

# AVR 132/230

## SERVICE MANUAL



**harman/kardon®**

Power for the Digital Revolution®

# Technical Specifications

## Audio Section

Stereo Mode

Continuous Average Power (FTC)

40 Watts per channel, 20Hz–20kHz,  
@ < 0.07% THD, both channels driven into 8 ohms

Five-Channel Surround Modes

Power Per Individual Channel

Front L&R channels:  
30 Watts per channel,  
@ < 0.07% THD, 20Hz–20kHz into 8 ohms

Center channel:  
30 Watts, @ < 0.07% THD, 20Hz–20kHz into 8 ohms

Surround channels:  
30 Watts per channel,  
@ < 0.07% THD, 20Hz–20kHz into 8 ohms

Input Sensitivity/Impedance

Linear (High Level) 200mV/47kohms

Signal-to-Noise Ratio (IHF-A) 95dB

Surround System Adjacent Channel Separation

Analog Decoding 40dB  
(Pro Logic, etc.)

Dolby Digital (AC-3) 55dB  
DTS 55dB

Frequency Response

@ 1W (+0dB, –3dB) 10Hz–100kHz

High Instantaneous

Current Capability (HCC) ±25 Amps

Transient Intermodulation

Distortion (TIM) Unmeasurable

Rise Time 16 μsec

Slew Rate 40V/μsec

## FM Tuner Section

Frequency Range	87.5–108MHz
Usable Sensitivity	IHF 1.3 μV/13.2dBf
Signal-to-Noise Ratio	Mono/Stereo: 70/65dB (DIN)
Distortion	Mono/Stereo: 0.15/0.3%
Stereo Separation	35dB @ 1kHz
Selectivity	±400kHz: 70dB
Image Rejection	80dB
IF Rejection	90dB

## AM Tuner Section

Frequency Range	522–1620kHz
Signal-to-Noise Ratio	45dB
Usable Sensitivity	Loop: 500 μV
Distortion	1kHz, 50% Mod: 0.8%
Selectivity	±10kHz: 30dB

## Video Section

Video Format	PAL/NTSC
Input Level/Impedance	1Vp-p/75 ohms
Output Level/Impedance	1Vp-p/75 ohms
Video Frequency Response	10Hz–8MHz (–3dB)

## General

Power Requirement	AC 220-240V/50Hz
Power Consumption	72W idle, 580W maximum (2 channels driven)

Dimensions (Max)

Width	440mm
Height	165mm
Depth	382mm
Weight	9.6 kg

Depth measurement includes knobs, buttons and terminal connections.

Height measurement includes feet and chassis.

All features and specifications are subject to change without notice.

Harman Kardon is a registered trademark.

\*Manufactured under license from Dolby Laboratories.

"Dolby", "Pro Logic", and the Double-D symbol are

trademarks of Dolby Laboratories, Inc.

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†"DTS" and "DTS Neo:6" are registered trademarks of DTS, Inc. "96/24" is a trademark of DTS, Inc.

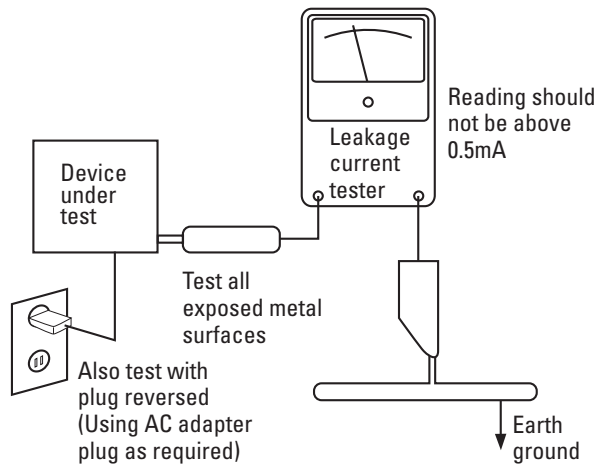
Logic 7 is a registered trademark of Lexicon, Inc.

## SAFETY PRECAUTIONS

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

### LEAKAGE CURRENT CHECK

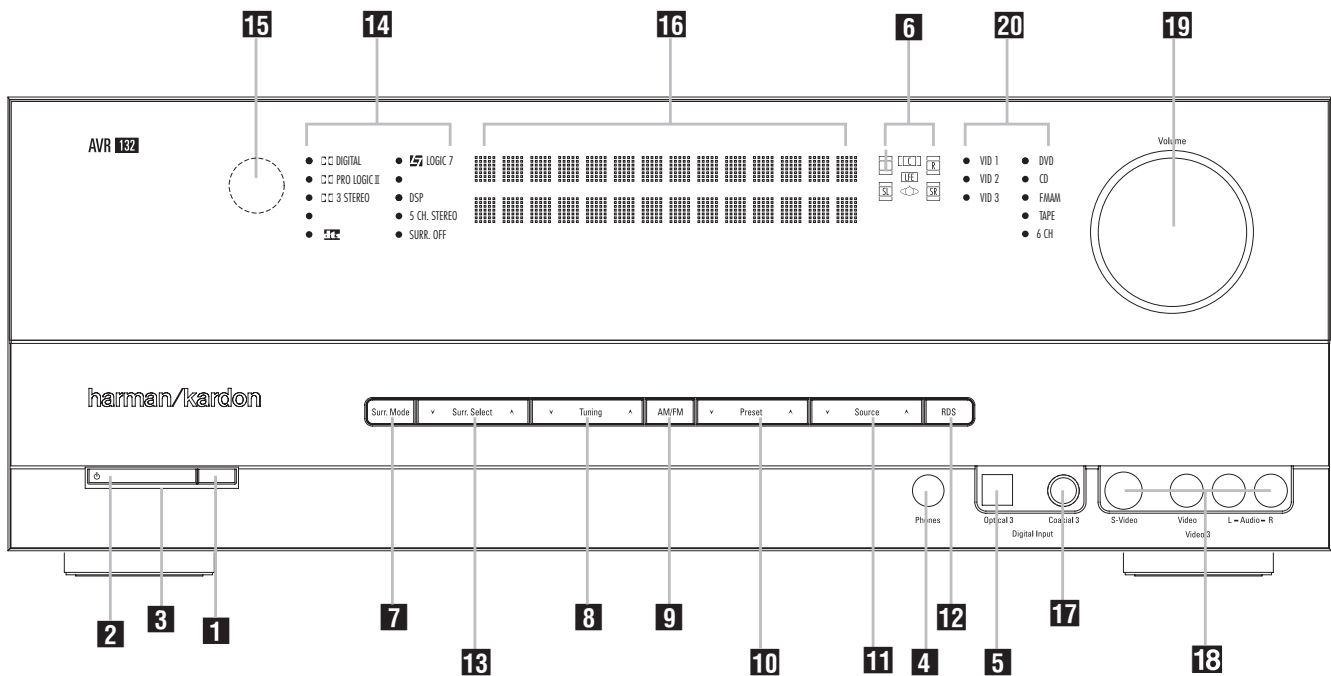
Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5mA.



### 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.**

# Front Panel Controls



- 1** Main Power Switch
- 2** System Power Control
- 3** Power Indicator
- 4** Headphone Jack
- 5** Digital Optical 3 Input
- 6** Speaker/Channel Input Indicator
- 7** Surround Mode Group Selector

- 8** Tuning
- 9** Tuner Band Selector
- 10** Preset Stations Selector
- 11** Input Source Selector
- 12** RDS Select Button
- 13** Surround Mode Selector
- 14** Surround Mode Indicators

- 15** Remote Sensor Window
- 16** Main Information Display
- 17** Digital Coax 3 Input
- 18** Video 3 input jacks
- 19** Volume Control
- 20** Input Indicators

**1 Main Power Switch:** Press this button to apply power to the AVR. When the switch is pressed in, the unit is placed in a Standby mode, as indicated by the orange LED **3**. This button MUST be pressed in to operate the unit. To turn the unit off completely and prevent the use of the remote control, this switch should be pressed until it pops out from the front panel so that the word "OFF" may be read at the top of the switch.

**NOTE:** This switch is normally left in the "ON" position.

**2 System Power Control:** When the **Main Power Switch 1** is "ON," press this button to turn on the AVR; press it again to turn the unit off (to Standby). Note that the **Power Indicator 3** will turn blue when the unit is on.

**3 Power Indicator:** This LED will be illuminated in orange when the unit is in the Standby mode to signal that the unit is ready to be turned on. When the unit is in operation, the indicator will turn blue.

**4 Headphone Jack:** This jack may be used to listen to the AVR's output through a pair of headphones. Be certain that the headphones have a standard 6.3 mm stereo phone plug. Note that the speakers will automatically be turned off when the headphones are connected.

**5 Digital Optical 3 Input:** Connect the optical digital audio output of an audio or video product to this jack. When the Input is not in use, be certain to keep the plastic cap installed to avoid dust contamination that might degrade future performance.

**6 Speaker/Channel Input Indicators:** These indicators are multipurpose, indicating either the speaker type selected for each channel or the incoming data-signal configuration. The left, center, right, right surround and left surround speaker indicators are composed of three boxes, while the subwoofer is a single box. The center box lights when a "Small" speaker is selected, and the two outer boxes light when "Large" speakers are selected. When none of the boxes are lit for the center, surround or subwoofer channels, no speaker has been selected for that position. (See page 16 for more information on configuring speakers.) The letters inside each of the center boxes display active input channels. For standard analog inputs, only the L and R will light, indicating a stereo input. When a digital source is playing, the indicators will light to display the channels begin received at the digital input. When the letters flash, the digital input has been interrupted. (See page 20 for more information on the Channel Indicators).

## Front Panel Controls

**7 Surround Mode Group Selector:** Press this button to select the top-level group of surround modes. Each press of the button will select a major mode grouping in the following order:

Dolby Modes → DTS Digital Modes → DSP Modes → Stereo Modes → Logic 7 Modes

Once the button is pressed so that the name of the desired surround mode group appears in the **Lower Display Line 16**, press the **Surround Mode Selector 13** to cycle through the individual modes available. For example, press this button to select Dolby modes, and then press the **Surround Mode Selector 13** to choose from the various mode options.

**8 Tuning Selector:** Press the left side of the button to tune lower frequency stations and the right side of the button to tune higher frequency stations. When a station with a strong signal is reached, **MANUAL TUNED** or **AUTO TUNED** will appear in the **Main Information Display 16** (see page 27 for more information on tuning stations).

**9 Tuner Band Selector:** Pressing this button will automatically switch the AVR to the Tuner mode. Pressing it again will switch between the AM and FM frequency bands, holding it pressed for some seconds will switch between stereo and mono receiving and between automatic and manual tuning mode (See page 27 for more information on the tuner).

**10 Preset Stations Selector:** Press this button to scroll up or down through the list of stations that have been entered into the preset memory. (See page 27 for more information on tuner programming.)

**11 Input Source Selector:** Press this button to change the input by scrolling through the list of input sources.

**12 RDS Select Button:** Press this button to display the various messages that are part of the RDS data system of the AVR's tuner. (See page 28 for more information on RDS).

**13 Surround Mode Selector:** Press this button to select from among the available surround mode options for the mode group selected. The specific modes will vary based on the number of speakers available, the mode group and if the input source is digital or analog. For example, press the **Surround Mode Group Selector 7** to select a mode grouping such as Dolby or Logic 7, and then press this button to see the mode choices available. For more information on mode selection, see page 21.

**14 Surround Mode Indicators:** Indicator will illuminate in front of the surround mode that is currently in use.

**15 Remote Sensor Window:** The sensor behind this window receives infrared signals from the remote control. Aim the remote at this area and do not block or cover it unless an external remote sensor is installed.

**16 Main Information Display:** This display delivers messages and status indications to help you operate the receiver.

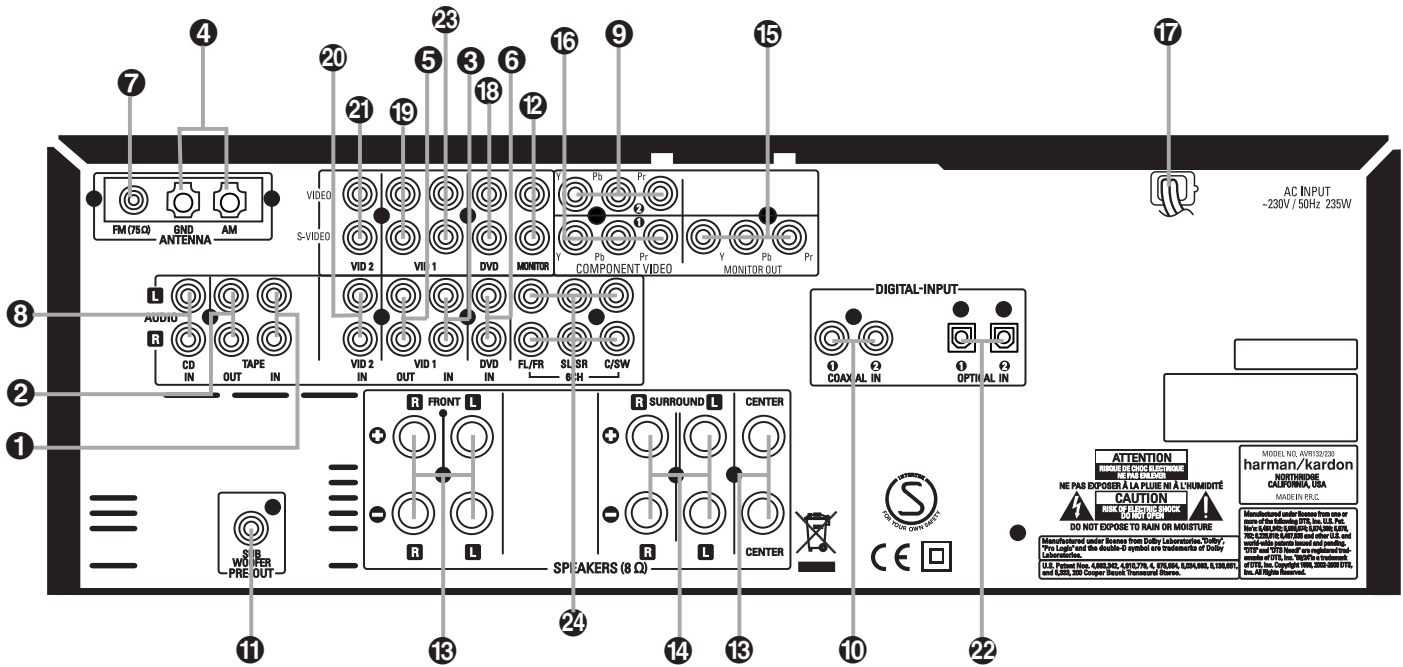
**17 Digital Coax 3 Input:** This jack is normally used for connection to the output of portable digital audio devices, video game consoles or other products that have a coax digital jack.

**18 Video 3 Input Jacks:** These audio/video jacks may be used for temporary connection to video games or portable audio/video products such as camcorders and portable audio players.

**19 Volume Control:** Turn this knob clockwise to increase the volume, counterclockwise to decrease the volume. If the AVR is muted, adjusting volume control will automatically release the unit from the silenced condition.

**20 Input indicators:** Indicator will illuminate in front of the input that is currently being used as the source for the AVR.

# Rear Panel Connections



- 1 Tape Inputs
- 2 Tape Outputs
- 3 Video 1 Audio Inputs
- 4 AM Antenna
- 5 Video 1 Audio Outputs
- 6 DVD Audio Inputs
- 7 FM Antenna
- 8 CD Inputs
- 9 Video 2 Component Video Inputs

- 10 Coaxial Digital Inputs
- 11 Subwoofer Output
- 12 Video Monitor Outputs
- 13 Front/Center Speaker Outputs
- 14 Surround Speaker Outputs
- 15 Component Video Outputs
- 16 Video 1 Component Video Inputs
- 17 AC Power Cord
- 18 DVD Video Inputs

- 19 Video 1 Video Outputs
- 20 Video 2 Audio Inputs
- 21 Video 2 Video Inputs
- 22 Optical Digital Inputs
- 23 Video 1 Video Inputs
- 24 6-Channel Direct Inputs

**1 Tape Inputs:** Connect these jacks to the **PLAY/OUT** jacks of an audio recorder.

**2 Tape Outputs:** Connect these jacks to the **RECORD/INPUT** jacks of an audio recorder.

**3 Video 1 Audio Inputs:** Connect these jacks to the **PLAY/OUT** audio jacks on a VCR or other video source.

**4 AM Antenna:** Connect the AM loop antenna supplied with the receiver to these terminals. If an external AM antenna is used, make connections to the **AM** and **GND** terminals in accordance with the instructions supplied with the antenna.

**5 Video 1 Audio Outputs:** Connect these jacks to the **RECORD/INPUT** audio jacks on a VCR or any other Audio recorder.

**6 DVD Audio Inputs:** Connect these jacks to the analog audio jacks on a DVD or other video source.

**7 FM Antenna:** Connect the supplied indoor or an optional external FM antenna to this terminal.

**8 CD Inputs:** Connect these jacks to the analog output of a compact disc player or CD changer.

**9 Video 2 Component Video Inputs:** Connect the Y/Pr/Pb component video outputs of an HDTV Set-top converter, satellite receiver, or other video source device with component video outputs to these jacks.

**10 Coaxial Digital Inputs:** Connect the coax digital output from a DVD player, HDTV receiver, LD player, MD player or CD player to these jacks. The signal may be either a Dolby Digital signal, DTS signal or a standard PCM digital source. Do not connect the RF digital output of an LD player to these jacks.

**11 Subwoofer Output:** Connect this jack to the line-level input of a powered subwoofer. If an external subwoofer amplifier is used, connect this jack to the subwoofer amplifier input.

## Rear Panel Connections

**12 Video Monitor Outputs:** Connect these jacks to the composite and/or S-Video input of a TV monitor or video projector to view the output of any video source selected by the receiver's video switcher.

**13 Front/Center Speaker Outputs:** Connect these outputs to the matching + or – terminals on your front/center speakers. When making speaker connections, always make certain to maintain correct polarity by connecting the red (+) terminals on the AVR to the red (+) terminals on the speaker and the black (–) terminals on the AVR to the black (–) terminals on the speakers. (See page 12 for more information on speaker polarity.)

**14 Surround Speaker Outputs:** Connect these outputs to the matching + or – terminals on your left and right surround speakers. When making speaker connections always make certain to maintain correct polarity by connecting the red (+) terminals on the AVR to the red (+) terminals on the speakers and the black (–) terminals on the AVR to the black (–) terminals on the speakers. See page 12 for more information on speaker polarity.

**15 Monitor Component Video Outputs:** Connect these outputs to the component video inputs of a video projector or monitor. When a source connected to one of the two **Component Video Inputs** 9 16 is selected the signal will be sent to these jacks.

**16 Video 1 Component Video Inputs:** Connect the Y/Pr/Pb component video outputs of a DVD player to these jacks.

**Note:** All component inputs/outputs can be used for RGB signals too, in the same way as described for the Y/Pr/Pb signals, then connected to the jacks with the corresponding color. RGB connection is not possible if the source outputs a separate sync signal (see page 13).

**17 AC Power Cord:** Connect the AC plug to an unswitched AC wall output.

**18 DVD Video Inputs:** Connect these jacks to the composite or S-Video output jacks on a DVD player or other video source.

**19 Video 1 Video Outputs:** Connect these jacks to the **RECORD/INPUT** composite or S-Video jack on a VCR.

**20 Video 2 Audio Inputs:** Connect these jacks to the **PLAY/OUT** audio jacks on a VCR or other video source.

**21 Video 2 Video Inputs:** Connect these jacks to the **PLAY/OUT** composite or S-Video jacks on a second VCR or other video source.

**22 Optical Digital Inputs:** Connect the optical digital output from a DVD player, HDTV receiver, LD player, MD player or CD player to these jacks. The signal may be either a Dolby Digital signal, a DTS signal or a standard PCM digital source.

**23 Video 1 Video Inputs:** Connect these jacks to the **PLAY/OUT** composite or S-Video jacks on a VCR or other video source.

**Note:** Either the Video or S-Video output of any S-Video source must be connected to the AVR, not both in parallel, otherwise the video may be disturbed or its performance be adversely effected.

**24 6-Channel Direct Inputs:** These jacks are used for connection to source devices such as DVD-Audio or SACD players with discrete analog outputs.

# Operation

## Surround Mode Chart

MODE	FEATURES	DELAY TIME RANGE
DOLBY DIGITAL	Available only with digital input sources encoded with Dolby Digital data. It provides up to five separate main audio channels and a special dedicated Low Frequency Effects channel.	Center: 0 ms – 5 ms Initial Setting – 0 ms Surround: 0 ms – 15 ms Initial Setting – 0 ms
DTS 5.1	When the speaker configuration is set for 5.1-channel operation, the DTS 5.1 mode is available when DVD, audio-only music or laserdiscs encoded with DTS data are played. DTS 5.1 provides up to five separate main audio channels and a special dedicated low-frequency channel.	
DDOLBY PRO LOGIC II MOVIE MUSIC DOLBY PRO LOGIC	Dolby Pro Logic II is the latest version of Dolby Laboratory's benchmark surround technology that decodes full-range, discrete left, center right, right surround and left surround channels from matrix surround encoded programs and conventional stereo sources when an analog input or a digital input with PCM or Dolby Digital 2.0 recordings is in use. The Dolby Pro Logic II Movie mode is optimized for movie soundtracks that are recorded with matrix surround, by creating separate center, rear left and rear right signals. While the Pro Logic II Music mode should be used with musical selections that are recorded with matrix surround or even with normal stereo mode, creating separate rear left and rear right signals in any case. The Pro Logic II mode creates compelling five-channel surround sound from conventional stereo recordings.	
Logic 7 Cinema Logic 7 Music Logic 7 Enhance	Exclusive to Harman Kardon for AV receivers, Logic 7 is an advanced mode that extracts the maximum surround information from either surround-encoded programs or conventional stereo material. Depending on the number of speakers in use and the selection made in the <b>SURROUND SELECT</b> menu, the "5.1" versions of Logic 7 modes are available when the 5.1 option is chosen, while the "7.1" versions of Logic 7 produce a full sound field presentation, including back surround speakers when the "6.1/7.1" option is chosen. The Logic 7 C (or Cinema) mode should be used with any source that contains Dolby Surround or similar matrix encoding. Logic 7 C delivers increased center-channel intelligibility, and more accurate placement of sounds with fades and pans that are much smoother and more realistic than with former decoding techniques. The Logic 7 M or Music mode should be used with analog or PCM stereo sources. Logic 7 M enhances the listening experience by presenting a wider front soundstage and greater rear ambience. Both Logic 7 modes also direct low-frequency information to the subwoofer (if installed and configured) to deliver maximum bass impact. The Logic 7 E (or Enhance) mode is an extension of the Logic 7 modes that is primarily used with musical programs and is available with the 5.1 surround mode option selected only. Logic 7 E adds additional bass enhancement that circulates low frequencies in the 40Hz to 120Hz range to the front and surround speakers to deliver a less localized soundstage that appears broader and wider than when the subwoofer is the sole source of bass energy.	
DTS 96/24	DTS 96/24 is a high-resolution format that uses a 96kHz sampling rate with 24 bits to produce extended information that improves the harmonics of the source material. The AVR is capable of automatically detecting and decoding DTS 96/24 materials and delivering them as the artist intended.	
DOLBY 3 STEREO	Uses the information contained in a surround encoded or two channel stereo program to create center channel information. In addition, the information that is normally sent to the rear channel surround speakers is carefully mixed in with the front left and front right channels for increased realism. Use this mode when you have a center channel speaker but no surround speakers.	No surround channels
THEATER	The THEATER mode creates a sound field that resembles the acoustic feeling of a standard live performance theater, with stereo and even pure mono sources.	Delay time not adjustable
HALL 1 HALL 2	The two Hall modes create sound fields that resemble a small (HALL 1) or medium sized (HALL 2) concert hall, with stereo and even pure mono sources.	Delay time not adjustable

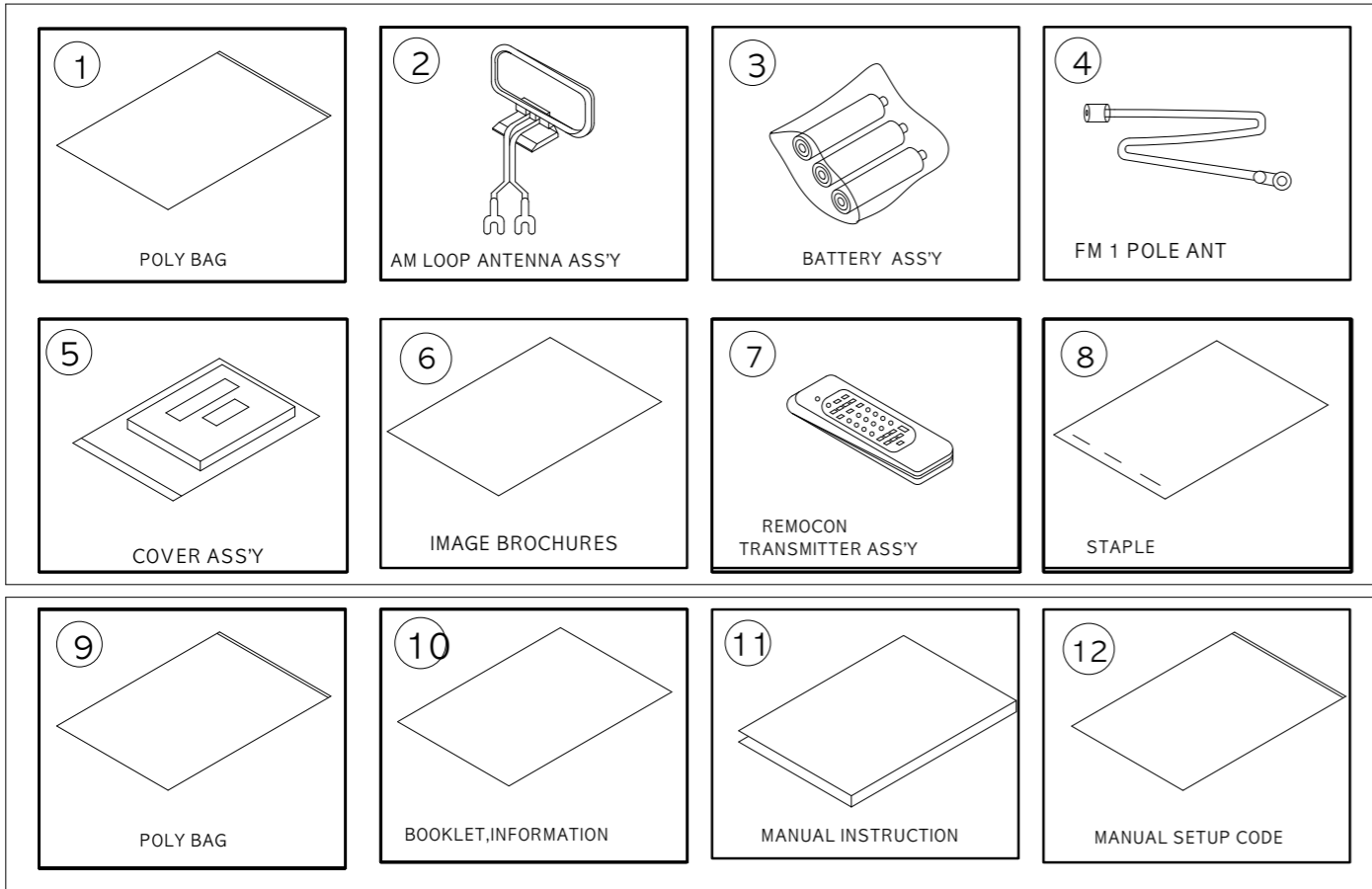


## Operation

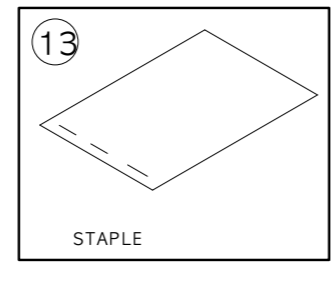
### Surround Mode Chart

MODE	FEATURES	DELAY TIME RANGE
5-Channel Stereo	This mode takes advantage of multiple speakers to place a stereo signal at both the front and back of a room. Ideal for playing music in situations such as a party, it places the same signal at the front-left and surround-left, and at the front-right and surround-right speakers. The center channel is fed a summed mono mix of the in-phase material of the left and right channels.	No delay is available for this mode
Surround Off (Stereo) Surround Off (Bypass) DSP Surround Off	These modes turn off all surround processing and present the pure left- and right-channel presentation of two-channel stereo programs. The Surround Off (Bypass) mode may only be used with analog source inputs, as it preserves the analog format of the audio signal for its entire path of travel through the receiver to the speaker and subwoofer outputs, bypassing all digital processing. Digital bass management is not available in Surround Off mode. The DSP Surround Off mode can be used with either an analog or digital input, as the signal undergoes digital bass management to optimize the distribution of the low frequencies between the main speakers and a subwoofer.	No surround channels
Dolby Virtual Speaker Reference Wide	Dolby Virtual Speaker technology uses a next-generation advanced algorithm to reproduce the dynamics and surround sound effects of a precisely placed 5.1-channel speaker system using only front left and right speakers. In the Reference Mode, the apparent width of the sound across the front image is defined by the distance between the two speakers. The Wide Mode provides a wider, more spacious front image when the two speakers are close together.	No surround channels
Dolby Headphone DH	Dolby Headphone enables ordinary stereo headphones to portray the sound of a five-speaker surround-playback system.	No surround channels

## 1. Instruction manual ass'y - Accessories



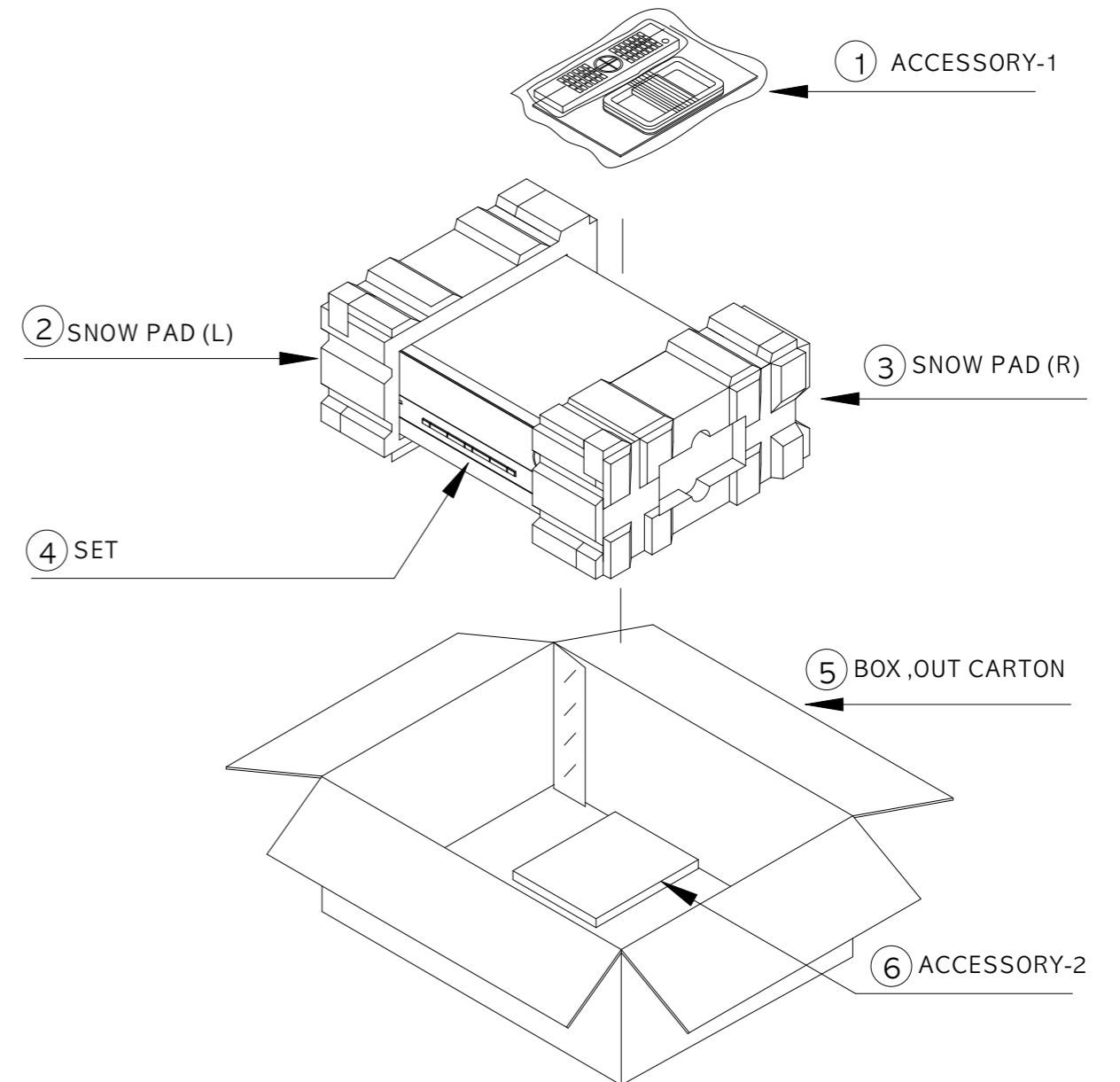
ACCESSORY-1			
NO	DESCRIPTION	PARTS NO.	Q,ty
1	POLY BAG	CPB1061Y	1
2	AM LOOP ANTENNA ASS'Y	CSA1A027Z	1
3	BATTERY	CABR03P3	3
4	FM 1 POL ANT(UL)	CSA1A018Z	1
5	COVER ASS'Y	CGRAVR130/230ZA	1
1	COVER A	CGR1A331M7H43	1
2	COVER B	CGR1A332M7H43	1
3	SHEET,FRONT COVER	CQE1A220Z	1
4	PAD, COVER	CPS1A676	1
5	BAG, POLY	CPB1A176Z	1
6	IMAGE BROCHURES	HQE1A273Z	1
7	REMOCON ASS'Y	CARTAVR132/230	1
8	STAPLE	CPL0905	3



