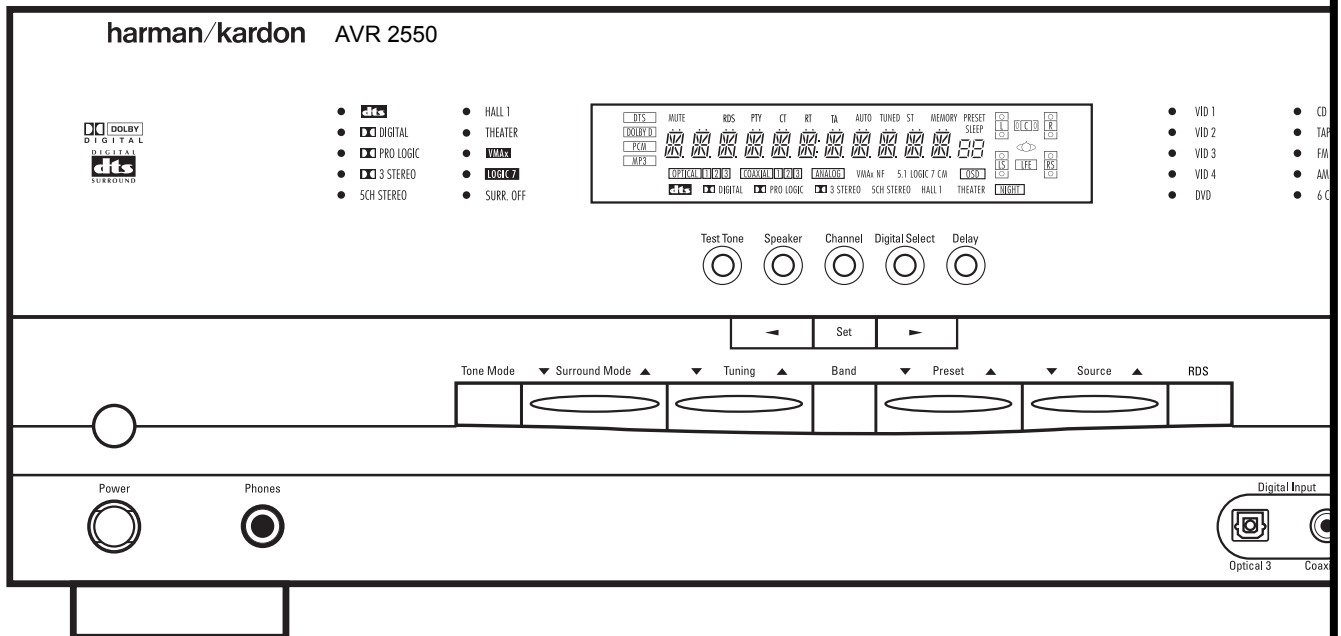


AVR 2550 Audio/Video Receiver

Service Manual



harman/kardon®

Power for the Digital Revolution™

Technical Specifications

Audio Section

Stereo Mode

Continuous Average Power (FTC)

50 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:
40 Watts per channel,
@ < 0.07% THD, 20Hz–20kHz into 8 ohms

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

Surround channels:
40 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	±300kHz: 65dB
Image Rejection	80dB
IF Rejection	90dB

AM Tuner Section

Frequency Range	522–1620kHz
Signal-to-Noise Ratio	45 dB
Usable Sensitivity	Loop: 500µV
Distortion	1kHz, 50% Mod: 0.8%
Selectivity	±9kHz: 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	166mm
Depth	365mm
Weight	10.6 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, and Power for the digital revolution is a trademark, of Harman International Industries, Inc.

*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 Digital Surround" are registered trademarks of Digital Theater Systems, Inc.

†† UltraStereo is a trademark of UltraStereo Corp.

VMaX is a trademark of Harman International Industries, Inc., and is an implementation of Cooper Bauck Transaural Stereo under patent license.

Logic 7 is a registered trademark of Lexicon, Inc.

Crystal is a registered trademark of Cirrus Logic Corp.

TROUBLESHOOTING

SYMPTOM	CAUSE	SOLUTION
Unit does not function when Main Power Switch is pushed	<ul style="list-style-type: none">• No AC Power	<ul style="list-style-type: none">• Make certain AC power cord is plugged into a live outlet• Check to see whether outlet is switch-controlled
Display lights, but no sound or picture	<ul style="list-style-type: none">• Intermittent input connections• Mute is on• Volume control is down	<ul style="list-style-type: none">• Make certain that all input and speaker connections are secure• Press Mute button• Turn up volume control
Unit turns on, but front-panel display does not light up	<ul style="list-style-type: none">• Display brightness is turned off	<ul style="list-style-type: none">• Follow the instructions in the Display Brightness section on page 30 so that the display is set to VFD FULL
No sound from any speaker; light around power switch is red	<ul style="list-style-type: none">• Amplifier is in protection mode due to possible short• Amplifier is in protection mode due to internal problems	<ul style="list-style-type: none">• Check speaker wire connections for shorts at receiver and speaker ends• Contact your local Harman Kardon service center, which you can locate by visiting our Web site at www.harmankardon.com
No sound from surround or center speakers	<ul style="list-style-type: none">• Incorrect surround mode• Input is monaural• Incorrect configuration• Stereo or Mono program material	<ul style="list-style-type: none">• Select a mode other than Stereo or Dolby 3 Stereo• There is no surround information from mono sources• Check speaker mode configuration• The surround decoder may not create center- or rear-channel information from nonencoded programs
Unit does not respond to remote commands	<ul style="list-style-type: none">• Weak batteries in remote• Wrong device selected• Remote sensor is obscured	<ul style="list-style-type: none">• Change remote batteries• Press the AVR selector• Make certain front-panel sensor is visible to remote or connect remote sensor
Intermittent buzzing in tuner	<ul style="list-style-type: none">• Local interference	<ul style="list-style-type: none">• Move unit or antenna away from computers, fluorescent lights, motors or other electrical appliances
Letters flash in the channel indicator display and digital audio stops	<ul style="list-style-type: none">• Digital audio feed paused	<ul style="list-style-type: none">• Resume play for DVD• Check that Digital Input is selected

AMPLIFIER SECTION BIAS ADJUSTMENT

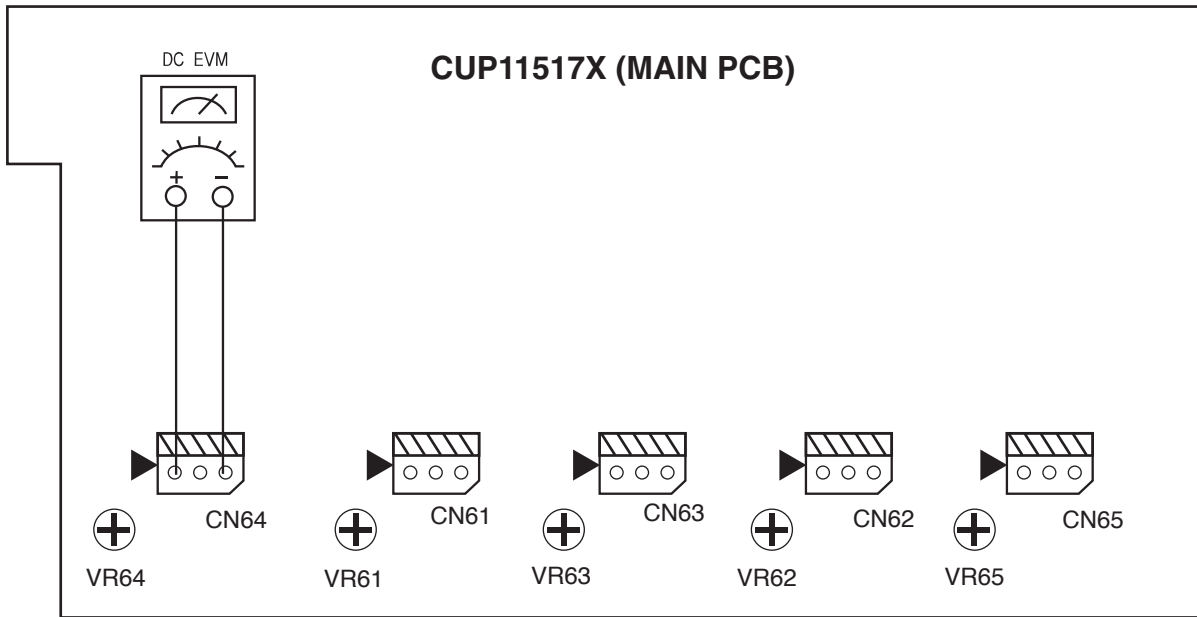
Measurement condition

. No input signal or volume position is minimum.

Standard value.

. Ideal current = 48mA (± 5%)



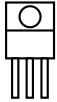
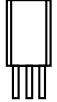
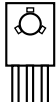
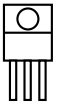
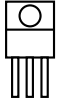
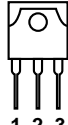
. Ideal DC Voltage = 21.12mV (± 5%)



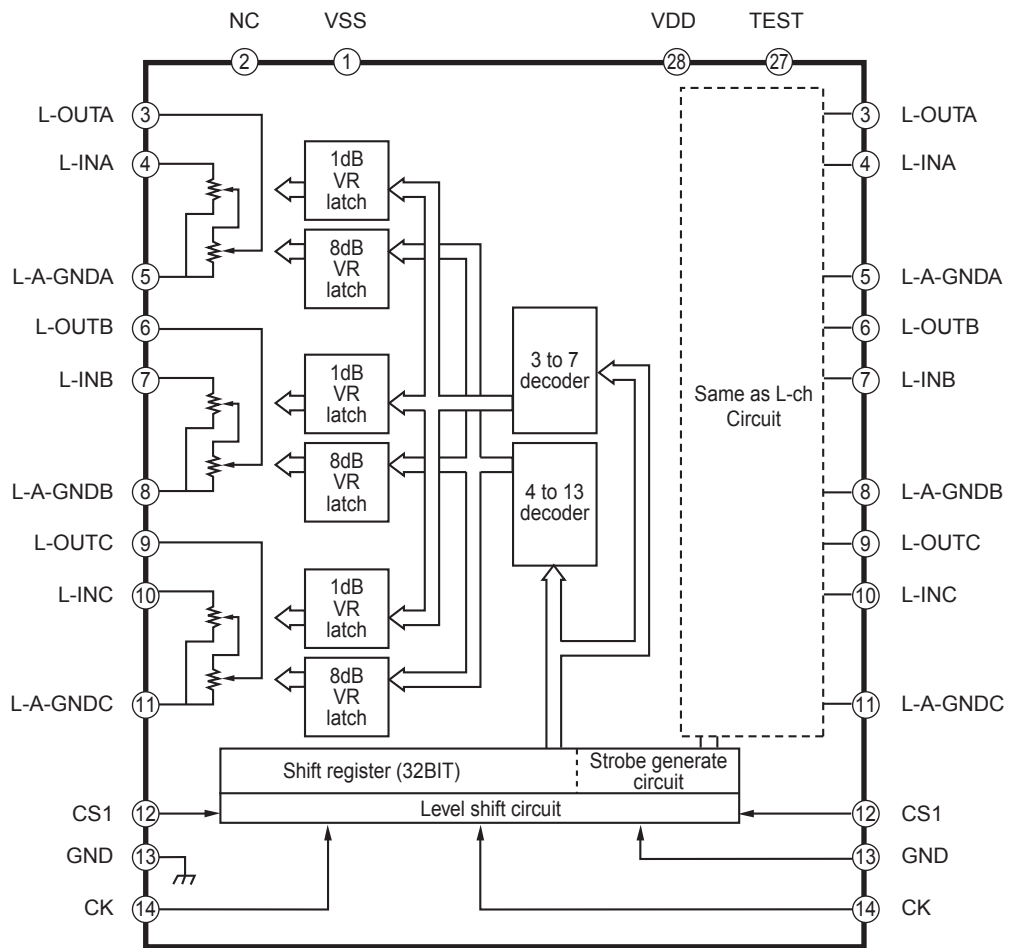
DC VOLTMETER.....Connect to CN61, CN62, CN63, CN64, CN65

NO.	Channel	Adjust for	Adjustment
1	Front Left	21.12mV (±5%)	VR61
2	Front Right	21.12mV (±5%)	VR62
3	Center	21.12mV (±5%)	VR63
4	Surround Left	21.12mV (±5%)	VR64
5	Surround Right	21.12mV (±5%)	VR65

TRANSISTOR, REGULATOR IC BLOCK DIAGRAM

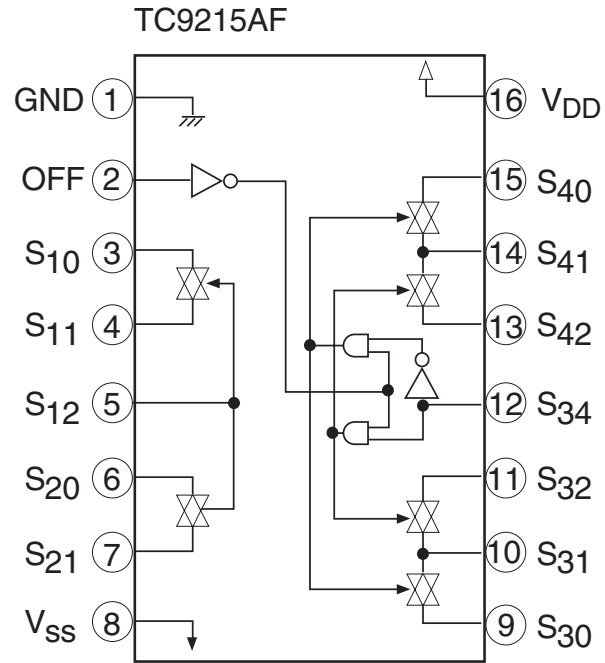
<p>TO-92M</p>  <p>1. Emitter 2. Collector 3. Base</p> <p>123</p> <p>KTC2874B KSC2785Y KRA107M KRC107M</p>	<p>TO-92</p>  <p>1. Emitter 2. Collector 3. Base</p> <p>123</p> <p>KTD1302T KTA1268GR KTC3200GR KTC3198Y KTA1271Y</p>	<p>TO-220</p>  <p>1. GND 2. INPUT 3. OUTPUT</p> <p>123</p> <p>MCNJM7905 MC7915C</p>	<p>TO-92L</p>  <p>1. Emitter 2. Collector 3. Base</p> <p>123</p> <p>KTA1024Y KSC2316Y</p>
<p>TO-126</p>  <p>1. Emitter 2. Collector 3. Base</p> <p>123</p> <p>2SA1360O 2SC3423O KTD600KG</p>	<p>TO-220</p>  <p>1. Base 2. Collector 3. Emitter</p> <p>123</p> <p>KSA614Y</p>	<p>TO-220</p>  <p>1. INPUT 2. GND 3. OUTPUT</p> <p>123</p> <p>MC7815C MC7805C</p>	<p>TO-3P</p>  <p>1. Base 2. Collector 3. Emitter</p> <p>1 2 3</p> <p>2SB1647 2SD2560</p>

TC9482F (ELECTRONIC VOLUME/INPUT) : IC31



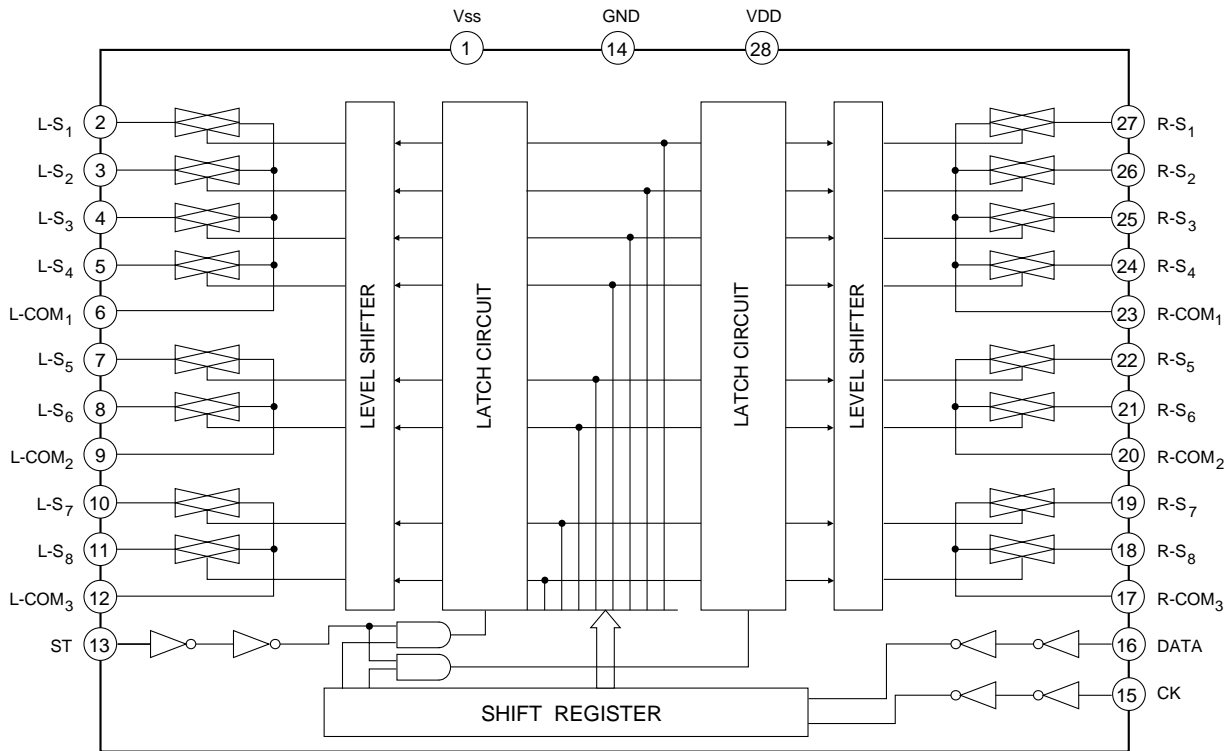
TC9215AF (TONE CONTROL : IC80)

