A-B Z
C556	CCEA1AH101T	CAP , ELECT(10V/100uF)	KR3-10V101MA(5*11L)
C557	CCBS1H103ZFT	CAP , CERAMIC	0.01UF 50V Z
C558	CCBS1H103ZFT	CAP , CERAMIC	0.01UF 50V Z
C631	CCBS1H104ZFT	CAP , CERAMIC	0.1UF 50V Z
C651	CCBS1H104ZFT	CAP , CERAMIC	0.1UF 50V Z
C652	CCBS1H471KBT	CAP , CERAMIC(470PF/50V)	CH UP025 B471K-A-B Z
C653	CCBS1H471KBT	CAP , CERAMIC(470PF/50V)	CH UP025 B471K-A-B Z
C714	CCBS1H223ZFT	CAP , CERAMIC(22000PF/50V)	CH UP025 F223Z-A-B J
C715	CCEA1CKS100T	CAP , ELECT(16V/10uF)-S	KC3-16V100MA2(4*5L)
C721	CCEA1HKS2R2T	CAP , ELECT(50V/2.2uF)-S	KC3-50V2R2MA2(4*5L)
C731	CCEA1AH471T	CAP , ELECT(10V/470uF)	KR3-10V471MB(6.3*11L)
C732	CCBS1H104ZFT	CAP , CERAMIC	0.1UF 50V Z
C751	CCBS1C222MXT	CAP , CERAMIC(2200PF/16V)	CH EP025 B222M-A-B J
C752	CCBS1H102KBT	CAP , CERAMIC(1000PF/50V)	CH UP025 B102K-A-B Z
C753	CCBS1H102KBT	CAP , CERAMIC(1000PF/50V)	CH UP025 B102K-A-B Z
C754	CCBS1H104ZFT	CAP , CERAMIC	0.1UF 50V Z
C801	CCEA1EH470T	CAP , ELECT(25V/47uF)	KR3-25V470MA(5*11L)
C802	CCEA1EH470T	CAP , ELECT(25V/47uF)	KR3-25V470MA(5*11L)
C811	CCEA1HH100T	CAP , ELECT(50V/10uF)	KR3-50V100MA(5*11L)
C813	CCBS1H470JT	CAP , CERAMIC(47PF/50V)	CH UP025SL470J-A-B Z
C821	CCBS1H471KBT	CAP , CERAMIC(470PF/50V)	CH UP025 B471K-A-B Z
C822	CCBS1H151KBT	CAP , CERAMIC(150PF/50V)	CH UP025 B151K-A-B Z
C823	CCEA1HH100T	CAP , ELECT(50V/10uF)	KR3-50V100MA(5*11L)
C830	CCBS1H473ZFT	CAP , CERAMIC(47000PF/50V)	CH UP025 F473Z-A-B J
C901	CCEA1HH100T	CAP , ELECT(50V/10uF)	KR3-50V100MA(5*11L)
C902	CCEA1HH100T	CAP , ELECT(50V/10uF)	KR3-50V100MA(5*11L)
C911	CCEA1EH470T	CAP , ELECT(25V/47uF)	KR3-25V470MA(5*11L)
C912	CCEA1EH470T	CAP , ELECT(25V/47uF)	KR3-25V470MA(5*11L)

Reference Designator	Part Number	Description	

FRONT PCB ASS'Y CIP12357D

C923	CCBS1H681KBT	CAP , CERAMIC(680PF/50V)	CH UP025 B681K-A-B Z
C924	CCBS1H681KBT	CAP , CERAMIC(680PF/50V)	CH UP025 B681K-A-B Z
C931	CCEA1CH331T	CAP , ELECT(16V/330uF)	KR3-16V331MC(8*11.5L)
C932	CCEA1CH331T	CAP , ELECT(16V/330uF)	KR3-16V331MC(8*11.5L)
D161	HVD1N5819T	DIODE , SCHOTTKY	1N5819
D204	HVD1SS133MT	DIODE 1SS133T-77	
D401	CVD1N4003ST	DIODE , RECT	1N4003
D412	CVDZJ8.2BT	DIODE , ZENER 8.2V	ZJ8.2B 1/2W
D413	HVDMTZJ27BT	DIODE , ZENER	MTZJ27B 1/2W
D421	CVDZJ6.8BT	DIODE , ZENER 6.8V	ZJ6.8B 1/2W
D422	CVDZJ6.8BT	DIODE , ZENER 6.8V	ZJ6.8B 1/2W
D455	HVD1SS133MT	DIODE 1SS133T-77	
D631	HVD1SS133MT	DIODE 1SS133T-77	
D632	HVD1SS133MT	DIODE 1SS133T-77	
D714	C3A206	WIRE , COPPER	SN95/PB5 , 0.6
L151	HLQ02C100KT	COIL , AXAIL (10UH)	
Q104	CVTKTC1027YT	TRANSISTOR , KTC1027Y	KTC1027Y/TO-92L/KEC
Q111	HVTKRA107MT	TRANSISTOR , TO-92M	KRA107M
Q112	HVTKRC107MT	TRANSISTOR , TO-92M	KRC107M
Q113	HVTKRC107MT	TRANSISTOR , TO-92M	KRC107M
Q251	HVTKTA1271YT	TRANSISTOR KTA1271Y	
Q252	HVTKRC107MT	TRANSISTOR , TO-92M	KRC107M
Q721	HVTKRC107MT	TRANSISTOR , TO-92M	KRC107M
Q906	HVTKRA107MT	TRANSISTOR , TO-92M	KRA107M
Q907	HVTKRA107MT	TRANSISTOR , TO-92M	KRA107M
Q941	HVTKTC2874BT	TRANSISTOR , MUTE	KTC2874B
Q942	HVTKTC2874BT	TRANSISTOR , MUTE	KTC2874B
Q943	HVTKTC2874BT	TRANSISTOR , MUTE	KTC2874B
Q944	HVTKTC2874BT	TRANSISTOR , MUTE	KTC2874B
Q951	HVTKRC107MT	TRANSISTOR , TO-92M	KRC107M
Q952	HVTKRA107MT	TRANSISTOR , TO-92M	KRA107M
Q954	HVTKRC107MT	TRANSISTOR , TO-92M	KRC107M
R101	CRD20TF2200T	RES , CARBON(220 OHM, 1%)	
R102	CRD20TF6800T	RES , CARBON(680 OHM, 1%)	
R103	CRD20TJ334T	RES, CARBON(1/5W,330Kohm,J)	
R113	CRD20TJ102T	RES, CARBON(1/5W,1Kohm,J)	
R201	CRD20TJ101T	RES, CARBON(1/5W,100ohm,J)	
R202	CRD20TJ101T	RES, CARBON(1/5W,100ohm,J)	
R203	CRD20TJ101T	RES, CARBON(1/5W,100ohm,J)	
R211	CRD20TJ101T	RES, CARBON(1/5W,100ohm,J)	
R213	CRD20TJ272T	RES, CARBON(1/5W,2.7Kohm,J)	
R214	CRD20TJ272T	RES, CARBON(1/5W,2.7Kohm,J)	
R251	CRD20TJ222T	RES, CARBON(1/5W,2.2Kohm,J)	
R252	CRD25TJ393T	RES, CARBON(1/4W,39Kohm,J)	
R312	CRD20TF1001T	RES , CARBON	1K /1/5W /F
R313	CRD20TF1501T	RES , CARBON	1.5K /1/5W /F
R314	CRD20TF1801T	RES , CARBON	1.8K /1/5W /F
R315	CRD20TF2701T	RES , CARBON	2.7K /1/5W/F
R316	CRD20TF3301T	RES , CARBON	3.3K /1/5W/F
R322	CRD20TF1001T	RES , CARBON	1K /1/5W /F
R323	CRD20TF1501T	RES , CARBON	1.5K /1/5W /F
R324	CRD20TF1801T	RES , CARBON	1.8K /1/5W /F
R325	CRD20TF2701T	RES , CARBON	2.7K /1/5W/F