ACCESSORY-2			
NO	DESCRIPTION	PARTS NO.	Q,ty
9	POLY BAG	CPB1061Y	1
10	BOOKLET, INFORMATION	CQE1A180Z	1
11	MANUAL, INSTRUCTION	CQX1A1154X	1
12	MANUAL, SETUP GUIDE	CQX1A1138Y	1
13	STAPLE	CPL0905	3

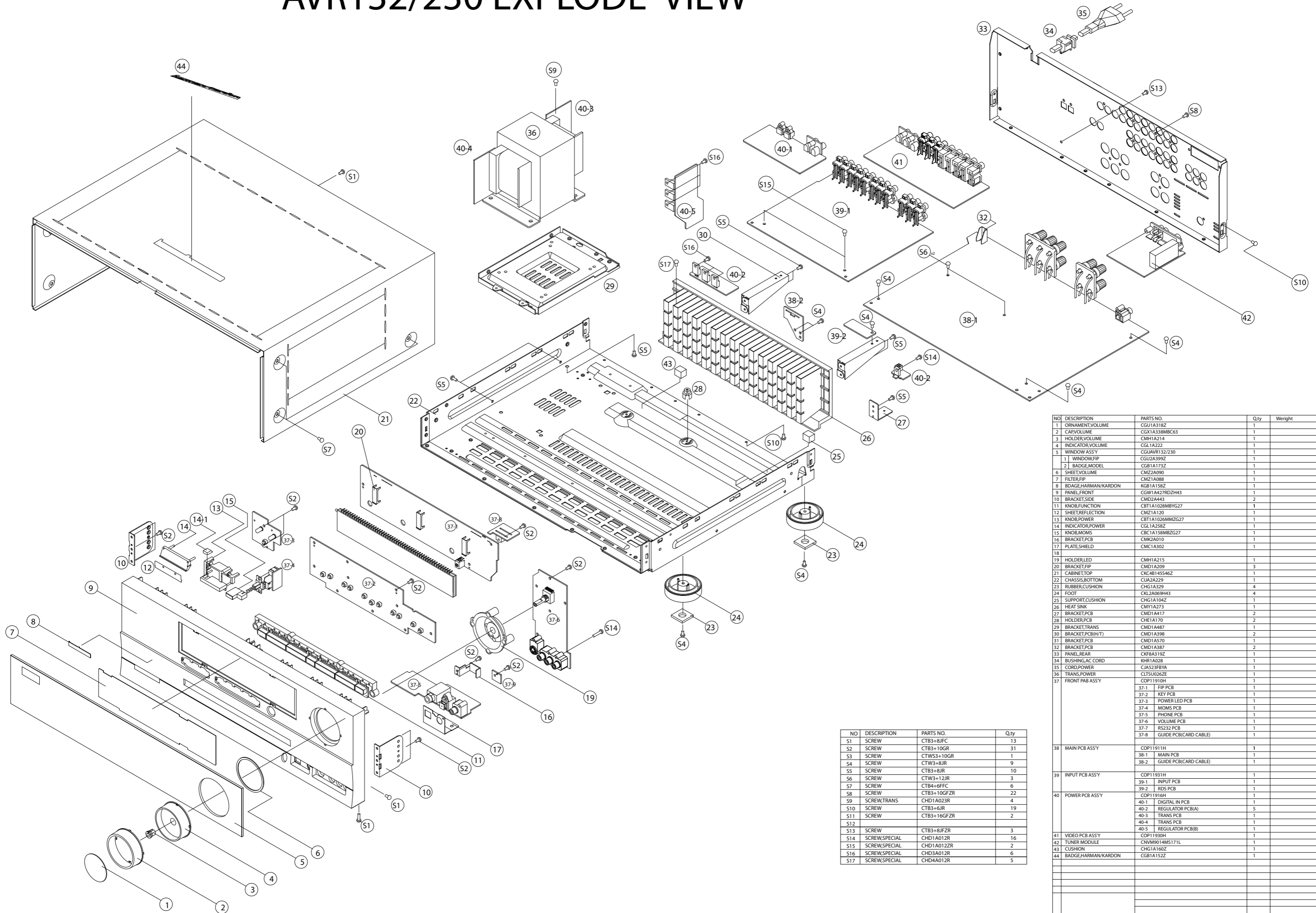
## 2. Package Drawing

AVR132/230



NO	DESCRIPTION	PARTS NO.	Q,ty
1	ACCESSORY-1	CQXAVR132/230	1
2	SNOW,PAD(L)	CPS4A564	1
3	SNOW,PAD(R)	CPS4A565	1
4	SET	AVR132/230SET	1
5	BOX,OUT CARTON	CPG1A820T	1
6	ACCESSORY-2	CQXAVR132/230	1

# AVR132/230 EXPLODE VIEW

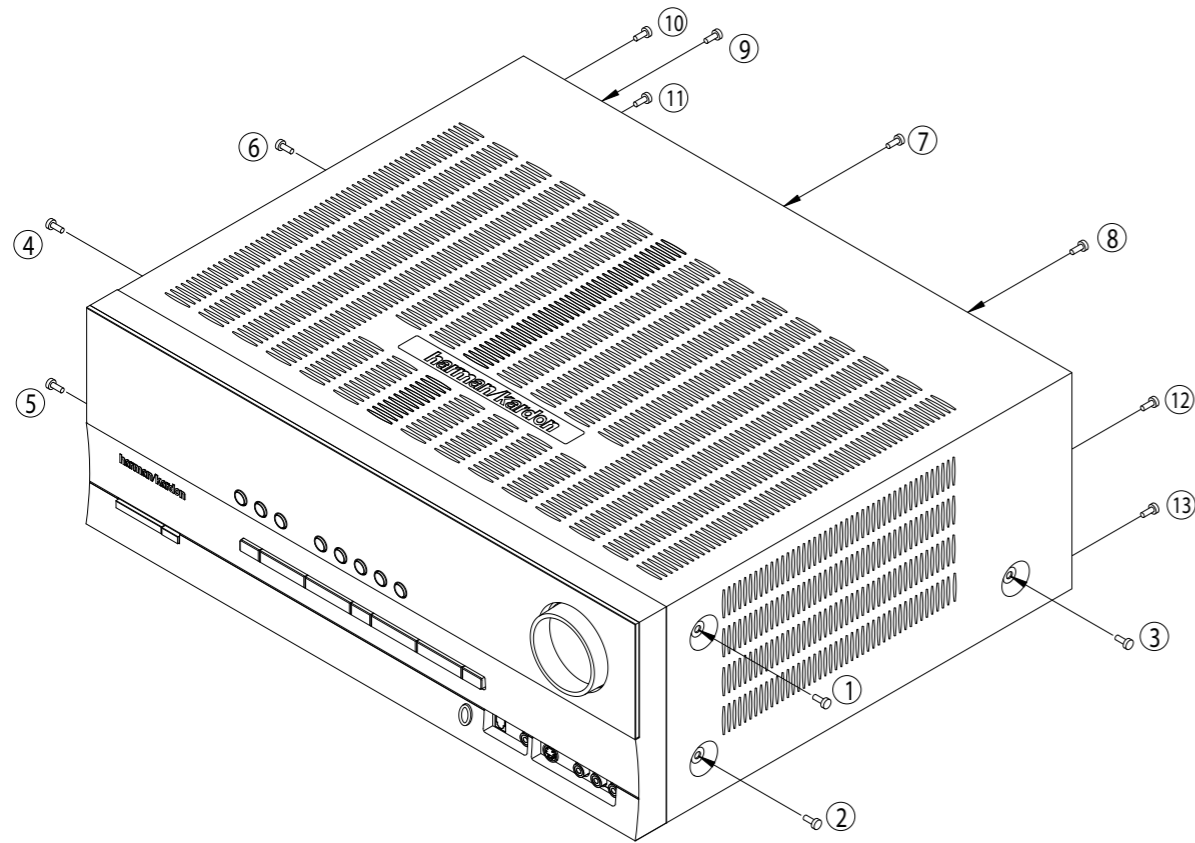


NO	DESCRIPTION	PARTS NO.	Q.ty	Weight
1	ORNAMENT VOLUME	CGU1A318Z	1	
2	CAP VOLUME	CGX1A338MBC63	1	
3	HOLDER VOLUME	CMH1A214	1	
4	INDICATOR VOLUME	CGL1A222	1	
5	WINDOW ASSY	CGUAVR132/230	1	
1	WINDOW,FIP	CGU2A399Z	1	
2	BADGE,MODEL	CGB1A173Z	1	
6	SHEET,VOLUME	CMZ2A090	1	
7	FILTER,FIP	CMZ1A088	1	
8	BDAGE,HARMAN/KARDON	KG81A158Z	1	
9	PANEL,FRONT	CGW1A427RDZH43	1	
10	BRACKET,SIDE	CMD2A443	2	
11	KNOB,FUNCTION	CBT1A1028MBYG27	1	
12	SHEET,REFLECTION	CMZ1A120	1	
13	KNOB,POWER	CBT1A1026MMZG27	1	
14	INDICATOR,POWER	CGL1A258Z	1	
15	KNOB,MOMS	CBC1A158MBZG27	1	
16	BRACKET,PCB	CMK2A010	1	
17	PLATE,SHIELD	CMC1A302	1	
18				
19	HOLDER,LED	CMH1A215	1	
20	BRACKET,FIP	CMD1A209	3	
21	CABINET, TOP	CKC4B145546Z	1	
22	CHASSIS,BOTTOM	CUA2A229	1	
23	RUBBER,CUSHION	CHG1A329	4	
24	FOOT	CKL2A069H43	4	
25	SUPPORT,CUSHION	CHG1A104Z	1	
26	HEAT SINK	CMY1A273	1	
27	BRACKET,PCB	CMD1A417	2	
28	HOLDER,PCB	CH1A170	2	
29	BRACKET,TRANS	CMD1A487	1	
30	BRACKET,PCB(H/T)	CMD1A398	2	
31	BRACKET,PCB	CMD1A570	1	
32	BRACKET,PCB	CMD1A387	2	
33	PANEL,REAR	CKF8A319Z	1	
34	BUSHING,AC CORD	KHR1A028	1	
35	CORD,POWER	CLAS23F8YA	1	
36	TRANS,POWER	CLTSU026ZE	1	
37	FRONT PAB ASSY	COP11910H	1	
		37-1 FIP PCB	1	
		37-2 KEY PCB	1	
		37-3 POWER LED PCB	1	
		37-4 MOMS PCB	1	
		37-5 PHONE PCB	1	
		37-6 VOLUME PCB	1	
		37-7 FS232 PCB	1	
		37-8 GUIDE PCB(CARD CABLE)	1	
38	MAIN PCB ASSY	COP11911H	1	
		38-1 MAIN PCB	1	
		38-2 GUIDE PCB(CARD CABLE)	1	
39	INPUT PCB ASSY	COP11931H	1	
		39-1 INPUT PCB	1	
		39-2 RDS PCB	1	
40	POWER PCB ASSY	COP11916H	1	
		40-1 DIGITAL IN PCB	1	
		40-2 REGULATOR PCB(A)	5	
		40-3 TRANS PCB	1	
		40-4 TRANS PCB	1	
		40-5 REGULATOR PCB(B)	1	
41	VIDEO PCB ASSY	COP11930H	1	
42	TUNER MODULE	CHW9014M5171L	1	
43	CUSHION	CHG1A160Z	1	
44	BADGE,HARMAN/KARDON	CGB1A152Z	1	

NO	DESCRIPTION	PARTS NO.	Q.ty
S1	SCREW	CTB3+8JFC	13
S2	SCREW	CTB3+10GR	31
S3	SCREW	CTW53+10GR	1
S4	SCREW	CTW3+8JR	9
S5	SCREW	CTB3+8JR	10
S6	SCREW	CTW3+12JR	3
S7	SCREW	CTB4+6FFC	6
S8	SCREW	CTB3+10GFZR	22
S9	SCREW,TRANS	CHD1A023R	4
S10	SCREW	CTB3+6JR	19
S11	SCREW	CTB3+16GFZR	2
S12			
S13	SCREW	CTB3+8JFZR	3
S14	SCREW,SPECIAL	CHD1A012R	16
S15	SCREW,SPECIAL	CHD1A012Z	2
S16	SCREW,SPECIAL	CHD3A012R	6
S17	SCREW,SPECIAL	CHD4A012R	5

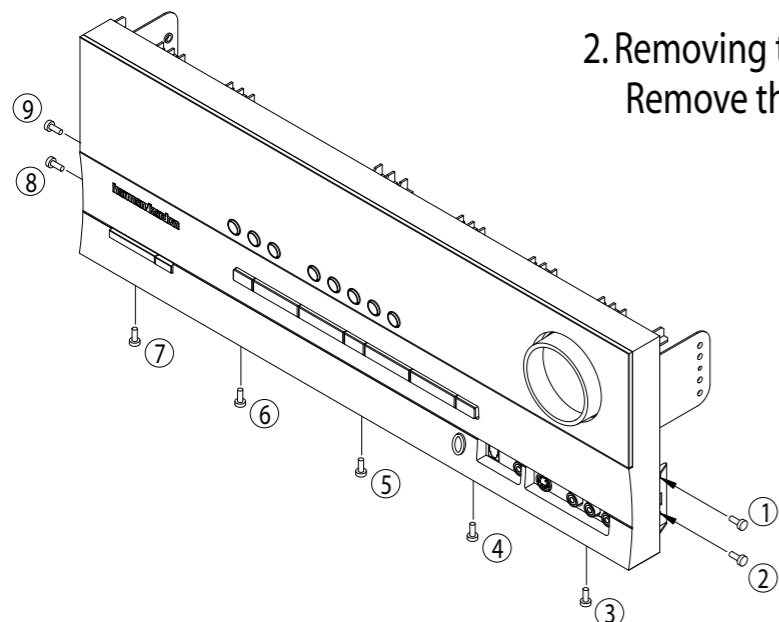
1. Removing the Top Cabinet  
Remove the Screws

① ~ ⑬



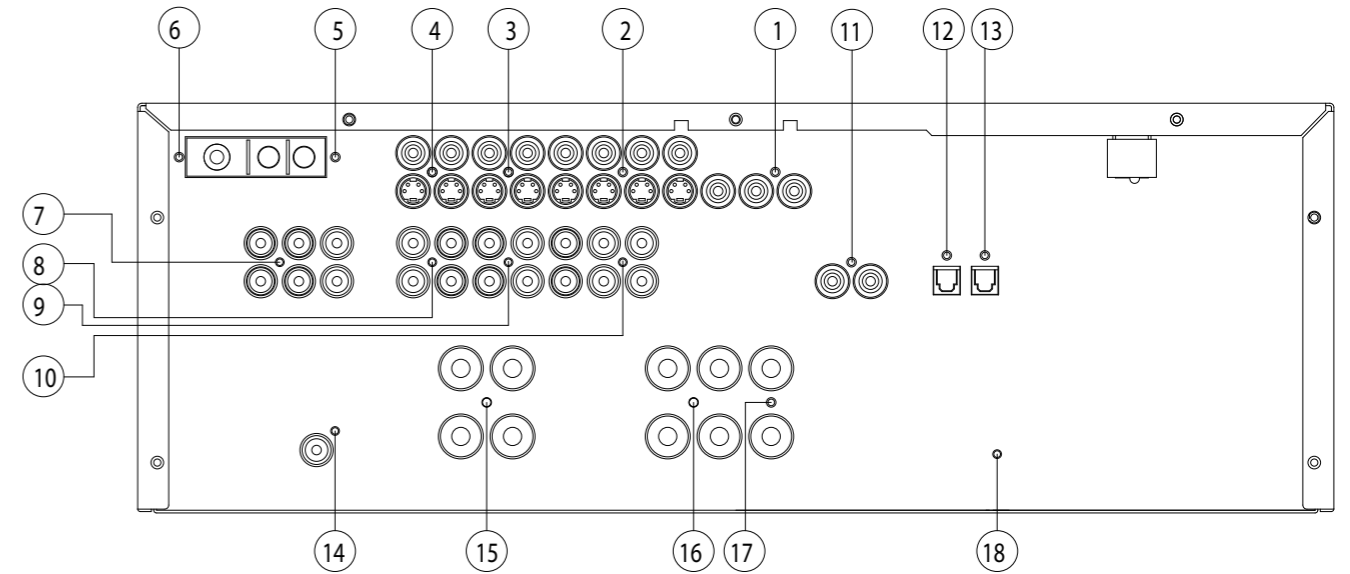
2. Removing the Front Panel  
Remove the Screws

① ~ ⑨



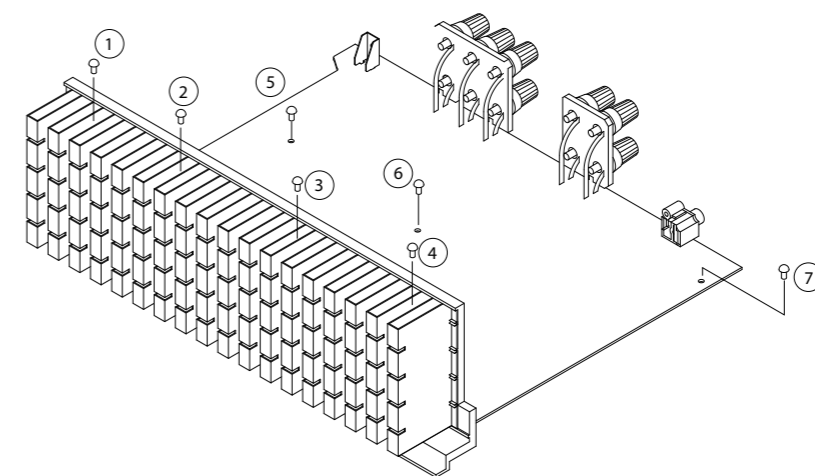
3. Removing the Rear Panel  
Remove the Screws

① ~ ⑱



4. Removing the Main PCB  
Remove the Screws

① ~ ⑦



**FRONT PCB (CUP11910)**

Ref#	Component	Description 1	Description 2	Qty
	<b>CUP11910-1</b>	<b>PCB , FRONT(FIP)</b>	<b>PCB</b>	<b>1</b>
	CMC3A111	PLATE , EARTH	PLATE	1
C714	HCBS1H151KBT	CAP , CERAMIC	150UF 50V K	1
C716	CCEA1AH331T	CAP , ELECT	330UF 10V	1
C723	HCBS1H104ZFT	CAP , CERAMIC	0.1UF 50V Z	1
C728	HCBS1H104ZFT	CAP , CERAMIC	0.1UF 50V Z	1
C729	HCBS1H473ZFT	CAP , CERAMIC	0.047UF 50V Z	1
C731	CCEA1HH100T	CAP , ELECT	10UF 50V	1
C735	CCEA1CKS100T	CAP , ELECT	10UF 16V	1
C742	HCBS1H223ZFT	CAP , CERAMIC	0.02UF 50V Z	1
C793	HCBS1H104ZFT	CAP , CERAMIC	0.1UF 50V Z	1
C794	HCBS1C222MXT	CAP , CERAMIC	2200PF 16V	1
C795	HCBS1H102KBT	CAP , CERAMIC	1000PF 50V K	1
C796	HCBS1H102KBT	CAP , CERAMIC	1000PF 50V K	1
C882	HCBS1H104ZFT	CAP , CERAMIC	0.1UF 50V Z	1
C891	HCBS1H223ZFT	CAP , CERAMIC	0.023UF 50V Z	1
C892	HCBS1H223ZFT	CAP , CERAMIC	0.023UF 50V Z	1
C893	HCBS1H223ZFT	CAP , CERAMIC	0.023UF 50V Z	1
C894	CCEA1CKS100T	CAP , ELECT	100UF 16V	1
C896	HCBS1H223ZFT	CAP , CERAMIC	0.023UF 50V Z	1
C897	CCEA1AH471T	CAP , ELECT	470UF 10V	1
C901	HCBS1H390JT	CAP , CERAMIC	39PF 50V Z	1
C903	CCEA1HKS2R2T	CAP , ELECT	2.2UF 50V SMALL SIZE	1
C905	CCEA1HKS2R2T	CAP , ELECT	2.2UF 50V SMALL SIZE	1
CN72	CJP17GA193ZY	WAFER, CARD CABLE (SMD)	WAFER	1
CN89	CJP04GB46ZY	WAFER	WAFER	1
D730	CVD1SS133MT	DIODE	1SS133	1
D778	HVD1N5819T	DIODE , SCHOTTKY	1N5819	1
L702	HLQ02C100KT	COIL , AXAIL	COIL	1
FIP1	HFLHCA18ML03	F.I.P	F.I.P	1
IC73	HRVNJL34H380A	SENSOR , REMOTE	SENSOR	1
IC75	HVI74ACT04MTR	I.C , HEX	FAIRCHILD	1
Q701	HVTKRC107MT	T.R	KRC107M	1
Q722	HVTKRA107MT	T.R	KRA107M	1
Q724	HVTKRC107MT	T.R	KRC107M	1
Q725	HVTKRC107MT	T.R	KRC107M	1
Q738	HVTKRC107MT	T.R	KRC107M	1
Q739	HVTKTA1271YT	T.R	KTA1271Y	1

**FRONT PCB (CUP11910)**

Ref#	Component	Description 1	Description 2	Qty
R701	CRD20TJ103T	RES , CARBON	10K OHM 1/5W J	1
R704	CRD20TJ100T	RES , CARBON	10 OHM 1/5W J	1
R709	CRD20TJ470T	RES , CARBON	47 OHM 1/5W J	1
R710	CRD20TJ470T	RES , CARBON	47 OHM 1/5W J	1
R711	CRD20TJ470T	RES , CARBON	47 OHM 1/5W J	1
R718	CRD20TJ222T	RES , CARBON	2.2K OHM 1/5W J	1
R737	CRD20TJ100T	RES , CARBON	10 OHM 1/5W J	1
R747	CRD20TJ103T	RES , CARBON	10K OHM 1/5W J	1
R781	CRD20TJ102T	RES , CARBON	1K OHM 1/5W J	1
R783	CRD20TJ102T	RES , CARBON	1K OHM 1/5W J	1
R784	CRD20TJ102T	RES , CARBON	1K OHM 1/5W J	1
R786	CRD20TJ152T	RES , CARBON	1.5K OHM 1/5W J	1
R787	CRD20TJ101T	RES , CARBON	100 OHM 1/5W J	1
R791	CRD20TJ822T	RES , CARBON	8.2K OHM 1/5W J	1
R892	CRD20TJ222T	RES , CARBON	2.2K OHM 1/5W J	1
R893	CRD20TJ333T	RES , CARBON	33K OHM 1/5W J	1
R913	CRD20TJ102T	RES , CARBON	1K OHM 1/5W J	1
R915	CRD20TJ473T	RES , CARBON	47K OHM 1/5W J	1
BN81	CWB2C908200BM	WIRE ASS'Y	WIRE	1
BN84	CWB2B905080EN	WIRE ASS'Y	WIRE	1
BN85	CWB2B902100EW	WIRE ASS'Y ( ANGLE )	WIRE	1
BN88	CWB2B904100EN	WIRE ASS'Y	WIRE	1

**FRONT STAND BY PCB (CUP11910-3)**

Ref#	Component	Description 1	Description 2	Qty
	<b>CUP11910-3</b>	<b>PCB , FRONT STAND BY</b>	<b>PCB</b>	<b>1</b>
CN88	CJP04GB46ZY	WAFER	WAFER	1
R824	CRD20TJ221T	RES , CARBON	220 OHM 1/5W J	1
R825	CRD20TJ681T	RES , CARBON	680 OHM 1/5W J	1
R828	CRD20TJ221T	RES , CARBON	220 OHM 1/5W J	1
R829	CRD20TJ681T	RES , CARBON	680 OHM 1/5W J	1
S701	HST1A020ZT	SW , TACT	1A020	1
D723	CVD50BOBBWGA	L.E.D , 2 COLOR (ORG , BLUE)	L.E.D	1
D727	CVD50BOBBWGA	L.E.D , 2 COLOR (ORG , BLUE)	L.E.D	1

**FRONT POWER (CUP11910-4)**

Ref#	Component	Description 1	Description 2	Qty
	<b>CUP11910-4</b>	<b>PCB , FRONT POWER SW</b>	<b>PCB</b>	<b>1</b>
CN86	CJP02GA89ZM	WAFER	WAFER	1
SW1	CSH1A008ZV	SW , PUSH (MOMS)	MOMS SWITCH	1

**FRONT PANEL KEY PCB (CUP11910-2)**

Ref#	Component	Description	Description 2	Qty
	<b>CUP11910-2</b>	<b>PCB , FRONT PANEL KEY</b>	<b>PCB</b>	<b>1</b>
C719	HCBS1H102KBT	CAP , CERAMIC	1000PF 50V K	1
C720	HCBS1H102KBT	CAP , CERAMIC	1000PF 50V K	1
C721	HCBS1H102KBT	CAP , CERAMIC	1000PF 50V K	1
R753	CRD20TF1001T	RES , CARBON	1K /1/5W /F	1
R754	CRD20TF1501T	RES , CARBON	1.5K /1/5W /F	1
R755	CRD20TF1801T	RES , CARBON	1.8K /1/5W /F	1
R756	CRD20TF2701T	RES , CARBON	2.7K /1/5W/F	1
R757	CRD20TF3301T	RES ,CARBON	3.3K /1/5W/F	1
R758	CRD20TF5601T	RES ,CARBON(5.6K/F)	5.6K/1/5W/F	1
R759	CRD20TF1001T	RES , CARBON	1K /1/5W /F	1
R760	CRD20TF1501T	RES , CARBON	1.5K /1/5W /F	1
R761	CRD20TF1801T	RES , CARBON	1.8K /1/5W /F	1
R762	CRD20TF2701T	RES , CARBON	2.7K /1/5W/F	1
R763	CRD20TF3301T	RES ,CARBON	3.3K /1/5W/F	1
R764	CRD20TF5601T	RES ,CARBON(5.6K/F)	5.6K/1/5W/F	1
R765	CRD20TF7501T	RES , CARBON (7.5K/F)	7.5K/1/5W/F	1
R766	CRD20TF1001T	RES , CARBON	1K /1/5W /F	1
R767	CRD20TF1501T	RES , CARBON	1.5K /1/5W /F	1
R768	CRD20TF1801T	RES , CARBON	1.8K /1/5W /F	1
R769	CRD20TF2701T	RES , CARBON	2.7K /1/5W/F	1
S701	HST1A020ZT	SW , TACT	1A020	1
S702	HST1A020ZT	SW , TACT	1A020	1
S703	HST1A020ZT	SW , TACT	1A020	1
S704	HST1A020ZT	SW , TACT	1A020	1
S705	HST1A020ZT	SW , TACT	1A020	1
S706	HST1A020ZT	SW , TACT	1A020	1
S707	HST1A020ZT	SW , TACT	1A020	1
S711	HST1A020ZT	SW , TACT	1A020	1
S712	HST1A020ZT	SW , TACT	1A020	1
S713	HST1A020ZT	SW , TACT	1A020	1
S714	HST1A020ZT	SW , TACT	1A020	1
S715	HST1A020ZT	SW , TACT	1A020	1
BN89	CWB2B904100EN	WIRE ASS'Y	WIRE	1

**VR JACK PCB (CUP11910-6)**

Ref#	Component	Description	Description 2	Qty
	<b>CUP11910-6</b>	<b>PCB , VR JACK</b>	<b>PCB</b>	<b>1</b>
C805	HCBS1H223ZFT	CAP , CERAMIC	0.022UF 50V Z	1
C806	HCBS1H223ZFT	CAP , CERAMIC	0.022UF 50V Z	1
C841	CCEA1HH100T	CAP , ELECT	10UF 50V	1
C842	CCEA1HH100T	CAP , ELECT	10UF 50V	1
C843	CCEA1HH100T	CAP , ELECT	10UF 50V	1
C855	HCBS1H101KBT	CAP , CERAMIC	100PF 50V K	1
C856	HCBS1H101KBT	CAP , CERAMIC	100PF 50V K	1
C857	HCBS1H104ZFT	CAP , CERAMIC	0.1UF 50V Z	1
C862	HCBS1H101KBT	CAP , CERAMIC	100PF 50V K	1
C863	HCBS1H101KBT	CAP , CERAMIC	100PF 50V K	1
C874	HCBS1H101KBT	CAP , CERAMIC	100PF 50V K	1
CN84	CJP05GB46ZY	WAFER	WAFER	1
BN10	CWZAVR230BN10	WIRE ASS'Y (SHIELD)	WIRE	1
BN41	CWZAVR130BN41	WIRE ASS'Y (SHIELD)	WIRE	1
D774	CVD1SS133MT	DIODE	1SS133	1
D701	CVD52CSBBCEAB2	BLUE L.E.D	L.E.D	1
D703	CVD52CSBBCEAB2	BLUE L.E.D	L.E.D	1
D705	CVD52CSBBCEAB2	BLUE L.E.D	L.E.D	1
JK85	CJJ9M003Z	JACK , S-VIDEO	S-VIDEO JACK	1
JK86	CJJ4S023Y	JACK , BOARD	BOARD	1
JW84	CWE8202110RV	WIRE ASS'Y	WIRE	1
R705	CRD20TJ820T	RES , CARBON	82 OHM 1/5W J	1
R706	CRD20TJ820T	RES , CARBON	82 OHM 1/5W J	1
R708	CRD20TJ820T	RES , CARBON	82 OHM 1/5W J	1
R864	CRD20TJ272T	RES , CARBON	2.7K OHM 1/5W J	1
R865	CRD20TJ101T	RES , CARBON	100 OHM 1/5W J	1
R866	CRD20TJ272T	RES , CARBON	2.7K OHM 1/5W J	1
R871	CRD20TJ104T	RES , CARBON	100K OHM 1/5W J	1
R872	CRD20TJ104T	RES , CARBON	100K OHM 1/5W J	1
R873	CRD20TJ471T	RES , CARBON	470 OHM 1/5W J	1
R874	CRD20TJ471T	RES , CARBON	470 OHM 1/5W J	1
R876	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	1
R877	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	1
R878	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	1
VR74	CSR2A037Z	ENCODER	ENCODER	1



**PHONE JACK PCB (CUP11910-5)**

Ref#	Component	Description	Description 2	Qty
	<b>CUP11910-5</b>	<b>PCB , PHONE JACK</b>	<b>PCB</b>	<b>1</b>
C807	HCBS1H104ZFT	CAP , CERAMIC	0.1UF 50V Z	1
C808	HCBS1H181KBT	CAP , CERAMIC	180PF 50V Z	1
C809	CCEA1AH471T	CAP , ELECT	470UF 10V	1
C812	HCBS1H104ZFT	CAP , CERAMIC	0.1UF 50V Z	1
C817	HCBS1H100JCT	CAP , CERAMIC	10PF 50V	1
C850	HCBS1H471KBT	CAP , CERAMIC	470PF 50V	1
C851	HCBS1H471KBT	CAP , CERAMIC	470PF 50V	1
C852	HCBS1H104ZFT	CAP , CERAMIC	0.1UF 50V Z	1
C866	CCEA1HKS100T	CAP , ELECT	10UF 50V	1
C867	CCEA1HKS100T	CAP , ELECT	10UF 50V	1
C868	CCEA1EKS470T	CAP , ELECT	47UF 25V	1
C869	CCEA1EKS470T	CAP , ELECT	47UF 25V	1
C870	HCBS1H681KBT	CAP , CERAMIC	680PF 50V K	1
C871	HCBS1H681KBT	CAP , CERAMIC	680PF 50V K	1
C872	CCEA1CH331T	CAP , ELECT	330UF 16V	1
C873	CCEA1CH331T	CAP , ELECT	330UF 16V	1
C889	HCBS1H104ZFT	CAP , CERAMIC	0.1UF 50V Z	1
D784	CVD1SS133MT	DIODE	1SS133	1
D785	CVD1SS133MT	DIODE	1SS133	1
CN85	CJP02GA19ZY	WAFER, 2PIN	WAFER	1
BN18	CWZAVR125BN18	WIRE ASS'Y (SHIELD)	WIRE	1
BN22	CWZAVR145BN22	WIRE ASS'Y (SHIELD)	WIRE	1
IC76	HVI74HCU04AFNG	I.C , INVERTER	TOSHIBA	1
IC86	HVINJM4556AL	I.C , HEADPHONE	JRC	1
JK81	CJJ4M043Y	JACK,BOARD	BOARD	1
JK82	HJSTORX177L	MODULE , OPTICAL(RX)	OPTICAL JACK	1
JK83	CJJ2E026Z	JACK , HEADPHONE(SILVER PLATE)	HDEAPHONE JACK	1
JW82	CWE8202300RV	WIRE ASS'Y	WIRE	1
JW83	CWE8202150RV	WIRE ASS'Y	WIRE	1
Q734	HVTKTC2874BT	T.R , MUTE	KTC2874B	1
Q735	HVTKTC2874BT	T.R , MUTE	KTC2874B	1
Q736	HVTKTC2874BT	T.R , MUTE	KTC2874B	1
Q737	HVTKTC2874BT	T.R , MUTE	KTC2874B	1
R805	CRD20TJ104T	RES , CARBON	100K OHM 1/5W J	1
R806	CRD20TJ472T	RES , CARBON	4.7K OHM 1/5W J	1
R869	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	1
R875	CRD20TJ103T	RES , CARBON	10K OHM 1/5W J	1