■ BLOCK DIAGRAM



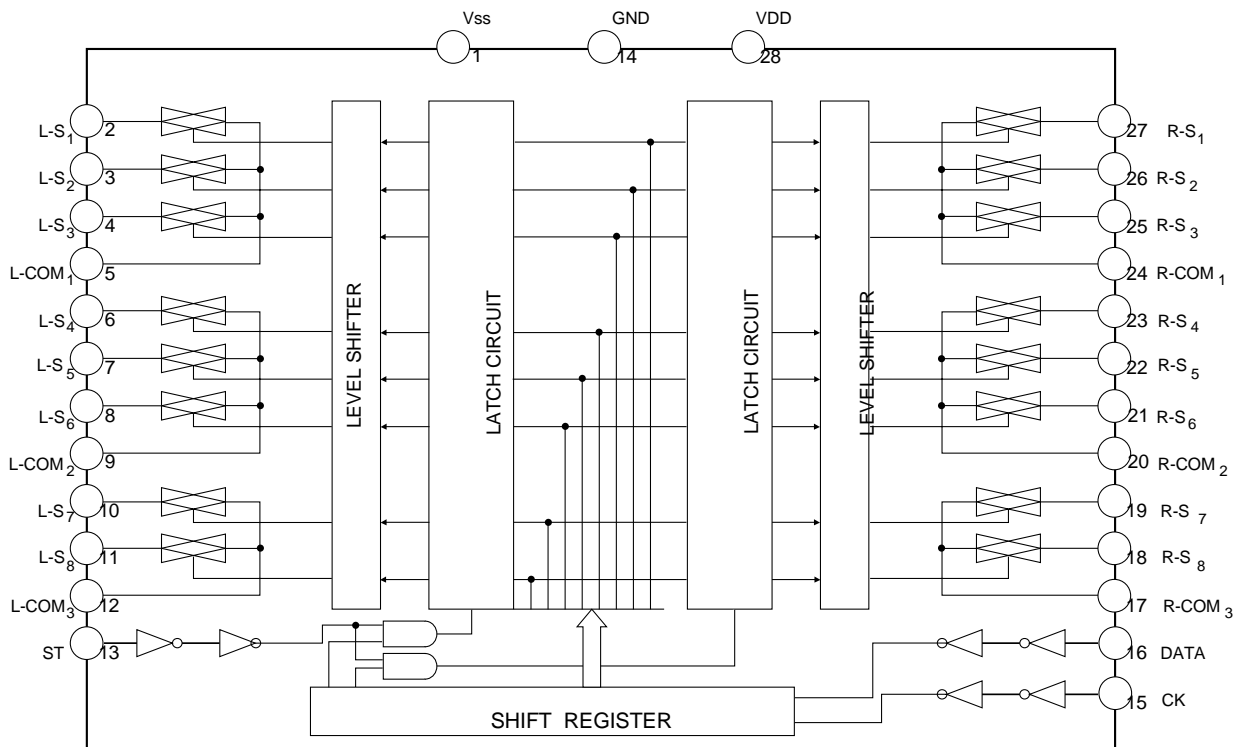
TC9164AF (FUNCTION/INPUT) : IC22

■ BLOCK DIAGRAM



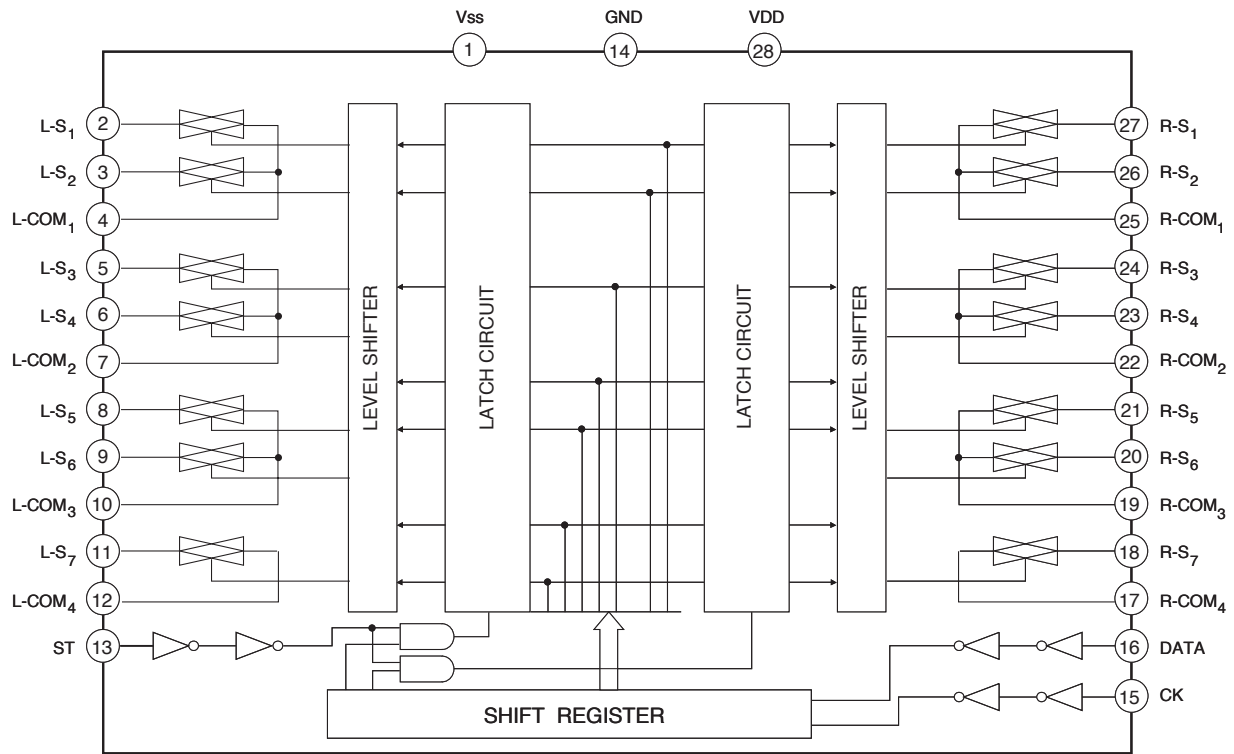
TC9163AF (FUNCTION/INPUT) : IC20

■ BLOCK DIAGRAM

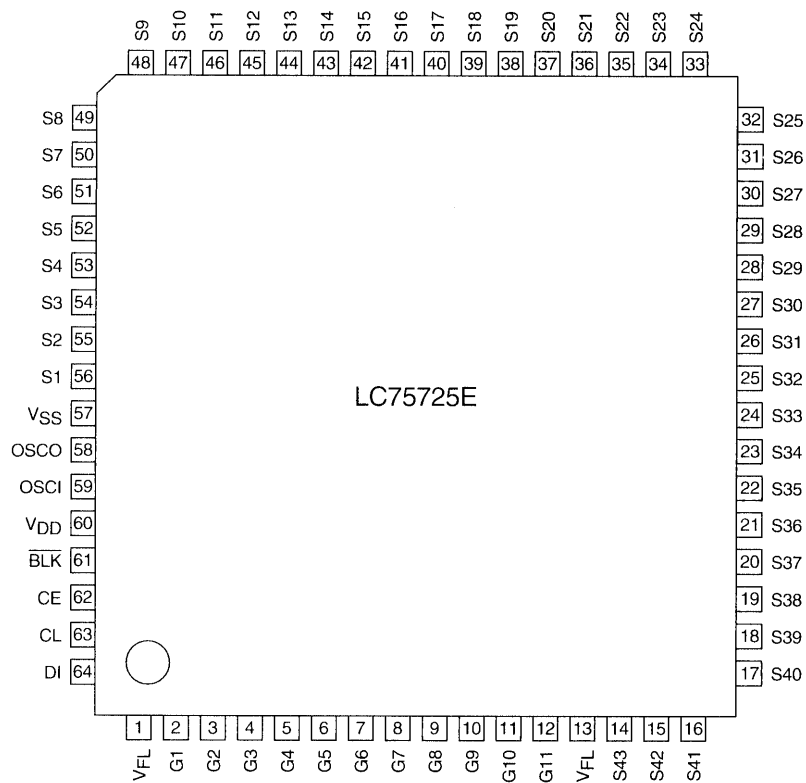


TC9162AF (FUNCTION/INPUT : IC30)

■ BLOCK DIAGRAM



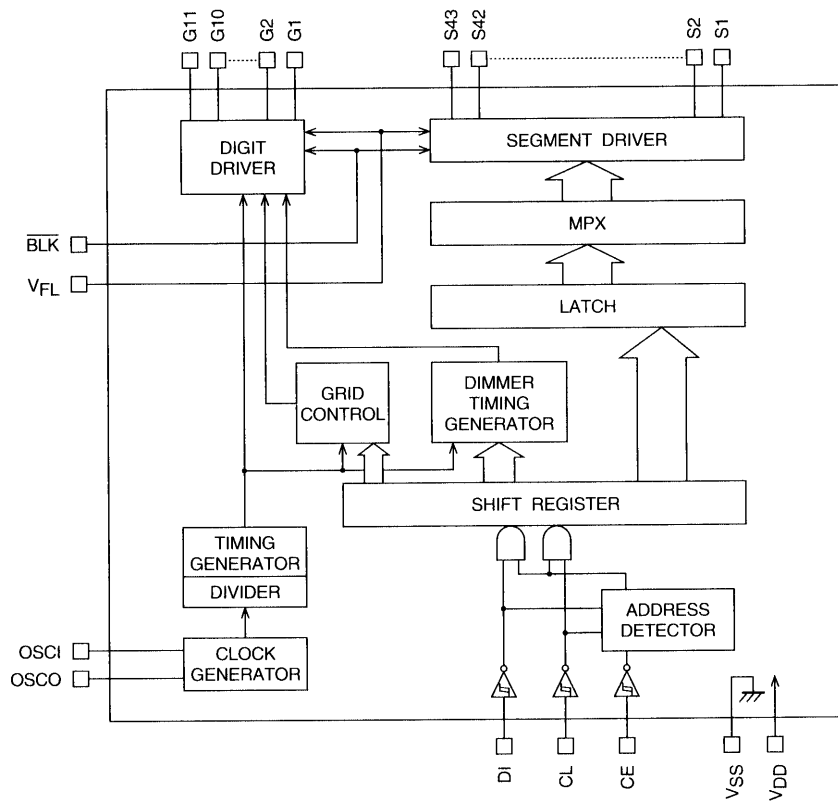
PIN ASSIGNMENT (TOP VIEW)



Top view

A06732

BLOCK DIAGRAM



A06735

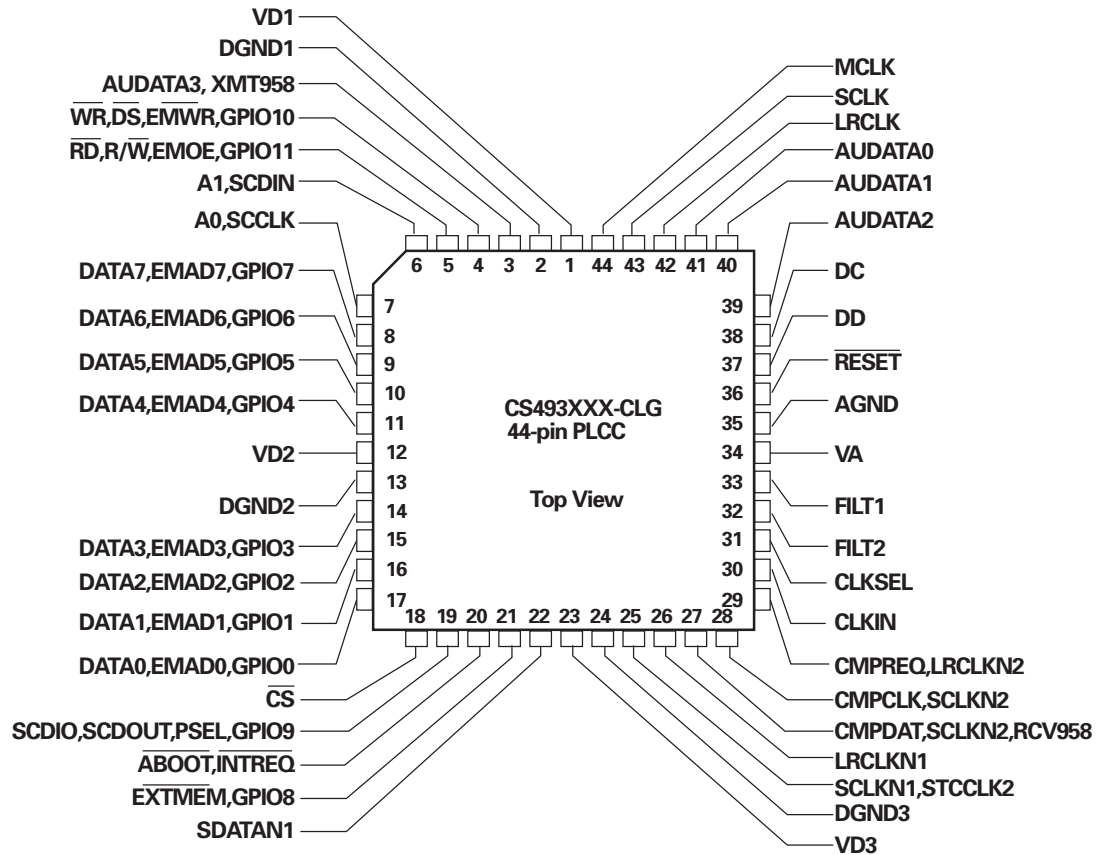
VFD DRIVER IC PIN FUNCTION (LC75725E) : IC74

Pin	Pin No.	Function	I/O	Handling when unused
V _{FL}	1, 13	Driver block power supply connection. (Both pins must be connected.)	—	—
V _{DD}	60	Logic block power supply connection. Provide a voltage between 4.5 and 5.5 V.	—	—
V _{SS}	57	Power supply connection. Connect to the ground.	—	—
OSC1	59	Oscillator connection. An oscillator circuit is formed by connecting an external resistor and capacitor to these pins.	I	GND
OSCO	58		O	OPEN
$\overline{\text{BLK}}$	61	Display off control input. BLK = Low (V _{SS}) ... Display off. (S1 to S43 and G1 to G11 at V _{FL} level.) BLK = High (V _{DD}) ... Display on. Note that serial data can be transferred while the display is turned off.	I	GND
CL	63	Serial data transfer inputs. These pins must be connected to the system microcontroller. CL: Synchronization clock DI: Transfer data CE: Chip enable	I	GND
DI	64			
CE	62			
G1 to G11	2 to 12	Digit outputs. These pins are P-channel open drain outputs with pull-down resistors.	O	OPEN
S1 to S43	56 to 14	Segment outputs for displaying the display data transferred by serial data input. These pins are P-channel open drain outputs with pull-down resistors.	O	OPEN

AUDIO DSP (CS493263 - CLG : IC79)

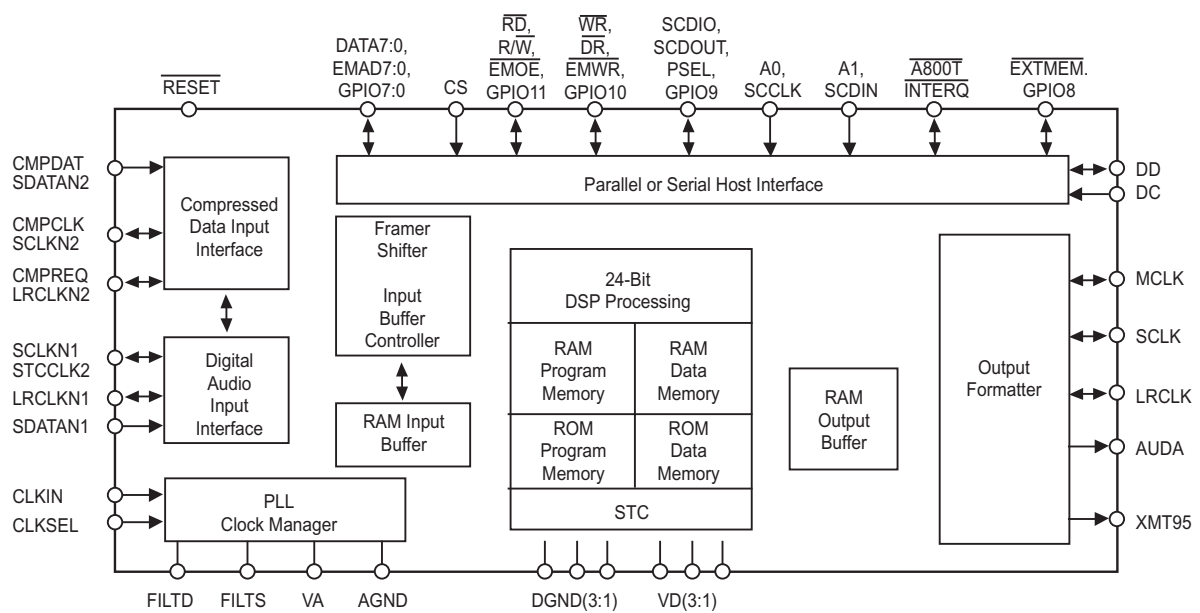
PIN No.	Pin Name	I/O	Function
1,12,23	+VD1	-	Digital Power supply. Normally +2.5v
2,13,24	DGND	-	Digital Ground
3	AUD3	O	SPDIF transmitter output/Digital audio output(N.C)
4	WR	I	Host write strobe pin(connected to GND with an external resistor)
5	RD	I	Host parallel output enable pin(pulled up with an external resistor)
6	CS_DA	I	SPI Serial data input pin
7	CS_CK	I	Serial control clock input pin
8	EMAD7	I/O	Serial data IN/OUTPUT pins(pulled up with an external resistor)
9	EMAD6	I/O	
10	EMAD5	I/O	
11	EMAD4	I/O	
14	EMAD3	I/O	
15	EMAD2	I/O	
16	EMAD1	I/O	
17	EMAD0	I/O	
18	CS_CE	I	Host parallel chip select pin
19	SCDIO(AK_DOUT)	O	Serial control port data ouput pin
20	INTREQ	O	Control port interrupt request output pin
21	EXTMEM	I/O	External Memory Chip Selector(pulled up with an external resistor)
22	SDATAN1(SDI)	I	PCM audio data input number 1 pin
25	SCLKN1(BICK)	I	PCM audio input bit clock pin
26	LRCLKN1(LRCK)	I	PCM audio input sample rate clock pin
27	CMPDAT(SDI)	I	PCM audio data input number 2 pin
28	CMPCLK(BICK)	I	PCM audio input bit clock pin
29	CREQ(LRCK)	I	PCM audio input sample rate clock pin
30	CLKIN(XIN)	I	Master clock input(used external clock)
31	CLKSEL(GND)	I	DSP clock mode select pin: connect the GND
32	FILT1		Connects to an external filter for the on-chip phase-locked loop
33	FILT1		Connects to an external filter for the on-chip phase-locked loop
34	+2.5V	-	Analog Power supply for clock generator . Normally +2.5V
35	AGND	-	Analog ground supply for clock generator PLL.
36	RESET(CS_RST)	I	Master reset input pin
37	DBDATA	-	Reserved pin and should be pulled up with an external resistor.
38	DBCLK	-	Reserved pin and should be pulled up with an external resistor.
39	AUD2(SDO2)	O	PCM multi-format digital-audio data ouput2 pin
40	AUD1(SDO1)	O	PCM multi-format digital-audio data ouput1 pin
41	AUD0(SDO0)	O	PCM multi-format digital-audio data ouput0 pin
42	LRCLK	I	Audio output sample rate clock pin
43	SCLK(BICK)	I	Audio ouput bit clock pin
44	MCLK	I	Audio master clock output pin

PIN ASSIGNMENT.(CS493263)

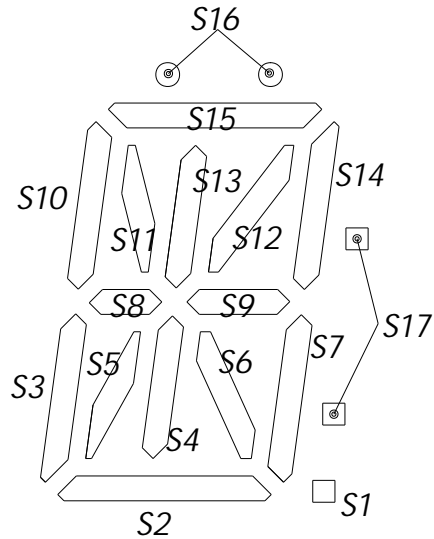
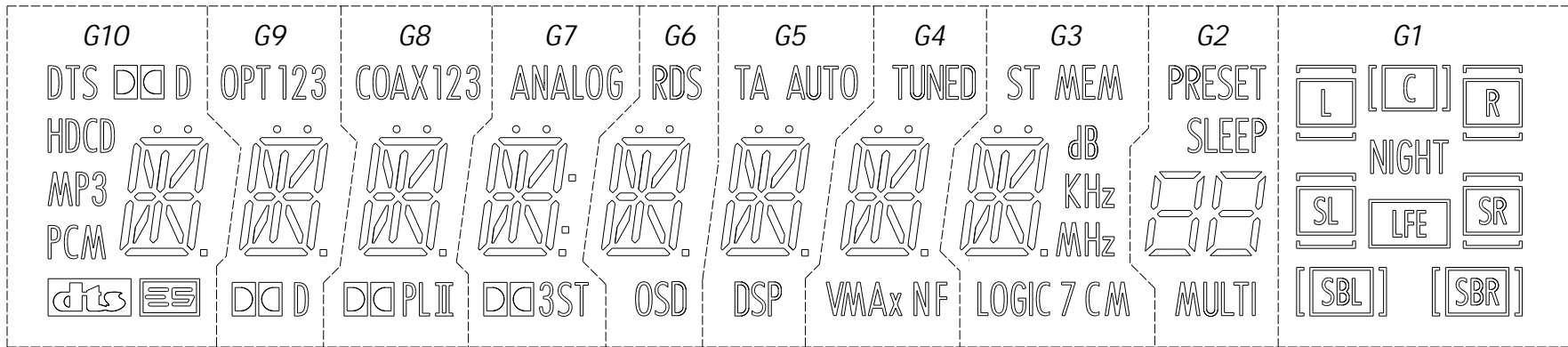


(TOP VIEW)

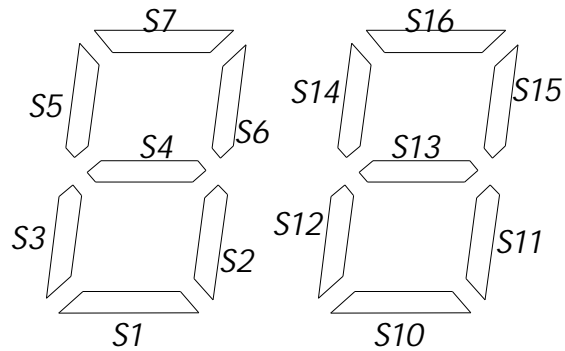
BLOCK DIAGRAM(CS493263)