Reference Designator	Part Number	Description

FRONT PCB ASS'Y CIP12357D

R326	CRD20TF3301T	RES , CARBON 3.3K /1/5W/F
R327	CRD20TF5601T	RES , CARBON(5.6K/F)
R328	CRD20TF5601T	RES , CARBON(5.6K/F)
R401	CRD25FJ3R3T	RES , CARBON 3.3 OHM 1/4W J
R402	CRD25TJ4R7T	RES, CARBON(1/4W,4.7ohm,J)
R403	CRD20TJ100T	RES, CARBON(1/5W,10ohm,J)
R404	CRD25TJ4R7T	RES, CARBON(1/4W,4.7ohm,J)
R411	CRD20TJ104T	RES, CARBON(1/5W,100Kohm,J)
R412	CRD20TJ122T	RES, CARBON(1/5W,1.2Kohm,J)
R413	CRD20TJ104T	RES, CARBON(1/5W,100Kohm,J)
R415	CRD20TJ473T	RES, CARBON(1/5W,47Kohm,J)
R431	CRD20TJ100T	RES, CARBON(1/5W,10ohm,J)
R432	CRD20TJ100T	RES, CARBON(1/5W,10ohm,J)
R550	CRD20TJ100T	RES, CARBON(1/5W,10ohm,J)
R555	CRD20TJ100T	RES, CARBON(1/5W,10ohm,J)
R556	CRD20TJ153T	RES, CARBON(1/5W,15Kohm,J)
R557	CRD20TJ153T	RES, CARBON(1/5W,15Kohm,J)
R701	CRD20TJ102T	RES, CARBON(1/5W,1Kohm,J)
R702	CRD20TJ102T	RES, CARBON(1/5W,1Kohm,J)
R703	CRD20TJ102T	RES, CARBON(1/5W,1Kohm,J)
R711	CRD20TJ470T	RES, CARBON(1/5W,47ohm,J)
R712	CRD20TJ470T	RES, CARBON(1/5W,47ohm,J)
R713	CRD20TJ470T	RES, CARBON(1/5W,47ohm,J)
R721	CRD20TJ103T	RES, CARBON(1/5W,10Kohm,J)
R722	CRD20TJ101T	RES, CARBON(1/5W,100ohm,J)
R731	CRD20TJ100T	RES, CARBON(1/5W,10ohm,J)
R735	CRD20TJ152T	RES, CARBON(1/5W,1.5Kohm,J)
R741	CRD20TJ123T	RES, CARBON(1/5W,12Kohm,J)
R742	CRD20TJ102T	RES, CARBON(1/5W,1Kohm,J)
R801	CRD20TJ101T	RES, CARBON(1/5W,100ohm,J)
R802	CRD20TJ101T	RES, CARBON(1/5W,100ohm,J)
R811	CRD20TJ104T	RES, CARBON(1/5W,100Kohm,J)
R812	CRD20TJ102T	RES, CARBON(1/5W,1Kohm,J)
R813	CRD20TJ103T	RES, CARBON(1/5W,10Kohm,J)
R821	CRD20TJ102T	RES, CARBON(1/5W,1Kohm,J)
R822	CRD20TJ103T	RES, CARBON(1/5W,10Kohm,J)
R823	CRD20TJ104T	RES, CARBON(1/5W,100Kohm,J)
R834	CRD20TJ222T	RES, CARBON(1/5W,2.2Kohm,J)
R835	CRD20TJ103T	RES, CARBON(1/5W,10Kohm,J)
R836	CRD20TJ152T	RES, CARBON(1/5W,1.5Kohm,J)
R901	CRD25TJ101T	RES, CARBON(1/4W,100ohm,J)
R902	CRD20TJ101T	RES, CARBON(1/5W,100ohm,J)
R911	CRD20TJ101T	RES, CARBON(1/5W,100ohm,J)
R912	CRD20TJ101T	RES, CARBON(1/5W,100ohm,J)
R921	CRD20TJ102T	RES, CARBON(1/5W,1Kohm,J)
R922	CRD20TJ102T	RES, CARBON(1/5W,1Kohm,J)
R923	CRD20TJ152T	RES, CARBON(1/5W,1.5Kohm,J)
R924	CRD20TJ152T	RES, CARBON(1/5W,1.5Kohm,J)
R925	CRD20TJ104T	RES, CARBON(1/5W,100Kohm,J)
R926	CRD20TJ104T	RES, CARBON(1/5W,100Kohm,J)
R931	CRD20TJ104T	RES, CARBON(1/5W,100Kohm,J)
R932	CRD20TJ104T	RES, CARBON(1/5W,100Kohm,J)
R933	CRD20TJ221T	RES, CARBON(1/5W,220ohm,J)