**PHONE JACK PCB (CUP11910-5)**

Ref#	Component	Description	Description 2	Qty
R895	CRD20TJ101T	RES , CARBON	100 OHM 1/5W J	1
R896	CRD20TJ101T	RES , CARBON	100 OHM 1/5W J	1
R897	CRD20TJ101T	RES , CARBON	100 OHM 1/5W J	1
R898	CRD20TJ101T	RES , CARBON	100 OHM 1/5W J	1
R899	CRD20TJ104T	RES , CARBON	100K OHM 1/5W J	1
R900	CRD20TJ104T	RES , CARBON	100K OHM 1/5W J	1
R901	CRD20TJ152T	RES , CARBON	1.5K OHM 1/5W J	1
R902	CRD20TJ152T	RES , CARBON	1.5K OHM 1/5W J	1
R903	CRD20TJ102T	RES , CARBON	1K OHM 1/5W J	1
R904	CRD20TJ102T	RES , CARBON	1K OHM 1/5W J	1
R905	CRD20TJ104T	RES , CARBON	100K OHM 1/5W J	1
R906	CRD20TJ104T	RES , CARBON	100K OHM 1/5W J	1
R907	CRD20TJ472T	RES , CARBON	4.7K OHM 1/5W J	1
R908	CRD20TJ472T	RES , CARBON	4.7K OHM 1/5W J	1
R909	CRD20TJ221T	RES , CARBON	220 OHM 1/5W J	1
R910	CRD20TJ221T	RES , CARBON	220 OHM 1/5W J	1
R911	CRD20TJ221T	RES , CARBON	220 OHM 1/5W J	1
R912	CRD20TJ221T	RES , CARBON	220 OHM 1/5W J	1
R918	CRD20TJ472T	RES , CARBON	4.7K OHM 1/5W J	1
R919	CRD20TJ472T	RES , CARBON	4.7K OHM 1/5W J	1

**MAIN PCB (CUP11911Z)**

Ref#	Component	Description	Description 2	Qty
	<b>CUP11911Z</b>	<b>PCB , MAIN</b>	<b>PCB</b>	<b>1</b>
	CTW3+8JR	SCREW		1
C501	CCEA1HH100T	CAP , ELECT	10UF 50V	1
C502	CCEA1HH100T	CAP , ELECT	10UF 50V	1
C503	CCEA1HH100T	CAP , ELECT	10UF 50V	1
C504	CCEA1HH100T	CAP , ELECT	10UF 50V	1
C505	CCEA1HH100T	CAP , ELECT	10UF 50V	1
C506	CCKT1H331KB	CAP , CERAMIC	330PF 50V	1
C507	HCBS1H331KBT	CAP , CERAMIC	330PF 50V	1
C508	HCBS1H331KBT	CAP , CERAMIC	330PF 50V	1
C509	CCKT1H331KB	CAP , CERAMIC	330PF 50V	1
C510	HCBS1H331KBT	CAP , CERAMIC	330PF 50V	1
C561	CCEA1CH101T	CAP , ELECT	100UF 16V	1
C562	CCEA1CH101T	CAP , ELECT	100UF 16V	1
C563	CCEA1CH101T	CAP , ELECT	100UF 16V	1
C564	CCEA1CH101T	CAP , ELECT	100UF 16V	1
C565	CCEA1CH101T	CAP , ELECT	100UF 16V	1
C566	CCEA1CH101T	CAP , ELECT	100UF 16V	1
C567	CCEA1CH101T	CAP , ELECT	100UF 16V	1
C568	CCEA1CH101T	CAP , ELECT	100UF 16V	1

**MAIN PCB (CUP11911Z)**

Ref#	Component	Description	Description 2	Qty
C569	CCEA1CH101T	CAP , ELECT	100UF 16V	1
C570	CCEA1CH101T	CAP , ELECT	100UF 16V	1
C571	HCBS1H681KBT	CAP , CERAMIC	680PF 50V	1
C572	HCBS1H681KBT	CAP , CERAMIC	680PF 50V	1
C573	HCBS1H681KBT	CAP , CERAMIC	680PF 50V	1
C574	HCBS1H681KBT	CAP , CERAMIC	680PF 50V	1
C575	HCBS1H681KBT	CAP , CERAMIC	680PF 50V	1
C601	CCCT1H120JC	CAP , CERAMIC	12PF 50V	1
C602	CCCT1H120JC	CAP , CERAMIC	12PF 50V	1
C603	CCCT1H120JC	CAP , CERAMIC	12PF 50V	1
C604	CCCT1H120JC	CAP , CERAMIC	12PF 50V	1
C605	CCCT1H120JC	CAP , CERAMIC	12PF 50V	1
C606	CCCT1H330JC	CAP , CERAMIC	33PF 50V	1
C607	CCCT1H330JC	CAP , CERAMIC	33PF 50V	1
C608	CCCT1H330JC	CAP , CERAMIC	33PF 50V	1
C609	CCCT1H330JC	CAP , CERAMIC	33PF 50V	1
C610	CCCT1H330JC	CAP , CERAMIC	33PF 50V	1
C681	CCEA1HH100T	CAP , ELECT	10UF 50V	1
C682	CCEA1HH100T	CAP , ELECT	10UF 50V	1
C683	CCEA1HH100T	CAP , ELECT	10UF 50V	1
C684	CCEA1HH100T	CAP , ELECT	10UF 50V	1
C685	CCEA1HH100T	CAP , ELECT	10UF 50V	1
C726	CCKT1H221KB	CAP , CERAMIC	220PF 50V	1
C900	HCQI1H473JZT	CAP , MYLAR	0.047UF 50V	1
C901	HCQI1H473JZT	CAP , MYLAR	0.047UF 50V	1
C905	CCFT1H223ZF	CAP, CERAMIC	0.022UP 50V	1
C907	CCEA1CH101T	CAP , ELECT	100UF 16V	1
C908	CCFT1H223ZF	CAP, CERAMIC	0.022UP 50V	1
C910	HCQI1H473JZT	CAP , MYLAR	0.047UF 50V	1
C911	CCEA1CH471T	CAP , ELECT	470UF 16V	1
C912	CCEA1CH221T	CAP , ELECT	220UF 16V	1
C913	CCFT1H104ZF	CAP , SEMICONDUCTOR	0.1UF 50V ZF	1
C914	HCQI1H473JZT	CAP , MYLAR	0.047UF 50V J	1
C917	HCQI1H473JZT	CAP , MYLAR	0.047UF 50V J	1
C924	CCFT1H104ZF	CAP , SEMICONDUCTOR	0.1UF 50V ZF	1
C939	CCEA1HH4R7T	CAP , ELECT	4.7UF 50V	1
C940	CCEA1AH471T	CAP , ELECT	470UF 10V	1
C948	CCFT1H104ZF	CAP , SEMICONDUCTOR	0.1UF 50V ZF	1
C949	CCEA1HH220T	CAP , ELECT	22UF 50V	1

**MAIN PCB (CUP11911Z)**

Ref#	Component	Description	Description 2	Qty
C972	HCQI1H562JZT	CAP , MYLAR	5600PF 50V	1
C973	HCQI1H562JZT	CAP , MYLAR	5600PF 50V	1
C980	HCQI1H562JZT	CAP , MYLAR	5600PF 50V	1
C981	HCQI1H562JZT	CAP , MYLAR	5600PF 50V	1
C990	HCQI1H473JZT	CAP , MYLAR	0.047UF 50V J	1
C991	CCEA1HH1R0T	CAP , ELECT	1UF 50V	1
C992	HCQI1H473JZT	CAP , MYLAR	0.047UF 50V J	1
C993	HCQI1H473JZT	CAP , MYLAR	0.047UF 50V J	1
C995	HCQI1H473JZT	CAP , MYLAR	0.047UF 50V J	1
C997	HCQI1H473JZT	CAP , MYLAR	0.047UF 50V J	1
C999	CCFT1H223ZF	CAP , CERAMIC	0.022UP 50V	1
D501	CVD1SS133MT	DIODE	1SS133	1
D502	CVD1SS133MT	DIODE	1SS133	1
D503	CVD1SS133MT	DIODE	1SS133	1
D504	CVD1SS133MT	DIODE	1SS133	1
D505	CVD1SS133MT	DIODE	1SS133	1
D581	CVD1SS133MT	DIODE	1SS133	1
D582	CVD1SS133MT	DIODE	1SS133	1
D583	CVD1SS133MT	DIODE	1SS133	1
D584	CVD1SS133MT	DIODE	1SS133	1
D585	CVD1SS133MT	DIODE	1SS133	1
D901	CVD1N4003SRT	RECT , DIODE	1N4003	1
D902	CVD1SS133MT	DIODE	1SS133	1
D911	CVD1SS133MT	DIODE	1SS133	1
D912	CVD1SS133MT	DIODE	1SS133	1
D914	CVD1SS133MT	DIODE	1SS133	1
D917	CVD1SS133MT	DIODE	1SS133	1
D953	CVD1SS133MT	DIODE	1SS133	1
D954	CVD1N4003SRT	RECT , DIODE	1N4003	1
D955	CVD1N4003SRT	RECT , DIODE	1N4003	1
D956	CVD1N4003SRT	RECT , DIODE	1N4003	1
D957	CVD1N4003SRT	RECT , DIODE	1N4003	1
D961	CVD1N4003ST	RECT , DIODE	1N4003	1
D962	CVD1N4003SRT	RECT , DIODE	1N4003	1
D963	CVD1N4003ST	RECT , DIODE	1N4003	1
D973	CVD1SS133MT	DIODE	1SS133	1
D974	CVD1SS133MT	DIODE	1SS133	1
D979	HVDMTZJ6.2BT	DIODE , ZENER	MTZJ6.2B	1
D980	CVD1SS133MT	DIODE	1SS133	1
ET90	HJT1A025	PALTE , EARTH	MET37-0002	1
ET91	HJT1A025	PALTE , EARTH	MET37-0002	1
F901	KJCF5S	HOLDER , FUSE	FUSE	1

**MAIN PCB (CUP11911Z)**

Ref#	Component	Description	Description 2	Qty
Q501	HVTKTA1268GRT	T.R	KTA1268GR	1
Q502	HVTKTA1268GRT	T.R	KTA1268GR	1
Q503	HVTKTA1268GRT	T.R	KTA1268GR	1
Q504	HVTKTA1268GRT	T.R	KTA1268GR	1
Q505	HVTKTA1268GRT	T.R	KTA1268GR	1
Q511	HVTKTC3200GRT	T.R	KTC3200GR	1
Q512	HVTKTC3200GRT	T.R	KTC3200GR	1
Q513	HVTKTC3200GRT	T.R	KTC3200GR	1
Q514	HVTKTC3200GRT	T.R	KTC3200GR	1
Q515	HVTKTC3200GRT	T.R	KTC3200GR	1
Q516	HVTKTC3200GRT	T.R	KTC3200GR	1
Q517	HVTKTC3200GRT	T.R	KTC3200GR	1
Q518	HVTKTC3200GRT	T.R	KTC3200GR	1
Q519	HVTKTC3200GRT	T.R	KTC3200GR	1
Q520	HVTKTC3200GRT	T.R	KTC3200GR	1
Q541	HVTKTC3198YT	T.R	KTC3198Y	1
Q542	HVTKTC3198YT	T.R	KTC3198Y	1
Q543	HVTKTC3198YT	T.R	KTC3198Y	1
Q544	HVTKTC3198YT	T.R	KTC3198Y	1
Q545	HVTKTC3198YT	T.R	KTC3198Y	1
Q556	HVTKTC3200GRT	T.R	KTC3200GR	1
Q557	HVTKTC3200GRT	T.R	KTC3200GR	1
Q558	HVTKTC3200GRT	T.R	KTC3200GR	1
Q559	HVTKTC3200GRT	T.R	KTC3200GR	1
Q560	HVTKTC3200GRT	T.R	KTC3200GR	1
Q561	HVTKTC3200GRT	T.R	KTC3200GR	1
Q562	HVTKTC3200GRT	T.R	KTC3200GR	1
Q563	HVTKTC3200GRT	T.R	KTC3200GR	1
Q564	HVTKTC3200GRT	T.R	KTC3200GR	1
Q565	HVTKTC3200GRT	T.R	KTC3200GR	1
Q601	HVTKTA1268GRT	T.R	KTA1268GR	1
Q602	HVTKTA1268GRT	T.R	KTA1268GR	1
Q603	HVTKTA1268GRT	T.R	KTA1268GR	1
Q604	HVTKTA1268GRT	T.R	KTA1268GR	1
Q605	HVTKTA1268GRT	T.R	KTA1268GR	1
Q681	HVTKSC2785YT	T.R	KSC2785Y	1
Q682	HVTKSC2785YT	T.R	KSC2785Y	1
Q683	HVTKSC2785YT	T.R	KSC2785Y	1
Q684	HVTKSC2785YT	T.R	KSC2785Y	1
Q685	HVTKSC2785YT	T.R	KSC2785Y	1
Q901	HVTKSC2785YT	T.R	KSC2785Y	1
Q938	HVTKRA107MT	T.R	KRA107M	1

**MAIN PCB (CUP11911Z)**

Ref#	Component	Description	Description 2	Qty
Q939	HVTKRA107MT	T.R	KRA107M	1
Q942	HVTKSC2785YT	T.R	KSC2785Y	1
Q943	HVTKSC2785YT	T.R	KSC2785Y	1
Q951	HVTKRC107MT	T.R	KRC107M	1
Q952	HVTKRA107MT	T.R	KRA107M	1
Q960	HVTKRC107MT	T.R	KRC107M	1
Q961	HVTKTA1024YT	T.R	KTA1024YT	1
Q991	HVTKRC107MT	T.R	KRC107M	1
Q992	HVTKRA107MT	T.R	KRA107M	1
R501	CRD20TJ433T	RES , CARBON	43K OHM 1/5W J	1
R502	CRD20TJ433T	RES , CARBON	43K OHM 1/5W J	1
R503	CRD20TJ433T	RES , CARBON	43K OHM 1/5W J	1
R504	CRD20TJ433T	RES , CARBON	43K OHM 1/5W J	1
R505	CRD20TJ433T	RES , CARBON	43K OHM 1/5W J	1
R506	CRD20TJ333T	RES , CARBON	33K OHM 1/5W J	1
R507	CRD20TJ333T	RES , CARBON	33K OHM 1/5W J	1
R508	CRD20TJ333T	RES , CARBON	33K OHM 1/5W J	1
R509	CRD20TJ333T	RES , CARBON	33K OHM 1/5W J	1
R510	CRD20TJ333T	RES , CARBON	33K OHM 1/5W J	1
R511	CRD20TJ152T	RES , CARBON	1.5K OHM 1/5W J	1
R512	CRD20TJ152T	RES , CARBON	1.5K OHM 1/5W J	1
R513	CRD20TJ152T	RES , CARBON	1.5K OHM 1/5W J	1
R514	CRD20TJ152T	RES , CARBON	1.5K OHM 1/5W J	1
R515	CRD20TJ152T	RES , CARBON	1.5K OHM 1/5W J	1
R516	CRD20TJ152T	RES , CARBON	1.5K OHM 1/5W J	1
R517	CRD20TJ152T	RES , CARBON	1.5K OHM 1/5W J	1
R518	CRD20TJ152T	RES , CARBON	1.5K OHM 1/5W J	1
R519	CRD20TJ152T	RES , CARBON	1.5K OHM 1/5W J	1
R520	CRD20TJ152T	RES , CARBON	1.5K OHM 1/5W J	1
R521	CRD20TJ471T	RES , CARBON	470 OHM 1/5W J	1
R522	CRD20TJ471T	RES , CARBON	470 OHM 1/5W J	1
R523	CRD20TJ471T	RES , CARBON	470 OHM 1/5W J	1
R524	CRD20TJ471T	RES , CARBON	470 OHM 1/5W J	1
R525	CRD20TJ471T	RES , CARBON	470 OHM 1/5W J	1
R531	CRD20TJ221T	RES , CARBON	220 OHM 1/5W J	1
R532	CRD20TJ221T	RES , CARBON	220 OHM 1/5W J	1
R533	CRD20TJ221T	RES , CARBON	220 OHM 1/5W J	1
R534	CRD20TJ221T	RES , CARBON	220 OHM 1/5W J	1
R535	CRD20TJ221T	RES , CARBON	220 OHM 1/5W J	1
R536	CRD20TJ221T	RES , CARBON	220 OHM 1/5W J	1
R537	CRD20TJ221T	RES , CARBON	220 OHM 1/5W J	1
R538	CRD20TJ221T	RES , CARBON	220 OHM 1/5W J	1

**MAIN PCB (CUP11911Z)**

Ref#	Component	Description	Description 2	Qty
R539	CRD20TJ221T	RES , CARBON	220 OHM 1/5W J	1
R540	CRD20TJ221T	RES , CARBON	220 OHM 1/5W J	1
R541	CRD20TJ271T	RES , CARBON	270 OHM 1/5W J	1
R542	CRD20TJ271T	RES , CARBON	270 OHM 1/5W J	1
R543	CRD20TJ271T	RES , CARBON	270 OHM 1/5W J	1
R544	CRD20TJ271T	RES , CARBON	270 OHM 1/5W J	1
R545	CRD20TJ271T	RES , CARBON	270 OHM 1/5W J	1
R556	CRD20TJ273T	RES , CARBON	27K OHM 1/5W J	1
R557	CRD20TJ273T	RES , CARBON	27K OHM 1/5W J	1
R558	CRD20TJ273T	RES , CARBON	27K OHM 1/5W J	1
R559	CRD20TJ273T	RES , CARBON	27K OHM 1/5W J	1
R560	CRD20TJ273T	RES , CARBON	27K OHM 1/5W J	1
R561	CRD20TJ182T	RES , CARBON	1.8K OHM 1/5W J	1
R562	CRD20TJ182T	RES , CARBON	1.8K OHM 1/5W J	1
R563	CRD20TJ182T	RES , CARBON	1.8K OHM 1/5W J	1
R564	CRD20TJ182T	RES , CARBON	1.8K OHM 1/5W J	1
R565	CRD20TJ182T	RES , CARBON	1.8K OHM 1/5W J	1
R566	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	1
R567	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	1
R568	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	1
R569	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	1
R570	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	1
R571	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	1
R572	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	1
R573	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	1
R574	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	1
R575	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	1
R576	CRD20TJ100T	RES , CARBON	10 OHM 1/5W J	1
R577	CRD20TJ100T	RES , CARBON	10 OHM 1/5W J	1
R578	CRD20TJ100T	RES , CARBON	10 OHM 1/5W J	1
R579	CRD20TJ100T	RES , CARBON	10 OHM 1/5W J	1
R580	CRD20TJ100T	RES , CARBON	10 OHM 1/5W J	1
R581	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	1
R582	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	1
R583	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	1
R584	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	1
R585	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	1
R586	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	1
R587	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	1
R588	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	1
R589	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	1
R590	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	1

**MAIN PCB (CUP11911Z)**

Ref#	Component	Description	Description 2	Qty
R591	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	1
R592	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	1
R593	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	1
R594	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	1
R595	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	1
R596	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	1
R597	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	1
R598	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	1
R599	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	1
R600	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	1
R601	CRD20TJ223T	RES , CARBON	22K OHM 1/5W J	1
R602	CRD20TJ223T	RES , CARBON	22K OHM 1/5W J	1
R603	CRD20TJ223T	RES , CARBON	22K OHM 1/5W J	1
R604	CRD20TJ223T	RES , CARBON	22K OHM 1/5W J	1
R605	CRD20TJ223T	RES , CARBON	22K OHM 1/5W J	1
R606	CRD20TJ223T	RES , CARBON	22K OHM 1/5W J	1
R607	CRD20TJ223T	RES , CARBON	22K OHM 1/5W J	1
R608	CRD20TJ223T	RES , CARBON	22K OHM 1/5W J	1
R609	CRD20TJ223T	RES , CARBON	22K OHM 1/5W J	1
R610	CRD20TJ223T	RES , CARBON	22K OHM 1/5W J	1
R631	CRD25FJ180T	RES , CARBON	18 OHM 1/4W	1
R632	CRD25FJ180T	RES , CARBON	18 OHM 1/4W	1
R633	CRD25FJ180T	RES , CARBON	18 OHM 1/4W	1
R634	CRD25FJ180T	RES , CARBON	18 OHM 1/4W	1
R635	CRD25FJ180T	RES , CARBON	18 OHM 1/4W	1
R636	CRD25FJ180T	RES , CARBON	18 OHM 1/4W	1
R637	CRD25FJ180T	RES , CARBON	18 OHM 1/4W	1
R638	CRD25FJ180T	RES , CARBON	18 OHM 1/4W	1
R639	CRD25FJ180T	RES , CARBON	18 OHM 1/4W	1
R640	CRD25FJ180T	RES , CARBON	18 OHM 1/4W	1
R646	CRD25FJ3R3T	RES , CARBON	3.3 OHM 1/4W J	1
R647	CRD25FJ3R3T	RES , CARBON	3.3 OHM 1/4W J	1
R648	CRD25FJ3R3T	RES , CARBON	3.3 OHM 1/4W J	1
R649	CRD25FJ3R3T	RES , CARBON	3.3 OHM 1/4W J	1
R650	CRD25FJ3R3T	RES , CARBON	3.3 OHM 1/4W J	1
R651	CRD25FJ3R3T	RES , CARBON	3.3 OHM 1/4W J	1
R652	CRD25FJ3R3T	RES , CARBON	3.3 OHM 1/4W J	1
R653	CRD25FJ3R3T	RES , CARBON	3.3 OHM 1/4W J	1
R654	CRD25FJ3R3T	RES , CARBON	3.3 OHM 1/4W J	1
R655	CRD25FJ3R3T	RES , CARBON	3.3 OHM 1/4W J	1
R666	CRD25TJ470T	RES , CARBON	47 OHM 1/4W	1
R667	CRD25TJ470T	RES , CARBON	47 OHM 1/4W	1



**MAIN PCB (CUP11911Z)**

Ref#	Component	Description	Description 2	Qty
R668	CRD25TJ470T	RES , CARBON	47 OHM 1/4W	1
R669	CRD25TJ470T	RES , CARBON	47 OHM 1/4W	1
R670	CRD25TJ470T	RES , CARBON	47 OHM 1/4W	1
R671	CRD20TJ911T	RES , CARBON	910 OHM 1/5W J	1
R672	CRD20TJ911T	RES , CARBON	910 OHM 1/5W J	1
R673	CRD20TJ911T	RES , CARBON	910 OHM 1/5W J	1
R674	CRD20TJ911T	RES , CARBON	910 OHM 1/5W J	1
R675	CRD20TJ911T	RES , CARBON	910 OHM 1/5W J	1
R676	CRD20TJ182T	RES , CARBON	1.8K OHM 1/5W J	1
R677	CRD20TJ182T	RES , CARBON	1.8K OHM 1/5W J	1
R678	CRD20TJ182T	RES , CARBON	1.8K OHM 1/5W J	1
R679	CRD20TJ182T	RES , CARBON	1.8K OHM 1/5W J	1
R680	CRD20TJ182T	RES , CARBON	1.8K OHM 1/5W J	1
R681	CRD20TJ562T	RES , CARBON	5.6K OHM 1/5W J	1
R682	CRD20TJ562T	RES , CARBON	5.6K OHM 1/5W J	1
R683	CRD20TJ562T	RES , CARBON	5.6K OHM 1/5W J	1
R684	CRD20TJ562T	RES , CARBON	5.6K OHM 1/5W J	1
R685	CRD20TJ562T	RES , CARBON	5.6K OHM 1/5W J	1
R686	CRD20TJ103T	RES , CARBON	10K OHM 1/5W J	1
R687	CRD20TJ103T	RES , CARBON	10K OHM 1/5W J	1
R688	CRD20TJ103T	RES , CARBON	10K OHM 1/5W J	1
R689	CRD20TJ103T	RES , CARBON	10K OHM 1/5W J	1
R690	CRD20TJ103T	RES , CARBON	10K OHM 1/5W J	1
R696	CRD25TJ470T	RES , CARBON	47 OHM 1/4W	1
R697	CRD25TJ470T	RES , CARBON	47 OHM 1/4W	1
R698	CRD25TJ470T	RES , CARBON	47 OHM 1/4W	1
R699	CRD25TJ470T	RES , CARBON	47 OHM 1/4W	1
R700	CRD25TJ470T	RES , CARBON	47 OHM 1/4W	1
R706	C3A206	WIRE , COPPER	SN95/PB5 , 0.6	1
R771	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	1
R772	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	1
R773	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	1
R774	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	1
R775	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	1
R781	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	1
R782	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	1
R783	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	1
R784	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	1
R785	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	1
R900	CRD20TJ103T	RES , CARBON	10K OHM 1/5W J	1
R901	CRD25TJ393T	RES , CARBON	39K OHM 1/4W	1
R902	CRD25TJ393T	RES , CARBON	39K OHM 1/4W	1

**MAIN PCB (CUP11911Z)**

Ref#	Component	Description	Description 2	Qty
R903	CRD25TJ393T	RES , CARBON	39K OHM 1/4W	1
R906	CRD25TJ393T	RES , CARBON	39K OHM 1/4W	1
R907	CRD20TJ103T	RES , CARBON	10K OHM 1/5W J	1
R910	CRD20TJ105T	RES , CARBON	1M OHM 1/5W J	1
R911	CRD25TJ680T	RES , CARBON	68 OHM 1/4W J	1
R912	CRD20TJ332T	RES , CARBON	3.3K OHM 1/5W J	1
R917	CRD25TJ393T	RES , CARBON	39K OHM 1/4W	1
R918	CRD25TJ393T	RES , CARBON	39K OHM 1/4W	1
R919	CRD25TJ393T	RES , CARBON	39K OHM 1/4W	1
R920	CRD25TJ393T	RES , CARBON	39K OHM 1/4W	1
R932	CRD20TJ103T	RES , CARBON	10K OHM 1/5W J	1
R939	CRD20TJ472T	RES , CARBON	4.7K OHM 1/5W J	1
R940	CRD20TJ152T	RES , CARBON	1.5K OHM 1/5W J	1
R941	CRD20TJ223T	RES , CARBON	22K OHM 1/5W J	1
R942	CRD20TJ223T	RES , CARBON	22K OHM 1/5W J	1
R944	CRD25TJ223T	RES , CARBON	22K OHM 1/4W J	1
R946	CRD25TJ223T	RES , CARBON	22K OHM 1/4W J	1
R947	CRD20TJ223T	RES , CARBON	22K OHM 1/5W J	1
R948	CRD25TJ222T	RES , CARBON	2.2K OHM 1/4W J	1
R949	CRD20TJ822T	RES , CARBON	8.2K OHM 1/5W J	1
R955	CRD20TJ393T	RES , CARBON	39K OHM 1/5W J	1
R956	CRD20TJ394T	RES , CARBON	390K OHM 1/5W J	1
R957	CRD20TJ153T	RES , CARBON	15K OHM 1/5W J	1
R960	CRD20TJ332T	RES , CARBON	3.3K OHM 1/5W J	1
R961	CRD20TJ331T	RES , CARBON	330 OHM 1/5W J	1
R962	CRD20TJ273T	RES , CARBON	27K OHM 1/5W J	1
R963	CRD20TJ105T	RES , CARBON	1M OHM 1/5W J	1
R966	CRD20TJ472T	RES , CARBON	4.7K OHM 1/5W J	1
R980	CRD20TJ473T	RES , CARBON	47K OHM 1/5W J	1
R986	CRD20TJ102T	RES , CARBON	1K OHM 1/5W J	1
R987	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	1
R988	CRD20TJ562T	RES , CARBON	5.6K OHM 1/5W J	1
R989	CRD20TJ302T	RES , CARBON	3K OHM 1/5W J	1
R991	CRD20TJ822T	RES , CARBON	8.2K OHM 1/5W J	1
R992	CRD20TJ562T	RES , CARBON	5.6K OHM 1/5W J	1
R998	CRD20TJ103T	RES , CARBON	10K OHM 1/5W J	1
	CMYAVR144	HEAR SINK ASS'Y	ASS'Y	1
	CHD1A012R	SCREW , SPECIAL	SCREW	1
	CHD3A012R	SCREW , SPECIAL	SCREW	1
	CMD1A398	BRACKET , PCB	BRACKET	1
	CMD1A417	BRACKET , PCB	BRACKET	1
	CMY1A273	HEAT SINK	HEAT SINK	1

**MAIN PCB (CUP11911Z)**

Ref#	Component	Description	Description 2	Qty
	CTB3+8JR	SCREW	SCREW	1
Q652	HVT2SB1559P-OKM	TR , POWER (DARLINGTON TYPE)	2SB1559	1
Q653	HVT2SB1559P-OKM	TR , POWER (DARLINGTON TYPE)	2SB1559	1
Q654	HVT2SB1559P-OKM	TR , POWER (DARLINGTON TYPE)	2SB1559	1
Q655	HVT2SB1559P-OKM	TR , POWER (DARLINGTON TYPE)	2SB1559	1
Q657	HVT2SD2389P-OKM	TR , POWER (DARLINGTON TYPE)	2SD2389	1
Q658	HVT2SD2389P-OKM	TR , POWER (DARLINGTON TYPE)	2SD2389	1
Q659	HVT2SD2389P-OKM	TR , POWER (DARLINGTON TYPE)	2SD2389	1
Q660	HVT2SD2389P-OKM	TR , POWER (DARLINGTON TYPE)	2SD2389	1
Q661	HVT2SB1559P-OKM	TR , POWER (DARLINGTON TYPE)	2SB1559	1
Q670	HVT2SD2389P-OKM	TR , POWER (DARLINGTON TYPE)	2SD2389	1
BN19	CWB3FE03250UP	WIRE ASS'Y	WIRE	1
BN20	CWB3FC04280UP	WIRE ASS'Y	WIRE	1
BN82	CWB1C902050EN	WIRE ASS'Y	WIRE	1
BN83	CWB1C902050EN	WIRE ASS'Y	WIRE	1
BN84	CWB1C902050EN	WIRE ASS'Y	WIRE	1
BN85	CWB1C902050EN	WIRE ASS'Y	WIRE	1
BN86	CWB1C902050EN	WIRE ASS'Y	WIRE	1
BN89	CWB1C902250BM	WIRE ASS'Y	WIRE	1
BN90	CWB4F232550PU	WIRE ASS'Y	WIRE	1
BN98	HJP08GA130ZK	WAFER	WAFER	1
CN11	CJP13GA117ZY	WAFER , CARD CABLE	WAFER	1
CN12	CJP21GA115ZY	WAFER , CARD CABLE	WAFER	1
CN61	CJP02GA01ZY	WAFER, STRAIGHT, 2PIN	WAFER	1
CN62	CJP02GA01ZY	WAFER, STRAIGHT, 2PIN	WAFER	1
CN63	CJP02GA01ZY	WAFER, STRAIGHT, 2PIN	WAFER	1