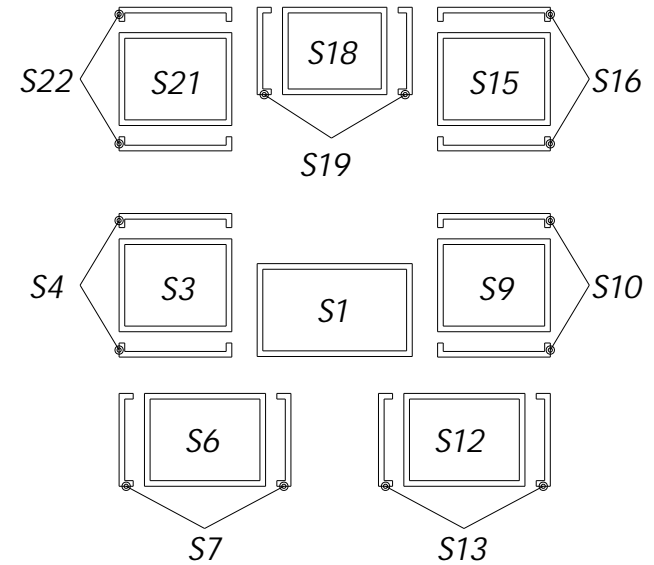
CM2054C:Grid Assignment



G3-G10










G2



G1

CM2054C :Anode & Grid Assignment

	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10
S1	S1	S1	S1	S1	S1	S1	S1	S1	S1	S1
S2	LFE	S2	S2	S2	S2	S2	S2	S2	S2	S2
S3	S3	S3	S3	S3	S3	S3	S3	S3	S3	S3
S4	S4	S4	S4	S4	S4	S4	S4	S4	S4	S4
S5	SL	S5	S5	S5	S5	S5	S5	S5	S5	S5
S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6
S7	S7	S7	S7	S7	S7	S7	S7	S7	S7	S7
S8	SBL		S8	S8	S8	S8	S8	S8	S8	S8
S9	S9		S9	S9	S9	S9	S9	S9	S9	S9
S10	S10	S10	S10	S10	S10	S10	S10	S10	S10	S10
S11	SR	S11	S11	S11	S11	S11	S11	S11	S11	S11
S12	S12	S12	S12	S12	S12	S12	S12	S12	S12	S12
S13	S13	S13	S13	S13	S13	S13	S13	S13	S13	S13
S14	SBR	S14	S14	S14	S14	S14	S14	S14	S14	S14
S15	S15	S15	S15	S15	S15	S15	S15	S15	S15	S15
S16	S16	S16	S16	S16	S16	S16	S16	S16	S16	S16
S17	R		dB				S17			
S18	S18	PRESET	ST	TUNED	TA	RDS	ANALOG	COAX	OPT	DTS
S19	S19	SLEEP	MEM	VMAx	AUTO	OSD	 3	1	1	 D
S20	C	MULTI	KHz	N	DSP		ST	2	2	HD CD
S21	S21		MHz	F				3	3	MP3
S22	S22		LOGIC 7					 PL	 D	PCM
S23	L		C					 I		
S24	NIGHT		M							

PIN ASSIGNMENT

Pin No.	46	45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20
Assignment	NL (F2)	F2	NP	NL	S24	S23	S22	S21	S20	S19	S18	S17	S16	S15	S14	S13	S12	S11	S10	S9	S8	S7	S6	S5	S4	S3	S2

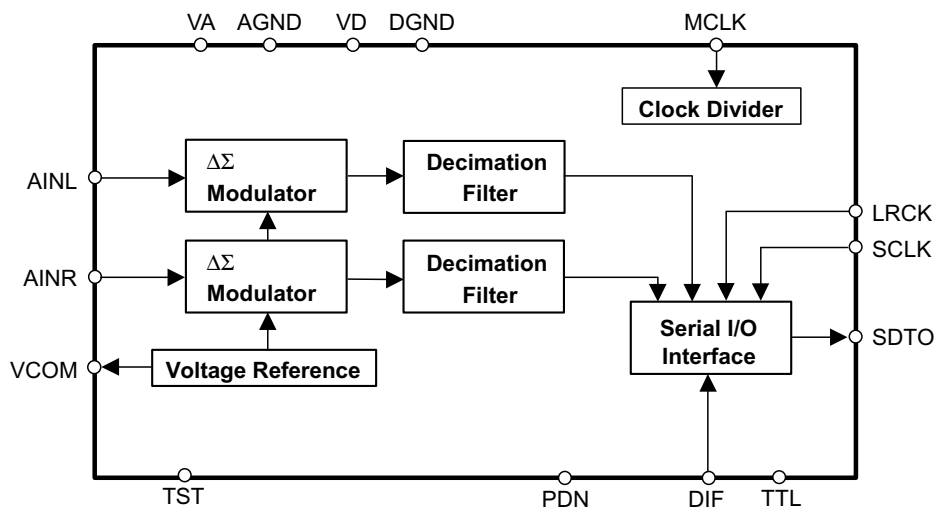
Pin No.	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
Assignment	S1	NL	NL	NL	NL	G10	G9	G8	G7	G6	G5	G4	G3	G2	G1	NL	NP	F1	NL (F1)

F1,F2:Filament G1-G10:Grid

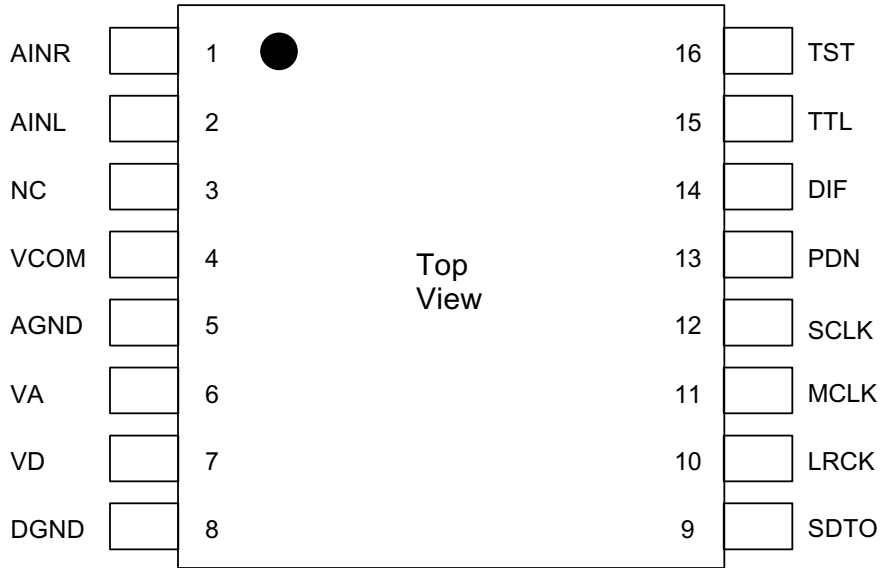
S1-S24:Anode NP:No Pin NL:No Lead



A/D CONVERTER IC (AK5380VT) : IC77



PIN ASSIGNMENT (TOP VIEW)



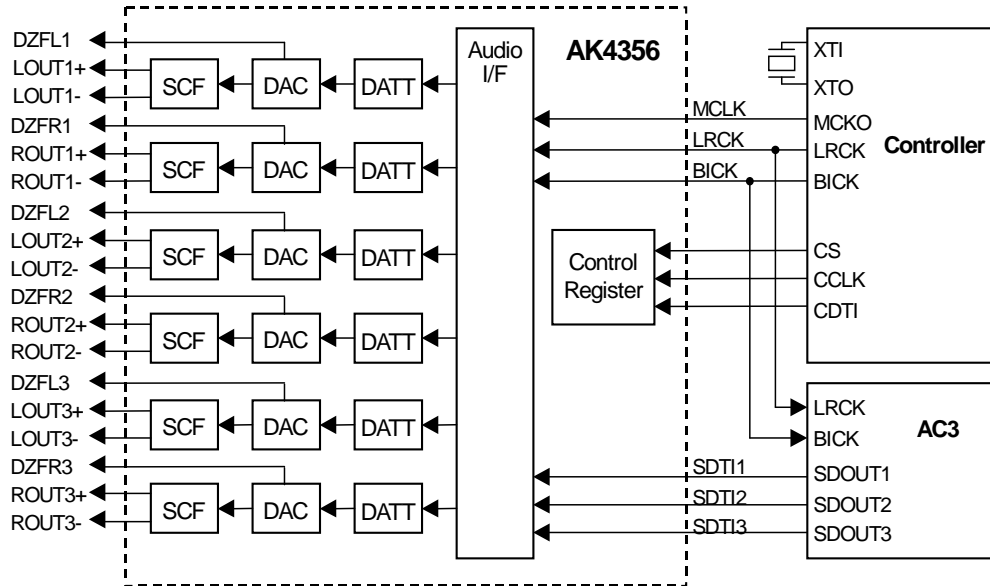
A/D CONVERTER IC (AK5380VT) : IC77

A/D CONVERTER IC PIN FUNCTION (AK5380VT) : IC77

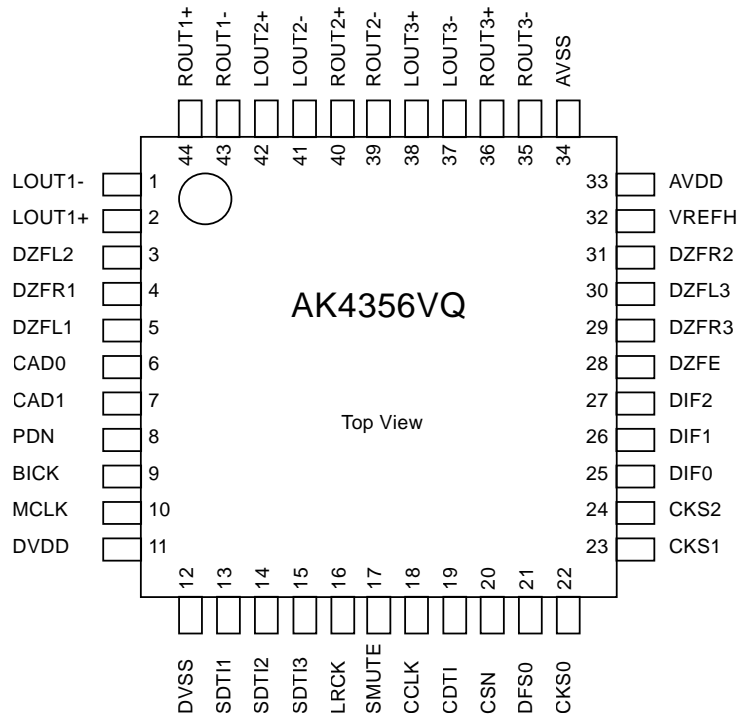
PIN/FUNCTION			
No.	Pin Name	I/O	Description
1	AINR	I	Rch Analog Input Pin
2	AINL	I	Lch Analog Input Pin
3	NC	-	NC Pin No internal bonding.
4	VCOM	O	Common Voltage Output Pin Normally connected to AGND with a 0.1 μ F ceramic capacitor in parallel with an electrolytic capacitor less than 2.2 μ F.
5	AGND	-	Analog Ground Pin, 0V
6	VA	-	Analog Power Supply Pin, +4.5~+5.5V
7	VD	-	Digital Power Supply Pin, +2.7~+5.5V(fs=48kHz), +4.5~+5.5V(fs=96kHz)
8	DGND	-	Digital Ground Pin, 0V
9	SDTO	O	Serial Data Output Pin Data bits are presented MSB first, in 2's complement format. This pin is "L" in the power-down mode.
10	LRCK	I	Left/Right Channel Select Pin The fs clock is input to this pin.
11	MCLK	I	Master Clock Input Pin
12	SCLK	I	Serial Data Input Pin Output data is clocked out on the falling edge of SCLK.
13	PDN	I	Power-Down Pin When "L", the circuit is in power-down mode. The AK5380 should always be reset upon power-up.
14	DIF	I	Serial Interface Format Pin "L": MSB justified, "H": I ² S
15	TTL	I	Digital Input Level Select Pin "L": CMOS level (VD=2.7~5.5V), "H": TTL level (VD=4.5~5.5V)
16	TST	I	Test Pin (Internal pull-down pin) This pin should be left open.

Note: All input pins except pull-down pins should not be left floating.

■ Block Diagram



D/A CONVERTER IC PIN ASSIGNMENT & BLOCK DIAGRAM □
PIN ASSIGNMENT (TOP VIEW)



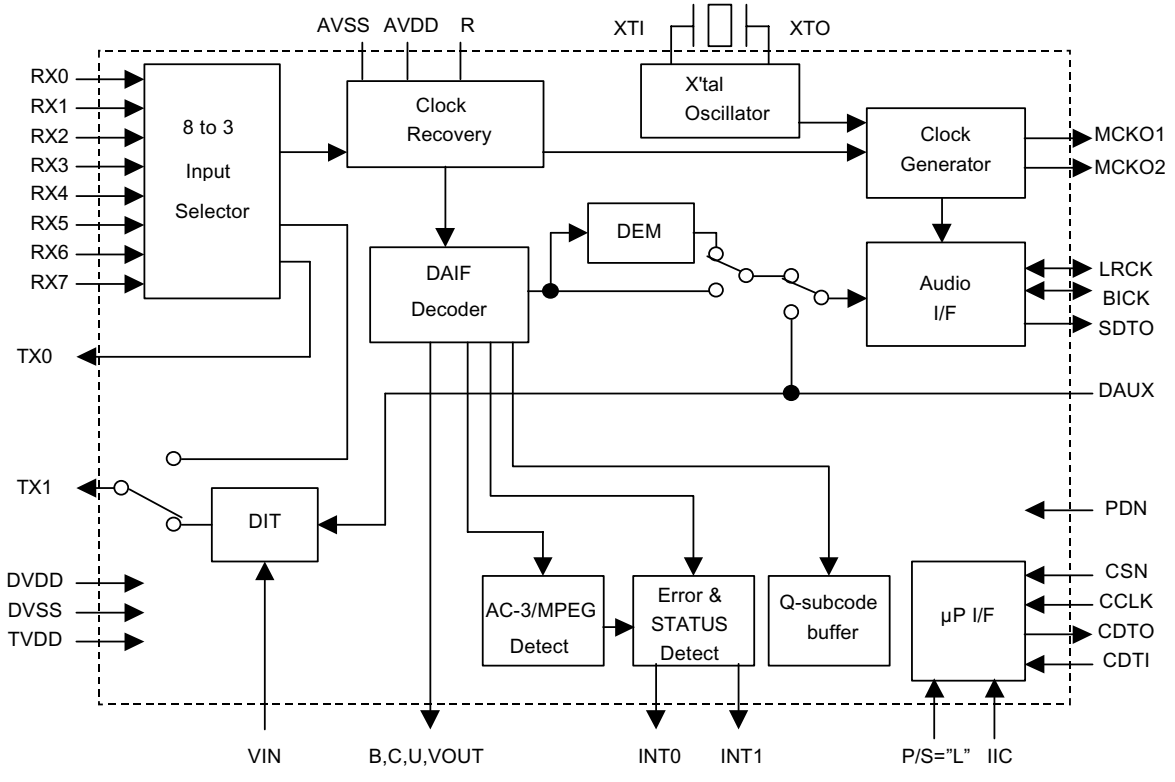
D/A CONVERTER IC PIN FUNCTION (AK4356VQ) : IC78**PIN/FUNCTION**

No.	Pin Name	I/O	Function
1	LOUT1-	O	DAC1 Lch Negative Analog Output Pin
2	LOUT1+	O	DAC1 Lch Positive Analog Output Pin
3	DZFL2	O	DAC2 Lch Zero Input Detect Pin
4	DZFR1	O	DAC1 Rch Zero Input Detect Pin
5	DZFL1	O	DAC1 Lch Zero Input Detect Pin
6	CAD0	I	Chip Address 0 Pin
7	CAD1	I	Chip Address 1 Pin
8	PDN	I	Power-Down & Reset Pin When "L", the AK4356 is powered-down and the control registers are reset to default state. If the state of CAD0-1 changes, then the AK4356 must be reset by PDN.
9	BICK	I	Audio Serial Data Clock Pin
10	MCLK	I	Master Clock Input Pin
11	DVDD	-	Digital Power Supply Pin, +4.75~+5.25V
12	DVSS	-	Digital Ground Pin
13	SDTI1	I	DAC1 Audio Serial Data Input Pin
14	SDTI2	I	DAC2 Audio Serial Data Input Pin
15	SDTI3	I	DAC3 Audio Serial Data Input Pin
16	LRCK	I	Audio Input Channel Clock Pin
17	SMUTE	I	Soft Mute Pin (Note) When this pin goes to "H", soft mute cycle is initialized. When returning to "L", the output mute releases.
18	CCLK	I	Control Data Clock Pin
19	CDTI	I	Control Data Input Pin
20	CSN	I	Chip Select Pin This pin should be held to "H" except for access.

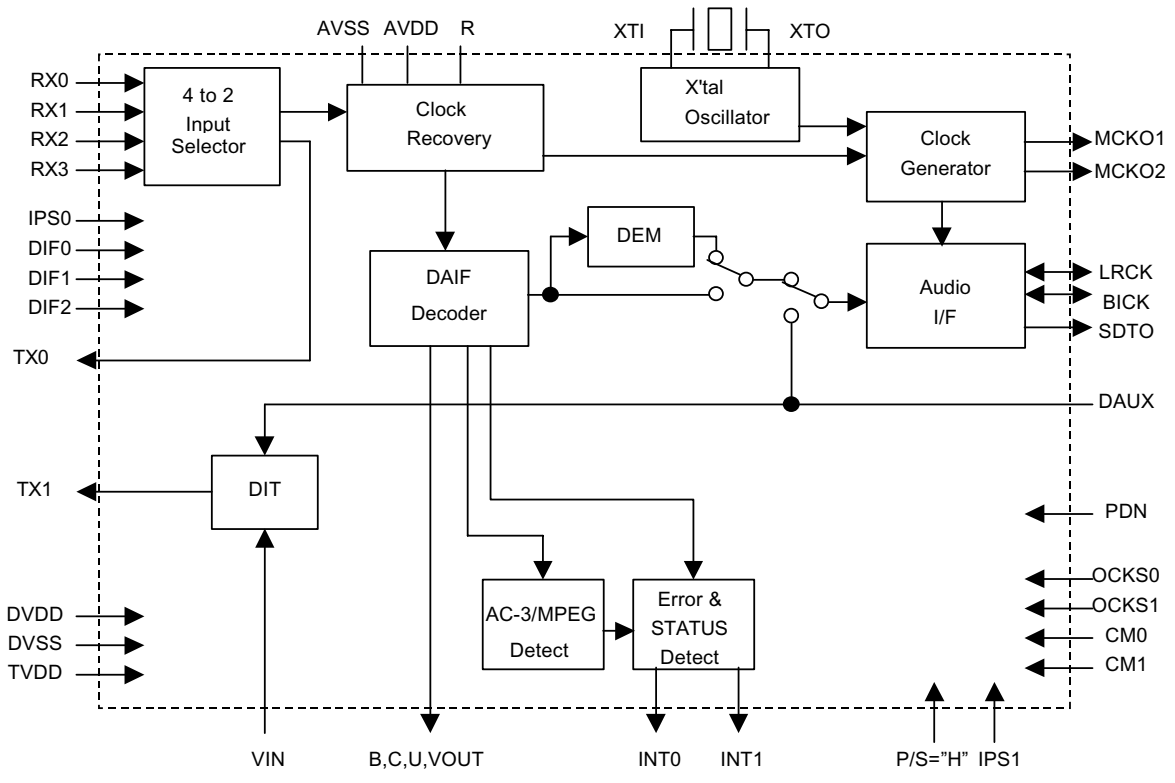
No.	Pin Name	I/O	Function
21	DFS0	I	Double Speed Sampling Mode 0 Pin (Note) “L”: Normal Speed, “H”: Double Speed at DFS1 bit = “0”.
22	CKS0	I	Input Clock Select 0 Pin (Note)
23	CKS1	I	Input Clock Select 1 Pin (Note)
24	CKS2	I	Input Clock Select 2 Pin (Note)
25	DIF0	I	Audio Data Interface Format 0 Pin (Note)
26	DIF1	I	Audio Data Interface Format 1 Pin (Note)
27	DIF2	I	Audio Data Interface Format 2 Pin (Note)
28	DZFE	I	Zero Input Detect Enable Pin (Note)
29	DZFR3	O	DAC3 Rch Zero Input Detect Pin
30	DZFL3	O	DAC3 Lch Zero Input Detect Pin
31	DZFR2	O	DAC2 Rch Zero Input Detect Pin
32	VREFH	I	Positive Voltage Reference Input Pin, AVDD
33	AVDD	-	Analog Power Supply Pin
34	AVSS	-	Analog Ground Pin, +4.75~+5.25V
35	ROUT3-	O	DAC3 Rch Negative Analog Output Pin
36	ROUT3+	O	DAC3 Rch Positive Analog Output Pin
37	LOUT3-	O	DAC3 Lch Negative Analog Output Pin
38	LOUT3+	O	DAC3 Lch Positive Analog Output Pin
39	ROUT2-	O	DAC2 Rch Negative Analog Output Pin
40	ROUT2+	O	DAC2 Rch Positive Analog Output Pin
41	LOUT2-	O	DAC2 Lch Negative Analog Output Pin
42	LOUT2+	O	DAC2 Lch Positive Analog Output Pin
43	ROUT1-	O	DAC1 Rch Negative Analog Output Pin
44	ROUT1+	O	DAC1 Rch Positive Analog Output Pin

Note: SMUTE, DFS0, CKS0, CKS1, CKS2, DIF0, DIF1, DIF2, DZFE pins are ORed with serial control register.