Reference Designator	Part Number	Description

FRONT PCB ASS'Y CIP12357D

R934	CRD20TJ221T	RES, CARBON(1/5W,220ohm,J)
R935	CRD20TJ221T	RES, CARBON(1/5W,220ohm,J)
R936	CRD20TJ221T	RES, CARBON(1/5W,220ohm,J)
R941	CRD25TJ432T	RES, CARBON(1/4W,4.3Kohm,J)
R942	CRD20TJ472T	RES, CARBON(1/5W,4.7Kohm,J)
R943	CRD20TJ472T	RES, CARBON(1/5W,4.7Kohm,J)
R944	CRD20TJ472T	RES, CARBON(1/5W,4.7Kohm,J)
R951	CRD20TJ102T	RES, CARBON(1/5W,1Kohm,J)
R953	CRD20TJ362T	RES, CARBON(1/5W,3.6Kohm,J)
R954	CRD20TJ103T	RES, CARBON(1/5W,10Kohm,J)
S311	CST1A024ZT	SW , TACT
S312	CST1A024ZT	SW , TACT
S313	CST1A024ZT	SW , TACT
S314	CST1A024ZT	SW , TACT
S315	CST1A024ZT	SW , TACT
S316	CST1A024ZT	SW , TACT
S317	CST1A024ZT	SW , TACT
S318	CST1A024ZT	SW , TACT
S319	CST1A024ZT	SW , TACT
S320	CST1A024ZT	SW , TACT
S321	CST1A024ZT	SW , TACT
S322	CST1A024ZT	SW , TACT
S323	CST1A024ZT	SW , TACT
S330	CST1A024ZT	SW , TACT
BK71	CMD1A572	BRACKET , FIP
BK72	CMD1A572	BRACKET , FIP
BK73	CMD1A629	BRACKET , PCB
BN53	CWB1C005350BM001	Shield Wire ass'y
BN61	CJP06GB142ZB	PIN HEADER(6P, 2.54mm)
BN73	CJP06GB142ZB	PIN HEADER(6P, 2.54mm)
BN74	CWB1C005100BM	WIRE ASS'Y(5P, 100MM)
CN61	CJP06GA221ZB	FEMALE HEADER (6P,2.54mm)STRAIGHT TYPE FAS2851
CN71	CJP05GB03ZY	WAFER,YMAW025(2.5mm,ANGLE)
CN72	CJP27GA285ZN	WAFER,FPC 1.25mm,stright 1.25-2-NP
CN73	CJP06GB143ZB	FEMALE HEADER(6P, 2.54mm)
CN74	CJP05GB03ZY	WAFER,YMAW025(2.5mm,ANGLE)
C411	CCEA1JH101E	CAP , ELECT 100UF 63V
D101	CVD1L0345W31BOCT201V	L.E.D , WHITE CVD1L0345W31BOCT201
D102	CVD30ASOGCAA-S7	L.E.D , ORANGE T0L-30ASOGCAA-S7
D201	CVD1L0345W31BOCT201V	L.E.D , WHITE CVD1L0345W31BOCT201
D202	CVD1L0345W31BOCT201V	L.E.D , WHITE CVD1L0345W31BOCT201
D203	CVD1L0345W31BOCT201V	L.E.D , WHITE CVD1L0345W31BOCT201
ET63	CMC2A325	PLATE , EARTH
FIP2	CFL162BD01GINK	V.F.D 162-BD-01GINK
IC12	CRVKSM603TE5B	SENSOR , REMOCON
IC13	CVISN74ACT04DR	I.C , HEX INVERTERS(SOIC/D-14P)SN74ACT04DR TEXAS
IC14	HVINJM2068MDTE1	I.C , OP AMP (JRC) NJM2068MD-TE1
IC15	HVINJM4556AL	I.C , HEADPHONE (JRC) NJM4556AL
JK53	CJJ9X009Z	JACK, USB
JK63	CJJ2E026Z	JACK, PHONES(6.35mm,SILVER) PJ-612A-51/YUQIU
RL91	CSL4A016ZU	RELAY,BC3-12H,DC12V,2C2P BC3-12H/HANDOUK
VR74	CSR2A037Z	ENCODER
	CPE1A009	SHEET , BLIND

Reference Designator	Part Number	Description			
FRONT PCB ASS'Y	**CIP12357D**				
	CTB3+10JR	SCREW		27.0	
	CTWS3+10GR	SCREW		2.0	
CN72	CWC4C4A27B250B08	CARD , CABLE (27P/1.25mm,/250mm)			
	CGX1A338MBC63	CAP , VOLUME			
	CGX4A390C66Z	SHEET , AL FRONT AVR2650			
	CKC6B145S60	CABINET , TOP			
	CMH1A214	HOLDER , VOLUME			
	CMZ2A090	SHEET , VOLUME			
	CTB3+8JFZR	SCREW			17.0
	CTB4+6FFZR	SCREW			6.0
	CUAAVR2650	BOTTOM CHASSIS ASS'Y			
	CFNRDM6025S	MOTOR , FAN (60X60X25) 12V, 0.1A			
	CHD1A012ZR	SCREW , SPECIAL	2.0		
	CHD1A023R	SCREW , SPECIAL	4.0		
	CHD1A036FZR	SCREW , SPECIAL	2.0		
	CHD1A065R	SCREW , FLAT(2.6X4)	2.0		
	CHD4A012R	SCREW , SPECIAL	4.0		
	CHE170	HOLDER , PCB	2.0		
	CHE36-3	CLAMPER , WIRE			
	CHG1A113	RUBBER	3.0		
	CHG1A160Z	CUSHION , RUBBER			
	CHG1A373	CUSHION , FOOT			4.0
	CHR301	CLAMPER			2.0
	CKF3A444Z	PANEL , REAR AVR2650			
	CKL1A094	FOOT , A		2.0	
	CKL1A095	FOOT , B		2.0	
	CMD1A506	BRACKET , FAN			
	CMD1A702	FRAME , BOTTOM			
	CMD1A786	BRACKET , HDMI			
	CNVFS2026-020021	MODULE,VENICE6.2 (NO DAB, NO WIFI)			
INPUT PCB ASS'Y	**COP12327D**				
C133	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)			
C134	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)			
C135	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)			
C136	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)			
C217	CCUS1H101JA	CAP, CHIP(1608, 50V/100pF)			
C218	CCUS1H101JA	CAP, CHIP(1608, 50V/100pF)			
C219	CCUS1H101JA	CAP, CHIP(1608, 50V/100pF)			
C293	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)			
C300	CCUS1H272KC	CAP, CHIP(1608, 50V/2700pF)			
C301	CCUS1H272KC	CAP, CHIP(1608, 50V/2700pF)			
C302	CCUS1H683KC	CAP, CHIP(1608, 50V/0.068uF)			
C303	CCUS1H272KC	CAP, CHIP(1608, 50V/2700pF)			
C304	CCUS1H272KC	CAP, CHIP(1608, 50V/2700pF)			
C305	CCUS1H272KC	CAP, CHIP(1608, 50V/2700pF)			
C306	CCUS1H272KC	CAP, CHIP(1608, 50V/2700pF)			
C307	CCUS1H272KC	CAP, CHIP(1608, 50V/2700pF)			
C332	CCUS1H103KC	CAP, CHIP(1608, 50V/0.01uF)			
C333	CCUS1H103KC	CAP, CHIP(1608, 50V/0.01uF)			
C334	CCUS1H103KC	CAP, CHIP(1608, 50V/0.01uF)			
C335	CCUS1H103KC	CAP, CHIP(1608, 50V/0.01uF)			