**MAIN PCB (CUP11911Z)**

Ref#	Component	Description	Description 2	Qty
CN64	CJP02GA01ZY	WAFER, STRAIGHT, 2PIN	WAFER	1
CN65	CJP02GA01ZY	WAFER, STRAIGHT, 2PIN	WAFER	1
CN91	CJP02GA89ZY	WAFER	WAFER	1
CN92	KJP02KA060ZY	WAFER	WAFER	1
C631	CCEA1JH101E	CAP , ELECT	100UF 63V	1
C632	CCEA1JH101E	CAP , ELECT	100UF 63V	1
C633	CCEA1JH101E	CAP , ELECT	100UF 63V	1
C634	CCEA1JH101E	CAP , ELECT	100UF 63V	1
C635	CCEA1JH101E	CAP , ELECT	100UF 63V	1
C636	CCEA1JH101E	CAP , ELECT	100UF 63V	1
C637	CCEA1JH101E	CAP , ELECT	100UF 63V	1
C638	CCEA1JH101E	CAP , ELECT	100UF 63V	1
C639	CCEA1JH101E	CAP , ELECT	100UF 63V	1
C640	CCEA1JH101E	CAP , ELECT	100UF 63V	1
C902	CCET50VKL4472NK	CAP , ELECT	4700UF/50V	1
C904	KCKDKS472ME	CAP , CERAMIC(X1/Y2/SC)	0.0047UF/2.5KV	1
C906	CCEA1EH102E	CAP , ELECT	1000UF 25V	1
C909	CCET50VKL4472NK	CAP , ELECT	4700UF/50V	1
C915	CCET50VKL4682NK	CAP , ELECT	6800UF/50V	1
C916	CCET50VKL4682NK	CAP , ELECT	6800UF/50V	1
ET01	CMD1A387	BRACKET , PCB	BRACKET	1
IC94	HVIMC7805C	I.C, REGULATOR	KA7805-ABTU	1
IC97	HVIS-80842CNY-X	I.C RESET	S-80842CNY-X	1
JK90	CJJ4M040Z	JACK , BOARD (SW)	JACK	1
JK91	CJJ5R006Z	TERMINAL , SPEAKER	SPEAKER TERMINAL	1
JK92	CJJ5P020Z	TERMINAL , SPEAKER	SPEAKER TERMINAL	1
JW90	CWE8212120VV	WIRE , RED	WIRE	1
JW91	CWE8212180VV	WIRE ASS'Y	WIRE	1
JW92	CWEE212080VV	WIRE ASS'Y	WIRE	1
JW96	CWE8212180VV	WIRE ASS'Y	WIRE	1
L501	CLEY0R5KAK	COIL , SPEAKER	0.5UH K	1
L502	CLEY0R5KAK	COIL , SPEAKER	0.5UH K	1
L503	CLEY0R5KAK	COIL , SPEAKER	0.5UH K	1
L504	CLEY0R5KAK	COIL , SPEAKER	0.5UH K	1
L505	CLEY0R5KAK	COIL , SPEAKER	0.5UH K	1
Q858	HVT2SA1360O	T.R	2SA1360O	1
Q871	HVT2SA1360O	T.R	2SA1360O	1

**MAIN PCB (CUP11911Z)**

Ref#	Component	Description	Description 2	Qty
Q872	HVT2SA1360O	T.R	2SA1360O	1
Q874	HVT2SA1360O	T.R	2SA1360O	1
Q875	HVT2SA1360O	T.R	2SA1360O	1
Q881	HVT2SC3423O	T.R	2SC3423O	1
Q882	HVT2SC3423O	T.R	2SC3423O	1
Q883	HVT2SC3423O	T.R	2SC3423O	1
Q884	HVT2SC3423O	T.R	2SC3423O	1
Q885	HVT2SC3423O	T.R	2SC3423O	1
RY94	HSL1A008ZE	RELAY	SDT-S-112DMR	1
R656	CRF5EKR27HX2K	RES , CEMENT	0.27ohm X 2	1
R657	CRF5EKR27HX2K	RES , CEMENT	0.27ohm X 2	1
R658	CRF5EKR27HX2K	RES , CEMENT	0.27ohm X 2	1
R659	CRF5EKR27HX2K	RES , CEMENT	0.27ohm X 2	1
R660	CRF5EKR27HX2K	RES , CEMENT	0.27ohm X 2	1
R905	CRG1ANJ100H	RES , METAL OXIDE FILM	10 OHM 1W J	1
R990	CRG1ANJ100H	RES , METAL OXIDE FILM	10 OHM 1W J	1
R993	CRG1ANJ100H	RES , METAL OXIDE FILM	10 OHM 1W J	1
R995	CRG1ANJ100H	RES , METAL OXIDE FILM	10 OHM 1W J	1
R997	CRG1ANJ100H	RES , METAL OXIDE FILM	10 OHM 1W J	1
R999	CRG1ANJ100H	RES , METAL OXIDE FILM	10 OHM 1W J	1
TH91	KRTP42T7D330B	THERMAL SENSOR , POSISTOR	P42T7D330BW20	1
T902	CLT5J033YE	TRANS , SUB		1

**POWER TRANS PCB (CUP11916-3,4)**

Ref#	Component	Description	Description 2	Qty
	<b>CUP11916-3,4</b>	<b>PCB , POWER TRANS</b>	<b>PCB</b>	<b>1</b>
BN96	CWB1C909150BM	WIRE ASS'Y	WIRE	1
BN99	CWB1B908270EN	WIRE ASS'Y	WIRE	1
C104	HCBS1H103ZFT	CAP , CERAMIC	0.01UF 50V	1
C105	HCBS1H103ZFT	CAP , CERAMIC	0.01UF 50V	1
C106	CCFT1H104ZF	CAP , SEMICONDUCTOR	0.1UF 50V ZF	1
C107	HCBS1H103ZFT	CAP , CERAMIC	0.01UF 50V	1
C108	HCBS1H103ZFT	CAP , CERAMIC	0.01UF 50V	1

**POWER TRANS PCB (CUP11916-3,4)**

Ref#	Component	Description	Description 2	Qty
C109	CCFT1H104ZF	CAP , SEMICONDUCTOR	0.1UF 50V ZF	1
C117	CCEA1HH4R7T	CAP , ELECT	4.7UF 50V	1
C118	HCBS1H103ZFT	CAP , CERAMIC	0.01UF 50V	1
C119	CCEA1JH470TS	CAP , ELECT	63V/47UF/105°C	1
C120	CCEA1JH470TS	CAP , ELECT	63V/47UF/105°C	1
C121	HCBS1H103ZFT	CAP , CERAMIC	0.01UF 50V	1
C122	CCEA1JH101E	CAP , ELECT	100UF 63V	1
C125	CCFT1H473ZF	CAP , CERAMIC	0.047UF 50V ZF	1
C126	CCFT1H473ZF	CAP , CERAMIC	0.047UF 50V ZF	1
C128	CCEA1EH102E	CAP , ELECT	1000UF 25V	1
C129	CCEA1EH222E	CAP , ELECT	2200UF 25V	1
C131	CCEA1HH4R7T	CAP , ELECT	4.7UF 50V	1
C919	CCKT1H102KB	CAP , CERAMIC	1000PF 50V	1
C920	CCEA1HH470T	CAP , ELECT	47UF 50V	1
C921	HCQI1H104JZT	CAP , MYLAR	0.1UF 50V J	1
C922	HCQI1H104JZT	CAP , MYLAR	0.1UF 50V J	1
C923	HCQI1H104JZT	CAP , MYLAR	0.1UF 50V J	1
C924	HCQI1H104JZT	CAP , MYLAR	0.1UF 50V J	1
C925	HCQI1H103JZT	CAP , MYLAR	0.01UF 50V J	1
C926	HCQI1H103JZT	CAP , MYLAR	0.01UF 50V J	1
C927	HCQI1H103JZT	CAP , MYLAR	0.01UF 50V J	1
C928	HCQI1H103JZT	CAP , MYLAR	0.01UF 50V J	1
C931	HCQI1H473JZT	CAP , MYLAR	0.047UF 50V J	1
C932	HCQI1H473JZT	CAP , MYLAR	0.047UF 50V J	1
C933	HCQI1H473JZT	CAP , MYLAR	0.047UF 50V J	1
C934	HCQI1H473JZT	CAP , MYLAR	0.047UF 50V J	1
CN13	CJP05GA01ZY	CON WAFER YMW025- 05R	WAFER	1
CN19	CJP03GA90ZY	WAFER	WAFER	1
CN20	CJP04GA90ZM	WAFER	WAFER	1
CN81	CJP08GA01ZY	WAFER, STRAIGHT, 8PIN	WAFER	1
D101	HVDMTZJ15BT	DIODE , ZENER	15V 1/2W	1
D102	HVDMTZJ27BT	DIODE , ZENER	27V 1/2W	1
D104	CVD1N4003ST	RECT , DIODE	1N4003	1
D105	CVD1N4003ST	RECT , DIODE	1N4003	1
D108	CVD1N4003ST	RECT , DIODE	1N4003	1
D109	HVDMTZJ12BT	DIODE , ZENER	12V 1/2W	1
D111	HVDMTZJ12BT	DIODE , ZENER	12V 1/2W	1
D114	CVD1N4003ST	RECT , DIODE	1N4003	1
D115	CVD1N4003ST	RECT , DIODE	1N4003	1

**POWER TRANS PCB (CUP11916-3,4)**

Ref#	Component	Description	Description 2	Qty
D116	CVD1N4003ST	RECT , DIODE	1N4003	1
D117	CVD1N4003ST	RECT , DIODE	1N4003	1
D118	CVD1N4003ST	RECT , DIODE	1N4003	1
D119	CVD1N4003ST	RECT , DIODE	1N4003	1
D120	CVD1N4003ST	RECT , DIODE	1N4003	1
D121	CVD1N4003ST	RECT , DIODE	1N4003	1
D124	CVD1N4003ST	RECT , DIODE	1N4003	1
D125	CVD1N4003ST	RECT , DIODE	1N4003	1
D991	HVDKBU804F	DIODE , BRIDGE	KBU804F	1
D992	HVDKBU804F	DIODE , BRIDGE	KBU804F	1
Q104	HVTKSC2316YT	T.R	KSC2316Y	1
Q911	HVTKTA1267YT	T.R	KTA1267Y	1
Q912	HVTKTC3198YT	T.R	KTC3198Y	1
Q913	HVTKTC3198YT	T.R	KTC3198Y	1
R101	CRD25FJ3R3T	RES , CARBON	3.3 OHM 1/4W J	1
R104	KRQ1AJR47H	RES , FUSE	0.47 OHM 1W J	1
R105	KRQ1AJR47H	RES , FUSE	0.47 OHM 1W J	1
R106	CRQ1AJR33H	RES , FUSE	0.33 OHM 1W J	1
R107	CRQ1AJR33H	RES , FUSE	0.33 OHM 1W J	1
R116	CRQ1AJR33H	RES , FUSE	0.33 OHM 1W J	1
R117	CRQ1AJR33H	RES , FUSE	0.33 OHM 1W J	1
R108	CRD20TJ4R7T	RES , CARBON	4.7 OHM 1/5W J	1
R109	CRD20TJ100T	RES , CARBON	10 OHM 1/5W J	1
R110	CRD20TJ4R7T	RES , CARBON	4.7 OHM 1/5W J	1
R112	CRD20TJ122T	RES , CARBON	1.2K OHM 1/5W J	1
R113	CRD20TJ473T	RES , CARBON	47K OHM 1/5W J	1
R120	CRD20TJ103T	RES , CARBON	10K OHM 1/5W J	1
R917	CRD20TJ153T	RES , CARBON	15K OHM 1/5W J	1
R918	CRD20TJ153T	RES , CARBON	15K OHM 1/5W J	1
R919	CRD20TJ153T	RES , CARBON	15K OHM 1/5W J	1
R920	CRD20TJ153T	RES , CARBON	15K OHM 1/5W J	1
R921	CRD20TJ153T	RES , CARBON	15K OHM 1/5W J	1
R922	CRD20TJ153T	RES , CARBON	15K OHM 1/5W J	1
R923	CRD25TJ153T	RES , CARBON	15K OHM 1/5W J	1
R924	CRD20TJ153T	RES , CARBON	15K OHM 1/5W J	1
R925	CRD20TJ103T	RES , CARBON	10K OHM 1/5W J	1
R926	CRD25TJ103T	RES , CARBON	10K OHM 1/5W J	1
R927	CRD20TJ104T	RES , CARBON	100K OHM 1/5W J	1
R928	CRD20TJ333T	RES , CARBON	33K OHM 1/5W J	1

**DIGITAL IN/OUT PCB (CUP11916-1)**

Ref#	Component	Description	Description 2	Qty
	<b>CUP11916-1</b>	<b>PCB , DIGITAL IN/OUT PCB</b>		<b>1</b>
BN17	KJP12GB143ZP	DIP SOCKET	SOCKET	1
C750	CCEA1CH101T	CAP , ELECT	100UF 16V	1
C751	CCEA1CH101T	CAP , ELECT	100UF 16V	1
C754	HCBS1H181KBT	CAP , CERAMIC	180PF 50V	1
C757	CCFT1H104ZF	CAP , SEMICONDUCTOR	0.1UF 50V ZF	1
C760	CCFT1H473ZF	CAP, CERAMIC	0.047UF 50V ZF	1
C761	CCEA1CH101T	CAP , ELECT	100UF 16V	1
IC72	HVI74HCU04AFNG	I.C , INVERTER	TOSHIBA	1
JK75	HJSTORX177L	MODULE , OPTICAL(RX)	OPTICAL JACK	1
JK76	HJSTORX177L	MODULE , OPTICAL(RX)	OPTICAL JACK	1
JK78	CJJ4S022Z	JACK , BOARD	JACK	1
JK79	CJJ4N068Z	JACK , BOARD	JACK	1
R750	CRD20TJ103T	RES , CARBON	10K OHM 1/5W J	1
R751	CRD20TJ103T	RES , CARBON	10K OHM 1/5W J	1
R757	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	1
R765	CRD20TJ104T	RES , CARBON	100K OHM 1/5W J	1
R766	CRD20TJ472T	RES , CARBON	4.7K OHM 1/5W J	1
R767	CRD20TJ472T	RES , CARBON	4.7K OHM 1/5W J	1
R768	CRD20TJ472T	RES , CARBON	4.7K OHM 1/5W J	1
R770	CRD20TJ104T	RES , CARBON	100K OHM 1/5W J	1
R771	CRD20TJ102T	RES , CARBON	1K OHM 1/5W J	1
R776	CRD20TJ104T	RES , CARBON	100K OHM 1/5W J	1

**BIAS TR PCB (CUP11916-2)**

Ref#	Component	Description	Description 2	Qty
	<b>CUP11916-2</b>	<b>PCB , BIAS TR</b>	<b>PCB</b>	<b>1</b>
C851	CCEA1HH100T	CAP , ELECT	10UF 50V	1
C852	CCEA1HH100T	CAP , ELECT	10UF 50V	1
C853	CCEA1HH100T	CAP , ELECT	10UF 50V	1
C854	CCEA1HH100T	CAP , ELECT	10UF 50V	1
C855	CCEA1HH100T	CAP , ELECT	10UF 50V	1
CN31	CJP02GA19ZY	WAFER, 2PIN	WAFER	1
CN32	CJP02GA19ZY	WAFER, 2PIN	WAFER	1
CN33	CJP02GA19ZY	WAFER, 2PIN	WAFER	1
CN34	CJP02GA19ZY	WAFER, 2PIN	WAFER	1
CN35	CJP02GA19ZY	WAFER, 2PIN	WAFER	1
Q851	HVTKTD600KGR	T.R , BIAS	KTD600KGR	1
Q852	HVTKTD600KGR	T.R , BIAS	KTD600KGR	1



**BIAS TR PCB (CUP11916-2)**

Ref#	Component	Description	Description 2	Qty
Q853	HVTKTD600KGR	T.R , BIAS	KTD600KGR	1
Q854	HVTKTD600KGR	T.R , BIAS	KTD600KGR	1
Q855	HVTKTD600KGR	T.R , BIAS	KTD600KGR	1
R874	CRD20TJ331T	RES , CARBON	330 OHM 1/5W J	1
R875	CRD20TJ331T	RES , CARBON	330 OHM 1/5W J	1
R876	CRD20TJ331T	RES , CARBON	330 OHM 1/5W J	1
R877	CRD20TJ331T	RES , CARBON	330 OHM 1/5W J	1
R878	CRD20TJ331T	RES , CARBON	330 OHM 1/5W J	1
R882	CRD20TJ122T	RES , CARBON	1.2K OHM 1/5W J	1
R883	CRD20TJ122T	RES , CARBON	1.2K OHM 1/5W J	1
R884	CRD20TJ122T	RES , CARBON	1.2K OHM 1/5W J	1
R885	CRD20TJ122T	RES , CARBON	1.2K OHM 1/5W J	1
R886	CRD20TJ122T	RES , CARBON	1.2K OHM 1/5W J	1
VR81	HVN1RA221B01T	RES , SEMI FIXED(220 OHM)	RH0615C100221	1
VR82	HVN1RA221B01T	RES , SEMI FIXED(220 OHM)	RH0615C100221	1
VR83	HVN1RA221B01T	RES , SEMI FIXED(220 OHM)	RH0615C100221	1
VR84	HVN1RA221B01T	RES , SEMI FIXED(220 OHM)	RH0615C100221	1
VR85	HVN1RA221B01T	RES , SEMI FIXED(220 OHM)	RH0615C100221	1

**REGULATOR PCB (CUP11916-5,6)**

Ref#	Component	Description	Description 2	Qty
	<b>CUP11916-5,6</b>	<b>PCB , REGULATOR</b>	<b>PCB</b>	<b>1</b>
C902	HCBS1H223ZFT	CAP , CERAMIC	0.022UF 50V	1
C903	HCBS1H223ZFT	CAP , CERAMIC	0.022UF 50V	1
C906	CCEA1CH101T	CAP , ELECT	100UF 16V	1
C907	CCEA1CH101T	CAP , ELECT	100UF 16V	1
C908	CCEA1CH101T	CAP , ELECT	100UF 16V	1
C935	HCBS1H223ZFT	CAP , CERAMIC	0.022UF 50V	1
C936	HCBS1H223ZFT	CAP , CERAMIC	0.022UF 50V	1
C937	HCBS1H223ZFT	CAP , CERAMIC	0.022UF 50V	1
C938	CCEA1CH101T	CAP , ELECT	100UF 16V	1
C939	CCEA1EH101T	CAP , ELECT	100UF 25V	1
C940	CCEA1EH101T	CAP , ELECT	100UF 25V	1
CN89	CJP02GA01ZY	WAFER, STRAIGHT, 2PIN	WAFER	1
CN95	CJP03GA19ZY	WAFER, STRAIGHT, 3PIN	WAFER	1

**REGULATOR PCB (CUP11916-5,6)**

Ref#	Component	Description	Description 2	Qty
CN96	CJP09GA01ZY	CON WAFER YMW025-09R	WAFER	1
CN98	HJP08GB131ZK	WAFER	WAFER	1
CN99	CJP08GA19ZY	WAFER, STRAIGHT, 8PIN	WAFER	1
R912	CRD20TJ153T	RES , CARBON	15K OHM 1/5W J	1
R913	CRD20TJ153T	RES , CARBON	15K OHM 1/5W J	1
BN20	CWB1C905200BM	WIRE ASS'Y	WIRE	1
BN43	CWB1C904200BM	WIRE ASS'Y	WIRE	1
BN95	CWB1C903080EN	WIRE ASS'Y	WIRE	1
C912	CCEA0JKR3222E	CAP , ELECT	2200UF 6.3V	1
C929	CCEA1VH102E	CAP , ELECT	1000UF 35V	1
C930	CCEA1VH102E	CAP , ELECT	1000UF 35V	1
C941	CCEA1CH682E	CAP , ELECT	6800UF 16V	1
IC89	HVIL7805CP	I.C, REGULATOR	ST	1
IC90	HVIL7815CP	I.C, REGULATOR	ST	1
IC91	HVIL7915CP	I.C, REGULATOR	ST	1
IC93	HVIL7905CP	I.C, REGULATOR	ST	1
IC94	HVIL7805CP	I.C, REGULATOR	ST	1
IC95	HVINJM7809FA	IC , REGULATOR	JRC	1

**INPUT PCB (CUP11931-1)**

Ref#	Component	Description	Description 2	Qty
	<b>CUP11931-1</b>	<b>PCB , INPUT</b>	<b>PCB</b>	<b>1</b>
C201	CCUS1H221JA	CAP , CHIP	220PF	1
C202	CCUS1H221JA	CAP , CHIP	220PF	1
C203	CCUS1H221JA	CAP , CHIP	220PF	1
C204	CCUS1H221JA	CAP , CHIP	220PF	1
C205	CCUS1H221JA	CAP , CHIP	220PF	1
C206	CCUS1H221JA	CAP , CHIP	220PF	1
C209	CCUS1H221JA	CAP , CHIP	220PF	1
C210	CCUS1H221JA	CAP , CHIP	220PF	1
C211	CCUS1H221JA	CAP , CHIP	220PF	1
C212	CCUS1H221JA	CAP , CHIP	220PF	1
C213	CCUS1H221JA	CAP , CHIP	220PF	1
C214	CCUS1H221JA	CAP , CHIP	220PF	1
C215	CCUS1H221JA	CAP , CHIP	220PF	1
C216	CCUS1H221JA	CAP , CHIP	220PF	1
C219	CCUS1H221JA	CAP , CHIP	220PF	1
C220	CCUS1H221JA	CAP , CHIP	220PF	1
C221	CCUS1H221JA	CAP , CHIP	220PF	1
C222	CCUS1H221JA	CAP , CHIP	220PF	1
C223	CCUS1H221JA	CAP , CHIP	220PF	1

**INPUT PCB (CUP11931-1)**

Ref#	Component	Description	Description 2	Qty
C224	CCUS1H221JA	CAP , CHIP	220PF	1
C260	CCUS1H104KC	CAP , CHIP	0.1UF	1
C269	CCUS1A105KC	CAP , CHIP	1UF	1
C274	CCUS1A105KC	CAP , CHIP	1UF	1
C277	CCUS1H104KC	CAP , CHIP	0.1UF	1
C279	CCUS1H104KC	CAP , CHIP	0.1UF	1
C280	CCUS1H104KC	CAP , CHIP	0.1UF	1
C289	CCUS1H104KC	CAP , CHIP	0.1UF	1
C290	CCUS1H104KC	CAP , CHIP	0.1UF	1
C291	CCUS1H104KC	CAP , CHIP	0.1UF	1
C293	CCUS1H104KC	CAP , CHIP	0.1UF	1
C299	CCUS1H104KC	CAP , CHIP	0.1UF	1
C301	CCUS1H471JA	CAP , CHIP	470PF	1
C302	CCUS1H471JA	CAP , CHIP	470PF	1
C303	CCUS1H471JA	CAP , CHIP	470PF	1
C304	CCUS1H471JA	CAP , CHIP	470PF	1
C305	CCUS1H471JA	CAP , CHIP	470PF	1
C306	CCUS1H471JA	CAP , CHIP	470PF	1
C309	CCUS1H332KC	CAP , CHIP	3300PF	1
C310	CCUS1H332KC	CAP , CHIP	3300PF	1
C311	CCUS1H332KC	CAP , CHIP	3300PF	1
C312	CCUS1H332KC	CAP , CHIP	3300PF	1
C313	CCUS1H332KC	CAP , CHIP	3300PF	1
C314	CCUS1H332KC	CAP , CHIP	3300PF	1
C317	CCUS1H223KC	CAP , CHIP	0.022UF	1
C318	CCUS1H223KC	CAP , CHIP	0.022UF	1
C319	CCUS1H223KC	CAP , CHIP	0.022UF	1
C321	CCUS1H561JA	CAP , CHIP	560PF	1
C322	CCUS1H561JA	CAP , CHIP	560PF	1
C323	CCUS1H561JA	CAP , CHIP	560PF	1
C324	CCUS1H561JA	CAP , CHIP	560PF	1
C325	CCUS1H561JA	CAP , CHIP	560PF	1
C326	CCUS1H561JA	CAP , CHIP	560PF	1
C327	CCUS1H561JA	CAP , CHIP	560PF	1
C328	CCUS1H561JA	CAP , CHIP	560PF	1
C329	CCUS1H561JA	CAP , CHIP	560PF	1
C330	CCUS1H561JA	CAP , CHIP	560PF	1
C331	CCUS1H561JA	CAP , CHIP	560PF	1
C332	CCUS1H561JA	CAP , CHIP	560PF	1
C337	CCUS1H223KC	CAP , CHIP	0.022UF	1
C338	CCUS1H223KC	CAP , CHIP	0.022UF	1
C339	CCUS1H223KC	CAP , CHIP	0.022UF	1

**INPUT PCB (CUP11931-1)**

Ref#	Component	Description	Description 2	Qty
C350	CCUS1H332KC	CAP , CHIP	3300PF	1
C351	CCUS1H332KC	CAP , CHIP	3300PF	1
C352	CCUS1H332KC	CAP , CHIP	3300PF	1
C353	CCUS1H332KC	CAP , CHIP	3300PF	1
C354	CCUS1H332KC	CAP , CHIP	3300PF	1
C355	CCUS1H332KC	CAP , CHIP	3300PF	1
C369	CCUS1H223KC	CAP , CHIP	0.022UF	1
C370	CCUS1H223KC	CAP , CHIP	0.022UF	1
C381	CCUS1H223KC	CAP , CHIP	0.022UF	1
C382	CCUS1H223KC	CAP , CHIP	0.022UF	1
C383	CCUS1H223KC	CAP , CHIP	0.022UF	1
C384	CCUS1H223KC	CAP , CHIP	0.022UF	1
C385	CCUS1H223KC	CAP , CHIP	0.022UF	1
C386	CCUS1H223KC	CAP , CHIP	0.022UF	1
C391	CCUS1H151JA	CAP , CHIP	150PF	1
C392	CCUS1H151JA	CAP , CHIP	150PF	1
C393	CCUS1H151JA	CAP , CHIP	150PF	1
C394	CCUS1H102KC	CAP , CHIP	1000PF	1
C395	CCUS1H151JA	CAP , CHIP	150PF	1
C396	CCUS1H151JA	CAP , CHIP	150PF	1
C601	CCUS1H104KC	CAP , CHIP	0.1UF	1
C603	CCUS1H104KC	CAP , CHIP	0.1UF	1
C605	CCUS1H104KC	CAP , CHIP	0.1UF	1
C607	CCUS1H104KC	CAP , CHIP	0.1UF	1
C609	CCUS1H104KC	CAP , CHIP	0.1UF	1
C611	CCUS1H104KC	CAP , CHIP	0.1UF	1
C613	CCUS1H104KC	CAP , CHIP	0.1UF	1
C615	CCUS1H104KC	CAP , CHIP	0.1UF	1
C617	CCUS1H104KC	CAP , CHIP	0.1UF	1
C619	CCUS1H104KC	CAP , CHIP	0.1UF	1
C621	CCUS1H104KC	CAP , CHIP	0.1UF	1
C623	CCUS1H104KC	CAP , CHIP	0.1UF	1
C625	CCUS1H104KC	CAP , CHIP	0.1UF	1
C627	CCUS1H104KC	CAP , CHIP	0.1UF	1
C629	CCUS1H104KC	CAP , CHIP	0.1UF	1
C631	CCUS1H104KC	CAP , CHIP	0.1UF	1
C701	CCUS1H150JA	CHIP, CAP 15PF/50V/1608	15PF	1
C702	CCUS1H150JA	CHIP, CAP 15PF/50V/1608	15PF	1
C704	CCUS1H104KC	CAP , CHIP	0.1UF	1
C705	CCUS1H104KC	CAP , CHIP	0.1UF	1

**INPUT PCB (CUP11931-1)**

Ref#	Component	Description	Description 2	Qty
C707	CCUS1H102KC	CAP , CHIP	1000PF	1
C708	CCUS1H104KC	CAP , CHIP	0.1UF	1
C709	CCUS1H102KC	CAP , CHIP	1000PF	1
C711	CCUS1H102KC	CAP , CHIP	1000PF	1
C712	CCUS1H223KC	CAP , CHIP	0.022UF	1
C713	CCUS1H390JA	CAP , CHIP	39PF	1
C714	CCUS1H390JA	CAP , CHIP	39PF	1
C718	CCUS1H104KC	CAP , CHIP	0.1UF	1
C719	CCUS1H104KC	CAP , CHIP	0.1UF	1
C722	CCUS1H104KC	CAP , CHIP	0.1UF	1
C723	CCUS1H473KC	CAP , CHIP	0.047UF	1
C725	CCUS1H104KC	CAP , CHIP	0.1UF	1
C727	CCUS1H104KC	CAP , CHIP	0.1UF	1
C729	CCUS1H104KC	CAP , CHIP	0.1UF	1
C731	CCUS1H104KC	CAP , CHIP	0.1UF	1
C733	CCUS1H104KC	CAP , CHIP	0.1UF	1
C734	CCUS1H102KC	CAP , CHIP	1000PF	1
C735	CCUS1H470JA	CAP , CHIP	47PF	1
C738	CCUS1A105KC	CAP , CHIP	1UF	1
C739	CCUS1H103KC	CAP , CHIP	0.01UF	1
C741	CCUS1H104KC	CAP , CHIP	0.1UF	1
C742	CCUS1H180JA	CHIP, CAP 18PF/50V/1608	18PF	1
C743	CCUS1H104KC	CAP , CHIP	0.1UF	1
C744	CCUS1H180JA	CHIP, CAP 18PF/50V/1608	18PF	1
C745	CCUS1H104KC	CAP , CHIP	0.1UF	1
C746	CCUS1H104KC	CAP , CHIP	0.1UF	1
C747	CCUS1H104KC	CAP , CHIP	0.1UF	1
C748	CCUS1H104KC	CAP , CHIP	0.1UF	1
C751	CCUS1H104KC	CAP , CHIP	0.1UF	1
C755	CCUS1H561JA	CAP , CHIP	560PF	1
C757	CCUS1H104KC	CAP , CHIP	0.1UF	1
C760	CCUS1H104KC	CAP , CHIP	0.1UF	1
C761	CCUS1H104KC	CAP , CHIP	0.1UF	1
C765	CCUS1H104KC	CAP , CHIP	0.1UF	1
C768	CCUS1H104KC	CAP , CHIP	0.1UF	1
C769	CCUS1H104KC	CAP , CHIP	0.1UF	1
C770	CCUS1H104KC	CAP , CHIP	0.1UF	1
C771	CCUS1H104KC	CAP , CHIP	0.1UF	1
C772	CCUS1H104KC	CAP , CHIP	0.1UF	1
C773	CCUS1H104KC	CAP , CHIP	0.1UF	1

**INPUT PCB (CUP11931-1)**

Ref#	Component	Description	Description 2	Qty
D201	CVD1SS355T	CHIP , DIODE	1SS355T	1
D202	CVD1SS355T	CHIP , DIODE	1SS355T	1
D203	CVD1SS355T	CHIP , DIODE	1SS355T	1
D204	CVD1SS355T	CHIP , DIODE	1SS355T	1
D207	CVD1SS355T	CHIP , DIODE	1SS355T	1
D208	CVD1SS355T	CHIP , DIODE	1SS355T	1
D209	CVD1SS355T	CHIP , DIODE	1SS355T	1
D210	CVD1SS355T	CHIP , DIODE	1SS355T	1
D211	CVD1SS355T	CHIP , DIODE	1SS355T	1
D212	CVD1SS355T	CHIP , DIODE	1SS355T	1
D213	CVD1SS355T	CHIP , DIODE	1SS355T	1
D214	CVD1SS355T	CHIP , DIODE	1SS355T	1
D215	CVD1SS355T	CHIP , DIODE	1SS355T	1
D216	CVD1SS355T	CHIP , DIODE	1SS355T	1
IC20	CVINJW1197FC2	IC , SW(WITH VOLUME)	JRC	1
IC21	HVINJM2068MDTE1	I.C , OP AMP	JRC	1
IC22	HVINJM2068MDTE1	I.C , OP AMP	JRC	1
IC23	HVINJM2068MDTE1	I.C , OP AMP	JRC	1
IC25	HVINJM2068MDTE1	I.C , OP AMP	JRC	1
IC31	HVINJM2068MDTE1	I.C , OP AMP	JRC	1
IC32	HVINJM2068MDTE1	I.C , OP AMP	JRC	1
IC33	HVINJM2068MDTE1	I.C , OP AMP	JRC	1
IC72	HVI74HCU04AFNG	I.C , INVERTER	TOSHIBA	1
IC73	HVIAK4589VQ-T	I.C , CODEC + DIR	ASAHI KASEI	1
IC75	CVICS49510-CQ	I.C , DSP	CIRRUS LOGIC	1
IC76	HVIM29W800DT70N	I.C, 4M FLASH MEMORY	ST	1
IC78	HVINJM2391DL133	I.C , CHIP REGULATOR (+3.3V)	JRC	1
IC79	HVILM1117S-1V8	I.C , REGULATOR (1.8V) ETC		1
IC88	HVILM1117S-3V3	I.C , REGULATOR (3.3V) ETC		1
IC89	CVIM24C32WMN6TP	I.C , EEPROM (32 Kbit)	ST	1
IC90	CVIT5CC1	I.C , FLASH U-COM	TOSHIBA	1
IC91	HVI74ACT04MTR	I.C , HEX	TOSHIBA	1
L701	HLZ9Z014Z	CHIP , BEAD	HU-1H4516-600JT	1
L702	HLZ9Z014Z	CHIP , BEAD	HU-1H4516-600JT	1
L703	HLZ9Z014Z	CHIP , BEAD	HU-1H4516-600JT	1
L704	HLZ9R005Z	BEAD CHIP 60(1608 SIZE)	HH-1M1608-600	1