BLOCK DIAGRAM

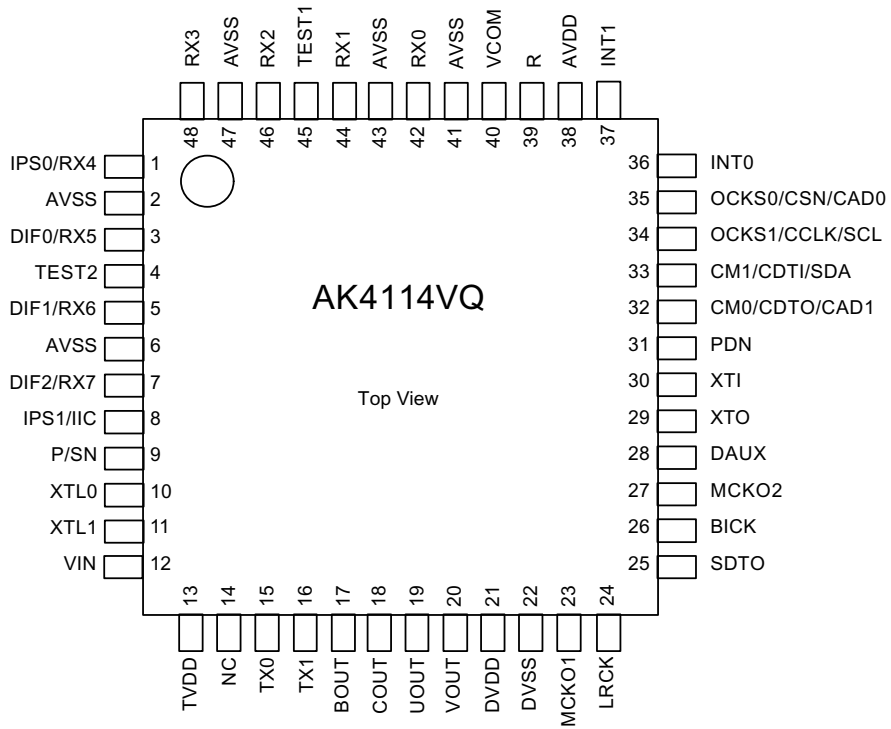


Serial Control Mode



Parallel Control Mode

DIR IC PIN ASSIGNMENT & BLOCK DIAGRAM
PIN ASSIGNMENT (TOP VIEW)



DIR IC PIN FUNCTION (AK4114VQ) : IC75

PIN/FUNCTION

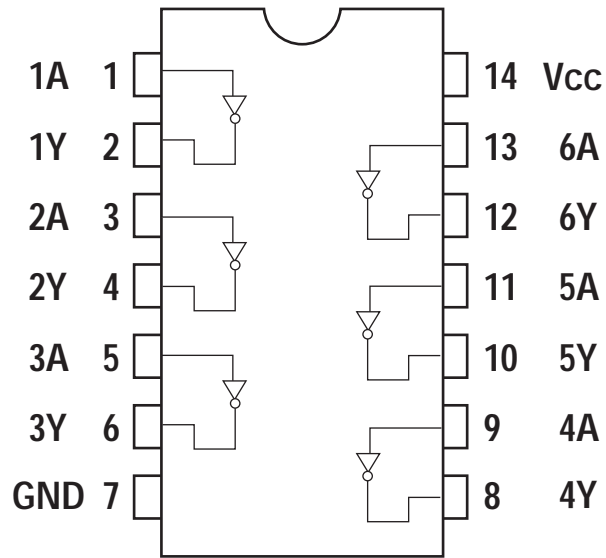
No.	Pin Name	I/O	Function
1	IPS0	I	Input Channel Select 0 Pin in Parallel Mode
	RX4	I	Receiver Channel 4 Pin in Serial Mode (Internal biased pin)
2	NC(AVSS)	I	No Connect No internal bonding. This pin should be connected to AVSS.
3	DIF0	I	Audio Data Interface Format 0 Pin in Parallel Mode
	RX5	I	Receiver Channel 5 Pin in Serial Mode (Internal biased pin)
4	TEST2	I	TEST 2 pin This pin should be connect to AVSS.
5	DIF1	I	Audio Data Interface Format 1 Pin in Parallel Mode
	RX6	I	Receiver Channel 6 Pin in Serial Mode (Internal biased pin)
6	NC(AVSS)	I	No Connect No internal bonding. This pin should be connected to AVSS.
7	DIF2	I	Audio Data Interface Format 2 Pin in Parallel Mode
	RX7	I	Receiver Channel 7 Pin in Serial Mode (Internal biased pin)
8	IPS1	I	Input Channel Select 1 Pin in Parallel Mode
	IIC	I	IIC Select Pin in Serial Mode. “L”: 4-wire Serial, “H”: IIC
9	P/SN	I	Parallel/Serial Select Pin “L”: Serial Mode, “H”: Parallel Mode
10	XTL0	I	X'tal Frequency Select 0 Pin
11	XTL1	I	X'tal Frequency Select 1 Pin
12	VIN	I	V-bit Input Pin for Transmitter Output
13	TVDD	I	Input Buffer Power Supply Pin, 3.3V or 5V
14	NC	I	No Connect No internal bonding. This pin should be open or connected to DVSS.
15	TX0	O	Transmit Channel (Through Data) Output 0 Pin
16	TX1	O	When TX bit = “0”, Transmit Channel (Through Data) Output 1 Pin. When TX bit = “1”, Transmit Channel (DAUX Data) Output Pin (Default).
17	BOUT	O	Block-Start Output Pin for Receiver Input “H” during first 40 frames.
18	COUT	O	C-bit Output Pin for Receiver Input
19	UOUT	O	U-bit Output Pin for Receiver Input
20	VOUT	O	V-bit Output Pin for Receiver Input
21	DVDD	I	Digital Power Supply Pin, 3.3V
22	DVSS	I	Digital Ground Pin
23	MCKO1	O	Master Clock Output 1 Pin
24	LRCK	I/O	Channel Clock Pin
25	SDTO	O	Audio Serial Data Output Pin
26	BICK	I/O	Audio Serial Data Clock Pin
27	MCKO2	O	Master Clock Output 2 Pin
28	DAUX	I	Auxiliary Audio Data Input Pin
29	XTO	O	X'tal Output Pin
30	XTI	I	X'tal Input Pin

PIN/FUNCTION (Continued)

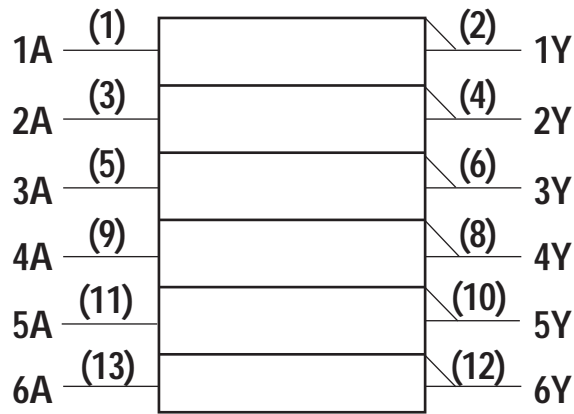
No.	Pin Name	I/O	Function
31	PDN	I	Power-Down Mode Pin When “L”, the AK4114 is powered-down and reset.
32	CM0	I	Master Clock Operation Mode 0 Pin in Parallel Mode
	CDTO	O	Control Data Output Pin in Serial Mode, IIC= “L”.
	CAD1	I	Chip Address 1 Pin in Serial Mode, IIC= “H”.
33	CM1	I	Master Clock Operation Mode 1 Pin in Parallel Mode
	CDTI	I	Control Data Input Pin in Serial Mode, IIC= “L”.
	SDA	I/O	Control Data Pin in Serial Mode, IIC= “H”.
34	OCKS1	I	Output Clock Select 1 Pin in Parallel Mode
	CCLK	I	Control Data Clock Pin in Serial Mode, IIC= “L”
	SCL	I	Control Data Clock Pin in Serial Mode, IIC= “H”
35	OCKS0	I	Output Clock Select 0 Pin in Parallel Mode
	CSN	I	Chip Select Pin in Serial Mode, IIC= “L”.
	CAD0	I	Chip Address 0 Pin in Serial Mode, IIC= “H”.
36	INT0	O	Interrupt 0 Pin
37	INT1	O	Interrupt 1 Pin
38	AVDD	I	Analog Power Supply Pin, 3.3V
39	R	-	External Resistor Pin 18k Ω +/-1% resistor should be connected to AVSS externally.
40	VCOM	-	Common Voltage Output Pin 0.47 μ F capacitor should be connected to AVSS externally.
41	AVSS	I	Analog Ground Pin
42	RX0	I	Receiver Channel 0 Pin (Internal biased pin) This channel is default in serial mode.
43	NC(AVSS)	I	No Connect No internal bonding. This pin should be connected to AVSS.
44	RX1	I	Receiver Channel 1 Pin (Internal biased pin)
45	TEST1	I	TEST 1 pin. This pin should be connected to AVSS.
46	RX2	I	Receiver Channel 2 Pin (Internal biased pin)
47	NC(AVSS)	I	No Connect No internal bonding. This pin should be connected to AVSS.
48	RX3	I	Receiver Channel 3 Pin (Internal biased pin)

Note 1. All input pins except internal biased pins should not be left floating.

■ PIN ASSIGNMENT (74HCU04AFN : IC71,72)



■ LOGIC SYMBOL

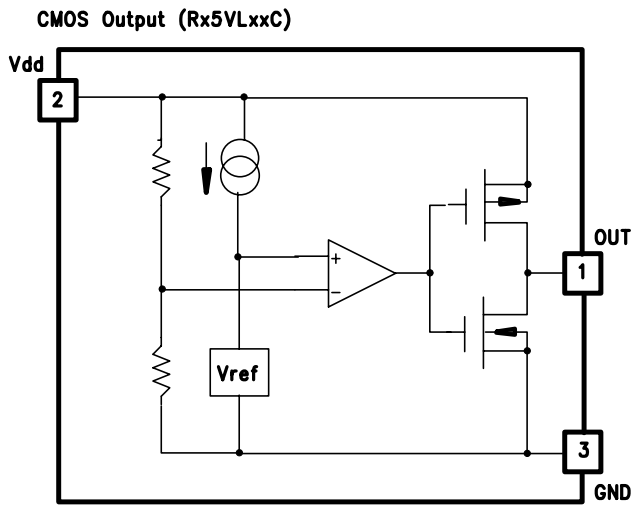


■ TRUTH TABLE

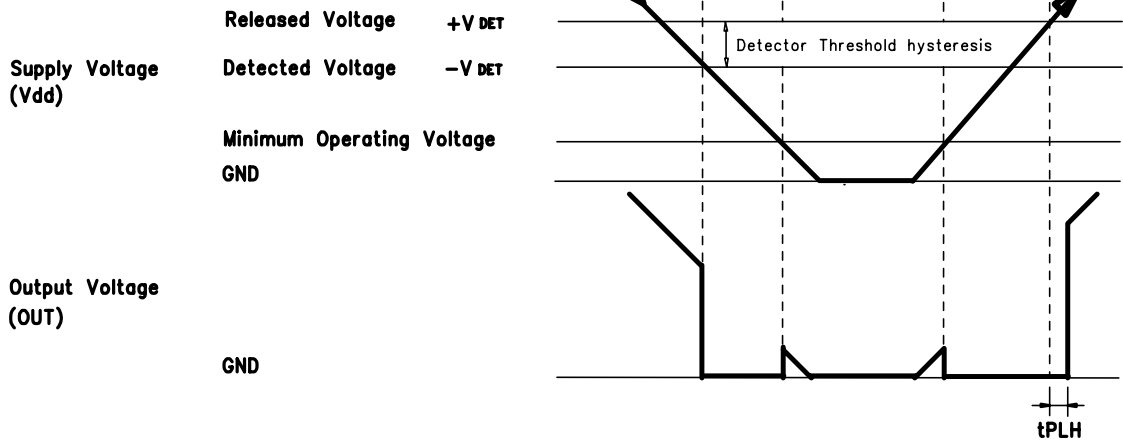
A	Y
L	H
H	L

RE5VL28CATZ (VOLTAGE DETECTOR : IC87)

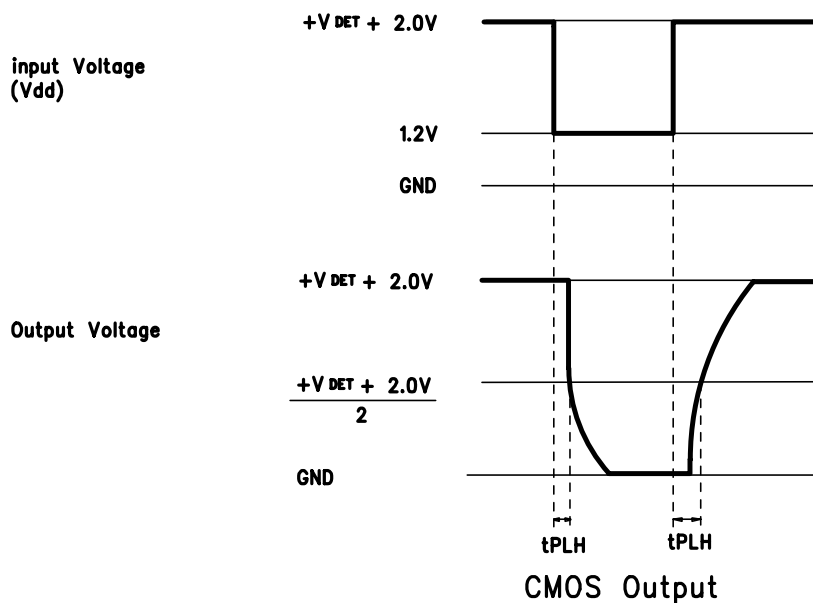
BLOCK DIAGRAM



TIME CHART

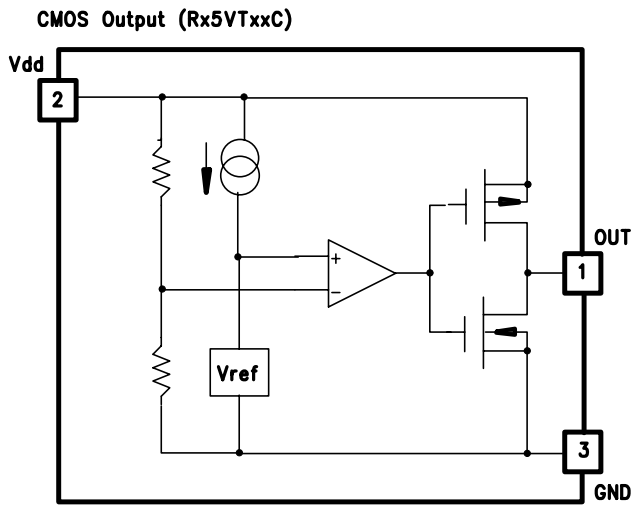


DEFINITION OF OUTPUT DELAY TIME tPLH

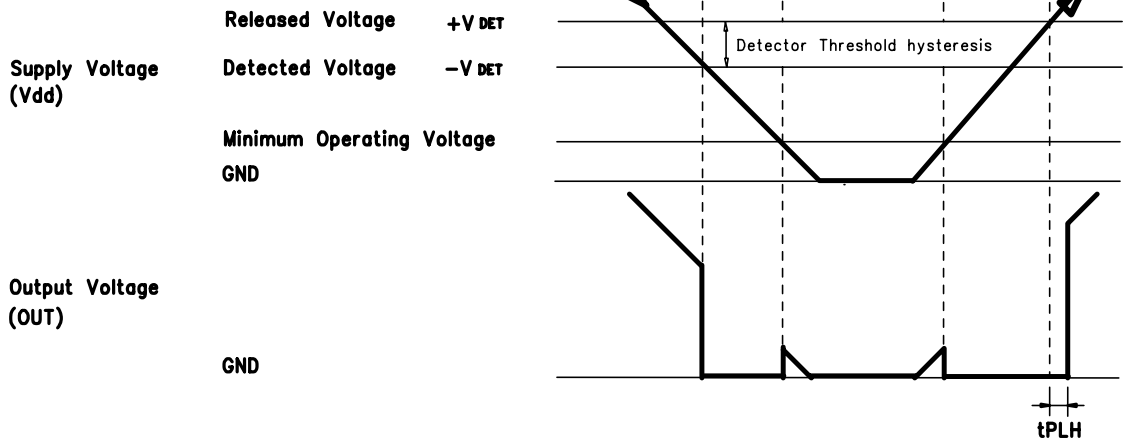


RE5VT15CATZ (VOLTAGE DETECTOR : IC85)