Reference Designator	Part Number	Description

INPUT PCB ASS'Y COP12327D

C336	CCUS1H103KC	CAP, CHIP(1608, 50V/0.01uF)
C337	CCUS1H103KC	CAP, CHIP(1608, 50V/0.01uF)
C338	CCUS1H103KC	CAP, CHIP(1608, 50V/0.01uF)
C339	CCUS1H103KC	CAP, CHIP(1608, 50V/0.01uF)
C356	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C357	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C362	CCUS1H223KC	CAP, CHIP(1608, 50V/0.022uF)
C369	CCUS1H223KC	CAP, CHIP(1608, 50V/0.022uF)
C370	CCUS1H223KC	CAP, CHIP(1608, 50V/0.022uF)
C371	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C372	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C373	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C375	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C376	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C377	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C412	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C413	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C420	CCUS1H151JA	CAP, CHIP(1608, 50V/150pF)
C421	CCUS1H151JA	CAP, CHIP(1608, 50V/150pF)
C422	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C423	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C466	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C601	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C603	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C605	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C607	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C609	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C611	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C613	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C615	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C617	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C619	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C621	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C623	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C625	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C627	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C629	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C631	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C641	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C643	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C644	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C645	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C646	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C648	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C651	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C652	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C653	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C654	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C655	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C656	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C658	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C660	CCSNA0J220B	CAP , CHIP TANTAL(22uF/6.3V, NingXia XingRi)
C704	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)

Reference Designator	Part Number	Description

INPUT PCB ASS'Y COP12327D

C705	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C714	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C718	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C719	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C722	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C723	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C727	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C729	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C731	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C733	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C737	CCSNA0J220B	CAP , CHIP TANTAL(22uF/6.3V, NingXia XingRi)
C738	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C739	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C741	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C745	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C746	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C747	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C748	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C751	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C754	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C756	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C757	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C758	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C759	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C760	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C761	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C762	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C763	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C765	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C773	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C780	CCUS1H102KC	CAP, CHIP(1608, 50V/1000pF)
C781	CCUS1H223KC	CAP, CHIP(1608, 50V/0.022uF)
C788	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C789	CCUS1H103KC	CAP, CHIP(1608, 50V/0.01uF)
C792	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C865	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
L101	CLZ9R005Z	FERRITE CHIP BEAD(1608/60ohm)HCB1608KF-600T30/COILMASTER
L604	CLZ9R005Z	FERRITE CHIP BEAD(1608/60ohm)HCB1608KF-600T30/COILMASTER
L704	CLZ9R005Z	FERRITE CHIP BEAD(1608/60ohm)HCB1608KF-600T30/COILMASTER
RN89	CRJ104DJ103T	RES , CHIP , 10K OHM, 5% , 1608 X 4 10K(1608)
R118	CRJ10DJ104T	RES, CHIP(1608/5%/100Kohm)
R122	CRJ10DJ473T	RES, CHIP(1608/5%/47Kohm)
R123	CRJ10DJ473T	RES, CHIP(1608/5%/47Kohm)
R124	CRJ10DJ473T	RES, CHIP(1608/5%/47Kohm)
R125	CRJ10DJ473T	RES, CHIP(1608/5%/47Kohm)
R126	CRJ10DJ332T	RES, CHIP(1608/5%/3.3Kohm)
R163	CRJ10DJ104T	RES, CHIP(1608/5%/100Kohm)
R165	CRJ10DJ104T	RES, CHIP(1608/5%/100Kohm)
R171	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)
R217	CRJ10DJ101T	RES, CHIP(1608/5%/100ohm)
R218	CRJ10DJ101T	RES, CHIP(1608/5%/100ohm)
R219	CRJ10DJ101T	RES, CHIP(1608/5%/100ohm)
R289	CRJ10DJ104T	RES, CHIP(1608/5%/100Kohm)

Reference Designator	Part Number	Description

INPUT PCB ASS'Y COP12327D

R290	CRJ10DJ104T	RES, CHIP(1608/5%/100Kohm)
R291	CRJ10DJ563T	RES, CHIP(1608/5%/56Kohm)
R292	CRJ10DJ563T	RES, CHIP(1608/5%/56Kohm)
R293	CRJ10DJ563T	RES, CHIP(1608/5%/56Kohm)
R294	CRJ10DJ563T	RES, CHIP(1608/5%/56Kohm)
R317	CRJ10DJ561T	RES, CHIP(1608/5%/560ohm)
R320	CRJ10DJ682T	RES, CHIP(1608/5%/6.8Kohm)
R321	CRJ10DJ682T	RES, CHIP(1608/5%/6.8Kohm)
R322	CRJ10DJ103T	RES, CHIP(1608/5%/10Kohm)
R323	CRJ10DJ682T	RES, CHIP(1608/5%/6.8Kohm)
R324	CRJ10DJ682T	RES, CHIP(1608/5%/6.8Kohm)
R325	CRJ10DJ682T	RES, CHIP(1608/5%/6.8Kohm)
R326	CRJ10DJ682T	RES, CHIP(1608/5%/6.8Kohm)
R327	CRJ10DJ682T	RES, CHIP(1608/5%/6.8Kohm)
R339	CRJ10DJ104T	RES, CHIP(1608/5%/100Kohm)
R341	CRJ10DJ104T	RES, CHIP(1608/5%/100Kohm)
R380	CRJ10DJ104T	RES, CHIP(1608/5%/100Kohm)
R381	CRJ10DJ561T	RES, CHIP(1608/5%/560ohm)
R382	CRJ10DJ561T	RES, CHIP(1608/5%/560ohm)
R383	CRJ10DJ561T	RES, CHIP(1608/5%/560ohm)
R384	CRJ10DJ561T	RES, CHIP(1608/5%/560ohm)
R389	CRJ10DJ563T	RES, CHIP(1608/5%/56Kohm)
R390	CRJ10DJ563T	RES, CHIP(1608/5%/56Kohm)
R399	CRJ10DJ104T	RES, CHIP(1608/5%/100Kohm)
R400	CRJ10DJ104T	RES, CHIP(1608/5%/100Kohm)
R401	CRJ10DJ104T	RES, CHIP(1608/5%/100Kohm)
R402	CRJ10DJ104T	RES, CHIP(1608/5%/100Kohm)
R403	CRJ10DJ104T	RES, CHIP(1608/5%/100Kohm)
R404	CRJ10DJ182T	RES, CHIP(1608/5%/1.8Kohm)
R406	CRJ10DJ101T	RES, CHIP(1608/5%/100ohm)
R407	CRJ10DJ101T	RES, CHIP(1608/5%/100ohm)
R424	CRJ10DJ472T	RES, CHIP(1608/5%/4.7Kohm)
R425	CRJ10DJ392T	RES, CHIP(1608/5%/3.9Kohm)
R448	CRJ10DJ104T	RES, CHIP(1608/5%/100Kohm)
R460	CRJ10DJ104T	RES, CHIP(1608/5%/100Kohm)
R465	CRJ10DJ472T	RES, CHIP(1608/5%/4.7Kohm)
R466	CRJ10DJ472T	RES, CHIP(1608/5%/4.7Kohm)
R471	CRJ10DJ101T	RES, CHIP(1608/5%/100ohm)
R700	CRJ10DJ103T	RES, CHIP(1608/5%/10Kohm)
R713	CRJ10DJ103T	RES, CHIP(1608/5%/10Kohm)
R717	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)
R718	CRJ10DF1371T	RES, CHIP(1608/1%/1.37Kohm)
R719	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)
R720	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)
R721	CRJ10DJ472T	RES, CHIP(1608/5%/4.7Kohm)
R725	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)
R726	CRJ10DJ100T	RES, CHIP(1608/5%/10ohm)
R727	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)
R733	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)
R735	CRJ10DJ103T	RES, CHIP(1608/5%/10Kohm)
R745	CRJ10DJ103T	RES, CHIP(1608/5%/10Kohm)
R753	CRJ10DJ332T	RES, CHIP(1608/5%/3.3Kohm)
R754	CRJ10DJ332T	RES, CHIP(1608/5%/3.3Kohm)