**INPUT PCB (CUP11931-1)**

Ref#	Component	Description	Description 2	Qty
L705	HLZ9R005Z	BEAD CHIP 60(1608 SIZE)	HH-1M1608-600	1
Q729	HVTKRC107S	TR , CHIP	KRC107S	1
Q730	HVTKRC107S	TR , CHIP	KRC107S	1
Q732	HVTKRC107S	TR , CHIP	KRC107S	1
Q734	HVTKRC107S	TR , CHIP	KRC107S	1
RN61	CRJ104DJ103T	RES, ARRAY, 10K (1608)	10K OHM/1608*4	1
RN62	CRJ104DJ103T	RES, ARRAY, 10K (1608)	10K OHM/1608*4	1
RN63	CRJ104DJ103T	RES, ARRAY, 10K (1608)	10K OHM/1608*4	1
RN64	CRJ104DJ101T	RES, ARRAY, 100R (1608)	100 OHM/1608*4	1
RN65	CRJ104DJ101T	RES, ARRAY, 100R (1608)	100 OHM/1608*4	1
RN66	CRJ104DJ101T	RES, ARRAY, 100R (1608)	100 OHM/1608*4	1
RN71	CRJ104DJ103T	RES, ARRAY, 10K (1608)	10K OHM/1608*4	1
RN72	CRJ104DJ103T	RES, ARRAY, 10K (1608)	10K OHM/1608*4	1
RN73	CRJ104DJ103T	RES, ARRAY, 10K (1608)	10K OHM/1608*4	1
RN74	CRJ104DJ330T	RES , 4ARRAY (1608*4)	33 OHM/1608*4	1
RN75	CRJ104DJ330T	RES , 4ARRAY (1608*4)	33 OHM/1608*4	1
RN76	CRJ104DJ330T	RES , 4ARRAY (1608*4)	33 OHM/1608*4	1
RN77	CRJ104DJ330T	RES , 4ARRAY (1608*4)	33 OHM/1608*4	1
RN78	CRJ104DJ330T	RES , 4ARRAY (1608*4)	33 OHM/1608*4	1
RN79	CRJ104DJ330T	RES , 4ARRAY (1608*4)	33 OHM/1608*4	1
RN80	CRJ104DJ330T	RES , 4ARRAY (1608*4)	33 OHM/1608*4	1
RN81	CRJ104DJ330T	RES , 4ARRAY (1608*4)	33 OHM/1608*4	1
RN82	CRJ104DJ330T	RES , 4ARRAY (1608*4)	33 OHM/1608*4	1

**INPUT PCB (CUP11931-1)**

Ref#	Component	Description	Description 2	Qty
RN83	CRJ104DJ330T	RES , 4ARRAY (1608*4)	33 OHM/1608*4	1
RN84	CRJ104DJ330T	RES , 4ARRAY (1608*4)	33 OHM/1608*4	1
RN85	CRJ104DJ330T	RES , 4ARRAY (1608*4)	33 OHM/1608*4	1
RN86	CRJ104DJ103T	RES, ARRAY, 10K (1608)	10K OHM/1608*4	1
RN87	CRJ104DJ330T	RES , 4ARRAY (1608*4)	33 OHM/1608*4	1
RN88	CRJ104DJ103T	RES, ARRAY, 10K (1608)	10K OHM/1608*4	1
RN89	CRJ104DJ103T	RES, ARRAY, 10K (1608)	10K OHM/1608*4	1
RN90	CRJ104DJ330T	RES , 4ARRAY (1608*4)	33 OHM/1608*4	1
RN91	CRJ104DJ330T	RES , 4ARRAY (1608*4)	33 OHM/1608*4	1
RN92	CRJ104DJ101T	RES, ARRAY, 100R (1608)	100 OHM/1608*4	1
R201	CRJ10DJ101T	RES , CHIP	100 OHM	1
R202	CRJ10DJ101T	RES , CHIP	100 OHM	1
R203	CRJ10DJ101T	RES , CHIP	100 OHM	1
R204	CRJ10DJ101T	RES , CHIP	100 OHM	1
R205	CRJ10DJ101T	RES , CHIP	100 OHM	1
R206	CRJ10DJ101T	RES , CHIP	100 OHM	1
R209	CRJ10DJ101T	RES , CHIP	100 OHM	1
R210	CRJ10DJ101T	RES , CHIP	100 OHM	1
R211	CRJ10DJ101T	RES , CHIP	100 OHM	1
R212	CRJ10DJ101T	RES , CHIP	100 OHM	1
R213	CRJ10DJ101T	RES , CHIP	100 OHM	1
R214	CRJ10DJ101T	RES , CHIP	100 OHM	1
R215	CRJ10DJ101T	RES , CHIP	100 OHM	1
R216	CRJ10DJ101T	RES , CHIP	100 OHM	1
R219	CRJ10DJ101T	RES , CHIP	100 OHM	1
R220	CRJ10DJ101T	RES , CHIP	100 OHM	1
R221	CRJ10DJ101T	RES , CHIP	100 OHM	1
R222	CRJ10DJ101T	RES , CHIP	100 OHM	1
R223	CRJ10DJ101T	RES , CHIP	100 OHM	1
R224	CRJ10DJ272T	RES , CHIP	2.7K OHM	1
R227	CRJ10DJ474T	RES , CHIP	470K OHM	1
R228	CRJ10DJ474T	RES , CHIP	470K OHM	1



**INPUT PCB (CUP11931-1)**

Ref#	Component	Description	Description 2	Qty
R229	CRJ10DJ474T	RES , CHIP	470K OHM	1
R230	CRJ10DJ474T	RES , CHIP	470K OHM	1
R231	CRJ10DJ474T	RES , CHIP	470K OHM	1
R232	CRJ10DJ474T	RES , CHIP	470K OHM	1
R235	CRJ10DJ474T	RES , CHIP	470K OHM	1
R236	CRJ10DJ474T	RES , CHIP	470K OHM	1
R237	CRJ10DJ474T	RES , CHIP	470K OHM	1
R238	CRJ10DJ474T	RES , CHIP	470K OHM	1
R239	CRJ10DJ474T	RES , CHIP	470K OHM	1
R240	CRJ10DJ474T	RES , CHIP	470K OHM	1
R241	CRJ10DJ474T	RES , CHIP	470K OHM	1
R242	CRJ10DJ474T	RES , CHIP	470K OHM	1
R245	CRJ10DJ474T	RES , CHIP	470K OHM	1
R246	CRJ10DJ474T	RES , CHIP	470K OHM	1
R247	CRJ10DJ474T	RES , CHIP	470K OHM	1
R248	CRJ10DJ474T	RES , CHIP	470K OHM	1
R249	CRJ10DJ474T	RES , CHIP	470K OHM	1
R250	CRJ10DJ103T	RES , CHIP	10K OHM	1
R253	CRJ10DJ4R7T	RES , CHIP	4.7 OHM	1
R254	CRJ10DJ4R7T	RES , CHIP	4.7 OHM	1
R256	CRJ10DJ4R7T	RES , CHIP	4.7 OHM	1
R257	CRJ10DJ4R7T	RES , CHIP	4.7 OHM	1
R258	CRJ10DJ4R7T	RES , CHIP	4.7 OHM	1
R259	CRJ10DJ4R7T	RES , CHIP	4.7 OHM	1
R260	CRJ10DJ4R7T	RES , CHIP	4.7 OHM	1
R261	CRJ10DJ184T	RES , CHIP	180K OHM	1
R262	CRJ10DJ184T	RES , CHIP	180K OHM	1
R263	CRJ10DJ184T	RES , CHIP	180K OHM	1
R264	CRJ10DJ184T	RES , CHIP	180K OHM	1
R265	CRJ10DJ184T	RES , CHIP	180K OHM	1
R266	CRJ10DJ184T	RES , CHIP	180K OHM	1
R271	CRJ10DJ102T	RES , CHIP	1K OHM	1
R272	CRJ10DJ102T	RES , CHIP	1K OHM	1
R273	CRJ10DJ102T	RES , CHIP	1K OHM	1
R274	CRJ10DJ102T	RES , CHIP	1K OHM	1
R275	CRJ10DJ102T	RES , CHIP	1K OHM	1
R276	CRJ10DJ102T	RES , CHIP	1K OHM	1
R281	CRJ10DJ512T	RES , CHIP	5.1K OHM	1
R282	CRJ10DJ512T	RES , CHIP	5.1K OHM	1
R283	CRJ10DJ512T	RES , CHIP	5.1K OHM	1
R284	CRJ10DJ912T	RES , CHIP	9.1K OHM	1
R285	CRJ10DJ512T	RES , CHIP	5.1K OHM	1

**INPUT PCB (CUP11931-1)**

Ref#	Component	Description	Description 2	Qty
R286	CRJ10DJ512T	RES , CHIP	5.1K OHM	1
R291	CRJ10DJ184T	RES , CHIP	180K OHM	1
R292	CRJ10DJ184T	RES , CHIP	180K OHM	1
R293	CRJ10DJ184T	RES , CHIP	180K OHM	1
R294	CRJ10DJ184T	RES , CHIP	180K OHM	1
R295	CRJ10DJ184T	RES , CHIP	180K OHM	1
R296	CRJ10DJ184T	RES , CHIP	180K OHM	1
R301	CRJ10DJ332T	RES , CHIP	3.3K OHM	1
R302	CRJ10DJ332T	RES , CHIP	3.3K OHM	1
R303	CRJ10DJ332T	RES , CHIP	3.3K OHM	1
R304	CRJ10DJ332T	RES , CHIP	3.3K OHM	1
R305	CRJ10DJ332T	RES , CHIP	3.3K OHM	1
R306	CRJ10DJ332T	RES , CHIP	3.3K OHM	1
R307	CRJ10DJ332T	RES , CHIP	3.3K OHM	1
R308	CRJ10DJ332T	RES , CHIP	3.3K OHM	1
R309	CRJ10DJ332T	RES , CHIP	3.3K OHM	1
R310	CRJ10DJ332T	RES , CHIP	3.3K OHM	1
R311	CRJ10DJ332T	RES , CHIP	3.3K OHM	1
R312	CRJ10DJ332T	RES , CHIP	3.3K OHM	1
R317	CRJ10DJ561T	RES , CHIP	560 OHM	1
R318	CRJ10DF3920T	RES. CHIP (392R 1%)	392 OHM	1
R321	CRJ10DJ512T	RES , CHIP	5.1K OHM	1
R322	CRJ10DJ122T	RES , CHIP	1.2K OHM	1
R323	CRJ10DJ122T	RES , CHIP	1.2K OHM	1
R324	CRJ10DJ512T	RES , CHIP	5.1K OHM	1
R325	CRJ10DJ512T	RES , CHIP	5.1K OHM	1
R326	CRJ10DJ122T	RES , CHIP	1.2K OHM	1
R327	CRJ10DJ122T	RES , CHIP	1.2K OHM	1
R328	CRJ10DJ103T	RES , CHIP	10K OHM	1
R329	CRJ10DJ512T	RES , CHIP	5.1K OHM	1
R330	CRJ10DJ122T	RES , CHIP	1.2K OHM	1
R331	CRJ10DJ122T	RES , CHIP	1.2K OHM	1
R332	CRJ10DJ512T	RES , CHIP	5.1K OHM	1
R341	CRJ10DJ122T	RES , CHIP	1.2K OHM	1
R344	CRJ10DJ122T	RES , CHIP	1.2K OHM	1
R345	CRJ10DJ122T	RES , CHIP	1.2K OHM	1
R348	CRJ10DJ122T	RES , CHIP	1.2K OHM	1
R349	CRJ10DJ122T	RES , CHIP	1.2K OHM	1
R352	CRJ10DJ122T	RES , CHIP	1.2K OHM	1
R361	CRJ10DJ104T	RES , CHIP	100K OHM	1
R362	CRJ10DJ104T	RES , CHIP	100K OHM	1
R363	CRJ10DJ104T	RES , CHIP	100K OHM	1

**INPUT PCB (CUP11931-1)**

Ref#	Component	Description	Description 2	Qty
R364	CRJ10DJ104T	RES , CHIP	100K OHM	1
R365	CRJ10DJ104T	RES , CHIP	100K OHM	1
R366	CRJ10DJ104T	RES , CHIP	100K OHM	1
R371	CRJ10DJ512T	RES , CHIP	5.1K OHM	1
R372	CRJ10DJ512T	RES , CHIP	5.1K OHM	1
R373	CRJ10DJ512T	RES , CHIP	5.1K OHM	1
R374	CRJ10DJ103T	RES , CHIP	10K OHM	1
R375	CRJ10DJ512T	RES , CHIP	5.1K OHM	1
R376	CRJ10DJ512T	RES , CHIP	5.1K OHM	1
R381	CRJ10DJ561T	RES , CHIP	560 OHM	1
R382	CRJ10DJ561T	RES , CHIP	560 OHM	1
R383	CRJ10DJ561T	RES , CHIP	560 OHM	1
R384	CRJ10DJ561T	RES , CHIP	560 OHM	1
R385	CRJ10DJ561T	RES , CHIP	560 OHM	1
R386	CRJ10DJ561T	RES , CHIP	560 OHM	1
R389	CRJ10DJ184T	RES , CHIP	180K OHM	1
R390	CRJ10DJ184T	RES , CHIP	180K OHM	1
R391	CRJ10DF3920T	RES. CHIP (392R 1%)	392 OHM	1
R392	CRJ10DF3920T	RES. CHIP (392R 1%)	392 OHM	1
R393	CRJ10DF3920T	RES. CHIP (392R 1%)	392 OHM	1
R394	CRJ10DF3920T	RES. CHIP (392R 1%)	392 OHM	1
R395	CRJ10DF3920T	RES. CHIP (392R 1%)	392 OHM	1
R396	CRJ10DF3920T	RES. CHIP (392R 1%)	392 OHM	1
R701	CRJ10DJ103T	RES , CHIP	10K OHM	1
R702	CRJ10DJ103T	RES , CHIP	10K OHM	1
R703	CRJ10DJ103T	RES , CHIP	10K OHM	1
R706	CRJ10DJ222T	RES , CHIP	2.2K OHM	1
R707	CRJ10DJ222T	RES , CHIP	2.2K OHM	1
R708	CRJ10DJ101T	RES , CHIP	100 OHM	1
R709	CRJ10DJ103T	RES , CHIP	10K OHM	1
R710	CRJ10DJ103T	RES , CHIP	10K OHM	1
R714	CRJ10DJ104T	RES , CHIP	100K OHM	1
R715	CRJ10DJ104T	RES , CHIP	100K OHM	1
R716	CRJ10DJ472T	RES , CHIP	4.7K OHM	1
R717	CRJ10DJ3R3T	RES , CHIP	3.3 OHM	1
R718	CRJ10DJ123T	RES , CHIP	12K OHM	1
R719	CRJ10DJ473T	RES , CHIP	47K OHM	1
R720	CRJ10DJ473T	RES , CHIP	47K OHM	1
R721	CRJ10DJ330T	RES , CHIP	33 OHM	1
R723	CRJ10DJ2R7T	RES , CHIP	2.7 OHM	1
R724	CRJ10DJ101T	RES , CHIP	100 OHM	1
R725	CRJ10DJ473T	RES , CHIP	47K OHM	1

**INPUT PCB (CUP11931-1)**

Ref#	Component	Description	Description 2	Qty
R726	CRJ10DJ473T	RES , CHIP	47K OHM	1
R727	CRJ10DJ473T	RES , CHIP	47K OHM	1
R728	CRJ10DJ102T	RES , CHIP	1K OHM	1
R729	CRJ10DJ123T	RES , CHIP	12K OHM	1
R730	CRJ10DJ123T	RES , CHIP	12K OHM	1
R737	CRJ10DJ330T	RES , CHIP	33 OHM	1
R739	CRJ10DJ1R0T	RES , CHIP	1 OHM	1
R740	CRJ10DJ820T	RES , CHIP	820 OHM	1
R741	CRJ10DJ330T	RES , CHIP	820 OHM	1
R742	CRJ10DJ330T	RES , CHIP	33 OHM	1
R743	CRJ10DJ330T	RES , CHIP	33 OHM	1
R744	CRJ10DJ0R0T	RES , CHIP	0 OHM	1
R746	CRJ10DJ0R0T	RES , CHIP	0 OHM	1
R747	CRJ10DJ330T	RES , CHIP	33 OHM	1
R748	CRJ10DJ330T	RES , CHIP	33 OHM	1
R751	CRJ10DJ330T	RES , CHIP	33 OHM	1
R752	CRJ10DJ330T	RES , CHIP	33 OHM	1
R753	CRJ10DJ103T	RES , CHIP	10K OHM	1
R754	CRJ10DJ103T	RES , CHIP	10K OHM	1
R756	CRJ10DJ103T	RES , CHIP	10K OHM	1
R759	CRJ10DJ330T	RES , CHIP	33 OHM	1
R760	CRJ10DJ105T	RES , CHIP	1M OHM	1
R765	CRJ10DJ103T	RES , CHIP	10K OHM	1
R766	CRJ10DJ103T	RES , CHIP	10K OHM	1
R767	CRJ10DJ301T	RES , CHIP	300 OHM	1
R768	CRJ10DJ562T	RES , CHIP	5.6K OHM	1
R773	CRJ10DJ332T	RES , CHIP	10 OHM	1
R774	CRJ10DJ332T	RES , CHIP	10K OHM	1
R775	CRJ10DJ332T	RES , CHIP	47K OHM	1
R776	CRJ10DJ332T	RES , CHIP	3.3K OHM	1
R777	CRJ10DJ102T	RES , CHIP	1K OHM	1
R778	CRJ10DJ103T	RES , CHIP	10K OHM	1
R782	CRJ10DJ272T	RES , CHIP	2.7K OHM	1
R783	CRJ10DJ272T	RES , CHIP	2.7K OHM	1
R784	CRJ10DJ473T	RES , CHIP	47K OHM	1
R785	CRJ10DJ104T	RES , CHIP	100K OHM	1
R786	CRJ10DJ471T	RES , CHIP	470 OHM	1
R787	CRJ10DJ103T	RES , CHIP	10K OHM	1
R788	CRJ10DJ103T	RES , CHIP	10K OHM	1
R789	CRJ10DJ103T	RES , CHIP	10K OHM	1
R790	CRJ10DJ103T	RES , CHIP	10K OHM	1
R793	CRJ10DJ103T	RES , CHIP	10K OHM	1

**INPUT PCB (CUP11931-1)**

Ref#	Component	Description	Description 2	Qty
R794	CRJ10DJ102T	RES , CHIP	1K OHM	1
R795	CRJ10DJ102T	RES , CHIP	1K OHM	1
R796	CRJ10DJ102T	RES , CHIP	1K OHM	1
X702	HOX27000E180S	CRYSTAL , CHIP(27MHZ,SMD)	27MHZ	1
C261	CCEA1EH470T	CAP , ELECT	47UF 25V	1
C262	CCEA1EH470T	CAP , ELECT	47UF 25V	1
C263	CCEA1EH470T	CAP , ELECT	47UF 25V	1
C264	CCEA1EH470T	CAP , ELECT	47UF 25V	1
C265	CCEA1EH470T	CAP , ELECT	47UF 25V	1
C266	CCEA1EH470T	CAP , ELECT	47UF 25V	1
C267	CCEA1EH470T	CAP , ELECT	47UF 25V	1
C268	CCEA1EH470T	CAP , ELECT	47UF 25V	1
C272	CCEA1HH100T	CAP , ELECT	10UF 50V	1
C273	CCEA1HH100T	CAP , ELECT	10UF 50V	1
C275	CCEA1HH100T	CAP , ELECT	10UF 50V	1
C276	CCEA1HH100T	CAP , ELECT	10UF 50V	1
C281	CCEA1HH100T	CAP , ELECT	10UF 50V	1
C282	CCEA1HH100T	CAP , ELECT	10UF 50V	1
C283	CCEA1HH100T	CAP , ELECT	10UF 50V	1
C284	CCEA1HH100T	CAP , ELECT	10UF 50V	1
C285	CCEA1HH100T	CAP , ELECT	10UF 50V	1
C286	CCEA1HH100T	CAP , ELECT	10UF 50V	1
C292	CCEA1CH101T	CAP , ELECT	100UF 16V	1
C294	CCEA1CH101T	CAP , ELECT	100UF 16V	1
C341	CCEA1HH100T	CAP , ELECT	10UF 50V	1
C342	CCEA1HH100T	CAP , ELECT	10UF 50V	1
C343	CCEA1HH100T	CAP , ELECT	10UF 50V	1
C344	CCEA1HH100T	CAP , ELECT	10UF 50V	1
C345	CCEA1HH100T	CAP , ELECT	10UF 50V	1
C346	CCEA1HH100T	CAP , ELECT	10UF 50V	1
C349	CCEA1CH101T	CAP , ELECT	100UF 16V	1
C358	CCEA1CH101T	CAP , ELECT	100UF 16V	1
C359	CCEA1CH101T	CAP , ELECT	100UF 16V	1
C360	CCEA1CH101T	CAP , ELECT	100UF 16V	1
C371	CCEA1HH100T	CAP , ELECT	10UF 50V	1
C372	CCEA1HH100T	CAP , ELECT	10UF 50V	1
C373	CCEA1HH100T	CAP , ELECT	10UF 50V	1
C374	CCEA1HH100T	CAP , ELECT	10UF 50V	1
C375	CCEA1HH100T	CAP , ELECT	10UF 50V	1
C376	CCEA1HH100T	CAP , ELECT	10UF 50V	1
C389	CCEA1HH100T	CAP , ELECT	10UF 50V	1

**INPUT PCB (CUP11931-1)**

Ref#	Component	Description	Description 2	Qty
C390	CCEA1HH100T	CAP , ELECT	10UF 50V	1
C600	CCEA1CH101T	CAP , ELECT	100UF 16V	1
C602	CCEA1CH101T	CAP , ELECT	100UF 16V	1
C604	CCEA1CH101T	CAP , ELECT	100UF 16V	1
C606	CCEA1CH101T	CAP , ELECT	100UF 16V	1
C608	CCEA1CH101T	CAP , ELECT	100UF 16V	1
C610	CCEA1CH101T	CAP , ELECT	100UF 16V	1
C612	CCEA1CH101T	CAP , ELECT	100UF 16V	1
C614	CCEA1CH101T	CAP , ELECT	100UF 16V	1
C616	CCEA1CH101T	CAP , ELECT	100UF 16V	1
C618	CCEA1CH101T	CAP , ELECT	100UF 16V	1
C620	CCEA1CH101T	CAP , ELECT	100UF 16V	1
C622	CCEA1CH101T	CAP , ELECT	100UF 16V	1
C624	CCEA1CH101T	CAP , ELECT	100UF 16V	1
C626	CCEA1CH101T	CAP , ELECT	100UF 16V	1
C628	CCEA1CH101T	CAP , ELECT	100UF 16V	1
C630	CCEA1CH101T	CAP , ELECT	100UF 16V	1
C703	CCEA1CH101T	CAP , ELECT	100UF 16V	1
C706	CCEA1CH101T	CAP , ELECT	100UF 16V	1
C717	CCEA1CH101T	CAP , ELECT	100UF 16V	1
C720	CCEA1AH471T	CAP , ELECT	470UF 10V	1
C721	CCEA1AH471T	CAP , ELECT	470UF 10V	1
C724	CCEA1AH471T	CAP , ELECT	470UF 10V	1
C726	CCEA1CH101T	CAP , ELECT	100UF 16V	1
C728	CCEA1AH471T	CAP , ELECT	470UF 10V	1
C730	CCEA1CH101T	CAP , ELECT	100UF 16V	1
C736	CCEA1HH2R2T	CAP , ELECT	2.2UF 50V	1
C737	CCEA1CH101T	CAP , ELECT	100UF 16V	1
C740	CCEA1CH101T	CAP , ELECT	100UF 16V	1
C749	CCEA1CH101T	CAP , ELECT	100UF 16V	1
C764	CCEA0JH102T	CAP , ELECT	1000UF 6.3V	1
C766	CCEA0JH102T	CAP , ELECT	1000UF 6.3V	1
C767	CCEA1CKS100T	CAP , ELECT	10UF 16V	1
C774	CCEA1CH101T	CAP , ELECT	100UF 16V	1
D221	CVD1N4003ST	RECT , DIODE	1N4003	1
D222	CVD1N4003ST	RECT , DIODE	1N4003	1
D703	CVD1N4003ST	RECT , DIODE	1N4003	1
D704	CVD1N4003SRT	RECT , DIODE	1N4003	1
IC87	HVIRE5VT28CATZ	IC , RESET	RICOH	1
J101	C3A206	WIRE , COPPER	SN95/PB5 , 0.6	0.018
J102	C3A206	WIRE , COPPER	SN95/PB5 , 0.6	0.018
Q301	HVTKTC2874BT	T.R , MUTE	KTC2874B	1

**INPUT PCB (CUP11931-1)**

Ref#	Component	Description	Description 2	Qty
Q302	HVTKTC2874BT	T.R , MUTE	KTC2874B	1
Q303	HVTKTC2874BT	T.R , MUTE	KTC2874B	1
Q304	HVTKTC2874BT	T.R , MUTE	KTC2874B	1
Q305	HVTKTC2874BT	T.R , MUTE	KTC2874B	1
Q306	HVTKTC2874BT	T.R , MUTE	KTC2874B	1
Q311	HVTKTC2874BT	T.R , MUTE	KTC2874B	1
CN10	CJP04GB46ZY	WAFER	WAFER	1
CN11	CJP13GA117ZY	WAFER , CARD CABLE	WAFER	1
CN12	CJP21GA115ZY	WAFER , CARD CABLE	WAFER	1
CN13	CJP13GA115ZY	WAFER , CARD CABLE	WAFER	1
CN14	CJP09GA117ZY	WAFER	WAFER	1
CN17	KJP12GB142ZP	PIN HEADER	WAFER	1
CN18	CJP05GA19ZY	WAFER, STRAIGHT, 5PIN	WAFER	1
CN19	CJP09GA117ZY	WAFER	WAFER	1
CN20	CJP05GA01ZY	CON WAFER YMW025- 05R	WAFER	1
CN22	CJP06GA19ZY	WAFER, STRAIGHT, 6PIN	WAFER	1
CN72	CJP17GA117ZY	WAFER	WAFER	1
C732	CCEA0JKR3222E	CAP , ELECT	2200UF 6.3V	1
IC36	HVIL7808CP	I.C , REGULATOR (+8V)	ST	1
IC37	HVINJM7908FA	I.C REGULATOR	JRC	1
JK11	CJJ4R019W	TERMINAL , IN/OUT	TERMINAL JACK	1
JK12	CJJ4P014W	JACK , IN/OUT	TERMINAL JACK	1
JK13	CJJ4R019W	TERMINAL , IN/OUT	TERMINAL JACK	1
JK14	CJJ4P043W	JACK IN/OUT	JACK	1
R712	CRD20TJ103T	RES , CARBON	10K OHM 1/5W J	1
R732	CRD20TJ103T	RES , CARBON	10K OHM 1/5W J	1
X701	HOX24576E150TF	CRYSTAL	24.576MHZ	1

**RDS PCB (CUP11931-2)**

Ref#	Component	Description	Description 2	Qty
	<b>CUP11931-2</b>	<b>PCB , RDS</b>	<b>PCB</b>	<b>1</b>
C709	CCUS1H102KC	CAP , CHIP	1000PF	1
C711	CCUS1H102KC	CAP , CHIP	1000PF	1
C712	CCUS1H223KC	CAP , CHIP	0.022UF	1
C713	CCUS1H390JA	CAP , CHIP	39PF	1
C714	CCUS1H390JA	CAP , CHIP	39PF	1

**RDS PCB (CUP11931-2)**

Ref#	Component	Description	Description 2	Qty
C755	CCUS1H561JA	CAP , CHIP	560PF	1
C767	HCEC1CRV2100T	CAP , ELEC (SMD)	10UF / 16V	1
C774	HCEC1CRV2101T	CAP , ELEC (SMD)	100UF / 16V	1
R703	CRJ10DJ103T	RES , CHIP	10K OHM	1
R706	CRJ10DJ222T	RES , CHIP	2.2K OHM	1
R707	CRJ10DJ222T	RES , CHIP	2.2K OHM	1
R708	CRJ10DJ101T	RES , CHIP	100 OHM	1
BN49	CWB2B905080EN	WIRE ASS'Y	WIRE	1
CN49	CJP05GA19ZY	WAFER, STRAIGHT, 5PIN	WAFER	1
X703	HOX04332E200C	CRYSTAL	4.3321MHz	1
IC74	HVILC72723M	IC , PLL (RDS)		1

**VIDEO PCB (CUP11930)**

Ref#	Component	Description	Description 2	Qty
	<b>CUP11930Z</b>	<b>PCB , VIDEO</b>	<b>PCB</b>	<b>1</b>
C401	HCBS1H101KBT	CAP , CERAMIC	100PF	1
C402	HCBS1H101KBT	CAP , CERAMIC	100PF	1
C403	HCBS1H101KBT	CAP , CERAMIC	100PF	1
C411	CCEA1HH100T	CAP , ELECT	10UF 50V	1
C412	CCEA1HH100T	CAP , ELECT	10UF 50V	1
C413	CCEA1HH100T	CAP , ELECT	10UF 50V	1
C421	CCEA1HH100T	CAP , ELECT	10UF 50V	1
C422	CCEA1HH100T	CAP , ELECT	10UF 50V	1
C423	CCEA1HH100T	CAP , ELECT	10UF 50V	1
C451	CCEA1HH100T	CAP , ELECT	10UF 50V	1
C452	CCEA1HH100T	CAP , ELECT	10UF 50V	1
C453	CCEA1HH100T	CAP , ELECT	10UF 50V	1
C461	HCBS1H223ZFT	CAP , CERAMIC	0.022UF	1
C462	CCEA1CH101T	CAP , ELECT	100UF 16V	1
C463	HCBS1H223ZFT	CAP , CERAMIC	0.022UF	1
C464	CCEA1CH101T	CAP , ELECT	100UF 16V	1
C466	HCBS1H223ZFT	CAP , CERAMIC	0.022UF	1
C467	CCEA1CH101T	CAP , ELECT	100UF 16V	1
C468	HCBS1H223ZFT	CAP , CERAMIC	0.022UF	1
C469	CCEA1CH101T	CAP , ELECT	100UF 16V	1
C471	HCBS1H223ZFT	CAP , CERAMIC	0.022UF	1
C472	CCEA1CH101T	CAP , ELECT	100UF 16V	1
C473	HCBS1H223ZFT	CAP , CERAMIC	0.022UF	1
C474	CCEA1CH101T	CAP , ELECT	100UF 16V	1
C491	HCBS1H101KBT	CAP , CERAMIC	100PF	1
C492	HCBS1H101KBT	CAP , CERAMIC	100PF	1
C493	HCBS1H101KBT	CAP , CERAMIC	100PF	1



**VIDEO PCB (CUP11930)**

Ref#	Component	Description	Description 2	Qty
C601	HCBS1H220JCT	CAP , CERAMIC	22PF	1
C602	CCEA0JH102T	CAP , ELECT	1000UF 6.3V	1
C603	HCBS1H220JCT	CAP , CERAMIC	22PF	1
C604	CCEA0JH102T	CAP , ELECT	1000UF 6.3V	1
C605	HCBS1H220JCT	CAP , CERAMIC	22PF	1
C606	CCEA0JH102T	CAP , ELECT	1000UF 6.3V	1
C611	HCBS1H220JCT	CAP , CERAMIC	22PF	1
C612	CCEA1HH100T	CAP , ELECT	10UF 50V	1
C613	HCBS1H220JCT	CAP , CERAMIC	22PF	1
C614	CCEA1HH100T	CAP , ELECT	10UF 50V	1
C615	HCBS1H220JCT	CAP , CERAMIC	22PF	1
C616	CCEA1HH100T	CAP , ELECT	10UF 50V	1
C621	HCBS1H220JCT	CAP , CERAMIC	22PF	1
C622	CCEA1HH100T	CAP , ELECT	10UF 50V	1
C623	HCBS1H220JCT	CAP , CERAMIC	22PF	1
C624	CCEA1HH100T	CAP , ELECT	10UF 50V	1
C625	HCBS1H220JCT	CAP , CERAMIC	22PF	1
C626	CCEA1HH100T	CAP , ELECT	10UF 50V	1
C671	CCEA1CH101T	CAP , ELECT	100UF 16V	1
C672	HCBS1H104ZFT	CAP , CERAMIC	22PF	1
C673	CCEA1HH100T	CAP , ELECT	10UF 50V	1
R401	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	1
R402	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	1
R403	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	1
R411	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	1
R412	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	1
R413	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	1
R421	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	1
R422	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	1
R423	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	1
R451	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	1
R452	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	1
R453	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	1
R461	CRD20TJ102T	RES , CARBON	1K OHM 1/5W J	1
R466	CRD20TJ102T	RES , CARBON	1K OHM 1/5W J	1
R471	CRD20TJ102T	RES , CARBON	1K OHM 1/5W J	1
R491	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	1
R492	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	1
R493	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	1
R601	CRD20TJ680T	RES , CARBON	68 OHM 1/5W J	1
R603	CRD20TJ560T	RES , CARBON	56 OHM 1/5W J	1
R605	CRD20TJ620T	RES , CARBON	1/5W 62 OHM	1

**VIDEO PCB (CUP11930)**

Ref#	Component	Description	Description 2	Qty
R611	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	1
R612	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	1
R613	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	1
R621	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	1
R622	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	1
R623	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	1
CN14	CJP09GA117ZY	WAFER	WAFER	1
CN41	CJP06GA19ZY	WAFER, STRAIGHT, 6PIN	WAFER	1
CN43	CJP04GA01ZY	WAFER, STRAIGHT, 4PIN	WAFER	1
IC41	CVINJM2595MTE1	I.C , VIDEO S/W	JRC	1
IC42	CVINJM2595MTE1	I.C , VIDEO S/W	JRC	1
IC43	CVINJM2595MTE1	I.C , VIDEO S/W	JRC	1
IC61	CVINJW1321FP1	I.C , VIDEO S/W	JRC	1
JK40	CJJ9P003Z	JACK , (S-VIDEO + CVBS)	JACK	1
JK41	CJJ9R001Z	JACK , (S-VIDEO + CVBS)	JACK	1
JK62	CJJ4R045Z	JACK , BOARD	JACK	1
JK69	CJJ4S030Z	JACK , BOARD	JACK	1

# Troubleshooting Guide

SYMPTOM	CAUSE	SOLUTION
Unit does not function when <b>Main Power Switch 1</b> is pushed	<ul style="list-style-type: none"> <li>No AC Power</li> </ul>	<ul style="list-style-type: none"> <li>Make certain AC power cord is plugged into a live outlet</li> <li>Check to see if outlet is switch controlled</li> </ul>
Display lights, but no sound or picture	<ul style="list-style-type: none"> <li>Intermittent input connections</li> <li><b>Mute</b> is on</li> <li>Volume control is down</li> </ul>	<ul style="list-style-type: none"> <li>Make certain that all input and speaker connections are secure</li> <li>Press <b>Mute</b> button <b>34</b></li> <li>Turn up volume control</li> </ul>
Sound is heard, but Front-Panel Display does not light	<ul style="list-style-type: none"> <li>Display brightness is turned off</li> </ul>	<ul style="list-style-type: none"> <li>Follow the instructions in the Display Brightness section on page 27 so that the display is set to VFD FULL</li> </ul>
No sound from any speaker; light around <b>Power switch 2</b> is red	<ul style="list-style-type: none"> <li>Amplifier is in protection mode due to possible short</li> <li>Amplifier is in protection mode due to internal problems</li> </ul>	<ul style="list-style-type: none"> <li>Check speaker-wire connections for shorts at receiver and speaker ends</li> <li>Contact your local Harman Kardon service depot</li> </ul>
No sound from surround or center speakers	<ul style="list-style-type: none"> <li>Incorrect surround mode</li> <li>Incorrect configuration</li> <li>Stereo or Mono program material</li> <li>Speakers not properly connected</li> </ul>	<ul style="list-style-type: none"> <li>Select a mode other than Stereo</li> <li>Check speaker mode</li> <li>With (analog or digital) Dolby surround modes, the surround decoder may not create rear-channel information from non-encoded programs</li> <li>Check speaker-wire connections or use test tone to verify connections (see page 20)</li> </ul>
Unit does not respond to remote commands	<ul style="list-style-type: none"> <li>Weak batteries in remote</li> <li>Wrong device selected</li> <li><b>Remote sensor 15</b> is obscured</li> </ul>	<ul style="list-style-type: none"> <li>Change remote batteries</li> <li>Press the <b>AVR selector 6</b></li> <li>Make certain front-panel sensor is visible to remote or connect remote sensor</li> </ul>
Intermittent buzzing in tuner	<ul style="list-style-type: none"> <li>Local interference</li> </ul>	<ul style="list-style-type: none"> <li>Move unit or antenna away from computers, fluorescent lights, motors or other electrical appliances</li> </ul>
Letters flash in the <b>Channel Indicator Display 30</b> and Digital Audio stops	<ul style="list-style-type: none"> <li>Digital audio feed paused</li> </ul>	<ul style="list-style-type: none"> <li>Resume play for DVD</li> <li>Check that Digital Signal is fed to the Digital Input selected</li> </ul>

## Processor Reset

In the rare case where the unit's operation or the displays seem abnormal, the cause may involve the erratic operation of the system's memory or microprocessor.