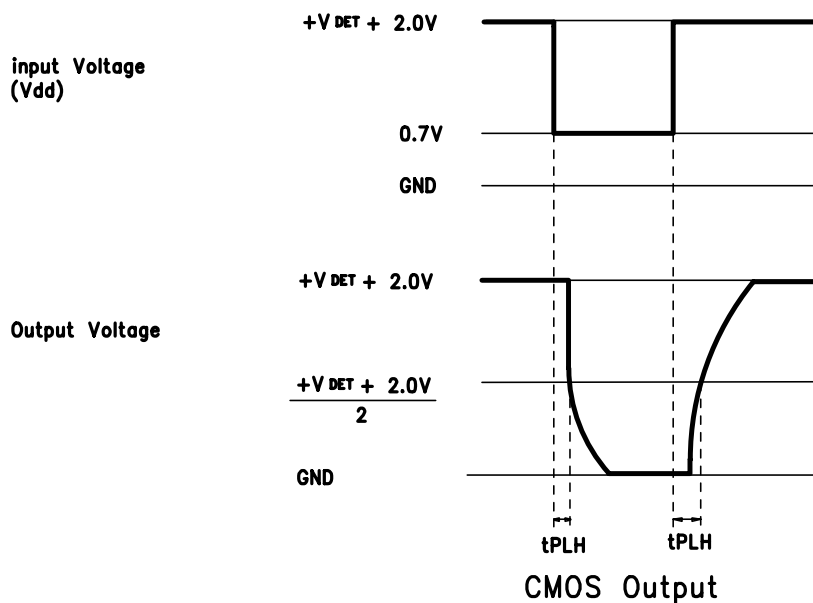
■ BLOCK DIAGRAM



■ TIME CHART

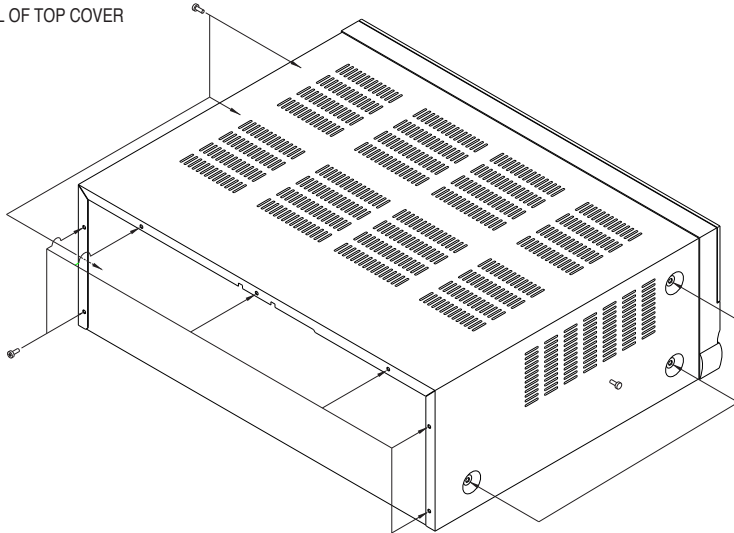


■ DEFINITION OF OUTPUT DELAY TIME tPLH

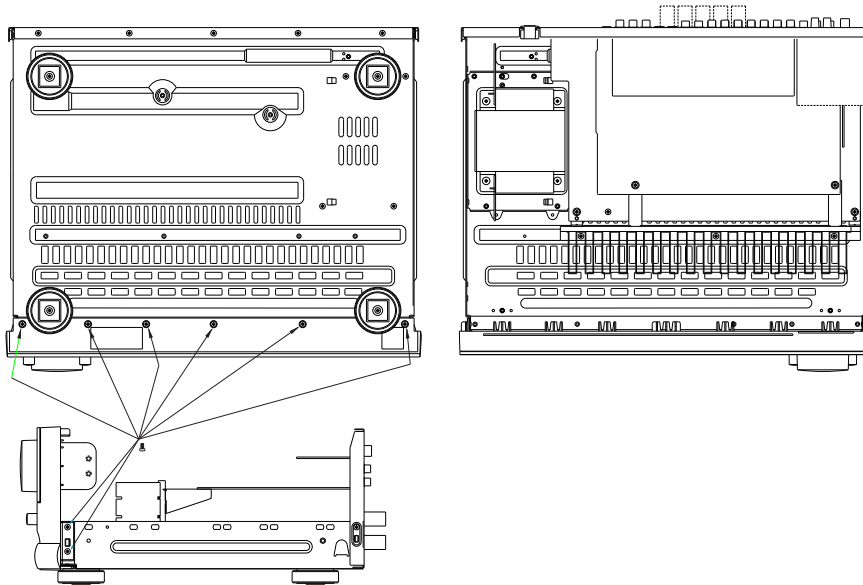


DISASSEMBLY

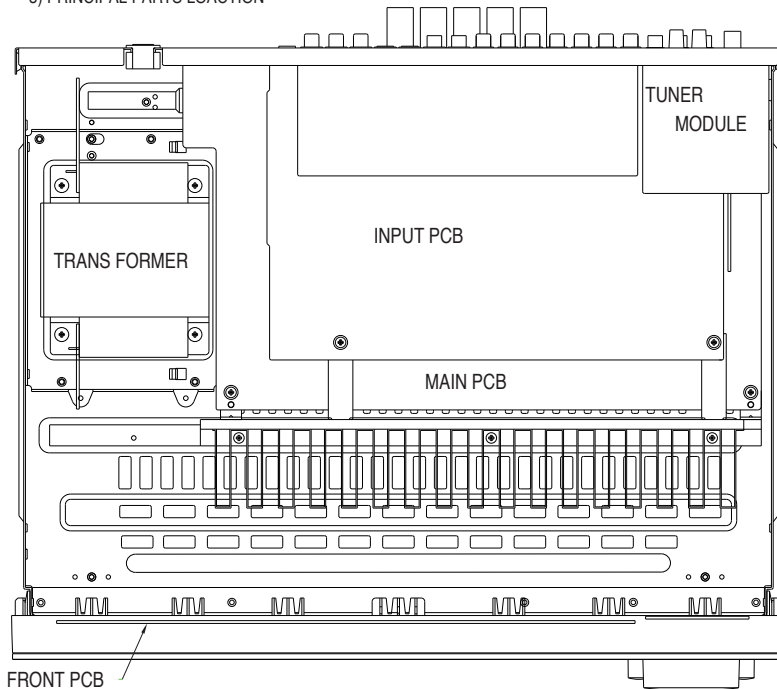
1) REMOVAL OF TOP COVER



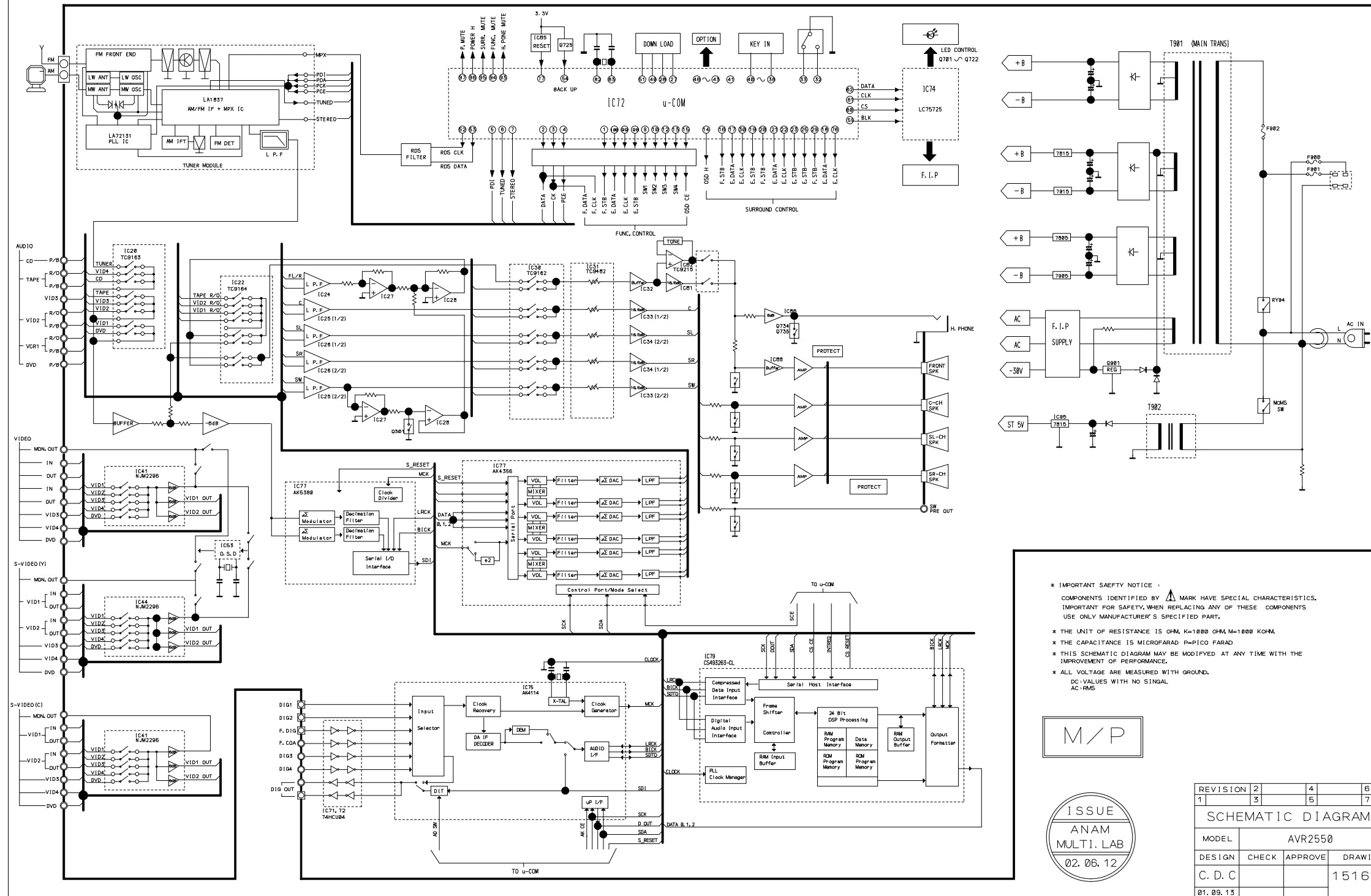
2) REMOVAL OF FRONT PANEL



3) PRINCIPAL PARTS LOCATION



AVR2550 BLOCK DIAGRAM



*** IMPORTANT SAFETY NOTICE ***
 COMPONENTS IDENTIFIED BY MARK HAVE SPECIAL CHARACTERISTICS. IMPORTANT FOR SAFETY, WHEN REPLACING ANY OF THESE COMPONENTS USE ONLY MANUFACTURER'S SPECIFIED PART.
 * THE UNIT OF RESISTANCE IS OHM, K=1000 OHM, M=1000 KOHM.
 * THE CAPACITANCE IS MICROFARAD P=PICO FARAD
 * THIS SCHEMATIC DIAGRAM MAY BE MODIFIED AT ANY TIME WITH THE IMPROVEMENT OF PERFORMANCE.
 * ALL VOLTAGE ARE MEASURED WITH GROUND.
 DC VALUES WITH NO SIGNAL
 AC RMS

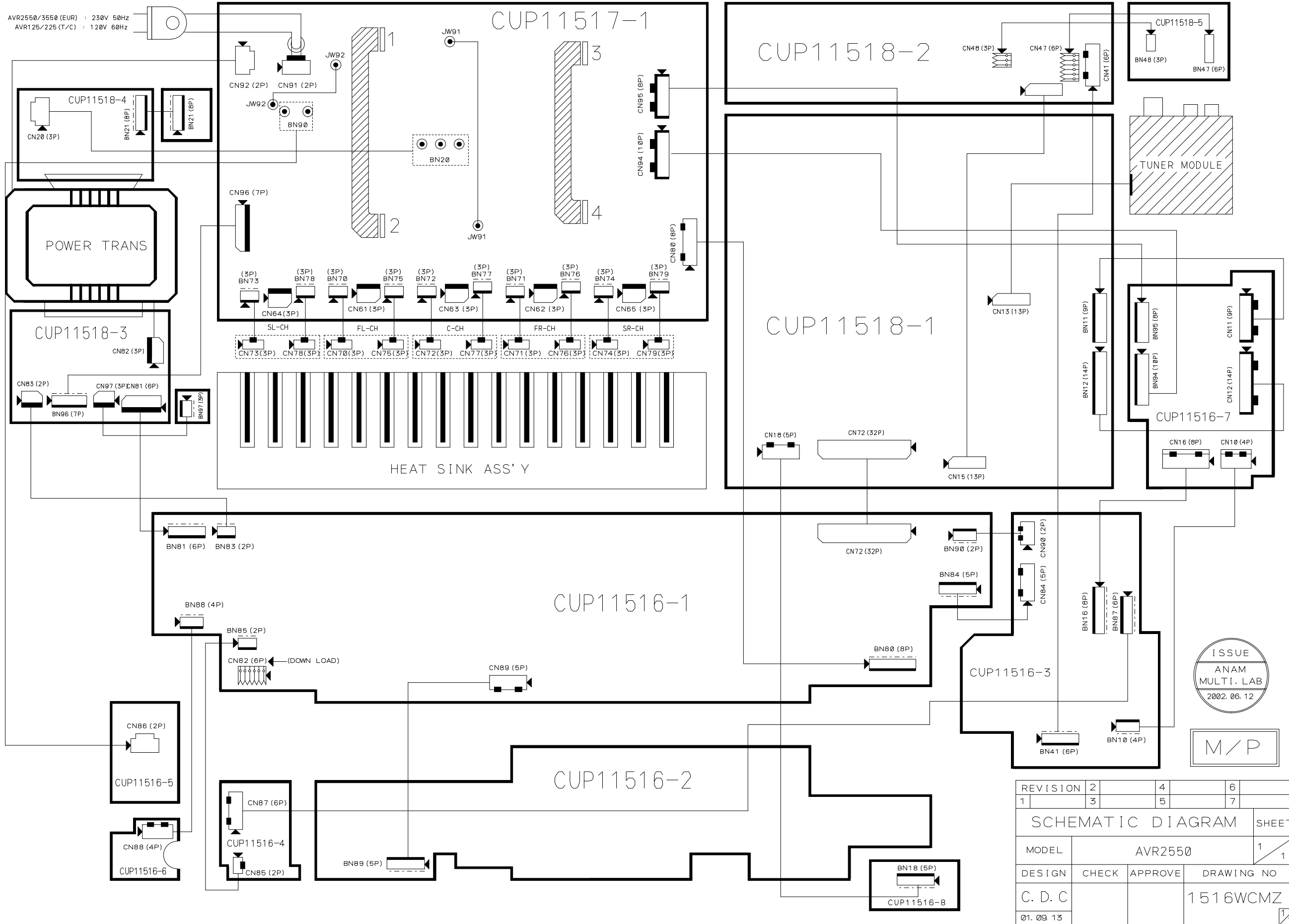
M/P

ISSUE
 ANAM
 MULTI. LAB
 02.06.12

REVISION	2	4	6
1	3	5	7
SCHEMATIC DIAGRAM			SHEET
MODEL	AVR2550	1/1	
DESIGN	CHECK	APPROVE	DRAWING NO
C. D. C.			1516BCMZ
B1.09.15			

AVR2550 WIRING DIAGRAM

AVR2550/3550 (EUR) : 230V 50Hz
 AVR125/225 (T/C) : 120V 60Hz

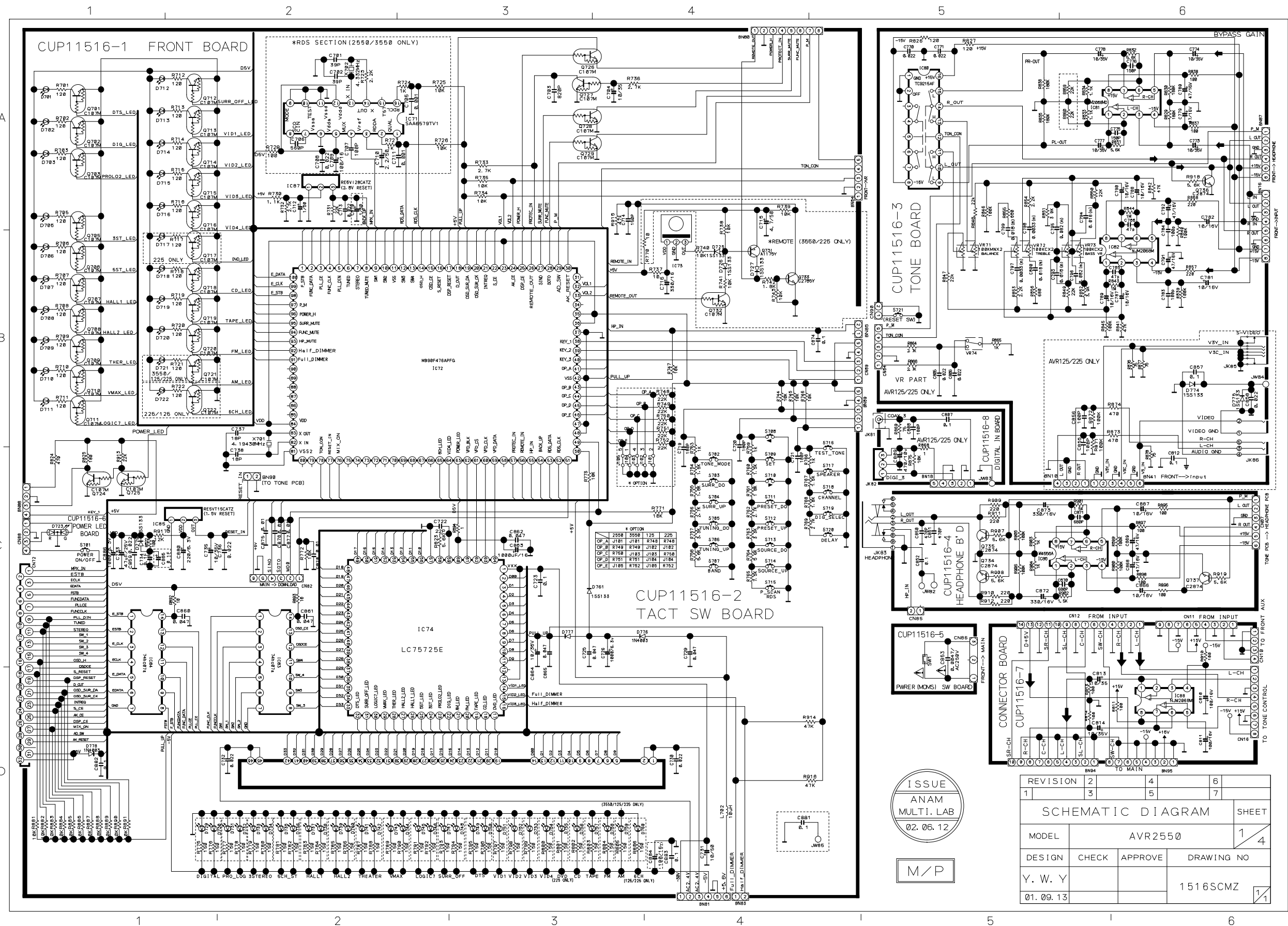


ISSUE
 ANAM
 MULTI. LAB
 2002.05.12

M/P

REVISION	2	4	6
	3	5	7
SCHEMATIC DIAGRAM			SHEET
MODEL	AVR2550		1/1
DESIGN	CHECK	APPROVE	DRAWING NO
C. D. C			1516WCMZ
01.09.13			1/1