INPUT PCB ASS'Y COP12327D

Reference Designator	Part Number	Description
R759	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)
R761	CRJ10DJ102T	RES, CHIP(1608/5%/1Kohm)
R762	CRJ10DJ102T	RES, CHIP(1608/5%/1Kohm)
R763	CRJ10DJ103T	RES, CHIP(1608/5%/10Kohm)
R767	CRJ10DF5101T	RES, CHIP(1608/1%/5.1Kohm)
R785	CRJ10DJ104T	RES, CHIP(1608/5%/100Kohm)
R788	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)
R795	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)
R797	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)
R812	CRJ10DJ103T	RES, CHIP(1608/5%/10Kohm)
R834	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)
R835	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)
R836	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)
R837	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)
R857	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)
R858	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)
R863	CRJ10DJ103T	RES, CHIP(1608/5%/10Kohm)
R866	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)
R870	CRJ10DJ473T	RES, CHIP(1608/5%/47Kohm)
R871	CRJ10DJ473T	RES, CHIP(1608/5%/47Kohm)
R872	CRJ10DJ473T	RES, CHIP(1608/5%/47Kohm)
R877	CRJ10DJ472T	RES, CHIP(1608/5%/4.7Kohm)
R891	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)
R907	CRJ10DJ103T	RES, CHIP(1608/5%/10Kohm)
R908	CRJ10DJ105T	RES, CHIP(1608/5%/1Mohm)
R910	CRJ10DJ105T	RES, CHIP(1608/5%/1Mohm)
R925	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)
R932	CRJ10DJ103T	RES, CHIP(1608/5%/10Kohm)
R963	CRJ10DJ105T	RES, CHIP(1608/5%/1Mohm)
R966	CRJ10DJ472T	RES, CHIP(1608/5%/4.7Kohm)
R968	CRJ10DJ105T	RES, CHIP(1608/5%/1Mohm)
R969	CRJ10DJ103T	RES, CHIP(1608/5%/10Kohm)
C111	CCUI1C104KC	CAP , CHIP (1005, 16V/0.1uF)
C112	CCUI1C104KC	CAP , CHIP (1005, 16V/0.1uF)
C113	CCUS1H180JA	CAP, CHIP(1608, 50V/18pF)
C114	CCUS1H180JA	CAP, CHIP(1608, 50V/18pF)
C115	CCUI1C104KC	CAP , CHIP (1005, 16V/0.1uF)
C116	CCUI1C104KC	CAP , CHIP (1005, 16V/0.1uF)
C117	CCUI1C104KC	CAP , CHIP (1005, 16V/0.1uF)
C118	CCUI1C104KC	CAP , CHIP (1005, 16V/0.1uF)
C121	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C123	CRJ06IJ183T	RES, CHIP(1005/5%/18Kohm)
C131	CCUS1H150JA	CAP, CHIP(1608, 50V/15pF)
C132	CCUS1H150JA	CAP, CHIP(1608, 50V/15pF)
C203	CCUS1H221JA	CAP, CHIP(1608, 50V/220pF)
C204	CCUS1H221JA	CAP, CHIP(1608, 50V/220pF)
C205	CCUS1H221JA	CAP, CHIP(1608, 50V/220pF)
C206	CCUS1H221JA	CAP, CHIP(1608, 50V/220pF)
C207	CCUS1H221JA	CAP, CHIP(1608, 50V/220pF)
C208	CCUS1H221JA	CAP, CHIP(1608, 50V/220pF)
C209	CCUS1H221JA	CAP, CHIP(1608, 50V/220pF)
C210	CCUS1H221JA	CAP, CHIP(1608, 50V/220pF)
C227	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)

Reference Designator	Part Number	Description

INPUT PCB ASS'Y COP12327D

C228	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C229	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C230	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C260	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C277	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C278	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C291	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C308	CCUS1H391JA	CAP, CHIP(1608, 50V/390pF)
C309	CCUS1H391JA	CAP, CHIP(1608, 50V/390pF)
C310	CCUS1H822KC	CAP, CHIP(1608, 50V/8200pF)
C311	CCUS1H391JA	CAP, CHIP(1608, 50V/390pF)
C312	CCUS1H391JA	CAP, CHIP(1608, 50V/390pF)
C313	CCUS1H391JA	CAP, CHIP(1608, 50V/390pF)
C314	CCUS1H391JA	CAP, CHIP(1608, 50V/390pF)
C315	CCUS1H391JA	CAP, CHIP(1608, 50V/390pF)
C316	CCUS1H272KC	CAP, CHIP(1608, 50V/2700pF)
C317	CCUS1H272KC	CAP, CHIP(1608, 50V/2700pF)
C318	CCUS1H683KC	CAP, CHIP(1608, 50V/0.068uF)
C319	CCUS1H272KC	CAP, CHIP(1608, 50V/2700pF)
C320	CCUS1H272KC	CAP, CHIP(1608, 50V/2700pF)
C321	CCUS1H272KC	CAP, CHIP(1608, 50V/2700pF)
C322	CCUS1H272KC	CAP, CHIP(1608, 50V/2700pF)
C323	CCUS1H272KC	CAP, CHIP(1608, 50V/2700pF)
C324	CCUS1H391JA	CAP, CHIP(1608, 50V/390pF)
C325	CCUS1H391JA	CAP, CHIP(1608, 50V/390pF)
C326	CCUS1H822KC	CAP, CHIP(1608, 50V/8200pF)
C327	CCUS1H391JA	CAP, CHIP(1608, 50V/390pF)
C328	CCUS1H391JA	CAP, CHIP(1608, 50V/390pF)
C329	CCUS1H391JA	CAP, CHIP(1608, 50V/390pF)
C330	CCUS1H391JA	CAP, CHIP(1608, 50V/390pF)
C331	CCUS1H391JA	CAP, CHIP(1608, 50V/390pF)
C358	CCUS1H392KC	CAP, CHIP(1608, 50V/3900pF)
C359	CCUS1H822KC	CAP, CHIP(1608, 50V/8200pF)
C363	CCUI1E103KC	CAP, CHIP(1005, 25V/0.01uF)
C364	CCUS1H392KC	CAP, CHIP(1608, 50V/3900pF)
C365	CCUS1H822KC	CAP, CHIP(1608, 50V/8200pF)
C383	CCUS1H223KC	CAP, CHIP(1608, 50V/0.022uF)
C384	CCUS1H223KC	CAP, CHIP(1608, 50V/0.022uF)
C385	CCUS1H223KC	CAP, CHIP(1608, 50V/0.022uF)
C386	CCUS1H223KC	CAP, CHIP(1608, 50V/0.022uF)
C387	CCUS1H223KC	CAP, CHIP(1608, 50V/0.022uF)
C388	CCUS1H223KC	CAP, CHIP(1608, 50V/0.022uF)
C394	CCUS1H102KC	CAP, CHIP(1608, 50V/1000pF)
C428	CCUI1H151JA	CAP, CHIP(1005, 50V/150pF)
C442	CCUI1H151JA	CAP, CHIP(1005, 50V/150pF)
C455	CCUI1H101JA	CAP, CHIP(1005, 50V/100pF)
C456	CCUI1H151JA	CAP, CHIP(1005, 50V/150pF)
C457	CCUI1H101JA	CAP, CHIP(1005, 50V/100pF)
C458	CCUI1H151JA	CAP, CHIP(1005, 50V/150pF)
C459	CCUI1C104KC	CAP , CHIP (1005, 16V/0.1uF)
C460	CCUS1H272KC	CAP, CHIP(1608, 50V/2700pF)
C461	CCUS1H272KC	CAP, CHIP(1608, 50V/2700pF)
C462	CCUI1C104KC	CAP , CHIP (1005, 16V/0.1uF)