To correct this problem, first unplug the unit from the AC wall outlet and wait at least three minutes. After the pause, reconnect the AC power cord and check the unit's operation. If the system still malfunctions, a system reset may clear the problem.

To clear the AVR's entire system memory including tuner presets, output level settings, delay times and speaker configuration data, first put the unit in Standby by pressing the **System Power Control** button **2**. Next, press and hold the Surround Mode Button **7** for 5 seconds.

The unit will turn on automatically. Note that once you have cleared the memory in this manner, it is necessary to re-establish all system configuration settings and tuner presets.

**NOTE:** Resetting the processor will erase any configuration settings you have made for speakers, output levels, surround modes, digital input assignments as well as the tuner presets. After a reset the unit will be returned to the factory presets, and all settings for these items must be reentered.

If the system is still operating incorrectly, there may have been an electronic discharge or severe AC line interference that has corrupted the memory or microprocessor.

If these steps do not solve the problem, consult an authorized Harman Kardon service depot.

# AMPLIFIER SECTION BIAS ADJUSTMENT

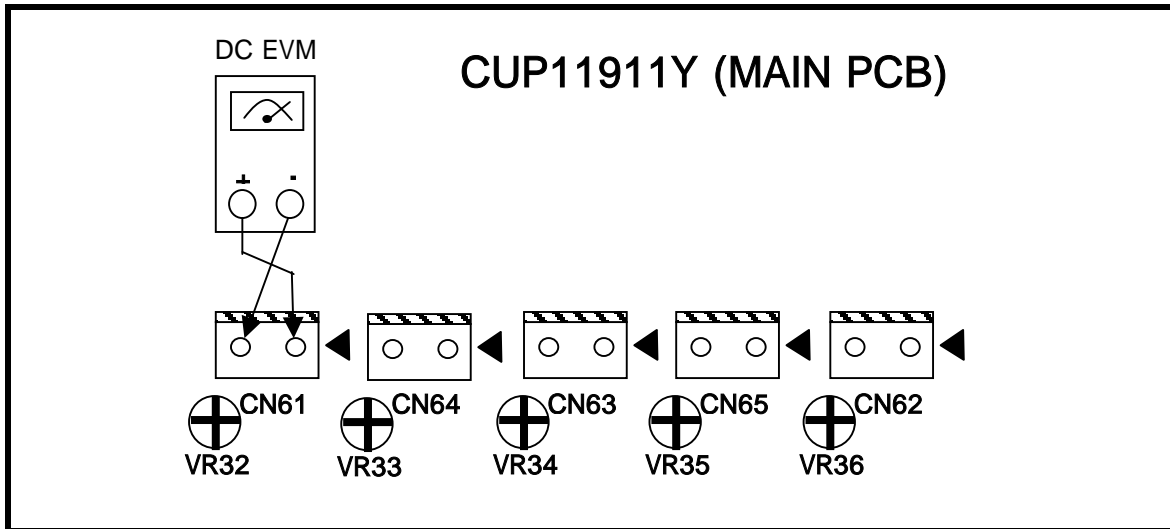
## Measurement condition

.No input signal or volume position is minimum.

## Standard value

.Ideal current = 48mA ( $\pm 5\%$ )

.Ideal DC Voltage = 25.92mV ( $\pm 5\%$ )

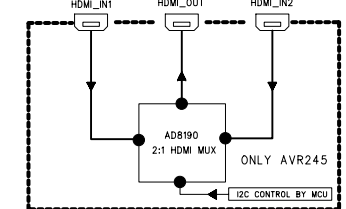
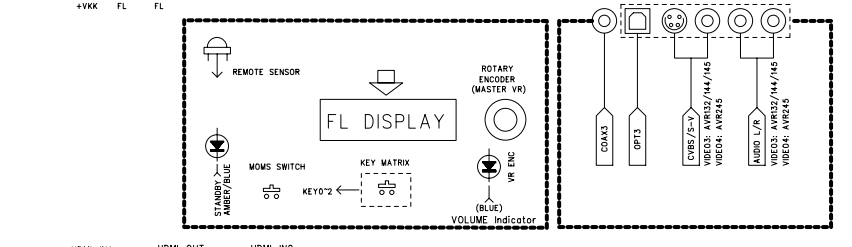
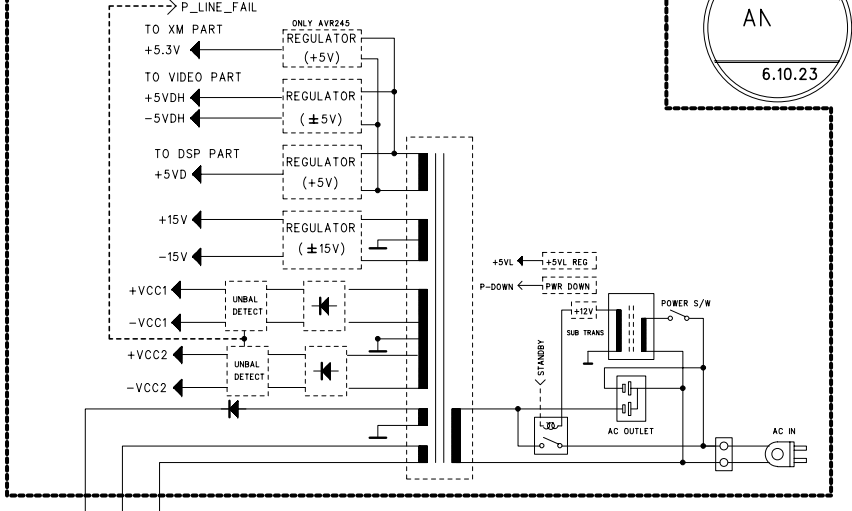
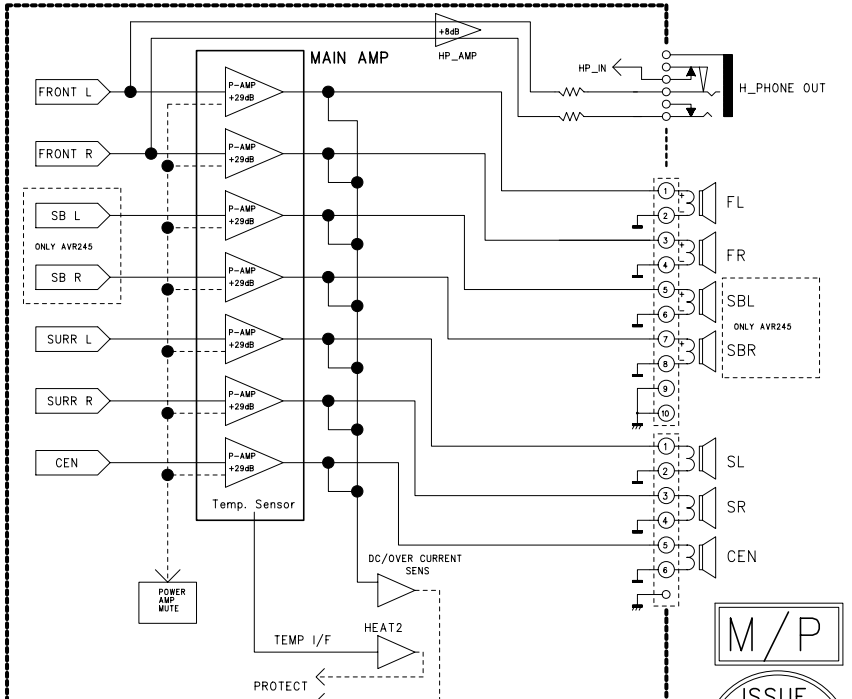
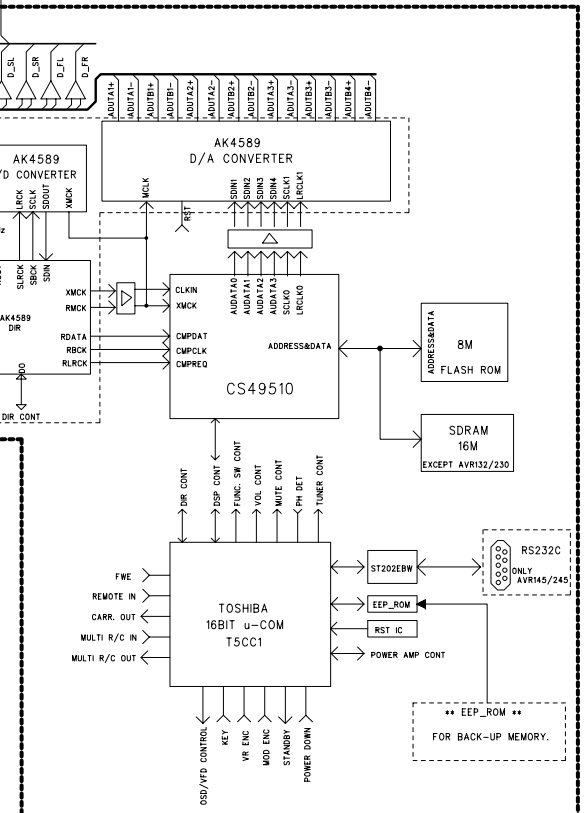
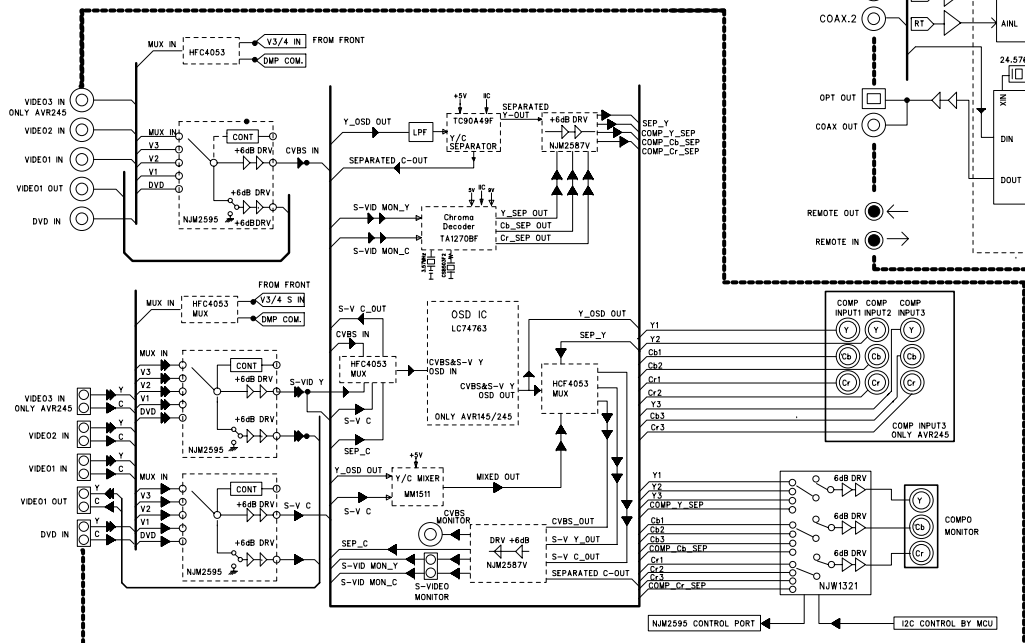
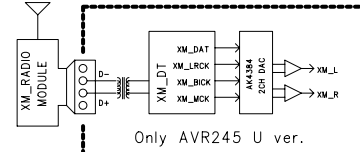
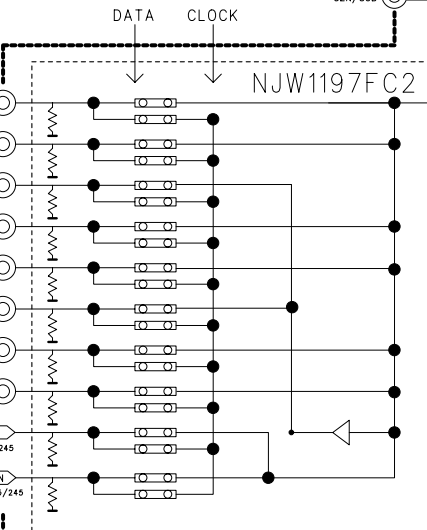
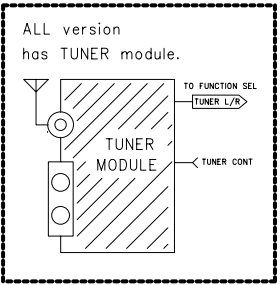
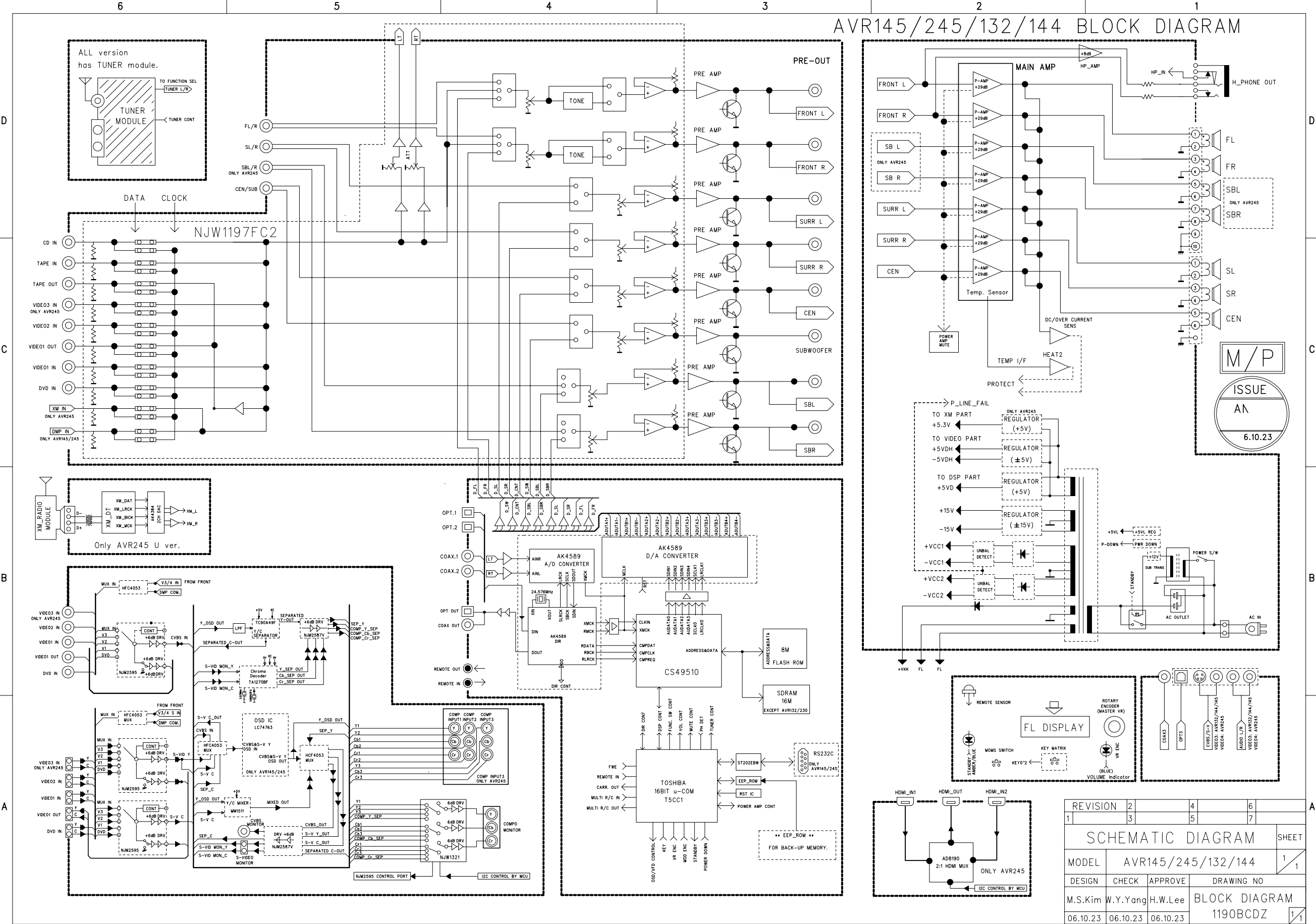


## DC VOLTMETER ; Connect to

CN66(SL),CN61(CEN),CN64(SR),CN63(FL),CN65(SBL/SL(AVR132,144,145)),CN62(FR),CN67(SBR)

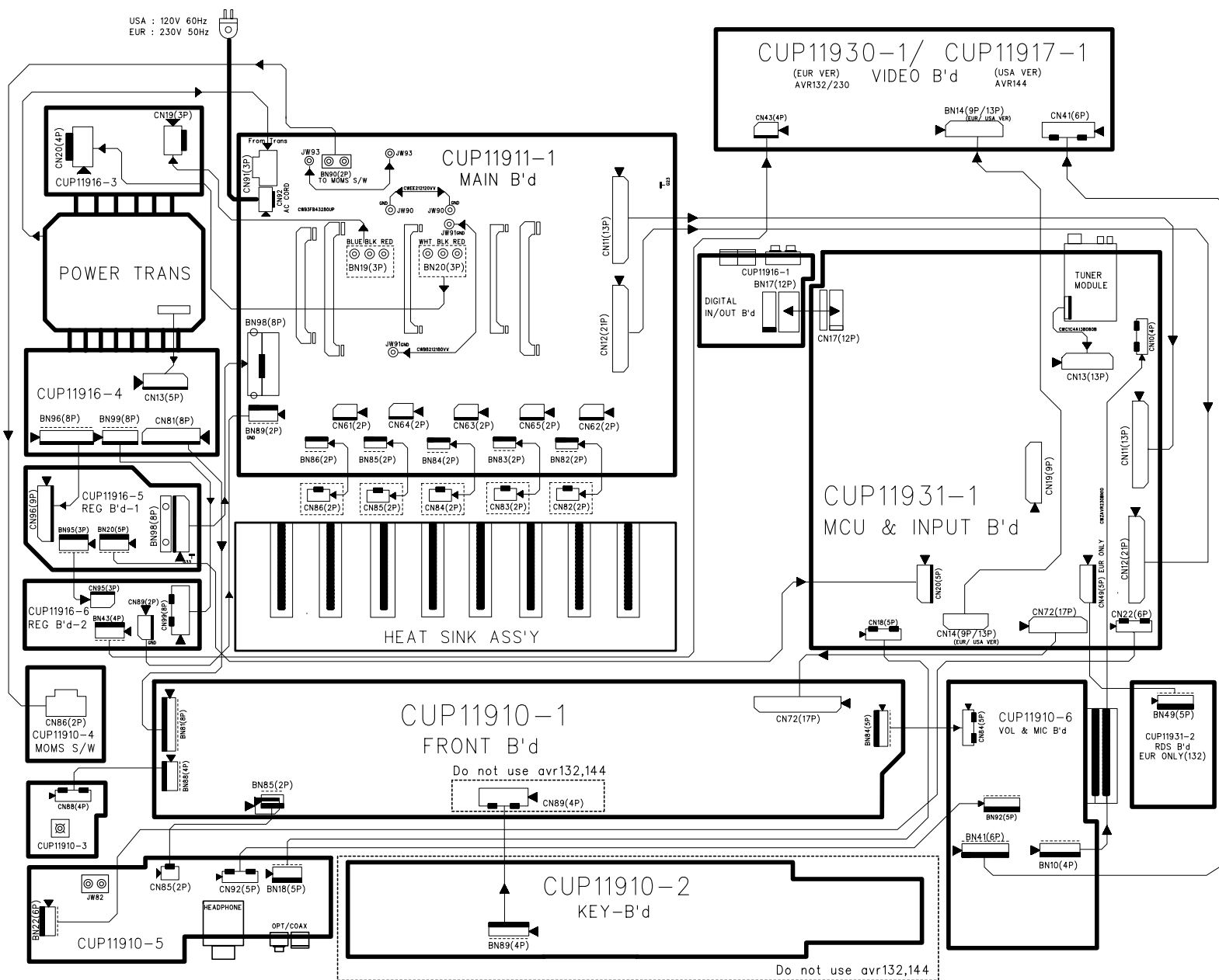
NO.	Channel	Adjust for	Adjustment
1	Front Left	25.92mV ( $\pm 5\%$ )	CN63
2	Front Right	25.92mV ( $\pm 5\%$ )	CN62
3	Center	25.92mV ( $\pm 5\%$ )	CN61
4	Surround Left	25.92mV ( $\pm 5\%$ )	CN65
5	Surround Right	25.92mV ( $\pm 5\%$ )	CN64

# AVR145/245/132/144 BLOCK DIAGRAM



REVISION	2	4	6
1	3	5	7
SCHEMATIC DIAGRAM			
MODEL	AVR145/245/132/144		
DESIGN	CHECK	APPROVE	DRAWING NO
M.S.Kim	W.Y.Young	H.W.Lee	BLOCK DIAGRAM
06.10.23	06.10.23	06.10.23	1190BCDZ

# AVR132/144 WIRING DIAGRAM

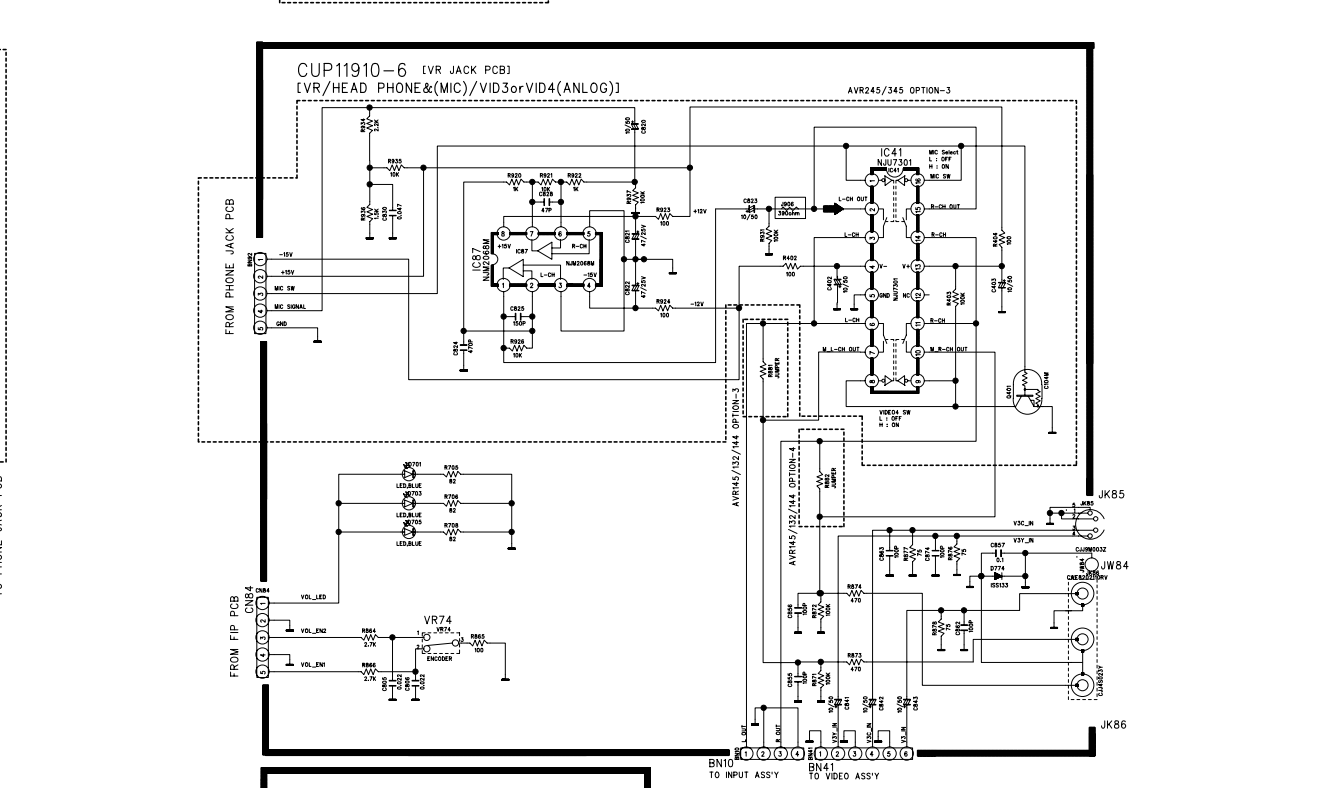
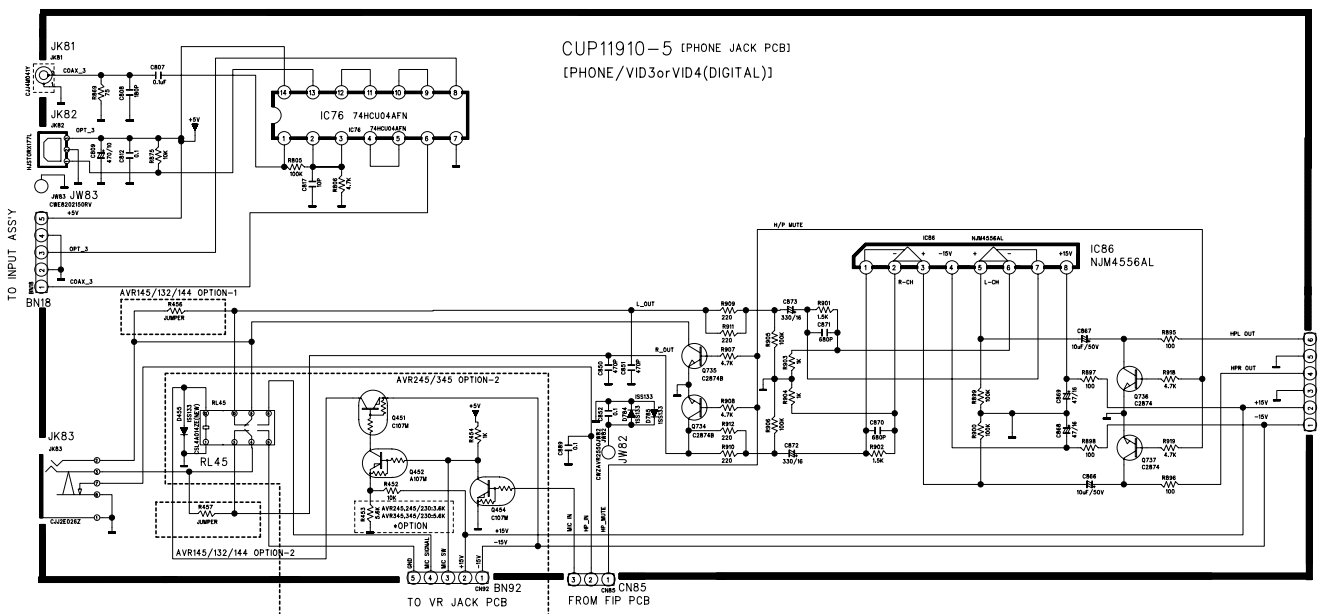
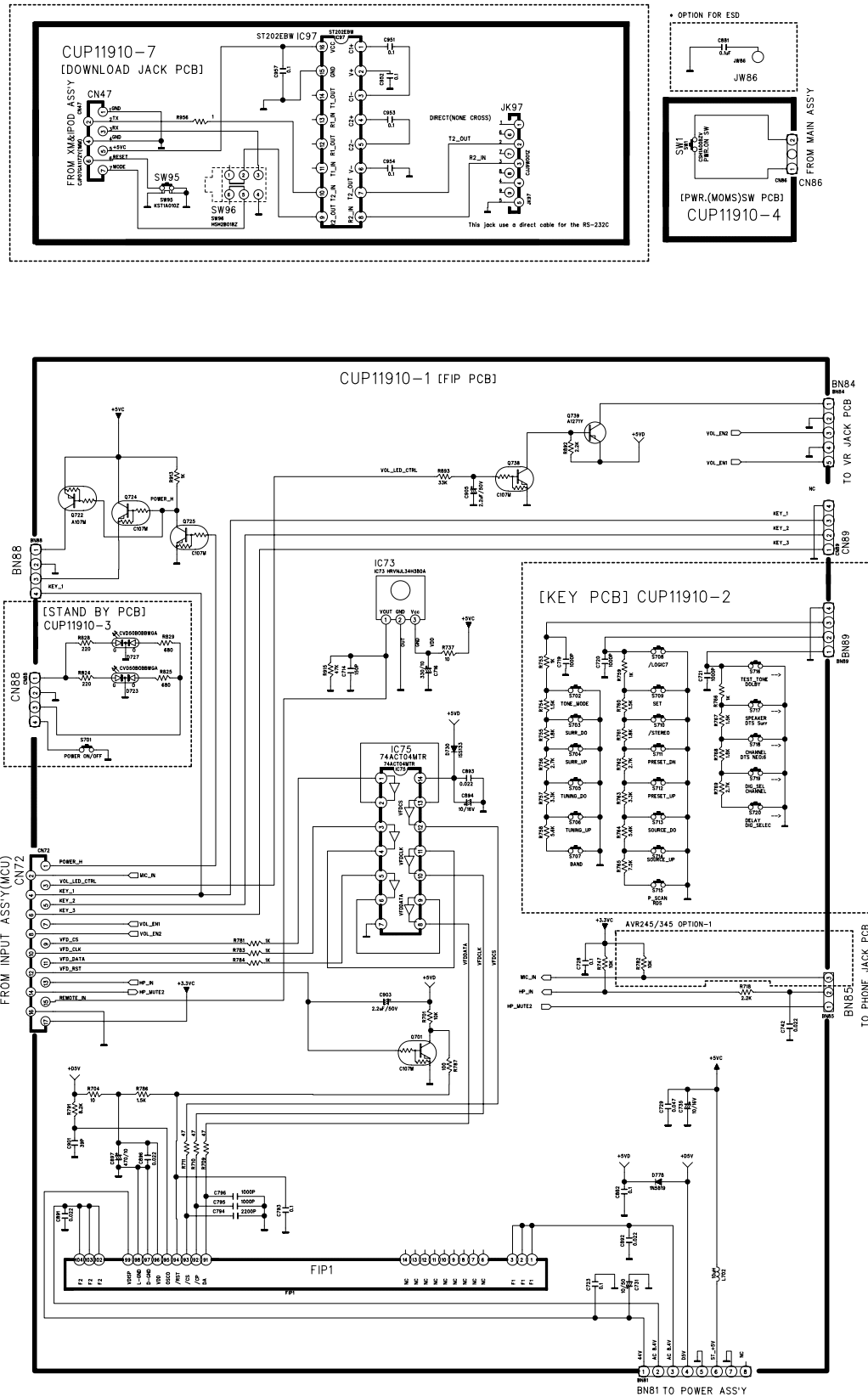