AVR250 Front board sch



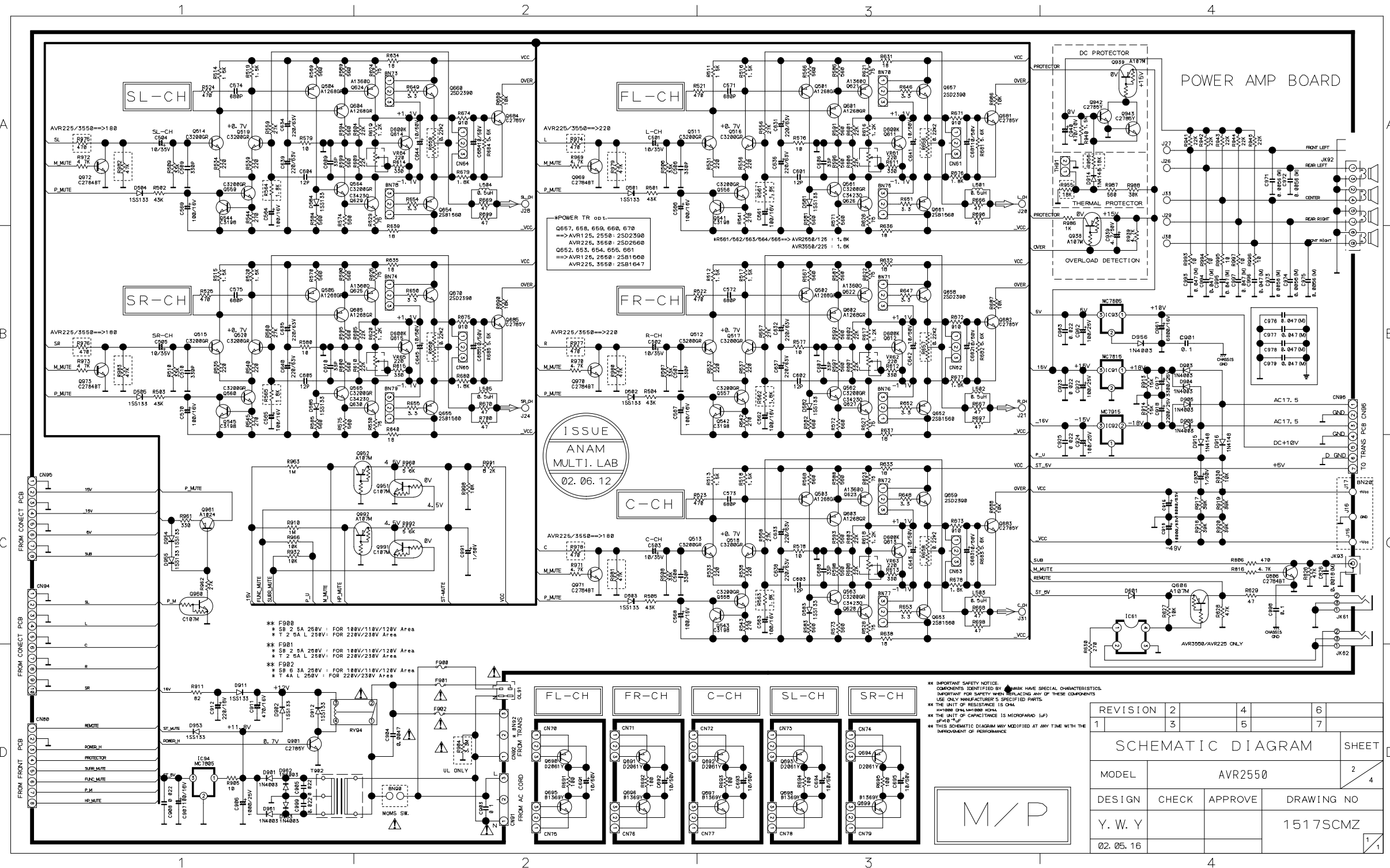
ISSUE
ANAM
MULTI. LAB
02.06.12

M/P

REVISION	2	4	6
1	3	5	7

SCHEMATIC DIAGRAM			SHEET
MODEL	AVR250		1/4
DESIGN	CHECK	APPROVE	DRAWING NO
Y. W. Y			1516SCMZ
01.09.13			1/1

AVR2550 Main board sch

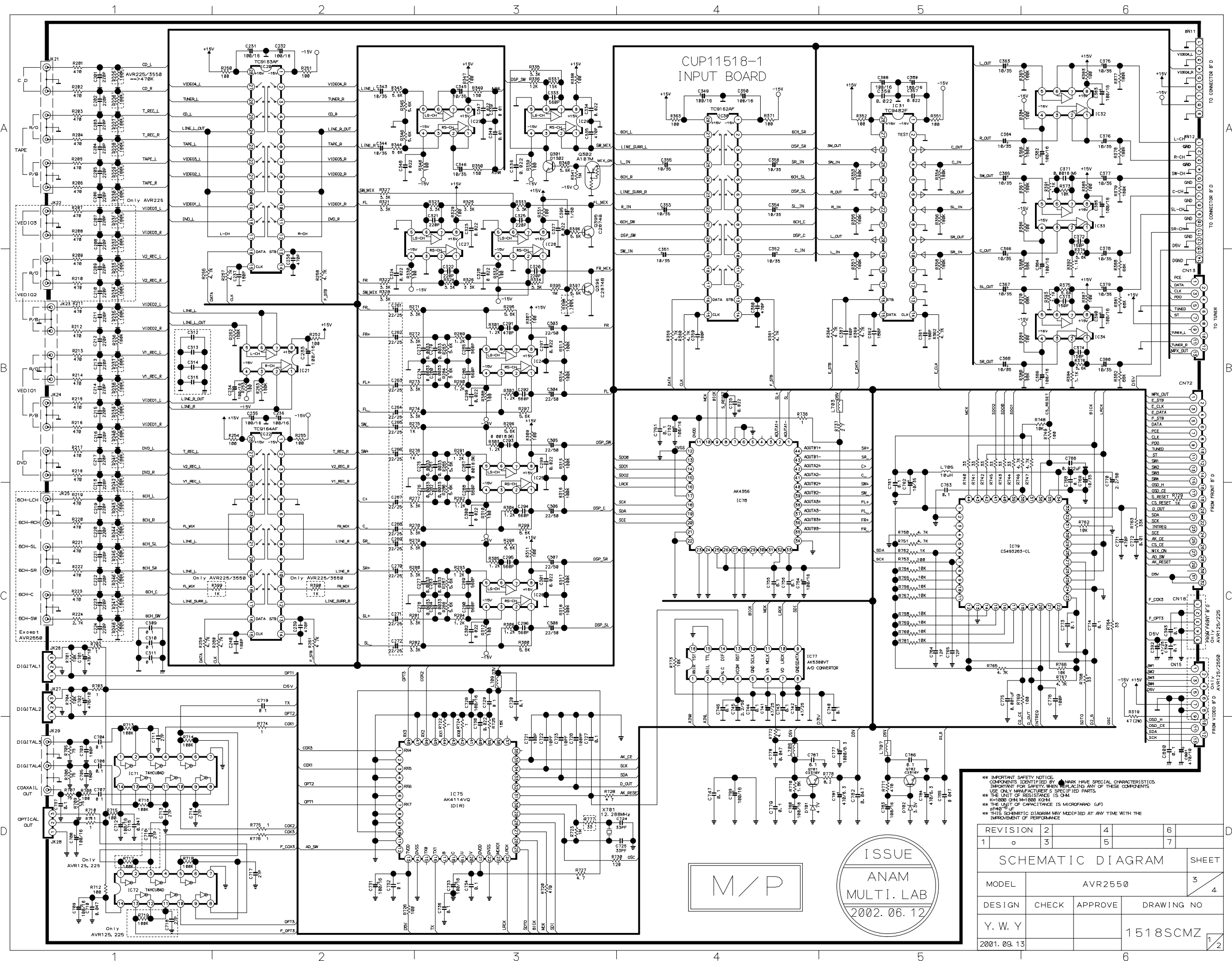


REVISION	2	4	6
1	3	5	7

SCHEMATIC DIAGRAM			SHEET
MODEL	AVR2550		2 / 4
DESIGN	CHECK	APPROVE	DRAWING NO
Y. W. Y			1517SCMZ
02.05.16			1 / 1

M/P

AVR2550 Input board sch



M/P

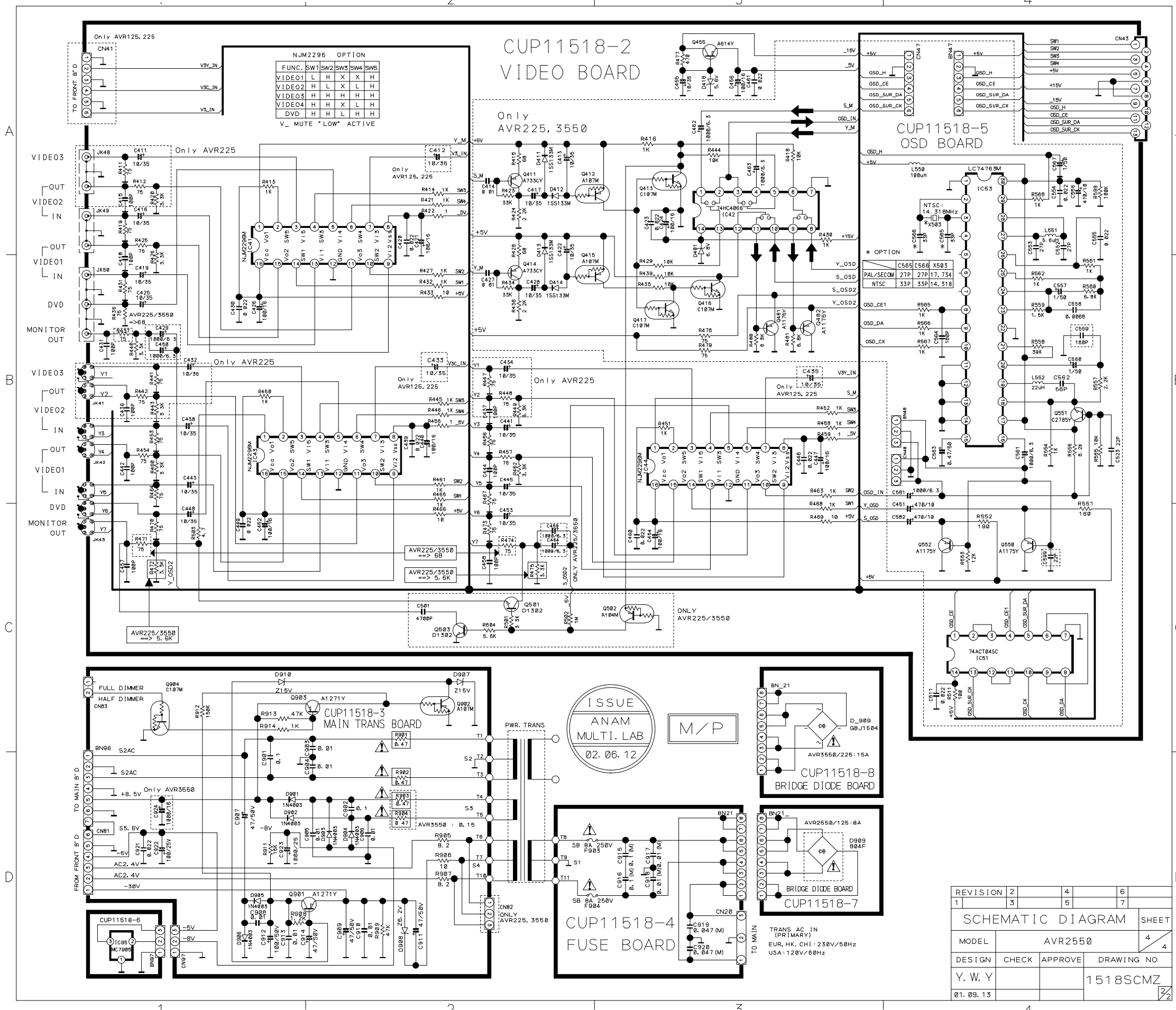
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2002.06.12

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REVISION	2	4	6
1	3	5	7
SCHEMATIC DIAGRAM			SHEET
MODEL	AVR2550		3
DESIGN	CHECK	APPROVE	DRAWING NO
Y. W. Y			1518SCMZ
2001.09.13			2

AVR2550 Video board sch

2 3 4

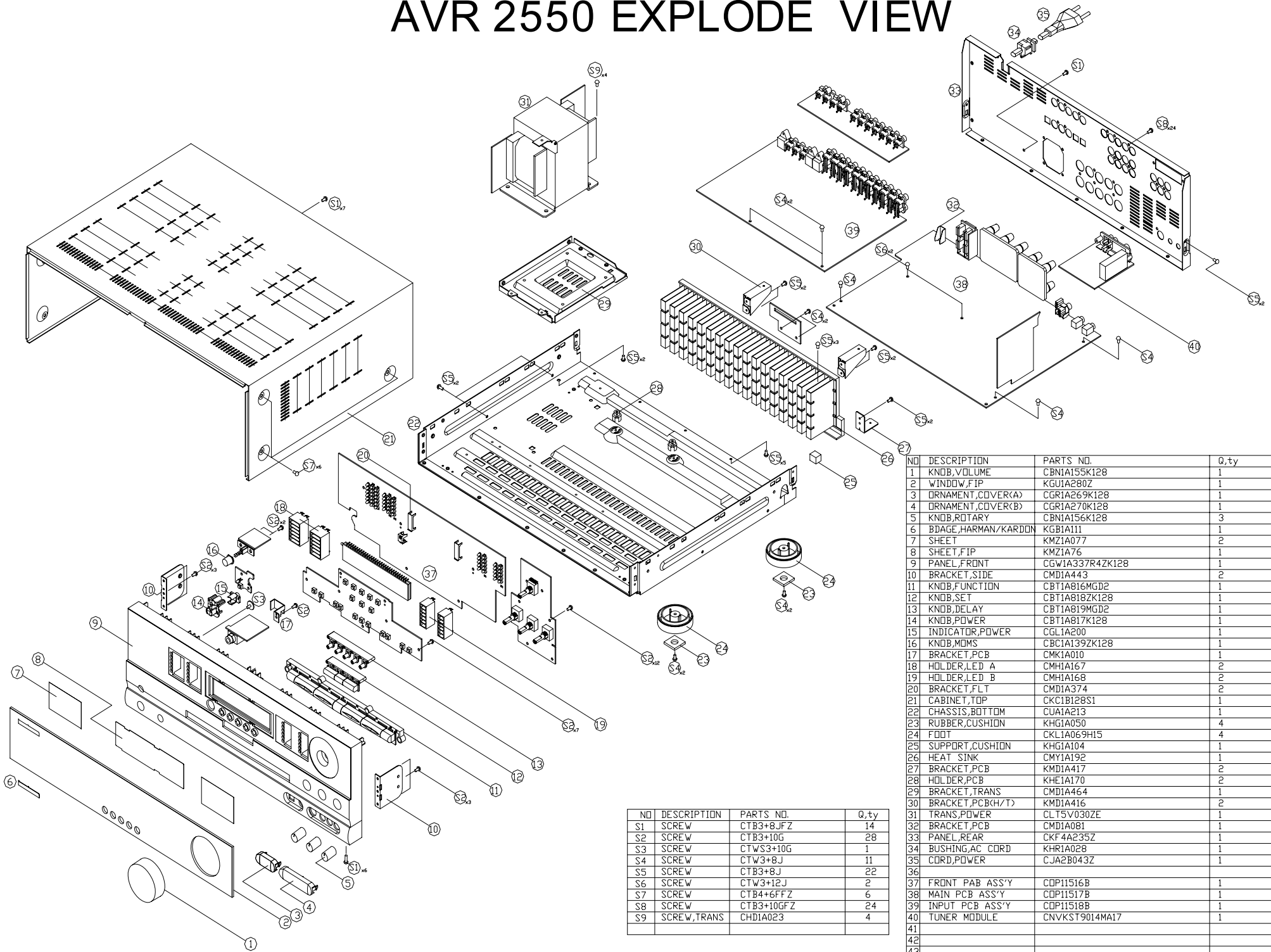


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02.06.12

M/P

TRANS. AC IN
(PRIMARY)
EUR, HK, CHI : 230V/50Hz
USA : 120V/60Hz

AVR 2550 EXPLODE VIEW



NO	DESCRIPTION	PARTS NO.	Q.ty
1	KNOB,VOLUME	CBN1A155K128	1
2	WINDOW,FIP	KGU1A280Z	1
3	ORNAMENT_COVER(A)	CGR1A269K128	1
4	ORNAMENT_COVER(B)	CGR1A270K128	1
5	KNOB,ROTARY	CBN1A156K128	3
6	BDAGE,HARMAN/KARDON	KBG1A111	1
7	SHEET	KMZ1A077	2
8	SHEET,FIP	KMZ1A76	1
9	PANEL_FRDNT	CGW1A337R4ZK128	1
10	BRACKET_SIDE	CMD1A443	2
11	KNOB_FUNCTION	CBT1A816MGD2	1
12	KNOB_SET	CBT1A818ZK128	1
13	KNOB_DELAY	CBT1A819MGD2	1
14	KNOB_POWER	CBT1A817K128	1
15	INDICATOR_POWER	CGL1A200	1
16	KNOB,MOMS	CBC1A139ZK128	1
17	BRACKET_PCB	CMK1A010	1
18	HOLDER_LED_A	CMH1A167	2
19	HOLDER_LED_B	CMH1A168	2
20	BRACKET_FLT	CMD1A374	2
21	CABINET_TOP	CKC1B128S1	1
22	CHASSIS,BD'TDM	CUA1A213	1
23	RUBBER,CUSHION	KHG1A050	4
24	FOOT	CKL1A069H15	4
25	SUPPORT,CUSHION	KHG1A104	1
26	HEAT_SINK	CMY1A192	1
27	BRACKET_PCB	KMD1A417	2
28	HOLDER_PCB	KHE1A170	2
29	BRACKET_TRANS	CMD1A464	1
30	BRACKET_PCB(H/T)	KMD1A416	2
31	TRANS_POWER	CLT5V030ZE	1
32	BRACKET_PCB	CMD1A081	1
33	PANEL_REAR	CKF4A235Z	1
34	BUSHING_AC_CORD	KHR1A028	1
35	CORD_POWER	CJA2B043Z	1
36			
37	FRONT_PAB_ASS'Y	CDP11516B	1
38	MAIN_PCB_ASS'Y	CDP11517B	1
39	INPUT_PCB_ASS'Y	CDP11518B	1
40	TUNER_MODULE	CNVKST9014MA17	1
41			
42			
43			
44			

NO	DESCRIPTION	PARTS NO.	Q.ty
S1	SCREW	CTB3+8JFZ	14
S2	SCREW	CTB3+10G	28
S3	SCREW	CTWS3+10G	1
S4	SCREW	CTW3+8J	11
S5	SCREW	CTB3+8J	22
S6	SCREW	CTW3+12J	2
S7	SCREW	CTB4+6FFZ	6
S8	SCREW	CTB3+10GFZ	24
S9	SCREW,TRANS	CHD1A023	4

■ ELECTRICAL PARTS LIST

REF NO.	PART NO.	DESCRIPTION	REMARKS
	CUP11516X	PCB , FRONT	
▶CAPACITOR			
C701,702	HCBS1H390JT	CAP , CERAMIC 39PF 50V J	
C703	HCBS1H821KBT	CAP , CERAMIC 820PF 50V K	
C704,735,773,774 777 778 864	HCEA1VH100T	CAP , ELECT 10UF 35V	
C705,711	HCBS1H102KBT	CAP , CERAMIC 1000PF 50V B	
C706	HCBS1H561KBT	CAP , CERAMIC 560PF 50V K	
C707,783,784	HCBS1H101KBT	CAP , CERAMIC 100PF 50V K	
C708,713,730,732 736 770 771 805 806,859~862	HCBS1H223ZFT	CAP , CERAMIC 0.022UF 50V Z	
C709,810,811	HCEA1CH101T	CAP , ELECT 100UF 16V	
C710	HCEA1HH2R2T	CAP , ELECT 2.2UF 50V	
C712	HCEA1HH1R0T	CAP , ELECT 1UF 50V	
C714,775,776	HCBS1H151KBT	CAP , CERAMIC 150PF 50V K	
C813,814	HCEA1HH4R7T	CAP , ELECT 4.7UF 50V	
C716,872,873	HCEA1CH331T	CAP , ELECT 330UF 16V	
C719~721	HCBS1H181KBT	CAP , CERAMIC 180PF 50V K	
C722	HCBS1H220JT	CAP , CERAMIC 22PF 50V J	
C723	CCFT1H104ZF	CAP , SEMI 0.1UF 50V ZF	
C725,729,865	CCKT1H473ZF	CAP , CERAMIC 0.047UF 50V ZF	
C726,863,886	HCEA0JH102T	CAP , ELECT 1000UF 6.3V	
C731	HCEA1HH100T	CAP , ELECT 10UF 50V	
C733	HCEA1EH470T	CAP , ELECT 47UF 25V	
C737,738	HCBS1H180JT	CAP , CERAMIC 18PF 50V J	
C779,780,791,792 868 869	HCEA1CKS470T	CAP , ELECT 47UF 16V	
C781,782,787~790 866 867	HCEA1CKS100T	CAP , ELECT 10UF 16V	
C785,786	HCBS1H470JT	CAP , CERAMIC 47PF 50V J	
C793,794,799,800	KCFE1J183JBT	CAP , FILM 0.018UF 63V J	
C795,796	KCFE1J823JBT	CAP , FILM 0.082UF 63V J	
C797,798	KCFE1J332JBT	CAP , FILM 0.0033UF 63V J	
C850,851	HCBS1H471KBT	CAP , CERAMIC 470PF 50V K	
C852,874,882,883	HCBS1H104ZFT	CAP , CERAMIC 0.1UF 50V Z	
C870,871	HCBS1H681KBT	CAP , CERAMIC 680PF 50V K	
C875~878	HCBS1H103ZFT	CAP , CERAMIC 0.01UF 50V Z	
C880	HCEA1AH221T	CAP , ELECT 220UF 10V	
C734,885	BCES0HD104	CAP , GOLD JP EECS0HD104V	
C853	KCKDKS472ME	CAP , CERAMIC(X1/Y2/SC) 0.0047UF/2.5KV	
▶DIODE			
D701~703,705~716 718~720,729~754 756~758	CVD30BSGATAAT	L.E.D , GREEN (TAPPING)	

D761,777,779	HVD1SS133MT	DIODE	1SS133T-77	
D776,778	KVD1N4003ST	DIODE	1N4003	
D723	CVD50BOGDWGA	L.E.D , 2 COLOR		
►COIL				
L702	HLQ02C100KT	COIL , AXAIL	10UH K	
►TRANSISTOR				
Q701~703,705~716 718~720,724~729	HVTKRC107MT	T.R	KRC107M	
Q734~737	HVTKTC2874BT	T.R , MUTE	KTC2874B	
►RESISTOR				
R701~703,705~716 718~720,826,827	CRD20TJ121T	RES , CARBON	120 OHM 1/5W J	
R704,757,763	CRD20TJ332T	RES , CARBON	3.3K OHM 1/5W J	
R723,732,847,848 853 854	CRD20TJ222T	RES , CARBON	2.2K OHM 1/5W J	
R724,727,753,759 766 865 903 904	CRD20TJ102T	RES , CARBON	1K OHM 1/5W J	
R725,726,734,735 744~747,771~773 881~891	CRD20TJ103T	RES , CARBON	10K OHM 1/5W J	
R728,810,811,822, 837,838,895~898	CRD20TJ101T	RES , CARBON	100 OHM 1/5W J	
R730,833,834	CRD20TJ112T	RES , CABON	1.1K OHM 1/5W J	
R731,749~751 849 850 913	CRD20TJ223T	RES , CARBON	22K OHM 1/5W J	
R733,736,756,762 769 864 866	CRD20TJ272T	RES , CARBON	2.7K OHM 1/5W J	
R737,892,893	CRD20TJ100T	RES , CARBON	10 OHM 1/5W J	
R754,760,767 901 902	CRD20TJ152T	RES , CARBON	1.5K OHM 1/5W J	
R755,761,768	CRD20TJ182T	RES , CARBON	1.8K OHM 1/5W J	
R758,764,823 831 832 907 908 918 919	CRD20TJ562T	RES , CARBON	5.6K OHM 1/5W J	
R765	CRD20TJ752T	RES , CARBON	7.5K OHM 1/5W J	
R775~800,802~804	CRD20TJ151T	RES , CARBON	150 OHM 1/5W J	
R813,814,839,840 845 846 899 900 905 906	CRD20TJ104T	RES , CARBON	100K OHM 1/5W J	
R824	CRD20TJ471T	RES , CARBON	470 OHM 1/5W J	
R825	CRD20TJ181T	RES , CARBON	180 OHM 1/5W J	
R829,830,835,836	CRD20TJ184T	RES , CARBON	180K OHM 1/5W J	
R841,842,914~916	CRD20TJ473T	RES , CARBON	47K OHM 1/5W J	
R843,844	CRD20TJ105T	RES , CARBON	1M OHM 1/5W J	
R851,852	CRD20TJ392T	RES , CARBON	3.9K OHM 1/5W J	
R855,856	CRD20TJ681T	RES , CARBON	680 OHM 1/5W J	
R857,858,909~912	CRD20TJ221T	RES , CARBON	220 OHM 1/5W J	