INPUT PCB ASS'Y COP12327D

Reference Designator	Part Number	Description
C610	CCUI1H150JA	CAP, CHIP(1005, 50V/15pF)
C642	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C647	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C649	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C650	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C657	CCUI1C104KC	CAP , CHIP (1005, 16V/0.1uF)
C659	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C701	CCUS1H150JA	CAP, CHIP(1608, 50V/15pF)
C702	CCUS1H150JA	CAP, CHIP(1608, 50V/15pF)
C707	CCUI1H102KC	CAP, CHIP(1005, 50V/1000pF)
C708	CCUI1C104KC	CAP , CHIP (1005, 16V/0.1uF)
C725	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C734	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C742	CCUS1H300JA	CAP, CHIP(1608, 50V/30pF)
C743	CCUI1C104KC	CAP , CHIP (1005, 16V/0.1uF)
C744	CCUS1H330JA	CAP, CHIP(1608, 50V/33pF)
C767	CCUS1A105KC	CAP, CHIP(1608, 10V/1uF)
C768	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C769	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C770	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C772	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C776	CCUI1H150JA	CAP, CHIP(1005, 50V/15pF)
C778	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C790	CCUS1H103KC	CAP, CHIP(1608, 50V/0.01uF)
C791	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C794	CCUI1H181JA	CAP, CHIP(1005, 50V/180pF)
C795	CCUI1H181JA	CAP, CHIP(1005, 50V/180pF)
C797	CCUI1C104KC	CAP , CHIP (1005, 16V/0.1uF)
C798	CCUI1C104KC	CAP , CHIP (1005, 16V/0.1uF)
C801	CCUS1H180JA	CAP, CHIP(1608, 50V/18pF)
C802	CCUS1H180JA	CAP, CHIP(1608, 50V/18pF)
C820	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C830	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C831	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C832	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C833	CCUI1H101JA	CAP, CHIP(1005, 50V/100pF)
C834	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C835	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C836	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C837	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C838	CCUS1H180JA	CAP, CHIP(1608, 50V/18pF)
C839	CCUS1H150JA	CAP, CHIP(1608, 50V/15pF)
C840	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C841	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C842	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C843	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C846	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C860	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C864	CCUS1H104KC	CAP, CHIP(1608, 50V/0.1uF)
C866	CCUS1H330JA	CAP, CHIP(1608, 50V/33pF)
C867	CCUS1H103KC	CAP, CHIP(1608, 50V/0.01uF)
D201	CVD1SS355T	DIODE, SMD, SWITCHING 1SS355/SOD-323
D202	CVD1SS355T	DIODE, SMD, SWITCHING 1SS355/SOD-323