MP ISSUE  
ANAM  
MULTILAB  
2006.10.23

REVISION	2	4	6
1	3	5	7
SCHEMATIC DIAGRAM SHEET			
MODEL	AVR132,144		
DESIGN	CHECK	APPROVE	DRAWING NO
J.T.B	W.Y.Y	H.Y.L	WIRING DIAGRAM
2006.10.23	2006.10.23	2006.10.23	1190WCDZ

# CUP11910Y

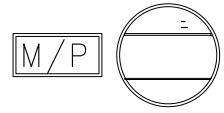
AVR145/245/345 OPTION-1



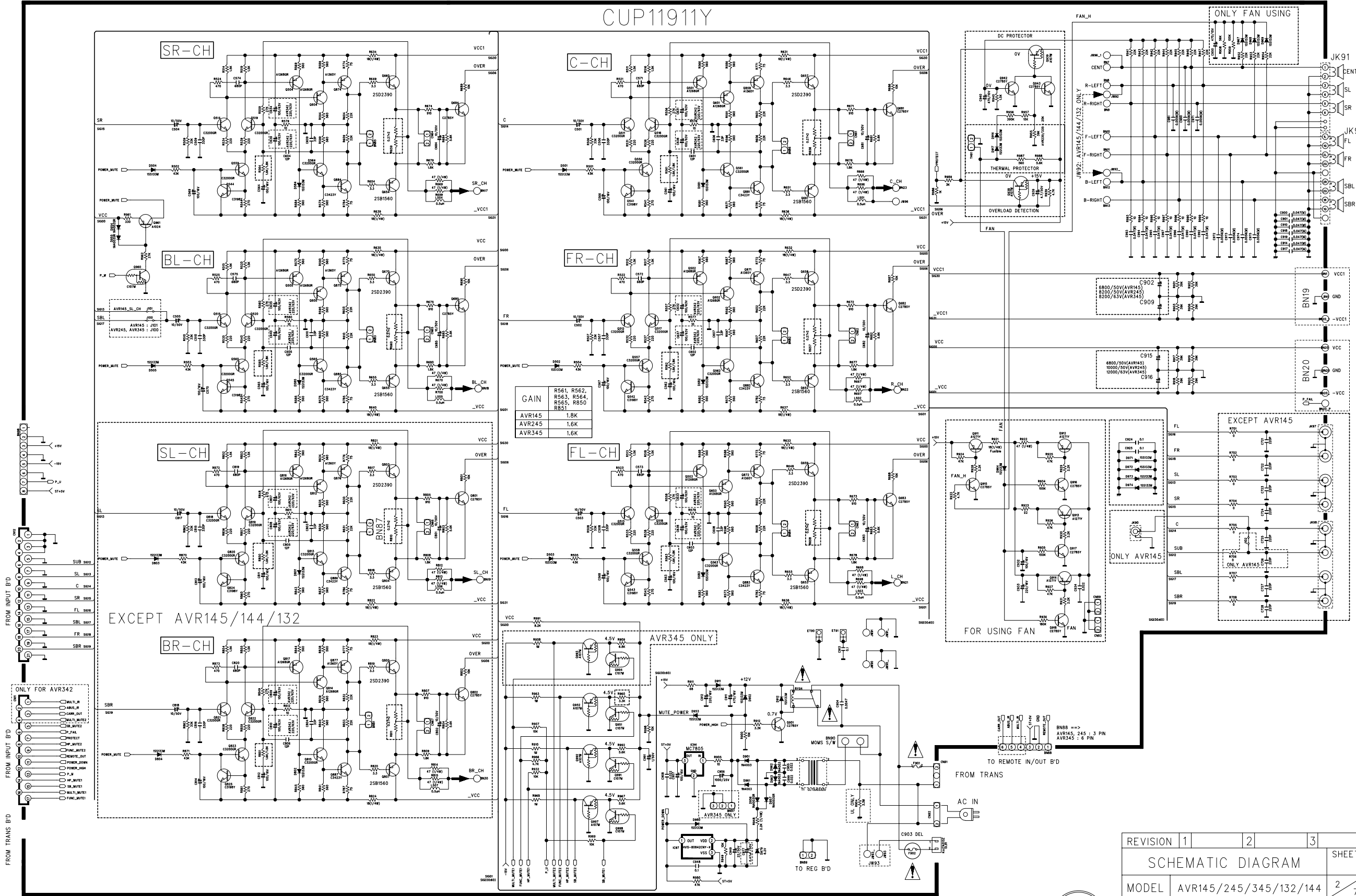
REVISION	2	4	6
1	3	5	7

**SCHEMATIC DIAGRAM SHEET**

MODEL	AVR145/245/345/132/144			1/7
DESIGN	CHECK	APPROVE	DRAWING NO	
S.H.Y	Y.W.Y	H.Y.L	CUP11910SCMY	
06.10.23	06.10.23	06.10.23		



# CUP11911Y



**GAIN**

R561, R562, R563, R564, R565, R560	1.8K
AVR145	1.6K
AVR345	1.6K

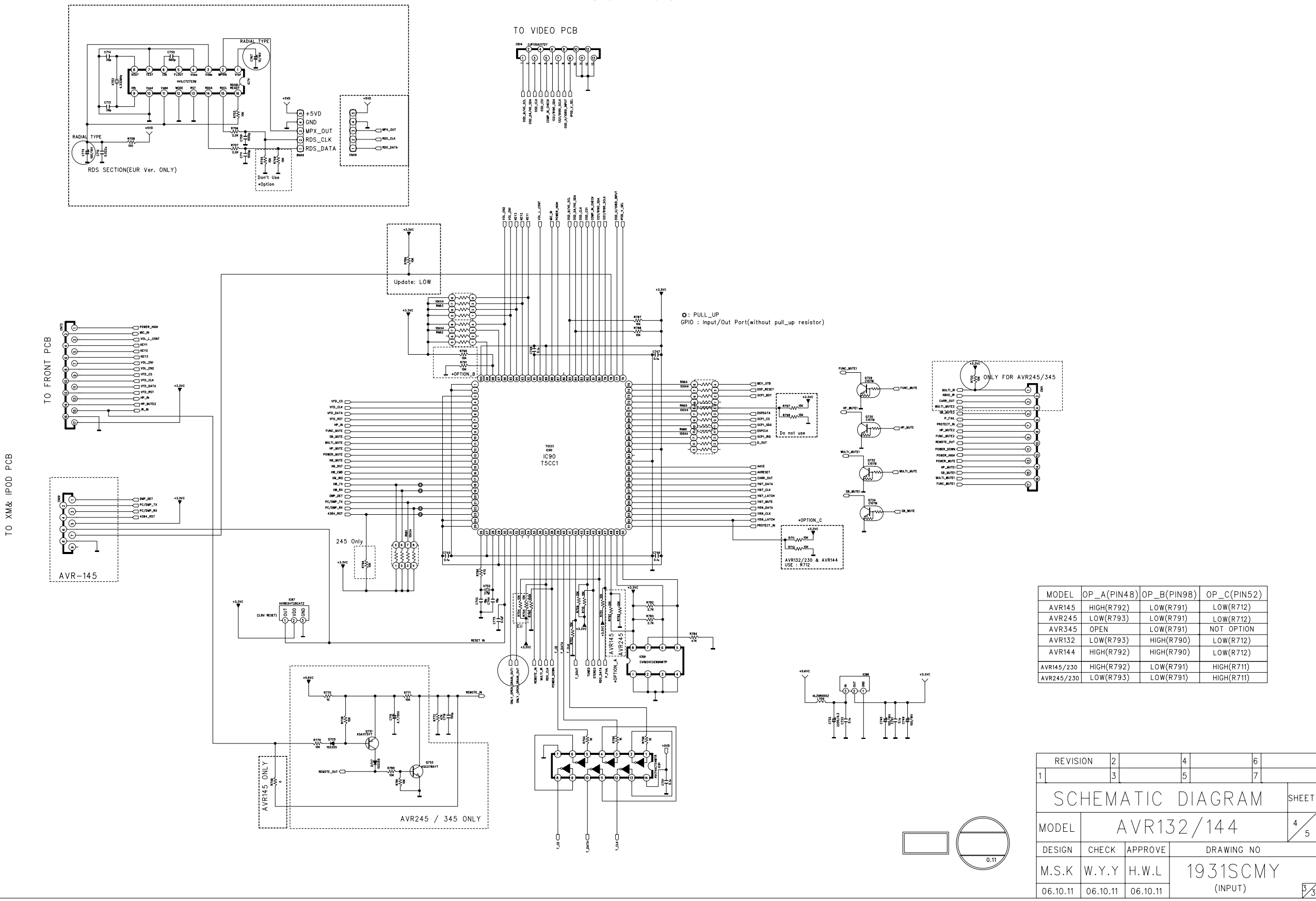
•• IMPORTANT SAFETY NOTICE.  
 IMPORTANT FOR SAFETY WHEN REPLACING ANY OF THESE COMPONENTS  
 USE ONLY MANUFACTURE'S SPECIFIED PARTS.  
 •• THE UNIT OF RESISTANCE IS OHM.  
 K=1000 OHM, M=1000 KOHM.  
 •• THE UNIT OF CAPACITANCE IS MICROFARAD (uF)  
 pF = 10<sup>-6</sup> uF  
 •• THIS SCHEMATIC DIAGRAM MAY MODIFIED AT ANY TIME WITH THE  
 IMPROVEMENT OF PERFORMANCE

REVISION	1	2	3	SHEET
SCHEMATIC DIAGRAM				2
MODEL	AVR145/245/345/132/144	7		
DESIGN	W.Y.Y	CHECK	APPROVE	DRAWING NO
L.C.B	W.Y.Y	L.H.W	1911SCMY	
06.10.23	06.10.23	06.10.23	(MAIN)	





# CUP11931Y

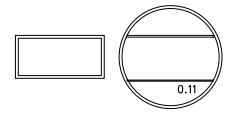


MODEL	OP_A(PIN48)	OP_B(PIN98)	OP_C(PIN52)
AVR145	HIGH(R792)	LOW(R791)	LOW(R712)
AVR245	LOW(R793)	LOW(R791)	LOW(R712)
AVR345	OPEN	LOW(R791)	NOT OPTION
AVR132	LOW(R793)	HIGH(R790)	LOW(R712)
AVR144	HIGH(R792)	HIGH(R790)	LOW(R712)
AVR145/230	HIGH(R792)	LOW(R791)	HIGH(R711)
AVR245/230	LOW(R793)	LOW(R791)	HIGH(R711)

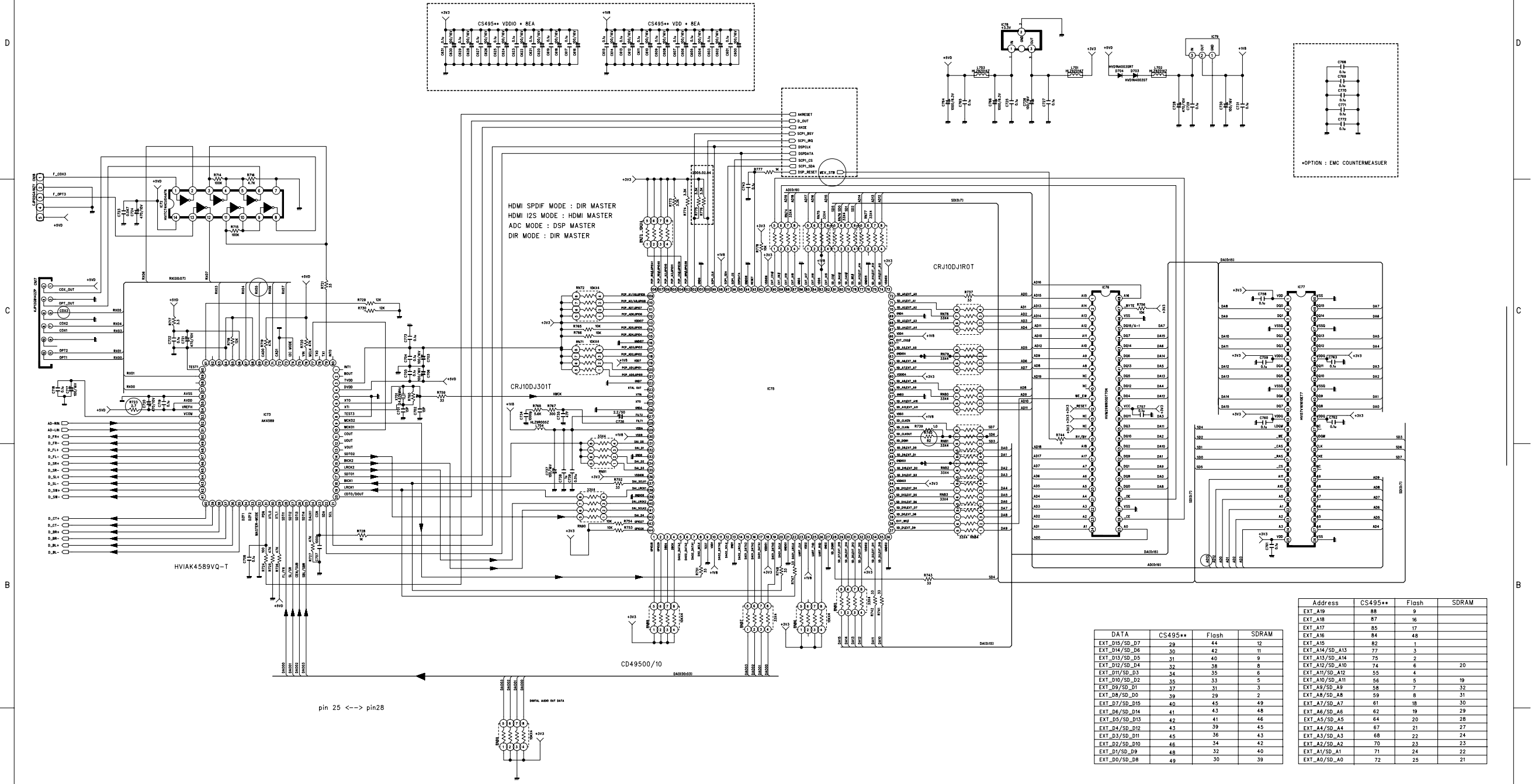
REVISION	2	4	6
1	3	5	7

SCHEMATIC DIAGRAM			SHEET
MODEL	AVR132/144		4/5
DESIGN	CHECK	APPROVE	DRAWING NO
M.S.K	W.Y.Y	H.W.L	1931SCMY
06.10.11	06.10.11	06.10.11	(INPUT)



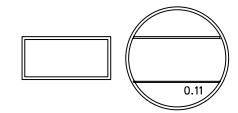
# CUP11931Y



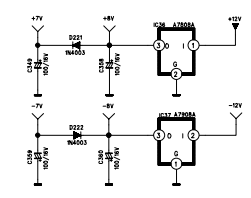
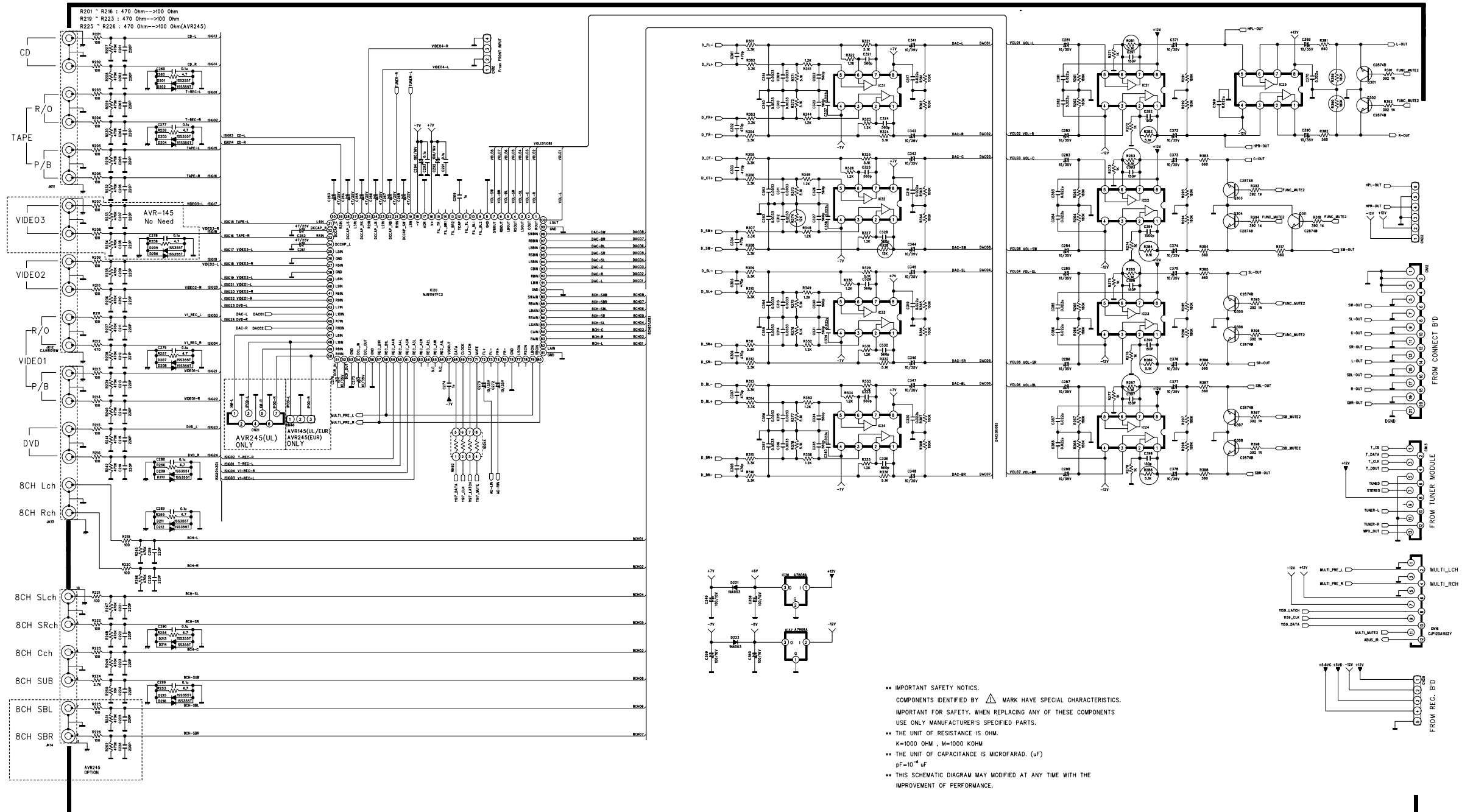
DATA	CS495**	Flash	SDRAM
EXT_D15/SD_D7	29	44	12
EXT_D14/SD_D6	30	42	11
EXT_D13/SD_D5	31	40	9
EXT_D12/SD_D4	32	38	8
EXT_D11/SD_D3	34	35	6
EXT_D10/SD_D2	35	33	5
EXT_D9/SD_D1	37	31	3
EXT_D8/SD_D0	39	29	2
EXT_D7/SD_D15	40	45	49
EXT_D6/SD_D14	41	43	48
EXT_D5/SD_D13	42	41	46
EXT_D4/SD_D12	43	39	45
EXT_D3/SD_D11	45	36	43
EXT_D2/SD_D10	46	34	42
EXT_D1/SD_D9	48	32	40
EXT_D0/SD_D8	49	30	39

Address	CS495**	Flash	SDRAM
EXT_A19	88	9	
EXT_A18	87	16	
EXT_A17	85	17	
EXT_A16	84	48	
EXT_A15	82	1	
EXT_A14/SD_A13	77	3	
EXT_A13/SD_A14	75	2	
EXT_A12/SD_A10	74	6	20
EXT_A11/SD_A12	55	4	
EXT_A10/SD_A11	56	5	19
EXT_A9/SD_A9	58	7	32
EXT_A8/SD_A8	59	8	31
EXT_A7/SD_A7	61	18	30
EXT_A6/SD_A6	62	19	29
EXT_A5/SD_A5	64	20	28
EXT_A4/SD_A4	67	21	27
EXT_A3/SD_A3	68	22	24
EXT_A2/SD_A2	70	23	23
EXT_A1/SD_A1	71	24	22
EXT_A0/SD_A0	72	25	21

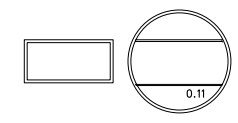
REVISION	2	4	6
1	3	5	7
SCHEMATIC DIAGRAM			
MODEL	AVR132/144		
DESIGN	CHECK	APPROVE	DRAWING NO
M.S.K	W.Y.Y	H.W.L	1931SCMY
06.10.11	06.10.11	06.10.11	(INPUT)



# CUP11931Y

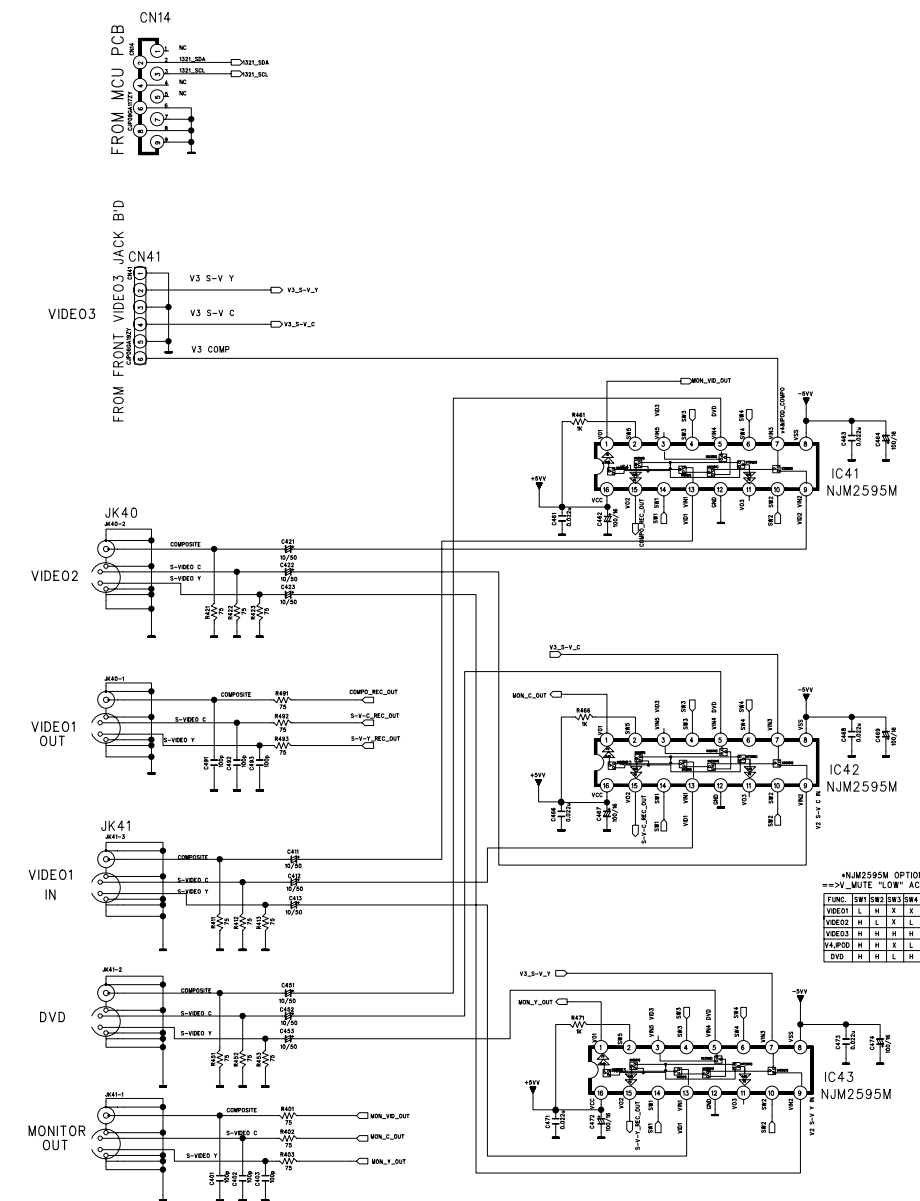


**IMPORTANT SAFETY NOTICES.**  
 COMPONENTS IDENTIFIED BY  $\Delta$  MARK HAVE SPECIAL CHARACTERISTICS.  
 IMPORTANT FOR SAFETY, WHEN REPLACING ANY OF THESE COMPONENTS  
 USE ONLY MANUFACTURER'S SPECIFIED PARTS.  
 • THE UNIT OF RESISTANCE IS OHM.  
 K=1000 OHM, M=1000 KOHM  
 • THE UNIT OF CAPACITANCE IS MICROFARAD. (uF)  
 pF=10<sup>-6</sup> uF  
 • THIS SCHEMATIC DIAGRAM MAY MODIFIED AT ANY TIME WITH THE  
 IMPROVEMENT OF PERFORMANCE.



REVISION	2	4	6
1	3	5	7
SCHEMATIC DIAGRAM			
MODEL	AVR132/144		
DESIGN	CHECK	APPROVE	DRAWING NO
M.S.K	W.Y.Y	H.W.L	1931SCMZ
06.10.11	06.10.11	06.10.11	(INPUT)

# CUP11930Z



\*NJM2595M OPTION  
 ==>V\_MUTE "LOW" ACTIVE

FUNC.	SW1	SW2	SW3	SW4	SW5
VIDEO1	L	H	L	L	H
VIDEO2	H	L	L	L	H
VIDEO3	H	H	L	L	H
V4.POP	H	H	L	L	H
DVD	K	H	L	L	H

• DEFINITION OF I2C REGISTER ( NJW1321 )

I2C BUS FORMAT

S[BIT]	[SLAVE ADDRESS][BIT]	A[BIT]	DATA[BIT]	A[BIT]	DATA[BIT]	A[BIT]	P[BIT]
1	0	0	0	0	0	ADM[BIT] <td>R[NOT W][BIT]</td>	R[NOT W][BIT]