R894	CRD20TJ1R0T	RES , CARBON	1 OHM 1/5W J	
R917	CRD20TJ123T	RES , CARBON	12K OHM 1/5W J	
►SWITCH				
S701~721	CST1A012ZT	SW , TACT	SKHV10910G	
SW01	HSH1A008ZV	SW , PUSH (MOMS)		
►WIRE ASS'Y				
BN16	CWZAVR2550BN16	WIRE ASS'Y (SHIELD)		
BN80	CWB2B908320EW	WIRE ASS'Y		
BN81	CWB2B906250BM	WIRE ASS'Y		
BN83	CWB1C902250BM	WIRE ASS'Y		
BN84	CWB2B905100EN	WIRE ASS'Y		
BN85,90	CWB2B902090EN	WIRE ASS'Y		
BN87	CWZAVR2550BN87	WIRE ASS'Y (SHIELD)		
BN88	CWB2B904070EN	WIRE ASS'Y		
BN89	CWB2B905080EN	WIRE ASS'Y		
JW82	CWZAVR2550JW82	WIRE , ASS'Y		
►CONNECTOR				
BN94	KJP10GB99ZM	WAFER	MOLEX35237-1010	
BN95	KJP08GB99ZM	CONNECTOR , HOUSING	MOLEX35237-0810	
CN11	KJP09GA98ZM	WAFER	MOLEX35336-0910	
CN12	KJP14GA98ZM	WAFER	MOLEX35336-1410	
CN16	KJP08GB46ZM	WAFER	MOLEX53015-0810	
CN72	KJP32GA117ZG	WAFER , CARD CABLE	GF102-32S-TS	
CN82	KJP06HA37ZM	WAFER	MOLEX42140-2206	
CN84,89	KJP05GA19ZM	WAFER	MOLEX53014-0510	
CN85,90	KJP02GA19ZM	WAFER	MOLEX53014-0210	
CN86	KJP02GA89ZM	WAFER	MOLEX35328-02	
CN87	KJP06GA19ZM	WAFER	MOLEX53014-0610	
CN88	KJP04GA19ZM	WAFER	MOLEX53014-0410	
►F.I.P				
FIP1	HFLCM2054C	F.I.P		
►I.C				
IC85	HVIRE5VT15CATZ	IC , RESET	RE5VT15CATZ	
IC87	HVIRE5VL28CATZ	IC , RESET	RE5VL28CATZ	
IC71	BVISAA6579TV1	I.C , RDS FILTER	TW SAA6579T/V1	
IC72	BVIMB90F476APFG	IC , FLASH U-COM	FUJITSU	
IC73	HRVRPM6938H4	SENSOR , REMOTE	RPM6938-H4	
IC74	HVILC75725E	IC , VFL DRIVER	LC75725E	
IC80	HVITC9215AF	I.C	TC9215AF	
IC81,82,88	HVINJM2068MTE1	I.C , OP AMP	NJM2068M-TE1	
IC83,84	HVI74ACT04SC	I.C , HEX INVERTER	74ACT04SC	
IC86	HVINJM4556AMTE1	I.C , OP AMP	NJM4556AM-TE1	
►JACK				
JK83	HJJ2E020Z	JACK , HEADPHONE	HTJ-064-05NG	
►VARIABLE RESISTOR				
VR71	CVV2X05M104Z	RES , VARIABLE(BALANCE)	RK14128030214Y	

VR72,73	CVV2X07C104Z	RES , VARIABLE(TONE)	RK14128030214C	
►ENCODER				
VR74	HSR2A023Z	VR , ENCODER		
►CRYSTAL				
X701	HOX04194E120C	CRYSTAL		
X702	HOX04332E200C	CRYSTAL		
CUP11517X PCB , MAIN				
►CAPACITOR				
C501~505	HCEA1VH100T	CAP , ELECT	10UF 35V	
C506~510	CCKT1H331KB	CAP , CERAMIC	330PF 50V KB	
C561~565,907	HCEA1CH101T	CAP , ELECT	100UF 16V	
C566~570	HCEA1EH470T	CAP , ELECT	47UF 25V	
C571~575	CCKT1H681KB	CAP , CERAMIC	680PF 50V KB	
C601~605	CCCT1H120JC	CAP , CERAMIC	12PF 50V JC	
C606~610	CCCT1H330JC	CAP , CERAMIC	33PF 50V JC	
C641~645,681~685	HCEA1HH100T	CAP , ELECT	10UF 50V	
C826	HCQI1H182JZT	CAP , MYLAR	1800PF 50V J	
C901,998	CCFT1H104ZF	CAP , SEMI	0.1UF 50V ZF	
C905,908,923,925 963 999	CCKT1H223ZF	CAP , CERAMIC	0.022UF 50V ZF	
C911	HCEA1CH471T	CAP , ELECT	470UF 16V	
C912	HCEA1CH221T	CAP , ELECT	220UF 16V	
C922,924,962	HCEA1EH101T	CAP , ELECT	100UF 25V	
C938,991	HCEA1HH1R0T	CAP , ELECT	1UF 50V	
C939	HCEA1HH4R7T	CAP , ELECT	4.7UF 50V	
C940	HCEA1AH471T	CAP , ELECT	470UF 10V	
C971~975	HCQI1H562JZT	CAP , MYLAR	5600PF 50V J	
C976~979,993~997	HCQI1H473JZT	CAP , MYLAR	0.047UF 50V J	
C631~640	HCEA1JH221E	CAP , ELECT	220UF 63V	
C903	BCQE2E104KDE	CAP , LINE ACROSS	0.1UF 250V KD	
C904	KCKDKS472ME	CAP , CERAMIC(X1/Y2/SC)	0.0047UF/2.5KV	
C906	HCEA1EH102E	CAP , ELECT	1000UF 25V	
C915,916	HCET63VFHS123NI	CAP , ELECT	2000UF 63V	
C917	HCEA1EH332E	CAP , ELECT	3300UF 25V	
C918	HCEA1EH222E	CAP , ELECT	2200UF 25V	
C961	HCEA1CH472E	CAP , ELECT	6800UF 16V	
►DIODE				
D501~505,581~585 902 911 912 914 915 916,953~955	HVD1SS133MT	DIODE	1SS133T-77	
D901,903~906 961~963	KVD1N4003ST	DIODE	1N4003	
D956	KVD1N4003SRT	DIODE	TW 1N4003	
►TRANSISTOR				
Q501~505,601~605	HVTKTA1268GRT	T.R	KTA1268GR	
Q511~520,556~565	HVTKTC3200GRT	T.R	KTC3200GR	
Q541~545	HVTKTC3198YT	T.R	KTC3198Y	

Q681~685,901 942 943	KVTKSC2785YT	T.R	KSC2785Y	
Q806,969~973	HVTKTC2874BT	T.R , MUTE	KTC2874B	
Q938,939,952,992	HVTKRA107MT	T.R	KRA107M	
Q951,960,991	HVTKRC107MT	T.R	KRC107M	
Q961	HVTKTA1024YT	T.R	KTA1024Y	
Q611~615	HVTKTD600KGR	T.R , BIAS	KTD600KGR	
Q621~625	HVT2SA1360O	T.R	2SA1360O	
Q626~630	HVT2SC3423O	T.R	2SC3423O	
Q652~655,661	BVT2SB1560	T.R , POWER	2SB1560	
Q657~660,670	BVT2SD2390	T.R , POWER	2SD2390	
►RESISTOR				
R501~505	CRD20TJ433T	RES , CARBON	43K OHM 1/5W J	
R506~510	CRD20TJ333T	RES , CARBON	33K OHM 1/5W J	
R511~520,940	CRD20TJ152T	RES , CARBON	1.5K OHM 1/5W J	
R521~525,806 974~978	CRD20TJ471T	RES , CARBON	470 OHM 1/5W J	
R527~530,621~626	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	
R531~540	CRD20TJ221T	RES , CARBON	220 OHM 1/5W J	
R541~545	CRD20TJ271T	RES , CARBON	270 OHM 1/5W J	
R556~560,962	CRD20TJ273T	RES , CARBON	27K OHM 1/5W J	
R561~565,678~680	CRD20TJ182T	RES , CARBON	1.8K OHM 1/5W J	
R566~575,581~600 987	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	
R576~580	CRD20TJ100T	RES , CARBON	10 OHM 1/5W J	
R601~610,941~943 945	CRD20TJ223T	RES , CARBON	22K OHM 1/5W J	
R611~615,961	CRD20TJ331T	RES , CARBON	330 OHM 1/5W J	
R616~620	CRD20TJ122T	RES , CARBON	1.2K OHM 1/5W J	
R631~640	KRD25FJ180T	RES , CARBON	18 OHM 1/4W J	
R646~655	KRD25FJ3R3T	RES , CARBON	3.3 OHM 1/4W J	
R656~660	KRF5EKR22HX2	RES , CEMENT(*2)	0.22/5W *2	
R905,993~997	KRG1ANJ100H	RES , METAL OXIDE FILM	10 OHM 1W J	
R666~670,696~700	CRD25TJ470T	RES , CARBON	47 OHM 1/4W J	
R671~675	CRD20TJ911T	RES , CARBON	910 OHM 1/5W J	
R676,677	CRD25TJ182T	RES , CARBON	1.8K OHM 1/4W J	
R681~685,960.992	CRD20TJ562T	RES , CARBON	5.6K OHM 1/5W J	
R686~690,930,932 966 998	CRD20TJ103T	RES , CARBON	10K OHM 1/5W J	
R816,939,969~973	CRD20TJ472T	RES , CARBON	4.7K OHM 1/5W J	
R826,979~983	CRD20TJ473T	RES , CARBON	47K OHM 1/5W J	
R910,963	CRD20TJ105T	RES , CARBON	1M OHM 1/5W J	
R911	CRD20TJ820T	RES , CARBON	82 OHM 1/5W J	
R913,914	CRD20TJ153T	RES , CARBON	15K OHM 1/5W J	
R917~920	CRD25TJ393T	RES , CARBON	39K OHM 1/4W J	
R944	CRD25TJ223T	RES , CARBON	22K OHM 1/4W J	
R986	CRD20TJ102T	RES , CARBON	1K OHM 1/5W J	
R988	CRD20TJ303T	RES , CARBON	30K OHM 1/5W J	

R991	CRD20TJ822T	RES , CARBON	8.2K OHM 1/5W J	
▶SEMI RESISTOR				
VR61~65	HVN1RA221B01T	RES , SEMI FIXED(220 OHM RH0615C100221		
▶WIRE ASS'Y				
BN20	CWB3FB03280UP	WIRE ASS'Y		
BN90	CWB4D232450PU	WIRE ASS'Y		
JW91	CWE8212230VV	WIRE ASS'Y		
JW92	CWEE212120VV	WIRE ASS'Y		
▶CONNECTOR				
CN61~65	KJP03GA01ZM	WAFER	MOLEX 5267-03A	
CN80	KJP08GA19ZM	WAFER	MOLEX53014-0810	
CN91	KJP02KA060ZY	WAFER	7.92MM(YUNHO)	
CN92	KJP02GA89ZM	WAFER	MOLEX35328-02	
CN94	KJP10GA98ZM	WAFER	MOLEX35336-1010	
CN95	KJP08GA98ZM	WAFER	MOLEX35336-0810	
CN96	KJP07GA01ZM	WAFER	MOLEX 5267-07A	
▶I.C				
IC91	HVIMC7815C	I.C, REGULATOR	KA7815-ABTU	
IC92	HVIMC7915C	I.C, REGULATOR	KA7915-ABTU	
IC93,94	HVIMC7805C	I.C, REGULATOR	KA7805-ABTU	
▶JACK				
JK91	CJJ5N009Z	TERMINAL , SPEAKER		
JK92	CJJ5Q011Z	TERMINAL , SPEAKER		
JK93	CJJ4M040Z	JACK , BOARD (SW)		
▶COIL				
L501~505	CLEY0R5KAK	COIL , SPEAKER	0.5UH K	
▶OUTLET				
OL91	KJJ7A025Z	OUTLET , EUR(2P)	A3-04-D007-2P	
▶RELAY				
RY94	HSL1A008ZE	RELAY	SDT-S-112DMR	
▶POSISTOR				
TH91	KRTP42T7D330B	THERMAL SENSOR , POSISP42T7D330BW20		
▶SUB TRANS				
T902	CLT5J033ZE	TRANS , SUB		
CUP11518W PCB , INPUT				
▶CAPACITOR				
C201~206,211~218 321,322,325,326	CCKT1H221KB	CAP , CERAMIC	220PF 50V KB	
C231~236,349,350,799 382~386,390,421,426 440,447,452,454,456 708,709,712,728,731 733,752,754,780,783	HCEA1CH101T	CAP , ELECT	100UF 16V	
C237,240,359,361,362 387,703,705	CCKT1H181KB	CAP , CERAMIC	180PF 50V KB	
C238,239,335,360	CCKT1H471KB	CAP , CERAMIC	470PF 50V KB	
C261~272	HCEA1EH220T	CAP , ELECT	22UF 50V	

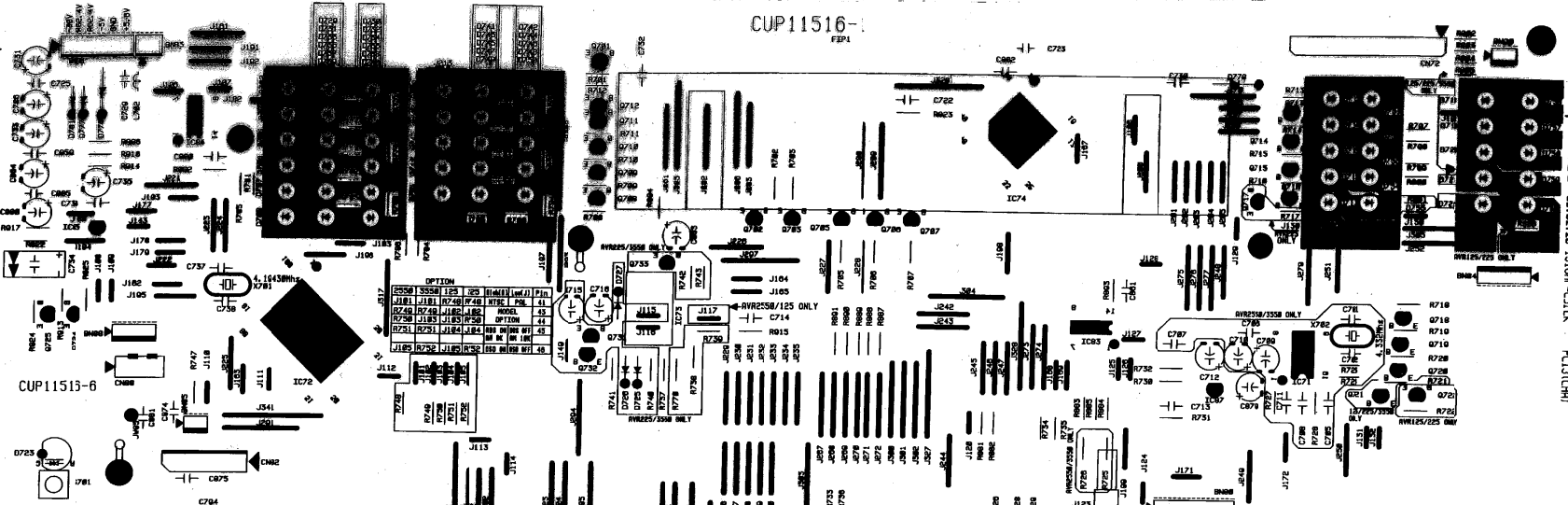
C273~284	HCQI1H332JZT	CAP , MYLAR	3300PF 50V J	
C285,286,288~292 294~296,333	CCKT1H561KB	CAP , CERAMIC	560PF 50V KB	
C287,293,371	HCQI1H182JZT	CAP , MYLAR	1800PF 50V J	
C297~302,323,324,327 328,334,347,348,358 420,430,439,446,449 460,730,766	HCBS1H223ZFT	CAP , CERAMIC	0.022UF 50V Z	
C303~308	HCEA1HH220T	CAP , ELECT	22UF 50V	
C336,357,461,735,921	CCKT1H223ZF	CAP , CERAMIC	0.022UF 50V ZF	
C339,340,772	HCBS1H103ZFT	CAP , CERAMIC	0.01UF 50V Z	
C343~346,351~356 769,363~368,375~380 416,419,425,438 441,443,445,448 453,455,762	HCEA1VH100T	CAP , ELECT	10UF 35V	
C372~374	CCKT1H151KB	CAP , CERAMIC	150PF 50V KB	
C388,389	HCEA1CH471T	CAP , ELECT	470UF 16V	
C395	HCEA1HH1R0T	CAP , ELECT	1UF 50V	
C418,431,442,444 458,726,776	CCKT1H101KB	CAP , CERAMIC	100PF 50V KB	
C457,721,737	HCBS1H101KBT	CAP , CERAMIC	100PF 50V K	
C701,702,781,784	HCEA1AH471T	CAP , ELECT	470UF 10V	
C704,706,707,734,755 756,761,773,774 901,902	CCFT1H104ZF	CAP , SEMI	0.1UF 50V ZF	
C710,778,785	CCKT1H473ZF	CAP , CERAMIC	0.047UF 50V ZF	
C711,713,714,717	CCCT1H270JC	CAP , CERAMIC	22PF 50V JC	
C715,782	HCBS1H473ZFT	CAP , CERAMIC	0.047UF 50V Z	
C719,720,727,729,732 736,740,743,744,746 747,751,763,768,779 786,787	HCBS1H104ZFT	CAP , CERAMIC	0.1UF 50V Z	
C722,723	CCCT1H100DC	CAP , CERAMIC	10PF 50V DC	
C724	HCBS1H330JT	CAP , CERAMIC	33PF 50V J	
C725	CCCT1H330JC	CAP , CERAMIC	33PF 50V JC	
C741,742	HCEA1EH470T	CAP , ELECT	47UF 25V	
C745,770	HCEA1HH2R2T	CAP , ELECT	2.2UF 50V	
C764,765	CCCT1H120JC	CAP , CERAMIC	12PF 50V JC	
C771	HCBS1H471KBT	CAP , CERAMIC	470PF 50V KB	
C775	CCKT1H102KB	CAP , CERAMIC	1000PF 50V KB	
C777	HCEA0JH102T	CAP , ELECT	1000UF 6.3V	
C903~906,908,910,913	CCKT1H103ZF	CAP , CERAMIC	0.01UF 50V ZF	
C907,909,914	HCEA1HH470T	CAP , ELECT	47UF 50V	
C911	HCEA1HH4R7T	CAP , ELECT	4.7UF 50V	
C912	HCEA1HH101T	CAP , ELECT	100UF 50V	
C915,916	HCQI1H104JZT	CAP , MYLAR	0.1UF 50V J	
C917,918	HCQI1H103JZT	CAP , MYLAR	0.01UF 50V J	

C919,920	HCQI1H473JZT	CAP , MYLAR	0.047UF 50V J	
C922	HCEA1EH101T	CAP , ELECT	100UF 25V	
C923	HCEA1CH332E	CAP , ELECT	3300UF 16V	
►DIODE				
D418	HVDMTZJ5.6BT	DIODE , ZENER	5.6V 1/2W	
D701	HVDMTZJ4.7BT	DIODE , ZENER	4.7V 1/2W	
D702	HVDMTZJ3.3BT	DIODE , ZENER	3.3V 1/2W	
D901~906	KVD1N4003SRT	DIODE TW	1N4003	
D907,910	HVDMTZJ15BT	DIODE , ZENER	15V 1/2W	
D908	HVDMTZJ6.2BT	DIODE , ZENER	6.2V 1/2W	
D909	HVDKBU804F	DIODE , BRIDGE		
►COIL				
L705	KLQ100J405T	COIL, PEAKING(RADIAL)	10UH J 4X5	
L703,706,707,709	KLZ9H001Z	BEAD , CORE		
►TRANSISTOR				
Q301	HVTKTD1302T	T.R	KTD1302	
Q302,902	HVTKRA107MT	T.R	KRA107M	
Q395,396	HVTKTC2874BT	T.R , MUTE	KTC2874B	
Q701,702	HVTKSC2316YT	T.R	KSC2316Y	
Q901,903	HVTKTA1271YT	T.R	KTA1271Y	
Q904	HVTKRC107MT	T.R	KRC107M	
Q455	HVTKSA614Y	T.R	KSA614Y	
►RESISTOR				
R201~206,211~218 477,720,771	CRD20TJ471T	RES , CARBON	470 OHM 1/5W J	
R225~230,235~242 262,263,353~358 365~367,377~379	CRD20TJ184T	RES , CARBON	180K OHM 1/5W J	
R250~255,307~312 329~332,338,339,347 348,351,352,371,389 383~387,708,712,715 726,749,753,769	CRD20TJ101T	RES , CARBON	100 OHM 1/5W J	
R256~261,359~362 364,369,746,747	CRD20TJ472T	RES , CARBON	4.7K OHM 1/5W J	
R271~274,277~282	CRD20TJ392T	RES , CARBON	3.9K OHM 1/5W J	
R275,276,413,414,421 427,432,445,446 450~452,458,461,463 465,468,729,752,914	CRD20TJ102T	RES , CARBON	1K OHM 1/5W J	
R283~288,295~300 340,343~346,374~376 396,397	CRD20TJ562T	RES , CARBON	5.6K OHM 1/5W J	
R289~294,301~306 908	CRD20TJ122T	RES , CARBON	1.2K OHM 1/5W J	
R313~318,713,714	CRD20T1101T	RES , CARBON	100K OHM 1/5W J	