Reference Designator	Part Number	Description

INPUT PCB ASS'Y COP12327D

D203	CVD1SS355T	DIODE, SMD, SWITCHING 1SS355/SOD-323
D204	CVD1SS355T	DIODE, SMD, SWITCHING 1SS355/SOD-323
D205	CVD1SS355T	DIODE, SMD, SWITCHING 1SS355/SOD-323
D206	CVD1SS355T	DIODE, SMD, SWITCHING 1SS355/SOD-323
D301	CVD1SS355T	DIODE, SMD, SWITCHING 1SS355/SOD-323
D302	CVD1SS355T	DIODE, SMD, SWITCHING 1SS355/SOD-323
D726	HVDRB160L60TE25	DIODE , SCHOTTKEY BARRIER HK RB160L-60TE25
D805	CVD1SS355T	DIODE, SMD, SWITCHING 1SS355/SOD-323
D806	CVD1SS355T	DIODE, SMD, SWITCHING 1SS355/SOD-323
IC101	CVIR2A15218FP	I.C , INPUT WITH 8CH VOLUME(100P QFP) R2A15218FP
IC104	HVINJM2115MDTE1	IC, OP AMP NJM2115MDTE1
IC105	HVINJM2115MDTE1	IC, OP AMP NJM2115MDTE1
IC106	CVIANAM1620AV	I.C , DSP-ROM1(AVR265/365 , ST25VF080B504CS2F)
IC106	CVIST25VF080B504CS2F	I.C , 8 Mbit SPI Serial Flash SST25VF080B-50-4C-S2AF
IC107	CVIANAM1621AV	I.C , DSP-ROM2(AVR265/365 , ST25VF080B504CS2F)
IC107	CVIST25VF080B504CS2F	I.C , 8 Mbit SPI Serial FlashSST25VF080B-50-4C-S2AF
IC111	CVIAZ4580MTR-E1	I.C , OPAMP(DUAL LOW NOISE) AZ4580MTR-E1/SOIC8/BCD
IC112	CVIAZ4580MTR-E1	I.C , OPAMP(DUAL LOW NOISE) AZ4580MTR-E1/SOIC8/BCD
IC113	CVIAZ4580MTR-E1	I.C , OPAMP(DUAL LOW NOISE) AZ4580MTR-E1/SOIC8/BCD
IC114	CVIAZ4580MTR-E1	I.C , OPAMP(DUAL LOW NOISE) AZ4580MTR-E1/SOIC8/BCD
IC122	CVIAZ4580MTR-E1	I.C , OPAMP(DUAL LOW NOISE) AZ4580MTR-E1/SOIC8/BCD
IC125	CVIAZ4580MTR-E1	I.C , OPAMP(DUAL LOW NOISE) AZ4580MTR-E1/SOIC8/BCD
IC131	CVIBD3812F	I.C , VIDEO 2CH BD3812F
IC132	CVIAZ4580MTR-E1	I.C , OPAMP(DUAL LOW NOISE) AZ4580MTR-E1/SOIC8/BCD
IC140	CVITC74HC151AFN	I.C , 8 CHAN MULTIPLEXER(SOL16-P-150-1.27)TC74HC151AFN
IC141	CVICS497024CVZ	I.C , DSP (CIRRUS LOGIC) CS497024CVZ
IC142	CVICS49DV8CCVZ	I.C , DSP (DOLBY VOLUME) CIRRUS LOGIC CS49DV8CCVZ
IC143	HVICS42528-CQ	I.C , CODEC + DIR (CIRRUS LOGIC) CS42528-CQ
IC144	CVIM12L16161A5TG	I.C , 16MB SDRAM (ESMT) M12L16161A5TG
IC145	HVITC74VHC157FT	I.C , 2-CHANNEL MUX (TOSHIBA) TC74VHC157FT
IC146	CVITC74VCX541FT	I,C , OCTAL BUS BUFFER (TOSHIBA) TC74VCX541FT
IC147	CVITC74VHC153FT	I.C DUAL 4-CH MUX TC74VHC153FT TC74VHC153FT
IC148	HVINJM2391DL133	I.C , CHIP REGULATOR (+3.3V) JRC NJM2391DL133
IC149	HVILM1117S-1V8	I.C , REGULATOR (1.8V) LM1117-1V8
IC150	HVILM1117S-1V8	I.C , REGULATOR (1.8V) LM1117-1V8
IC151	CVIANAM1548AV	I,C , U-COM CVIT5CN5,
IC151	CVIT5CN5	I.C , U-COM (512KB/32KB, LQFP100P) TOSHIBA
IC152	CVIM24C32WMN6TP	I.C , EEPROM (32 Kbit) ST M24C32WMN6TP
IC154	CVIANAM1619AV	I.C , SUB U-COM(AVR265/365 , TMPM330FWFG)
IC154	CVITMPM330FWFG	I.C , U-COM (TOSHIBA,128KB/8KB,LQFP-100P)TMPM330FWFG
IC155	CVTUPA672T	F.E.T (NEC) UPA672T
IC156	CVIKIC3201S-33	I.C , REGULATOR (3V3) KIC3201S-33(SOT-89)
IC158	HVILM1117S-3V3	I.C , REGULATOR (3.3V) 1117S-3.3V
IC159	HVI74HCU04AFNG	I.C , INVERTER (TOSHIBA) TC74HCU04AFNG(TOSHIBA)
IC161	CVIKSZ8851SNLTR	I.C , ETHERNET PHY (10/100M,QFN-32P KSZ8851SNLTR
IC162	CVIANAM1549AV	IC, USB U-COM(CVITMP92FD28FG,
IC162	CVITMP92FD28FG	I.C , USB DECODER FLASH(100PIN, QFP) TOSHIBA TMP92FD28DFG, FLASH
IC164	CVIML61C282PR	I.C , RESET (2.8V , SOT-89) ML61C282PRG
IC167	CVIKIA78R000F	I.C , REGULATOR (ADJ, DPAK-5) KIA78R000F
IC168	CVIRT9702APB	IC , CURRENT LIMITER RT9702APB
L601	CLZ9R001Z	FERRITE, CHIP BEAD(60ohm, 2012) HCB2012KF-600T40
L602	CLZ9R001Z	FERRITE, CHIP BEAD(60ohm, 2012) HCB2012KF-600T40

Reference Designator	Part Number	Description	

INPUT PCB ASS'Y COP12327D

L701	CLZ9Z014Z	FERRITE, CHIP BEAD(60ohm, 4516)	HCB4516KF-600T60/COILMASTER
L702	CLZ9Z014Z	FERRITE, CHIP BEAD(60ohm, 4516)	HCB4516KF-600T60/COILMASTER
L703	CLZ9Z014Z	FERRITE, CHIP BEAD(60ohm, 4516)	HCB4516KF-600T60/COILMASTER
L705	CLZ9R005Z	FERRITECHIP BEAD(1608/60ohm)	HCB1608KF-600T30/COILMASTER
L706	CLZ9Z014Z	FERRITE, CHIP BEAD(60ohm, 4516)	HCB4516KF-600T60/COILMASTER
L715	CLZ9R001Z	FERRITE, CHIP BEAD(60ohm, 2012)	HCB2012KF-600T40
L802	CLZ9R001Z	FERRITE, CHIP BEAD(60ohm, 2012)	HCB2012KF-600T40
L803	CLZ9R001Z	FERRITE, CHIP BEAD(60ohm, 2012)	HCB2012KF-600T40
L804	CLZ9R001Z	FERRITE, CHIP BEAD(60ohm, 2012)	HCB2012KF-600T40
L805	CLZ9R001Z	FERRITE, CHIP BEAD(60ohm, 2012)	HCB2012KF-600T40
L806	CLZ9R001Z	FERRITE, CHIP BEAD(60ohm, 2012)	HCB2012KF-600T40
L807	CLZ9R001Z	FERRITE, CHIP BEAD(60ohm, 2012)	HCB2012KF-600T40
Q101	HVTKRA107S	TRANSISTOR , CHIP , SOT-23	KRA107S
Q102	HVTKRA107S	TRANSISTOR , CHIP , SOT-23	KRA107S
Q103	HVTKRA107S	TRANSISTOR , CHIP , SOT-23	KRA107S
Q105	HVTKRA107S	TRANSISTOR , CHIP , SOT-23	KRA107S
Q301	HVTKTC812TB	TRANSISTOR , CHIP(TS6)	KTC812T-B-RTK
Q302	HVTKTC812TB	TRANSISTOR , CHIP(TS6)	KTC812T-B-RTK
Q303	HVTKTC812TB	TRANSISTOR , CHIP(TS6)	KTC812T-B-RTK
Q304	HVTKTC812TB	TRANSISTOR , CHIP(TS6)	KTC812T-B-RTK
Q305	HVTKTC812TB	TRANSISTOR , CHIP(TS6)	KTC812T-B-RTK
Q306	HVTKTC812TB	TRANSISTOR , CHIP(TS6)	KTC812T-B-RTK
Q307	HVTKRA107S	TRANSISTOR , CHIP , SOT-23	KRA107S
Q308	HVTKRA107S	TRANSISTOR , CHIP , SOT-23	KRA107S
Q402	HVTKTC812TB	TRANSISTOR , CHIP(TS6)	KTC812T-B-RTK
Q729	HVTKRC107S	TRANSISTOR , CHIP , SOT-23	KRC107S
Q730	HVTKRC107S	TRANSISTOR , CHIP , SOT-23	KRC107S
Q732	HVTKRC107S	TRANSISTOR , CHIP , SOT-23	KRC107S
Q734	HVTKRC107S	TRANSISTOR , CHIP , SOT-23	KRC107S
Q738	CVTKRC103S	TRANSISTOR , CHIP , SOT-23	KRC107S
Q741	HVTKRC107S	TRANSISTOR , CHIP , SOT-23	KRC107S
Q742	HVTKRA107S	TRANSISTOR , CHIP , SOT-23	KRA107S
Q951	HVTKRC107S	TRANSISTOR , CHIP , SOT-23	KRC107S
Q952	HVTKRA107S	TRANSISTOR , CHIP , SOT-23	KRA107S
Q991	HVTKRC107S	TRANSISTOR , CHIP , SOT-23	KRC107S
Q992	HVTKRA107S	TRANSISTOR , CHIP , SOT-23	KRA107S
Q993	HVTKRA107S	TRANSISTOR , CHIP , SOT-23	KRA107S
Q994	HVTKRC107S	TRANSISTOR , CHIP , SOT-23	KRC107S
Q997	HVTKRA107S	TRANSISTOR , CHIP , SOT-23	KRA107S
Q998	HVTKRC107S	TRANSISTOR , CHIP , SOT-23	KRC107S
RN53	CRJ064IJ330T	RES, CHIP(1005/5%/33ohm*4)	
RN54	CRJ064IJ330T	RES, CHIP(1005/5%/33ohm*4)	
RN60	CRJ064IJ330T	RES, CHIP(1005/5%/33ohm*4)	
RN61	CRJ104DJ103T	RES , CHIP , 10K OHM, 5% , 1608 X 4	
RN63	CRJ104DJ103T	RES , CHIP , 10K OHM, 5% , 1608 X 4	
RN64	CRJ064IJ101T	RES, CHIP(1005/5%/100ohm*4)	
RN65	CRJ064IJ101T	RES, CHIP(1005/5%/100ohm*4)	
RN66	CRJ064IJ101T	RES, CHIP(1005/5%/100ohm*4)	
RN67	CRJ064IJ101T	RES, CHIP(1005/5%/100ohm*4)	
RN68	CRJ104DJ103T	RES , CHIP , 10K OHM, 5% , 1608 X 4	
RN71	CRJ064IJ330T	RES, CHIP(1005/5%/33ohm*4)	
RN76	CRJ064IJ330T	RES, CHIP(1005/5%/33ohm*4)	
RN77	CRJ064IJ330T	RES, CHIP(1005/5%/33ohm*4)	