SLAVE ADDRESS

NO.	D7	D6	D5	D4	D3	D2	D1	D0
DATA 1	PS1	PS2	OUT1	OUT2	OUT3	OUT4	OUT5	OUT6
DATA 2	AUX0	AUX1	AUX2	AUX3	AUX4	AUX5	AUX6	AUX7

CONTROL REGISTER TABLE

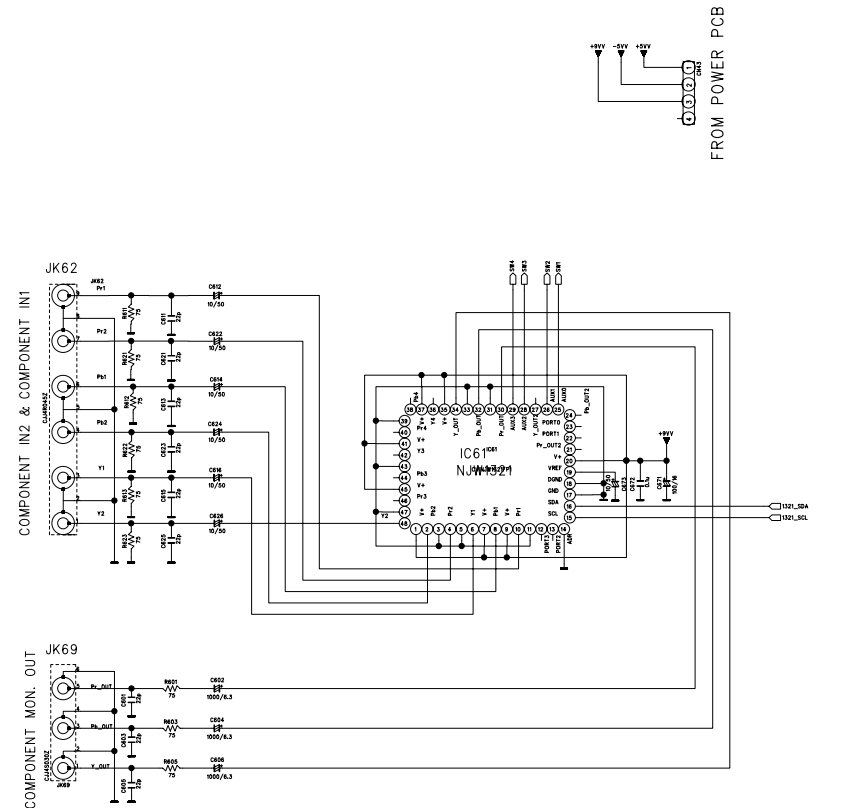
<WRITE MODE>

NO.	D7	D6	D5	D4	D3	D2	D1	D0
DATA 1	PS1	PS2	OUT1	OUT2	OUT3	OUT4	OUT5	OUT6
DATA 2	AUX0	AUX1	AUX2	AUX3	AUX4	AUX5	AUX6	AUX7

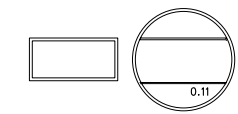
<READ MODE>

NO.	D7	D6	D5	D4	D3	D2	D1	D0
DATA 1	PORT0	PORT1	PORT2	PORT3	PORT4	PORT5	PORT6	PORT7

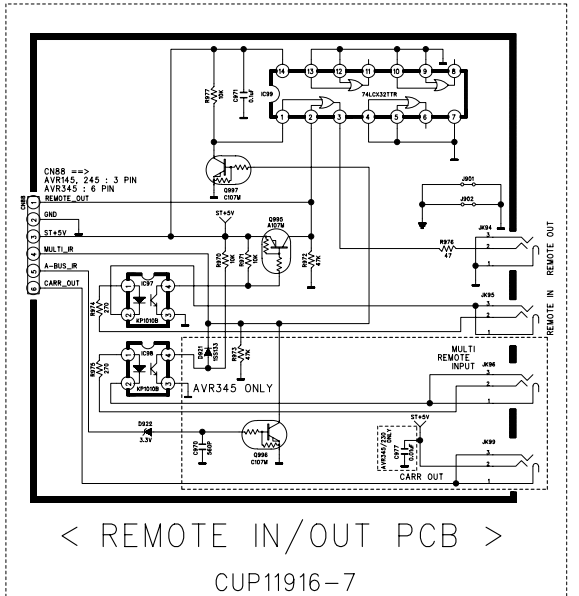
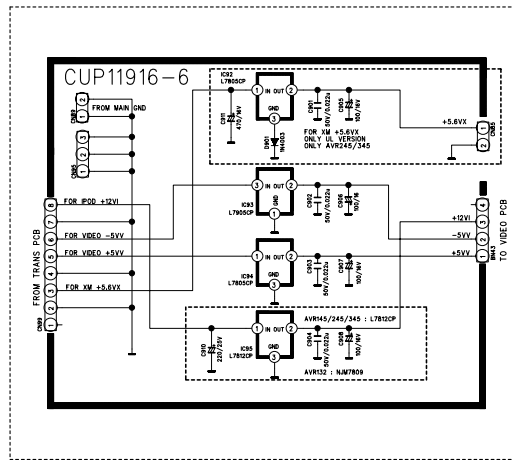
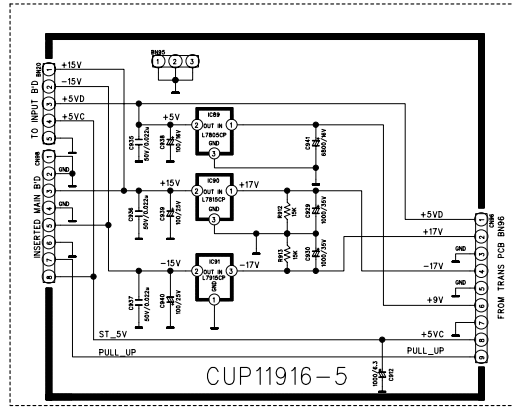
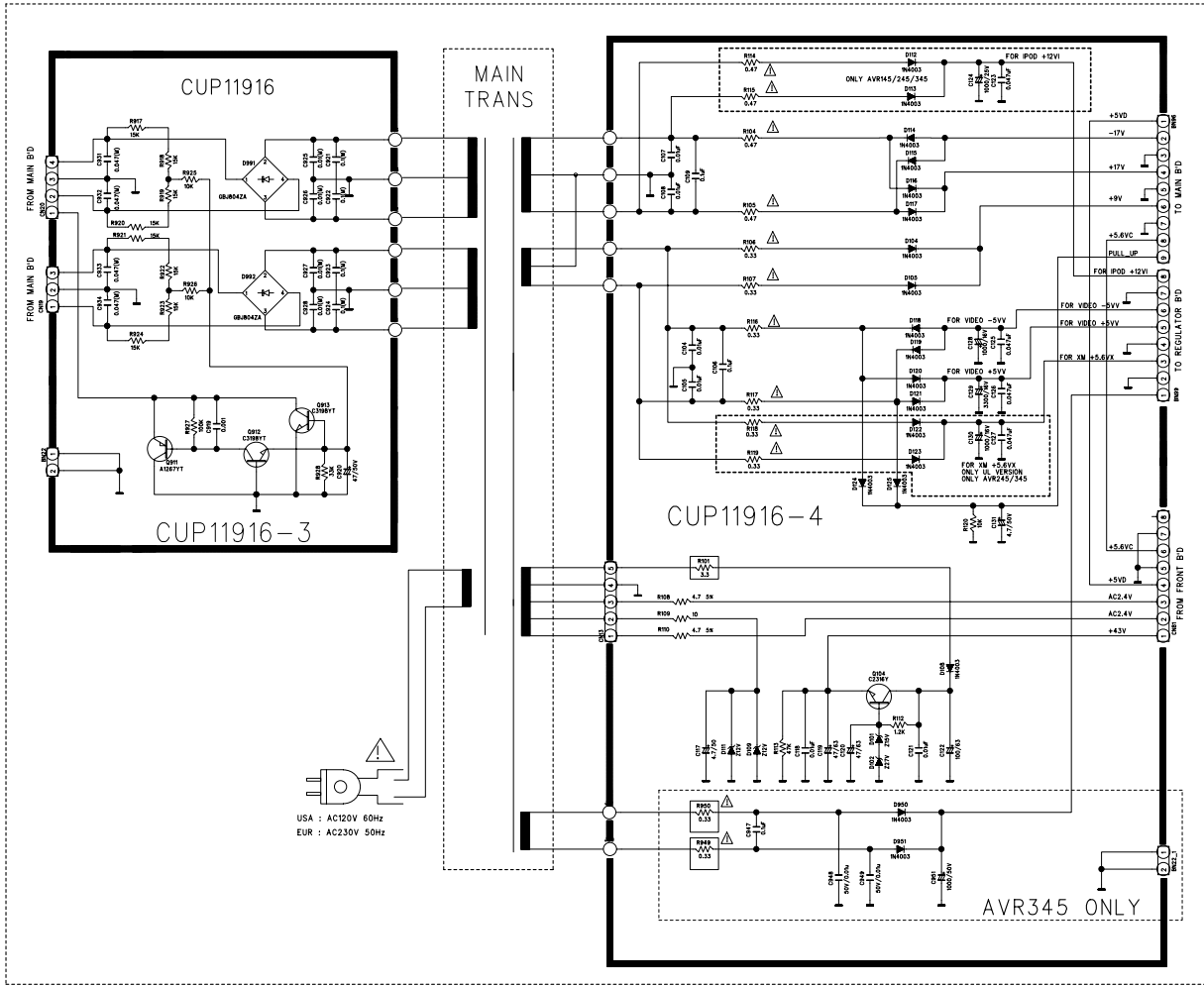
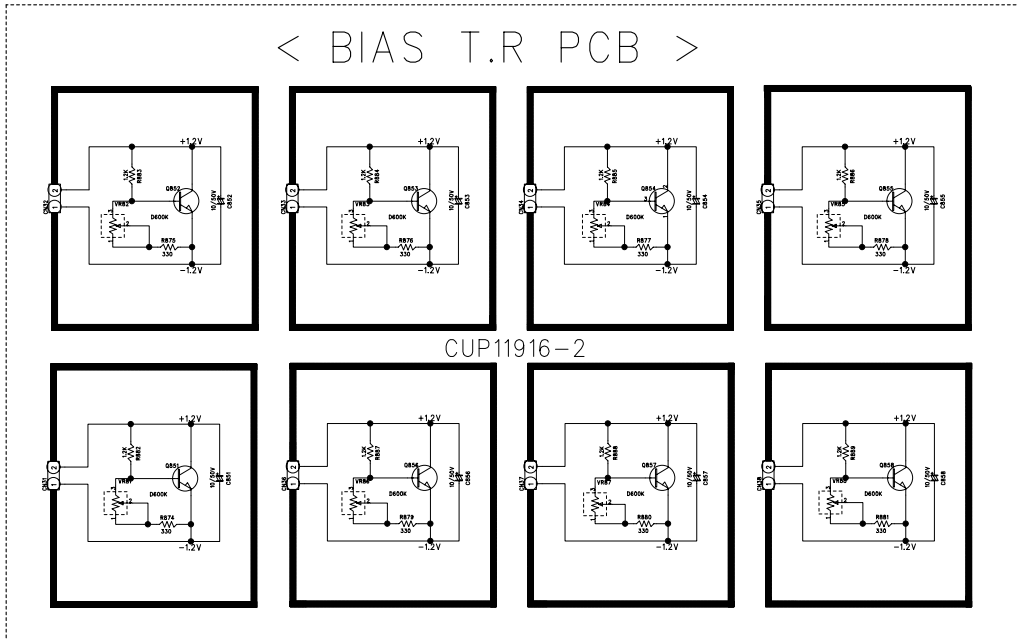
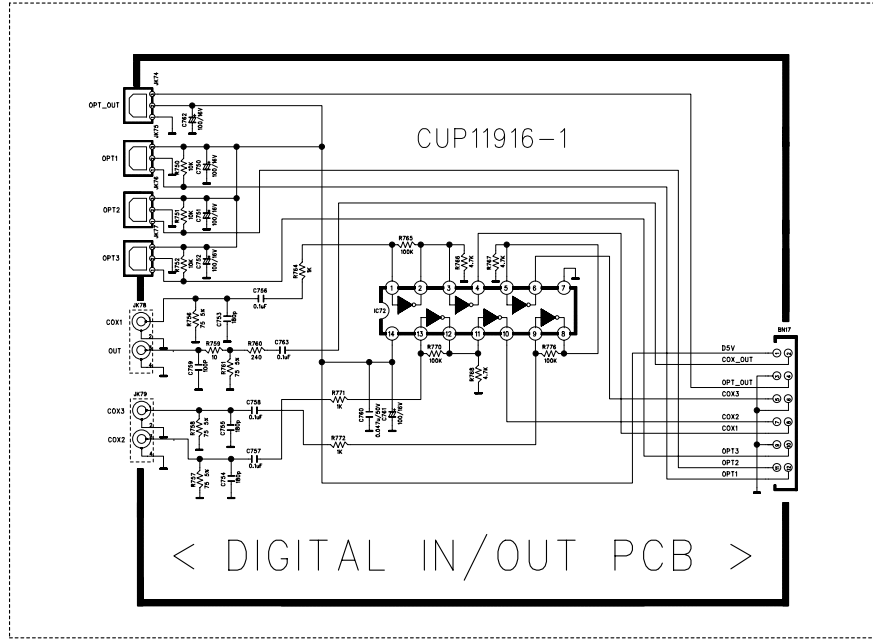
Legend: S: Starting Term, A: Address/Step Bit, P: Ending Term, R/NOT W: Set the Write Mode or Read Mode, ADM: Set the Slave Address to "ADM" terminal, R/NOT W = 0: WRITE MODE, ADM = 0/1: ADM=0 (New90S), ADM=1 (New90S), R/NOT W = 0: READ MODE, ADM = 0/1: ADM=0 (New90S), ADM=1 (New90S), PS: POWER SAVE, PS = 1: POWER SAVE ON (OUT1-PS = 0: POWER SAVE OFF (OUT 0)), OUT: OUTPUT, AUX: AUXILIARY (CONTROL SIGNAL OUTPUT)



REVISION	2	4	6
1	3	5	7
SCHEMATIC DIAGRAM			
MODEL	AVR132		
DESIGN	CHECK	APPROVE	DRAWING NO
Y.D.K	Y.W.Y	H.W.L	1930SCMZ
2006.10.11	2006.10.11	2006.10.11	(VIDEO)

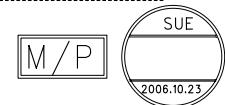


# CUP1196Y



USA : AC120V 60Hz  
EUR : AC230V 50Hz

AVR345 ONLY



REVISION	2	4	6
1	3	5	7
SCHEMATIC DIAGRAM SHEET			
MODEL	AVR145/245/345/132/144 3/7		
DESIGN	CHECK	APPROVE	DRAWING NO
L.C.B	Y.W.Y	L.H.W	1916SCMY
06.10.23	06.10.23	06.10.23	(POWER)

247.0mm

168.0mm

CUP11916 CENTER BAR CUP11916

CUP11916 CENTER BAR CUP11916

CUP11916 CENTER BAR CUP11916

CUP11916 CENTER BAR CUP11916

CUP11916

CUP11916

CUP11916

CUP11916-3

CUP11916-4

CUP11916

DIPPING

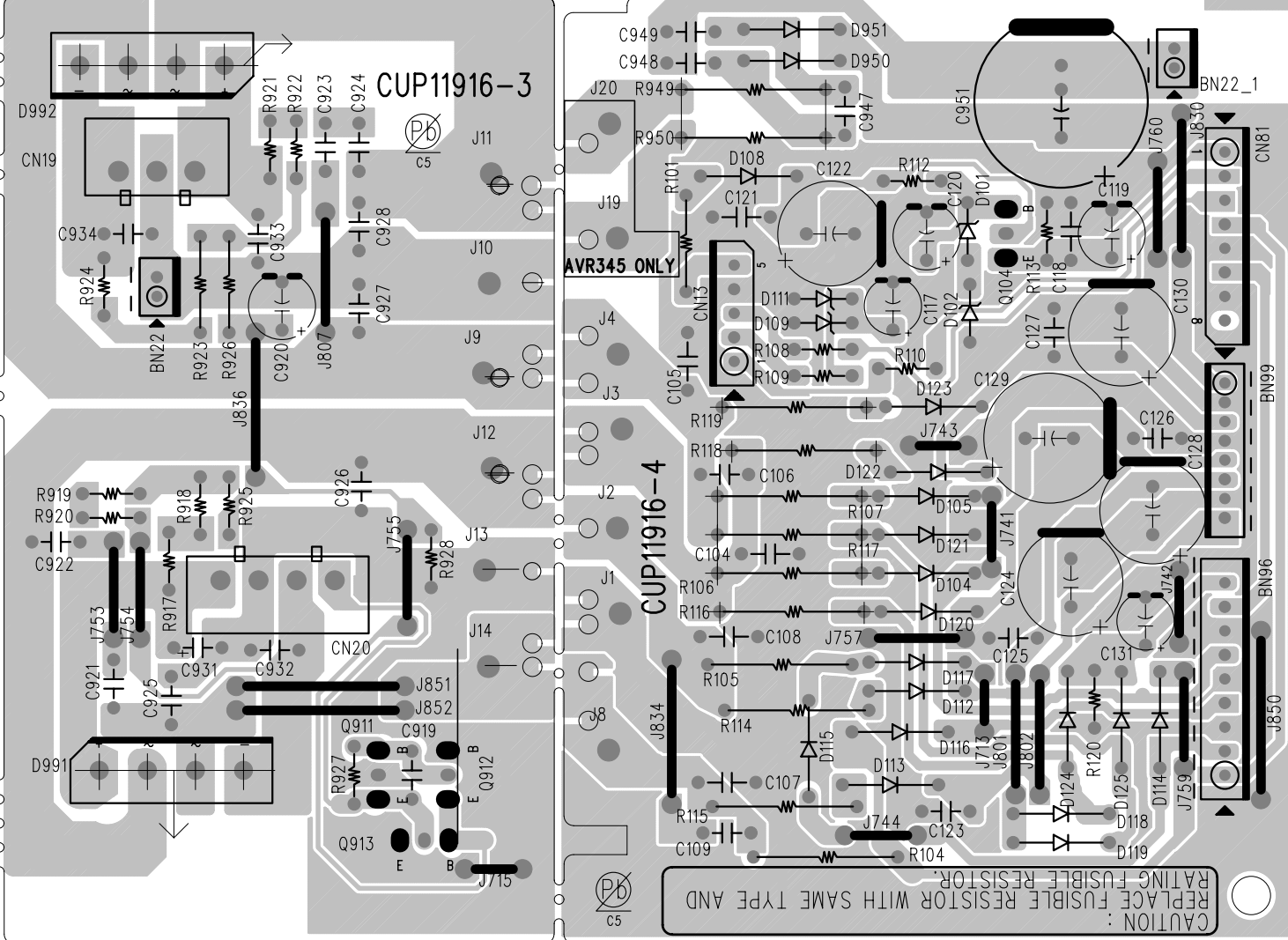
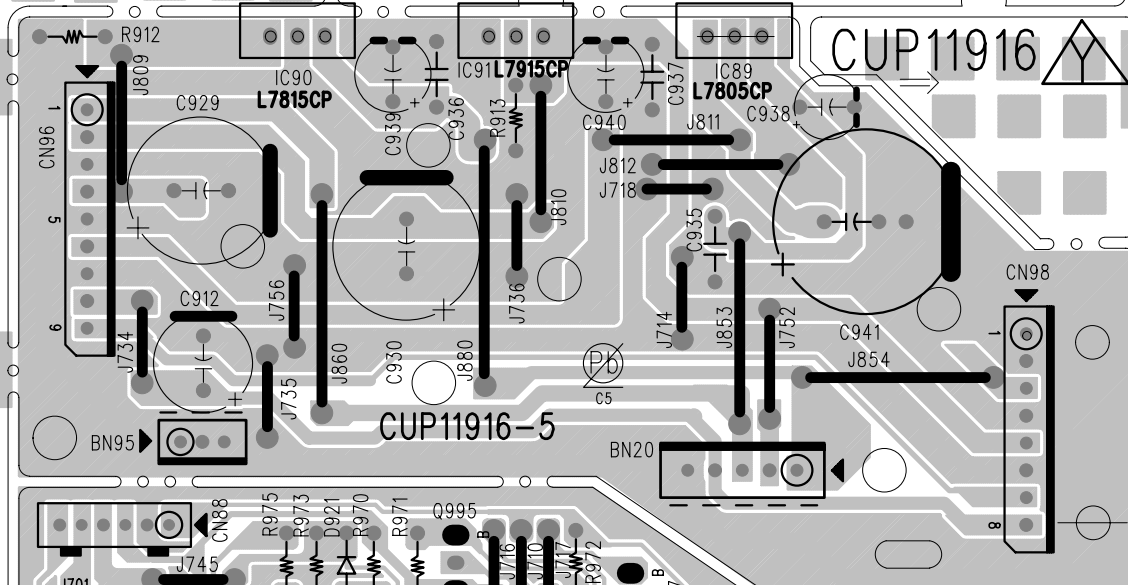
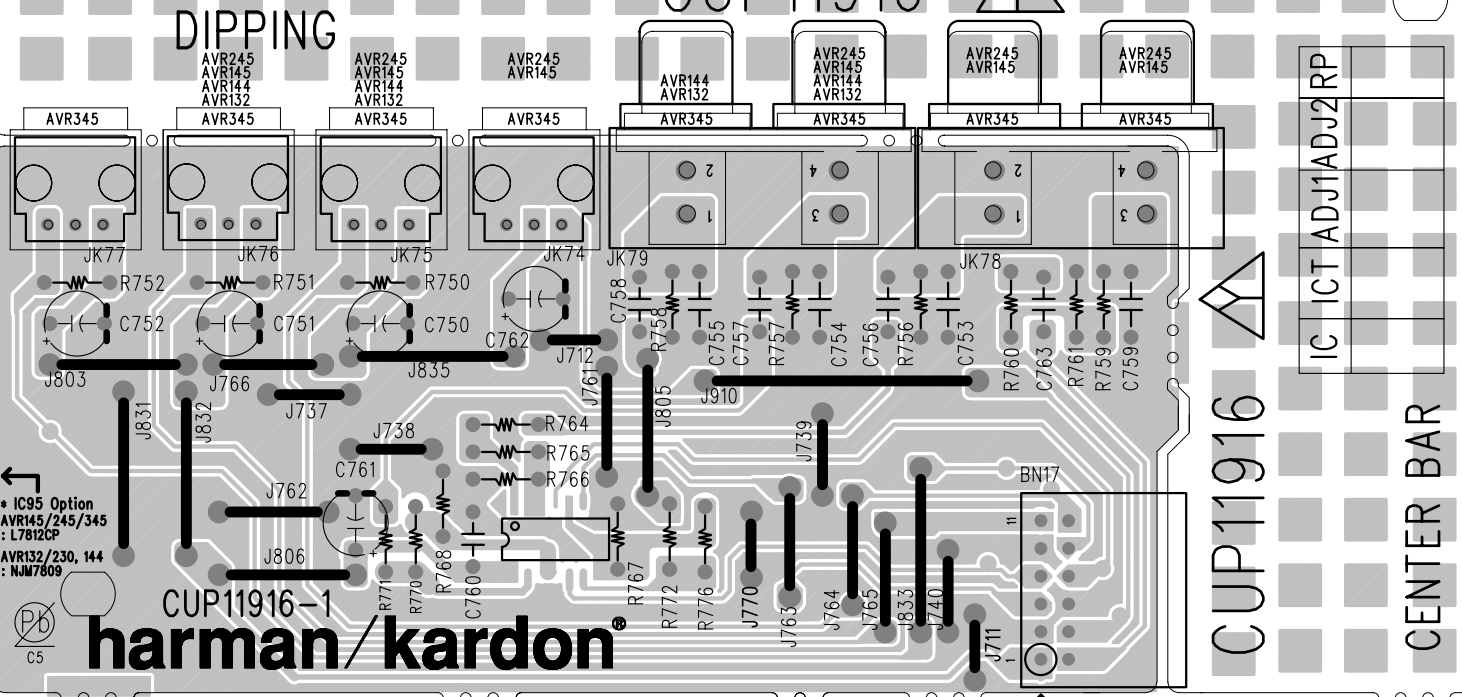
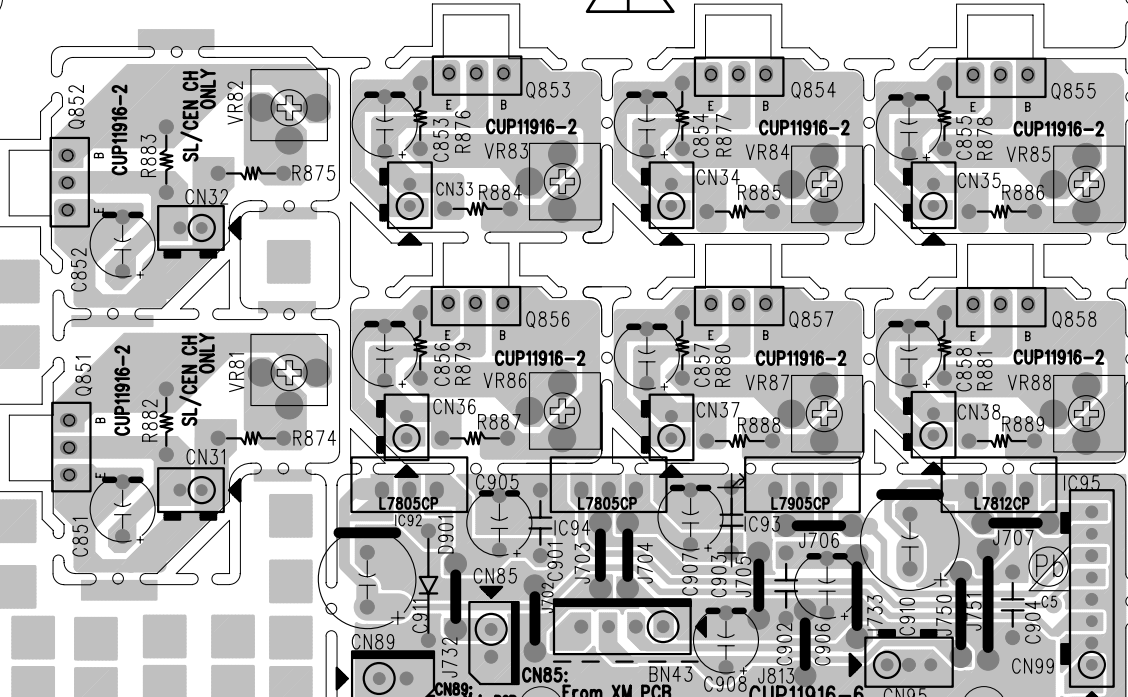
harman/kardon

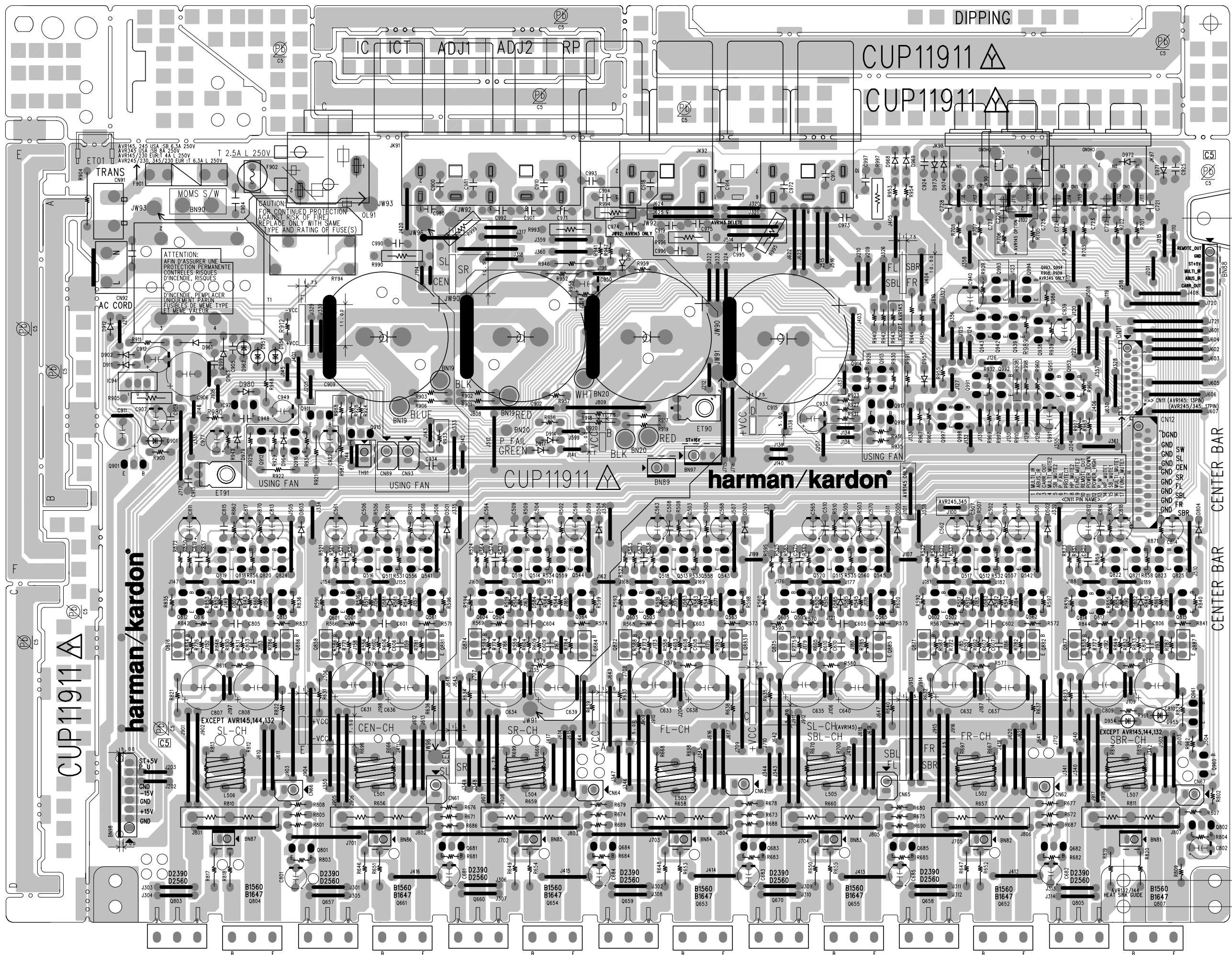
IC ICT ADJ1ADJ2RP

CUP11916 CENTER BAR CUP11916

• IC95 Option  
AVR145/245/345  
: L7812CP  
AVR132/230, 144  
: NM7809

CAUTION :  
REPLACE FUSIBLE RESISTOR WITH SAME TYPE AND  
RATING FUSIBLE RESISTOR.





CUP11911

harman/kardon

CUP11911

harman/kardon

CUP11911

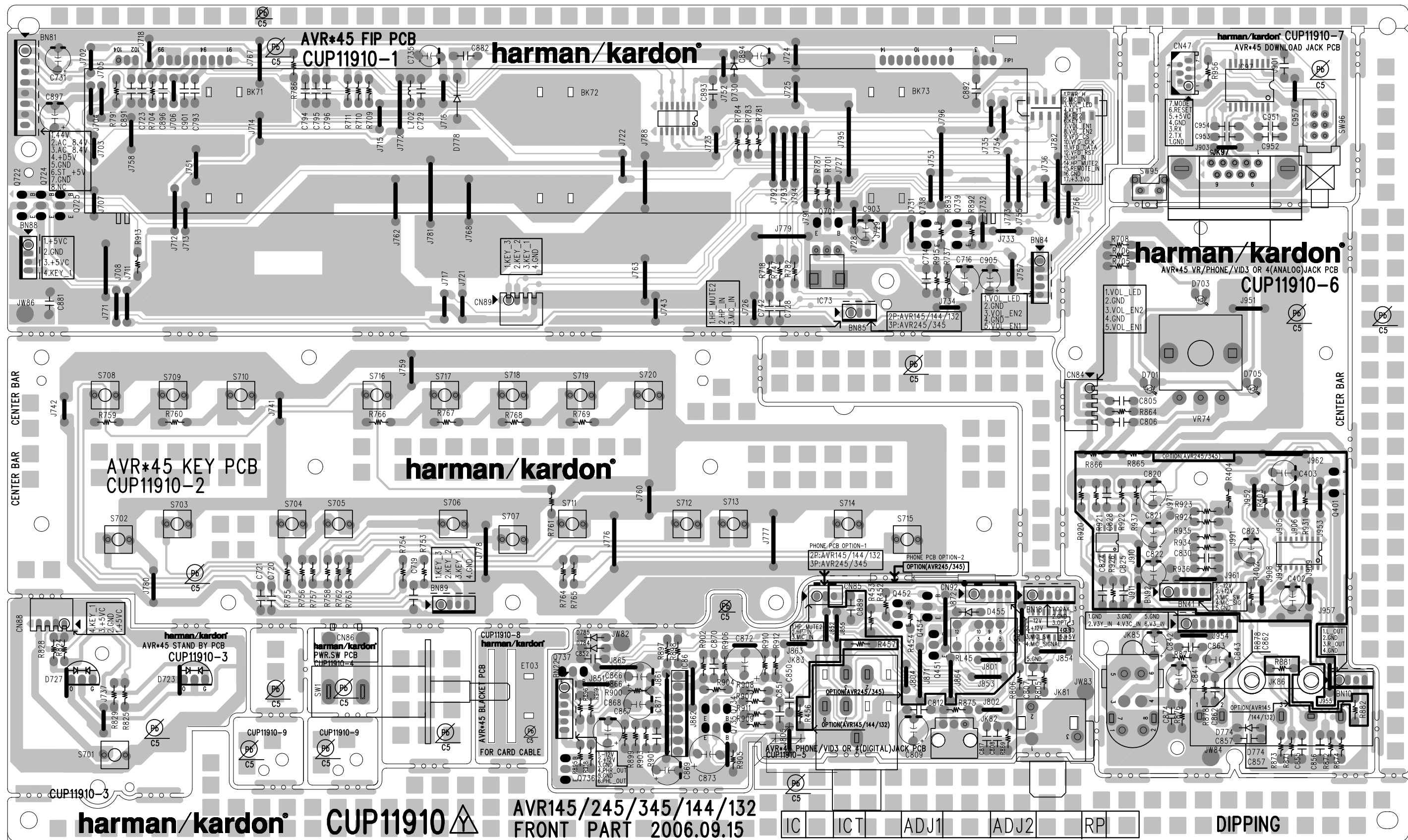
CUP11911

DIPPING

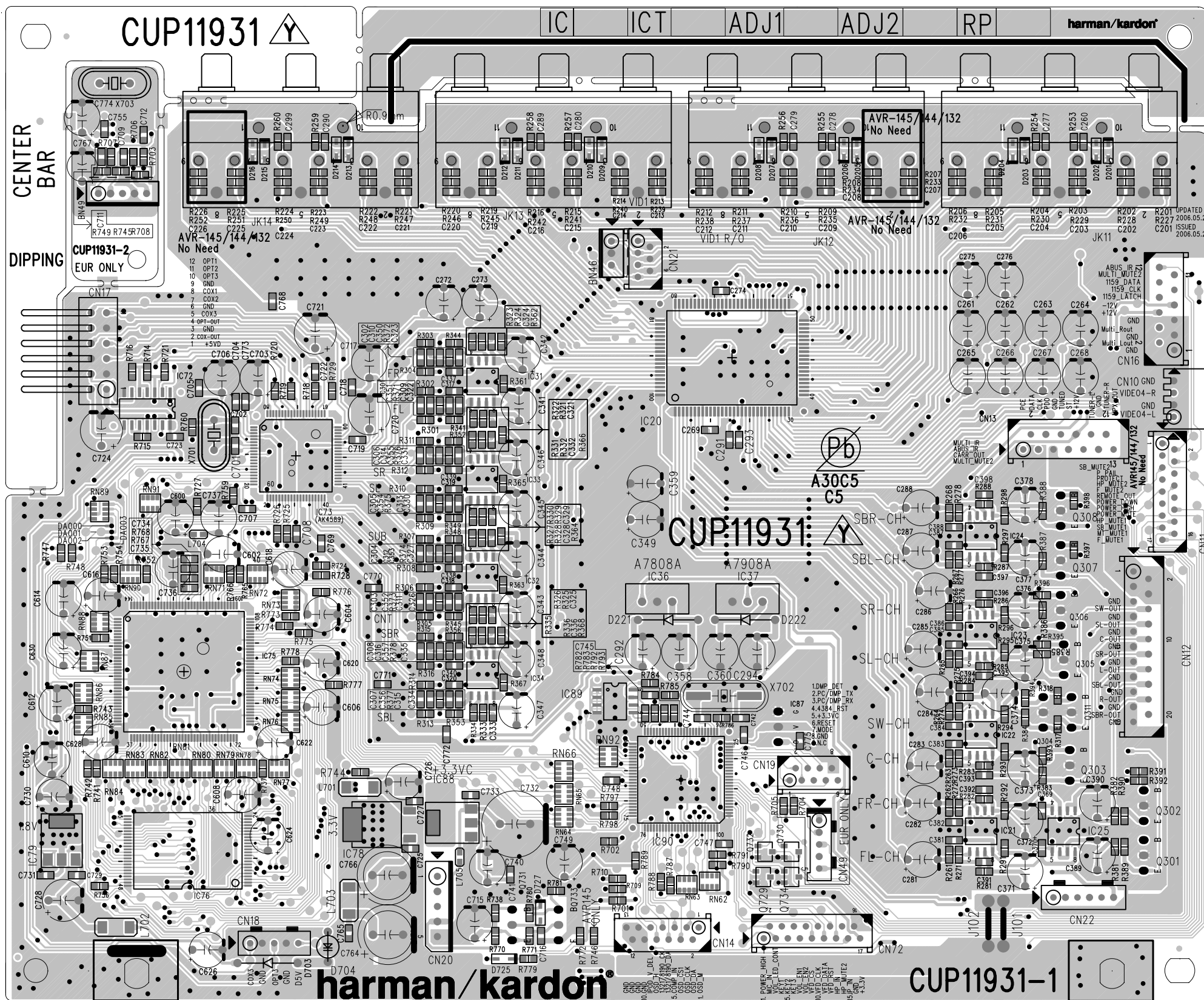
ATTENTION:  
AFIN D'ASSURER UNE  
PROTECTION PERMANENTE  
CONTRES RISQUES  
D'INCENDIE, REMPLACER  
L'ENFONCEMENT PAR UN  
FUSIBLE DE MEME TYPE  
ET MEME VALEUR

CAUTION:  
FOR CONTINUED PROTECTION  
AGAINST THE RISK OF FIRE,  
REPLACE ONLY WITH SAME  
TYPE AND RATING OF FUSE(S)

1. MULTI TR
2. CAPR OUT
3. P.F. FAIL
4. SBL MUTEZ
5. SBL MUTEZ
6. SBL MUTEZ
7. SBL MUTEZ
8. SBL MUTEZ
9. SBL MUTEZ
10. SBL MUTEZ
11. SBL MUTEZ
12. SBL MUTEZ
13. SBL MUTEZ
14. SBL MUTEZ
15. SBL MUTEZ
16. SBL MUTEZ
17. SBL MUTEZ







1.8mm  
1.7mm  
1.2mm

UPDATED 2006.05.27  
ISSUED 2006.05.27

NO.	DESCRIPTION	QTY
1	POWER_HIGH	1
2	VOL_LED_CONN	1
3	RES12	1
4	RES12	1
5	RES12	1
6	RES12	1
7	RES12	1
8	RES12	1
9	RES12	1
10	RES12	1
11	RES12	1
12	RES12	1
13	RES12	1
14	RES12	1
15	RES12	1
16	RES12	1
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98	RES12	1
99	RES12	1
100	RES12	1