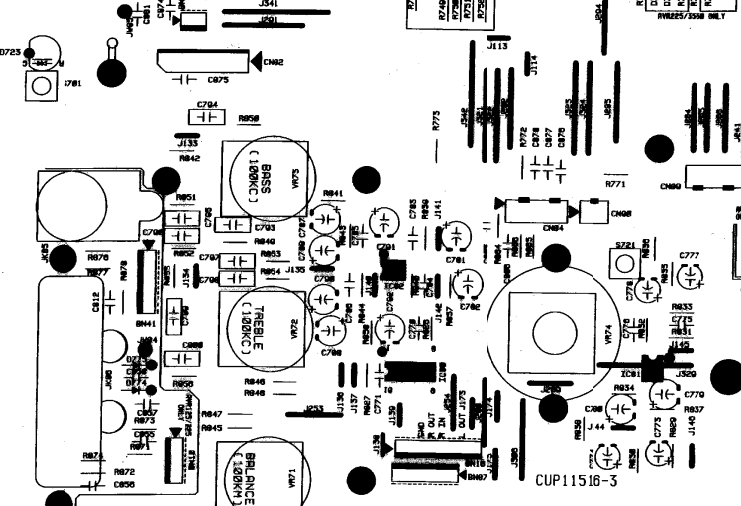
716,718	CRD20TJ104T	RES , CARBON	100K OHM 1/5W J
R321~328,333~335 426,440,460,462,472 475,750,751,765,767	CRD20TJ332T	RES , CARBON	3.3K OHM 1/5W J
R336	CRD20TJ123T	RES , CARBON	12K OHM 1/5W J
R337,911	CRD20TJ153T	RES , CARBON	15K OHM 1/5W J
R341,395,723	CRD20TJ105T	RES , CARBON	1M OHM 1/5W J
R349,350	CRD20TJ151T	RES , CARBON	150 OHM 1/5W J
R363	CRD25TJ101T	RES , CARBON	100 OHM 1/4W J
R368,370,380~382,388	CRD20TJ683T	RES , CARBON	68K OHM 1/5W J
R373,701,704,748 754~762,766,773	CRD20TJ103T	RES , CARBON	10K OHM 1/5W J
R391~394	CRD20TJ112T	RES,CABON	1.1K OHM 1/5W J
R419,425,431,436,437 453,454,456,457,464 467,470,471,473,474 705~707,709	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J
R422,455,459,702,703 710,711,722,724,736 774,775	CRD20TJ1R0T	RES , CARBON	1 OHM 1/5W J
R433,466,469,906	CRD20TJ100T	RES , CARBON	10 OHM 1/5W J
R725	CRD20TJ183T	RES , CARBON	18K OHM 1/5W J
R727,728,772	CRD20TJ4R7T	RES , CARBON	4.7 OHM 1/5W J
R730	CRD20TJ121T	RES , CARBON	120 OHM 1/5W J
R737	CRD25TJ2R7T	RES , CARBON	2.7 OHM 1/4W J
R740~745,764,768,777	CRD20TJ330T	RES , CARBON	33 OHM 1/5W J
R763	CRD20TJ333T	RES , CARBON	33K OHM 1/5W J
R770	CRD20TJ182T	RES , CARBON	1.8K OHM 1/5W J
R776	CRD25TJ1R0T	RES , CARBON	1 OHM 1/4W J
R778,905,907	CRD20TJ8R2T	RES , CARBON	8.2 OHM 1/5W J
R909,913	CRD20TJ473T	RES , CARBON	47K OHM 1/5W J
R912	CRD20TJ154T	RES , CARBON	150K OHM 1/5W J
R319	KRG2ANJ470H	RES , METAL OXIDE FILM	47 OHM 2W J
R901~904	KRQ1AJR47H	RES , FUSE	0.47 OHM 1W J
►WIRE ASS'Y			
BN21	CWB1E908060MM	WIRE ASS'Y	
BN96	CWB1C907200BM	WIRE ASS'Y	
BN97	CWB1C903080BM	WIRE ASS'Y	
JW21,22	CWE6202070AA	WIRE ASS'Y	
JW23	CWE7202110AA	WIRE ASS'Y	
JW71	CWE7202090AA	WIRE ASS'Y	
►CONNECTOR			
BN11	KJP09GB99ZM	CONNECTOR	MOLEX35237-0910
BN12	KJP14GB99ZM	WAFER	MOLEX35237-1410
CN13	KJP13GA115ZG	WAFER, CARD CABLE	GF120-13S-TS
CN15,43	KJP09GA115ZG	WAFER , CARDCABLE	
CN20	KJP03GA90ZM	WAFER	MOLEX35313-0310
CN72	KJP32GA117ZG	WAFER , CARD CABLE	GF102-32S-TS

CN81	KJP06GA01ZM	WAFER	MOLEX 5267-06A	
CN83	KJP02GA01ZM	WAFER	MOLEX 5267-02A	
CN97	KJP03GA01ZM	WAFER	MOLEX 5267-03A	
►I.C				
IC20	HVITC9163AF	I.C , FUNCTION	TC9163AF	
IC21,23~29,32~34	HVINJM2068MTE1	I.C , OP AMP	NJM2068M-TE1	
IC22	HVITC9164AF	I.C , FUNCTION	TC9164AF	
IC30	HVITC9162AF	I.C , FUNCTION	TC9162AF	
IC31	HVITC9482F	I.C , ELECT VOL	TC9482F	
IC41,43,44	HVINJM2296M	I.C , VIDEO SW	NJM2296M	
IC71,72	HVITC74HCU04AFN	IC , INVERTER	TC74HCU04AFN	
IC75	HVIAK4114VQ	IC , DIR	AK4114VQ	
IC77	HVIAK5380VT	I.C 2CH AUDIO ADC	AK5380VT	
IC78	HVIAK4356VQ	I.C , D/A CONVERTER	AK4356VQ	
IC79	HVICS493263-CLG	I.C , DSP	HK CS493263-CLG	
IC95	BVINJM7905FA	I.C	NJM7805FA	
►JACK				
JK21	CJJ4R019Z	JACK , IN/OUT		
JK23,24	CJJ4P014Y	JACK , IN/OUT		
JK26,27	HJSTORX179	MODULE , OPTICAL(RECEI TORX179		
JK28	HJS9L001Z	MODULE, OPTICAL	TOTX178	
JK29	CJJ4S022Z	JACK , BOARD		
JK42	HJJ9N001Z	JACK , S-VIDEO(2P/H)	JY-5036-040	
JK43	HJJ9S001Z	JACK , S-VIDEO(3P/H)	JY-5041-040	
JK49	CJJ4N043Z	JACK , BOARD		
JK50	CJJ4S010Z	JACK , BOARD		
►CRYSTAL				
X701	HOX12288E320C	CRYSTAL		
►FUSE				
F900,901	KBA2C2500TLE	FUSE (2.5A 250V)		
F902	KBA2C4000TLE	FUSE (6.3A 250V)		
F903,904	KBA2C8000TLU	FUSE (8A 250V)		
►CARD CABLE				
CB13	CWC1C4A13B080B	CABLE , CARD		
CB15	CWC1C4A09B130B	CABLE , CARD		
CB72	CWC1B2A32A210B	CABLE , CARD		
►OTHERS				
T901	CLT5V030ZE	TRANS , POWER		
	CNVKSTM9014MS1	TUNER MODULE	KSTM9014MS17	
	CLZ9W003Z	FERRITE , RING		

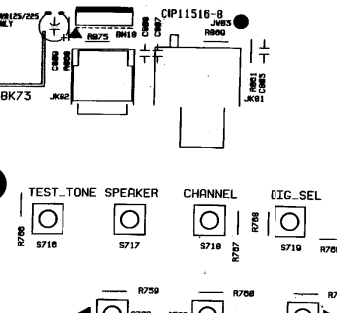
CUP11516-1
EP1



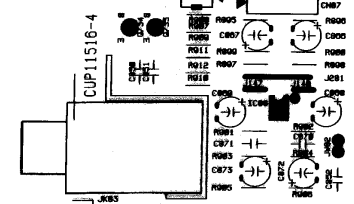
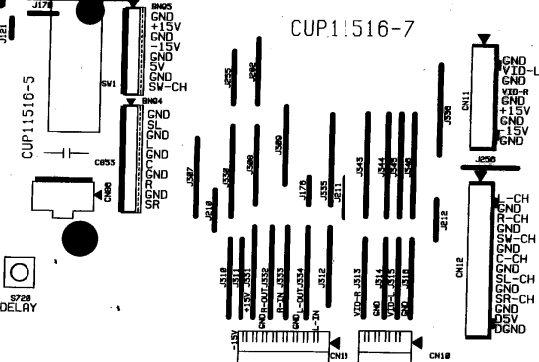
CUP11516-6



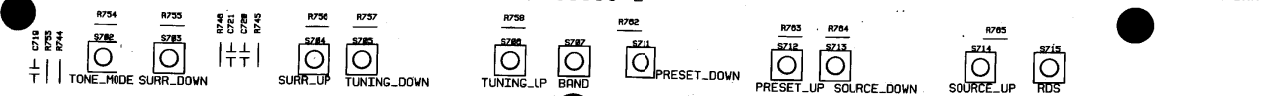
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CUP11516-7



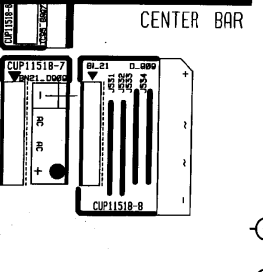
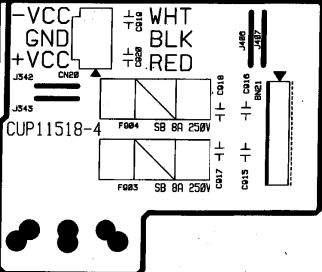
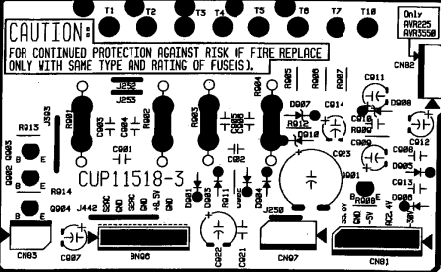
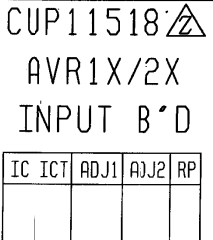
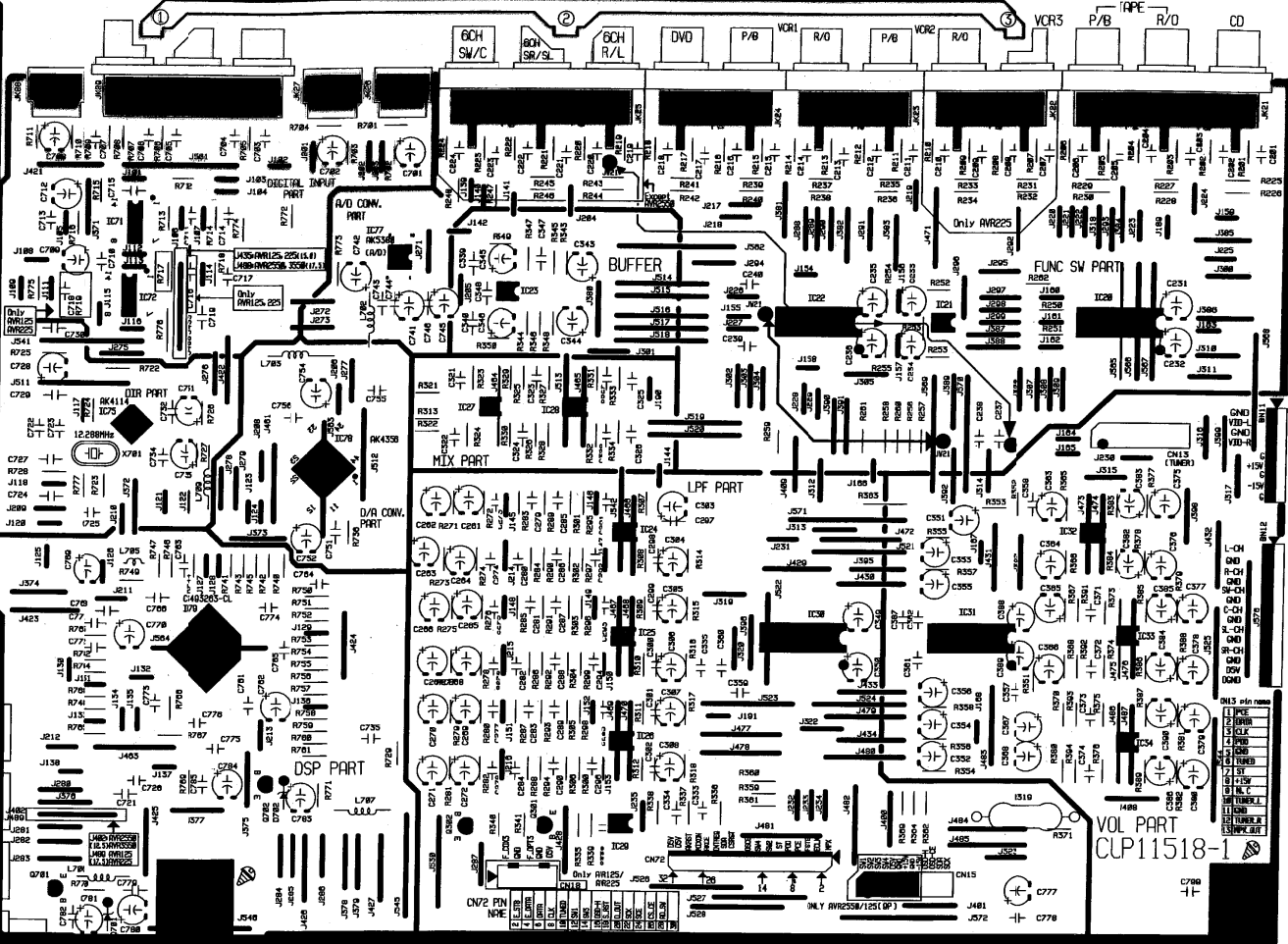
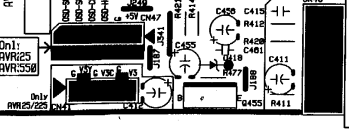
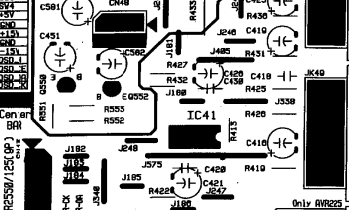
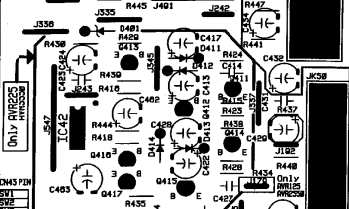
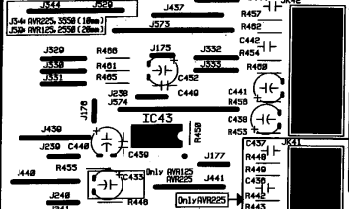
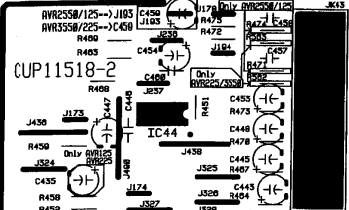
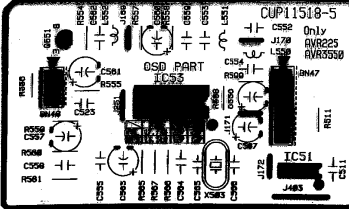
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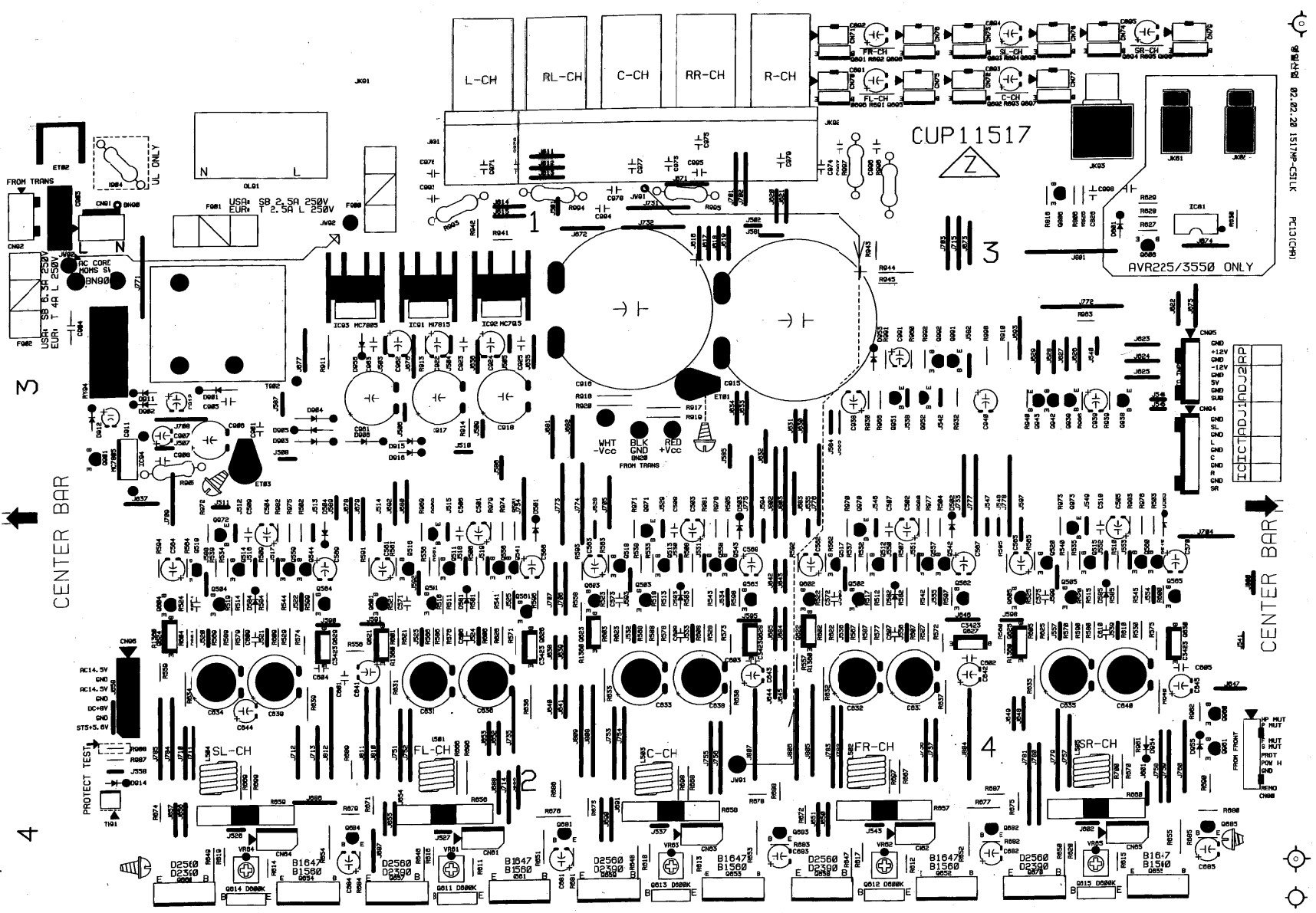


CUP11516



CENTER BAR





CENTER BAR

CENTER BAR

CUP11517

AVR225/3550 ONLY

3

3

4

4

FROM TRANS

USA T 33 B 3A 250V
EUR T 4A L 250V

USA: SB 2.5A 250V
EUR: 2.5A L 250V

PROTECT TEST
R988
R987
R986
R985
R984
R983
R982
R981
R980

FRONT FRONT
FRONT FRONT
FRONT FRONT
FRONT FRONT