INPUT PCB ASS'Y COP12327D

Reference Designator	Part Number	Description
RN78	CRJ064IJ330T	RES, CHIP(1005/5%/33ohm*4)
RN79	CRJ064IJ330T	RES, CHIP(1005/5%/33ohm*4)
RN81	CRJ064IJ330T	RES, CHIP(1005/5%/33ohm*4)
RN82	CRJ064IJ330T	RES, CHIP(1005/5%/33ohm*4)
RN83	CRJ064IJ330T	RES, CHIP(1005/5%/33ohm*4)
RN84	CRJ064IJ330T	RES, CHIP(1005/5%/33ohm*4)
RN85	CRJ064IJ330T	RES, CHIP(1005/5%/33ohm*4)
RN87	CRJ064IJ330T	RES, CHIP(1005/5%/33ohm*4)
RN90	CRJ064IJ330T	RES, CHIP(1005/5%/33ohm*4)
RN91	CRJ064IJ330T	RES, CHIP(1005/5%/33ohm*4)
RN93	CRJ064IJ330T	RES, CHIP(1005/5%/33ohm*4)
R110	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)
R111	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)
R112	CRJ06IJ103T	RES, CHIP(1005/5%/10Kohm)
R113	CRJ06IJ103T	RES, CHIP(1005/5%/10Kohm)
R114	CRJ06IJ330T	RES, CHIP(1005/5%/33ohm)
R115	CRJ06IJ472T	RES, CHIP(1005/5%/4.7Kohm)
R116	CRJ06IJ472T	RES, CHIP(1005/5%/4.7Kohm)
R117	CRJ06IJ103T	RES, CHIP(1005/5%/10Kohm)
R121	CRJ10DJ105T	RES, CHIP(1608/5%/1Mohm)
R141	CRJ10DJ104T	RES, CHIP(1608/5%/100Kohm)
R142	CRJ06IJ0R0T	RES, CHIP(1005/5%/0ohm)
R149	CRJ10DJ104T	RES, CHIP(1608/5%/100Kohm)
R150	CRJ10DJ104T	RES, CHIP(1608/5%/100Kohm)
R151	CRJ10DJ104T	RES, CHIP(1608/5%/100Kohm)
R152	CRJ10DJ104T	RES, CHIP(1608/5%/100Kohm)
R156	CRJ10DJ101T	RES, CHIP(1608/5%/100ohm)
R158	CRJ06IJ330T	RES, CHIP(1005/5%/33ohm)
R161	CRJ10DJ104T	RES, CHIP(1608/5%/100Kohm)
R162	CRJ10DJ102T	RES, CHIP(1608/5%/1Kohm)
R166	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)
R167	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)
R172	CRJ10DJ103T	RES, CHIP(1608/5%/10Kohm)
R173	CRJ10DJ104T	RES, CHIP(1608/5%/100Kohm)
R174	CRJ10DJ104T	RES, CHIP(1608/5%/100Kohm)
R201	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)
R202	CRJ10DJ0R0T	RES, CHIP(1608/5%/0ohm)
R203	CRJ10DJ101T	RES, CHIP(1608/5%/100ohm)
R204	CRJ10DJ101T	RES, CHIP(1608/5%/100ohm)
R205	CRJ10DJ101T	RES, CHIP(1608/5%/100ohm)
R206	CRJ10DJ101T	RES, CHIP(1608/5%/100ohm)
R207	CRJ10DJ101T	RES, CHIP(1608/5%/100ohm)
R208	CRJ10DJ101T	RES, CHIP(1608/5%/100ohm)
R209	CRJ10DJ101T	RES, CHIP(1608/5%/100ohm)
R210	CRJ10DJ101T	RES, CHIP(1608/5%/100ohm)
R229	CRJ10DJ104T	RES, CHIP(1608/5%/100Kohm)
R230	CRJ10DJ104T	RES, CHIP(1608/5%/100Kohm)
R231	CRJ10DJ104T	RES, CHIP(1608/5%/100Kohm)
R232	CRJ10DJ104T	RES, CHIP(1608/5%/100Kohm)
R233	CRJ10DJ104T	RES, CHIP(1608/5%/100Kohm)
R234	CRJ10DJ104T	RES, CHIP(1608/5%/100Kohm)
R235	CRJ10DJ104T	RES, CHIP(1608/5%/100Kohm)
R236	CRJ10DJ104T	RES, CHIP(1608/5%/100Kohm)